

HALLIBURTON

iCem[®] Service

ANADARKO PETROLEUM CORP - EBUS

For: RANDY CASE

Date: Tuesday, June 03, 2014

BERRY FARMS 31N-8HZ

Sincerely,

CHRISTOPHER PICKELL

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1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Berry Farms 31N-8HZ** 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			
On Location	4/5/2014	09:30:50	
Job Started	4/5/2014	11:53:50	
Job Completed	4/5/2014	13:05:13	
Departed Location			

1.2 Cementing Job Summary

<i>The Road to Excellence Starts with Safety</i>			
Sold To #: 300466	Ship To #: 3286298	Primary Sales Order #: 0901248612	
Customer: ANADARKO PETROLEUM CORP - EBUS		Job Purpose: 7521 CMT SURFACE CASING BOM	
Well Name: BERRY FARMS		Well #: 31N-8 HZ	API/UWI #: 05-123-38895-00
Field: WATTENBERG	City: PLA	Country/Parish: WELD	State/Prov: COLORADO
Legal Description:			
Rig Name & Number / Phone Number: Majors 29 / 307-660-1292			Location: LAND
myCem id# :	Job Criticality Status: GREEN	iFacts Request id #:	
Contacts			
Type	Name	Email	Phone
Service Coordinator	Ryan Wyckoff	Ryan.Wyckoff@halliburton.com	+17205386044
Account Rep	Jon Gregory	Jon.Gregory@Halliburton.com	+19702104722
Company Man			
<i>PPE, Safety Huddles, JSA's, HOC & Near Miss Reporting, BBP Observations</i>			
Distance/Mileage(1 way) Srvc:	30 mile	Distance/Mileage(1 way) Mtls:	30 mile
		Rqstd Job Start Date/Time:	04/03/2014
HSE Information			
H2S Present:	Unknown	CO2 Present:	Unknown
<i>Drive Safely. Lights On for Safety. Wear Seat Belts. Observe all HES / Customer Safety Policies.</i>			
Directions: CR 8 WEST TO HWY 85, NORTH TO HWY 66, WEST TO CR 21, NORTH TO CR34, WEST TO CR 17, NORTH 0.7 MILES AND LOCATION IS ON THE LEFT.			
Instruction			

Job Info / Well Data											
Job Depth (MD) ft		Job Depth (TVD) ft		Well Fluid Type		Well Fluid Weight lbm/gal		Displacement Fluid		Displ Fluid Weight lbm/gal	
833								Displacement		8.33	
BHST degF		BHCT degF		Log Temp degF				Time Since Circ Stopped HH:MM:SS			
Job Tubulars/Tools											
Description	Size in	Weight lbm/ft	ID in	Thread	Grade	Top MD ft	Btm MD ft	Top TVD ft	Btm TVD ft	Shoe Jnt ft	% Excess
13.5" Open Hole			13.5			0	833				0
9.625" Surface Casing	9.625	36	8.921		J-55	0	833			42	
Mud conditioning plan											
The condition of the drilling fluid is one of the most important variables in achieving a cement barrier. Prior to cementing, circulate the mud at the planned highest displacement rate for the cement job for at least 2 bottoms-up until the well is clean, mud is free of gas and pump pressures have stabilized.											
Materials											
Stage/Plug #: 1											
Fluid #	Fluid Name	Package/SBM/Material Name	Rqstd Del Qty	UOM	Density lbm/gal	Yield ft³/sack	Water Req Gal/sack	Rate bbbl/min	Total Mix Fluid Gal/sack	Surface Batch Mixing Time	

