

HALLIBURTON

iCem[®] Service

SRC ENERGY INC-EBUS

United States of America, COLORADO

Date: Monday, September 03, 2018

Troudt 41C-23-M Production

Job Date: Tuesday, August 28, 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 **Troudt 41C-23-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 66 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 #: 3851309	Quote #:	Sales Order #: 0905090678
Customer: SRC ENERGY INC-EBUS		Customer Rep: Kaleb Ford	
Well Name: TROUDT		Well #: 41C-23-M	API/UWI #: 05-123-46246-00
Field: WATTENBERG	City (SAP): LUCERNE	County/Parish: WELD	State: COLORADO
Legal Description: NE NW-27-6N-66W-760FNL-1684FWL			
Contractor: PRECISION DRLG		Rig/Platform Name/Num: PRECISION 562	
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	15271ft	Job Depth TVD	7128'
Water Depth		Wk Ht Above Floor	6'
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	0	9.625	8.921	36	LTC	J-55	0	1855	0	1855
Casing	0	5.5	4.778	20	TXP-BTC	P110IC	0	15271	0	7128
Open Hole Section			8.5				1855	15271	1855	7128

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.	15271	Bottom Plug	5.5	1	W.F.
Wet shoe Tool	5.5	1	W.F.	15170	SSR plug set	5.5		
Insert Float	5.5				Plug Container	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	3.86	24.1	6	1398	
	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	ELASTICEM (TM) SYSTEM	1238	sack	13.2	1.57	7.54	8	9334
7.54 Gal		FRESH WATER							
0.15 %		FE-2 (100001615)							
0.27 %		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
3	NeoCem	NeoCem TM	850	sack	13.2	2.04	9.77	8	8304
9.71 Gal		FRESH WATER							
0.08 %		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	MMCR Displacement	MMCR Displacement	20	bbl	8.34			8	
0.2220 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	Clay-web Displacement	Clay-web Displacement	246	bbl	8.33			8	
1 gal/bbl		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	
0.20 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)							
Cement Left In Pipe	Amount	None		Reason				Shoe Joint	
				Wet Shoe					

Mix Water:	pH 7	Mix Water Chloride:	<300 ppm	Mix Water Temperature:	63 °F
Cement Temperature:	N/A	Plug Displaced by:	8.33 lb/gal F.W.	Disp. Temperature:	N/A
Plug Bumped?	Yes	Bump Pressure:	2450 psi	Floats Held?	Yes
Cement Returns:	66 bbl	Returns Density:	N/A	Returns Temperature:	N/A
Comment The plug bumped @ calculated displacement @ 2450 PSI. The sleeve opened @ 5220 PSI and pumped a 6 BBL wet shoe. The floats held and received 2.5 BBLS back to the truck. Total of 66 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>	Comments
Event	1	Call Out	Call Out	8/28/2018	05:30:00	USER				CREW CALLED OUT AT 5:30 8/28/2018, REQUESTED ON LOCATION 11:30 8/28/2018. 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: 10856976/10867431, BULK 660: 11562546/10784082, PUMP ELITE 11877034/11645460.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/28/2018	10:15:00	USER				DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW
Event	3	Crew Leave Yard	Crew Leave Yard	8/28/2018	10:30:00	USER				STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	8/28/2018	11:30:00	USER				END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 36# 9.625" @ 1855', CASING: 20# 5.5" HCP110 @ 15271', 101' SHOE JOINT, 8.5" OPEN HOLE, TVD @ 7128', 9.8 PPG WELL FLUID, FRESH WATER

