



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

September 29, 2022

NMOCD
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: Jackson B #17
30-015-04039
M-1-17S-30E
Eddy County, NM
Incident # nAB1913544961
2RP-5415

EOG Resources, Inc. is re-submitting the enclosed Closure Report for the above referenced site which currently has not received Approved Closure. The report is being submitted in reference to the C-141 submitted on March 12, 2019. The original Closure Report was submitted on May 14, 2019, within the 90-day window to complete remediation and submit directly for Closure. EOG Resources, Inc. has included an updated C-141 Closure form in this Closure Report, and hereby requests closure of the open incident.

If you have any questions, feel free to call me at (575) 748-1471.

Respectfully,

Chase Settle

Chase Settle
Rep Safety & Environmental Sr
EOG Resources, Inc.

Jackson B #17
Closure Report
#nAB1913544961



September 29, 2022

Jackson B #17
Closure Report
30-015-04039
M-1-17S-30E
Eddy County, NM
September 29, 2022
nAB1913544961
2RP-5415

Jackson B #17
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September 29, 2022

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Appendix F: NMOCD Spill Rule Procedures

Jackson B #17
Closure Report
#nAB1913544961



September 29, 2022

I. Location

The site is located in Eddy County, New Mexico approximately 4 miles northeast of Loco Hills.

II. Background

On March 12, 2019, EOG Resources, Inc. submitted to the NMOCD District II office a Form C-141 for the release of 2 barrels of crude oil and 18 barrels of produced water with 1 barrel of crude oil and 15 barrels of produced water recovered. The area impacted by the release was approximately 75 feet by 25 feet off the northwest corner of the Jackson B #30 well pad.

III. Scope of Work Completed

Once the standing fluid was recovered, a contractor began the excavation of visually impacted soils, hauling the excavated material to a NMOCD approved disposal facility. Initial excavation activities left the site a varying depths below grade surface (bgs), with the east third of the impacted area excavated to approximately one (1) foot bgs, the middle third at two (2) feet bgs, and the west third at four (4) feet bgs due to this area being the primary pooling area for the fluid.

Once the visually impacted soils were removed, initial soil sampling was conducted March 21, 2019, after providing notice of sampling to NMOCD and BLM on March 18, 2019 (Appendix C). Results of initial sampling (03/29/2019, Appendix B), indicated 2 areas requiring further excavation based on Table 1 criteria, V2 and V3.

To further remediate the release area, the V2 and V3 areas were further excavated, with the V2 area being extended to four (4) feet bgs and the V3 area excavation progressing to four and one half (4.5) feet bgs. At this time further confirmation sampling was conducted on April 11, 2019, after proper notification had been provided to NMOCD and BLM (Appendix C). Analytical results indicated that all remaining soil was within the constituent concentration thresholds to meet the Table 1 requirements of the Spill Rule (NMAC 19.15.29).

At this time, the site was then backfilled to grade with locally sourced soil of a similar type and seeded with the appropriate BLM seed mix. Fertilization of the soil during the seeding process was also conducted to provide further nutrients for the reestablishment of vegetation. Full details of the remediation are included with the Original Closure Report included as Appendix B.

IV. Closure Request

Addressment of this release occurred within the allowable 90-days immediately following the discovery of a release to complete remediation then proceed directly to Closure. This release occurred shortly after the passage of the Spill Rule (NMAC 19.15.29) and prior to the NMOCD Spill Rule Procedures document (Appendix F) which was distributed September 6, 2019. Remediation was completed for this site according to the published Spill Rule (NMAC 19.15.29) information, which only stated a requirement for chloride concentration to be less than 600 mg/kg within Part 13 and has no stated depth to groundwater requirements such as being within a half mile and water level information aged no greater than 25 years. This guidance from NMOCD wasn't published until four months after the completion of this remediation project completed.

Based on the completion of remediation based on the Spill Rule requirements, and prior to any published implementation procedures by NMOCD, EOG requests closure of Incident #nAB1913544961 (2RP-5415). Updated depth to groundwater information is included with this Closure Report (Appendix D) and an updated C-141 Closure is included as Appendix E.

Jackson B #17
Closure Report
#nAB1913544961



September 29, 2022

Appendix A

C-141 Initial

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

EOG Resources, Inc.	7377
Chase Settle	575-748-1471
Chase_Settle@eogresources.com	Incident # (assigned by OCD)
104 S. 4 th Street, Artesia, NM 88210	

Location of Release Source

Latitude 32.85820

Longitude -103.92790

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Jackson B #17	Site Type Flow Line
Date Release Discovered 03/11/2019	API# (if applicable) 30-015-04039

Unit Letter	Section	Township	Range	County
M	1	17S	30E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 2	Volume Recovered (bbls) 1
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 18	Volume Recovered (bbls) 15
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Steel flow line failed due to corrosion.

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>Chase Settle</u>	Title: <u>Rep Safety and Environmental II</u>
Signature: <u><i>Chase Settle</i></u>	Date: <u>03/12/2019</u>
email: <u>Chase_Settle@eogresources.com</u>	Telephone: <u>575-748-1471</u>
<u>OCD Only</u>	
Received by: _____	Date: _____

RT TRUCKING, LLC **TICKET NO 097**

PO Box 133
Loco Hills, NM
(575) 703-5189

RIVER Josh Green TRUCK NO 27 DATE 03/11/2019
HIPED FROM spill CAPACITY 188 BBLs 16
HIPED TO Spence AT Jacks B #17
LEASE Jacks B #17

DESCRIPTION	HRS ON (OLE)	RATE	AMOUNT	TOTALS
Picked up 16 BBLs of Fluid from spill Hauled to Spence	16 BBLs			
				SUB TOTAL
				TAX
				TOTAL

TIME STARTED _____ TIME FINISHED _____ TOTAL HOURS _____
COMPANY NAME EOG COMPANY REP Noel Gonz

GRANDE

SKIM TANK 1-4

LOG RESOURCES												
LEASE NAME												
JACKSON BS BATTERY	CDP	723311			TANK 1	TANK 2	TANK 3	TANK 4	TANK 5	TANK 6	TOTAL	
	STATIC	DIFF	MOF	LACT	TEST 1	TEST 2	PRODUCTION TANKS					
ACCR VOLUME					BT01A	BT02A	BT03A	BT04A	BT05A	BT06A	BT07A	
436075	0	33	80	854	50829	5-11	9-2	8.78	0-0	0-0	1-1	1-1 9.52 5.1 Prod Est 4
436913	1	29	64	838	508174	6-2	6-1	8.34	0-0	0-0	1-1	1-1 8.26 2.5
437231	2	27	68	818	508305	6-4	5-9	5.96	0-0	0-0	1-1	1-1 11.16 1.1
438599	3	29	50	868	508971	6-10	5-9	16.66	0-0	0-0	1-1	1-1 0 16
439301	4	37	26	702	506501	7-7	5-8	25.02	0-0	0-0	1-1	1-1 -2.78 5.2
439877	5	33	18	576	506502	2-14	6-2	4.965	0-0	0-0	1-1	1-1 16.58 3.4
440577	6	26	31	700	509001	3-12	6-5	7.67	0-0	0-0	1-1	1-1
441300	7	39	40	723	509165	3-4	6-3	9.73	0-0	0-0	1-1	1-1 -5.56 1.3
441939	8	41	33	639	509230	3-7	7-11	8.34	0-0	0-0	1-1	1-1 -55.60
442948	9	39	110	109	509423	3-8	5-6	2.78	0-0	0-0	1-1	1-1
443967	10	32	93	1019	50154	3-8	5-10	-	0-0	0-0	1-1	1-1 11.12 1.1
444826	11	29	67	909	509705	3-8	5-11	0	0-0	0-0	1-1	1-1 2.78 1.1
	12											
	13											
	14											
	15											
	16											
	17											
	18											
	19											
	20											
	21											

Jackson B #17
Closure Report
#nAB1913544961



September 29, 2022

Appendix B

Original Closure Report



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

May 14, 2019

NMOCD District II
811 S. First St.
Artesia, NM 88210

Re: Jackson B #17
30-015-04039
M-1-17S-30E
Eddy County, NM
2RP-

EOG Y Resources, Inc. is submitting the enclosed Closure Report for the above referenced site. The plan is being submitted accompanying the C-141 Final.

EOG Y Resources Inc. requests closure.

If you have any questions, feel free to call me at (575) 748-1471.

Respectfully,

Chase Settle
Rep Safety & Environmental II
EOG Y Resources, Inc.

EOG Y Resources, Inc.

Jackson B #17

Closure Report

30-015-04039

M-1-17S-30E

Eddy County, NM

May 14, 2019

I. Location

From the intersection of Hwy 82 and Square Lakes Road (CR 220), head north for approximately 3 miles, then turn west and release site is on northwest corner of the location.

II. Background

On March 12, 2019, EOG Resources, Inc. submitted to the NMOCD District II office a Form C-141 for the release of 2 B/O and 18 B/PW with 1 B/O and 15 B/PW recovered. The affected area impacted by the release is approximately 75 feet by 25 feet off the northwest corner of the Jackson B #30 location. The release was caused by the failure of a flow line due to corrosion. A vacuum truck was dispatched to recover the standing fluid and a backhoe crew was contracted to excavate visually impacted soils, approximately one (1) foot of impacted soil was excavated in the east third of the release, two (2) feet in the middle third of the release, and four (4) feet was excavated in the west third of the release where the majority of the pooling occurred. Excavated soils were sent to a NMOCD approved disposal facility during the initial excavation activities. Initial soil sampling was conducted March 21, 2019, after providing notice of sampling to NMOCD and BLM on March 18, 2019. Results of initial sampling (03/29/2019, results enclosed), indicated 2 areas requiring further excavation, V2 and V3.

III. Surface and Ground Water

Area geology is Cenozoic Quaternary. Based on information from the United States Geological Survey National Water Information System (USGS) regarding this location (Section 1, T17S-R30E), shallowest depth to groundwater is approximately 361 feet with the nearest water well being further than a mile to the west. Watercourses in the area are dry except for infrequent flows in response to major precipitation events, with the nearest body of surface water being Dimmitt Lake at approximately 2 miles away.

