

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS**

United States of America, COLORADO

Date: Saturday, November 26, 2016

### **Varra #11**

Production

Job Date: Sunday, November 20, 2016

Sincerely,

**Lauren Roberts**

## 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 **Varra #11** 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.

**64 bbl. of cement 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 [Ft. Lupton]**

*The Road to Excellence Starts with Safety*

<b>Sold To #:</b> 369404		<b>Ship To #:</b> 3563376		<b>Quote #:</b> 0022242670		<b>Sales Order #:</b> 0903675107				
<b>Customer:</b> EXTRACTION OIL & GAS				<b>Customer Rep:</b>						
<b>Well Name:</b> VARRA			<b>Well #:</b> 11		<b>API/UWI #:</b> 05-123-39991-00					
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> WINDSOR		<b>County/Parish:</b> WELD		<b>State:</b> COLORADO				
<b>Legal Description:</b> NW SW-5-6N-67W-1485FSL-785FWL										
<b>Contractor:</b> PATTERSON-UTI ENERGY				<b>Rig/Platform Name/Num:</b> PATTERSON 341						
<b>Job BOM:</b> 7523										
<b>Well Type:</b> HORIZONTAL OIL										
<b>Sales Person:</b> HALAMERICA\HX38199				<b>Srvc Supervisor:</b> Andrew Brennecke						
<b>Job</b>										
<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>		16912ft		<b>Job Depth TVD</b>						
<b>Water Depth</b>				<b>Wk Ht Above Floor</b>		3				
<b>Perforation Depth (MD)</b>		<b>From</b>		<b>To</b>						
<b>Well Data</b>										
<b>Description</b>	<b>New / Used</b>	<b>Size in</b>	<b>ID in</b>	<b>Weight lbm/ft</b>	<b>Thread</b>	<b>Grade</b>	<b>Top MD ft</b>	<b>Bottom MD ft</b>	<b>Top TVD ft</b>	<b>Bottom TVD ft</b>
Casing		9.625	8.921	36			0	1596		
Casing		5.5	4.778	20			0	16912		0
Open Hole Section			8.5				1596	16920		6451
<b>Tools and Accessories</b>										
<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>	<b>Depth ft</b>		<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>	
<b>Guide Shoe</b>						<b>Top Plug</b>	5.5	1	KLX	
<b>Float Shoe</b>	5.5	1		16912		<b>Bottom Plug</b>				
<b>Float Collar</b>	5.5	1		16858		<b>SSR plug set</b>				
<b>Insert Float</b>						<b>Plug Container</b>	5.5	1	HES	
<b>Stage Tool</b>						<b>Centralizers</b>	5.5			
<b>Fluid Data</b>										
<b>Stage/Plug #: 1</b>										
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>	
1	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	50	bbl	11.5	3.74		4		
0.30 gal/bbl		<b>MUSOL A, 330 GAL TOTE - (790828)</b>								
149.34 lbm/bbl		<b>BARITE, BULK (100003681)</b>								

36.09 gal/bbl		<b>FRESH WATER</b>							
0.30 gal/bbl		<b>DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)</b>							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
2	ElastiCem W/O CBL	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.57		7	7.48
7.48 Gal		<b>FRESH WATER</b>							
0.90 %		<b>HR-5, 50 LB SK (100005050)</b>							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
3	ElastiCem	ELASTICEM (TM) SYSTEM	2550	sack	13.2	1.57		7	7.49
7.49 Gal		<b>FRESH WATER</b>							
0.80 %		<b>HR-5, 50 LB SK (100005050)</b>							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
4	Displacement	Displacement	372.6	bbl	8.33			10	
<b>Cement Left In Pipe</b>	<b>Amount</b>	53 ft			<b>Reason</b>			<b>Shoe Joint</b>	
Mix Water:	pH 7	Mix Water Chloride:			0 ppm			Mix Water Temperature:	
Cement Temperature:		Plug Displaced by:			8.4 lb/gal			Disp. Temperature:	
Plug Bumped?	Yes	Bump Pressure:			2669 psi MPa			Floats Held?	
Cement Returns:	64 bbl	Returns Density:						Returns Temperature:	
<b>Comment</b>									

