HALLIBURTON

iCem® Service

SRC ENERGY INC

Bost Farm 1N-8C-L Production

Job Date: November 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 1N-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 29 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 #:** 0003902142	**Quote #:** 0022509171	**Sales Order #:** 0905268176
Customer: SRC ENERGY INC-EBUS		**Customer Rep:** Buddy Davis	
Well Name: BOST FARM	**Well #:** 1N-8C-L		**API/UWI #:** 05-123-47693-00
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		**Srvc Supervisor:** Thomas Haas	

Job

Formation Name			
Formation Depth (MD)	**Top**	**Bottom**	
Form Type		**BHST**	
Job depth MD	17644ft	**Job Depth TVD**	7301
Water Depth		**Wk Ht Above Floor**	18
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	1830	0	1830
Casing		5.5	4.778	20	TXP-BTC	P110IC	0	17644	0	7301
Open Hole Section			8.5				1809	17675	1830	7301

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	5.5					**Top Plug**	5.5	1	W.F.
Float Shoe	5.5	1	W.F.	17644		**Bottom Plug**	5.5	1	W.F.
Wet Shoe Sub	5.5	1	W.F.	17558		**SSR plug set**	5.5		
Insert Float	5.5					**Rotating Head**	5.5	1	HES
Stage Tool	5.5					**Centralizers**	5.5		

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	5	1404
	0.50 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	HalCem	HALCEM (TM) SYSTEM	425	sack	13.2	1.55	7.59	8	3226
0.70 %		**SCR-100 (100003749)**							
7.59 Gal		**FRESH WATER**							
0.25 lbm		**POLY-E-FLAKE (101216940)**							

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	Gasstop B1	GASSTOP (TM) SYSTEM	800	sack	13.2	1.54	7.64	8	6112
5.14 Gal		**FRESH WATER**							
0.10 Gal		**D-AIR 3000L, TOTETANK (101396181)**							
0.25 lbm		**POLY-E-FLAKE (101216940)**							
0.70 %		**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
4	NeoCem	NeoCem TM	1165	sack	13.2	2.06	9.79	6	11405
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
5	MMCR Displacement	MMCR Displacement	20	bbl	8.34				
0.20 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
6	Water	Water	299	bbl	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

7	MMCR Displacement	MMCR Displacement	70	bbl	8.34				
0.20 gal/bbl		**MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)**							

Cement Left In Pipe	**Amount**	None		Reason Wet Shoe		**Shoe Joint**	
Mix Water:	pH 7	**Mix Water Chloride:**	<300 ppm	Mix Water Temperature:	**67 °F**		
Cement Temperature:	68	**Plug Displaced by:**	8.33 lb/gal F.W.	Disp. Temperature:	**67 °F**		
Plug Bumped?	Yes	**Bump Pressure:**	2850 psi	Floats Held?	**Yes**		
Cement Returns:	290 bbl	**Returns Density:**	N/A	Returns Temperature:	**N/A**		

Comment The plug bumped @ 380 of 389 bbl displacement @ 2850 PSI. The sleeve opened @ 5554 PSI and pumped a 6 BBL wet shoe. The floats held and received 3 BBLS back to the truck. Total of 29 BBLS cement returned to surface

