

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS-EBUS**

United States of America, COLORADO

### **MLD 5 Surface**

Job Date: Wednesday, August 09, 2017

Sincerely,

**Fort Lupton District Cement**

## 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 **MLD 5** cement surface 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.

22 bbls of cement 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*

Sold To #: 369404		Ship To #: 3800232		Quote #:		Sales Order #: 0904219738					
Customer: EXTRACTION OIL & GAS -				Customer Rep: Sean Macentire							
Well Name: MLD			Well #: 5		API/UWI #: 05-123-44821-00						
Field: WATTENBERG		City (SAP): MEAD		County/Parish: WELD		State: COLORADO					
Legal Description: NW NW-22-4N-68W-804FNL-688FWL											
Contractor: UNKNOWN				Rig/Platform Name/Num: WORKOVER RIG							
Job BOM: 7521 7521											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HX38199				Srv Supervisor: Nicholas Peterson							
Job											
Formation Name											
Formation Depth (MD)		Top		Bottom							
Form Type				BHST							
Job depth MD		1580ft		Job Depth TVD		1580					
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	8 RD	J-55	0	1579	0	0	
Open Hole Section			13.5				0	1580	0	0	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	9.625	1	HES	1579		Top Plug	9.625	1	HES		
Float Shoe	9.625	1	HES	1536		Bottom Plug					
Float Collar						SSR plug set					
Insert Float						Plug Container	9.625	1	HES		
Stage Tool						Centralizers					
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	Fresh Water Spacer	Fresh Water Spacer			30	bbl	8.33		42	5	1,260

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	Red Dye	Red Dye Spacer	10	bbl	8.33		42	5	420	
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	Cement	SWIFTCEM (TM) SYSTEM	550	sack	13.5	1.74	9.2	6	5,060	
9.20 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	
4	Displacement	Fresh Water	118	bbl	8.33		42	6	4,956	
Cement Left In Pipe		Amount	43 ft		Reason			Shoe Joint		
Mix Water:		pH 7.0	Mix Water Chloride:			0 ppm		Mix Water Temperature:		70 °F
Cement Temperature:		## °F	Plug Displaced by:			8.33 lb/gal		Disp. Temperature:		70 °F
Plug Bumped?		Yes	Bump Pressure:			510 psi		Floats Held?		Yes
Cement Returns:		22 bbLS	Returns Density:			13.5 lb/gal		Returns Temperature:		## °F
<b>Comment:</b> Pumped 30 bbls fresh water, 10 bbls red dye, 170.44 cement. 118 bbls fresh water displacement, cement to surface 96 bbls away 22 bbls back to surface. Bumped plug @ calculated pressured up to 1,500 psi for 5 min casing pressure test. Floats held got 1 bbl back.										

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	DS Pump Rate (bbl/min)	PS Pump Press (psi)	Comments
Event	1	Arrive At Loc	Arrive At Loc	8/9/2017	03:00:00	USER				E
Event	2	Call Out	Call Out	8/9/2017	11:00:00	USER				CREW CALLED OUT AT 11:00, REQUESTED ON LOCATION 15:00. CREW PICKED UP CEMENT, 100 LBS OF SUGAR, TOP PLUG, AND 2 LBS RED DYE FROM FT. LUPTON, CO. BULK 660, E-08, 10866493, AND PUMP 12645760. CREW WAS ON LOCATION FROM PREVIOUS JOB.
Event	3	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	8/9/2017	14:00:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	4	Rig-Up Equipment	Rig-Up Equipment	8/9/2017	14:15:00	USER				CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON AND WATER HOSES TO PERFORM JOB.
Event	5	Rig-Up Completed	Rig-Up Complete	8/9/2017	14:45:00	USER				
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	8/9/2017	15:30:00	USER	8.39	0.00	27.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	7	Start Job	Start Job	8/9/2017	15:48:52	COM5	8.33	2.70	40.00	BEGIN RECORDING JOB DATA.

Event	8	Pressure Test	Pressure Test	8/9/2017	15:50:36	USER	8.35	0.00	46.00	PRESSURE TESTED IRON TO 2500 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 1381 PSI, 5TH GEAR STALL OUT @ 1784 PSI.
Event	9	Pump Spacer 1	Pump Spacer 1	8/9/2017	15:58:26	COM5	8.40	1.10	52.00	PUMPED 30 BBLS FRESH WATER FOLLOWED BY 10 BBLS RED DYE. PUMP RATE 3 BBLS/MIN @ 170 PSI.
Event	10	Pump Cement	Pump Cement	8/9/2017	16:09:10	COM5	13.82	5.00	196.00	PUMP 550 SKS OF SWIFTCM @ 13.5 LB/GAL, 1.74 FT3/SK, 9.2 GAL/SK 170440 BBLS. DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	11	Shutdown	Shutdown	8/9/2017	16:39:12	USER	13.42	4.20	130.00	
Event	12	Drop Top Plug	Drop Top Plug	8/9/2017	16:41:36	COM5	6.48	0.00	17.00	PLUG LEFT CONTAINER, VERIFIED BY COMPANY REP.
Event	13	Pump Displacement	Pump Displacement	8/9/2017	16:42:15	COM5	3.56	0.00	17.00	BEGIN CALCULATED DISPLACEMENT OF 118 BBLS WITH FRESH WATER. CEMENT TO SURFACE @ 96 BBLS INTO DISPLACEMENT, 22 BBLS OF CEMENT TO SURFACE.
Event	14	Bump Plug	Bump Plug	8/9/2017	17:05:23	COM5	8.39	0.00	1360.00	PLUG BUMPED AT CALCULATED DISPLACEMENT. PRESSURED UP TO 1500 PSI FOR 5 MIN CASING PRESSURE TEST.
Event	15	Check Floats	Check Floats	8/9/2017	17:12:14	USER	8.39	0.00	805.00	FLOATS HELD GOT 1 BBL BACK.
Event	16	End Job	End Job	8/9/2017	17:14:00	COM5				STOP RECORDING JOB DATA.
Event	17	Pre-Rig Down Safety	Pre-Rig Down Safety	8/9/2017	18:01:09	USER				DISCUSSED POSSIBLE



		Meeting	Meeting				HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	18	Rig-Down Equipment	Rig-Down Equipment	8/9/2017	18:03:13	USER	RIG DOWN BULK AND MIXING EQUIPMENT.
Event	19	Crew Leave Location	Crew Leave Location	8/9/2017	18:03:33	USER	THANK YOU FOR USING HALLIBURTON NICK PETERSON AND CREW. BULK TRUCKS LEFT TO GET RELOADED.

3.0 Job Charts

3.1 Job Chart

