



ANALYTICAL SUMMARY REPORT

April 09, 2015

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

Work Order: C15030731

Project Name: Garden Creek 12-19

Energy Laboratories, Inc. Casper WY received the following 4 samples for EOG Resources Inc on 3/23/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C15030731-001	5	03/20/15 10:20	03/23/15	Soil	Cation Exchange Capacity Metals, NH4OAc Extractable Metals, Saturated Paste Conductivity Exchangeable Sodium Percentage Ultrasonic Extraction Diesel Range Organics Soluble Metals from Paste pH, Saturated Paste CEC NH4AC Soil Extraction NH4AC Soil Extraction Saturated Paste Sodium Adsorption Ratio Saturation Percentage Volatile Organics, Methanol Extraction SW8260B VOCs, BTEX
C15030731-002	6	03/20/15 10:22	03/23/15	Soil	Same As Above
C15030731-003	7	03/20/15 10:25	03/23/15	Soil	Same As Above
C15030731-004	8	03/20/15 10:30	03/23/15	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:



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

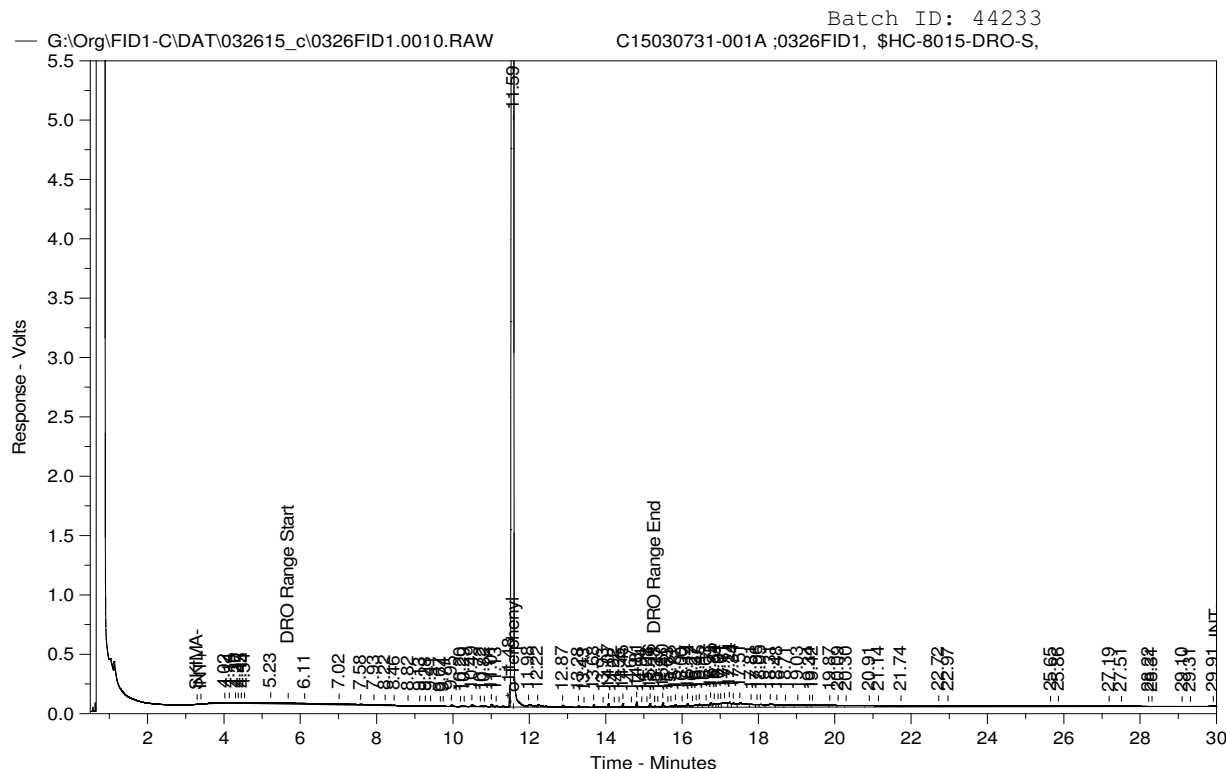
Client: EOG Resources Inc
Project: Garden Creek 12-19
Lab ID: C15030731-001
Client Sample ID: 5

Report Date: 04/09/15
Collection Date: 03/20/15 10:20
Date Received: 03/23/15
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
Saturation	35.2	%		0.1		USDA27a	03/27/15 08:14 / dm
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	7.80	mmhos/cm		0.01		ASAM10-3	03/27/15 11:30 / dm
pH, sat. paste	7.6	s.u.		0.1		ASAM10-3.2	03/27/15 10:19 / dm
Calcium, sat. paste	37.1	meq/L		0.05		SW6010B	04/01/15 18:35 / sf
Magnesium, sat. paste	15.2	meq/L		0.08		SW6010B	04/01/15 18:35 / sf
Sodium, sat. paste	19.4	meq/L	D	0.1		SW6010B	04/01/15 18:35 / sf
Sodium Adsorption Ratio (SAR)	3.8	unitless		0.1		USDA20B	04/02/15 10:54 / smm
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	13.6	meq/100g		0.01		SW6010B	04/03/15 13:16 / sf
Sodium, soluble	157	mg/kg-dry	D	1.0		Calculation	04/06/15 12:32 / smm
Sodium, extractable	1.47	meq/100g		0.04		SW6010B	04/03/15 15:07 / sf
Exchangeable Sodium Percentage	5.8	%		0.1		USDA20a	04/06/15 14:35 / sec
VOLATILE ORGANIC COMPOUNDS							
Benzene	ND	mg/kg		0.2		SW8260B	03/25/15 23:39 / jlr
Ethylbenzene	ND	mg/kg		0.2		SW8260B	03/25/15 23:39 / jlr
m+p-Xylenes	ND	mg/kg		0.2		SW8260B	03/25/15 23:39 / jlr
o-Xylene	ND	mg/kg		0.2		SW8260B	03/25/15 23:39 / jlr
Toluene	ND	mg/kg		0.2		SW8260B	03/25/15 23:39 / jlr
Xylenes, Total	ND	mg/kg		0.2		SW8260B	03/25/15 23:39 / jlr
Surr: 1,2-Dichlorobenzene-d4	97.0	%REC		70-130		SW8260B	03/25/15 23:39 / jlr
Surr: Dibromofluoromethane	98.0	%REC		70-130		SW8260B	03/25/15 23:39 / jlr
Surr: p-Bromofluorobenzene	91.0	%REC		70-130		SW8260B	03/25/15 23:39 / jlr
Surr: Toluene-d8	94.0	%REC		70-130		SW8260B	03/25/15 23:39 / jlr
ORGANIC CHARACTERISTICS							
Diesel Range Organics (DRO)	ND	mg/kg		10		SW8015B	03/26/15 18:34 / bah
Total Extractable Hydrocarbons	ND	mg/kg		10		SW8015B	03/26/15 18:34 / bah
Surr: o-Terphenyl	78.0	%REC		56-147		SW8015B	03/26/15 18:34 / bah

