

# HALLIBURTON

iCem<sup>®</sup> Service

## Post Job Report

**ANADARKO PETROLEUM CORP - EBUS**

**For:**

Date: Friday, May 16, 2014

**Reynolds Cattle 5C-23HZ**

ANADARKO REYNOLDS CATTLE 5C-23 HZ SURFCE

Sincerely,

**JOSEPH BARRAS**

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**1.1 Executive Summary**

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Halliburton appreciates the opportunity to perform the cementing services on the **Reynolds Cattle 5C-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**

	<b>Date</b>	<b>Time</b>	<b>Time Zone</b>
<b>Requested Time On Location</b>	4/21	1630	MST
<b>Called Out</b>	4/21	1230	
<b>On Location</b>	4/21	1630	
<b>Job Started</b>	4/21	1804	
<b>Job Completed</b>	4/21	1926	
<b>Departed Location</b>	4/21	2030	

1.2 Cementing Job Summary



Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 300466	Ship To #: 3367885	Quote #:	Sales Order #: 0901285657
Customer: ANADARKO PETROLEUM CORP - EBUS		Customer Rep: LARRY HURSH	
Well Name: REYNOLDS CATTLE	Well #: 5C-23 HZ	API/UWI #: 05-123-39138-00	
Field: WATTENBERG	City (SAP): MEA	County/Parish: WELD	State: COLORADO
Legal Description: SE NE-23-3N-68W-2011FNL-339FEL			
Contractor:		Rig/Platform Name/Num: Majors 29	
Job BOM: 7521			
Well Type: HORIZONTAL GAS			
Sales Person: HALAMERICA\HB47901		Srvc Supervisor: Joseph Barras	
Job			

Formation Name			
Formation Depth (MD)	Top	Bottom	
Form Type		BHST	
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 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	1381		0
Open Hole Section			13.5				0	1391		0

Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	9.625			1381		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
					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	Fresh Water Spacer	Fresh Water Spacer	0	bbl	8.33					
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	
2	Lead Cement	SWIFCEM (TM) SYSTEM		sack	14.2	1.537		6	7.63	

**HALLIBURTON**

*Cementing Job Summary*

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	Displacement	Displacement	0	bbl	8.33				
Cement Left In Pipe		Amount	42 ft		Reason		Shoe Joint		
Comment									

