

# HALLIBURTON

iCem<sup>®</sup> Service

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

Date: Tuesday, August 01, 2017

### **HFE 7 Surface**

Job Date: Wednesday, July 26, 2017

Sincerely,

**Bryce Hinsch**

## Legal Notice

---

### Disclaimer:

All information in this report is provided subject to the terms and conditions which govern the services provided by Halliburton. Halliburton personnel use their best efforts in gathering information and their best judgment in interpreting it, but any interpretation, research, analysis or recommendation furnished by Halliburton are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and empirical relationships and assumptions are not infallible, and with respect to which professionals in the industry may differ. Accordingly, HALLIBURTON IS UNABLE TO GUARANTEE THE ACCURACY OF ANY CHART INTERPRETATION, RESEARCH ANALYSIS, OR JOB RECOMMENDATION and any interpretation or recommendation is not for use of or reliance upon by any third party. The customer has full responsibility for any of its decisions which are based on the information provided in this report.

Table of Contents

---

1.0    Cementing Job Summary ..... 4

    1.1    Executive Summary .....4

2.0    Real-Time Job Summary ..... 7

    2.1    Job Event Log .....7

3.0    Attachments..... 10

    3.1    Extraction HFE 7 Surface Job Chart .....10

## 1.0 Cementing Job Summary

---

### 1.1 Executive Summary

---

Halliburton appreciates the opportunity to perform the cementing services on the **HFE 7** 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 26 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 [Ft. Lupton]**

*The Road to Excellence Starts with Safety*

Sold To #: 369404		Ship To #: 3800427		Quote #:		Sales Order #: 0904184067				
Customer: EXTRACTION OIL & GAS -				Customer Rep:						
Well Name: HFE			Well #: 7		API/UWI #: 05-123-44773-00					
Field: WATTENBERG		City (SAP): MEAD		County/Parish: WELD		State: COLORADO				
Legal Description: SW SW-22-4N-68W-1125FSL-1047FWL										
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						
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	1580	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	1580		Top Plug	9.625	1	HES	
Float Shoe	9.625	1	HES	1537		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	Fresh Water	30	bbl	8.33		42	5	1260	
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	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
2	SwiftCem	SWIFTCM (TM) SYSTEM	550	sack	13.5	1.74	9.2	6	5,060
9.20 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	Displacement	Fresh Water	119	bbl	8.33			6	4,998

<b>Cement Left In Pipe</b>				<b>Amount</b>	43 ft	<b>Reason</b>		<b>Shoe Joint</b>	
Mix Water:		pH 7.0	Mix Water Chloride:		0 ppm	Mix Water Temperature:		75 °F	
Cement Temperature:		## °F	Plug Displaced by:		8.33 lb/gal	Disp. Temperature:		75 °F	
Plug Bumped?		Yes/No	Bump Pressure:		450 psi	Floats Held?		Yes	
Cement Returns:		26 bbl	Returns Density:		13.5 lb/gal	Returns Temperature:		## °F	

**Comment:** Pumped 30 bbls Fresh water ahead of dye per company mans request, 10 bbls Dye, 170.44 bbls cement, and 118 bbls of displacement. Plug landed @ calculated got 26 bbls cement to surface. Pressured up to 1500 psi for 5 min casing pressure test per company mans request. 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		Call Out	Call Out	7/26/2017	06:00:00	USER				CREW CALLED OUT AT 06:00, REQUESTED ON LOCATION 10:00. CREW PICKED UP CEMENT, 100 LBS OF SUGAR, CEMENT PLUG AND 2 LBS RED DYE FROM FT. LUPTON, CO. EQUIPMENT ON LOCATION BULK 660, E-2, 12649238, AND PUMP RT-1.
Event		Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	7/26/2017	06:45:00	USER				DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event		Crew Leave Yard	Crew Leave Yard	7/26/2017	07:00:00	USER				STARTED JOURNEY MANAGEMENT.
Event		Arrive at Location from Service Center	Arrive at Location	7/26/2017	08:00:00	USER				END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; CASING- 9.625 36# @ 1,580', 13..5" HOLE 1,580' SHOE 43', FRESH WATER DISPLACEMENT, HALLIBURTON FLOATS AND, PLUGS. CASING LANDED @ 16:00 06/26/2017.
Event		Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	7/26/2017	12:00:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event		Rig-Up Equipment	Rig-Up Equipment	7/26/2017	12:15:00	USER				CREW STAGED EQUIPMENT

