

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

Date: Friday, September 08, 2017

HFE #5 PRODUCTION

Job Date: Tuesday, August 29, 2017

Sincerely,

Julia Nichols

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 Summary4

2.0 Real-Time Job Summary 7

 2.1 Job Event Log7

3.0 Attachments..... 9

 3.1 Custom Results – Job Chart with Events9

 3.2 Custom Results – Job Chart without Events.....10

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **HFE #5** 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 55 barrels 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]

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 389404	Ship To #: 3800433	Quote #:	Sales Order #: 0904265509							
Customer: EXTRACTION OIL & GAS		Customer Rep: Hans Cary								
Well Name: HFE	Well #: 5	API/UWI #: 05-123-44772-00								
Field: WATTENBERG	City (SAP): MEAD	County/Parish: WELD	State: COLORADO							
Legal Description: SW SW-22-4N-68W-1125FSL-001FWL										
Contractor: CYCLONE		Rig/Platform Name/Num: CYCLONE 37								
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199		Srvc Supervisor: Brad Hinkle								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type		BHST								
Job depth MD	11732ft	Job Depth TVD	7150ft							
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	1597	0	1594
Casing		5.5	4.778	20			0	11732	0	7150
Open Hole Section			8.5				1597	11732	1597	7150
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5					Top Plug	5.5	1	KLX	
Float Shoe	5.5	1	KLX	11732		Bottom Plug	5.5		HES	
Float Collar	5.5	2	KLX	11728		SSR plug set	5.5		HES	
Insert Float	5.5					Plug Container	5.5	1	HES	
Stage Tool	5.5					Centralizers	5.5		HES	
Fluid Data										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Spacer	Tuned Spacer III	50	bbl	11.5	3.73		4		
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
2	Primary Cement	ELASTICEM	1950	sack	13.2	1.54		8	7.54	

last updated on 9/8/2017 10:36:39 AM

Page 1 of 2

iCem® Service

(v. 4.4.18)

Created: Friday, September 08, 2017

HALLIBURTON

Cementing Job Summary

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	260	bbl	8.33			8		
Cement Left In Pipe		Amount		0 ft		Reason		Wet Shoe by Design		
Mix Water:		pH 6.5		Mix Water Chloride:		0 ppm		Mix Water Temperature:		57 °F
Cement Temperature:		## °F °C		Plug Displaced by:		## lb/gal kg/m3 XXXX		Disp. Temperature:		## °F °C
Plug Bumped?		Yes		Bump Pressure:		2160 psi		Floats Held?		Yes
Cement Returns:		55 bbl		Returns Density:		## lb/gal kg/m3		Returns Temperature:		## °F °C
Comment 50 bbls Tuned Spacer and 55 bbls cement to surface.										