**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	Lead Cement	12.70	6.00	514.0 sacks	514.0 sacks

**1.4 Job Overview**

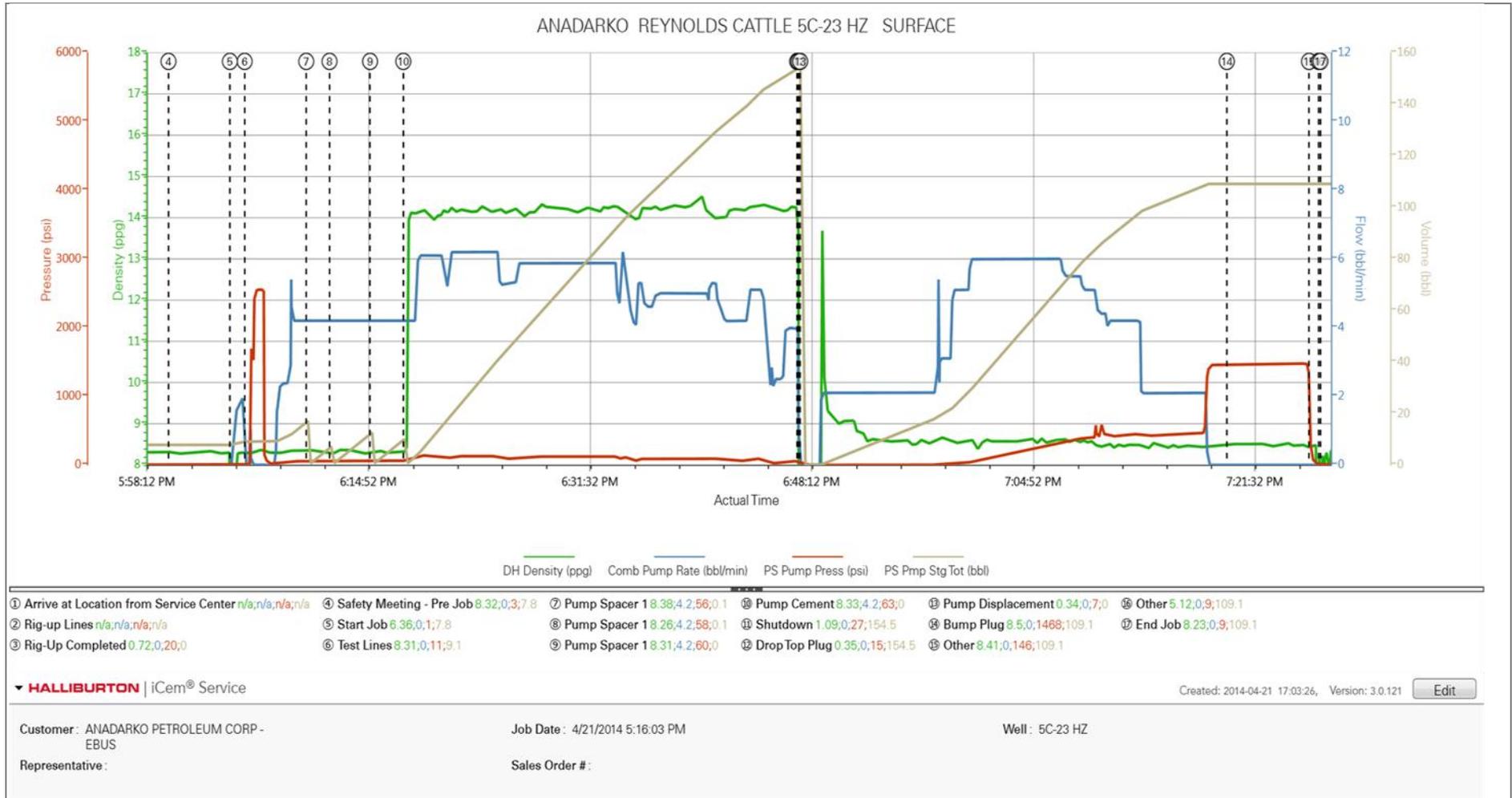
		Units	Description
1	Surface temperature at time of job	°F	
2	Mud type (OBM, WBM, SBM, Water, Brine)	-	Water
3	Actual mud density	lb/gal	8.33
4	Actual mud Plastic Viscosity (PV)	cP	1
5	Actual mud Yield Point (YP)	lb <sub>f</sub> /100ft <sup>2</sup>	1
6	Actual mud 30 min Gel Strength	lb <sub>f</sub> /100ft <sup>2</sup>	
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	104
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**

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	4/21/2014	16:30:00	USER					
Event	2	Rig-up Lines	Rig-up Lines	4/21/2014	16:45:00	USER					
Event	3	Rig-Up Completed	Rig-Up Completed	4/21/2014	17:25:00	USER	0.72	0.00	20.00	0.0	
Event	4	Safety Meeting - Pre Job	Safety Meeting - Pre Job	4/21/2014	18:00:00	USER	8.32	0.00	3.00	7.8	HES AND RIG CREW
Event	5	Start Job	Start Job	4/21/2014	18:04:36	COM4	6.36	0.00	1.00	7.8	
Event	6	Test Lines	Test Lines	4/21/2014	18:05:43	COM4	8.31	0.00	11.00	9.1	TO 2500 PSI NO VISIBLE LEAKS
Event	7	Pump Spacer 1	Pump Spacer 1	4/21/2014	18:10:21	COM4	8.38	4.20	56.00	0.1	WATER
Event	8	Pump Spacer 1	Pump Spacer 1	4/21/2014	18:12:06	COM4	8.26	4.20	58.00	0.1	WATER WITH MUD FLUSH
Event	9	Pump Spacer 1	Pump Spacer 1	4/21/2014	18:15:09	COM4	8.31	4.20	60.00	0.0	WATER
Event	10	Pump Cement	Pump Cement	4/21/2014	18:17:39	COM4	8.33	4.20	63.00	0.0	141 BBL OF SWIFTCEM @ 14.2 PPG/1.53 YIELD/7.63 GAL/SK
Event	11	Shutdown	Shutdown	4/21/2014	18:47:16	COM4	1.09	0.00	27.00	154.5	
Event	12	Drop Top Plug	Drop Top Plug	4/21/2014	18:47:22	COM4	0.35	0.00	15.00	154.5	PRELOADED
Event	13	Pump Displacement	Pump Displacement	4/21/2014	18:47:30	COM4	0.34	0.00	7.00	0.0	104 BBL WATER /473 PSI
Event	14	Bump Plug	Bump Plug	4/21/2014	19:19:35	COM4	8.50	0.00	1468.00	109.1	1458 PSI FOR 5 MIN
Event	15	Other	Other	4/21/2014	19:25:46	COM4	8.41	0.00	146.00	109.1	WITH 1 BBL BACK
Event	16	Other	Other	4/21/2014	19:26:30	COM4					
Event	17	End Job	End Job	4/21/2014	19:26:38	COM4	8.23	0.00	9.00	109.1	