										DISPLACEMENT.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	8/28/2018	11:45:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	8/28/2018	12:00:00	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	8/28/2018	14:30:00	USER	8.46	0.00	-17.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	8/28/2018	14:47:32	COM4	0.12	0.00	-15.00	BEGIN JOB DATA RECORDING.
Event	9	Test Lines	Test Lines	8/28/2018	14:49:59	COM4	8.37	0.00	17.00	PRESSURE TESTED IRON TO 6900 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 800 PSI, 5TH GEAR STALL OUT @ 2300 PSI.
Event	10	Pump Spacer 1	Pump Spacer 1	8/28/2018	15:01:20	COM4	8.42	0.00	-12.00	PUMP 40 BBLS OF TUNED SPACER @ 11.5 LB/GAL, 3.8 YIELD, 23.8 GAL/SKS, ADDED 20 GAL MUSOL A, 20 GAL DUAL SPACER B, 10 GAL D-AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	11	Drop Bottom Plug	Drop Bottom Plug	8/28/2018	15:03:54	COM4	11.51	3.40	276.00	PLUG LEFT PLUG CONTAINER, VERIFIED BY COMPANY MAN.
Event	12	Pump Lead Cement	Pump Lead Cement	8/28/2018	15:10:17	COM4	13.08	6.10	472.00	PUMP 1238 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.57 YIELD, 7.54 GAL/SK,

										346 BBLS, CALCULATED TOL @ SURFACE, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	13	Pump Tail Cement	Pump Tail Cement	8/28/2018	15:56:20	COM4	13.12	8.20	366.00	PUMP 850 SKS OF NEOCEM @ 13.2 LB/GAL, 2.04 YIELD, 9.75 GAL/SK, 309 BBLS, CALCULATED TOT @ 7524', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	14	Shutdown	Shutdown	8/28/2018	16:43:49	COM4	0.08	0.00	-8.00	SHUTDOWN TO CLEAN PUMPS AND LINES, DROP TOP PLUG.
Event	15	Drop Top Plug	Drop Top Plug	8/28/2018	16:48:54	COM4	-0.20	0.00	-9.00	PLUG LEFT PLUG CONTAINER, VERIFIED BY COMPANY MAN.
Event	16	Pump Displacement	Pump Displacement	8/28/2018	16:49:04	COM4	-0.20	0.00	-8.00	BEGIN CALCULATED DISPLACEMENT OF 336 BBLS WITH FRESH WATER. FIRST 20 BBLS WITH 10 GAL MMCR, CLA-WEB, AND BE-3, REST OF DISPLACEMENT WITH 20 GAL CLA-WEB AND 3 LBS BE-3. LAST 70 BBLS WITH 10 GAL MMCR.
Event	17	Cement Returns to Surface	Cement Returns to Surface	8/28/2018	17:26:25	USER	8.31	7.40	3062.00	CEMENT RETURNED TO SURFACE 270 BBL INTO DISPLACEMENT, 66 BBL CEMENT TO SURFACE.
Event	18	Bump Plug	Bump Plug	8/28/2018	17:34:47	COM4	8.31	0.00	2849.00	PLUG BUMPED AT CALCULATED DISPLACEMENT, FINAL CIRCULATING PRESSURE OF 2450 PSI, HELD 5 MIN CASING TEST AT 2800 PSI.
Event	19	Other	Shift Wet Shoe Sleeve	8/28/2018	17:42:27	USER	8.33	1.10	3305.00	PRESSURED UP TO SHIFT WET SHOE SLEEVE, SLEEVE

										SHIFTED AT 5220 PSI.
Event	20	Other	Pump Wet Shoe	8/28/2018	17:43:57	USER	8.25	4.20	1719.00	PUMPED 6 BBL WET SHOE.
Event	21	Check Floats	Check Floats	8/28/2018	17:45:33	USER	8.29	0.00	2061.00	RELEASED PRESSURE BACK TO THE TRUCK, 2.5 BBL BACK.
Event	22	End Job	End Job	8/28/2018	17:46:48	COM4	7.81	0.00	-13.00	END JOB DATA RECORDING.
Event	23	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	8/28/2018	18:00:00	USER	8.26	8.00	407.00	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	24	Rig-Down Completed	Rig-Down Completed	8/28/2018	19:00:00	USER				ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL.
Event	25	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/28/2018	19:15:00	USER				DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	26	Crew Leave Location	Crew Leave Location	8/28/2018	19:30:00	USER				THANK YOU FOR USING HALLIBURTON - THOMAS HAAS AND CREW.

3.0 Attachments

3.1 Troudt 41C-23-M Production.png

