



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

August 8, 2018

Mr. Mike Bratcher/Ms. Crystal Weaver
NMOCD District II
811 S. First St.
Artesia, NM 88210

Re: Patrick API Battery
30-015-28592
Section 10, T19S-R25E
Eddy County, New Mexico

Mr. Bratcher/Ms. Weaver,

EOG Y Resources, Inc. is submitting the enclosed remediation work plan for the above referenced site. The plan is being submitted accompanying the C-141 report dated on December 13, 2017

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 after August 22, 2018.

If you have any questions, feel free to call me at (575) 748-4171.

Respectfully,

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

EOG Y Resources, Inc.
Patrick API Battery
Remediation Work Plan
Section 10, T19S-R25E
Eddy County, New Mexico
August 8, 2018

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I. Location

Drive South of Artesia on highway 285 to West Kincaid Ranch Road. Follow Kincaid Ranch Road west for 5.8 miles, then turn south on the lease road for 0.68 mile to the location.

II. Background

On December 14, 2017, EOG Y Resources, Inc. submitted to the NMOCD District II office a Form C-141 for the release of 13 B/PW with 1 B/PW recovered. The affected area impacted by the 2RP-4522 release is approximately 140 feet by 10 feet within the battery berm. The release was caused by the failure of a pipe coupling on the downstream side of the pump that caused the release. A vacuum truck was dispatched to recover the standing fluid and a backhoe crew was contracted to excavate visually impacted soils, approximately 6 inches of soil was excavated and sent to a NMOCD approved disposal facility during these activities.

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 10, T19S-R25E), depth to groundwater is approximately 195 feet. 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 7.8 miles away.

IV. NMOCD Assessment Criteria

The site assessment criteria is as follows:

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

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

Benzene	10 mg/kg
BTEX	50 mg/kg
TPH	2,500 mg/kg
Chlorides	20,000 mg/kg

V. Soils

Soils within the berm consist of a top layer of caliche pad measuring approximately eight (8) inches thick before a layer of clay loam topsoil which measures approximately two (2) feet thick followed by a layer of sand and clay measuring approximately six (6) feet deep before clay takes over as the dominant soil type. This soil matrix is responsible for prohibiting further migration of the contaminant into the subsurface.

VII. Scope of Work

Based on enclosed analytical results, a decrease in chlorides, and groundwater greater than 100 feet, EOG Y Resources, Inc. proposes to excavate the V2 and V3 impacted area to four (4) feet bgs, hauling all excavated soil to a NMOCD approved facility for disposal, then install a Geosynthetic Clay Liner in the V2 area, backfilling the excavated areas with four (4) feet of caliche. EOG Y Resources, Inc. has identified the horizontal extents of contamination and will excavate to these points. Once the release area has been backfilled, there will be no revegetation activities due to the status of the site as an active battery. The TPH & BTEX for the remaining soil are within the RRAL's for BTEX (50 mg/kg) and TPH (2500 mg/kg), no further analytical testing of TPH and/or BTEX will be conducted. When remediation work is completed a C-141 Final Report will be submitted to the NMOCD requesting closure of the site.

Table 1

Soil Analytical Data

Soil Analytical Data

Sample ID	Depth (ft. bgs)	Date	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	TPH (GRO)	TPH (DRO)	TPH EXT DRO	Total TPH	Chlorides
V1-1'	1'	2/6/18	<0.050	<0.050	<0.050	0.171	<0.300	<10.0	<10.0	<10.0	<10.0	464
V1-2'	2'	2/6/18	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	16
V2-1'	1'	2/6/18	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	1250
V2-2'	2'	2/6/18	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	15.1	11.1	26.2	992
V2-3'	3'	2/6/18	-	-	-	-	-	-	-	-	-	2200
V2-4'	4'	2/6/18	-	-	-	-	-	-	-	-	-	8800
V2-6'	6'	2/6/18	-	-	-	-	-	-	-	-	-	12100
V2-7'	7'	2/6/18	-	-	-	-	-	-	-	-	-	5730
V2-8'	8'	3/6/18	-	-	-	-	-	-	-	-	-	5680
V2-9'	9'	3/6/18	-	-	-	-	-	-	-	-	-	2320
V2-10'	10'	3/6/18	-	-	-	-	-	-	-	-	-	2480
V2-11'	11'	3/6/18	-	-	-	-	-	-	-	-	-	128
V2-12'	12'	3/6/18	-	-	-	-	-	-	-	-	-	112
V2-14'	14'	3/6/18	-	-	-	-	-	-	-	-	-	144
V3-1'	3'	2/6/18	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	0	1920
V3-2'	2'	2/6/18	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	0	1440
V3-3'	3'	2/6/18	-	-	-	-	-	-	-	-	-	1840
V3-4'	4'	2/6/18	-	-	-	-	-	-	-	-	-	160
V3-6'	6'	2/6/18	-	-	-	-	-	-	-	-	-	144
V3-8'	8'	2/6/18	-	-	-	-	-	-	-	-	-	176
H1	1'	3/8/18	-	-	-	-	-	-	-	-	-	272
H2	1'	3/8/18	-	-	-	-	-	-	-	-	-	2120
H2+1'	1'	3/22/18	-	-	-	-	-	-	-	-	-	592
H3	1'	3/8/18	-	-	-	-	-	-	-	-	-	1800
H3+1'	1'	3/22/18	-	-	-	-	-	-	-	-	-	576
H4	1'	3/8/18	-	-	-	-	-	-	-	-	-	448
H5	1'	3/8/18	-	-	-	-	-	-	-	-	-	32.0
H6	1'	3/8/18	-	-	-	-	-	-	-	-	-	80.0

