

# HALLIBURTON

iCem<sup>®</sup> Service

**SRC Energy**

Date: Tuesday, August 14, 2018

**Troudt 26N-23B-M Production**

Job Date: Friday, July 27, 2018

Sincerely,  
**Tyler Hill**

## Legal Notice

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### Disclaimer:

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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 **Troudt 26N-23B-M** 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 17 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*

<b>Sold To #:</b> 359915		<b>Ship To #:</b> 3851237		<b>Quote #:</b>		<b>Sales Order #:</b> 0905009528					
<b>Customer:</b> SRC ENERGY INC-EBUS				<b>Customer Rep:</b> Kalib Ford							
<b>Well Name:</b> TROUDT			<b>Well #:</b> 26N-23B-M		<b>API/UWI #:</b> 05-123-46245-00						
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> LUCERNE		<b>County/Parish:</b> WELD		<b>State:</b> COLORADO					
<b>Legal Description:</b> NE NW-27-6N-66W-761FNL-1594FWL											
<b>Contractor:</b> Precision				<b>Rig/Platform Name/Num:</b> Precision 562							
<b>Job BOM:</b> 7523 7523											
<b>Well Type:</b> HORIZONTAL OIL											
<b>Sales Person:</b> HALAMERICA\HB41307				<b>Srvc Supervisor:</b> Nick Cummins							
<b>Job</b>											
<b>Formation Name</b>											
<b>Formation Depth (MD)</b>		<b>Top</b>	1874		<b>Bottom</b>	15573'					
<b>Form Type</b>				<b>BHST</b>							
<b>Job depth MD</b>		15573ft		<b>Job Depth TVD</b>		6963					
<b>Water Depth</b>				<b>Wk Ht Above Floor</b>		4 ft					
<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	1874		1874	
Casing	0	5.5	4.778	20	BTC	P-110	0	15553	1874	6963	
Open Hole Section			8.5				1874	15573	0	6963	
<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>		
						<b>Top Plug</b>	5.5	1	WTHR		
<b>Float Shoe</b>	5.5	1	WTHR	15553		<b>Bottom Plug</b>	5.5	1	WTHR		
<b>Float Collar</b>	5.5	1	WTHR	15445.7							
						<b>Plug Container</b>	5.5	1	HES		
<b>Fluid Data</b>											
<b>Stage/Plug #: 1</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>
1	Tuned Spacer III	Tuned Spacer III			40	bbl	11.5	3.86	24.1	4	

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 LEAD	ELASTICEM (TM) SYSTEM	1279	sack	13.2	1.57	7.54	8	7.54
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	851	sack	13.2	2.04	9.77	8	9.77
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	Water	Water	342	bbl	8.33			10	
0.2220 gal/bbl		<b>MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)</b>							
Cement Left In Pipe	Amount	107.93 ft			Reason			Shoe Joint	
Mix Water:	pH 7	Mix Water Chloride:	200 ppm			Mix Water Temperature:			72 °F
Cement Temperature:		Plug Displaced by:	8.33 lb/gal			Disp. Temperature:			
Plug Bumped?	Yes	Bump Pressure:	2600 psi			Floats Held?			Yes
Cement Returns:	17 bbl	Returns Density:	13.2 lb/gal			Returns Temperature:			
Comment									

## 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	7/26/2018	13:00:00	USER				The crew was called out at 1300 for a on location time of 1830.
Event	2	Depart from Service Center or Other Site	Depart from Service Center or Other Site	7/26/2018	16:30:00	USER				The crew held a pre journey safety meeting. The supervisor called in a journey. The crew departed the service center.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	7/26/2018	17:40:00	USER				The crew arrived on location. The rig was still running casing. The supervisor went and got numbers from the company man. TD 15,573' TP 15,553' 5.5" 20# P-110 TVD 6,963' FC 15,545' OH 8.5" PC 1,874 9 5/8" 36# Mud 9.5+
Event	4	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	7/26/2018	17:45:00	USER				The crew assessed the location looking for any hazards they might encounter when spotting in trucks.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	7/26/2018	18:00:00	USER				The crew held a safety meeting going over rig up process and, any hazards they might run into.
Event	6	Other	Rig Up Equipment	7/26/2018	18:20:00	USER				The crew rigged up all HES equipment and lines.
Event	7	Other	Rig Up Completed	7/26/2018	20:00:00	USER				Rig up of all HSE equipment and lines completed. No

