

# HALLIBURTON

iCem<sup>®</sup> Service

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

Date: Monday, December 24, 2018

### **MT FED Maplewood 8W-20-5 Surface**

Job Date: Saturday, December 22, 2018

Sincerely,

**Bryce Hinsch**

## Legal Notice

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### Disclaimer:

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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 **MT FED Maplewood 8W-20-5** 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.

**Approximately 20 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*

Sold To #: 369404	Ship To #: 3691144	Quote #:	Sales Order #: 0905363747
Customer: EXTRACTION OIL & GAS -		Customer Rep: Chad Kelly	
Well Name: MT FED MAPLEWOOD		Well #: 8W-20-5	API/UWI #: 05-123-42164-00
Field: WATTENBERG	City (SAP): GREELEY	County/Parish: WELD	State: COLORADO
Legal Description: NE NW-9-5N-65W-892FNL-1752FWL			
Contractor:		Rig/Platform Name/Num: Cartel 41	
Job BOM: 7521 7521			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX38199		Srvc Supervisor: Adam Covington	

**Job**

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	1621ft		Job Depth TVD
Water Depth			Wk Ht Above Floor
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	1621	0	0
Open Hole Section			13.5				0	1621	0	0

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	9.625			1621	Top Plug	9.625	1	HES
Float Shoe	9.625				Bottom Plug	9.625		HES
Float Collar	9.625			1576	SSR plug set	9.625		HES
Insert Float	9.625				Plug Container	9.625	1	HES
Stage Tool	9.625				Centralizers	9.625		HES

**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	Red Dye Spacer	Red Dye Spacer	30	bbl	8.33			5		

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	SwiftCem	SWIFTCEM (TM) SYSTEM	575	sack	13.5	1.74		7.5	9.2
9.17 Gal		<b>FRESH WATER</b>							
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	Fresh Water	Fresh Water	122	bbl	8.33			8.5	
<b>Cement Left In Pipe</b>									
<b>Amount</b>		45 ft			<b>Reason</b>			<b>Shoe Joint</b>	
Mix Water: pH 7		Mix Water Chloride: 0 ppm			Mix Water Temperature: 50°F °C				
Cement Temperature: 55 °F °C		Plug Displaced by: 8.33 lb/gal			Disp. Temperature: 50°F °C				
Plug Bumped? Yes		Bump Pressure: 550 psi			Floats Held? Yes				
Cement Returns: 20 bbl m3		Returns Density: 13.5 lb/gal			Returns Temperature: ## °F °C				
<b>Comment</b> TD-1621' OH-13.5", TP-1621' 9 5/8" 36#, FLOAT COLLAR AT 1576'. WATER-- 50 DEGREES, PH 7, CHLORIDES-0, SULFATES-0. FCP-550 PSI. TOOK TO 1475 PSI. 20 BBLS OF CEMENT BACK TO SURFACE. 1 BBL BACK WHEN CHECKING FLOATS.									

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press <i>(psi)</i>	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Call Out	Call Out	12/22/2018	05:30:00	USER					CREW WAS CALLED OUT BY COORDINATOR FOR AN ON LOCATION TIME OF 1100
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	12/22/2018	07:20:00	USER					MET WITH HES CREW AND DISCUSSED ROAD CONDITIONS, TRAFFIC AND DIRECTIONS.
Event	3	Depart Shop for Location	Depart Shop for Location	12/22/2018	07:30:00	USER					LEFT YARD FOR LOCATION. JOURNEY MANAGEMENT WAS MADE.
Event	4	Arrive At Loc	Arrive At Loc	12/22/2018	08:30:00	USER					ARRIVED AT LOCATION. GOT NUMBERS FROM COMPANY MAN. PERFORMED A HAZARD HUNT. TD-1621' OH-13.5", TP-1621' 9 5/8" 36#, FLOAT COLLAR AT 1576'. WATER--50 DEGREES, PH 7, CHLORIDES-0, SULFATES-0.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	12/22/2018	10:00:00	USER					MET WITH HES CREW MEMBERS AND DISCUSSED PINCH POINTS, TEAM LIFTS AND LIFTING TECHNIQUES.
Event	6	Safety Meeting - Pre Job	Safety Meeting - Pre Job	12/22/2018	12:30:00	USER	13.00	8.55	0.00	18.00	MET WITH HES AND RIG CREW MEMBERS TO DISCUSS JOB PROCEDURE, PRESSURES AND SAFETY PROCESSES.
Event	7	Start Job	Start Job	12/22/2018	12:47:48	COM4	10.00	8.92	0.00	0.00	FILLED LINES WITH 3 BBLS OF FRESH WATER. 2 BPM,

