

REMEDIATION REPORT
Cedar Lake 35 No. 2 Tank Battery Spill
Eddy County, New Mexico

2RP-3715

LAI Project No. 16-0121-01

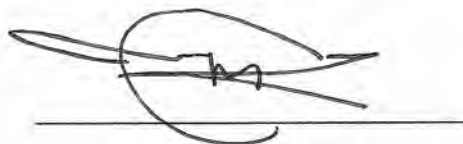
October 21, 2016

Prepared for:

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Contents

Introduction	1
Setting	1
Remediation Action Levels.....	1
Investigation.....	1
Remediation.....	2
Conclusions	3

Figures

Figure1	Topographic Map
Figure 2	Aerial Map
Figure 3	Site Map with Soil Samples and Excavations

Tables

Table 1	Investigation Sample Analytical Data Summary
Table 2	Remediation Sample Analytical Data Summary

Appendices

Appendix A	Laboratory Reports
Appendix B	Photographs
Appendix C	C-141 Forms

Introduction

This report is prepared for submittal to the New Mexico Oil Conservation Division (NMOCD) District 2 on behalf of EOG Resources, Inc. (EOG) for a crude oil spill at the Cedar Lake 35 Fed Com No. 2 tank battery (Site) in Eddy County, New Mexico. The Site is located in Unit P, Section 35, Township 17S, Range 30E. The geodetic position is North 32°47'10.18" and West 103°56'14.30". Figure 1 presents a topographic map. Figure 2 presents an aerial map.

The spill occurred on May 30, 2016, due to a leak at the bottom of the oil tank. Approximately 188 barrels (bbl) of crude oil was released with about 2 bbl recovered. The release occurred inside the containment with a small amount seeping through the firewall. EOG submitted the initial C-141 to the NMOCD on June 1, 2016, and was issued remediation project number, 2RP-3715, on June 3, 2016.

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 270 feet bgs according to Ground Water Report 3 ("Geology and Ground-Water Resources of Eddy County, New Mexico"); and
- The nearest well is located in Section 20, Township 17 South, Range 30 East about 4.2 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 New Mexico Oil Conservation Division (OCD) in "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	>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

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. Table 1 presents the investigation sample analytical data summary. Appendix A presents the laboratory report.

Benzene concentrations were below the RRAL (10 mg/Kg). The RRAL for BTEX (50 mg/Kg) was exceeded in the following samples:

- DP-4, 4 to 6 feet (261.87 mg/Kg)
- DP-5, 0 to 2 feet (498.05 mg/Kg)
- DP-6, 0 to 2 feet (512.46 mg/Kg)
- DP-7, 0 to 2 feet (366.06 mg/Kg)
- DP-8, 0 to 2 feet (57.478 mg/Kg)

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

- DP-1, 2 to 4 feet (10,400 mg/Kg)
- DP-1, 4 to 6 feet (7,460 mg/Kg)
- DP-4, 0 to 2 feet (8,490 mg/Kg)
- DP-4, 4 to 6 feet (7,670 mg/Kg)
- DP-5, 0 to 2 feet (15.190 mg/Kg)
- DP-6, 0 to 2 feet (22,900 mg/Kg)
- DP-7, 0 to 2 feet (10,600 mg/Kg)

Chloride was delineated vertically to 250 mg/Kg.

Remediation

Between July 21 and August 23, 2016, SDR Enterprises, LLC (SDR) with supervision from LAI excavated approximately 324 cubic yards of soil from the spill area. Soil was excavated from around the tanks and outside the firewall to a maximum depth of approximately 10 feet bgs (SS-9-10) near the southwest corner of the tank battery. Contaminated soil was disposed at Lea Land Landfill, LLC located between Hobbs and Carlsbad, New Mexico. Clean soil was brought to the location to fill the excavation. Soil was remediated below the RRAL for benzene (10 mg/Kg). Benzene was remediated below the RRAL (50 mg/Kg).

In-situ BTEX concentrations exceeded the RRAL in the following bottom samples:

SS-10-4 (75.538 mg/Kg) SS-11-4 (70.282 mg/Kg) SS-12-3 (515.33 mg/Kg)

In-situ BTEX concentrations remain above the RRAL in the following sidewall samples:

SS-5-3 (294.44 mg/Kg) HA-11-3 (93.75 mg/Kg)

In-situ TPH concentrations remain above the RRAL in the following bottom samples:

SS-10-4 (7,350 mg/Kg) SS-12-3 (18,000 mg/Kg)

In-situ TPH concentrations remain above the RRAL in the following sidewall samples:

SS-5-3 (10,100 mg/Kg)

Table 2 presents the remediation sample analytical data summary. Appendix A presents the laboratory reports. Appendix B presents photographs.

Conclusions

On August 24, 2016, during a conference call between EOG, LAI and Ms. Heather Patterson with NMOCD District 2, OCD agreed to defer remediation of the residual hydrocarbons until abandonment of the facility. The request for deferral is based on the ability to safely remediate the hydrocarbons without risking damage to the integrity of the tank battery. The Site has been sufficiently delineated to show reduction of the BTEX and TPH levels in the soil. EOG respectfully requests approval from OCD to defer remediation of the residual hydrocarbons until the facility is abandoned. Appendix C presents the initial and final C-141.

Tables

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

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:					10	50				5,000	*250
DP-1	0 - 2	6/7/2016	In-Situ	954	--	--	--	--	--	--	--
	2 - 4	6/7/2016	In-Situ	1040	0.0989	11.35	5020	4990	410	10400	182
	4 - 6	6/7/2016	In-Situ	908	--	--	3040	3910	506	7460	--
	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	1083	<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	0.00252	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	22.70
DP-3	0 - 2	6/7/2016	In-Situ	766	0.00471	0.81801	1490	1480	108	3080	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	--	--	--	--	--	--	--
	8 - 10	6/7/2016	In-Situ	117	<0.00123	0.01459	<30.9	76.50	<30.9	76.5	37.2
DP-4	0 - 2	6/7/2016	In-Situ	406	0.286	22.886	3740	4390	351	8490	4.33
	2 - 4	6/7/2016	In-Situ	393	--	--	--	--	--	--	--
	4 - 6	6/7/2016	In-Situ	395	4.170	261.87	3760	3600	315	7670	12.8
	6 - 8	6/7/2016	In-Situ	373	--	--	--	--	--	--	--

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

	8 - 10	6/7/2016	In-Situ	301	0.00127	0.38647	651	1050	102	1800	13.6
DP-5	0 - 2	6/8/2016	In-Situ	920	3.25	498.05	7710	6410	1070	15190	3.04
	2 - 4	6/8/2016	In-Situ	55	--	--	--	--	--	--	--
	4 - 6	6/8/2016	In-Situ	1054	<0.0208	0.27520	149.0	353.0	55.2	557.2	3.86
	6 - 8	6/8/2016	In-Situ	34	--	--	--	--	--	--	--
	8 - 10	6/8/2016	In-Situ	154	<0.0215	0.08900	65.2	294.0	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	8630	13200	1130	22900	3.86
	2 - 4	6/7/2016	In-Situ	515	<0.0211	1.3157	130.0	486.0	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	48.90
	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	209.0
	10 - 12	6/7/2016	In-Situ	4	--	--	--	--	--	--	--
DP-7	0 - 2	6/8/2016	In-Situ	682	2.16	366.06	4660	5220	752.0	10600	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	941	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	54.70
	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	18.70
DP-8	0 - 2	6/8/2016	In-Situ	704	0.128	57.48	1170	1380	151	2690	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	<26.0	64	6.95

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Eddy County, New Mexico
2RP-3715

	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)

Table 2
Remediation Soil Sample Analytical Data Summary
EOG Resources, Inc., Cedar Lake 35 Fed Com #2 Tank Battery
Eddy County, New Mexico
2RP-3715

Location	Depth (Feet)	Collection Date	Location	Status	PID	Benzene	BTEX	C6 - C12 (mg/Kg)	>C12 - C28 (mg/Kg)	>C28 - C35 (mg/Kg)	TPH (mg/Kg)
RRAL:						10	50	5,000			
Excavation 1											
HA-1-2	2	7/22/2016	Sidewall	Excavated	1198	--	--	4,806.80	4,875.40	559.76	10,241.96
SS-1-2	2	8/10/2016	Sidewall	In-Situ	54.6	<0.00104	<0.00728	<26.0	<26.0	<26.0	<26.0
HA-2-2	2	7/22/2016	Sidewall	In-Situ	115.2	--	--	<26.316	46.98	<26.316	46.98
HA-3	2	7/22/2016	Sidewall	In-Situ	331.6	--	--	<26.316	<26.316	<26.316	<26.316
HA-4	2	7/22/2016	Sidewall	Excavated	381.9	--	--	3,011.10	2,175.90	236.03	5,423.03
SS-4-2	2	8/10/2016	Sidewall	In-Situ	79.4	<0.0211	<0.1475	<26.3	<26.3	<26.3	<26.3
HA-5	2	7/22/2016	Sidewall	Excavated	2280	--	--	5,860.80	3,950.70	572.16	10,383.66
SS-5-2	2	8/10/2016	Sidewall	In-Situ	10.8	<0.00104	<0.00728	<26.0	<26.0	<26.0	<26.0
HA-6	2	7/22/2016	Sidewall	In-Situ	229.9	--	--	<26.042	39.88	<26.042	39.88
HA-7	2	7/22/2016	Sidewall	In-Situ	4467	--	--	75.31	75.77	<26.316	151.07
HA-8	2	7/22/2016	Sidewall	In-Situ	91.0	--	--	<26.596	<26.596	<26.596	<26.596
HA-9	6	7/22/2016	Bottom	In-Situ	161.4	--	--	<26.316	<26.316	<26.316	<26.316
HA-10	2	7/22/2016	Sidewall	Excavated	1650	--	--	3,006.20	2,291.50	238.07	5,535.77
SS-10-4	4	8/10/2016	Sidewall	In-Situ	70.30	<0.0217	<0.1521	<27.2	<27.2	<27.2	<27.2
HA-11-1	1	8/5/2016	Sidewall	Excavated	46.20	0.766	64.846	1,350	977	133	2,460
HA-11-3	3	8/19/2016	Sidewall	In-Situ	691.2	1.45	93.75	--	--	--	--

Table 2
Remediation Soil Sample Analytical Data Summary
EOG Resources, Inc., Cedar Lake 35 Fed Com #2 Tank Battery
Eddy County, New Mexico
2RP-3715

Excavation 2											
HA-1	2	7/22/2016	Sidewall	In-Situ	389.4	<0.0213	46.59	827.11	907.83	122.90	1,857.84
HA-2	2	7/22/2016	Sidewall	In-Situ	3.50	--	--	<26.882	<26.882	<26.882	<26.882
HA-3	2	7/22/2016	Sidewall	Excavated	4569.0	--	--	2,826.60	2,750.10	364.00	5,940.70
SS-3-2	2	8/11/2016	Sidewall	In-Situ	3.5	<0.00104	<0.00728	<26.0	<26.0	<26.0	<26.0
HA-4	2	7/22/2016	Sidewall	Excavated	5474	--	--	5,318.00	5,161.60	652.28	11,131.88
SS-4-2	2	8/15/2016	Sidewall	In-Situ	91.6	<0.00106	<0.00744	<26.6	<26.6	<26.6	<26.6
HA-5	2	7/22/2016	Sidewall	Excavated	74.6	--	--	7,842.40	7,280.70	1,030.10	16,153.20
SS-5-3	3	8/12/2016	Sidewall	In-Situ	1436	1.84	294.44	5,550	4,080	448	10,100
HA-6	2	7/22/2016	Sidewall	Excavated	4003	--	--	3,558.20	3,281.60	473.12	7,312.92
SS-6-2	2	8/12/2016	Sidewall	Excavated	3513	3.54	164	2,290	2,010	172	4,470
SS-6-3	3	8/23/2016	Sidewall	In-Situ	10.3	<0.00102	<0.00714	--	--	--	--
HA-7	2	7/22/2016	Sidewall	Excavated	97.6	<0.0213	40.33	1,056.30	1,149.60	169.07	2,374.97
SS-7-2	2	8/12/2016	Sidewall	In-Situ	74.2	<0.00105	0.00605	<26.3	<26.3	<26.3	<26.3
HA-8	2	7/22/2016	Bottom	Excavated	2574	1.32	125.02	2,196.10	2,038.30	255.96	4,490.36
SS-8-3	3	8/11/2016	Bottom	In-Situ	2436	0.0227	0.265	<25.8	<25.8	<25.8	<25.8
HA-9	4	7/22/2016	Bottom	Excavated	2123	2.03	114.04	5,720.00	4,047.80	461.96	10,229.76
SS-9-8	8	8/11/2016	Bottom	Excavated	1.5	2.94	384.94	5,760	3,960	415	10,100
SS-9-10	10	8/22/2016	Bottom	In-Situ	23.6	0.00216	0.01523	<27.2	<27.2	<27.2	<27.2
HA-10	2	7/22/2016	Bottom	Excavated	5146	<0.0217	69.27	1,893.80	2,498.70	288.55	4,681.05
SS-10-3	3	8/11/2016	Bottom	Excavated	2738	<0.106	102.596	3,470	2,590	241	6,300

Table 2
Remediation Soil Sample Analytical Data Summary
EOG Resources, Inc., Cedar Lake 35 Fed Com #2 Tank Battery
Eddy County, New Mexico
2RP-3715

SS-10-4	4	8/22/2016	Bottom	In-Situ	1213	0.938	75.538	4,210	2,810	334	7,350
HA-11	2	7/22/2016	Bottom	Excavated	388.9	<0.0211	55.52	2,101.20	2,119.50	220.27	4,440.97
SS-11-3	3	8/11/2016	Bottom	Excavated	3789	0.725	112.565	3,930	3,190	263	7,380
SS-11-4	4	8/22/2016	Bottom	In-Situ	1084	0.382	70.282	2,630	1,970	233	4,830
SS-12-3	3	8/12/2016	Bottom	In-Situ	951.8	4.53	515.33	10,000	7,270	776	18,100

Notes: laboratory analysis performed by Permian Basin Environmental Lab, Midland, Texas, by method TX 1005

Depth in feet below ground surface (bgs)

