

Cement Details

Description Surface Casing Cement	Cementing Start Date 3/24/2014 01:47	Cementing End Date 2/24/2014 04:00	Wellbore Name Original Hole
<p>Comment PUMP CEMENT JOB AS FOLLOWS: REVIEW CRITICAL JSA PUMP 2 BBL WATER TEST LINES TO 3000 PSI FOR 5 MIN / GOOD PUMP 50 BBLs CLEAN SPACER, 10.5 PPG, 3.86 YIELD @ 5 BPM. DROPPED BOTTOM PLUG - WITNESSED BY COP SUPERVISOR. PUMP LEAD 480 SX, 219 BBLs, 12 PPG, 2.57 YIELD, SWIFTCEM B2 CEMENT. PUMPED LEAD @ 7 BPM. PUMP TAIL - 200 SX, 71.5 BBLs, 13.0 PPG, 2.01 YIELD, SWIFTCEM B2 CEMENT. PUMPED TAIL @ 6 BPM. DROPPED TOP PLUG - WITNESSED BY COP SUPERVISOR. WASH OUT PUMPED 163 BBL FRESH WATER DISPLACEMENT PUMPED AT 6.5 BPM TO 100 BBL TOTAL DISPLACEMENT PUMPED AT 5.0 BPM TO 145 BBL TOTAL DISPLACEMENT PUMPED AT 3.0 BPM TO 158 BBL TOTAL DISPLACEMENT PUMPED AT 2.2 BPM TO 163.3 BBL TOTAL DISPLACEMENT FCP WAS 568 PSI BUMPED WITH 1126 PSI HELD FOR 5 MIN / BLEED BACK 1.25 BBL FLOATS HELD</p> <p>100% RETURNS THROUGHOUT CEMENT JOB.</p> <p>93 BBLs CEMENT RETURNED TO SURFACE.</p>			

Cement Stages

Stage # 1									
Description Surface Casing Cement	Objective CEMENT TO SURFACE	Top Depth (ftKB) 24.0	Bottom Depth (ftKB) 2,157.9	Full Return? Yes	Vol Cemen... 93.0	Top Plug? Yes	Btm Plug? Yes		
Q Pump Init (bbl/m...) 7	Q Pump Final (bbl/...) 2	Q Pump Avg (bbl/...) 6	P Pump Final (psi) 568.0	P Plug Bump (psi) 1,126.0	Recip? No	Stroke (ft)	Rotated? No	Pipe RPM (rpm)	
Tagged Depth (ftKB)		Tag Method		Depth Plug Drilled Out To (ftKB)		Drill Out Diameter (in)			

Comment

Cement Fluids & Additives

Fluid							
Fluid Type Lead Cement	Fluid Description	Estimated Top (ftKB) 124.0	Est Btm (ftKB) 1,646.0	Amount (sacks) 480	Class SWIFTCEM	Volume Pumped (bbl) 219.0	
Yield (ft³/sack) 2.57	Mix H2O Ratio (gal/sa...) 15.14	Free Water (%)	Density (lb/gal) 12.00	Plastic Viscosity (cP)	Thickening Time (hr)	CmprStr 1 (psi)	

Additives			
Additive	Type	Concentration	Conc Unit label

Fluid							
Fluid Type Tail Cement	Fluid Description	Estimated Top (ftKB) 1,646.0	Est Btm (ftKB) 2,157.9	Amount (sacks) 200	Class SWIFTCEM	Volume Pumped (bbl) 71.5	
Yield (ft³/sack) 2.01	Mix H2O Ratio (gal/sa...) 11.03	Free Water (%)	Density (lb/gal) 13.00	Plastic Viscosity (cP)	Thickening Time (hr)	CmprStr 1 (psi)	

Additives			
Additive	Type	Concentration	Conc Unit label

HALLIBURTON

iCem[®] Service

CONOCO/PHILLIPS COMPANY EBUSINESS

For:

