

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

United B S16-20-16C Production

Job Date: Tuesday, December 28, 2021

Sincerely,

Meghan Van Zyl

Legal Notice

Disclaimer:

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **United B S16-20-16C** 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 47 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

Sold To #: 369404		Ship To #: 3909410		Quote #:		Sales Order #: 0907583171				
Customer: EXTRACTION OIL & GAS-EBUS						Customer Rep: Manny Parras and Joe Long				
Well Name: UNITED B				Well #: S16-20-16C		API/UWI #: 05-014-20810-00				
Field: WATTENBERG		City (SAP): BROOMFIELD		County/Parish: BROOMFIELD		State: COLORADO				
Legal Description: NE NE-9-1S-68W-454FNL-920FEL										
Contractor: ENSIGN DRLG				Rig/Platform Name/Num: ENSIGN 769						
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX41066				Srvc Supervisor: Nicholas Roles						
Job										
Formation Name										
Formation Depth (MD)		Top				Bottom				
Form Type				BHST						
Job depth MD		18429ft		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		9.625	8.921	36			0	1622	0	1622
Casing		5.5	4.892	17			0	18429	0	8226
Open Hole Section			8.75				1622	18444	1622	8226
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5					Top Plug	5.5	1	DwnHI Tech	
Float Shoe	5.5			18429		Bottom Plug	5.5	1	DwnHL Tech	
Float Collar	5.5			18424		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 ft³/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Tuned Prime	TUNED PRIME CEMENT SPACER SYS	50	bbl	11.5	3.73		6		
Fluid Data										
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	Cap	SBM CEM ELASTICEM™ SYS	550	sack	13	1.67		9	8.33	

0.35 %		SCR-100, 1200 LB BAG - (1126328)																																				
8.33 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	FDP-C1371 SYS	SBM CEM FDP-C1371 SYS	735	sack	13	1.56		9	7.24																													
7.24 Gal		FRESH WATER																																				
5 %		CHANNELFIX, 44 LB BAG - (1107429)																																				
0.27 %		SCR-100, 1200 LB BAG - (1126328)																																				
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																													
4	ElastiCem	SBM CEM ELASTICEM™ SYS	1585	sack	13.2	1.59		9	7.75																													
0.70 %		HR-5, 50 LB SK (100005050)																																				
7.75 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																													
5	Displacement	Displacement	427	bbl	8.33			10																														
<table border="1"> <tr> <td>Cement Left In Pipe</td> <td>Amount</td> <td>5 ft</td> <td>Reason</td> <td>Shoe Joint</td> </tr> <tr> <td>Mix Water:</td> <td>pH 7</td> <td>Mix Water Chloride:</td> <td>>3000 ppm</td> <td>Mix Water Temperature:</td> <td>45 °F °C</td> </tr> <tr> <td>Cement Temperature:</td> <td>## °F °C</td> <td>Plug Displaced by:</td> <td>8.33 lb/gal</td> <td>Disp. Temperature:</td> <td>45 °F °C</td> </tr> <tr> <td>Plug Bumped?</td> <td>Yes</td> <td>Bump Pressure:</td> <td>3700 psi MPa</td> <td>Floats Held?</td> <td>Yes</td> </tr> <tr> <td>Cement Returns:</td> <td>47 bbl m3</td> <td>Returns Density:</td> <td>## lb/gal kg/m3</td> <td>Returns Temperature:</td> <td>## °F °C</td> </tr> </table>										Cement Left In Pipe	Amount	5 ft	Reason	Shoe Joint	Mix Water:	pH 7	Mix Water Chloride:	>3000 ppm	Mix Water Temperature:	45 °F °C	Cement Temperature:	## °F °C	Plug Displaced by:	8.33 lb/gal	Disp. Temperature:	45 °F °C	Plug Bumped?	Yes	Bump Pressure:	3700 psi MPa	Floats Held?	Yes	Cement Returns:	47 bbl m3	Returns Density:	## lb/gal kg/m3	Returns Temperature:	## °F °C
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Cement Returns:	47 bbl m3	Returns Density:	## lb/gal kg/m3	Returns Temperature:	## °F °C																																	
Comment Got 47bbls Cement to surface. Est TOT-7424', TOL-2424'.																																						

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq No.	Activity	Graph Label	Date	Time	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
1	Call Out	Call Out	12/28/2021	06:30:00					Called out by service coordinator for OL time of 1300.
2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/28/2021	11:45:00					Discuss all hazards associated with journey, directions to destination, complete journey management if needed, and ensure all convoy is fit for duty.
3	Arrive at Location from Service Center	Arrive at Location from Service Center	12/28/2021	12:00:00					Upon arrival to location, signed in with onsite safety personnel. Met with company man and discussed job specific requirements and specifications.
4	Depart from Service Center or Other Site	Depart from Service Center or Other Site	12/28/2021	12:00:00					Depart from service center or other job site.
5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	12/28/2021	12:15:00					Held pre rig up JSA for hazards, hazard hunt with crew, and discussed plan for spotting equipment and rigging up lines for job. Discussed muster points and closest emergency location as well as coordinates.
6	Rig-Up Equipment	Rig-Up Equipment	12/28/2021	12:30:00					Begin rig up with crew.
7	Rig-Up Completed	Rig-Up Completed	12/28/2021	13:30:00					Complete rig up for job to nearest point before red zone.
8	Other	Other	12/28/2021	14:00:00					Mix water test results- PH-7, Chlo-0, Temp-65F.

