



## ANALYTICAL SUMMARY REPORT

April 08, 2016

EOG Resources Inc  
600 17th St Ste 1000 N  
Denver, CO 80202

Work Order: C16030609

Project Name: Randall Creek 2-29H 3/9/2016

Energy Laboratories, Inc. Casper WY received the following 4 samples for EOG Resources Inc on 3/18/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C16030609-001	RC2_1	03/16/16 17:05	03/18/16	Soil	Metals, Saturated Paste Conductivity Ultrasonic Extraction Methanol Extraction for Volatiles Diesel Range Organics Gasoline Range Organics pH, Saturated Paste Percent Moisture Saturated Paste Extraction Sodium Adsorption Ratio Volatile Organics, Methanol Extraction 8260-Volatile Organic Compounds- BTEX
C16030609-002	RC2_2	03/16/16 17:10	03/18/16	Soil	Same As Above
C16030609-003	RC2_3	03/16/16 17:15	03/18/16	Soil	Same As Above
C16030609-004	RC2_4	03/16/16 17:20	03/18/16	Soil	Same As Above

The results as reported relate only to the item(s) submitted for testing. The analyses presented in this report were performed at Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Radiochemistry analyses were performed at Energy Laboratories, Inc., 2325 Kerzell Lane, Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these test results, please call.

Report Approved By:



**CLIENT:** EOG Resources Inc  
**Project:** Randall Creek 2-29H 3/9/2016  
**Work Order:** C16030609

**Revised Date:** 04/08/16

**Report Date:** 04/06/16

## CASE NARRATIVE

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### REVISED/SUPPLEMENTAL REPORT (R1)

The attached analytical report has been revised from a previously submitted report due to the request by Ross Talboom on 4/8/2016 to change the reporting limit from .020 to 0.17 on the BTEX sample(s). The data presented here is from that recheck/additional analysis. The report has been revised and replaces any previously issued report in its entirety.

Tests associated with analyst identified as ELI-H were subcontracted to Energy Laboratories, 3161 E.Lyndale Ave., Helena, MT, EPA Number MT00945.



## LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** EOG Resources Inc  
**Project:** Randall Creek 2-29H 3/9/2016  
**Lab ID:** C16030609-001  
**Client Sample ID:** RC2\_1

**Revised Date:** 04/08/16  
**Report Date:** 04/06/16  
**Collection Date:** 03/16/16 17:05  
**Date Received:** 03/18/16  
**Matrix:** Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL CHARACTERISTICS</b>							
Moisture	4.0	wt%		0.2		D2974	03/21/16 16:28 / sf
<b>SATURATED PASTE EXTRACT</b>							
Conductivity, sat. paste	1.22	mmhos/cm		0.05		ASAM10-3	03/31/16 11:29 / eli-h
pH, sat. paste	7.9	s.u.		0.1		ASAM10-3.2	03/31/16 08:44 / eli-h
Calcium, sat. paste	3.45	meq/L		0.05		SW6010B	04/01/16 18:37 / eli-h
Magnesium, sat. paste	2.00	meq/L		0.08		SW6010B	04/01/16 18:37 / eli-h
Sodium, sat. paste	4.57	meq/L		0.04		SW6010B	04/01/16 18:37 / eli-h
Sodium Adsorption Ratio (SAR)	2.8	unitless		0.1		USDA20B	04/04/16 09:48 / smm
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Benzene	ND	mg/kg-dry		0.17		SW8260B	03/21/16 22:58 / dm
Ethylbenzene	ND	mg/kg-dry		0.17		SW8260B	03/21/16 22:58 / dm
m+p-Xylenes	ND	mg/kg-dry		0.17		SW8260B	03/21/16 22:58 / dm
o-Xylene	0.40	mg/kg-dry		0.17		SW8260B	03/21/16 22:58 / dm
Toluene	ND	mg/kg-dry		0.17		SW8260B	03/21/16 22:58 / dm
Xylenes, Total	0.50	mg/kg-dry		0.17		SW8260B	03/21/16 22:58 / dm
Surr: 1,2-Dichlorobenzene-d4	107	%REC		70-130		SW8260B	03/21/16 22:58 / dm
Surr: Dibromofluoromethane	70.0	%REC		70-130		SW8260B	03/21/16 22:58 / dm
Surr: p-Bromofluorobenzene	100	%REC		70-130		SW8260B	03/21/16 22:58 / dm
Surr: Toluene-d8	113	%REC		70-130		SW8260B	03/21/16 22:58 / dm
<b>ORGANIC CHARACTERISTICS</b>							
Diesel Range Organics (DRO)	6270	mg/kg-dry		716		SW8015B	03/25/16 18:40 / bah
Surr: o-Terphenyl	0	%REC	O	32-106		SW8015B	03/25/16 18:40 / bah
Gasoline Range Organics (GRO)	58	mg/kg-dry		22		SW8015B	03/22/16 14:57 / bah
Total Purgeable Hydrocarbons	853	mg/kg-dry		22		SW8015B	03/22/16 14:57 / bah
Surr: Trifluorotoluene	133	%REC		53.8-137		SW8015B	03/22/16 14:57 / bah

