

INVESTIGATION SUMMARY
Cedar Lake 35 Fed Com No. 2 Tank Battery
Eddy County, New Mexico
2RP-3715

LAI Project No. 16-0121-01

June 27 2016

Prepared for:

EOG Resources, Inc.
5509 Champions Drive
Midland, Texas 79706

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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Contents

Introduction	1
Setting	1
Remediation Action Levels.....	1
Investigation Summary	2
Remediation Plan	3

Tables

Table 1	Investigation Soil Sample Analytical Data Summary
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Figures

Figure 1	Topographic Map
Figure 2	Aerial Map
Figure 3	Site Map and Sample Locations
Figure 4	Approximate Excavation Areas

Attachments

Attachment A	Initial C-141
Attachment B	Laboratory Reports
Attachment C	Photographs

Introduction

This investigation summary is prepared on behalf of EOG Resources, Inc. (EOG) by Larson & Associates, Inc. (LAI) for submittal to the New Mexico Oil Conservation Division (OCD) District 2 and U.S. Bureau of Land Management (BLM) for a crude oil release at the Cedar Lake 35 Fed Com No. 2 (API 30-015-27851) tank battery (Site) located in Unit P (SE/4, SE/4), Section 35, Township 17 South, Range 30 East, in Eddy County, New Mexico. The release occurred on May 30, 2016 due to a hole in the bottom of an oil tank. Approximately 188 barrels (bbl) of oil was released with 2 bbl recovered. The geodetic position is north 32.7866° and west -103.9370°. The release was contained inside the earthen berm was some oil seeping outside the berm to the south and northeast. The release was reported to the OCD District 2 on June 1, 2016 which issued remediation permit (RP) number 2RP-3715. Figure 1 presents a topographic map. Figure 2 presents an aerial map. Figure 3 presents a Site drawing. Attachment A presents the initial C-141.

Setting

The setting is as follows:

- The surface elevation is about 3,584 feet above mean sea level (MSL);
- The topography is slightly undulating and slopes to the southeast;
- No surface water features are located within 1 mile of the Site;
- The soils are designated “Tonuco loamy fine sand, 0 to 3 percent slopes”, consisting of approximately 15 inches of loamy fine sand over indurated material (caliche);
- Windblown sand (Qal) is the upper geologic unit and overlies the Triassic-age Chinle formation of the Dockum group;
- Groundwater occurs at about 271 feet bgs according to Ground Water Report 3 (“Geology and Ground-Water Resources of Eddy County, New Mexico”);
- The nearest well is located in Section 15, Township 17 South, Range 30 East about 3.6 miles northwest of the Site.

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*):

<i>Criteria</i>	<i>Result</i>	<i>Score</i>
Depth-to-Groundwater	>100 feet	0
Wellhead Protection Area	No	0
Distance to Surface Water Body	200 - 1000 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

Investigation Summary

On June 7 - 8, 2016, LAI personnel used a direct push rig (Terraprobe®) to collect soil samples at eight (8) locations (DP-1 through DP-8). Soil samples were collected to a maximum depth of about 15 feet below ground surface (bgs). Samples were analyzed in the field for hydrocarbon (headspace) vapors using the ambient temperature headspace method and calibrated photoionization detector (PID). The samples were delivered under preservation and chain of custody to Permian Basin Environmental Laboratory (PBEL) in Midland, Texas, which analyzed samples with PID readings exceeding 100 parts per million (ppm) for benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA SW-846 method 8021B. Samples were analyzed for total petroleum hydrocarbons (TPH) by EPA SW-846 method 8015M including gasoline (GRO), diesel (DRO) and oil (ORO) range organics and chloride by method 300.

The RRAL for BTEX (50 mg/Kg) was exceeded in the following samples:

Location	Depth (Feet)	BTEX (Mg/Kg)
DP-4	4 – 6	261.87
DP-5	0 - 2	498.05
DP-6	0 - 2	512.46
DP-7	0 - 2	366.06
DP-8	0 - 2	57.478

The RRAL for TPH (5,000 mg/Kg) was exceeded in the following samples:

Location	Depth (Feet)	BTEX (Mg/Kg)
DP-1	2 – 4	10,400
	4 – 6	7,460
DP-4	0 - 2	8,490
	4 - 6	7,670
DP-5	0 - 2	15,190
DP-6	0 - 2	22,900
DP-7	0 - 2	10,600

The highest chloride was reported in sample DP-1, 12' – 14' (261 mg/Kg) and decreased to 188 mg/Kg in sample DP-1, 14' – 15'. Groundwater was not observed and the borings were plugged with bentonite. Table 1 presents the laboratory analytical data summary. Figure 3 presents the boring location. Attachment B presents the laboratory report. Appendix C presents photographs.

Remediation Plan

LAI recommends the following remedial actions:

- Excavate soil to approximately 2 feet bgs from areas shown on Figure 4;
- Excavate soil to approximately 4 feet bgs in vicinity of DP-1;
- Excavate soil to approximately 6 feet bgs in vicinity of DP-6;
- Blend soil to reduce TPH below 5,000 mg/Kg and replace in excavations ; and
- Prepare final report for submission to OCD and BLM.

Figure 4 presents the approximate excavation areas.

Tables

Table 1
Investigation Soil Sample Analytical Data Summary
EOG Resources, Inc., Cedar Lake Fed Com No. 2 Tank battery Spill
Unit P (SE/4, SE/4), Section 35, Township 17 South, Range 30 East
Lea County, New Mexico
2RP-3715

Page 1 of 3

Sample	Depth (Feet)	Collection Date	Status	PID (ppm)	Benzene (mg/Kg)	BTEX (mg/Kg)	GRO (mg/Kg)	DRO (mg/Kg)	ORO (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
OCD RRAL:										5,000	*250
DP-1	0 - 2	6/7/2016	In-Situ	954	--	--	--	--	--	--	--
	2 - 4	6/7/2016	In-Situ	1,040	0.0989	11.35	5,020	4,990	410	10,400	182
	4 - 6	6/7/2016	In-Situ	908	--	--	3,040	3,910	506	7,460	--
	6 - 8	6/7/2016	In-Situ	32	--	--	--	--	--	--	--
	8 - 10	6/7/2016	In-Situ	867	<0.00108	0.1765	46.8	235	39.2	321	29.7
	10 - 12	6/7/2016	In-Situ	29	--	--	--	--	--	--	--
	12 - 14	6/7/2016	In-Situ	510	<0.00111	0.0639	129	429	33.7	591.7	261
	14 - 15	6/7/2016	In-Situ	6	<0.00109	<0.00217	<27.2	<27.2	<27.2	<27.2	188
DP-2	0 - 2	6/7/2016	In-Situ	741	--	--	--	--	--	--	--
	2 - 4	6/7/2016	In-Situ	1,083	<0.00108	0.2038	279	343	<26.9	622	5.31
	4 - 6	6/7/2016	In-Situ	810	<0.00108	0.05259	113	256	<26.9	370	4.84
	6 - 8	6/7/2016	In-Situ	36	--	--	--	--	--	--	--
	8 - 10	6/7/2016	In-Situ	177	00252	0.08912	59.1	250	<28.7	309.1	8.31
	10 - 12	6/7/2016	In-Situ	11	<0.00125	0.01153	<31.2	<31.2	<31.2	<31.2	22.7
DP-3	0 - 2	6/7/2016	In-Situ	766	0.00471	0.81801	1,490	1,480	108	3,080	3.71
	2 - 4	6/7/2016	In-Situ	50	--	--	--	--	--	--	--
	4 - 6	6/7/2016	In-Situ	48	<0.00104	<0.00208	<26.0	<26.0	<26.0	<26.0	3.91
	6 - 8	6/7/2016	In-Situ	13	--	--	--	--	--	--	--

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Unit P (SE/4, SE/4), Section 35, Township 17 South, Range 30 East
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2RP-3715

Page 2 of 3

DP-4	8 - 10	6/7/2016	In-Situ	117	<0.00123	0.01459	<30.9	76.5	<30.9	76.5	37.2
	0 - 2	6/7/2016	In-Situ	406	0.286	22.886	3,740	4,390	351	8,490	4.33
	2 - 4	6/7/2016	In-Situ	393	--	--	--	--	--	--	--
	4 - 6	6/7/2016	In-Situ		4.17	261.87	3,760	3,600	315	7,670	12.8
	6 - 8	6/7/2016	In-Situ	373	--	--	--	--	--	--	--
	8 - 10	6/7/2016	In-Situ	301	0.00127	0.38647	651	1,050	102	1,800	13.6
DP-5	0 - 2	6/8/2016	In-Situ	920	3.25	498.05	7,710	6,410	1,070	15,190	3.04
	2 - 4	6/8/2016	In-Situ	55	--	--	--	--	--	--	--
	4 - 6	6/8/2016	In-Situ	1,054	<0.0208	0.2752	149	353	55.2	557.2	3.86
	6 - 8	6/8/2016	In-Situ	34	--	--	--	--	--	--	--
	8 - 10	6/8/2016	In-Situ	154	<0.0215	0.0890	65.2	294	31.2	390.4	8.08
	10 - 12	6/8/2016	In-Situ	27	--	--	--	--	--	--	--
	12 - 14	6/8/2016	In-Situ	4	<0.00106	0.00883	<26.6	<26.6	<26.6	<26.6	69.0
	14 - 15	6/8/2016	In-Situ	4	--	--	--	--	--	--	--
DP-6	0 - 2	6/7/2016	In-Situ	883	2.76	512.46	8,630	13,200	1,130	22,900	3.86
	2 - 4	6/7/2016	In-Situ	515	<0.0211	1.3157	130	486	52.9	668.9	3.21
	4 - 6	6/7/2016	In-Situ	39	<0.00103	<0.00206	<25.8	<25.8	<25.8	<25.8	48.9
	6 - 8	6/7/2016	In-Situ	15	--	--	--	--	--	--	--
	8 - 10	6/7/2016	In-Situ	6	<0.00120	<0.00241	<30.1	<30.1	<30.1	<30.1	209
	10 - 12	6/7/2016	In-Situ	4	--	--	--	--	--	--	--

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Lea County, New Mexico
2RP-3715

Page 3 of 3

DP-7	0 - 2	6/8/2016	In-Situ	682	2.16	366.06	4,660	5,220	752	10,600	6.61
	2 - 4	6/8/2016	In-Situ	76	--	--	--	--	--	--	--
	4 - 6	6/8/2016	In-Situ	312	<0.00140	0.13464	124	719	97.7	940.7	8.45
	6 - 8	6/8/2016	In-Situ	16	--	--	--	--	--	--	--
	8 - 10	6/8/2016	In-Situ	16	<0.00106	0.01139	<26.6	125	<26.6	125	54.7
	10 - 12	6/8/2016	In-Situ	7	--	--	--	--	--	--	--
	12 - 14	6/8/2016	In-Situ	46	<0.0227	<0.0455	<28.4	198	<28.4	198	18.7
DP-8	0 - 2	6/8/2016	In-Situ	704	0.128	57.478	1,170	1,380	151	2,690	5.66
	2 - 4	6/8/2016	In-Situ	27	--	--	--	--	--	--	--
	4 - 6	6/8/2016	In-Situ	167	<0.0208	0.358	<26.0	64.0	<26.0	64.0	6.95
	6 - 8	6/8/2016	In-Situ	13	--	--	--	--	--	--	--
	8 - 10	6/8/2016	In-Situ	5	<0.00118	0.0131	<29.4	<29.4	<29.4	<29.4	31.3

