

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

United B S16-20-17N Production

Job Date: Monday, January 03, 2022

Sincerely,

Meghan Van Zyl

Legal Notice

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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 S16-20-17N** 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 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 #: 3909281		Quote #:		Sales Order #: 0907594601	
Customer: EXTRACTION OIL & GAS-EBUS				Customer Rep: Manny Parras			
Well Name: UNITED B			Well #: S16-20-17N		API/UWI #: 05-014-20809-00		
Field: WATTENBERG		City (SAP): BROOMFIELD		County/Parish: BROOMFIELD		State: COLORADO	
Legal Description: NE NE-9-1S-68W-436FNL-916FEL							
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	18226ft	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	18226	0	8015
Open Hole Section			8.75				1622	18235	0	8015

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5				Top Plug	5.5	1	HES
Float Shoe	5.5			18226	Bottom Plug	5.5	1	HES
Float Collar	5.5			18221	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	Tuned Prime	TUNED PRIME CEMENT SPACER SYS	50	bbl	11.5	3.73		6	

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	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 ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	FDP-C1371 SYS	SBM CEM FDP-C1371 SYS	760	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 ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	ElastiCem	SBM CEM ELASTICEM™ SYS	1530	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 ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
5	Displacement	Displacement	423	bbl	8.33			10	
Cement Left In Pipe									
Amount		5 ft			Reason			Shoe Joint	
Mix Water: pH 7		Mix Water Chloride: >3000 ppm			Mix Water Temperature: 60 °F °C				
Cement Temperature: ## °F °C		Plug Displaced by: 8.33 lb/gal			Disp. Temperature: 60 °F °C				
Plug Bumped? Yes		Bump Pressure: 3600 psi MPa			Floats Held? Yes				
Cement Returns: 55 bbl m3		Returns Density: ## lb/gal kg/m3			Returns Temperature: ## °F °C				
Comment Got 55bbls Cement to surface. Est TOT-7613', TOL-2441'.									

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	1/3/2022	06:00:00					Called out by service coordinator for OL time of 1230.
2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/3/2022	10:00:00					Discuss all hazards associated with journey, directions to destination, complete journey management if needed, and ensure all convoy is fit for duty.
3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	1/3/2022	10:15:00					Depart from service center or other job site.
4	Arrive at Location from Service Center	Arrive at Location from Service Center	1/3/2022	11:00:00					Upon arrival to location, signed in with onsite safety personnel. Met with company man and discussed job specific requirements and specifications.
5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	1/3/2022	11:05:00					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	1/3/2022	11:15:00					Begin rig up with crew.
7	Rig-Up Completed	Rig-Up Completed	1/3/2022	12:30:00					Complete rig up for job to nearest point before red zone.
8	Other	Other	1/3/2022	12:30:00					Mix water test results- PH-7, Chlo-0, Temp-65F.

9	Safety Meeting - Pre Job	Safety Meeting - Pre Job	1/3/2022	15:00:00					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	1/3/2022	17:01:01	7.96	0.00	0.00	0.00	TD-18235', OH-8.5", TP-18226' 5.5" 17#,FC-18221, TVD-8015', SURF-1622' 9.625" 40#, MUD 10.6#
11	Drop Bottom Plug	Drop Bottom Plug	1/3/2022	17:01:57	7.99	2.50	183.00	0.60	Dropped by HES supervisor, witnessed by company man.
12	Test Lines	Test Lines	1/3/2022	17:03:12	8.33	0.00	167.00	3.10	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	1/3/2022	17:06:27	8.32	0.00	70.00	3.10	Pumped 50bbls of 12.5# 2.74y 16.55g/s FDP Spacer with 10g D-air at 6bpm 447psi.
14	Check Weight	Check Weight	1/3/2022	17:10:02	11.61	4.80	391.00	13.00	Weight verified with pressurized mud scales.
15	Check Weight	Check Weight	1/3/2022	17:13:37	11.90	4.80	332.00	31.90	Weight verified with pressurized mud scales.
16	Pump Cap Cement	Pump Cap Cement	1/3/2022	17:15:11	11.80	5.00	298.00	0.00	Pumped 550sk or 164bbls of 13# 1.67y 8.33g/s Elasticem at 9bpm 498psi.
17	Check Weight	Check Weight	1/3/2022	17:21:37	12.91	5.40	307.00	33.90	Weight verified with pressurized mud scales.
18	Check Weight	Check Weight	1/3/2022	17:31:14	12.88	9.60	556.00	118.30	Weight verified with pressurized mud scales.
19	Pump Lead Cement	Pump Lead Cement	1/3/2022	17:37:13	12.41	9.40	272.00	172.70	Pumped 760sk or 211bbls 13# 1.56y 7.24g/s Gasstop at 9bpm 800psi.
20	Pump Tail Cement	Pump Tail Cement	1/3/2022	17:59:59	12.81	9.50	686.00	388.00	Pumped 1530sk or 433bbls 13.2# 1.59y 7.75g/s Elasticem at 9bpm 855psi.
21	Check Weight	Check Weight	1/3/2022	18:03:47	13.18	9.40	648.00	35.90	Weight verified with pressurized mud scales.
22	Check Weight	Check Weight	1/3/2022	18:20:09	13.31	9.30	657.00	189.30	Weight verified with pressurized mud scales.

23	Shutdown	Shutdown	1/3/2022	18:48:28	13.43	0.00	97.00	447.00	Shutdown, washed up through pumps and lines with fresh water. Pumped total of 15bbls until clean.
24	Drop Top Plug	Drop Top Plug	1/3/2022	18:56:52	8.41	0.00	-22.00	14.50	Dropped by HES supervisor, witnessed by company man.
25	Pump Displacement	Pump Displacement	1/3/2022	18:56:55	8.41	0.00	-21.00	14.50	Pumped 423bbls fresh water at 10bpm.
26	Bump Plug	Bump Plug	1/3/2022	19:58:21	8.46	0.00	3594.00	427.10	Slowed down at 400bbls away to 4bpm, final circulating pressure-2600psi. Bump pressure-3600psi.
27	Other	Other	1/3/2022	19:58:44	8.46	0.00	3602.00	427.10	Released pressure and got 5bbls back. Floats held.
28	End Job	End Job	1/3/2022	20:00:41	8.39	0.00	17.00	427.10	Got 55bbls Cement to surface. Est TOT-7613', TOL-2441'.
29	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	1/3/2022	20:05:00	8.37	10.40	320.00	13.40	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.
30	Rig Down Lines	Rig Down Lines	1/3/2022	20:15:00	8.41	0.00	13.00	27.90	Begin rig down
31	Rig-Down Completed	Rig-Down Completed	1/3/2022	21:15:00					Rig down complete with no injuries, spills or damage to equipment.
32	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/3/2022	21:30:00					Held safety meeting with convoy, discussed trip hazards, directions and all crew fit for duty prior to departure.
33	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	1/3/2022	22:00:00					Depart location, if applicable journey will be submitted.

3.0 Attachments

3.1 Real Time iCem Job Chart

