

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS**

Date: Saturday, June 24, 2017

### **RBF #3 Production**

Job Date: Thursday, June 01, 2017

Sincerely,

**Julia Nichols**

## 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 **RBF #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.

**Approximately 40 barrels 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 [Ft. Lupton]**

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*Cementing Job Summary*

*The Road to Excellence Starts with Safety*

Sold To #: 369404		Ship To #: 3788383		Quote #:		Sales Order #: 0904085843					
Customer: EXTRACTION OIL & GAS				Customer Rep: Todd Stephens							
Well Name: RBF		Well #: 3		API/UWI #: 05-123-44441-00							
Field: WATTENBERG		City (SAP): WINDSOR		County/Parish: WELD		State: COLORADO					
Legal Description: SE NE-22-6N-87W-1977FNL-300FEL											
Contractor: PATTERSON-UTI ENERGY				Rig/Platform Name/Num: PATTERSON 346							
Job BOM: 7523 7523											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HX38199				Srvc Supervisor: Vaughn Oteri							
<b>Job</b>											
Formation Name											
Formation Depth (MD)		Top			Bottom						
Form Type											
BHST											
Job depth MD		16950ft			Job Depth TVD						
Water Depth											
Wk Ht Above Floor											
Perforation Depth (MD)		From			To						
<b>Well Data</b>											
Description	New / Used	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft	
Casing		9.625	8.921	36		J-55	0	1588	0	1588	
Casing		5.5	4.778	20		P-110	0	16936	0	6992	
Open Hole Section			8.5				1588	16950	1588	6992	
<b>Tools and Accessories</b>											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	5.5					Top Plug	5.5	1	KLX		
Float Shoe	5.5			16936		Bottom Plug	5.5				
Float Collar	5.5			16931		SSR plug set	5.5				
Insert Float	5.5					Plug Container	5.5	1	HES		
Stage Tool	5.5					Centralizers	5.5				
<b>Fluid Data</b>											
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	11.5 lb/gal Tuned Spacer III	Tuned Spacer III			10	bbl	11.5	3.74		6	
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			2700	sack	13.2	1.57		8	7.54

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*Cementing Job Summary*

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	374	bbbl	8.34					
<b>Cement Left In Pipe</b>		<b>Amount</b>	45 ft		<b>Reason</b>			Shoe Joint		
<b>Comment</b> 40bbbl of cement back to surface										

