

HALLIBURTON

iCem[®] Service

ANADARKO PETROLEUM CORP - EBUS

Date: Thursday, May 08, 2014

NRC 4N-32HZ

901324433 Maj 42 Surface 4N-32 HZ

Sincerely,
Derek Trier

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1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **NRC 4N-32HZ** 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	5/7/14	13:30	MTN
On Location	5/7/14	17:00	MTN
Job Started	5/7/14	22:54	MTN
Job Completed	5/8/14	00:30	MTN
Departed Location	5/8/14	01:00	MTN

1.2 Cementing Job Summary

Sold To #: 300466		Ship To #: 3458811		Quote #:		Sales Order #: 0901324433				
Customer: ANADARKO PETROLEUM CORP - EBUS					Customer Rep: Larry Hirsch					
Well Name: NRC			Well #: 4N-32 HZ			API/UWI #: 05-123-39186-00				
Field: WATTENBERG		City (SAP): ION		County/Parish: WELD			State: COLORADO			
Legal Description: NW NW-8-1N-67W-667FNL-605FWL										
Contractor:					Rig/Platform Name/Num: MAJORS 42					
Job BOM: 7521										
Well Type: HORIZONTAL GAS										
Sales Person: HALAMERICA\HB47901					Srvc Supervisor: Steven Markovich					
Job										
Formation Name										
Formation Depth (MD)		Top			Bottom					
Form Type					BHST					
Job depth MD		1221ft			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	1231		0
Open Hole Section			13.5				0	1231		0
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	9.625			1231		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	
	9.625					Centralizers	9.625		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	12	bbl	8.4				
2	Lead Cement	SWIFTCEM (TM) SYSTEM	439	sack	14.2	1.54		6	7.64
3	Displacement	Displacement	91	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	3.00	10.0 bbl	10.0 bbl
1	2	Spacer	Mud Flush III	8.40	3.00	12.0 bbl	12.0 bbl
1	3	Spacer	Fresh Water	8.33	3.00	10.0 bbl	10.0 bbl
1	4	Cement Slurry	Lead Cement	14.20	4.00	439.0 sacks	439.0 sacks

1.5 Job Overview

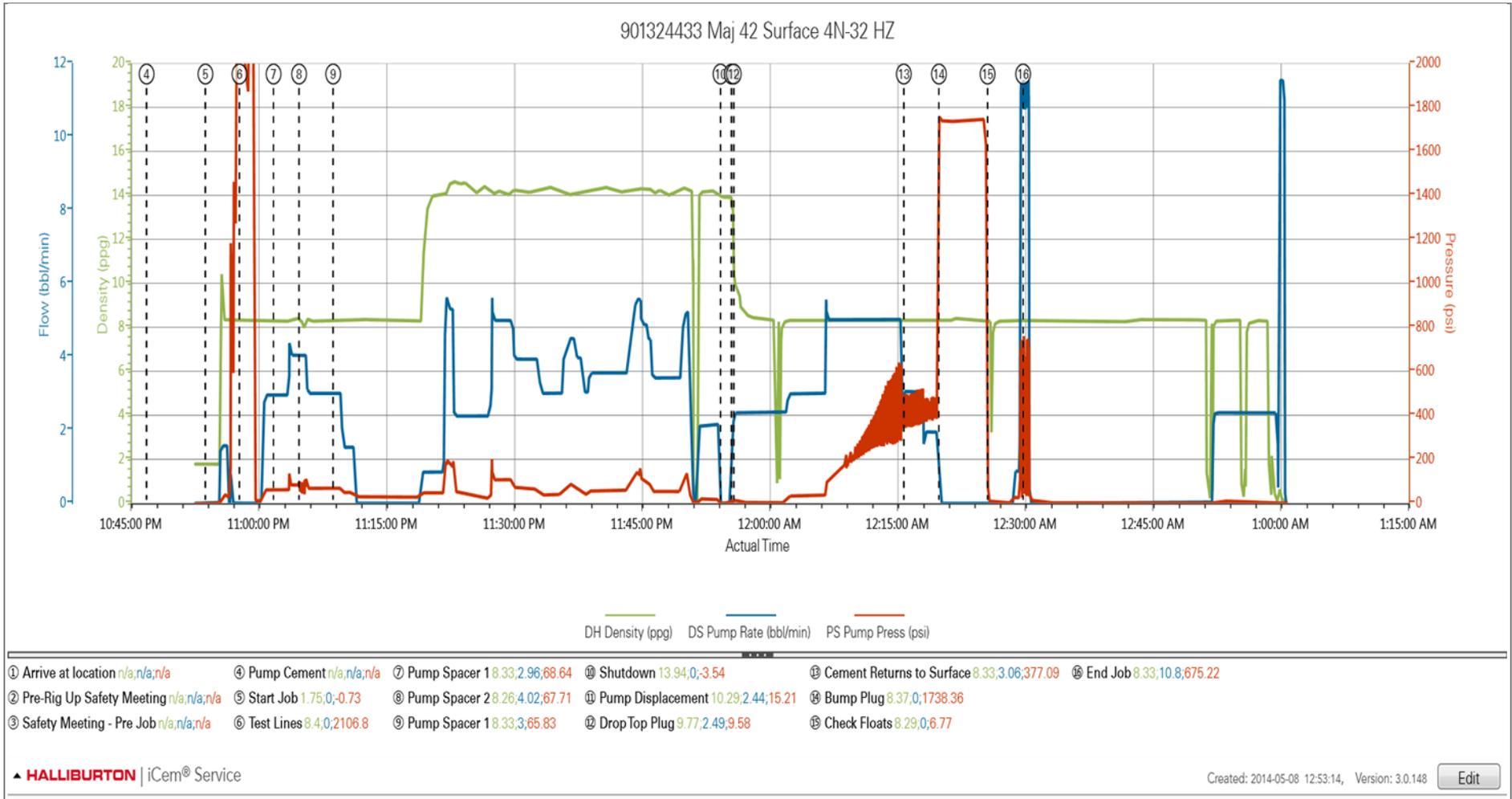
		Units	Description
1	Surface temperature at time of job	°F	40
2	Mud type (OBM, WBM, SBM, Water, Brine)	-	WBM
3	Actual mud density	lb/gal	9 lb/gal
4	Time circulated before job	HH:MM	00:30
5	Mud volume circulated	Bbls	
6	Rate at which well was circulated	Bpm	
7	Pipe movement during hole circulation	Y/N	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	91
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