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

P= Pending analysis

Bold and highlighted denotes concentration exceeds RRAL

Figures

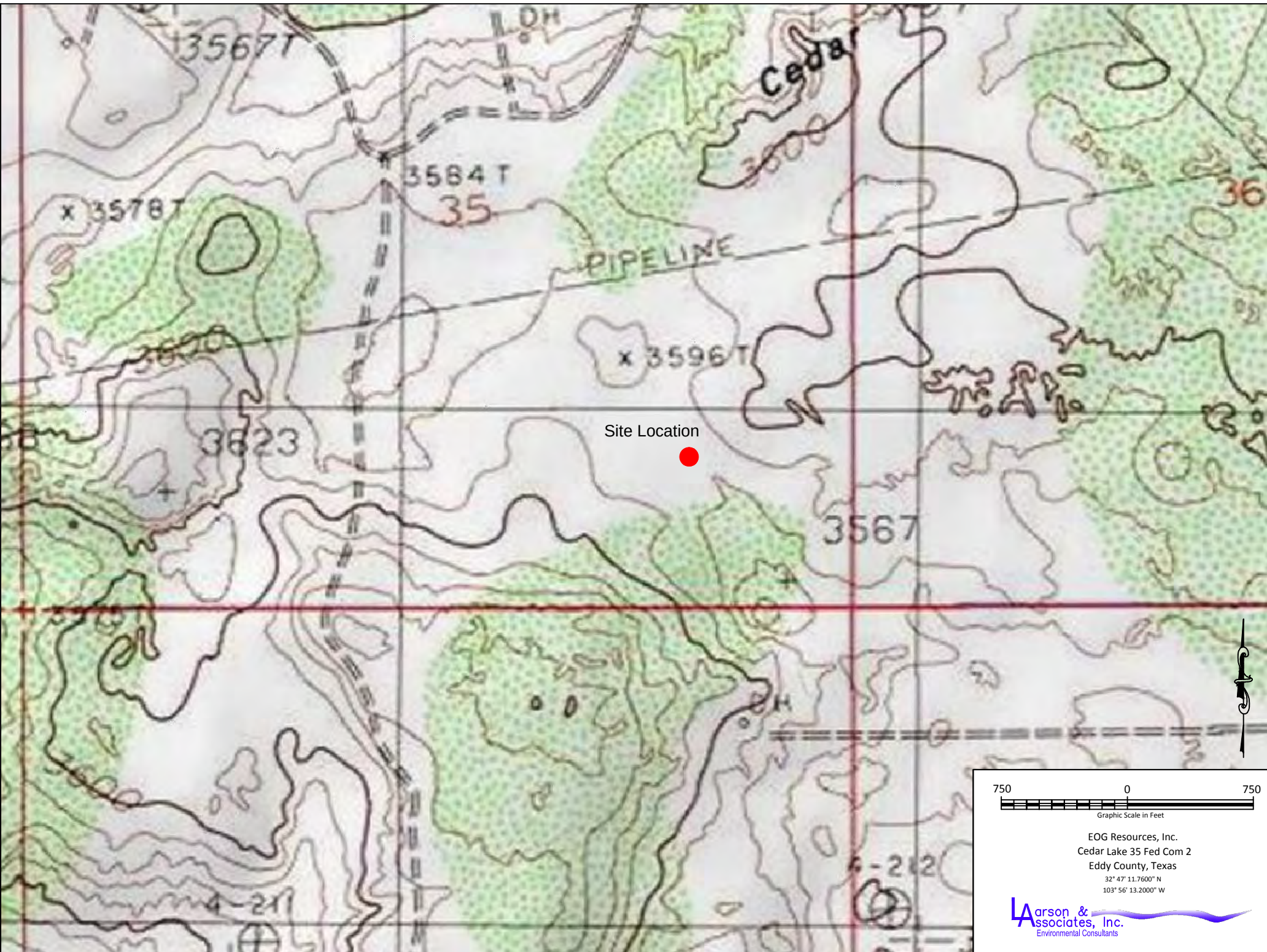
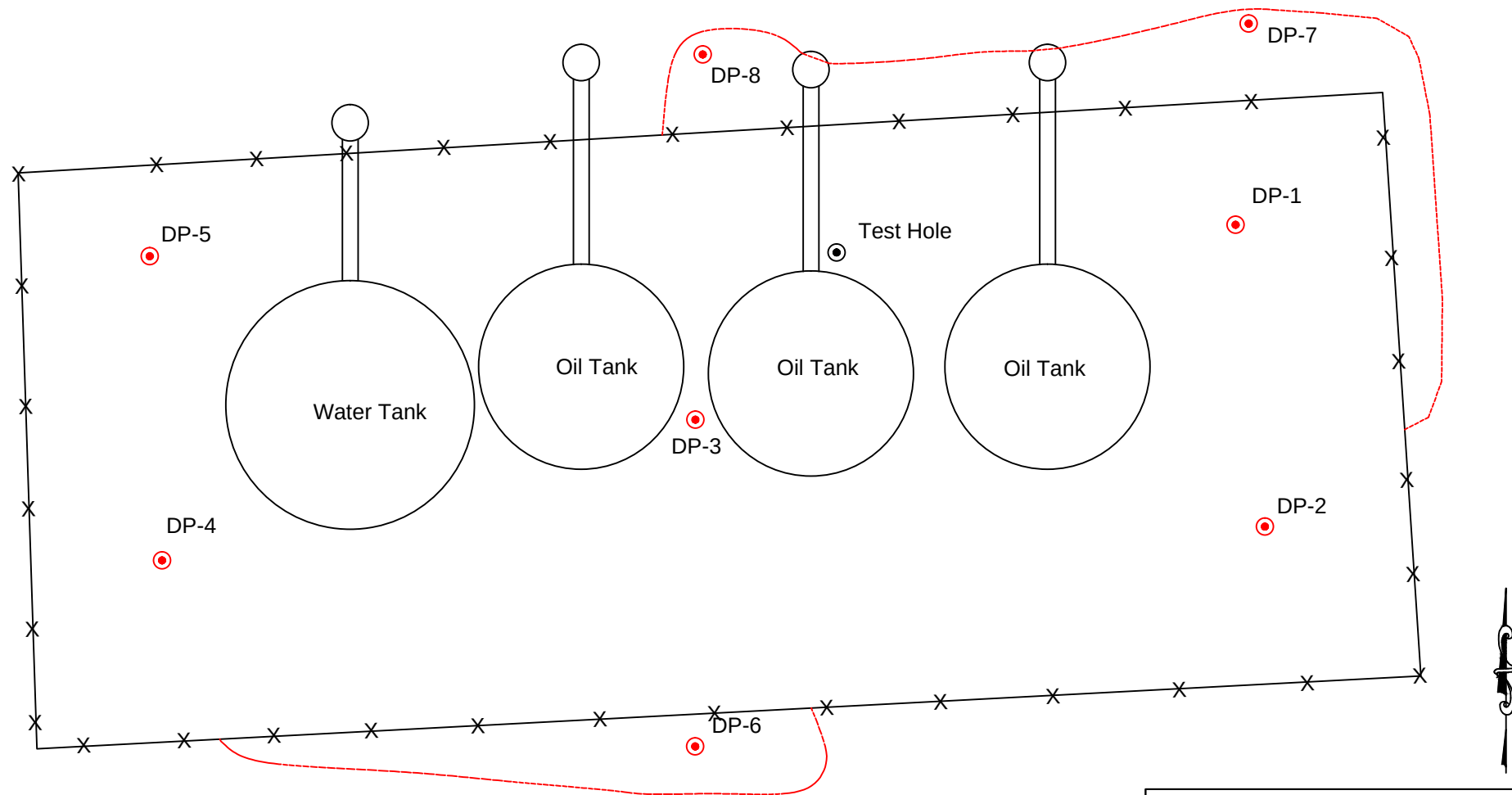


Figure 1 - Topographic Map



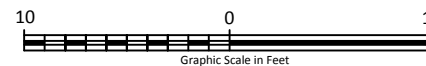
Figure 2 - Aerial

8.5" x 11"



Legend

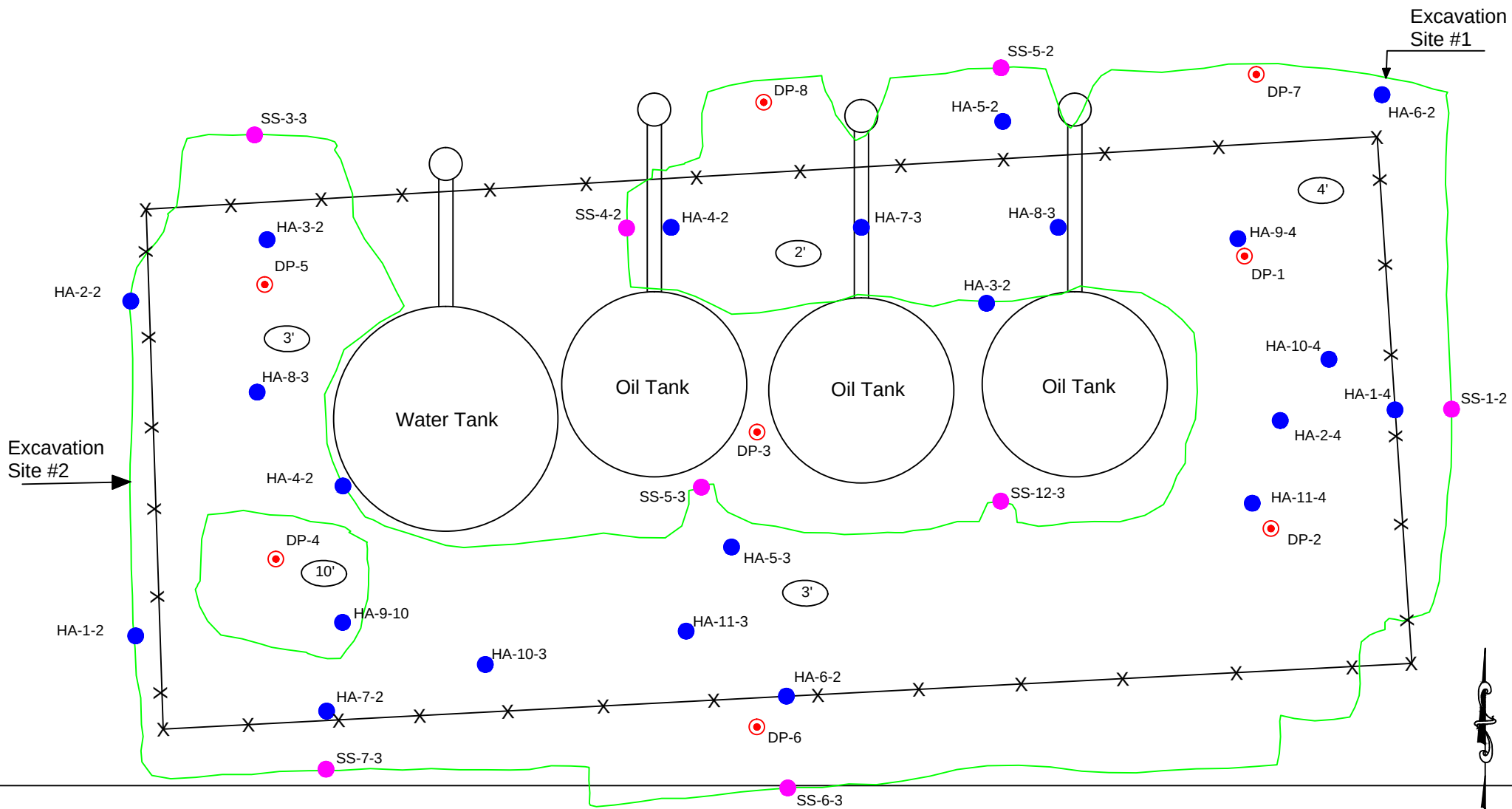
- DP-1  - Proposed Direct Push Soil Sample Location
-  - Test Hole
-  - Spill Area Outside Containment



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

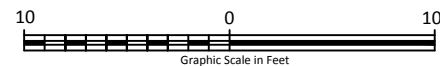
Larson & Associates, Inc.
Environmental Consultants

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



Legend

- SS-7-3 ● - Soil Sample Location, August 10-23, 2016
- DP-1 ⊙ - Direct Push Soil Sample Location, June 7-8, 2016
- HA-6-2 ● - Hand Auger Sample Location, July 22 & August 5, 2016
- Spill Area Outside Containment
- 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 - Site Map Showing Soil Sample Locations

Attachments

Appendix A

**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.
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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 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

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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 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	

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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 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	

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Midland TX, 79710

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

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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	

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Midland TX, 79710

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

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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	

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

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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	

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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

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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	

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 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	

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 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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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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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 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	
<i>Surrogate: 1,4-Difluorobenzene</i>		135 %	75-125		P6F1504	06/13/16	06/14/16	EPA 8021B	S-GC
<i>Surrogate: 4-Bromofluorobenzene</i>		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	
<i>Surrogate: 1-Chlorooctane</i>		112 %	70-130		P6F2003	06/17/16	06/18/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		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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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
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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	"							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0604</i>		<i>"</i>	<i>0.0600</i>		<i>101</i>	<i>75-125</i>			
<i>Surrogate: 1,4-Difluorobenzene</i>	<i>0.0666</i>		<i>"</i>	<i>0.0600</i>		<i>111</i>	<i>75-125</i>			

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			
<i>Surrogate: 1,4-Difluorobenzene</i>	<i>0.0620</i>		<i>"</i>	<i>0.0600</i>		<i>103</i>	<i>75-125</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0639</i>		<i>"</i>	<i>0.0600</i>		<i>107</i>	<i>75-125</i>			

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	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0636</i>		<i>"</i>	<i>0.0600</i>		<i>106</i>	<i>75-125</i>			
<i>Surrogate: 1,4-Difluorobenzene</i>	<i>0.0614</i>		<i>"</i>	<i>0.0600</i>		<i>102</i>	<i>75-125</i>			

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
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0554</i>		<i>"</i>	<i>0.0706</i>		<i>78.4</i>	<i>75-125</i>			
<i>Surrogate: 1,4-Difluorobenzene</i>	<i>0.0842</i>		<i>"</i>	<i>0.0706</i>		<i>119</i>	<i>75-125</i>			

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
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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

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 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			

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 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			

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
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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

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 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.
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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 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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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
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Batch P6F1402 - * DEFAULT PREP *****

Blank (P6F1402-BLK1)

Prepared & Analyzed: 06/14/16

% Moisture	ND	0.1	%
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Duplicate (P6F1402-DUP1)

Source: 6F09009-07

Prepared & Analyzed: 06/14/16

% Moisture	10.0	0.1	%	10.0	0.00	20
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Batch P6F1506 - * DEFAULT PREP *****

Blank (P6F1506-BLK1)

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

% Moisture	ND	0.1	%
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Duplicate (P6F1506-DUP1)

Source: 6F09009-34

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

% Moisture	5.0	0.1	%	5.0	0.00	20
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Batch P6F2014 - * DEFAULT PREP *****

Blank (P6F2014-BLK1)

Prepared & Analyzed: 06/20/16

Chloride	ND	1.00	mg/kg wet
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LCS (P6F2014-BS1)

Prepared & Analyzed: 06/20/16

Chloride	186	1.00	mg/kg wet	200	93.0	80-120
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LCS Dup (P6F2014-BSD1)

Prepared & Analyzed: 06/20/16

Chloride	187	1.00	mg/kg wet	200	93.3	80-120	0.295	20
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Duplicate (P6F2014-DUP1)

Source: 6F13011-10

Prepared & Analyzed: 06/20/16

Chloride	212	1.08	mg/kg dry	209	1.25	20
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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

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			

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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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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			

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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: EOG Cedar Lake
LAI PROJECT #: 16-0121-01 COLLECTOR: T. J. Williams

COLLECTOR: Town & Moore

Page 45 of 48

TRRP report?		S=SOIL W=WATER A=AIR		P=PAINT SL=SLUDGE OT=OTHER	
☐ Yes ☒ No					
TIME ZONE:					
Time zone/State:					
NM					
Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers
DP1 0-2	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 0-2	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 0-2	15		3:37		
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	
6/9/16 10:40		6/9/16		NORMAL ☒	
6/9/16 10:40		6/9/16		1 DAY ☐	
				2 DAY ☐	
				OTHER ☐	
				LABORATORY USE ONLY:	
				RECEIVING TEMP: 32 THERM #: 41	
				CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED	
				☐ CARRIER BILL #	
				☐ HAND DELIVERED	

Varson & 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 #: 670903
PROJECT LOCATION OR NAME: EOG Cedar Lake
LAI PROJECT #: 16-0121-01 COLLECTOR: Trevis Griffith

Page 46 of 48

[illegible]

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		TURN AROUND TIME	LABORATORY USE ONLY:
						HCl	HNO ₃	H ₂ SO ₄ ☐ NaOH ☐	ICE	UNPRESERVED	OTHER LIST		
DP-5 12-14	31	6-8-16	2:36	S	1								
1 14-15	32		1										
DP-6 0-2	33		2:46										
2-4	34		1										
1-6	35		2:56										
6-8	36		1										
8-10	37		3:08										
10-12	38		1										
DP-7 0-2	39		3:20										
2-4	40		1										
4-6	41		3:37										
6-8	42		1										
8-10	43		3:42										
10-12	44		1										
12-14	45		3:57										
TOTAL													
RELINQUISHED BY: (Signature) <u>10:10 6/9/16</u> DATE/TIME RECEIVED BY: (Signature) <u>6/9/16 10:10</u> DATE/TIME RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature) RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)													

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												

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



Analytical Report

Prepared for:

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

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Location: Cedar Lakes Ex2
Lab Order Number: 6H03003



NELAP/TCEQ # T104704156-13-3

Report Date: 08/05/16

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

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Coty Woolf

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA-1-2	6H03003-01	Soil	07/22/16 11:30	08-03-2016 09:00
HA-2-2	6H03003-02	Soil	07/22/16 11:40	08-03-2016 09:00
HA-3	6H03003-03	Soil	07/22/16 11:35	08-03-2016 09:00
HA-4	6H03003-04	Soil	07/22/16 11:40	08-03-2016 09:00
HA-5	6H03003-05	Soil	07/22/16 11:43	08-03-2016 09:00
HA-6	6H03003-06	Soil	07/22/16 11:47	08-03-2016 09:00
HA-7	6H03003-07	Soil	07/22/16 11:50	08-03-2016 09:00
HA-8	6H03003-08	Soil	07/22/16 11:55	08-03-2016 09:00
HA-9	6H03003-09	Soil	07/22/16 12:01	08-03-2016 09:00
HA-10	6H03003-10	Soil	07/22/16 12:30	08-03-2016 09:00

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

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Coty Woolf

Fax: (432) 687-0456

HA-1-2
6H03003-01 (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

C6-C12	4806.8	26.316	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TX 1005
>C12-C28	4875.4	26.316	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TX 1005
>C28-C35	559.76	26.316	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TX 1005
<i>Surrogate: 1-Chlorooctane</i>		100 %	70-130		P6H0504	08/04/16	08/04/16	TX 1005
<i>Surrogate: o-Terphenyl</i>		110 %	70-130		P6H0504	08/04/16	08/04/16	TX 1005
Total Hydrocarbon nC6-nC35	10242	26.316	mg/kg dry	1	[CALC]	08/04/16	08/04/16	[CALC]

