



30-045-24316

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: PO4 & API+
Project Name / Number: Area 2
Project Manager: Darrell Savage

Reported:
03/18/15 12:23

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Shepherd & Kelsey #1E Well head Sample tubing	1503061-01	Water	03/05/15 11:07	03/05/15 13:07
Shepherd & Kelsey #1E Braden head sample	1503061-02	Water	03/05/15 11:28	03/05/15 13:07

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 2 of 8

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: PO4 & API+
Project Name / Number: Area 2
Project Manager: Darrell Savage

Reported:
03/18/15 12:23

Shepherd & Kelsey #1E Well head Sample tubing

1503061-01 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate*	300	10.0		mg/L	2	03/10/15	2320 B		ACH
Alkalinity, Carbonate*	<10.0	10.0		mg/L	2	03/10/15	2320 B		ACH
Alkalinity, Hydroxide*	<10.0	10.0		mg/L	2	03/10/15	2320 B		ACH
Alkalinity, Total*	300	10.0		mg/L	2	03/10/15	2320 B		ACH
Chloride*	16800	1000	500	mg/L	100	03/10/15	4500-Cl- C		ACH
Conductivity*	47200	10.0		uS/cm	1	03/06/15	2510 B		ACH
pH*	7.03			pH Units	1	03/06/15	EPA150.1		ACH
Phosphate (PO4)	2.27	0.768	0.292	mg/L	5	03/13/15	EPA365.3/Calc		LLG
Phosphorus, Total	0.740	0.250	0.0950	mg/L	5	03/13/15	EPA365.3	Q3	LLG
Resistivity	21.2			ohm/cm	1	03/18/15	2510 B		DJZ
TDS*	26600	10.0		mg/L	1	03/11/15	EPA160.1		ABP
Specific Gravity	1.010			N/A	1	03/09/15	Hydrometer		ABP
Sulfate	<4.05	10.0	4.05	mg/L	1	03/10/15	4500-SO42- E		ABP
Potentially Dissolved Metals by ICP									
Hardness	388	4.62	0.919	mg/L	10	03/10/15	2340 B		JGS
Silica Potentially Dissolved	18.4	10.7	0.736	mg/L	10	03/10/15	2340 B		JGS
Barium*	15.2	0.100	0.029	mg/L	10	03/10/15	EPA200.7		JGS
Calcium*	70.8	0.200	0.031	mg/L	10	03/10/15	EPA200.7		JGS
Iron*	45.0	0.500	0.038	mg/L	10	03/10/15	EPA200.7		JGS
Lead*	<1.00	1.00	0.174	mg/L	10	03/10/15	EPA200.7		JGS
Magnesium*	51.2	1.00	0.204	mg/L	10	03/10/15	EPA200.7		JGS
Manganese*	0.547	0.050	0.002	mg/L	10	03/10/15	EPA200.7		JGS
Potassium*	81.4	10.0	3.45	mg/L	10	03/10/15	EPA200.7		JGS
Silicon	8.60	5.00	0.344	mg/L	10	03/10/15	EPA200.7		JGS
Sodium*	9630	2.50	0.506	mg/L	10	03/10/15	EPA200.7		JGS
Strontium*	27.2	1.00	0.003	mg/L	10	03/10/15	EPA200.7		JGS
Zinc*	<0.500	0.500	0.011	mg/L	10	03/10/15	EPA200.7		JGS
Cation/Anion Balance	-5.33								

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.