1	Mud Flush III (Powder)		12	bbl	8.4						
iFacts Test id #											
Fluid #	Fluid Name	Package/SBM/Material Name	Rqstd Del Qty	UOM	Density lbm/gal	Yield ft3/sack	Water Req Gal/sack	Rate bbl/min	Total Mix Fluid Gal/sack	Surface Batch Mixing Time hr	
2	Lead Cement	SWIFTCEM (TM) SYSTEM	330	sack	14.2	1.54	7.64	6	7.64		
Fluid #	Fluid Name	Package/SBM/Material Name	Rqstd Del Qty	UOM	Density lbm/gal	Yield ft3/sack	Water Req Gal/sack	Rate bbl/min	Total Mix Fluid Gal/sack	Surface Batch Mixing Time	
3	Displacement		62.5	bbl	8.33						
iFacts Test id #											
Caution: Displacement quantities and densities are estimates ONLY! Do not use them for the actual job.											

1.3 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	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	5.0	330.0 sacks	330.0 sacks

1.4 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	Y
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	62.5
12	Job displaced by	Rig/HES	HES
13	Annular before job)?	Y/N	Y
14	Annular flow after job	Y/N	Y
15	Length of rat hole	Ft	
16	Units of gas detected while circulating	Units	
17	Was lost circulation experienced at any time ?	Y/N	