General Chemistry Parameters by EPA / Standard Methods

% Moisture	5.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation
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Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Coty Woolf

Fax: (432) 687-0456

HA-2-2
6H03003-02 (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

C6-C12	ND	26.316	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TX 1005
>C12-C28	46.979	26.316	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TX 1005
>C28-C35	ND	26.316	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TX 1005
Surrogate: 1-Chlorooctane		84.6 %	70-130		P6H0504	08/04/16	08/04/16	TX 1005
Surrogate: o-Terphenyl		89.4 %	70-130		P6H0504	08/04/16	08/04/16	TX 1005
Total Hydrocarbon nC6-nC35	46.979	26.316	mg/kg dry	1	[CALC]	08/04/16	08/04/16	[CALC]

General Chemistry Parameters by EPA / Standard Methods

% Moisture	5.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation
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Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Coty Woolf

Fax: (432) 687-0456

HA-3
6H03003-03 (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

C6-C12	ND	26.316	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TX 1005
>C12-C28	ND	26.316	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TX 1005
>C28-C35	ND	26.316	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TX 1005
Surrogate: 1-Chlorooctane		82.7 %	70-130		P6H0504	08/04/16	08/04/16	TX 1005
Surrogate: o-Terphenyl		86.6 %	70-130		P6H0504	08/04/16	08/04/16	TX 1005
Total Hydrocarbon nC6-nC35	ND	26.316	mg/kg dry	1	[CALC]	08/04/16	08/04/16	[CALC]

General Chemistry Parameters by EPA / Standard Methods

% Moisture	5.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation
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Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Coty Woolf

Fax: (432) 687-0456

HA-4
6H03003-04 (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

C6-C12	3011.1	26.316	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TX 1005
>C12-C28	2175.9	26.316	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TX 1005
>C28-C35	236.03	26.316	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TX 1005
<i>Surrogate: 1-Chlorooctane</i>		109 %	70-130		P6H0504	08/04/16	08/04/16	TX 1005
<i>Surrogate: o-Terphenyl</i>		90.7 %	70-130		P6H0504	08/04/16	08/04/16	TX 1005
Total Hydrocarbon nC6-nC35	5423.0	26.316	mg/kg dry	1	[CALC]	08/04/16	08/04/16	[CALC]

General Chemistry Parameters by EPA / Standard Methods

% Moisture	5.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation
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Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Coty Woolf

Fax: (432) 687-0456

HA-5
6H03003-05 (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

C6-C12	5860.8	131.58	mg/kg dry	5	P6H0504	08/04/16	08/05/16	TX 1005
>C12-C28	3950.7	131.58	mg/kg dry	5	P6H0504	08/04/16	08/05/16	TX 1005
>C28-C35	572.16	131.58	mg/kg dry	5	P6H0504	08/04/16	08/05/16	TX 1005
<i>Surrogate: 1-Chlorooctane</i>		99.1 %	70-130		P6H0504	08/04/16	08/05/16	TX 1005
<i>Surrogate: o-Terphenyl</i>		99.8 %	70-130		P6H0504	08/04/16	08/05/16	TX 1005
Total Hydrocarbon nC6-nC35	10384	131.58	mg/kg dry	5	[CALC]	08/04/16	08/05/16	[CALC]

General Chemistry Parameters by EPA / Standard Methods

% Moisture	5.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation
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Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Coty Woolf

Fax: (432) 687-0456

HA-6
6H03003-06 (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

C6-C12	ND	26.042	mg/kg dry	1	P6H0504	08/04/16	08/05/16	TX 1005
>C12-C28	39.875	26.042	mg/kg dry	1	P6H0504	08/04/16	08/05/16	TX 1005
>C28-C35	ND	26.042	mg/kg dry	1	P6H0504	08/04/16	08/05/16	TX 1005
Surrogate: 1-Chlorooctane		89.5 %	70-130		P6H0504	08/04/16	08/05/16	TX 1005
Surrogate: o-Terphenyl		94.2 %	70-130		P6H0504	08/04/16	08/05/16	TX 1005
Total Hydrocarbon nC6-nC35	39.875	26.042	mg/kg dry	1	[CALC]	08/04/16	08/05/16	[CALC]

General Chemistry Parameters by EPA / Standard Methods

% Moisture	4.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation
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Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Coty Woolf

Fax: (432) 687-0456

HA-7
6H03003-07 (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

C6-C12	75.305	26.316	mg/kg dry	1	P6H0504	08/04/16	08/05/16	TX 1005
>C12-C28	75.768	26.316	mg/kg dry	1	P6H0504	08/04/16	08/05/16	TX 1005
>C28-C35	ND	26.316	mg/kg dry	1	P6H0504	08/04/16	08/05/16	TX 1005
<i>Surrogate: 1-Chlorooctane</i>		85.2 %	70-130		P6H0504	08/04/16	08/05/16	TX 1005
<i>Surrogate: o-Terphenyl</i>		90.0 %	70-130		P6H0504	08/04/16	08/05/16	TX 1005
Total Hydrocarbon nC6-nC35	151.07	26.316	mg/kg dry	1	[CALC]	08/04/16	08/05/16	[CALC]

General Chemistry Parameters by EPA / Standard Methods

% Moisture	5.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation
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Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Coty Woolf

Fax: (432) 687-0456

HA-8
6H03003-08 (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

C6-C12	ND	26.596	mg/kg dry	1	P6H0504	08/04/16	08/05/16	TX 1005
>C12-C28	ND	26.596	mg/kg dry	1	P6H0504	08/04/16	08/05/16	TX 1005
>C28-C35	ND	26.596	mg/kg dry	1	P6H0504	08/04/16	08/05/16	TX 1005
Surrogate: 1-Chlorooctane		84.0 %	70-130		P6H0504	08/04/16	08/05/16	TX 1005
Surrogate: o-Terphenyl		89.8 %	70-130		P6H0504	08/04/16	08/05/16	TX 1005
Total Hydrocarbon nC6-nC35	ND	26.596	mg/kg dry	1	[CALC]	08/04/16	08/05/16	[CALC]

General Chemistry Parameters by EPA / Standard Methods

% Moisture	6.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation
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Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Coty Woolf

Fax: (432) 687-0456

HA-9
6H03003-09 (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

C6-C12	ND	26.316	mg/kg dry	1	P6H0504	08/04/16	08/05/16	TX 1005
>C12-C28	ND	26.316	mg/kg dry	1	P6H0504	08/04/16	08/05/16	TX 1005
>C28-C35	ND	26.316	mg/kg dry	1	P6H0504	08/04/16	08/05/16	TX 1005
Surrogate: 1-Chlorooctane		80.9 %	70-130		P6H0504	08/04/16	08/05/16	TX 1005
Surrogate: o-Terphenyl		86.4 %	70-130		P6H0504	08/04/16	08/05/16	TX 1005
Total Hydrocarbon nC6-nC35	ND	26.316	mg/kg dry	1	[CALC]	08/04/16	08/05/16	[CALC]

General Chemistry Parameters by EPA / Standard Methods

% Moisture	5.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation
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Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Coty Woolf

Fax: (432) 687-0456

HA-10
6H03003-10 (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

C6-C12	3006.2	26.042	mg/kg dry	1	P6H0503	08/04/16	08/04/16	TX 1005
>C12-C28	2291.5	26.042	mg/kg dry	1	P6H0503	08/04/16	08/04/16	TX 1005
>C28-C35	238.07	26.042	mg/kg dry	1	P6H0503	08/04/16	08/04/16	TX 1005
<i>Surrogate: 1-Chlorooctane</i>		104 %	70-130		P6H0503	08/04/16	08/04/16	TX 1005
<i>Surrogate: o-Terphenyl</i>		112 %	70-130		P6H0503	08/04/16	08/04/16	TX 1005
Total Hydrocarbon nC6-nC35	5535.9	26.042	mg/kg dry	1	[CALC]	08/04/16	08/04/16	[CALC]

General Chemistry Parameters by EPA / Standard Methods

% Moisture	4.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation
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Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Coty Woolf

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 P6H0503 - TX 1005

Blank (P6H0503-BLK1)

Prepared & Analyzed: 08/04/16

C6-C12	ND	25.000	mg/kg wet							
>C12-C28	ND	25.000	"							
>C28-C35	ND	25.000	"							
Surrogate: 1-Chlorooctane	78.2		"	100		78.2	70-130			
Surrogate: o-Terphenyl	43.0		"	50.0		86.0	70-130			

LCS (P6H0503-BS1)

Prepared & Analyzed: 08/04/16

C6-C12	882	25.000	mg/kg wet	1000		88.2	75-125			
>C12-C28	838	25.000	"	1000		83.8	75-125			
Surrogate: 1-Chlorooctane	100		"	100		100	70-130			
Surrogate: o-Terphenyl	42.2		"	50.0		84.5	70-130			

LCS Dup (P6H0503-BS1)

Prepared & Analyzed: 08/04/16

C6-C12	940	25.000	mg/kg wet	1000		94.0	75-125	6.35	20	
>C12-C28	882	25.000	"	1000		88.2	75-125	5.21	20	
Surrogate: 1-Chlorooctane	94.2		"	100		94.2	70-130			
Surrogate: o-Terphenyl	36.8		"	50.0		73.7	70-130			

Matrix Spike (P6H0503-MS1)

Source: 6H03004-10

Prepared: 08/04/16 Analyzed: 08/05/16

C6-C12	999	27.473	mg/kg dry	1100	67.2	84.8	75-125			
>C12-C28	1290	27.473	"	1100	443	77.0	75-125			
Surrogate: 1-Chlorooctane	113		"	110		103	70-130			
Surrogate: o-Terphenyl	51.5		"	54.9		93.7	70-130			

Matrix Spike Dup (P6H0503-MSD1)

Source: 6H03004-10

Prepared: 08/04/16 Analyzed: 08/05/16

C6-C12	992	27.473	mg/kg dry	1100	67.2	84.1	75-125	0.787	20	
>C12-C28	1290	27.473	"	1100	443	77.2	75-125	0.209	20	
Surrogate: 1-Chlorooctane	113		"	110		103	70-130			
Surrogate: o-Terphenyl	51.3		"	54.9		93.3	70-130			

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

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Coty Woolf

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 P6H0504 - TX 1005

Blank (P6H0504-BLK1)

Prepared & Analyzed: 08/04/16

C6-C12	ND	25.000	mg/kg wet							
>C12-C28	ND	25.000	"							
>C28-C35	ND	25.000	"							
Surrogate: 1-Chlorooctane	85.7		"	100		85.7	70-130			
Surrogate: o-Terphenyl	46.3		"	50.0		92.6	70-130			

LCS (P6H0504-BS1)

Prepared & Analyzed: 08/04/16

C6-C12	764	25.000	mg/kg wet	1000		76.4	75-125			
>C12-C28	851	25.000	"	1000		85.1	75-125			
Surrogate: 1-Chlorooctane	116		"	100		116	70-130			
Surrogate: o-Terphenyl	47.1		"	50.0		94.2	70-130			

LCS Dup (P6H0504-BSD1)

Prepared & Analyzed: 08/04/16

C6-C12	788	25.000	mg/kg wet	1000		78.8	75-125	3.17	20	
>C12-C28	859	25.000	"	1000		85.9	75-125	0.985	20	
Surrogate: 1-Chlorooctane	119		"	100		119	70-130			
Surrogate: o-Terphenyl	47.4		"	50.0		94.8	70-130			

Matrix Spike (P6H0504-MS1)

Source: 6H03002-09

Prepared: 08/04/16 Analyzed: 08/05/16

C6-C12	3760	31.646	mg/kg dry	1270	5720	NR	75-125			QM-05
>C12-C28	3560	31.646	"	1270	4050	NR	75-125			QM-05
Surrogate: 1-Chlorooctane	155		"	127		123	70-130			
Surrogate: o-Terphenyl	66.3		"	63.3		105	70-130			

Matrix Spike Dup (P6H0504-MSD1)

Source: 6H03002-09

Prepared: 08/04/16 Analyzed: 08/05/16

C6-C12	3640	31.646	mg/kg dry	1270	5720	NR	75-125	NR	20	QM-05
>C12-C28	3380	31.646	"	1270	4050	NR	75-125	NR	20	QM-05
Surrogate: 1-Chlorooctane	139		"	127		110	70-130			
Surrogate: o-Terphenyl	64.8		"	63.3		102	70-130			

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

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Coty Woolf

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
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Batch P6H0411 - * DEFAULT PREP *****

Blank (P6H0411-BLK1)		Prepared & Analyzed: 08/04/16							
% Moisture	ND	0.1	%						
Blank (P6H0411-BLK2)		Prepared & Analyzed: 08/04/16							
% Moisture	ND	0.1	%						
Duplicate (P6H0411-DUP1)		Source: 6H03006-08		Prepared & Analyzed: 08/04/16					
% Moisture	8.0	0.1	%		8.0			0.00	20
Duplicate (P6H0411-DUP2)		Source: 6H03004-05		Prepared & Analyzed: 08/04/16					
% Moisture	13.0	0.1	%		13.0			0.00	20
Duplicate (P6H0411-DUP3)		Source: 6H03008-07		Prepared & Analyzed: 08/04/16					
% Moisture	2.0	0.1	%		2.0			0.00	20
Duplicate (P6H0411-DUP4)		Source: 6H03015-10		Prepared & Analyzed: 08/04/16					
% Moisture	9.0	0.1	%		9.0			0.00	20
Duplicate (P6H0411-DUP5)		Source: 6H03015-21		Prepared & Analyzed: 08/04/16					
% Moisture	2.0	0.1	%		2.0			0.00	20

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Midland TX, 79710

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Coty Woolf

Fax: (432) 687-0456

Notes and Definitions

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date: 8/5/2016

Brent Barron, Laboratory Director/Technical Director

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

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

DATE: 8/31/2016 PAGE 1 OF 1
PO #: LAB WORK ORDER #:
PROJECT LOCATION OR NAME: Cedar Lake 35 EX 1
LAI PROJECT #: 16-0121-01 COLLECTOR: Michael Garmy

DATE: 8/31/2016 PAGE 1 OF 1
PO #: LAB WORK ORDER #:
PROJECT LOCATION OR NAME: Cedar Lake 35 EXT
LAI PROJECT #: 16-0121-01 COLLECTOR: Michael G...