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: PO4 & API+
Project Name / Number: Area 2
Project Manager: Darrell Savage

Reported:
03/18/15 12:23

Shepherd & Kelsey #1E Braden head sample

1503061-02 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate*	<10.0	10.0		mg/L	2	03/10/15	2320 B		ACH
Alkalinity, Carbonate*	304	10.0		mg/L	2	03/10/15	2320 B		ACH
Alkalinity, Hydroxide*	102	10.0		mg/L	2	03/10/15	2320 B		ACH
Alkalinity, Total*	406	10.0		mg/L	2	03/10/15	2320 B		ACH
Chloride*	6640	400	200	mg/L	40	03/10/15	4500-Cl- C		ACH
Conductivity*	21500	10.0		uS/cm	1	03/06/15	2510 B		ACH
pH*	11.5			pH Units	1	03/06/15	EPA150.1		ACH
Phosphate (PO4)	0.522	0.768	0.292	mg/L	5	03/13/15	EPA365.3/Calc	J	LLG
Phosphorus, Total	0.170	0.250	0.0950	mg/L	5	03/13/15	EPA365.3	Q3	LLG
Resistivity	46.4			ohm/cm	1	03/18/15	2510 B		DJZ
TDS*	10900	10.0		mg/L	1	03/11/15	EPA160.1		ABP
Specific Gravity	1.005			N/A	1	03/09/15	Hydrometer		ABP
Sulfate	47.0	10.0	4.05	mg/L	1	03/10/15	4500-SO42- E		ABP
Potentially Dissolved Metals by ICP									
Hardness	209	4.62	0.919	mg/L	10	03/10/15	2340 B		JGS
Silica Potentially Dissolved	<0.736	10.7	0.736	mg/L	10	03/10/15	2340 B		JGS
Barium*	0.311	0.100	0.029	mg/L	10	03/10/15	EPA200.7		JGS
Calcium*	83.6	0.200	0.031	mg/L	10	03/10/15	EPA200.7		JGS
Iron*	<0.500	0.500	0.038	mg/L	10	03/10/15	EPA200.7		JGS
Lead*	<1.00	1.00	0.174	mg/L	10	03/10/15	EPA200.7		JGS
Magnesium*	<0.204	1.00	0.204	mg/L	10	03/10/15	EPA200.7		JGS
Manganese*	<0.050	0.050	0.002	mg/L	10	03/10/15	EPA200.7		JGS
Potassium*	15.3	10.0	3.45	mg/L	10	03/10/15	EPA200.7		JGS
Silicon	<5.00	5.00	0.344	mg/L	10	03/10/15	EPA200.7		JGS
Sodium*	3840	2.50	0.506	mg/L	10	03/10/15	EPA200.7		JGS
Strontium*	12.8	1.00	0.003	mg/L	10	03/10/15	EPA200.7		JGS
Zinc*	1.08	0.500	0.011	mg/L	10	03/10/15	EPA200.7		JGS
Cation/Anion Balance	-7.25								

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.



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: PO4 & API+
Project Name / Number: Area 2
Project Manager: Darrell Savage

Reported:
03/18/15 12:23

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.



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: PO4 & API+
Project Name / Number: Area 2
Project Manager: Darrell Savage

Reported:
03/18/15 12:23

Notes and Definitions

Q3	Sample received without chemical preservation but preserved by the laboratory.
J	Estimated concentration. Analyte concentration between MDL and RL.
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.

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>1503-1061</u>
PO#
Project Name: <u>Arica 2</u>

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

14.7C
NOSC

Q3

1°C #9
on ice

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	chlorides
1. Shell Head & Kelsey #1E	3/5/15	11:07	DS	20	4	1	N	X			X	X	X	X
2. Well Head Sample "Tubing"														
3.														
4. Shell head & Kelsey #1E	3/5/15	11:28	DS	21	4	1	N	X			X	X	X	X
5. Braden head sample														
6.														
7.														
8.														
9. Send Results To:														
10. Philip P. J. Ovellette @ conocoPhillips.com														
11.														
12.														
13.														
14.														
15.														
16.														
17.														
18.														
19.														
20.														

Relinquished by:	Date:	Time:	Received By:	Date:	Time:
<i>[Signature]</i>	3/5/15	13:07	<i>[Signature]</i>	3/5/15	1307
Christen Clann	3/5/15	11:55	Kangaroo Express	3/5/15	11:55

Kangaroo 3-6-15 0915 Michael Valentine 3-6-15 0915

[illegible]