

HALLIBURTON

iCem[®] Service

CONOCO PHILLIPS

For:

Date: Saturday, August 30, 2014

1H

Case 1

Sincerely,

CHRIS TURNER and CREW

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Well Name and Number** cement **Job Type** casing job. A pre-job safety meeting was held before the job where details of the job were discussed, potential safety hazards were reviewed, and environmental compliance procedures were outlined.

This space is provided to enter in a brief summary of the job. Below are some important items to discuss"

- 1. Quality of circulation before and during the job**
- 2. The final circulating pressure**
- 3. Whether or not any of the fluids that Halliburton pumped were returned to surface during the job**
- 4. Whether or not a flare was present at any point during the job**
- 5. A brief explanation any abnormalities on the job chart**
- 6. If we deviated from the original job plan, a brief explanation why we did so**

Halliburton maintains a continuous quality improvement process and appreciates any comments or suggestions that you may have. Halliburton again thanks you for the opportunity to perform service work on this well. We hope to be your solutions provider for future projects.

Respectfully,

Halliburton [Brighton]

Job Times

	Date	Time	Time Zone
Called Out	08/30/14	0900	MT
On Location	08/30/14	1415	MT
Job Started	08/30/14	1749	MT
Job Completed	08/30/14	2048	MT
Departed Location	08/30/14	2230	MT

1.2 Cementing Job Summary

CONOCO PHILLIPS STATE ELBERT 1H

SO#901611047

- 1) PUMP 2 BBL FRESH WATER TO FILL LINES
- 2) PRESSURE TEST LINES AND PUMPS TO 5000PSI
- 3) 85 BBLS OF 11.8 PPG CLEAN SPACER
- 4) DROP BOTTOM PLUG
- 5) 237 BBLS OR 685 SKS OF LEAD CEMENT @ 12 PPG
- 6) 271 BBLS OR 910 SKS OF TAIL CEMENT @13.8 PPG
- 7) SHUT DOWN, WASH PUMPS AND LINES
- 8) DROP TOP PLUG
- 9) DISPLACE WITH 255 BBL WATER (90 MMCR, 165 FRESH WATER)
(LAST 20 BBLS SLOW TO 3BPM)
- 10) BUMP PLUG 500 OVER FINAL PRESSURE
- 11) CHECK FLOATS
- 12) END JOB

1.3 Planned Pumping Schedule

1. **Fill Lines with Water**
 - a. Density = X
 - b. Volume = X
2. **Pressure Test Lines to Xpsi**
3. **Pump X Spacer**
 - a. Density = X lb/gal
 - b. Volume = X bbl
 - c. Rate = X bpm
4. **Pump X Spacer**
 - a. Density = X lb/gal
 - b. Volume = X bbl
 - c. Rate = X bpm
5. **Pump X Spacer**
 - a. Density = X lb/gal
 - b. Volume = X bbl
 - c. Rate = X bpm
6. **Drop Bottom Plug**
7. **Pump X (Lead)**
 - a. Density = X
 - b. Yield = X
 - c. Water Requirement = X
 - d. Volume = X sks (X bbls)
 - e. Rate = X bpm
8. **Pump X (Tail)**
 - a. Density = X
 - b. Yield = X
 - c. Water Requirement = X
 - d. Volume = X sks (X bbls)
 - e. Rate = X bpm
9. **Drop Top Plug**
10. **Start Displacement**
11. **Pump Displacement Water**
 - a. Density = X lb/gal
 - b. Volume = X bbls
 - c. Rate = X bpm
12. **Land Plug – Anticipated Final Circulation Pressure X psi**

Calculated Total Displacement = X bbls

1.4 Job Overview

		Units	Description
1	Surface temperature at time of job	°F	75
2	Mud type (OBM, WBM, SBM, Water, Brine)	-	
3	Actual mud density	lb/gal	9.3
4	Time circulated before job	HH:MM	
5	Mud volume circulated	Bbls	
6	Rate at which well was circulated	Bpm	
7	Pipe movement during hole circulation	Y/N	Y
8	Rig pressure while circulating	Psi	
9	Time from end mud circulation to start of job	HH:MM	
10	Pipe movement during cementing	Y/N	N
11	Calculated displacement	Bbls	255
12	Job displaced by	Rig/HES	HES
13	Annular before job)?	Y/N	Y
14	Annular flow after job	Y/N	N
15	Length of rat hole	Ft	50
16	Units of gas detected while circulating	Units	
17	Was lost circulation experienced at any time ?	Y/N	N