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comments
Event	1	Call Out	Call Out	11/20/2016	01:00:00	USER	
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/20/2016	05:00:00	USER	ALL HES PRESENT
Event	3	Crew Leave Yard	Crew Leave Yard	11/20/2016	05:15:00	USER	
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	11/20/2016	06:15:00	USER	RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	11/20/2016	06:25:00	USER	
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	11/20/2016	06:30:00	USER	ALL HES PRESENT
Event	7	Rig-Up Completed	Rig-Up Completed	11/20/2016	11:30:00	USER	1-ELITE,3-660 BULK TRAILER, 5.5" QUICK LATCH PLUG CONTAINER, 2" PUMP IRON, 4" SUCTION HOSE 2-FIELD BINS
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	11/20/2016	11:45:00	USER	ALL HES AND RIG CREW PRESENT
Event	9	Start Job	Start Job	11/20/2016	12:57:00	USER	TD-16920', TVD-6451', TP-16912', TS-16858.59', CSG-5.5" 20# P110, SCSG-9.625" 36# 1596', OH-8.5", MUD-10PPG, PV-10 YP-6
Event	10	Prime Pumps	Prime Pumps	11/20/2016	12:58:43	USER	FRESH WATER
Event	11	Test Lines	Test Lines	11/20/2016	13:05:16	COM5	ALL PRESSURE HELD ON LINES
Event	12	Check Weight	Check weight	11/20/2016	13:07:54	COM5	WEIGHT VERIFIED BY PRESSURIZED MUD SCALES
Event	13	Pump Spacer 1	Pump Spacer 1	11/20/2016	13:08:41	COM5	TUNED SPACER III, 50 BBLS, 11.5PPG, 3.74CF/SK, 23.7GAL/SK
Event	14	Pump Lead Cement	Pump Lead Cement	11/20/2016	13:22:16	COM5	ELASTICEM W/O CBL, 150SKS, 13.2PPG, 1.57CF/SK, 7.48GAL/SK
Event	15	Pump Tail Cement	Pump Tail Cement	11/20/2016	13:29:55	COM5	ELASTICEM W/CBL 2550 SKS, 13.2PPG, 1.57CF/SK, 7.49GAL/SK
Event	16	Shutdown	Shutdown	11/20/2016	15:19:56	USER	
Event	17	Clean Lines	Clean Lines	11/20/2016	15:23:27	COM5	CLEAN LINES TO CATCH TANK

Event	18	Drop Plug	Drop Plug	11/20/2016	15:27:52	USER	PLUG DROP VERIFIED BY WEATHERFORD
Event	19	Pump Displacement	Pump Displacement	11/20/2016	15:28:19	COM5	FRESH WATER
Event	20	Slow Rate	Slow Rate	11/20/2016	16:07:23	USER	SLOW RATE PER WEATHERFORD
Event	21	Bump Plug	Bump Plug	11/20/2016	16:09:55	COM5	BUMPED PLUG 2669PSI
Event	22	Other	RUPTER DISK	11/20/2016	16:11:32	USER	RUPTER DISK, PUMP 5 BBL WET SHOE
Event	23	Check Floats	Check Floats	11/20/2016	16:13:32	USER	FLAOTS HELD 2.5 BBLS BACK
Event	24	End Job	End Job	11/20/2016	16:16:11	COM5	GOOD RETURNS THROUGH OUT JOB, 64 BBLS CEMENT TO SURFACE
Event	25	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	11/20/2016	16:25:00	USER	ALL HES PRESENT
Event	26	Crew Leave Location	Crew Leave Location	11/21/2016	18:30:00	USER	THANK YOU FOR CHOOSING HALLIBURTON, ANDREW BRENNECKE AND CREW



3.0 Attachments

3.1 903675107-Custom Results.png