Figure 1

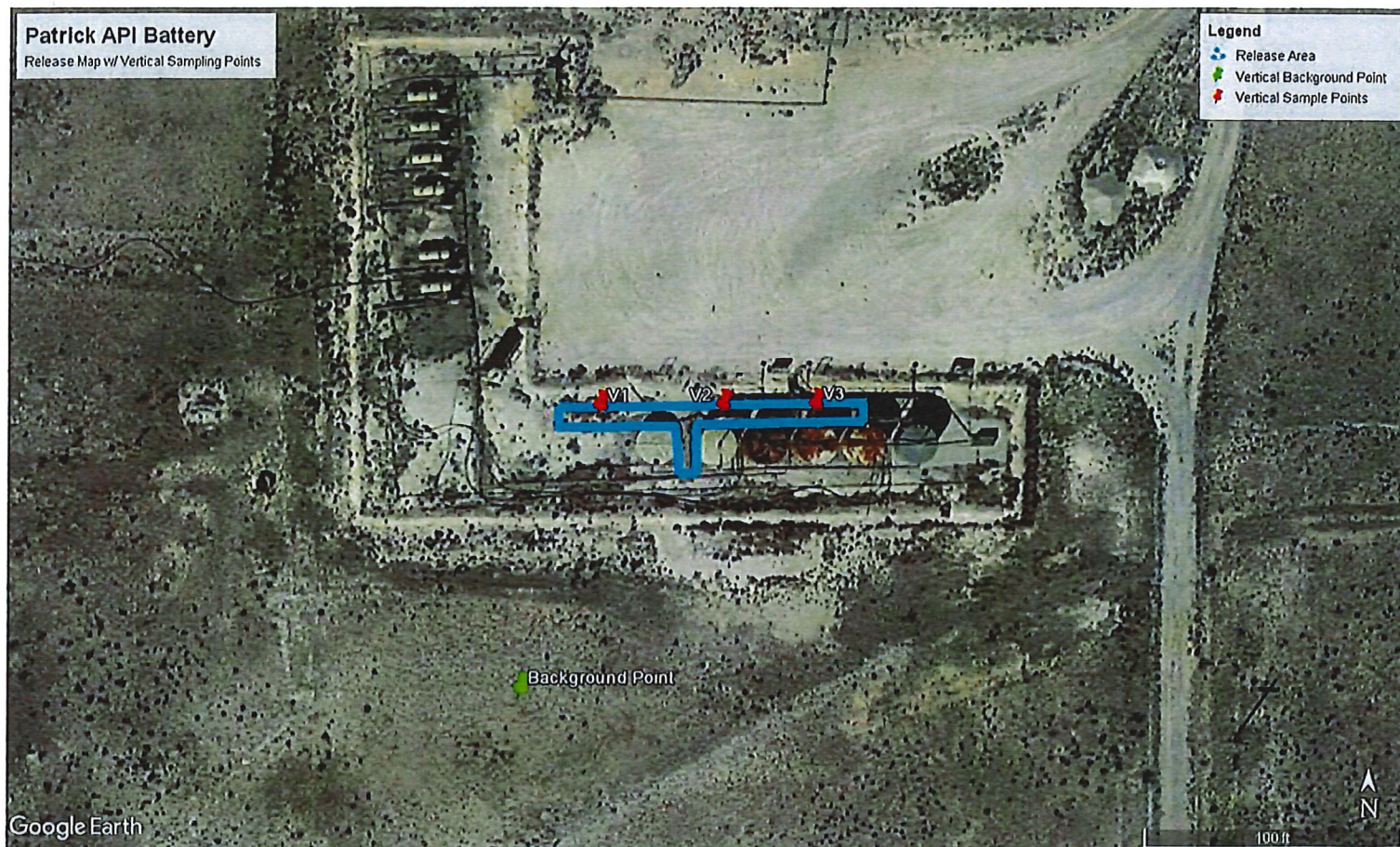
Site Map with Sample Points

Patrick API Battery

Release Map w/ Vertical Sampling Points

Legend

- Release Area
- Vertical Background Point
- Vertical Sample Points

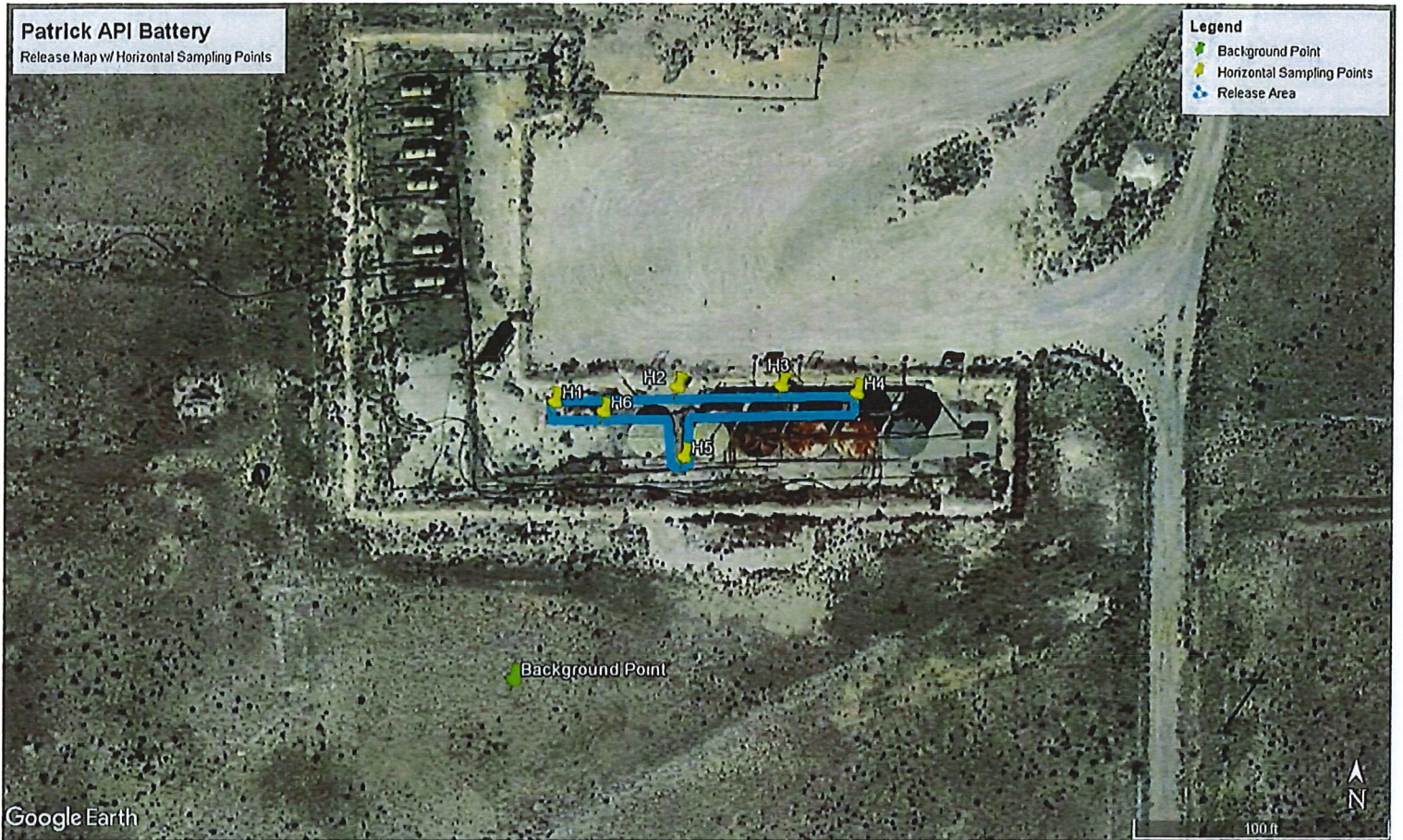


Patrick API Battery

Release Map w/ Horizontal Sampling Points

Legend

- Background Point
- Horizontal Sampling Points
- Release Area



Appendix A

NMOSE Well Log



New Mexico Office of the State Engineer Wells with Well Log Information

(A CL/VH/### in the
POD suffix indicates the
POD has been replaced &
no longer serves a water
right)

