

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS**

Date: Thursday, November 09, 2017

### **Walt 16E-20-9C Surface**

Job Date: Wednesday, October 18, 2017

Sincerely,

**Bryce Hinsch**

## 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.....	10
3.1	Extraction Walt 16E-20-9C Surface Job Chart .....	10

## 1.0 Cementing Job Summary

---

### 1.1 Executive Summary

---

Halliburton appreciates the opportunity to perform the cementing services on the **Walt 16E-20-9C cement surface** 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 43 bbls 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 [Fort Lupton]**

**HALLIBURTON**

**Cementing Job Summary**

*The Road to Excellence Starts with Safety*

Sold To #: 369404		Ship To #: 3819720		Quote #:		Sales Order #: 0904369161				
Customer: EXTRACTION OIL & GAS -				Customer Rep: TODD STEPHENS						
Well Name: WALT		Well #: 16E-20-9C		API/UWI #: 05-123-45243-00						
Field: WATTENBERG		City (SAP): SEVERANCE		County/Parish: WELD		State: COLORADO				
Legal Description: SE NE-17-7N-67W-2017FNL-354FEL										
Contractor: PATTERSON-UTI ENERGY				Rig/Platform Name/Num: PATTERSON 346						
Job BOM: 7521 7521										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA/HX38199				Srvc Supervisor: Robert Davis						
<b>Job</b>										
Formation Name										
Formation Depth (MD)		Top 0		Bottom		1575				
Form Type				BHST						
Job depth MD		1560ft		Job Depth TVD						
Water Depth				Wk Ht Above Floor		3				
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	0	9.625	8.921	36	8 RD	J-55	0	1560	0	1560
Open Hole Section			13.5				0	1575	0	1575
<b>Tools and Accessories</b>										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	9.625			1560		Top Plug	9.625		HES	
Float Shoe	9.625					Bottom Plug	9.625		HES	
Float Collar	9.625					SSR plug set	9.625		HES	
Insert Float	9.625					Plug Container	9.625		HES	
Stage Tool	9.625					Centralizers	9.625		HES	
<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	Red Dye Spacer	Red Dye Spacer		10	bbl	8.33			4	
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	SwiftCem	SWIFTCEM (TM) SYSTEM		600	sack	13.5	1.74		7	9.2
9.20 Gal		FRESH WATER								

**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		
3	Fresh Water	Fresh Water	117	bbl	8.33			5			
<b>Cement Left In Pipe</b>											
<b>Cement Left In Pipe</b>		<b>Amount</b>	45 ft		<b>Reason</b>			Shoe Joint			
<b>Mix Water:</b>		pH 7	<b>Mix Water Chloride:</b>		150 ppm		<b>Mix Water Temperature:</b>			55 °F °C	
<b>Cement Temperature:</b>		## °F °C		<b>Plug Displaced by:</b>		9.0 lb/gal kg/m <sup>3</sup> XXXX		<b>Disp. Temperature:</b>			## °F °C
<b>Plug Bumped?</b>		Yes		<b>Bump Pressure:</b>		510-1261 psi MPa		<b>Floats Held?</b>			Yes
<b>Cement Returns:</b>		43 bbl m <sup>3</sup>		<b>Returns Density:</b>		## lb/gal kg/m <sup>3</sup>		<b>Returns Temperature:</b>			## °F °C
<b>Comment</b> BUMPED PLUG @ CALCULATED DISPLACEMENT, FLOATS HELD 1 BBL BACK TO THE TRUCK, FULL RETURNS THROUGHOUT THE JOB 43 BBLs OF CEMENT RETURNS TO SURFACE											

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate <i>(bbl/min)</i>	DH Density <i>(ppg)</i>	DS Pump Press <i>(psi)</i>	Comments
Event	1	Call Out	Call Out	10/17/2017	17:00:00	USER				CALLED OUT FROM FT. LUPTON COLORADO
Event	2	Depart from Service Center or Other Site	Depart from Service Center or Other Site	10/17/2017	19:30:00	USER				LEAVE YARD AFTER SAFTEY MEETING
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	10/17/2017	21:00:00	USER				ARRIVED ON LOCATION AND TALKED TO COMPANY MAN ABOUT JOB FIGURES AND THE SPOTTING OF OUR EQUIPMENT
Event	4	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	10/17/2017	21:15:00	USER				ASSESSED LOCATION AN TOOK WATER SAMPLE
Event	5	Other	Other	10/17/2017	21:30:00	USER				Water test=pH: __7__, Cl: __150__, temp 55__degrees Tannin-Lignin: __NEG__; Sulfate: __200__
Event	6	Other	Other	10/17/2017	21:45:00	USER				Rig Circulation: ____ bbls Circulation Rate: __8__ bbl/min Mud Density __8.5__ lb/gal Mud YP/PV: _____
Event	7	Other	Other	10/17/2017	22:00:00	USER				Spacer: __10__ bbl TOS __0__ Lead Cement: 186 ____ bbl, __600__ sks, TOC __0__ Tail Cement: ____ bbl, ____ sks, TOC _____ Displacement: __117__ bblCMT left in

