

HALLIBURTON

iCem[®] Service

ENSIGN UNITED STATES DRILLING

For:

Date: Thursday, November 20, 2014

SKS KIEHN N-4NHZ

Case 1

Sincerely,

Joshua Prudhomme

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1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **SRC Kiehn N-4NHZ** 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	9/25/14	14:00:00	MTN
On Location	9/25/14	18:00:00	MTN
Job Started	9/25/14	20:38:37	MTN
Job Completed	9/25/14	21:59:16	MTN

1.2 Cementing Job Summary

The Road to Excellence Starts with Safety					
Sold To #: 359915		Ship To #: 3542585		Primary Sales Order #: 0901695220	
Customer: SYNERGY RESOURCES CORPORATION			Job Purpose: 7521 CMT SURFACE CASING BOM		
Well Name: SRC KIEHN			Well #: N-4NHZ		API/UWI #: 05-123-39716-00
Field: WATTENBERG		City: JOHNSTOWN		Country/Parish: WELD	State/Prov: COLORADO
Legal Description:					
Rig Name & Number / Phone Number: Ensign 131 / 970-986-9097					Location: LAND
myCem id# : 98087		Job Criticality Status: GREEN		iFacts Request id #: 2174385	
Contacts					
Type	Name		Email		Phone
Company Man					
Account Rep	Nicholas Wilson		Nicholas.Wilson@halliburto n.com		+13037203334
Service Coordinator	Ryan Wyckoff		Ryan.Wyckoff@halliburton. com		+17205386044
PPE, Safety Huddles, JSA's, HOC & Near Miss Reporting, BBP Observations					
Distance/Mileage(1 way)	40 mile		Distance/Mileage(1 way)	40 mile	
Srvcs:			Mtls:		
			Rqstd Job Start Date/Time:	09/30/2014	
HSE Information					
H2S Present:	Unknown		CO2 Present:	Unknown	
Drive Safely. Lights On for Safety. Wear Seat Belts. Observe all HES / Customer Safety Policies.					
Directions:					
I-25 North to Johnson town exit to HWY 60 west on HWY 60 "CR 48" .9 miles to CR 7 South over ditch TR after ditch to location.					
Instruction					
Please make sure to grab 1 Bag of Mud Flush and 100# Sugar					
General Equipment					
3rd Party / Inventory Items					
SAP Number	Description		Quantity	UoM	Pricing Enabled
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
1340	1340		9	Displacement	9

BHST degF		BHCT degF		Log Temp degF				Time Since Circ Stopped HH:MM:SS			
Job Tubulars/Tools											
Description	Size in	Weight lbm/ft	ID in	Thread	Grade	Top MD ft	Btm MD ft	Top TVD ft	Btm TVD ft	Shoe Jnt ft	% Excess
13 1/2" Open Hole			13.5			0	1340	0	1340		30
9 5/8" Casing	9.625	36	8.921			0	1340	0	1340	40	
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/Mat erial Name	Rqstd Del Qty	UOM	Density lbm/gal	Yield ft3/ sack	Water Req Gal/sack	Rate bbl/min	Total Mix Fluid Gal/sack	Surface Batch Mixing Time	
1	Mud Flush III (Powder)		10	bbl	8.4						
iFacts Test id #											
Fluid #	Fluid Name	Package/SBM/Mat erial Name	Rqstd Del Qty	UOM	Density lbm/gal	Yield ft3/ sack	Water Req Gal/sack	Rate bbl/min	Total Mix Fluid Gal/sack	Surface Batch Mixing Time hr	
2	SwiftCem B2	SWIFTCM (TM) SYSTEM	200	sack	13.4	1.79	9.48	4	9.48		
iFacts Test id #		2174385									
Fluid #	Fluid Name	Package/SBM/Mat erial Name	Rqstd Del Qty	UOM	Density lbm/gal	Yield ft3/ sack	Water Req Gal/sack	Rate bbl/min	Total Mix Fluid	Surface Batch Mixing Time	

									Gal/sack	
3	Displacement		42.3	bbl	8.33					
iFacts Test id #										
Caution: Displacement quantities and densities are estimates ONLY! Do not use them for the actual job.										
Packaged Materials										
SAP #		Material		Qty		UOM		Comments		
		FRESH WATER		2316		Gal				
Casing Equipment										

