



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

## **PRELIMINARY RESULTS**

March 27, 2018

Ms. Olivia Yu  
NMOCD District I  
1625 N. French Drive  
Hobbs, NM 88210

Re: McBride BEH State Com #1  
1RP-4827  
30-025-37107  
Section 4, T10S-R34E  
Lea County, New Mexico

Dear Ms. Yu,

EOG Y Resources, Inc. is submitting the enclosed remediation work plan for the above referenced site.

**If there are no objections with the scope of work described in the plan, EOG Y Resources, Inc. will have a contractor begin work on or before April 10, 2018.**

If you have any questions call me at (575) 748-4217

Thank you.

Robert Asher  
Environmental Supervisor  
EOG Y Resources, Inc.

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## I. Location

From Tatum, NM travel north on NM Highway 206 to MM 37 at Crossroads, NM. Turn left (west) on Carroll Road and continue for approximately 6-2/5 miles. Turn left (south) thru cattle guard and continue south on main road approx. 2-4/5 miles. Take lease road going west for approx. 4/5 of a mile. Turn right (north) for approx. 1/2 of a mile to the southeast corner of the location pad.

## II. Background

On September 22, 2017, EOG Y Resources, Inc. submitted to the NMOCD District I office a Form C-141 for the release of 23 B/O with 0 B/O recovered. The affected area is approximately 20 feet by 20 feet within the primary berm of the production facility and was contained within the bermed battery. The release was caused by a hole in bottom of the production tank. A vacuum truck was dispatched to recover any remaining oil, but no oil was recovered and a backhoe crew was contracted to excavate visually impacted soils (approximately 20' X 20' X 18" deep).

## III. Surface and Ground Water

Area surface geology is Cenozoic Tertiary. Based on information regarding this location (Section 4, T10S-R34E), the New Mexico Office of the State Engineer (NMOSE) database depth to groundwater is follows: (NMOSE-L 05023, 85'), the United States Geological Survey National Water Information System, is as follows: (USGS #33285210323601, 104'), (USGS #332500103270701, 55'), (USGS #3323321036000001, 156'). The average depth to groundwater is greater than 100', per USGS and NMOSE groundwater level. **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 Lane Salt Lake at 7.27 miles away.

Please note, the Depth to Ground Water was incorrect on the Form C-141, Initial Report submitted September 22, 2017. DTGW was adjusted on this work plan according to USGS and NMOSE Groundwater levels.

## 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

---

**V. Soils**

The area consists of soils that are loam based topsoil with deeper layers of consisting of a cemented hardpan caliche layer in the subsurface that is impenetrable, which provides a permeability barrier to prohibit percolation of contaminants into the subsurface water system.

**VI. Scope of work**

During the sampling (GPS coordinates below), of 2/6/2018, backhoe refusal did not allow EOG Y to sample any further than the point of four (4) feet below surface. Based off of that fact, the enclosed analytical results and the site ranking of zero, EOG Y Resources, Inc. will excavate four (4) feet of impacted soils from the release area to the hardpan caliche layer. A six (6) inch layer of clean native or like soil will be placed in the bottom of the excavation to cushion a 20 millimeter synthetic liner, this will protect the liner from puncture or damage. The excavation will then be backfilled with approximately 42-46 inches of clean native or like soil to be slightly above grade to allow for settling. The soils initially excavated that were stockpiled on plastic will be taken to an NMOCD approved facility.

When the remediation work is completed, a Form C-141, Final Report/Closure Report will be submitted requesting closure.

GPS Sample Points

S-1	33.477689°	-103.476332°
S-2	33.477670°	-103.476357°
CP-1	33.477658°	-103.476350°
CP-2	33.477678°	-103.476376°
CP-3	33.477703°	-103.476349°
CP-4	33.477680°	-103.476316°

# **Table 1**

## **Soil Analytical Data**



McBride BEH State Com #1	Sample Area	Sample Date	Sample Type	Depth	Benzene	BTEX	GRO	DRO	EXT DRO
S-1.0	Release/ Excavation	9/21/2017	Grab/Auger	Surface (18" BSL)	ND	2.9	48	6500	1100
S-1.1	Release/ Excavation	9/21/2017	Grab/Auger	12" (30" BSL)	0.610	75.8	1100	450	ND
S-1.2	Release/ Excavation	2/6/2018	Grab/Backhoe	24" (42" BSL)	<0.5	158	3560	1230	<10.0
S-1.3**	Release/ Excavation	2/6/2018	Grab/Backhoe	36" (54" BSL)	1.370	422.0	5840	2110	<10.0
S-2.Surface	Release/ Excavation	2/6/2018	Grab/Backhoe	Surface (18" BSL)	<0.05	1.13	<10.0	19	<10.0
S-2.1	Release/ Excavation	2/6/2018	Grab/Backhoe	12" (30" BSL)	<0.05	7.01	130	204	<10.0
S-2.2	Release/ Excavation	2/6/2018	Grab/Backhoe	24" (42" BSL)	<0.5	0.675	<10	<10	<10.0
S-2.3**	Release/ Excavation	2/6/2018	Grab/Backhoe	36" (54" BSL)	<0.5	2.72	56.5	63.7	<10.0
McBride BEH State Com #1	Sample Area	Sample Date	Sample Type	Depth	Benzene	BTEX	GRO	DRO	EXT DRO
CP-1	Release/ Excavation	9/21/2017	Grab/Auger	18"	ND	ND	ND	170	200
CP-1.1	Release/ Excavation	2/6/2018	Grab/Backhoe	30"	<0.05	18.7	839	1300	<10
CP-1.2	Release/ Excavation	2/6/2018	Grab/Backhoe	42"	<0.05	18.3	647	551	<10
CP-1.3**	Release/ Excavation	2/6/2018	Grab/Backhoe	54"	<1.0	217	1810	924	<10
CP-2	Release/ Excavation	9/21/2017	Grab/Auger	18"	ND	ND	ND	120	120
CP-2.1	Release/ Excavation	2/6/2018	Grab/Backhoe	30"	<0.05	0.541	<10	<10	<10
CP-2.2	Release/ Excavation	2/6/2018	Grab/Backhoe	42"	<0.05	<0.3	<10	<10	<10
CP-2.3**	Release/ Excavation	2/6/2018	Grab/Backhoe	54"	<0.05	<0.3	<10	<10	<10
CP-3	Release/ Excavation	9/21/2017	Grab/Auger	18"	ND	ND	ND	380	200
CP-4	Release/ Excavation	9/21/2017	Grab/Auger	18"	ND	8.7	160	680	3600
CP-4.1	Release/ Excavation	2/6/2018	Grab/Backhoe	30"	<1.0	621	12400	3570	<10
CP-4.2	Release/ Excavation	2/6/2018	Grab/Backhoe	42"	<1.0	197	3500	1760	<10
CP-4.3**	Release/ Excavation	2/6/2018	Grab/Backhoe	54"	<0.05	<0.3	<10	<10	<10
McBride BEH State Com #1	Sample Area	Sample Date	Sample Type	Depth	Benzene	BTEX	GRO	DRO	EXT DRO
S-2.05	Stock pile	9/21/2017	Grab/Shovel	6"	ND	ND	1000	1400	ND

Site Ranking is Zero (0). Depth to Ground Water >100' (approx. 100', per USGS & NMOSE Groundwater Levels).

All results are ppm. BSL - Below Surface Level. Released: 23 B/O; Recovered: 0 B/O. Release Date: 9/7/2017

\*\* - Backhoe Refusal

RRAL's (0 Site Ranking), TPH: 5000 ppm or less; BTEX: 50ppm or less; Benzene: 10ppm or less.

