1RP-05-14-3034
CONFIRMATION SAMPLE REPORT
Diamond 31 Fed SWD
Produced Water Release
Lea County, New Mexico

LAI Project No. 16-0128-06

September 6, 2016

Prepared for:

EOG Resources, Inc.
5509 Champions Drive
Midland, Texas 797067

Prepared by:

Larson & Associates, Inc.
507 North Marienfeld Street, Suite 205
Midland, Texas 79701

Mark J. Larson, P.G.

Certified Professional Geologist #10490

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Table of Contents

Figures

Appendices

Introduction

This report presents laboratory results of soil samples to confirm remediation of a produced water release at the Diamond 31 Fed SWD (Site). The Site is located in Unit K (NE/4, SW/4), Section 31, Township 24 South and Range 34 East in Lea County, New Mexico. The geodetic position is North 32.1722° and West -103.5111°. Figure 1 presents a topographic map. Figure 2 presents an aerial map.

Background

On March 31, 2014, EOG Resources, Inc. (EOG) reported approximately 430 barrels (bbl) of produced water was released as a result of tank overflow. The spill was mostly contained inside the lined containment however approximately 70 bbl were released onto the location. Approximately 360 bbl was recovered. The initial C-141 was submitted to the New Mexico Oil Conservation Division (OCD) District 1 on March 31, 2014 and assigned remediation permit number 1RP-05-14-3034. The initial C-141 states that the spill area will be sampled and analyzed for chlorides and total petroleum hydrocarbons (TPH). The impacted area will be excavated, stockpiled on poly-plastic, and transported to an approved disposal facility. Clean material will be backfilled within the excavated area to normal grade. The approved C-141 required remediation to be completed by July 1, 2014. No final report was submitted to OCD to confirm remediation was performed. The report presents confirmation samples for the release. Appendix A presents the initial C-141.

Setting

The setting is as follows:

- Elevation is approximately 3,460 feet above mean sea level (AMSL);
- Topography slopes toward the southeast;
- The nearest surface water feature is an unnamed drainage located about 800 feet southwest of the Site;
- Groundwater is greater than 200 feet below ground surface (bgs) according to records from the New Mexico Office of the State Engineer (OSE);
- No fresh water wells are located within 1-mile of the Site according to OSE records;
- The nearest fresh water well is located about 7.4 miles east of the Site, in Unit C (NE/, NW/4), Section 35, Township 24 south, Range 34 East;
- A previous boring drilled to 25 feet bgs did not encounter groundwater.

Remediation Action Levels

Remediation action levels (RRAL) were calculated for benzene, BTEX and TPH based on the following criteria established by the OCD (*Guidelines for Remediation of Leaks, Spills and Releases, August 13,* 1993):

Criteria	Result	Score
Depth-to-Groundwater	>100 Feet	0
Wellhead Protection Area	No	0
Distance to Surface Water	>1,000 Horizontal Feet	0

The following RRAL apply to the release for ranking score: 0

- Benzene 10 mg/Kg
- BTEX 50 mg/Kg
- TPH 5,000 mg/Kg

Soil Samples and Laboratory Analysis

During an initial Site visit LAI personnel observed a low area on the location west of the tanks. On August 23, 2016, LAI personnel used a Terraprobe® direct push rig to collect soil samples at five (5) locations (DP-1 through DP-5) between about 4 and 8 feet bgs. The upper samples (0 to 2 feet) were analyzed for total petroleum hydrocarbons (TPH) by EPA SW-846 method 8015 including gasoline (GRO) and diesel range (DRO) organic. All samples were analyzed for chloride by method 300. A background soil sample (DP-BG) was collected north of the location from about 0 to 2 feet bgs and analyzed for chloride by method 300. Table 1 presents the analytical data summary. Figure 3 presents a Site drawing and sample locations. Appendix A presents the laboratory report. Appendix B presents photographs.

Referring to Table 1, TPH ranged from less than the method reporting limit (RL) in samples DP-1, 0 to 1 foot and DP-2, 0 to 1 foot to 34.0 milligrams per kilogram (mg/Kg) in sample DP-3, 0 to 1 foot. The highest chloride value was 512 mg/Kg in sample DP-2, 0 to 2 feet. Chloride was delineated vertically to 250 mg/kg. The background chloride concentration was 3.53 mg/Kg.

Conclusions

The laboratory results confirm TPH is below the recommended remediation action level (RRAL) and chloride was delineated to 250 mg/Kg. EOG requests no further action for this spill incident. Appendix C presents the initial and final C-141.

