

# HALLIBURTON

iCem<sup>®</sup> Service

**SRC ENERGY INC-EBUS**

**Bost Farm 34N-11C-L Production**

Sincerely,  
**Meghan Jacobs**

## Legal Notice

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## 1.0 Cementing Job Summary

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### 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the **Bost Farm 34N-11-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 12 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*

<b>Sold To #:</b> 359915		<b>Ship To #:</b> 3982128		<b>Quote #:</b>		<b>Sales Order #:</b> 0906054303					
<b>Customer:</b> SRC ENERGY INC-EBUS						<b>Customer Rep:</b> John Myers					
<b>Well Name:</b> BOST FARM				<b>Well #:</b> 34N-11C-L		<b>API/UWI #:</b> 05-123-50260-00					
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> MILLIKEN		<b>County/Parish:</b> WELD		<b>State:</b> COLORADO					
<b>Legal Description:</b> NW SW-7-5N-66W-2666FSL-1254FWL											
<b>Contractor:</b> PRECISION DRLG					<b>Rig/Platform Name/Num:</b> PRECISION 462						
<b>Job BOM:</b> 7523 7523											
<b>Well Type:</b> HORIZONTAL OIL											
<b>Sales Person:</b> HALAMERICA\HB41307					<b>Srv Supervisor:</b> Adam Covington						
<b>Job</b>											
<b>Formation Name</b>											
<b>Formation Depth (MD)</b>		<b>Top</b>		<b>Bottom</b>							
<b>Form Type</b>					<b>BHST</b>						
<b>Job depth MD</b>		17869ft			<b>Job Depth TVD</b>						
<b>Water Depth</b>					<b>Wk Ht Above Floor</b>						
<b>Perforation Depth (MD)</b>		<b>From</b>		<b>To</b>							
<b>Well Data</b>											
<b>Description</b>	<b>New / Used</b>	<b>Size in</b>	<b>ID in</b>	<b>Weight lbm/ft</b>	<b>Thread</b>	<b>Grade</b>	<b>Top MD ft</b>	<b>Bottom MD ft</b>	<b>Top TVD ft</b>	<b>Bottom TVD ft</b>	
Casing		9.625	8.921	36	LTC	J-55	0	1838	0	1838	
Casing		5.5	4.778	20	TXP-BTC	P110IC	0	17869	0	6986	
Open Hole Section			8.5				1838	17880	0	6986	
<b>Tools and Accessories</b>											
<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>	<b>Depth ft</b>		<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>		
Guide Shoe	5.5			17869		Top Plug	5.5	1			
Float Shoe	5.5					Bottom Plug	5.5	1			
Float Collar	5.5					SSR plug set	5.5		HES		
Insert Float	5.5					Plug Container	5.5	1	HES		
Stage Tool	5.5					Centralizers	5.5	258	HES		
<b>Fluid Data</b>											
<b>Stage/Plug #:</b> 1											
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>			<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>

1	Tuned Prime Cement Spacer Base - RKS/SE	TUNED PRIME CEMENT SPACER SYS	80	bbl	11.5	3.81		5		
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	ELASTICEM (TM) SYSTEM	1255	sack	13.2	1.57		8	7.52	
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	1117	sack	13.2	2.04		8	9.79	
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			10		
0.25 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	Water	Water	304	bbl	8.33			8		
1.6020 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	
6	MMCR Displacement	MMCR Displacement	70	bbl	8.34			8		
0.2140 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)								
Cement Left In Pipe		Amount	111 ft		Reason			Shoe Joint		
Mix Water:		pH 7	Mix Water Chloride:			0 ppm		Mix Water Temperature:		48 °F
Cement Temperature:			Plug Displaced by:			8.33 lb/gal		Disp. Temperature:		48 °F
Plug Bumped?		Yes	Bump Pressure:			2840 psi		Floats Held?		Yes
Cement Returns:		12 bbl	Returns Density:					Returns Temperature:		
Comment 12 bbls of cement to surface. TOTC 7,918'. Floats held, got 3 bbls back. Sleeve shifted at 5572 psi. Pumped a 6 bbl wet shoe.										

