

HALLIBURTON

iCem[®] Service

SRC ENERGY INC-EBUS

Date: Saturday, December 22, 2018

Bost Farm 8N-8C-L Production

Job Date: Thursday, December 13, 2018

Sincerely,
Tyler Hill

Legal Notice

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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 8N-8C-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 18 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 Ft. Lupton

The Road to Excellence Starts with Safety

Sold To #: 359915	Ship To #: 3902183	Quote #: 0022523091	Sales Order #: 0905338717
Customer: SRC ENERGY INC-EBUS		Customer Rep: Lovel Young	
Well Name: BOST FARM		Well #: 8N-8C-L	API/UWI #: 05-123-47698-00
Field: WATTENBERG	City (SAP): GREELEY	County/Parish: WELD	State: COLORADO
Legal Description: SW NW-7-5N-66W-1457FNL-940FWL			
Contractor: PRECISION DRLG		Rig/Platform Name/Num: PRECISION 462	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HB41307		Srvc Supervisor: Nicholas Cummins	

Job

Formation Name				
Formation Depth (MD)	Top	1838ft	Bottom	17644ft
Form Type	BHST			
Job depth MD	17570ft	Job Depth TVD	7288ft	
Water Depth		Wk Ht Above Floor	10ft	
Perforation Depth (MD)	From		To	

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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	1838	0	1838
Casing		5.5	4.778	20	TXP-BTC	P110IC	0	17626	0	7288
Open Hole Section			8.5				1838	17644	1838	7288

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5	1	WTHR	17570	Top Plug	5.5	1	WTHR
					Bottom Plug	5.5	1	WTHR
Float Collar	5.5	1	WTHR	17524	SSR plug set	5.5		HES
Insert Float	5.5				Plug Container	5.5		HES
Stage Tool	5.5				Centralizers	5.5		HES

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	3.84	24	3	
	0.25 gal/bbl	D-AIR 3000L, 5 GAL PAIL (101007444)							
	0.50 gal/bbl	MUSOL A, 330 GAL TOTE - (790828)							
	0.50 gal/bbl	DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)							

145.18 lbm/bbl		BARITE, BULK (100003681)							
36.09 gal/bbl		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
2	ElastiCem Cap	ELASTICEM (TM) SYSTEM	416	sack	13.2	1.57		4	7.52
0.25 lbm		POLY-E-FLAKE (101216940)							
0.80 %		SCR-100 (100003749)							
7.52 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	LockCem	SBM LOCKCEM CEMENT BBL	353	sack	13.3	1.59		7.5	7.61
0.25 lbm		POLY-E-FLAKE (101216940)							
0.80 %		SCR-100 (100003749)							
6.42 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	ElastiCem Cap	ELASTICEM (TM) SYSTEM	406	sack	13.2	1.57		8	7.52
7.52 Gal		FRESH WATER							
0.25 lbm		POLY-E-FLAKE (101216940)							
0.80 %		SCR-100 (100003749)							
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	NeoCem	NeoCem TM	1164	sack	13.2	2.06		8	9.83
9.79 Gal		FRESH WATER							
0.10 %		SCR-100 (100003749)							
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
6	MMCR Displacement	MMCR Displacement	20	bbl	8.34			5	
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
7	Water	Water	299	bbbl	8.33				
1 gal/Mgal		CLA-WEB - BULK (101985043)							
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
8	MMCR Displacement	MMCR Displacement	70	bbbl	8.34				
0.20 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)							
Cement Left In Pipe		Amount	0 ft			Reason		Wet Shoe	
Mix Water:		pH 7	Mix Water Chloride: <400 ppm			Mix Water Temperature: 60 °F			
			Plug Displaced by: 8.33 lb/gal						
Plug Bumped?		Yes	Bump Pressure: 2800 psi			Floats Held?		Yes	
Cement Returns:		18 bbls	Returns Density: 13.2 lb/gal						
Comment									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press <i>(psi)</i>	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	Comments
Event	1	Call Out	Call Out	12/13/2018	01:30:00	USER				The crew was called out on 12/13/18 at 0130. The customer requested HES on location at 0730 on 12/13/18.
Event	2	Depart from Service Center or Other Site	Depart from Service Center or Other Site	12/13/2018	06:30:00	USER				The crew held a pre journey safety meeting discussing the route and potential hazards while driving. The supervisor called in a journey. The crew departed service center.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	12/13/2018	07:30:00	USER				The crew arrived on location safely. The rig was still running casing. The supervisor met with the Company man and received numbers. TD 17,644', TP 17,626' 5 1/2" 20# HCP-110, FC 17,524', PC 1,838' 9 5/8" 36# J-55, TVD 7,288', OH 8 1/2", Mud 9.9 ppg.
Event	4	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	12/13/2018	07:40:00	USER				Crew discussed all potential hazards on location.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	12/13/2018	07:40:00	USER				Crew held a safety meeting discussing the rig up procedure. Also all potential hazards associated with rigging up all HES equipment and lines.
Event	6	Rig-Up Equipment	Rig-Up Equipment	12/13/2018	08:00:00	USER				The crew rigged up all HES