Notes: analysis performed by Permian Basin Environmental Lab, Midland, Texas, by EPA SW-846 method 8015M (TPH) and 300.0 (chloride)

Depth in feet below ground surface (bgs)

mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)

*: OCD delineation limit

Bold denotes analyte detected at concentration above the method reporting limit (RL)

Bold and highlighted denotes analyte detected at concentration above the OCD Recommended Remediation Action Level (RRAL)

Figures

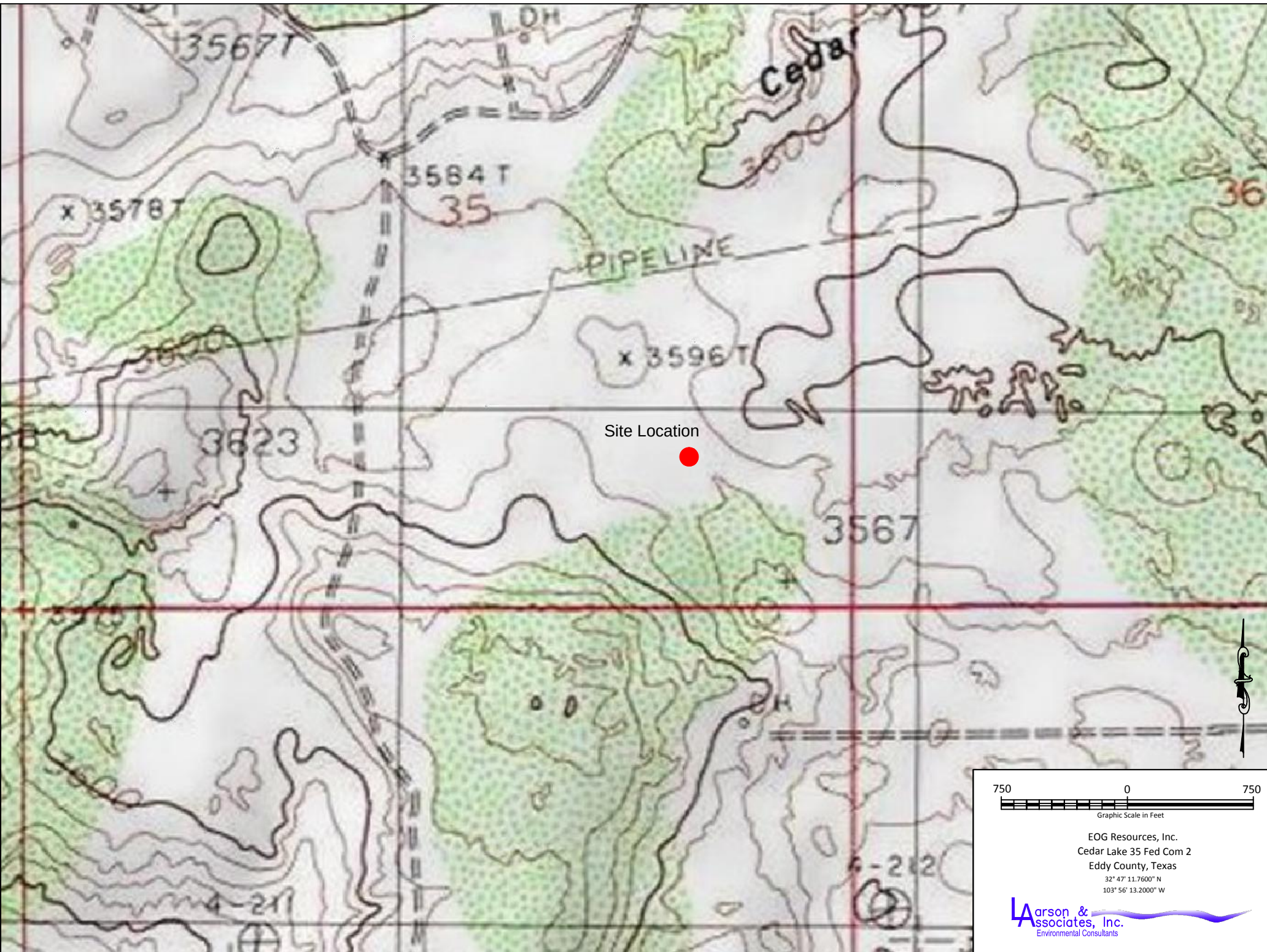
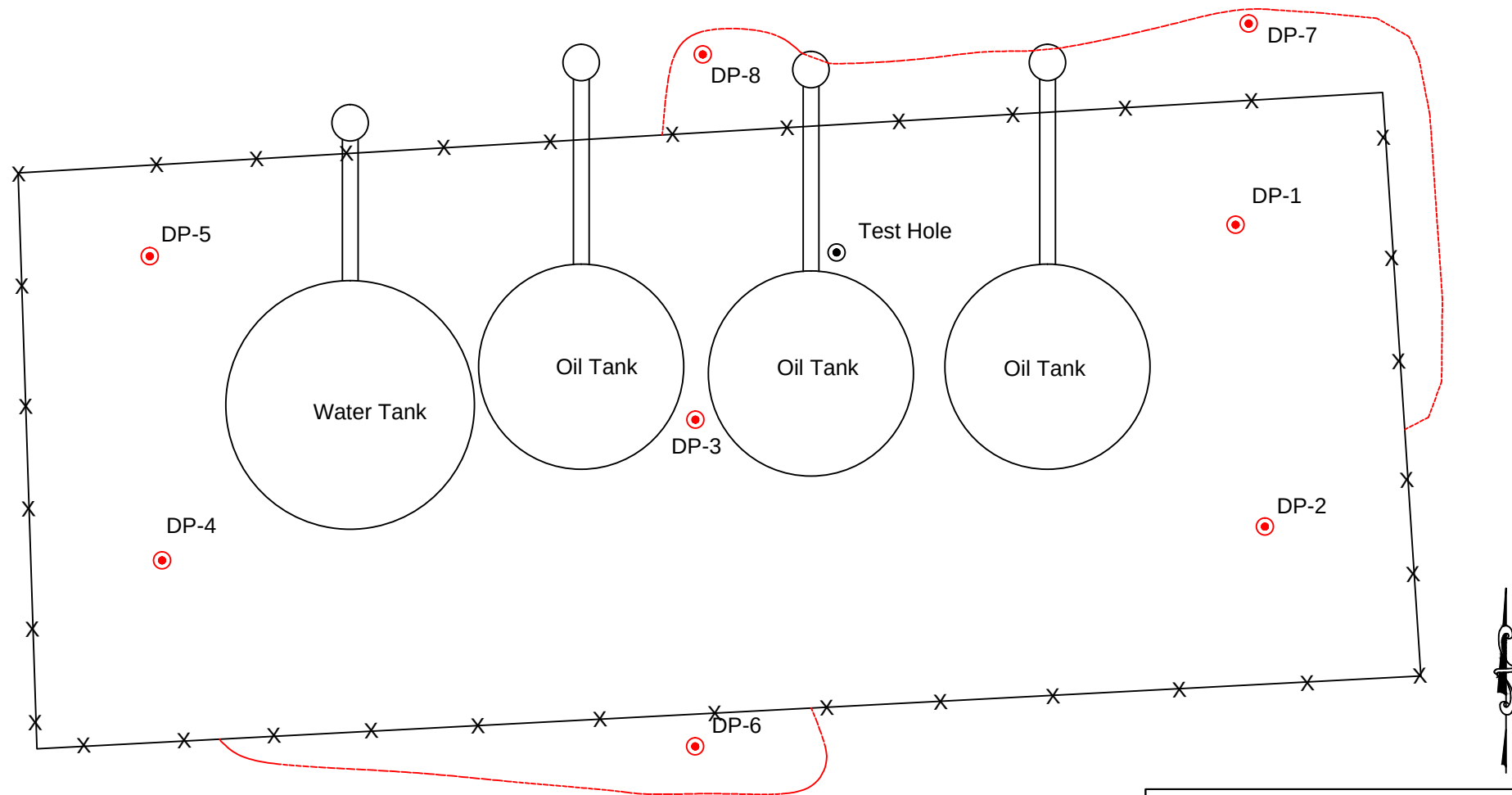


Figure 1 - Topographic Map



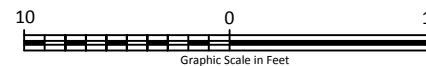
Figure 2 - Aerial

8.5" x 11"



Legend

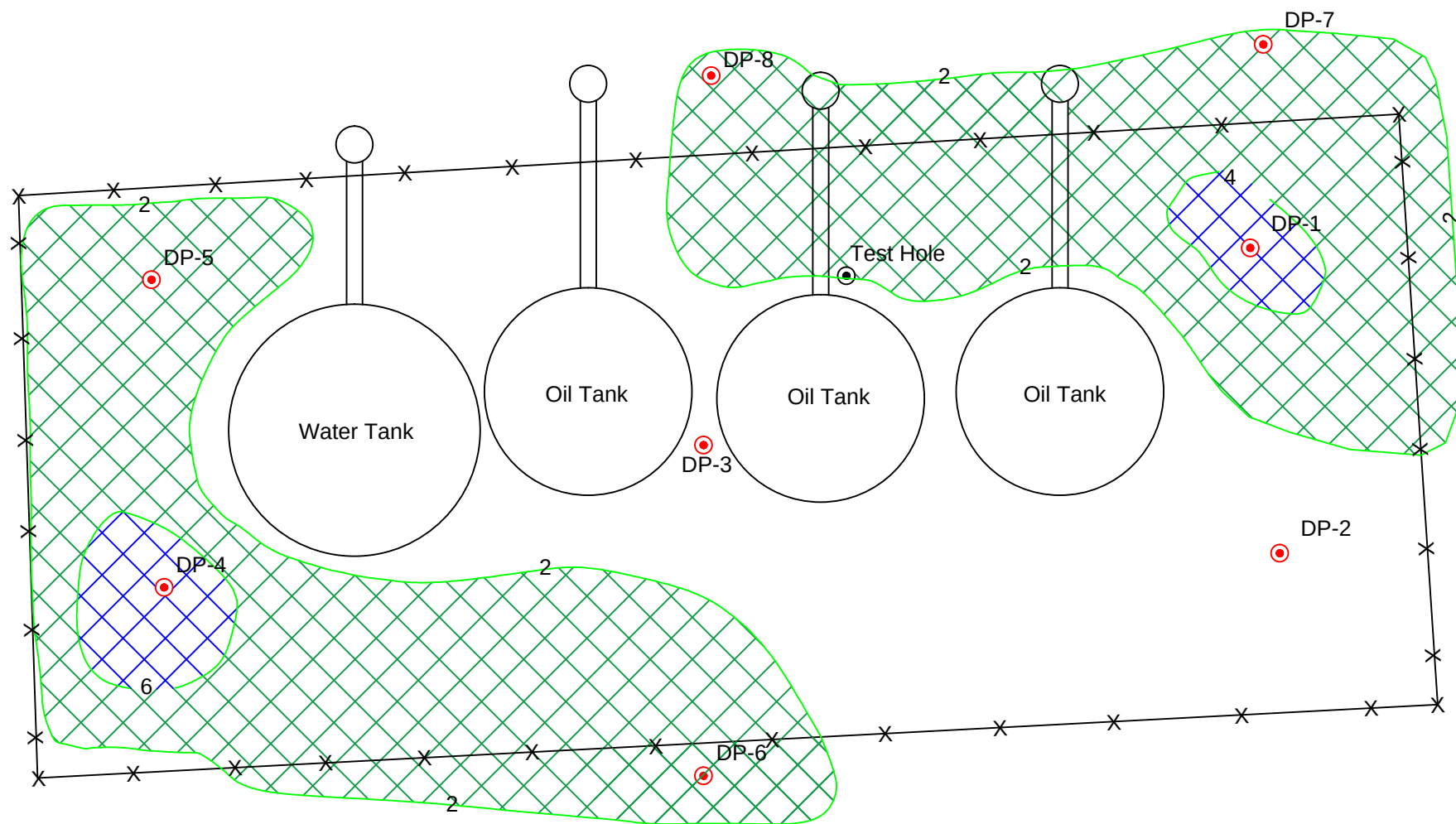
- DP-1  - Proposed Direct Push Soil Sample Location
-  - Test Hole
-  - Spill Area Outside Containment



