

HALLIBURTON

iCem[®] Service

ANADARKO PETROLEUM CORP - EBUS

For: BOB PORTER

Date: Thursday, June 05, 2014

REYNOLDS CATTLE 32N-23 HZ

Sincerely,

CHRISTOPHER PICKELL

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1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Reynolds Cattle 32N-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	4/24/2014	17:30:00	MT
On Location	4/24/2014	23:00:00	MT
Job Started	4/25/2014	05:06:54	MT
Job Completed	4/25/2014	06:41:18	MT
Departed Location	4/25/2014	07:30:00	MT

1.2 Cementing Job Summary

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 300466	Ship To #: 3367854	Quote #:	Sales Order #: 0901292916
Customer: ANADARKO PETROLEUM CORP - EBUS		Customer Rep: Bob Porter	
Well Name: REYNOLDS CATTLE	Well #: 32N-23 HZ	API/UWI #: 05-123-39140-00	
Field: WATTENBERG	City (SAP): MEA	County/Parish: WELD	State: COLORADO
Legal Description: SE NE-23-3N-68W-2071FNL-339FEL			
Contractor: Larry Hersh		Rig/Platform Name/Num: Majors 29	
Job BOM: 7521			
Well Type: HORIZONTAL GAS			
Sales Person: HALAMERICA\HX46524		Srvc Supervisor: Christopher Pickell	
Job			

Formation Name			
Formation Depth (MD)	Top	Bottom	
Form Type	BHST		
Job depth MD	1392ft	Job Depth TVD	
Water Depth	Wk Ht Above Floor 4 FT		
Perforation Depth (MD)	From	To	

Well Data										
Description	New / Used	Size in	ID in	Weight lbn/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Casing		9.625	8.921	36		J-55	0	1383		0
Open Hole Section			13.5				0	1392		

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	HES	1392 FT	Bottom Plug	9.625		HES	
Float Collar	9.625	1	HES	1343 FT	SSR plug set	9.625		HES	
Insert Float	9.625				Plug Container	9.625	1	HES	
Stage Tool	9.625				Centralizers	9.625	11	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	0	bbl	8.4					
2	Lead Cement	SWIFTCEM (TM) SYSTEM	519	sack	14.2	1.54	7.64	5	4027	

last updated on 4/25/2014 7:23:50 AM

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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	103.8	bbl	8.33				
Cement Left in Pipe		Amount 39 ft	Reason		Shoe Joint				
Comment									

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Summary Report

Crew: _____ Sales Order #: 0901292916
 WO #: 0901292916
 PO/AFE #: 2072904
 Job Start Date: 4/24/2014

Customer:	ANADARKO PETROLEUM CORP - Field:	WATTENBERG	Job Type:	CMT SURFACE	
	EBUS			CASING BCM	
UWI / API Number:	05-123-39140-00	County/Parish:	WELD	Service Supervisor:	Christopher Pickell
Well Name:	REYNOLDS CATTLE	State:	COLORADO		
Well No:	32N-23 HZ	Latitude:	40.213134		
		Longitude:	-104.961956	Cust Rep Name:	Bob Porter
		Sect / Twn / Rng:	23/3/68	Cust Rep Phone #:	4062129160

Remarks:		
The Information Stated Herein Is Correct	Customer Representative Signature	Date
	Customer Representative Printed Name	
	<i>Bob Balkenbush</i>	4-25-14
	Bob Balkenbush	

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	2.0	12.0 bbl	12.0 bbl
1	1	Spacer	Fresh Water Spacer	8.33	4.0	10.0 bbl	10.0 bbl
1	2	Cement Slurry	SwiftCem B2	14.2	5.5	519 sacks	519 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	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	103.8
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