										AND RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB.
Event		Safety Meeting - Pre Job	Safety Meeting - Pre Job	7/26/2017	16:15:00	USER	8.42	0.00	0.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	1	Start Job	Start Job	7/26/2017	16:20:05	COM5	3.51	0.00	1.00	BEGIN RECORDING JOB DATA.
Event	2	Pump Water	Pump Water	7/26/2017	16:21:29	USER	7.98	0.00	3.00	FILL LINES 2 BBLS. FRESH WATER.
Event	3	Pressure Test	Pressure Test	7/26/2017	16:23:26	USER	8.37	0.60	1932.00	PRESSURE TESTED IRON TO 2500 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 1800 PSI, 5TH GEAR STALL OUT @ 1678 PSI.
Event	4	Pump Spacer 1	Pump Spacer 1	7/26/2017	16:29:32	COM5	8.29	2.20	41.00	PUMPED 30 BBLS FRESH WATER @ 5 BBLS/MIN 80 PSI.
Event	5	Pump Spacer 2	Pump Spacer 2	7/26/2017	16:39:16	USER	8.36	2.30	32.00	PUMP 10 BBLS OF FRESH WATER WITH RED DYE @ 5 BBL/MIN 80 PSI.
Event	6	Pump Cement	Pump Cement	7/26/2017	16:43:27	COM5	8.37	1.10	24.00	PUMP 550 SKS OF SWIFTCEM @ 13.5 LB/GAL, 1.74 FT3/SK, 9.2 GAL/SK 170.44 BBLS. HOT @ 1,580' TOC @ SURFACE. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMPED CEMENT @ 6 BBLS/MIN 104 PSI.
Event	7	Shutdown	Shutdown	7/26/2017	17:16:48	COM5	16.41	0.00	61.00	
Event	8	Drop Top Plug	Drop Top Plug	7/26/2017	17:18:24	COM5	15.34	1.10	2.00	PLUG LEFT CONTAINER, VERIFIED BY COMPANY REP.



Event	9	Pump Displacement	Pump Displacement	7/26/2017	17:18:28	COM5	14.60	1.10	4.00	BEGIN CALCULATED DISPLACEMENT OF 118 BBLS WITH FRESH WATER. CEMENT TO SURFACE @ 92 BBLS INTO DISPLACEMENT, 26 BBLS OF CEMENT TO SURFACE. PUMPED DISPLACEMENT @ 6 BBLS/MIN 350 PSI.
Event	10	Bump Plug	Bump Plug	7/26/2017	17:41:37	COM5	8.19	3.00	473.00	PLUG BUMPED AT CALCULATED DISPLACEMENT. PRESSURED 450 PSI OVER BUMP TO 1500 PSI FOR 5 MIN CASING PRESSURE TEST.
Event	11	Check Floats	Check Floats	7/26/2017	17:49:36	USER	8.22	0.00	1508.00	FLOATS HELD GOT 1 BBL BACK.
Event	12	End Job	End Job	7/26/2017	17:51:48	COM5	8.21	0.00	1.00	STOP RECORDING JOB DATA.
Event		Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	7/26/2017	18:00:00	USER	-0.07	0.00	0.00	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event		Rig-Down Completed	Rig-Down Completed	7/26/2017	18:30:00	USER				ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event		Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	7/26/2017	18:45:00	USER				DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event		Depart Location	Depart Location	7/26/2017	19:00:00	USER				THANK YOU FOR USING HALLIBURTON - NICK PETERSON AND CREW.

3.0 Attachments

3.1 Extraction HFE 7 Surface Job Chart