## 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)	Comments
Event	1	Call Out	Call Out	10/23/2019	16:00:00	USER				HES CREW WAS CALLED OUT BY SERVICE COORDINATOR AT 1600 FOR AN ON LOCATION TIME OF 2200
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	10/23/2019	20:00:00	USER				MET WITH ALL HES CREW MEMBERS TO DISCUSS DIRECTIONS, NIGHT DRIVING AND SPEED LIMITS.
Event	3	Depart Shop for Location	Depart Shop for Location	10/23/2019	20:10:00	USER				CREW LEFT YARD AND HEADED TOWARDS LOCATION.
Event	4	Arrive At Loc	Arrive At Loc	10/23/2019	21:00:00	USER				CREW ARRIVED AT LOCATION WITHOUT ANY INCIDENTS. PERFORMED A HAZARD HUNT. GOT NUMBERS FROM COMPANY MAN. OH- 8.5" TD-17880' TP-17869' 5.5" 20# WSS-17758' PC-1838' 9 5/8" 36# TVD-6986' MUD-10.2# WATER-- 48 DEGREES, PH-7, CHLORIDES-0.
Event	5	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	10/23/2019	21:15:00	USER				MET WITH ALL HES CREW MEMBERS DISCUSSED SWINGS, TEAM LIFTS AND WENT OVER POD AND SILO ORDER.
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	10/24/2019	02:45:00	USER	-4.00	1.93	0.00	MET WITH ALL HES AND RIG CREW MEMBERS. DISCUSSED JOB PROCEDURE, PRESSURES AND EMERGENCY PLANS.
Event	7	Start Job	Start Job	10/24/2019	03:34:08	COM5	-5.00	8.15	0.00	FILLED LINES WITH 3 BBLS OF FRESH WATER. 3 BPM, 247 PSI.
Event	8	Test Lines	Test Lines	10/24/2019	03:36:53	COM5	85.00	8.20	0.00	PERFORMED A 5TH GEAR STALL OUT. THEN WENT INTO A 5TH GEAR STALL OUT. PRESSURE RISING SO PERFORMED A 6500 PSI PRESSURE TEST FOR 2 MINUTES. HELD, SO WE BLEED PRESSURE OFF.
Event	9	Drop Bottom Plug	Drop Bottom Plug	10/24/2019	03:44:39	COM5	-5.00	8.18	0.00	ADAM COVINGTON DROPPED NON HALLIBURTON BOTTOM PLUG. CO. MAN WITNESSED.
Event	10	Pump Spacer 1	Pump Spacer 1	10/24/2019	03:44:46	COM5	-6.00	8.17	0.00	PUMPED 80 BBLS OF 11.5#, 3.81y, 23.4wr. TUNED PRIME SPACER AT 5 BPM, 253 PSI. ADDED 60 GALLONS OF MUSOL A, 60 GALLONS OF DUAL B SPACER AND 30

GALLONS OF D-AIR. MIX WATER 2528 GALLONS/ ACTUAL 2761 GALLONS.