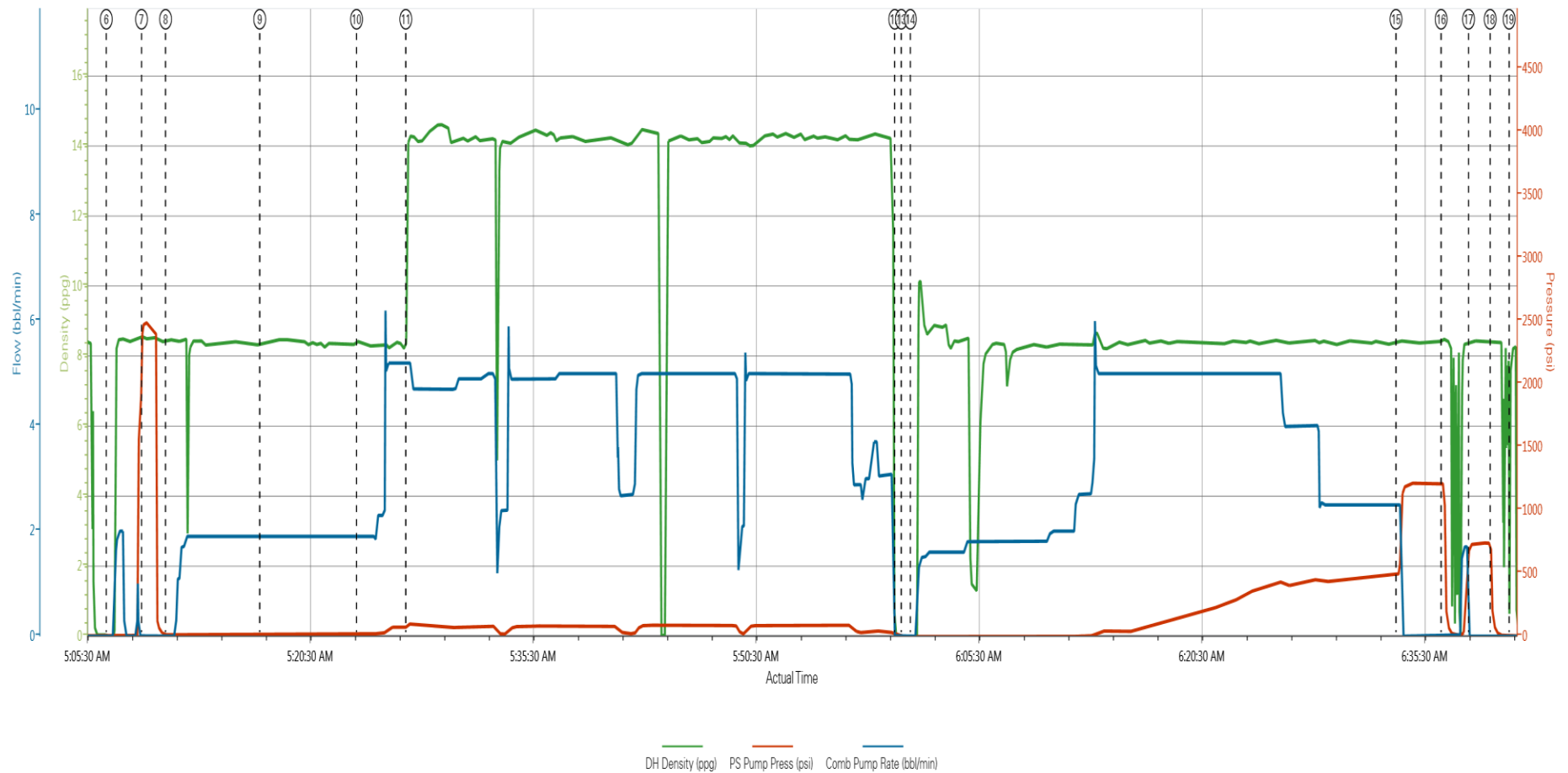
1.5 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	PS Pump Press (psi)	Comb Pump Rate (bbl/min)	Comment
Event	1	Call Out	Call Out	4/24/2014	17:30:00	USER				Crew called out at 1730 to be on location at 0000. Crew was Christopher Pickell, Roy Nesbitt, Chuck Mills, Ryan Mastel
Event	2	Depart from Service Center or Other Site	Depart from Service Center or Other Site	4/24/2014	22:30:00	USER				Safety meeting held for journey. Left the yard for Major 29
Event	3	Arrive At Loc	Arrive At Loc	4/24/2014	23:00:00	USER				Arrive at location 1 hour early. Rig was preparing to run casing
Event	4	Rig-up Lines	Rig-up Lines	4/24/2014	23:10:00	USER				Hazard hunt performed. Rig up planned and executed
Event	5	Safety Meeting - Pre Job	Safety Meeting - Pre Job	4/25/2014	04:40:00	USER	8.46	3.00	0.00	Safety meeting held with rig crew to discuss job safety and procedure
Event	6	Start Job	Start Job	4/25/2014	05:06:54	COM5	-0.04	2.00	0.00	Quick latch plug container used on job
Event	7	Test Lines	Test Lines	4/25/2014	05:09:16	COM5	8.56	2471.00	0.00	Pressure test lines to 2500 psi. Check for visible leaks and pressure loss
Event	8	Pump Spacer 1	Pump Spacer 1	4/25/2014	05:10:53	COM5	8.45	9.00	0.00	Pump 10 bbl of water
Event	9	Pump Spacer 1	Pump Spacer 2	4/25/2014	05:17:13	COM5	8.39	17.00	1.90	Pump 12 bbl of mudflush
Event	10	Pump Spacer 1	Pump Spacer 3	4/25/2014	05:23:44	COM5	8.42	18.00	1.90	Pump 10 bbl of water
Event	11	Pump Cement	Pump Cement	4/25/2014	05:27:03	USER	13.99	79.00	5.20	Pump 142.3 bbl Swiftcem Cement 519 sks 14.2 ppg 1.54 cuft/sk 7.76 gal/sk
Event	12	Shutdown	Shutdown	4/25/2014	05:59:57	COM5	-0.14	2.00	0.00	Wash pumps and lines on top of the plug
Event	13	Drop Top Plug	Drop Top Plug	4/25/2014	06:00:24	USER	-0.28	-4.00	0.00	Plug preloaded. Witnessed by company man
Event	14	Pump Displacement	Pump Displacement	4/25/2014	06:01:00	COM5	-0.34	-5.00	0.00	Pump 103.8 bbl water displacement