**Report** RL - Analyte reporting limit.  
**Definitions:** QCL - Quality control limit.  
O - Diluted out.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** EOG Resources Inc  
**Project:** Randall Creek 2-29H 3/9/2016  
**Lab ID:** C16030609-002  
**Client Sample ID:** RC2\_2

**Revised Date:** 04/08/16  
**Report Date:** 04/06/16  
**Collection Date:** 03/16/16 17:10  
**Date Received:** 03/18/16  
**Matrix:** Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL CHARACTERISTICS</b>							
Moisture	9.2	wt%		0.2		D2974	03/21/16 16:28 / sf
<b>SATURATED PASTE EXTRACT</b>							
Conductivity, sat. paste	1.49	mmhos/cm		0.05		ASAM10-3	03/31/16 11:30 / eli-h
pH, sat. paste	7.8	s.u.		0.1		ASAM10-3.2	03/31/16 08:45 / eli-h
Calcium, sat. paste	5.62	meq/L		0.05		SW6010B	04/01/16 18:41 / eli-h
Magnesium, sat. paste	3.80	meq/L		0.08		SW6010B	04/01/16 18:41 / eli-h
Sodium, sat. paste	3.53	meq/L		0.04		SW6010B	04/01/16 18:41 / eli-h
Sodium Adsorption Ratio (SAR)	1.6	unitless		0.1		USDA20B	04/04/16 09:48 / smm
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Benzene	ND	mg/kg-dry		0.22		SW8260B	03/21/16 23:33 / dm
Ethylbenzene	ND	mg/kg-dry		0.22		SW8260B	03/21/16 23:33 / dm
m+p-Xylenes	ND	mg/kg-dry		0.44		SW8260B	03/21/16 23:33 / dm
o-Xylene	ND	mg/kg-dry		0.22		SW8260B	03/21/16 23:33 / dm
Toluene	ND	mg/kg-dry		0.22		SW8260B	03/21/16 23:33 / dm
Xylenes, Total	ND	mg/kg-dry		0.17		SW8260B	03/21/16 23:33 / dm
Surr: 1,2-Dichlorobenzene-d4	106	%REC		70-130		SW8260B	03/21/16 23:33 / dm
Surr: Dibromofluoromethane	67.0	%REC	S	70-130		SW8260B	03/21/16 23:33 / dm
Surr: p-Bromofluorobenzene	98.0	%REC		70-130		SW8260B	03/21/16 23:33 / dm
Surr: Toluene-d8	114	%REC		70-130		SW8260B	03/21/16 23:33 / dm
<b>ORGANIC CHARACTERISTICS</b>							
Diesel Range Organics (DRO)	329	mg/kg-dry		78		SW8015B	03/25/16 23:16 / bah
Surr: o-Terphenyl	81.0	%REC		32-106		SW8015B	03/25/16 23:16 / bah
Gasoline Range Organics (GRO)	28	mg/kg-dry		4.8		SW8015B	03/22/16 15:34 / bah
Total Purgeable Hydrocarbons	199	mg/kg-dry		4.8		SW8015B	03/22/16 15:34 / bah
Surr: Trifluorotoluene	108	%REC		53.8-137		SW8015B	03/22/16 15:34 / bah

