

HALLIBURTON

iCem[®] Service

CONOCO/PHILLIPS COMPANY EBUSINESS

For:

Date: Monday, October 20, 2014

Prosper Farms 4-65 13-14 1H

Case 1

Sincerely,

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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	10/19/14	21:30	
On Location	10/20/14	03:30	
Job Started	10/20/14	11:00	
Job Completed	10/20/14	14:00	
Departed Location	10/20/14	15:00	

1.2 Cementing Job Summary

Sold To #: 352431	Ship To #: 3533934	Quote #:	Sales Order #: 0901744125
Customer: CONOCO/PHILLIPS COMPANY EBUSINESS		Customer Rep: Wes Evens	
Well Name: PROSPER FARMS 4-65 13-14		Well #: 1H	API/UWI #: 05-005-07225-00
Field: WILDCAT	City (SAP): WATKINS	County/Parish: ARAPAHOE	State: COLORADO
Legal Description: SW NW-14-4S-65W-2165FNL-350FWL			
Contractor:		Rig/Platform Name/Num: H&P 280	
Job BOM: 7521			
Well Type: VERTICAL OIL			
Sales Person: HALAMERICA\HB21661		Srcv Supervisor: Devin Birchell	
Job			

Formation Name			
Formation Depth (MD)	Top	Bottom	
Form Type		BHST	
Job depth MD	2255ft	Job Depth TVD	
Water Depth		Wk Ht Above Floor	
Perforation Depth (MD)		To	

Well Data

	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	2245		0
Open Hole Section			13.5				100	2255		

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	9.625	1			Top Plug	9.625	1	HES
Float Shoe	9.625	1		2245	Bottom Plug	9.625	1	HES
Float Collar	9.625	1		2200	SSR plug set	9.625		HES
Insert Float	9.625	1			Plug Container	9.625	1	HES
	9.625	1			Centralizers	9.625	18	HES

Miscellaneous Materials

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

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	CLEANSPACER III	50	bbl	10.5	5.03	47.6	5		
		36.60 gal/bbl								
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	
2	SwiftCem B1	SWIFTCEM (TM) SYSTEM	500	sack	12	2.56		6	15.09	
		15.09 Gal								
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	
3	HalCem	HALCEM (TM) SYSTEM	335	sack	15.8	1.15		6	4.99	
		4.99 Gal								
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	
4	Displacement	Fresh Water	170	bbl	8.5					
		Amount 45 ft								
Comment										

1.4 Planned Pumping Schedule

1. **Fill Lines with Water**
 - a. Density = X8.3
 - b. Volume = X2
2. **Pressure Test Lines to Xpsi2818**
3. **Pump X Spacer**
 - a. Density = X lb/gal10.5
 - b. Volume = X bbl50
 - c. Rate = X bpm3
4. **Drop Bottom Plug**
5. **Pump X (Lead)**
 - a. Density = X12
 - b. Yield = X2.56
 - c. Water Requirement = X15.09
 - d. Volume = X500 sks (X228 bbls)
 - e. Rate = X bpm5
6. **Pump X (Tail)**
 - a. Density = X15.8
 - b. Yield = X1.15
 - c. Water Requirement = X4.99
 - d. Volume = X335 sks (X68 bbls)
 - e. Rate = X bpm5
7. **Drop Top Plug**
8. **Start Displacement**
9. **Pump Displacement Water**
 - a. Density = X lb/gal
 - b. Volume = X bbls
 - c. Rate = X bpm
10. **Land Plug – Anticipated Final Circulation Pressure X psi**

Calculated Total Displacement = X bbls

1.5 Job Overview

		Units	Description
1	Surface temperature at time of job	°F	
2	Mud type (OBM, WBM, SBM, Water, Brine)	-	
3	Actual mud density	lb/gal	
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	
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	
11	Calculated displacement	Bbls	
12	Job displaced by	Rig/HES	
13	Annular before job)?	Y/N	
14	Annular flow after job	Y/N	
15	Length of rat hole	Ft	
16	Units of gas detected while circulating	Units	
17	Was lost circulation experienced at any time ?	Y/N	

Lost Circulation Details

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	

1.6 Water Field Test

Item	Recorded Test Value	Units	Max. Acceptable Limit	Potential Problems in Exceeding Limit
pH	7	----	6.0 - 8.0	Chemicals in the water can cause severe retardation
Chlorides	0	ppm	3000 ppm	Can shorten thickening time of cement
Sulfates	0	ppm	1500 ppm	Will greatly decrease the strength of cement
Total Hardness	0	ppm	500 mg/L	High concentrations will accelerate the set of the cement
Calcium	0	ppm	500 ppm	High concentrations will accelerate the set of the cement
Total Alkalinity	0	ppm	1000 ppm	Cement is greatly retarded to the point where it may not set up at all (typically occurs @ pH ≥ 8.3).
Bicarbonates	0	ppm	1000 ppm	Cement is greatly retarded to the point where it may not set up at all
Potassium	0	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	0	ppm	300 ppm	High concentrations will accelerate the set of the cement
Temperature	68	°F	50-80 °F	High temps will accelerate; Low temps may risk freezing in cold weather