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

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



DIESEL RANGE ORGANICS CHROMATOGRAM

Sample Name: C15030731-001A ;0326FID1, \$HC-8015-DRO-S,
Raw File: G:\Org\FID1-C\DAT\032615_c\0326FID1.0010.RAW
Date & Time Acquired: 3/26/2015 18:34:55
Method File: G:\org\FID1-C\Methods\FID1_BASE_CAL_022315_R3.met
Calibration File: \\cafle\organics\DRO\org\FID1-C\Cals\FID1_022315_R3.CAL
Sample Weight: 30.7 Dilution: 1 S.A.: 1

Mean RF for Hydrocarbon Range Calculations: 55080
Rt range for Diesel Range Organics (C10 to C28): 5.56 to 15.24
Rt range for Oil Range Organics (C28 to C40+): 15.1 to End Time

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
*o-Terphenyl	11.586	32.573	51.068	156.78

DRO Area:2383060	DRO AMOUNT: 1.409298
TEH Area:1.171767E+07	TEH AMOUNT: 6.92961
Oil Area:8711817	OIL AMOUNT: 5.152007



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

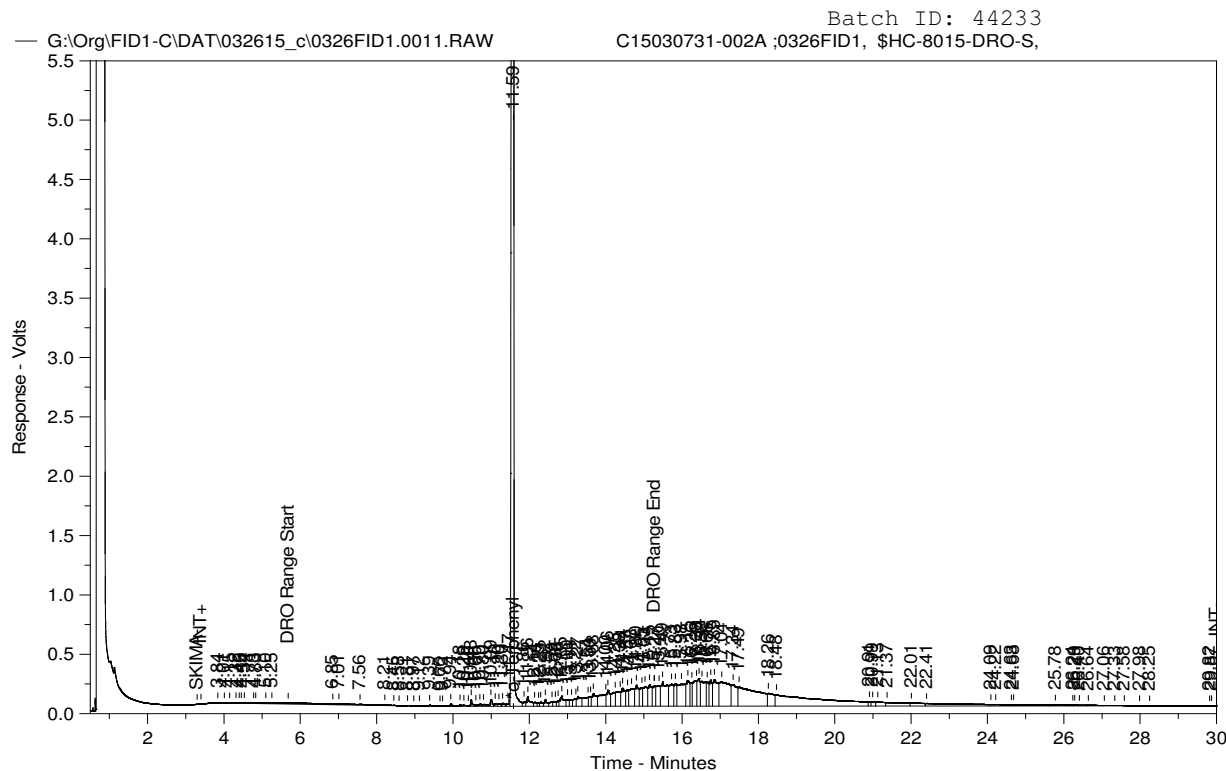
Client: EOG Resources Inc
Project: Garden Creek 12-19
Lab ID: C15030731-002
Client Sample ID: 6

