

30-045-24316



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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

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A handwritten signature in black ink, reading "Debbie Zufelt".

Debbie Zufelt, Reports Manager

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### Shepherd & Kelsey #1E Well head Sample tubing

#### 1503061-01 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
<b>General Chemistry</b>									
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
<b>Potentially Dissolved Metals by ICP</b>									
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								

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**Shepherd & Kelsey #1E Braden head sample**

**1503061-02 (Water)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
<b>General Chemistry</b>									
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
<b>Potentially Dissolved Metals by ICP</b>									
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								

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*Debbie Zufelt*

Debbie Zufelt, Reports Manager

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

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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

<b>CHAIN OF CUSTODY RECORD</b>
GAL Work Order # 1503-061
PO#
Project Name: Alica 2

14.7C NOSE 1°C #9 on ice	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	chlorides
1. SHelHerd & Kelsey #1E	3/5/15	11:07	DS	20	4	1	N	X			X	X	X	X
2. well Head Sample "Tubing"														
3.														
4. SHelHerd & Kelsey #1E	3/5/15	11:28	DS	21	4	1	N	X			X	X	X	X
5. Broden head sample														
6.														
7.														
8.														
9. Send RESULTS To:														
10. Philip J. Ouellette @ conocoPhillips.com														
11.														
12.														
13.														
14.														
15.														
16.														
17.														
18.														
19.														
20.														

Relinquished by:	Date:	Time:	Received By:	Date:	Time:
Darrell Savage	3/5/15	13:07	Justin Clam	3/5/15	1307
Justin Clam	3/5/15	16:55	Kangaroo Express	3/5/15	16:55
Kangaroo	3-6-15	0915	Michael Valentine	3-6-15	11:15

CIC water sampling form: "Full Sample" (requires 120 ML water for lab) (100 ML water needed for titrations)										
Well Name	Sampler Initials	Collection date & time	Temp. (F)	Sample PSI	Water color / clarity	PH	Dissolved CO2 (Titration) turns X 4 = PPM	Total Alkalinity (Titration) turns X 10 = PPM	CO2 Partial pressure	Comments
Shepherd & Kelsey IE	DS	11:07 3-5-15	47.2	136	CLR	6.88	148	420	NA	Well Head
Shepherd & Kelsey IE	DS	11:28 3-5-15	41.2	2	CLR	2.08	2	500	NA	Bladder Head
"Residual" water sample only (requires 60 ML water)										
Well Name	Sampler Initials	Collection date & time	Temp. (F)	PH	Water color	CO2 Partial pressure if requested		Comments		
SINCLAIR COM 1B	DS	12/29/14 @ 1450	50.1	7.18	MILKY					
"Solid" sample collected for (solvency testing)										
Well Name	Sampler Initials	Collection date & time	Type Paraffin/Scale/Other	Norm test Y/N	Acid Soluble Y/N	Other tests conducted		Comments		