2.0 Real-Time Job Summary

2.1   Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pumping Pressure (1) (psi)	Slurry Density (1) (ppg)	Comments
Event	1	Call Out	Call Out	11/13/2018	09:00:00	USER						CREW CALLED OUT AT 11:00 11/13/2018, REQUESTED ON LOCATION 15:00 11/13/2018. CREW PICKED UP CEMENT, CHEMICALS (20 GAL MUSOL, 20 GAL DUAL SPACER B, 100 GAL D-AIR, 20 GAL MMCR, 20 GAL CLA-WEB 3 LBS BE-3), 200 LBS SUGAR, AND PLUG CONTAINER FROM FORT LUPTON,CO. BULK 660: 12644881/10866489 Bulk 660: 12350112/12051659 SOFT SIDE: 11019273/12051659 PUMP ELITE: 11897034/11645460
Event	2	Arrive At Loc	Arrive At Location	11/13/2018	14:30:00	USER						END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 9.625" 36# @ 1830', CASING: 5.5" 20# @ 17644', 47' SHOE JOINT, 8.5" OPEN HOLE, TVD @ 7301', 10.2 PPG WELL FLUID, FRESH WATER DISPLACEMENT. WILL BE CEMENTING THROUGH HES COMMANDER ROTATING CEMENT HEAD.
Event	3	Start Mix	Start Mixing Latex	11/13/2018	16:11:37	USER						STARTED MIXING 1920 GAL OF LATEX WITH 80 GAL D-

										AIR AND 100 BBL FRESH WATER
Event	4	Pre-Job Safety Meeting	Pre-Job Safety Meeting	11/13/2018	18:00:48	USER	-1.00	0.00	0.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	5	Tool(s) to Rig Floor	Commander Head Rig Up	11/13/2018	19:00:52	USER	-1.00	0.00	0.00	STATRED RIGGING UP HES COMMANDER ROTATING CEMENT HEAD. ESTABLISHED CIRCULATION WITH COMMANDER HEAD AT 20:00, 10 BBL/MIN 1060 PSI. ROTATED TO 30 RPM WITH A BASE LINE TORQUE OF 17,000.
Event	6	Start Job	Start Job	11/13/2018	20:18:26	COM5	9.00	8.51	0.00	START JOB DATA RECORDING.
Event	7	Test Lines	Test Lines	11/13/2018	20:22:40	COM5	7.00	8.69	0.00	PRESSURE TESTED IRON TO 6550 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 1000 PSI, 5TH GEAR STALL OUT @ 1980 PSI. INTIAL TEST FAILED, HAD TO SWAP OUT A LO-TORQUE 2" VALVE.
Event	8	Drop Bottom Plug	Drop Bottom Plug	11/13/2018	20:47:15	USER	6525.00	8.75	0.00	PLUG LEFT COMMANDER HEAD, VERIFIED BY HES PERSONELL AND COMPANY MAN.

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Event	9	Pump Spacer 1	Pump Spacer 1	11/13/2018	20:49:13	COM5	18.00	8.53	0.00	PUMP 40 BBLS OF TUNED SPACER @ 11.5 LB/GAL, ADDED 20 GAL MUSOL A, 20 GAL DUAL SPACER B, 20 GAL D-AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES. ROTATING 30 RPM AND TORQUE WAS 14,000.
Stage	2	Next Stage	SRC TSIII Spacer 2511221	11/13/2018	20:49:20	USER	15.00	8.53	0.00	
Event	10	Pump Cap Cement	Pump Cap Cement	11/13/2018	20:58:01	COM5	783.00	12.84	6.10	PUMP 425 SKS OF HALCEM @ 13.2 LB/GAL, 1.55 YIELD, 7.59 GAL/SK, 117.3 BBLS, CALCULATED TOC @ SURFACE, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Stage	3	Next Stage	SRC Cap for Latex 2498333/8	11/13/2018	20:58:38	USER	843.00	13.49	6.10	
Stage	4	Next Stage	13.2 SRC Latex 2498333/7	11/13/2018	21:14:46	USER	241.00	12.98	3.50	
Event	11	Pump Lead Cement	Pump Lead Cement	11/13/2018	21:14:52	USER	230.00	12.97	3.50	PUMP 800 SKS OF GASSTOP @ 13.2 LB/GAL, 1.54 YIELD, 7.64 GAL/SK, 219.4 BBLS, CALCULATED TOL @ 1797', MIX WATER MIXED WITH 1920 GAL OF LATEX AND 80 GAL D-AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES. ROTATING 30 RPM AND TORQUE WAS 14,000-15,000.