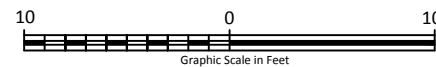
EOG Resources, Inc.
Cedar Lake 35 Fed Com 2
Eddy County, Texas
32° 47' 11.7600" N
103° 56' 13.2000" W

Larson & Associates, Inc.
Environmental Consultants

Figure 3 - Site Map Showing Direct Push Soil Sample Locations, June 7-8, 2016



- Legend**
- DP-1  - Direct Push Soil Sample Location, June 7-8, 2016
 -  - Test Hole
 -  - Spill Area Outside Containment
 -  - Proposed Excavation and Depth, feet bgs



EOG Resources, Inc.
Cedar Lake 35 Fed Com 2
Eddy County, Texas
32° 47' 11.7600" N
103° 56' 13.2000" W

Larson & Associates, Inc.
Environmental Consultants

Figure 4 - Proposed Excavation and Depth

Appendix A
Initial C-141

Received 6/1/2016

NMOCD Artesia

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-141
Revised August 8, 2011

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

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

Release Notification and Corrective Action

nHMP1615537888

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	EOG Resources, Inc. 7377	Contact	Zane Kurtz
Address	5509 Champions Drive, Midland, TX 79706	Telephone No.	432-425-2023
Facility Name	Cedar Lake 35 Fed Com 2	Facility Type	Oil and Gas Well
Surface Owner	BLM	Mineral Owner	BLM
		API No.	30-015-27851

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	35	17S	30E	990'	S	990'	E	Eddy

Latitude 32.7866 Longitude -103.9370

NATURE OF RELEASE

Type of Release	Oil	Volume of Release	188bbls	Volume Recovered	2bbls
Source of Release	Oil tank bottom rotted out	Date and Hour of Occurrence	5-30-2016	Date and Hour of Discovery	1500
Was Immediate Notice Given?	☐ Yes ☒ No ☐ Not Required				
By Whom?	NA	If YES, To Whom? NA			
Was a Watercourse Reached?	☐ Yes ☒ No				
If YES, Volume Impacting the Watercourse.					

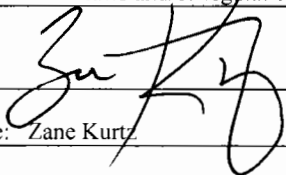
If a Watercourse was Impacted, Describe Fully.*
NA

Describe Cause of Problem and Remedial Action Taken.*

A hole developed in the bottom of an oil tank inside containment. Release was contained inside the dirt containment. Some leached through the berm walls onto the pad area. Nothing off pad. Consultant will delineate the vertical and horizontal depths of the release and submit a work plan for cleanup. Cleanup method will be based on test results to see if land farm or dig and haul is necessary.

Describe Area Affected and Cleanup Action Taken.*

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			Approved by Environmental Specialist:	
Title:	Sr. Environmental Rep., EOG Resources, Inc.			Approval Date:	6/3/2016
E-mail Address:	zane_kurtz@eogresources.com			Expiration Date:	N/A
Date:	6-1-2016			Phone:	432-425-2023
Conditions of Approval:				Attached ☐	

Remediation per OCD Rules and Guidelines

Submit Remediation Proposal No Later
Than 7/3/2016

* Attach Additional Sheets If Necessary

2RP-3715

Appendix B
Laboratory Report

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



Analytical Report

Prepared for:

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Location: New Mexico
Lab Order Number: 6F09009



NELAP/TCEQ # T104704156-13-3

Report Date: 06/21/16

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DP 1 2-4	6F09009-02	Soil	06/07/16 13:30	06-09-2016 10:40
DP 1 8-10	6F09009-05	Soil	06/07/16 13:47	06-09-2016 10:40
DP 1 12-14	6F09009-07	Soil	06/07/16 13:55	06-09-2016 10:40
DP 1 14-15	6F09009-08	Soil	06/07/16 13:55	06-09-2016 10:40
DP 2 2-4	6F09009-10	Soil	06/07/16 15:00	06-09-2016 10:40
DP 2 4-6	6F09009-11	Soil	06/07/16 15:07	06-09-2016 10:40
DP 2 8-10	6F09009-13	Soil	06/07/16 15:14	06-09-2016 10:40
DP 2 10-12	6F09009-14	Soil	06/07/16 15:14	06-09-2016 10:40
DP 3 0-2	6F09009-15	Soil	06/07/16 15:37	06-09-2016 10:40
DP 3 4-6	6F09009-17	Soil	06/07/16 15:44	06-09-2016 10:40
DP 3 8-10	6F09009-19	Soil	06/07/16 15:52	06-09-2016 10:40
DP 4 0-2	6F09009-20	Soil	06/07/16 16:15	06-09-2016 10:40
DP 4 4-6	6F09009-22	Soil	06/07/16 16:20	06-09-2016 10:40
DP 4 8-10	6F09009-24	Soil	06/07/16 16:25	06-09-2016 10:40
DP 5 0-2	6F09009-25	Soil	06/08/16 14:15	06-09-2016 10:40
DP 5 4-6	6F09009-27	Soil	06/08/16 14:20	06-09-2016 10:40
DP 5 8-10	6F09009-29	Soil	06/08/16 14:28	06-09-2016 10:40
DP 5 12-14	6F09009-31	Soil	06/08/16 14:36	06-09-2016 10:40
DP 6 0-2	6F09009-33	Soil	06/08/16 14:46	06-09-2016 10:40
DP 6 2-4	6F09009-34	Soil	06/08/16 14:46	06-09-2016 10:40
DP 6 4-6	6F09009-35	Soil	06/08/16 14:56	06-09-2016 10:40
DP 6 8-10	6F09009-37	Soil	06/08/16 15:08	06-09-2016 10:40
DP 7 0-2	6F09009-39	Soil	06/08/16 15:20	06-09-2016 10:40
DP 7 4-6	6F09009-41	Soil	06/08/16 15:37	06-09-2016 10:40
DP 7 8-10	6F09009-43	Soil	06/08/16 15:42	06-09-2016 10:40
DP 7 12-14	6F09009-45	Soil	06/08/16 15:57	06-09-2016 10:40
DP 8 0-2	6F09009-46	Soil	06/08/16 16:00	06-09-2016 10:40
DP 8 4-6	6F09009-48	Soil	06/08/16 16:04	06-09-2016 10:40
DP 8 8-10	6F09009-50	Soil	06/08/16 16:09	06-09-2016 10:40

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 1 2-4
6F09009-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	0.0989	0.0217	mg/kg dry	20	P6F1609	06/15/16	06/15/16	EPA 8021B
Toluene	2.84	0.0435	mg/kg dry	20	P6F1609	06/15/16	06/15/16	EPA 8021B
Ethylbenzene	0.643	0.0217	mg/kg dry	20	P6F1609	06/15/16	06/15/16	EPA 8021B
Xylene (p/m)	5.61	0.0435	mg/kg dry	20	P6F1609	06/15/16	06/15/16	EPA 8021B
Xylene (o)	2.16	0.0217	mg/kg dry	20	P6F1609	06/15/16	06/15/16	EPA 8021B
<i>Surrogate: 4-Bromofluorobenzene</i>		94.0 %	75-125		P6F1609	06/15/16	06/15/16	EPA 8021B
<i>Surrogate: 1,4-Difluorobenzene</i>		91.0 %	75-125		P6F1609	06/15/16	06/15/16	EPA 8021B

General Chemistry Parameters by EPA / Standard Methods

Chloride	182	27.2	mg/kg dry	25	P6F2014	06/20/16	06/20/16	EPA 300.0
% Moisture	8.0	0.1	%	1	P6F1402	06/14/16	06/14/16	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	5020	27.2	mg/kg dry	1	P6F1701	06/16/16	06/17/16	TPH 8015M
>C12-C28	4990	27.2	mg/kg dry	1	P6F1701	06/16/16	06/17/16	TPH 8015M
>C28-C35	410	27.2	mg/kg dry	1	P6F1701	06/16/16	06/17/16	TPH 8015M
<i>Surrogate: 1-Chlorooctane</i>		111 %	70-130		P6F1701	06/16/16	06/17/16	TPH 8015M
<i>Surrogate: o-Terphenyl</i>		104 %	70-130		P6F1701	06/16/16	06/17/16	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	10400	27.2	mg/kg dry	1	[CALC]	06/16/16	06/17/16	calc

DRAFT REPORT

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 1 8-10
6F09009-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.00108	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B
Toluene	0.00449	0.00215	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B
Ethylbenzene	0.00792	0.00108	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B
Xylene (p/m)	0.120	0.00215	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B
Xylene (o)	0.0441	0.00108	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B
Surrogate: 1,4-Difluorobenzene		95.8 %	75-125		P6F1504	06/13/16	06/13/16	EPA 8021B
Surrogate: 4-Bromofluorobenzene		102 %	75-125		P6F1504	06/13/16	06/13/16	EPA 8021B

General Chemistry Parameters by EPA / Standard Methods

Chloride	29.7	5.38	mg/kg dry	5	P6F2014	06/20/16	06/20/16	EPA 300.0
% Moisture	7.0	0.1	%	1	P6F1402	06/14/16	06/14/16	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	46.8	26.9	mg/kg dry	1	P6F1701	06/16/16	06/17/16	TPH 8015M
>C12-C28	235	26.9	mg/kg dry	1	P6F1701	06/16/16	06/17/16	TPH 8015M
>C28-C35	39.2	26.9	mg/kg dry	1	P6F1701	06/16/16	06/17/16	TPH 8015M
Surrogate: 1-Chlorooctane		97.9 %	70-130		P6F1701	06/16/16	06/17/16	TPH 8015M
Surrogate: o-Terphenyl		95.7 %	70-130		P6F1701	06/16/16	06/17/16	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	321	26.9	mg/kg dry	1	[CALC]	06/16/16	06/17/16	calc