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
S - Spike recovery outside of advisory limits.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** EOG Resources Inc  
**Project:** Randall Creek 2-29H 3/9/2016  
**Lab ID:** C16030609-003  
**Client Sample ID:** RC2\_3

**Revised Date:** 04/08/16  
**Report Date:** 04/06/16  
**Collection Date:** 03/16/16 17:15  
**Date Received:** 03/18/16  
**Matrix:** Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL CHARACTERISTICS</b>							
Moisture	7.4	wt%		0.2		D2974	03/21/16 16:28 / sf
<b>SATURATED PASTE EXTRACT</b>							
Conductivity, sat. paste	0.50	mmhos/cm		0.05		ASAM10-3	03/31/16 11:31 / eli-h
pH, sat. paste	8.0	s.u.		0.1		ASAM10-3.2	03/31/16 08:45 / eli-h
Calcium, sat. paste	1.79	meq/L		0.05		SW6010B	04/01/16 18:44 / eli-h
Magnesium, sat. paste	1.16	meq/L		0.08		SW6010B	04/01/16 18:44 / eli-h
Sodium, sat. paste	1.21	meq/L		0.04		SW6010B	04/01/16 18:44 / eli-h
Sodium Adsorption Ratio (SAR)	1.0	unitless		0.1		USDA20B	04/04/16 09:48 / smm
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Benzene	ND	mg/kg-dry		0.17		SW8260B	03/22/16 00:08 / dm
Ethylbenzene	ND	mg/kg-dry		0.17		SW8260B	03/22/16 00:08 / dm
m+p-Xylenes	ND	mg/kg-dry		0.17		SW8260B	03/22/16 00:08 / dm
o-Xylene	ND	mg/kg-dry		0.17		SW8260B	03/22/16 00:08 / dm
Toluene	ND	mg/kg-dry		0.17		SW8260B	03/22/16 00:08 / dm
Xylenes, Total	ND	mg/kg-dry		0.22		SW8260B	03/22/16 00:08 / dm
Surr: 1,2-Dichlorobenzene-d4	106	%REC		70-130		SW8260B	03/22/16 00:08 / dm
Surr: Dibromofluoromethane	68.0	%REC	S	70-130		SW8260B	03/22/16 00:08 / dm
Surr: p-Bromofluorobenzene	100	%REC		70-130		SW8260B	03/22/16 00:08 / dm
Surr: Toluene-d8	114	%REC		70-130		SW8260B	03/22/16 00:08 / dm
<b>ORGANIC CHARACTERISTICS</b>							
Diesel Range Organics (DRO)	1830	mg/kg-dry		72		SW8015B	03/26/16 00:48 / bah
Surr: o-Terphenyl	115	%REC	S	32-106		SW8015B	03/26/16 00:48 / bah
Gasoline Range Organics (GRO)	39	mg/kg-dry		4.7		SW8015B	03/22/16 16:11 / bah
Total Purgeable Hydrocarbons	539	mg/kg-dry		4.7		SW8015B	03/22/16 16:11 / bah
Surr: Trifluorotoluene	103	%REC		53.8-137		SW8015B	03/22/16 16:11 / bah

**Report Definitions:**  
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MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** EOG Resources Inc  
**Project:** Randall Creek 2-29H 3/9/2016  
**Lab ID:** C16030609-004  
**Client Sample ID:** RC2\_4

