

HALLIBURTON

iCem[®] Service

SYNERGY OIL & GAS LP

Falken 31N-14B-S Production

Job Date: Friday, December 15, 2017

Sincerely,
Ryan Keeran

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Falken 31N-14B-S** cement production 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.

8.5 bbls of cement circulated to surface

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 Fort Lupton

The Road to Excellence Starts with Safety

Sold To #: 359915		Ship To #: 3815856		Quote #:		Sales Order #: 0904499153				
Customer: SYNERGY RESOURCES CORPORATION				Customer Rep: COMPANY MAN						
Well Name: FALKEN			Well #: 31N-14B-S		API/UWI #: 05-123-45121-00					
Field: WATTENBERG		City (SAP): GREELEY		County/Parish: WELD		State: COLORADO				
Legal Description: NE SE-11-6N-66W-1664FSL-276FEL										
Contractor: PRECISION DRLG				Rig/Platform Name/Num: PRECISION 562						
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HB41307				Srv Supervisor: STEVE CARDOS						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST						
Job depth MD		13348ft		Job Depth TVD		7097				
Water Depth				Wk Ht Above Floor		4'				
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	LTC	J-55	0	1807	0	1807
Casing		5.5	4.778	20		P-110	0	13348	0	7097
Open Hole Section			8.5				1807	13368	0	0
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5			13348		Top Plug	5.5		WF	
Float Shoe						Bottom Plug	5.5		WF	
Float Collar	5.5			13297		SSR plug set				
Insert Float						Plug Container				
Stage Tool						Centralizers				
Fluid Data										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Tuned Spacer III	Tuned Spacer III	40	bbl	11.5	3.8		6		
35.10 gal/bbl		FRESH WATER								
0.50 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								
0.50 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								

147.42 lbm/bbl		BARITE, BULK (100003681)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	ElastiCem Lead	ELASTICEM (TM) SYSTEM	1082	sack	13.2	1.57	7.54	6	8158
7.54 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	NeoCem	NeoCem TM	727	sack	13.2	2.04	9.77	4	7102
0.08 %		SCR-100 (100003749)							
9.77 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
4	MMCR Displacement	MMCR Displacement	20	bbl	8.34				
0.50 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
5	Cla Web Displacement	Cla Web Displacement	293	bbl	8.33				
Cement Left In Pipe		Amount	95 ft		Reason			Shoe Joint	
Mix Water:		pH 6	Mix Water Chloride:		<300 ppm		Mix Water Temperature:		50°F
Cement Temperature:			Plug Displaced by:				Disp. Temperature:		
Plug Bumped?		Yes	Bump Pressure:		2739 psi		Floats Held?		Yes
Cement Returns:		8.5 bbl	Returns Density:				Returns Temperature:		
Comment									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	12/15/2017	13:00:00	USER				CREW CALLED OUT AT 13:00 12/15/2017, REQUESTED ON LOCATION 18:30 12/15/2017. CREW PICKED UP CEMENT, CHEMICALS (20 GAL MUSOL A, 20 GAL DUAL SPACER B, 10 GAL D-AIR, 5 GAL MMCR 20 GAL CLAY WEB, 3 LB BE-3S), 200 LBS SUGAR, PLUG CONTAINER AND MANIFOLD FROM FORT LUPTON, CO. BULK 660: 10867096/11610427, BULK 660: 10025027/11562546, PUMP ELITE 12644847/11512092.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/15/2017	17:00:00	USER				DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Yard	Crew Leave Yard	12/15/2017	17:15:00	USER				STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	12/15/2017	18:15:00	USER				END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 9.625" 36# J-55 @ 1807', 5.5" CASING: 20# @ 13348', 51' SHOE JOINT, 8.5" OPEN HOLE, TVD @ 7097', 10.2 PPG WELL FLUID, FRESH

										WATER DISPLACEMENT.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	12/15/2017	18:30:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Completed	Rig-Up Completed	12/15/2017	18:45:00	USER				CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB.
Event	7	Safety Meeting	Safety Meeting	12/15/2017	21:30:00	USER	0.00	0.00	52.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	12/15/2017	23:00:46	COM5				BEGIN RECORDING JOB DATA.
Event	9	Pressure Test	Pressure Test	12/15/2017	23:10:03	USER	8.47	0.00	102.00	PRESSURE TESTED IRON TO 4500 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 332 PSI, 5TH GEAR STALL OUT @ 1900 PSI.
Event	10	Pump Spacer	Pump Spacer	12/15/2017	23:21:17	USER	11.81	3.10	295.00	PUMP 40 BBLS OF TUNED SPACER @ 11.5 LB/GAL, ADDED 20 GAL MUSOL A, 20 GAL DUAL SPACER B, 10 GAL D-AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	11	Pump Lead Cement	Pump Lead Cement	12/15/2017	23:33:01	USER	13.25	4.90	377.00	PUMP 1082 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.57 YIELD, 7.54 GAL/SK, 302 BBLS, CALCULATED TO SURFACE, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.

Event	12	Pump Tail Cement	Pump Tail Cement	12/16/2017	00:28:26	USER	13.67	4.80	345.00	PUMP 727 SKS OF NEOICEM @ 13.2 LB/GAL, 2.04 YIELD, 9.77 GAL/SK, 264 BBLS, CALCULATED TOT @ 5095', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	13	Shutdown	Shutdown	12/16/2017	01:31:00	USER	8.01	0.00	52.00	SHUTDOWN TO WASH PUMPS/LINES AND DROP TOP PLUG.
Event	14	Drop Plug	Drop Plug	12/16/2017	01:33:43	USER	8.03	5.00	152.00	PLUG LEFT CONTAINER, VERIFIED BY DRILLER.
Event	15	Pump Displacement	Pump Displacement	12/16/2017	01:36:39	USER	7.99	5.00	783.00	BEGIN CALCULATED DISPLACEMENT OF 293 BBLS WITH FRESH WATER. MMCR & BIOCIDES ADDED TO 1ST 20 BBLS, BIOCIDES AND CLAYWEB ADDED THROUGH REST OF DISPLACEMENT.
Event	16	Bump Plug	Bump Plug	12/16/2017	02:34:58	USER	8.13	2.90	2347.00	PLUG BUMPED AT CALCULATED DISPLACEMENT. PRESSURED 260 PSI OVER FINAL CIRCULATING PRESSURE OF 2190 PSI.
Event	17	Other	Burst	12/16/2017	02:37:58	USER	8.11	0.00	2756.00	PRESSURE UP TO BURST
Event	18	Pump Displacement	Pump Wet Shoe	12/16/2017	02:40:00	USER	8.11	2.70	2245.00	PUMP 5 BBL WET SHOE
Event	19	Check Floats	Check Floats	12/16/2017	02:42:00	USER	8.10	0.00	1404.00	RELEASED PRESSURE, FLOATS HELD, 2 BBLS BACK.
Event	20	End Job	End Job	12/16/2017	02:44:47	COM5				STOP RECORDING JOB DATA.
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	12/16/2017	03:00:00	USER	-0.42	0.00	17.00	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION

							AND RIGGING DOWN IRON AND HOSES.
Event	22	Rig-Down Equipment	Rig-Down Equipment	12/16/2017	04:00:00	USER	ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	23	Crew Leave Location	Crew Leave Location	12/16/2017	06:00:00	USER	THANK YOU FOR USING HALLIBURTON - STEVE CARDOS AND CREW.

3.0 Job Chart

3.1 Job Chart