# **Figure 1**


## **Site Map**




# McBride BEH State Com #1

30-025-37107  
Section 4, T10S-R34E  
Lea County, New Mexico

## Legend

 McBride BEH State Com #1



McBride BEH State Com #1 

Google Earth

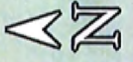


# McBride BEH State Com #1

Section 4, T10S-R34E  
Lea County, New Mexico  
Area of Release/Excavation Corner Points

## Legend

↗ Excavation Corners



40 ft

NW Excavation Corner (33.477707 & -103.476381)

NE Excavation Corner (33.477707 & -103.476311)

SW Excavation Corner (33.477653 & -103.476381)

SE Excavation Corner (33.477654 & -103.476311)

## **Figure 2**



### **Vertical Sample Point(s)**



# McBride BEH State Com #1

Section 4, T10S-R34E  
Lea County, New Mexico

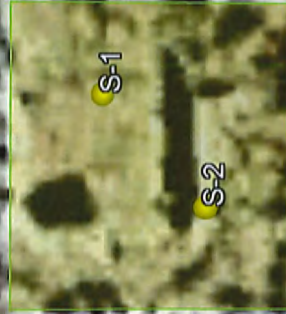
## Legend

-  McBride Excavation/Sample points
-  Vertical Sample Points

Google Earth

© 2018 Google

40 ft





# **Figure 3**

## **Horizontal Sample Point(s)**

# McBride BEH State Com #1

Section 4, T10S-R34E  
Lea County, New Mexico

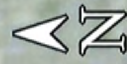
## Legend

- Horizontal Sample Points
- ▭ McBride Excavation/Sample points

Google Earth

© 2018 Google

2000 ft



# **Appendix A**

## **Water Well Date Site Map**





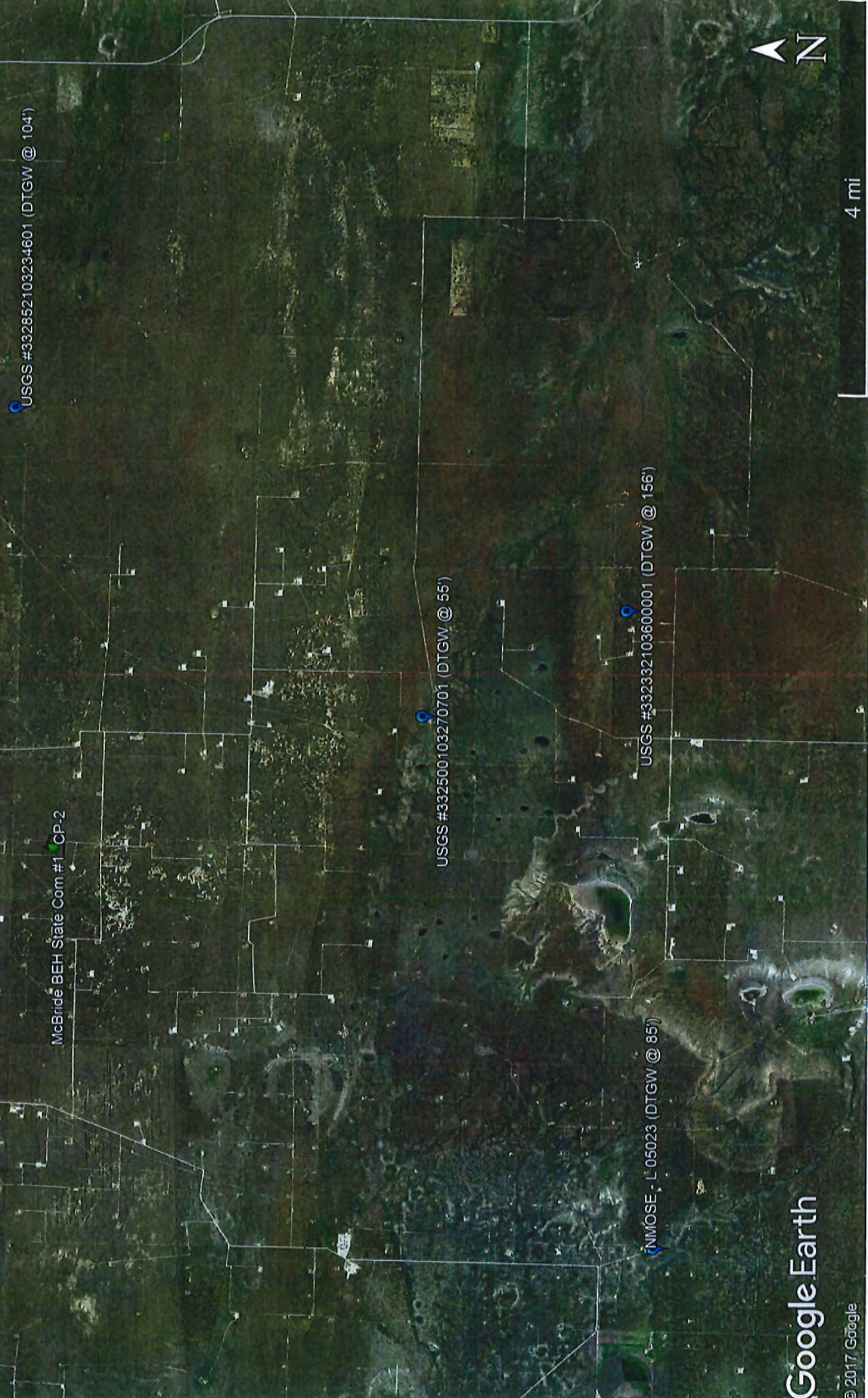
# McBride BEH State Com #1

Section 4, T10S-R34E  
Lea county, New Mexico  
Water Well Data

Site Ranking is Zero (0). Depth to Ground Water >100'  
(Approximately 100', per USGS & NMOSE Groundwater Levels).

## Legend

-  McBride BEH State Com #1
-  USGS & NMOSE Water Wells





# **Appendix B**

## **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
	L 05023	2 2 07	11S	34E		635415	3695003*

Driller License: 322

Driller Company: BACKUS, GRADY

Driller Name:

Drill Start Date: 12/27/1962

Drill Finish Date: 12/27/1962

Plug Date: 12/27/1962

Log File Date: 02/17/1964

PCW Rcv Date:

Source: Shallow

Pump Type:

Pipe Discharge Size:

Estimated Yield:

Casing Size: 7.00

Depth Well: 140 feet

Depth Water: 85 feet

### Water Bearing Stratifications:

Top	Bottom	Description
-----	--------	-------------

85	94	Sandstone/Gravel/Conglomerate
----	----	-------------------------------

116	124	Sandstone/Gravel/Conglomerate
-----	-----	-------------------------------

### Casing Perforations:

Top	Bottom
-----	--------

85	130
----	-----

\*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.



# **Appendix C**

## **USGS Groundwater Level Information**



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## National Water Information System: Web Interface

[USGS Water Resources](#)

Data Category:

Site Information ▼

Geographic Area:

United States ▼

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## USGS 332332103260001 11S.35E.05.132222

Available data for this site

SUMMARY OF ALL AVAILABLE DATA ▼

GO

### Well Site

#### DESCRIPTION:

Latitude 33°23'32", Longitude 103°26'00" NAD27

Lea County, New Mexico

Well depth: not determined.

Land surface altitude: 4,153 feet above NAVD88.