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 1 12-14
6F09009-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.00111	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Toluene	0.00379	0.00222	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Ethylbenzene	ND	0.00111	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Xylene (p/m)	0.0112	0.00222	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Xylene (o)	0.0489	0.00111	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		96.4 %	75-125		P6F1510	06/14/16	06/15/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.2 %	75-125		P6F1510	06/14/16	06/15/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	261	27.8	mg/kg dry	25	P6F2014	06/20/16	06/20/16	EPA 300.0	
% Moisture	10.0	0.1	%	1	P6F1402	06/14/16	06/14/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	129	27.8	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C12-C28	429	27.8	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C28-C35	33.7	27.8	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		125 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		123 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	592	27.8	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 1 14-15
6F09009-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.00109	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		89.7 %	75-125		P6F1504	06/13/16	06/13/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		85.0 %	75-125		P6F1504	06/13/16	06/13/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	188	27.2	mg/kg dry	25	P6F2014	06/20/16	06/20/16	EPA 300.0	
% Moisture	8.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
Surrogate: 1-Chlorooctane		123 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Surrogate: o-Terphenyl		129 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 2 2-4
6F09009-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.00108	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Toluene	0.0127	0.00215	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Ethylbenzene	0.00889	0.00108	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Xylene (p/m)	0.150	0.00215	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Xylene (o)	0.0322	0.00108	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		92.5 %	75-125		P6F1510	06/14/16	06/15/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		83.6 %	75-125		P6F1510	06/14/16	06/15/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	5.31	1.08	mg/kg dry	1	P6F2014	06/20/16	06/20/16	EPA 300.0	
% Moisture	7.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	279	26.9	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C12-C28	343	26.9	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
Surrogate: 1-Chlorooctane		123 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Surrogate: o-Terphenyl		117 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	622	26.9	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 2 4-6
6F09009-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.00108	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Toluene	0.00259	0.00215	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Xylene (p/m)	0.0354	0.00215	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Xylene (o)	0.0146	0.00108	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.4 %	75-125		P6F1510	06/14/16	06/15/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		99.8 %	75-125		P6F1510	06/14/16	06/15/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	4.84	1.08	mg/kg dry	1	P6F2014	06/20/16	06/20/16	EPA 300.0	
% Moisture	7.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	113	26.9	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C12-C28	256	26.9	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		112 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		116 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	370	26.9	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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Larson & Associates, Inc.
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Midland TX, 79710

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 2 8-10
6F09009-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	0.00252	0.00115	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B	
Toluene	0.0130	0.00230	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B	
Ethylbenzene	0.00340	0.00115	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B	
Xylene (p/m)	0.0570	0.00230	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B	
Xylene (o)	0.0132	0.00115	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		107 %	75-125		P6F1504	06/13/16	06/13/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		96.3 %	75-125		P6F1504	06/13/16	06/13/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	8.31	1.15	mg/kg dry	1	P6F2014	06/20/16	06/20/16	EPA 300.0	
% Moisture	13.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	59.1	28.7	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C12-C28	250	28.7	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C28-C35	ND	28.7	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		111 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		114 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	309	28.7	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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Midland TX, 79710

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 2 10-12
6F09009-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.00125	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B	
Toluene	0.00541	0.00250	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B	
Ethylbenzene	ND	0.00125	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B	
Xylene (p/m)	0.00612	0.00250	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B	
Xylene (o)	ND	0.00125	mg/kg dry	1	P6F1504	06/13/16	06/13/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.2 %</i>	<i>75-125</i>		<i>P6F1504</i>	<i>06/13/16</i>	<i>06/13/16</i>	<i>EPA 8021B</i>	
<i>Surrogate: 1,4-Difluorobenzene</i>		<i>98.8 %</i>	<i>75-125</i>		<i>P6F1504</i>	<i>06/13/16</i>	<i>06/13/16</i>	<i>EPA 8021B</i>	

General Chemistry Parameters by EPA / Standard Methods

Chloride	22.7	1.25	mg/kg dry	1	P6F2014	06/20/16	06/20/16	EPA 300.0	
% Moisture	20.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	31.2	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C12-C28	ND	31.2	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C28-C35	ND	31.2	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		<i>108 %</i>	<i>70-130</i>		<i>P6F2004</i>	<i>06/17/16</i>	<i>06/18/16</i>	<i>TPH 8015M</i>	
<i>Surrogate: o-Terphenyl</i>		<i>113 %</i>	<i>70-130</i>		<i>P6F2004</i>	<i>06/17/16</i>	<i>06/18/16</i>	<i>TPH 8015M</i>	
Total Petroleum Hydrocarbon C6-C35	ND	31.2	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 3 0-2
6F09009-15 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	0.00471	0.00115	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Toluene	0.208	0.00230	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Ethylbenzene	0.0463	0.00115	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Xylene (p/m)	0.432	0.00230	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Xylene (o)	0.127	0.00115	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		74.8 %	75-125		P6F1510	06/14/16	06/15/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		70.4 %	75-125		P6F1510	06/14/16	06/15/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	3.71	1.15	mg/kg dry	1	P6F2014	06/20/16	06/20/16	EPA 300.0	
% Moisture	13.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	1490	28.7	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C12-C28	1480	28.7	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C28-C35	108	28.7	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		111 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		114 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	3080	28.7	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 3 4-6
6F09009-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.00104	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Toluene	ND	0.00208	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		118 %	75-125		P6F1504	06/13/16	06/14/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		96.4 %	75-125		P6F1504	06/13/16	06/14/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	3.91	1.04	mg/kg dry	1	P6F2014	06/20/16	06/20/16	EPA 300.0	
% Moisture	4.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.0	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C12-C28	ND	26.0	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
Surrogate: 1-Chlorooctane		110 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Surrogate: o-Terphenyl		118 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.0	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 3 8-10
6F09009-19 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.00123	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Toluene	ND	0.00247	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Ethylbenzene	ND	0.00123	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Xylene (p/m)	0.00678	0.00247	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Xylene (o)	0.00781	0.00123	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		91.6 %	75-125		P6F1504	06/13/16	06/14/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		98.8 %	75-125		P6F1504	06/13/16	06/14/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	37.2	1.23	mg/kg dry	1	P6F2014	06/20/16	06/20/16	EPA 300.0	
% Moisture	19.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	30.9	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C12-C28	76.5	30.9	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C28-C35	ND	30.9	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
Surrogate: 1-Chlorooctane		116 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Surrogate: o-Terphenyl		122 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	76.5	30.9	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 4 0-2
6F09009-20 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	0.286	0.0220	mg/kg dry	20	P6F1609	06/15/16	06/15/16	EPA 8021B	
Toluene	5.88	0.0440	mg/kg dry	20	P6F1609	06/15/16	06/15/16	EPA 8021B	
Ethylbenzene	1.36	0.0220	mg/kg dry	20	P6F1609	06/15/16	06/15/16	EPA 8021B	
Xylene (p/m)	11.8	0.0440	mg/kg dry	20	P6F1609	06/15/16	06/15/16	EPA 8021B	
Xylene (o)	3.56	0.0220	mg/kg dry	20	P6F1609	06/15/16	06/15/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.3 %		75-125	P6F1609	06/15/16	06/15/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		110 %		75-125	P6F1609	06/15/16	06/15/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	4.33	1.10	mg/kg dry	1	P6F2014	06/20/16	06/20/16	EPA 300.0	
% Moisture	9.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	3740	27.5	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C12-C28	4390	27.5	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C28-C35	351	27.5	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		123 %		70-130	P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		124 %		70-130	P6F2004	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	8490	27.5	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 4 4-6
6F09009-22 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	4.17	0.222	mg/kg dry	200	P6F1609	06/15/16	06/15/16	EPA 8021B	
Toluene	72.4	0.444	mg/kg dry	200	P6F1609	06/15/16	06/15/16	EPA 8021B	
Ethylbenzene	15.9	0.222	mg/kg dry	200	P6F1609	06/15/16	06/15/16	EPA 8021B	
Xylene (p/m)	129	0.444	mg/kg dry	200	P6F1609	06/15/16	06/15/16	EPA 8021B	
Xylene (o)	40.4	0.222	mg/kg dry	200	P6F1609	06/15/16	06/15/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		89.0 %	75-125		P6F1609	06/15/16	06/15/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %	75-125		P6F1609	06/15/16	06/15/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	12.8	1.11	mg/kg dry	1	P6F2014	06/20/16	06/20/16	EPA 300.0	
% Moisture	10.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	3760	27.8	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C12-C28	3600	27.8	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C28-C35	315	27.8	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		136 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	S-GC
<i>Surrogate: o-Terphenyl</i>		120 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	7670	27.8	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 4 8-10
6F09009-24 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	0.00127	0.00111	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Toluene	0.0752	0.00222	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Ethylbenzene	0.0191	0.00111	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Xylene (p/m)	0.237	0.00222	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Xylene (o)	0.0539	0.00111	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.0 %	75-125		P6F1510	06/14/16	06/15/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		94.3 %	75-125		P6F1510	06/14/16	06/15/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	13.6	1.11	mg/kg dry	1	P6F2014	06/20/16	06/20/16	EPA 300.0	
% Moisture	10.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	651	27.8	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C12-C28	1050	27.8	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C28-C35	102	27.8	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		124 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		120 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	1800	27.8	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 5 0-2
6F09009-25 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	3.25	0.538	mg/kg dry	500	P6F1609	06/15/16	06/15/16	EPA 8021B	
Toluene	129	1.08	mg/kg dry	500	P6F1609	06/15/16	06/15/16	EPA 8021B	
Ethylbenzene	30.5	0.538	mg/kg dry	500	P6F1609	06/15/16	06/15/16	EPA 8021B	
Xylene (p/m)	273	1.08	mg/kg dry	500	P6F1609	06/15/16	06/15/16	EPA 8021B	
Xylene (o)	62.3	0.538	mg/kg dry	500	P6F1609	06/15/16	06/15/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.6 %	75-125		P6F1609	06/15/16	06/15/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		99.8 %	75-125		P6F1609	06/15/16	06/15/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	3.04	1.08	mg/kg dry	1	P6F2014	06/20/16	06/20/16	EPA 300.0	
% Moisture	7.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	7710	134	mg/kg dry	5	P6F2004	06/17/16	06/20/16	TPH 8015M	
>C12-C28	6410	134	mg/kg dry	5	P6F2004	06/17/16	06/20/16	TPH 8015M	
>C28-C35	1070	134	mg/kg dry	5	P6F2004	06/17/16	06/20/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		118 %	70-130		P6F2004	06/17/16	06/20/16	TPH 8015M	S-GC
<i>Surrogate: o-Terphenyl</i>		122 %	70-130		P6F2004	06/17/16	06/20/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	15200	134	mg/kg dry	5	[CALC]	06/17/16	06/20/16	calc	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 5 4-6
6F09009-27 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.0208	mg/kg dry	20	P6F2012	06/17/16	06/17/16	EPA 8021B	
Toluene	0.0542	0.0417	mg/kg dry	20	P6F2012	06/17/16	06/17/16	EPA 8021B	
Ethylbenzene	ND	0.0208	mg/kg dry	20	P6F2012	06/17/16	06/17/16	EPA 8021B	
Xylene (p/m)	1.71	0.0417	mg/kg dry	20	P6F2012	06/17/16	06/17/16	EPA 8021B	
Xylene (o)	0.221	0.0208	mg/kg dry	20	P6F2012	06/17/16	06/17/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		107 %	75-125		P6F2012	06/17/16	06/17/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		112 %	75-125		P6F2012	06/17/16	06/17/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	3.86	1.04	mg/kg dry	1	P6F2015	06/20/16	06/20/16	EPA 300.0	
% Moisture	4.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	149	26.0	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C12-C28	353	26.0	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C28-C35	55.2	26.0	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		120 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		121 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	557	26.0	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 5 8-10
6F09009-29 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.0215	mg/kg dry	20	P6F2012	06/17/16	06/17/16	EPA 8021B	
Toluene	ND	0.0430	mg/kg dry	20	P6F2012	06/17/16	06/17/16	EPA 8021B	
Ethylbenzene	ND	0.0215	mg/kg dry	20	P6F2012	06/17/16	06/17/16	EPA 8021B	
Xylene (p/m)	ND	0.0430	mg/kg dry	20	P6F2012	06/17/16	06/17/16	EPA 8021B	
Xylene (o)	0.0890	0.0215	mg/kg dry	20	P6F2012	06/17/16	06/17/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %	75-125		P6F2012	06/17/16	06/17/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		118 %	75-125		P6F2012	06/17/16	06/17/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	8.08	1.08	mg/kg dry	1	P6F2014	06/20/16	06/20/16	EPA 300.0	
% Moisture	7.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	65.2	26.9	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C12-C28	294	26.9	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C28-C35	31.2	26.9	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		116 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		120 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	391	26.9	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 5 12-14
6F09009-31 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.00106	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Xylene (o)	0.00883	0.00106	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %	75-125		P6F1504	06/13/16	06/14/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		112 %	75-125		P6F1504	06/13/16	06/14/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	69.0	1.06	mg/kg dry	1	P6F2014	06/20/16	06/20/16	EPA 300.0	
% Moisture	6.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C12-C28	ND	26.6	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		111 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		116 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 6 0-2
6F09009-33 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	2.76	0.532	mg/kg dry	500	P6F2012	06/17/16	06/17/16	EPA 8021B	
Toluene	116	1.06	mg/kg dry	500	P6F2012	06/17/16	06/17/16	EPA 8021B	
Ethylbenzene	30.7	0.532	mg/kg dry	500	P6F2012	06/17/16	06/17/16	EPA 8021B	
Xylene (p/m)	282	1.06	mg/kg dry	500	P6F2012	06/17/16	06/17/16	EPA 8021B	
Xylene (o)	81.0	0.532	mg/kg dry	500	P6F2012	06/17/16	06/17/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		76.8 %		75-125	P6F2012	06/17/16	06/17/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		94.5 %		75-125	P6F2012	06/17/16	06/17/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	3.86	1.06	mg/kg dry	1	P6F2014	06/20/16	06/20/16	EPA 300.0	
% Moisture	6.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	8630	133	mg/kg dry	5	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C12-C28	13200	133	mg/kg dry	5	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C28-C35	1130	133	mg/kg dry	5	P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		115 %		70-130	P6F2004	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		128 %		70-130	P6F2004	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	22900	133	mg/kg dry	5	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 6 2-4
6F09009-34 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.0211	mg/kg dry	20	P6F2021	06/18/16	06/18/16	EPA 8021B
Toluene	0.0867	0.0421	mg/kg dry	20	P6F2021	06/18/16	06/18/16	EPA 8021B
Ethylbenzene	ND	0.0211	mg/kg dry	20	P6F2021	06/18/16	06/18/16	EPA 8021B
Xylene (p/m)	0.891	0.0421	mg/kg dry	20	P6F2021	06/18/16	06/18/16	EPA 8021B
Xylene (o)	0.338	0.0211	mg/kg dry	20	P6F2021	06/18/16	06/18/16	EPA 8021B
<i>Surrogate: 4-Bromofluorobenzene</i>		110 %	75-125		P6F2021	06/18/16	06/18/16	EPA 8021B
<i>Surrogate: 1,4-Difluorobenzene</i>		109 %	75-125		P6F2021	06/18/16	06/18/16	EPA 8021B

