

30-045-29845



75 Suttle Street
Durango, CO 81303
970.247.4220 Phone
970.247.4227 Fax
www.greenanalytical.com

15 September 2016

Kevin Fredrickson
Conoco Phillips-Farmington
3401 30th Street
Farmington, NM 87401
RE: Formation Comparison

Enclosed are the results of analyses for samples received by the laboratory on 09/01/16 12:55.
If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script that reads 'Debbie Zufelt'.

Debbie Zufelt
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at <http://greenanalytical.com/certifications/>

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water.

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8.



dzufelt@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303

www.GreenAnalytical.com

Conoco Phillips-Farmington
3401 30th Street
Farmington NM, 87401

Project: Formation Comparison
Project Name / Number: [none]
Project Manager: Kevin Fredrickson

Reported:
09/15/16 11:58

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
El Paso #1B Tubing	1609021-01	Water	09/01/16 09:15	09/01/16 12:55
El Paso #1B Bradenhead	1609021-02	Water	09/01/16 09:15	09/01/16 12:55

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. In no event shall Green Analytical Laboratories be liable for incidental or consequential damages. GALs liability, and clients exclusive remedy for any claim arising, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever, shall be deemed waived unless made in writing and received within thirty days after completion of the applicable service.

Page 2 of 7



30-045-29845

dzufelt@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303

www.GreenAnalytical.com

Conoco Phillips-Farmington
3401 30th Street
Farmington NM, 87401

Project: Formation Comparison
Project Name / Number: [none]
Project Manager: Kevin Fredrickson

Reported:
09/15/16 11:58

El Paso #1B Tubing**1609021-01 (Water)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate*	3400	10.0		mgCaCO3/L	100	09/09/16	2320 B		KDG
Alkalinity, Carbonate*	800	10.0		mgCaCO3/L	100	09/09/16	2320 B		KDG
Chloride	8470	2000	438	mg/L	2000	09/06/16	EPA300.0		JDA
Total Dissolved Solids	13400	10.0		mg/L	1	09/06/16	EPA160.1		KDG
Sulfate	530	2000	398	mg/L	2000	09/06/16	EPA300.0		JDA
Potentially Dissolved Metals by ICP									
Calcium*	19.9	1.00	0.055	mg/L	20	09/14/16	EPA200.7		LLG
Iron*	9.63	1.00	0.070	mg/L	20	09/14/16	EPA200.7		LLG
Magnesium*	25.3	2.00	0.648	mg/L	20	09/14/16	EPA200.7		LLG
Sodium*	5100	20.0	6.11	mg/L	20	09/14/16	EPA200.7		LLG

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. In no event shall Green Analytical Laboratories be liable for incidental or consequential damages. GALs liability, and clients exclusive remedy for any claim arising, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever, shall be deemed waived unless made in writing and received within thirty days after completion of the applicable service.

Page 3 of 7



dzufelt@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303

www.GreenAnalytical.com

Conoco Phillips-Farmington
3401 30th Street
Farmington NM, 87401

Project: Formation Comparison
Project Name / Number: [none]
Project Manager: Kevin Fredrickson

Reported:
09/15/16 11:58

El Paso #1B Bradenhead

1609021-02 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate*	<10.0	10.0		mgCaCO ₃ /L	100	09/09/16	2320 B		KDG
Alkalinity, Carbonate*	1800	10.0		mgCaCO ₃ /L	100	09/09/16	2320 B		KDG
Chloride	779	1500	328	mg/L	1500	09/06/16	EPA300.0		JDA
Total Dissolved Solids	8800	10.0		mg/L	1	09/06/16	EPA160.1		KDG
Sulfate	2360	1500	298	mg/L	1500	09/06/16	EPA300.0		JDA
Potentially Dissolved Metals by ICP									
Calcium*	208	1.00	0.055	mg/L	20	09/14/16	EPA200.7		LLG
Iron*	<1.00	1.00	0.070	mg/L	20	09/14/16	EPA200.7		LLG
Magnesium*	<2.00	2.00	0.648	mg/L	20	09/14/16	EPA200.7		LLG
Sodium*	3340	20.0	6.11	mg/L	20	09/14/16	EPA200.7		LLG