Submitted Respectfully by: _____

1.7 Job Event Log

Event	Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Truck 1 Pr (psi)	Truck 1 Dens (ppg)	Truck 1 Slry Rt (bbb/mnh)	Comment
Event 1		1	Call Out	Call Out	10/19/2014	21:30:02	USER				called cement crew out for conoco/phillips prosper farms 4-65 13-14 1h surface
Event 2		2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	10/20/2014	01:20:12	USER				discussed route weather other traffic following distance
Event 3		3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	10/20/2014	01:30:12	USER				called journey bulk trucks departed for location problems with pump
Event 4		4	Arrive At Loc	Arrive At Loc	10/20/2014	04:40:12	USER				bulk trucks arrive to location at 03:20 pump arrived at 04:40 an hour late
Event 5		5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	10/20/2014	05:00:12	USER				discussed hand placement swing path pinch points and spotting equipment
Event 6		6	Rig-Up Equipment	Rig-Up Equipment	10/20/2014	05:10:23	USER				spot pump and bulk trucks rig up water and bulk hoses and iron to red zone
Event 7		7	Rig-Up Completed	Rig-Up Completed	10/20/2014	07:10:12	USER	47.00	10.03	0.90	rigged cement head to casing and tied in stand pipe
Event 8		8	Prime Pumps	Prime Pumps	10/20/2014	07:11:02	USER	85.00	10.47	0.00	primed pump and lines ready for pressure test
Event 9		9	Test Lines	Test Lines	10/20/2014	07:13:08	COM1	1547.00	10.49	0.00	tested pump and lines to 2648 psi
Event 10		10	Wait on HES or HES Sub-Contractor Equipment - Start Time	Wait on HES or HES Sub-Contractor Equipment - Start Time	10/20/2014	08:00:00	USER	36.00	10.41	0.00	recirc densitometer stopped reading called etech, called coordinator and had another pump head to location, rig circulating on well
Event 11		11	Other	Other	10/20/2014	09:46:27	USER	-46.00	10.36	0.00	etech reached location

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Event	Description	Date	Time	User	Value	Unit	Value	Unit	Value	Unit
Event 12	Other	10/20/2014	10:00:12	USER	-54.00		10.37		0.00	
Event 13	Start Job	10/20/2014	11:00:21	COM1	-30.00		25.46		0.00	
Event 14	Prime Pumps	10/20/2014	11:01:24	USER	13.00		35.61		0.00	
Event 15	Test Lines	10/20/2014	11:08:25	COM1	1555.00		35.59		0.00	
Event 16	Pump Spacer 1	10/20/2014	11:17:37	COM1	-30.00		8.27		1.30	
Event 17	Drop Bottom Plug	10/20/2014	11:29:47	COM1	-12.00		10.31		2.10	
Event 18	Pump Lead Cement	10/20/2014	11:30:16	COM1	-11.00		11.67		2.10	
Event 19	Pump Tail Cement	10/20/2014	12:24:35	COM1	-10.00		14.14		1.80	
Event 20	Spacer Returns to Surface	10/20/2014	12:42:56	USER	64.00		15.90		2.80	
Event 21	Shutdown	10/20/2014	12:44:09	COM1	38.00		15.75		2.90	
Event 22	Clean Lines	10/20/2014	12:44:20	USER	11.00		15.36		0.00	
Event 23	Drop Top Plug	10/20/2014	12:44:53	COM1	-28.00		15.63		0.00	
Event 24	Pump Displacement	10/20/2014	12:44:58	COM1	-29.00		15.44		0.00	
Event 25	Cement Returns to Surface	10/20/2014	12:56:45	USER	155.00		9.04		7.90	
Event 26	Bump Plug	10/20/2014	13:16:38	COM1	1628.00		9.18		0.00	
Event 27	Check Floats	10/20/2014	13:20:46	USER	163.00		9.18		0.00	
Event 28	Pressure Up	10/20/2014	13:23:53	USER	518.00		9.04		1.00	
Event 29	Release Casing	10/20/2014	13:53:38	USER	316.00		9.01		0.00	

release pump truck arrived to location
 start job with new pump
 prime up new pump truck
 retest lines to 2818 psi
 pump 50 bbis clean spacer @10.5 ppg
 drop bottom plug with company rep witnessing
 pump 228 bbis 12 ppg lead.:y:2.56 ft3/sk w:15.09 gal/sk
 pump 68 bbis 15.8 ppg lead.:y:1.15 ft3/sk w:4.99 gal/sk
 27 bbis left of tail to pump spacer returns to surface
 shutdown to wash pump and lines and to drop plug
 cleaned pump and lines on plug
 dropped top plug with company rep witnessing
 pump 170 bbis fresh water displacement
 with 13 bbis displacement away cement returns to surface
 bump plug with 740 psi and took pressure to 1597 psi
 checked floats, floats held with 1 bbis back to truck
 pressured up for a casing test 1500 psi for 30 minutes
 released all pressure ready