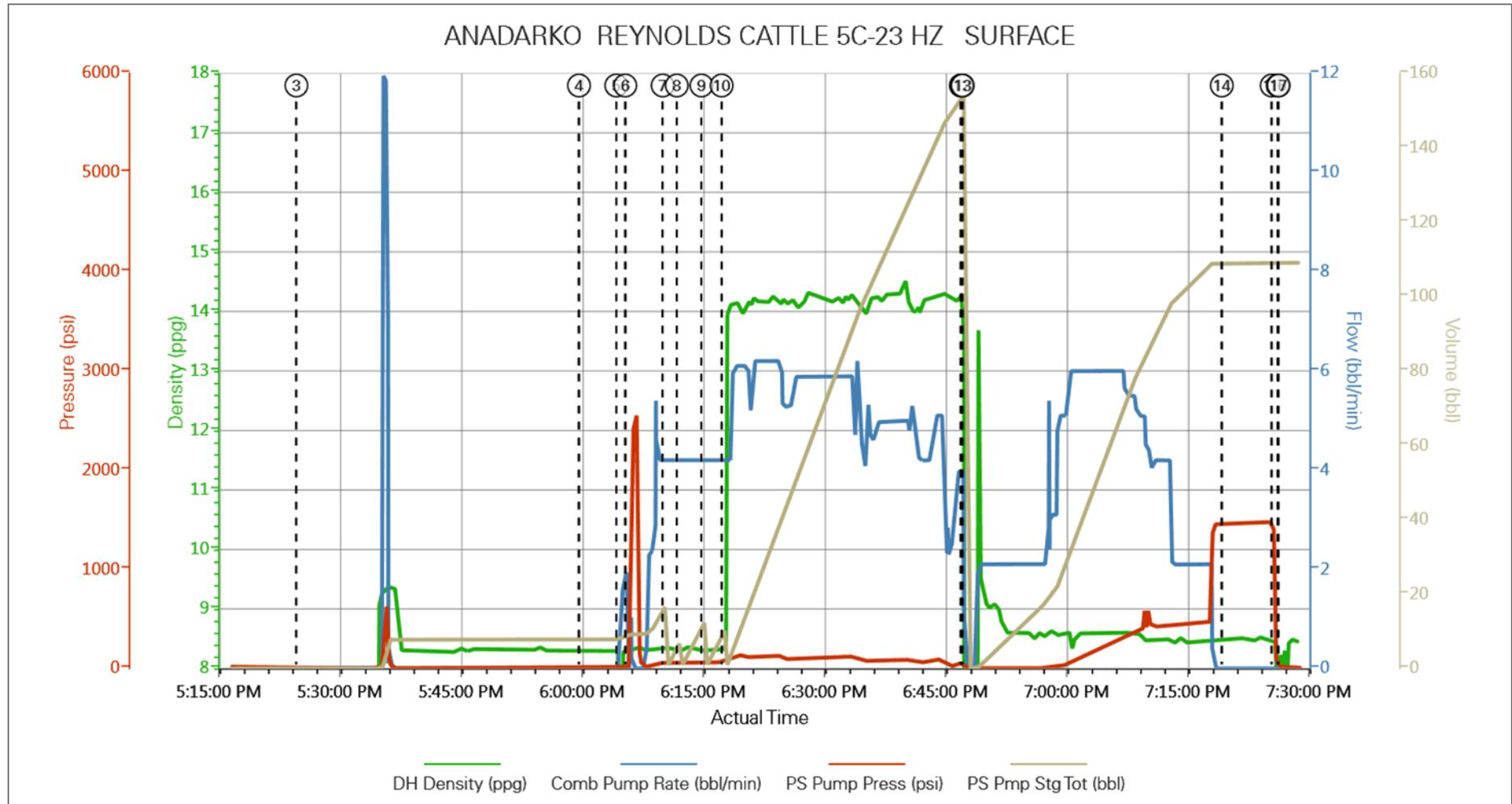
2.0 Attachments

2.1 ANADARKO REYNOLDS CATTLE 5C-23 HZ SURFACE-Custom Results.png



3.0 Custom Graphs

3.1 Custom Graph



**4.0 Appendix**

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