Well completed in "Ogallala Formation" (121OGLL) local aquifer

#### AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
<a href="#">Field groundwater-level measurements</a>	1981-02-17	1990-12-06	3

#### OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center

Email questions about this site to [New Mexico Water Science Center Water-Data Inquiries](#)

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**Title: NWIS Site Information for USA: Site Inventory**

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



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

Page Last Modified: 2017-11-07 09:51:10 EST

0.29 0.27 caww01





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## National Water Information System: Web Interface

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Data Category:

Groundwater

Geographic Area:

United States

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Groundwater levels for the Nation

### Search Results -- 1 sites found

site\_no list =

- 332332103260001

Minimum number of levels = 1

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

### USGS 332332103260001 11S.35E.05.132222

Available data for this site

Groundwater: Field measurements

GO

Lea County, New Mexico

Hydrologic Unit Code --

Latitude 33°23'32", Longitude 103°26'00" NAD27

Land-surface elevation 4,153 feet above NAVD88

This well is completed in the Ogallala Formation (121OGLL) local aquifer.

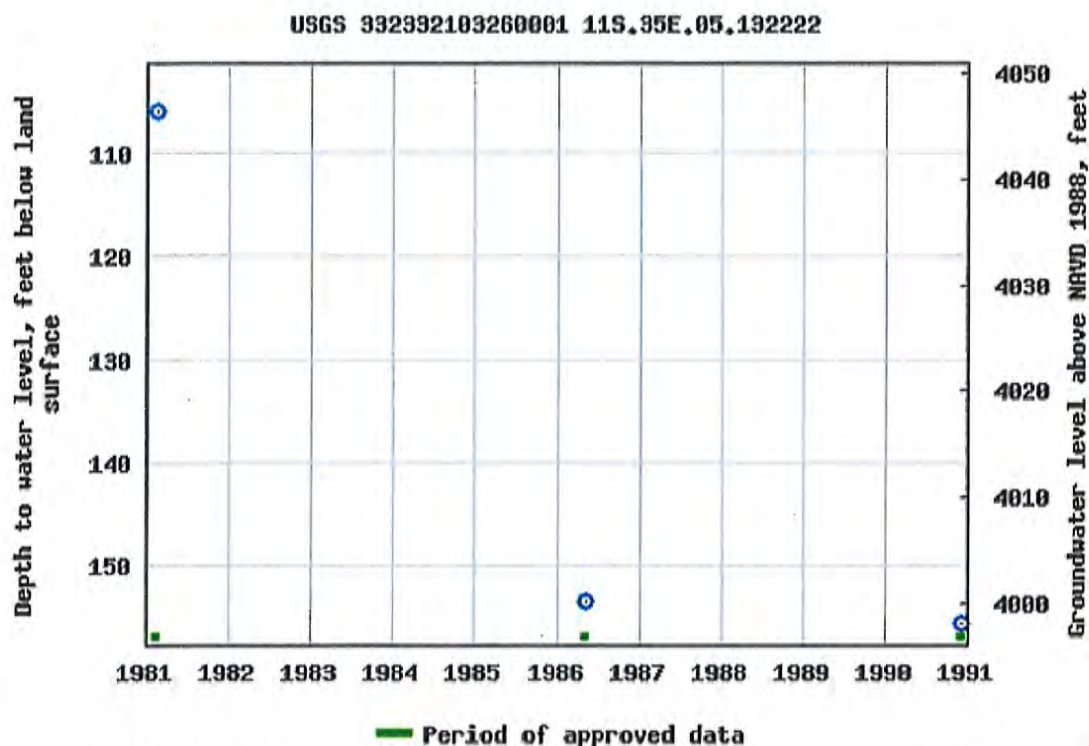
#### Output formats

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Breaks in the plot represent a gap of at least one year between field measurements.

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**Title: Groundwater for USA: Water Levels**

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



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1.03 0.9 nadww01





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## National Water Information System: Web Interface

[USGS Water Resources](#)

Data Category:

Site Information ▼

Geographic Area:

United States ▼

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## USGS 332500103270701 10S.34E.27.14210

Available data for this site

SUMMARY OF ALL AVAILABLE DATA ▼

GO

### Well Site

#### DESCRIPTION:

Latitude 33°25'16", Longitude 103°27'11" NAD27

Lea County, New Mexico, Hydrologic Unit 12080001

Well depth: not determined.

Land surface altitude: 4,190.00 feet above NGVD29.

Well completed in "Cretaceous System" (210CRCS) local aquifer

#### AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
<a href="#">Field groundwater-level measurements</a>	1976-05-04	1976-05-04	1

#### OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center

Email questions about this site to [New Mexico Water Science Center Water-Data Inquiries](#)

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**Title: NWIS Site Information for USA: Site Inventory**

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



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0.32 0.29 caww01



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## National Water Information System: Web Interface

[USGS Water Resources](#)

Data Category:

Groundwater

Geographic Area:

United States

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Groundwater levels for the Nation

### Search Results -- 1 sites found

site\_no list =

- 332500103270701

Minimum number of levels = 1

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

### USGS 332500103270701 10S.34E.27.14210

Available data for this site

Groundwater: Field measurements

GO

Lea County, New Mexico

Hydrologic Unit Code 12080001

Latitude 33°25'16", Longitude 103°27'11" NAD27

Land-surface elevation 4,190.00 feet above NGVD29

This well is completed in the Cretaceous System (210CRCS) local aquifer.

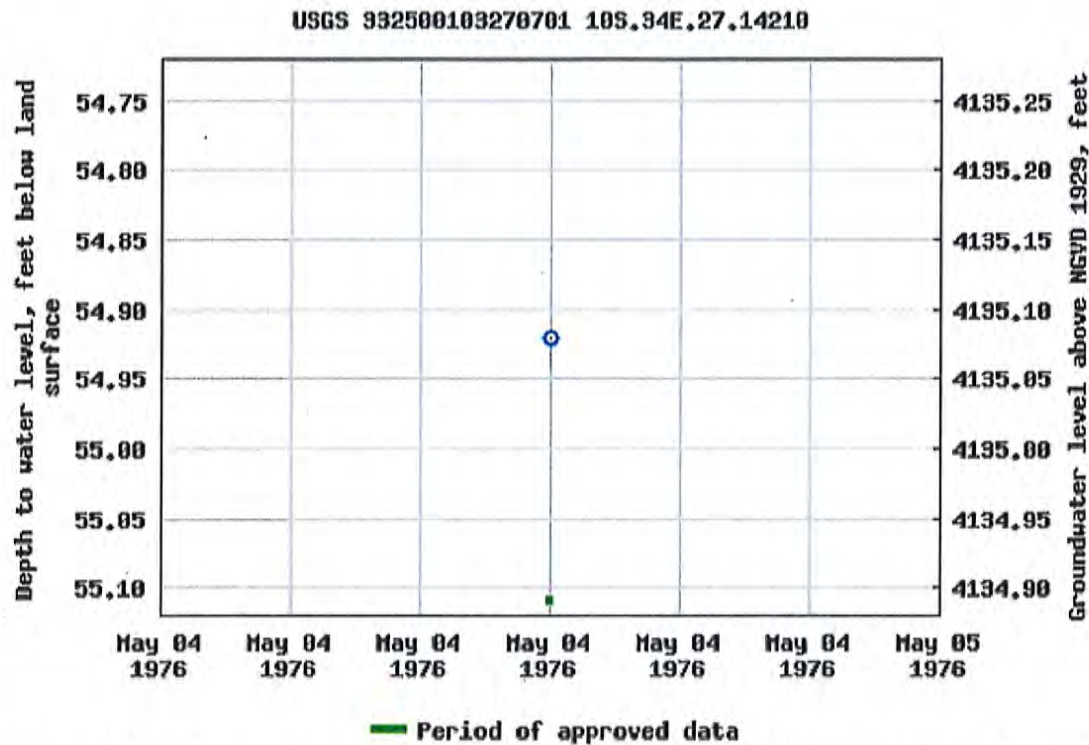
#### Output formats

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**Title: Groundwater for USA: Water Levels**