General Chemistry Parameters by EPA / Standard Methods

Chloride	3.21	1.05	mg/kg dry	1	P6F2014	06/20/16	06/20/16	EPA 300.0
% Moisture	5.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	130	26.3	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M
>C12-C28	486	26.3	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M
>C28-C35	52.9	26.3	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M
<i>Surrogate: 1-Chlorooctane</i>		122 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M
<i>Surrogate: o-Terphenyl</i>		124 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	670	26.3	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 6 4-6
6F09009-35 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.00103	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Toluene	ND	0.00206	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Ethylbenzene	ND	0.00103	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Xylene (p/m)	ND	0.00206	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Xylene (o)	ND	0.00103	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		103 %	75-125		P6F1504	06/13/16	06/14/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		112 %	75-125		P6F1504	06/13/16	06/14/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	48.9	1.03	mg/kg dry	1	P6F2015	06/20/16	06/20/16	EPA 300.0	
% Moisture	3.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.8	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C12-C28	ND	25.8	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C28-C35	ND	25.8	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
Surrogate: 1-Chlorooctane		105 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Surrogate: o-Terphenyl		112 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.8	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 6 8-10
6F09009-37 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.00120	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Toluene	ND	0.00241	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Ethylbenzene	ND	0.00120	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Xylene (p/m)	ND	0.00241	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Xylene (o)	ND	0.00120	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		99.9 %	75-125		P6F1504	06/13/16	06/14/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		113 %	75-125		P6F1504	06/13/16	06/14/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	209	1.20	mg/kg dry	1	P6F2015	06/20/16	06/20/16	EPA 300.0	
% Moisture	17.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	30.1	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C12-C28	ND	30.1	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
>C28-C35	ND	30.1	mg/kg dry	1	P6F2004	06/17/16	06/18/16	TPH 8015M	
Surrogate: 1-Chlorooctane		109 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Surrogate: o-Terphenyl		119 %	70-130		P6F2004	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	30.1	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 7 0-2
6F09009-39 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	2.16	0.538	mg/kg dry	500	P6F2012	06/17/16	06/17/16	EPA 8021B	
Toluene	83.2	1.08	mg/kg dry	500	P6F2012	06/17/16	06/17/16	EPA 8021B	
Ethylbenzene	20.8	0.538	mg/kg dry	500	P6F2012	06/17/16	06/17/16	EPA 8021B	
Xylene (p/m)	203	1.08	mg/kg dry	500	P6F2012	06/17/16	06/17/16	EPA 8021B	
Xylene (o)	56.9	0.538	mg/kg dry	500	P6F2012	06/17/16	06/17/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		99.1 %	75-125		P6F2012	06/17/16	06/17/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.5 %	75-125		P6F2012	06/17/16	06/17/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	6.61	1.08	mg/kg dry	1	P6F2015	06/20/16	06/20/16	EPA 300.0	
% Moisture	7.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	4660	26.9	mg/kg dry	1	P6F2008	06/17/16	06/17/16	TPH 8015M	
>C12-C28	5220	26.9	mg/kg dry	1	P6F2008	06/17/16	06/17/16	TPH 8015M	
>C28-C35	752	26.9	mg/kg dry	1	P6F2008	06/17/16	06/17/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		156 %	70-130		P6F2008	06/17/16	06/17/16	TPH 8015M	S-GC
<i>Surrogate: o-Terphenyl</i>		127 %	70-130		P6F2008	06/17/16	06/17/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	10600	26.9	mg/kg dry	1	[CALC]	06/17/16	06/17/16	calc	

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 7 4-6
6F09009-41 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.00104	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Toluene	0.00666	0.00208	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Ethylbenzene	0.00566	0.00104	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Xylene (p/m)	0.0664	0.00208	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Xylene (o)	0.00498	0.00104	mg/kg dry	1	P6F1510	06/14/16	06/15/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		124 %	75-125		P6F1510	06/14/16	06/15/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		122 %	75-125		P6F1510	06/14/16	06/15/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	8.45	1.04	mg/kg dry	1	P6F2015	06/20/16	06/20/16	EPA 300.0	
% Moisture	4.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	124	26.0	mg/kg dry	1	P6F2008	06/17/16	06/18/16	TPH 8015M	
>C12-C28	719	26.0	mg/kg dry	1	P6F2008	06/17/16	06/18/16	TPH 8015M	
>C28-C35	97.7	26.0	mg/kg dry	1	P6F2008	06/17/16	06/18/16	TPH 8015M	
Surrogate: 1-Chlorooctane		115 %	70-130		P6F2008	06/17/16	06/18/16	TPH 8015M	
Surrogate: o-Terphenyl		126 %	70-130		P6F2008	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	941	26.0	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 7 8-10
6F09009-43 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.00106	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Xylene (p/m)	0.0101	0.00213	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Xylene (o)	0.00129	0.00106	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		104 %	75-125		P6F1504	06/13/16	06/14/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		110 %	75-125		P6F1504	06/13/16	06/14/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	54.7	1.06	mg/kg dry	1	P6F2015	06/20/16	06/20/16	EPA 300.0	
% Moisture	6.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P6F2008	06/17/16	06/18/16	TPH 8015M	
>C12-C28	125	26.6	mg/kg dry	1	P6F2008	06/17/16	06/18/16	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P6F2008	06/17/16	06/18/16	TPH 8015M	
Surrogate: 1-Chlorooctane		113 %	70-130		P6F2008	06/17/16	06/18/16	TPH 8015M	
Surrogate: o-Terphenyl		129 %	70-130		P6F2008	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	125	26.6	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 7 12-14
6F09009-45 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.0227	mg/kg dry	20	P6F2012	06/17/16	06/17/16	EPA 8021B
Toluene	ND	0.0455	mg/kg dry	20	P6F2012	06/17/16	06/17/16	EPA 8021B
Ethylbenzene	ND	0.0227	mg/kg dry	20	P6F2012	06/17/16	06/17/16	EPA 8021B
Xylene (p/m)	ND	0.0455	mg/kg dry	20	P6F2012	06/17/16	06/17/16	EPA 8021B
Xylene (o)	ND	0.0227	mg/kg dry	20	P6F2012	06/17/16	06/17/16	EPA 8021B
Surrogate: 1,4-Difluorobenzene		115 %	75-125		P6F2012	06/17/16	06/17/16	EPA 8021B
Surrogate: 4-Bromofluorobenzene		101 %	75-125		P6F2012	06/17/16	06/17/16	EPA 8021B

General Chemistry Parameters by EPA / Standard Methods

Chloride	18.7	1.14	mg/kg dry	1	P6F2015	06/20/16	06/20/16	EPA 300.0
% Moisture	12.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	28.4	mg/kg dry	1	P6F2008	06/17/16	06/18/16	TPH 8015M
>C12-C28	198	28.4	mg/kg dry	1	P6F2008	06/17/16	06/18/16	TPH 8015M
>C28-C35	ND	28.4	mg/kg dry	1	P6F2008	06/17/16	06/18/16	TPH 8015M
Surrogate: 1-Chlorooctane		108 %	70-130		P6F2008	06/17/16	06/18/16	TPH 8015M
Surrogate: o-Terphenyl		125 %	70-130		P6F2008	06/17/16	06/18/16	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	198	28.4	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 8 0-2
6F09009-46 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	0.128	0.106	mg/kg dry	100	P6F2012	06/17/16	06/17/16	EPA 8021B	
Toluene	8.15	0.213	mg/kg dry	100	P6F2012	06/17/16	06/17/16	EPA 8021B	
Ethylbenzene	3.00	0.106	mg/kg dry	100	P6F2012	06/17/16	06/17/16	EPA 8021B	
Xylene (p/m)	35.8	0.213	mg/kg dry	100	P6F2012	06/17/16	06/17/16	EPA 8021B	
Xylene (o)	10.4	0.106	mg/kg dry	100	P6F2012	06/17/16	06/17/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		90.1 %		75-125	P6F2012	06/17/16	06/17/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		77.8 %		75-125	P6F2012	06/17/16	06/17/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	5.66	1.06	mg/kg dry	1	P6F2015	06/20/16	06/20/16	EPA 300.0	
% Moisture	6.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	1170	26.6	mg/kg dry	1	P6F2008	06/17/16	06/18/16	TPH 8015M	
>C12-C28	1380	26.6	mg/kg dry	1	P6F2008	06/17/16	06/18/16	TPH 8015M	
>C28-C35	151	26.6	mg/kg dry	1	P6F2008	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		118 %		70-130	P6F2008	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		109 %		70-130	P6F2008	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	2690	26.6	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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P.O. Box 50685
Midland TX, 79710

