HALLIBURTON

iCem® Service

Post Job Report

ANADARKO PETROLEUM CORP - EBUS

Date: 6/22/2014

NRC 30C-32HZ

Sincerely,

Derek Trier

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1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **NRC 30C-32HZ** 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	05/09	0800	MST
Called Out	05/09	0400	
On Location	05/09	0800	
Job Started	05/09	1100	
Job Completed	05/09	1230	
Departed Location	05/09	1330	

1.2 Cementing Job Summary

The Road to Excellence Starts with Safety			
Sold To #: **300466**	Ship To #: **3458795**	Primary Sales Order #: **0901325038**	
Customer: **ANADARKO PETROLEUM CORP - EBUS**		Job Purpose: **7521 CMT SURFACE CASING BOM**	
Well Name: **NRC**		Well #: **30C-32 HZ**	API/UWI #: **05-123-39188-00**
Field: **WATTENBERG**	City: **ION**	Country/Parish: **WELD**	State/Prov: **COLORADO**
Legal Description:			
Rig Name & Number / Phone Number: **MAJORS 42 / 307-680-8961**			Location: **LAND**
myCem id# :	Job Criticality Status: **GREEN**	iFacts Request id #:	

PPE, Safety Huddles, JSA's, HOC & Near Miss Reporting, BBP Observations			
Distance/Mileage(1 way) Srvcs:	**30 mile**	Distance/Mileage(1 way) Mtls:	**30 mile**
		Rqstd Job Start Date/Time:	**05/04/2014**

HSE Information			
H2S Present:	**Unknown**	CO2 Present:	**Unknown**

Drive Safely. Lights On for Safety. Wear Seat Belts. Observe all HES / Customer Safety Policies.

Directions:

CR 8 WEST TO HWY 85, NORTH TO HWY 66, WEST TO CR 13, SOUTH 4/10 MILE, WEST INTO LOCATION.

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**
850				**Displacement**	**8.33**

BHST **degF**	BHCT **degF**	Log Temp **degF**	

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**	**850**				**0**
9.625" Surface Casing	**9.625**	**36**	**8.921**		**J-55**	**0**	**850**			**42**	

Materials

Stage/Plug #: **1**

luid #	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 Batc Mixing Time
	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 Batc Mixing Time **hr**
	Lead Cement	**SWIFTCEM (TM) SYSTEM**	**442**	**sack**	**14.2**	**1.54**	**7.64**	**6**	**7.63**	

acts Test id #	

luid #	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 Batc Mixing Time
	Displacement		**62.5**	**bbl**	**8.33**					

acts Test id #	

Caution: Displacement quantities and densities are estimates ONLY! Do not use them for the actual job.

Packaged Materials

SAP #	Material	Qty	UOM	Comments
	FRESH WATER	**3372.6**	**Gal**	

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	8.33	4.00	10.0 bbl	10.0 bbl
1	2	Spacer	Mud Flush III	8.40	4.00	12.0 bbl	12.0 bbl
1	3	Spacer	Fresh Water	8.33	4.00	10.0 bbl	10.0 bbl
1	4	Cement Slurry	SwiftCem	14.20	6.00	503.0 sacks	503.0 sacks

1.4 Job Overview

		Units	Description
1	Surface temperature at time of job	^{o}F	
2	Mud type (OBM, WBM, SBM, Water, Brine)	-	WBM
3	Actual mud density	lb/gal	9.0
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	
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	
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	
19	Units of gas detected while circulating	Units	
20	Was lost circulation experienced at any time?	Y/N	N

1.5 Job Event Log

HALLIBURTON

ANADARKO PETROLEUM CORPORATION
901325038
Case 1

1.6 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	PS Pump Press (psi)	PS Pump Rate (bbl/min)	Recirc Density (ppg)	Pump Stage Total (bbl)	Comment
Event	1	Call Out	Call Out	5/9/2014	04:00:00	USER						
Event	2	Crew Leave Yard	Crew Leave Yard	5/9/2014	07:00:00	USER						
Event	3	Arrive At Loc	Arrive At Loc	5/9/2014	08:00:00	USER						RIG WAS RUNNING CASING WHEN WE ARRIVED
Event	4	Rig-up Lines	Rig-up Lines	5/9/2014	08:25:00	USER						
Event	5	Rig-Up Completed	Rig-Up Completed	5/9/2014	09:00:00	USER						
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	5/9/2014	10:30:00	USER	8.30	10.00	0.00	8.39	1.6	JSA WITH ALL INVOLVED PERSONS
Event	7	Start Job	Start Job	5/9/2014	11:00:08	COM1	8.28	-1.00	0.00	8.42	12.1	
Event	8	Test Lines	Test Lines	5/9/2014	11:01:41	COM1	8.45	17.00	0.00	8.38	12.7	TESTED LINES TO 2500 PSI NO VISIBLE LEAKS
Event	9	Pump Spacer 1	Pump Spacer 1	5/9/2014	11:04:14	COM1	8.39	5.00	0.00	8.38	0.0	10 BBL FRESH WATER PUMPED AT 2 BPM AND 75 PSI
Event	10	Pump Spacer 2	Pump Spacer 2	5/9/2014	11:09:55	COM1	8.42	74.00	2.00	14.27	0.0	12 BBL MUD FLUSH PUMPED AT 3 BPM AND 152 PSI
Event	11	Pump Spacer 1	Pump Spacer 1	5/9/2014	11:14:27	COM1	8.45	152.00	3.00	14.34	0.0	10 BBL FRESH WATER PUMPED AT 3 BPM AND 157 PSI
Event	12	Pump Cement	Pump Cement	5/9/2014	11:17:52	COM1	8.41	157.00	3.00	14.23	10.2	442 SKS OR 121.2 BBL SWIFTCEM MIXED AT 14.2 PPG VARIFIED BY PRESSURIZED MUD SCALES. PUMPED AT 3.5 BPM AND 311 PSI
Event	13	Shutdown	Shutdown	5/9/2014	11:59:26	COM1	9.15	43.00	0.00	8.63	124.5	
Event	14	Drop Top Plug	Drop Top Plug	5/9/2014	12:00:49	COM1	-0.16	-4.00	0.00	8.57	124.5	PLUG PRE LOADED WITNESSED BY COMPANY REP
Event	15	Pump Displacement	Pump Displacement	5/9/2014	12:00:53	COM1	-0.17	-4.00	0.00	9.46	124.5	92.5 BBL FRESH WATER PUMPED AT 5 BPM AND

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