Report Date: 04/09/15
Collection Date: 03/20/15 10:22
Date Received: 03/23/15
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
Saturation	28.4	%		0.1		USDA27a	03/27/15 08:14 / dm
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.60	mmhos/cm		0.01		ASAM10-3	03/27/15 11:31 / dm
pH, sat. paste	7.9	s.u.		0.1		ASAM10-3.2	03/27/15 10:19 / dm
Calcium, sat. paste	3.44	meq/L		0.05		SW6010B	04/01/15 18:39 / sf
Magnesium, sat. paste	1.05	meq/L		0.08		SW6010B	04/01/15 18:39 / sf
Sodium, sat. paste	0.78	meq/L		0.04		SW6010B	04/01/15 18:39 / sf
Sodium Adsorption Ratio (SAR)	0.5	unitless		0.1		USDA20B	04/02/15 10:54 / smm
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	11.1	meq/100g		0.01		SW6010B	04/03/15 13:44 / sf
Sodium, soluble	5.1	mg/kg-dry	D	1.0		Calculation	04/06/15 12:32 / smm
Sodium, extractable	0.29	meq/100g		0.04		SW6010B	04/03/15 15:11 / sf
Exchangeable Sodium Percentage	2.4	%		0.1		USDA20a	04/06/15 14:35 / sec
VOLATILE ORGANIC COMPOUNDS							
Benzene	ND	mg/kg		0.2		SW8260B	03/26/15 00:13 / jlr
Ethylbenzene	ND	mg/kg		0.2		SW8260B	03/26/15 00:13 / jlr
m+p-Xylenes	ND	mg/kg		0.2		SW8260B	03/26/15 00:13 / jlr
o-Xylene	ND	mg/kg		0.2		SW8260B	03/26/15 00:13 / jlr
Toluene	ND	mg/kg		0.2		SW8260B	03/26/15 00:13 / jlr
Xylenes, Total	ND	mg/kg		0.2		SW8260B	03/26/15 00:13 / jlr
Surr: 1,2-Dichlorobenzene-d4	99.0	%REC		70-130		SW8260B	03/26/15 00:13 / jlr
Surr: Dibromofluoromethane	98.0	%REC		70-130		SW8260B	03/26/15 00:13 / jlr
Surr: p-Bromofluorobenzene	92.0	%REC		70-130		SW8260B	03/26/15 00:13 / jlr
Surr: Toluene-d8	96.0	%REC		70-130		SW8260B	03/26/15 00:13 / jlr
ORGANIC CHARACTERISTICS							
Diesel Range Organics (DRO)	12	mg/kg		10		SW8015B	03/26/15 19:20 / bah
Total Extractable Hydrocarbons	40	mg/kg		10		SW8015B	03/26/15 19:20 / bah
Surr: o-Terphenyl	81.0	%REC		56-147		SW8015B	03/26/15 19:20 / bah

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

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



DIESEL RANGE ORGANICS CHROMATOGRAM

Sample Name: C15030731-002A ;0326FID1, \$HC-8015-DRO-S,
Raw File: G:\Org\FID1-C\DAT\032615_c\0326FID1.0011.RAW
Date & Time Acquired: 3/26/2015 19:20:55
Method File: G:\org\FID1-C\Methods\FID1_BASE_CAL_022315_R3.met
Calibration File: \\cafle\organics\DRO\org\FID1-C\Cals\FID1_022315_R3.CAL
Sample Weight: 30.6 Dilution: 1 S.A.: 1

Mean RF for Hydrocarbon Range Calculations: 55080
Rt range for Diesel Range Organics (C10 to C28): 5.56 to 15.24
Rt range for Oil Range Organics (C28 to C40+): 15.1 to End Time

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
*o-Terphenyl	11.587	32.68	53.282	163.04

DRO Area:1.957267E+07 DRO AMOUNT: 11.61274
TEH Area:6.738325E+07 TEH AMOUNT: 39.97943
Oil Area:4.79324E+07 OIL AMOUNT: 28.43896



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

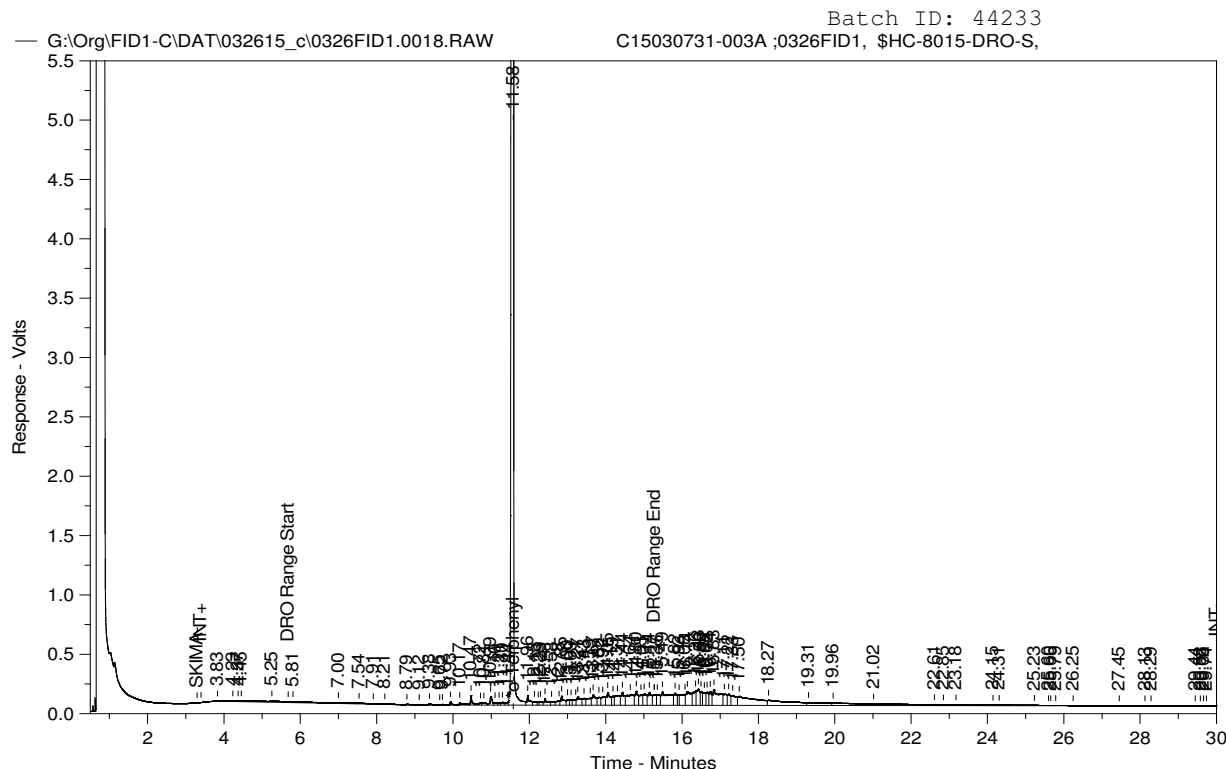
Client: EOG Resources Inc
Project: Garden Creek 12-19
Lab ID: C15030731-003
Client Sample ID: 7

