

# HALLIBURTON

iCem<sup>®</sup> Service

## **SRC ENERGY INC-EBUS**

Date: Friday, August 17, 2018

## **Greeley-Rothe 34N-2B-L Production**

Job Date: Friday, August 10, 2018

Sincerely,  
**Bryce Hinsch**

## Legal Notice

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### Disclaimer:

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## Table of Contents

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1.0	Cementing Job Summary .....	4
1.1	Executive Summary .....	4
2.0	Real-Time Job Summary .....	8
2.1	Job Event Log .....	8
3.0	Attachments.....	12
3.1	SRC Energy Greeley-Rothe 34N-2B-L Production Job Chart .....	12

## 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 **Greeley-Rothe 34N-2B-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 75 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> 3863608	<b>Quote #:</b> 0022473570	<b>Sales Order #:</b> 0905049979
<b>Customer:</b> SRC ENERGY INC-EBUS		<b>Customer Rep:</b> Lovel Young	
<b>Well Name:</b> GREELEY-ROTHE		<b>Well #:</b> 34N-2B-L	<b>API/UWI #:</b> 05-123-46448-00
<b>Field:</b> WATTENBERG	<b>City (SAP):</b> GREELEY	<b>County/Parish:</b> WELD	<b>State:</b> COLORADO
<b>Legal Description:</b> SE SE-1-5N-67W-963FSL-294FEL			
<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>Srvc Supervisor:</b> Thomas Haas	

**Job**

<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>	17256ft	<b>Job Depth TVD</b>	7185
<b>Water Depth</b>		<b>Wk Ht Above Floor</b>	5'
<b>Perforation Depth (MD)</b>	<b>From</b>		<b>To</b>

**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	0	9.625	8.921	36	LTC	J-55	0	1827	0	1827
Casing	0	5.5	4.778	20	TXP-BTC	P110IC	0	17256	0	7185
Open Hole Section			8.5				1827	17270	1827	7185

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
<b>Guide Shoe</b>	5.5				<b>Top Plug</b>	5.5	1	W.F.
<b>Float Shoe</b>	5.5	1		17256	<b>Bottom Plug</b>	5.5	1	W.F.
<b>Float Collar</b>	5.5	1		17148	<b>SSR plug set</b>	5.5		
<b>Insert Float</b>	5.5				<b>Plug Container</b>	5.5	1	HES
<b>Stage Tool</b>	5.5				<b>Centralizers</b>	5.5		

**Fluid Data**

<b>Stage/Plug #: 1</b>										
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	3.86	24.1	6	1398	
	0.25 gal/bbl	<b>D-AIR 3000L, 5 GAL PAIL (101007444)</b>								
	0.50 gal/bbl	<b>MUSOL A, 330 GAL TOTE - (790828)</b>								
	0.50 gal/bbl	<b>DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)</b>								

145.18 lbm/bbl		<b>BARITE, BULK (100003681)</b>							
36.09 gal/bbl		<b>FRESH WATER</b>							
<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>
2	ElastiCem	ELASTICEM (TM) SYSTEM	1178	sack	13.2	1.57	7.58	8	8929
7.58 Gal		<b>FRESH WATER</b>							
0.15 %		<b>FE-2 (100001615)</b>							
0.27 %		<b>SCR-100 (100003749)</b>							
<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>
3	NeoCem	NeoCem TM	1147	sack	13.2	2.04	9.71	8	11137
9.71 Gal		<b>FRESH WATER</b>							
0.08 %		<b>SCR-100 (100003749)</b>							
<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>
4	MMCR Displacement	MMCR Displacement	20	bbl	8.34			8	
0.2220 gal/bbl		<b>MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)</b>							
<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>
5	Clay-web Displacement	Clay-web Displacement	290	bbl	8.33			8	
1 gal/Mgal		<b>CLA-WEB - BULK (101985043)</b>							
<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>
6	MMCR Displacement	MMCR Displacement	70	bbl	8.34			8	
0.20 gal/bbl		<b>MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)</b>							
<b>Cement Left In Pipe</b>	<b>Amount</b>	0			<b>Reason</b>			<b>Shoe Joint</b>	
					WET SHOE				