IV. NMOCD Assessment Criteria

The site assessment criteria is as follows:

Depth to ground water	> 100'
Wellhead Protection Area	> 1000'
Distance to surface water body	> 1000'

Based on the assessment criteria, the NMOCD established RRALs for this site are:

Benzene	10 mg/kg
BTEX	50 mg/kg
TPH	2,500 mg/kg
GRO + DRO	1,000 mg/kg
Chlorides	20,000 mg/kg

V. Soils

USDA Natural Resources Conservation Service (NRCS) classifies soil in the area as Kermit-Berino fine sands, with 0-3% slopes, and very rapid permeability.

energy opportunity growth

VII. Work Completed

Based on analytical results, Table 1 Guidelines, and groundwater greater than 100 feet, EOG Resources, Inc. increased the excavation depth of the V2 impacted area to four (4) feet bgs and V3 impacted areas to four and a half (4.5) feet bgs before conducting confirmation soil sampling (04/16/2019, results enclosed) of the sidewalls and bottom of the excavation. Analytical data from that sampling activity displayed results to be below Table 1 standards. All confirmation samples represented less than 200 square feet. Notification for confirmation sampling activities were sent to NMOCD and BLM, April 8, 2019. No further work or sampling was conducted in the V1 area as the initial samples represented less than 200 square feet. All excavated soil was hauled to a NMOCD approved facility for disposal, then the excavated areas were backfilled to grade with locally sourced soil of similar type. A C-141 Final Report is hereby submitted to NMOCD requesting closure of the site.

Table 1

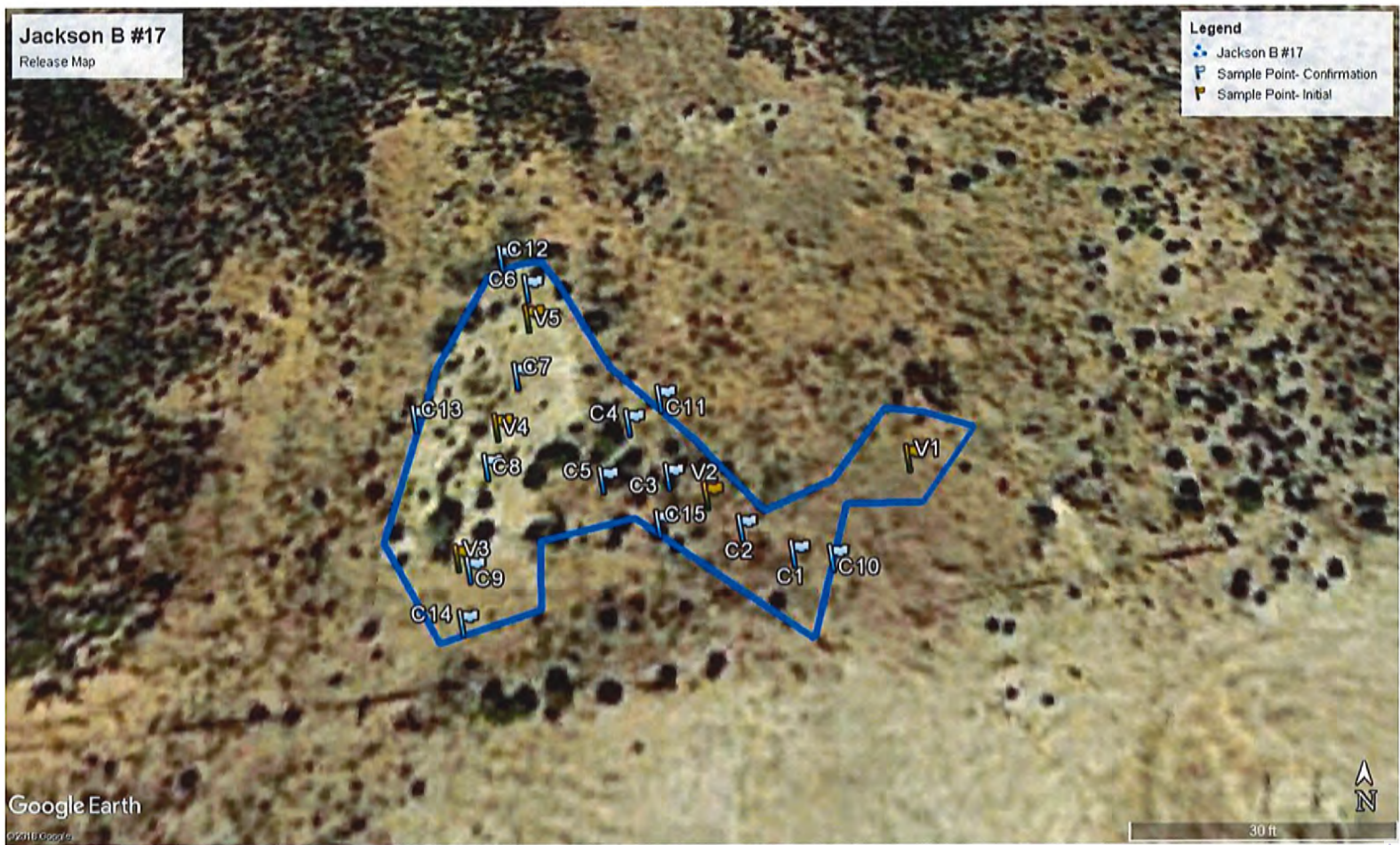
Soil Analytical Data

Soil Analytical Data

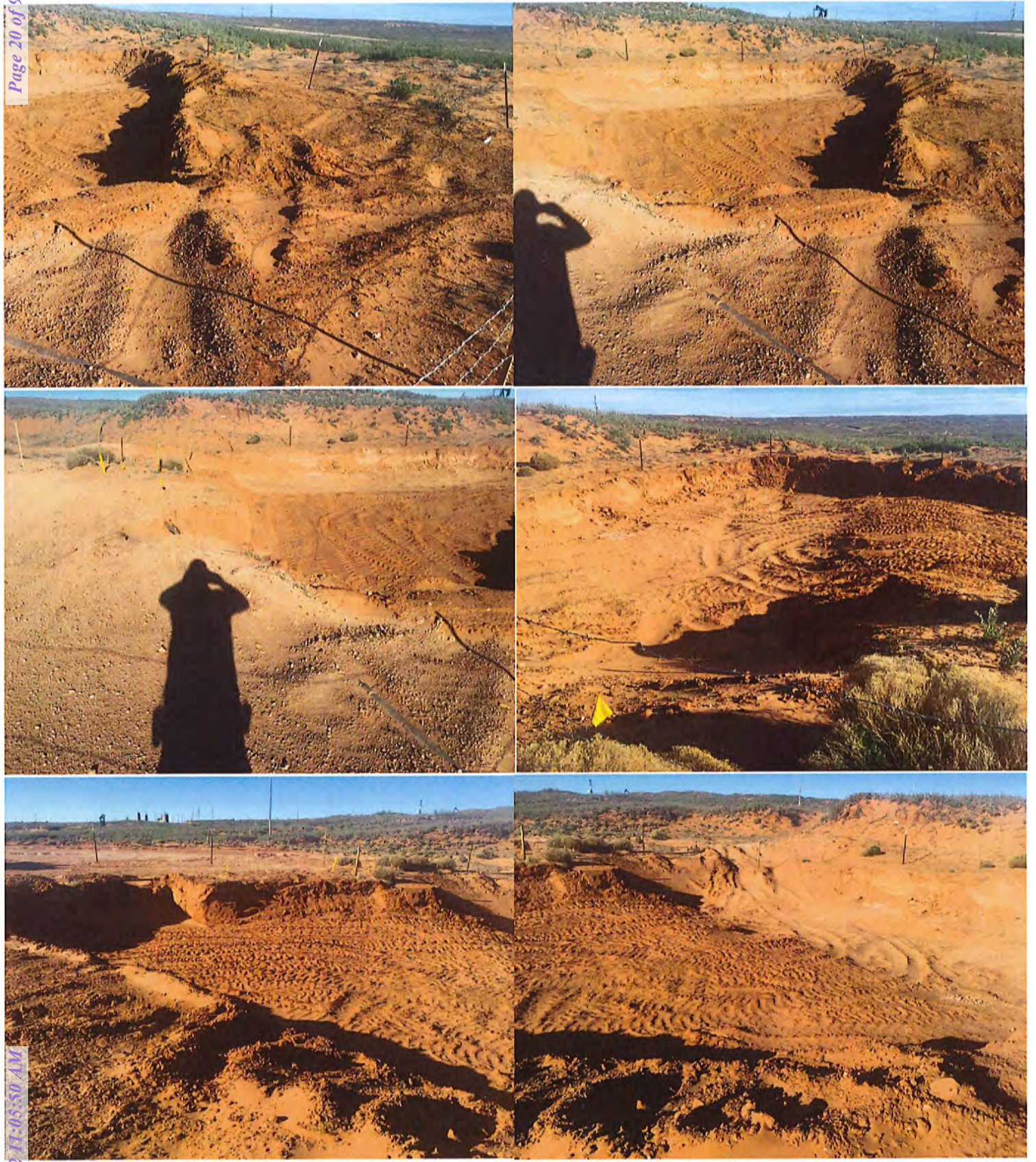
Sample ID	Depth (ft. bgs)	Date	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	TPH (GRO)	TPH (DRO)	TPH EXT DRO	Total TPH	Chlorides
V1-1'	1	3/21/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	412	79.7	491.7	336
V1-2'	2	3/21/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	128
V1-3'	3	3/21/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	80
V1-4'	4	3/21/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	48
V2-2'	2	3/21/19	<0.050	0.055	0.068	0.250	0.373	<10.0	412	68.1	480.1	2760
V2-3'	3	3/21/19	<0.050	0.058	0.060	0.360	0.478	<10.0	42.4	<10.0	42.4	7360
V2-4'	4	3/21/19	<0.050	<0.050	<0.050	0.393	0.393	12.9	76.6	<10.0	89.5	7200
V3-4'	4	3/21/19	<0.050	<0.050	<0.050	0.475	0.475	35.8	1650	361	2046.8	512
V4-4'	4	3/21/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	19.1	<10.0	19.1	10300
V5-4'	4	3/21/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	8480
C1	4	4/11/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	30.6	<10.0	30.6	864
C2	4	4/11/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	197	20.8	217.8	1680
C3	4	4/11/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	77.2	<10.0	77.2	2120
C4	4	4/11/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	185	24.3	209.3	1660
C5	4	4/11/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	69.8	<10.0	69.8	1120
C6	4	4/11/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	157	25.3	182.3	1090
C7	4	4/11/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	248	49.9	297.9	2480
C8	4	4/11/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	10.0	<10.0	10.0	368
C9	4.5	4/11/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	82.7	<10.0	82.7	256
C10	0-4	4/11/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	240
C11	0-4	4/11/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	21.3	<10.0	21.3	432
C12	0-4	4/11/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	90.9	<10.0	90.9	384
C13	0-4	4/11/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	57.6	20.4	78	416
C14	0-4	4/11/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	39.7	<10.0	39.7	208
C15	0-4	4/11/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	16

