

# HALLIBURTON

iCem<sup>®</sup> Service

## EXTRACTION OIL & GAS

Date: Sunday, June 26, 2016

### **Breniman #3**

Production

Job Date: Saturday, June 25, 2016

Sincerely,

**Lauren Roberts**

## Legal Notice

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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 **Breniman #3** 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.

**54 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> 3615604		<b>Quote #:</b>		<b>Sales Order #:</b> 0903379587				
<b>Customer:</b> EXTRACTION OIL & GAS				<b>Customer Rep:</b> .						
<b>Well Name:</b> BRENNIMAN			<b>Well #:</b> 3		<b>API/UWI #:</b> 05-123-40422-00					
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> WINDSOR		<b>County/Parish:</b> WELD		<b>State:</b> COLORADO				
<b>Legal Description:</b> NE NW-16-6N-67W-508FNL-2113FWL										
<b>Contractor:</b> PATTERSON-UTI ENERGY				<b>Rig/Platform Name/Num:</b> PATTERSON 346						
<b>Job BOM:</b> 7523										
<b>Well Type:</b> HORIZONTAL OIL										
<b>Sales Person:</b> HALAMERICA\HX38199				<b>Srv Supervisor:</b> Nathaniel Moore						
<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>		17320ft		<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	1568		0
Casing		5.5	4.778	20			0	17308	0	0
Open Hole Section			7.875				1586	17420	1568	6980
<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			17320		<b>Top Plug</b>	5.5		HES	
<b>Float Shoe</b>	5.5					<b>Bottom Plug</b>	5.5		HES	
<b>Float Collar</b>	5.5					<b>SSR plug set</b>	5.5		HES	
<b>Insert Float</b>	5.5					<b>Plug Container</b>	5.5		HES	
<b>Stage Tool</b>	5.5					<b>Centralizers</b>	5.5		HES	
<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		6		
35.40 gal/bbl		<b>FRESH WATER</b>								
149.34 lbm/bbl		<b>BARITE, 100 LB SK (100003680)</b>								

0.30 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)							
0.30 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)							
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	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.572		8	7.48
7.48 Gal		FRESH WATER							
0.90 %		HR-5, 50 LB SK (100005050)							
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	2050	sack	13.2	1.57		8	7.49
7.49 Gal		FRESH WATER							
0.80 %		HR-5, 50 LB SK (100005050)							
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	383.7	bbl	8.33			8	
Cement Left In Pipe		Amount	ft		Reason			Shoe Joint	