Report Date: 04/09/15
Collection Date: 03/20/15 10:25
Date Received: 03/23/15
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
Saturation	37.4	%		0.1		USDA27a	03/27/15 08:14 / dm
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	11.9	mmhos/cm		0.01		ASAM10-3	03/27/15 11:31 / dm
pH, sat. paste	8.0	s.u.		0.1		ASAM10-3.2	03/27/15 10:19 / dm
Calcium, sat. paste	7.12	meq/L		0.05		SW6010B	04/01/15 18:43 / sf
Magnesium, sat. paste	1.55	meq/L		0.08		SW6010B	04/01/15 18:43 / sf
Sodium, sat. paste	99.5	meq/L	D	0.1		SW6010B	04/01/15 18:43 / sf
Sodium Adsorption Ratio (SAR)	47.8	unitless		0.1		USDA20B	04/02/15 10:54 / smm
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	11.1	meq/100g		0.01		SW6010B	04/03/15 13:48 / sf
Sodium, soluble	854	mg/kg-dry	D	1.0		Calculation	04/06/15 12:32 / smm
Sodium, extractable	9.45	meq/100g		0.04		SW6010B	04/03/15 15:15 / sf
Exchangeable Sodium Percentage	51.5	%		0.1		USDA20a	04/06/15 14:35 / sec
VOLATILE ORGANIC COMPOUNDS							
Benzene	ND	mg/kg		0.2		SW8260B	03/26/15 00:48 / jlr
Ethylbenzene	ND	mg/kg		0.2		SW8260B	03/26/15 00:48 / jlr
m+p-Xylenes	ND	mg/kg		0.2		SW8260B	03/26/15 00:48 / jlr
o-Xylene	ND	mg/kg		0.2		SW8260B	03/26/15 00:48 / jlr
Toluene	ND	mg/kg		0.2		SW8260B	03/26/15 00:48 / jlr
Xylenes, Total	ND	mg/kg		0.2		SW8260B	03/26/15 00:48 / jlr
Surr: 1,2-Dichlorobenzene-d4	100	%REC		70-130		SW8260B	03/26/15 00:48 / jlr
Surr: Dibromofluoromethane	97.0	%REC		70-130		SW8260B	03/26/15 00:48 / jlr
Surr: p-Bromofluorobenzene	92.0	%REC		70-130		SW8260B	03/26/15 00:48 / jlr
Surr: Toluene-d8	95.0	%REC		70-130		SW8260B	03/26/15 00:48 / jlr
ORGANIC CHARACTERISTICS							
Diesel Range Organics (DRO)	ND	mg/kg		10		SW8015B	03/27/15 00:42 / bah
Total Extractable Hydrocarbons	22	mg/kg		10		SW8015B	03/27/15 00:42 / bah
Surr: o-Terphenyl	78.0	%REC		56-147		SW8015B	03/27/15 00:42 / bah

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

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



DIESEL RANGE ORGANICS CHROMATOGRAM

Sample Name: C15030731-003A ;0326FID1, \$HC-8015-DRO-S,
Raw File: G:\Org\FID1-C\DAT\032615_c\0326FID1.0018.RAW
Date & Time Acquired: 3/27/2015 00:42:38
Method File: G:\org\FID1-C\Methods\FID1_BASE_CAL_022315_R3.met
Calibration File: \\cafile\organics\DRO\org\FID1-C\Cals\FID1_022315_R3.CAL
Sample Weight: 30.2 Dilution: 1 S.A.: 1

Mean RF for Hydrocarbon Range Calculations: 55080
Rt range for Diesel Range Organics (C10 to C28): 5.56 to 15.24
Rt range for Oil Range Organics (C28 to C40+): 15.1 to End Time

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
*o-Terphenyl	11.581	33.113	51.867	156.64

DRO Area:1.442132E+07 DRO AMOUNT: 8.669703
TEH Area:3.623251E+07 TEH AMOUNT: 21.78199
Oil Area:2.192801E+07 OIL AMOUNT: 13.18252



