

HALLIBURTON

iCem® Service

Post Job Report

ANADARKO PETROLEUM CORP - EBUS

Date: Friday, May 16, 2014

Spurling 14N-34HZ Surface

Case 1

Sincerely,
Devon Birchell

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1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Spurling 14N-35HZ** 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
Requested Time On Location	4/9	0730	MST
Called Out	4/9	0430	MST
On Location	4/9	0730	MST
Job Started	4/9	0839	MST
Job Completed	4/9	0952	MST
Departed Location	4/9	1100	MST

1.2 Cementing Job Summary

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 300466		Ship To #: 3367840		Quote #:		Sales Order #: 0901253410					
Customer: ANADARKO PETROLEUM CORP - EBUS				Customer Rep: Bob Porter							
Well Name: SPURLING			Well #: 14N-34 HZ			API/UWI #: 05-123-39127-00					
Field: WATTENBERG		City (SAP): ION		County/Parish: WELD			State: COLORADO				
Legal Description: NW NW-34-2N-67W-377FNL-1148FWL											
Contractor: Bob Porter					Rig/Platform Name/Num: Majors 42						
Job BOM: 7521											
Well Type: HORIZONTAL GAS											
Sales Person: HALAMERICA\HB47901					Srcv Supervisor: Devin Birchell						
Job											
Formation Name											
Formation Depth (MD)		Top			Bottom						
Form Type											
BHST											
Job depth MD		1075ft			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	1075		
Open Hole Section				13.5				0	1085		
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	9.625			1075		Top Plug	9.625		HES		
Float Shoe	9.625					Bottom Plug	9.625		HES		
Float Collar	9.625					SSR plug set	9.625		HES		
Insert Float	9.625					Plug Container	9.625		HES		
Stage Tool	9.625					Centralizers	9.625		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 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		FRESH WATER									
Fluid Data											
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

last updated on 4/9/2014 10:47:43 AM

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Cementing Job Summary

2	Lead Cement	SWIFTCEM (TM) SYSTEM	404	sack	14.2	1.54		6	7.64
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	Displacement	Displacement	80	bbl	8.33				
Cement Left In Pipe			Amount	40 ft		Reason		Shoe Joint	
Comment									

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	8.33	4.00	10.0 bbl	20.0 bbl
1	2	Spacer	Mud Flush III	8.40	5.00	12.0 bbl	40.0 bbl
1	3	Spacer	Fresh Water	8.33	5.00	10.0 bbl	20.0 bbl
1	4	Cement Slurry	Lead Cement	14.20	7.00	404.0 sacks	404.0 sacks

1.5 Job Overview

		Units	Description
1	Surface temperature at time of job	°F	
2	Mud type (OBM, WBM, SBM, Water, Brine)	-	Fresh Water
3	Actual mud density	lb/gal	8.33
4	Actual mud Plastic Viscosity (PV)	cP	
5	Actual mud Yield Point (YP)	lb _f /100ft ²	
6	Actual mud 30 min Gel Strength	lb _f /100ft ²	
7	Time circulated before job	HH:MM	
8	Mud volume circulated	Bbls	
9	Rate at which well was circulated	Bpm	
10	Pipe movement during hole circulation	Y/N	N
11	Rig pressure while circulating	Psi	
12	Time from end mud circulation to start of job	HH:MM	
13	Pipe movement during cementing	Y/N	N
14	Calculated displacement	Bbls	80
15	Job displaced by	Rig/HES	HES
16	Annular flow before job	Y/N	N
17	Annular flow after job	Y/N	N
18	Length of rat hole	Ft	10
19	Units of gas detected while circulating	Units	
20	Was lost circulation experienced at any time?	Y/N	N