Lost Circulation Details

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Squeeze Job Information

		Units	Description
1	Was the well full prior to cementing?	Y/N	
2	Injection Rate #1 & Pressure	psi/bpm	
3	Injection Rate #2 & Pressure	psi/bpm	
4	Injection Rate #2 & Pressure	psi/bpm	
5	Initial ISIP	psi	
6	Final ISIP	psi	

Plug Job Information

		Units	Description
1	Density of well fluid exiting well prior to job	lb/gal	
2	Density of well fluid entering well prior to job	lb/gal	
3	Was the well full prior to cementing?	Y/N	
4	How many joints of workstring pulled wet?	# Joints	
5	Depth of workstring for circulation after the plug?	ft	
6	Calculated Plug Height	ft	

HALLIBURTON

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901611047
Case 1

1.5 Water Field Test

Item	Recorded Test Value	Units	Max. Acceptable Limit	Potential Problems in Exceeding Limit
pH		---	6.0 - 8.0	Chemicals in the water can cause severe retardation
Chlorides		ppm	3000 ppm	Can shorten thickening time of cement
Sulfates		ppm	1500 ppm	Will greatly decrease the strength of cement
Total Hardness		ppm	500 mg/L	High concentrations will accelerate the set of the cement
Calcium		ppm	500 ppm	High concentrations will accelerate the set of the cement
Total Alkalinity		ppm	1000 ppm	Cement is greatly retarded to the point where it may not set up at all (typically occurs @ pH \geq 8.3).
Bicarbonates		ppm	1000 ppm	Cement is greatly retarded to the point where it may not set up at all
Potassium		ppm	5000 ppm	High concentrations will shorten the pump time of cement (indicates the presence of chlorides, therefore if Potassium levels are measured as high, so should the chlorides)
Iron		ppm	300 ppm	High concentrations will accelerate the set of the cement
Temperature		°F	50-80 °F	High temps will accelerate; Low temps may risk freezing in cold weather