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



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1 0.87 nadww01



# **Appendix D**

## **Soil Sample Laboratory Data**

February 22, 2018

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: MC BRIDE BEH STATE COM #1 (CP-1,CP-2,CP-4)

Enclosed are the results of analyses for samples received by the laboratory on 02/16/18 14:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://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,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/16/2018	Sampling Date:	02/06/2018
Reported:	02/22/2018	Sampling Type:	Soil
Project Name:	MC BRIDE BEH STATE COM #1 (CP-1,CP	Sampling Condition:	Cool & Intact
Project Number:	30-025-37107	Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM		

**Sample ID: CP - 1.1 (H800498-01)**

BTEX 8021B	mg/kg	Analyzed By: MS						S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2018	ND	2.06	103	2.00	11.8	
<b>Toluene*</b>	<b>0.361</b>	0.050	02/19/2018	ND	2.09	104	2.00	11.5	
Ethylbenzene*	<0.050	0.050	02/19/2018	ND	2.09	104	2.00	10.8	
<b>Total Xylenes*</b>	<b>18.3</b>	0.150	02/19/2018	ND	6.10	102	6.00	10.4	
<b>Total BTEX</b>	<b>18.7</b>	0.300	02/19/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 154 % 72-148

TPH 8015M	mg/kg	Analyzed By: MS						S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>839</b>	10.0	02/19/2018	ND	180	89.8	200	10.5	
<b>DRO &gt;C10-C28*</b>	<b>1300</b>	10.0	02/19/2018	ND	190	94.9	200	9.95	
EXT DRO >C28-C36	<10.0	10.0	02/19/2018	ND					

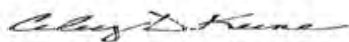
Surrogate: 1-Chlorooctane 192 % 41-142

Surrogate: 1-Chlorooctadecane 96.2 % 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



**Analytical Results For:**

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

Received:	02/16/2018	Sampling Date:	02/06/2018
Reported:	02/22/2018	Sampling Type:	Soil
Project Name:	MC BRIDE BEH STATE COM #1 (CP-1,CP	Sampling Condition:	Cool & Intact
Project Number:	30-025-37107	Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM		

**Sample ID: CP - 1.2 (H800498-02)**

BTEX 8021B		mg/kg	Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2018	ND	2.06	103	2.00	11.8	
<b>Toluene*</b>	<b>0.315</b>	0.050	02/19/2018	ND	2.09	104	2.00	11.5	
Ethylbenzene*	<0.050	0.050	02/19/2018	ND	2.09	104	2.00	10.8	
<b>Total Xylenes*</b>	<b>18.0</b>	0.150	02/19/2018	ND	6.10	102	6.00	10.4	
<b>Total BTEX</b>	<b>18.3</b>	0.300	02/19/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 156 % 72-148

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>647</b>	10.0	02/19/2018	ND	180	89.8	200	10.5	
<b>DRO &gt;C10-C28*</b>	<b>551</b>	10.0	02/19/2018	ND	190	94.9	200	9.95	
EXT DRO >C28-C36	<10.0	10.0	02/19/2018	ND					

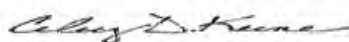
Surrogate: 1-Chlorooctane 128 % 41-142

Surrogate: 1-Chlorooctadecane 85.1 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/16/2018	Sampling Date:	02/06/2018
Reported:	02/22/2018	Sampling Type:	Soil
Project Name:	MC BRIDE BEH STATE COM #1 (CP-1,CP	Sampling Condition:	Cool & Intact
Project Number:	30-025-37107	Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM		

**Sample ID: CP - 1.3 (H800498-03)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<1.00	1.00	02/20/2018	ND	2.06	103	2.00	11.8	
<b>Toluene*</b>	<b>12.9</b>	1.00	02/20/2018	ND	2.09	104	2.00	11.5	
<b>Ethylbenzene*</b>	<b>12.5</b>	1.00	02/20/2018	ND	2.09	104	2.00	10.8	
<b>Total Xylenes*</b>	<b>191</b>	3.00	02/20/2018	ND	6.10	102	6.00	10.4	
<b>Total BTEX</b>	<b>217</b>	6.00	02/20/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 144 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10*</b>	<b>1810</b>	10.0	02/19/2018	ND	180	89.8	200	10.5		
<b>DRO &gt;C10-C28*</b>	<b>924</b>	10.0	02/19/2018	ND	190	94.9	200	9.95		
EXT DRO >C28-C36	<10.0	10.0	02/19/2018	ND						

Surrogate: 1-Chlorooctane 173 % 41-142

Surrogate: 1-Chlorooctadecane 95.4 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/16/2018	Sampling Date:	02/06/2018
Reported:	02/22/2018	Sampling Type:	Soil
Project Name:	MC BRIDE BEH STATE COM #1 (CP-1,CP	Sampling Condition:	Cool & Intact
Project Number:	30-025-37107	Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM		

**Sample ID: CP - 2.1 (H800498-04)**

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	02/20/2018	ND	2.06	103	2.00	11.8	
<b>Toluene*</b>	<b>0.082</b>	0.050	02/20/2018	ND	2.09	104	2.00	11.5	
Ethylbenzene*	<0.050	0.050	02/20/2018	ND	2.09	104	2.00	10.8	
<b>Total Xylenes*</b>	<b>0.459</b>	0.150	02/20/2018	ND	6.10	102	6.00	10.4	
<b>Total BTEX</b>	<b>0.541</b>	0.300	02/20/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 116 % 72-148

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	02/19/2018	ND	180	89.8	200	10.5	
DRO >C10-C28*	<10.0	10.0	02/19/2018	ND	190	94.9	200	9.95	
EXT DRO >C28-C36	<10.0	10.0	02/19/2018	ND					

Surrogate: 1-Chlorooctane 84.4 % 41-142

Surrogate: 1-Chlorooctadecane 87.7 % 37.6-147

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Caley D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received:	02/16/2018	Sampling Date:	02/06/2018
Reported:	02/22/2018	Sampling Type:	Soil
Project Name:	MC BRIDE BEH STATE COM #1 (CP-1,CP	Sampling Condition:	Cool & Intact
Project Number:	30-025-37107	Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM		

**Sample ID: CP - 2.2 (H800498-05)**

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	02/19/2018	ND	2.06	103	2.00	11.8	
Toluene*	<0.050	0.050	02/19/2018	ND	2.09	104	2.00	11.5	
Ethylbenzene*	<0.050	0.050	02/19/2018	ND	2.09	104	2.00	10.8	
Total Xylenes*	<0.150	0.150	02/19/2018	ND	6.10	102	6.00	10.4	
Total BTEX	<0.300	0.300	02/19/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 117 % 72-148

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	02/19/2018	ND	180	89.8	200	10.5	
DRO >C10-C28*	<10.0	10.0	02/19/2018	ND	190	94.9	200	9.95	
EXT DRO >C28-C36	<10.0	10.0	02/19/2018	ND					

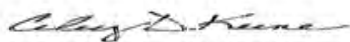
Surrogate: 1-Chlorooctane 86.8 % 41-142

Surrogate: 1-Chlorooctadecane 89.3 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Caley D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/16/2018	Sampling Date:	02/06/2018
Reported:	02/22/2018	Sampling Type:	Soil
Project Name:	MC BRIDE BEH STATE COM #1 (CP-1,CP	Sampling Condition:	Cool & Intact
Project Number:	30-025-37107	Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM		

