

HALLIBURTON

iCem[®] Service

ENSIGN UNITED STATES DRILLING

For: BRANDON YOUNG

Date: Monday, August 25, 2014

SRC Kiehn 32-4CHZ Intermediate

SRC KIEHN

Case 1

Sincerely,
Derek Trier

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1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **SRC Kiehn 32-4CHZ** cement **Intermediate** 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	8/24/2014	1330	MST
On Location	8/24/2014	1820	
Job Started	8/24/2014	2158	
Job Completed	8/25/2014	0030	
Departed Location	8/24/2014	0100	

1.2 Cementing Job Summary

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 301256	Ship To #: 3542581	Quote #:	Sales Order #: 0901600979							
Customer: ENSIGN UNITED STATES DRILLING		Customer Rep: BRANDON YOUNG								
Well Name: SRC KIEHN	Well #: 32-4CHZ	API/UWI #: 05-123-39713-00								
Field: WATTENBERG	City (SAP): JOHNSTOWN	County/Parish: WELD	State: COLORADO							
Legal Description: SW SE-4-4N-68W-201FSL-1783FEL										
Contractor:		Rig/Platform Name/Num: ENSIGN 131								
Job BOM: 7522										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA/HX46524		Srcv Supervisor: Aaron Smith								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type	BHST									
Job depth MD	7517ft	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			0	580	0	580
Casing		7	6.276	26	BTC		0	7517	0	7260
Open Hole Section			8.75				580	7537	580	7272
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make		
Guide Shoe	7				Top Plug	7	1	HES		
Float Shoe	7	1	SSII	7517	Bottom Plug	7		HES		
Float Collar	7	1	SSII	7483	SSR plug set	7		HES		
Insert Float	7				Plug Container	7	1	HES		
Stage Tool	7				Centralizers	7		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	CLEANSRACE R III	CLEANSRACER III	40	bbl	10.5	3.86				
35.10 gal/bbl			FRESH WATER							

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Cementing Job Summary

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
2	EconoCem B2	ECONOCEM (TM) SYSTEM	485	sack	12.5	1.89		6	10.23	
10.23 Gal		FRESH WATER								
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
3	FracCem	FRACCEM (TM) SYSTEM	190	sack	13.5	1.74		6	8.27	
8.27 Gal		FRESH WATER								
3 lbm		SILICALITE - COMPACTED, 50 LB SK (100012223)								
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal	
4	Displacement	Displacement	277	bbl	9					
Cement Left In Pipe		Amount	35 ft		Reason			Shoe Joint		
Comment										

1.3 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	
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