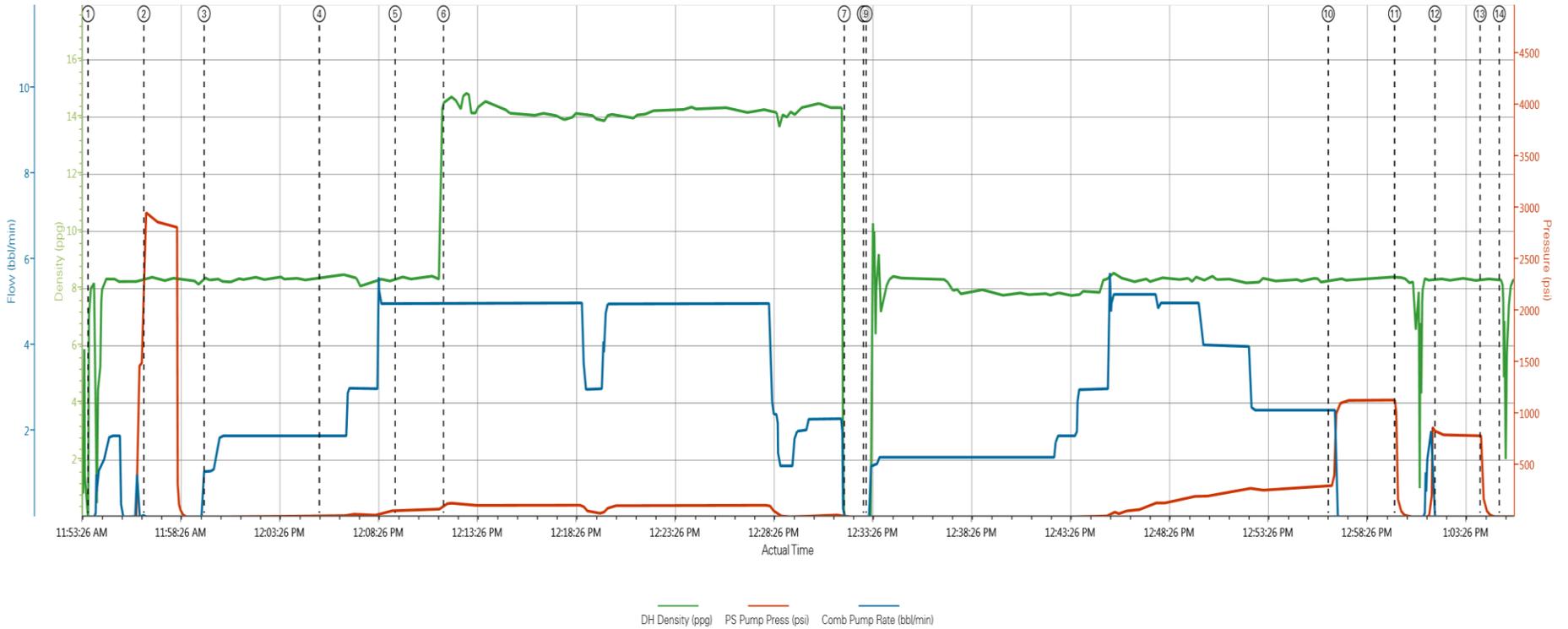
1.5 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	PS Pump Press (psi)	Comb Pump Rate (bbl/min)	Comment
Event	1	Start Job	Start Job	4/5/2014	11:53:50	COM5	7.96	-14.00	0.00	Arrive on location at 0930. Rig running casing. Casing on bottom at 1130. Safety meeting held. Job started.
Event	2	Test Lines	Test Lines	4/5/2014	11:56:39	COM5	8.38	2962.00	0.00	Pressure test lines to 2500 psi. Check for visible leaks and pressure loss.
Event	3	Pump Spacer 1	Pump Water	4/5/2014	11:59:42	COM5	8.33	2.00	1.10	Pump Water
Event	4	Pump Spacer 2	Pump Mudflush	4/5/2014	12:05:32	COM5	8.40	15.00	1.90	Pump Mudflush
Event	5	Pump Spacer 1	Pump Water	4/5/2014	12:09:22	COM5	8.33	65.00	5.00	Pump Water
Event	6	Pump Cement	Pump Swiftcem 14.2#	4/5/2014	12:11:49	COM5	14.61	127.00	5.00	Pump Swiftcem cemeent 330 sks 14.2 ppg 1.54 cuft/sk 7.76 gal/sk
Event	7	Shutdown	Shutdown	4/5/2014	12:32:05	COM5	-0.43	4.00	0.00	Wash pumps and lines on top of the plug
Event	8	Drop Top Plug	Drop Top Plug	4/5/2014	12:33:03	COM5	-0.64	-3.00	0.00	Plug preloaded. Witnessed by company man
Event	9	Pump Displacement	Pump Displacement	4/5/2014	12:33:11	COM5	-0.62	-3.00	0.00	Pump Displacement using water
Event	10	Bump Plug	Bump Plug	4/5/2014	12:56:34	COM5	8.31	307.00	2.50	Calculated pressure to land was 234. Plug landed with 307 psi going over to 1120.
Event	11	Other	Check Floats	4/5/2014	12:59:55	COM5	8.37	595.00	0.00	Pressure was held for 3 minutes then released. Floats held. 1/2 bbl back to tanks
Event	12	Bump Plug	Bump Plug	4/5/2014	13:01:57	COM5	8.30	825.00	0.00	Re-bump plug and company mans request.
Event	13	Other	Check Floats	4/5/2014	13:04:15	COM5	8.33	689.00	0.00	Pressure held for 2 minutes then released. Floats held. 1/2 bbl back to tanks.
Event	14	End Job	End Job	4/5/2014	13:05:13	COM5	8.30	-1.00	0.00	All preflush and 6 bbl cement to surface. Blew down all equipment and rig down.

2.0 Custom Graphs

2.1 Custom Graph

BERRY FARMS 31N-8HZ (9 5/8" SURFACE)



- ① Start Job 7.96;-14.0 ④ Pump Mudflush 8.4;15;1.9 ⑦ Shutdown -0.43;4.0 ⑩ Bump Plug 8.31;307;2.5 ⑬ Check Floats 8.33;689.0
- ② Test Lines 8.38;2962.0 ⑤ Pump Water 8.34;65.5 ⑧ Drop Top Plug -0.64;-3.0 ⑪ Check Floats 8.37;595.0 ⑭ End Job 8.3;-1.0
- ③ Pump Water 8.4;2;1.1 ⑥ Pump Swiftcem 14.2# 14.61;127.5 ⑨ Pump Displacement -0.62;-3.0 ⑫ Bump Plug 8.3;825.0

3.0 Appendix

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