

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

Date: Monday, January 29, 2018

Milkshake 31W-20-6N Production

Job Date: Friday, January 12, 2018

Sincerely,

Julia Nichols

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Milkshake 31W-20-6N** 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 50 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 [Fort Lupton]

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 369404		Ship To #: 3836781		Quote #:		Sales Order #: 0904560233					
Customer: EXTRACTION OIL & GAS				Customer Rep: Jose							
Well Name: MILKSHAKE			Well #: 31W-20-6N			API/UWI #: 05-123-45827-00					
Field: WATTENBERG		City (SAP): WINDSOR		County/Parish: WELD		State: COLORADO					
Legal Description: SW SW-32-6N-67W-1081FSL-275FWL											
Contractor:				Rig/Platform Name/Num: Cyclone 37							
Job BOM: 7523 7523											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HX38199					Srcv Supervisor: Bryan Kraft						
Job											
Formation Name											
Formation Depth (MD)		Top			Bottom						
Form Type					BHST						
Job depth MD		17478ft			Job Depth TVD		7100ft				
Water Depth					Wk Ht Above Floor 4ft						
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	LTC	J-55	0	1567	0	1567	
Casing	0	5.5	4.778	20	BTC	P-110	0	17478	0	7100	
Open Hole Section			8.5				1567	17492	1567	7100	
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	1	KLX	17478	Bottom Plug						
Float Collar	5.5	1	KLX	17473	SSR plug set						
Insert Float					Plug Container	5.5	1	HES			
Stage Tool					Centralizers						
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	23.4	4	1761
0.50 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)									
149.34 lbm/bbl		BARITE, BULK (100003681)									
35 gal/bbl		FRESH WATER									
0.50 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)									

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Cementing Job Summary

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
2	Cement	ELASTICEM (TM) SYSTEM	2750	sack	13.2	1.57	7.53	8	20708
		7.53 Gal	FRESH WATER						
		0.45 %	SCR-100 (100003749)						
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	Displacement	FRESH WATER	388	bbl	8.33			8	16296
Cement Left In Pipe		Amount	0 ft	Reason				Wet Shoe Joint	
Mix Water:		pH 6	Mix Water Chloride:		<300 ppm	Mix Water Temperature:		75 °F	
Cement Temperature:		N/A	Plug Displaced by:		8.3 lb/gal Fresh Water	Disp. Temperature:		70 °F	
Plug Bumped?		Yes	Bump Pressure:		2852 psi	Floats Held?		Yes	
Cement Returns:		50 bbl	Returns Density:		N/A	Returns Temperature:		N/A	
<p>Comment: The plug bumped @ calculated displacement @ 2852 PSI, shutdown @ 3088 PSI for 1 minute. The plug burst @ 3911 PSI and pumped a 5 BBL wet shoe. The floats held and received 2 BBLS back to the truck. Cement returned to surface @ 338 BBLS into displacement. Total of 50 BBLS cement to surface.</p>									