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 8 4-6
6F09009-48 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.0208	mg/kg dry	20	P6F2020	06/18/16	06/18/16	EPA 8021B	
Toluene	ND	0.0417	mg/kg dry	20	P6F2020	06/18/16	06/18/16	EPA 8021B	
Ethylbenzene	ND	0.0208	mg/kg dry	20	P6F2020	06/18/16	06/18/16	EPA 8021B	
Xylene (p/m)	ND	0.0417	mg/kg dry	20	P6F2020	06/18/16	06/18/16	EPA 8021B	
Xylene (o)	0.358	0.0208	mg/kg dry	20	P6F2020	06/18/16	06/18/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		122 %	75-125		P6F2020	06/18/16	06/18/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %	75-125		P6F2020	06/18/16	06/18/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	6.95	1.04	mg/kg dry	1	P6F2015	06/20/16	06/20/16	EPA 300.0	
% Moisture	4.0	0.1	%	1	P6F1506	06/15/16	06/16/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.0	mg/kg dry	1	P6F2008	06/17/16	06/18/16	TPH 8015M	
>C12-C28	64.0	26.0	mg/kg dry	1	P6F2008	06/17/16	06/18/16	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P6F2008	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		114 %	70-130		P6F2008	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		126 %	70-130		P6F2008	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	64.0	26.0	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

DP 8 8-10
6F09009-50 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.00118	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Toluene	ND	0.00235	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Ethylbenzene	ND	0.00118	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Xylene (p/m)	ND	0.00235	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Xylene (o)	0.0131	0.00118	mg/kg dry	1	P6F1504	06/13/16	06/14/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		135 %	75-125		P6F1504	06/13/16	06/14/16	EPA 8021B	S-GC
Surrogate: 4-Bromofluorobenzene		125 %	75-125		P6F1504	06/13/16	06/14/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	31.3	1.18	mg/kg dry	1	P6F2015	06/20/16	06/20/16	EPA 300.0	
% Moisture	15.0	0.1	%	1	P6F1506	06/15/16	06/21/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	29.4	mg/kg dry	1	P6F2003	06/17/16	06/18/16	TPH 8015M	
>C12-C28	ND	29.4	mg/kg dry	1	P6F2003	06/17/16	06/18/16	TPH 8015M	
>C28-C35	ND	29.4	mg/kg dry	1	P6F2003	06/17/16	06/18/16	TPH 8015M	
Surrogate: 1-Chlorooctane		112 %	70-130		P6F2003	06/17/16	06/18/16	TPH 8015M	
Surrogate: o-Terphenyl		127 %	70-130		P6F2003	06/17/16	06/18/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	29.4	mg/kg dry	1	[CALC]	06/17/16	06/18/16	calc	

DRAFT REPORT

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Midland TX, 79710

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Organics by GC - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6F1504 - General Preparation (GC)

Blank (P6F1504-BLK1)

Prepared & Analyzed: 06/13/16

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.0604		"	0.0600		101	75-125			
Surrogate: 1,4-Difluorobenzene	0.0666		"	0.0600		111	75-125			

LCS (P6F1504-BS1)

Prepared & Analyzed: 06/13/16

Benzene	0.101	0.00100	mg/kg wet	0.100		101	70-130			
Toluene	0.112	0.00200	"	0.100		112	70-130			
Ethylbenzene	0.111	0.00100	"	0.100		111	70-130			
Xylene (p/m)	0.193	0.00200	"	0.200		96.4	70-130			
Xylene (o)	0.115	0.00100	"	0.100		115	70-130			
Surrogate: 1,4-Difluorobenzene	0.0620		"	0.0600		103	75-125			
Surrogate: 4-Bromofluorobenzene	0.0639		"	0.0600		107	75-125			

LCS Dup (P6F1504-BSD1)

Prepared & Analyzed: 06/13/16

Benzene	0.0949	0.00100	mg/kg wet	0.100		94.9	70-130	6.11	20	
Toluene	0.103	0.00200	"	0.100		103	70-130	8.54	20	
Ethylbenzene	0.103	0.00100	"	0.100		103	70-130	6.69	20	
Xylene (p/m)	0.187	0.00200	"	0.200		93.3	70-130	3.36	20	
Xylene (o)	0.108	0.00100	"	0.100		108	70-130	6.05	20	
Surrogate: 4-Bromofluorobenzene	0.0636		"	0.0600		106	75-125			
Surrogate: 1,4-Difluorobenzene	0.0614		"	0.0600		102	75-125			

Duplicate (P6F1504-DUP1)

Source: 6F10002-06

Prepared: 06/13/16 Analyzed: 06/14/16

Benzene	ND	0.118	mg/kg dry		ND				20	
Toluene	0.621	0.235	"		ND				20	
Ethylbenzene	ND	0.118	"		ND				20	
Xylene (p/m)	10.8	0.235	"		8.97			18.4	20	
Xylene (o)	2.38	0.118	"		1.51			44.6	20	R3
Surrogate: 4-Bromofluorobenzene	0.0554		"	0.0706		78.4	75-125			
Surrogate: 1,4-Difluorobenzene	0.0842		"	0.0706		119	75-125			

DRAFT REPORT

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Midland TX, 79710

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Organics by GC - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6F1510 - General Preparation (GC)

Blank (P6F1510-BLK1)

Prepared & Analyzed: 06/14/16

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.0588		"	0.0600		98.1	75-125			
Surrogate: 1,4-Difluorobenzene	0.0672		"	0.0600		112	75-125			

LCS (P6F1510-BS1)

Prepared & Analyzed: 06/14/16

Benzene	0.0990	0.00100	mg/kg wet	0.100		99.0	70-130			
Toluene	0.0999	0.00200	"	0.100		99.9	70-130			
Ethylbenzene	0.103	0.00100	"	0.100		103	70-130			
Xylene (p/m)	0.179	0.00200	"	0.200		89.6	70-130			
Xylene (o)	0.102	0.00100	"	0.100		102	70-130			
Surrogate: 1,4-Difluorobenzene	0.0652		"	0.0600		109	75-125			
Surrogate: 4-Bromofluorobenzene	0.0611		"	0.0600		102	75-125			

LCS Dup (P6F1510-BSD1)

Prepared & Analyzed: 06/14/16

Benzene	0.110	0.00100	mg/kg wet	0.100		110	70-130	10.1	20	
Toluene	0.115	0.00200	"	0.100		115	70-130	14.4	20	
Ethylbenzene	0.119	0.00100	"	0.100		119	70-130	14.9	20	
Xylene (p/m)	0.200	0.00200	"	0.200		99.9	70-130	10.9	20	
Xylene (o)	0.117	0.00100	"	0.100		117	70-130	13.6	20	
Surrogate: 4-Bromofluorobenzene	0.0635		"	0.0600		106	75-125			
Surrogate: 1,4-Difluorobenzene	0.0662		"	0.0600		110	75-125			

Duplicate (P6F1510-DUP1)

Source: 6F09009-41

Prepared: 06/14/16 Analyzed: 06/15/16

Benzene	ND	0.00104	mg/kg dry		ND				20	
Toluene	0.00158	0.00208	"		0.00666			123	20	
Ethylbenzene	0.00302	0.00104	"		0.00566			60.7	20	
Xylene (p/m)	0.0445	0.00208	"		0.0664			39.5	20	
Xylene (o)	0.00481	0.00104	"		0.00498			3.40	20	
Surrogate: 1,4-Difluorobenzene	0.0807		"	0.0625		129	75-125			S-GC
Surrogate: 4-Bromofluorobenzene	0.0728		"	0.0625		116	75-125			

DRAFT REPORT

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Midland TX, 79710

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

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Organics by GC - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6F1609 - General Preparation (GC)

Blank (P6F1609-BLK1)

Prepared & Analyzed: 06/15/16

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.0643		"	0.0600		107	75-125			
Surrogate: 4-Bromofluorobenzene	0.0617		"	0.0600		103	75-125			

LCS (P6F1609-BS1)

Prepared & Analyzed: 06/15/16

Benzene	0.103	0.00100	mg/kg wet	0.100		103	70-130			
Toluene	0.112	0.00200	"	0.100		112	70-130			
Ethylbenzene	0.116	0.00100	"	0.100		116	70-130			
Xylene (p/m)	0.194	0.00200	"	0.200		97.1	70-130			
Xylene (o)	0.117	0.00100	"	0.100		117	70-130			
Surrogate: 4-Bromofluorobenzene	0.0664		"	0.0600		111	75-125			
Surrogate: 1,4-Difluorobenzene	0.0632		"	0.0600		105	75-125			

Matrix Spike (P6F1609-MS1)

Source: 6F14005-08

Prepared: 06/15/16 Analyzed: 06/16/16

Benzene	0.0942	0.00111	mg/kg dry	0.111	ND	84.8	80-120			
Toluene	0.0918	0.00222	"	0.111	ND	82.6	80-120			
Ethylbenzene	0.0984	0.00111	"	0.111	ND	88.6	80-120			
Xylene (p/m)	0.145	0.00222	"	0.222	0.00618	62.6	80-120			QM-07
Xylene (o)	0.120	0.00111	"	0.111	0.000889	107	80-120			
Surrogate: 1,4-Difluorobenzene	0.0756		"	0.0667		113	75-125			
Surrogate: 4-Bromofluorobenzene	0.0656		"	0.0667		98.4	75-125			

Matrix Spike Dup (P6F1609-MSD1)

Source: 6F14005-08

Prepared: 06/15/16 Analyzed: 06/16/16

Benzene	0.0975	0.00111	mg/kg dry	0.111	ND	87.7	80-120	3.40	20	
Toluene	0.101	0.00222	"	0.111	ND	90.9	80-120	9.54	20	
Ethylbenzene	0.114	0.00111	"	0.111	ND	102	80-120	14.6	20	
Xylene (p/m)	0.167	0.00222	"	0.222	0.00618	72.5	80-120	14.7	20	QM-07
Xylene (o)	0.119	0.00111	"	0.111	0.000889	106	80-120	0.985	20	
Surrogate: 1,4-Difluorobenzene	0.0742		"	0.0667		111	75-125			
Surrogate: 4-Bromofluorobenzene	0.0654		"	0.0667		98.1	75-125			

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Midland TX, 79710

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

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Organics by GC - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6F2012 - General Preparation (GC)

Blank (P6F2012-BLK1)

Prepared & Analyzed: 06/17/16

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.0602		"	0.0600		100	75-125			
Surrogate: 4-Bromofluorobenzene	0.0642		"	0.0600		107	75-125			

