

HALLIBURTON

iCem[®] Service

ANADARKO PETROLEUM CORP - EBUS

Date: Friday, May 23, 2014

Spurling 35N-34HZ

Sincerely,
Aaron Smith

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.
1.6	Job Event Log	Error! Bookmark not defined.
2.0	«BeginGroup:Attachments»Attachments	Error! Bookmark not defined.
2.1	Graph	Error! Bookmark not defined.

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Spurling 35N-34HZ** 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
On Location	4/11/2014	07:00	MT
Job Started	4/11/2014	08:12	MT
Job Completed	4/11/2014	09:28	MT

1.2 Cementing Job Summary

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 300466	Ship To #: 3354742	Quote #:	Sales Order #: 0901246882							
Customer: ANADARKO PETROLEUM CORP - EBUS		Customer Rep: LARRY HERSH								
Well Name: SPURLING	Well #: 35N-34 HZ	API/UWI #: 05-123-38950-00								
Field: WATTENBERG	City (SAP): ION	County/Parish: WELD	State: COLORADO							
Legal Description: NW NW-34-2N-67W-377FNL-1088FWL										
Contractor: Bob Porter		Rig/Platform Name/Num: Majors 42								
Job BOM: 7521										
Well Type: HORIZONTAL GAS										
Sales Person: HALAMERICA\HX46524		Srv Supervisor: Aaron Smith								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type		BHST								
Job depth MD	1066ft	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		9.625	8.921	36		J-55	0	1056		0
Open Hole Section			13.5				0	1066		
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	9.625	1		1056		Top Plug	9.625	1	HES	
Float Shoe	9.625	1				Bottom Plug	9.625	1	HES	
Float Collar	9.625	1		1014		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	Mud Flush III (Powder)	Mud Flush III	10	bbl	8.4					
42 gal/bbl		FRESH WATER								

HALLIBURTON***Cementing Job Summary***

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	367	Sack	14.2	1.54		6	7.64
7.64 Gal		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
3	Displacement	Displacement	0	bbl	8.33				
Cement Left In Pipe		Amount	42 ft		Reason		Shoe Joint		
Comment									

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	2.0	10.0 bbl	10.0 bbl
1	1	Spacer	Mud Flush	8.40	2.0	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	5.0	367.0 sacks	367.0 sacks

1.3 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	
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	10
16	Units of gas detected while circulating	Units	
17	Was lost circulation experienced at any time ?	Y/N	N

1.4 Job Event Log

HALLIBURTON

ANADARKO PETROLEUM CORP - EBUS
ANADARKO PETROLEUM SPURLING 35N-24 HZ SURFACE
Case 1

1.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbf/min)	PS Pump Press (psi)	DH Density (ppg)	Comment
Event	1	Arrive at Location from Service Center	Arrive at Location from Service Center	4/11/2014	07:00:00	USER				WITH ALL EQUIPMENT AND MATERIALS
Event	2	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	4/11/2014	07:10:00	USER				HAZARD HUNT AND WATER TEST
Event	3	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	4/11/2014	07:15:00	USER				WITH HES CREW TO DISCUSS, IRON, WATER, AND BULK EQUIPMENT RIG UP SAFETY
Event	4	Rig-Up Equipment	Rig-Up Equipment	4/11/2014	07:20:00	USER				HES CREW RIGGED UP TO FLOOR.
Event	5	Rig-Up Completed	Rig-Up Completed	4/11/2014	07:40:00	USER				
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	4/11/2014	07:45:00	USER	0.00	126.00	2.15	WITH CUSTOMER REP AND RIG CREW.
Event	7	Start Job	Start Job	4/11/2014	08:12:23	COM7	0.00	2.00	-0.35	
Event	8	Test Lines	Test Lines	4/11/2014	08:14:13	COM7	0.00	12.00	8.34	@ 2500 PSI
Event	9	Pump Spacer 1	Pump Spacer 1	4/11/2014	08:22:08	COM7	0.80	6.00	8.31	10 BBLS FRESH WATER WITH NO ADDITIVES
Event	10	Pump Spacer 2	Pump Spacer 2	4/11/2014	08:28:06	COM7	3.10	54.00	8.28	12 BBLS MUDFLUSH
Event	11	Pump Spacer 1	Pump Spacer 1	4/11/2014	08:31:57	COM7	3.10	62.00	8.37	10 BBLS FRESH WATER WITH NO ADDITIVES
Event	12	Pump Cement	Pump Cement	4/11/2014	08:34:41	COM7	0.90	47.00	13.32	100.6 BBLS 367 BBLS @ 14.2 PPG, 1.54 YIELD, 7.64 GAL/SK VERIFIED USING PRESSURIZED SCALES
Event	13	Shutdown	Shutdown	4/11/2014	08:53:20	COM7	0.00	31.00	0.60	
Event	14	Drop Top Plug	Drop Top Plug	4/11/2014	08:53:53	COM7	0.00	3.00	-0.04	PRE-LOADED HWE TOP PLUG VERIFIED BY CUSTOMER REP
Event	15	Pump Displacement	Pump Displacement	4/11/2014	08:55:04	COM7	4.50	29.00	13.23	78 BBLS FRESH WATER WITH NO ADDITIVES
Event	16	Other	Spacer Returns to Surface	4/11/2014	09:07:25	COM7				@ 32 BBLS DISPLACEMENT 32 BBLS TO THE PIT

Page 5

iCem® Service
Created: Friday, April 11, 2014

HALLIBURTON

ANADARKO PETROLEUM CORP - EBUS
ANADARKO PETROLEUM SPURLING 35N-24 HZ SURFACE
Case 1

Event	17	Other	Cement Returns to Surface	4/11/2014	09:13:42	COM7				@ 64 BBLS DISPLACEMENT, 14 BBLS TO SURFACE
Event	18	Bump Plug	Bump Plug	4/11/2014	09:19:03	COM7	0.00	1533.00	8.34	FINAL CIRCULATING PRESSURE 327
Event	19	End Job	End Job	4/11/2014	09:28:37	COM7	0.00	112.00	8.36	RIG-DOWN JSA, JOURNEY MANAGEMENT, THANKS AARON SMITH AND CREW

2.0 Appendix

Insert additional information regarding the job here (i.e. bulk and pilot testing, pre-job modeling, etc....)