

HALLIBURTON

iCem[®] Service

ANADARKO PETROLEUM CORP - EBUS

Date: Thursday, June 05, 2014

28N-19 HZ

ANADARKO REYNOLDS CATTLE 28N-19HZ SURFACE

Sincerely,

PRUDHOMME, JOSHUA

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1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Reynolds Cattle 28N-19HZ 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	4/18/2014	13:30:00	MT
Job Started	4/18/2014	15:39:30	MT
Job Completed	4/18/2014	16:43:44	MT
Departed Location	4/18/2014	18:00:00	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 #: 3367889	Quote #:	Sales Order #: 0901265568
Customer: ANADARKO PETROLEUM CORP - EBUS		Customer Rep: BOB BULKENBUSH	
Well Name: REYNOLDS CATTLE	Well #: 28N-19 HZ	API/UWI #: 05-123-39137-00	
Field: WATTENBERG	City (SAP): LON	County/Parish: WELD	State: COLORADO
Legal Description: NE NE-23-3N-68W-590FNL-155FEL			
Contractor: Bob Balkenbush		Rig/Platform Name/Num: Majors 29	
Job BOM: 7521			
Well Type: HORIZONTAL GAS			
Sales Person: HALAMERICA/HB47901		Srcv Supervisor: Joseph Barras	
Job			

Formation Name		Bottom
Formation Depth (MD)	Top	BHST
Form Type		
Job depth MD	850ft	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	1345		0
Open Hole Section			13.5				0	1354		0

Tools and Accessories										
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make		
Guide Shoe	9.625			1345	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 ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Fresh Water Spacer	Fresh Water Spacer	0	bbl	8.33					
Stage/Plug #: 2										
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	
2	Lead Cement	SWIFTCEM (TM) SYSTEM	484	sack	14.2	1.537		6	7.63	

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Summary Report

Crew: _____

Job Start Date: 4/18/2014

Sales Order #: 0901265568
WO #: 0901265568
PO/AFE #: NA

Customer:	ANADARKO PETROLEUM CORP - EBUS	Field:	WATTENBERG	Job Type:	CMT SURFACE CASING BOM
UWI / API Number:	05-123-39137-00	County/Parish:	WELD	Service Supervisor:	Joseph Barras
Well Name:	REYNOLDS CATTLE	State:	COLORADO	Cust Rep Name:	BOB BULKENBUSH
Well No:	28N-19 HZ	Latitude:	40.217202	Cust Rep Phone #:	
		Longitude:	-104.961308		
		Sect / Twn / Rng:	23/3/68		

Remarks:

The Information Stated Herein Is Correct	Customer Representative Signature 	Date
	Customer Representative Printed Name	

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	4.0	10.0 bbl	10.0 bbl
1	1	Spacer	Mud Flush	8.40	4.0	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	6.0	484.0 sacks	484.0 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	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	101
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