Figure 1

Site Map with Sample Points



Photos

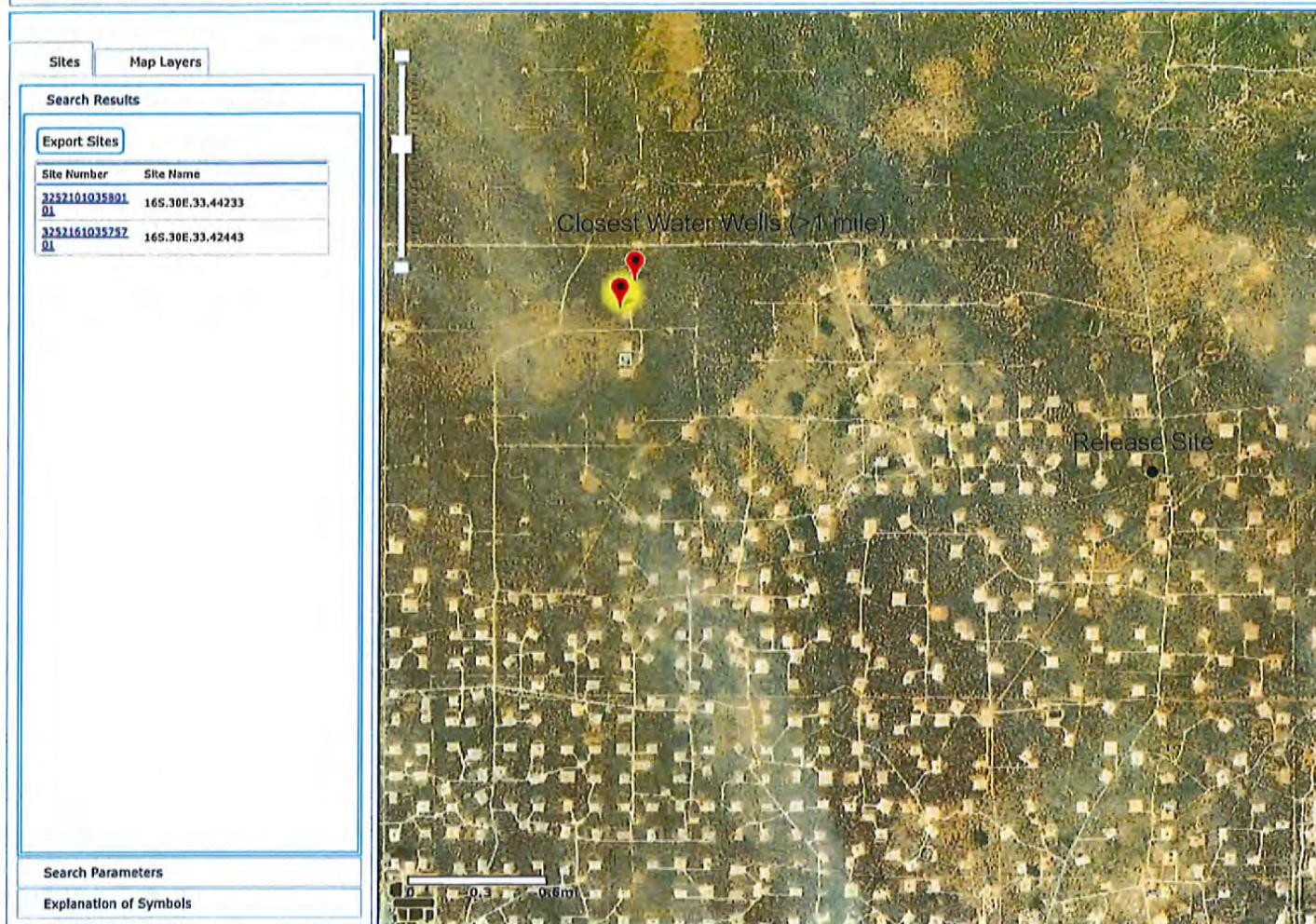


Appendix A

USGS Groundwater Information



National Water Information System: Map View





USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category: **Groundwater** Geographic Area: **United States** **GO**

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Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 325216103575701

Minimum number of levels = 1

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

USGS 325216103575701 16S.30E.33.42443

Eddy County, New Mexico

Latitude 32°52'16", Longitude 103°57'57" NAD27

Land-surface elevation 3,729 feet above NAVD88

The depth of the well is 385 feet below land surface.

This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water-level approval status
1986-04-25		D	362.44			2		U		U	A

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

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[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

Title: Groundwater for USA: Water Levels

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

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

Page Last Modified: 2018-12-19 11:58:31 EST

0.5 0.43 nedwv01





USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category: **Groundwater** Geographic Area: **United States** **GO**

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Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 325210103580101

Minimum number of levels = 1

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

USGS 325210103580101 16S.30E.33.44233

Eddy County, New Mexico

Latitude 32°52'10", Longitude 103°58'01" NAD27

Land-surface elevation 3,725 feet above NAVD88

The depth of the well is 433 feet below land surface.

This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water-level approval status
1986-04-25		D	361.26			2		U		U	A

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

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Title: Groundwater for USA: Water Levels

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

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

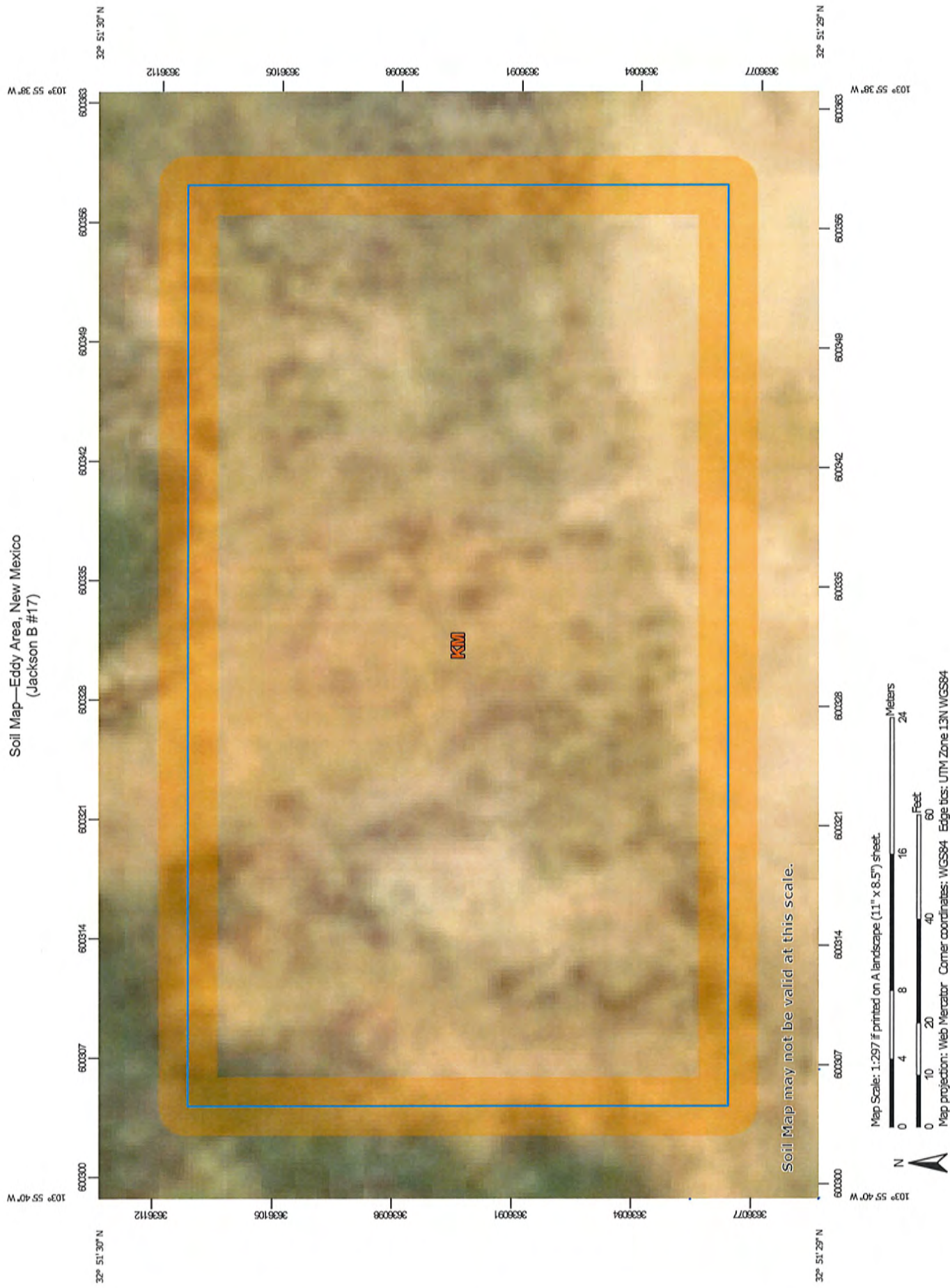
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0.51 0.43 nadwv01












































Appendix B

NRCS Soil Classification



Soil Map—Eddy Area, New Mexico
(Jackson B #17)

MAP LEGEND

 Area of Interest (AOI)	 Soil Area
 Area of Interest (AOI)	 Stony Spot
 Soils	 Very Stony Spot
 Soil Map Unit Polygons	 Wet Spot
 Soil Map Unit Lines	 Other
 Soil Map Unit Points	 Special Line Features
 Special Point Features	
 Blowout	 Water Features
 Borrow Pit	 Streams and Canals
 Clay Spot	 Transportation
 Closed Depression	 Ralls
 Gravel Pit	 Interstate Highways
 Gravelly Spot	 US Routes
 Landfill	 Major Roads
 Lava Flow	 Local Roads
 Marsh or swamp	 Background
 Mine or Quarry	 Aerial Photography
 Miscellaneous Water	
 Perennial Water	
 Rock Outcrop	
 Saline Spot	
 Sandy Spot	
 Severely Eroded Spot	
 Sinkhole	
 Slide or Slip	
 Sodic Spot	

MAP INFORMATION

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

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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 14, Sep 12, 2018

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

Date(s) aerial images were photographed: Sep 18, 2016—Nov 20, 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
KM	Kermit-Berino fine sands, 0 to 3 percent slopes	0.4	100.0%
Totals for Area of Interest		0.4	100.0%

Appendix C

Laboratory Soil Data



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March 29, 2019

CHASE SETTLE

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: JACKSON B #17

Enclosed are the results of analyses for samples received by the laboratory on 03/25/19 14:35.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Coley D. Keene". The signature is written in a cursive style with a large, stylized 'C' at the beginning.