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. In no event shall Green Analytical Laboratories be liable for incidental or consequential damages. GALs liability, and clients exclusive remedy for any claim arising, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever, shall be deemed waived unless made in writing and received within thirty days after completion of the applicable service.



dzufelt@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303

www.GreenAnalytical.com

Conoco Phillips-Farmington
3401 30th Street
Farmington NM, 87401

Project: Formation Comparison
Project Name / Number: [none]
Project Manager: Kevin Fredrickson

Reported:
09/15/16 11:58

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. In no event shall Green Analytical Laboratories be liable for incidental or consequential damages. GALs liability, and clients exclusive remedy for any claim arising, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever, shall be deemed waived unless made in writing and received within thirty days after completion of the applicable service.

Page 5 of 7



dzufelt@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303

www.GreenAnalytical.com

Conoco Phillips-Farmington
3401 30th Street
Farmington NM, 87401

Project: Formation Comparison
Project Name / Number: [none]
Project Manager: Kevin Fredrickson

Reported:
09/15/16 11:58

Notes and Definitions

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
*Results reported on as received basis unless designated as dry.
RPD Relative Percent Difference
LCS Laboratory Control Sample (Blank Spike)
RL Report Limit
MDL Method Detection Limit

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. In no event shall Green Analytical Laboratories be liable for incidental or consequential damages. GALs liability, and clients exclusive remedy for any claim arising, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever, shall be deemed waived unless made in writing and received within thirty days after completion of the applicable service.

Page 6 of 7

Client: COP Phone# (505) 215-3184 Contact: Kevin Fredrickson
Address: 5525 Hwy 64, Farmington, NM 87401 E-Mail Address: Kevin.G.Fredrickson@conocophillips.com



CHAIN OF CUSTODY RECORD

GAL Work Order # 1609-021

PO#

Project Name:

28.4 c
NO 1/4

Sample Location: (1)BumperSpring, (2)CompressorDischarge, (3)Flowline, (4)Meter, (5)Oil Tank
(6)PigLauncher, (7)PigReceiver, (8)Pipeline, (9)Pit Tank, (10)PostFilter, (11)PreFilter
(12)SeparatorInlet, (13)SeparatorOutlet, (14)SeparatorDump, (15)SWDInlet
(16)SWDOutlet, (17)TransferPump, (18)ValveCan, (19)WaterTank, (20)Wellhead
(21)Other

Sample Type: (1)Casing, (2)CO2GasTube, (3)Coupon, (4)Water, (5)H2SGasTube, (6)Metals
(7)O2GasTube, (8)PipeSection, (9)Residual, (10)Sludge, (11)Solid, (12)Tubing, (13)Other

Collection							Preservative		Analyses Required					
Well Name (Sample Name)	Date	Time	Collected By: (Init.)	Sample Location	Sample Type	No. of Containers	Filtered: Y / N	Unpreserved	H2SO4	Other:	Iron and Manganese	Phosphate	Full Water API	Formations & Corrosion
1. EL PASO #1B Tubing	9-1-16	9:55am	BV	20	4	1	N	/						X
2. EL PASO #1B Bradenhead	9-1-16	9:15am	BV	20	4	1	N	/						X
3.														
4.														
5.														
6.														
7.														
8.														
9.														
10.														
11.														
12.														
13.														
14.														
15.														
16.														
17.														
18.														
19.														
20.														

Relinquished by: *[Signature]* Date: 9-1-16 Time: 1255 Received By: *[Signature]* Date: 9/1/16 Time: 1255
Christina Chan 9/1/16 1555 *Kangaroo Express* 9/1/16 1655

Kangaroo 9-2-16 → Michael Valenti 930