

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS**

United States of America

Date: Sunday, October 30, 2016

### **Varra #8**

Production

Job Date: Wednesday, October 26, 2016

Sincerely,  
Lauren Roberts

## Legal Notice

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Table of Contents

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1.0    Cementing Job Summary ..... 4

    1.1    Executive Summary .....4

2.0    Real-Time Job Summary ..... 7

    2.1    Job Event Log .....7

3.0    Attachments..... 8

    3.1    Case 1-Custom Results.png.....8

## 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 #8** 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.

**40 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> 3563399		<b>Quote #:</b>		<b>Sales Order #:</b> 0903622025				
<b>Customer:</b> EXTRACTION OIL & GAS				<b>Customer Rep:</b> Shane						
<b>Well Name:</b> VARRA			<b>Well #:</b> 8		<b>API/UWI #:</b> 05-123-39988-00					
<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-1563FSL-787FWL										
<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>Srv Supervisor:</b> Vaughn Oteri						
<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>		16849ft				<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>				
<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	1580	0	0
Casing		5.5	4.778	20			0	16828	0	
Open Hole Section			7.875				1580	16849	0	
<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>	5.5					<b>Top Plug</b>	5.5	1	KLX	
<b>Float Shoe</b>	5.5			16828		<b>Bottom Plug</b>	5.5			
<b>Float Collar</b>	5.5			16828		<b>SSR plug set</b>	5.5			
<b>Insert Float</b>	5.5					<b>Plug Container</b>	5.5	1	HES	
<b>Stage Tool</b>	5.5					<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		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	ElastiCem Lead	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.57		5	7.48
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	ElastiCem W/ Super CBL	ELASTICEM (TM) SYSTEM	2000	sack	13.2	1.57		5	7.49
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	Displacement	Displacement	371	bbl	8.33			8	
Cement Left In Pipe		Amount	ft		Reason			Shoe Joint	
Comment 40bbl of cement back to surface									

## 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	10/26/2016	10:00:00	USER	Call out from ARC hub
Event	2	Arrive At Loc	Arrive At Loc	10/26/2016	17:00:00	USER	Arrived on location met with company repo to discuss job process and concerns
Event	3	Other	Other	10/26/2016	17:01:00	USER	TD-16849 TP-16828 FC- 16828 Surf-1590 mud-8.9 5.5 20#
Event	4	Start Job	Start Job	10/27/2016	22:20:05	COM4	Held pre-job safety meeting with all hands on location to discuss job process and hazards
Event	5	Test Lines	Test Lines	10/27/2016	22:27:08	COM4	Pressure tested pumps and lines with fresh water 4590psi
Event	6	Pump Spacer 1	Pump Spacer 1	10/27/2016	22:30:15	COM4	Mixed 50bbl of 11.5ppg Tuned Spacer III 4.0bpm 110psi
Event	7	Pump Lead Cement	Pump Lead Cement	10/27/2016	22:46:46	COM4	Mixed 2150sks or 601bbl of 13.2ppg γ-1.57 g/sk-7.48 ElastiCem At 8.0bpm 382psi
Event	8	Check Weight	Check weight	10/27/2016	22:48:28	COM4	Confirm weight on scales
Event	9	Shutdown	Shutdown	10/27/2016	00:07:39	COM4	
Event	10	Clean Lines	Clean Lines	10/27/2016	00:07:44	COM4	Washed pumps and lines with fresh water
Event	11	Drop Top Plug	Drop Top Plug	10/27/2016	00:07:48	COM4	Released plug witnessed by company rep
Event	12	Pump Displacement	Pump Displacement	10/27/2016	00:18:07	COM4	Pumped 371bbl of fresh water to displace cement
Event	13	Bump Plug	Bump Plug	10/27/2016	00:59:13	COM4	Bumped plug 500psi over final pump pressure
Event	14	Other	Other	10/27/2016	01:00:37	COM4	Released pressure back to pump truck 2.5bbl back floats held good
Event	15	End Job	End Job	10/27/2016	01:39:37	COM4	40bbl of cement back to surface

3.0 Attachments

3.1 Case 1-Custom Results.png

