

HALLIBURTON

iCem[®] Service

Post Job Report

ANADARKO PETROLEUM CORP - EBUS

For:

Date: Thursday, June 12, 2014

Benson Farms 12C-23HZ Surface

ANADARKO BENSON FARMS 12C-23HZ SURFACE

Sincerely,

Derek Trier

Table of Contents

1.1	Executive Summary	3
1.2	Cementing Job Summary	4
1.3	Conc	4
1.4	Planned Pumping Schedule	6
1.5	Job Overview	6
1.6	Water Field Test	7
1.7	Job Event Log	8
2.0	Attachments	9
2.1	ANADARKO BENSON FARMS 12C-23HZ SURFACE -Custom Results.png	9
3.0	Custom Graphs	10
3.1	Custom Graph	10
4.0	Appendix	11

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Benson Farms 12C-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
Requested Time On Location	6/12/14	0100	MTN
Called Out	6/11/14	2030	
On Location	6/12/14	0030	
Job Started	6/12/14	1158	
Job Completed	6/12/14	1315	
Departed Location	6/12/14	1430	

1.2 Cementing Job Summary

Sold To #: 300466	Ship To #: 3475255	Quote #:	Sales Order #: 0901421556
Customer: ANADARKO PETROLEUM CORP - EBUS		Customer Rep:	
Well Name: BENSON FARMS		Well #: 12C-23HZ	API/UWI #: 05-123-39397-00
Field: WATTENBERG	City (SAP): MEAD	County/Parish: WELD	State: COLORADO
Legal Description: NW SW-24-3N-68W-2015FSL-50FWL			
Contractor: XTREME DRLG		Rig/Platform Name/Num: XTREME 24	
Job BOM: 7521			
Well Type: HORIZONTAL GAS			
Sales Person: HALAMERICA\HX46524		Srvc Supervisor: Joseph Barras	

Job

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	1253ft	Job Depth TVD	
Water Depth	Wk Ht Above Floor		
Perforation Depth (MD)		To	

Well Data

	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	1253		
Open Hole Section			13.5				0	1253		

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	9.625	1		1253		Top Plug	9.625	1	HES
Float Shoe	9.625	1				Bottom Plug	9.625	1	HES
Float Collar	9.625	1				SSR plug set	9.625	1	HES
Insert Float	9.625	1				Plug Container	9.625	1	HES
	9.625	1				Centralizers	9.625	1	HES

Miscellaneous Materials

Gelling Agt	Conc	Surfactant	Conc	Acid Type	Qty				
Treatment Fld	Conc		Conc	Sand Type					

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	10	bbl	8.4				
42 gal/bbl									

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	500	sack	14.2	1.54		6	7.64

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		bbl	8.33				

		Amount	42 ft							

Comment

1.4 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	TunedSpacer III	8.40	4.00	12.0 bbl	12.0 bbl
1	1	Spacer	Fresh Water	8.33	4.00	10.0 bbl	10.0 bbl
1	4	Cement Slurry	SwiftCem	14.20	6.00	377.0 sacks	377.0 sacks

1.5 Job Overview

		Units	Description
1	Surface temperature at time of job	°F	67
2	Mud type (OBM, WBM, SBM, Water, Brine)	-	OBM
3	Actual mud density	lb/gal	
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	1:15
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	
14	Calculated displacement	Bbls	93
15	Job displaced by	Rig/HES	HES
16	Annular flow before job	Y/N	
17	Annular flow after job	Y/N	
18	Length of rat hole	Ft	10
19	Units of gas detected while circulating	Units	0
20	Was lost circulation experienced at any time?	Y/N	N

1.6 Water Field Test

Item	Recorded Test Value	Units	Max. Acceptable Limit	Potential Problems in Exceeding Limit
pH	7.0	----	6.0 - 8.0	Chemicals in the water can cause severe retardation
Chlorides	0	ppm	3000 ppm	Can shorten thickening time of cement
Sulfates	200<	ppm	1500 ppm	Will greatly decrease the strength of cement
Total Hardness		ppm	500 mg/L	High concentrations will accelerate the set of the cement
Calcium		ppm	500 ppm	High concentrations will accelerate the set of the cement
Total Alkalinity		ppm	1000 ppm	Cement is greatly retarded to the point where it may not set up at all (typically occurs @ pH ≥ 8.3).
Bicarbonates		ppm	1000 ppm	Cement is greatly retarded to the point where it may not set up at all
Potassium		ppm	5000 ppm	High concentrations will shorten the pump time of cement (indicates the presence of chlorides, therefore if Potassium levels are measured as high, so should the chlorides)
Iron	0	ppm	300 ppm	High concentrations will accelerate the set of the cement
Temperature	63	°F	50-80 °F	High temps will accelerate; Low temps may risk freezing in cold weather