**Revised Date:** 04/08/16  
**Report Date:** 04/06/16  
**Collection Date:** 03/16/16 17:20  
**Date Received:** 03/18/16  
**Matrix:** Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL CHARACTERISTICS</b>							
Moisture	2.6	wt%		0.2		D2974	03/21/16 16:28 / sf
<b>SATURATED PASTE EXTRACT</b>							
Conductivity, sat. paste	0.27	mmhos/cm		0.05		ASAM10-3	03/31/16 11:32 / eli-h
pH, sat. paste	8.2	s.u.		0.1		ASAM10-3.2	03/31/16 08:46 / eli-h
Calcium, sat. paste	1.71	meq/L		0.05		SW6010B	04/01/16 18:48 / eli-h
Magnesium, sat. paste	0.51	meq/L		0.08		SW6010B	04/01/16 18:48 / eli-h
Sodium, sat. paste	0.29	meq/L		0.04		SW6010B	04/01/16 18:48 / eli-h
Sodium Adsorption Ratio (SAR)	0.3	unitless		0.1		USDA20B	04/04/16 09:48 / smm
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Benzene	ND	mg/kg-dry		0.17		SW8260B	03/21/16 17:41 / dm
Ethylbenzene	0.64	mg/kg-dry		0.17		SW8260B	03/21/16 17:41 / dm
m+p-Xylenes	1.0	mg/kg-dry		0.17		SW8260B	03/21/16 17:41 / dm
o-Xylene	1.1	mg/kg-dry		0.17		SW8260B	03/21/16 17:41 / dm
Toluene	ND	mg/kg-dry		0.17		SW8260B	03/21/16 17:41 / dm
Xylenes, Total	2.1	mg/kg-dry		0.17		SW8260B	03/21/16 17:41 / dm
Surr: 1,2-Dichlorobenzene-d4	106	%REC		70-130		SW8260B	03/21/16 17:41 / dm
Surr: Dibromofluoromethane	70.0	%REC		70-130		SW8260B	03/21/16 17:41 / dm
Surr: p-Bromofluorobenzene	101	%REC		70-130		SW8260B	03/21/16 17:41 / dm
Surr: Toluene-d8	115	%REC		70-130		SW8260B	03/21/16 17:41 / dm
<b>ORGANIC CHARACTERISTICS</b>							
Diesel Range Organics (DRO)	1220	mg/kg-dry		65		SW8015B	03/26/16 00:02 / bah
Surr: o-Terphenyl	114	%REC	S	32-106		SW8015B	03/26/16 00:02 / bah
Gasoline Range Organics (GRO)	78	mg/kg-dry		21		SW8015B	03/22/16 16:49 / bah
Total Purgeable Hydrocarbons	715	mg/kg-dry		21		SW8015B	03/22/16 16:49 / bah
Surr: Trifluorotoluene	136	%REC		53.8-137		SW8015B	03/22/16 16:49 / bah

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
S - Spike recovery outside of advisory limits.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 04/08/16

**Report Date:** 04/06/16

**Work Order:** C16030609

**Client:** EOG Resources Inc

**Project:** Randall Creek 2-29H 3/9/2016

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
Method: ASAM10-3								Analytical Run: SUB-H114160			
Lab ID: ICV_1_160328_1	Initial Calibration Verification Standard										03/29/16 13:56
Conductivity, sat. paste		1.48	mmhos/cm	0.10	105	90	110				
Lab ID: ICV_1_160328_1	Initial Calibration Verification Standard										03/29/16 14:17
Conductivity, sat. paste		1.45	mmhos/cm	0.10	102	90	110				
Lab ID: ICV_1_160330_1	Initial Calibration Verification Standard										03/31/16 11:14
Conductivity, sat. paste		1.44	mmhos/cm	0.10	102	90	110				
Lab ID: CCV1_1_160330_1	Continuing Calibration Verification Standard										03/31/16 11:16
Conductivity, sat. paste		1.04	mmhos/cm	0.10	104	90	110				
Lab ID: CCV_3_160330_1	Continuing Calibration Verification Standard										03/31/16 11:28
Conductivity, sat. paste		5.19	mmhos/cm	0.10	104	90	110				
Lab ID: ICV_1_160330_1	Initial Calibration Verification Standard										03/31/16 11:38
Conductivity, sat. paste		1.44	mmhos/cm	0.10	102	90	110				
Method: ASAM10-3								Batch: H_32403			
Lab ID: LCS-32403	Laboratory Control Sample										03/31/16 11:18
Conductivity, sat. paste		4.58	mmhos/cm	0.10	107	80	120				
Lab ID: H16030363-010ADUP	Sample Duplicate										03/31/16 11:27
Conductivity, sat. paste		0.674	mmhos/cm	0.10				2.8	20		
Lab ID: H16030431-001ADUP	Sample Duplicate										03/31/16 11:36
Conductivity, sat. paste		2.42	mmhos/cm	0.10				6.4	20		