Mix Water:	pH 7	Mix Water Chloride:	<300 ppm	Mix Water Temperature:	71 °F
Cement Temperature:	N/A	Plug Displaced by:	## lb/gal F.W.	Disp. Temperature:	71 °F
Plug Bumped?	Yes	Bump Pressure:	#### psi	Floats Held?	Yes
Cement Returns:	## bbl	Returns Density:	N.A	Returns Temperature:	N/A
<b>Comment</b> The plug bumped @ calculated displacement @ 2580 PSI. The sleeve opened @ 5199 PSI and pumped a 6 BBL wet shoe. The floats held and received 2.5 BBLS back to the truck. Total of 75 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	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	DS Pump Press <i>(psi)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Call Out	Call Out	8/9/2018	21:30:00	USER					CREW CALLED OUT AT 21:30 8/9/2018, REQUESTED ON LOCATION 02:30 8/10/2018. CREW PICKED UP CEMENT, CHEMICALS (20 GAL MUSOL A, 20 GAL DUAL SPACER B, 10 GAL D-AIR, 20 GAL CLA-WEB, 20 GAL MICROMATRIX, 3LBS BE-3), 200 LBS OF SUGAR, AND PLUG CONTAINER FROM FORT LUPTON, CO. BULK 660: 12644881/10866489, BULK 660: 11526488, PUMP ELITE 12663023/11368474.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/10/2018	00:45:00	USER					DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW
Event	3	Crew Leave Yard	Crew Leave Yard	8/10/2018	01:15:00	USER					STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	8/10/2018	02:15:00	USER					END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 36# 9.625" @ 1827', CASING: 20# 5.5" HCP110 @ 117256', 108' SHOE JOINT, 8.5" OPEN HOLE, TVD @ 7185', 9.9 PPG WELL FLUID, FRESH WATER

											DISPLACEMENT.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	8/10/2018	02:30:00	USER					HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	8/10/2018	02:45:00	USER					CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	8/10/2018	06:00:00	USER	8.35	0.00	-30.00	18.80	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	8/10/2018	06:47:07	COM4	0.00	0.00	-16.00	0.00	START JOB DATA RECORDING.
Event	9	Pump Spacer 1	Pump Spacer 1	8/10/2018	07:04:53	COM4	11.74	0.90	139.00	4.40	PUMP 40 BBLS OF TUNED SPACER @ 11.5 LB/GAL, 3.86 YIELD, 24.1 GAL/SKS, ADDED 20 GAL MUSOL A, 20 GAL DUAL SPACER B, 10 GAL D-AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	10	Drop Bottom Plug	Drop Bottom Plug	8/10/2018	07:12:57	COM4	11.17	2.10	118.00	15.50	PLUG LEFT PLUG CONTAINER, VERIFIED BY COMPANY MAN.
Event	11	Pump Lead Cement	Pump Lead Cement	8/10/2018	07:21:35	COM4	12.78	4.60	246.00	0.00	PUMP 1178 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.57 YIELD, 7.54 GAL/SK, 329 BBLS, CALCULATED TOL @ SURFACE, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	12	Pump Tail Cement	Pump Tail Cement	8/10/2018	08:09:44	COM4	13.08	8.00	329.00	379.30	

Event	13	Shutdown	Shutdown	8/10/2018	09:08:45	COM4	13.39	0.00	90.00	436.60	SHUTDOWN TO CLEAN LINES AND PUMPS, AND DROP TOP PLUG.
Event	14	Drop Top Plug	Drop Top Plug	8/10/2018	09:19:55	COM4	2.07	0.00	36.00	451.50	PLUG LEFT PLUG CONTAINER, VERIFIED BY COMPANY MAN.
Event	15	Pump Displacement	Pump Displacement	8/10/2018	09:19:58	COM4	1.21	0.00	32.00	0.00	BEGIN CALCULATED DISPLACEMENT OF 380 BBL WITH FRESH WATER. FIRST 20 BBL WITH 10 GAL MMCR, CLA-WEB, AND BE-3, REST OF DISPLACEMENT WITH 20 GAL CLA-WEB AND 3 LBS BE-3. LAST 70 BBL WITH 10 GAL MMCR.
Event	16	Cement Returns to Surface	Cement Returns to Surface	8/10/2018	10:01:55	USER	8.58	6.10	2912.00	299.50	CEMENT RETURNED TO SURFACE 305 BBL INTO DISPLACEMENT, 75 BBL CEMENT TO SURFACE.
Event	17	Bump Plug	Bump Plug	8/10/2018	10:21:26	COM4	8.60	0.00	3364.00	400.50	PLUG BUMPED AT CALCULATED DISPLACEMENT, FINAL CIRCULATING PRESSURE OF 2580 PSI.
Event	18	Other	Shift Wet Shoe Sleeve	8/10/2018	10:23:23	USER	8.61	1.90	3678.00	401.00	PRESSURE UP TO SHIFT WET SHOE SLEEVE, SLEEVE SHIFTED AT 5199 PSI.
Event	19	Other	Wet Shoe	8/10/2018	10:24:31	USER	8.65	1.60	5196.00	402.80	PUMP 6 BBL WET SHOE.
Event	20	Check Floats	Check Floats	8/10/2018	10:26:28	USER	8.56	0.00	2174.00	409.10	RELEASED PRESSURE BACK TO THE TRUCK FLOATS HELD, 2.5 BBL BACK.
Event	21	End Job	End Job	8/10/2018	10:29:00	COM4	8.50	0.00	21.00	409.10	END JOB DATA RECORDING.
Event	22	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	8/10/2018	10:35:00	USER	8.51	4.90	161.00	428.20	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON

