

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

MLD 4 Surface

Job Date: Thursday, August 10, 2017

Sincerely,

Fort Lupton

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **MLD 4** 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.

26 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 #: 3800442		Quote #:		Sales Order #: 0904219917					
Customer: EXTRACTION OIL & GAS -				Customer Rep: Sean Macentire							
Well Name: MLD			Well #: 4		API/UWI #: 05-123-44815-00						
Field: WATTENBERG		City (SAP): MEAD		County/Parish: WELD		State: COLORADO					
Legal Description: NW NW-22-4N-68W-805FNL-716FWL											
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		1579ft		Job Depth TVD	1,580'						
Water Depth				Wk Ht Above Floor	5'						
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	1,579		Top Plug	9.625	1	HES		
Float Shoe	9.625	1	HES	1,536		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			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 Spacer	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:		68 °F
Cement Temperature:		## °F	Plug Displaced by:			8.33 lb/gal		Disp. Temperature:		68 °F
Plug Bumped?		Yes	Bump Pressure:			520 psi		Floats Held?		Yes/
Cement Returns:		26 bbl	Returns Density:			13.5 lb/gal		Returns Temperature:		## °F
Comment: Pumped 30 bbls fresh water 10 bbls with red dye, 170.44 bbls cement. Pumped calculated displacement of 118 bbls cement returns to surface @ 92 bbls away, 26 bbls cement to surface. Bumped plug to up to 1,500 psi for 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	22:00:00	USER				E
Event	2	Call Out	Call Out	8/10/2017	02:00:00	USER				CREW CALLED OUT AT 02:00, REQUESTED ON LOCATION 06:00. 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.
Event	3	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	8/10/2017	05:00:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	4	Rig-Up Equipment	Rig-Up Equipment	8/10/2017	05:30:00	USER				CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON AND WATER HOSES TO PERFORM JOB.
Event	5	Rig-Up Completed	Rig-Up Completed	8/10/2017	06:00:00	USER	8.38	0.00	22.00	
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	8/10/2017	07:00:00	USER	8.39	0.00	22.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	7	Start Job	Start Job	8/10/2017	07:27:49	COM5	0.18	0.00	22.00	START RECORDING JOB DATA.
Event	8	Test Lines	Test Lines	8/10/2017	07:31:22	COM5	8.39	0.00	27.00	PRESSURE TESTED IRON TO 2500 PSI. KICKOUTS SET @

										500 PSI, KICKED OUT @ 1180 PSI, 5TH GEAR STALL OUT @ 1350 PSI.
Event	9	Pump Spacer 1	Pump Spacer 1	8/10/2017	07:38:06	COM5	8.40	5.10	167.00	PUMPED 30 BBLS FRESH WATER. FOLLOWED BY 10 BBLS RED DYE. PUMP RATE 5 BBL/MIN @ 175 PSI.
Event	10	Pump Cement	Pump Cement	8/10/2017	07:47:53	COM5	13.77	6.20	303.00	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. PUMP RATE 6 BBL/MIN @ 289 PSI.
Event	11	Drop Top Plug	Drop Top Plug	8/10/2017	08:17:56	COM5	19.65	0.00	25.00	PLUG LEFT CONTAINER, VERIFIED BY COMPANY REP.
Event	12	Pump Displacement	Pump Displacement	8/10/2017	08:19:18	COM5	9.12	3.00	70.00	BEGIN CALCULATED DISPLACEMENT OF 118 BBLS WITH FRESH WATER. CEMENT TO SURFACE @ 92 BBLS INTO DISPLACEMENT, 26 BBLS OF CEMENT TO SURFACE.
Event	13	Bump Plug	Bump Plug	8/10/2017	08:45:59	COM5	8.31	0.00	1039.00	PLUG BUMPED AT CALCULATED DISPLACEMENT. PRESSURED UP TO 1500 PSI FOR 5 MIN CASING PRESSURE TEST.
Event	14	Check Floats	Check Floats	8/10/2017	08:51:10	USER	8.31	0.00	1411.00	FLOATS HELD 1 BBL BACK.
Event	15	End Job	End Job	8/10/2017	08:53:06	COM5	8.28	0.00	26.00	STOP RECORDING JOB DATA.
Event	16	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	8/10/2017	09:00:00	USER				DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.

Event	17	Rig-Down Equipment	Rig-Down Equipment	8/10/2017	09:15:00	USER	RIG DOWN BULK AND MIXING EQUIPMENT.
Event	18	Rig-Up Completed	Rig-Down Completed	8/10/2017	10:30:00	USER	ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	19	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/10/2017	10:45:00	USER	DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	20	Crew Leave Location	Crew Leave Location	8/10/2017	11:00:00	USER	THANK YOU FOR USING HALLIBURTON- NICK PETERSON AND CREW.

3.0 Job Chart

3.1 Job Chart