LCS (P6F2012-BS1)

Prepared & Analyzed: 06/17/16

Benzene	0.118	0.00100	mg/kg wet	0.100		118	70-130			
Toluene	0.0936	0.00200	"	0.100		93.6	70-130			
Ethylbenzene	0.114	0.00100	"	0.100		114	70-130			
Xylene (p/m)	0.212	0.00200	"	0.200		106	70-130			
Xylene (o)	0.121	0.00100	"	0.100		121	70-130			
Surrogate: 4-Bromofluorobenzene	0.0688		"	0.0600		115	75-125			
Surrogate: 1,4-Difluorobenzene	0.0603		"	0.0600		101	75-125			

LCS Dup (P6F2012-BSD1)

Prepared & Analyzed: 06/17/16

Benzene	0.117	0.00100	mg/kg wet	0.100		117	70-130	0.637	20	
Toluene	0.0942	0.00200	"	0.100		94.2	70-130	0.660	20	
Ethylbenzene	0.116	0.00100	"	0.100		116	70-130	1.83	20	
Xylene (p/m)	0.210	0.00200	"	0.200		105	70-130	0.673	20	
Xylene (o)	0.116	0.00100	"	0.100		116	70-130	4.35	20	
Surrogate: 4-Bromofluorobenzene	0.0700		"	0.0600		117	75-125			
Surrogate: 1,4-Difluorobenzene	0.0608		"	0.0600		101	75-125			

Matrix Spike (P6F2012-MS1)

Source: 6F09011-05

Prepared & Analyzed: 06/17/16

Benzene	0.0998	0.0208	mg/kg dry	0.104	ND	95.8	80-120			
Toluene	0.0812	0.0417	"	0.104	ND	78.0	80-120			QM-07
Ethylbenzene	0.164	0.0208	"	0.104	ND	157	80-120			QM-07
Xylene (p/m)	0.598	0.0417	"	0.208	0.360	115	80-120			
Xylene (o)	0.142	0.0208	"	0.104	0.0444	93.6	80-120			
Surrogate: 1,4-Difluorobenzene	0.0679		"	0.0625		109	75-125			
Surrogate: 4-Bromofluorobenzene	0.0473		"	0.0625		75.6	75-125			

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Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

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Organics by GC - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6F2012 - General Preparation (GC)

Matrix Spike Dup (P6F2012-MSD1)

Source: 6F09011-05

Prepared & Analyzed: 06/17/16

Benzene	0.120	0.0208	mg/kg dry	0.104	ND	115	80-120	18.0	20	
Toluene	0.126	0.0417	"	0.104	ND	121	80-120	43.5	20	QM-07
Ethylbenzene	0.138	0.0208	"	0.104	ND	132	80-120	17.3	20	QM-07
Xylene (p/m)	0.354	0.0417	"	0.208	0.360	NR	80-120	NR	20	QM-07
Xylene (o)	0.193	0.0208	"	0.104	0.0444	143	80-120	41.8	20	QM-07
Surrogate: 1,4-Difluorobenzene	0.0703		"	0.0625		113	75-125			
Surrogate: 4-Bromofluorobenzene	1.19		"	0.0625		NR	75-125			S-GC

Batch P6F2020 - General Preparation (GC)

Blank (P6F2020-BLK1)

Prepared & Analyzed: 06/18/16

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.0675		"	0.0600		113	75-125			
Surrogate: 1,4-Difluorobenzene	0.0632		"	0.0600		105	75-125			

LCS (P6F2020-BS1)

Prepared & Analyzed: 06/18/16

Benzene	0.0978	0.00100	mg/kg wet	0.100		97.8	70-130			
Toluene	0.0917	0.00200	"	0.100		91.7	70-130			
Ethylbenzene	0.107	0.00100	"	0.100		107	70-130			
Xylene (p/m)	0.184	0.00200	"	0.200		92.0	70-130			
Xylene (o)	0.108	0.00100	"	0.100		108	70-130			
Surrogate: 1,4-Difluorobenzene	0.0682		"	0.0600		114	75-125			
Surrogate: 4-Bromofluorobenzene	0.0754		"	0.0600		126	75-125			S-GC

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Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Organics by GC - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P6F2020 - General Preparation (GC)

LCS Dup (P6F2020-BSD1)

Prepared & Analyzed: 06/18/16

Benzene	0.118	0.00100	mg/kg wet	0.100		118	70-130	18.8	20	
Toluene	0.106	0.00200	"	0.100		106	70-130	14.7	20	
Ethylbenzene	0.122	0.00100	"	0.100		122	70-130	13.6	20	
Xylene (p/m)	0.207	0.00200	"	0.200		104	70-130	11.9	20	
Xylene (o)	0.117	0.00100	"	0.100		117	70-130	8.16	20	
Surrogate: 4-Bromofluorobenzene	0.0713		"	0.0600		119	75-125			
Surrogate: 1,4-Difluorobenzene	0.0616		"	0.0600		103	75-125			

Duplicate (P6F2020-DUP1)

Source: 6F17005-34

Prepared: 06/18/16 Analyzed: 06/19/16

Benzene	ND	0.272	mg/kg dry		ND				20	
Toluene	1.91	0.543	"		1.55			20.9	20	QM-07
Ethylbenzene	ND	0.272	"		ND				20	
Xylene (p/m)	19.7	0.543	"		18.3			7.38	20	
Xylene (o)	8.60	0.272	"		7.99			7.31	20	
Surrogate: 1,4-Difluorobenzene	0.0539		"	0.0652		82.7	75-125			
Surrogate: 4-Bromofluorobenzene	0.0736		"	0.0652		113	75-125			

Batch P6F2021 - General Preparation (GC)

Blank (P6F2021-BLK1)

Prepared & Analyzed: 06/18/16

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.0626		"	0.0600		104	75-125			
Surrogate: 1,4-Difluorobenzene	0.0615		"	0.0600		103	75-125			

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Organics by GC - 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 P6F2021 - General Preparation (GC)

LCS (P6F2021-BS1)

Prepared & Analyzed: 06/18/16

Benzene	0.115	0.00100	mg/kg wet	0.100		115	70-130			
Toluene	0.0946	0.00200	"	0.100		94.6	70-130			
Ethylbenzene	0.112	0.00100	"	0.100		112	70-130			
Xylene (p/m)	0.204	0.00200	"	0.200		102	70-130			
Xylene (o)	0.116	0.00100	"	0.100		116	70-130			
Surrogate: 4-Bromofluorobenzene	0.0666		"	0.0600		111	75-125			
Surrogate: 1,4-Difluorobenzene	0.0609		"	0.0600		102	75-125			

LCS Dup (P6F2021-BSD1)

Prepared & Analyzed: 06/18/16

Benzene	0.108	0.00100	mg/kg wet	0.100		108	70-130	6.69	20	
Toluene	0.0874	0.00200	"	0.100		87.4	70-130	7.94	20	
Ethylbenzene	0.107	0.00100	"	0.100		107	70-130	4.34	20	
Xylene (p/m)	0.183	0.00200	"	0.200		91.7	70-130	10.4	20	
Xylene (o)	0.106	0.00100	"	0.100		106	70-130	9.01	20	
Surrogate: 4-Bromofluorobenzene	0.0657		"	0.0600		109	75-125			
Surrogate: 1,4-Difluorobenzene	0.0633		"	0.0600		106	75-125			

Duplicate (P6F2021-DUP1)

Source: 6F15007-04

Prepared & Analyzed: 06/18/16

Benzene	ND	0.0204	mg/kg dry		ND				20	
Toluene	0.834	0.0408	"		0.736			12.6	20	
Ethylbenzene	ND	0.0204	"		ND				20	
Xylene (p/m)	4.81	0.0408	"		5.03			4.44	20	
Xylene (o)	1.87	0.0204	"		1.89			1.09	20	
Surrogate: 4-Bromofluorobenzene	0.0599		"	0.0612		97.8	75-125			
Surrogate: 1,4-Difluorobenzene	0.0564		"	0.0612		92.1	75-125			

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
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 P6F1402 - *** DEFAULT PREP ***										
Blank (P6F1402-BLK1)				Prepared & Analyzed: 06/14/16						
% Moisture	ND	0.1	%							
Duplicate (P6F1402-DUP1)				Source: 6F09009-07 Prepared & Analyzed: 06/14/16						
% Moisture	10.0	0.1	%		10.0			0.00	20	
Batch P6F1506 - *** DEFAULT PREP ***										
Blank (P6F1506-BLK1)				Prepared: 06/15/16 Analyzed: 06/16/16						
% Moisture	ND	0.1	%							
Duplicate (P6F1506-DUP1)				Source: 6F09009-34 Prepared: 06/15/16 Analyzed: 06/16/16						
% Moisture	5.0	0.1	%		5.0			0.00	20	
Batch P6F2014 - *** DEFAULT PREP ***										
Blank (P6F2014-BLK1)				Prepared & Analyzed: 06/20/16						
Chloride	ND	1.00	mg/kg wet							
LCS (P6F2014-BS1)				Prepared & Analyzed: 06/20/16						
Chloride	186	1.00	mg/kg wet	200		93.0	80-120			
LCS Dup (P6F2014-BSD1)				Prepared & Analyzed: 06/20/16						
Chloride	187	1.00	mg/kg wet	200		93.3	80-120	0.295	20	
Duplicate (P6F2014-DUP1)				Source: 6F13011-10 Prepared & Analyzed: 06/20/16						
Chloride	212	1.08	mg/kg dry		209			1.25	20	

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
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 P6F2014 - *** DEFAULT PREP ***										
Duplicate (P6F2014-DUP2)		Source: 6F09009-17			Prepared & Analyzed: 06/20/16					
Chloride	3.75	1.04	mg/kg dry		3.91			4.08	20	
Matrix Spike (P6F2014-MS1)		Source: 6F13011-10			Prepared & Analyzed: 06/20/16					
Chloride	384	1.08	mg/kg dry	215	209	81.5	80-120			
Batch P6F2015 - *** DEFAULT PREP ***										
Blank (P6F2015-BLK1)		Prepared & Analyzed: 06/20/16								
Chloride	ND	1.00	mg/kg wet							
LCS (P6F2015-BS1)		Prepared & Analyzed: 06/20/16								
Chloride	186	1.00	mg/kg wet	200		93.1	80-120			
LCS Dup (P6F2015-BSD1)		Prepared & Analyzed: 06/20/16								
Chloride	184	1.00	mg/kg wet	200		91.8	80-120	1.32	20	
Duplicate (P6F2015-DUP1)		Source: 6F09009-35			Prepared & Analyzed: 06/20/16					
Chloride	48.2	1.03	mg/kg dry		48.9			1.40	20	
Duplicate (P6F2015-DUP2)		Source: 6F14002-01			Prepared & Analyzed: 06/20/16					
Chloride	2030	5.43	mg/kg dry		2040			0.267	20	
Matrix Spike (P6F2015-MS1)		Source: 6F09009-35			Prepared & Analyzed: 06/20/16					
Chloride	184	1.03	mg/kg dry	155	48.9	87.1	80-120			

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
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
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Batch P6F1701 - TX 1005

Blank (P6F1701-BLK1)

Prepared & Analyzed: 06/16/16

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	92.8		"	100		92.8	70-130			
Surrogate: o-Terphenyl	45.1		"	50.0		90.2	70-130			