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Casper, WY Branch

**Client:** EOG Resources Inc  
**Project:** Randall Creek 2-29H 3/9/2016

**Revised Date:** 04/08/16  
**Report Date:** 04/06/16  
**Work Order:** C16030609

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
Method: ASAM10-3.2								Analytical Run: SUB-H114134			
Lab ID: ICV_1_160328_1	Initial Calibration Verification Standard										03/29/16 08:14
pH, sat. paste		10.0	s.u.	0.10	100	99	101				
Lab ID: ICV_1_160328_1	Initial Calibration Verification Standard										03/29/16 08:37
pH, sat. paste		10.0	s.u.	0.10	100	99	101				
Lab ID: ICV_1_160328_1	Initial Calibration Verification Standard										03/29/16 09:29
pH, sat. paste		10.0	s.u.	0.10	101	99	101				
Lab ID: ICV_1_160330_1	Initial Calibration Verification Standard										03/31/16 08:33
pH, sat. paste		10.1	s.u.	0.10	101	99	101				
Lab ID: CCV1_1_160330_1	Continuing Calibration Verification Standard										03/31/16 08:34
pH, sat. paste		4.03	s.u.	0.10	101	97.5	102.5				
Lab ID: CCV_3_160330_1	Continuing Calibration Verification Standard										03/31/16 08:43
pH, sat. paste		7.03	s.u.	0.10	100	98.6	101.4				
Lab ID: ICV_1_160330_1	Initial Calibration Verification Standard										03/31/16 08:59
pH, sat. paste		10.0	s.u.	0.10	101	99	101				
Method: ASAM10-3.2								Batch: H_32403			
Lab ID: LCS-32403	Laboratory Control Sample										03/31/16 08:35
pH, sat. paste		7.58	s.u.	0.10	101	95	105				
Lab ID: H16030363-010ADUP	Sample Duplicate										03/31/16 08:42
pH, sat. paste		8.57	s.u.	0.10				0.2	30		
Lab ID: H16030431-001ADUP	Sample Duplicate										03/31/16 08:50
pH, sat. paste		7.89	s.u.	0.10				0.3	30		

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





## QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 04/08/16

Report Date: 04/06/16

Work Order: C16030609

Client: EOG Resources Inc

Project: Randall Creek 2-29H 3/9/2016

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW6010B</b>								Analytical Run: SUB-H114188		
<b>Lab ID: ICV</b>	3	Initial Calibration Verification Standard								04/01/16 09:11
Calcium		40.5	mg/L	1.0	101	90	110			
Magnesium		40.3	mg/L	1.0	101	90	110			
Sodium		40.6	mg/L	1.0	102	90	110			
<b>Lab ID: ICSA</b>	3	Interference Check Sample A								04/01/16 09:49
Calcium		470	mg/L	1.0	94	80	120			
Magnesium		492	mg/L	1.0	98	80	120			
Sodium		0.0577	mg/L	1.0		0	0			
<b>Lab ID: ICSAB</b>	3	Interference Check Sample AB								04/01/16 09:53
Calcium		465	mg/L	1.0	93	80	120			
Magnesium		488	mg/L	1.0	98	80	120			
Sodium		18.5	mg/L	1.0	92	80	120			
<b>Method: SW6010B</b>								Batch: H_32403		
<b>Lab ID: LCS-32403</b>	3	Laboratory Control Sample				Run: SUB-H114188			04/01/16 16:48	
Calcium		480	mg/L	1.0	102	70	130			
Magnesium		131	mg/L	1.0	101	70	130			
Sodium		479	mg/L	1.0	101	70	130			
<b>Lab ID: H16030425-001BMS2</b>	3	Sample Matrix Spike				Run: SUB-H114188			04/01/16 17:40	
Calcium		680	mg/L	1.0	99	70	130			
Magnesium		624	mg/L	1.0	100	70	130			
Sodium		2530	mg/L	1.0		70	130			A
<b>Lab ID: H16030425-001BMSD</b>	3	Sample Matrix Spike Duplicate				Run: SUB-H114188			04/01/16 17:44	
Calcium		673	mg/L	1.0	98	70	130	0.9	20	
Magnesium		619	mg/L	1.0	99	70	130	0.9	20	
Sodium		2480	mg/L	1.0		70	130	2.0	20	A
<b>Lab ID: H16030363-010Adup</b>	3	Sample Duplicate				Run: SUB-H114188			04/01/16 18:33	
Calcium		12.2	mg/L	1.0				1.8	30	
Magnesium		5.01	mg/L	1.0				4.6	30	
Sodium		146	mg/L	1.0				1.0	30	
<b>Lab ID: H16030431-001Adup</b>	3	Sample Duplicate				Run: SUB-H114188			04/01/16 18:56	
Calcium		210	mg/L	1.0				1.1	30	
Magnesium		136	mg/L	1.0				1.5	30	
Sodium		147	mg/L	1.0				2.3	30	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



## QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 04/08/16

Report Date: 04/06/16

Work Order: C16030609

Client: EOG Resources Inc

Project: Randall Creek 2-29H 3/9/2016

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW8015B</b>										Batch: 47074
<b>Lab ID: LCS-47074</b>	3	Laboratory Control Sample				Run: PIDELCD1-C_160322A				03/22/16 10:35
Gasoline Range Organics (GRO)		17.8	mg/kg	2.0	89	70	130			
Total Purgeable Hydrocarbons		24.8	mg/kg	2.0	124	54.2	133			
Surr: Trifluorotoluene				0.40	114	53.8	137			
<b>Lab ID: LCSD-47074</b>	3	Laboratory Control Sample Duplicate				Run: PIDELCD1-C_160322A				03/22/16 11:12
Gasoline Range Organics (GRO)		18.9	mg/kg	2.0	91	70	130	6.1	20	
Total Purgeable Hydrocarbons		25.7	mg/kg	2.0	110	54.2	133	3.5	20	
Surr: Trifluorotoluene				0.40	118	53.8	137			
<b>Lab ID: MB-47074</b>	3	Method Blank				Run: PIDELCD1-C_160322A				03/22/16 11:50
Gasoline Range Organics (GRO)		ND	mg/kg	2.0						
Total Purgeable Hydrocarbons		3.68	mg/kg	2.0						
Surr: Trifluorotoluene				0.40	101	53.8	137			
<b>Lab ID: C16030609-004AMS</b>	2	Sample Matrix Spike				Run: PIDELCD1-C_160322A				03/22/16 17:26
Total Purgeable Hydrocarbons		579	mg/kg-dry	21	-642	22.4	153			S
Surr: Trifluorotoluene				4.2	143	53.8	137			S
- MS recovery is outside QC limits. This is attributed to sample non-homogeneity encountered during sample extraction.										
<b>Method: SW8015B</b>										Batch: 47108
<b>Lab ID: LCS-47108</b>	2	Laboratory Control Sample				Run: FID1-C_160325A				03/25/16 14:04
Diesel Range Organics (DRO)		502	mg/kg	10	75	58.7	106			
Surr: o-Terphenyl				0.67	81	56	147			
<b>Lab ID: LCSD-47108</b>	2	Laboratory Control Sample Duplicate				Run: FID1-C_160325A				03/25/16 14:50
Diesel Range Organics (DRO)		504	mg/kg	10	76	58.7	106	0.3	20	
Surr: o-Terphenyl				0.67	92	56	147			
<b>Lab ID: MB-47108</b>	2	Method Blank				Run: FID1-C_160325A				03/25/16 15:36
Diesel Range Organics (DRO)		ND	mg/kg	10						
Surr: o-Terphenyl				0.67	93	56	147			
<b>Lab ID: C16030609-001AMS</b>	2	Sample Matrix Spike				Run: FID1-C_160325A				03/25/16 19:26
Diesel Range Organics (DRO)		5260	mg/kg-dry	630	-163	60	140			SO
Surr: o-Terphenyl				63	0	32	106			O
<b>Lab ID: C16030609-001AMSD</b>	2	Sample Matrix Spike Duplicate				Run: FID1-C_160325A				03/25/16 21:44
Diesel Range Organics (DRO)		4430	mg/kg-dry	670	-270	60	140	17	20	SO
Surr: o-Terphenyl				67	0	32	106	0.0	30	O
<b>Method: SW8015B</b>										Analytical Run: R210162
<b>Lab ID: CCV_0322HP102r</b>	2	Continuing Calibration Verification Standard								03/22/16 09:32
Total Purgeable Hydrocarbons		21.2	mg/kg	2.0	106	85	115			
Surr: Trifluorotoluene				0.40	121	70	130			

### Qualifiers:

RL - Analyte reporting limit.

