

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS-EBUS**

Date: Monday, December 04, 2017

## **JESSER 3E-10-2C PRODUCTION**

Job Date: Thursday, November 30, 2017

Sincerely,

**Julia Nichols**

## 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    Custom Results – Job Chart with Events .....9

    3.2    Custom Results – Job Chart without Events.....10

## 1.0 Cementing Job Summary

---

### 1.1 Executive Summary

---

Halliburton appreciates the opportunity to perform the cementing services on the **Jesser 3E-10-2C** 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 42 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 [Fort Lupton]**

## HALLIBURTON

## Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 389404		Ship To #: 3830534		Quote #:		Sales Order #: 090444673				
Customer: EXTRACTION OIL & GAS				Customer Rep:						
Well Name: JESSER		Well #: 3E-10-2C		API/UWI #: 05-123-45658-00						
Field: WATTENBERG		City (SAP): BERTHOUD		County/Parish: WELD		State: COLORADO				
Legal Description: NW SW-3-4N-68W-2314FSL-376FWL										
Contractor:				Rig/Platform Name/Num: Patterson 901						
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199				Srvc Supervisor: Robert Davis						
Job										
Formation Name										
Formation Depth (MD)		Top 1601		Bottom		12415				
Form Type				BHST						
Job depth MD		12404ft		Job Depth TVD						
Water Depth				Wk Ht Above Floor		3				
Perforation Depth (MD)		From		To						
Well Data										
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		J-55	0	1601	0	0
Casing	0	5.5	4.778	20		P-110	0	12404	0	0
Open Hole Section			8.5				1601	12415	0	0
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5			12404		Top Plug	5.5		HES	
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	
Fluid Data										
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		50	bbl	11.5	3.73		6	
149.34 lbm/bbl		BARITE, BULK (100003681)								
35 gal/bbl		FRESH WATER								
0.50 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								
0.50 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								

last updated on 11/30/2017 6:27:51 PM

Page 1 of 3

iCem® Service

(v. 4.2.393)

Created: Monday, December 04, 2017

## HALLIBURTON

## Cementing Job Summary

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	2000	sack	13.2	1.57		8	7.53
0.35 %		SCR-100 (100003749)							
7.50 Gal		FRESH WATER							
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	Displacement	Displacement	274	bbl	8.34				
Cement Left In Pipe		Amount	5 ft		Reason			Shoe Joint	
Mix Water: pH 7		Mix Water Chloride:	100 ppm			Mix Water Temperature:		80 °F °C	
Cement Temperature: ## °F °C		Plug Displaced by:	8.33 lb/gal kg/m3 XXXX			Disp. Temperature:		## °F °C	
Plug Bumped? Yes		Bump Pressure:	2300-2736 psi MPa			Floats Held?		Yes	
Cement Returns: 42 bbl m3		Returns Density:	## lb/gal kg/m3			Returns Temperature:		## °F °C	
Comment FULL RETURNS THOUGHOUT THE JOB, 50 BBLs OF SPACER AND 42 BBLs OF CEMENT RETURNS TO SURFACE, BUMPED PLUG @ CALCULATED DISPLACEMENT, FLOATS HELD 1 ½ BBLs BACK TO THE TRUCK									