1.3 Planned Pumping Schedule

- 1. Fill Lines with Water**
 - a. Density = 8.33
 - b. Volume = 2
- 2. Pressure Test Lines to 2500psi**
- 3. Pump Fresh Water Spacer**
 - a. Density = 8.33 lb/gal
 - b. Volume = 10 bbl
 - c. Rate = 5 bpm
- 4. Pump Mud Flush Spacer**
 - a. Density = 8.4 lb/gal
 - b. Volume = 10 bbl
 - c. Rate = 5 bpm
- 5. Pump Fresh Water Spacer**
 - a. Density = 8.33 lb/gal
 - b. Volume = 10 bbl
 - c. Rate = 5 bpm
- 6. Pump SwiftCem (Lead)**
 - a. Density = 13.4 lb/gal
 - b. Yield = 1.79 cuft/sk
 - c. Water Requirement = 9.48 gal/sk
 - d. Volume = 200sk (63.75 bbls)
 - e. Rate = 5 bpm
- 7. Drop Top Plug**
- 8. Start Displacement**
- 9. Pump Displacement Water**
 - a. Density = 8.33 lb/gal
 - b. Volume = 42 bbls
 - c. Rate = 5 bpm

Calculated Total Displacement = 42 bbls

1.4 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Driv-Side Pump Pressure (psi)	Combined Pump Rate (bbl/min)	Density (ppg)	Comment
Event	1	Call Out	Call Out	9/25/2014	14:00:00	USER				
Event	2	Leave from House	Leave from Yard	9/25/2014	17:15:00	USER				
Event	3	Arrive At Loc	Arrive At Loc	9/25/2014	18:00:00	USER				RIG WAS STILL RUNING CASING HAD ABOUT 400FT LEFT TO RUN
Event	4	Rig-up Lines	Rig-up Lines	9/25/2014	18:15:00	USER				
Event	5	Casing on Bottom	Casing on Bottom	9/25/2014	18:30:00	USER				RIG CIRCULATED FOR ABOUT TWO HOURS
Event	6	Safety Meeting	Safety Meeting	9/25/2014	20:15:00	USER	-4.89	0.00	-1.84	JSA WITH ALL INVOLVED PERSONAL
Event	7	Start Job	Start Job	9/25/2014	20:38:37	COM4	-6.84	0.00	-1.76	
Event	8	Test Lines	Test Lines	9/25/2014	20:41:53	COM4	2672.39	0.00	-1.80	TESTED LINES TO 2500PSI WITH NO VISABLE LEAKS
Event	9	Pump Spacer 1	Pump Spacer 1	9/25/2014	20:47:33	COM4	4.89	2.08	-1.84	PUMED 10BBLS OF DYED WATER AT 4BPM WITH 12PSI
Event	10	Pump Spacer 2	Pump Spacer 2	9/25/2014	20:57:21	COM4	17.59	4.15	-1.97	PUMPED 10BBLS OF MUD FLUSH AT 4BPM WITH 80PSI
Event	11	Pump Spacer 1	Pump Spacer 1	9/25/2014	21:03:37	COM4	80.12	4.31	8.30	PUMPED 10BBLS OF FRESH WATER AT 4BPM WITH 82 PSI
Event	12	Pump Cement	Pump Cement	9/25/2014	21:06:33	COM4	71.33	3.30	8.36	PUMPED 63BBLS OR 200SKS OF 13.4PPG SWIFTCM AT 4BPM WITH 55PSI
Event	13	Shutdown	Shutdown	9/25/2014	21:29:19	COM4	1.95	1.49	9.04	
Event	14	Drop Top Plug	Drop Top Plug	9/25/2014	21:29:40	COM4	-3.91	1.54	8.75	PLUG PRELOADED WITH COMPANY REP
Event	15	Pump Displacement	Pump Displacement	9/25/2014	21:29:50	COM4	-4.89	1.49	8.82	PUMPED 42BBLS OF FRESH WATER AT 3BPM WITH

										80PSI. ABOUT 1 BBLS STARTED TO SEE DYE COME TO SURFACE, 10BBLS AWAY STARTED TO SEE MUD FLUSH, 22BBLS AWAY STARTED TO SEE FRESH WATER, AND 34 BBLS AWAY GOT CEMENT BACK TO SURFACE. 8BBLS OF CEMENT TO SURFACE
Event	16	Bump Plug	Bump Plug	9/25/2014	21:50:29	COM4	232.55	2.18	8.26	AT 42BBLS AWAY BUMPED PLUG WITH 320PSI AND BROUGHT PRESSURE UP TO 870PSI
Event	17	Check Floats	Check Floats	9/25/2014	21:55:00	USER	877.44	0.00	8.31	RELEASED PRESSURE AND GOT 1BBL BACK TO THE TRUCK. FLOATS HELD
Event	18	End Job	End Job	9/25/2014	21:59:16	COM4	17.98	0.00	11.76	

2.0 Custom Graphs

2.1 Custom Graph