										one got hurt.
Event	8	Safety Meeting - Pre Job	Safety Meeting - Pre Job	7/26/2018	20:19:21	USER	-23.00	8.33	0.00	The crew held a safety meeting with all affected employees.
Event	9	Check Weight	Check Weight	7/26/2018	21:02:22	COM4	-28.00	8.33	0.00	Checked the weight of the spacer with pressurized scales. It weighed up at 11.5 ppg.
Event	10	Other	Fill Lines	7/26/2018	21:13:09	COM4	-30.00	8.39	0.00	Filled lines with 3 bbls of water 3 bpm at 300 psi.
Event	11	Test Lines	Test Lines	7/26/2018	21:15:15	COM4	878.00	8.32	0.00	Pressure tested lines to 6000 psi. Pressure test passed.
Event	12	Pump Spacer 1	Pump Spacer 1	7/26/2018	21:18:40	COM4	-4.00	8.34	0.60	We pumped 40 bbls of tuned spacer and surfactants at 11.5 ppg 3.86 yield 24.1 gals/sk. At 4 bpm with 280 psi.
Event	13	Drop Bottom Plug	Drop Bottom Plug	7/26/2018	21:27:42	COM4	207.00	11.42	3.30	The Driller watched the plug drop.
Event	14	Pump Lead Cement	Pump Lead Cement	7/26/2018	21:29:07	COM4	232.00	13.15	3.90	We pumped 358 bbls of lead cement at 13.2 ppg 1.57 yield 7.54 gals/sk. At 8 bpm with 393 psi.
Event	15	Check Weight	Check Weight	7/26/2018	21:30:17	COM4	209.00	13.09	3.90	Checked weight using pressurized mud scales. It weighed up at 13.2 ppg.
Event	16	Pump Tail Cement	Pump Tail Cement	7/26/2018	22:20:03	COM4	317.00	13.22	8.00	We pumped 309 bbls of tail cement at 13.2 ppg 2.04 yield 9.77 gals/sk. At 8 bpm with 370 psi.
Event	17	Check Weight	Check Weight	7/26/2018	22:25:33	COM4	533.00	13.18	8.00	Checked weight using pressurized mud scales. It weighed up at 13.2 ppg.



Event	18	Shutdown	Shutdown	7/26/2018	23:02:22	COM4	117.00	13.22	0.00	Shutdown
Event	19	Clean Lines	Clean Lines	7/26/2018	23:05:48	COM4	52.00	12.89	2.70	Washed pumps and lines.
Event	20	Drop Top Plug	Drop Top Plug	7/26/2018	23:13:45	COM4	-20.00	8.26	0.00	Company man witnessed the top plug drop.
Event	21	Pump Displacement	Pump Displacement	7/26/2018	23:13:48	COM4	-18.00	8.12	0.00	We pumped 342 bbls of fresh water. With the first 20 bbls with 5 gals of MMCR. We pumped 260 bbls of Clay Web and BE-3. The last 70 bbls with 15 gals of MMCR. At 10 bpm we slowed to 4bpm the last 20 bbls.
Event	22	Displ Reached Cement	Displ Reached Cement	7/26/2018	23:15:22	COM4	1218.00	8.18	10.20	Displacement reached cement at 14 bbls away.
Event	23	Bump Plug	Bump Plug	7/26/2018	23:58:21	COM4	3350.00	8.27	0.00	We bumped the plug. Final circulating pressure was 2600. We brought it 500 psi over to 3400 psi.
Event	24	Other	Pressure up to rupture.	7/27/2018	00:00:01	COM4	3466.00	8.27	0.00	We pressured up to 5300 psi to rupture the wet shoe. We pumped a 6 bbl wet shoe.
Event	25	Shutdown	Shutdown	7/27/2018	00:03:35	COM4	2408.00	8.23	0.00	Shutdown to check floats.
Event	26	Other	Other	7/27/2018	00:04:30	COM4	2154.00	8.23	0.00	Checked the floats. The floats held we got 2.5 bbls back to the truck.
Event	27	End Job	End Job	7/27/2018	00:06:11	COM4	-20.00	8.16	0.00	Job Completed!
Event	28	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	7/27/2018	00:07:00	USER	-20.00	8.16	0.00	
Event	29	Rig Down Lines	Rig Down Lines	7/27/2018	00:10:00	USER	146.00	8.18	0.00	Crew rigged down all HES equipment and lines.
Event	30	Rig-Down Completed	Rig-Down Completed	7/27/2018	01:30:00	USER				Rig down completed no one got hurt.

Event	31	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	7/27/2018	02:15:00	USER	Crew held pre journey safety meeting. Supervisor called in journey. Crew Departed from location.
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## 3.0 Attachments

### 3.1 Troudt 26N-23B-M Production.png