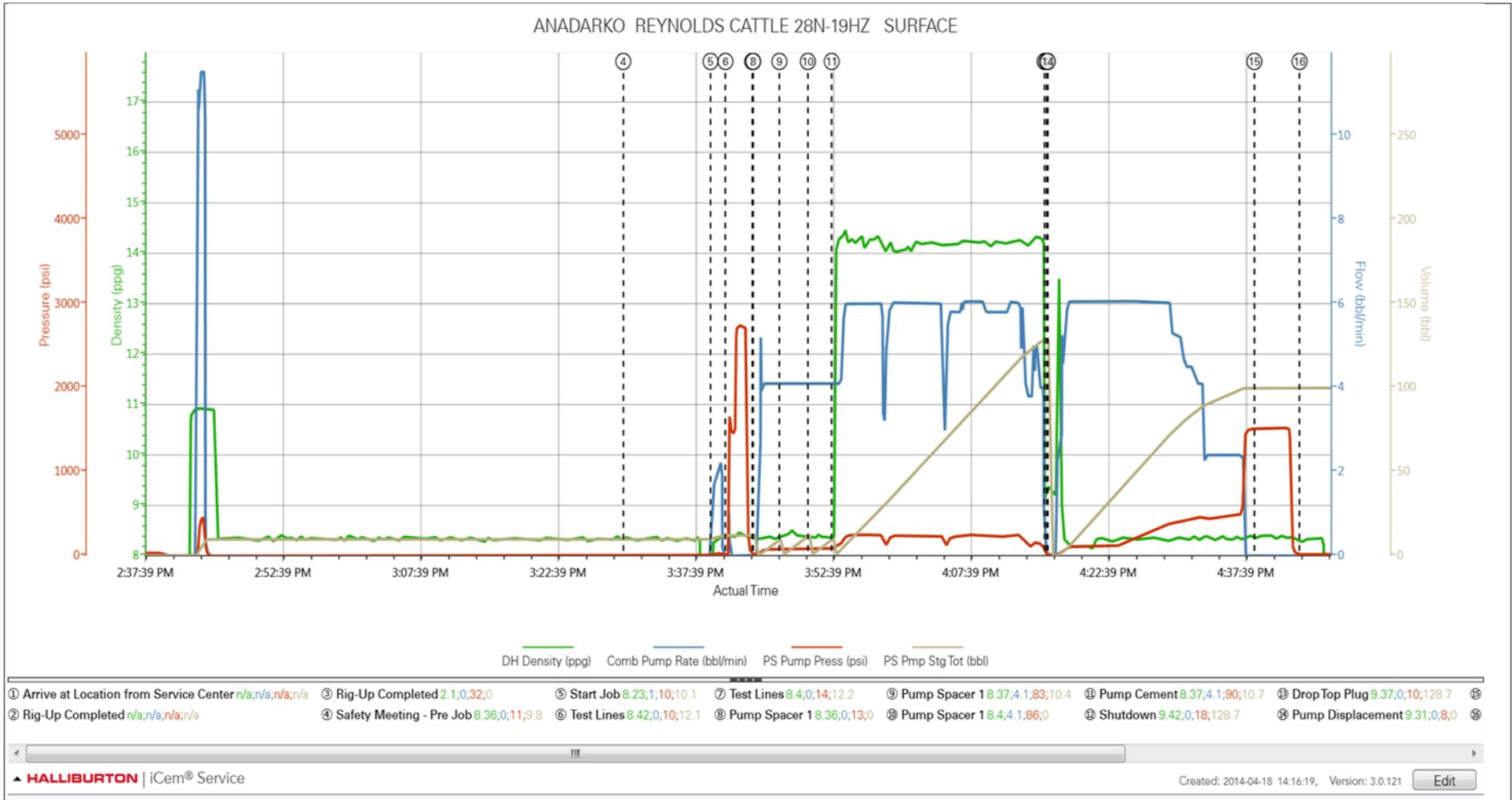
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	PS Pmp Stg Tot (bbl)	Comment
Event	1	Arrive at Location from Service Center	Arrive at Location from Service Center	4/18/2014	13:30:00	USER					
Event	2	Rig-up Lines	Rig-Up Completed	4/18/2014	13:40:00	USER					Hazard hunt performed. Rig up planned and executed
Event	3	Rig-Up Completed	Rig-Up Completed	4/18/2014	14:30:00	USER	2.10	0.00	32.00	0.0	
Event	4	Safety Meeting - Pre Job	Safety Meeting - Pre Job	4/18/2014	15:30:00	USER	8.36	0.00	11.00	9.8	Safety meeting held with rig crew to discuss job safety and procedure
Event	5	Start Job	Start Job	4/18/2014	15:39:30	COM4	8.23	1.00	10.00	10.1	Quick latch plug container used on job
Event	6	Test Lines	Test Lines	4/18/2014	15:41:08	COM4	8.42	0.00	10.00	12.1	Pressure test lines to 2500 psi. Check for visible leaks and pressure loss
Event	7	Test Lines	Test Lines	4/18/2014	15:44:03	COM4	8.40	0.00	14.00	12.2	
Event	8	Pump Spacer 1	Pump Spacer 1	4/18/2014	15:44:10	COM4	8.36	0.00	13.00	0.0	Pump 10 bbl of water
Event	9	Pump Spacer 1	Pump Spacer 1	4/18/2014	15:47:01	COM4	8.37	4.10	83.00	10.4	Pump 12 bbl of mudflush
Event	10	Pump Spacer 1	Pump Spacer 1	4/18/2014	15:50:07	COM4	8.40	4.10	86.00	0.0	Pump 10 bbl of water
Event	11	Pump Cement	Pump Cement	4/18/2014	15:53:15	COM4	14.24	4.10	141.00	2.3	Pump 142.3 bbl Swiftcem Cement 484 sks 14.2 ppg 1.54 cuft/sk 7.76 gal/sk
Event	12	Shutdown	Shutdown	4/18/2014	16:15:56	COM4	9.42	0.00	18.00	128.7	Wash pumps and lines on top of the plug
Event	13	Drop Top Plug	Drop Top Plug	4/18/2014	16:16:08	COM4	9.37	0.00	10.00	128.7	Plug preloaded. Witnessed by company man
Event	14	Pump Displacement	Pump Displacement	4/18/2014	16:16:17	COM4	9.31	0.00	8.00	0.0	Pump 101 bbl water displacement
Event	15	Bump Plug	Bump Plug	4/18/2014	16:38:48	COM4	8.32	0.00	1513.00	99.9	Pressured up 500 psi over final pressure
Event	16	End Job	End Job	4/18/2014	16:43:44	COM4	8.31	0.00	17.00	99.9	
Event	17	Rig-Down Equipment	Rig-Down Equipment	4/18/2014	16:55:00	USER	0.08	4.20	20.00	27.9	Pump truck was washed