8										equipment and lines.
Event	7	Rig-Up Completed	Rig-Up Completed	12/13/2018	11:30:00	USER	-11.70	8.37	0.00	Rig up completed, no one got hurt. Rig began circulating through commander head. Torque 13k 670 psi 30 RPM
Event	8	Safety Meeting - Pre Job	Safety Meeting - Pre Job	12/13/2018	11:34:00	USER	-9.70	8.38	0.00	The crew and all personal involved with cement job discussed all potential hazards associated with job. Followed by the job procedure to ensure everyone understood the plan of action
Event	9	Drop Bottom Plug	Drop Bottom Plug	12/13/2018	12:16:38	COM6	-11.70	8.38	0.00	Nick Peterson and Jason Clemens witnessed plug drop.
Event	10	Test Lines	Test Lines	12/13/2018	12:18:44	COM6	28.30	8.47	0.00	After filling lines with 3 bbls of water at 4 bpm 180 psi. We pressure tested HES lines to 6,800 psi. The eKo's were set for 500 psi. They kicked out at 500 psi and pressure rose to 1,270 psi. 5th gear stall 1,915 psi. The pressure test passed.
Event	11	Pump Spacer 1	Pump Spacer 1	12/13/2018	12:33:53	COM6	199.30	10.33	2.80	We pumped 40 bbls of Tuned Spacer with surfactants at 3 bpm, with 265 psi on the lines. Torque 11k 30 RPM 11.5 ppg 3.84 yield 24 gal/sk
Event	12	Pump Lead Cement	Pump Cap Cement	12/13/2018	12:48:51	COM6	58.30	9.57	2.20	We pumped 116 bbls (416 sks) at 4 bpm pressure was at 219 psi. Torque 10.3k 30 RPM Density was verified using pressurized scales.13.2 ppg 1.57 yield

Event	ID	Type	Material	Date	Time	Code	Volume	Pressure	Yield	Notes
										7.52 gal/sk.
Event	13	Pump Cement	Pump Lock Cem Cement	12/13/2018	13:20:53	COM6	123.30	13.48	1.70	We pumped 100 bbls (353 sks) at 7.5 bpm pressure was at 650 psi. Torque 10.76k 30 RPM Density was verified using pressurized scales.13.3 ppg 1.59 yield 7.61 gal/sk.
Event	14	Pump Cement	Pump Cap Cement	12/13/2018	13:38:05	COM6	270.30	13.23	2.00	We pumped 114 bbls (406 sks) at 8 bpm pressure was at 775 psi. Torque 11.42k 30 RPM Density was verified using pressurized scales.13.2 ppg 1.57 yield 7.52 gal/sk.
Event	15	Shutdown	Shutdown	12/13/2018	13:38:52	COM6	85.30	13.36	0.00	Shutdown to fix leak on floor.
Event	16	Check Weight	Check Weight	12/13/2018	13:42:02	COM6	679.30	13.04	8.80	Density was reading light on the downhole HPVT. We scaled the cement, it weighed up at 13.2 ppg
Event	17	Pump Tail Cement	Pump Tail Cement	12/13/2018	13:51:29	COM6	780.30	13.36	8.80	We pumped 427 bbls (1164 sks) at 8 bpm. Pressure was at 1,575 psi. Torque 12.1k 30 RPM At 300 bbls away 8 bpm Torque 15.34k 30 RPM 400 bbls away 8 bpm Torque 18.18K 30RPM 13.2 ppg 2.06 yield 9.79 gal/sk. We verified the density using pressurized scales.
Event	18	Check Weight	Check Weight	12/13/2018	13:51:54	COM6	809.30	13.32	8.70	We used pressurized scales to check the weight of the Tail cement. It weighed up at 13.2 ppg.
Event	19	Check Weight	Check Weight	12/13/2018	14:15:55	COM6	1304.30	13.31	8.40	We used pressurized scales to check the weight of the