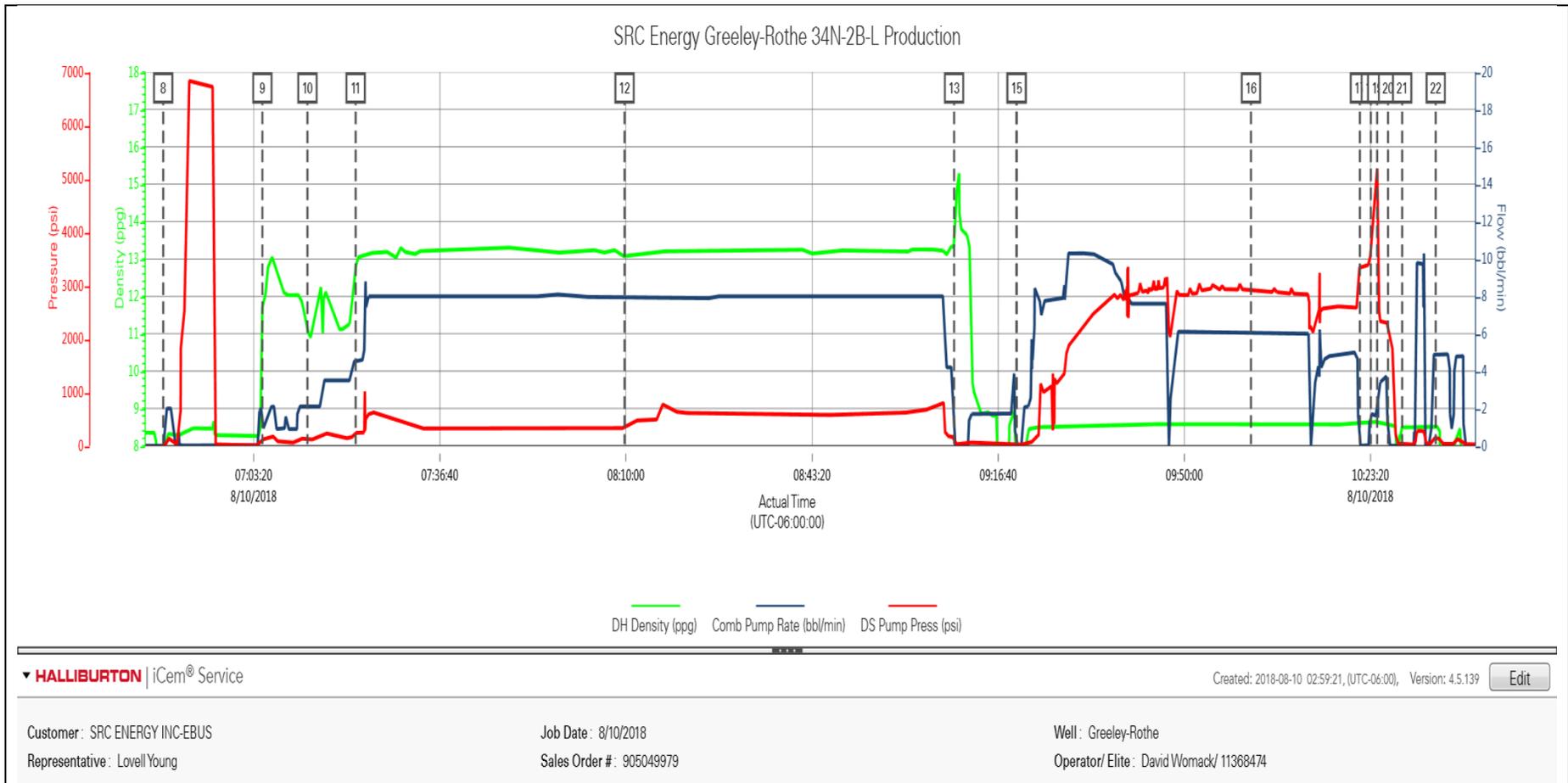
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Event	23	Rig-Down Completed	Rig-Down Completed	8/10/2018	11:00:00	USER	AND HOSES. ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL.
Event	24	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/10/2018	11:15:00	USER	DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	25	Crew Leave Location	Crew Leave Location	8/10/2018	11:30:00	USER	THANK YOU FOR USING HALLIBURTON - THOMAS HAAS AND CREW.

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3.0 Attachments

3.1 SRC Energy Greeley-Rothe 34N-2B-L Production Job Chart



HALLIBURTON | iCem® Service

Created: 2018-08-10 02:59:21, (UTC-06:00), Version: 4.5.139

Customer: SRC ENERGY INC-EBUS  
 Representative: Lovell Young

Job Date: 8/10/2018  
 Sales Order #: 905049979

Well: Greeley-Rothe  
 Operator/ Elite: David Womack/ 11368474