

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS-EBUS**

**For: Manny Parras and Larry Siegel**

**United A S16-20-9N**

United A S16-20-9N

Job Date: Friday, May 22, 2020

Sincerely,

**Nick Roles and Crew**

## Legal Notice

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### Disclaimer:

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## 1.0 Cementing Job Summary

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### 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the United A S16-20-9N 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 10 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*

<b>Sold To #:</b> 369404	<b>Ship To #:</b> 3909408	<b>Quote #:</b>	<b>Sales Order #:</b> 0906517059
<b>Customer:</b> EXTRACTION OIL & GAS-EBUS		<b>Customer Rep:</b> Manny Parras	
<b>Well Name:</b> UNITED A		<b>Well #:</b> S16-20-9N	<b>API/UWI #:</b> 05-014-20802-00
<b>Field:</b> WATTENBERG	<b>City (SAP):</b> BROOMFIELD	<b>County/Parish:</b> BROOMFIELD	<b>State:</b> COLORADO
<b>Legal Description:</b> NE NE-9-1S-68W-373FNL-1209FEL			
<b>Contractor:</b> ENSIGN DRLG		<b>Rig/Platform Name/Num:</b> ENSIGN 147	
<b>Job BOM:</b> 7521 7521			
<b>Well Type:</b> HORIZONTAL OIL			
<b>Sales Person:</b> HALAMERICA/HX41066		<b>Srvc Supervisor:</b> Nicholas Roles	

**Job**

<b>Formation Name</b>			
<b>Formation Depth (MD)</b>	<b>Top</b>		<b>Bottom</b>
<b>Form Type</b>	<b>BHST</b>		
<b>Job depth MD</b>	1627ft		<b>Job Depth TVD</b>
<b>Water Depth</b>			<b>Wk Ht Above Floor</b>
<b>Perforation Depth (MD)</b>	<b>From</b>		<b>To</b>

**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	1635		
Casing		9.625	8.921	36			0	1627		

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
<b>Guide Shoe</b>					<b>Top Plug</b>	9.625		HES
<b>Float Shoe</b>	9.625			1627	<b>Bottom Plug</b>			
<b>Float Collar</b>	9.625			1583	<b>SSR plug set</b>			
<b>Insert Float</b>					<b>Plug Container</b>	9.625		HES
<b>Stage Tool</b>					<b>Centralizers</b>			

**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				

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /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		<b>FRESH WATER</b>								
0.1250 lbm		<b>POLY-E-FLAKE (101216940)</b>								
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
3	Displacement	Displacement	122	bbl	8.34					
<b>Cement Left In Pipe</b>										
<b>Amount</b>		44 ft			<b>Reason</b>			Shoe Joint		
<b>Mix Water:</b>		pH 6		<b>Mix Water Chloride:</b>		0 ppm		<b>Mix Water Temperature:</b>		65 °F °C
<b>Cement Temperature:</b>		70 °F °C		<b>Plug Displaced by:</b>		8.33 lb/gal		<b>Disp. Temperature:</b>		65 °F °C
<b>Plug Bumped?</b>		Yes		<b>Bump Pressure:</b>		580 psi MPa		<b>Floats Held?</b>		Yes
<b>Cement Returns:</b>		10 bbl		<b>Returns Density:</b>				<b>Returns Temperature:</b>		
<b>Comment</b>										

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Dwnhole Density <i>(ppg)</i>	Cmb Pump Rate <i>(bbl/min)</i>	Pump A Pressure <i>(psi)</i>	Cmb Stg Total <i>(bbl)</i>	Comments
Event	1	Call Out	Call Out	5/21/2020	14:00:00	USER					Called out by Service Coordinator for O/L at 2000
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	5/21/2020	17:45:00	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	5/21/2020	18:00:00	USER					Journey Management prior to departure
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	5/21/2020	19:00:00	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	5/21/2020	19:30:00	USER					Discussed rigging up hazards and procedure according to HMS.
Event	6	Rig-Up Completed	Rig-Up Completed	5/21/2020	19:45:00	USER					Rig-up complete with no injuries.
Event	7	Rig-Up Date/Time	Rig-Up Date/Time	5/21/2020	20:00:00	USER					Begin Rig-up.
Event	8	Other	Other	5/21/2020	20:00:00	USER					Water test- PH-6, Chlor-0, Temp-65. Cement temp-70.
Event	9	Pre-Job Safety Meeting	Pre-Job Safety Meeting	5/21/2020	21:15:00	USER	8.40	0.00	-5.01	0.00	Held safety meeting with all job associated personnel to discuss job procedure, hazards and stop work authority.

Event	10	Start Job	Start Job	5/21/2020	21:33:36	NONE	8.40	0.00	-1.37	0.00	TD-1635' OH-13.5", TP-1627' 9.625" 36#, FC-1583, Mud-8.8#
Event	11	Test Lines	Test Lines	5/21/2020	21:39:28	NONE	8.39	0.00	88.36	2.28	Pumped 3bbls to fill lines, established circulation, shutdown and closed manifold, performed 500psi k/o function test, continued with 5th gear stall at 1200psi proceeded to bring pressure to 3000psi. Held good no leaks.
Event	12	Pump Spacer 1	Pump Spacer 1	5/21/2020	21:42:13	USER	8.39	0.80	57.89	0.05	Pumped 10bbls fresh water with 0.5# Red Dye at 5bpm 180psi.
Event	13	Pump Cement	Pump Cement	5/21/2020	21:49:17	NONE	8.37	1.54	103.81	0.01	Pumped 550skts or 170.5bbls 13.5# 1.74y 9.17g/s Swiftcem at 9bpm 410psi.
Event	14	Check Weight	Check Weight	5/21/2020	21:58:31	NONE	13.38	9.31	455.38	71.78	Weight verified with pressurized mud scales.
Event	15	Shutdown	Shutdown	5/21/2020	22:10:49	NONE	0.03	0.00	81.53	172.53	Wash up tubs.
Event	16	Drop Top Plug	Drop Top Plug	5/21/2020	22:12:08	NONE	-0.40	0.00	20.01	172.53	Dropped by HES supervisor, witnessed by company man.
Event	17	Pump Displacement	Pump Displacement	5/21/2020	22:12:14	NONE	-0.40	0.00	20.10	0.00	Pumped 122bbls of fresh water at 10bpm.
Event	18	Bump Plug	Bump Plug	5/21/2020	22:28:59	NONE	7.91	0.00	1256.40	121.65	Slowed down to 3bpm at 110bbls away, final circulating pressure -580psi, Bumped at 1100psi.
Event	19	Other	Other	5/21/2020	22:29:33	NONE	7.91	0.00	1358.14	121.65	Released pressure and got 0.5bbls back. Floats held.
Event	20	End Job	End Job	5/21/2020	22:31:19	NONE	7.80	0.00	8.33	121.65	Got 10bbls cement to surface.

Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	5/21/2020	22:35:00	USER	7.80	0.00	7.28	121.65	Discussed rigging down hazards and procedure according to HMS with all HES personnel
Event	22	Rig-Down Completed	Rig-Down Completed	5/21/2020	22:55:00	USER					

## 3.0 Attachments

### 3.1 United A S16-20-9N-Custom Results (1).png