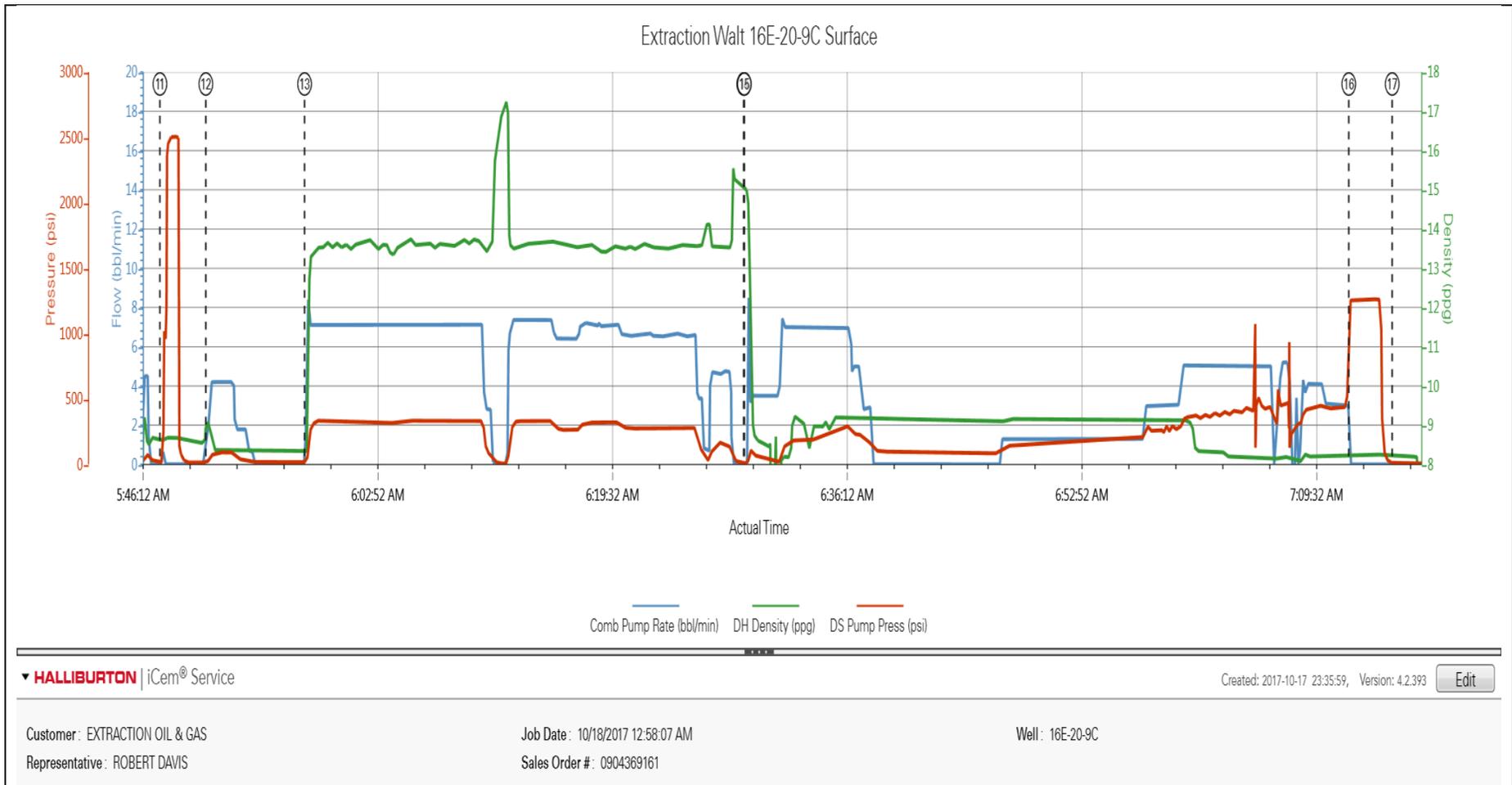
										Pipe_3_____
										Reason__SHOE_____
Event	8	Other	Other	10/17/2017	22:30:00	USER				TD: _1575___, TP _1560___, SJ: 45___, OH: 13 1/2___, Casing: Size/Weight/Grade: _9.635/36#/J- 55___, Previous Casing Shoe: __0__
Event	9	Rig-Up Equipment	Rig-Up Equipment	10/18/2017	00:00:00	USER				SPOTTED EQUIPMENT AND RIGGED UP TO FLOOR RIG IS RUNNING CASING
Event	10	Rig-Up Completed	Rig-Up Completed	10/18/2017	05:25:00	USER	0.00	13.43	5.00	RIG UP COMPLETE SAFETY MEETING WITH RIG HANDS AND HALLIBURTON ABOUT THE DANGERS OF OUR EQUIPMENT AND WENT OVER JOB FIGURES. READY TO TEST LINES
Event	11	Test Lines	Test Lines	10/18/2017	05:47:34	COM4	0.00	8.61	17.00	FLOOD LINES W/ 2 BBLS OF FRESH WATER, LOW PSI TEST TO 500 PSI, HIGH PSI TEST TO 2500 PSI
Event	12	Pump Spacer 1	Pump Spacer 1	10/18/2017	05:50:50	COM4	2.00	9.08	26.00	RED DYE WATER SPACER, PUMPED @ 4 BPM @ 90 PSI
Event	13	Pump Lead Cement	Pump Lead Cement	10/18/2017	05:57:50	COM4				SWIFTCEM, 600 SKS @ 13.5 PPG, YEILD @ 1.74, GAL/SK @ 9.2, 1044 FT3, 186 BBLS, 131 BBLS OF WATER TO MIX, HOC-1560, TOC-0, PUMPED @ 7 BPM @ 335 PSI
Event	14	Drop Top Plug	Drop Top Plug	10/18/2017	06:29:01	COM4				3RD PARTY TOP PLUG
Event	15	Pump Displacement	Pump Displacement	10/18/2017	06:29:04	COM4				RIG CIRCULATING WATER,PUMPED @ 7 BPM @ 280 PSI FOR THE FIRST 40