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

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

(NAD83 UTM in meters)

(in feet)

POD Number	Code	Subbasin	County	Source	6416-4	Sec	Twp	Rng	X	Y	Distance	Start Date	Finish Date	Log File	Depth	Depth	Driller	License		
			ED	Shallow	2	2	09	19S	25E	548430	3616046*		368	04/18/1967	05/05/1967	05/12/1967	315	260	EXISTING WELL	353

Record Count: 1

UTM/NAD83 Radius Search (in meters):

Easting (X): 548798.22

Northing (Y): 3616042.86

Radius: 1000

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOS/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.

12/13/17 10:28 AM

WELLS WITH WELL LOG INFORMATION

Appendix B

USGS Groundwater Information



USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources

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

Click to hide News Bulletins

- [Please see news on new formats](#)
- [Full News](#)

Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =

- 324100104285501

Minimum number of levels = 1

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

USGS 324100104285501 19S.25E.04.444341

Eddy County, New Mexico

Latitude 32°41'00", Longitude 104°28'55" NAD27

Land-surface elevation 3,515 feet above NGVD29

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

Output formats

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

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water-level approval status
1994-02-10		D	194.24			2	Z	S		U	A

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status	Z	Other conditions existed that would affect the measured water level (explain in remarks).
Method of measurement	S	Steel-tape measurement.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

[Questions about sites/data?](#)

[Feedback on this web site](#)

[Automated retrievals](#)

[Help](#)

[Data Tips](#)

[Explanation of terms](#)

[Subscribe for system changes](#)

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

Title: Groundwater for USA: Water Levels

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

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

Page Last Modified: 2017-12-13 12:33:53 EST

0.52 0.45 nadw01





National Water Information System: Map View

Sites ☒ Map Layers

Search Results

Export Sites

Site Number	Site Name
3241001042855 01	19S,25E,04,444341

Search Parameters

Explanation of Symbols



Appendix C

Soil Sample Laboratory Data



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

February 12, 2018

CHASE SETTLE

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: PATRICK API BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 02/07/18 11:30.

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.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 02/07/2018
Reported: 02/12/2018
Project Name: PATRICK API BATTERY
Project Number: FEB -22
Project Location: PATRICK API BATTERY

Sampling Date: 02/06/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: V1 - 1' (H800399-01)

BTEX 8021B		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/09/2018	ND	1.75	87.4	2.00	23.7	
Toluene*	<0.050	0.050	02/09/2018	ND	1.77	88.5	2.00	22.3	
Ethylbenzene*	<0.050	0.050	02/09/2018	ND	1.76	87.9	2.00	23.4	
Total Xylenes*	0.171	0.150	02/09/2018	ND	5.25	87.5	6.00	22.5	
Total BTEX	<0.300	0.300	02/09/2018	ND					

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

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	464	16.0	02/12/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/09/2018	ND	183	91.7	200	0.778	
DRO >C10-C28*	<10.0	10.0	02/09/2018	ND	162	81.0	200	5.27	
EXT DRO >C28-C36	<10.0	10.0	02/09/2018	ND					

Surrogate: 1-Chlorooctane 60.6 % 41-142

Surrogate: 1-Chlorooctadecane 57.3 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celestine D. Keene

Celestine D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 02/07/2018
 Reported: 02/12/2018
 Project Name: PATRICK API BATTERY
 Project Number: FEB -22
 Project Location: PATRICK API BATTERY

 Sampling Date: 02/06/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V1 - 2' (H800399-02)

BTEX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/09/2018	ND	1.75	87.4	2.00	23.7	
Toluene*	<0.050	0.050	02/09/2018	ND	1.77	88.5	2.00	22.3	
Ethylbenzene*	<0.050	0.050	02/09/2018	ND	1.76	87.9	2.00	23.4	
Total Xylenes*	<0.150	0.150	02/09/2018	ND	5.25	87.5	6.00	22.5	
Total BTEX	<0.300	0.300	02/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 118 % 72-148

Chloride, SM4500CI-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	02/12/2018	ND	432	108	400	0.00	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/09/2018	ND	183	91.7	200	0.778	
DRO >C10-C28*	<10.0	10.0	02/09/2018	ND	162	81.0	200	5.27	
EXT DRO >C28-C36	<10.0	10.0	02/09/2018	ND					