1.6 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Downhole Density (ppg)	Driv-Side Pump Rate (bbl/min)	Pass-Side Pump Pressure (psi)	Comment
Event	1	Arrive At Loc	Arrive at location	5/7/2014	17:30:00	USER				Arrived at location rig still pulling drill pipe. approx 4 stands of drill pipe to pull and all of casing to run. Rig went down a few times due to lighting.
Event	2	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	5/7/2014	17:35:00	USER				Pre rig safety meeting went over hazards on location and where and how to spot equipment.
Event	3	Safety Meeting - Pre Job	Safety Meeting - Pre Job	5/7/2014	22:30:00	USER				Held JSA with all personell.
Event	4	Pump Cement	Pump Cement	5/7/2014	22:47:05	USER				Pump 120 BBLS of 14.2 LBS/GAL
Event	5	Start Job	Start Job	5/7/2014	22:54:00	USER	1.75	0.00	-0.73	Start Job
Event	6	Test Lines	Test Lines	5/7/2014	22:58:00	USER	8.40	0.00	2106.80	Test lines to 2500 PSI
Event	7	Pump Spacer 1	Pump Spacer 1	5/7/2014	23:02:00	USER	8.33	2.96	68.64	Pump 10BBLS Fresh Water
Event	8	Pump Spacer 2	Pump Spacer 2	5/7/2014	23:05:00	USER	8.26	4.02	67.71	Pump 10BBLS Mud Flush
Event	9	Pump Spacer 1	Pump Spacer 1	5/7/2014	23:09:00	USER	8.33	3.00	65.83	Pump 10BBLS Fresh Water
Event	10	Shutdown	Shutdown	5/7/2014	23:54:28	USER	13.94	0.00	-3.54	Shutdown
Event	11	Pump Displacement	Pump Displacement	5/7/2014	23:55:46	USER	10.29	2.44	15.21	Pumped 91 BBLS Fresh Water Displacement
Event	12	Drop Top Plug	Drop Top Plug	5/7/2014	23:56:01	USER	9.77	2.49	9.58	Dropped Plug
Event	13	Cement Returns to Surface	Cement Returns to Surface	5/8/2014	00:15:59	USER	8.33	3.06	377.09	Cement to Surface @ 68 BBLS away 23BBLS to surface
Event	14	Bump Plug	Bump Plug	5/8/2014	00:20:07	USER	8.37	0.00	1738.36	Bumped plug @ 450 took pressure 1000 over and held for 5 mins.
Event	15	Check Floats	Check Floats	5/8/2014	00:25:49	USER	8.29	0.00	6.77	Floats good
Event	16	End Job	End Job	5/8/2014	00:30:00	USER	8.33	10.80	675.22	Thank you Markovich and Crew