LCS (P6F1701-BS1)

Prepared & Analyzed: 06/16/16

C6-C12	816	25.0	mg/kg wet	1000		81.6	75-125			
>C12-C28	915	25.0	"	1000		91.5	75-125			
Surrogate: 1-Chlorooctane	101		"	100		101	70-130			
Surrogate: o-Terphenyl	36.6		"	50.0		73.2	70-130			

Batch P6F2003 - TX 1005

Blank (P6F2003-BLK1)

Prepared & Analyzed: 06/17/16

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	89.4		"	100		89.4	70-130			
Surrogate: o-Terphenyl	44.7		"	50.0		89.4	70-130			

LCS (P6F2003-BS1)

Prepared & Analyzed: 06/17/16

C6-C12	833	25.0	mg/kg wet	1000		83.3	75-125			
>C12-C28	1060	25.0	"	1000		106	75-125			
Surrogate: 1-Chlorooctane	116		"	100		116	70-130			
Surrogate: o-Terphenyl	41.8		"	50.0		83.6	70-130			

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
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
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Batch P6F2003 - TX 1005

LCS Dup (P6F2003-BSD1)

Prepared & Analyzed: 06/17/16

C6-C12	818	25.0	mg/kg wet	1000		81.8	75-125	1.81	20	
>C12-C28	1060	25.0	"	1000		106	75-125	0.447	20	
Surrogate: 1-Chlorooctane	115		"	100		115	70-130			
Surrogate: o-Terphenyl	40.4		"	50.0		80.8	70-130			

Duplicate (P6F2003-DUP1)

Source: 6F17001-04

Prepared: 06/17/16 Analyzed: 06/18/16

C6-C12	295	27.5	mg/kg dry		293			0.807	20	
>C12-C28	2020	27.5	"		2070			2.46	20	
Surrogate: 1-Chlorooctane	126		"	110		115	70-130			
Surrogate: o-Terphenyl	68.5		"	54.9		125	70-130			

Batch P6F2004 - TX 1005

Blank (P6F2004-BLK1)

Prepared: 06/17/16 Analyzed: 06/18/16

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	103		"	100		103	70-130			
Surrogate: o-Terphenyl	51.3		"	50.0		103	70-130			

LCS (P6F2004-BS1)

Prepared: 06/17/16 Analyzed: 06/18/16

C6-C12	904	25.0	mg/kg wet	1000		90.4	75-125			
>C12-C28	1050	25.0	"	1000		105	75-125			
Surrogate: 1-Chlorooctane	126		"	100		126	70-130			
Surrogate: o-Terphenyl	44.6		"	50.0		89.1	70-130			

LCS Dup (P6F2004-BSD1)

Prepared: 06/17/16 Analyzed: 06/18/16

C6-C12	969	25.0	mg/kg wet	1000		96.9	75-125	6.91	20	
>C12-C28	1090	25.0	"	1000		109	75-125	3.69	20	
Surrogate: 1-Chlorooctane	107		"	100		107	70-130			
Surrogate: o-Terphenyl	45.8		"	50.0		91.6	70-130			

DRAFT REPORT

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

Project: EOG Cedar Lake
Project Number: 16-0121-01
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
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Batch P6F2008 - TX 1005

Blank (P6F2008-BLK1)

Prepared & Analyzed: 06/17/16

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	103		"	100		103	70-130			
Surrogate: o-Terphenyl	55.6		"	50.0		111	70-130			

LCS (P6F2008-BS1)

Prepared & Analyzed: 06/17/16

C6-C12	1050	25.0	mg/kg wet	1000		105	75-125			
>C12-C28	1130	25.0	"	1000		113	75-125			
Surrogate: 1-Chlorooctane	126		"	100		126	70-130			
Surrogate: o-Terphenyl	59.1		"	50.0		118	70-130			

LCS Dup (P6F2008-BSD1)

Prepared & Analyzed: 06/17/16

C6-C12	985	25.0	mg/kg wet	1000		98.5	75-125	6.89	20	
>C12-C28	1140	25.0	"	1000		114	75-125	1.22	20	
Surrogate: 1-Chlorooctane	126		"	100		126	70-130			
Surrogate: o-Terphenyl	56.3		"	50.0		113	70-130			

DRAFT REPORT

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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.
R3	The RPD exceeded the acceptance limit due to sample matrix effects.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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: 6/21/2016

Brent Barron, Laboratory Director/Technical Director

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If you have received this material in error, please notify us immediately at 432-686-7235.

DRAFT REPORT

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507 N. Marientfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to:

DATE: 6-9-16 PAGE 1 OF 4
PO #: _____ LAB WORK ORDER #: 6F0906
PROJECT LOCATION OR NAME: ECG Cedar Lake
LAI PROJECT # 16-0121-01 COLLECTOR: Travis Williams

Page 45 of 48

TRRP report?					
☐ Yes ☒ No					
TIME ZONE:					
Time zone/State:					
NM					
S=SOIL W=WATER A=AIR	P=PAINT SL=SLUDGE OT=OTHER				
Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers
DP1 O-2	1	6-7-16	1:30	S	1
2-4	2		1		
4-6	3		1:40		
6-8	4		1		
8-10	5		1:47		
10-12	6		1		
12-14	7		1:55		
14-15	8		1		
DP2 O-2	9		3:00		
2-4	10		1		
4-6	11		3:07		
6-8	12		1		
8-10	13		3:14		
10-12	14		1		
DP3 O-2	15		3:37		
TOTAL					
REINQUISHED BY: (Signature)					
DATE/TIME RECEIVED BY: (Signature)					
REINQUISHED BY: (Signature)					
DATE/TIME RECEIVED BY: (Signature)					
REINQUISHED BY: (Signature)					
DATE/TIME RECEIVED BY: (Signature)					
TURN AROUND TIME					
NORMAL ☒					
1 DAY ☐					
2 DAY ☐					
OTHER ☐					
LABORATORY USE ONLY:					
RECEIVING TEMP: 32 THERM #: 41					
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED					
☐ CARRIER BILL #					
☐ HAND DELIVERED					

Aarson &
associates, inc.
Environmental Consultants

Environmental Consultants

507 N. Marientfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to:

DATE: 6-9-16 PAGE 2 OF 2
PO #: _____ LAB WORK ORDER #: 670900
PROJECT LOCATION OR NAME: EOG Cedar Lake
LAI PROJECT #: 16-0121-01 COLLECTOR: Trenton

Page 46 of 48

TRRP report? ☐ Yes ☒ No		S=SOIL W=WATER A=AIR		P=PAINT SL=SLUDGE OT=OTHER	
TIME ZONE: Time zone/State: NM					
Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers
DP 3 2-4	16	6-7-16	3:37	5	1
4-6	17		3:44		
6-8	18		1		
8-10	19		3:52		
DP 4 0-2	20		4:15		
2-4	21		1		
4-6	22		4:20		
6-8	23		1		
8-9	24		4:25		
DP 5 0-2	25	6-8-16	2:15		
2-4	26		1		
4-6	27		2:20		
6-8	28		1		
8-10	29		2:28		
10-12	30		1		
TOTAL					
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)	
DATE/TIME		RECEIVED BY: (Signature)		TURN AROUND TIME	
DATE/TIME		RECEIVED BY: (Signature)		NORMAL ☒	
DATE/TIME		RECEIVED BY: (Signature)		1 DAY ☐	
DATE/TIME		RECEIVED BY: (Signature)		2 DAY ☐	
DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐	
DATE/TIME		RECEIVED BY: (Signature)		LABORATORY USE ONLY:	
DATE/TIME		RECEIVED BY: (Signature)		RECEIVING TEMP. 312	
DATE/TIME		RECEIVED BY: (Signature)		THERM #. L1	
DATE/TIME		RECEIVED BY: (Signature)		CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED	
DATE/TIME		RECEIVED BY: (Signature)		☐ CARRIER BILL #	
DATE/TIME		RECEIVED BY: (Signature)		☐ HAND DELIVERED	

Data Reported to:

DATE: 6-9-16 PAGE 3 OF 4
PO #: LAB WORK ORDER # 6709009
PROJECT LOCATION OR NAME: ECG Cedar Lake
LAI PROJECT #: 16-0121-01 COLLECTOR: Trent Williams

CHAIN-OF-CUSTODY

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION				ANALYSES		FIELD NOTES
						HCl	HNO ₃	H ₂ SO ₄ ☐ NaOH ☐	ICE	UNPRESERVED	OTHER	
DP-5 12-14	31	6-8-16	2:36	S	1							31
1 14-15	32		1									32
DP-6 0-2	33		2:46									33
2-4	34		1									34
1-6	35		2:56									35
6-8	36		1									36
8-10	37		3:08									37
10-12	38		1									38
DP-7 0-2	39		3:20									39
2-4	40		1									40
1-6	41		3:37									41
6-8	42		1									42
8-10	43		3:42									43
10-12	44		1									44
12-14	45		3:57									45
TOTAL												

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	TURN AROUND TIME	LABORATORY USE ONLY:
<u>[Signature]</u>	10:10 6/9/16	<u>[Signature]</u>	6/9/16	NORMAL ☒	RECEIVING TEMP: <u>3.2</u> THERM # <u>L1</u>
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	1 DAY ☐	CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	2 DAY ☐	CARRIER BILL #
				OTHER ☐	☐ HAND DELIVERED

Data Reported to:

DATE: 6-9-16 PAGE 4 OF 4
PO #: LAB WORK ORDER # 650700
PROJECT LOCATION OR NAME: BOG Cedar Lake
LAI PROJECT #: 16-0121-01 COLLECTOR: Trent Williams

CHAIN-OF-CUSTODY

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION				ANALYSES	FIELD NOTES	
						HCl	HNO ₃	H ₂ SO ₄ ☐ NaOH ☐	ICE			UNPRESERVED
DE-8 0-2	46	6-8-16	4:08	S	1							46
2-4	47		1									47
4-6	48		4:04									48
6-8	49		1									49
8-10	50		4:09									50
TOTAL												
RELINQUISHED BY: (Signature) DATE/TIME: <u>10/10/16</u> RECEIVED BY: (Signature)												
RELINQUISHED BY: (Signature) DATE/TIME: <u>10/10/16</u> RECEIVED BY: (Signature)												
RELINQUISHED BY: (Signature) DATE/TIME: <u>10/10/16</u> RECEIVED BY: (Signature)												
TURN AROUND TIME NORMAL ☒ 1 DAY ☐ 2 DAY ☐ OTHER ☐												
LABORATORY USE ONLY: RECEIVING TEMP: <u>3.2</u> THERM #: <u>41</u> CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED ☐ CARRIER BILL # ☐ HAND DELIVERED												

Appendix C

Photographs

Photographs



Location Sign



Crude Oil Inside firewall near Northwest Corner (DP-1) Viewing Northeast, May 20, 2016

Photographs



Stained Area Outside Firewall North of Tanks Viewing Northeast, May 30, 2016



Stained Area Inside and Outside Firewall Viewing Southeast, June 1, 2016

Photographs



Stained Area Inside and Outside Firewall Viewing Northeast, June 1, 2016



Stained Area Inside and Outside Firewall Viewing West, June 1, 2016

Photographs



Stained Area Inside Firewall Viewing East, June 1, 2016



Stained Area Inside Firewall Viewing North, June 1, 2016