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	DS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	11/30/2017	04:00:00	USER				CALLED OUT FROM FT. LUPTON COLORADO
Event	2	Depart from Service Center or Other Site	Depart from Service Center or Other Site	11/30/2017	07:00:00	USER				LEAVE YARD AFTER SAFTEY MEETING
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	11/30/2017	08:30:00	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	11/30/2017	08:45:00	USER				ASSESSED LOCATION AN TOOK WATER SAMPLE
Event	5	Rig-Up Equipment	Rig-Up Equipment	11/30/2017	09:00:00	USER				SPOTTED EQUIPMENT AND RIGGED UP TO FLOOR RIG IS RUNNING CASING
Event	6	Other	Other	11/30/2017	09:10:00	USER				Water test=pH: _7___, Cl:100___, temp 60___degrees Tannin-Lignin: _NEG.____; Sulfate: _200___
Event	7	Other	Other	11/30/2017	09:30:00	USER				Rig Circulation: ___ bbls Circulation Rate: ___ bbl/min Mud Density _9.2___ lb/gal Mud YP/PV: _____
Event	8	Other	Other	11/30/2017	09:45:00	USER				Spacer: _50___ bbl TOS _0___ Lead Cement: _559___ bbl, _2000___ sks, TOC _0___ Tail Cement: ___ bbl, ___ sks, TOC ___ Displacement: _274___ bblCMT left in Pipe _0___ Reason _WET SHOE SUB_____
Event	9	Other	Other	11/30/2017	10:00:00	USER				TD: 12415___, TP _12404___, SJ: _5___, OH: _8 1/2___, Casing: Size/Weight/Grade: _5.5/20#/P110_____, Previous Casing Shoe: _1601___
Event	10	Start Job	Start Job	11/30/2017	13:35:04	COM4	0.00	8.24	6.00	
Event	11	Rig-Up Completed	Rig-Up Completed	11/30/2017	15:00:00	USER	0.00	8.08	-1.00	RIG UP COMPLETE SAFETY MEETING WITH RIG HANDS

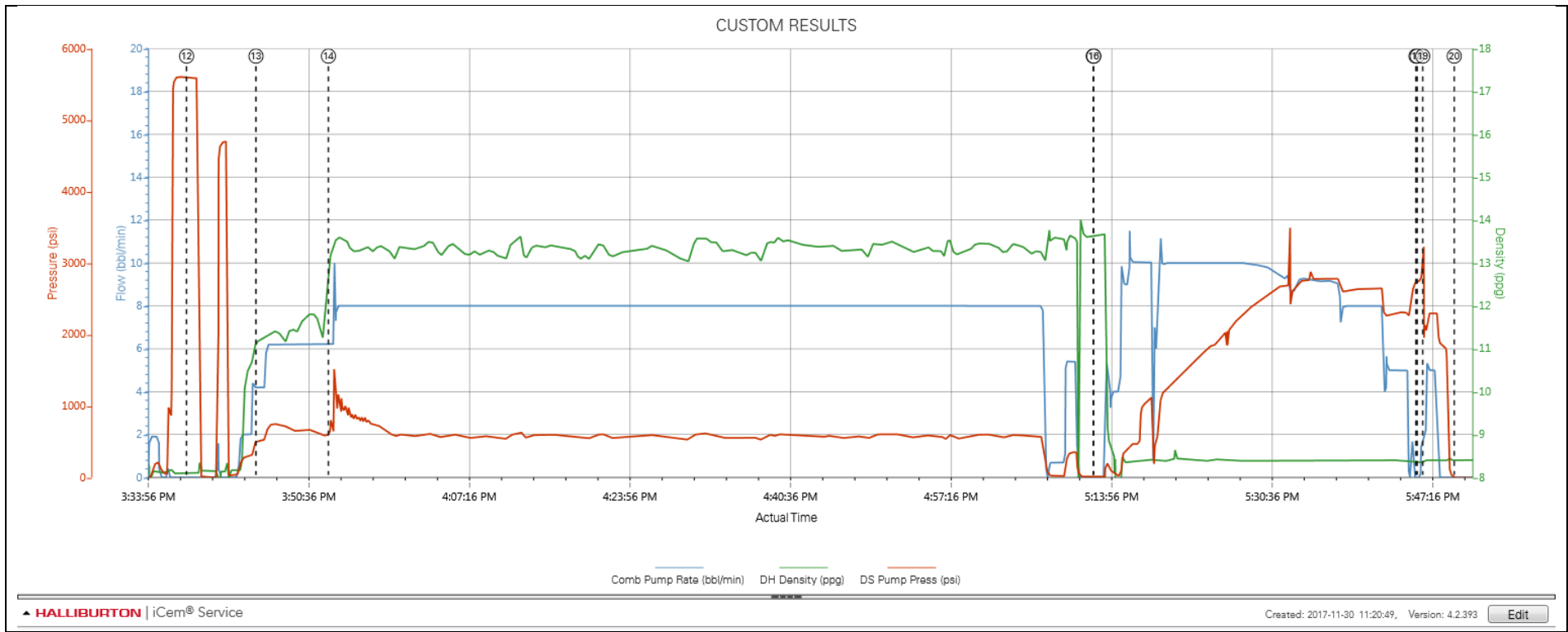
AND HALLIBURTON ABOUT THE DANGERS OF OUR EQUIPMENT AND WENT OVER JOB FIGURES. READY TO TEST LINES