**Sample ID: CP - 2.3 (H800498-06)**

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	02/19/2018	ND	2.06	103	2.00	11.8	
Toluene*	<0.050	0.050	02/19/2018	ND	2.09	104	2.00	11.5	
Ethylbenzene*	<0.050	0.050	02/19/2018	ND	2.09	104	2.00	10.8	
Total Xylenes*	<0.150	0.150	02/19/2018	ND	6.10	102	6.00	10.4	
Total BTEX	<0.300	0.300	02/19/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 121 % 72-148

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	02/19/2018	ND	180	89.8	200	10.5	
DRO >C10-C28*	<10.0	10.0	02/19/2018	ND	190	94.9	200	9.95	
EXT DRO >C28-C36	<10.0	10.0	02/19/2018	ND					

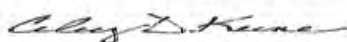
Surrogate: 1-Chlorooctane 87.4 % 41-142

Surrogate: 1-Chlorooctadecane 87.7 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/16/2018	Sampling Date:	02/06/2018
Reported:	02/22/2018	Sampling Type:	Soil
Project Name:	MC BRIDE BEH STATE COM #1 (CP-1,CP	Sampling Condition:	Cool & Intact
Project Number:	30-025-37107	Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM		

**Sample ID: CP - 4.1 (H800498-07)**

BTEX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<1.00	1.00	02/20/2018	ND	2.06	103	2.00	11.8	
<b>Toluene*</b>	<b>60.2</b>	1.00	02/20/2018	ND	2.09	104	2.00	11.5	
Ethylbenzene*	<1.00	1.00	02/20/2018	ND	2.09	104	2.00	10.8	
<b>Total Xylenes*</b>	<b>561</b>	3.00	02/20/2018	ND	6.10	102	6.00	10.4	
<b>Total BTEX</b>	<b>621</b>	6.00	02/20/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 163 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>12400</b>	100	02/20/2018	ND	180	89.8	200	10.5	
<b>DRO &gt;C10-C28*</b>	<b>3570</b>	100	02/20/2018	ND	190	94.9	200	9.95	
EXT DRO >C28-C36	<100	100	02/20/2018	ND					

Surrogate: 1-Chlorooctane 421 % 41-142

Surrogate: 1-Chlorooctadecane 89.7 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received:	02/16/2018	Sampling Date:	02/06/2018
Reported:	02/22/2018	Sampling Type:	Soil
Project Name:	MC BRIDE BEH STATE COM #1 (CP-1,CP	Sampling Condition:	Cool & Intact
Project Number:	30-025-37107	Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM		

**Sample ID: CP - 4.2 (H800498-08)**

BTEX 8021B	mg/kg	Analyzed By: MS						S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<1.00	1.00	02/20/2018	ND	2.06	103	2.00	11.8	
<b>Toluene*</b>	<b>11.9</b>	1.00	02/20/2018	ND	2.09	104	2.00	11.5	
Ethylbenzene*	<1.00	1.00	02/20/2018	ND	2.09	104	2.00	10.8	
<b>Total Xylenes*</b>	<b>186</b>	3.00	02/20/2018	ND	6.10	102	6.00	10.4	
<b>Total BTEX</b>	<b>197</b>	6.00	02/20/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 157 % 72-148

TPH 8015M	mg/kg	Analyzed By: MS						S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>3500</b>	10.0	02/19/2018	ND	180	89.8	200	10.5	
<b>DRO &gt;C10-C28*</b>	<b>1760</b>	10.0	02/19/2018	ND	190	94.9	200	9.95	
EXT DRO >C28-C36	<10.0	10.0	02/19/2018	ND					

Surrogate: 1-Chlorooctane 238 % 41-142

Surrogate: 1-Chlorooctadecane 97.8 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/16/2018	Sampling Date:	02/06/2018
Reported:	02/22/2018	Sampling Type:	Soil
Project Name:	MC BRIDE BEH STATE COM #1 (CP-1,CP	Sampling Condition:	Cool & Intact
Project Number:	30-025-37107	Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM		

**Sample ID: CP - 4.3 (H800498-09)**

BTEX 8021B	mg/kg	Analyzed By: MS						S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<1.00	1.00	02/20/2018	ND	2.06	103	2.00	11.8	
Toluene*	36.1	1.00	02/20/2018	ND	2.09	104	2.00	11.5	
Ethylbenzene*	24.7	1.00	02/20/2018	ND	2.09	104	2.00	10.8	
Total Xylenes*	236	3.00	02/20/2018	ND	6.10	102	6.00	10.4	
Total BTEX	297	6.00	02/20/2018	ND					

Surrogate: 4-Bromofluorobenzene (P/E) 151 % 72-148

TPH 8015M	mg/kg	Analyzed By: MS						S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	3050	10.0	02/21/2018	ND	222	111	200	6.62	
DRO >C10-C28*	1240	10.0	02/21/2018	ND	219	110	200	5.64	
EXT DRO >C28-C36	<10.0	10.0	02/21/2018	ND					

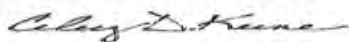
Surrogate: 1-Chlorooctane 206 % 41-142

Surrogate: 1-Chlorooctadecane 97.2 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions


S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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





February 22, 2018

ROBERT ASHER  
EOG Y RESOURCES, INC  
105 SOUTH 4TH STREET  
ARTESIA, NM 88210

RE: MC BRIDE BEH STATE COM #1 (S-1 & S-2)

Enclosed are the results of analyses for samples received by the laboratory on 02/16/18 14:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

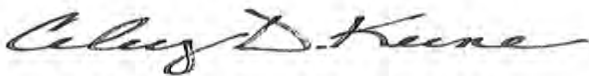
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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,



Caley D. Keene  
Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/16/2018	Sampling Date:	02/06/2018
Reported:	02/22/2018	Sampling Type:	Soil
Project Name:	MC BRIDE BEH STATE COM #1 (S-1 & S-	Sampling Condition:	Cool & Intact
Project Number:	30-025-37107	Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM		

**Sample ID: S - 1.2 (H800496-01)**

BTEX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.500	0.500	02/19/2018	ND	2.06	103	2.00	11.8	
<b>Toluene*</b>	<b>10.8</b>	0.500	02/19/2018	ND	2.09	104	2.00	11.5	
Ethylbenzene*	<0.500	0.500	02/19/2018	ND	2.09	104	2.00	10.8	
<b>Total Xylenes*</b>	<b>147</b>	1.50	02/19/2018	ND	6.10	102	6.00	10.4	
<b>Total BTEX</b>	<b>158</b>	3.00	02/19/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 152 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>3560</b>	10.0	02/19/2018	ND	180	89.8	200	10.5	
<b>DRO &gt;C10-C28*</b>	<b>1230</b>	10.0	02/19/2018	ND	190	94.9	200	9.95	QM-07
EXT DRO >C28-C36	<10.0	10.0	02/19/2018	ND					

Surrogate: 1-Chlorooctane 203 % 41-142

Surrogate: 1-Chlorooctadecane 94.5 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Caley D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received:	02/16/2018	Sampling Date:	02/06/2018
Reported:	02/22/2018	Sampling Type:	Soil
Project Name:	MC BRIDE BEH STATE COM #1 (S-1 & S-	Sampling Condition:	Cool & Intact
Project Number:	30-025-37107	Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM		