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

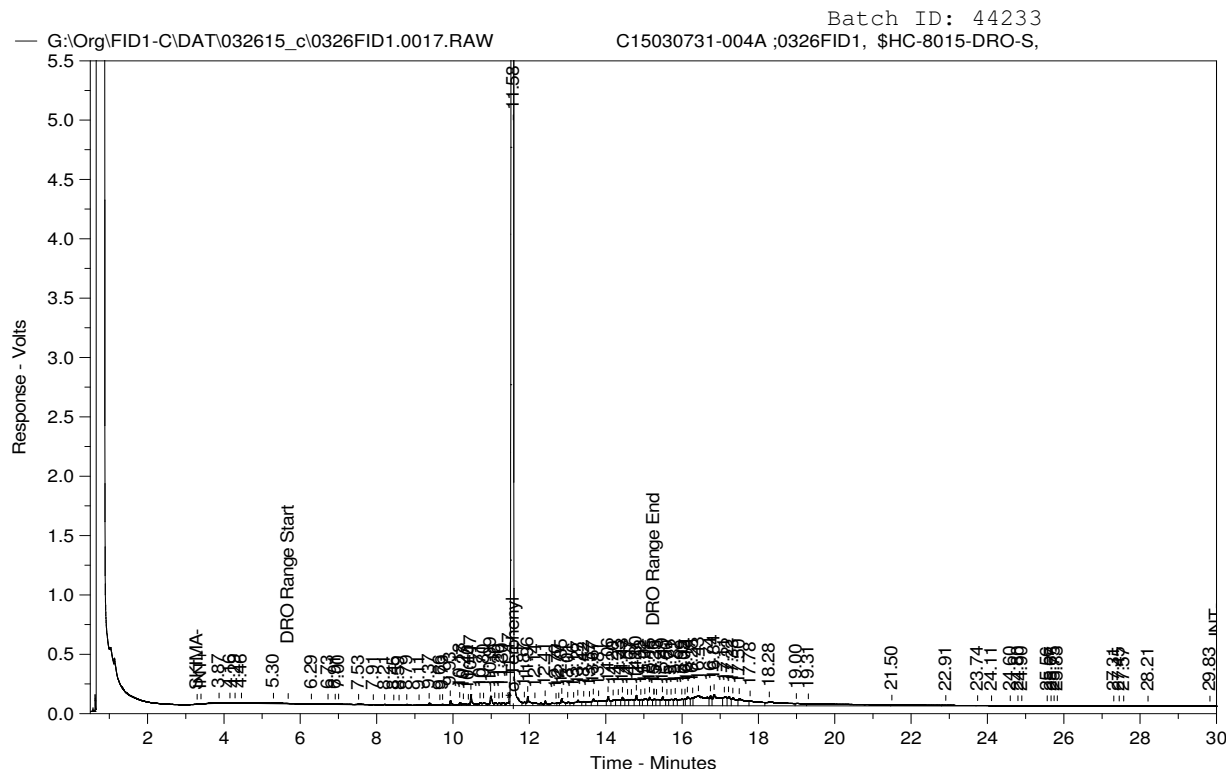
Client: EOG Resources Inc
Project: Garden Creek 12-19
Lab ID: C15030731-004
Client Sample ID: 8

Report Date: 04/09/15
Collection Date: 03/20/15 10:30
Date Received: 03/23/15
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
Saturation	39.4	%		0.1		USDA27a	03/27/15 08:14 / dm
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	13.2	mmhos/cm		0.01		ASAM10-3	03/27/15 11:32 / dm
pH, sat. paste	7.8	s.u.		0.1		ASAM10-3.2	03/27/15 10:19 / dm
Calcium, sat. paste	14.6	meq/L		0.05		SW6010B	04/01/15 18:47 / sf
Magnesium, sat. paste	5.13	meq/L		0.08		SW6010B	04/01/15 18:47 / sf
Sodium, sat. paste	100	meq/L	D	0.1		SW6010B	04/01/15 18:47 / sf
Sodium Adsorption Ratio (SAR)	31.9	unitless		0.1		USDA20B	04/02/15 10:54 / smm
CHEMICAL CHARACTERISTICS							
Cation Exchange Capacity	14.3	meq/100g		0.01		SW6010B	04/03/15 13:51 / sf
Sodium, soluble	910	mg/kg-dry	D	1.0		Calculation	04/06/15 12:32 / smm
Sodium, extractable	8.80	meq/100g		0.04		SW6010B	04/03/15 15:19 / sf
Exchangeable Sodium Percentage	33.8	%		0.1		USDA20a	04/06/15 14:35 / sec
VOLATILE ORGANIC COMPOUNDS							
Benzene	ND	mg/kg		0.2		SW8260B	03/26/15 01:23 / jlr
Ethylbenzene	ND	mg/kg		0.2		SW8260B	03/26/15 01:23 / jlr
m+p-Xylenes	ND	mg/kg		0.2		SW8260B	03/26/15 01:23 / jlr
o-Xylene	ND	mg/kg		0.2		SW8260B	03/26/15 01:23 / jlr
Toluene	ND	mg/kg		0.2		SW8260B	03/26/15 01:23 / jlr
Xylenes, Total	ND	mg/kg		0.2		SW8260B	03/26/15 01:23 / jlr
Surr: 1,2-Dichlorobenzene-d4	97.0	%REC		70-130		SW8260B	03/26/15 01:23 / jlr
Surr: Dibromofluoromethane	94.0	%REC		70-130		SW8260B	03/26/15 01:23 / jlr
Surr: p-Bromofluorobenzene	90.0	%REC		70-130		SW8260B	03/26/15 01:23 / jlr
Surr: Toluene-d8	94.0	%REC		70-130		SW8260B	03/26/15 01:23 / jlr
ORGANIC CHARACTERISTICS							
Diesel Range Organics (DRO)	ND	mg/kg		10		SW8015B	03/26/15 23:56 / bah
Total Extractable Hydrocarbons	15	mg/kg		10		SW8015B	03/26/15 23:56 / bah
Surr: o-Terphenyl	76.0	%REC		56-147		SW8015B	03/26/15 23:56 / bah

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

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



DIESEL RANGE ORGANICS CHROMATOGRAM

Sample Name: C15030731-004A ;0326FID1, \$HC-8015-DRO-S,
Raw File: G:\Org\FID1-C\DAT\032615_c\0326FID1.0017.RAW
Date & Time Acquired: 3/26/2015 23:56:39
Method File: G:\org\FID1-C\Methods\FID1_BASE_CAL_022315_R3.met
Calibration File: \\cafle\organics\DRO\org\FID1-C\Cals\FID1_022315_R3.CAL
Sample Weight: 30.3 Dilution: 1 S.A.: 1