Event	11	Check Weight	Check Weight	10/24/2019	04:00:50	COM5	227.00	11.21	4.80	USED PRESSURIZED MUD SCALES TO WEIGH UP SPACER. SPACER WEIGHED UP AT 11.5#.
Event	12	Pump Lead Cement	Pump Lead Cement	10/24/2019	04:07:09	COM5	230.00	11.41	5.50	PUMPED 351 BBLS (1255 SKS) OF 13.2#, 1.57y, 7.52wr LEAD (ELASTICEM) CEMENT STARTING AT 5 BPM, 253 PSI. MIX GALLONS 9,438 GALLONS/ ACTUAL- 8917 GALLONS
Event	13	Check Weight	Check Weight	10/24/2019	04:13:25	COM5	121.00	12.77	3.10	USED PRESSURIZED MUD SCALES TO WEIGH UP CEMENT. CEMENT WEIGHED UP AT 13.2#.
Event	14	Check Weight	Check Weight	10/24/2019	04:26:05	COM5	572.00	13.18	7.90	USED PRESSURIZED MUD SCALES TO WEIGH UP CEMENT. CEMENT WEIGHED UP AT 13.2#.
Event	15	Pump Tail Cement	Pump Tail Cement	10/24/2019	05:02:20	COM5	557.00	12.98	8.00	PUMPED 406 BBLS (1117 SKS) OF 13.2#, 2.04y, 9.79wr TAIL (NEOCEM) CEMENT AT 8 BPM, 557 PSI. FULL RETURNS. MIX GALLONS 10,935 GALLONS/ ACTUAL 10,100 GALLONS.
Event	16	Check Weight	Check Weight	10/24/2019	05:04:15	COM5	752.00	13.01	8.00	USED PRESSURIZED MUD SCALES TO WEIGH UP CEMENT. CEMENT WEIGHED UP AT 13#.
Event	17	Other	Other	10/24/2019	05:18:39	USER	879.00	13.63	7.90	OPERATOR STARTED TO POWDER OFF. SHUTDOWN TO FIX.
Event	18	Check Weight	Check Weight	10/24/2019	05:25:11	COM5	300.00	13.23	4.50	USED PRESSURIZED MUD SCALES TO WEIGH UP CEMENT. CEMENT WEIGHED UP AT 13.2#
Event	19	Check Weight	Check Weight	10/24/2019	05:31:55	COM5	880.00	13.42	8.30	USED PRESSURIZED MUD SCALES TO WEIGH UP CEMENT. CEMENT WEIGHED UP AT 13.4#
Event	20	Check Weight	Check Weight	10/24/2019	05:35:46	COM5	933.00	13.37	8.40	USED PRESSURIZED MUD SCALES TO WEIGH UP CEMENT. CEMENT WEIGHED UP AT 13.3#
Event	21	Shutdown	Shutdown	10/24/2019	06:01:50	COM5	54.00	12.74	0.00	SHUTDOWN TO WASH UP. GET READY TO DROP PLUG.
Event	22	Drop Top Plug	Drop Top Plug	10/24/2019	06:10:46	COM5	-3.00	10.09	0.00	ADAM COVINGTON DROPPED NON HALLIBURTON 5.5" TOP PLUG. CO. MAN WITNESSED.
Event	23	Pump Displacement	Pump Displacement	10/24/2019	06:10:50	COM5	-4.00	10.03	0.00	PUMPED 394 BBLS OF DISPLACEMENT. FIRST 20 BBLS HAD 10 GALLONS OF MMCR DISPERSED. FROM 20 BBLS TO 320 BBLS AWAY HAD 20 GALLONS OF CLA WEB AND 3 LBS OF BE3 ADDED TO IT. LAST 70 BBLS HAD 10 GALLONS



OF MMCR ADDED. 10 BPM TO START AND SLOWED RATE AS PRESSURE WAS HIGH THROUGHOUT ALL OF DISPLACEMENT. STARTING PRESSURE WAS 1610 PSI.

Event	24	Bump Plug	Bump Plug	10/24/2019	07:15:37	COM5	3401.00	9.59	0.00	PLUG BUMPED AT 2840 PSI. TOOK PRESSURE UP TO 3300 PSI AND HELD FOR A COUPLE OF MINUTES AS PER CO. MAN.
Event	25	Pressure Up Well	Pressure Up Well	10/24/2019	07:17:45	COM5	3446.00	9.59	0.40	STARTED TO PRESSURE UP TO SHIFT SLEEVE. SLEEVE SHIFTED AT 5572 PSI. PUMPED 3 BBLS AT 2 BPM. ONCE SLEEVE SHIFTED WE WENT INTO PUMPING A 6 BBL WET SHOE AT 3 BPM, 2700 PSI.
Event	26	Check Floats	Check Floats	10/24/2019	07:21:57	USER	2402.00	9.58	0.00	bled pressure back to truck. GOT 3 BBLS BACK ONCE FLOW STOPPED. INDICATING FLOATS HELD.
Event	27	End Job	End Job	10/24/2019	07:25:22	COM5	-8.00	9.68	0.00	80 BBLS OF SPACER TO SURFACE AND 12 BBLS OF CEMENT BACK TO SURFACE. TOP OF TAIL CEMENT IS AT 7918'
Event	28	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	10/24/2019	07:40:00	USER	183.00	9.54	7.70	MET WITH ALL HES CREW MEMBERS. DISCUSSED TEAM LIFTS AND SWINGS.
Event	29	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	10/24/2019	09:30:00	USER				MET WITH HES CREW MEMBERS AND DISCUSSED HOS, DIRECTIONS AND RUSH HOUR TRAFFIC.
Event	30	Depart Location	Depart Location	10/24/2019	09:40:00	USER				JOB COMPLETED SAFELY BY ADAM COVINGTON AND CREW. THANKS FOR CHOOSING HALLIBURTON.

## 3.0 Attachments

### 3.1 Bost Farm 34N-11C-L Production – Job Chart