O - Diluted out.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 04/08/16

Report Date: 04/06/16

Work Order: C16030609

Client: EOG Resources Inc

Project: Randall Creek 2-29H 3/9/2016

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW8260B</b>										Batch: 47075
<b>Lab ID: MB-47075</b>	10	Method Blank				Run: 5975VOC1_160321C				03/21/16 14:45
Benzene		ND	mg/kg	0.20						
Ethylbenzene		ND	mg/kg	0.20						
m+p-Xylenes		ND	mg/kg	0.20						
o-Xylene		ND	mg/kg	0.20						
Toluene		ND	mg/kg	0.20						
Xylenes, Total		ND	mg/kg	0.20						
Surr: 1,2-Dichlorobenzene-d4				0.20	115	70	130			
Surr: Dibromofluoromethane				0.20	78	70	130			
Surr: p-Bromofluorobenzene				0.20	110	70	130			
Surr: Toluene-d8				0.20	110	70	130			
<b>Lab ID: LCS-47075</b>	10	Laboratory Control Sample				Run: 5975VOC1_160321C				03/21/16 18:16
Benzene		1.76	mg/kg	0.20	88	70	130			
Ethylbenzene		1.91	mg/kg	0.20	96	70	130			
m+p-Xylenes		3.69	mg/kg	0.20	92	70	130			
o-Xylene		1.74	mg/kg	0.20	87	70	130			
Toluene		1.78	mg/kg	0.20	89	70	130			
Xylenes, Total		5.42	mg/kg	0.20	90	70	130			
Surr: 1,2-Dichlorobenzene-d4				0.20	100	70	130			
Surr: Dibromofluoromethane				0.20	68	70	130			S
Surr: p-Bromofluorobenzene				0.20	94	70	130			
Surr: Toluene-d8				0.20	104	70	130			
<b>Lab ID: LCSD-47075</b>	10	Laboratory Control Sample Duplicate				Run: 5975VOC1_160321C				03/21/16 18:51
Benzene		1.98	mg/kg	0.20	99	70	130	12	20	
Ethylbenzene		2.11	mg/kg	0.20	106	70	130	9.9	20	
m+p-Xylenes		4.10	mg/kg	0.20	102	70	130	10	20	
o-Xylene		1.92	mg/kg	0.20	96	70	130	10	20	
Toluene		2.01	mg/kg	0.20	100	70	130	12	20	
Xylenes, Total		6.02	mg/kg	0.20	100	70	130	10	20	
Surr: 1,2-Dichlorobenzene-d4				0.20	111	70	130	0.0	10	
Surr: Dibromofluoromethane				0.20	75	70	130	0.0	10	
Surr: p-Bromofluorobenzene				0.20	102	70	130	0.0	10	
Surr: Toluene-d8				0.20	111	70	130	0.0	10	
<b>Lab ID: C16030609-004AMS</b>	10	Sample Matrix Spike				Run: 5975VOC1_160321C				03/21/16 20:37
Benzene		1.84	mg/kg-dry	0.21	90	70	130			
Ethylbenzene		2.66	mg/kg-dry	0.21	98	70	130			
m+p-Xylenes		4.86	mg/kg-dry	0.41	93	70	130			
o-Xylene		2.89	mg/kg-dry	0.21	89	70	130			
Toluene		1.94	mg/kg-dry	0.21	88	70	130			
Xylenes, Total		7.76	mg/kg-dry	0.21	92	70	130			
Surr: 1,2-Dichlorobenzene-d4				0.21	107	70	130			
Surr: Dibromofluoromethane				0.21	72	70	130			
Surr: p-Bromofluorobenzene				0.21	100	70	130			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



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## QA/QC Summary Report

Prepared by Casper, WY Branch

**Client:** EOG Resources Inc  
**Project:** Randall Creek 2-29H 3/9/2016

**Revised Date:** 04/08/16  
**Report Date:** 04/06/16  
**Work Order:** C16030609

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> SW8260B										Batch: 47075
<b>Lab ID:</b> C16030609-004AMS 10 Sample Matrix Spike										
Run: 5975VOC1_160321C 03/21/16 20:37										
Surr: Toluene-d8				0.21	114	70	130			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