Celey D. Keene

Lab Director/Quality Manager



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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received:	03/25/2019	Sampling Date:	03/21/2019
Reported:	03/29/2019	Sampling Type:	Soil
Project Name:	JACKSON B #17	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	JACKSON B #17		

Sample ID: V 1 - 1' (H901122-01)

BTEX 8021B			mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/26/2019	ND	1.91	95.5	2.00	1.13		
Toluene*	<0.050	0.050	03/26/2019	ND	1.78	88.9	2.00	2.89		
Ethylbenzene*	<0.050	0.050	03/26/2019	ND	1.90	95.1	2.00	0.944		
Total Xylenes*	<0.150	0.150	03/26/2019	ND	6.02	100	6.00	0.0473		
Total BTEX	<0.300	0.300	03/26/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 94.9 % 73.3-129

Chloride, SM4500Cl-B			mg/kg							Analyzed By: AC	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Chloride	336	16.0	03/26/2019	ND	400	100	400	0.00			

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	03/25/2019	ND	213	107	200	1.22		
DRO >C10-C28*	412	10.0	03/25/2019	ND	189	94.7	200	0.519		
EXT DRO >C28-C36	79.7	10.0	03/25/2019	ND						

Surrogate: 1-Chlorooctane 101 % 41-142

Surrogate: 1-Chlorooctadecane 107 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received: 03/25/2019
Reported: 03/29/2019
Project Name: JACKSON B #17
Project Number: NONE GIVEN
Project Location: JACKSON B #17

Sampling Date: 03/21/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: V 1 - 2' (H901122-02)

BTEX 8021B			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/26/2019	ND	1.91	95.5	2.00	1.13	
Toluene*	<0.050	0.050	03/26/2019	ND	1.78	88.9	2.00	2.89	
Ethylbenzene*	<0.050	0.050	03/26/2019	ND	1.90	95.1	2.00	0.944	
Total Xylenes*	<0.150	0.150	03/26/2019	ND	6.02	100	6.00	0.0473	
Total BTEX	<0.300	0.300	03/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 93.0 % 73.3-129

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	03/26/2019	ND	400	100	400	0.00	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/25/2019	ND	213	107	200	1.22	
DRO >C10-C28*	<10.0	10.0	03/25/2019	ND	189	94.7	200	0.519	
EXT DRO >C28-C36	<10.0	10.0	03/25/2019	ND					

Surrogate: 1-Chlorooctane 100 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 37.6-147

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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received:	03/25/2019	Sampling Date:	03/21/2019
Reported:	03/29/2019	Sampling Type:	Soil
Project Name:	JACKSON B #17	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	JACKSON B #17		

Sample ID: V 1 - 3' (H901122-03)

BTEx 8021B			mg/kg							Analyzed By: ms	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Benzene*	<0.050	0.050	03/26/2019	ND	1.91	95.5	2.00	1.13			
Toluene*	<0.050	0.050	03/26/2019	ND	1.78	88.9	2.00	2.89			
Ethylbenzene*	<0.050	0.050	03/26/2019	ND	1.90	95.1	2.00	0.944			
Total Xylenes*	<0.150	0.150	03/26/2019	ND	6.02	100	6.00	0.0473			
Total BTEx	<0.300	0.300	03/26/2019	ND							

Surrogate: 4-Bromofluorobenzene (PIL) 96.7 % 73.3-129

Chloride, SM4500CI-B			mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	03/26/2019	ND	400	100	400	0.00		

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/25/2019	ND	213	107	200	1.22	
DRO >C10-C28*	<10.0	10.0	03/25/2019	ND	189	94.7	200	0.519	
EXT DRO >C28-C36	<10.0	10.0	03/25/2019	ND					

Surrogate: 1-Chlorooctane 105 % 41-142

Surrogate: 1-Chlorooctadecane 106 % 37.6-147

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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received: 03/25/2019
Reported: 03/29/2019
Project Name: JACKSON B #17
Project Number: NONE GIVEN
Project Location: JACKSON B #17

Sampling Date: 03/21/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: V 1 - 4' (H901122-04)

BTEX 8021B			mg/kg							
			Analyzed By: ms							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/26/2019	ND	1.91	95.5	2.00	1.13		
Toluene*	<0.050	0.050	03/26/2019	ND	1.78	88.9	2.00	2.89		
Ethylbenzene*	<0.050	0.050	03/26/2019	ND	1.90	95.1	2.00	0.944		
Total Xylenes*	<0.150	0.150	03/26/2019	ND	6.02	100	6.00	0.0473		
Total BTEX	<0.300	0.300	03/26/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 97.3 % 73.3-129

Chloride, SM4500Cl-B			mg/kg							
			Analyzed By: AC							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	03/26/2019	ND	400	100	400	0.00		

TPH 8015M			mg/kg							
			Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	03/25/2019	ND	213	107	200	1.22		
DRO >C10-C28*	<10.0	10.0	03/25/2019	ND	189	94.7	200	0.519		
EXT DRO >C28-C36	<10.0	10.0	03/25/2019	ND						

Surrogate: 1-Chlorooctane 98.6 % 41-142

Surrogate: 1-Chlorooctadecane 97.1 % 37.6-147

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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received: 03/25/2019
Reported: 03/29/2019
Project Name: JACKSON B #17
Project Number: NONE GIVEN
Project Location: JACKSON B #17

Sampling Date: 03/21/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: V 2 - 2' (H901122-05)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/26/2019	ND	1.91	95.5	2.00	1.13	
Toluene*	0.055	0.050	03/26/2019	ND	1.78	88.9	2.00	2.89	
Ethylbenzene*	0.068	0.050	03/26/2019	ND	1.90	95.1	2.00	0.944	
Total Xylenes*	0.250	0.150	03/26/2019	ND	6.02	100	6.00	0.0473	
Total BTEX	0.373	0.300	03/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 96.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2760	16.0	03/26/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/25/2019	ND	213	107	200	1.22	
DRO >C10-C28*	412	10.0	03/25/2019	ND	189	94.7	200	0.519	
EXT DRO >C28-C36	68.1	10.0	03/25/2019	ND					

Surrogate: 1-Chlorooctane 99.0 % 41-142

Surrogate: 1-Chlorooctadecane 99.3 % 37.6-147

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received: 03/25/2019
Reported: 03/29/2019
Project Name: JACKSON B #17
Project Number: NONE GIVEN
Project Location: JACKSON B #17

Sampling Date: 03/21/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: V 2 - 3' (H901122-06)

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/26/2019	ND	1.91	95.5	2.00	1.13	
Toluene*	0.058	0.050	03/26/2019	ND	1.78	88.9	2.00	2.89	
Ethylbenzene*	0.060	0.050	03/26/2019	ND	1.90	95.1	2.00	0.944	
Total Xylenes*	0.360	0.150	03/26/2019	ND	6.02	100	6.00	0.0473	
Total BTX	0.478	0.300	03/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 96.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7360	16.0	03/26/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/26/2019	ND	226	113	200	0.675	
DRO >C10-C28*	42.4	10.0	03/26/2019	ND	216	108	200	1.66	
EXT DRO >C28-C36	<10.0	10.0	03/26/2019	ND					

Surrogate: 1-Chlorooctane 99.5 % 41-142

Surrogate: 1-Chlorooctadecane 97.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received: 03/25/2019
Reported: 03/29/2019
Project Name: JACKSON B #17
Project Number: NONE GIVEN
Project Location: JACKSON B #17

Sampling Date: 03/21/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: V 2 - 4' (H901122-07)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/26/2019	ND	1.91	95.5	2.00	1.13	
Toluene*	<0.050	0.050	03/26/2019	ND	1.78	88.9	2.00	2.89	
Ethylbenzene*	<0.050	0.050	03/26/2019	ND	1.90	95.1	2.00	0.944	
Total Xylenes*	0.393	0.150	03/26/2019	ND	6.02	100	6.00	0.0473	
Total BTEX	0.393	0.300	03/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 96.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7200	16.0	03/26/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	12.9	10.0	03/26/2019	ND	226	113	200	0.675	
DRO >C10-C28*	76.6	10.0	03/26/2019	ND	216	108	200	1.66	
EXT DRO >C28-C36	<10.0	10.0	03/26/2019	ND					

Surrogate: 1-Chlorooctane 100 % 41-142

Surrogate: 1-Chlorooctadecane 97.4 % 37.6-147

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received: 03/25/2019
Reported: 03/29/2019
Project Name: JACKSON B #17
Project Number: NONE GIVEN
Project Location: JACKSON B #17

Sampling Date: 03/21/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: V 3 - 4' (H901122-08)

BTEX 8021B			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/26/2019	ND	1.91	95.5	2.00	1.13	
Toluene*	<0.050	0.050	03/26/2019	ND	1.78	88.9	2.00	2.89	
Ethylbenzene*	<0.050	0.050	03/26/2019	ND	1.90	95.1	2.00	0.944	
Total Xylenes*	0.475	0.150	03/26/2019	ND	6.02	100	6.00	0.0473	
Total BTEX	0.475	0.300	03/26/2019	ND					