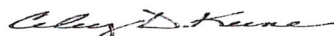
Surrogate: 1-Chlorooctane 64.8 % 41-142

Surrogate: 1-Chlorooctadecane 59.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 02/07/2018
Reported: 02/12/2018
Project Name: PATRICK API BATTERY
Project Number: FEB -22
Project Location: PATRICK API BATTERY

Sampling Date: 02/06/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: V2 - 1' (H800399-03)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/09/2018	ND	1.75	87.4	2.00	23.7	
Toluene*	<0.050	0.050	02/09/2018	ND	1.77	88.5	2.00	22.3	
Ethylbenzene*	<0.050	0.050	02/09/2018	ND	1.76	87.9	2.00	23.4	
Total Xylenes*	<0.150	0.150	02/09/2018	ND	5.25	87.5	6.00	22.5	
Total BTX	<0.300	0.300	02/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 114 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1250	16.0	02/12/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/09/2018	ND	183	91.7	200	0.778	
DRO >C10-C28*	<10.0	10.0	02/09/2018	ND	162	81.0	200	5.27	
EXT DRO >C28-C36	<10.0	10.0	02/09/2018	ND					

Surrogate: 1-Chlorooctane 64.6 % 41-142

Surrogate: 1-Chlorooctadecane 60.7 % 37.6-147

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*=Accredited Analyte

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Celestine D. Keene

Celestine D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 02/07/2018
Reported: 02/12/2018
Project Name: PATRICK API BATTERY
Project Number: FEB -22
Project Location: PATRICK API BATTERY

Sampling Date: 02/06/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: V2 - 2' (H800399-04)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/09/2018	ND	1.75	87.4	2.00	23.7	
Toluene*	<0.050	0.050	02/09/2018	ND	1.77	88.5	2.00	22.3	
Ethylbenzene*	<0.050	0.050	02/09/2018	ND	1.76	87.9	2.00	23.4	
Total Xylenes*	<0.150	0.150	02/09/2018	ND	5.25	87.5	6.00	22.5	
Total BTX	<0.300	0.300	02/09/2018	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	992	16.0	02/12/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/11/2018	ND	226	113	200	0.572	
DRO >C10-C28*	15.1	10.0	02/11/2018	ND	221	111	200	2.83	
EXT DRO >C28-C36	11.1	10.0	02/11/2018	ND					

Surrogate: 1-Chlorooctane 88.0 % 41-142

Surrogate: 1-Chlorooctadecane 88.4 % 37.6-147

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*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 02/07/2018
Reported: 02/12/2018
Project Name: PATRICK API BATTERY
Project Number: FEB -22
Project Location: PATRICK API BATTERY

Sampling Date: 02/06/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: V3 - 1' (H800399-05)

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	02/09/2018	ND	1.75	87.4	2.00	23.7	
Toluene*	<0.050	0.050	02/09/2018	ND	1.77	88.5	2.00	22.3	
Ethylbenzene*	<0.050	0.050	02/09/2018	ND	1.76	87.9	2.00	23.4	
Total Xylenes*	<0.150	0.150	02/09/2018	ND	5.25	87.5	6.00	22.5	
Total BTEX	<0.300	0.300	02/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 111 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1920	16.0	02/12/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/11/2018	ND	226	113	200	0.572	
DRO >C10-C28*	<10.0	10.0	02/11/2018	ND	221	111	200	2.83	
EXT DRO >C28-C36	<10.0	10.0	02/11/2018	ND					

Surrogate: 1-Chlorooctane 79.4 % 41-142

Surrogate: 1-Chlorooctadecane 79.9 % 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
 CHASE SETTLE
 105 SOUTH 4TH STREET
 ARTESIA NM, 88210
 Fax To: (575) 748-4131

 Received: 02/07/2018
 Reported: 02/12/2018
 Project Name: PATRICK API BATTERY
 Project Number: FEB -22
 Project Location: PATRICK API BATTERY

 Sampling Date: 02/06/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V3 - 2' (H800399-06)

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	02/09/2018	ND	1.75	87.4	2.00	23.7	
Toluene*	<0.050	0.050	02/09/2018	ND	1.77	88.5	2.00	22.3	
Ethylbenzene*	<0.050	0.050	02/09/2018	ND	1.76	87.9	2.00	23.4	
Total Xylenes*	<0.150	0.150	02/09/2018	ND	5.25	87.5	6.00	22.5	
Total BTEX	<0.300	0.300	02/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 114 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1440	16.0	02/12/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/11/2018	ND	226	113	200	0.572	
DRO >C10-C28*	<10.0	10.0	02/11/2018	ND	221	111	200	2.83	
EXT DRO >C28-C36	<10.0	10.0	02/11/2018	ND					