50 bbl spacer and 54 bbl cement to surface

Pumped 5 bbl wet shoe

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

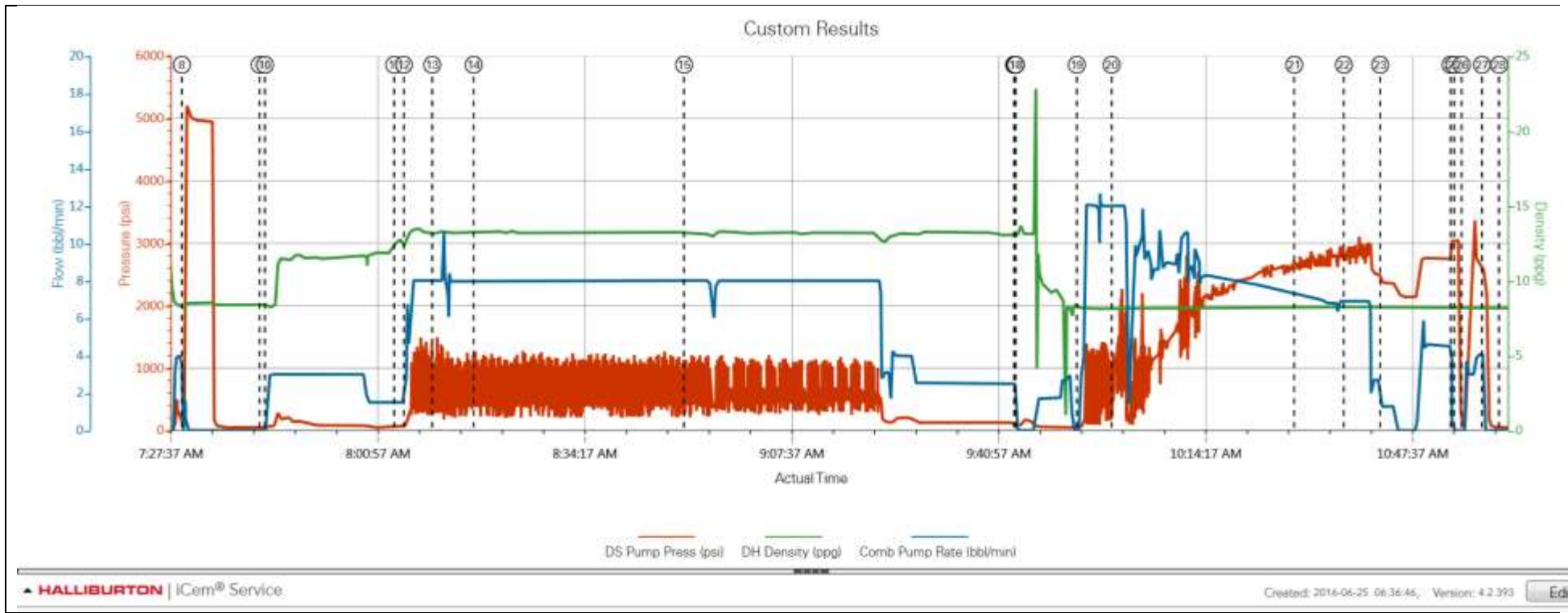
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Driv-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	6/25/2016	00:00:00	USER				Verify equipment and materials
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	6/25/2016	03:30:00	USER				Journey management with crew
Event	3	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	6/25/2016	05:00:00	USER				Spot equipment. Rig running casing
Event	4	Other	Meet with customer rep	6/25/2016	05:15:00	USER				TD 17320' 7.875" open hole. TP 17308' with stacked float collar. 5.5" 20# P-110. Surface 1568' 9.625" 36#. TVD 6900'. MW 8.5 ppg
Event	5	Start Job	Start Job	6/25/2016	07:04:20	COM1	10.00	0.07	0.00	
Event	6	Prime Pumps	Prime Pumps	6/25/2016	07:18:17	COM1	126.00	8.43	0.00	
Event	7	Other	Fill lines	6/25/2016	07:26:41	COM1	90.00	8.39	5.80	3 bbl water
Event	8	Test Lines	Test Lines	6/25/2016	07:29:50	COM1	57.00	8.40	0.00	5000 psi
Event	9	Check Weight	Check weight Spacer	6/25/2016	07:42:22	COM1	50.00	8.40	0.00	Tuned spacer 11.5 ppg
Event	10	Pump Spacer 1	Pump Spacer	6/25/2016	07:43:12	COM1	54.00	8.39	1.70	50 bbl Tuned Spacer III 11.5 ppg 3.74 ft3/sk 23.7 gal/sk with Surfactant and Musol A
Event	11	Check Weight	Check weight Lead	6/25/2016	08:04:02	COM1	50.00	12.62	1.50	13.2 ppg
Event	12	Pump Lead Cement	Pump Lead Cement	6/25/2016	08:05:34	COM1	91.00	12.65	3.50	150 sks/42 bbl 13.2 ppg 1.57 ft3/sk 7.49 gal/sk
Event	13	Pump Tail Cement	Pump Tail Cement	6/25/2016	08:10:09	COM1	960.00	13.15	8.00	2050 sks/573 bbl 1.57 ft3/sk 7.49 gal/sk
Event	14	Check Weight	Check weight Tail	6/25/2016	08:16:50	COM1	585.00	13.23	8.00	13.2 ppg
Event	15	Other	Check HT guages	6/25/2016	08:50:42	USER	592.00	12.99	8.00	Temp 180 pressure 90
Event	16	Shutdown	Shutdown	6/25/2016	09:43:51	COM1	116.00	13.11	0.30	
Event	17	Clean Lines	Clean Lines	6/25/2016	09:44:04	COM1	72.00	13.35	0.00	Blow stand pipe back to cement tank. Wash pumps and lines

Event	18	Drop Top Plug	Drop Top Plug	6/25/2016	09:44:09	COM1	65.00	13.47	0.00	KLX latchdown bottom plug. Witnessed by KLX and company rep.
Event	19	Pump Displacement	Pump Displacement	6/25/2016	09:53:58	COM1				383 bbl water displacement
Event	20	Displ Reached Cmnt	Displ Reached Cmnt	6/25/2016	09:59:35	COM1	1146.00	8.16	12.00	50 bbl into displacement
Event	21	Other	Spacer to surface	6/25/2016	10:29:00	USER	2712.00	8.23	7.30	280 bbl into displacement
Event	22	Other	Cement to surface	6/25/2016	10:37:00	USER	2774.00	8.24	6.90	330 bbl into displacement. 54 bbl cement back total
Event	23	Shutdown	Shutdown	6/25/2016	10:42:50	USER	2357.00	8.22	1.30	Couldn't get water. Shutdown to swap clogged hoses.
Event	24	Bump Plug	Bump Plug	6/25/2016	10:54:11	COM1	3046.00	8.24	0.00	2700 psi circulating. Bumped to 3200 psi
Event	25	Other	Check floats	6/25/2016	10:54:46	COM1	3055.00	8.24	0.00	4 bbl back
Event	26	Pressure Up Well	Pressure Up Well	6/25/2016	10:55:59	COM1	52.00	8.16	0.00	Pump 4 bbl to rupture disk at 3420 psi. Pump 5 bbl wet shoe
Event	27	Other	Check floats	6/25/2016	10:59:15	COM1				3 bbl back
Event	28	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	6/25/2016	11:02:00	USER	50.00	8.16	0.00	
Event	29	End Job	End Job	6/25/2016	11:07:28	COM1				
Event	30	Depart Location Safety Meeting	Depart Location Safety Meeting	6/25/2016	13:00:00	USER				



3.0 Attachments

3.1 Case 1-Custom Results.png



3.2 Case 1-Custom Results (1).png