9	Safety Meeting - Pre Job	Safety Meeting - Pre Job	12/28/2021	16:30:00	0.00	0.00	53.00	1.90	Held job specific hazards as well as confirming job procedure with co man and rest of crew associated with job.
10	Start Job	Start Job	12/28/2021	16:53:02	7.98	0.00	-5.00	10.40	TD-18444', OH-8.5", TP-18429' 5.5" 17#, TVD-8226', SURF-1622' 9.625" 36#, MUD 10.8#
11	Drop Bottom Plug	Drop Bottom Plug	12/28/2021	16:54:23	7.99	2.90	231.00	1.00	Dropped by HES supervisor, witnessed by company man.
12	Test Lines	Test Lines	12/28/2021	16:55:15	8.33	0.00	236.00	3.30	Pumped 5bbls fresh water to fill lines at 4bpm 320psi, shut manifold, and performed 500psi k/o function test, followed with 5th gear stall at 1800psi, proceeded to bring pressure to 4500psi, held well and no leaks.
13	Pump Spacer 1	Pump Spacer 1	12/28/2021	17:05:19	8.32	0.00	144.00	3.30	Pumped 50bbls of 12.5# 2.74y 16.55g/s FDP Spacer with 10g D-air at 6bpm 447psi.
14	Check Weight	Check Weight	12/28/2021	17:07:32	12.02	1.60	297.00	3.40	Weight verified with pressurized mud scales.
15	Pump Lead Cement	Pump Lead Cement	12/28/2021	17:18:30	13.15	2.50	230.00	37.20	Pumped 550sks or 164bbls of 13# 1.67y 8.33g/s Elasticem at 9bpm 498psi.
16	Check Weight	Check Weight	12/28/2021	17:27:52	13.12	4.00	262.00	28.50	Weight verified with pressurized mud scales.
17	Check Weight	Check Weight	12/28/2021	17:39:05	13.10	8.80	605.00	110.20	Weight verified with pressurized mud scales.
18	Pump Lead Cement	Pump Lead Cement	12/28/2021	17:47:57	14.95	0.00	7.00	156.80	Pumped 735sks 204bbls 13# 1.56y 7.24g/s Gasstop at 9bpm 500psi.
19	Check Weight	Check Weight	12/28/2021	17:58:38	13.02	9.10	749.00	60.40	Weight verified with pressurized mud scales.
20	Pump Tail Cement	Pump Tail Cement	12/28/2021	18:17:24	12.97	2.20	143.00	0.00	Pumped 1585sks or 449bbls 13.2# 1.59y 7.75g/s Elasticem at 9bpm 550psi.
21	Check Weight	Check Weight	12/28/2021	18:32:04	13.19	9.00	576.00	76.90	Weight verified with pressurized mud scales.
22	Check Weight	Check Weight	12/28/2021	18:49:17	13.22	9.00	590.00	221.00	Weight verified with pressurized mud scales.

23	Shutdown	Shutdown	12/28/2021	19:19:28	14.57	0.00	-4.00	483.20	Shutdown, washed up through pumps and lines with fresh water. Pumped total of 15bbls until clean.
24	Test Lines	Test Lines	12/28/2021	19:22:01	13.63	1.20	422.00	0.30	Had a leak on a washup hose and shutdown to get realigned.
25	Drop Top Plug	Drop Top Plug	12/28/2021	19:36:56	8.28	0.00	-11.00	20.30	Dropped by HES supervisor, witnessed by company man.
26	Pump Displacement	Pump Displacement	12/28/2021	19:37:00	8.32	0.00	0.00	0.00	Pumped 427bbls fresh water at 10bpm.
27	Bump Plug	Bump Plug	12/28/2021	20:41:18	8.38	0.00	3324.00	430.30	Slowed down at 400bbls away to 5bpm, final circulating pressure-2700psi. Bump pressure-3700psi.
28	Other	Other	12/28/2021	20:43:01	8.39	0.00	3692.00	430.80	Released pressure and got 6bbls back. Floats held.
29	End Job	End Job	12/28/2021	20:45:02	8.33	0.00	-12.00	430.80	Got 47bbls Cement to surface. Est TOT-7424', TOL-2424'.
30	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	12/28/2021	20:46:00	8.32	0.00	-12.00	0.00	Held safety meeting with crew prior to rig down, discussed possibility of trapped pressure, swing radius, slips trips and falls, pinch points and risks associated with rig down.
31	Rig Down Lines	Rig Down Lines	12/28/2021	21:00:00	8.39	0.00	-10.00	21.20	Begin rig down
32	Rig-Down Completed	Rig-Down Completed	12/28/2021	22:00:00					Rig down complete with no injuries, spills or damage to equipment.
33	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/28/2021	22:15:00					Held safety meeting with convoy, discussed trip hazards, directions and all crew fit for duty prior to departure.
34	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	12/28/2021	22:30:00					Depart location, if applicable journey will be submitted.

3.0 Attachments

3.1 Real Time iCem Job Chart