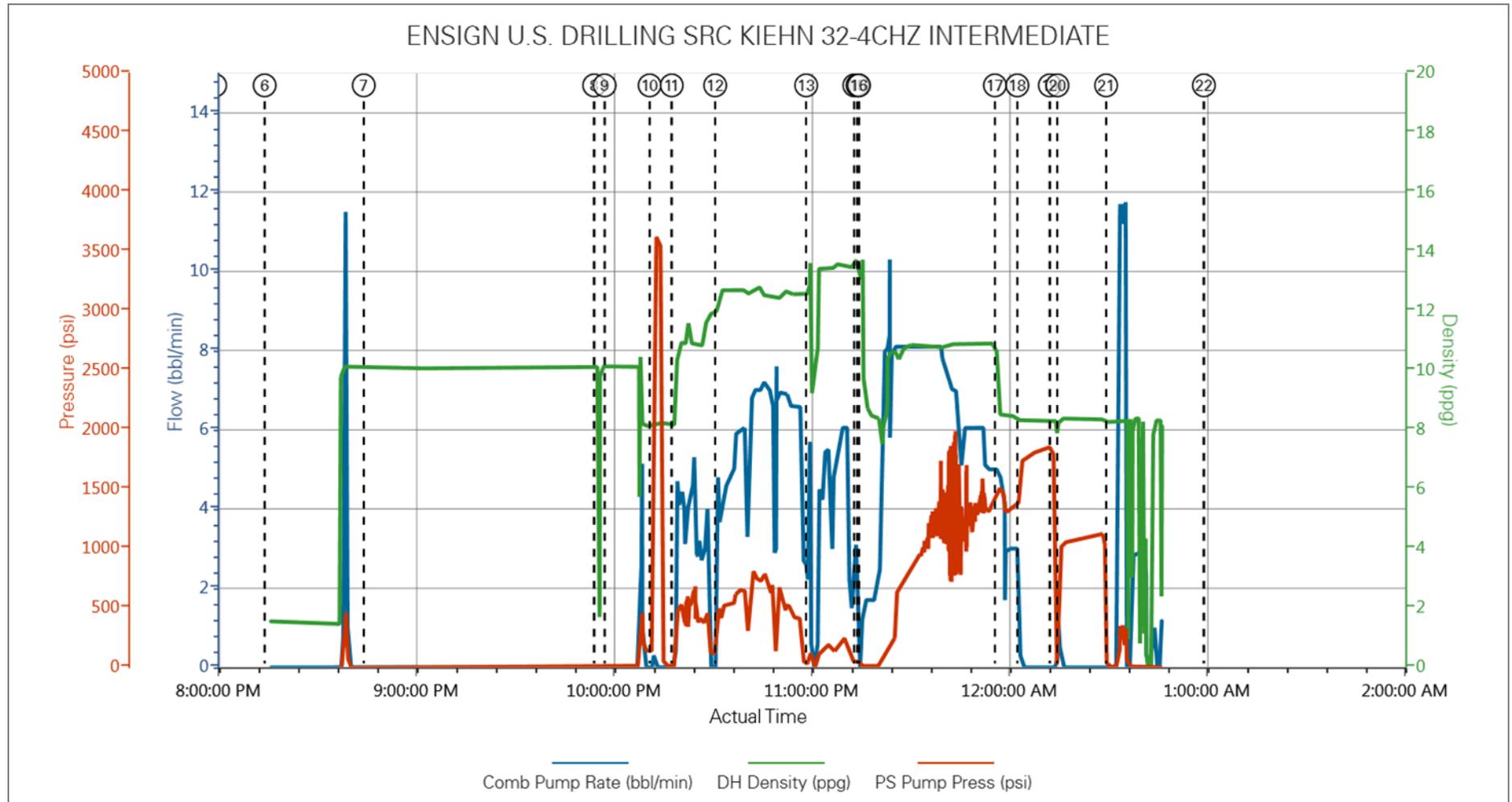
1.4 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	PS Pump Press (psi)	Comment
Event	1	Call Out	Call Out	8/24/2014	13:30:00	USER				FOR ON LOCATION @ 1930
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	8/24/2014	16:45:00	USER				JOURNEY MANAGEMENT MEETING PRIOR TO DEPARTURE
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	8/24/2014	17:30:00	USER				
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	8/24/2014	18:20:00	USER				WITH ALL EQUIPMENT AND MATERIALS, RIG STILL RUNNING CASING
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	8/24/2014	20:00:00	USER				RIG-UP JSA WITH HES CREW
Event	6	Rig-Up Equipment	Rig-Up Equipment	8/24/2014	20:15:00	USER	0.00	1.56	-34.00	
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	8/24/2014	20:45:05	USER	0.00	10.06	-1.00	WITH CUSTOMER REP AND RIG CREW
Event	8	Rig-Up Completed	Rig-Up Completed	8/24/2014	21:55:00	USER	0.00	10.10	9.00	RIG-UP COMPLETED AFTER PRE JOB SAFETY MEETING.
Event	9	Start Job	Start Job	8/24/2014	21:58:10	COM4	0.00	10.13	8.00	
Event	10	Test Lines	Test Lines	8/24/2014	22:11:49	COM4	0.00	8.17	140.00	@3500 PSI
Event	11	Pump Spacer 1	Pump Spacer 1	8/24/2014	22:18:31	COM4	0.00	8.19	11.00	40 BBLS @ 11 PPG, 3.85 YIELD, 35.1 GAL/SK, RAISED WEIGHT DUE TO MUD WEIGHT
Event	12	Pump Lead Cement	Pump Lead Cement	8/24/2014	22:31:42	COM4	3.60	12.67	479.00	163 BBLS 485 SKS @ 12.5 PPG, 1.89 YIELD, 10.23 GAL/SK
Event	13	Pump Tail Cement	Pump Tail Cement	8/24/2014	22:59:19	COM4	5.60	13.70	155.00	58 BBLS, 190 SKS @ 13.5 PPG, 1.74 YIELD, 8.27 GAL/SK
Event	14	Shutdown	Shutdown	8/24/2014	23:13:55	COM4	0.00	13.51	49.00	
Event	15	Drop Top Plug	Drop Top Plug	8/24/2014	23:14:53	COM4	0.00	13.03	5.00	PRE-LOADED HWE TOP PLUG IN PLUG CONTAINER VERIFIED BY TOOL PUSHER
Event	16	Pump Displacement	Pump Displacement	8/24/2014	23:15:20	COM4	1.70	11.21	31.00	277 BBLS MUD
Event	17	Other	Spacer Returns to Surface	8/24/2014	23:56:35	COM4	5.00	8.76	1506.00	@ 250 BBLS DISPLACEMENT, 17 BBLS TO SURFACE. TOP OF CEMENT @ 804 FT.
Event	18	Bump Plug	Bump Plug	8/25/2014	00:03:23	COM4	0.00	8.28	1716.00	FINAL CIRCULATING PRESSURE 1400

										PSI
Event	19	Check Floats	Check Floats	8/25/2014	00:13:14	USER	0.00	8.36	1712.00	FLOATS HELD 2 BBLS BACK
Event	20	Pressure Up Well	Pressure Up Well	8/25/2014	00:15:33	COM4	0.00	8.42	1021.00	CASING TEST @ 1000 PSI FOR 15 MIN
Event	21	End Job	End Job	8/25/2014	00:30:20	COM4	0.00	8.26	3.00	THANKS AARON SMITH AND CREW
Event	22	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	8/25/2014	01:00:00	USER				

2.0 Custom Graphs

2.1 Custom Graph



3.0 Appendix