Surrogate: 1-Chlorooctane 85.8 % 41-142

Surrogate: 1-Chlorooctadecane 85.5 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

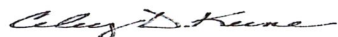
Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Patrick API Battery

Patrick API Battery

00000000

Report Format: ☒ Standard ☐ TRBP ☐ NPDES

Chase.Settle@geogresources.com

Analyze For:

TOTAL:

[illegible]



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

February 16, 2018

CHASE SETTLE

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: PATRICK API BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 02/14/18 15:00.

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.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

Received: 02/14/2018
Reported: 02/16/2018
Project Name: PATRICK API BATTERY
Project Number: 2RP-4522
Project Location: PATRICK API BATTERY

Sampling Date: 02/06/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: V2 - 3' (H800466-01)

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2200	16.0	02/16/2018	ND	432	108	400	3.77	

Sample ID: V2 - 4' (H800466-02)

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8800	16.0	02/16/2018	ND	432	108	400	3.77	

Sample ID: V2 - 6' (H800466-03)

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	12100	16.0	02/16/2018	ND	432	108	400	3.77	

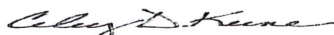
Sample ID: V2 - 7' (H800466-04)

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5730	16.0	02/16/2018	ND	432	108	400	3.77	

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 02/14/2018
 Reported: 02/16/2018
 Project Name: PATRICK API BATTERY
 Project Number: 2RP-4522
 Project Location: PATRICK API BATTERY

 Sampling Date: 02/06/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: V3 - 3' (H800466-05)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1840	16.0	02/16/2018	ND	432	108	400	3.77	

Sample ID: V3 - 4' (H800466-06)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	02/16/2018	ND	432	108	400	3.77	

Sample ID: V3 - 6' (H800466-07)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	02/16/2018	ND	432	108	400	3.77	

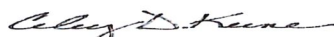
Sample ID: V3 - 8' (H800466-08)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	02/16/2018	ND	432	108	400	3.77	

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Celey D. Keene, Lab Director/Quality Manager

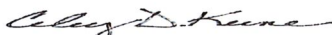
Notes and Definitions

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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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES
101 East Maryland, Hobbs, NM 88240

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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Chase Settle

Company (505) 393-2326 EOG Resources Inc

Company Address: 105 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature:

e-mail:

Chase Settle@eoqresources.com

Fax No: 575-748-4131

Report Format:

☒ Standard

☐ TRRP

☐ NPDES

Project Name:

Patrick API Battery

Project #: ZRP-4522

Project Loc:

Patrick API Battery

PO #: 205-0750

LAB # (lab use only)		Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO ₃	HCl	H ₂ SO ₄	NaOH	Na ₂ S ₂ O ₃	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015B EXTENDED	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO ₄ , Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides	SAR	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT	
1	V2-3'			2/6/2018	9:27 AM		1	X								S																X
2	V2-4'			2/6/2018	9:29 AM		1	X								S																X
3	V2-6'			2/6/2018	9:33 AM		1	X								S																X
4	V2-7'			2/6/2018	9:40 AM		1	X								S																X
5	V3-3'			2/6/2018	10:05 AM		1	X								S																X
6	V3-4'			2/6/2018	10:08 AM		1	X								S																X
7	V3-6'			2/6/2018	10:13 AM		1	X								S																X
8	V3-8'			2/6/2018	10:16 AM		1	X								S																X

Relinquished by:

Relinquished by:

Relinquished by:

Date: 2/14/18

Time: 11:30 AM

Received by:

Date: 2/14/18

Time: 3:00

Received by:

Temperature Upon Receipt: 2.1°C / 1.35 °C

by Courier? UPS DHL FedEx Lone Star

Sample Containers Intact? ☒

VOCs Free of Headspace? ☒

Labels on container(s) ☒

Custody seals on container(s) ☒

Sample Hand Delivered ☒

by Sampler/Client Rep. ? ☒

Laboratory Comments:

Special Instructions:



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

March 13, 2018

CHASE SETTLE

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: PATRICK API BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 03/07/18 11:30.

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.