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

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	03/26/2019	ND	400	100	400	0.00	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	35.8	10.0	03/26/2019	ND	226	113	200	0.675	
DRO >C10-C28*	1650	10.0	03/26/2019	ND	216	108	200	1.66	
EXT DRO >C28-C36	361	10.0	03/26/2019	ND					

Surrogate: 1-Chlorooctane 104 % 41-142

Surrogate: 1-Chlorooctadecane 114 % 37.6-147

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received: 03/25/2019
Reported: 03/29/2019
Project Name: JACKSON B #17
Project Number: NONE GIVEN
Project Location: JACKSON B #17

Sampling Date: 03/21/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: V 4 - 4' (H901122-09)

BTEX 8021B			mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/26/2019	ND	1.91	95.5	2.00	1.13		
Toluene*	<0.050	0.050	03/26/2019	ND	1.78	88.9	2.00	2.89		
Ethylbenzene*	<0.050	0.050	03/26/2019	ND	1.90	95.1	2.00	0.944		
Total Xylenes*	<0.150	0.150	03/26/2019	ND	6.02	100	6.00	0.0473		
Total BTEX	<0.300	0.300	03/26/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 92.8 % 73.3-129

Chloride, SM4500CI-B			mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	10300	16.0	03/26/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/26/2019	ND	226	113	200	0.675	
DRO >C10-C28*	19.1	10.0	03/26/2019	ND	216	108	200	1.66	
EXT DRO >C28-C36	<10.0	10.0	03/26/2019	ND					

Surrogate: 1-Chlorooctane 104 % 41-142

Surrogate: 1-Chlorooctadecane 98.9 % 37.6-147

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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received:	03/25/2019	Sampling Date:	03/21/2019
Reported:	03/29/2019	Sampling Type:	Soil
Project Name:	JACKSON B #17	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	JACKSON B #17		

Sample ID: V 5 - 4' (H901122-10)

BTEX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/27/2019	ND	2.06	103	2.00	0.477	
Toluene*	<0.050	0.050	03/27/2019	ND	2.15	108	2.00	2.21	
Ethylbenzene*	<0.050	0.050	03/27/2019	ND	2.35	117	2.00	2.18	
Total Xylenes*	<0.150	0.150	03/27/2019	ND	6.71	112	6.00	4.21	
Total BTEX	<0.300	0.300	03/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 120 % 73.3-129

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8480	16.0	03/26/2019	ND	400	100	400	0.00	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/26/2019	ND	226	113	200	0.675	
DRO >C10-C28*	<10.0	10.0	03/26/2019	ND	216	108	200	1.66	
EXT DRO >C28-C36	<10.0	10.0	03/26/2019	ND					

Surrogate: 1-Chlorooctane 89.1 % 41-142

Surrogate: 1-Chlorooctadecane 84.9 % 37.6-147

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Coley D. Keene

Coley D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
- Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

(505) 393-2326 FAX (505) 393-2476

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: Jackson B #17

Project #:

Project Loc: Jackson B #17

PO #: 205-0750

Fax No.:

Report Format:

☒ Standard ☐ TRBP ☐ NPRES

Sampler Signature:  e-mail: _____

Chase Settle@eogresources.com

ORDER #: 1-901122

[illegible]



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April 16, 2019

CHASE SETTLE

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: JACKSON B #17

Enclosed are the results of analyses for samples received by the laboratory on 04/15/19 14:10.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received: 04/15/2019
Reported: 04/16/2019
Project Name: JACKSON B #17
Project Number: NONE GIVEN
Project Location: JACKSON B #17

Sampling Date: 04/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: C1 (H901376-01)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	2.07	104	2.00	7.28	
Toluene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	5.29	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	2.41	
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.42	107	6.00	4.48	
Total BTX	<0.300	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 112 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	864	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	194	96.9	200	0.466	
DRO >C10-C28*	30.6	10.0	04/15/2019	ND	195	97.4	200	0.829	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane 90.3 % 41-142

Surrogate: 1-Chlorooctadecane 97.2 % 37.6-147

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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received:	04/15/2019	Sampling Date:	04/11/2019
Reported:	04/16/2019	Sampling Type:	Soil
Project Name:	JACKSON B #17	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	JACKSON B #17		

Sample ID: C2 (H901376-02)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	2.07	104	2.00	7.28	
Toluene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	5.29	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	2.41	
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.42	107	6.00	4.48	
Total BTX	<0.300	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 114 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1680	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	194	96.9	200	0.466	
DRO >C10-C28*	197	10.0	04/15/2019	ND	195	97.4	200	0.829	
EXT DRO >C28-C36	20.8	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane 88.1 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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Coley D. Keene

Coley D. Keene, Lab Director/Quality Manager



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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received: 04/15/2019
Reported: 04/16/2019
Project Name: JACKSON B #17
Project Number: NONE GIVEN
Project Location: JACKSON B #17

Sampling Date: 04/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: C3 (H901376-03)

BTEX 8021B		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	2.07	104	2.00	7.28	
Toluene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	5.29	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	2.41	
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.42	107	6.00	4.48	
Total BTEX	<0.300	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 109 % 73.3-129

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2120	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	194	96.9	200	0.466	
DRO >C10-C28*	77.2	10.0	04/15/2019	ND	195	97.4	200	0.829	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane 88.8 % 41-142

Surrogate: 1-Chlorooctadecane 98.9 % 37.6-147

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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received: 04/15/2019
Reported: 04/16/2019
Project Name: JACKSON B #17
Project Number: NONE GIVEN
Project Location: JACKSON B #17

Sampling Date: 04/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: C4 (H901376-04)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	2.07	104	2.00	7.28	
Toluene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	5.29	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	2.41	
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.42	107	6.00	4.48	
Total BTX	<0.300	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 113 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1660	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	194	96.9	200	0.466	
DRO >C10-C28*	185	10.0	04/15/2019	ND	195	97.4	200	0.829	
EXT DRO >C28-C36	24.3	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane 87.8 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received: 04/15/2019
Reported: 04/16/2019
Project Name: JACKSON B #17
Project Number: NONE GIVEN
Project Location: JACKSON B #17

Sampling Date: 04/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: C5 (H901376-05)

BTEX 8021B		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	2.07	104	2.00	7.28	
Toluene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	5.29	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	2.41	
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.42	107	6.00	4.48	
Total BTEX	<0.300	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 111 % 73.3-129

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1120	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	194	96.9	200	0.466	
DRO >C10-C28*	69.8	10.0	04/15/2019	ND	195	97.4	200	0.829	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane 90.0 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received: 04/15/2019
Reported: 04/16/2019
Project Name: JACKSON B #17
Project Number: NONE GIVEN
Project Location: JACKSON B #17

Sampling Date: 04/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: C6 (H901376-06)

BTEX 8021B			mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/15/2019	ND	2.07	104	2.00	7.28		
Toluene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	5.29		
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	2.41		
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.42	107	6.00	4.48		
Total BTEX	<0.300	0.300	04/15/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 111 % 73.3-129

Chloride, SM4500Cl-B			mg/kg							Analyzed By: AC	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Chloride	1090	16.0	04/16/2019	ND	400	100	400	0.00			

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	194	96.9	200	0.466		
DRO >C10-C28*	157	10.0	04/15/2019	ND	195	97.4	200	0.829		
EXT DRO >C28-C36	25.3	10.0	04/15/2019	ND						

Surrogate: 1-Chlorooctane 88.6 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received: 04/15/2019
Reported: 04/16/2019
Project Name: JACKSON B #17
Project Number: NONE GIVEN
Project Location: JACKSON B #17

Sampling Date: 04/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: C7 (H901376-07)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	2.07	104	2.00	7.28	
Toluene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	5.29	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	2.41	
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.42	107	6.00	4.48	
Total BTX	<0.300	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 122 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2480	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	194	96.9	200	0.466	
DRO >C10-C28*	248	10.0	04/15/2019	ND	195	97.4	200	0.829	
EXT DRO >C28-C36	49.9	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane 86.0 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received: 04/15/2019
Reported: 04/16/2019
Project Name: JACKSON B #17
Project Number: NONE GIVEN
Project Location: JACKSON B #17

Sampling Date: 04/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: C8 (H901376-08)

BTEX 8021B			mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/15/2019	ND	2.07	104	2.00	7.28		
Toluene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	5.29		
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	2.41		
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.42	107	6.00	4.48		
Total BTEX	<0.300	0.300	04/15/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 112 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	194	96.9	200	0.466	
DRO >C10-C28*	10.0	10.0	04/15/2019	ND	195	97.4	200	0.829	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane 87.4 % 41-142

Surrogate: 1-Chlorooctadecane 96.1 % 37.6-147

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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received:	04/15/2019	Sampling Date:	04/11/2019
Reported:	04/16/2019	Sampling Type:	Soil
Project Name:	JACKSON B #17	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	JACKSON B #17		

Sample ID: C9 (H901376-09)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	2.07	104	2.00	7.28	
Toluene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	5.29	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	2.41	
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.42	107	6.00	4.48	
Total BTX	<0.300	0.300	04/15/2019	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	194	96.9	200	0.466	
DRO >C10-C28*	82.7	10.0	04/15/2019	ND	195	97.4	200	0.829	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane 87.8 % 41-142

Surrogate: 1-Chlorooctadecane 97.6 % 37.6-147

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ARTESIA NM, 88210
Fax To: (575) 748-4131

Received: 04/15/2019
Reported: 04/16/2019
Project Name: JACKSON B #17
Project Number: NONE GIVEN
Project Location: JACKSON B #17

Sampling Date: 04/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: C10 (H901376-10)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	2.07	104	2.00	7.28	
Toluene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	5.29	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	2.41	
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.42	107	6.00	4.48	
Total BTEX	<0.300	0.300	04/15/2019	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	194	96.9	200	0.466	
DRO >C10-C28*	<10.0	10.0	04/15/2019	ND	195	97.4	200	0.829	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane 85.2 % 41-142

Surrogate: 1-Chlorooctadecane 93.3 % 37.6-147

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105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received: 04/15/2019
Reported: 04/16/2019
Project Name: JACKSON B #17
Project Number: NONE GIVEN
Project Location: JACKSON B #17