Submitted Respectfully by: _____

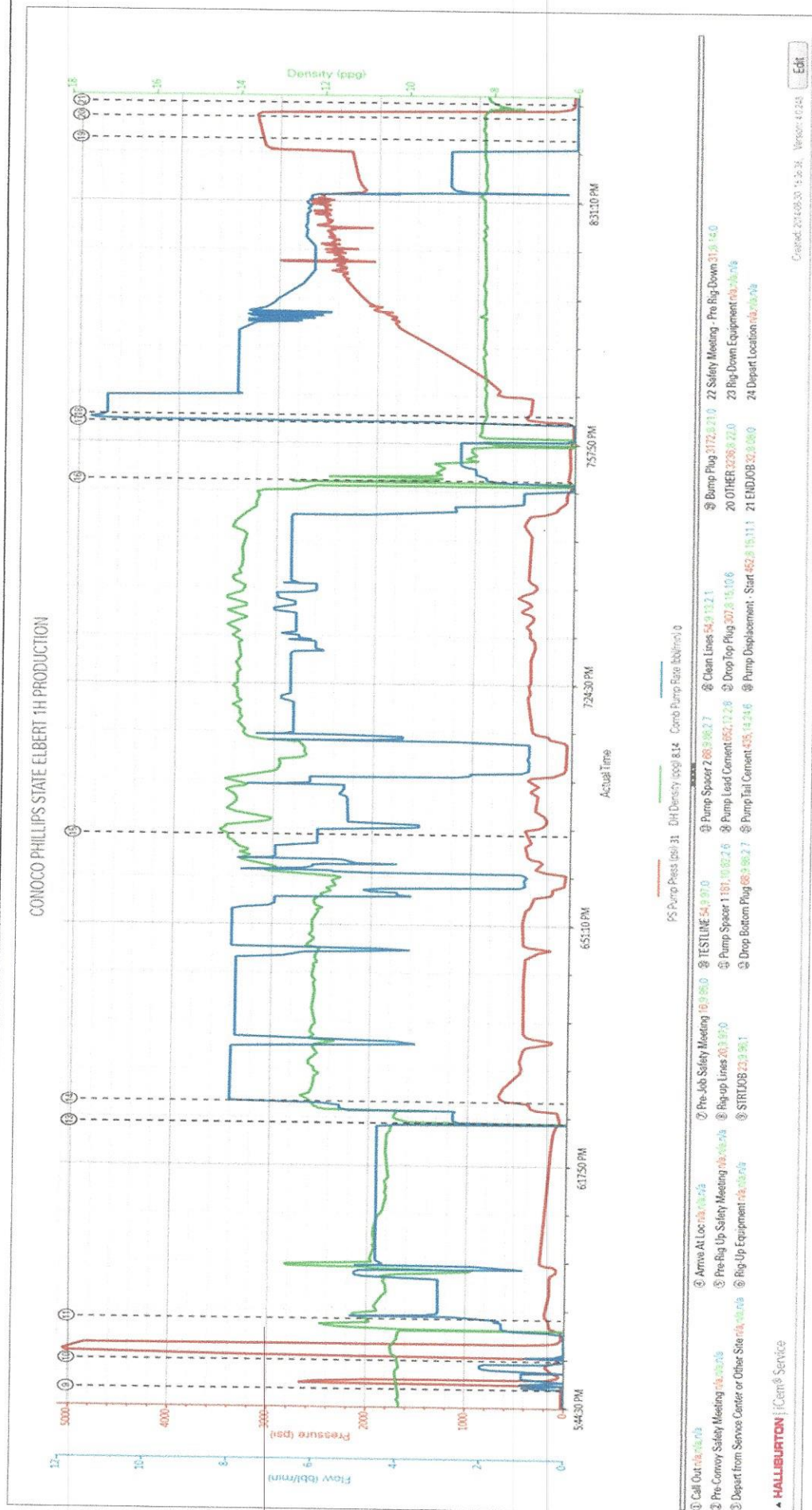
1.6 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Pass-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Comment
Event	1	Call Out	Call Out	8/30/2014	09:00:00	USER				Call out for Job
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/30/2014	12:45:00	USER				Journey Management
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	8/30/2014	13:00:00	USER				Safety Meeting with Crew
Event	4	Arrive At Loc	Arrive At Loc	8/30/2014	14:15:00	USER				Depart from yard for location
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	8/30/2014	14:25:00	USER				Arrive safely at location
Event	6	Rig-Up Equipment	Rig-Up Equipment	8/30/2014	14:35:00	USER				Pre Rig Up safety meeting with crew and meet with customer to discuss numbers.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	8/30/2014	17:15:00	USER	16.00	9.95	0.00	Rig up all pumping and mixing equipment and iron on ground
Event	8	Rig-up Lines	Rig-up Lines	8/30/2014	17:30:00	USER	20.00	9.97	0.00	Pre job safety meeting with Crew, Rig Crew, and company man to discuss job procedures
Event	9	STRTJOB	STRTJOB	8/30/2014	17:47:16	COM1	23.00	9.96	1.00	Rig up plug container and steel lines on rig floor.
Event	10	TESTLINE	TESTLINE	8/30/2014	17:51:15	COM1	54.00	9.97	0.00	
Event	11	Pump Spacer 1	Pump Spacer 1	8/30/2014	17:57:00	USER	181.00	10.82	2.60	Test lines to 5000 psi, good test no leaks
Event	12	Drop Bottom Plug	Drop Bottom Plug	8/30/2014	18:24:00	USER	68.00	9.86	2.70	Pump 80 bbl of Clean Spacer @ 10.5 ppg @ 4.5 bpm 250 psi
Event	13	Pump Spacer 2	Pump Spacer 2	8/30/2014	18:24:01	USER	68.00	9.86	2.70	Drop Bottom Plug
Event	14	Pump Lead Cement	Pump Lead Cement	8/30/2014	18:27:00	USER	652.00	12.20	8.00	Pump 5 bbl of Clean Spacer @ 10.5 ppg @ 4.5 bpm 270 psi