2.0 Real-Time Job Summary

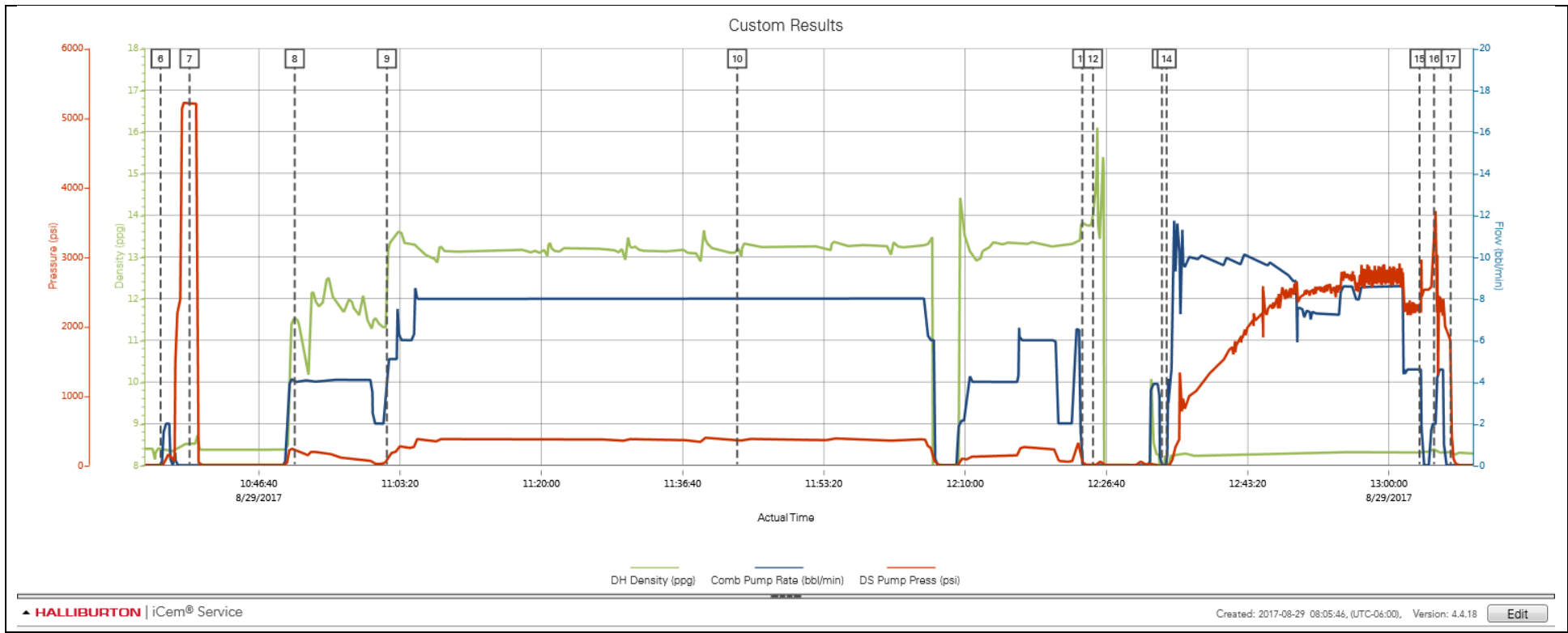
2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	8/29/2017	06:30:00	USER				Crew called for an on location of 0300. Crew was Bradley Hinkle, Prince Perez, Chris Mateo and Sean Salas.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	8/29/2017	08:15:00	USER				Pre-journey safety meeting.
Event	3	Other	Job Numbers	8/29/2017	08:16:00	USER				TD: 11767 TP: 11732 FC: 11728 TVD: 7150 5.5" 20# casing inside a 8.5" OH. 9.625" 36# surface casing set at 1597. Mud weight at 9.4 ppg.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	8/29/2017	09:00:00	USER				Sign in, perform a site assessment and pre rig-up safety meeting. Rig was on bottom and circulating.
Event	5	Safety Meeting - Pre Job	Safety Meeting - Pre Job	8/29/2017	10:00:00	USER				Pre-job safety meeting with all personnel on location.
Event	6	Start Job	Start Job	8/29/2017	10:35:04	COM4	8.41	0.00	0.00	
Event	7	Test Lines	Test Lines	8/29/2017	10:38:29	COM4	8.52	0.00	5215.00	Pressure test lines with a 500 PSI electronic kick-out test.
Event	8	Pump Spacer 1	Pump Spacer 1	8/29/2017	10:50:54	COM4	11.52	4.00	230.00	Pump 50 bbls Tuned Spacer mixed at 11.5 ppg with surfactants added throughout. Density verified by pressurized scales.
Event	9	Pump Lead Cement	Pump Lead Cement	8/29/2017	11:01:46	COM4	11.89	5.10	82.00	Pump 534 bbls (1950 sacks) ElastiCem mixed at 13.2 ppg. Density verified by pressurized scales.
Event	10	Check Weight	Check Weight	8/29/2017	11:43:06	COM4	13.23	8.00	367.00	Cement weighed at 13.2 ppg.
Event	11	Shutdown	Shutdown	8/29/2017	12:23:49	COM4	13.85	0.00	45.00	
Event	12	Clean Lines	Clean Lines	8/29/2017	12:25:05	USER	14.06	0.00	5.00	Blow down lines from rig floor and then pump fresh water to wash up tank until clean.
Event	13	Drop Top Plug	Drop Top Plug	8/29/2017	12:33:13	COM4	6.61	0.00	-22.00	Top plug loaded. Witnessed by KLX hand and customer.
Event	14	Pump Displacement	Pump Displacement	8/29/2017	12:33:46	COM4	1.48	0.00	-12.00	Pump 260 bbls fresh water. Good returns throughout. 50 bbls Tuned Spacer and 55 bbls cement to surface.

Event	15	Bump Plug	Bump Plug	8/29/2017	13:03:36	COM4	8.31	4.60	2170.00	Bump plug at 2160 PSI and increase 500 PSI.
Event	16	Comment	Comment	8/29/2017	13:05:19	USER	8.42	2.00	3298.00	3670 PSI to shift sleeve and pump 5 bbls for a wet shoe.
Event	17	Check Floats	Check Floats	8/29/2017	13:07:16	USER	8.31	0.00	1684.00	2 bbls back. Floats held.
Event	18	End Job	End Job	8/29/2017	13:11:39	COM4				
Event	19	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	8/29/2017	13:15:15	USER	8.58	5.00	69.00	Pre-rig down safety meeting.
Event	20	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	8/29/2017	14:15:00	USER				Pre-journey safety meeting.

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

