

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Date: Wednesday, May 09, 2018

Berthoud Farms 8E-10-7N Production

Job Date: Wednesday, May 02, 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 **Berthoud Farms 8E-10-7N** 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 40 BBL's 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 #: 369404	Ship To #: 3833929	Quote #:	Sales Order #: 0904827595
Customer: EXTRACTION OIL & GAS		Customer Rep: Jose Torres	
Well Name: BERTHOUD FARMS		Well #: 8E-10-7N	API/UWI #: 05-123-45719-00
Field: WATTENBERG	City (SAP): MEAD	County/Parish: WELD	State: COLORADO
Legal Description: NE SE-7-4N-68W-1546FSL-930FEL			
Contractor:		Rig/Platform Name/Num: Patterson 901	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA/HX38199		Srvc Supervisor: Thomas Haas	

Job

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	10770ft	Job Depth TVD	6130
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		J-55	0	1542	0	1542
Casing	0	5.5	4.778	20	BTC	P-110	0	10770	0	6130
Open Hole Section			7.875				1542	10790	1542	6130

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5				Top Plug	5.5	1	KLX
Float Shoe	5.5	1	KLX	10770	Bottom Plug	5.5		
Float Collar	5.5	1	KLX	10765	SSR plug set	5.5		
Insert Float	5.5				Plug Container	5.5		
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	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	50	bbl	11.5	3.73	23.4	6	1762	
149.34 lbm/bbl		BARITE, BULK (100003681)								
35 gal/bbl		FRESH WATER								

0.50 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								
0.50 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								
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	1475	sack	13.2	1.57	7.53	8	11107	
0.45 %		SCR-100 (100003749)								
7.53 Gal		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	
3	Displacement	Displacement	239	bbl	8.33					
Cement Left In Pipe	Amount	0 ft			Reason WET SHOE			Shoe Joint 5'		
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			Disp. Temperature:			N/A		
Plug Bumped?	Yes	Bump Pressure: 2530 psi			Floats Held?			Yes		
Cement Returns:	40 bbl	Returns Density: N/A			Returns Temperature:			N/A		
Comment : Pumped calculated displacement, plug bumped at 2530 psi, ruptured wet shoe disk at 3680 psi, pumped 5 bbl wet shoe, 40 bbl cmt returned to surface, floats held, 1.5 bbl back to truck.										

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	5/1/2018	21:00:00	USER				CREW CALLED OUT AT 21:00 5/01/2018, REQUESTED ON LOCATION 3:00 5/2/2018. CREW PICKED UP CEMENT, CHEMICALS (25 GAL MUSOL, 25 GAL DUAL SPACER B, 10 GAL D-AIR), 100 LBS SUGAR, AND PLUG CONTAINER FROM FORT LUPTON, CO. BULK 660: 11360555/11689672 PUMP ELITE: 11897034/11645460
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	5/1/2018	23:45:00	USER				DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW
Event	3	Crew Leave Yard	Crew Leave Yard	5/2/2018	00:00:00	USER				STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	5/2/2018	01:30:00	USER				END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 9.625" 36# @ 1542', CASING: 5.5" 20# @ 10770', 5' SHOE JOINT, 7.875" OPEN HOLE, TVD @ 6130', 9.0 PPG WELL FLUID, FRESH WATER DISPLACEMENT.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	5/2/2018	01:45:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND

										WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	5/2/2018	02:00:00	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	5/2/2018	05:00:00	USER	8.46	0.00	0.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	5/2/2018	07:10:27	COM4	0.40	0.00	-7.00	START DATA RECORDING
Event	9	Test Lines	Test Lines	5/2/2018	07:12:38	COM4	8.32	0.00	14.00	PRESSURE TESTED IRON TO 5008 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 1900 PSI, 5TH GEAR STALL OUT @ 1785 PSI.
Event	10	Pump Spacer 1	Pump Spacer 1	5/2/2018	07:18:36	COM4	8.28	0.00	-1.00	PUMP 50 BBLS OF TUNED SPACER @ 11.5 LB/GAL, DENSITY VERIFIED BY PRESSURIZED MUD SCALES. ADDED 25 GAL MUSOL, 25 GAL DUAL SPACER B, AND 10 GAL D-AIR TO SPACER.
Event	11	Pump Cement	Pump Cement	5/2/2018	07:29:04	COM4	11.60	4.00	123.00	PUMP 1475 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.57 YIELD, 7.53 GAL/SK, 412 BBLS, TOC @ SURFACE, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	12	Shutdown	Shutdown	5/2/2018	08:25:53	COM4	13.20	0.80	149.00	SHUT DOWN TO DROP TOP PLUG
Event	13	Drop Top Plug	Drop Top Plug	5/2/2018	08:27:12	COM4	13.44	0.00	6.00	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN. AND TOOL HAND.
Event	14	Pump Displacement	Pump Displacement	5/2/2018	08:28:33	COM4	13.40	0.00	7.00	BEGIN CALCULATED

										DISPLACEMENT OF 239BBLS WITH FRESH WATER.
Event	15	Displ Reached Cement	Displ Reached Cement	5/2/2018	08:30:00	USER	8.24	10.00	348.00	DISPLACEMENT REACHRD CEMENT
Event	16	Cement Returns to Surface	Cement Returns to Surface	5/2/2018	08:44:00	USER	8.27	9.80	2742.00	CEMENT RETURNS TO SURFACE @ 200 BBLS INTO DISPLACEMENT. TOTAL AMOUNT OF 40 BBLS OF CEMENT TO SURFACE.
Event	17	Bump Plug	Bump Plug	5/2/2018	08:55:34	COM4	8.28	5.00	2498.00	PLUG BUMPED AT CALCULATED DISPLACEMENT.
Event	18	Other	Burst wet shoe disk	5/2/2018	08:57:00	USER	8.28	0.00	3003.00	WET SHOE DISK BURST AT 3680 PSI, PUMPED 5 BBL WET SHOE AT 5 BBL/MIN
Event	19	Check Floats	Check Floats	5/2/2018	08:58:00	USER	8.28	4.50	2460.00	FLOATS HELD 1.5BBL BACK TO TRUCK
Event	20	End Job	End Job	5/2/2018	09:00:57	COM4				
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	5/2/2018	09:15:00	USER	8.25	0.00	11.00	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	22	Rig-Down Completed	Rig-Down Completed	5/2/2018	10:30:00	USER				ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL.
Event	23	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	5/2/2018	10:45:00	USER				DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	24	Crew Leave Location	Crew Leave Location	5/2/2018	11:00:00	USER				THANK YOU FOR USING HALLIBURTON - THOMAS HAAS AND CREW.

3.0 Attachments

3.1 Extraction Berthoud Farms 8E-10-7N Production.png

