

HALLIBURTON

iCem[®] Service

Post Job Report

ANADARKO (S.L.) COMPANY

For:

Date: Thursday, June 19, 2014

NRC 28C-8HZ Surface

ANADARKO NRC 28c-8 HZ SURFACE

Sincerely,

Derek Trier

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1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **NRC 28C-8HZ** 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	04/08		MST
Called Out	04/08		
On Location	04/08		
Job Started	04/08	2112	
Job Completed	04/08	2224	
Departed Location	04/08	2330	

1.2 Cementing Job Summary



Call for service

Tuesday, April 08, 2014 5:12:05 PM

<i>The Road to Excellence Starts with Safety</i>						
Sold To #: 300466		Ship To #: 3363587		Primary Sales Order #: 0901256410		
Customer: ANADARKO PETROLEUM CORP - EBUS			Job Purpose: 7521 CMT SURFACE CASING BOM			
Well Name: NRC			Well #: 28C-8 HZ		API/UWI #: 05-123-39092-00	
Field: WATTENBERG		City: ION		Country/Parish: WELD	State/Prov: COLORADO	
Legal Description:						
Rig Name & Number / Phone Number: Majors 29 / 307-660-1292					Location: LAND	
myCem id# :		Job Criticality Status: GREEN		iFacts Request id #:		
Contacts						
Type	Name		Email		Phone	
Account Rep	Jon Gregory		Jon.Gregory@Halliburton.com		+19702104722	
Service Coordinator	Jared Whipple		Jared.Whipple@Halliburton.com		+13036554782	
Company Man						
<i>PPE, Safety Huddles, JSA's, HOC & Near Miss Reporting, BBP Observations</i>						
Distance/Mileage(1 way)		30 mile		Distance/Mileage(1 way) Mtls: 30 mile		
Srvcs:						
				Rqstd Job Start Date/Time: 04/07/2014		
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 10 AND CR 17 WEST 3/10, N 1/10, W 2/10 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

820				Displacement	8.33
BHST degF	BHCT degF	Log Temp degF			Time Since Circ Stopped HH:MM:SS

Job Tubulars/Tools												
Description	Size in	Weight lbf/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	820				0	
9.625" Surface Casing	9.625	36	8.921		J-55	0	817			42		

Mud conditioning plan

The condition of the drilling fluid is one of the most important variables in achieving a cement barrier. Prior to cementing, circulate the mud at the planned highest displacement rate for the cement job for at least 2 bottoms-up until the well is clean, mud is free of gas and pump pressures have stabilized.

Materials

Stage/Plug #: 1

Fluid #	Fluid Name	Package/SBM/Material Name	Rqstd Del Qty	UOM	Density lbf/gal	Yield ft ³ /sack	Water Req Gal/sack	Rate bbl/min	Total Mix Fluid Gal/sack	Surface Batch Mixing Time
	Mud Flush III (Powder)		12	bbl	8.4					

acts Test id #

Fluid #	Fluid Name	Package/SBM/Material Name	Rqstd Del Qty	UOM	Density lbf/gal	Yield ft ³ /sack	Water Req Gal/sack	Rate bbl/min	Total Mix Fluid Gal/sack	Surface Batch Mixing Time hr
	Lead Cement	SWIFTCEM (TM) SYSTEM	442	sack	14.2	1.54	7.64	6	7.63	

3		Displacement	62.5	bbl	8.33						
iFacts Test id #											
Packaged Materials											
SAP #		Material			Qty		UOM		Comments		
		FRESH WATER			3876.6		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	14.40	5.00	442.0 sacks	442.0 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	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	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	
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