11.6 NCF C1

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



Analytical Report

Prepared for:

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

Project: Cedar Lakes 35
Project Number: 16-0121-01
Location: EOG Cedar Lakes 35
Lab Order Number: 6H08001



NELAP/TCEQ # T104704156-13-3

Report Date: 08/09/16

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

Project: Cedar Lakes 35
Project Number: 16-0121-01
Project Manager: Michael Gant

Fax: (432) 687-0456

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA-11-1	6H08001-01	Soil	08/05/16 11:20	08-08-2016 09:15

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

Project: Cedar Lakes 35
Project Number: 16-0121-01
Project Manager: Michael Gant

Fax: (432) 687-0456

HA-11-1
6H08001-01 (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	0.766	0.106	mg/kg dry	100	P6H0909	08/09/16	08/09/16	EPA 8021B
Toluene	12.9	0.213	mg/kg dry	100	P6H0909	08/09/16	08/09/16	EPA 8021B
Ethylbenzene	3.73	0.106	mg/kg dry	100	P6H0909	08/09/16	08/09/16	EPA 8021B
Xylene (p/m)	38.6	0.213	mg/kg dry	100	P6H0909	08/09/16	08/09/16	EPA 8021B
Xylene (o)	8.85	0.106	mg/kg dry	100	P6H0909	08/09/16	08/09/16	EPA 8021B
<i>Surrogate: 4-Bromofluorobenzene</i>		125 %	75-125		P6H0909	08/09/16	08/09/16	EPA 8021B
<i>Surrogate: 1,4-Difluorobenzene</i>		112 %	75-125		P6H0909	08/09/16	08/09/16	EPA 8021B

General Chemistry Parameters by EPA / Standard Methods

% Moisture	6.0	0.1	%	1	P6H0816	08/08/16	08/08/16	% calculation
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	1350	26.6	mg/kg dry	1	P6H0907	08/09/16	08/09/16	TPH 8015M
>C12-C28	977	26.6	mg/kg dry	1	P6H0907	08/09/16	08/09/16	TPH 8015M
>C28-C35	133	26.6	mg/kg dry	1	P6H0907	08/09/16	08/09/16	TPH 8015M
<i>Surrogate: 1-Chlorooctane</i>		108 %	70-130		P6H0907	08/09/16	08/09/16	TPH 8015M
<i>Surrogate: o-Terphenyl</i>		118 %	70-130		P6H0907	08/09/16	08/09/16	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	2460	26.6	mg/kg dry	1	[CALC]	08/09/16	08/09/16	calc

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

Project: Cedar Lakes 35
Project Number: 16-0121-01
Project Manager: Michael Gant

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 P6H0909 - General Preparation (GC)

Blank (P6H0909-BLK1)

Prepared & Analyzed: 08/09/16

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	0.0860		"	0.0600		143	75-125			S-GC
Surrogate: 1,4-Difluorobenzene	0.0643		"	0.0600		107	75-125			

LCS (P6H0909-BS1)

Prepared & Analyzed: 08/09/16

Benzene	0.104	0.00100	mg/kg wet	0.110		94.7	70-130			
Toluene	0.113	0.00200	"	0.110		103	70-130			
Ethylbenzene	0.122	0.00100	"	0.110		110	70-130			
Xylene (p/m)	0.244	0.00200	"	0.220		111	70-130			
Xylene (o)	0.125	0.00100	"	0.110		114	70-130			
Surrogate: 1,4-Difluorobenzene	0.0694		"	0.0600		116	75-125			
Surrogate: 4-Bromofluorobenzene	0.0866		"	0.0600		144	75-125			S-GC

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

Project: Cedar Lakes 35
Project Number: 16-0121-01
Project Manager: Michael Gant

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
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Batch P6H0816 - * DEFAULT PREP *****

Blank (P6H0816-BLK1)

Prepared & Analyzed: 08/08/16

% Moisture	ND	0.1	%
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Duplicate (P6H0816-DUP1)

Source: 6H08001-01

Prepared & Analyzed: 08/08/16

% Moisture	6.0	0.1	%	6.0	0.00	20
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Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Cedar Lakes 35
Project Number: 16-0121-01
Project Manager: Michael Gant

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 P6H0907 - TX 1005

Blank (P6H0907-BLK1)

Prepared & Analyzed: 08/09/16

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	85.1		"	100		85.1	70-130			
Surrogate: o-Terphenyl	48.4		"	50.0		96.9	70-130			

LCS (P6H0907-BS1)

Prepared & Analyzed: 08/09/16

C6-C12	811	25.0	mg/kg wet	1000		81.1	75-125			
>C12-C28	878	25.0	"	1000		87.8	75-125			
Surrogate: 1-Chlorooctane	106		"	100		106	70-130			
Surrogate: o-Terphenyl	47.6		"	50.0		95.3	70-130			

LCS Dup (P6H0907-BSD1)

Prepared & Analyzed: 08/09/16

C6-C12	866	25.0	mg/kg wet	1000		86.6	75-125	6.47	20	
>C12-C28	813	25.0	"	1000		81.3	75-125	7.65	20	
Surrogate: 1-Chlorooctane	113		"	100		113	70-130			
Surrogate: o-Terphenyl	51.0		"	50.0		102	70-130			

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

Project: Cedar Lakes 35
Project Number: 16-0121-01
Project Manager: Michael Gant

Fax: (432) 687-0456

Notes and Definitions

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

8/9/2016

Brent Barron, Laboratory Director/Technical Director

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CHAIN-OF-CUSTODY

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

DATE: 8/8/2016 PAGE 1 OF 1
PO # _____ LAB WORK ORDER # _____
PROJECT LOCATION OR NAME: EOG Cedar Lakes 35
LAI PROJECT # 6-0121-01 COLLECTOR: Mitchael Good

Page 8 of 8

TRRP report? ☐ Yes ☐ No		S-SOIL W=WATER A=AIR		P=PAINT SL=SLUDGE OT=OTHER		PRESERVATION		ANALYSES		FIELD NOTES			
TIME ZONE: Time zone/State:		Lab #		Date		Matrix		# of Containers		HCl HNO ₃ H ₂ SO ₄ ☐ NaOH ☐ ICE UNPRESERVED		BTEX ☒ MTBE ☐ TPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐ GASOLINE MOD 8015 ☒ DIESEL - MOD 8015 ☒ VOC 8260 ☐ SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐ 8081 PESTICIDES ☐ 8151 HERBICIDES ☐ TCIP - METALS (RCRA) ☐ TCIP VOC ☐ TCIP - PEST ☐ HERB ☐ Sem-VOC ☐ TOTAL METALS (RCRA) ☐ OTHER LIST ☐ LEAD - TOTAL ☐ D.W. 200.8 ☐ TCIP ☐ RO ☐ TOX ☐ FLASHPOINT ☐ TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐ PH ☐ HEXVALENT CHROMIUM ☐ EXPLOSIVES ☐ PECHLORATE ☐ CHLORIDE ☐ ANIONS ☐ ALKALINITY ☐	
Field Sample I.D.		Date		Time		Matrix		# of Containers		HCl HNO ₃ H ₂ SO ₄ ☐ NaOH ☐ ICE UNPRESERVED		BTEX ☒ MTBE ☐ TPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐ GASOLINE MOD 8015 ☒ DIESEL - MOD 8015 ☒ VOC 8260 ☐ SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐ 8081 PESTICIDES ☐ 8151 HERBICIDES ☐ TCIP - METALS (RCRA) ☐ TCIP VOC ☐ TCIP - PEST ☐ HERB ☐ Sem-VOC ☐ TOTAL METALS (RCRA) ☐ OTHER LIST ☐ LEAD - TOTAL ☐ D.W. 200.8 ☐ TCIP ☐ RO ☐ TOX ☐ FLASHPOINT ☐ TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐ PH ☐ HEXVALENT CHROMIUM ☐ EXPLOSIVES ☐ PECHLORATE ☐ CHLORIDE ☐ ANIONS ☐ ALKALINITY ☐	
HA-12-1		8/15/16		11:20		S		1		X		-1	
TOTAL													
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		TURN AROUND TIME		LABORATORY USE ONLY:		RECEIVING TEMP: 02		THERM #: 102	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		NORMAL ☐ 1 DAY ☒ 2 DAY ☐ OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		OTHER ☐		RECEIVING TEMP: 02		CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED		CARRIER BILL #	
RELINQUISHED BY: (Signature)		DATE/TIME											

**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: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Location: Cedar Lakes 35 EX2
Lab Order Number: 6H03002



NELAP/TCEQ # T104704156-13-3

Report Date: 08/18/16

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

Project: Cedar Lakes 35 Ex 2
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
HA-1	6H03002-01	Soil	07/29/16 11:05	08-03-2016 09:00
HA-2	6H03002-02	Soil	07/29/16 11:15	08-03-2016 09:00
HA-3	6H03002-03	Soil	07/29/16 11:20	08-03-2016 09:00
HA-4	6H03002-04	Soil	07/29/16 11:26	08-03-2016 09:00
HA-5	6H03002-05	Soil	07/29/16 11:35	08-03-2016 09:00
HA-6	6H03002-06	Soil	07/29/16 11:42	08-03-2016 09:00
HA-7	6H03002-07	Soil	07/29/16 11:50	08-03-2016 09:00
HA-8	6H03002-08	Soil	08/02/16 11:50	08-03-2016 09:00
HA-9	6H03002-09	Soil	08/02/16 11:45	08-03-2016 09:00
HA-10	6H03002-10	Soil	08/02/16 11:35	08-03-2016 09:00
HA-11	6H03002-11	Soil	08/02/16 11:25	08-03-2016 09:00

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

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

HA-1
6H03002-01 (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	0.0213	mg/kg dry	20	P6H0909	08/09/16	08/10/16	EPA 8021B
Toluene	1.65	0.0426	mg/kg dry	20	P6H0909	08/09/16	08/10/16	EPA 8021B
Ethylbenzene	2.20	0.0213	mg/kg dry	20	P6H0909	08/09/16	08/10/16	EPA 8021B
Xylene (p/m)	34.0	0.0426	mg/kg dry	20	P6H0909	08/09/16	08/10/16	EPA 8021B
Xylene (o)	8.74	0.0213	mg/kg dry	20	P6H0909	08/09/16	08/10/16	EPA 8021B
Surrogate: 4-Bromofluorobenzene	113 %	75-125			P6H0909	08/09/16	08/10/16	EPA 8021B
Surrogate: 1,4-Difluorobenzene	89.6 %	75-125			P6H0909	08/09/16	08/10/16	EPA 8021B

General Chemistry Parameters by EPA / Standard Methods

% Moisture	6.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	827	26.6	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M
>C12-C28	908	26.6	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M
>C28-C35	123	26.6	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M
Surrogate: 1-Chlorooctane	91.5 %	70-130			P6H0504	08/04/16	08/04/16	TPH 8015M
Surrogate: o-Terphenyl	88.1 %	70-130			P6H0504	08/04/16	08/04/16	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	1860	26.6	mg/kg dry	1	[CALC]	08/04/16	08/04/16	calc

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

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

HA-2
6H03002-02 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

% Moisture	7.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.9	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M
>C12-C28	ND	26.9	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M
>C28-C35	ND	26.9	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M
Surrogate: 1-Chlorooctane		70.0 %	70-130		P6H0504	08/04/16	08/04/16	TPH 8015M
Surrogate: o-Terphenyl		73.3 %	70-130		P6H0504	08/04/16	08/04/16	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	08/04/16	08/04/16	calc

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Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Mark Larson

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HA-3
6H03002-03 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

% Moisture	6.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	2830	26.6	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M
>C12-C28	2750	26.6	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M
>C28-C35	364	26.6	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M
Surrogate: 1-Chlorooctane		119 %	70-130		P6H0504	08/04/16	08/04/16	TPH 8015M
Surrogate: o-Terphenyl		80.7 %	70-130		P6H0504	08/04/16	08/04/16	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	5940	26.6	mg/kg dry	1	[CALC]	08/04/16	08/04/16	calc

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Midland TX, 79710

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

HA-4
6H03002-04 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

% Moisture	8.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	5320	27.2	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M
>C12-C28	5160	27.2	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M
>C28-C35	652	27.2	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M
<i>Surrogate: 1-Chlorooctane</i>		111 %	70-130		P6H0504	08/04/16	08/04/16	TPH 8015M
<i>Surrogate: o-Terphenyl</i>		95.6 %	70-130		P6H0504	08/04/16	08/04/16	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	11100	27.2	mg/kg dry	1	[CALC]	08/04/16	08/04/16	calc

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Project Number: 16-0121-01
Project Manager: Mark Larson

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HA-5
6H03002-05 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

% Moisture	9.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	7840	137	mg/kg dry	5	P6H0504	08/04/16	08/05/16	TPH 8015M
>C12-C28	7280	137	mg/kg dry	5	P6H0504	08/04/16	08/05/16	TPH 8015M
>C28-C35	1030	137	mg/kg dry	5	P6H0504	08/04/16	08/05/16	TPH 8015M
<i>Surrogate: 1-Chlorooctane</i>		102 %	70-130		P6H0504	08/04/16	08/05/16	TPH 8015M
<i>Surrogate: o-Terphenyl</i>		113 %	70-130		P6H0504	08/04/16	08/05/16	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	16200	137	mg/kg dry	5	[CALC]	08/04/16	08/05/16	calc

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Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

HA-6
6H03002-06 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

% Moisture	8.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	3560	27.2	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M
>C12-C28	3280	27.2	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M
>C28-C35	473	27.2	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M
Surrogate: 1-Chlorooctane		101 %	70-130		P6H0504	08/04/16	08/04/16	TPH 8015M
Surrogate: o-Terphenyl		86.6 %	70-130		P6H0504	08/04/16	08/04/16	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	7310	27.2	mg/kg dry	1	[CALC]	08/04/16	08/04/16	calc

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Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

HA-7
6H03002-07 (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	0.0213	mg/kg dry	20	P6H0909	08/09/16	08/10/16	EPA 8021B	
Toluene	2.63	0.0426	mg/kg dry	20	P6H0909	08/09/16	08/10/16	EPA 8021B	
Ethylbenzene	3.81	0.0213	mg/kg dry	20	P6H0909	08/09/16	08/10/16	EPA 8021B	
Xylene (p/m)	26.5	0.0426	mg/kg dry	20	P6H0909	08/09/16	08/10/16	EPA 8021B	
Xylene (o)	7.39	0.0213	mg/kg dry	20	P6H0909	08/09/16	08/10/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		113 %	75-125		P6H0909	08/09/16	08/10/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		78.6 %	75-125		P6H0909	08/09/16	08/10/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	6.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	1060	26.6	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M	
>C12-C28	1150	26.6	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M	
>C28-C35	169	26.6	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M	
Surrogate: 1-Chlorooctane		91.7 %	70-130		P6H0504	08/04/16	08/04/16	TPH 8015M	
Surrogate: o-Terphenyl		86.3 %	70-130		P6H0504	08/04/16	08/04/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	2370	26.6	mg/kg dry	1	[CALC]	08/04/16	08/04/16	calc	

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Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Mark Larson

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HA-8
6H03002-08 (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	1.32	0.0538	mg/kg dry	50	P6H0904	08/06/16	08/08/16	EPA 8021B	
Toluene	24.1	0.108	mg/kg dry	50	P6H0904	08/06/16	08/08/16	EPA 8021B	
Ethylbenzene	11.6	0.0538	mg/kg dry	50	P6H0904	08/06/16	08/08/16	EPA 8021B	
Xylene (p/m)	71.3	0.108	mg/kg dry	50	P6H0904	08/06/16	08/08/16	EPA 8021B	
Xylene (o)	16.7	0.0538	mg/kg dry	50	P6H0904	08/06/16	08/08/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		76.3 %	75-125		P6H0904	08/06/16	08/08/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.5 %	75-125		P6H0904	08/06/16	08/08/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	7.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	2200	26.9	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M	
>C12-C28	2040	26.9	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M	
>C28-C35	256	26.9	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		99.1 %	70-130		P6H0504	08/04/16	08/04/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		81.9 %	70-130		P6H0504	08/04/16	08/04/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	4490	26.9	mg/kg dry	1	[CALC]	08/04/16	08/04/16	calc	

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Project Number: 16-0121-01
Project Manager: Mark Larson

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HA-9
6H03002-09 (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	2.03	0.0633	mg/kg dry	50	P6H0904	08/06/16	08/08/16	EPA 8021B	
Toluene	25.0	0.127	mg/kg dry	50	P6H0904	08/06/16	08/08/16	EPA 8021B	
Ethylbenzene	9.11	0.0633	mg/kg dry	50	P6H0904	08/06/16	08/08/16	EPA 8021B	
Xylene (p/m)	59.0	0.127	mg/kg dry	50	P6H0904	08/06/16	08/08/16	EPA 8021B	
Xylene (o)	18.9	0.0633	mg/kg dry	50	P6H0904	08/06/16	08/08/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		99.3 %	75-125		P6H0904	08/06/16	08/08/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.1 %	75-125		P6H0904	08/06/16	08/08/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	21.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	5720	31.6	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M	
>C12-C28	4050	31.6	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M	
>C28-C35	462	31.6	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		92.8 %	70-130		P6H0504	08/04/16	08/04/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		97.0 %	70-130		P6H0504	08/04/16	08/04/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	10200	31.6	mg/kg dry	1	[CALC]	08/04/16	08/04/16	calc	

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HA-10
6H03002-10 (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	0.0217	mg/kg dry	20	P6H0909	08/09/16	08/10/16	EPA 8021B	
Toluene	6.40	0.0435	mg/kg dry	20	P6H0909	08/09/16	08/10/16	EPA 8021B	
Ethylbenzene	6.57	0.0217	mg/kg dry	20	P6H0909	08/09/16	08/10/16	EPA 8021B	
Xylene (p/m)	41.7	0.0435	mg/kg dry	20	P6H0909	08/09/16	08/10/16	EPA 8021B	
Xylene (o)	14.6	0.0217	mg/kg dry	20	P6H0909	08/09/16	08/10/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		97.6 %	75-125		P6H0909	08/09/16	08/10/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		118 %	75-125		P6H0909	08/09/16	08/10/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	8.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	1890	27.2	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M	
>C12-C28	2500	27.2	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M	
>C28-C35	289	27.2	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		89.2 %	70-130		P6H0504	08/04/16	08/04/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		94.8 %	70-130		P6H0504	08/04/16	08/04/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	4680	27.2	mg/kg dry	1	[CALC]	08/04/16	08/04/16	calc	