Event	12	Test Lines	Test Lines	11/30/2017	15:38:10	COM4	0.00	8.11	5591.00	FLOOD LINES WITH 2 BBLS/ LOW TEST TO 500 PSI, HIGH TEST TO 5500 PSI
Event	13	Pump Spacer 1	Pump Spacer 1	11/30/2017	15:45:22	COM4	4.20	11.19	521.00	TUNED SPACER, 50 BBLS, @ 11.5 PPG, YEILD @ 3.73, GAL/SK @ 23.4, PUMPED @ 6 BPM @ 700 PSI, TOS-0
Event	14	Pump Lead Cement	Pump Lead Cement	11/30/2017	15:52:53	COM4	6.20	13.26	802.00	ELASTICEM, 2000 SKS @ 13.2 PPG, YEILD @ 1.55, GAL/SK @ 7.53, 3140 FT3, 559 BBLS, 359 BBLS OF WATER TO MIX, HOC-12404, TOC-0, PUMPED @ 8 BPM @ 930 PSI
Event	15	Drop Top Plug	Drop Top Plug	11/30/2017	17:12:17	COM4				KLX WET SHOE PLUG
Event	16	Pump Displacement	Pump Displacement	11/30/2017	17:12:20	COM4				FRESH WATER, PUMPED @ 10 BPM @ 2700 PSI, LAST 20 BBLS SLOWED RATE TO 5 BPM @ 2300 PSI, FULL RETURNS THOUGHOUT THE JOB, 50 BBLS OF SPACER AND 42 BBLS OF CEMENT RETURNS TO SURFACE
Event	17	Bump Plug	Bump Plug	11/30/2017	17:45:47	COM4				500 OVER, BUMPED @ 2300 PSI TOOK TO 2736 PSI, HELD FOR 2 MIN.
Event	18	Other	Other	11/30/2017	17:45:54	COM4				WET SHOE SUB RUPERED @ 3215 PSI
Event	19	Other	Other	11/30/2017	17:46:29	COM4				PUMPED 6 BBLS FOR WET SHOE @ 5 BPM @ 2304 PSI, CHECKED FLOATS, FLOATS HELD 1 1/2 BBLS BACK TO THE TRUCK
Event	20	End Job	End Job	11/30/2017	17:49:45	COM4				
Event	21	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	11/30/2017	18:00:00	USER	0.00	8.42	-8.00	SAFETY MEETING OVER RIGGING DOWN
Event	22	Rig-Down Equipment	Rig-Down Equipment	11/30/2017	18:15:00	USER				RIG DOWN EQUIPMENT AND HOSES
Event	23	Rig-Down Completed	Rig-Down Completed	11/30/2017	19:30:00	USER				RIG DOWN COMPLETE
Event	24	Safety Meeting - Departing Location	Safety Meeting - Departing Location	11/30/2017	19:45:00	USER				SAFETY MEETING OVER DEPARTURE AND JOURNEY HOME
Event	25	Depart Location for Home	Depart Location for Home	11/30/2017	20:00:00	USER				LEAVE LOCATION



3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