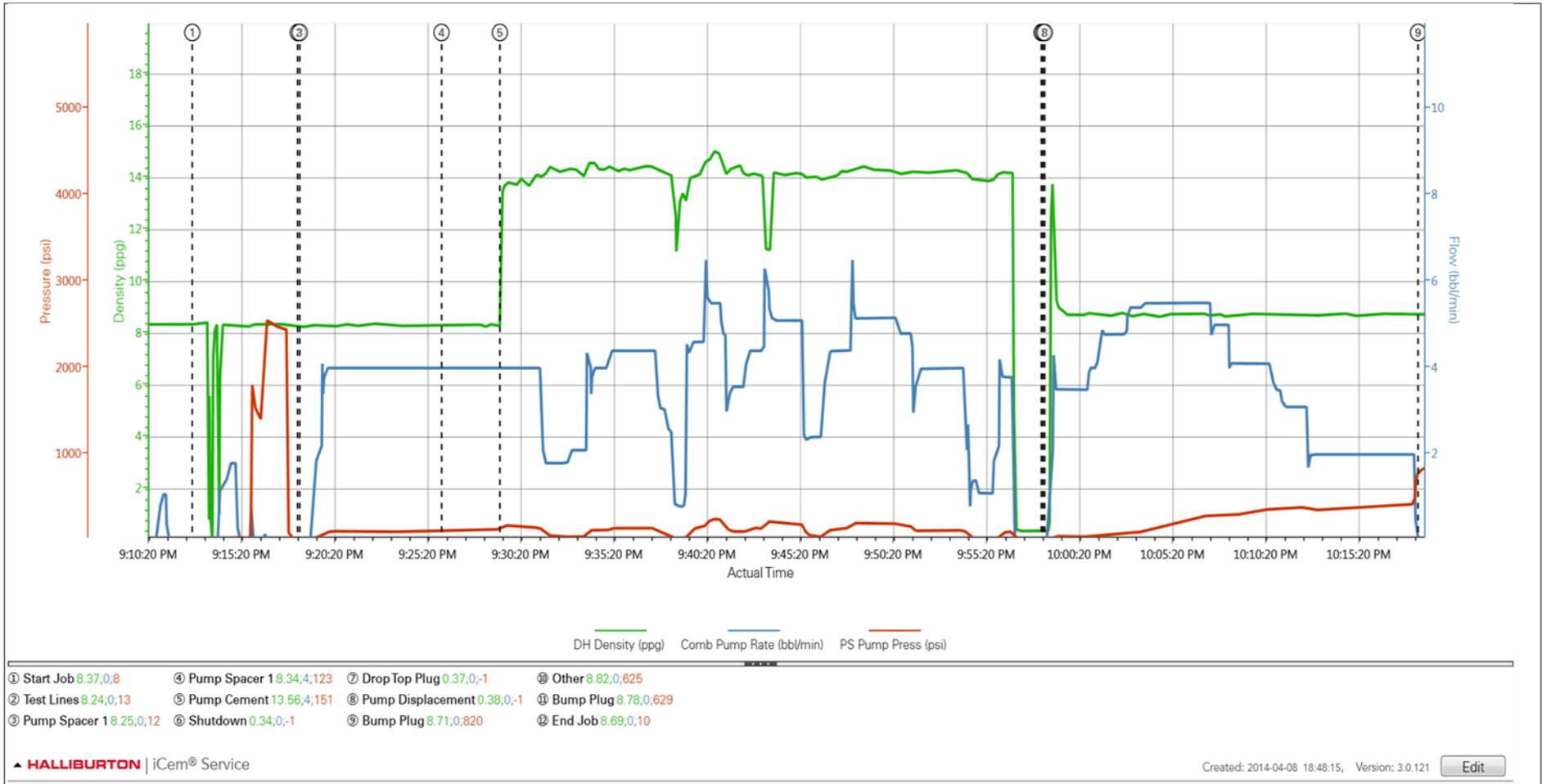
ANADARKO (S.L.) COMPANY
0901256410
ANADARKO NRC 28-8 HZ SURFACE

3.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Comment
Event	1	Start Job	Start Job	4/8/2014	21:12:49	COM4	8.37	0.00	8.00	
Event	2	Test Lines	Test Lines	4/8/2014	21:18:29	COM4	8.24	0.00	13.00	TEST TO 200 PSI NO VISIBLE LEAKS
Event	3	Pump Spacer 1	Pump Spacer 1	4/8/2014	21:18:35	COM4	8.25	0.00	12.00	WATER
Event	4	Pump Spacer 1	Pump Spacer 1	4/8/2014	21:26:12	COM4	8.34	4.00	123.00	WATER WITH MUD FLUSH/ PLUS 10 BBL OF WATER
Event	5	Pump Cement	Pump Cement	4/8/2014	21:29:20	COM4	13.56	4.00	151.00	442 SK OF SWIFT CEM @ 14.2 PPG 1.54 YIELD/7.64 GAL/SK
Event	6	Shutdown	Shutdown	4/8/2014	21:58:25	COM4	0.34	0.00	-1.00	
Event	7	Drop Top Plug	Drop Top Plug	4/8/2014	21:58:30	COM4	0.37	0.00	-1.00	PRELOADED AND WITNESSED
Event	8	Pump Displacement	Pump Displacement	4/8/2014	21:58:35	COM4	0.38	0.00	-1.00	RIG WATER/ 428 PSI
Event	9	Bump Plug	Bump Plug	4/8/2014	22:18:38	COM4	8.71	0.00	820.00	878
Event	10	Other	Other	4/8/2014	22:20:47	COM4	8.82	0.00	625.00	RELEASE PRESSURE
Event	11	Bump Plug	Bump Plug	4/8/2014	22:20:52	COM4	8.78	0.00	629.00	2 ND BUMP/ CHECK FLOATS
Event	12	End Job	End Job	4/8/2014	22:24:08	COM4	8.69	0.00	10.00	