BBLS THEN HAD TO SHUT DOWN DUE TO RIG PUMPS NOT KEEPING UP, STARTED BACK UP @ 1.5 BPM FOR 20 BBLS, THEN BROUGHT RATE UP TO 5 BPM @ 400 PSI @ 70 BBLS GONE, SLOWE BACK DOWN TO 3 BPM 10 BBLS BEFORE WE BUMPED THE PLUG, FULL RETURNS THOUGHOUT THE JOB, 43 BBLS OF CEMENT BACK TO SURFACE.

Event	16	Bump Plug	Bump Plug	10/18/2017	07:11:59	COM4				500 OVER, BUMPED @ 510 PSI TOOK TO 1261 PSI, WAITED 5MIN. CHECKED FLOATS, FLOATS HELD 1 BBL BACK TO THE TRUCK.
Event	17	End Job	End Job	10/18/2017	07:15:04	COM4				
Event	18	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	10/18/2017	07:20:00	USER	2.80	8.24	11.00	SAFETY MEETING OVER RIGGING DOWN
Event	19	Rig-Down Equipment	Rig-Down Equipment	10/18/2017	07:30:00	USER	2.80	7.68	8.00	RIG DOWN EQUIPMENT AND HOSES
Event	20	Rig-Down Completed	Rig-Down Completed	10/18/2017	08:00:00	USER				RIG DOWN COMPLETE
Event	21	Safety Meeting - Departing Location	Safety Meeting - Departing Location	10/18/2017	08:20:00	USER				SAFETY MEETING OVER DEPARTURE AND JOURNEY HOME
Event	22	Depart Location for Home	Depart Location for Home	10/18/2017	08:30:00	USER				LEAVE LOCATION

3.0 Attachments

3.1 Extraction Walt 16E-20-9C Surface Job Chart



HALLIBURTON | iCem® Service

Created: 2017-10-17 23:35:59, Version: 4.2.393 [Edit](#)

Customer: EXTRACTION OIL & GAS  
 Representative: ROBERT DAVIS

Job Date: 10/18/2017 12:58:07 AM  
 Sales Order #: 0904369161

Well: 16E-20-9C