Event	12	Pump Tail Cement	Pump Tail Cement	11/13/2018	21:51:59	COM5	700.00	12.99	6.70	PUMP 1165 SKS OF NEOCEM @ 13.2 LB/GAL, 2.06 YIELD, 9.79 GAL/SK, 427.4 BBLS, CALCULATED TOT @ 7169', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.ROTATING 30 RPM, TORQUE WAS 18,000 WHEN CEMENT TURNED THE CORNER.
Stage	5	Next Stage	13.2 Thick NeoCem 2505308/6	11/13/2018	21:52:17	USER	812.00	13.27	6.70	
Event	13	Shutdown	Shutdown	11/13/2018	23:09:00	USER	44.00	13.72	0.00	SHUTDOWN TO WASH PUMPS/LINES AND DROP TOP PLUG.
Event	14	Drop Top Plug	Drop Top Plug	11/13/2018	23:11:38	USER	31.00	9.09	2.90	PLUG LEFT COMMANDER HEAD, VERIFIED BY HES PERSONELL AND COMPANY MAN.
Event	15	Pump Displacement	Pump Displacement	11/13/2018	23:18:19	COM5	5.00	8.20	0.00	BEGIN CALCULATED DISPLACEMENT OF 389 BBL FRESH WATER, 10 GAL MMCR IN FIRST 10 BBL AND LAST 70 BBL, 20 GAL CLA-WEB AND 3 LBS BE-3 THROUGH OUT. RAN FLUSH SEQUENCE AT 4 BBL/MIN FOR COMANDER HEAD, ROTATED 30 RPM TORQUE WAS 18,000, TOURQE ROSE THROUGH DISPLACEMENTAND PEAKED OUT AT 23,000. STOPPED ROTATING 370 BBL INTO DISPLACEMENT AND LET THE TORQUE OUT TO BUMP THE PLUG.
Stage	6	Next Stage	Water	11/13/2018	23:18:23	USER	5.00	8.19	0.70	

Event	16	Spacer Returns to Surface	Spacer Returns to Surface	11/14/2018	00:12:44	USER	3372.00	8.44	5.30	SPACER TO SURFACE 320 BBL INTO DISPLACEMENT, DIVERT TO 3 SIDED TANK.
Event	17	Cement Returns to Surface	Cement Returns to Surface	11/14/2018	00:20:02	USER	3086.00	8.46	5.10	CEMENT TO SURFACE 360 BBL INTO DISPLACEMENT, 29 BBL CEMENT TO SURFACE.
Event	18	Bump Plug	Bump Plug	11/14/2018	00:25:53	USER	3229.00	8.44	0.00	PLUG BUMPED 389 BBLS INTO DSPLACEMENT, FINAL CIRCULATING PRESSURE OF 2850 PSI.
Event	19	Check Tubing Or Casing Pressure	Casing Pressure Test	11/14/2018	00:26:51	USER	3224.00	8.45	0.00	10 MIN CASING TEST AT 3200 PSI.
Event	20	Other	Shift Tool	11/14/2018	00:37:45	USER	5457.00	8.53	1.70	PRESSURED UP TO SHIFT TOOL, TOOL SHIFTED AT 5450 PSI. PUMPED A 6 BBL WET SHOE.
Event	21	Check Floats	Check Floats	11/14/2018	00:40:48	USER	28.00	8.34	0.00	RELEASED PRESSURE BACK TO THE TRUCK, FLOATS HELD, 3 BBL BACK
Event	22	End Job	End Job	11/14/2018	00:41:04	COM5				END JOB DATA RECORDING.

Bost Farm 1N-8C-L Production

DS Pump Press (psi)   DH Density (ppg)   Comb Pump Rate (bbl/min)

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Created: 2018-11-13 17:08:26, (UTC-07:00),   Version: 4.5.139   Edit

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