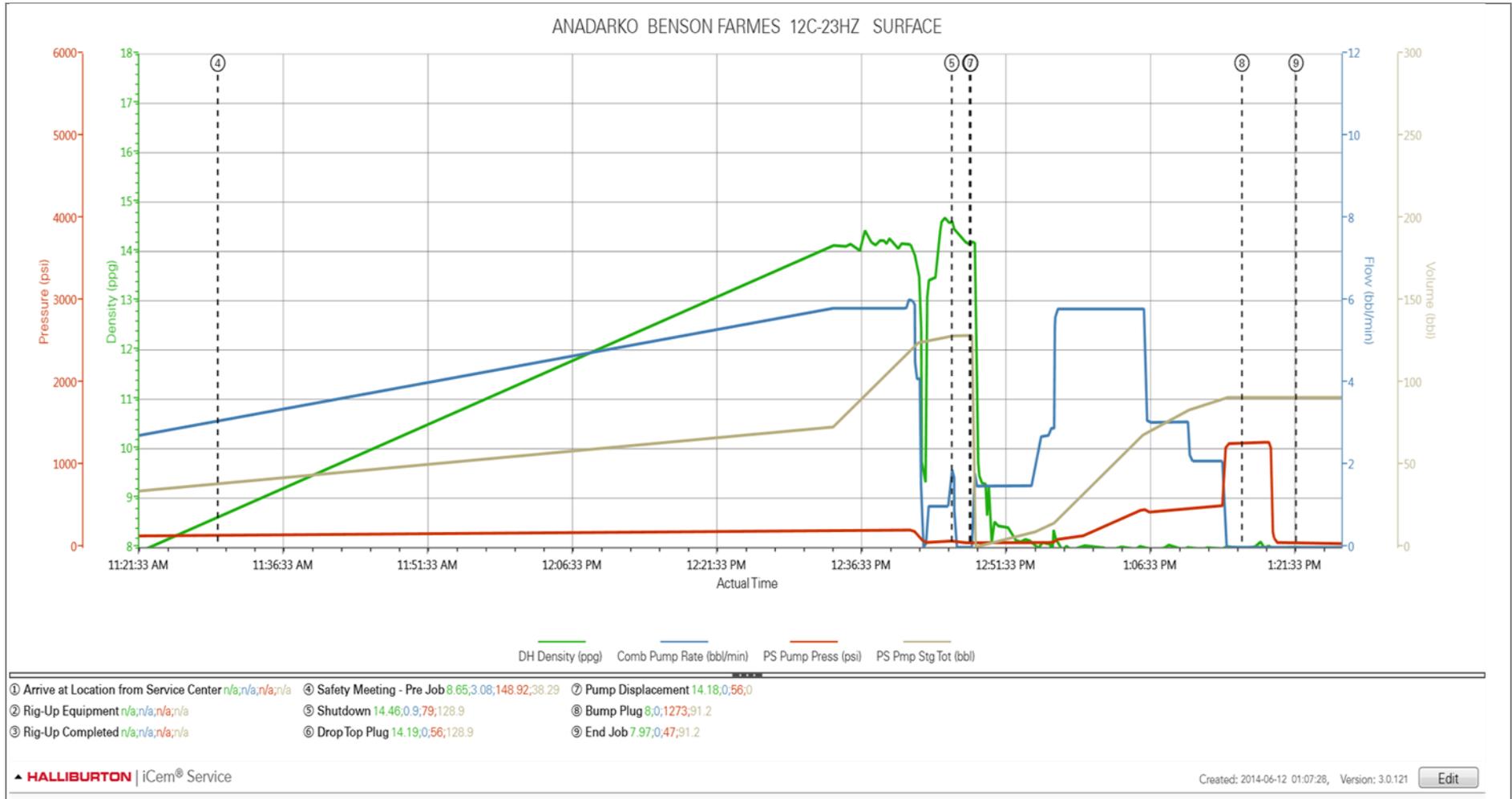
Submitted Respectfully by: JOSEPH BARRAS

1.7 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	6/12/2014	00:15:00	USER					
Event	2	Rig-Up Equipment	Rig-Up Equipment	6/12/2014	00:30:00	USER					
Event	3	Rig-Up Completed	Rig-Up Completed	6/12/2014	01:15:00	USER					
Event	4	Safety Meeting - Pre Job	Safety Meeting - Pre Job	6/12/2014	11:30:00	USER					CHART STOPED WORKING PUMPED 10 BBL WATER 12 BBL OF MUDFLUSH AND 10 BBL OF DIED WATER
Event	5	Shutdown	Shutdown	6/12/2014	12:46:11	COM4	14.46	0.90	79.00	128.9	CEMENT WAS 137 BBL OF SWIFT CEM @ 14.2 PPG 1.54 YIELD /7.64 GAL/SK
Event	6	Drop Top Plug	Drop Top Plug	6/12/2014	12:48:02	COM4	14.19	0.00	56.00	128.9	PRELOADED
Event	7	Pump Displacement	Pump Displacement	6/12/2014	12:48:09	COM4	14.18	0.00	56.00	0.0	RIG WATER WITH CEMENT TO SURFACE @ 75 BBL INTO DISPLACING 548 PSI
Event	8	Bump Plug	Bump Plug	6/12/2014	13:16:18	COM4	8.00	0.00	1273.00	91.2	1152 PSI
Event	9	End Job	End Job	6/12/2014	13:21:54	COM4	7.97	0.00	47.00	91.2	