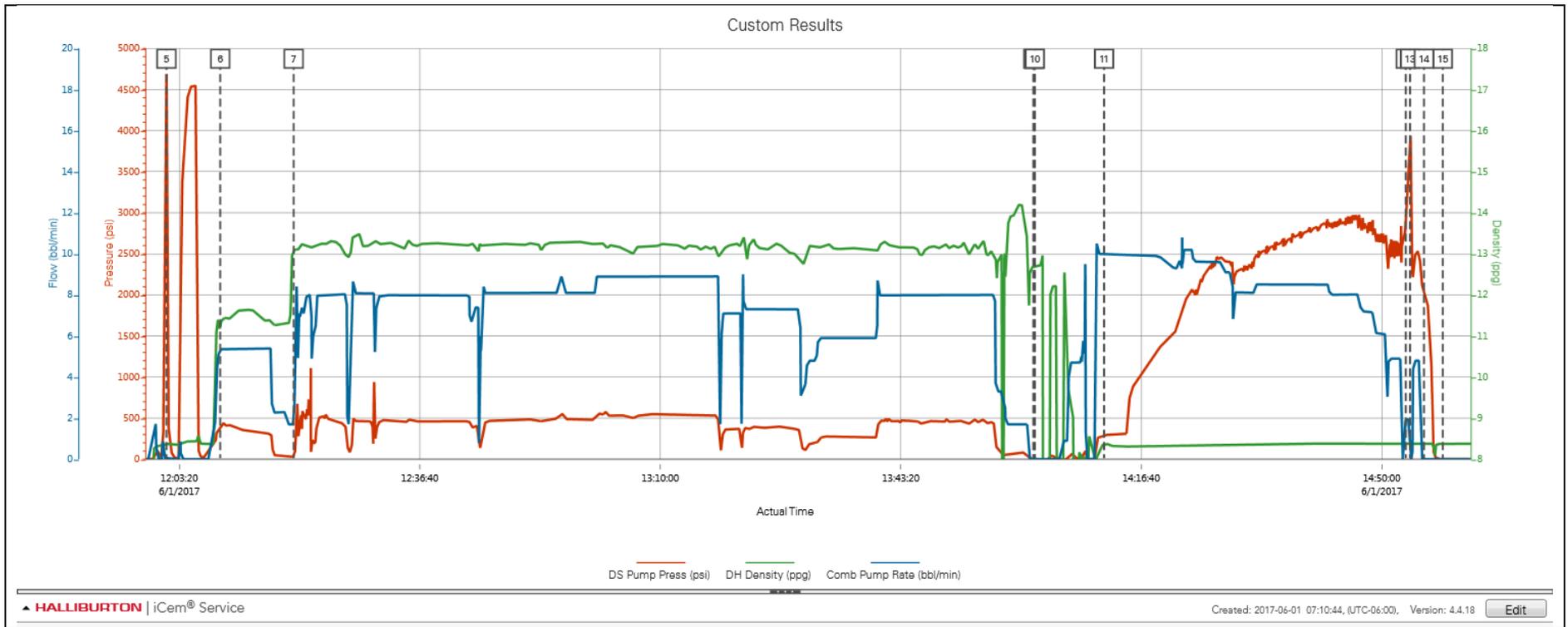
## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press <i>(psi)</i>	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	Comments
Event	1	Call Out	Call Out	6/1/2017	02:00:00	USER				Call out from ARC hub
Event	2	Arrive At Loc	Arrive At Loc	6/1/2017	06:00:00	USER				Arrived on location met with company rep and tool hand to discuss job process and concerns
Event	3	Other	Other	6/1/2017	06:10:10	USER				TD-16950 TP-16936 FC-16931 Surf-1588 Mud9.3ppg Casing 5.5 20#
Event	4	Start Job	Start Job	6/1/2017	10:58:46	COM4	-19.00	8.42	0.00	Held pre-job safety meeting with all hands on location to discuss job process and hazards
Event	5	Test Lines	Test Lines	6/1/2017	12:01:33	COM4	3737.00	8.38	0.00	Pressure tested pumps and lines with fresh water found leak at stand pipe release pressure tighten up and retested 4615psi, pressure held good and no leaks found
Event	6	Pump Spacer 1	Pump Spacer 1	6/1/2017	12:09:01	COM4	410.00	11.30	5.30	Mixed 50bbl of 11.5ppg Tuned spacer III at 6.0bpm 357psi
Event	7	Pump Cement	Pump Cement	6/1/2017	12:19:12	COM4	32.00	13.15	1.70	Mixed 2700sks or 754bbl of 13.2ppg Y-1.57 G/sk7.53 Elasticem at 8.0bpm 530psi
Event	8	Shutdown	Shutdown	6/1/2017	14:01:42	COM4	-1.00	12.65	0.00	
Event	9	Clean Lines	Clean Lines	6/1/2017	14:01:51	COM4	-2.00	12.62	0.00	Washed pumps and lines with fresh water
Event	10	Drop Top Plug	Drop Top Plug	6/1/2017	14:01:55	COM4	-2.00	12.64	0.00	KLX tool hand released plug witnessed by company rep and HES supervisor
Event	11	Pump Displacement	Pump Displacement	6/1/2017	14:11:31	COM4	288.00	8.34	10.00	Pumped 374bbl of fresh water to displace cement
Event	12	Bump Plug	Bump Plug	6/1/2017	14:53:19	COM4	2888.00	8.39	1.90	Bumped plug 500psi over final pump pressure
Event	13	Pressure Up Well	Pressure Up Well	6/1/2017	14:53:55	USER	3901.00	8.40	1.00	Pressure up to blow disc and pump 5bbl for wet shoe
Event	14	Other	Other	6/1/2017	14:55:51	COM4	2022.00	8.38	0.00	Released pressure back to pump truck to check floats, floats held good 3.0bbl back
Event	15	End Job	End Job	6/1/2017	14:58:28	COM4	3.00	8.37	0.00	40bbl of cement back to surface

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