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HA-11
6H03002-11 (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	0.0211	mg/kg dry	20	P6H0909	08/09/16	08/11/16	EPA 8021B	
Toluene	8.26	0.0421	mg/kg dry	20	P6H0909	08/09/16	08/11/16	EPA 8021B	
Ethylbenzene	4.35	0.0211	mg/kg dry	20	P6H0909	08/09/16	08/11/16	EPA 8021B	
Xylene (p/m)	34.7	0.0421	mg/kg dry	20	P6H0909	08/09/16	08/11/16	EPA 8021B	
Xylene (o)	8.21	0.0211	mg/kg dry	20	P6H0909	08/09/16	08/11/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		63.8 %	75-125		P6H0909	08/09/16	08/11/16	EPA 8021B	S-GC
Surrogate: 4-Bromofluorobenzene		111 %	75-125		P6H0909	08/09/16	08/11/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	5.0	0.1	%	1	P6H0411	08/04/16	08/04/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	2100	26.3	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M	
>C12-C28	2120	26.3	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M	
>C28-C35	220	26.3	mg/kg dry	1	P6H0504	08/04/16	08/04/16	TPH 8015M	
Surrogate: 1-Chlorooctane		116 %	70-130		P6H0504	08/04/16	08/04/16	TPH 8015M	
Surrogate: o-Terphenyl		94.1 %	70-130		P6H0504	08/04/16	08/04/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	4440	26.3	mg/kg dry	1	[CALC]	08/04/16	08/04/16	calc	

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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 P6H0904 - General Preparation (GC)

Blank (P6H0904-BLK1)

Prepared: 08/06/16 Analyzed: 08/08/16

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	0.0557		"	0.0600		92.9	75-125			
Surrogate: 4-Bromofluorobenzene	0.0641		"	0.0600		107	75-125			

LCS (P6H0904-BS1)

Prepared: 08/06/16 Analyzed: 08/08/16

Benzene	0.100	0.00100	mg/kg wet	0.100		100	70-130			
Toluene	0.0922	0.00200	"	0.100		92.2	70-130			
Ethylbenzene	0.104	0.00100	"	0.100		104	70-130			
Xylene (p/m)	0.194	0.00200	"	0.200		96.8	70-130			
Xylene (o)	0.105	0.00100	"	0.100		105	70-130			
Surrogate: 1,4-Difluorobenzene	0.0628		"	0.0600		105	75-125			
Surrogate: 4-Bromofluorobenzene	0.0681		"	0.0600		113	75-125			

LCS Dup (P6H0904-BSD1)

Prepared: 08/06/16 Analyzed: 08/08/16

Benzene	0.118	0.00100	mg/kg wet	0.100		118	70-130	16.0	20	
Toluene	0.105	0.00200	"	0.100		105	70-130	13.3	20	
Ethylbenzene	0.121	0.00100	"	0.100		121	70-130	15.4	20	
Xylene (p/m)	0.221	0.00200	"	0.200		110	70-130	13.1	20	
Xylene (o)	0.124	0.00100	"	0.100		124	70-130	16.8	20	
Surrogate: 4-Bromofluorobenzene	0.0671		"	0.0600		112	75-125			
Surrogate: 1,4-Difluorobenzene	0.0652		"	0.0600		109	75-125			

Matrix Spike (P6H0904-MS1)

Source: 6H03008-13

Prepared: 08/06/16 Analyzed: 08/08/16

Benzene	0.0482	0.00100	mg/kg dry	0.100	0.000820	47.4	80-120			QM-07
Toluene	0.0335	0.00200	"	0.100	0.000740	32.8	80-120			QM-07
Ethylbenzene	0.0327	0.00100	"	0.100	ND	32.7	80-120			QM-07
Xylene (p/m)	0.0609	0.00200	"	0.200	ND	30.4	80-120			QM-07
Xylene (o)	0.0286	0.00100	"	0.100	0.000920	27.7	80-120			QM-07
Surrogate: 1,4-Difluorobenzene	0.0764		"	0.0600		127	75-125			S-GC1
Surrogate: 4-Bromofluorobenzene	0.0886		"	0.0600		148	75-125			S-GC1

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

Project: Cedar Lakes 35 Ex 2
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 P6H0904 - General Preparation (GC)

Matrix Spike Dup (P6H0904-MSD1)

Source: 6H03008-13

Prepared: 08/06/16 Analyzed: 08/09/16

Benzene	0.0303	0.00100	mg/kg dry	0.100	0.000820	29.4	80-120	46.8	20	QM-07
Toluene	0.0131	0.00200	"	0.100	0.000740	12.4	80-120	90.5	20	QM-07
Ethylbenzene	0.0226	0.00100	"	0.100	ND	22.6	80-120	36.6	20	QM-07
Xylene (p/m)	0.0382	0.00200	"	0.200	ND	19.1	80-120	45.8	20	QM-07
Xylene (o)	0.0214	0.00100	"	0.100	0.000920	20.4	80-120	30.2	20	QM-07
Surrogate: 4-Bromofluorobenzene	0.0804		"	0.0600		134	75-125			S-GC
Surrogate: 1,4-Difluorobenzene	0.0660		"	0.0600		110	75-125			

Batch P6H0909 - General Preparation (GC)

Blank (P6H0909-BLK1)

Prepared & Analyzed: 08/09/16

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	0.0860		"	0.0600		143	75-125			S-GC
Surrogate: 1,4-Difluorobenzene	0.0643		"	0.0600		107	75-125			

LCS (P6H0909-BS1)

Prepared & Analyzed: 08/09/16

Benzene	0.104	0.00100	mg/kg wet	0.110		94.7	70-130			
Toluene	0.113	0.00200	"	0.110		103	70-130			
Ethylbenzene	0.122	0.00100	"	0.110		110	70-130			
Xylene (p/m)	0.244	0.00200	"	0.220		111	70-130			
Xylene (o)	0.125	0.00100	"	0.110		114	70-130			
Surrogate: 1,4-Difluorobenzene	0.0694		"	0.0600		116	75-125			
Surrogate: 4-Bromofluorobenzene	0.0866		"	0.0600		144	75-125			S-GC

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P.O. Box 50685
Midland TX, 79710

Project: Cedar Lakes 35 Ex 2
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 P6H0909 - General Preparation (GC)

LCS Dup (P6H0909-BSD1)

Prepared: 08/09/16 Analyzed: 08/10/16

Benzene	0.110	0.00100	mg/kg wet	0.110		100	70-130	5.42	20	
Toluene	0.111	0.00200	"	0.110		101	70-130	1.95	20	
Ethylbenzene	0.130	0.00100	"	0.110		118	70-130	6.57	20	
Xylene (p/m)	0.264	0.00200	"	0.220		120	70-130	7.85	20	
Xylene (o)	0.147	0.00100	"	0.110		133	70-130	15.8	20	
Surrogate: 4-Bromofluorobenzene	0.106		"	0.0600		176	75-125			S-GC
Surrogate: 1,4-Difluorobenzene	0.0600		"	0.0600		100	75-125			

Duplicate (P6H0909-DUP1)

Source: 6H08001-01

Prepared & Analyzed: 08/09/16

Benzene	0.527	0.106	mg/kg dry		0.766			37.0	20	R3
Toluene	8.32	0.213	"		12.9			43.2	20	R3
Ethylbenzene	2.48	0.106	"		3.73			40.3	20	R3
Xylene (p/m)	24.2	0.213	"		38.6			45.7	20	R3
Xylene (o)	5.47	0.106	"		8.85			47.3	20	R3
Surrogate: 1,4-Difluorobenzene	0.0496		"	0.0638		77.8	75-125			
Surrogate: 4-Bromofluorobenzene	0.0538		"	0.0638		84.3	75-125			

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Project: Cedar Lakes 35 Ex 2
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
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Batch P6H0411 - * DEFAULT PREP *****

Blank (P6H0411-BLK1)

Prepared & Analyzed: 08/04/16

% Moisture	ND	0.1	%
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Blank (P6H0411-BLK2)

Prepared & Analyzed: 08/04/16

% Moisture	ND	0.1	%
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Duplicate (P6H0411-DUP1)

Source: 6H03006-08

Prepared & Analyzed: 08/04/16

% Moisture	8.0	0.1	%	8.0	0.00	20
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Duplicate (P6H0411-DUP2)

Source: 6H03004-05

Prepared & Analyzed: 08/04/16

% Moisture	13.0	0.1	%	13.0	0.00	20
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Duplicate (P6H0411-DUP3)

Source: 6H03008-07

Prepared & Analyzed: 08/04/16

% Moisture	2.0	0.1	%	2.0	0.00	20
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Duplicate (P6H0411-DUP4)

Source: 6H03015-10

Prepared & Analyzed: 08/04/16

% Moisture	9.0	0.1	%	9.0	0.00	20
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Duplicate (P6H0411-DUP5)

Source: 6H03015-21

Prepared & Analyzed: 08/04/16

% Moisture	2.0	0.1	%	2.0	0.00	20
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Midland TX, 79710

Project: Cedar Lakes 35 Ex 2
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 P6H0504 - TX 1005

Matrix Spike (P6H0504-MS1)

Source: 6H03002-09

Prepared: 08/04/16 Analyzed: 08/05/16

C6-C12	3760	31.6	mg/kg dry	1270	5720	NR	75-125			
>C12-C28	3560	31.6	"	1270	4050	NR	75-125			
Surrogate: 1-Chlorooctane	155		"	127		123	70-130			
Surrogate: o-Terphenyl	66.3		"	63.3		105	70-130			

Matrix Spike Dup (P6H0504-MSD1)

Source: 6H03002-09

Prepared: 08/04/16 Analyzed: 08/05/16

C6-C12	3640	31.6	mg/kg dry	1270	5720	NR	75-125	NR	20	
>C12-C28	3380	31.6	"	1270	4050	NR	75-125	NR	20	
Surrogate: 1-Chlorooctane	139		"	127		110	70-130			
Surrogate: o-Terphenyl	64.8		"	63.3		102	70-130			

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

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

S-GC1 Surrogate recovery outside of control limits. A second analysis confirmed the original results..

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:

8/18/2016

Brent Barron, Laboratory Director/Technical Director

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

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

Larson & Associates, Inc.

Project: Cedar Lakes 35 Ex 2

Fax: (432) 687-0456

P.O. Box 50685

Project Number: 16-0121-01

Midland TX, 79710

Project Manager: Mark Larson

**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: Cedar Lakes 35 Ex 1

Project Number: 16-0121-01

Location: New Mexico

Lab Order Number: 6H16010



NELAP/TCEQ # T104704156-13-3

Report Date: 08/18/16

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

Project: Cedar Lakes 35 Ex 1
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
SS-1-2	6H16010-01	Soil	08/10/16 12:08	08-16-2016 09:41
SS-4-2	6H16010-02	Soil	08/10/16 12:11	08-16-2016 09:41
SS-5-2	6H16010-03	Soil	08/10/16 12:15	08-16-2016 09:41
SS-10-4	6H16010-04	Soil	08/10/16 12:20	08-16-2016 09:41

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

Project: Cedar Lakes 35 Ex 1
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SS-1-2
6H16010-01 (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	P6H1802	08/16/16	08/16/16	EPA 8021B
Toluene	ND	0.00208	mg/kg dry	1	P6H1802	08/16/16	08/16/16	EPA 8021B
Ethylbenzene	ND	0.00104	mg/kg dry	1	P6H1802	08/16/16	08/16/16	EPA 8021B
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P6H1802	08/16/16	08/16/16	EPA 8021B
Xylene (o)	ND	0.00104	mg/kg dry	1	P6H1802	08/16/16	08/16/16	EPA 8021B
Surrogate: 4-Bromofluorobenzene		94.1 %	75-125		P6H1802	08/16/16	08/16/16	EPA 8021B
Surrogate: 1,4-Difluorobenzene		106 %	75-125		P6H1802	08/16/16	08/16/16	EPA 8021B

General Chemistry Parameters by EPA / Standard Methods

% Moisture	4.0	0.1	%	1	P6H1701	08/17/16	08/17/16	% calculation
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.0	mg/kg dry	1	P6H1704	08/16/16	08/16/16	TPH 8015M
>C12-C28	ND	26.0	mg/kg dry	1	P6H1704	08/16/16	08/16/16	TPH 8015M
>C28-C35	ND	26.0	mg/kg dry	1	P6H1704	08/16/16	08/16/16	TPH 8015M
Surrogate: 1-Chlorooctane		108 %	70-130		P6H1704	08/16/16	08/16/16	TPH 8015M
Surrogate: o-Terphenyl		124 %	70-130		P6H1704	08/16/16	08/16/16	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	26.0	mg/kg dry	1	[CALC]	08/16/16	08/16/16	calc

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

Project: Cedar Lakes 35 Ex 1
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SS-4-2
6H16010-02 (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	ND	0.0211	mg/kg dry	20	P6H1802	08/16/16	08/17/16	EPA 8021B	
Toluene	ND	0.0421	mg/kg dry	20	P6H1802	08/16/16	08/17/16	EPA 8021B	
Ethylbenzene	ND	0.0211	mg/kg dry	20	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (p/m)	ND	0.0421	mg/kg dry	20	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (o)	ND	0.0211	mg/kg dry	20	P6H1802	08/16/16	08/17/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		119 %	75-125		P6H1802	08/16/16	08/17/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		101 %	75-125		P6H1802	08/16/16	08/17/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	5.0	0.1	%	1	P6H1701	08/17/16	08/17/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P6H1704	08/16/16	08/16/16	TPH 8015M	
>C12-C28	ND	26.3	mg/kg dry	1	P6H1704	08/16/16	08/16/16	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P6H1704	08/16/16	08/16/16	TPH 8015M	
Surrogate: 1-Chlorooctane		95.4 %	70-130		P6H1704	08/16/16	08/16/16	TPH 8015M	
Surrogate: o-Terphenyl		108 %	70-130		P6H1704	08/16/16	08/16/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	08/16/16	08/16/16	calc	

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

Project: Cedar Lakes 35 Ex 1
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SS-5-2
6H16010-03 (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	P6H1802	08/16/16	08/16/16	EPA 8021B	
Toluene	ND	0.00208	mg/kg dry	1	P6H1802	08/16/16	08/16/16	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P6H1802	08/16/16	08/16/16	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P6H1802	08/16/16	08/16/16	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P6H1802	08/16/16	08/16/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		88.9 %	75-125		P6H1802	08/16/16	08/16/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		114 %	75-125		P6H1802	08/16/16	08/16/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	4.0	0.1	%	1	P6H1701	08/17/16	08/17/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.0	mg/kg dry	1	P6H1704	08/16/16	08/16/16	TPH 8015M	
>C12-C28	ND	26.0	mg/kg dry	1	P6H1704	08/16/16	08/16/16	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P6H1704	08/16/16	08/16/16	TPH 8015M	
Surrogate: 1-Chlorooctane		94.6 %	70-130		P6H1704	08/16/16	08/16/16	TPH 8015M	
Surrogate: o-Terphenyl		111 %	70-130		P6H1704	08/16/16	08/16/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.0	mg/kg dry	1	[CALC]	08/16/16	08/16/16	calc	

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

Project: Cedar Lakes 35 Ex 1
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SS-10-4
6H16010-04 (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	0.0217	mg/kg dry	20	P6H1802	08/16/16	08/17/16	EPA 8021B	
Toluene	ND	0.0435	mg/kg dry	20	P6H1802	08/16/16	08/17/16	EPA 8021B	
Ethylbenzene	ND	0.0217	mg/kg dry	20	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (p/m)	ND	0.0435	mg/kg dry	20	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (o)	ND	0.0217	mg/kg dry	20	P6H1802	08/16/16	08/17/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		106 %	75-125		P6H1802	08/16/16	08/17/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		89.7 %	75-125		P6H1802	08/16/16	08/17/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	8.0	0.1	%	1	P6H1701	08/17/16	08/17/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P6H1704	08/16/16	08/16/16	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P6H1704	08/16/16	08/16/16	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P6H1704	08/16/16	08/16/16	TPH 8015M	
Surrogate: 1-Chlorooctane		97.1 %	70-130		P6H1704	08/16/16	08/16/16	TPH 8015M	
Surrogate: o-Terphenyl		116 %	70-130		P6H1704	08/16/16	08/16/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	08/16/16	08/16/16	calc	

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

Project: Cedar Lakes 35 Ex 1
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 P6H1802 - General Preparation (GC)

Blank (P6H1802-BLK1)

Prepared & Analyzed: 08/16/16

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	0.0528		"	0.0500		106	75-125			
Surrogate: 1,4-Difluorobenzene	0.0543		"	0.0500		109	75-125			

LCS (P6H1802-BS1)

Prepared & Analyzed: 08/16/16

Benzene	0.0946	0.00100	mg/kg wet	0.100		94.6	70-130			
Toluene	0.0918	0.00200	"	0.100		91.8	70-130			
Ethylbenzene	0.117	0.00100	"	0.100		117	70-130			
Xylene (p/m)	0.213	0.00200	"	0.200		106	70-130			
Xylene (o)	0.102	0.00100	"	0.100		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.0590		"	0.0500		118	75-125			
Surrogate: 1,4-Difluorobenzene	0.0530		"	0.0500		106	75-125			

LCS Dup (P6H1802-BSD1)