**Sample ID: S - 1.3 (H800496-02)**

BTEX 8021B	mg/kg	Analyzed By: MS						S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>1.37</b>	1.00	02/19/2018	ND	2.06	103	2.00	11.8	
<b>Toluene*</b>	<b>67.4</b>	1.00	02/19/2018	ND	2.09	104	2.00	11.5	
<b>Ethylbenzene*</b>	<b>24.0</b>	1.00	02/19/2018	ND	2.09	104	2.00	10.8	
<b>Total Xylenes*</b>	<b>329</b>	3.00	02/19/2018	ND	6.10	102	6.00	10.4	
<b>Total BTEX</b>	<b>422</b>	6.00	02/19/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 151 % 72-148

TPH 8015M	mg/kg	Analyzed By: MS						S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>5840</b>	10.0	02/19/2018	ND	180	89.8	200	10.5	
<b>DRO &gt;C10-C28*</b>	<b>2110</b>	10.0	02/19/2018	ND	190	94.9	200	9.95	
EXT DRO >C28-C36	<10.0	10.0	02/19/2018	ND					

Surrogate: 1-Chlorooctane 273 % 41-142

Surrogate: 1-Chlorooctadecane 98.0 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/16/2018	Sampling Date:	02/06/2018
Reported:	02/22/2018	Sampling Type:	Soil
Project Name:	MC BRIDE BEH STATE COM #1 (S-1 & S-	Sampling Condition:	Cool & Intact
Project Number:	30-025-37107	Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM		

**Sample ID: S - 2.SURFACE (H800496-03)**

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	02/19/2018	ND	2.06	103	2.00	11.8	
<b>Toluene*</b>	<b>0.092</b>	0.050	02/19/2018	ND	2.09	104	2.00	11.5	
Ethylbenzene*	<0.050	0.050	02/19/2018	ND	2.09	104	2.00	10.8	
<b>Total Xylenes*</b>	<b>1.04</b>	0.150	02/19/2018	ND	6.10	102	6.00	10.4	
<b>Total BTEX</b>	<b>1.13</b>	0.300	02/19/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 124 % 72-148

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	02/19/2018	ND	180	89.8	200	10.5	
<b>DRO &gt;C10-C28*</b>	<b>19.0</b>	10.0	02/19/2018	ND	190	94.9	200	9.95	
EXT DRO >C28-C36	<10.0	10.0	02/19/2018	ND					

Surrogate: 1-Chlorooctane 88.6 % 41-142

Surrogate: 1-Chlorooctadecane 86.6 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/16/2018	Sampling Date:	02/06/2018
Reported:	02/22/2018	Sampling Type:	Soil
Project Name:	MC BRIDE BEH STATE COM #1 (S-1 & S-	Sampling Condition:	Cool & Intact
Project Number:	30-025-37107	Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM		

**Sample ID: S - 2.1 (H800496-04)**

BTEX 8021B	mg/kg	Analyzed By: MS						S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2018	ND	2.06	103	2.00	11.8	
<b>Toluene*</b>	<b>0.265</b>	0.050	02/19/2018	ND	2.09	104	2.00	11.5	
Ethylbenzene*	<0.050	0.050	02/19/2018	ND	2.09	104	2.00	10.8	
<b>Total Xylenes*</b>	<b>6.75</b>	0.150	02/19/2018	ND	6.10	102	6.00	10.4	
<b>Total BTEX</b>	<b>7.01</b>	0.300	02/19/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 185 % 72-148

TPH 8015M	mg/kg	Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>130</b>	10.0	02/19/2018	ND	180	89.8	200	10.5	
<b>DRO &gt;C10-C28*</b>	<b>204</b>	10.0	02/19/2018	ND	190	94.9	200	9.95	
EXT DRO >C28-C36	<10.0	10.0	02/19/2018	ND					

Surrogate: 1-Chlorooctane 108 % 41-142

Surrogate: 1-Chlorooctadecane 92.6 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received:	02/16/2018	Sampling Date:	02/06/2018
Reported:	02/22/2018	Sampling Type:	Soil
Project Name:	MC BRIDE BEH STATE COM #1 (S-1 & S-	Sampling Condition:	Cool & Intact
Project Number:	30-025-37107	Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM		

**Sample ID: S - 2.2 (H800496-05)**

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	02/19/2018	ND	2.06	103	2.00	11.8	
Toluene*	<0.050	0.050	02/19/2018	ND	2.09	104	2.00	11.5	
Ethylbenzene*	0.055	0.050	02/19/2018	ND	2.09	104	2.00	10.8	
Total Xylenes*	0.620	0.150	02/19/2018	ND	6.10	102	6.00	10.4	
Total BTEX	0.675	0.300	02/19/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 135 % 72-148

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	02/19/2018	ND	180	89.8	200	10.5	
DRO >C10-C28*	<10.0	10.0	02/19/2018	ND	190	94.9	200	9.95	
EXT DRO >C28-C36	<10.0	10.0	02/19/2018	ND					

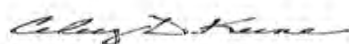
Surrogate: 1-Chlorooctane 88.1 % 41-142

Surrogate: 1-Chlorooctadecane 87.8 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/16/2018	Sampling Date:	02/06/2018
Reported:	02/22/2018	Sampling Type:	Soil
Project Name:	MC BRIDE BEH STATE COM #1 (S-1 & S-	Sampling Condition:	Cool & Intact
Project Number:	30-025-37107	Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM		

**Sample ID: S - 2.3 (H800496-06)**

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	02/19/2018	ND	2.06	103	2.00	11.8	
Toluene*	<b>0.115</b>	0.050	02/19/2018	ND	2.09	104	2.00	11.5	
Ethylbenzene*	<0.050	0.050	02/19/2018	ND	2.09	104	2.00	10.8	
<b>Total Xylenes*</b>	<b>2.60</b>	0.150	02/19/2018	ND	6.10	102	6.00	10.4	
<b>Total BTEX</b>	<b>2.72</b>	0.300	02/19/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 133 % 72-148

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>56.5</b>	10.0	02/19/2018	ND	180	89.8	200	10.5	
<b>DRO &gt;C10-C28*</b>	<b>63.7</b>	10.0	02/19/2018	ND	190	94.9	200	9.95	
EXT DRO >C28-C36	<10.0	10.0	02/19/2018	ND					

Surrogate: 1-Chlorooctane 97.6 % 41-142

Surrogate: 1-Chlorooctadecane 94.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

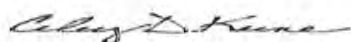
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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







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

September 29, 2017

Robert Asher  
EOG  
105 South Fourth Street  
Artesia, NM 88210  
TEL:  
FAX

RE: McBride BEH State Com 1

OrderNo.: 1709E32

Dear Robert Asher:

Hall Environmental Analysis Laboratory received 7 sample(s) on 9/26/2017 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1709E32

Date Reported: 9/29/2017

CLIENT: EOG

Client Sample ID: S-1.0

Project: McBride BEH State Com 1

Collection Date: 9/21/2017 10:30:00 AM

Lab ID: 1709E32-001

Matrix: SOIL

Received Date: 9/26/2017 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	1400	93		mg/Kg	10	9/27/2017 4:45:16 PM	34083
Motor Oil Range Organics (MRO)	ND	460		mg/Kg	10	9/27/2017 4:45:16 PM	34083
Surr: DNOP	0	70-130	S	%Rec	10	9/27/2017 4:45:16 PM	34083
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	100	4.7		mg/Kg	1	9/27/2017 5:24:56 PM	34082
Surr: BFB	594	54-150	S	%Rec	1	9/27/2017 5:24:56 PM	34082
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	0.027	0.023		mg/Kg	1	9/27/2017 5:24:56 PM	34082
Toluene	0.25	0.047		mg/Kg	1	9/27/2017 5:24:56 PM	34082
Ethylbenzene	0.21	0.047		mg/Kg	1	9/27/2017 5:24:56 PM	34082
Xylenes, Total	4.9	0.094		mg/Kg	1	9/27/2017 5:24:56 PM	34082
Surr: 4-Bromofluorobenzene	132	66.6-132	S	%Rec	1	9/27/2017 5:24:56 PM	34082