Event	15	Bump Plug	Bump Plug	4/25/2014	06:33:41	COM5	8.40	487.00	2.50	Calculated pressure to land was 410. Plug landed with 487 psi going 500 psi over
Event	16	Other	Check Floats	4/25/2014	06:36:43	COM5	8.56	1213.00	0.00	Pressure was held for 3 minutes then released. Floats held. 1/2 bbl back to tanks
Event	17	Bump Plug	Bump Plug	4/25/2014	06:38:34	COM5	8.41	717.00	0.00	Re-bump plug at company mans request
Event	18	Other	Other	4/25/2014	06:40:01	COM5	8.39	266.00	0.00	Pressure held then was released. Floats held 1/2 bbl back to tanks
Event	19	End Job	End Job	4/25/2014	06:41:18	COM5	8.14	3.00	0.00	All preflush and 9 bbl of cement back to surface
Event	20	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	4/25/2014	06:43:00	USER	8.27	151.00	12.50	Safety meeting held for rig down
Event	21	Rig Down Lines	Rig Down Lines	4/25/2014	06:45:00	USER	8.41	174.00	0.20	Pump truck was washed up. Lines blown down. Riggged down all equipment
Event	22	Depart Location	Depart Location	4/25/2014	07:30:00	USER				Safety meeting held for journey. Left location for the yard

2.0 Custom Graphs

REYNOLDS CATTLE 32N-23HZ (9 5/8" SURFACE)



DH Density (ppg) PS Pump Press (psi) Comb Pump Rate (bbl/min)

- ① Call Out n/a,n/a,n/a
- ② Depart from Service Center or Other Site n/a,n/a,n/a
- ③ Arrive At Loc n/a,n/a,n/a
- ④ Rig-up Lines n/a,n/a,n/a
- ⑤ Safety Meeting - Pre Job 8.46;3,0
- ⑥ Start Job -0.04;2,0
- ⑦ Test Lines 8.56;2471,0
- ⑧ Pump Spacer 1 8.45;9,0
- ⑨ Pump Spacer 2 8.39;17,1.9
- ⑩ Pump Cement 13.99;79;5.2
- ⑪ Shutdown -0.14;2,0
- ⑫ Drop Top Plug -0.28;-4,0
- ⑬ Pump Spacer 3 8.42;18;1.9
- ⑭ Shutdown -0.14;2,0
- ⑮ Bump Plug 8.4;487;2.5
- ⑯ Check Floats 8.56;1213;0
- ⑰ Bump Plug 8.41;717,0
- ⑱ Other 8.39;266,0
- ⑲ End Job 8.14;3,0
- ⑳ Safety Meeting - Pre Rig-Down 8.27;151;12.5
- ㉑ Rig Down Lines 8.41;174;0.2
- ㉒ Depart Location n/a,n/a,n/a

3.0 Appendix

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