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

Received: 03/07/2018
Reported: 03/13/2018
Project Name: PATRICK API BATTERY
Project Number: 2RP-4522
Project Location: PATRICK API BATTERY

Sampling Date: 03/06/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: V2 - 8' (H800681-01)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5680	16.0	03/11/2018	ND	432	108	400	0.00	

Sample ID: V2 - 9' (H800681-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2320	16.0	03/11/2018	ND	432	108	400	0.00	

Sample ID: V2 - 10' (H800681-03)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2480	16.0	03/11/2018	ND	432	108	400	0.00	

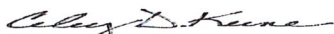
Sample ID: V2 - 11' (H800681-04)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	03/11/2018	ND	432	108	400	0.00	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 03/07/2018
Reported: 03/13/2018
Project Name: PATRICK API BATTERY
Project Number: 2RP-4522
Project Location: PATRICK API BATTERY

Sampling Date: 03/06/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: V2 - 12' (H800681-05)

Chloride, SM4500Cl-B			mg/kg							Analyzed By: AC	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Chloride	112	16.0	03/11/2018	ND	432	108	400	0.00			

Sample ID: V2 - 14' (H800681-06)

Chloride, SM4500Cl-B			mg/kg							Analyzed By: AC	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Chloride	144	16.0	03/11/2018	ND	432	108	400	0.00			

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

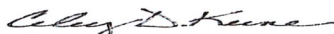
Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES
101 East Marland, Hobbs, NM 88240

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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Chase Settle

Project Name: Patrick API Battery

Company (505) 393-2326 EOG Resources Inc

Project #: 2RP-4522

Company Address: 105 South 4th Street

Project Loc: Patrick API Battery

City/State/Zip: Artesia, NM 88210

PO #: 205-0750

Telephone No: 575-748-4171

Fax No: 575-748-4131

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Sampler Signature:

e-mail: Chase.Settle@eogresources.com

(lab use only)

ORDER #: H80DL61

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO ₃	HCl	H ₂ SO ₄	NaOH	Na ₂ S ₂ O ₃	None	Other (Specify)	DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015B EXTENDED	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO ₄ , Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides	SAR	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT	
1	V2-8'			3/6/2018	12:35 PM		1										S														X	X
2	V2-9'			3/6/2018	12:41 PM		1										S														X	X
3	V2-10'			3/6/2018	12:50 PM		1										S														X	X
4	V2-11'			3/6/2018	12:55 PM		1										S														X	X
5	V2-12'			3/6/2018	1:02 PM		1										S														X	X
6	V2-14'			3/6/2018	1:19 PM		1										S														X	X

Special Instructions:

Relinquished by: Date: 3-7-18 Time: 11:30 Received by: Date: 3/7/18 Time: 11:30

Relinquished by: Date: Time: Received by: ELOTT Date: Time:

Laboratory Comments:

Sample Containers Intact? ☒ N

VOCs Free of HeadSpace? ☒ N

Labels on container(s)? ☒ N

Custody seals on container(s)? ☒ N

Custody seals on cooler(s)? ☒ N

Sample Hand Delivered? ☒ N

by Sampler/Client Rep.? ☒ N

by Courier? ☐ UPS ☐ DHL ☐ FedEx ☐ Lone Star

Temperature Upon Receipt: 1.6°C / 1.5°C

#75 corrected + 0.5°C



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

March 19, 2018

CHASE SETTLE

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: PATRICK API BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 03/12/18 14:15.

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.

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

Received: 03/12/2018
Reported: 03/19/2018
Project Name: PATRICK API BATTERY
Project Number: 2RP-4522
Project Location: PATRICK API BATTERY

Sampling Date: 03/08/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: H 1 (H800719-01)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	03/14/2018	ND	432	108	400	0.00	

Sample ID: H 2 (H800719-02)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2120	16.0	03/14/2018	ND	432	108	400	0.00	

Sample ID: H 3 (H800719-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1800	16.0	03/14/2018	ND	432	108	400	0.00	

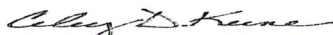
Sample ID: H 4 (H800719-04)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	03/14/2018	ND	432	108	400	0.00	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 03/12/2018
Reported: 03/19/2018
Project Name: PATRICK API BATTERY
Project Number: 2RP-4522
Project Location: PATRICK API BATTERY

Sampling Date: 03/08/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: H 5 (H800719-05)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/14/2018	ND	432	108	400	0.00	

Sample ID: H 6 (H800719-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	03/14/2018	ND	432	108	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager

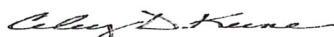
Notes and Definitions

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

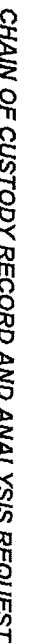
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Celey D. Keene, Lab Director/Quality Manager



Patrick API Battery

Project #: 2RP-4522

Patrick API Battery

PO #: 205-0750

☐ NPDES

Chase Settle@eogresources.com

ORDER #: H800719-1-6

[illegible]



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

March 29, 2018

CHASE SETTLE

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: PATRICK API BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 03/26/18 15:00.