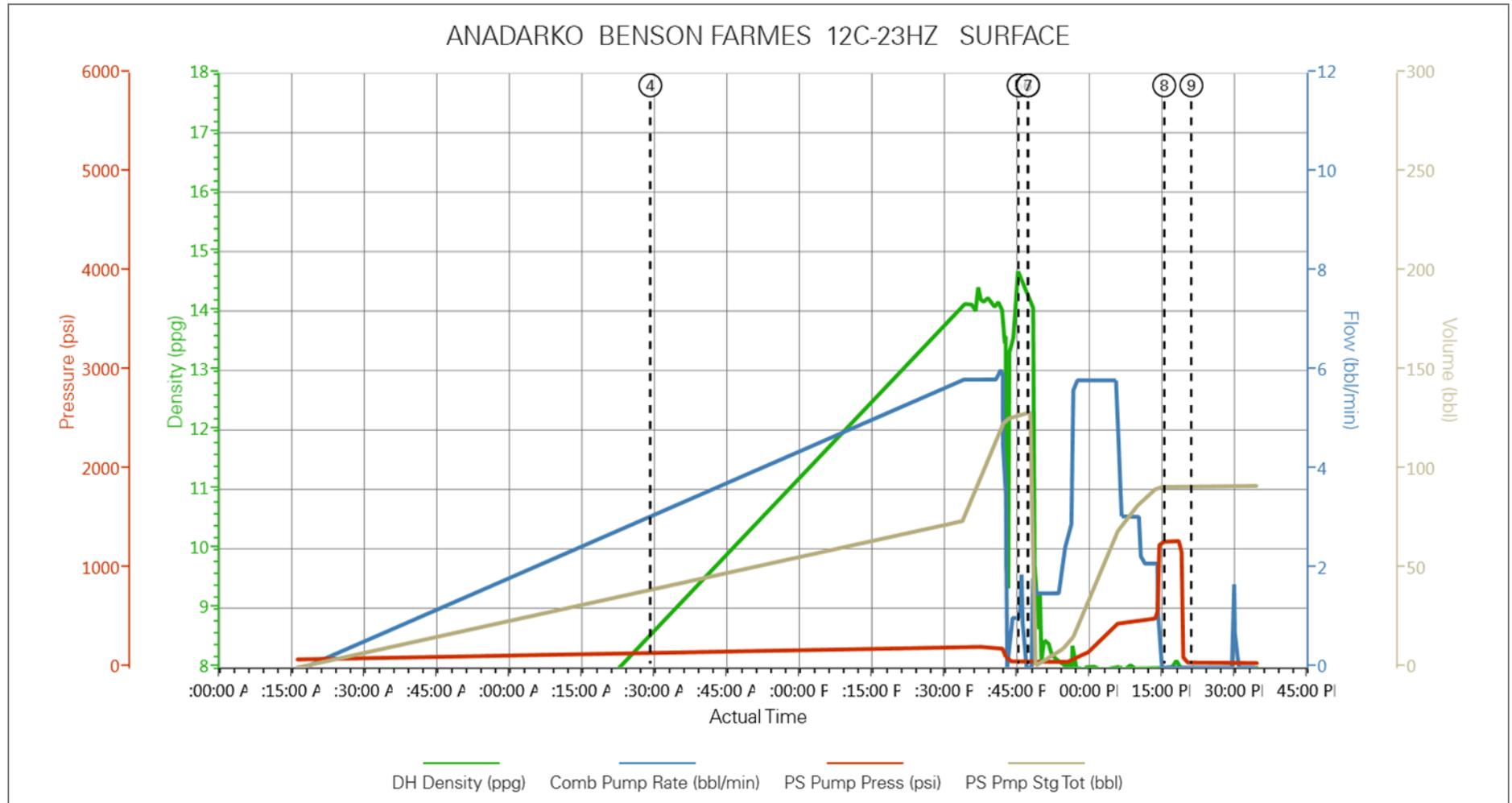
2.0 Attachments

2.1 ANADARKO BENSON FARMS 12C-23HZ SURFACE -Custom Results.png



3.0 Custom Graphs

3.1 Custom Graph



4.0 Appendix