EOG Resources Inc

C16030609

Login completed by: Ralph Stanley

Date Received: 3/18/2016

Reviewed by: Sheri M. Mead

Received by: res

Reviewed Date: 3/22/2016

Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	3.4°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

Page 1 of 1

<b>Company Name:</b> EOG Resources, Inc.		<b>Project Name, PWS, Permit, Etc.</b> Randall Creek 2-29H 3/9/2016		<b>EPA/State Compliance:</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
<b>Report Mail Address (Required):</b> 600 17th Street, Suite 1000N Denver, CO 80202		<b>Contact Name:</b> Steve Bugni		<b>State:</b> CO	
<input checked="" type="checkbox"/> No Hard Copy Email: steve_bugni@eogresources.com		<b>Phone/Fax:</b> (307) 235-7124		<b>Cell:</b> (307) 251-6728	
<b>Invoice Address (Required):</b> 600 17th Street, Suite 1000N Denver, CO 80202		<b>Invoice Contact &amp; Phone:</b> Steve Bugni		<b>Purchase Order:</b> (307) 235-7124	
<input checked="" type="checkbox"/> No Hard Copy Email: steve_bugni@eogresources.com		<b>Special Report/Formats:</b> <input checked="" type="checkbox"/> DW <input type="checkbox"/> POTW/WWTP State: <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		<b>Shipped by:</b> H. C. J.	
<b>Sample ID/EDT (Electronic Data)</b> Format: <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		<b>Number of Containers</b> Sample Type: A W S V B O DW Vegetation Bioassay Other DW - Drinking Water		<b>Standard Turnaround (TAT)</b> R U S H	
<b>ANALYSIS REQUESTED</b>		<b>Matrix</b>		<b>Comments:</b>	
<b>Electrical Conductivity (EC)</b>		<b>PH</b>		<b>Receipt Temp</b> 21.1 °C	
<b>Sodium Adsorption Ratio (SAR)</b>		<b>Total Petroleum Hydrocarbons (TPH-DRO &amp; TPH-GRO)</b>		<b>On Ice:</b> <input checked="" type="radio"/> N	
<b>BTEX (RL 0.17 mg/kg)</b>		<b>SEE ATTACHED</b>		<b>Custody Seal</b> On Bottle: <input checked="" type="radio"/> Y On Cooler: <input checked="" type="radio"/> Y	
<b>Matrix</b>		<b>Collection Date</b>		<b>Intact:</b> <input checked="" type="radio"/> Y	
<b>Collection Time</b>		<b>Signature Match</b>		<b>Signature</b> <input checked="" type="radio"/> Y	
<b>RC2_1</b>		<b>3/16/16</b>		<b>Match</b> <input checked="" type="radio"/> Y	
<b>RC2_2</b>		<b>3/16/16</b>		<b>Match</b> <input checked="" type="radio"/> Y	
<b>RC2_3</b>		<b>3/16/16</b>		<b>Match</b> <input checked="" type="radio"/> Y	
<b>RC2_4</b>		<b>3/16/16</b>		<b>Match</b> <input checked="" type="radio"/> Y	
<b>5</b>		<b>17:05</b>		<b>Match</b> <input checked="" type="radio"/> Y	
<b>6</b>		<b>17:10</b>		<b>Match</b> <input checked="" type="radio"/> Y	
<b>7</b>		<b>17:15</b>		<b>Match</b> <input checked="" type="radio"/> Y	
<b>8</b>		<b>17:20</b>		<b>Match</b> <input checked="" type="radio"/> Y	
<b>9</b>				<b>Match</b> <input checked="" type="radio"/> Y	
<b>10</b>				<b>Match</b> <input checked="" type="radio"/> Y	
<b>Signature</b>		<b>Date/Time</b>		<b>Signature</b>	
<b>Relinquished by (print):</b> Steve Bugni		<b>3/18/16 16:15</b>		<b>Signature:</b>	
<b>Relinquished by (print):</b>		<b>Date/Time:</b>		<b>Signature:</b>	
<b>Sample Disposal:</b>		<b>Return to Client:</b>		<b>Received by Laboratory:</b> 3/18/16 16:15	
<b>Custody Record MUST be Signed</b>		<b>Lab Disposal:</b>		<b>Signature:</b> Add Stamp	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.