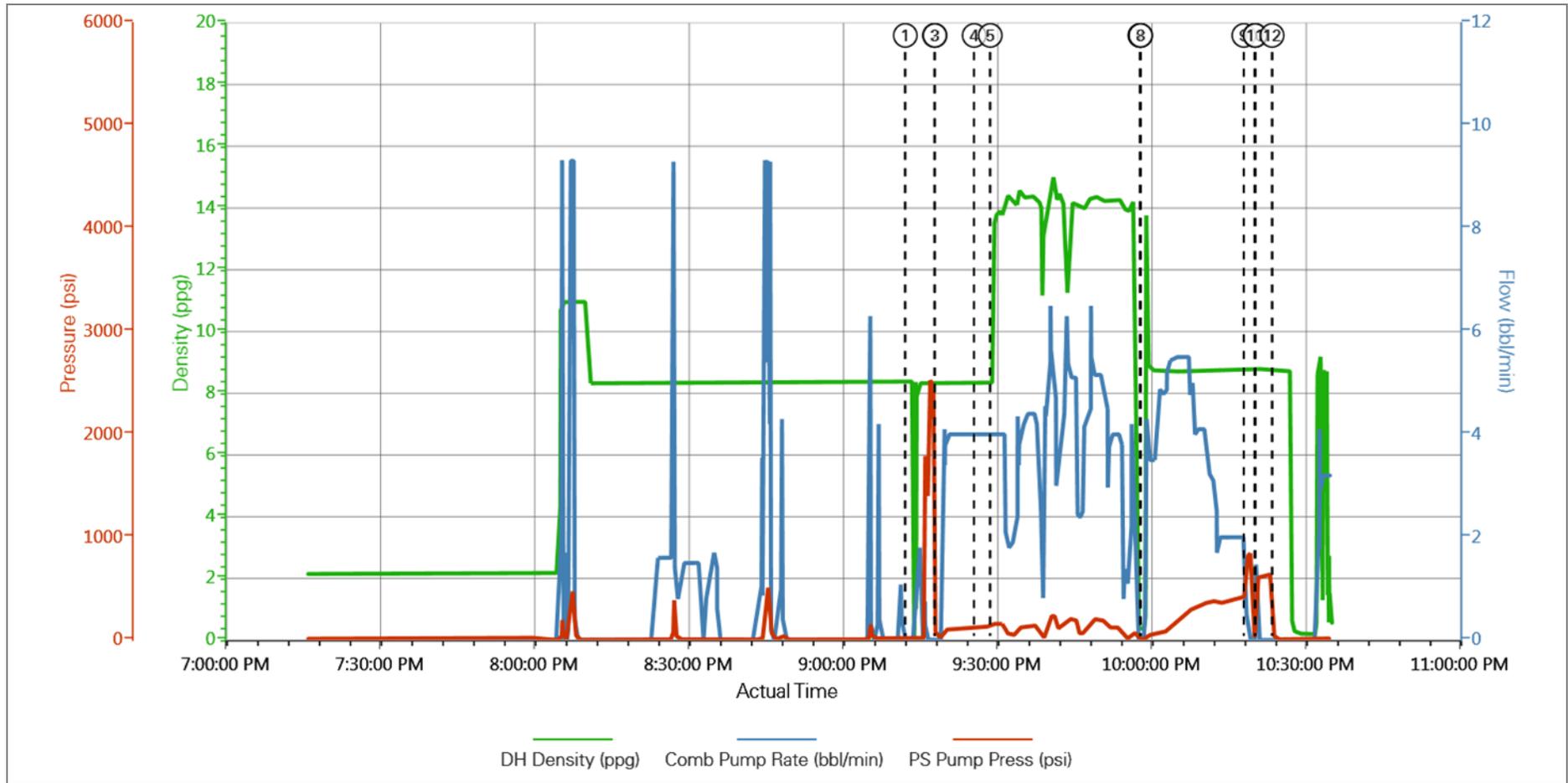
2.0 Attachments

2.1 ANADARKO NRC 28-8 HZ 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