2.0 Real-Time Job Summary

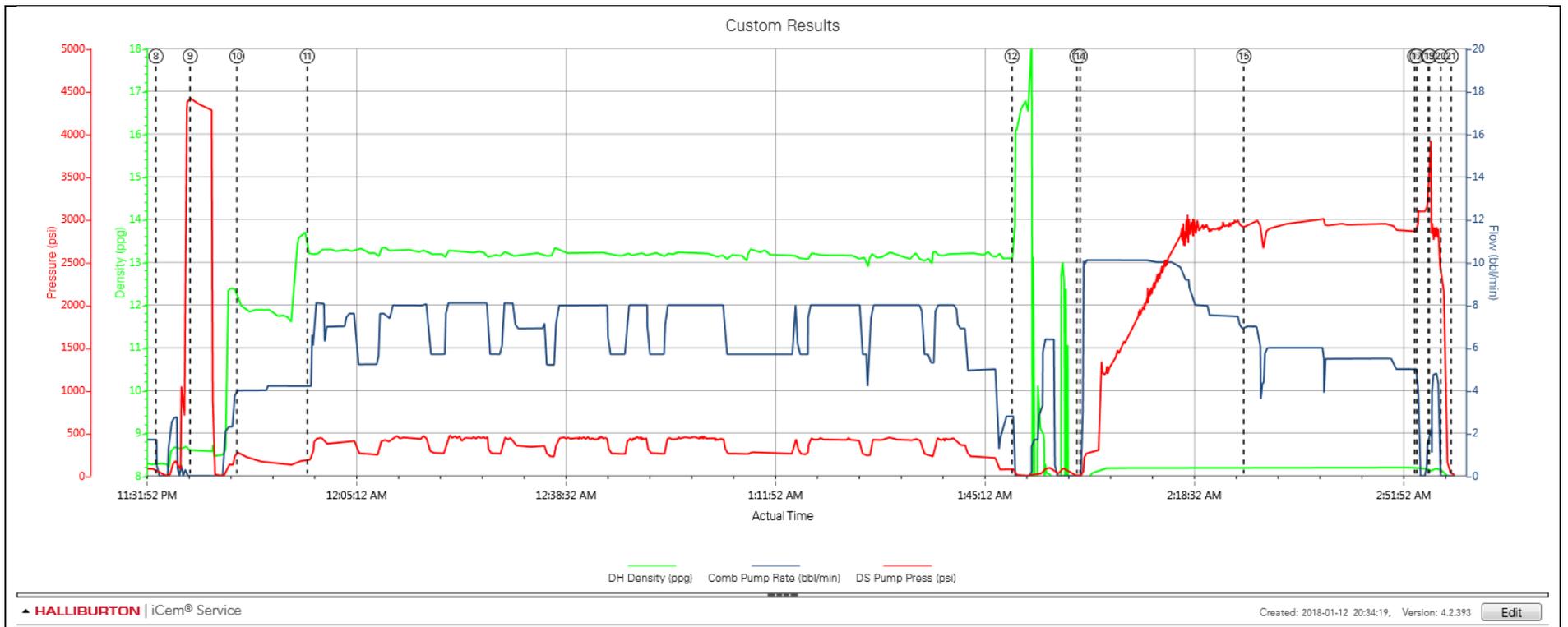
2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	DS Pump Press <i>(psi)</i>	Comments
Event	1	Call Out	Call Out	1/12/2018	13:00:00	USER				CREW CALLED OUT AT 13:00 1/12/2018, REQUESTED ON LOCATION 21:00 1/12/2018. CREW PICKED UP SPACER, CHEMICALS (25 GAL MUSOL A, 25 GAL DUAL SPACER B, 10 GAL D-AIR), 100 LBS SUGAR, MANIFOLD, AND PLUG CONTAINER FROM FORT LUPTON,CO. BULK BODYLOAD: 10248062, PUMP ELITE: 11897034/11645460.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/12/2018	16:45:00	USER				DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Yard	Crew Leave Yard	1/12/2018	17:00:00	USER				STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	1/12/2018	18:00:00	USER				END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 36# 9.625" @ 1571', CASING: 20# 5.5" @ 16648', 5' SHOE JOINT, 8.5" OPEN HOLE, TVD @ 7257', 9.6 PPG WELL FLUID, FRESH WATER DISPLACEMENT.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	1/12/2018	18:10:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	1/12/2018	18:15:00	USER				CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	1/12/2018	23:15:00	USER	0.00	0.00	-6.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	1/12/2018	23:33:39	COM6	8.30	0.00	48.00	BEGIN RECORDING JOB DATA.
Event	9	Test Lines	Test Lines	1/12/2018	23:39:05	USER	8.59	0.00	4402.00	PRESSURE TESTED IRON TO 4500 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 1060 PSI, 5TH GEAR STALL OUT @ 2200 PSI.
Event	10	Pump Spacer 1	Pump Tuned Spacer @ 11.5 ppg	1/12/2018	23:46:31	COM6	12.05	4.00	261.00	PUMP 50 BBLS OF TUNED SPACER @ 11.5 LB/GAL, ADDED 25 GAL MUSOL A, 25 GAL DUAL SPACER B, AND 10 GAL D-AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.

Event	11	Pump Cement	Pump Cement @ 13.2 ppg	1/12/2018	23:57:45	COM6	13.22	4.20	193.00	PUMP 2750 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.57 YIELD, 7.53 GAL/SK, 769 BBLS, TOC @ SURFACE', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	12	Shutdown	Shutdown	1/13/2018	01:49:54	COM6				SHUTDOWN TO WASH PUMPS AND LINES/ DROP TOP PLUG.
Event	13	Drop Top Plug	Drop Top Plug	1/13/2018	02:00:14	COM6				PLUG LEFT CONTAINER, VERIFIED BY TOOL HAND.
Event	14	Pump Displacement	Pump Fresh Water Displacement	1/13/2018	02:00:44	COM6	7.48	2.50	13.00	BEGIN CALCULATED DISPLACEMENT OF 388 BBLS WITH FRESH WATER.
Event	15	Cement Returns to Surface	Cement Returns to Surface	1/13/2018	02:26:47	USER	8.21	7.00	2935.00	CEMENT TO SURFACE @ 338 BBLS INTO DISPLACEMENT. 50 BBLS OF CEMENT TO SURFACE.
Event	16	Bump Plug	Bump Plug	1/13/2018	02:54:00	USER	8.19	5.00	2852.00	PLUG BUMPED AT CALCULATED DISPLACEMENT @ 2852 PSI.
Event	17	Shutdown	Shutdown	1/13/2018	02:54:21	USER	8.19	0.00	3088.00	SHUTDOWN FOR 1 MINUTE @ 3088 PSI.
Event	18	Other	Burst Plug	1/13/2018	02:56:09	USER	8.06	1.90	3878.00	PRESSURE UP TO BURST PLUG. PLUG BURST @ 3911 PSI.
Event	19	Pump Displacement	Pump Wet Shoe	1/13/2018	02:56:20	USER	8.16	3.90	2803.00	PUMP 5 BBLS FRESH WATER FOR A WET SHOE.
Event	20	Check Floats	Check Floats	1/13/2018	02:58:08	USER	8.12	0.00	2222.00	RELEASED PRESSURE, FLOATS HELD, 2 BBLS BACK.
Event	21	End Job	End Job	1/13/2018	02:59:48	COM6				STOP RECORDING JOB DATA
Event	22	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	1/13/2018	03:05:00	USER				DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	23	Rig-Down Completed	Rig-Down Completed	1/13/2018	04:15:00	USER				ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	24	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/13/2018	04:25:00	USER				DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	25	Crew Leave Location	Crew Leave Location	1/13/2018	04:30:00	USER				THANK YOU FOR USING HALLIBURTON - BRYAN KRAFT AND CREW.

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

