

# HALLIBURTON

iCem<sup>®</sup> Service

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

Date: Friday, September 08, 2017

### **HFE 2 Production**

Job Date: Monday, September 04, 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 **HFE 2 cement production** 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 59 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 #: 3800432	Quote #:	Sales Order #: 0904279636
Customer: EXTRACTION OIL & GAS		Customer Rep:	
Well Name: HFE		Well #: 2	API/UWI #: 05-123-44770-00
Field: WATTENBERG	City (SAP): MEAD	County/Parish: WELD	State: COLORADO
Legal Description: SW SW-22-4N-68W-1126FSL-907FWL			
Contractor: CYCLONE		Rig/Platform Name/Num: CYCLONE 37	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX38199		Srvc Supervisor: Luke Kosakewich	

**Job**

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	11995ft	Job Depth TVD	7133ft
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		9.625	8.921	36			0	1590	0	1590
Casing		5.5	4.778	20			0	11984	0	7133
Open Hole Section			8.5				1590	11995	0	7133

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe					Top Plug	5.5	1	KLX
Float Shoe	5.5			11984	Bottom Plug			
Float Collar	5.5			11980	SSR plug set			
Insert Float					Plug Container			
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	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	50	bbl	11.5	3.73		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	ElastiCem	ELASTICEM (TM) SYSTEM	2000	sack	13.2	1.57		8	7.54

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	Displacement	265.6	bbl	8.33			10	

Cement Left In Pipe	Amount	Reason	Wet Shoe
	0 ft		

**Comment** Full returns throughout the job. Got 59 bbls. of cement to surface. Floats held and got 2 bbls of fluid back to the truck.

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	DH Density (ppg)	Comments
Event	1	Call Out	Call Out	9/3/2017	19:00:00	USER				Crew was called out at 19:00 for an on location time of 23:00.
Event	2	Depart Location Safety Meeting	Depart Location Safety Meeting	9/3/2017	22:00:00	USER				Held pre journey safety meeting and JSA.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	9/3/2017	22:40:00	USER				Performed a site assesment and hazard hunt on location. Checked in with the customer and disscused job procedures and well bore scamatics to calculate the job.
Event	4	Other	Other	9/3/2017	22:55:00	USER				MD: 1,995', TP: 5.5" 20# set at 11,984', FC: 11,980', TVD: 7,133', SC: 9.625" 36# set at 1,590', OH: 8.5", Mud: 10 ppg. Water test: PH: 7.0 Chlorides 0, Temp: 75 degrees.
Event	5	Safety Meeting	Safety Meeting	9/4/2017	01:45:00	USER	0.00	92.00	8.48	Held safety meeting and JSA with all personnel on location.
Event	6	Start Job	Start Job	9/4/2017	02:09:31	COM4	0.00	92.00	8.48	Pumped 3 bbls. of fresh water to fill lines.
Event	7	Test Lines	Test Lines	9/4/2017	02:12:17	COM4	0.00	325.00	8.51	Pressure tested lines to 5,000 psi. with a 500 psi. electronic kick out test.
Event	8	Pump Spacer 1	Pump Spacer 1	9/4/2017	02:19:15	COM4	0.00	293.00	8.49	Pumped 50 bbls. of Tuned Spacer III mixed at 11.5 ppg.

										Yeild 3.73 ft3/sack, Gal/sack 23.4.
Event	9	Pump Cement	Pump Cement	9/4/2017	02:33:19	COM4	4.70	407.00	12.33	Pumped 559 bbls. (2000 sks) of Elasticem mixed at 13.2 ppg. Yeild 1.57 ft3/sack, 7.54 gal/sack.
Event	10	Check Weight	Check weight	9/4/2017	02:43:13	COM4	8.10	448.00	13.12	Cement weight up at 13.2 ppg.
Event	11	Shutdown	Shutdown	9/4/2017	03:49:18	COM4	0.00	148.00	14.12	Rig blew iron down to the wash up tank and also washed pumps and lines until clean.
Event	12	Drop Top Plug	Drop Top Plug	9/4/2017	03:58:06	COM4	0.00	140.00	8.18	Realesed the top plug witnessed by the customer.
Event	13	Pump Displacement	Pump Displacement	9/4/2017	03:58:10	COM4	0.00	132.00	8.19	Pumped 265.6 bbls. of fresh water for displacment.
Event	14	Bump Plug	Bump Plug	9/4/2017	04:36:05	COM4	0.00	3042.00	8.22	Bumed the 500 psi. over 2,450 psi. at 4 bpm. Finale pressure was 2,950 psi.
Event	15	Pressure Up Well	Pressure Up Well	9/4/2017	04:37:28	COM4	1.40	3799.00	8.24	Pressured up the well to 4,000 psi. to burst the plug. Pumped 5 bbls. of fresh water for a wet shoe.
Event	16	Other	Other	9/4/2017	04:40:56	COM4	0.00	102.00	8.21	Bled off pressure to check flaots. Floats held. Got 2 bbls. back to the truck.
Event	17	End Job	End Job	9/4/2017	04:47:06	COM4	0.00	96.00	8.20	Washed pumps and lines until clean. Held JSA and rigged down iron.

3.0 Attachments

3.1 Extraction HFE 2 Production Job Chart