up. Lines blown down.
Rigged down all equipment

Event	18	Return to Service Center from Job	Return to Service Center from Job	4/18/2014	18:00:00	USER
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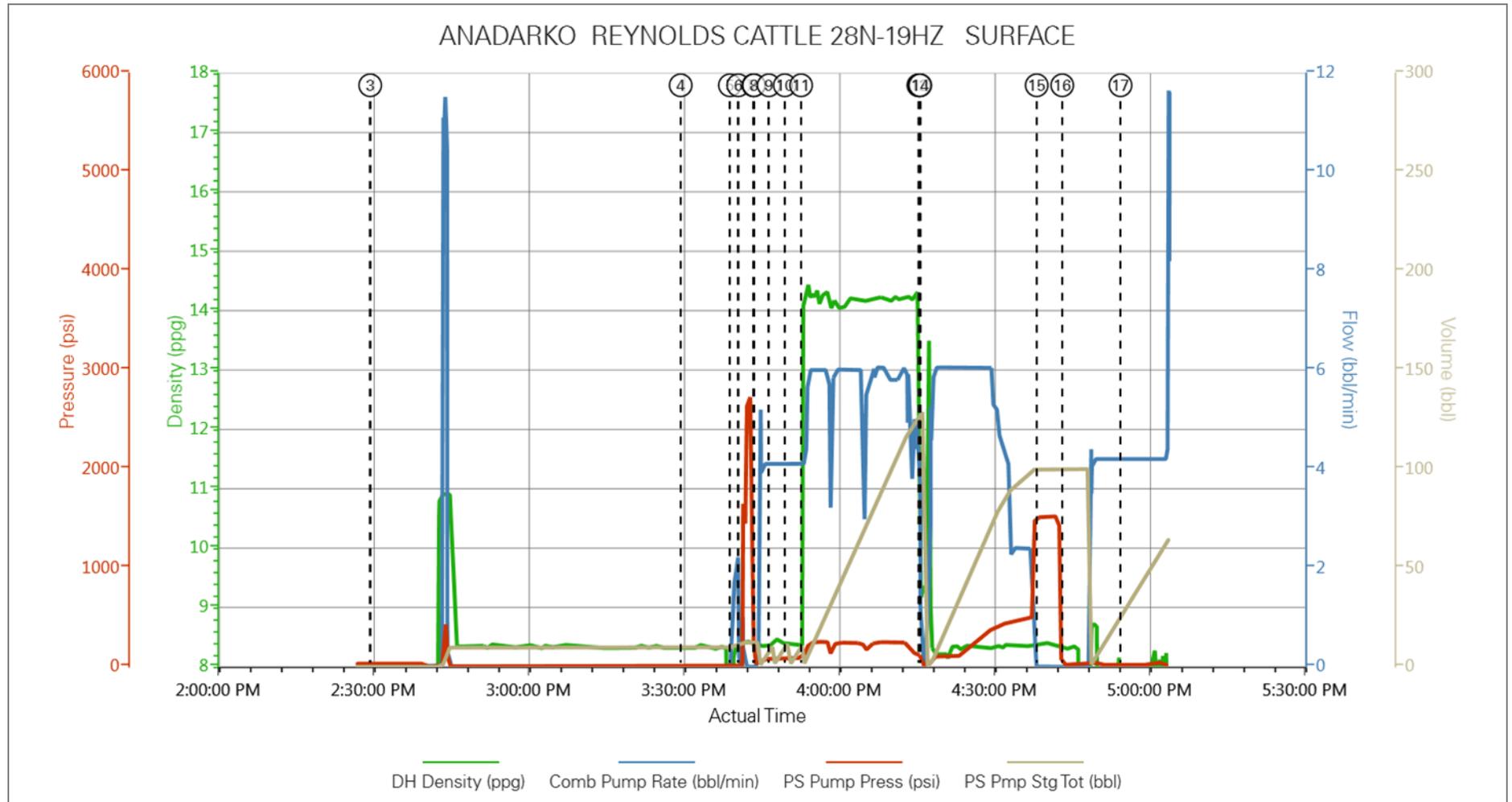
2.0 Attachments

2.1 ANADARKO REYNOLDS CATTLE 28N-19HZ SURFACE-Custom Results.png



3.0 Custom Graphs

3.1 Custom Graph



4.0 Appendix

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