Sampling Date: 04/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: C11 (H901376-11)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	2.07	104	2.00	7.28	
Toluene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	5.29	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	2.41	
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.42	107	6.00	4.48	
Total BTEX	<0.300	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 116 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	194	96.9	200	0.466	
DRO >C10-C28*	21.3	10.0	04/15/2019	ND	195	97.4	200	0.829	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane 86.1 % 41-142

Surrogate: 1-Chlorooctadecane 93.8 % 37.6-147

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Celestine D. Keene

Celestine D. Keene, Lab Director/Quality Manager



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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received:	04/15/2019	Sampling Date:	04/11/2019
Reported:	04/16/2019	Sampling Type:	Soil
Project Name:	JACKSON B #17	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	JACKSON B #17		

Sample ID: C12 (H901376-12)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	2.07	104	2.00	7.28	
Toluene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	5.29	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	2.41	
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.42	107	6.00	4.48	
Total BTX	<0.300	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 118 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	194	96.9	200	0.466	
DRO >C10-C28*	90.9	10.0	04/15/2019	ND	195	97.4	200	0.829	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane 85.4 % 41-142

Surrogate: 1-Chlorooctadecane 92.9 % 37.6-147

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Coley D. Keene

Coley D. Keene, Lab Director/Quality Manager



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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received: 04/15/2019
Reported: 04/16/2019
Project Name: JACKSON B #17
Project Number: NONE GIVEN
Project Location: JACKSON B #17

Sampling Date: 04/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: C13 (H901376-13)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2019	ND	2.07	104	2.00	7.28	
Toluene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	5.29	
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	2.41	
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.42	107	6.00	4.48	
Total BTX	<0.300	0.300	04/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 108 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	194	96.9	200	0.466	
DRO >C10-C28*	57.6	10.0	04/15/2019	ND	195	97.4	200	0.829	
EXT DRO >C28-C36	20.4	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane 84.0 % 41-142

Surrogate: 1-Chlorooctadecane 91.1 % 37.6-147

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Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received: 04/15/2019
Reported: 04/16/2019
Project Name: JACKSON B #17
Project Number: NONE GIVEN
Project Location: JACKSON B #17

Sampling Date: 04/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: C14 (H901376-14)

BTEX 8021B			mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/15/2019	ND	2.07	104	2.00	7.28		
Toluene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	5.29		
Ethylbenzene*	<0.050	0.050	04/15/2019	ND	2.19	110	2.00	2.41		
Total Xylenes*	<0.150	0.150	04/15/2019	ND	6.42	107	6.00	4.48		
Total BTEX	<0.300	0.300	04/15/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 109 % 73.3-129

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	04/16/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	194	96.9	200	0.466	
DRO >C10-C28*	39.7	10.0	04/15/2019	ND	195	97.4	200	0.829	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane 87.7 % 41-142

Surrogate: 1-Chlorooctadecane 95.7 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

EOG Y RESOURCES, INC
CHASE SETTLE
105 SOUTH 4TH STREET
ARTESIA NM, 88210
Fax To: (575) 748-4131

Received: 04/15/2019
Reported: 04/16/2019
Project Name: JACKSON B #17
Project Number: NONE GIVEN
Project Location: JACKSON B #17

Sampling Date: 04/11/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: C15 (H901376-15)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/16/2019	ND	2.07	104	2.00	7.28	
Toluene*	<0.050	0.050	04/16/2019	ND	2.19	110	2.00	5.29	
Ethylbenzene*	<0.050	0.050	04/16/2019	ND	2.19	110	2.00	2.41	
Total Xylenes*	<0.150	0.150	04/16/2019	ND	6.42	107	6.00	4.48	
Total BTEX	<0.300	0.300	04/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 113 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	04/16/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/15/2019	ND	207	103	200	0.562	
DRO >C10-C28*	<10.0	10.0	04/15/2019	ND	194	97.1	200	0.589	
EXT DRO >C28-C36	<10.0	10.0	04/15/2019	ND					

Surrogate: 1-Chlorooctane 95.8 % 41-142

Surrogate: 1-Chlorooctadecane 92.2 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

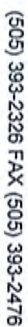
Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

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

Celey D. Keene, Lab Director/Quality Manager



Released to Imaging: 12/27/2022 3:54:27 PM

Received by *OCD*: 9/30/2022 11:05:50 AM



Released to Imaging: 12/27/2022 3:54:27 PM

Page 19 of 19

[illegible]

Appendix D

Form C-141

(Initial and Closure)

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	NAB1913544961
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

EOG Resources, Inc.	7377
Chase Settle	575-748-1471
Chase_Settle@eogresources.com	Incident # (assigned by OCD)
104 S. 4 th Street, Artesia, NM 88210	

Location of Release Source

Latitude 32.85820

Longitude -103.92790

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Jackson B #17	Site Type Flow Line
Date Release Discovered 03/11/2019	API# (if applicable) 30-015-04039

Unit Letter	Section	Township	Range	County
M	1	17S	30E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 2	Volume Recovered (bbls) 1
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 18	Volume Recovered (bbls) 15
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Steel flow line failed due to corrosion.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1913544961
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>Chase Settle</u>	Title: <u>Rep Safety and Environmental II</u>
Signature: <u><i>Chase Settle</i></u>	Date: <u>03/12/2019</u>
email: <u>Chase_Settle@eogresources.com</u>	Telephone: <u>575-748-1471</u>
<u>OCD Only</u>	
Received by: <u>Jocelyn Harimon</u>	Date: <u>09/30/2022</u>

State of New Mexico
Oil Conservation Division

Incident ID	NAB1913544961
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Chase Settle Title: Rep Safety and Environmental II
 Signature: *Chase Settle* Date: 05/14/2019
 email: Chase_Settle@eogresources.com Telephone: 575-748-1471

OCD Only

Received by: Jocelyn Harimon Date: 09/30/2022

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Appendix E

BLM Sundry

Form 3160-5
(March 2012)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2014**SUNDRY NOTICES AND REPORTS ON WELLS**
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.5. Lease Serial No.
NMNM2747

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE – Other instructions on page 2.

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other2. Name of Operator
EOG Resources, Inc.3a. Address
104 S. 4th St., Artesia, NM 882103b. Phone No. (include area code)
575-748-14714. Location of Well (Footage, Sec., T., R., M., or Survey Description)
660' FSL & 660' FWL, Section 1, T17S-R30E

7. If Unit of CA/Agreement, Name and/or No.

8. Well Name and No.
Jackson B #179. API Well No.
30-015-0403910. Field and Pool or Exploratory Area
Square Lakes; GB-San Andres11. County or Parish, State
Eddy County, New Mexico**12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <u>Clean up actions to</u>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	<u>be taken.</u>
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

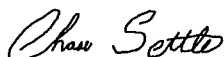
13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

On March 12, 2019, EOG Resources, Inc. submitted to the NMOCD District II office a Form C-141 for the release of 2 B/O and 18 B/PW with 1 B/O and 15 B/PW recovered. The affected area impacted by the release is approximately 75 feet by 25 feet off the northwest corner of the Jackson B #30 location. The release was caused by the failure of a flow line due to corrosion. A vacuum truck was dispatched to recover the standing fluid and a backhoe crew was contracted to excavate visually impacted soils, approximately one (1) foot of impacted soil was excavated in the east third of the release, two (2) feet in the middle third of the release, and four (4) feet was excavated in the west third of the release where the majority of the pooling occurred. Excavated soils were sent to a NMOCD approved disposal facility during the initial excavation activities. Initial soil sampling was conducted March 21, 2019, after providing notice of sampling to NMOCD and BLM on March 18, 2019. Results of initial sampling (03/29/2019, results enclosed), indicated 2 areas requiring further excavation, V2 and V3. Based on analytical results, Table 1 Guidelines, and groundwater greater than 100 feet, EOG Resources, Inc. increased the excavation depth of the V2 impacted area to four (4) feet bgs and V3 impacted areas to four and a half (4.5) feet bgs before conducting confirmation soil sampling (04/16/2019, results enclosed) of the sidewalls and bottom of the excavation. Analytical data from that sampling activity displayed results to be below Table 1 standards. All confirmation samples represented less than 200 square feet. Notification for confirmation sampling activities were sent to NMOCD and BLM, April 8, 2019. No further work or sampling was conducted in the V1 area as the initial samples represented less than 200 square feet. All excavated soil was hauled to a NMOCD approved facility for disposal, then the excavated areas were backfilled to grade with locally sourced soil of similar type. A C-141 Final Report is hereby submitted to NMOCD requesting closure of the site.

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)
Chase Settle

Title Rep Safety and Environmental II

Signature



Date 05/14/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13 - Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment.

NOTICES

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

Jackson B #17
Closure Report
#nAB1913544961



September 29, 2022

Appendix C

NMOCD Email Correspondence

From: [Katie Jamison](#)
To: [Hamlet, Robert, EMNRD](#); [Venegas, Victoria, EMNRD](#); yjimenez@blm.gov
Subject: Initial Release Notification: EOG-Artesia, Jackson B #17 Flowline
Date: Tuesday, March 12, 2019 1:23:48 PM
Attachments: [C-141 JacksonB#17.pdf](#)
[Sundry Notice JacksonB#17.pdf](#)
[image002.png](#)

Good Afternoon,

EOG-Artesia Division is submitting an initial C-141 for a release that occurred on 3/11/19 at the location below. The C-141 and Sundry Notice are attached.

Jackson B #17 Flow Line
30-015-04039
Section 1, T17S-R30E (UL M)
Eddy County, New Mexico

Thank you,

Katie Jamison

Safety & Environmental Manager
EOG Resources, Inc – Artesia NM Division
105 S. Fourth Street
Artesia, NM 88210

Cell: 575-513-9915
Office: 575-748-4193



From: [Katie Jamison](#)
To: Victoria.Venegas@state.nm.us; [Hamlet Robert Emnrd](#)
Cc: [Yolanda Jimenez](#)
Subject: Sampling Notification Jackson B #17
Date: Monday, March 18, 2019 11:40:35 AM
Attachments: [image001.png](#)

Good Afternoon,

EOG-Artesia respectively submits sampling notification for the location shown below.
Sampling is scheduled to occur on Thursday, March 21, 2019, beginning at 8:00 a.m.

