



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

EOG Y Resources, Inc.

Characterization Plan

Rio Pecos GB Com #1

30-015-21889

Section 29, T18S-R27E

Eddy County, New Mexico

March 29, 2018

2RP-4580

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Figure 2: Site Map with Vertical Sample Point(s)

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I. Location

From the intersection of US 285 north turn east toward Dayton road, turn right at the 1st cross street onto E Dayton road, turn right onto N Lake Road then left on Dayton road. In 1.9 miles turn left then right, destination will be on the right.

II. Background

On January 5, 2018, EOG Y Resources, Inc. submitted to the NMOCD District II office a Form C-141 for the release of 0.5 B/O & 12 B/PW with 0.5 B/O & 11 B/PW recovered. The affected area is approximately 65 feet by 5 feet, 30 feet by 5', and 25' by 5' within the primary berm of the battery. The release was caused by the failure of a ball valve on the fiberglass produced water tank on the load line and broke causing a release. A vacuum truck was called to recover oil (100%) and produced water (92%). A backhoe was dispatched to excavate impacted soils and a crew replaced the valve. Approximately two (2) feet of impacted soils were removed and disposed at an NMOCD approved facility.

III. Surface and Ground Water

Area surface geology is Paleozoic Permian. Based on information from the New Mexico Office of the State Engineer (NMOSE) database and United States Geological Survey National Water Information System (USGS) regarding this location (Section 29, T18S-R27E), depth to groundwater is approximately 123 feet and as follows: NMOSE – RA04211, 100' & NMOSE – RA05664, 145'. The depth to groundwater is approximately 123', per NMOSE groundwater levels. **Based on this information the Site Ranking is a Zero (0).** Watercourses in the area are dry except for infrequent flows in response to major precipitation events, with the nearest body of surface water being Brantley Lake at 8.4 miles away.

IV. NMOCD Ranking Criteria

The ranking for this site is zero (0) based on the following:

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

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

Benzene	10 ppm
BTEX	50 ppm
TPH	5,000 ppm
Chlorides	No established RRAL

Rio Pecos GB Com #1

Section 29, T18S-R27E
Eddy County, New Mexico

Legend

 Rio Pecos GB Com #1

Rio Pecos GB Com #1

Google Earth

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200 ft







Figure 2

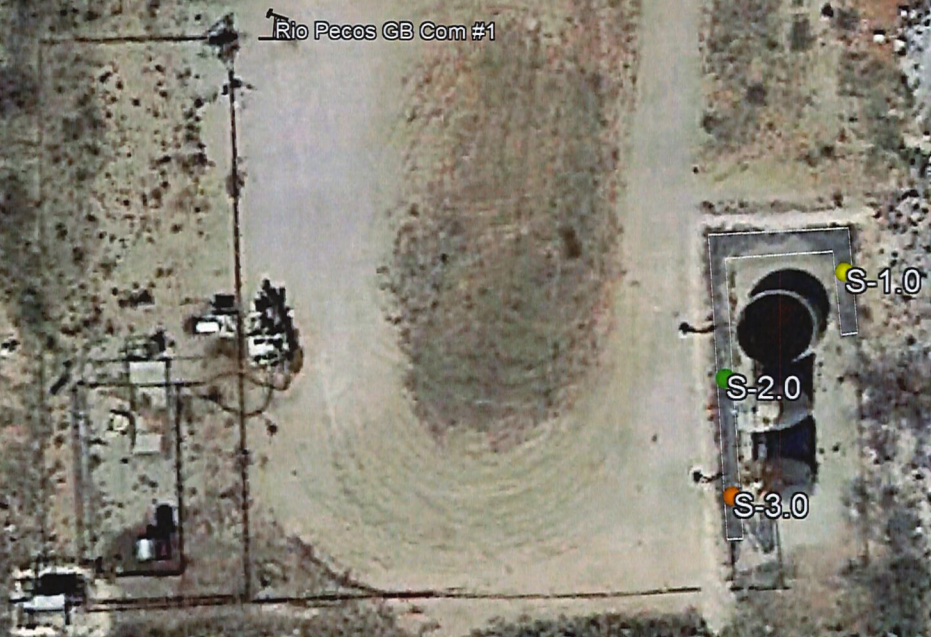
Vertical/Horizontal Sample Point(s)