Date: Monday, February 24, 2014

cottonwood creek

Case 1

Sincerely,

Field Ticket Number: 0901137022 Field Ticket Date: 2/24/2014 Planning Order #: NA

Bill To:
 CONOCO/PHILLIPS COMPANY EBUSINESS
 DO NOT MAIL- 600 N DAIRY ASHFORD
 HOUSTON
 77079

Job Name: Surface Casing
Order Type: ZOH
Well Name: Cottonwood Creek 4-65-27-1H
Company Code: 1100
Customer PO No.: NA
Shipping Point: Fort Lupton, CO, USA
Sales Office: Rocky Mountains BD
Well Type: OIL
Well Category: Development

Ship To:
 COTTONWOOD CREEK 4-65-27-1H,ARAPAHO
 SEC. 27-T4S-R65W
 WATKINS
 80137

Material	Description	QTY	UOM	Unit Amount	Gross Amount	Discount	Net Amount
7521	CMT SURFACE CASING BOM	1	JOB	0.00	0.00		0.00
2	MILEAGE FOR CEMENTING CREW Number of Units	80 1	MI	5.76	460.80	67.000 %	152.06
1	ZI-MILEAGE FROM NEAREST HES BASE,/UNIT Number of Units	80 1	MI	9.79	783.20	67.000 %	258.46
16091	ZI - PUMPING CHARGE FEET/METERS (FT/M) DEPTH	1 FT 2112	EA	5,584.00	5,584.00	67.000 %	1,842.72
139	ADC (AUTO DENSITY CTRL) SYS, /JOB,ZI ENTER FEETMETER/JOB/DAY NUMBER OF JOBS NUMBER OF UNITS	1 JOB 1 1	JOB	2,275.00	2,275.00	67.000 %	750.75
130104	PORT. DATA ACQUIS. W/OPTICEM RT WHES DAYS OR PARTIAL DAY(WHOLE NO.)	1 1	EA	2,549.00	2,549.00	67.000 %	841.17
114	R/A DENSOMETER W/CHART RECORDER,/JOB,ZI NUMBER OF UNITS	1 1	JOB	1,285.00	1,285.00	67.000 %	424.05
90	ZI QUICK LATCH ATTACHMENT INCHES/MILLIMETERS (IN/MM) SIZE IN INCHES/MILLIMETER	1 IN 9.625	JOB	616.00	616.00	67.000 %	203.28
74038	ZI PLUG CONTAINER RENTAL-1ST DAY HR/DAY/WEEK/MTH/YEAR/JOB/RUN DAYS OR FRACTION (MIN1)	1 DAY 1	EA	1,322.00	1,322.00	67.000 %	436.26
683670	CMT, Cement Winter Surcharge	1	EA	1,000.00	1,000.00		1,000.00
7	ENVIRONMENTAL CHARGE,/JOB,ZI	1	JOB	134.00	134.00		134.00
8	IRON SAFETY INSPECTION SURCHARGE /JOB ZI	1	JOB	83.00	83.00		83.00
372867	Cmt PSL - DOT Vehicle Charge, CMT	4	EA	241.00	964.00		964.00
86954	ZI FUEL SURCHG-CARS/PICKUPS<1 1/2TON Number of Units	80 1	MI	0.24	19.20		19.20
86955	ZI FUEL SURCHG-HEAVY TRKS >1 1/2 TON Number of Units	80 1	MI	0.72	57.60		57.60
87605	FUEL SURCHG-CMT & CMT ADDITIVES NUMBER OF TONS	40 39.02	MI	0.24	9.60		9.60
76400	MILEAGE,CMT MTLs DEL/RET MIN NUMBER OF TONS	40 39.02	MI	3.35	5,228.68	67.000 %	1,725.46
3965	HANDLE&DUMP SVC CHRg, CMT&ADDITIVES,ZI Unit of Measurement NUMBER OF EACH	866 EA 1	CF	5.49	4,754.34	67.000 %	1,568.93
719269	SBM, CMT CleanSpacer III	50	BBL	250.00	12,500.00	67.000 %	4,125.00

