

# HALLIBURTON

iCem<sup>®</sup> Service

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

Date: Tuesday, August 15, 2017

### **MLD 8 Surface**

Job Date: Tuesday, August 08, 2017

Sincerely,

**Bryce Hinsch**

## 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 8** 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.

**Approximately 32 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> 369404		<b>Ship To #:</b> 3800233		<b>Quote #:</b>		<b>Sales Order #:</b> 0904219555					
<b>Customer:</b> EXTRACTION OIL & GAS -				<b>Customer Rep:</b> Sean Macentire							
<b>Well Name:</b> MLD			<b>Well #:</b> 8		<b>API/UWI #:</b> 05-123-44818-00						
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> BERTHOUD		<b>County/Parish:</b> WELD		<b>State:</b> COLORADO					
<b>Legal Description:</b> NW NW-22-4N-68W-802FNL-604FWL											
<b>Contractor:</b> UNKNOWN				<b>Rig/Platform Name/Num:</b> WORKOVER RIG							
<b>Job BOM:</b> 7521 7521											
<b>Well Type:</b> HORIZONTAL OIL											
<b>Sales Person:</b> HALAMERICA\HX38199				<b>Srv Supervisor:</b> Nicholas Peterson							
<b>Job</b>											
<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>		1579ft			<b>Job Depth TVD</b>						
<b>Water Depth</b>					<b>Wk Ht Above Floor</b> 5'						
<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	0	9.625	8.921	36	8 RD	J-55	0	1579	0	0	
Open Hole Section			13.5				0	1580	0	0	
<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>		
Guide Shoe	9.625	1	1579	HES		Top Plug	9.625	1	HES		
Float Shoe	9.625	1	1536	HES		Bottom Plug					
Float Collar						SSR plug set					
Insert Float						Plug Container	9.625	1	HES		
Stage Tool						Centralizers					
<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	Spacer	Fresh Water Spacer			20	bbl	8.33		42		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 Spacer	Red Dye Spacer	10	bbl	8.33		42		420	
	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	SwiftCem	SWIFTCEN (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	Mix Water Chloride:			0 Mppm		Mix Water Temperature:		70 °F
Cement Temperature:		°F	Plug Displaced by:			8.33 lb/gal		Disp. Temperature:		70 °F
Plug Bumped?		Yes	Bump Pressure:			410 psi		Floats Held?		Yes
Cement Returns:		32 bbl	Returns Density:			## lb/gal		Returns Temperature:		## °F
Comment: Plug bumped @ calculated displacement floats held got 1 bbl back did 5 minute casing pressure test @ 1,500 psi. 32 bbls cement to surface.										

## 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	Call Out	Call Out	8/7/2017	18:00:00	USER				CREW CALLED OUT AT 18:00, REQUESTED ON LOCATION 22:30. CREW PICKED UP CEMENT, 100 LBS OF SUGAR, TOP PLUG, AND 2 LBS RED DYE FROM FT. LUPTON, CO. BULK 660, E-16, 10866493, AND PUMP 12645760.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/7/2017	20:30:00	USER				DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Yard	Crew Leave Yard	8/7/2017	21:00:00	USER				STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	8/7/2017	22:00:00	USER				E
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	8/7/2017	22:15:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	8/7/2017	22:30:00	USER				CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON AND WATER HOSES TO PERFORM JOB.
Event	7	Rig-Up Completed	Rig-Up Completed	8/7/2017	23:00:00	USER				
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	8/8/2017	07:00:00	USER	8.40	0.00	23.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED

										POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	9	Start Job	Start Job	8/8/2017	07:18:05	COM5	8.39	0.00	22.00	BEGIN RECORDING JOB DATA.
Event	10	Test Lines	Test Lines	8/8/2017	07:24:30	COM5	8.39	0.00	24.00	PRESSURE TESTED IRON TO 2500 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 1370 PSI, 5TH GEAR STALL OUT @ 1744 PSI.
Event	11	Pump Spacer 1	Pump Spacer 1	8/8/2017	07:33:03	COM5	8.38	1.90	30.00	PUMP 30 BBLS OF FRESH WATER WITH THE LAST 10 RED DYE.
Event	12	Pump Cement	Pump Cement	8/8/2017	07:45:28	COM5	8.39	0.00	29.00	PUMP 550 SKS OF SWIFTCEN @ 13.5 LB/GAL, 1.74 FT3/SK, 9.2 GAL/SK 170440 BBLS. DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	13	Drop Top Plug	Drop Top Plug	8/8/2017	08:21:53	USER	0.35	0.00	15.00	PLUG LEFT CONTAINER, VERIFIED BY COMPANY REP.
Event	14	Pump Displacement	Pump Displacement	8/8/2017	08:23:45	COM5	15.37	2.30	20.00	BEGIN CALCULATED DISPLACEMENT OF 118 BBLS WITH FRESH WATER. CEMENT TO SURFACE @ 84 BBLS INTO DISPLACEMENT, 32 BBLS OF CEMENT TO SURFACE.
Event	15	Bump Plug	Bump Plug	8/8/2017	08:50:09	USER	8.41	0.00	1517.00	PLUG BUMPED AT CALCULATED DISPLACEMENT. PRESSURED UP TO 1500 PSI FOR 5 MIN CASING PRESSURE TEST.
Event	16	Check Floats	Check Floats	8/8/2017	08:55:23	USER	8.39	0.00	258.00	FLOATS HELD GOT 1 BBL BACK.
Event	17	End Job	End Job	8/8/2017	08:56:19	USER	8.38	0.00	23.00	STOP RECORDING JOB



										DATA.
Event	18	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	8/8/2017	09:00:00	USER	8.29	1.10	24.00	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	19	Rig-Down Equipment	Rig-Down Equipment	8/8/2017	09:15:43	USER				RIG DOWN BULK AND MIXING EQUIPMENT.
Event	20	Rig-Down Completed	Rig-Down Completed	8/8/2017	09:18:17	USER				ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	21	Crew Leave Location	Crew Leave Location	8/8/2017	09:18:59	USER				B

## 3.0 Attachments

### 3.1 Extraction MLD 8 Surface Job Chart