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.

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

Received: 03/26/2018
Reported: 03/29/2018
Project Name: PATRICK API BATTERY
Project Number: 2RP-4522
Project Location: PATRICK API BATTERY

Sampling Date: 03/22/2018
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Jodi Henson

Sample ID: H 2 + 1' (H800856-01)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	03/27/2018	ND	448	112	400	0.00	

Sample ID: H 3 + 1' (H800856-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	03/27/2018	ND	448	112	400	0.00	

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

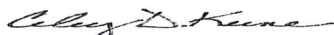
Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Patrick API Battery

Project #: 2RP-4522

Patrick API Battery

PO #: 205-0750

☐ NPDES

Chase Settle@eodresources.com

H800856

(lab use only)		ORDER #:		H800856	
LAB # (lab use only)		FIELD CODE		Beginning Depth	
H2+1'		1'		Ending Depth	
H3+1'		1'4"		Date Sampled	
		3/22/2018		Time Sampled	
		9:29 AM		Field Filtered	
		1		Total #. of Containers	
		Ice		Preservation & # of Containers	
		HNO ₃		Matrix	
		HCl		DW=Drinking Water SL=Sludge	
		H ₂ SO ₄		GW = Groundwater S=Soil/Solid	
		NaOH		NP=Non-Potable Specify Other	
		Na ₂ S ₂ O ₃			
		None			
		Other (Specify)			
		S			
		S			
		TPH: 8015B EXTENDED			
		TPH: TX 1005 TX 1006			
		Cations (Ca, Mg, Na, K)			
		Anions (Cl, SO ₄ , Alkalinity)			
		SAR / ESP / CEC			
		Metals: As Ag Ba Cd Cr Pb Hg Se			
		Volatiles			
		Semivolatiles			
		BTEX 8021B/5030 or BTEX 0260			
		RCI			
		N.O.R.M.			
		Chlorides			
		SAR			
		RUSH TAT (Pre-Schedule) 24, 48, 72 hrs			
		Standard TAT			

Special Instructions:

1	laboratory Comments:
---	----------------------

VOLs Free of Headspace?

Custody seals on cooler(s)

by Courier?	UPS	DHL	Fedex	Lone Star
Yes				
No				

collected 1-050

Appendix D

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

NM OIL CONSERVATION
ARTESIA DISTRICT

DEC 14 2017

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action
OPERATOR

NAB1736334540

☒ 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 Patrick API Battery	Facility Type Battery	
Surface Owner Fee	Mineral Owner Fee	API No. 30-015-28592

LOCATION OF RELEASE

Unit Letter D	Section 10	Township 19S	Range 25E	Feet from the 660	North/South Line North	Feet from the 660	East/West Line West	County Eddy
------------------	---------------	-----------------	--------------	----------------------	---------------------------	----------------------	------------------------	----------------

Latitude 32.68109 Longitude -104.47914 NAD83

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 13 B/PW	Volume Recovered 1 B/PW
Source of Release Pipe Coupling by pump	Date and Hour of Occurrence 12/01/2017; AM	Date and Hour of Discovery 12/01/2017; 8:41 AM
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

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

Describe Cause of Problem and Remedial Action Taken.*

There was a failure of a pipe coupling on the downstream side of the pump that caused the release.

Describe Area Affected and Cleanup Action Taken.*

The impacted area was approximately 140 feet by 10 feet within the berm of the battery. Vertical and horizontal delineation samples will be taken and analysis ran for TPH & BTEX (chlorides for documentation). If initial analytical results for TPH & BTEX are under RRAL's (site ranking is 0) 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: >100' (195', Section 10, T19S, R25E, 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 NMOC 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 NMOC 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, NMOC 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: <i>Chase Settle</i>	OIL CONSERVATION DIVISION	
Printed Name: Chase Settle	Approved by Environmental Specialist: <i>Accepted for</i>	
Title: Rep Safety & Environmental II	Approval Date: 12/19/17	Expiration Date: N/A record
E-mail Address: chase_settle@eogresources.com	Conditions of Approval: <i>See attached</i>	Attached ☒ Only <i>AKP-4522</i>
Date: December 13, 2017	Phone: 575-748-4171	

* Attach Additional Sheets If Necessary

12/16/17 AB