

# HALLIBURTON

iCem<sup>®</sup> Service

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

Date: Monday, November 27, 2017

### **Launer #12 Production**

Job Date: Thursday, November 16, 2017

Sincerely,

**Justin Lansdale**

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Table of Contents

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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    Job Chart.....9

    3.2    Launer 12 -Custom Results.png .....11

## 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 **Launer #12** 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 [Fort Lupton]**

The Road to Excellence Starts with Safety

Sold To #: 369404		Ship To #: 3818089		Quote #:		Sales Order #: 0904435336				
Customer: EXTRACTION OIL & GAS				Customer Rep: Todd Stephens						
Well Name: LAUNER			Well #: 12			API/UWI #: 05-123-45178-00				
Field: WATTENBERG		City (SAP): WINDSOR		County/Parish: WELD			State: COLORADO			
Legal Description: SE SE-26-7N-67W-653FSL-443FEL										
Contractor: PATTERSON-UTI ENERGY				Rig/Platform Name/Num: PATTERSON 346						
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199				Srv Supervisor: Ryan Stevens						
Job										
Formation Name										
Formation Depth (MD)		Top			Bottom					
Form Type				BHST						
Job depth MD		14570 ft		Job Depth TVD		7095				
Water Depth				Wk Ht Above Floor		5 feet				
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	New	9.625	8.921	36		J-55	0	1565	0	1565
Casing	New	5.5	4.778	20	BTC	P-110	0	14570	0	14570
Open Hole Section			8.5				1565	14580	0	14580
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe						Top Plug	5.5	1	KLX	
Float Shoe	5.5	1	KLX	14570		Bottom Plug	5.5			
Float Collar	5.5	1	KLX	14565		SSR plug set	5.5			
Insert Float						Plug Container	5.5	1	HES	
Stage Tool						Centralizers	5.5	217	KLX	
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	23.4	6	1,170	
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)								

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	2,370	sack	13.2	1.57	7.54	6.5	17,869
0.30 %		SCR-100 (100003749)							
7.54 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	323	bbl	8.34			10	13,566
Cement Left In Pipe		Amount	0 ft		Reason			Wet Shoe	
Mix Water:	pH 7	Mix Water Chloride:	<400 ppm			Mix Water Temperature:	65 °F		
Cement Temperature:	65 °F	Plug Displaced by:	HES			Disp. Temperature:	65 °F		
Plug Bumped?	Yes	Bump Pressure:	2994 psi			Floats Held?	Yes		
Cement Returns:	60 bbl	Returns Density:	13.2 lb/gal			Returns Temperature:	65 °F		
Comment 60 BBLS OF CEMENT BACK TO SURFACE.									