											43 PSI. FULL RETURNS.
Event	8	Test Lines	Test Lines	12/22/2018	12:50:30	COM4	49.00	8.58	0.00	3.00	PRESSURE TESTED LINES TO 2500 PSI. AFTER PERFORMING A 500 PSI KICKOUT TEST AND A 5TH GEAR STALL. NO LEAKS.
Event	9	Pump Spacer 1	Pump Spacer 1	12/22/2018	12:53:35	COM4	22.00	8.52	0.00	3.00	PUMPED 20 BBLS OF FRESH WATER SPACER AT 5 BPM, 88 PSI. FULL RETURNS.
Event	10	Pump Spacer 2	Pump Spacer 2	12/22/2018	12:59:40	COM4	98.00	8.51	5.00	0.00	PUMPED 10 BBLS OF DYE WATER SPACER AT 5 BPM, 90 PSI. FULL RETURNS.
Event	11	Pump Cement	Pump Cement	12/22/2018	13:02:09	COM4	82.00	8.36	5.00	0.00	PUMPED 178 BBLS (575 SKS) OF 13.5#, 1.74y, 9.2wr CEMENT AT 7.5 BPM, 230 PSI. FULL RETURNS.
Event	12	Check Weight	Check Weight	12/22/2018	13:06:11	COM4	241.00	13.51	7.60	25.30	USED PRESSURIZED MUD SCALES TO WEIGH UP CEMENT. CEMENT WEIGHED UP AT 13.5#.
Event	13	Check Weight	Check Weight	12/22/2018	13:20:58	COM4	227.00	13.46	7.60	137.70	USED PRESSURIZED MUD SCALES TO WEIGH UP CEMENT. CEMENT WEIGHED UP AT 13.5#.
Event	14	Shutdown	Shutdown	12/22/2018	13:28:38	COM4	44.00	14.83	0.00	183.40	SHUT DOWN TO GET READY TO DROP PLUG AND WASH UP ON TOP OF IT.
Event	15	Drop Top Plug	Drop Top Plug	12/22/2018	13:31:18	COM4	13.00	19.85	0.00	0.00	ADAM COVINGTON DROPPED HALLIBURTON 9 5/8" TOP PLUG. CO. MAN WITNESSED.
Event	16	Pump Displacement	Pump Displacement	12/22/2018	13:31:21	COM4	13.00	19.86	0.00	0.00	PUMPED 122 BBLS OF FRESH WATER DISPLACEMENT. AT 8.5 BPM, PRESSURE GOT UP TO 400 PSI. SLOWED DOWN AS

											PER CO. MAN.
Event	17	Bump Plug	Bump Plug	12/22/2018	13:55:50	COM4	1417.00	7.71	0.00	128.40	BUMP PLUG. FCP-550 PSI. TOOK TO 1475 PSI. HELD FOR A MINUTE AS PER CO. MAN.
Event	18	Other	Check Floats	12/22/2018	13:57:58	COM4	1209.00	7.68	0.00	128.40	BLD PRESSURE OFF TO TRUCK. GOT 1 BBL BACK TO TRUCK WHEN FLOW STOPPED INDICATING THAT THE FLOATS HELD.
Event	19	End Job	End Job	12/22/2018	13:59:19	COM4	17.00	7.68	0.00	128.40	20 BBLs OF CEMENT BACK TO SURFACE.
Event	20	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	12/22/2018	14:10:00	USER	21.00	-0.80	4.20	161.10	MET WITH HES CREW MEMBERS AND DISCUSSED BLOW DOWN PROCEDURE, WASH UP, TEAM LIFTS AND PINCH POINTS.
Event	21	Depart Location Safety Meeting	Depart Location Safety Meeting	12/22/2018	15:20:00	USER					MET WITH HES CREW MEMBERS AND DISCUSSED HOURS OF OPERATION, SPEED LIMITS AND FOLLOWING DISTANCES.
Event	22	Depart Location	Depart Location	12/22/2018	15:30:00	USER					THANK YOU FOR CHOOSING HALLIBURTON.

3.0 Attachments

3.1 Extraction MT FED Maplewood 8W-20-5 Surface Job Chart