Field Ticket Number: 0901137022 Field Ticket Date: 2/24/2014 Planning Order #: NA

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 CONOCO/PHILLIPS COMPANY EBUSINESS
 DO NOT MAIL- 600 N DAIRY ASHFORD
 HOUSTON
 77079

Job Name: Surface Casing
Order Type: ZOH
Well Name: Cottonwood Creek 4-65-27-1H
Company Code: 1100
Customer PO No.: NA
Shipping Point: Fort Lupton, CO, USA
Sales Office: Rocky Mountains BD
Well Type: OIL
Well Category: Development

Ship To:
 COTTONWOOD CREEK 4-65-27-1H,ARAPAHO
 SEC. 27-T4S-R65W
 WATKINS
 80137

Material	Description	QTY	UOM	Unit Amount	Gross Amount	Discount	Net Amount
452990	CMT, SwiftCem (TM) system	480	SK	0.00	30,785.49	20,626.29 \$	10,159.20
452990	CMT, SwiftCem (TM) system	200	SK	0.00	12,854.80	8,612.72 \$	4,242.08
100008028	CHEM, SUGAR, GRANULATED, 50LB BAG	0	LB	0.00	0.00		0.00
100008028	CHEM, SUGAR, GRANULATED, 50LB BAG	50	LB	6.44	322.00	67.000 %	106.26
101201084	CHEM, RHODAMINE RED LIQ DYE (2)	2	LB	160.00	320.00	67.000 %	105.60
Totals USD					83,907.71	54,699.03	29,208.68

Field Ticket Signature

Field Ticket Number: 0901137022	Field Ticket Date: 2/24/2014	Planning Order #: NA
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Order Type: ZOH
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THIS OUTPUT DOES NOT INCLUDE TAXES. APPLICABLE SALES TAX WILL BE BILLED ON THE FINAL INVOICE. CUSTOMER HEREBY ACKNOWLEDGES RECEIPT OF THE MATERIALS AND SERVICES DESCRIBED ABOVE, ON ANY PRECEDING PAGES, AND ATTACHED DOCUMENTS.

Gross Amount Total:	83,907.71
Item Discount Total:	54,699.03
Net Amount Total:	29,208.68 USD

Customer Representative Signature: _____

Date: _____

Clint Valentine

Vaughn Oteri

Customer Representative

Halliburton Representative

Was our HSE performance satisfactory? (Health, Safety, Environment)

Yes No

Were you satisfied with our equipment?

Yes No

Were you satisfied with our people?

Yes No

Comments:

Customer Stamp (if applicable):

The Road to Excellence Starts with Safety

Sold To #: 352431	Ship To #: 3284356	Quote #: 0021827790	Sales Order #: 0901137022
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Customer: CONOCO/PHILLIPS COMPANY EBUSINESS	Customer Rep: CLINT
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Well Name: Cottonwood Creek	Well #: 4-65-27-1H	API/UWI #: 05-005-07216
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Field:	City (SAP): WATKINS	County/Parish: ARAPAHOE	State: COLORADO
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Legal Description:

Contractor:	Rig/Platform Name/Num: H&P 276
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Job BOM: 7521

Well Type: OIL

Sales Person: HALAMERICA\HX38199	Srvc Supervisor: Vaughn Oteri
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Job

Formation Name	
Formation Depth (MD)	Top Bottom
Form Type	BHST
Job depth MD	2168ft Job Depth TVD
Water Depth	Wk Ht Above Floor
Perforation Depth (MD)	From To

Well Data

Description	New / Used	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Casing		16	15.5				0	100		
Casing		9.625	8.921	36	STC	J-55	0	2112		
Open Hole Section			13.5				100	2112		

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	9.625	1		2112	Top Plug	9.625	1	HES
Float Shoe	9.625	1			Bottom Plug	9.625	1	HES
Float Collar	9.625	1			SSR plug set	9.625	1	HES
Insert Float	9.625	1			Plug Container	9.625	1	HES
Stage Tool	9.625	1			Centralizers	9.625	1	HES