Jackson B #17 Flow Line
30-015-04039
Section 1, T17S-R30E (UL M)
Eddy County, New Mexico

Thank you,

Katie Jamison

Safety & Environmental Manager
EOG Resources, Inc – Artesia NM Division
105 S. Fourth Street
Artesia, NM 88210

Cell: 575-513-9915
Office: 575-748-4193



From: [Katie Jamison](#)
To: [Hamlet, Robert, EMNRD](#); [Venegas, Victoria, EMNRD](#); yjimenez@blm.gov
Subject: Final Confirmation Sampling Notification: EOG Resources-Artesia Jackson B #17
Date: Monday, April 8, 2019 2:54:54 PM
Attachments: [image001.png](#)

Good Afternoon,

EOG-Artesia respectfully submits final confirmation sampling notification for the location shown below. Sampling is scheduled to occur on Thursday, April 11, 2019, beginning at 8:00 a.m.

Jackson B #17 Flow Line
30-015-04039
Section 1, T17S-R30E (UL M)
Eddy County, New Mexico

Thank you,

Katie Jamison

Safety & Environmental Manager
EOG Resources, Inc – Artesia NM Division
105 S. Fourth Street
Artesia, NM 88210

Cell: 575-513-9915
Office: 575-748-4193



From: [Katie Jamison](#)
To: [Hamlet, Robert, EMNRD](#); [Venegas, Victoria, EMNRD](#)
Subject: Closure Report: EOG Resources-Artesia, Jackson B #17 Closure Report
Date: Tuesday, May 14, 2019 2:34:09 PM
Attachments: [JacksonB#17_ClosureReport.pdf](#)
[image002.png](#)

Dear Rob and Victoria:

Please find attached the Closure Report for the EOG Resources-Artesia Division Jackson B #17 site for a release that occurred on 3/11/19. We do not currently have an RP number for this release, so there is none mentioned in the report or the email title.

Jackson B #17 Flow Line
30-015-04039
Section 1, T17S-R30E (UL M)
Eddy County, New Mexico

Please contact me with any questions or concerns you might have.

Sincerely,

Katie Jamison

Safety & Environmental Manager
EOG Resources, Inc – Artesia NM Division
105 S. Fourth Street
Artesia, NM 88210

Cell: 575-513-9915
Office: 575-748-4193



From: [Venegas, Victoria, EMNRD](#)
To: [Katie Jamison](#); [Hamlet, Robert, EMNRD](#); yjimenez@blm.gov; [Bratcher, Mike, EMNRD](#)
Cc: [Weaver, Crystal \(caweaver@blm.gov\)](mailto:caweaver@blm.gov); [Deborah McKinney](#); [Chase Settle](#)
Subject: RE: Initial Release Notification: EOG-Artesia, Jackson B #17 Flowline
Date: Wednesday, May 15, 2019 1:16:37 PM
Attachments: [image001.png](#)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

[EXT] Initial Release Notification: EOG-Artesia, Jackson B #17 Flowline

All,

The OCD tracking number for this release event is **2RP-5415**. I apologize if this has caused issues on any of the recordkeeping

Thank you,

Victoria Venegas
EMNRD
OCD-District II
811 S First St. Artesia
NM 88210
Victoria.Venegas@state.nm.us

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to groundwater, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

From: Katie Jamison <Katie_Jamison@eogresources.com>
Sent: Tuesday, March 12, 2019 1:24 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Venegas, Victoria, EMNRD <Victoria.Venegas@state.nm.us>; yjimenez@blm.gov
Subject: [EXT] Initial Release Notification: EOG-Artesia, Jackson B #17 Flowline

Good Afternoon,

EOG-Artesia Division is submitting an initial C-141 for a release that occurred on 3/11/19 at the location below. The C-141 and Sundry Notice are attached.

Jackson B #17 Flow Line
30-015-04039
Section 1, T17S-R30E (UL M)
Eddy County, New Mexico

Thank you,

Natie Jamison

Safety & Environmental Manager
EOG Resources, Inc – Artesia NM Division
105 S. Fourth Street
Artesia, NM 88210

Cell: 575-513-9915
Office: 575-748-4193



Jackson B #17
Closure Report
#nAB1913544961



September 29, 2022

Appendix D

Updated Depth to Groundwater Information



BORING LOG

Project No.: 700438.238.01

Weather: Clear, Temp.: 75°F

Driller: D. Londagin

Site Name: Jackson B #59

Logger: D. Adkins

Rig Type: Reich Drill

Location: Eddy County, New Mexico

Field Instrument: NA

Bit Size: 5-7/8"

Date: 5/18/2021

Latitude: 32.85697 N

Drilling Method: Air Rotary

Boring Number: B-1

Longitude: -103.92703 W

Sample Retrieval Method: Drill Cuttings

Time	Lab Sample Collected	Sample Interval (ft)	Sample Recovery (ft)	USCS	Composition (%)	Sample Material/Comments Include composition, color, grain size, moisture, hardness, plasticity, density	Hydrocarbon Odor	PID (ppm)
	<input type="checkbox"/>	0-30'				Red/brown fine Sand (SP)	None Slight Mod. Strong	
	<input type="checkbox"/>	30-40'				Red/brown fine Sand (SP) with varying amounts of silt and caliche	None Slight Mod. Strong	
	<input type="checkbox"/>	40-80'				Dry, dark red/brown sandy Silts (SM)	None Slight Mod. Strong	
	<input type="checkbox"/>	80-125'				Red/brown fine Sand (SP)	None Slight Mod. Strong	
	<input type="checkbox"/>					__ TD 125' __	None Slight Mod. Strong	
	<input type="checkbox"/>						None Slight Mod. Strong	
	<input type="checkbox"/>						None Slight Mod. Strong	
	<input type="checkbox"/>						None Slight Mod. Strong	
	<input type="checkbox"/>						None Slight Mod. Strong	
	<input type="checkbox"/>						None Slight Mod. Strong	
	<input type="checkbox"/>						None Slight Mod. Strong	
	<input type="checkbox"/>						None Slight Mod. Strong	

Surface Elevation: _____

Notes: Groundwater Not Encountered @ 125' BGS – 72 hr.

Logger Initials: DJA



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Appendix E

Updated C-141 Closure

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	nAB1913544961
District RP	2RP-5415
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party EOG Resources, Inc.	OGRID 7377
Contact Name Chase Settle	Contact Telephone 575-748-1471
Contact email Chase_Settle@eogresources.com	Incident # (assigned by OCD) nAB1913544961
Contact mailing address 104 S. 4th Street, Artesia, NM 88210	

Location of Release Source

Latitude 32.85820 Longitude -103.92790
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Jackson B #17	Site Type Flow Line
Date Release Discovered 03/11/2019	API# (if applicable) 30-015-04039

Unit Letter	Section	Township	Range	County
M	1	17S	30E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 2	Volume Recovered (bbls) 1
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 18	Volume Recovered (bbls) 15
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release Steel flow line failed due to corrosion.

Oil Conservation Division

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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>Chase Settle</u>	Title: <u>Rep Safety & Environmental Sr</u>
Signature: <u>Chase Settle</u>	Date: <u>09/29/2022</u>
email: <u>Chase_Settle@eogresources.com</u>	Telephone: <u>575-748-1471</u>
<u>OCD Only</u> Received by: _____ Date: _____	

Incident ID	nAB1913544961
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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?	>125 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

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

Oil Conservation Division

Incident ID	nAB1913544961
District RP	2RP-5415
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Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Chase Settle Title: Rep Safety & Environmental Sr
Signature: Chase Settle Date: 09/29/2022
email: Chase_Settle@eogresources.com Telephone: 575-748-1471

OCD Only

Received by: Jocelyn Harimon Date: 12/27/2022

Incident ID	nAB1913544961
District RP	2RP-5415
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Chase Settle Title: Rep Safety & Environmental Sr
Signature: Chase Settle Date: 09/29/2022
email: Chase_Settle@eogresources.com Telephone: 575-748-1471

OCD Only

Received by: Jocelyn Harimon Date: 12/27/2022

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by:  Date: 12/27/2022

Printed Name: Jocelyn Harimon Title: 12/27/2022

Jackson B #17
Closure Report
#nAB1913544961



September 29, 2022

Appendix F

NMOCD Spill Rule Procedures

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd E. Leahy, JD, PhD
Deputy Cabinet Secretary

Adrienne Sandoval
Director, Oil Conservation Division



Procedures for Implementation of the Spill Rule (19.15.29 NMAC)

September 6, 2019

A number of issues have arisen since the effective date of the rule replacement in August 2018. This document is intended to provide direction to OCD staff on implementation of the rule. This should lead to consistent responses and actions by each of our district offices. As additional issues are identified, they can also be addressed.

I. REMEDIATION/RECLAMATION/RESTORATION ARE DISTINCT PROCESSES:

It is important to understand that remediation, reclamation, and restoration do not all mean the same thing. Remediation means cleaning up or removing contaminated soils. Reclamation and/or restoration mean replacing removed material, including topsoil, along with contouring of the surface to replicate the original surface drainage, and getting vegetation to grow once again.

II. RECLAMATION OF TOP FOUR FEET:

- a. 19.15.29.13(D)(1) NMAC says *"The reclamation must contain a minimum of four feet of non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0, or other test methods approved by the division."*
- b. This language mirrors that associated with reclamation under the Pit Rule (19.15.17.13(H)(3) NMAC), for purposes of complying with the Spill Rule (19.15.29 NMAC). The word "uncontaminated" means soils not only with a chloride concentration of less than 600 mg/kg, but also a TPH concentration of no more than 100 mg/kg, a total BTEX concentration of no more than 50 mg/kg, and a benzene concentration of no more than 10 mg/kg. These are the most protective concentrations contained in Table I of 19.15.29.12 NMAC.

As is also noted in Table I, we allow the closure criteria to be the natural background level of chloride, if it is greater. There is no natural background level for TPH, BTEX, or benzene

- c. The phrase "non-waste containing" for the backfill of the top 4-feet can be either unaffected soils or soils which after treatment contain concentrations of chloride of less than 600 mg/kg, a TPH concentration of no more than 100 mg/kg, a total BTEX concentration of no more than 50 mg/kg, and a benzene concentration of no more than 10 mg/kg, as stated above.
- d. Soils which have been treated, remediated, or landfarmed are acceptable for closure, but the simple blending or mixing of contaminated soils with cleaner soils for purposes of reducing the chloride and/or hydrocarbon concentrations is not acceptable.