Mean RF for Hydrocarbon Range Calculations: 55080
Rt range for Diesel Range Organics (C10 to C28): 5.56 to 15.24
Rt range for Oil Range Organics (C28 to C40+): 15.1 to End Time

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
*o-Terphenyl_____	11.581	33.003	50.076	151.73

DRO Area:1.00912E+07	DRO AMOUNT: 6.046529
TEH Area:2.462013E+07	TEH AMOUNT: 14.7521
Oil Area:1.457225E+07	OIL AMOUNT: 8.731522



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: EOG Resources Inc

Report Date: 04/09/15

Project: Garden Creek 12-19

Work Order: C15030731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	ASAM10-3							Analytical Run: COND1-C_150327A		
Lab ID:	CCV1_150327A			Continuing Calibration Verification Standard					03/27/15 11:26	
Conductivity, sat. paste		5.02	mmhos/cm	0.010	100	90	110			
Method:	ASAM10-3							Batch: 44250		
Lab ID:	LCS1-44250			Laboratory Control Sample			Run: COND1-C_150327A		03/27/15 11:27	
Conductivity, sat. paste		5.97	mmhos/cm	0.010	100	80	120			
Lab ID:	C15030731-004ADUP			Sample Duplicate			Run: COND1-C_150327A		03/27/15 11:32	
Conductivity, sat. paste		12.9	mmhos/cm	0.010				2.4	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

Report Date: 04/09/15

Project: Garden Creek 12-19

Work Order: C15030731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: ASAM10-3.2 Analytical Run: ORION 3 STAR PH_150327A										
Lab ID: ICV1_150327A	Initial Calibration Verification Standard									
pH, sat. paste		6.91	s.u.	0.10	101	98	102			03/27/15 10:19
Method: ASAM10-3.2 Batch: 44250										
Lab ID: C15030731-004ADUP	Sample Duplicate									
pH, sat. paste		7.77	s.u.	0.10				0.0		03/27/15 10:19
Run: ORION 3 STAR PH_150327A										
Lab ID: LCS1_150327A	Laboratory Control Sample									
pH, sat. paste		7.55	s.u.	0.10	96	90	110			03/27/15 10:19
Run: ORION 3 STAR PH_150327A										

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

Report Date: 04/09/15

Project: Garden Creek 12-19

Work Order: C15030731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6010B								Analytical Run: ICP4-C_150401A		
Lab ID: ICV	3	Initial Calibration Verification Standard								04/01/15 13:04
Calcium		50.2	mg/L	0.50	100	90	110			
Magnesium		50.3	mg/L	0.50	101	90	110			
Sodium		49.4	mg/L	0.50	99	90	110			
Lab ID: ICSA	3	Interference Check Sample A								04/01/15 13:23
Calcium		464	mg/L	0.50	93	80	120			
Magnesium		504	mg/L	0.50	101	80	120			
Sodium		-0.172	mg/L	0.50						
Lab ID: ICSAB	3	Interference Check Sample AB								04/01/15 13:28
Calcium		464	mg/L	0.50	93	80	120			
Magnesium		504	mg/L	0.50	101	80	120			
Sodium		0.0390	mg/L	0.50						
Method: SW6010B								Batch: 44250		
Lab ID: MB-44250	3	Method Blank								04/01/15 17:55
Calcium		ND	mg/L	0.03						
Magnesium		ND	mg/L	0.02						
Sodium		0.06	mg/L	0.02						
Lab ID: LCS-44250	3	Laboratory Control Sample								04/01/15 17:59
Calcium		506	mg/L	1.0	100	70	130			
Magnesium		217	mg/L	1.0	94	70	130			
Sodium		837	mg/L	2.4	93	70	130			
Lab ID: C15030731-004ADIL	3	Serial Dilution								04/01/15 18:51
Calcium		299	mg/L	1.0		0	0	2.2	10	
Magnesium		63.8	mg/L	2.1		0	0	2.3	10	
Sodium		2370	mg/L	12		0	0	2.8	10	
Lab ID: C15030731-004ADUP	3	Sample Duplicate								04/01/15 18:55
Calcium		285	mg/L	1.0				2.7	30	
Magnesium		60.6	mg/L	1.0				2.9	30	
Sodium		2260	mg/L	2.4				2.3	30	

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

Report Date: 04/09/15

Project: Garden Creek 12-19

Work Order: C15030731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6010B										Analytical Run: ICP4-C_150403A
Lab ID: ICV		Initial Calibration Verification Standard								04/03/15 11:14
Sodium		50.7	mg/L	0.50	101	90	110			
Lab ID: ICSA		Interference Check Sample A								04/03/15 11:34
Sodium		0.270	mg/L	0.50						
Lab ID: ICSAB		Interference Check Sample AB								04/03/15 11:38
Sodium		0.306	mg/L	0.50						
Method: SW6010B										Batch: 44286
Lab ID: MB-44286		Method Blank								Run: ICP4-C_150403A 04/03/15 13:55
Sodium		30	mg/kg-dry	1						
Lab ID: C15030731-004ADIL		Serial Dilution								Run: ICP4-C_150403A 04/03/15 15:23
Sodium		1970	mg/kg-dry	1.0		0	0			
Lab ID: C15030731-004ADUP		Sample Duplicate								Run: ICP4-C_150403A 04/03/15 15:27
Sodium		2000	mg/kg-dry	2.4				1.0	20	
Method: SW6010B										Batch: 44300
Lab ID: MB-44300		Method Blank								Run: ICP4-C_150403A 04/03/15 12:52
Sodium		4	mg/L	0.06						
Lab ID: LCS-44300		Laboratory Control Sample								Run: ICP4-C_150403A 04/03/15 12:56
Sodium		4640	mg/L	2.4	90	75	138			
Lab ID: C15030731-001ADIL		Serial Dilution								Run: ICP4-C_150403A 04/03/15 13:20
Sodium		2910	mg/L	0.56		0	0	7.4	20	
Lab ID: C15030731-001ADUP		Sample Duplicate								Run: ICP4-C_150403A 04/03/15 13:24
Sodium		3120	mg/L	2.4				0.5	20	

