

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS**

Date: Monday, October 03, 2016

### **Winder South #6**

Production

Job Date: Monday, September 26, 2016

Sincerely,

**Lauren Roberts**

## Legal Notice

---

### Warning Disclaimer

Although the information contained in this report is based on sound engineering practices, the copyright owner(s) does (do) not accept any responsibility whatsoever, in negligence or otherwise, for any loss or damage arising from the possession or use of the report whether in terms of correctness or otherwise. The application, therefore, by the user of this report or any part thereof, is solely at the user's own risk.

### Limitations of Liability

Except as expressly set forth herein, there are no representations or warranties by Halliburton, express or implied, including implied warranties of merchantability and/or fitness for a particular purpose. In no event will Halliburton or its suppliers be liable for consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits, use of hardware, or software). Customer accepts full responsibility for any investment made based on results from the Software. Any interpretations, analyses or modeling of any data, including, but not limited to Customer data, and any recommendation or decisions based upon such interpretations, analyses or modeling are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional may differ. Accordingly, Halliburton cannot and does not warrant the accuracy, correctness or completeness of any such interpretation, recommendation, modeling or other products of the Software Product. As such, any interpretation, recommendation or modeling resulting from the Software for the purpose of any drilling, well treatment, production or financial decision will be at the sole risk of Customer. Under no circumstances will Halliburton or its suppliers be liable for any damages.

## Table of Contents

---

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.....	9
3.1	CHART.png.....	9
3.2	NO LEGEND.png.....	10

## 1.0 Cementing Job Summary

---

### 1.1 Executive Summary

---

Halliburton appreciates the opportunity to perform the cementing services on the **Winder South #6** 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.

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]**

**HALLIBURTON**

**Cementing Job Summary**

*The Road to Excellence Starts with Safety*

Sold To #: 369404		Ship To #: 3749844		Quote #:		Sales Order #: 0903559878				
Customer: EXTRACTION OIL & GAS				Customer Rep: JOSE TORRES						
Well Name: WINDER SOUTH			Well #: 6		API/UWI #: 05-123-43403-00					
Field: WATTENBERG		City (SAP): WINDSOR		County/Parish: WELD		State: COLORADO				
Legal Description: SE NE-9-6N-67W-2306FNL-428FEL										
Contractor: PATTERSON-UTI ENERGY				Rig/Platform Name/Num: PATTERSON 346						
Job BOM: 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199				Srv Supervisor: Jesse Slaughter						
<b>Job</b>										
Formation Name										
Formation Depth (MD)		Top			Bottom					
Form Type					BHST					
Job depth MD		17050ft			Job Depth TVD					
Water Depth					Wk Ht Above Floor		6ft			
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			0	1558		0
Casing		5.5	4.778	20			0	17050	0	6950
Open Hole Section			7.875				1558	17050	0	6950
<b>Tools and Accessories</b>										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5			17050		Top Plug	5.5	1	KLX	
Float Shoe	5.5					Bottom Plug	5.5		HES	
Float Collar	5.5					SSR plug set	5.5		HES	
Insert Float	5.5					Plug Container	5.5	1	HES	
Stage Tool	5.5					Centralizers	5.5		HES	
<b>Fluid Data</b>										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name			Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Rate bbl/min	Total Mix Fluid Gal
1	11.5 lb/gal Tuned Spacer III	Tuned Spacer III			50	bbl	11.5	3.74	4	
149.34 lbm/bbl		BARITE, BULK (100003681)								
35.40 gal/bbl		FRESH WATER								
0.30 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								
0.30 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								

**HALLIBURTON**

*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/mi n	Total Mix Fluid Gal
2	ElastiCem	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.572		4	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 ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	ElastiCem W/ Super CBL	ELASTICEM (TM) SYSTEM	2050	sack	13.2	1.573		7	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 ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	Displacement	Displacement	376.7	bbl	8.33			7	
Cement Left In Pipe	Amount	6 ft		Reason				Shoe Joint	
Comment									

