

HALLIBURTON

iCem[®] Service

CONOCO/PHILLIPS COMPANY EBUSINESS

For:

Date: Monday, October 20, 2014

Prosper Farms 4-65 13-14 1H

Case 1

Sincerely,

Table of Contents

1.1	Executive Summary	Error! Bookmark not defined.
1.2	Cementing Job Summary	Error! Bookmark not defined.
1.3	Planned Pumping Schedule	Error! Bookmark not defined.
1.4	Job Overview	Error! Bookmark not defined.
1.5	Water Field Test	Error! Bookmark not defined.
1.6	«BeginGroup:RealTimeJobSummary»Job Event Log	Error! Bookmark not defined.
2.0	«BeginGroup:Attachments»Attachments	Error! Bookmark not defined.
2.1	«Caption»	Error! Bookmark not defined.
3.0	«BeginGroup:HydraulicsAdHocGraph»Custom Graphs	Error! Bookmark not defined.
3.1	Custom Graph	Error! Bookmark not defined.

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		Srvc 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	CLEANSPECER 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	SWIFTCM (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 \geq 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	$^{\circ}$ F	50-80 $^{\circ}$ 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 Slrty Rt (bbl/min)	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

HALLIBURTON

CONOCO/PHILLIPS COMPANY EBUSINESS
 901744125
 Case 1

Event	12	Other	Other	10/20/2014	10:00:12	USER	-54.00	10.37	0.00	relief pump truck arrived to location
Event	13	Start Job	Start Job	10/20/2014	11:00:21	COM1	-30.00	25.46	0.00	start job with new pump
Event	14	Prime Pumps	Prime Pumps	10/20/2014	11:01:24	USER	13.00	35.61	0.00	prime up new pump truck
Event	15	Test Lines	Test Lines	10/20/2014	11:08:25	COM1	1555.00	35.59	0.00	retest lines to 2818 psi
Event	16	Pump Spacer 1	Pump Spacer 1	10/20/2014	11:17:37	COM1	-30.00	8.27	1.30	pump 50 bbls clean spacer @10.5 ppg
Event	17	Drop Bottom Plug	Drop Bottom Plug	10/20/2014	11:29:47	COM1	-12.00	10.31	2.10	drop bottom plug with company rep witnessing
Event	18	Pump Lead Cement	Pump Lead Cement	10/20/2014	11:30:16	COM1	-11.00	11.67	2.10	pump 228 bbls 12 ppg lead;.y:2.56 ft3/sk w:15.09 gal/sk
Event	19	Pump Tail Cement	Pump Tail Cement	10/20/2014	12:24:35	COM1	-10.00	14.14	1.80	pump 68 bbls 15.8 ppg lead;.y:1.15 ft3/sk w:4.99 gal/sk
Event	20	Spacer Returns to Surface	Spacer Returns to Surface	10/20/2014	12:42:56	USER	64.00	15.90	2.80	27 bbls left of tail to pump spacer returns to surface
Event	21	Shutdown	Shutdown	10/20/2014	12:44:09	COM1	38.00	15.75	2.90	shutdown to wash pump and lines and to drop plug
Event	22	Clean Lines	Clean Lines	10/20/2014	12:44:20	USER	11.00	15.36	0.00	cleaned pump and lines on plug
Event	23	Drop Top Plug	Drop Top Plug	10/20/2014	12:44:53	COM1	-28.00	15.63	0.00	dropped top plug with company rep witnessing
Event	24	Pump Displacement	Pump Displacement	10/20/2014	12:44:58	COM1	-29.00	15.44	0.00	pump 170 bbls fresh water displacement
Event	25	Cement Returns to Surface	Cement Returns to Surface	10/20/2014	12:56:45	USER	155.00	9.04	7.90	with 13 bbls displacement away cement returns to surface
Event	26	Bump Plug	Bump Plug	10/20/2014	13:16:38	COM1	1628.00	9.18	0.00	bump plug with 740 psi and took pressure to 1597 psi
Event	27	Check Floats	Check Floats	10/20/2014	13:20:46	USER	163.00	9.18	0.00	checked floats, floats held with 1 bbls back to truck
Event	28	Pressure Up	Pressure Up	10/20/2014	13:23:53	USER	518.00	9.04	1.00	pressured up for a casing test 1500 psi for 30 minutes
Event	29	Release Casing	Release Casing Pressure	10/20/2014	13:53:38	USER	316.00	9.01	0.00	released all pressure ready