Miscellaneous Materials

Gelling Agt	Conc	Surfactant	Conc	Acid Type	Qty	Conc
Treatment Fld	Conc	Inhibitor	Conc	Sand Type	Size	Qty

Fluid Data

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Clean Spacer III	CLEANS PACER III	50	bbl	10.5				
0 gal/bbl		FRESH WATER							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
2	SwiftCem B1	SWIFTCEM (TM) SYSTEM	480	Sack/Ton	12	2.57		8	15.09	
15.09 Gal		FRESH WATER								
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
3	SwiftCem B1	SWIFTCEM (TM) SYSTEM	200	Sack/Ton	13	2.01		8	10.99	
10.99 Gal		FRESH WATER								
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
4	Displacement		0	bbl	8.5					
Cement Left In Pipe		Amount	45 ft		Reason			Shoe Joint		
Comment										

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1.0 Job Design

2.0 Temperature Modeling

3.0 Real-Time Job Summary

3.1 Stage Summary - Liquid Volume, Density, & Design Shutdown

3.2 Stage Summary - Pump Pressure & ECD

3.3 Stage Summary - Pump Rate & Nitrogen Rate

3.4 Shutdown Summary

HALLIBURTON

CONOCO/PHILLIPS COMPANY EBUSINESS
 CONOCO PHILLIPS SURFACE COTTONWOOD CREEK SO#9001137022

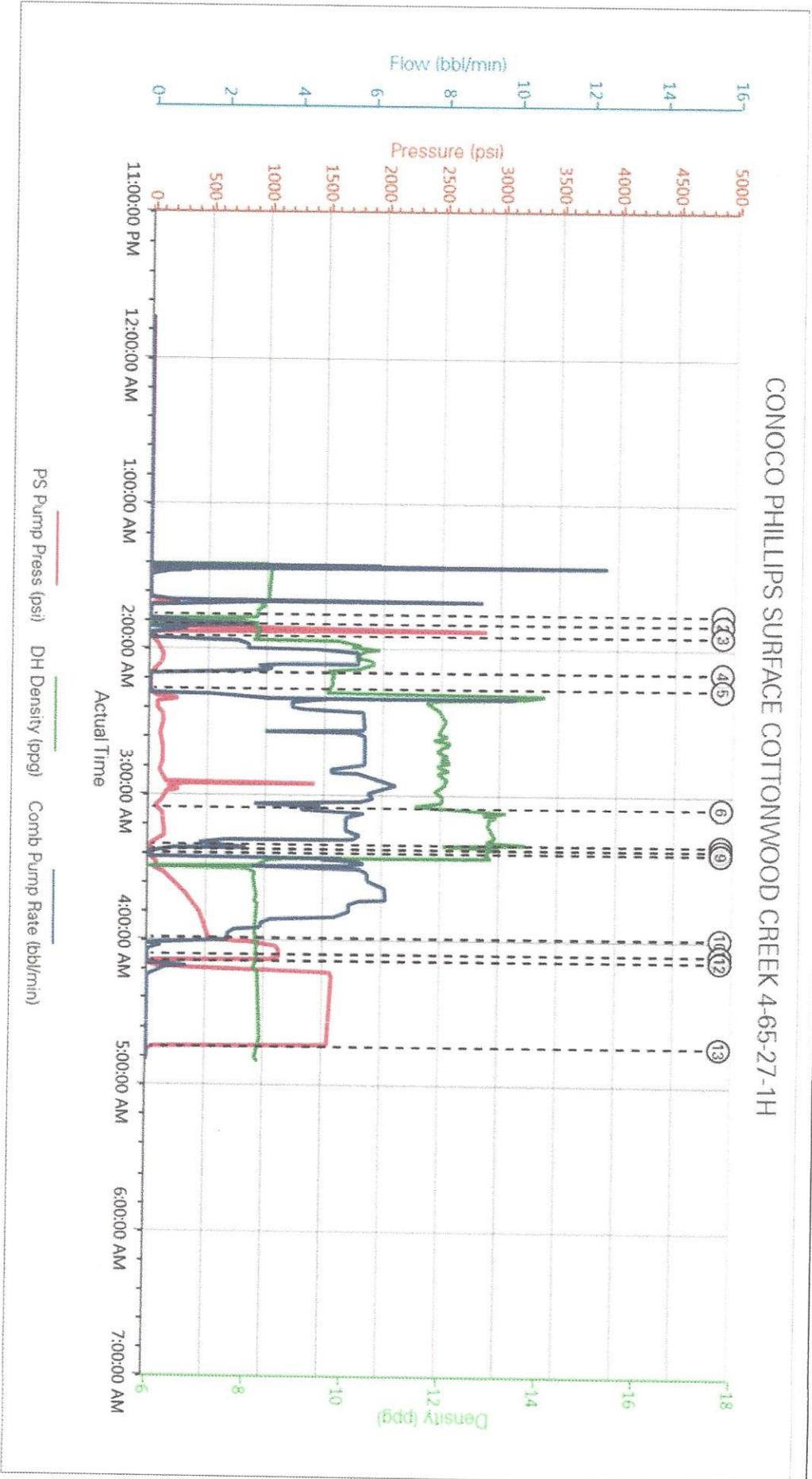
Case 1

3.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Comment
Event	1	Start Job	Start Job	2/24/2014	01:47:15	COM6	2.00	8.15	0.00	PRELOADED CEMENT HEAD WITH BOTH PLUGS WITNESSED BY COMPANY REP
