

# HALLIBURTON

iCem<sup>®</sup> Service

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

Date: Sunday, August 13, 2017

### **MLD 11 Surface**

Job Date: Saturday, August 05, 2017

Sincerely,

**Justin Lansdale**

## 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 11** 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.

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 #: 3800435	Quote #:	Sales Order #: 0904217198
Customer: EXTRACTION OIL & GAS -		Customer Rep: Sean McIntyre	
Well Name: MLD	Well #: 11	API/UWI #: 05-123-44816-00	
Field: WATTENBERG	City (SAP): BERTHOUD	County/Parish: WELD	State: COLORADO
Legal Description: NW NW-22-4N-68W-801FNL-520FWL			
Contractor: UNKNOWN		Rig/Platform Name/Num: WORKOVER RIG	
Job BOM: 7521 7521			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX38199		Srvc Supervisor: Bryan Kraft	

**Job**

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	1580ft	Job Depth TVD	1580ft
Water Depth		Wk Ht Above Floor	4ft
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	1580	0	1580
Open Hole Section			13.5				0	1581	0	1581

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe					Top Plug	9.625	1	HES
Float Shoe	9.625	1		1580	Bottom Plug			
Float Collar	9.625	1		1537	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	Spacer	FRESH WATER	10	bbl	8.33			4	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

2	Spacer	RED DYED FRESH WATER	10	bbbl	8.33			4	420
<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>
3	Cement	SWIFTCEM (TM) SYSTEM	550	sack	13.5	1.74	9.2	8	5060
9.20 Gal		<b>FRESH WATER</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>
4	Displacement	FRESH WATER	119	bbbl	8.33			8	4998
<b>Cement Left In Pipe</b>		<b>Amount</b>	43 ft		<b>Reason</b>			<b>Shoe Joint</b>	
Mix Water:		pH 7.0	<b>Mix Water Chloride:</b> <100 ppm			Mix Water Temperature:		58 °F	
Cement Temperature:		N/A	<b>Plug Displaced by:</b> 8.3 lb/gal Fresh Water			Disp. Temperature:		58 °F	
Plug Bumped?		Yes	<b>Bump Pressure:</b> 500 psi			Floats Held?		Yes	
Cement Returns:		19 bbl	<b>Returns Density:</b> N/A			Returns Temperature:		N/A	
<b>Comment</b> Plug bumped @ calculated displacement @ 500 PSI, the floats held, 0.5 BBLS back to the truck. Total of 19 BBLS cement to surface.									

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comments
Event	1	Call Out	Call Out	8/5/2017	11:30:00	USER	CREW CALLED OUT AT 11:30 8/5/2017, REQUESTED ON LOCATION 16:30 8/5/2017. CREW PICKED UP CEMENT, TOP PLUG, RED DYE, PLUG CONTAINER AND MANIFOLD FROM FORT LUPTON, CO. BULK 660: 12114231/11764052, BULK 660: 11562570/10866493, PUMP 11644701/11645460.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/5/2017	14:00:00	USER	DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Yard	Crew Leave Yard	8/5/2017	14:15:00	USER	STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	8/5/2017	15:00:00	USER	E
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	8/5/2017	15:05:00	USER	HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	8/5/2017	15:10:00	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	8/5/2017	19:00:00	USER	MEETING WITH HALLIBURTON PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	8/6/2017	00:56:02	COM5	START RECORDING JOB DATA.
Event	9	Test Lines	Test Lines	8/6/2017	00:59:33	USER	PRESSURE TESTED IRON TO 2500 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 900 PSI, 5TH GEAR STALL OUT @ 1820 PSI.
Event	10	Pump Spacer	Pump Fresh Water Spacer	8/6/2017	01:06:36	USER	PUMP 10 BBLS FRESH WATER SPACER.
Event	11	Pump Spacer	Pump Red Dyed Spacer	8/6/2017	01:10:49	USER	PUMP 10 BBLS OF RED DYED FRESH WATER SPACER.

Event	12	Pump Cement	Pump Cement @ 13.5 ppg	8/6/2017	01:19:13	USER	PUMP 550 SKS OF SWIFTCEM @ 13.5 LB/GAL, 1.74 YIELD, 9.2 GAL/SK, 170 BBLS, TOL @ SURFACE, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	13	Shutdown	Shutdown	8/6/2017	01:46:15	USER	SHUTDOWN TO DROP TOP PLUG.
Event	14	Drop Top Plug	Drop Top Plug	8/6/2017	01:47:30	USER	PLUG LEFT CONTAINER, VERIFIED BY COMPANY.
Event	15	Pump Displacement	Pump Fresh Water Displacement	8/6/2017	01:47:39	USER	BEGIN CALCULATED DISPLACEMENT OF 119 BBLS WITH FRESH WATER.
Event	16	Cement Returns to Surface	Cement Returns to Surface	8/6/2017	02:05:04	USER	CEMENT TO SURFACE @ 100 BBLS INTO DISPLACEMENT, TOTAL AMOUNT OF 19 BBLS LEAD TO SURFACE.
Event	17	Bump Plug	Bump Plug	8/6/2017	02:11:03	USER	PLUG BUMPED AT CALCULATED DISPLACEMENT. PRESSURED 500 PSI OVER FINAL CIRCULATING PRESSURE OF 500 PSI.
Event	18	Shutdown	Shutdown	8/6/2017	02:11:12	USER	SHUTDOWN FOR 1 MINUTE.
Event	19	Check Floats	Check Floats	8/6/2017	02:12:40	USER	RELEASED PRESSURE, FLOATS HELD, 0.5 BBL BACK.
Event	20	End Job	End Job	8/6/2017	02:13:42	COM5	STOP RECORDING JOB DATA.
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	8/6/2017	02:20:00	USER	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	22	Rig-Down Completed	Rig-Down Completed	8/6/2017	02:45:00	USER	ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	23	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/6/2017	02:55:00	USER	DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	24	Crew Leave Location	Crew Leave Location	8/6/2017	03:00:00	USER	THANK YOU FOR USING HALLIBURTON - BRYAN KRAFT AND CREW.

3.0 Attachments

3.1 Job Chart