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QA/QC Summary Report

Prepared by Casper, WY Branch

Client: EOG Resources Inc
Project: Garden Creek 12-19

Report Date: 04/09/15
Work Order: C15030731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8015B										Batch: 44233
Lab ID: MB-44233	3	Method Blank					Run: FID1-C_150326A			03/26/15 13:59
Diesel Range Organics (DRO)		ND	mg/kg	10						
Total Extractable Hydrocarbons		ND	mg/kg	10						
Surr: o-Terphenyl				0.67	81	56	147			
Lab ID: LCS-44233	3	Laboratory Control Sample					Run: FID1-C_150326A			03/26/15 14:45
Diesel Range Organics (DRO)		638	mg/kg	10	96	58.7	106			
Total Extractable Hydrocarbons		656	mg/kg	10	98	60	109			
Surr: o-Terphenyl				0.67	108	56	147			
Lab ID: LCSD-44233	3	Laboratory Control Sample Duplicate					Run: FID1-C_150326A			03/26/15 15:31
Diesel Range Organics (DRO)		657	mg/kg	10	99	58.7	106	3.0	20	
Total Extractable Hydrocarbons		674	mg/kg	10	101	60	109	2.8	20	
Surr: o-Terphenyl				0.67	117	56	147			
Lab ID: C15030731-002AMS	3	Sample Matrix Spike					Run: FID1-C_150326A			03/26/15 20:06
Diesel Range Organics (DRO)		663	mg/kg	10	98	60	140			
Total Extractable Hydrocarbons		704	mg/kg	10	100	60	140			
Surr: o-Terphenyl				0.67	111	56	147			
Lab ID: C15030731-002AMSD	3	Sample Matrix Spike Duplicate					Run: FID1-C_150326A			03/26/15 20:52
Diesel Range Organics (DRO)		669	mg/kg	10	99	60	140	0.8	20	
Total Extractable Hydrocarbons		712	mg/kg	10	102	60	140	1.1	20	
Surr: o-Terphenyl				0.67	121	56	147			
Method: SW8015B										Analytical Run: R197591
Lab ID: CCV1_0326FID102r	2	Continuing Calibration Verification Standard								03/26/15 12:07
Total Extractable Hydrocarbons		709	mg/kg	10	106	85	115			
Surr: o-Terphenyl				0.67	125	56	147			
Lab ID: CCV1_0326FID115r	2	Continuing Calibration Verification Standard								03/26/15 22:24
Total Extractable Hydrocarbons		706	mg/kg	10	106	85	115			
Surr: o-Terphenyl				0.67	125	56	147			
Lab ID: CCV1_0326FID116r	2	Continuing Calibration Verification Standard								03/26/15 23:10
Total Extractable Hydrocarbons		686	mg/kg	10	103	85	115			
Surr: o-Terphenyl				0.67	121	56	147			
Lab ID: CCV1_0326FID128r	2	Continuing Calibration Verification Standard								03/27/15 08:22
Total Extractable Hydrocarbons		703	mg/kg	10	105	85	115			
Surr: o-Terphenyl				0.67	124	56	147			

Qualifiers:

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QA/QC Summary Report

Prepared by Casper, WY Branch

Client: EOG Resources Inc

Report Date: 04/09/15

Project: Garden Creek 12-19

Work Order: C15030731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: 44224
Lab ID: LCS-44224	10	Laboratory Control Sample				Run: SATURNCA_150325B			03/25/15 12:34	
Benzene		1.91	mg/kg	0.20	96	70	130			
Ethylbenzene		2.05	mg/kg	0.20	101	70	130			
m+p-Xylenes		3.94	mg/kg	0.20	96	70	130			
o-Xylene		2.03	mg/kg	0.20	99	70	130			
Toluene		2.06	mg/kg	0.20	96	70	130			
Xylenes, Total		5.97	mg/kg	0.20	97	70	130			
Surr: 1,2-Dichlorobenzene-d4				0.20	99	70	130			
Surr: Dibromofluoromethane				0.20	91	70	130			
Surr: p-Bromofluorobenzene				0.20	96	70	130			
Surr: Toluene-d8				0.20	97	70	130			
Lab ID: LCSD-44224	10	Laboratory Control Sample Duplicate				Run: SATURNCA_150325B			03/25/15 13:09	
Benzene		1.97	mg/kg	0.20	98	70	130	2.9	20	
Ethylbenzene		2.02	mg/kg	0.20	99	70	130	1.6	20	
m+p-Xylenes		4.01	mg/kg	0.20	97	70	130	1.8	20	
o-Xylene		2.10	mg/kg	0.20	103	70	130	3.1	20	
Toluene		2.10	mg/kg	0.20	98	70	130	1.9	20	
Xylenes, Total		6.10	mg/kg	0.20	99	70	130	2.3	20	
Surr: 1,2-Dichlorobenzene-d4				0.20	98	70	130	0.0	10	
Surr: Dibromofluoromethane				0.20	92	70	130	0.0	10	
Surr: p-Bromofluorobenzene				0.20	94	70	130	0.0	10	
Surr: Toluene-d8				0.20	94	70	130	0.0	10	
Lab ID: MB-44224	10	Method Blank				Run: SATURNCA_150325B			03/25/15 14:19	
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	104	70	130			
Surr: Dibromofluoromethane				0.20	102	70	130			
Surr: p-Bromofluorobenzene				0.20	88	70	130			
Surr: Toluene-d8				0.20	97	70	130			
Lab ID: C15030660-001AMS	10	Sample Matrix Spike				Run: SATURNCA_150325B			03/25/15 15:29	
Benzene		1.72	mg/kg	0.20	86	70	130			
Ethylbenzene		1.73	mg/kg	0.20	85	70	130			
m+p-Xylenes		3.45	mg/kg	0.20	83	70	130			
o-Xylene		1.85	mg/kg	0.20	90	70	130			
Toluene		1.87	mg/kg	0.20	87	70	130			
Xylenes, Total		5.30	mg/kg	0.20	85	70	130			
Surr: 1,2-Dichlorobenzene-d4				0.20	88	70	130			
Surr: Dibromofluoromethane				0.20	80	70	130			
Surr: p-Bromofluorobenzene				0.20	84	70	130			