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

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



# Analytical Report

Lab Order 1709E32

Date Reported: 9/29/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG

Client Sample ID: S-1.1

Project: McBride BEH State Com 1

Collection Date: 9/21/2017 10:42:00 AM

Lab ID: 1709E32-002

Matrix: SOIL

Received Date: 9/26/2017 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	450	9.7		mg/Kg	1	9/27/2017 2:17:30 PM	34083
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/27/2017 2:17:30 PM	34083
Surr: DNOP	98.2	70-130		%Rec	1	9/27/2017 2:17:30 PM	34083
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	1100	48		mg/Kg	10	9/27/2017 12:42:51 PM	34082
Surr: BFB	454	54-150	S	%Rec	10	9/27/2017 12:42:51 PM	34082
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	0.61	0.24		mg/Kg	10	9/27/2017 12:42:51 PM	34082
Toluene	17	0.48		mg/Kg	10	9/27/2017 12:42:51 PM	34082
Ethylbenzene	7.2	0.48		mg/Kg	10	9/27/2017 12:42:51 PM	34082
Xylenes, Total	51	0.96		mg/Kg	10	9/27/2017 12:42:51 PM	34082
Surr: 4-Bromofluorobenzene	129	66.6-132		%Rec	10	9/27/2017 12:42:51 PM	34082

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

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

# Analytical Report

Lab Order 1709E32

Date Reported: 9/29/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG

Client Sample ID: CP-1

Project: McBride BEH State Com 1

Collection Date: 9/21/2017 10:58:00 AM

Lab ID: 1709E32-003

Matrix: SOIL

Received Date: 9/26/2017 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	2700	98		mg/Kg	10	9/27/2017 5:09:45 PM	34083
Motor Oil Range Organics (MRO)	ND	490		mg/Kg	10	9/27/2017 5:09:45 PM	34083
Surr: DNOP	0	70-130	S	%Rec	10	9/27/2017 5:09:45 PM	34083
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	6100	250		mg/Kg	50	9/27/2017 1:06:29 PM	34082
Surr: BFB	487	54-150	S	%Rec	50	9/27/2017 1:06:29 PM	34082
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	1.9	1.2		mg/Kg	50	9/27/2017 1:06:29 PM	34082
Toluene	83	2.5		mg/Kg	50	9/27/2017 1:06:29 PM	34082
Ethylbenzene	26	2.5		mg/Kg	50	9/27/2017 1:06:29 PM	34082
Xylenes, Total	290	4.9		mg/Kg	50	9/27/2017 1:06:29 PM	34082
Surr: 4-Bromofluorobenzene	130	66.6-132		%Rec	50	9/27/2017 1:06:29 PM	34082

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

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

## Analytical Report

Lab Order 1709E32

Date Reported: 9/29/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG

Client Sample ID: CP-2

Project: McBride BEH State Com 1

Collection Date: 9/21/2017 11:09:00 AM

Lab ID: 1709E32-004

Matrix: SOIL

Received Date: 9/26/2017 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	1500	93		mg/Kg	10	9/27/2017 5:34:05 PM	34083
Motor Oil Range Organics (MRO)	ND	470		mg/Kg	10	9/27/2017 5:34:05 PM	34083
Surr: DNOP	0	70-130	S	%Rec	10	9/27/2017 5:34:05 PM	34083
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	4000	230		mg/Kg	50	9/27/2017 1:29:59 PM	34082
Surr: BFB	346	54-150	S	%Rec	50	9/27/2017 1:29:59 PM	34082
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	1.5	1.2		mg/Kg	50	9/27/2017 1:29:59 PM	34082
Toluene	60	2.3		mg/Kg	50	9/27/2017 1:29:59 PM	34082
Ethylbenzene	20	2.3		mg/Kg	50	9/27/2017 1:29:59 PM	34082
Xylenes, Total	170	4.6		mg/Kg	50	9/27/2017 1:29:59 PM	34082
Surr: 4-Bromofluorobenzene	123	66.6-132		%Rec	50	9/27/2017 1:29:59 PM	34082

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

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



# Analytical Report

Lab Order 1709E32

Date Reported: 9/29/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG

Client Sample ID: CP-3

Project: McBride BEH State Com 1

Collection Date: 9/21/2017 11:18:00 AM

Lab ID: 1709E32-005

Matrix: SOIL

Received Date: 9/26/2017 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	130	9.8		mg/Kg	1	9/27/2017 3:31:10 PM	34083
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/27/2017 3:31:10 PM	34083
Surr: DNOP	99.3	70-130		%Rec	1	9/27/2017 3:31:10 PM	34083
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	220	4.8		mg/Kg	1	9/27/2017 5:48:22 PM	34082
Surr: BFB	802	54-150	S	%Rec	1	9/27/2017 5:48:22 PM	34082
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	0.19	0.024		mg/Kg	1	9/27/2017 5:48:22 PM	34082
Toluene	2.7	0.048		mg/Kg	1	9/27/2017 5:48:22 PM	34082
Ethylbenzene	0.75	0.048		mg/Kg	1	9/27/2017 5:48:22 PM	34082
Xylenes, Total	9.1	0.095		mg/Kg	1	9/27/2017 5:48:22 PM	34082
Surr: 4-Bromofluorobenzene	143	66.6-132	S	%Rec	1	9/27/2017 5:48:22 PM	34082

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

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

## Analytical Report

Lab Order 1709E32

Date Reported: 9/29/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG

Client Sample ID: CP-4

Project: McBride BEH State Com 1

Collection Date: 9/21/2017 11:28:00 AM

Lab ID: 1709E32-006

Matrix: SOIL

Received Date: 9/26/2017 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	4100	100		mg/Kg	10	9/27/2017 3:55:44 PM	34083
Motor Oil Range Organics (MRO)	ND	500		mg/Kg	10	9/27/2017 3:55:44 PM	34083
Surr: DNOP	0	70-130	S	%Rec	10	9/27/2017 3:55:44 PM	34083
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	9200	470		mg/Kg	100	9/27/2017 6:11:45 PM	34082
Surr: BFB	339	54-150	S	%Rec	100	9/27/2017 6:11:45 PM	34082
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	4.4	2.3		mg/Kg	100	9/27/2017 6:11:45 PM	34082
Toluene	130	4.7		mg/Kg	100	9/27/2017 6:11:45 PM	34082
Ethylbenzene	31	4.7		mg/Kg	100	9/27/2017 6:11:45 PM	34082
Xylenes, Total	560	9.4		mg/Kg	100	9/27/2017 6:11:45 PM	34082
Surr: 4-Bromofluorobenzene	122	66.6-132		%Rec	100	9/27/2017 6:11:45 PM	34082