Rio Pecos GB Com #1

Section 29, T18S-R27E
Eddy County, New Mexico

Legend

-  Rio Pecos GB Com #1
-  S-1.0
-  S-2.0
-  S-3.0



Google Earth





© 2018 Google

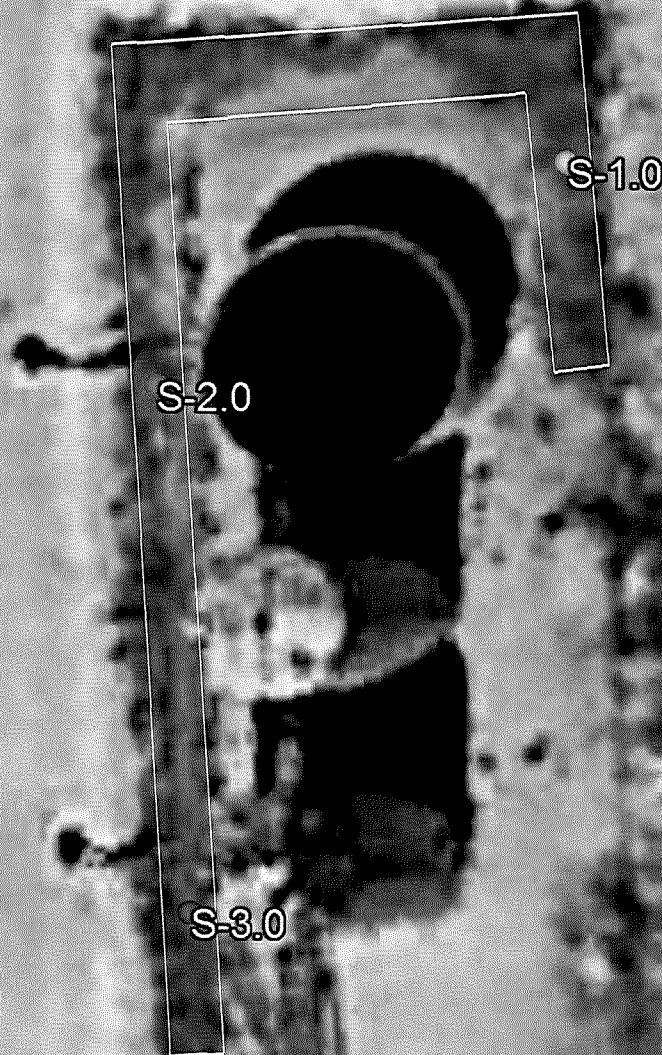
100 ft

Rio Pecos GB Com #1

Section 29, T18S-R27E
Eddy County, New Mexico

Legend

-  Rio Pecos GB Com #1
-  S-1.0
-  S-2.0
-  S-3.0



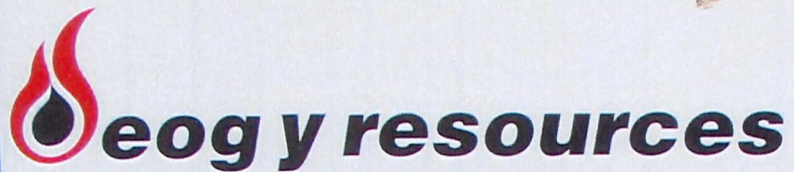
Google Earth

© 2018 Google



40 ft

Photos



SRM
1128
(575) 748-1471

RIO PECOS "GB" Com. #1

660' FNL & 1980' FWL - NE/NW

Sec. 29 - T 18 S - R 27 E - Unit C

Eddy Co. New Mexico

Fee Lease - API #30-015-21889

01/08/2018



01/08/2018



01/08/2018



01/08/2018



eogy resources
RIO PECOS "GB" Co
660' FNL & 1980' FWL -
Sec. 29 - T 18 S - R 27 E -
Eddy Co. New Mex
Fee Lease - API #30-015

01/08/2018



01/08/2018





01/08/2018

Appendix A

NMOSE Well Log



New Mexico Office of the State Engineer

Point of Diversion Summary

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag	POD Number	Q64 Q16 Q4 Sec Tws Rng	X	Y
	RA 04211	3 1 28 18S 27E	566512	3620562* 

Driller License: 318

Driller Company: WESTERN PUMP & SUPPLY

Driller Name:

Drill Start Date: 05/23/1960

Drill Finish Date: 05/24/1960

Plug Date:

Log File Date: 05/24/1960

PCW Rcv Date:

Source: Shallow

Pump Type:

Pipe Discharge Size:

Estimated Yield:

Casing Size: 7.00

Depth Well: 120 feet

Depth Water: 100 feet

Water Bearing Stratifications:

Top Bottom Description

110 120 Limestone/Dolomite/Chalk

Casing Perforations:

Top Bottom

102 120

*UTM location was derived from PLSS - see Help

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



New Mexico Office of the State Engineer

Point of Diversion Summary

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag	POD Number	Q64 Q16 Q4 Sec Tws Rng	X	Y
	RA 05664	4 1 33 18S 27E	566914	3618936*

Driller License:

Driller Company:

Driller Name: C.J. TIDWELL

Drill Start Date:

Drill Finish Date: 08/19/1971

Plug Date:

Log File Date: 09/13/1971

PCW Rcv Date:

Source: Artesian

Pump Type:

Pipe Discharge Size:

Estimated Yield:

Casing Size:

Depth Well:

Depth Water: 145 feet

*UTM location was derived from PLSS - see Help



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Rio Pecos GB Com #1

Section 29, T18S-R27E
Eddy County, New Mexico
Water Well Data

Site Ranking is Zero (0). Depth to Ground Water: >100'
(Approximately 123', per USGS/NMOSE Groundwater levels).