III. PURPOSE OF RECLAMATION:

- a. 19.15.29.13(D) NMAC states *"The responsible party shall reclaim all areas disturbed by the remediation and closure."*

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September 6, 2019
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- b. The primary purpose here is to re-establish vegetative growth. The root zone for most native plants is in the uppermost four feet. If an area was impacted by a release but the concentration in the uppermost four feet of soil with chloride is less than 600 mg/kg., TPH less than 100 mg/kg, total BTEX less than 50 mg/kg, and benzene less than 10 mg/kg the OCD does not require those soils to be remediated.
- c. The surface owner (BLM, SLO, or private) may impose more stringent requirements, but those conditions are theirs to enforce.
- d. If the responsible party can demonstrate that a natural background level of chloride exists which is greater than 600 mg/kg, then that concentration will be the OCD's remediation standard for that area affected by the release. Again, there is no natural background level for TPH, BTEX, or benzene.

IV. RECLAMATION AND TABLE I:

- a. Imagine a spill occurs in an area where the depth to groundwater is 75 feet and the soil data indicates the highest observed chloride concentration is 9,000 mg/kg. The chloride closure criteria in Table I is 10,000 mg/kg. You might think that no further action is required. However, the reclamation requirement in 19.15.29.13(D)(1) NMAC for chloride is less than 600 mg/kg and uncontaminated soils showing TPH less than 100 mg/kg, total BTEX less than 50 mg/kg, and benzene less than 10 mg/kg in the top four feet. So, the upper layers of soil still need to be cleaned up. For areas deferred under 19.15.29.12(C)(2) this reclamation may happen at a later date, but it is still required when the area is no longer in use.

V. LINERS REQUIRE A VARIANCE:

- a. If after characterization of a release, the responsible party proposes in its remediation plan (19.15.29.11(B) and 19.15.29.12(C) NMAC) to leave contamination in place with concentrations greater than those specified in Table I, such a plan is a clear variance request to the rule.
 Example: After removal of contaminated soils from the uppermost four feet in an area where the depth to groundwater is between 51 and 100 feet the responsible party wishes to install a synthetic liner atop soils with a chloride concentration greater than 10,000 mg/kg and then backfill.
- b. Under 19.15.29.14(A) NMAC each variance request must include "a detailed statement *explaining the need for a variance*" along with "*a detailed written demonstration that the variance will provide equal or better protection of fresh water, public health and the environment.*" A possible way of making such a demonstration for the example above is to provide soil concentration data showing adequate separation from the bottom of vadose zone contamination and groundwater.
- c. Variance requests are to be submitted to the appropriate district office, not to Santa Fe. However, OCD district staff should consider consulting the Environmental Bureau in Santa Fe regarding approval or denial of any variance as we strive toward consistency across the state. If a responsible party does not agree with the denial of a variance request, the party can file for a hearing in accordance with 19.15.29.14(D) NMAC.

VI. ON-SITE vs. OFF-SITE REMEDIATION:

- a. The remediation requirements in Table 1 19.15.29.12 NMAC are the same for all releases, whether they occur on an active production site or not (19.15.29.12(C)(2) and (3) NMAC). Remediation on an active site can be deferred in areas immediately under or around production equipment such as production tanks, wellheads, and pipelines where remediation could cause a major facility deconstruction. A major facility deconstruction is determined by the OCD on a case by case basis. The remediation, restoration, and reclamation may be deferred with OCD's written

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approval until the equipment is removed during other operations, or when the well or facility is plugged or abandoned, whichever comes first. For the deferral request the contamination must be fully delineated. In addition, the contamination must not pose an imminent risk to human health, the environment, or groundwater. Deferrals are not forever and remediation must be completed in a timely fashion once the equipment is out of use for oil and gas operations.

- b. Cleanup of off-site impacts cannot be deferred as they would not meet the deferral requirements of 19.15.29.12(C)(2) NMAC.
- c. The difference between on- and off-site releases is when the reclamation and restoration must occur. Off-site releases must be reclaimed and restored immediately. On-site reclamation and restoration can wait until operations have ceased, but still must be done.

VII. CLOSURE SAMPLING PLANS:

If a responsible party wishes to remediate a spill within 90 days of its discovery without submitting a remediation plan, the closure samples must reflect the gathering of composites representative of no more than 200 square feet per composite sample per 19.15.29.12(D)(1)(c) NMAC. Alternative sampling plans will only be allowed with written permission from the OCD. In accordance with 19.15.29.12(D)(1)(b) NMAC, there are no listed standards as to what a responsible party can base an alternative sampling plan upon. Therefore, the OCD may request justifications or methods used in constructing the plan such that an appropriate decision can be made. OCD staff can provide verbal approval, but it must be followed up in writing such as an email.

VIII. VOLUME CALCULATIONS:

- a. Responsible parties have asked why the new form C-141 requires volume calculations and why there is a question on the release notification form regarding the concentration of chloride in the produced water. Under 19.15.29.11(A)(5)(c) NMAC, the vertical extent of chloride contamination must be delineated to less than 600 mg/kg even when the depth to groundwater is between 50 and 100 feet if any produced water released contains more than 10,000 mg/kg of chloride and the volume released is either unknown or more than 200 barrels of unrecovered water. The volume released can be accomplished in any number of ways, but it must be reasonable. Otherwise, the OCD will consider the volume as unknown and the responsible party must delineate accordingly.
- b. It is important to note that this does not affect the remediation requirements under Table I, only the characterization limits which may impact the cleanup.

IX. DETERMINING DEPTH TO GROUNDWATER:

- a. The remediation levels provided in Table I are largely dependent upon depth to groundwater. As such, the OCD focuses upon depth to water estimation. 19.15.11(A)(2) NMAC allows for various means of determining depth to groundwater. If nearby wells are used, it is preferable if they are situated within ½-mile of the release, the water level information is no more than 25 years old, and well construction information is provided. If the water level information does not meet these criteria, the OCD may require boring to a limited depth for verification. If the operator has applicable information which does not meet the above preference, we will review it on a case by case basis to determine if it is acceptable.
- b. If the water well information is representative of a confined aquifer (often described as "artesian"), the depth to water in the well will be considered the depth to the bottom of the upper confining layer, not the observed water level in the well.

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- c. It is important to note that wells installed for water supply purposes may not be screened across shallower, less-productive zones. Those less-productive zones might contain protectable water.

X. 2-DAY NOTICE REQUIREMENT DURING SITE ASSESSMENT AND CHARACTERIZATION:

- a. The requirement of the responsible party to give two business days prior notice pursuant to 19.15.29.11(5)(a)(ii) is limited to liner inspections of contained releases and for closure sampling.
- b. If a responsible party determines the release site may meet closure standards and the characterization samples may be used as closure samples, they may want to give the OCD notice of the sampling and inform the OCD it may be used for closure. This may reduce the chances the site would have to be resampled for closure.

XI. CLOSURE WHEN RE-CONTOURING COMPLETED:

With respect to the revegetation requirements under 19.15.29.13(D)(3) NMAC, OCD will typically "close" a release case within its database once the area has been recontoured. If it is later determined that a uniform vegetative cover has not been established within a reasonable time, OCD will enforce the requirements of the rule accordingly.

XII. OBTAINING BACKGROUND DATA:

The rule speaks of "background" chloride concentrations in three places: 19.15.29.11(A)(5)(c) NMAC regarding unknown or large volume releases, as a footnote to Table I, and in 19.15.29.13(D)(1) NMAC regarding reclamation. How would a responsible party obtain information to determine background? A grab, not composite, sample(s) should be gathered in areas undisturbed by oil and gas activities, nominally uphill from the release area, and no closer than 50 feet but no farther than 100 feet from the lateral and horizontal extents of a release's impact. The background sampling should be representative of the entire horizontal and vertical extent of the release. Other means may be acceptable to OCD, but only after review and a written determination.

XIII. PHOTOS:

Unless the OCD specifically determines in writing and with an explanation on a case-by-case basis that photo documentation is needed to understand the character and impact of a release, photos are only required for remediated sites prior to backfilling as part of a closure report. The entire remediated area must be accurately represented by the photos provided for closure. Date, time, and geo-referencing of photos is strongly encouraged, but it is not required under the rule.

XIV. 60 DAY EXPIRATION OF REMEDIATION OR CLOSURE SUBMITTAL:

19.15.29.12(C)(5) and (E)(2) NMAC state that if a remediation plan or closure report is submitted and 60 days later the OCD has not responded, then the report is deemed denied. If this occurs, the responsible party can resubmit the closure report, noting the lack of action by the OCD, or file for hearing.

XV. IF WATER IMPACTED THEN RULE 30:

- a. The regulatory oversight of all spills is initially covered under 19.15.29 NMAC. However, once a determination is made that groundwater or surface water has been impacted, corrective action is carried out under the provisions of 19.15.30 NMAC requiring the development of Stage 1 (investigation) and Stage 2 (remediation) abatement plans. There are also requirements for public notice.

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- b. Furthermore, 19.15.30 NMAC does not have numeric cleanup levels for contaminated soils. Instead it says:

“The responsible person shall abate the vadose zone so that water contaminants in the vadose zone will not with reasonable probability contaminate groundwater or surface water in excess of the standards in Subsections B and C of 19.15.30.9 NMAC, through leaching, percolating or other transport mechanisms, or as the water table elevation fluctuates.” (19.15.30.9(A) NMAC).

- c. 19.15.30.9(B) and (C) NMAC refer to standards found in the Water Quality Control Commission regulations; 20.6.2 and 20.6.4 NMAC.

XVI. FEES:

The new fees legislation took effect July 1, 2019 and requires a \$150 filing fee to accompany each C-141 submission. This includes any submittal on a C-141, including but not limited to, initial C-141s, characterization reports with remediation plans, and closure reports. Requests and notifications made separate from the C-141 do not require a fee, this includes but is not limited to; separate alternative sampling plans and verbal notifications.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 147819

CONDITIONS

Operator: EOG RESOURCES INC P.O. Box 2267 Midland, TX 79702	OGRID: 7377
	Action Number: 147819
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	12/27/2022