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

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

## Analytical Report

Lab Order 1709E32

Date Reported: 9/29/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG

Client Sample ID: S-2.05

Project: McBride BEH State Com 1

Collection Date: 9/21/2017 11:37:00 AM

Lab ID: 1709E32-007

Matrix: SOIL

Received Date: 9/26/2017 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	1400	96		mg/Kg	10	9/27/2017 4:20:39 PM	34083
Motor Oil Range Organics (MRO)	ND	480		mg/Kg	10	9/27/2017 4:20:39 PM	34083
Surr: DNOP	0	70-130	S	%Rec	10	9/27/2017 4:20:39 PM	34083
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	1000	25		mg/Kg	5	9/27/2017 6:35:12 PM	34082
Surr: BFB	1140	54-150	S	%Rec	5	9/27/2017 6:35:12 PM	34082
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.12		mg/Kg	5	9/27/2017 6:35:12 PM	34082
Toluene	2.4	0.25		mg/Kg	5	9/27/2017 6:35:12 PM	34082
Ethylbenzene	6.2	0.25		mg/Kg	5	9/27/2017 6:35:12 PM	34082
Xylenes, Total	55	0.49		mg/Kg	5	9/27/2017 6:35:12 PM	34082
Surr: 4-Bromofluorobenzene	170	66.6-132	S	%Rec	5	9/27/2017 6:35:12 PM	34082

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

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



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1709E32

29-Sep-17

Client: EOG

Project: McBride BEH State Com 1

Sample ID	LCS-34083	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	34083	RunNo:	45917					
Prep Date:	9/26/2017	Analysis Date:	9/27/2017	SeqNo:	1459346	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	50.00	0	81.3	73.2	114			
Surr: DNOP	4.4		5.000		88.4	70	130			

Sample ID	MB-34083	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	34083	RunNo:	45917					
Prep Date:	9/26/2017	Analysis Date:	9/27/2017	SeqNo:	1459351	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.5		10.00		94.9	70	130			

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1709E32

29-Sep-17

Client: EOG

Project: McBride BEH State Com 1

Sample ID	MB-34082	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	34082	RunNo:	45928					
Prep Date:	9/26/2017	Analysis Date:	9/27/2017	SeqNo:	1459919	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		91.6	54	150			

Sample ID	LCS-34082	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	34082	RunNo:	45928					
Prep Date:	9/26/2017	Analysis Date:	9/27/2017	SeqNo:	1459930	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	76.4	125			
Surr: BFB	1000		1000		102	54	150			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1709E32

29-Sep-17

Client: EOG

Project: McBride BEH State Com 1

Sample ID	MB-34082	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	34082	RunNo:	45928					
Prep Date:	9/26/2017	Analysis Date:	9/27/2017	SeqNo:	1459967	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Elhylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		105	66.6	132			

Sample ID	LCS-34082	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	34082	RunNo:	45928					
Prep Date:	9/26/2017	Analysis Date:	9/27/2017	SeqNo:	1459968	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	106	80	120			
Toluene	1.0	0.050	1.000	0	105	80	120			
Elhylbenzene	1.1	0.050	1.000	0	109	80	120			
Xylenes, Total	3.3	0.10	3.000	0	111	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	66.6	132			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified



# Sample Log-In Check List

Client Name: EOG/Yates

Work Order Number: 1709E32

RcptNo: 1

Received By: Isaiah Ortiz

9/26/2017 9:35:00 AM

*IO*

Completed By: Sophia Campuzano

9/26/2017 10:28:28 AM

*Sophia Campuzano*

Reviewed By:

*[Signature]*

9/26/17

## Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

## Log In

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

# of preserved  
bottles checked  
for pH:

(<2 or >12 unless noted)

Adjusted? \_\_\_\_\_

Checked by: \_\_\_\_\_

## Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: \_\_\_\_\_

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

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

17. Additional remarks:

## 18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.2	Good	Yes			



**HALL ENVIRONMENTAL  
ANALYSIS LABORATORY**

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

**Tel. 505-345-3975**      **Fax 505-345-4107**

## Analysis Request

Client: <b>EOG Resources, Inc.</b>		Standard <b>Rush</b>					
Mailing Address: 105 South 4th Street		Project Name:					
Artesia, NM 88210		McBride BEH State Com #1					
Phone #: (575) 748-4217		Project #:					
email: <b>Robert_Asher@eogresources.com</b>		30-025-37107					
QA/QC Package:		Project Manager:					
<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		<b>Robert Asher</b>					
Accreditation:		PO# 205632					
<input type="checkbox"/> NELAP <input type="checkbox"/> Other		Sampler: Robert Asher					
<input type="checkbox"/> EDD (Type)		On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
		Sample Temperature: <b>4.7</b>					
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	
9/21/17	10:30 AM	Soil	S-1.0	1 - 4oz.	Ice	1709E32	
9/21/17	10:42 AM	Soil	S-1.1	1 - 4oz.	Ice	-001	
9/21/17	10:58 AM	Soil	CP-1	1 - 4oz.	Ice	-002	
9/21/17	11:09 AM	Soil	CP-2	1 - 4oz.	Ice	-003	
9/21/17	11:18 AM	Soil	CP-3	1 - 4oz.	Ice	-004	
9/21/17	11:28 AM	Soil	CP-4	1 - 4oz.	Ice	-005	
9/21/17	11:37 AM	Soil	S-2.05	1 - 4oz.	Ice	-006	
				1 - 4oz.	Ice	-007	
Date:	Time:	Relinquished by: <b>Quinn</b>		Received by: <b>IOB</b>		Date:	Time
9/25/17	8:08 AM					9/26/17	9:35
Date:	Time:	Relinquished by:		Received by:		Date:	Time

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited labs outside. This is not a warranty.

**TPH EXTENDED (GRO/DRO/MRO)**  
**Analytical Results by 10/3/2017.**  
**Remarks: None.**

Remarks: None.

If necessary, samples submitted to Hall Environmental<sup>1</sup> may be subcontracted to other accredited laboratories. The

# **Appendix E**

## **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

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

Form C-141  
Revised August 8, 2011

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.	OGRID Number 25575	Contact Robert Asher
Address 104 S. 4 <sup>th</sup> Street		Telephone No. 575-748-1471
Facility Name McBride BEH State Com #1		Facility Type Battery

Surface Owner State	Mineral Owner State	API No. 30-025-37107
------------------------	------------------------	-------------------------

**LOCATION OF RELEASE**

Unit Letter E	Section 4	Township 10S	Range 34E	Feet from the 1980	North/South Line North	Feet from the 660	East/West Line West	County Lea
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Latitude 32.47756 Longitude 103.47538

**NATURE OF RELEASE**


Type of Release Crude Oil	Volume of Release 23 B/O	Volume Recovered 0 B/O
Source of Release Production Tank	Date and Hour of Occurrence 9/7/2017; PM	Date and Hour of Discovery 9/7/2017; PM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input 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.\*

Describe Cause of Problem and Remedial Action Taken.\*  
Hole discovered in tank bottom, causing the release. Tank removed.

Describe Area Affected and Cleanup Action Taken.\*  
An approximate area of 20'X 20'. The well and valves were closed. The impacted soils under removed tank were excavated and placed on bermed plastic, if applicable in-place remediation will be conducted. Vertical and horizontal delineation samples will be collected and analysis ran for TPH & BTEX. If initial analytical results for TPH & BTEX are under RRAL's a Final Report, C-141 will be submitted to the OCD requesting closure. If the analytical results are above the RRAL's a work plan will be submitted to the OCD. **Depth to Ground Water: <50' (approximately 36', per USGS Groundwater Levels), Wellhead Protection Area: No, Distance to Surface Water Body: >1000', SITE RANKING IS 20.**

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: 	<b>OIL CONSERVATION DIVISION</b>		
Printed Name: Robert Asher	Approved by Environmental Specialist:		
Title: Environmental Supervisor	Approval Date:	Expiration Date:	
E-mail Address: Robert_Asher@egoresources.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: September 22, 2017	Phone: 575-748-4217	<b>1RP-</b>	

\* Attach Additional Sheets If Necessary