Prepared & Analyzed: 08/16/16

Benzene	0.0989	0.00100	mg/kg wet	0.100		98.9	70-130	4.41	20	
Toluene	0.0932	0.00200	"	0.100		93.2	70-130	1.51	20	
Ethylbenzene	0.117	0.00100	"	0.100		117	70-130	0.0342	20	
Xylene (p/m)	0.214	0.00200	"	0.200		107	70-130	0.596	20	
Xylene (o)	0.102	0.00100	"	0.100		102	70-130	0.00	20	
Surrogate: 1,4-Difluorobenzene	0.0584		"	0.0500		117	75-125			
Surrogate: 4-Bromofluorobenzene	0.0605		"	0.0500		121	75-125			

Matrix Spike (P6H1802-MS1)

Source: 6H16010-01

Prepared: 08/16/16 Analyzed: 08/17/16

Benzene	0.0497	0.00104	mg/kg dry	0.104	0.000583	47.2	80-120			QM-05
Toluene	0.0189	0.00208	"	0.104	ND	18.1	80-120			QM-05
Ethylbenzene	0.0460	0.00104	"	0.104	ND	44.2	80-120			QM-05
Xylene (p/m)	0.103	0.00208	"	0.208	ND	49.3	80-120			QM-05
Xylene (o)	0.0246	0.00104	"	0.104	ND	23.6	80-120			QM-05
Surrogate: 4-Bromofluorobenzene	0.0579		"	0.0521		111	75-125			
Surrogate: 1,4-Difluorobenzene	0.0493		"	0.0521		94.7	75-125			

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

Project: Cedar Lakes 35 Ex 1
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 P6H1802 - General Preparation (GC)

Matrix Spike Dup (P6H1802-MSD1)

Source: 6H16010-01

Prepared: 08/16/16 Analyzed: 08/17/16

Benzene	0.0150	0.00104	mg/kg dry	0.104	0.000583	13.9	80-120	109	20	QM-05
Toluene	0.0156	0.00208	"	0.104	ND	15.0	80-120	18.9	20	QM-05
Ethylbenzene	0.0778	0.00104	"	0.104	ND	74.6	80-120	51.3	20	QM-05
Xylene (p/m)	0.153	0.00208	"	0.208	ND	73.4	80-120	39.3	20	QM-05
Xylene (o)	0.0494	0.00104	"	0.104	ND	47.4	80-120	67.1	20	QM-05
Surrogate: 4-Bromofluorobenzene	0.0563		"	0.0521		108	75-125			
Surrogate: 1,4-Difluorobenzene	0.0552		"	0.0521		106	75-125			

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

Project: Cedar Lakes 35 Ex 1
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
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Batch P6H1701 - * DEFAULT PREP *****

Blank (P6H1701-BLK1)

Prepared & Analyzed: 08/17/16

% Moisture	ND	0.1	%
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Duplicate (P6H1701-DUP1)

Source: 6H16002-05

Prepared & Analyzed: 08/17/16

% Moisture	1.0	0.1	%	1.0	0.00	20
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Duplicate (P6H1701-DUP2)

Source: 6H16007-01

Prepared & Analyzed: 08/17/16

% Moisture	4.0	0.1	%	4.0	0.00	20
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Duplicate (P6H1701-DUP3)

Source: 6H16017-03

Prepared & Analyzed: 08/17/16

% Moisture	8.0	0.1	%	8.0	0.00	20
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Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: Cedar Lakes 35 Ex 1
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 P6H1704 - TX 1005

Blank (P6H1704-BLK1)

Prepared & Analyzed: 08/16/16

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	88.2		"	100		88.2	70-130			
Surrogate: o-Terphenyl	50.0		"	50.0		99.9	70-130			

LCS (P6H1704-BS1)

Prepared & Analyzed: 08/16/16

C6-C12	913	25.0	mg/kg wet	1000		91.3	75-125			
>C12-C28	937	25.0	"	1000		93.7	75-125			
Surrogate: 1-Chlorooctane	124		"	100		124	70-130			
Surrogate: o-Terphenyl	52.2		"	50.0		104	70-130			

LCS Dup (P6H1704-BSD1)

Prepared & Analyzed: 08/16/16

C6-C12	924	25.0	mg/kg wet	1000		92.4	75-125	1.14	20	
>C12-C28	961	25.0	"	1000		96.1	75-125	2.49	20	
Surrogate: 1-Chlorooctane	127		"	100		127	70-130			
Surrogate: o-Terphenyl	52.9		"	50.0		106	70-130			

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

Project: Cedar Lakes 35 Ex 1
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date: 8/18/2016

Brent Barron, Laboratory Director/Technical Director

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

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

616010

CHAIN-OF-CUSTODY

Arson & Associates, Inc.
Environmental Consultants

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

Data Reported to:

DATE: 8/16/2016 PAGE 1 OF 1
PO #: LAB WORK ORDER #
PROJECT LOCATION OR NAME: E66 Cedar Lakes 354
LAI PROJECT #: 16-0121-01 COLLECTOR: Michael

TRRP report?
☐ Yes ☐ No

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

TIME ZONE:
Time zone/State:

MST/NA

Field
Sample I.D.

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃

H₂SO₄ ☐ NaOH ☐

ICE

UNPRESERVED

PRESERVATION

ANALYSES

BTEX ☐ MTBE ☐

TPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐

GASOLINE MOD 8015 ☐

DIESEL - MOD 8015 ☐

VOC 8260 ☐

SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐

8081 PESTICIDES ☐ 8151 HERBICIDES ☐

TCAP - METALS (RCRA) ☐ TCAP VOC ☐

TCAP - PEST ☐ HERB ☐ OTHER LIST ☐

TOTAL METALS (RCRA) ☐ Semi-VOC ☐

LEAD - TOTAL ☐ D.W. 200.8 ☐ TCAP ☐

RCI ☐ TOX ☐ FLASHPOINT ☐

TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐

pH ☐ HEXAVALENT CHROMIUM ☐

EXPLOSIVES ☐ PECTHLORATE ☐

CHLORIDE ☐ ANIONS ☐ ALKALINITY ☐

FIELD NOTES

1 SS-1-2
2 SS-4-2
3 SS-5-2
4 SS-10-4

8/10 12:08
8/10 12:11
8/10 12:15
8/10 12:20

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TOTAL

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DATE/TIME

8/16/16 9:30

RECEIVED BY: (Signature)

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8/16/16 9:30

RECEIVED BY: (Signature)

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

LABORATORY USE ONLY:
RECEIVING TEMP: 20 THERM #:

CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED

CARRIER BILL #

HAND DELIVERED ☒

EXPLOSIVES ☐ PECTHLORATE ☐

CHLORIDE ☐ ANIONS ☐ ALKALINITY ☐

**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: Cedar Lakes 35 Ex 2

Project Number: 16-0121-01

Location: New Mexico

Lab Order Number: 6H16011



NELAP/TCEQ # T104704156-13-3

Report Date: 08/18/16

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

Project: Cedar Lakes 35 Ex 2
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
SS-4-2	6H16011-01	Soil	08/15/16 12:15	08-16-2016 09:43
SS-7-2	6H16011-02	Soil	08/12/16 11:05	08-16-2016 09:43
SS-6-2	6H16011-03	Soil	08/12/16 11:10	08-16-2016 09:43
SS-12-3	6H16011-04	Soil	08/12/16 12:35	08-16-2016 09:43
SS-5-3	6H16011-05	Soil	08/12/16 12:30	08-16-2016 09:43
SS-9-8	6H16011-06	Soil	08/12/16 12:36	08-16-2016 09:43
SS-8-3	6H16011-07	Soil	08/12/16 12:15	08-16-2016 09:43
SS-11-3	6H16011-08	Soil	08/12/16 11:57	08-16-2016 09:43
SS-10-3	6H16011-09	Soil	08/12/16 12:05	08-16-2016 09:43
SS-3-2	6H16011-10	Soil	08/12/16 12:20	08-16-2016 09:43

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

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SS-4-2
6H16011-01 (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	P6H1802	08/16/16	08/16/16	EPA 8021B
Toluene	ND	0.00213	mg/kg dry	1	P6H1802	08/16/16	08/16/16	EPA 8021B
Ethylbenzene	ND	0.00106	mg/kg dry	1	P6H1802	08/16/16	08/16/16	EPA 8021B
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P6H1802	08/16/16	08/16/16	EPA 8021B
Xylene (o)	ND	0.00106	mg/kg dry	1	P6H1802	08/16/16	08/16/16	EPA 8021B
Surrogate: 4-Bromofluorobenzene		92.2 %	75-125		P6H1802	08/16/16	08/16/16	EPA 8021B
Surrogate: 1,4-Difluorobenzene		100 %	75-125		P6H1802	08/16/16	08/16/16	EPA 8021B

General Chemistry Parameters by EPA / Standard Methods

% Moisture	6.0	0.1	%	1	P6H1701	08/17/16	08/17/16	% calculation
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P6H1704	08/16/16	08/17/16	TPH 8015M
>C12-C28	ND	26.6	mg/kg dry	1	P6H1704	08/16/16	08/17/16	TPH 8015M
>C28-C35	ND	26.6	mg/kg dry	1	P6H1704	08/16/16	08/17/16	TPH 8015M
Surrogate: 1-Chlorooctane		97.0 %	70-130		P6H1704	08/16/16	08/17/16	TPH 8015M
Surrogate: o-Terphenyl		111 %	70-130		P6H1704	08/16/16	08/17/16	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	26.6	mg/kg dry	1	[CALC]	08/16/16	08/17/16	calc

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

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SS-7-2
6H16011-02 (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	ND	0.00105	mg/kg dry	1	P6H1802	08/16/16	08/16/16	EPA 8021B	
Toluene	ND	0.00211	mg/kg dry	1	P6H1802	08/16/16	08/16/16	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P6H1802	08/16/16	08/16/16	EPA 8021B	
Xylene (p/m)	0.00464	0.00211	mg/kg dry	1	P6H1802	08/16/16	08/16/16	EPA 8021B	
Xylene (o)	0.00142	0.00105	mg/kg dry	1	P6H1802	08/16/16	08/16/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>91.6 %</i>	<i>75-125</i>		<i>P6H1802</i>	<i>08/16/16</i>	<i>08/16/16</i>	<i>EPA 8021B</i>	
<i>Surrogate: 1,4-Difluorobenzene</i>		<i>101 %</i>	<i>75-125</i>		<i>P6H1802</i>	<i>08/16/16</i>	<i>08/16/16</i>	<i>EPA 8021B</i>	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	5.0	0.1	%	1	P6H1701	08/17/16	08/17/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P6H1704	08/16/16	08/17/16	TPH 8015M	
>C12-C28	ND	26.3	mg/kg dry	1	P6H1704	08/16/16	08/17/16	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P6H1704	08/16/16	08/17/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		<i>109 %</i>	<i>70-130</i>		<i>P6H1704</i>	<i>08/16/16</i>	<i>08/17/16</i>	<i>TPH 8015M</i>	
<i>Surrogate: o-Terphenyl</i>		<i>120 %</i>	<i>70-130</i>		<i>P6H1704</i>	<i>08/16/16</i>	<i>08/17/16</i>	<i>TPH 8015M</i>	
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	08/16/16	08/17/16	calc	

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

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SS-6-2
6H16011-03 (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	3.54	0.269	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
Toluene	17.3	0.538	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
Ethylbenzene	8.26	0.269	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (p/m)	99.1	0.538	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (o)	35.8	0.269	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		131 %	75-125		P6H1802	08/16/16	08/17/16	EPA 8021B	S-GC
<i>Surrogate: 4-Bromofluorobenzene</i>		119 %	75-125		P6H1802	08/16/16	08/17/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	7.0	0.1	%	1	P6H1701	08/17/16	08/17/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	2290	134	mg/kg dry	5	P6H1704	08/16/16	08/16/16	TPH 8015M	
>C12-C28	2010	134	mg/kg dry	5	P6H1704	08/16/16	08/16/16	TPH 8015M	
>C28-C35	172	134	mg/kg dry	5	P6H1704	08/16/16	08/16/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		119 %	70-130		P6H1704	08/16/16	08/16/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		119 %	70-130		P6H1704	08/16/16	08/16/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	4470	134	mg/kg dry	5	[CALC]	08/16/16	08/16/16	calc	

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

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SS-12-3
6H16011-04 (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	4.53	0.272	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
Toluene	143	0.543	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
Ethylbenzene	39.7	0.272	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (p/m)	268	0.543	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (o)	60.1	0.272	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		108 %	75-125		P6H1802	08/16/16	08/17/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		108 %	75-125		P6H1802	08/16/16	08/17/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	8.0	0.1	%	1	P6H1701	08/17/16	08/17/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	10000	136	mg/kg dry	5	P6H1704	08/16/16	08/16/16	TPH 8015M	
>C12-C28	7270	136	mg/kg dry	5	P6H1704	08/16/16	08/16/16	TPH 8015M	
>C28-C35	776	136	mg/kg dry	5	P6H1704	08/16/16	08/16/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		110 %	70-130		P6H1704	08/16/16	08/16/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		125 %	70-130		P6H1704	08/16/16	08/16/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	18100	136	mg/kg dry	5	[CALC]	08/16/16	08/16/16	calc	

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

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SS-5-3
6H16011-05 (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	1.84	0.263	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
Toluene	74.5	0.526	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
Ethylbenzene	17.7	0.263	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (p/m)	172	0.526	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (o)	28.4	0.263	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		114 %	75-125		P6H1802	08/16/16	08/17/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		146 %	75-125		P6H1802	08/16/16	08/17/16	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

% Moisture	5.0	0.1	%	1	P6H1701	08/17/16	08/17/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	5550	132	mg/kg dry	5	P6H1704	08/16/16	08/16/16	TPH 8015M	
>C12-C28	4080	132	mg/kg dry	5	P6H1704	08/16/16	08/16/16	TPH 8015M	
>C28-C35	448	132	mg/kg dry	5	P6H1704	08/16/16	08/16/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		109 %	70-130		P6H1704	08/16/16	08/16/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		124 %	70-130		P6H1704	08/16/16	08/16/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	10100	132	mg/kg dry	5	[CALC]	08/16/16	08/16/16	calc	

Larson & Associates, Inc.
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Midland TX, 79710

Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SS-9-8
6H16011-06 (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	2.94	0.298	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
Toluene	100	0.595	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
Ethylbenzene	23.3	0.298	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (p/m)	205	0.595	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (o)	53.7	0.298	mg/kg dry	250	P6H1802	08/16/16	08/17/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		127 %	75-125		P6H1802	08/16/16	08/17/16	EPA 8021B	S-GC
<i>Surrogate: 1,4-Difluorobenzene</i>		108 %	75-125		P6H1802	08/16/16	08/17/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	16.0	0.1	%	1	P6H1701	08/17/16	08/17/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	5760	149	mg/kg dry	5	P6H1704	08/16/16	08/16/16	TPH 8015M	
>C12-C28	3960	149	mg/kg dry	5	P6H1704	08/16/16	08/16/16	TPH 8015M	
>C28-C35	415	149	mg/kg dry	5	P6H1704	08/16/16	08/16/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		126 %	70-130		P6H1704	08/16/16	08/16/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		128 %	70-130		P6H1704	08/16/16	08/16/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	10100	149	mg/kg dry	5	[CALC]	08/16/16	08/16/16	calc	

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Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Mark Larson

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SS-8-3
6H16011-07 (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	0.0227	0.0206	mg/kg dry	20	P6H1802	08/16/16	08/17/16	EPA 8021B	
Toluene	0.0981	0.0412	mg/kg dry	20	P6H1802	08/16/16	08/17/16	EPA 8021B	
Ethylbenzene	ND	0.0206	mg/kg dry	20	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (p/m)	0.103	0.0412	mg/kg dry	20	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (o)	ND	0.0206	mg/kg dry	20	P6H1802	08/16/16	08/17/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		<i>110 %</i>	<i>75-125</i>		<i>P6H1802</i>	<i>08/16/16</i>	<i>08/17/16</i>	<i>EPA 8021B</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>91.9 %</i>	<i>75-125</i>		<i>P6H1802</i>	<i>08/16/16</i>	<i>08/17/16</i>	<i>EPA 8021B</i>	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	3.0	0.1	%	1	P6H1701	08/17/16	08/17/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.8	mg/kg dry	1	P6H1705	08/16/16	08/17/16	TPH 8015M	
>C12-C28	ND	25.8	mg/kg dry	1	P6H1705	08/16/16	08/17/16	TPH 8015M	
>C28-C35	ND	25.8	mg/kg dry	1	P6H1705	08/16/16	08/17/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		<i>96.8 %</i>	<i>70-130</i>		<i>P6H1705</i>	<i>08/16/16</i>	<i>08/17/16</i>	<i>TPH 8015M</i>	
<i>Surrogate: o-Terphenyl</i>		<i>109 %</i>	<i>70-130</i>		<i>P6H1705</i>	<i>08/16/16</i>	<i>08/17/16</i>	<i>TPH 8015M</i>	
Total Petroleum Hydrocarbon C6-C35	ND	25.8	mg/kg dry	1	[CALC]	08/16/16	08/17/16	calc	