Tables

Table 1
Investigation Soil Sample Analytical Data Summary
EOG Resources, Inc., Diamond Fed SWD
Unit K (NE/4, SW/4), Section 31, Township 24 South, Range 34 East
Lea County, New Mexico
1RP-05-14-3034

Sample	Depth (Feet)	Collection Date	Status	GRO C6-C12	DRO >C12 - C28	ORO >C28 - C36	TPH	Chloride
OCD RRAL:							**100**	***250**
DP-1	0 - 2	8/23/2016	In-Situ	<25.5	<25.5	<25.5	<25.5	19.1
	2 - 4	8/23/2016	In-Situ	--	--	--	--	27.7
DP-2	0 - 2	8/23/2016	In-Situ	<25.5	<25.5	<25.5	<25.5	512
	2 - 4	8/23/2016	In-Situ	--	--	--	--	13.0
DP-3	0 - 2	8/23/2016	In-Situ	34.0	<25.8	<25.8	34.0	83.8
	2 - 4	8/23/2016	In-Situ	--	--	--	--	143
	4 - 6	8/23/2016	In-Situ	--	--	--	--	207
	6 - 8	8/23/2016	In-Situ	--	--	--	--	88.0
DP-4	0 - 2	8/23/2016	In-Situ	30.0	<25.5	<25.5	30.0	93.5
	2 - 4	8/23/2016	In-Situ	--	--	--	--	38.8
	4 - 6	8/23/2016	In-Situ	--	--	--	--	225
	6 - 8	8/23/2016	In-Situ	--	--	--	--	228
DP-5	0 - 2	8/23/2016	In-Situ	29.2	<25.8	<25.8	29.2	81.5
	2 - 4	8/23/2016	In-Situ	--	--	--	--	122
DP-BG	0 - 2	8/23/2016	In-Situ	--	--	--	--	3.53

Notes: analysis performed by Permian Basin Environmental Lab, Midland, Texas, by EPA SW-846 method 8015M (TPH) and 300.0 (chloride)
Depth inches below ground surface (bgs)
mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)
*: OCD delineation limit
Bold and highlighted denotes analyte detected at concentration above the OCD Recommended Remediation Action Level (RRAL)