Event	2	Test Lines	Test Lines	2/24/2014	01:51:20	COM6	2911	8.12	0.00	TESTED PUMPS AND LINES FOUND NO LEAKS
Event	3	Pump Spacer 1	Pump Spacer 1	2/24/2014	01:56:14	COM6	108	8.16	6	MIXED 10.5PPG CLEAN SPACER WITH FRESH WATER
Event	4	Drop Top Plug	Drop Top Plug	2/24/2014	02:11:23	COM6	7.00	9.86	0.00	RELEASED PLUG WITNESSD BY COMPANY REP
Event	5	Pump Lead Cement	Pump Lead Cement	2/24/2014	02:18:15	COM6	215	9.66	6	MIXED 12.0PPG SW/FTCEM WITH FRESH WATER
Event	6	Pump Tail Cement	Pump Tail Cement	2/24/2014	03:06:54	COM6	113.00	13.05	5.20	MIXED 13.0PPG SW/FTCEM WITH FRESH WATER
Event	7	Shutdown	Shutdown	2/24/2014	03:22:09	COM6	18.00	12.96	0.00	
Event	8	Drop Top Plug	Drop Top Plug	2/24/2014	03:24:03	COM6	8.00	12.96	0.00	RELEASED PLUG WITNESSED BY COMPANY REP
Event	9	Pump Displacement	Pump Displacement	2/24/2014	03:25:39	COM6	400	13.01	6.5	PUMP FRESH WATER TO DISPLKACE CEMENT
Event	10	Bump Plug	Bump Plug	2/24/2014	04:00:47	COM6	894.00	8.28	2.0	BUMP PLUG 500PSI OVER FINAL PUMP PRESSURE
Event	11	Other	Other	2/24/2014	04:07:32	COM6	1126.00	8.29	0.00	RELEASE PRESSURE BACK TO PUMP TRUCK TO CHECK FLOATS
Event	12	Pressure Up Well	Pressure Up Well	2/24/2014	04:10:19	COM6	1580	8.18	.25	PRESSURE UP WELL TO TEST CASING PER CONOCO POLICY
Event	13	End Job	End Job	2/24/2014	04:45:34	COM6	2.00	8.32	0.00	GOT 50BBL OF SPACER BACK TO SURFACE AND 93BBL OF CEMENT BACK TO SURFACE

4.0 Custom Graphs

4.1 Custom Graph



5.0 Appendix

5.1 One-Minutes Real-Time Data Listing