## 2.0 Real-Time Job Summary

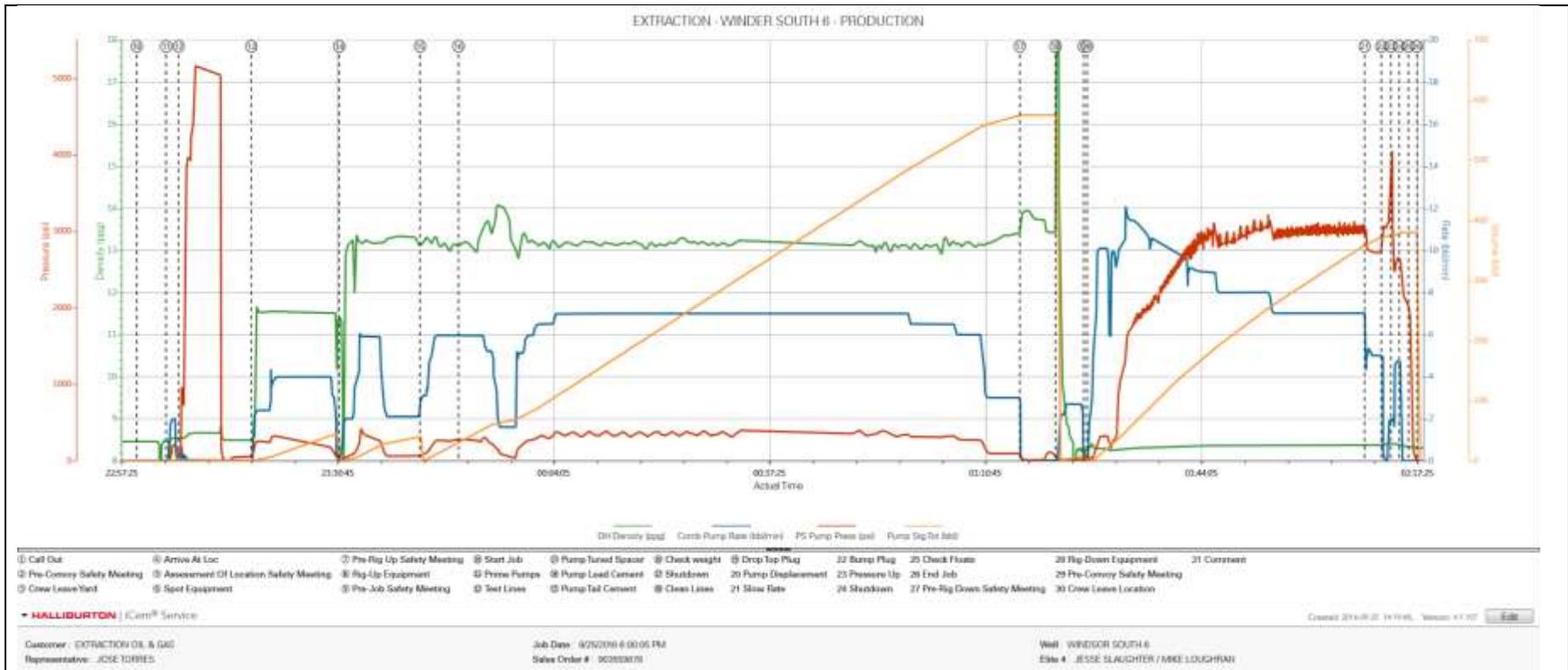
### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	PS Pump Press <i>(psi)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Call Out	Call Out	9/25/2016	14:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	9/25/2016	14:50:00	USER					WITH ALL HES PERSONNEL
Event	3	Crew Leave Yard	Crew Leave Yard	9/25/2016	15:00:00	USER					
Event	4	Arrive At Loc	Arrive At Loc	9/25/2016	16:30:00	USER					RIG WAS RUNNING CASING UPON HES ARRIVAL
Event	5	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	9/25/2016	16:40:00	USER					WITH ALL HES PERSONNEL
Event	6	Other	Spot Equipment	9/25/2016	16:50:00	USER					
Event	7	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	9/25/2016	16:55:00	USER					WITH ALL HES PERSONNEL
Event	8	Rig-Up Equipment	Rig-Up Equipment	9/25/2016	17:00:00	USER					1 ELITE, 1 BATCH MIXER, 3 BULK TRUCKS, 2 FIELD BINS
Event	9	Pre-Job Safety Meeting	Pre-Job Safety Meeting	9/25/2016	22:30:00	USER	8.45	0.00	2.00	0.0	WITH ALL PERSONNEL
Event	10	Start Job	Start Job	9/25/2016	23:00:00	USER	8.46	0.00	1.00	0.0	TD 17050 FT, TP 17050 FT, SHOE 6 FT, CSG 5 1/2 IN 20 LB/FT, SURFACE CSG 9 5/8 IN 36 LB/FT SET AT 1558 FT, HOLE 7 7/8 IN, TVD 6950 FT, MUD WT 9.6 PPG
Event	11	Prime Pumps	Prime Pumps	9/25/2016	23:04:31	USER	8.47	0.00	0.00	0.0	FRESH WATER
Event	12	Test Lines	Test Lines	9/25/2016	23:06:27	USER	8.52	0.00	87.00	2.0	TESTED LINES TO 5200 PSI PRESSURE HOLDING
Event	13	Pump Spacer	Pump Tuned Spacer	9/25/2016	23:17:41	USER	8.49	1.40	71.00	0.1	WITH 15 GAL MUSOL A, 15 GAL DUAL SPACER B, 20 GAL D-AIR
Event	14	Pump Lead Cement	Pump Lead Cement	9/25/2016	23:31:15	USER	11.37	0.00	8.00	0.0	150 SKS AT 13.2 PPG, 1.57 FT3/SK, 7.48 GAL/SK