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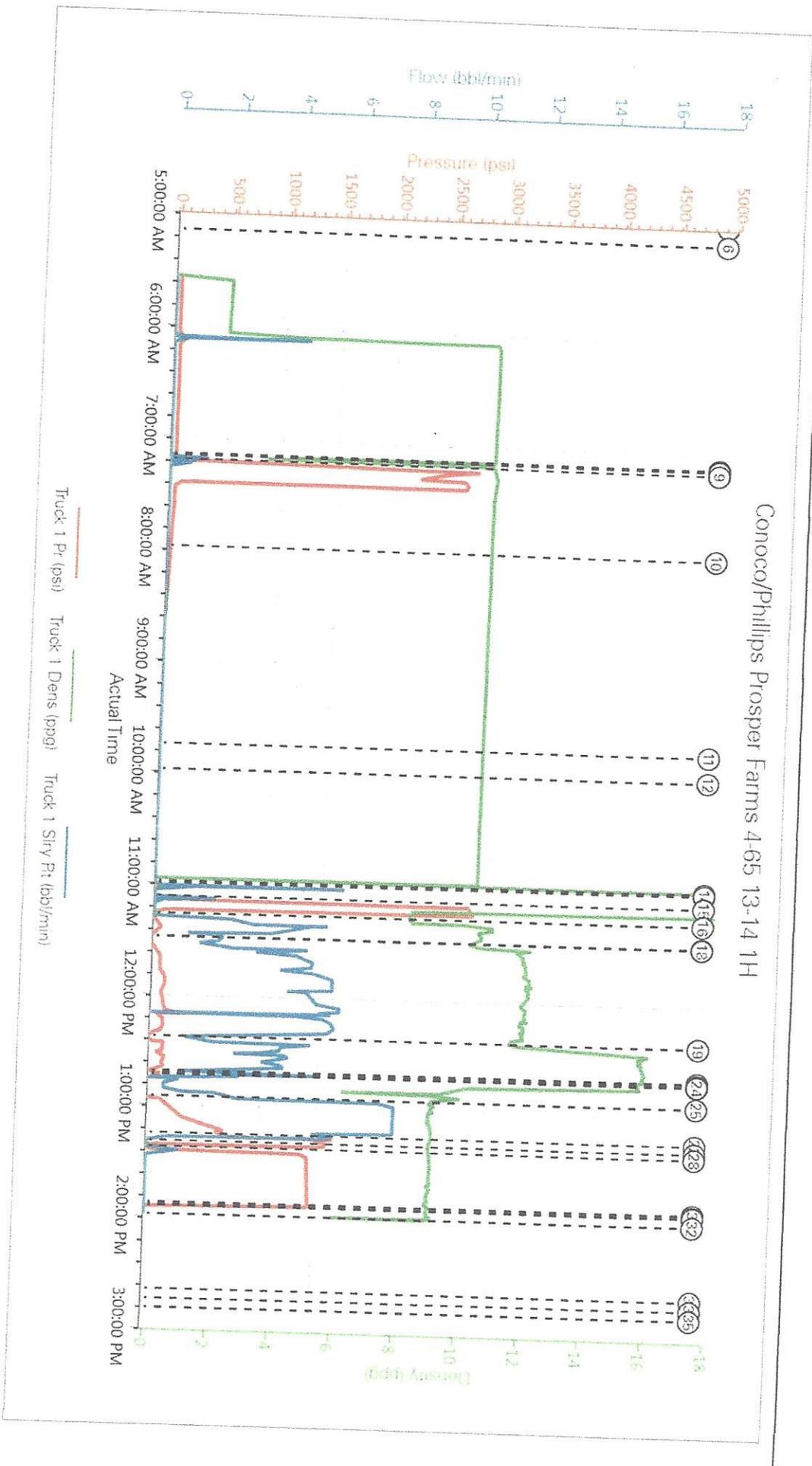
Case 1

Pressure

Event	End Job	End Job	10/20/2014	13:54:46	COM1	-42.00	9.06	0.00	
Event 30	End Job	End Job	10/20/2014	13:54:46	COM1	-42.00	9.06	0.00	for rig down
Event 31	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	10/20/2014	13:55:24	USER	-42.00	9.12	0.00	Job completed discussed hand placement swing path team lifting and pinch points
Event 32	Rig-Down Equipment	Rig-Down Equipment	10/20/2014	14:00:12	USER				rig down all hoses, bulk and water and rigged down all iron
Event 33	Rig-Down Completed	Rig-Down Completed	10/20/2014	14:40:12	USER				walk around to ensure all equipment is properly wut away
Event 34	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	10/20/2014	14:45:21	USER				discussed route weather other traffic and following distance
Event 35	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	10/20/2014	14:50:21	USER				thank you for using halliburton ene3rgy services

2.0 Custom Graphs

2.1 Custom Graph



3.0 Appendix

Insert Planned Pump Schedule from Proposal or actual Job Procedure built for job