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

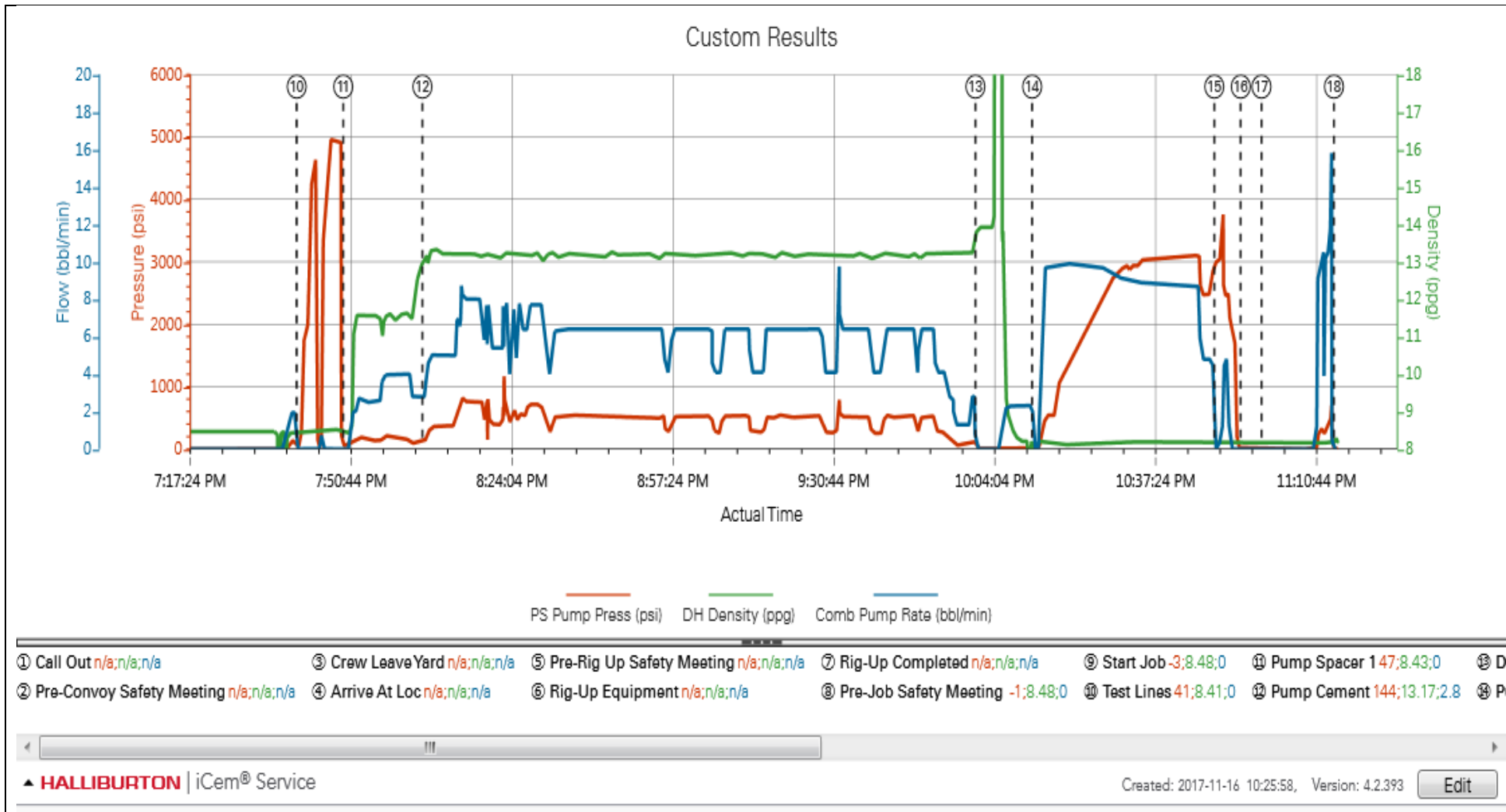
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comments
Event	1	Call Out	Call Out	11/16/2017	08:30:00	USER	CREW CALL OUT FOR JOB @ 08:00. CUSTOMER REQUESTED ON LOCATION TIME OF 16:30. CREW PICKED UP BULK TRUCK, PUMP 11189145, 5.5 HEAD, AND CHEMICALS FROM FORT LUPTON YARD.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/16/2017	12:00:00	USER	CREW DISCUUSED HAZARDS ALONG ROUTE OF TRAVEL. BEGAIN JOURNEY MANAGEMENT.
Event	3	Crew Leave Yard	Crew Leave Yard	11/16/2017	12:30:00	USER	CREW LEFT FOR LOCATION
Event	4	Arrive At Loc	Arrive At Loc	11/16/2017	13:30:07	USER	CREW ARRIVED ON LOCATION AND SPOTTED EQUIPMENT, MEET WITH CO-MAN AND DISSCUSSED JOB PROCEDURE. TD 14,580', EOC. 14,570', SHOE TRACK 5' DISPLACE 323.34 BBLS WITH FREASH WATER BUMP PLUG 500 OVER FINALE LIFT PSI. BURST PLUG AND PUMP 5 BBLS WET SHOE.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	11/16/2017	14:00:05	USER	CREW DISCUUSED HAZARDS ON LOCATION.
Event	6	Rig-Up Equipment	Rig-Up Equipment	11/16/2017	14:10:00	USER	CREW RIGGED UP IRON, HOSES, AND BULK EQUIPMENT TO PERFORM JOB.
Event	7	Rig-Up Completed	Rig-Up Completed	11/16/2017	15:00:00	USER	EQUIPMENT WAS RIGGED UP AND READY TO PERFORM JOB.
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	11/16/2017	18:45:20	USER	PRE JOB SAFETY MEETING WITH HALLIBURTON AND RIG PERSONEEL TO DISCUSS HAZARDS DURING THE JOB.
Event	9	Start Job	Start Job	11/16/2017	19:09:19	COM4	START RECORDING JOB DATA.
Event	10	Test Lines	Test Lines	11/16/2017	19:40:08	COM4	PRESSURE TEST PUMPS AND LINES TO 4,962 PSI. KICK OUTS SET TO 500 SI KICKED OUT @ 1,073 PSI. 5TH GEAR STALL OUT @ 1,772 PSI.
Event	11	Pump Spacer 1	Pump Spacer 1	11/16/2017	19:49:47	COM4	PUMP 50 BBLS OF 11.5 PPG TUNED SPACER

							DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	12	Pump Cement	Pump Cement	11/16/2017	20:06:11	COM4	PUMP 2,370 SXS OF ELASTICEM @ 13.2 PPG, YIELD 1.57, MW 7.54, 662 BBLS.TOC @ 0' 56 CALCULATED BBLS BACK TO SURFACE. DENSITY VERIFIED BY PRESSUREISED MUD SCALES.
Event	13	Drop Top Plug	Drop Top Plug	11/16/2017	22:00:45	COM4	DROP TOP PLUG AND WASH PUMPS AND LINES. PLUG LEFT CONTAINER VERIFIED BY CO-MAN.
Event	14	Pump Displacement	Pump Displacement	11/16/2017	22:12:29	COM4	PUMP CALCULETED DISPLACEMENT OF 323.34 BBLS OF FRESH WATER.@ 200 BBLS AWAY SPACER STARTED COMING BACK, @ 240 BBLS AWAY CEMENT WAS COMING BACK. 60 BBLS OF CEMENT BACK TO SURFACE.
Event	15	Bump Plug	Bump Plug	11/16/2017	22:50:14	COM4	BUMP PLUG @ 5 BPM, 500 PSI OVER FINALE LIFT PRESSURE PER KLX HAND. BURST PLUG 2 3,890 PSI AND PUMP 5 BBLS OF FREASH WATER FOR A WET SHOE.
Event	16	End Job	End Job	11/16/2017	22:55:41	COM4	STOP RECORDING JOB DATA
Event	17	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	11/16/2017	23:00:00	USER	CREW DISSCUSSED HAZERDS FOR RIGGING DOWN.
Event	18	Rig-Down Equipment	Rig-Down Equipment	11/16/2017	23:15:00	USER	CREW RIGGED DOWN EQUIPMENT AND WAS STOED FOR TRAVEL.
Event	19	Rig-Down Completed	Rig-Down completed	11/17/2017	00:00:00	USER	CREW RIGGED DOWN EQUIPMENT AND WAS STOED FOR TRAVEL.
Event	20	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/17/2017	00:05:00	USER	CREW DISCUUSED HAZARDS ALONG ROUTE OF TRAVEL. BEGAIN JOURNEY MANAGEMENT.
Event	21	Crew Leave Location	Crew Leave Location	11/17/2017	00:10:00	USER	THANKS FOR USING HALLIBURTON. THANKS RYAN STEVENS AND CREW.



3.0 Attachments

3.1 Job Chart





3.2 Launer 12 -Custom Results.png