Event	15	Pump Tail Cement	Pump Tail Cement	9/25/2016	23:43:42	USER	13.15	3.10	86.00	0.2	2050 SKS AT 13.2 PPG, 1.57 FT3/SK, 7.49 GAL/SK
Event	16	Check Weight	Check weight	9/25/2016	23:49:39	COM5	13.14	6.00	273.00	32.0	MUD SCALES WEIGH 13.2 PPG
Event	17	Shutdown	Shutdown	9/26/2016	01:16:18	USER	13.89	0.00	31.00	575.3	
Event	18	Clean Lines	Clean Lines	9/26/2016	01:21:49	USER	22.67	0.00	10.00	575.3	CLEANED PUMPS AND LINES
Event	19	Drop Top Plug	Drop Top Plug	9/26/2016	01:26:11	USER	8.26	0.00	10.00	9.4	PLUG LAUNCHED, SUPPLIED BY KLX, KLX PERSONNEL ON SITE TO RUN PLUG.
Event	20	Pump Displacement	Pump Displacement	9/26/2016	01:26:42	USER	8.29	1.70	25.00	0.1	FRESH WATER
Event	21	Slow Rate	Slow Rate	9/26/2016	02:09:33	USER	8.38	5.00	2871.00	360.8	SLOWED RATE 14 BBLS PRIOR TO CALCULATED DISPLACEMENT
Event	22	Bump Plug	Bump Plug	9/26/2016	02:12:08	USER	8.38	0.00	2947.00	373.5	
Event	23	Pressure Up	Pressure Up	9/26/2016	02:13:37	USER	8.42	2.00	2945.00	375.0	BURST DISK PUMP 5 BBL WET SHOE
Event	24	Shutdown	Shutdown	9/26/2016	02:14:54	USER	8.37	0.00	2435.00	380.1	
Event	25	Check Floats	Check Floats	9/26/2016	02:16:18	USER	8.34	0.00	1778.00	380.1	FLOATS HOLDING. HES RETURNED 2 1/2 BBLS H2O TO PUMP.
Event	26	End Job	End Job	9/26/2016	02:17:37	COM5					PIPE WAS STATIC DURING JOB, GOOD CIRCULATION THROUGHOUT JOB. USED ALL CHEMICALS EXCEPT 100 LBS OF SUGAR.
Event	27	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	9/26/2016	02:25:00	USER	8.31	0.00	7.00	19.8	WITH ALL HES PERSONNEL
Event	28	Rig-Down Equipment	Rig-Down Equipment	9/26/2016	02:30:00	USER	8.40	0.80	30.00	1.8	
Event	29	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	9/26/2016	03:50:00	USER					WITH ALL HES PERSONNEL
Event	30	Crew Leave Location	Crew Leave Location	9/26/2016	04:00:00	USER					
Event	31	Comment	Comment	9/26/2016	04:01:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT DEPARTMENT. JESSE SLAUGHTER AND CREW.

3.0 Attachments

3.1 CHART.png



3.2 NO LEGEND.png