1.6 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	Comb Pump Rate (bbl/min)	DH Density (ppg)	Comment
Event	1	Call Out	Call Out	4/9/2014	04:30:23	USER				called cement crew to anadarko spurling 14n-34hz surface
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	4/9/2014	06:50:23	USER				discuss other traffis, following distances, road hazards
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	4/9/2014	07:00:45	USER				leave yard for location
Event	4	Arrive At Loc	Arrive At Loc	4/9/2014	07:30:12	USER				arrive to location talk to company rep on depth volumes rates and pressures
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	4/9/2014	07:40:45	USER				discuss hand placement, team lifting, swing path
Event	6	Rig-Up Equipment	Rig-Up Equipment	4/9/2014	07:45:45	USER				rig up iron, hoses
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	4/9/2014	08:16:23	USER	821.00	8.60	8.99	discuss job procedures with rig and cement crews
Event	8	Rig-Up Completed	Rig-Up Completed	4/9/2014	08:36:00	USER	-6.00	0.00	8.83	load plug and rig up cement head and stand pipe
Event	9	Prime Pumps	Prime Pumps	4/9/2014	08:39:11	USER	-7.00	0.00	0.54	prime pump and fill lines
Event	10	Test Lines	Test Lines	4/9/2014	08:40:30	COM1	10.00	0.00	8.55	test pump and lines to 2480 psi
Event	11	Pump Spacer 1	Pump Spacer 1	4/9/2014	08:42:48	COM1	-3.00	0.00	8.57	pump 10 bbls fresh water spacer
Event	12	Pump Spacer 2	Pump Spacer 2	4/9/2014	08:47:19	COM1	44.00	2.30	8.53	pump 12 bbls mud flush III spacer
Event	13	Pump Spacer 1	Pump Spacer 1	4/9/2014	08:52:28	COM1	48.00	2.30	8.51	pump 10 bbls fresh water spacer
Event	14	Pump Lead Cement	Pump Lead Cement	4/9/2014	08:56:50	COM1	53.00	2.40	8.56	pump 110 bbls 14.2 ppg slurry
Event	15	Shutdown	Shutdown	4/9/2014	09:22:39	COM1	23.00	0.00	4.86	shutdown and get ready to drop plug
Event	16	Clean Lines	Clean Lines	4/9/2014	09:24:45	COM1	-13.00	0.00	-0.53	clean pump and lines on plug
Event	17	Drop Top Plug	Drop Top Plug	4/9/2014	09:24:53	COM1	-13.00	0.00	-0.56	drop to plug
Event	18	Pump Displacement	Pump Displacement	4/9/2014	09:24:57	COM1	-13.00	0.00	-0.56	pump 80 bbls fresh water displacement
Event	19	Spacer Returns to Surface	Spacer Returns to Surface	4/9/2014	09:31:03	USER	27.00	4.40	8.34	with 22 bbls displacement away spacer returns to surface(32bbls)
Event	20	Cement Returns to Surface	Cement Returns to Surface	4/9/2014	09:37:32	USER	205.00	4.80	8.33	with 54 bbls displacement away cement returns to srface (26bbls)

Event	21	Bump Plug	Bump Plug	4/9/2014	09:45:47	COM1	944.00	0.00	8.35	bump plug with 938 psi
Event	22	Other	Second Bump	4/9/2014	09:49:33	COM1	483.00	0.00	8.34	released pressure and bumped plug for a second time
Event	23	Check Floats	Check Floats	4/9/2014	09:51:22	USER	108.00	0.00	8.35	check floats, floats held with .5 bbls back
Event	24	End Job	End Job	4/9/2014	09:52:05	COM1	-17.00	0.00	8.29	job complete
Event	25	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	4/9/2014	09:55:30	USER	-20.00	0.00	8.31	discuss hand placement, team lifting, swing path
Event	26	Rig-Down Equipment	Rig-Down Equipment	4/9/2014	10:00:00	USER	-22.00	0.00	8.44	rig down iron, hoses
Event	27	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	4/9/2014	10:50:42	USER				discuss other traffis, following distances, road hazards
Event	28	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	4/9/2014	11:00:32	USER				thank you for using halliburton energy services

2.0 Custom Graphs

2.1 Custom Graph