Larson & Associates, Inc.
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Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Mark Larson

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SS-11-3
6H16011-08 (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	0.725	0.108	mg/kg dry	100	P6H1802	08/16/16	08/17/16	EPA 8021B	
Toluene	6.95	0.215	mg/kg dry	100	P6H1802	08/16/16	08/17/16	EPA 8021B	
Ethylbenzene	3.99	0.108	mg/kg dry	100	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (p/m)	81.5	0.215	mg/kg dry	100	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (o)	19.4	0.108	mg/kg dry	100	P6H1802	08/16/16	08/17/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		<i>112 %</i>	<i>75-125</i>		<i>P6H1802</i>	<i>08/16/16</i>	<i>08/17/16</i>	<i>EPA 8021B</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>130 %</i>	<i>75-125</i>		<i>P6H1802</i>	<i>08/16/16</i>	<i>08/17/16</i>	<i>EPA 8021B</i>	<i>S-GC</i>

General Chemistry Parameters by EPA / Standard Methods

% Moisture	7.0	0.1	%	1	P6H1701	08/17/16	08/17/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	3930	134	mg/kg dry	5	P6H1705	08/16/16	08/17/16	TPH 8015M	
>C12-C28	3190	134	mg/kg dry	5	P6H1705	08/16/16	08/17/16	TPH 8015M	
>C28-C35	263	134	mg/kg dry	5	P6H1705	08/16/16	08/17/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		<i>119 %</i>	<i>70-130</i>		<i>P6H1705</i>	<i>08/16/16</i>	<i>08/17/16</i>	<i>TPH 8015M</i>	
<i>Surrogate: o-Terphenyl</i>		<i>114 %</i>	<i>70-130</i>		<i>P6H1705</i>	<i>08/16/16</i>	<i>08/17/16</i>	<i>TPH 8015M</i>	
Total Petroleum Hydrocarbon C6-C35	7380	134	mg/kg dry	5	[CALC]	08/16/16	08/17/16	calc	

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Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Mark Larson

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SS-10-3
6H16011-09 (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	0.106	mg/kg dry	100	P6H1802	08/16/16	08/17/16	EPA 8021B	
Toluene	11.6	0.213	mg/kg dry	100	P6H1802	08/16/16	08/17/16	EPA 8021B	
Ethylbenzene	3.29	0.106	mg/kg dry	100	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (p/m)	71.3	0.213	mg/kg dry	100	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (o)	16.3	0.106	mg/kg dry	100	P6H1802	08/16/16	08/17/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		130 %	75-125		P6H1802	08/16/16	08/17/16	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		112 %	75-125		P6H1802	08/16/16	08/17/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	6.0	0.1	%	1	P6H1701	08/17/16	08/17/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	3470	26.6	mg/kg dry	1	P6H1705	08/16/16	08/17/16	TPH 8015M	
>C12-C28	2590	26.6	mg/kg dry	1	P6H1705	08/16/16	08/17/16	TPH 8015M	
>C28-C35	241	26.6	mg/kg dry	1	P6H1705	08/16/16	08/17/16	TPH 8015M	
Surrogate: 1-Chlorooctane		126 %	70-130		P6H1705	08/16/16	08/17/16	TPH 8015M	
Surrogate: o-Terphenyl		127 %	70-130		P6H1705	08/16/16	08/17/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	6300	26.6	mg/kg dry	1	[CALC]	08/16/16	08/17/16	calc	

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Project: Cedar Lakes 35 Ex 2
Project Number: 16-0121-01
Project Manager: Mark Larson

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SS-3-2
6H16011-10 (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	0.00104	mg/kg dry	1	P6H1802	08/16/16	08/17/16	EPA 8021B	
Toluene	ND	0.00208	mg/kg dry	1	P6H1802	08/16/16	08/17/16	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P6H1802	08/16/16	08/17/16	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P6H1802	08/16/16	08/17/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		117 %	75-125		P6H1802	08/16/16	08/17/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		133 %	75-125		P6H1802	08/16/16	08/17/16	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

% Moisture	4.0	0.1	%	1	P6H1701	08/17/16	08/17/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.0	mg/kg dry	1	P6H1705	08/16/16	08/17/16	TPH 8015M	
>C12-C28	ND	26.0	mg/kg dry	1	P6H1705	08/16/16	08/17/16	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P6H1705	08/16/16	08/17/16	TPH 8015M	
Surrogate: 1-Chlorooctane		104 %	70-130		P6H1705	08/16/16	08/17/16	TPH 8015M	
Surrogate: o-Terphenyl		116 %	70-130		P6H1705	08/16/16	08/17/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.0	mg/kg dry	1	[CALC]	08/16/16	08/17/16	calc	

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Project: Cedar Lakes 35 Ex 2
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 P6H1802 - General Preparation (GC)

Blank (P6H1802-BLK1)

Prepared & Analyzed: 08/16/16

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	0.0543		"	0.0500		109	75-125			
Surrogate: 4-Bromofluorobenzene	0.0528		"	0.0500		106	75-125			

LCS (P6H1802-BS1)

Prepared & Analyzed: 08/16/16

Benzene	0.0946	0.00100	mg/kg wet	0.100		94.6	70-130			
Toluene	0.0918	0.00200	"	0.100		91.8	70-130			
Ethylbenzene	0.117	0.00100	"	0.100		117	70-130			
Xylene (p/m)	0.213	0.00200	"	0.200		106	70-130			
Xylene (o)	0.102	0.00100	"	0.100		102	70-130			
Surrogate: 1,4-Difluorobenzene	0.0530		"	0.0500		106	75-125			
Surrogate: 4-Bromofluorobenzene	0.0590		"	0.0500		118	75-125			

LCS Dup (P6H1802-BSD1)

Prepared & Analyzed: 08/16/16

Benzene	0.0989	0.00100	mg/kg wet	0.100		98.9	70-130	4.41	20	
Toluene	0.0932	0.00200	"	0.100		93.2	70-130	1.51	20	
Ethylbenzene	0.117	0.00100	"	0.100		117	70-130	0.0342	20	
Xylene (p/m)	0.214	0.00200	"	0.200		107	70-130	0.596	20	
Xylene (o)	0.102	0.00100	"	0.100		102	70-130	0.00	20	
Surrogate: 4-Bromofluorobenzene	0.0605		"	0.0500		121	75-125			
Surrogate: 1,4-Difluorobenzene	0.0584		"	0.0500		117	75-125			

Matrix Spike (P6H1802-MS1)

Source: 6H16010-01

Prepared: 08/16/16 Analyzed: 08/17/16

Benzene	0.0497	0.00104	mg/kg dry	0.104	0.000583	47.2	80-120			QM-05
Toluene	0.0189	0.00208	"	0.104	ND	18.1	80-120			QM-05
Ethylbenzene	0.0460	0.00104	"	0.104	ND	44.2	80-120			QM-05
Xylene (p/m)	0.103	0.00208	"	0.208	ND	49.3	80-120			QM-05
Xylene (o)	0.0246	0.00104	"	0.104	ND	23.6	80-120			QM-05
Surrogate: 4-Bromofluorobenzene	0.0579		"	0.0521		111	75-125			
Surrogate: 1,4-Difluorobenzene	0.0493		"	0.0521		94.7	75-125			

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Project: Cedar Lakes 35 Ex 2
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 P6H1802 - General Preparation (GC)

Matrix Spike Dup (P6H1802-MSD1)	Source: 6H16010-01			Prepared: 08/16/16 Analyzed: 08/17/16						
Benzene	0.0150	0.00104	mg/kg dry	0.104	0.000583	13.9	80-120	109	20	QM-05
Toluene	0.0156	0.00208	"	0.104	ND	15.0	80-120	18.9	20	QM-05
Ethylbenzene	0.0778	0.00104	"	0.104	ND	74.6	80-120	51.3	20	QM-05
Xylene (p/m)	0.153	0.00208	"	0.208	ND	73.4	80-120	39.3	20	QM-05
Xylene (o)	0.0494	0.00104	"	0.104	ND	47.4	80-120	67.1	20	QM-05
Surrogate: 4-Bromofluorobenzene	0.0563		"	0.0521		108	75-125			
Surrogate: 1,4-Difluorobenzene	0.0552		"	0.0521		106	75-125			

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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
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Batch P6H1701 - * DEFAULT PREP *****

Blank (P6H1701-BLK1)

Prepared & Analyzed: 08/17/16

% Moisture	ND	0.1	%
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Duplicate (P6H1701-DUP1)

Source: 6H16002-05

Prepared & Analyzed: 08/17/16

% Moisture	1.0	0.1	%	1.0	0.00	20
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Duplicate (P6H1701-DUP2)

Source: 6H16007-01

Prepared & Analyzed: 08/17/16

% Moisture	4.0	0.1	%	4.0	0.00	20
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Duplicate (P6H1701-DUP3)

Source: 6H16017-03

Prepared & Analyzed: 08/17/16

% Moisture	8.0	0.1	%	8.0	0.00	20
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Midland TX, 79710

Project: Cedar Lakes 35 Ex 2
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 P6H1704 - TX 1005

Blank (P6H1704-BLK1)

Prepared & Analyzed: 08/16/16

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	88.2		"	100		88.2	70-130			
Surrogate: o-Terphenyl	50.0		"	50.0		99.9	70-130			

LCS (P6H1704-BS1)

Prepared & Analyzed: 08/16/16

C6-C12	913	25.0	mg/kg wet	1000		91.3	75-125			
>C12-C28	937	25.0	"	1000		93.7	75-125			
Surrogate: 1-Chlorooctane	124		"	100		124	70-130			
Surrogate: o-Terphenyl	52.2		"	50.0		104	70-130			

LCS Dup (P6H1704-BSD1)

Prepared & Analyzed: 08/16/16

C6-C12	924	25.0	mg/kg wet	1000		92.4	75-125	1.14	20	
>C12-C28	961	25.0	"	1000		96.1	75-125	2.49	20	
Surrogate: 1-Chlorooctane	127		"	100		127	70-130			
Surrogate: o-Terphenyl	52.9		"	50.0		106	70-130			

Batch P6H1705 - TX 1005

Blank (P6H1705-BLK1)

Prepared: 08/16/16 Analyzed: 08/17/16

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	101		"	100		101	70-130			
Surrogate: o-Terphenyl	58.4		"	50.0		117	70-130			

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

Project: Cedar Lakes 35 Ex 2
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 P6H1705 - TX 1005

LCS (P6H1705-BS1)

Prepared & Analyzed: 08/16/16

C6-C12	1050	25.0	mg/kg wet	1000		105	75-125			
>C12-C28	1020	25.0	"	1000		102	75-125			
Surrogate: 1-Chlorooctane	112		"	100		112	70-130			
Surrogate: o-Terphenyl	55.2		"	50.0		110	70-130			

LCS Dup (P6H1705-BSD1)

Prepared: 08/16/16 Analyzed: 08/17/16

C6-C12	1070	25.0	mg/kg wet	1000		107	75-125	2.19	20	
>C12-C28	1040	25.0	"	1000		104	75-125	2.11	20	
Surrogate: 1-Chlorooctane	110		"	100		110	70-130			
Surrogate: o-Terphenyl	56.3		"	50.0		113	70-130			

Duplicate (P6H1705-DUP1)

Source: 6H16006-04

Prepared: 08/16/16 Analyzed: 08/17/16

C6-C12	ND	27.5	mg/kg dry		ND				20	
>C12-C28	ND	27.5	"		33.4				20	
Surrogate: 1-Chlorooctane	111		"	110		101	70-130			
Surrogate: o-Terphenyl	65.7		"	54.9		120	70-130			

Notes and Definitions

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

Report Approved By:



Date: 8/18/2016

Brent Barron, Laboratory Director/Technical Director

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

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

CHAIN-OF-CUSTO

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

DATE: 8/16/2016 PAGE 1 OF 1
PO # : _____ LAB WORK ORDER # : _____
PROJECT LOCATION OR NAME: TOG Cedar Lakes 35 E
LAI PROJECT # : 16-0121-01 COLLECTOR: Michael Gann

Page 19 of 19

TRRP report? ☐ Yes ☐ No		S=SOIL W=WATER A=AIR	P=PAINT SL=SLUDGE OT=OTHER
TIME ZONE: Time zone/State:			
MST/LNM			
Field Sample I.D.	Lab #	Date	Time
SS-4-2		8/16	12:15
SS-7-2		8/12	11:05
SS-6-2		8/12	11:10
SS-12-3		8/12	12:35
SS-5-3		8/12	12:30
SS-9-8		8/11	12:36
SS-8-3		8/11	12:15
SS-11-3		8/11	11:57
SS-10-3		8/11	12:05
SS-3-2		8/11	12:20
TOTAL			
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	TURN AROUND TIME
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	NORMAL ☐
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	1 DAY ☐
			2 DAY ☒
			OTHER ☐
LABORATORY USE ONLY:			
RECEIVING TEMP: 7.0 THERM #: _____			
CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED			
☐ CARRIER BILL # _____			
☒ HAND DELIVERED			
PRESERVATION			
HCl	HNO ₃	H ₂ SO ₄ ☐ NaOH ☐	ICE
UNPRESERVED			
ANALYSES			
BTX ☐ MTBE ☐			
TPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐			
GASOLINE MOD 8015 ☒ ORO ☒			
DIESEL - MOD 8015 ☒			
VOC 8260 ☐			
SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐			
8081 PESTICIDES ☐ 8151 HERBICIDES ☐			
TCPL - METALS (RCRA) ☐ Semi-VOC ☐			
TCPL - PEST ☐ HERB ☐ OTHER LIST ☐			
TOTAL METALS (RORA) ☐ D.W. 200.8 ☐ TCPL ☐			
LEAD - TOTAL ☐ FLASHPOINT ☐			
RCI ☐ TOX ☐ % MOISTURE ☐			
TDS ☐ TSS ☐ HEXAVALENT CHROMIUM ☐			
PH ☐ EXPLOSIVES ☐ PECHLORATE ☐			
CHLORIDE ☐ ANIONS ☐ ALKALINITY ☐			
FIELD NOTES			

**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 35

Project Number: 16-0121-01

Location:

Lab Order Number: 6H24005



NELAP/TCEQ # T104704156-13-3

Report Date: 08/29/16

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

Project: EOG Cedar Lake 35
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
HA-11-3	6H24005-01	Soil	08/19/16 12:00	08-24-2016 11:55
SS-9-10	6H24005-02	Soil	08/22/16 13:00	08-24-2016 11:55
SS-11-4	6H24005-03	Soil	08/22/16 13:03	08-24-2016 11:55
SS-10-4	6H24005-04	Soil	08/22/16 12:55	08-24-2016 11:55
SS-6-3	6H24005-05	Soil	08/23/16 12:15	08-24-2016 11:55

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

Project: EOG Cedar Lake 35
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

HA-11-3
6H24005-01 (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	1.45	0.0543	mg/kg dry	50	P6H2901	08/26/16	08/26/16	EPA 8021B	
Toluene	27.5	0.109	mg/kg dry	50	P6H2901	08/26/16	08/26/16	EPA 8021B	
Ethylbenzene	6.60	0.0543	mg/kg dry	50	P6H2901	08/26/16	08/26/16	EPA 8021B	
Xylene (p/m)	47.3	0.109	mg/kg dry	50	P6H2901	08/26/16	08/26/16	EPA 8021B	
Xylene (o)	11.9	0.0543	mg/kg dry	50	P6H2901	08/26/16	08/26/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>61.2 %</i>		<i>75-125</i>	<i>P6H2901</i>	<i>08/26/16</i>	<i>08/26/16</i>	<i>EPA 8021B</i>	<i>S-GC</i>
<i>Surrogate: 1,4-Difluorobenzene</i>		<i>84.4 %</i>		<i>75-125</i>	<i>P6H2901</i>	<i>08/26/16</i>	<i>08/26/16</i>	<i>EPA 8021B</i>	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	8.0	0.1	%	1	P6H2601	08/26/16	08/26/16	% calculation	
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Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: EOG Cedar Lake 35
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SS-9-10
6H24005-02 (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	0.00216	0.00109	mg/kg dry	1	P6H2901	08/26/16	08/26/16	EPA 8021B	
Toluene	0.00592	0.00217	mg/kg dry	1	P6H2901	08/26/16	08/26/16	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P6H2901	08/26/16	08/26/16	EPA 8021B	
Xylene (p/m)	0.00465	0.00217	mg/kg dry	1	P6H2901	08/26/16	08/26/16	EPA 8021B	
Xylene (o)	0.00250	0.00109	mg/kg dry	1	P6H2901	08/26/16	08/26/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		<i>108 %</i>	<i>75-125</i>		<i>P6H2901</i>	<i>08/26/16</i>	<i>08/26/16</i>	<i>EPA 8021B</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>	<i>75-125</i>		<i>P6H2901</i>	<i>08/26/16</i>	<i>08/26/16</i>	<i>EPA 8021B</i>	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	8.0	0.1	%	1	P6H2601	08/26/16	08/26/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P6H2902	08/24/16	08/25/16	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P6H2902	08/24/16	08/25/16	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P6H2902	08/24/16	08/25/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		<i>111 %</i>	<i>70-130</i>		<i>P6H2902</i>	<i>08/24/16</i>	<i>08/25/16</i>	<i>TPH 8015M</i>	
<i>Surrogate: o-Terphenyl</i>		<i>126 %</i>	<i>70-130</i>		<i>P6H2902</i>	<i>08/24/16</i>	<i>08/25/16</i>	<i>TPH 8015M</i>	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	08/24/16	08/25/16	calc	