Figures

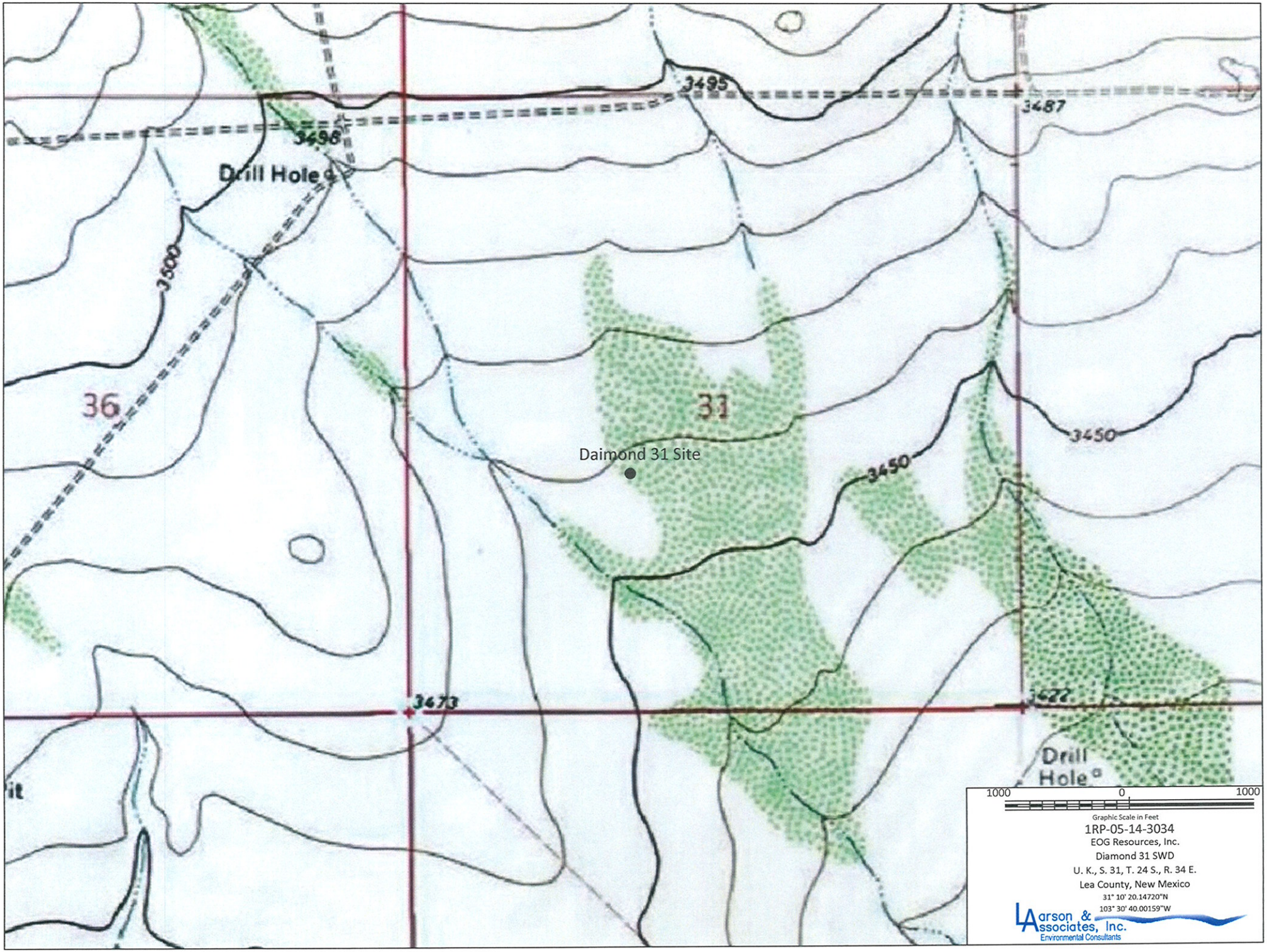

Figure 1 - Topographic Map

Figure 2 - Aerial Map

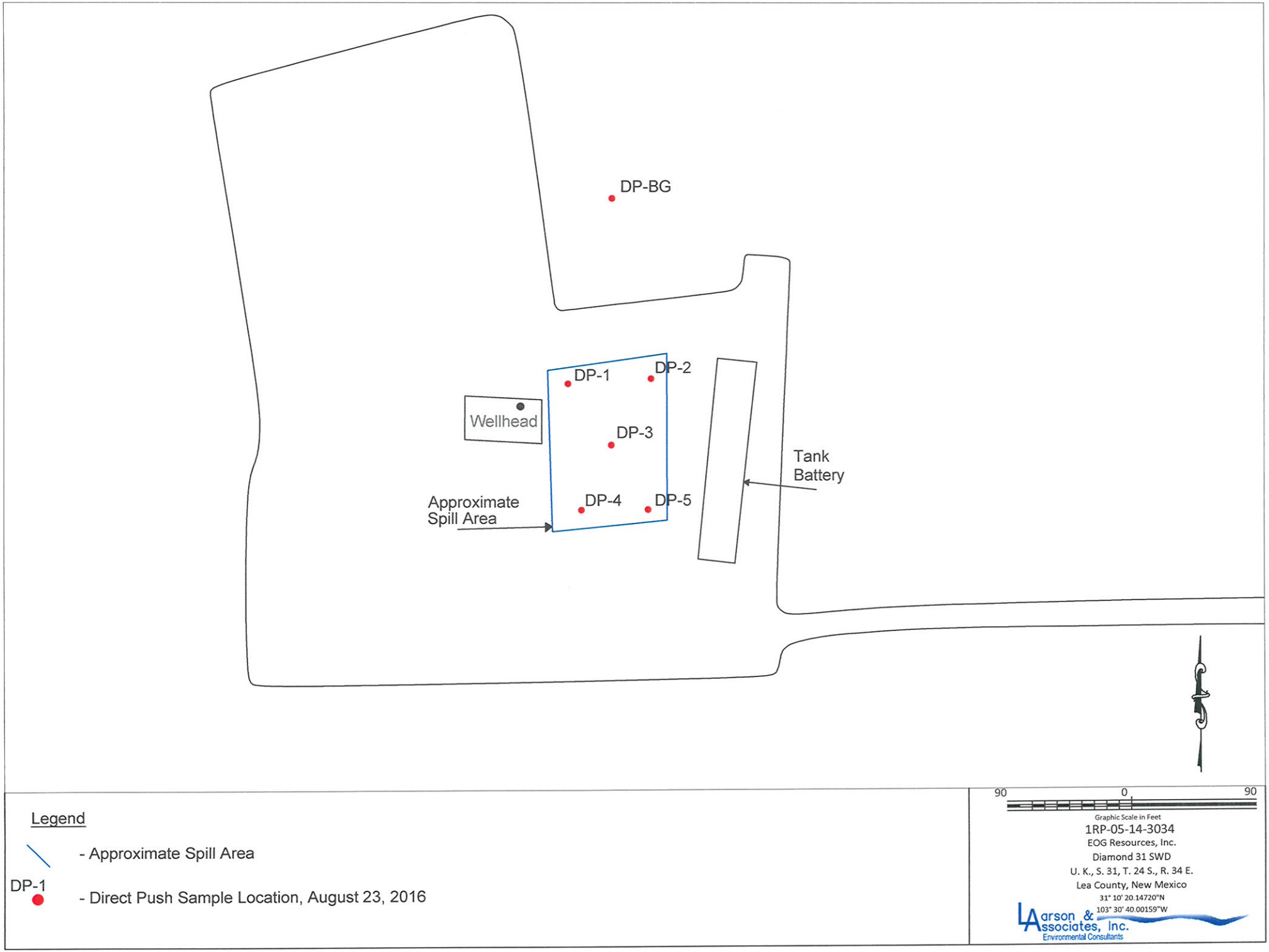

Figure 3 - Site Map Showing Direct Push Sample Locations

Appendix A

Laboratory Report

PERMIAN BASIN
ENVIRONMENTAL LAB, LP
1400 Rankin Hwy
Midland, TX 79701

PBELAB

Analytical Report

Prepared for:

Mark Larson
Larson & Associates, Inc.
P.O. Box 50685
Midland, TX 79710

Project: EOG Diamond 31
Project Number: 16-0128-03
Location: EOG Diamond 31

Lab Order Number: 6H25010

NELAP/TCEQ # T104704156-13-3

Report Date: 08/31/16

Larson & Associates, Inc.	Project: EOG Diamond 31	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 16-0128-03	
Midland TX, 79710	Project Manager: Mark Larson	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DP-1 (0-2)	6H25010-01	Soil	08/23/16 02:35	08-25-2016 09:05
DP-1 (2-4)	6H25010-02	Soil	08/23/16 02:35	08-25-2016 09:05
DP-2 (0-2)	6H25010-03	Soil	08/23/16 02:45	08-25-2016 09:05
DP-2 (2-4)	6H25010-04	Soil	08/23/16 02:45	08-25-2016 09:05
DP-3 (0-2)	6H25010-05	Soil	08/23/16 02:55	08-25-2016 09:05
DP-3 (2-4)	6H25010-06	Soil	08/23/16 02:55	08-25-2016 09:05
DP-3 (4-6)	6H25010-07	Soil	08/23/16 02:55	08-25-2016 09:05
DP-3 (6-8)	6H25010-08	Soil	08/23/16 02:55	08-25-2016 09:05
DP-4 (0-2)	6H25010-09	Soil	08/23/16 03:10	08-25-2016 09:05
DP-4 (2-4)	6H25010-10	Soil	08/23/16 03:10	08-25-2016 09:05
DP-4 (4-6)	6H25010-11	Soil	08/23/16 03:10	08-25-2016 09:05
DP-4 (6-8)	6H25010-12	Soil	08/23/16 03:10	08-25-2016 09:05
DP-5 (0-2)	6H25010-13	Soil	08/23/16 03:20	08-25-2016 09:05
DP-5 (2-4)	6H25010-14	Soil	08/23/16 03:20	08-25-2016 09:05
DP-BG (0-2)	6H25010-15	Soil	08/23/16 03:30	08-25-2016 09:05

Larson & Associates, Inc.	Project: EOG Diamond 31	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 16-0128-03	
Midland TX, 79710	Project Manager: Mark Larson	

DP-1 (0-2)

6H25010-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**19.1**	1.02	mg/kg dry	1	P6H2804	08/27/16	08/28/16	EPA 300.0	
% Moisture	**2.0**	0.1	%	1	P6H3007	08/30/16	08/30/16	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	25.5	mg/kg dry	1	P6H2907	08/26/16	08/27/16	TPH 8015M	
>C12-C28	ND	25.5	mg/kg dry	1	P6H2907	08/26/16	08/27/16	TPH 8015M	
>C28-C35	ND	25.5	mg/kg dry	1	P6H2907	08/26/16	08/27/16	TPH 8015M	
Surrogate: 1-Chlorooctane		*119 %*	*70-130*		*P6H2907*	*08/26/16*	*08/27/16*	*TPH 8015M*	
Surrogate: o-Terphenyl		*127 %*	*70-130*		*P6H2907*	*08/26/16*	*08/27/16*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	25.5	mg/kg dry	1	[CALC]	08/26/16	08/27/16	calc	

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DP-1 (2-4)

6H25010-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**27.7**	1.02	mg/kg dry	1	P6H2804	08/27/16	08/28/16	EPA 300.0	
% Moisture	**2.0**	0.1	%	1	P6H3007	08/30/16	08/30/16	% calculation	

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DP-2 (0-2)

6H25010-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**512**	1.02	mg/kg dry	1	P6H2804	08/27/16	08/28/16	EPA 300.0	
% Moisture	**2.0**	0.1	%	1	P6H3007	08/30/16	08/30/16	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	25.5	mg/kg dry	1	P6H3105	08/29/16	08/29/16	TPH 8015M	
>C12-C28	ND	25.5	mg/kg dry	1	P6H3105	08/29/16	08/29/16	TPH 8015M	
>C28-C35	ND	25.5	mg/kg dry	1	P6H3105	08/29/16	08/29/16	TPH 8015M	
Surrogate: 1-Chlorooctane		*65.8 %*	*70-130*		*P6H3105*	*08/29/16*	*08/29/16*	*TPH 8015M*	*S-GC*
Surrogate: o-Terphenyl		*77.2 %*	*70-130*		*P6H3105*	*08/29/16*	*08/29/16*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	ND	25.5	mg/kg dry	1	[CALC]	08/29/16	08/29/16	calc	

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DP-2 (2-4)

6H25010-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**13.0**	1.03	mg/kg dry	1	P6H2804	08/27/16	08/28/16	EPA 300.0	
% Moisture	**3.0**	0.1	%	1	P6H3007	08/30/16	08/30/16	% calculation	

Larson & Associates, Inc.	Project: EOG Diamond 31	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 16-0128-03	
Midland TX, 79710	Project Manager: Mark Larson	

DP-3 (0-2)

6H25010-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**83.8**	1.03	mg/kg dry	1	P6H2804	08/27/16	08/28/16	EPA 300.0	
% Moisture	**3.0**	0.1	%	1	P6H3007	08/30/16	08/30/16	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**34.0**	25.8	mg/kg dry	1	P6H3105	08/29/16	08/29/16	TPH 8015M	
>C12-C28	ND	25.8	mg/kg dry	1	P6H3105	08/29/16	08/29/16	TPH 8015M	
>C28-C35	ND	25.8	mg/kg dry	1	P6H3105	08/29/16	08/29/16	TPH 8015M	
Surrogate: 1-Chlorooctane		*78.3 %*	*70-130*		*P6H3105*	*08/29/16*	*08/29/16*	*TPH 8015M*	
Surrogate: o-Terphenyl		*92.3 %*	*70-130*		*P6H3105*	*08/29/16*	*08/29/16*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**34.0**	25.8	mg/kg dry	1	[CALC]	08/29/16	08/29/16	calc	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-3 (2-4)