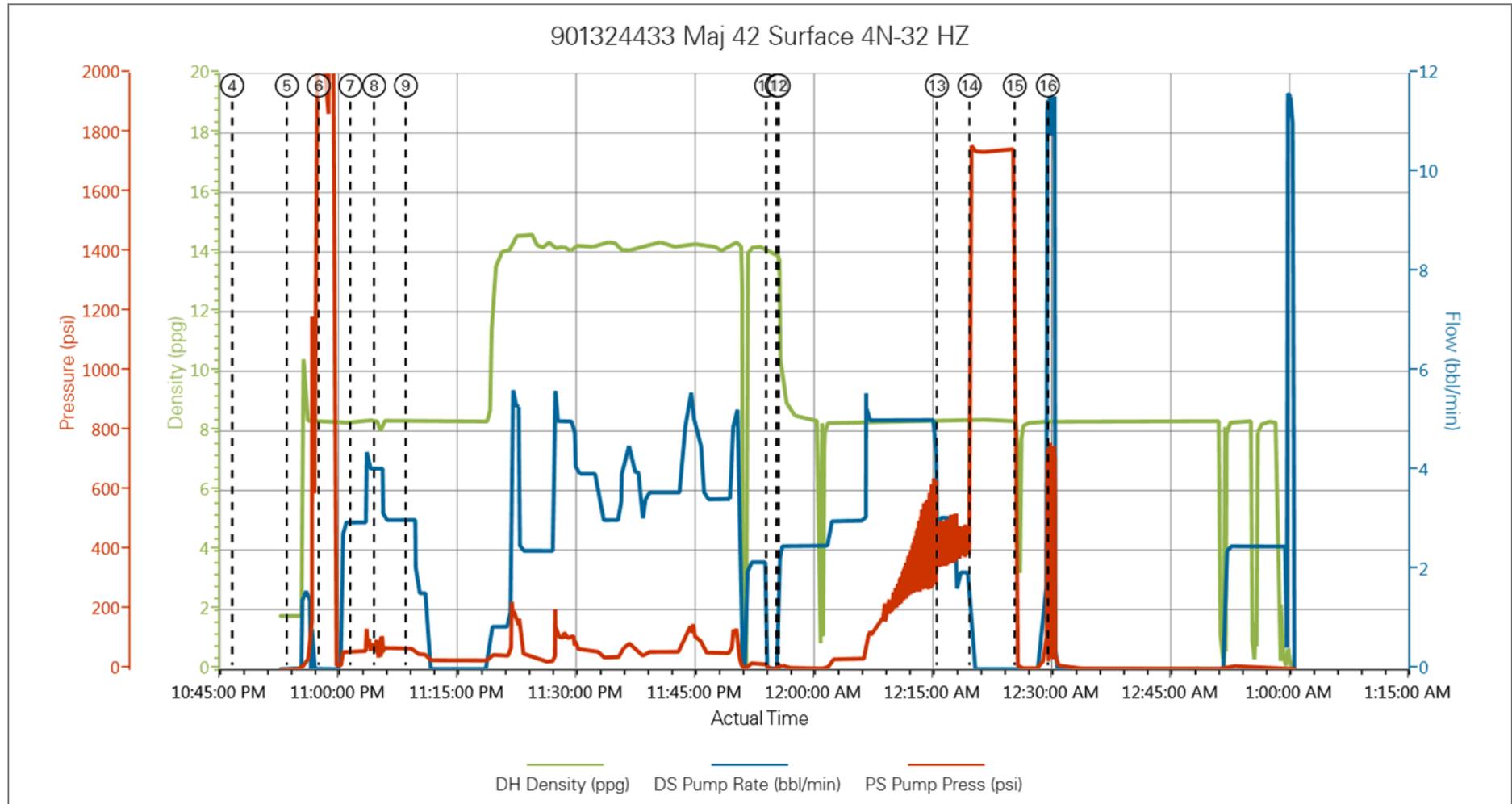
2.0 Attachments

2.1 901324433 Maj 42 Surface 4N-32 HZ.png



3.0 Custom Graphs

3.1 Custom Graph



4.0