Event	15	Pump Tail Cement	Pump Tail Cement	8/30/2014	19:04:00	USER	435.00	14.24	6.00	Pump 271 bbl of Expandacem cement @ 13.8 ppg @ 7 bpm 550 psi. Cement head quit working in ADC and would not move in Manual so we had to set it open and mix with Flapper valve.
Event	16	Clean Lines	Clean Lines	8/30/2014	19:53:00	USER	54.00	9.13	2.10	Clean Pumps and Lines
Event	17	Drop Top Plug	Drop Top Plug	8/30/2014	20:01:00	USER	307.00	8.15	10.60	Drop Top Plug
Event	18	Pump Displacement - Start	Pump Displacement - Start	8/30/2014	20:02:00	USER	452.00	8.15	11.10	Pump 255 bbl of Fresh water displacement (90 MMR, 165 Fresh Water). Pumped at 8 bpm for most of displacement until pressure slowed down pump. Slow to 3 bpm last 20 bbl of displacement
Event	19	Bump Plug	Bump Plug	8/30/2014	20:40:00	USER	3172.00	8.21	0.00	Bump plug at calculated displacement
Event	20	OTHER	OTHER	8/30/2014	20:43:01	COM1	3236.00	8.22	0.00	Bleed off pressure. 2.5 bbl back. Floats held
Event	21	ENDJOB	ENDJOB	8/30/2014	20:45:01	COM1	32.00	8.08	0.00	
Event	22	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	8/30/2014	20:50:00	USER	31.00	8.14	0.00	Pre Rig down safety meeting with crew.
Event	23	Rig-Down Equipment	Rig-Down Equipment	8/30/2014	21:00:00	USER				Rig down all equipment and lines
Event	24	Depart Location	Depart Location	8/30/2014	22:30:00	USER				Depart Location for yard

2.0 Attachments

2.1 CONOCO SE 1H prod..png



2	ExtendaCem	EXTENDACEM (TM) SYSTEM	685	sack	12	1.94	10.29		10.29
24.65 lbm		CMT - PREMIUM - CLASS G REG OR TYPE V, BULK (100003685)							
10.29 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	ExpandaCem B2	EXPANDACEM (TM) SYSTEM	910	sack	13.8	1.67	7.7		7.7
7.70 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	MMCR Displacement	MMCR Displacement	90	bbl	8.34				
0.10 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
5	Displacement	Displacement	165	bbl	8.33				
Cement Left In Pipe		Amount	130 ft		Reason		Shoe Joint		
Comment									



Summary Report

Crew: _____

Job Start Date: 8/30/2014

Sales Order #: 0901611047

WO #: 0901611047

PO/AFE #: NA

Customer: CONOCO/PHILLIPS COMPANY

EBUSINESS

UWI / API Number: 05-005-07222-00

Well Name: STATE ELBERT

Well No: 1 H

Field: WILDCAT

County/Parish: ARAPAHOE

State: COLORADO

Latitude: 39.649075

Longitude: -104.623794

Sect / Twn / Rng: 2/5/65

Job Type: CMT PRODUCTION

CASING BOM

Service Supervisor: Dennis A. Sims

Cust Rep Name: Wes Evens

Cust Rep Phone #: _____

Remarks:

The Information Stated Herein Is Correct	Customer Representative Signature	Date
	Customer Representative Printed Name	

The Road to Excellence Starts with Safety

Sold To #: 352431	Ship To #: 3456907	Quote #:	Sales Order #: 0901611047
Customer: CONOCO/PHILLIPS COMPANY EBUSINESS		Customer Rep: Wes Evans	
Well Name: STATE ELBERT	Well #: 1 H	API/UWI #: 05-005-07222-00	
Field: WILDCAT	City (SAP): WATKINS	County/Parish: ARAPAHOE	State: COLORADO
Legal Description: SE NE-2-5S-65W-1367FNL-367FEL			
Contractor: Wes Evans		Rig/Platform Name/Num: H&P 280	
Job BOM: 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HB21661		Srv Supervisor: Dennis A. Sims	
Job			

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type			BHST
Job depth MD	12209ft		227 degF
Water Depth			Job Depth TVD
Perforation Depth (MD)	From		Wk Ht Above Floor
			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		9.625	8.921	36		J-55	0	2050		2050
Casing		5.5	4.67	23	BTC	P-110	0	12158	7065	7635
Open Hole Section			8.75				2050	12158	2050	7635

Tools and Accessories									
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	5.5	1		12209		Top Plug	5.5	1	HES
Float Shoe	5.5	1		136		Bottom Plug	5.5	1	HES
Float Collar	5.5	1		12073		SSR plug set	5.5	1	HES
Insert Float	5.5	1				Plug Container	5.5	1	HES
Stage Tool	5.5	1				Centralizers	5.5	1	HES

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

Fluid Data										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Clean Spacer III	CLEANS PACER III	85	bbl	10.5	3.86	24.13	5		
35.10 gal/bbl		FRESH WATER								

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
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