

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

United B S16-20-11N

Surface Casing

Job Date: Tuesday, May 26, 2020

Sincerely,

Nick Roles and Crew

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 S16-20-11N surface casing. 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 15 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

The Road to Excellence Starts with Safety

Sold To #: 369404	Ship To #: 3909336	Quote #:	Sales Order #: 0906522217
Customer: EXTRACTION OIL & GAS-EBUS		Customer Rep: Manny Parras	
Well Name: UNITED B		Well #: S16-20-11N	API/UWI #: 05-014-20801-00
Field: WATTENBERG	City (SAP): BROOMFIELD	County/Parish: BROOMFIELD	State: COLORADO
Legal Description: NE NE-9-1S-68W-542FNL-939FEL			
Contractor: ENSIGN DRLG		Rig/Platform Name/Num: ENSIGN 147	
Job BOM: 7521 7521			
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	1617 ft	Job Depth TVD	1617 ft
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
Open Hole Section			13.5				0	1625		
Casing		9.625	8.921	36			0	1617		

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	9.625				Top Plug	9.625	1	HES
Float Shoe	9.625			1617	Bottom Plug	9.625		HES
Float Collar	9.625			1574	SSR plug set	9.625		HES
Insert Float	9.625				Plug Container	9.625	1	HES
Stage Tool	9.625				Centralizers	9.625		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	Water with dye	Water with dye	10	bbl	8.34			5	

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	SwiftCem	SWIFTCEM (TM) SYSTEM	550	sack	13.5	1.74		8	9.17
9.17 Gal		FRESH WATER							
0.1250 lbm		POLY-E-FLAKE (101216940)							

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	122	bbl	8.34			10	

Cement Left In Pipe		Amount	43ft	Reason			Shoe Joint
Mix Water:	pH 07	Mix Water Chloride:	1000 ppm	Mix Water Temperature:		60 °F	
Cement Temperature:		Plug Displaced by:	8.33 lb/gal	Disp. Temperature:		60 °F	
Plug Bumped?	Yes	Bump Pressure:	550 psi	Floats Held?		Yes	
Cement Returns:	15 bbl	Returns Density:		Returns Temperature:			

Comment Got 15bbbls cement to surface.

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate <i>(bbl/min)</i>	DH Density <i>(ppg)</i>	Pump Stg Tot <i>(bbl)</i>	PS Pump Press <i>(psi)</i>	Comments
Event	1	Call Out	Call Out	5/25/2020	18:30:00	USER					Called out by Service Coordinator for O/L at 0100
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	5/25/2020	21:45:00	USER					Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	5/25/2020	22:00:00	USER					Journey Management prior to departure
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	5/25/2020	22:30:00	USER					Upon arrival met with company man to discuss job details and calculations, performed hazard hunt and site assessment.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	5/25/2020	22:45:00	USER					Discussed rigging up hazards and procedure according to HMS.
Event	6	Rig-Up Date/Time	Rig-Up Date/Time	5/25/2020	23:00:00	USER					Begin Rig-up.
Event	7	Rig-Up Completed	Rig-Up Completed	5/25/2020	23:30:00	USER					Rig-up complete with no injuries.
Event	8	Other	Other	5/25/2020	23:45:00	USER					Water test- PH-6, Chlor-0, Temp-65. Cement temp-70.
Event	9	Pre-Job Safety Meeting	Pre-Job Safety Meeting	5/26/2020	02:00:00	USER	0.00	8.26	0.00	2.00	Held safety meeting with all job associated personnel to discuss job procedure, hazards and stop work authority.

Event	10	Start Job	Start Job	5/26/2020	02:02:44	COM4	0.00	8.26	0.00	2.00	TD-1625' OH-13.5", TP-1617' 9.625" 36#, FC-1574', Mud-8.8#
Event	11	Start Job	Start Job	5/26/2020	02:08:14	COM4	0.00	0.24	0.00	-1.00	TD-1625' OH-13.5", TP-1617' 9.625" 36#, FC-1574', Mud-8.8#
Event	12	Test Lines	Test Lines	5/26/2020	02:10:05	COM4	0.00	8.38	2.30	71.00	Pumped 3bbls to fill lines, established circulation, shutdown and closed manifold, performed 500psi k/o function test, continued with 5th gear stall at 1800psi proceeded to bring pressure to 3000psi. Pressure stabilized and held with no leaks.
Event	13	Pump Spacer 1	Pump Spacer 1	5/26/2020	02:12:20	COM4	0.00	8.38	2.30	16.00	Pumped 10bbls fresh water with 0.75# Red Dye at 5bpm 140psi.
Event	14	Pump Cement	Pump Cement	5/26/2020	02:18:04	COM4	0.00	8.28	11.00	52.00	Pumped 550sks or 170.4bbls 13.5# 1.74y 9.2g/s Swiftcem at 8bpm 410psi.
Event	15	Check Weight	Check Weight	5/26/2020	02:35:31	COM4	8.30	13.39	131.50	400.00	Weight verified with pressurized mud scales.
Event	16	Shutdown	Shutdown	5/26/2020	02:42:11	COM4	0.00	2.26	172.70	74.00	
Event	17	Drop Top Plug	Drop Top Plug	5/26/2020	02:43:05	COM4	0.10	4.88	172.80	2.00	Dropped by HES supervisor, witnessed by company man.
Event	18	Pump Displacement	Pump Displacement	5/26/2020	02:43:09	COM4	0.10	6.50	0.00	1.00	Pumped 122bbls of fresh water at 10bpm.
Event	19	Bump Plug	Bump Plug	5/26/2020	03:07:34	COM4	0.00	8.29	121.40	1090.00	Slowed down to 4bpm at 110bbls away, final circulating pressure - 550psi, Bumped at 1012psi.

Event	20	Other	Other	5/26/2020	03:07:39	COM4	0.00	8.29	121.40	1093.00	Released pressure and got 0.5bbls back. Floats held.
Event	21	End Job	End Job	5/26/2020	03:08:54	COM4	0.00	8.25	121.40	-10.00	Got 15bbls cement to surface.
Event	22	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	5/26/2020	03:15:00	USER	0.00	8.25	144.20	14.00	Discussed rigging down hazards and procedure according to HMS with all HES personnel
Event	23	Safety Meeting - Departing Location	Safety Meeting - Departing Location	5/26/2020	03:30:00	USER					Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	24	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	5/26/2020	03:45:00	USER					Pre journey management prior to departure.

3.0 Attachments

3.1 United B S16-20-11N –Job Chart