										Tail cement. It weighed up at 13.2 ppg.
Event	20	Check Weight	Check Weight	12/13/2018	14:18:44	COM6	1443.30	13.31	8.40	We used pressurized scales to check the weight of the Tail cement. It weighed up at 13.2 ppg.
Event	21	Shutdown	Shutdown	12/13/2018	14:45:29	COM6	121.30	3.96	0.60	Shut down to wash pumps and lines and to drop to plug.
Event	22	Pump Displacement	Pump Displacement	12/13/2018	14:54:54	COM6	5.30	7.98	0.00	We pumped the calculated displacement of 389 bbls. We performed flush sequence the first 20 bbls going 5 bpm . MMCR in the first 20 bbls. Then BE-3 and Clay Web throughout. In the last 70 bbls we dumped MMCR. 100 bbls away 8.5 bpm Torque 21.18k 30 RPM 2,247 psi. 200 bbls away 7.5 bpm Torque 21.32k 30 RPM 3,030 psi. 300 bbls away 6.5 bpm Torque 20.3k 30 RPM 3,294 psi.
Event	23	Drop Top Plug	Drop Top Plug	12/13/2018	14:57:32	COM6	241.30	8.31	7.60	Company man witnessed top plug drop.
Event	24	Bump Plug	Bump Plug	12/13/2018	15:53:54	COM6	3163.30	8.36	0.00	We stopped rotating 25 bbls before bumping the plug. When we bumped the plug final circulating pressure was 2,800 psi. We pressured up to 3,200 before shutting down.
Event	25	Other	Wet Shoe	12/13/2018	15:54:31	COM6	3173.30	8.36	0.00	We pressured up to 5,226 psi to rupture the disc at 2 bpm. We then proceeded to pump a 6 bbl wet shoe at 5 bpm

Event	26	Other	Check Floats	12/13/2018	15:59:18	COM6	72.30	8.32	0.00	We bled off pressure from the well back to the truck. We got 2.5 bbls back, the floats held.
Event	27	End Job	End Job	12/13/2018	15:59:55	COM6				Cement job complete. Estimated top of LockCem is 1,964'. Estimated top of cap cement 4,415'. Estimated top of tail cement is 7,209'. We brought 40 bbls of spacer to surface and 18 bbls of cement.
Event	28	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	12/13/2018	16:00:00	USER	-5.70	8.30	0.00	Crew held a safety meeting discussing the rig down procedure. Also all potential hazards associated with rigging down all HES equipment and lines.
Event	29	Rig-Down Equipment	Rig-Down Equipment	12/13/2018	16:30:00	USER				The crew rigged down all HES equipment and lines.
Event	30	Rig-Down Completed	Rig-Down Completed	12/13/2018	17:30:00	USER				Rig down completed no one got hurt.
Event	31	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/13/2018	18:00:00	USER				The crew held a pre journey safety meeting discussing the route and potential hazards while driving The supervisor called in a journey.
Event	32	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	12/13/2018	18:10:00	USER				Nick Cummins and crew would like to thank you for your business, and choosing Halliburton Cement! Please feel free to call if you have any questions.

3.0 Attachments

3.1 Bost Farm 8N-8C-L Production.png