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

Project: EOG Cedar Lake 35
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SS-11-4
6H24005-03 (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	0.382	0.0521	mg/kg dry	50	P6H2901	08/26/16	08/26/16	EPA 8021B	
Toluene	17.8	0.104	mg/kg dry	50	P6H2901	08/26/16	08/26/16	EPA 8021B	
Ethylbenzene	4.78	0.0521	mg/kg dry	50	P6H2901	08/26/16	08/26/16	EPA 8021B	
Xylene (p/m)	38.6	0.104	mg/kg dry	50	P6H2901	08/26/16	08/26/16	EPA 8021B	
Xylene (o)	8.72	0.0521	mg/kg dry	50	P6H2901	08/26/16	08/26/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		90.0 %	75-125		P6H2901	08/26/16	08/26/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		46.0 %	75-125		P6H2901	08/26/16	08/26/16	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

% Moisture	4.0	0.1	%	1	P6H2601	08/26/16	08/26/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	2630	130	mg/kg dry	5	P6H2902	08/24/16	08/25/16	TPH 8015M	
>C12-C28	1970	130	mg/kg dry	5	P6H2902	08/24/16	08/25/16	TPH 8015M	
>C28-C35	233	130	mg/kg dry	5	P6H2902	08/24/16	08/25/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		108 %	70-130		P6H2902	08/24/16	08/25/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		118 %	70-130		P6H2902	08/24/16	08/25/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	4830	130	mg/kg dry	5	[CALC]	08/24/16	08/25/16	calc	

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

Project: EOG Cedar Lake 35
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SS-10-4
6H24005-04 (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	0.938	0.0526	mg/kg dry	50	P6H2901	08/26/16	08/26/16	EPA 8021B	
Toluene	21.3	0.105	mg/kg dry	50	P6H2901	08/26/16	08/26/16	EPA 8021B	
Ethylbenzene	1.41	0.0526	mg/kg dry	50	P6H2901	08/26/16	08/26/16	EPA 8021B	
Xylene (p/m)	42.0	0.105	mg/kg dry	50	P6H2901	08/26/16	08/26/16	EPA 8021B	
Xylene (o)	9.89	0.0526	mg/kg dry	50	P6H2901	08/26/16	08/26/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		89.4 %	75-125		P6H2901	08/26/16	08/26/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		40.0 %	75-125		P6H2901	08/26/16	08/26/16	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

% Moisture	5.0	0.1	%	1	P6H2601	08/26/16	08/26/16	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	4210	132	mg/kg dry	5	P6H2902	08/24/16	08/25/16	TPH 8015M	
>C12-C28	2810	132	mg/kg dry	5	P6H2902	08/24/16	08/25/16	TPH 8015M	
>C28-C35	334	132	mg/kg dry	5	P6H2902	08/24/16	08/25/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		119 %	70-130		P6H2902	08/24/16	08/25/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		116 %	70-130		P6H2902	08/24/16	08/25/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	7350	132	mg/kg dry	5	[CALC]	08/24/16	08/25/16	calc	

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

Project: EOG Cedar Lake 35
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

SS-6-3
6H24005-05 (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	0.00102	mg/kg dry	1	P6H2901	08/26/16	08/26/16	EPA 8021B
Toluene	ND	0.00204	mg/kg dry	1	P6H2901	08/26/16	08/26/16	EPA 8021B
Ethylbenzene	ND	0.00102	mg/kg dry	1	P6H2901	08/26/16	08/26/16	EPA 8021B
Xylene (p/m)	ND	0.00204	mg/kg dry	1	P6H2901	08/26/16	08/26/16	EPA 8021B
Xylene (o)	ND	0.00102	mg/kg dry	1	P6H2901	08/26/16	08/26/16	EPA 8021B
Surrogate: 1,4-Difluorobenzene		115 %	75-125		P6H2901	08/26/16	08/26/16	EPA 8021B
Surrogate: 4-Bromofluorobenzene		113 %	75-125		P6H2901	08/26/16	08/26/16	EPA 8021B

General Chemistry Parameters by EPA / Standard Methods

% Moisture	2.0	0.1	%	1	P6H2601	08/26/16	08/26/16	% calculation
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Larson & Associates, Inc.
P.O. Box 50685
Midland TX, 79710

Project: EOG Cedar Lake 35
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 P6H2901 - General Preparation (GC)

Blank (P6H2901-BLK1)

Prepared & Analyzed: 08/26/16

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	0.0676		"	0.0600		113	75-125			
Surrogate: 4-Bromofluorobenzene	0.0649		"	0.0600		108	75-125			

LCS (P6H2901-BS1)

Prepared & Analyzed: 08/26/16

Benzene	0.118	0.00100	mg/kg wet	0.100		118	70-130			
Toluene	0.110	0.00200	"	0.100		110	70-130			
Ethylbenzene	0.115	0.00100	"	0.100		115	70-130			
Xylene (p/m)	0.226	0.00200	"	0.200		113	70-130			
Xylene (o)	0.117	0.00100	"	0.100		117	70-130			
Surrogate: 1,4-Difluorobenzene	0.0646		"	0.0600		108	75-125			
Surrogate: 4-Bromofluorobenzene	0.0670		"	0.0600		112	75-125			

LCS Dup (P6H2901-BSD1)

Prepared & Analyzed: 08/26/16

Benzene	0.111	0.00100	mg/kg wet	0.100		111	70-130	6.41	20	
Toluene	0.106	0.00200	"	0.100		106	70-130	3.65	20	
Ethylbenzene	0.108	0.00100	"	0.100		108	70-130	6.30	20	
Xylene (p/m)	0.214	0.00200	"	0.200		107	70-130	5.19	20	
Xylene (o)	0.111	0.00100	"	0.100		111	70-130	5.28	20	
Surrogate: 4-Bromofluorobenzene	0.0651		"	0.0600		109	75-125			
Surrogate: 1,4-Difluorobenzene	0.0677		"	0.0600		113	75-125			

Matrix Spike (P6H2901-MS1)

Source: 6H24005-02

Prepared & Analyzed: 08/26/16

Benzene	0.102	0.00109	mg/kg dry	0.109	0.00216	91.6	80-120			
Toluene	0.0988	0.00217	"	0.109	0.00592	85.5	80-120			
Ethylbenzene	0.0978	0.00109	"	0.109	ND	90.0	80-120			
Xylene (p/m)	0.195	0.00217	"	0.217	0.00465	87.5	80-120			
Xylene (o)	0.107	0.00109	"	0.109	0.00250	95.8	80-120			
Surrogate: 1,4-Difluorobenzene	0.0825		"	0.0652		126	75-125			S-GC
Surrogate: 4-Bromofluorobenzene	0.0803		"	0.0652		123	75-125			

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

Project: EOG Cedar Lake 35
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 P6H2901 - General Preparation (GC)

Matrix Spike Dup (P6H2901-MSD1)

Source: 6H24005-02

Prepared & Analyzed: 08/26/16

Benzene	0.0904	0.00109	mg/kg dry	0.109	0.00216	81.1	80-120	12.2	20	
Toluene	0.0869	0.00217	"	0.109	0.00592	74.5	80-120	13.7	20	QM-07
Ethylbenzene	0.0868	0.00109	"	0.109	ND	79.9	80-120	11.9	20	QM-07
Xylene (p/m)	0.174	0.00217	"	0.217	0.00465	78.0	80-120	11.4	20	QM-07
Xylene (o)	0.0918	0.00109	"	0.109	0.00250	82.1	80-120	15.3	20	
Surrogate: 1,4-Difluorobenzene	0.0799		"	0.0652		122	75-125			
Surrogate: 4-Bromofluorobenzene	0.0765		"	0.0652		117	75-125			

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

Project: EOG Cedar Lake 35
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
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Batch P6H2601 - * DEFAULT PREP *****

Blank (P6H2601-BLK1)		Prepared & Analyzed: 08/26/16								
% Moisture	ND	0.1	%							
Blank (P6H2601-BLK2)		Prepared & Analyzed: 08/26/16								
% Moisture	ND	0.1	%							
Duplicate (P6H2601-DUP1)		Source: 6H23009-01		Prepared & Analyzed: 08/26/16						
% Moisture	10.0	0.1	%		8.0			22.2	20	
Duplicate (P6H2601-DUP2)		Source: 6H23015-15		Prepared & Analyzed: 08/26/16						
% Moisture	5.0	0.1	%		5.0			0.00	20	
Duplicate (P6H2601-DUP3)		Source: 6H23016-02		Prepared & Analyzed: 08/26/16						
% Moisture	11.0	0.1	%		11.0			0.00	20	
Duplicate (P6H2601-DUP4)		Source: 6H24008-02		Prepared & Analyzed: 08/26/16						
% Moisture	82.0	0.1	%		81.0			1.23	20	
Duplicate (P6H2601-DUP5)		Source: 6H23010-01		Prepared & Analyzed: 08/26/16						
% Moisture	ND	0.1	%		1.0			200	20	

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

Project: EOG Cedar Lake 35
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 P6H2902 - TX 1005

Blank (P6H2902-BLK1)

Prepared & Analyzed: 08/24/16

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	116		"	100		116	70-130			
Surrogate: o-Terphenyl	67.5		"	50.0		135	70-130			S-GC

LCS (P6H2902-BS1)

Prepared & Analyzed: 08/24/16

C6-C12	871	25.0	mg/kg wet	1000		87.1	75-125			
>C12-C28	935	25.0	"	1000		93.5	75-125			
Surrogate: 1-Chlorooctane	125		"	100		125	70-130			
Surrogate: o-Terphenyl	52.5		"	50.0		105	70-130			

LCS Dup (P6H2902-BSD1)

Prepared & Analyzed: 08/24/16

C6-C12	937	25.0	mg/kg wet	1000		93.7	75-125	7.31	20	
>C12-C28	972	25.0	"	1000		97.2	75-125	3.87	20	
Surrogate: 1-Chlorooctane	107		"	100		107	70-130			
Surrogate: o-Terphenyl	54.9		"	50.0		110	70-130			

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

Project: EOG Cedar Lake 35
Project Number: 16-0121-01
Project Manager: Mark Larson

Fax: (432) 687-0456

Notes and Definitions

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

8/29/2016

Brent Barron, Laboratory Director/Technical Director

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

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

6424005

CHAIN-OF-CUSTODY

Arson & Associates, Inc.
Environmental Consultants

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

Data Reported to:

DATE: 8/24/2016 PAGE 1 OF 1
PO #: LAB WORK ORDER #
PROJECT LOCATION OR NAME: EOC Cedar Lake 35
LAI PROJECT #: 16-0121-01 COLLECTOR: Michael Carr

TRRP report?
☐ Yes ☐ No

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

TIME ZONE:
Time zone/State:

MST/INM

Field
Sample I.D.

Lab #

Date

Time

Matrix

of Containers

HCl

HNO₃

H₂SO₄ ☐ NaOH ☐

ICE

UNPRESERVED

ANALYSES

BTEX ☒ MTBE ☐
TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐
GASOLINE MOD 8015 ☒
DIESEL - MOD 8015 ☒
VOC 8260 ☒
SVOC 8270 ☒
8081 PESTICIDES ☒
8082 PESTICIDES ☒
TCPP - METALS (RCRA) ☒
TCPP - METALS (RCRA) ☒
TOTAL METALS (RCRA) ☒
LEAD - TOTAL ☒
RCI ☒
TDS ☒
pH ☒
EXPLOSIVES ☒
CHLORIDE ☒
ANIONS ☒
ALKALINITY ☒
HOLDPAH ☐
TCPP VOC ☐
OTHER LIST ☐
D.W. 200.8 ☐
FLASHPOINT ☐
% MOISTURE ☐
CYANIDE ☐
PECHLORATE ☐
OTHER ☐

FIELD NOTES

HA-11-3
SS-9-10
SS-11-4
SS-10-4
SS-6-3

8/19 12:00
8/22 13:00
8/22 13:03
8/22 12:55
8/23 12:15

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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)

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

LABORATORY USE ONLY:
RECEIVING TEMP: 16 THERM #: 16

CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED

CARRIER BILL #

HAND DELIVERED

Appendix B



Location Sign



Crude Oil inside firewall near Northwest corner (DP-1) facing Northeast, May 20, 2016



Stained Area outside firewall North of Tanks facing Northeast, May 30, 2016



Stained Area inside and outside firewall facing Southeast, June 1, 2016



Stained Area inside and outside firewall facing Northeast, June 1, 2016



Stained Area inside and outside firewall facing West, June 1, 2016



Stained Area inside firewall facing East, June 1, 2016



Stained Area inside firewall facing North, June 1, 2016



Northwest corner of battery excavation facing South, August 18, 2016



Northwest corner of battery excavation facing South, August 18, 2016



Middle of battery excavation facing South, August 18, 2016



Middle of battery excavation facing South, August 18, 2016



Northeast corner of battery excavation facing South, August 18, 2016



East side of battery excavation facing West, August 18, 2016



East side of battery excavation facing West, August 18, 2016



East side of battery excavation facing West, August 18, 2016



Middle of battery excavation facing North, August 18, 2016



Middle of battery excavation facing North, August 18, 2016



Southwest corner of excavation facing North, August 18, 2016



Southwest corner of battery excavation facing East, August 18, 2016



Northwest corner of backfilled tank battery and new firewall facing South, September 3, 2016



Middle of backfilled tank battery and new firewall facing South, September 3, 2016



Northeast corner of backfilled tank battery and new firewall facing South, September 3, 2016



Northeast corner of backfilled tank battery and new firewall facing West, September 3, 2016



Southeast corner of backfilled tank battery and new firewall facing West, September 3, 2016



Southeast corner of backfilled tank battery and new firewall facing North, September 3, 2016



Middle of backfilled tank battery and new firewall facing North, September 3, 2016



Southwest corner of backfilled tank battery and new firewall facing North, September 3, 2016



Southwest corner of backfilled tank battery and new firewall facing East, September 3, 2016



Northwest corner of backfilled tank battery and new firewall facing East, September 3, 2016

Appendix C

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

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

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.					

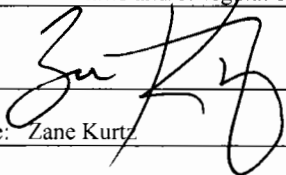
If a Watercourse was Impacted, Describe Fully.*
NA

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

District I
1625 N. French Dr., Hobbs, NM 88240
District II
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State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	EOG Resources, Inc.	Contact	Zane Kurtz
Address	5509 Champions 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.	BLM

LOCATION OF RELEASE

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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?	N/A	If YES, To Whom? N/A			
Was a Watercourse Reached?	☐ Yes ☒ No				
If YES, Volume Impacting the Watercourse.					

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

Describe Cause of Problem and Remedial Action Taken.*
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. Soil samples were collected throughout the affected area and analyzed for BTEX, TPH, and chloride. Contaminated soil was excavated and hauled to Lea Land Landfill, LLC.

Describe Area Affected and Cleanup Action Taken.*
Contaminated soil was excavated down to approximately 4 feet bgs and disposed at Lea Land Landfill, LLC (NM1-35-0). Residual hydrocarbons above the RRAL remain in the vicinity of the tanks and cannot be removed without damaging integrity of the tanks. Groundwater occurs at approximately 270 feet bgs therefore EOG requests deferral for remediation of residual hydrocarbons until abandonment per telephone conference with OCD District 2 environmental representative, Heather Patterson, on August 24, 2016.

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:	Expiration Date:
E-mail Address: zane_kurtz@eogresources.com		Conditions of Approval:	
Date: 10/21/16 Phone: 432-425-2023		Attached ☐	

* Attach Additional Sheets If Necessary