



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

15 June 2017

Bill Eaves
Conoco Phillips-Farmington
3401 30th Street
Farmington, NM 87401
RE: Braden Head

Enclosed are the results of analyses for samples received by the laboratory on 06/06/17 13:15.
If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Debbie Zufelt'.

Debbie Zufelt
Reports Manager

OIL CONS. DIV DIST. 3
JUL 11 2017

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.



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www.GreenAnalytical.com

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

Project: Braden Head
Project Name / Number: [none]
Project Manager: Bill Eaves

Reported:
06/15/17 11:35

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Hubble 3 Bradenhead	1706061-01	Water	05/31/17 08:30	06/06/17 13:15

Green Analytical Laboratories

A handwritten signature in black ink that reads 'Debbie Zufelt'.

Debbie Zufelt, Reports Manager

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

Project: Braden Head
Project Name / Number: [none]
Project Manager: Bill Eaves

Reported:
06/15/17 11:35

Hubble 3 Bradenhead

1706061-01 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Chloride*	169	100	14.3	mg/L	100	06/12/17	EPA300.0		JDA
pH*	12.2			pH Units	1	06/12/17	EPA150.1	H4	BDV
Total Dissolved Solids*	4310	10.0		mg/L	1	06/08/17	EPA160.1	H1, Q1	LLG
Sulfate*	2030	100	15.6	mg/L	100	06/12/17	EPA300.0		JDA

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Debbie Zufelt, Reports Manager

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

Project: Braden Head
Project Name / Number: [none]
Project Manager: Bill Eaves

Reported:
06/15/17 11:35

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

Debbie Zufelt, Reports Manager

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

Project: Braden Head
Project Name / Number: [none]
Project Manager: Bill Eaves

Reported:
06/15/17 11:35

Notes and Definitions

Q1 Sample received outside of acceptable temperature range for analyses requiring cold storage.

H4 pH analysis performed more than 48 hours after sampling.

H1 Sample was received several days after collected and subsequently analyzed past hold time.

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

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Debbie Zufelt, Reports Manager

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Page 5 of 6

Client: COP	Phone# (505) 860-5425	Contact: Bill Eaves
Address: 3401 E. 30th St. Farmington, NM 87402	E-Mail Address: Bill.Eaves@conocphillips.com	



CHAIN OF CUSTODY RECORD	
GAL Work Order #	1706-061-01 re 67
PO#	
Project Name:	

24.36
Noise

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	Bradenhead
01 Hubble 3 Bradenhead	5/31/2017	8:30 AM	MSO	20	4	1	N							X
2.														
3.														
4.														
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20.														

Relinquished by:	Date:	Time:	Received By:	Date:	Time:
Christina Clark	6-6-17	1:15pm	Christina Clark	6/6/17	1315
Kangaroo	6/6/17	1655	Kangaroo Express	6/6/17	1658
	6-7-17	0830	2.9/3.1c #1 on ice		

API #3004511995
HUBBELL 3



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23 June 2017

Darrell Savage
Conoco Phillips-Farmington
3401 30th Street
Farmington, NM 87401
RE: Formation Comparison

OIL CONS. DIV DIST. 3
JUL 11 2017

Enclosed are the results of analyses for samples received by the laboratory on 06/20/17 12:00.
If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Miller'.

Jacob Miller For 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/>

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

Project: Formation Comparison
Project Name / Number: Area 2
Project Manager: Darrell Savage

Reported:
06/23/17 17:21

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Hubbell #3	1706181-01	Water	06/20/17 07:30	06/20/17 12:00

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Jacob Miller For Debbie Zufelt, Reports Manager

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

Project: Formation Comparison
Project Name / Number: Area 2
Project Manager: Darrell Savage

Reported:
06/23/17 17:21

Hubbell #3

1706181-01 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO ₃ *	335	10.0		mg/L	5	06/22/17	2320 B		JLM
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	06/22/17	2320 B		JLM
Chloride*	15500	500	71.7	mg/L	500	06/23/17	EPA300.0		JDA
Total Dissolved Solids*	24800	10.0		mg/L	1	06/22/17	EPA160.1		LLG
Sulfate*	170	500	78.2	mg/L	500	06/23/17	EPA300.0		JDA
Potentially Dissolved Metals by ICP									
Calcium*	161	2.00	0.717	mg/L	20	06/23/17	EPA200.7		JDA
Iron*	8.76	1.00	0.281	mg/L	20	06/23/17	EPA200.7		JDA
Magnesium*	37.6	2.00	0.513	mg/L	20	06/23/17	EPA200.7		JDA
Sodium*	8350	20.0	1.74	mg/L	20	06/23/17	EPA200.7		JDA