6H25010-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**143**	1.05	mg/kg dry	1	P6H2805	08/28/16	08/29/16	EPA 300.0	
% Moisture	**5.0**	0.1	%	1	P6H3007	08/30/16	08/30/16	% calculation	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-3 (4-6)

6H25010-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**207**	1.10	mg/kg dry	1	P6H2804	08/27/16	08/28/16	EPA 300.0	
% Moisture	**9.0**	0.1	%	1	P6H3007	08/30/16	08/30/16	% calculation	

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DP-3 (6-8)

6H25010-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**88.0**	1.11	mg/kg dry	1	P6H2804	08/27/16	08/28/16	EPA 300.0	
% Moisture	**10.0**	0.1	%	1	P6H3007	08/30/16	08/30/16	% calculation	

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Midland TX, 79710	Project Manager: Mark Larson	

DP-4 (0-2)

6H25010-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**93.5**	1.02	mg/kg dry	1	P6H2804	08/27/16	08/28/16	EPA 300.0	
% Moisture	**2.0**	0.1	%	1	P6H3007	08/30/16	08/30/16	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**30.0**	25.5	mg/kg dry	1	P6H3105	08/29/16	08/29/16	TPH 8015M	
>C12-C28	ND	25.5	mg/kg dry	1	P6H3105	08/29/16	08/29/16	TPH 8015M	
>C28-C35	ND	25.5	mg/kg dry	1	P6H3105	08/29/16	08/29/16	TPH 8015M	
Surrogate: 1-Chlorooctane		*74.7 %*	*70-130*		*P6H3105*	*08/29/16*	*08/29/16*	*TPH 8015M*	
Surrogate: o-Terphenyl		*87.7 %*	*70-130*		*P6H3105*	*08/29/16*	*08/29/16*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**30.0**	25.5	mg/kg dry	1	[CALC]	08/29/16	08/29/16	calc	

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DP-4 (2-4)

6H25010-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**38.8**	1.02	mg/kg dry	1	P6H2804	08/27/16	08/28/16	EPA 300.0	
% Moisture	**2.0**	0.1	%	1	P6H3007	08/30/16	08/30/16	% calculation	

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DP-4 (4-6)

6H25010-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**225**	1.08	mg/kg dry	1	P6H2804	08/27/16	08/28/16	EPA 300.0	
% Moisture	**7.0**	0.1	%	1	P6H3007	08/30/16	08/30/16	% calculation	

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DP-4 (6-8)

6H25010-12 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**228**	1.11	mg/kg dry	1	P6H2804	08/27/16	08/28/16	EPA 300.0	
% Moisture	**10.0**	0.1	%	1	P6H3007	08/30/16	08/30/16	% calculation	

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DP-5 (0-2)

6H25010-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**81.5**	1.03	mg/kg dry	1	P6H2804	08/27/16	08/28/16	EPA 300.0	
% Moisture	**3.0**	0.1	%	1	P6H3007	08/30/16	08/30/16	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	**29.2**	25.8	mg/kg dry	1	P6H3105	08/29/16	08/29/16	TPH 8015M	
>C12-C28	ND	25.8	mg/kg dry	1	P6H3105	08/29/16	08/29/16	TPH 8015M	
>C28-C35	ND	25.8	mg/kg dry	1	P6H3105	08/29/16	08/29/16	TPH 8015M	
Surrogate: 1-Chlorooctane		*63.0 %*	*70-130*		*P6H3105*	*08/29/16*	*08/29/16*	*TPH 8015M*	*S-GC*
Surrogate: o-Terphenyl		*74.2 %*	*70-130*		*P6H3105*	*08/29/16*	*08/29/16*	*TPH 8015M*	
Total Petroleum Hydrocarbon C6-C35	**29.2**	25.8	mg/kg dry	1	[CALC]	08/29/16	08/29/16	calc	

Larson & Associates, Inc.	Project: EOG Diamond 31	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 16-0128-03	
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DP-5 (2-4)

6H25010-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**122**	1.03	mg/kg dry	1	P6H2804	08/27/16	08/28/16	EPA 300.0	
% Moisture	**3.0**	0.1	%	1	P6H3007	08/30/16	08/30/16	% calculation	

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DP-BG (0-2)

6H25010-15 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**3.53**	1.03	mg/kg dry	1	P6H2804	08/27/16	08/28/16	EPA 300.0	
% Moisture	**3.0**	0.1	%	1	P6H3007	08/30/16	08/30/16	% calculation	

Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: EOG Diamond 31
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Fax: (432) 687-0456

