

HALLIBURTON

iCem[®] Service

SRC ENERGY INC-EBUS

BOST FARM 33N-11A-L

PRODUCTION

Sincerely,

Andrew McIntosh

Legal Notice

Disclaimer:

All information in this report is provided subject to the terms and conditions which govern the services provided by Halliburton. Halliburton personnel use their best efforts in gathering information and their best judgment in interpreting it, but any interpretation, research, analysis or recommendation furnished by Halliburton are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and empirical relationships and assumptions are not infallible, and with respect to which professionals in the industry may differ. iCem 3D Displacement results are used to understand how fluids intermix during a cement job. Simulation and 3D displacement results are not intended as and should not be used as a replacement for bond logs in determining top of cement. Current 3D model calculations are known to model more volume than the input volume for standard cases due to known calculation improvements required. For rotational cases, the modeled volume will be impacted by the same calculations impacting the standard cases, as well as additional constraints imposed to make the calculation time required operationally feasible. Therefore, until further notice, 3D displacement results should not be used for replacement of a bond log, or used as an identifier of top of cement. HALLIBURTON IS UNABLE TO GUARANTEE THE ACCURACY OF ANY CHART INTERPRETATION, RESEARCH ANALYSIS, OR JOB RECOMMENDATION and any interpretation or recommendation is not for use of or reliance upon by any third party. The customer has full responsibility for any of its decisions which are based on the information provided in this report.

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Bost Farm 33N-11A-L 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.

Approximately 10 bbls of cement were returned 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 #: 3982007		Quote #:		Sales Order #: 0906026385					
Customer: SRC ENERGY INC-EBUS						Customer Rep: KALIB FORD					
Well Name: BOST FARM				Well #: 33N-11A-L		API/UWI #: 05-123-50253-00					
Field: WATTENBERG		City (SAP): GREELEY		County/Parish: WELD		State: COLORADO					
Legal Description:											
Contractor: PRECISION DRLG				Rig/Platform Name/Num: PRECISION 462							
Job BOM: 7523 7523											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA/HB41307				Srv Supervisor: Nikolaus Kornafel							
Job											
Formation Name											
Formation Depth (MD)		Top		Bottom							
Form Type				BHST							
Job depth MD		17,853ft		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	LTC	J-55	0	1815	0	0	
Casing		5.5	4.778	20	BTC	P110IC	0	17853	0	0	
Open Hole Section			8.5				1815	17874	0	7637	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	5.5	1	WTHFD	17853		Top Plug	5.5	1			
Float Shoe	5.5	1	WTHFD			Bottom Plug	5.5	1			
Float Collar	5.5	1	WTHFD	17921							
Insert Float	5.5	1	WTHFD	17745		Plug Container	5.5	1	HES		
						Centralizers	5.5	252			
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	SPACER	Tuned Spacer III			80	bbl	11.5	3.81	23.4	5	2796

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	LEAD CEMENT	GASSTOP (TM) SYSTEM	1203	sack	13.2	1.57	7.52	7	9,046
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	TAIL CEMENT	NeoCem TM	1151	sack	13.2	2.04	9.79	8	11,268
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	DISPLACEMENT	MMCR Displacement	340	bbl	8.34			8	
Cement Left In Pipe		Amount	0 ft		Reason			Wet Shoe	
Mix Water:		pH 7	Mix Water Chloride:		0 ppm		Mix Water Temperature:		54 °F
Cement Temperature:		N/A	Plug Displaced by:		8.33 lb/gal		Disp. Temperature:		54 °F
Plug Bumped?		Yes	Bump Pressure:		2700 psi		Floats Held?		Yes
Cement Returns:		10 bbl	Returns Density:		N/A		Returns Temperature:		n/a
Comment DROPPED BOTTOM PLUG THEN PUMPED 80 BBLS OF SPACER, AFTER SPACER WE THEN PUMPED 336 BARRELS OF LEAD CEMENT FOLLOWED BY 418 BBLS OF TAIL CEMENT. THE TOP PLUG WAS DROPPED AND DISPLACED BY 393 BBLS OF FRESH WATER. BUMPED PLUG AND THEN PRESSURED UP TO SHIFT THE WET SHOE SUB AND PUMPED A 6 BBL WET SHOE, CHECKED FLOATS AND FLOATS HELD. 3.5 BBLS BACK TO THE TRUCK.									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press (psi)	Comb Pump Rate (bbl/min)	DH Density (ppg)	Pump Stg Tot (bbl)	Comments
Event	1	Pressure Test	Call Out	10/13/2019	07:00:00	USER					CREW CALLED OUT AT 07:00, REQUESTED ON LOCATION 09:00. CREW PICKED UP CEMENT, CHEMICALS, AND PLUG CONTAINER FROM FT. LUPTON, CO. BULK 660 10867096, AND PUMP 11826999
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	10/13/2019	07:10:00	USER					CREW DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Yard	Crew Leave Yard	10/13/2019	07:15:00	USER					STARTED JOURNEY MANAGEMENT.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	10/13/2019	09:00:00	USER					END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9.625" 36 LB/FT @ 1,815, 5.5" CASING: 20 LB/FT TOTAL 17,853', 8.5" HOLE, TD 17,874', SHOE TRAC- 129', TVD- 6,856'. PUMP FRESH WATER DISPLACEMENT 393 BBLS. CASING LANDED @ 11:45 10/13/2019. RIG CIRCULATED BOTTOMS UP.

Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	10/13/2019	11:00:00	USER					HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP, AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	10/13/2019	11:15:00	USER					CREW STAGED EQUIPMENT, RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	10/13/2019	13:15:00	USER	-1.00	0.00	8.40	7.80	SAFETY MEETING WITH HALLIBURTON, AND RIG PERSONNEL. CREW COMMUNICATED POTENTIAL SAFETY HAZARDS, AND JOB DETAILS.
Event	8	Start Job	Start Job	10/13/2019	13:36:52	COM11	-2.00	0.00	8.38	0.00	BEGIN RECORDING JOB DATA.
Event	9	Pressure Test	Pressure Test	10/13/2019	13:39:15	USER	67.00	0.00	8.25	3.90	PRESSURE TESTED IRON TO 6,500 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 900 PSI, 5TH GEAR STALL OUT @ 1,200 PSI. PRESSURE HELD WITH NO LEAKS.
Event	10	Drop Bottom Plug	Drop Bottom Plug	10/13/2019	13:48:28	COM11	4.00	0.00	8.33	4.00	BOTTOM PLUG LEFT THE PLUG CONTAINER.
Event	11	Pump Spacer 1	Pump Spacer 1	10/13/2019	13:49:08	COM11	6.00	0.00	8.34	0.00	PUMP 80 BBLS OF FDP SPACER @ 11.5 LB/GAL, 3.81 FT3/SK, 23.4 GAL/SK 10 GALLONS D-AIR. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 5 BBLS/MIN @ 300 PSI.
Event	12	Check Weight	Check Weight	10/13/2019	13:56:58	COM11	311.00	3.90	11.47	27.20	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.

Event	13	Pump Lead Cement	Pump Lead Cement	10/13/2019	14:10:04	COM11	207.00	5.00	11.37	0.00	PUMPED 1203 SKS OF GASSTOP @ 13.2 LB/GAL, 1.57 FT3/SK, 7.52 GAL/SK. 336 BBLS TOL @ SURFACE. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 7 BBLS/MIN @ 352 PSI.
Event	14	Check Weight	Check Weight	10/13/2019	14:12:21	COM11	261.00	5.50	13.25	13.20	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	15	Check Weight	Check Weight	10/13/2019	14:18:24	COM11	355.00	7.00	13.40	51.70	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	16	Check Weight	Check Weight	10/13/2019	14:29:22	COM11	348.00	7.00	13.23	128.50	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	17	Pump Tail Cement	Pump Tail Cement	10/13/2019	15:03:45	COM11	312.00	7.00	13.02	0.10	PUMP 1151 SKS OF NEOCEM @ 13.2 LB/GAL, 2.04 FT3/SK, 9.79 GAL/SK, 418 BBLS. TOT CALCULATED @ 7,673'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 7 BBLS/MIN @ 460 PSI.
Event	18	Check Weight	Check Weight	10/13/2019	15:05:06	COM11	412.00	7.10	13.23	9.60	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	19	Check Weight	Check Weight	10/13/2019	15:34:57	COM11	519.00	8.00	13.32	229.90	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	20	Check Weight	Check Weight	10/13/2019	15:36:37	COM11	532.00	8.00	13.29	243.30	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	21	Shutdown	Shutdown	10/13/2019	16:14:53	COM11	83.00	3.80	8.11	484.10	SHUTDOWN TO WASH LINES.
Event	22	Drop Top Plug	Drop Top Plug	10/13/2019	16:19:02	COM11	-21.00	0.00	7.96	505.30	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.

Event	23	Pump Displacement	Pump Displacement	10/13/2019	16:19:06	COM11	-20.00	0.00	7.97	505.30	BEGIN CALCULATED DISPLACEMENT OF 393 BBLS WITH FRESH WATER. 303 BBLS INTO DISPLACEMENT SPACER BACK TO SURFACE. 80 BBLS OF SPACER TO SURFACE AND 10 BBLS OF LEAD CEMENT.
Event	24	Bump Plug	Bump Plug	10/13/2019	17:28:13	COM11	3036.00	0.00	8.12	438.50	PLUG BUMPED AT CALCULATED DISPLACEMENT. 2,700 PSI PRESSURED UP 500 PSI OVER FINAL CIRCULATING PRESSURE.
Event	25	Pressure Up Well	Pressure Up Well	10/13/2019	17:32:33	COM11	3149.00	0.00	8.12	438.50	PRESSURED UP TO 5,403 PSI TO SHIFT THE WET SHOE SUB AND THEN PUMPED A 6 BBL WET SHOE.
Event	26	Other	Other	10/13/2019	17:37:38	COM11	2436.00	0.00	8.09	447.60	RELEASED PRESSURE, FLOATS HELD, 3.5 BBLS BACK.
Event	27	End Job	End Job	10/13/2019	17:39:08	COM11	7.00	0.00	8.01	0.00	STOP RECORDING JOB DATA.
Event	28	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	10/13/2019	17:45:00	USER					DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	29	Rig-Down Completed	Rig-Down Completed	10/13/2019	19:00:00	USER					ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	30	Safety Meeting - Departing Location	Safety Meeting - Departing Location	10/13/2019	19:10:00	USER					CREW DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.

Event	31	Crew Leave Location	Crew Leave Location	10/13/2019	19:15:00	USER
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THANK YOU FOR USING
HALLIBURTON – NICK
KORNAFEL AND CREW.

3.0 Attachments

3.1 SRC BOST FARM 33N-11A-L PRODUCTION-Custom Results.png