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Conoco Phillips-Farmington	Project: Formation Comparison	
3401 30th Street	Project Name / Number: Area 2	Reported:
Farmington NM, 87401	Project Manager: Darrell Savage	06/23/17 17:21

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B706171 - General Prep - Wet Chem										
Blank (B706171-BLK1)				Prepared: 06/21/17 Analyzed: 06/22/17						
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (B706171-DUP1)				Source: 1706154-01 Prepared: 06/21/17 Analyzed: 06/22/17						
Total Dissolved Solids	645	10.0	mg/L		645			0.00	20	
Reference (B706171-SRM1)				Prepared: 06/21/17 Analyzed: 06/22/17						
Total Dissolved Solids	415	10.0	mg/L	390		106	85-115			
Batch B706197 - General Prep - Wet Chem										
Blank (B706197-BLK1)				Prepared & Analyzed: 06/23/17						
Chloride	ND	1.00	mg/L							
Sulfate	ND	1.00	mg/L							
LCS (B706197-BS1)				Prepared & Analyzed: 06/23/17						
Chloride	24.2	1.00	mg/L	25.0		96.8	90-110			
Sulfate	24.0	1.00	mg/L	25.0		95.9	90-110			
LCS Dup (B706197-BSD1)				Prepared & Analyzed: 06/23/17						
Chloride	24.0	1.00	mg/L	25.0		96.2	90-110	0.709	20	
Sulfate	23.8	1.00	mg/L	25.0		95.1	90-110	0.804	20	

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

Project: Formation Comparison
Project Name / Number: Area 2
Project Manager: Darrell Savage

Reported:
06/23/17 17:21

Potentially Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B706198 - Potentially Dissolved Metals										
Blank (B706198-BLK1)										
Prepared & Analyzed: 06/23/17										
Calcium	ND	0.100	mg/L							
Iron	ND	0.050	mg/L							
Magnesium	ND	0.100	mg/L							
Sodium	ND	1.00	mg/L							
LCS (B706198-BS1)										
Prepared & Analyzed: 06/23/17										
Calcium	4.94	0.100	mg/L	5.00		98.9	85-115			
Iron	4.98	0.050	mg/L	5.00		99.6	85-115			
Magnesium	25.0	0.100	mg/L	25.0		100	85-115			
Sodium	7.95	1.00	mg/L	8.10		98.1	85-115			
LCS Dup (B706198-BSD1)										
Prepared & Analyzed: 06/23/17										
Calcium	4.99	0.100	mg/L	5.00		99.8	85-115	0.903	20	
Iron	4.96	0.050	mg/L	5.00		99.1	85-115	0.481	20	
Magnesium	25.2	0.100	mg/L	25.0		101	85-115	1.00	20	
Sodium	8.04	1.00	mg/L	8.10		99.3	85-115	1.21	20	

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

Project: Formation Comparison
Project Name / Number: Area 2
Project Manager: Darrell Savage

Reported:
06/23/17 17:21

Notes and Definitions

Q1 Sample received outside of acceptable temperature range for analyses requiring cold storage.

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

Jacob Miller For Debbie Zufelt, Reports Manager

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Client: COP	Phone# (505) 320-2634	Contact: Darrell Savage
Address: 3401 E. 30th St. Farmington, NM 87402	E-Mail Address: darrell.q.savage@conocophillips.com	



75 Suttle Street
Durango, CO 81303
Phone: 970-247-4220
FAX: 970-247-4227

CHAIN OF CUSTODY RECORD
GAL Work Order # <u>1706-181-</u>
PO#
Project Name: <u>Arica 2</u>

91° N

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	Formation/Comparison
1. Hubbell #3	6-20-17	7:30	DS	20	4	1	N	Y						✓
2.														
3. "RUSH Sample"														
4. Send RESULTS To														
5. michelle.E.BENTSON@conocophillips.com														
6.														
7. Tubing Sample														
8.														
9.														
10.														
11.														
12.														
13.														
14.														
15.														
16.														
17.														
18.														
19.														
20.														

Relinquished by:	Date:	Time:	Received By:	Date:	Time:
<u>Darrell Savage</u>	<u>6-20-17</u>	<u>12:00</u>	<u>Vickie Murry</u>	<u>6-20-17</u>	<u>12:00</u>
<u>Vickie Murry</u>	<u>6-20-17</u>	<u>16:55</u>	<u>Kangaroo</u>		
<u>Kangaroo Express</u>	<u>6-21-17</u>	<u>0845</u>			
		<u>16:55</u>			

6-21-17
ABUS
Page 7 of 8
2.8/3.0°C #1
DGO JE

[illegible]