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P6H2804 - * DEFAULT PREP *** **										
Blank (P6H2804-BLK1)				Prepared: 08/27/16 Analyzed: 08/28/16						
Chloride	ND	1.00	mg/kg wet							
LCS (P6H2804-BS1)				Prepared: 08/27/16 Analyzed: 08/28/16						
Chloride	428	1.00	mg/kg wet	400		107	80-120			
Duplicate (P6H2804-DUP1)		Source: 6H24006-15		Prepared: 08/27/16 Analyzed: 08/28/16						
Chloride	4490	27.2	mg/kg dry		4480			0.388	20	
Duplicate (P6H2804-DUP2)		Source: 6H25010-08		Prepared: 08/27/16 Analyzed: 08/28/16						
Chloride	88.0	1.11	mg/kg dry		88.0			0.0252	20	
Matrix Spike (P6H2804-MS1)		Source: 6H24006-15		Prepared: 08/27/16 Analyzed: 08/28/16						
Chloride	9810	27.2	mg/kg dry	4350	4480	123	80-120			QM-07
Batch P6H2805 - * DEFAULT PREP *** **										
Blank (P6H2805-BLK1)				Prepared & Analyzed: 08/28/16						
Chloride	ND	1.00	mg/kg wet							
LCS (P6H2805-BS1)				Prepared & Analyzed: 08/28/16						
Chloride	837	1.00	mg/kg wet	800		105	80-120			
LCS Dup (P6H2805-BSD1)				Prepared & Analyzed: 08/28/16						
Chloride	831	1.00	mg/kg wet	800		104	80-120	0.705	20	
Duplicate (P6H2805-DUP1)		Source: 6H26003-03		Prepared & Analyzed: 08/28/16						
Chloride	2240	5.62	mg/kg dry		2180			2.82	20	

Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: EOG Diamond 31
Project Number: 16-0128-03
Project Manager: Mark Larson

Fax: (432) 687-0456

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P6H2805 - * DEFAULT PREP *** **										
Duplicate (P6H2805-DUP2)	**Source: 6H26007-01**			Prepared: 08/28/16 Analyzed: 08/29/16						
Chloride	5.64	1.03	mg/kg dry		5.49			2.59	20	
Matrix Spike (P6H2805-MS1)	**Source: 6H26003-03**			Prepared: 08/28/16 Analyzed: 08/30/16						
Chloride	4740	5.62	mg/kg dry	2250	2180	114	80-120			
Batch P6H3007 - * DEFAULT PREP *** **										
Blank (P6H3007-BLK1)				Prepared & Analyzed: 08/30/16						
% Moisture	ND	0.1	%							
Blank (P6H3007-BLK2)				Prepared & Analyzed: 08/30/16						
% Moisture	ND	0.1	%							
Duplicate (P6H3007-DUP1)	**Source: 6H25010-15**			Prepared & Analyzed: 08/30/16						
% Moisture	2.0	0.1	%		3.0			40.0	20	
Duplicate (P6H3007-DUP2)	**Source: 6H26006-01**			Prepared & Analyzed: 08/30/16						
% Moisture	5.0	0.1	%		4.0			22.2	20	
Duplicate (P6H3007-DUP3)	**Source: 6H26008-10**			Prepared & Analyzed: 08/30/16						
% Moisture	4.0	0.1	%		5.0			22.2	20	
Duplicate (P6H3007-DUP4)	**Source: 6H29005-13**			Prepared & Analyzed: 08/30/16						
% Moisture	11.0	0.1	%		15.0			30.8	20	
Duplicate (P6H3007-DUP5)	**Source: 6H29005-20**			Prepared & Analyzed: 08/30/16						
% Moisture	8.0	0.1	%		7.0			13.3	20	

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Project: EOG Diamond 31
Project Number: 16-0128-03
Project Manager: Mark Larson

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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P6H2907 - TX 1005										
Blank (P6H2907-BLK1)				Prepared: 08/26/16 Analyzed: 08/27/16						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*118*		"	*130*		*91.1*	*70-130*			
Surrogate: o-Terphenyl	*61.9*		"	*65.0*		*95.3*	*70-130*			
LCS (P6H2907-BS1)				Prepared: 08/26/16 Analyzed: 08/27/16						
C6-C12	1230	25.0	mg/kg wet	1000		123	75-125			
>C12-C28	1090	25.0	"	1000		109	75-125			
Surrogate: 1-Chlorooctane	*140*		"	*130*		*108*	*70-130*			
Surrogate: o-Terphenyl	*69.2*		"	*65.0*		*107*	*70-130*			
LCS Dup (P6H2907-BSD1)				Prepared: 08/26/16 Analyzed: 08/27/16						
C6-C12	1150	25.0	mg/kg wet	1000		115	75-125	6.22	20	
>C12-C28	1080	25.0	"	1000		108	75-125	1.25	20	
Surrogate: 1-Chlorooctane	*150*		"	*130*		*115*	*70-130*			
Surrogate: o-Terphenyl	*70.9*		"	*65.0*		*109*	*70-130*			
Batch P6H3105 - TX 1005										
Blank (P6H3105-BLK1)				Prepared & Analyzed: 08/29/16						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*70.0*		"	*100*		*70.0*	*70-130*			
Surrogate: o-Terphenyl	*39.9*		"	*50.0*		*79.8*	*70-130*			