Legend

-  NMOSE Water Wells
-  Rio Pecos GB Com #1

Rio Pecos GB Com #1

NMOSE - RA04211 (DTGW @ 100')

NMOSE - RA05664 (DTGW @ 145')

Google Earth

© 2018 Google



4000 ft

Appedix B

Form 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

Form C-141
Revised April 3, 2017

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

**Release Notification and Corrective Action
OPERATOR**

☒ Initial Report ☐ Final Report

Name of Company EOG Y Resources, Inc.	Contact Chase Settle
Address 104 S. 4 th Street Artesia NM 88210	Telephone No. 575-748-1471
Facility Name Rio Pecos GB Com #1	Facility Type Well

Surface Owner Fee	Mineral Owner Fee	API No. 30-015-21889
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LOCATION OF RELEASE

Unit Letter C	Section 29	Township 18S	Range 27E	Feet from the 660	North/South Line North	Feet from the 1980	East/West Line West	County Eddy
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Latitude 32.7242203 Longitude -104.302948 NAD83

NATURE OF RELEASE

Type of Release Oil & Produced Water	Volume of Release 0.5 B/O & 12 B/PW	Volume Recovered 0.5 B/O & 11 B/PW
Source of Release Ball valve on load line	Date and Hour of Occurrence 1/5/2018; 2:30 PM	Date and Hour of Discovery 1/5/2018; 3:00 PM
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? N/A	
By Whom? N/A	Date and Hour N/A	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.* N/A

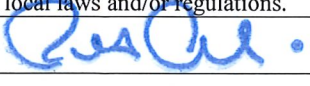
Describe Cause of Problem and Remedial Action Taken.*

A ball valve on the fiberglass produced water tank on the load line froze and broke causing the release. A vacuum truck was called to recover oil (100%) and produced water (92%). A backhoe was dispatched to excavate impacted soils and a crew replaced the valve.

Describe Area Affected and Cleanup Action Taken.*

The impacted area is approximately 65' X 5', 30' X 5' & 25' X 5' within the primary berm of the battery. Impacted soils have been removed and taken to an NMOCD approved facility. A Characterization plan will be submitted to the NMOCD. Vertical and horizontal delineation samples will be taken and analysis ran for TPH & BTEX (chlorides for documentation). Based off of analytical results for TPH & BTEX for the RRAL's and the site ranking of 0, if the analytical results are above the RRAL's a work plan will be submitted to the NMOCD, if the analytical results are below the RRAL's a closure report and Final C-141 will be submitted to the NMOCD. **Depth to Ground Water: >100' (123', per NMOSE), Wellhead Protection Area: No, Distance to Surface Water Body: >1000', SITE RANKING IS 0.**

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

Signature: 	OIL CONSERVATION DIVISION		
Printed Name: Robert Asher	Approved by Environmental Specialist:		
Title: Environmental Supervisor	Approval Date:	Expiration Date:	
E-mail Address: robert.asher@eogresources.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: January 23, 2018	Phone: 575-748-4217		

* Attach Additional Sheets If Necessary

NM OIL CONSERVATION

ARTESIA DISTRICT

JAN 23 2018

Form C-141
Revised April 3, 2017

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
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1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
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RECEIVED

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company EOG Y Resources, Inc.		Contact Chase Settle
Address 104 S. 4 th Street Artesia NM 88210		Telephone No. 575-748-1471
Facility Name Rio Pecos GB Com #1		Facility Type Well
Surface Owner Fee	Mineral Owner Fee	API No. 30-015-21889

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	29	18S	27E	660	North	1980	West	Eddy

Latitude 32.7242203 Longitude -104.302948 NAD83

NATURE OF RELEASE

Type of Release Oil & Produced Water	Volume of Release 0.5 B/O & 12 B/PW	Volume Recovered 0.5 B/O & 11 B/PW
Source of Release Ball valve on load line	Date and Hour of Occurrence 1/5/2018; 2:30 PM	Date and Hour of Discovery 1/5/2018; 3:00 PM
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? N/A	
By Whom? N/A	Date and Hour N/A	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.* N/A

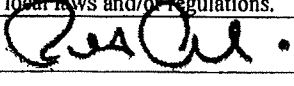
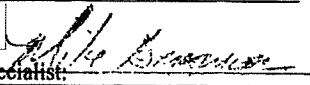
Describe Cause of Problem and Remedial Action Taken.*

A ball valve on the fiberglass produced water tank on the load line froze and broke causing the release. A vacuum truck was called to recover oil (100%) and produced water (92%). A backhoe was dispatched to excavate impacted soils and a crew replaced the valve.

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Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Robert Asher	Approved by Environmental Specialist: 	
Title: Environmental Supervisor	Approval Date: 1/23/18	Expiration Date: N/A
E-mail Address: robert_asher@eogresources.com	Conditions of Approval: See attached	
Date: January 23, 2018	Phone: 575-748-4217	Attached: ARP 4580

* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 1/23/2018 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number ARP 4580 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 2 office in ARTESIA on or before 2/23/2018.** If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold

OCD Environmental Bureau Chief

1220 South St. Francis Drive

Santa Fe, New Mexico 87505

505-476-3465

jim.griswold@state.nm.us