HALLBURTON

CONOCO/PHILLIPS COMPANY EBUSINESS

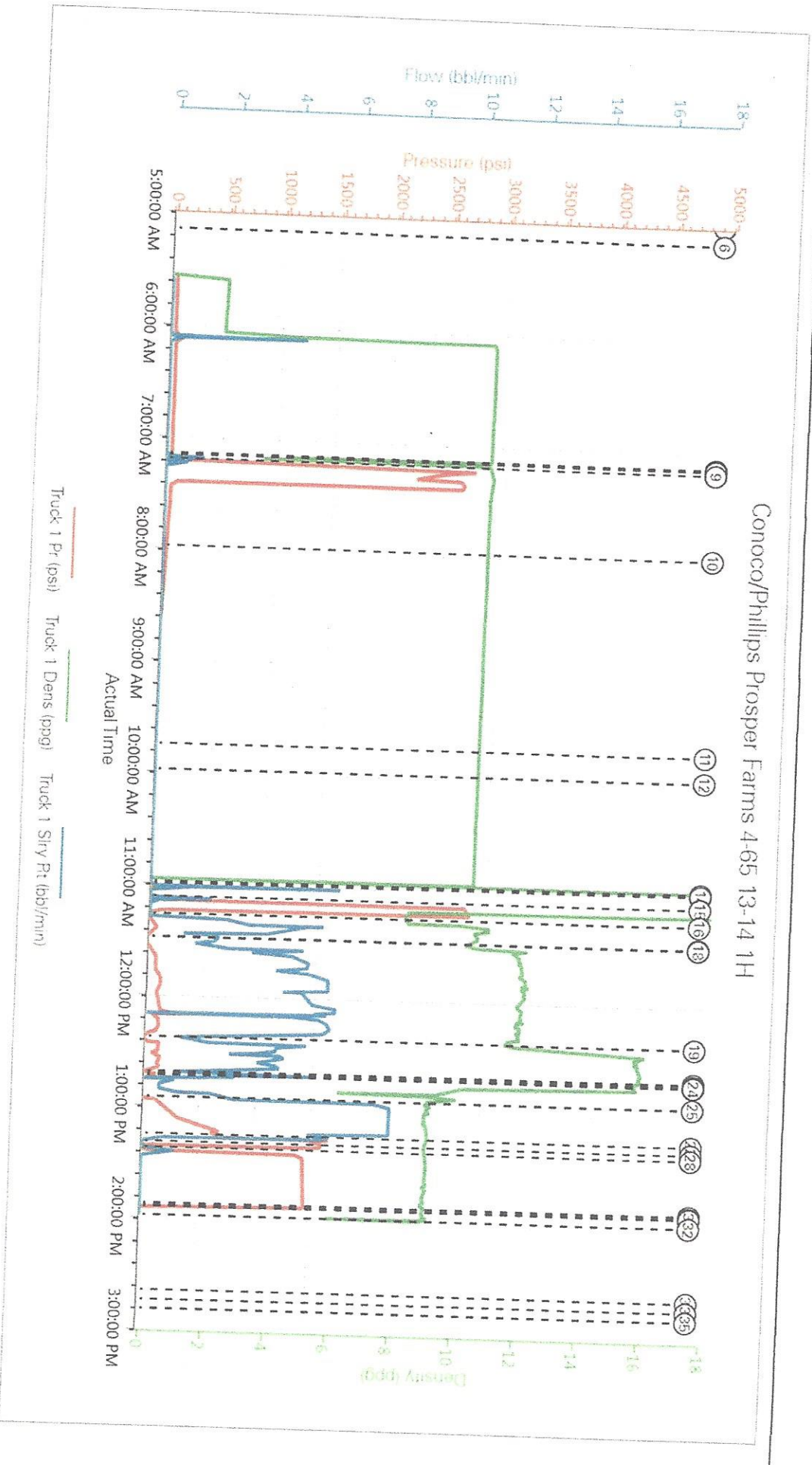
901744125

Case 1

Pressure									
Event	30	End Job	End Job	10/20/2014	13:54:46	COM1	-42.00	9.06	0.00
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
Event	32	Rig-Down Equipment	Rig-Down Equipment	10/20/2014	14:00:12	USER			
Event	33	Rig-Down Completed	Rig-Down Completed	10/20/2014	14:40:12	USER			
Event	34	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	10/20/2014	14:45:21	USER			
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			
for rig down									
Job completed									
discussed hand placement									
swing path team lifting and									
pinch points									
rig down all hoses, bulk									
and water and rigged down									
all iron									
walk around to ensure all									
equipment is properly wut									
away									
discussed route weather									
other traffic and fallowing									
distance									
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