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Project: EOG Diamond 31
Project Number: 16-0128-03
Project Manager: Mark Larson

Fax: (432) 687-0456

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P6H3105 - TX 1005										
Matrix Spike (P6H3105-MS1)	**Source: 6H25010-03**			Prepared: 08/29/16 Analyzed: 08/30/16						
C6-C12	778	25.5	mg/kg dry	1020	25.2	73.8	75-125			QM-05
>C12-C28	792	25.5	"	1020	ND	77.6	75-125			
Surrogate: 1-Chlorooctane	*107*		"	*102*		*104*	*70-130*			
Surrogate: o-Terphenyl	*55.3*		"	*51.0*		*108*	*70-130*			
Matrix Spike Dup (P6H3105-MSD1)	**Source: 6H25010-03**			Prepared: 08/29/16 Analyzed: 08/30/16						
C6-C12	841	25.5	mg/kg dry	1020	25.2	80.0	75-125	8.04	20	
>C12-C28	870	25.5	"	1020	ND	85.3	75-125	9.40	20	
Surrogate: 1-Chlorooctane	*118*		"	*102*		*116*	*70-130*			
Surrogate: o-Terphenyl	*61.3*		"	*51.0*		*120*	*70-130*			

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Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: _____ Date: 8/31/2016

Brent Barron, Laboratory Director/Technical Director

16H25010

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants
507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to:

DATE: 8-25-2016 PAGE 1 OF

PO #: LAB WORK ORDER #:

PROJECT LOCATION OR NAME: EOG Diamond 31

LAI PROJECT #: 16-0128-03 COLLECTOR: Travis Williams

TRRP report? ☐ Yes ☑ No

TIME ZONE: Time zone/State: NM

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR OT=OTHER

	Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☐ MTBE ☐	TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐	GASOLINE:MOD 8015 ☒	DIESEL - MOD 8015 ☒ ORO ☒	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TCLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE ☒ 300 ANIONS ☐ ALKALINITY ☐	FIELD NOTES
1	DP-1 (0-2)		8-23-16	2:35	S	1				X					X	X												X	
2	(2-4)																												
3	DP-2 (0-2)			2:45											X	X													
4	(2-4)																												
5	DP-3 (0-2)			2:55											X	X													
6	(2-4)																												
7	(4-6)																												
8	(6-8)																												
9	DP-4 (0-2)			3:10											X	X													
10	(2-4)																												
11	(4-6)																												
12	(6-8)																												
13	DP-5 (0-2)			3:20											X	X													
14	(2-4)																												
15	DP-BG (0-2)			3:30																									
	TOTAL																												

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

8:00 8/25/16

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

8-25-16 9:05

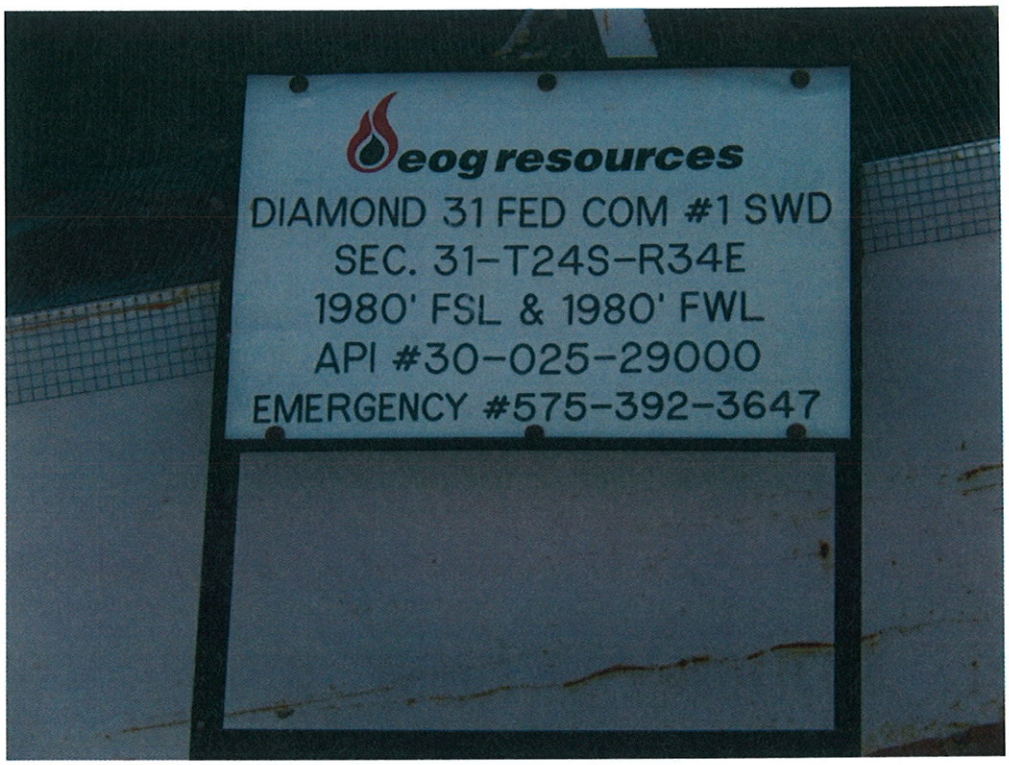
TURN AROUND TIME
NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: 11.0 THERM #:
CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED
☐ CARRIER BILL #
☒ HAND DELIVERED

