

HALLIBURTON

iCem[®] Service

ANADARKO PETROLEUM CORP - EBUS

For: Randy Case

Date: Thursday, July 13, 2014

Benson Farms 13N-23HZ Surface

Case 1

Sincerely,
Derek Trier

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1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Benson Farms 13N-23HZ** cement **Surface** 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.

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	06/11	1100	MST
On Location		1515	
Job Started		1827	
Job Completed		1944	
Departed Location		2030	

1.2 Cementing Job Summary

Sold To #: 300466		Ship To #: 3472922		Quote #:		Sales Order #: 0901417832				
Customer: ANADARKO PETROLEUM CORP - EBUS					Customer Rep: Bob B.					
Well Name: BENSON FARMS			Well #: 13N-23HZ			API/UWI #: 05-123-39341-00				
Field: WATTENBERG		City (SAP): LONGMONT		County/Parish: WELD			State: COLORADO			
Legal Description: SE SE-23-3N-68W-647FSL-72FWL										
Contractor:				Rig/Platform Name/Num: Majors 42						
Job BOM: 7521										
Well Type: HORIZONTAL GAS										
Sales Person: HALAMERICA\HB47901				Srvc Supervisor: Nicholas Vigil						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST						
Job depth MD		1230ft		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		9.625	8.921	36		J-55	0	1230		
Open Hole Section			13.5				0	1230		
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	9.625					Top Plug	9.625	1	HES	
Float Shoe	9.625	1		1220		Bottom Plug	9.625		HES	
Float Collar	9.625	1		1183		SSR plug set	9.625		HES	
Insert Float	9.625					Plug Container	9.625	1	HES	
	9.625					Centralizers	9.625		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 ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Mud Flush III (Powder)	Mud Flush III	12	bbl	8.4				
42 gal/bbl									
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
2	Lead Cement	SWIFTCEM (TM) SYSTEM	460	sack	14.2	1.54		6	7.64
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
3	Displacement	Displacement	92	bbl	8.33				
		Amount	42 ft						
Comment 16 BBL OF CEMENT TO SURFACE									

1.4 Planned Pumping Schedule

Stage /Plug #	Fluid #	Fluid Type	Fluid Name	Surface Density lbm/gal	Avg Rate bbl/min	Surface Volume	Downhole Volume
1	1	Spacer	Fresh Water Spacer	8.33	3.0	10.0 bbl	10.0 bbl
1	1	Spacer	Mud Flush	8.50	3.0	12.0 bbl	12.0 bbl
1	1	Spacer	Fresh Water Spacer	8.33	5.0	10.0 bbl	10.0 bbl
1	2	Cement Slurry	SwiftCem B2	14.2	5.5	460.0 sacks	659.0 sacks

1.5 Job Overview

		Units	Description
1	Surface temperature at time of job	°F	
2	Mud type (OBM, WBM, SBM, Water, Brine)	-	WBM
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	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	N
11	Calculated displacement	Bbls	92
12	Job displaced by	Rig/HES	HES
13	Annular before job)?	Y/N	N
14	Annular flow after job	Y/N	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	N

1.6 Job Event Log

Event	Rate	Pressure	Comment
15:15 Arrive On Location	<i>BPM</i>	PSI	On location time was 15:30, Rig had just started running casing.
17:00 Pre Job Safety meeting			Held safety meeting with all personnel on location.
17:30 Rig-Up Equipment			
18:20 Rig-Up Completed			
18:27 Start Job			
18:28 Test Lines			Pressure tested lines to 3000 psi.
18:34 10 bbl Water	3	18	Water Spacer

18:36 12bbl Mud Flush	3	18	Mud Flush
18:42 10 bbl Water	5	32	Water Spacer
18:44 126 bbl of Cement	5.5	115	14.2 ppg SwiftCem (460 sks), weight was verified by scale.
19:09 Shut Down			
19:11 Drop Plug			Plug was pre loaded
19:12 Displace	6	183	Displaced using fresh watwer.
19:38 Bump Plug	3	480	Bumped plug 500 psi over final lift bringing our pressure to 1000 psi.
19:42 Check Floats			Floats held, we flowed back 1 bbl.
19:44 End Job			Rig down safety meeting.

19:55 Rig down Equipment			
20:30 Rig Down Completed			

2.0 Appendix
