

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Date: Thursday, March 01, 2018

Milkshake 31W-20-1N Production

Job Date: Monday, February 05, 2018

Sincerely,

Bryce Hinsch

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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-20-1N** 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 41 bbls of cement were brought 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 #: 3847422		Quote #:		Sales Order #: 0904621446				
Customer: EXTRACTION OIL & GAS				Customer Rep: Jose Torres						
Well Name: MILKSHAKE			Well #: 31W-20-1N		API/UWI #: 05-123-46054-00					
Field: WATTENBERG		City (SAP): WINDSOR		County/Parish: WELD		State: COLORADO				
Legal Description: SW SW-32-6N-67W-1172FSL-300FWL										
Contractor:				Rig/Platform Name/Num: Cyclone 37						
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199				Srvc Supervisor: Steven Markovich						
Job										
Formation Name										
Formation Depth (MD)		Top		Bottom						
Form Type				BHST						
Job depth MD		17911ft		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	LTC	J-55	0	1569	0	0
Casing	0	5.5	4.778	20	BTC	P-110	0	17931	0	0
Open Hole Section			8.5				1569	17931	0	0
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5			17931		Top Plug	5.5		HES	
Float Shoe	5.5					Bottom Plug	5.5		HES	
Float Collar	5.5					SSR plug set	5.5		HES	
Insert Float	5.5					Plug Container	5.5		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 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		6		
35 gal/bbl		FRESH WATER								

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	2800	sack	13.2	1.57		6	7.53
7.53 Gal		FRESH WATER							
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	395	bbl	8.33			8	
Mix Water: pH 7		Mix Water Chloride: >200 ppm			Mix Water Temperature:		34 °F °C		
Comment Spacer to surface at 304bbbls away, cement to surface at 354bbbls away bring 41bbbls of cement to surface. Final lifting pressure was 2936psi. Plug burst at 4284psi then pumped a 5bbl wet shoe.									

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 Press (psi)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	Call Out	2/5/2018	10:00:00	USER					Job called out with an on location time of 14:00
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	2/5/2018	13:00:00	USER					JSA with HES crew on driving safety and route to rig.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	2/5/2018	13:50:00	USER					Arrived on location, rig still running casing. Had 2500' to run.
Event	4	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	2/5/2018	14:00:00	USER					JSA and Haard hunt with HES crew.
Event	5	Rig-Up Equipment	Rig-Up Equipment	2/5/2018	14:10:00	USER					Rigged up HES lines and equipment.
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	2/5/2018	18:30:00	USER	0.07	93.00	0.00	0.1	JSA with HES and rig crew on job procedure and safety.
Event	7	Start Job	Start Job	2/5/2018	19:05:00	COM4	8.85	201.00	1.70	42.9	TD 17931' TP 17911' FC 17906' 5 1/2" 20# production casing, 8 1/2" open hole, 9 5/8" 36# surface casing at 1569, TVD 7060'
Event	8	Test Lines	Test Lines	2/5/2018	19:09:44	COM4	8.71	1001.00	0.00	7.1	Set kick outs to 500psi and check kick outs then bring pressure u to 4800psi and hold.
Event	9	Pump Spacer 1	Pump Spacer 1	2/5/2018	19:13:14	COM4	8.67	117.00	0.00	0.0	Pump 50bbls of 11.5ppg 3.73yield Tuned Spacer. Added 25gallons of Musol A and Dual Spacer B on the

											fly. Pumped at 6.5bbl/min 523psi.
Event	10	Pump Cement	Pump Cement	2/5/2018	19:22:10	COM4	12.19	500.00	6.50	0.1	Pump 782.9bbls (2800sks) of 13.2ppg 1.57yield Lead Cement. Pumped at 8bbl/min 750psi.
Event	11	Check Weight	Check weight	2/5/2018	19:22:52	COM4	13.25	780.00	8.30	5.3	Weight verified by pressurized scales.
Event	12	Check Weight	Check Weight	2/5/2018	19:41:50	USER	13.12	503.00	8.00	157.4	Weight verified by pressurized scales.
Event	13	Check Weight	Check Weight	2/5/2018	20:07:44	USER	13.38	545.00	8.00	364.3	Weight verified by pressurized scales.
Event	14	Check Weight	Check Weight	2/5/2018	20:28:19	USER	13.37	536.00	8.20	529.3	Weight verified by pressurized scales.
Event	15	Check Weight	Check Weight	2/5/2018	20:49:41	USER	13.17	502.00	8.00	701.7	Weight verified by pressurized scales.
Event	16	Shutdown	Shutdown	2/5/2018	21:06:09	COM4	13.23	234.00	0.10	825.9	Shutdown and clean pumps and lines
Event	17	Drop Top Plug	Drop Top Plug	2/5/2018	21:17:05	COM4	7.92	100.00	0.00	837.4	Plug loaded by tool hand. Dropped in front of tool hand company rep and myself.
Event	18	Pump Displacement	Pump Displacement	2/5/2018	21:17:16	COM4	8.06	100.00	0.00	0.0	Pump 395bbls of H2o. Pumped at 12bbl/min and slowed rate with pressure increase. Spacer to surface at 304bbls away, cement to surface at 354bbls away bringing 41bbls of cement to surface.
Event	19	Bump Plug	Bump Plug	2/5/2018	22:03:43	COM4	8.40	2936.00	4.50	405.4	Bumped plug at 395bbls away, final lift pressure was 2936psi.
Event	20	Other	Other	2/5/2018	22:05:18	USER	8.40	3066.00	0.00	405.9	Kicked in pumps to burst

plug, plug burst at 4284psi
then pumped a 5bbl wet
shoe.

Event	21	End Job	End Job	2/5/2018	22:09:11	COM4	8.38	137.00	0.00	412.6	Thank you Steve Markovich and crew.
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3.0 Attachments

3.1 Extraction Milkshake 31W-20-1N Production Job Chart