Bill To EOG

Appendix B

Photographs



Well Sign

Location of Soil Samples Viewing West of Battery

Appendix C

Initial and Final C-141

HOBBS OCD

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

APR 30 2014
RECEIVED

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 Resources, Inc.	Contact – Ryan Kainer
Address – 5509 Champions Drive, Midland, TX 79706	Telephone No. (432) 686-3662
Facility Name – Diamond 31 SWD (DIAMOND 31 FED COM 001)	Facility Type – SWD

JARL 5/1/14

Surface Owner – ~~New Mexico~~ FEDERAL	Mineral Owner – New Mexico	API No. 30-025-29000

JARL 5/1/14

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	31	T24S	R34E	1980	S	1980	W	Lea

JARL 5/1/14

Latitude 32.1722 Longitude -103.5111

Diamond 31 Fed SWD

NATURE OF RELEASE

Type of Release – Produced Water	Volume of Release - 430 bbls	Volume Recovered – 360 bbls
Source of Release – Power failure caused the emergency valve not to operate correctly. Tanks overflowed into containment.	Date and Hour of Occurrence: 3/28/2014, 6:00 PM	Date and Hour of Discovery 3/28/2014, 7:00PM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Geoffery Leking (NMOCD)	
By Whom? Ryan Kainer	Date and Hour 3/31/2014	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

NA

DTW = 90' JARL 5/1/14

Describe Cause of Problem and Remedial Action Taken.*

Approximately 430 bbls of produced water was released from overflowed tanks. Approximately 360 bbls were collected within the containment and approx.. 70 bbls were released onto the location. No fluids migrated off the location.

Describe Area Affected and Cleanup Action Taken.*

The spill area will be sampled and analyzed for Chlorides and Total Petroleum Hydrocarbons. The impacted area will be excavated, stockpiled on poly-plastic, and transported to an approve disposal facility. Clean material will be backfilled within the excavated area to normal grade.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Ryan Kainer	Approved by Environmental Specialist: Geoffery Leking Environmental Specialist
Title: Sr. Safety & Environmental Rep.	Approval Date: 5/1/14 Expiration Date: 7/1/14
E-mail Address: ryan_kainer@eogresources.com	Conditions of Approval: SUBMIT FINAL C-141 BY 7/1/14 Attached ☐
Date: 3/31/2014 Phone: 432-686-3662	IRP-05-14-3034

* Attach Additional Sheets If Necessary

JUL 09 2014

osrid 7377
nTO 1418
p TO 1418

District I
1625 N. French Dr., Hobbs, NM 88240
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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

2RP-2186
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 Resources, Inc.	Contact: Zane Kurtz
Address: 5509 Champions Dr., Midland, TX 79705	Telephone No." 432-425-2023
Facility Name: Diamond 31 Fed SWD	Facility Type: SWD

Surface Owner: Federal	Mineral Owner: State	API No.: 30-025-29000

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	31	24S	34E	1980	South	1980	West	Lea

Latitude 32.1722° **Longitude** -103.5111°

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 430 bbl	Volume Recovered: 360 bbl
Source of Release: Power failure caused emergency valve not to operate correctly. Tanks overflowed into containment.	Date and Hour of Occurrence: 3-28-2014, 6:00PM	Date and Hour of Discovery: 3-28-2014, 7:00PM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Geoffery Leking (NMOCD)	
By Whom? Ryan Kainer	Date and Hour: 03-31-2014	
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. * Approximately 430 bbls of produced water was released from overflowed tanks. Approximately 360 bbls were collected within the containment and approx. 70 bbls were release onto the location. No fluids migrated off location.

Describe Area Affected and Cleanup Action Taken. *Initial C-141 stated that spill area will be sampled and analyzed for chlorides and total petroleum hydrocarbons. Impacted area will be excavated, stock-piled on poly-plastic, and transported to an approved disposal facility. Clean soil will be backfilled within the excavated area to normal grade. On August 23, 2016, LAI personnel collected soil samples at 5 locations (DP-1 through DP-5) in a topographically low area west of tanks and reported TPH below the RRAL (100 mg/kg) and chloride less than 250 mg.=?kg. EOG respectfully request no further action for this spill incident.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Zane Kurtz, EOG Resources, Inc.	Approved by Environmental Specialist: Historical
Title: Sr. Environmental Representative	Approval Date: 9/16/2016 Expiration Date: N/A
E-mail Address: zane_kurtz @eogresources.com	Conditions of Approval: N/A Attached ☐ 1RP-3034
Date: 09-12-2016 Phone: 432-556-8074	

* Attach Additional Sheets If Necessary

1RP-05-14-3034

nKL1626348510
pKL1626348862