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QA/QC Summary Report

Prepared by Casper, WY Branch

Client: EOG Resources Inc

Project: Garden Creek 12-19

Report Date: 04/09/15

Work Order: C15030731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: 44224
Lab ID: C15030660-001AMS	10	Sample Matrix Spike				Run: SATURNCA_150325B				03/25/15 15:29
Surr: Toluene-d8				0.20	83	70	130			
Method: SW8260B										Analytical Run: R197496
Lab ID: 032515_CCV_20	10	Continuing Calibration Verification Standard								03/25/15 22:29
Benzene		11.0	mg/kg	1.0	110	70	130			
Ethylbenzene		11.0	mg/kg	1.0	110	70	130			
m+p-Xylenes		21.6	mg/kg	1.0	108	70	130			
o-Xylene		11.4	mg/kg	1.0	114	70	130			
Toluene		11.0	mg/kg	1.0	110	70	130			
Xylenes, Total		33.0	mg/kg	1.0	110	70	130			
Surr: 1,2-Dichlorobenzene-d4				1.0	110	70	130			
Surr: Dibromofluoromethane				1.0	105	70	130			
Surr: p-Bromofluorobenzene				1.0	104	70	130			
Surr: Toluene-d8				1.0	102	70	130			

Qualifiers:

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QA/QC Summary Report

Prepared by Casper, WY Branch

Client: EOG Resources Inc
Project: Garden Creek 12-19

Report Date: 04/09/15
Work Order: C15030731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: USDA27a										Batch: 44250
Lab ID: LCS1-44250	Laboratory Control Sample									
Saturation		55.6	%	0.10	109	80	120			Run: SARTORIUS CP3202_150327 03/27/15 08:13
Lab ID: C15030731-004ADUP										
	Sample Duplicate									
Saturation		40.2	%	0.10				2.0	20	Run: SARTORIUS CP3202_150327 03/27/15 08:15

Qualifiers:

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ND - Not detected at the reporting limit.



Work Order Receipt Checklist

EOG Resources Inc

C15030731

Login completed by: Corinne Wagner

Date Received: 3/23/2015

Reviewed by: BL2000\swaldrop

Received by: dcq

Reviewed Date: 3/24/2015

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:	2.0°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>

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.

Contact and Corrective Action Comments:

None



Chain of Custody and Analytical Request Record

Page 1 of 1

PLEASE PRINT (Provide as much information as possible.)

Company Name: EOG Resources, Inc.		Project Name, PWS, Permit, Etc. Garden Creek 12-19		Sample Origin State:		EPA/State Compliance: Yes <input type="radio"/> No <input checked="" type="radio"/>																									
Report Mail Address (Required): 600 17th Street, Suite 1000N Denver, CO 80202		Contact Name: Jessica Marten		Phone/Fax: (303) 262-2862		Cell: (303) 358-9263																									
<input checked="" type="checkbox"/> No Hard Copy Email: jessica_marten@eogresources.com		Invoice Contact & Phone: Jessica Marten		Purchase Order: (303) 262-2862		Quote/Bottle Order:																									
Invoice Address (Required): 600 17th Street, Suite 1000N Denver, CO 80202		Special Report/Formats: <input checked="" type="checkbox"/> DW <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> Format: <input type="checkbox"/> State: <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: <input type="checkbox"/> NELAC		ANALYSIS REQUESTED SEE ATTACHED				Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page																							
<input checked="" type="checkbox"/> No Hard Copy Email: jessica_marten@eogresources.com		Number of Containers Sample Type: A W S V B O DW Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water		Electrical Conductivity (EC)		Exchangeable Sodium Percentage (ESP)		PH		Sodium Adsorption Ratio (SAR)		Total Petroleum Hydrocarbons (TPH)		BTX		Standard Turnaround (TAT)		R U S H		Comments:											
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)		Collection Date		Collection Time		MATRIX		1		5		10:20		3/20/15		10:20		S		Shipped by: Handel		Cooler ID(s): 3220		Receipt Temp 2.0 °C		On Ice: <input checked="" type="radio"/> N		Custody Seal On Bottle <input checked="" type="radio"/> Y N On Cooler <input checked="" type="radio"/> Y N Intact <input checked="" type="radio"/> Y N Signature Match <input checked="" type="radio"/> Y N		LABORATORY USE ONLY 05030731	
2		6		10:22		S		3/20/15		10:22		S		3/20/15		10:22		S													
3		7		10:25		S		3/20/15		10:25		S		3/20/15		10:25		S													
4		8		10:30		S		3/20/15		10:30		S		3/20/15		10:30		S													
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Signature: Steve Bagn		Date/Time: 3/23/15 15:44		Signature: Steve Bagn		Date/Time: 3/23/15 15:44		Received by (print):		Date/Time:		Received by (print):		Date/Time:		Signature:															
Signature: Steve Bagn		Date/Time: 3/23/15 15:44		Signature: Steve Bagn		Date/Time: 3/23/15 15:44		Received by (print):		Date/Time:		Received by (print):		Date/Time:		Signature:															
Sample Disposal:		Return to Client:		Lab Disposal:		Received by Laboratory:		Date/Time:		Signature:																					

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 for additional information, downloadable fee schedule, forms, and links.