

# HALLIBURTON

iCem<sup>®</sup> Service

## **LARAMIE ENERGY LLC**

**For: Laramie**

Date: Monday, November 27, 2017

**Bruton 30-14W Surface**

API# 08-077-10478

Sincerely,  
Grand Junction Cement Engineering

## 2.0 Real-Time Job Summary

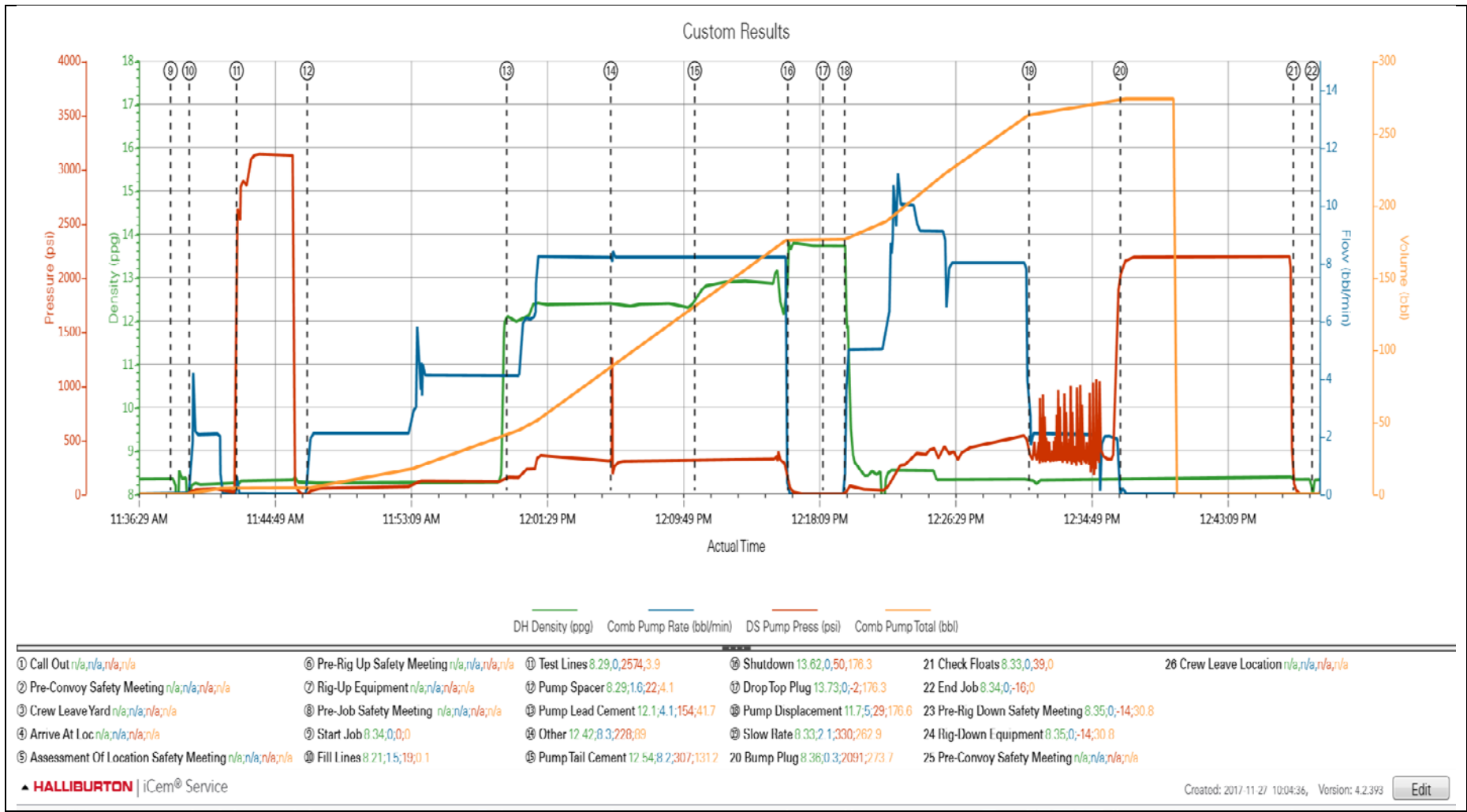
## 2.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Driv-Side Pump Pressure (psi)	Combined Pump Total (bbl)	Comments
Event	1	Call Out	11/27/2017	05:00:00						Requested on Location @ 10:00
Event	2	Pre-Convoy Safety Meeting	11/27/2017	07:00:00						
Event	3	Crew Leave Yard	11/27/2017	07:30:00						1 Elite, 1 660, 1 pickup
Event	4	Arrive At Loc	11/27/2017	10:00:00						Rig running casing
Event	5	Assessment Of Location Safety Meeting	11/27/2017	10:10:21						JSA completed - Customer offered/received SDS - water test pH 7.5, CI <200, temp 53 degrees
Event	6	Pre-Rig Up Safety Meeting	11/27/2017	10:20:00						
Event	7	Rig-Up Equipment	11/27/2017	10:30:00						1 hardline to standpipe, water hoses to upright and day tank, bulk hoses to 660.
Event	8	Pre-Job Safety Meeting	11/27/2017	10:35:00						All HES personnel, Rig Crew, and Company Rep.
Event	9	Start Job	11/27/2017	11:38:33						TD1564, TP 1559, OH 11", CSG 8 5/8" 24#, SJ 42.09', MUD 9.2
Event	10	Fill Lines	11/27/2017	11:39:42		8.33	2	40	5	Drop Bottom Plug, Fresh Water
Event	11	Test Lines	11/27/2017	11:42:35				3080		Held For 2 Min. No Leaks
Event	12	Pump Spacer	11/27/2017	11:46:55		8.33	4	100	35	Fresh Water
Event	13	Pump Lead Cement	11/27/2017	11:59:08		12.3	8	360	86.3	197 SKS, 12.3 PPG, 2.46 YIELD, 14.17 GAL/SK
Event	14	Other	11/27/2017	12:05:30			8	1250		Bottom Plug Bumped
Event	15	Pump Tail Cement	11/27/2017	12:10:38		12.8	8	325	42.3	109 SKS, 12.8 PPG, 2.18 YIELD, 12.11 GAL/SK
Event	16	Shutdown	11/27/2017	12:16:20						Wash Up On Top Of Plug
Event	17	Drop Top Plug	11/27/2017	12:18:29						Customer verified plug launched

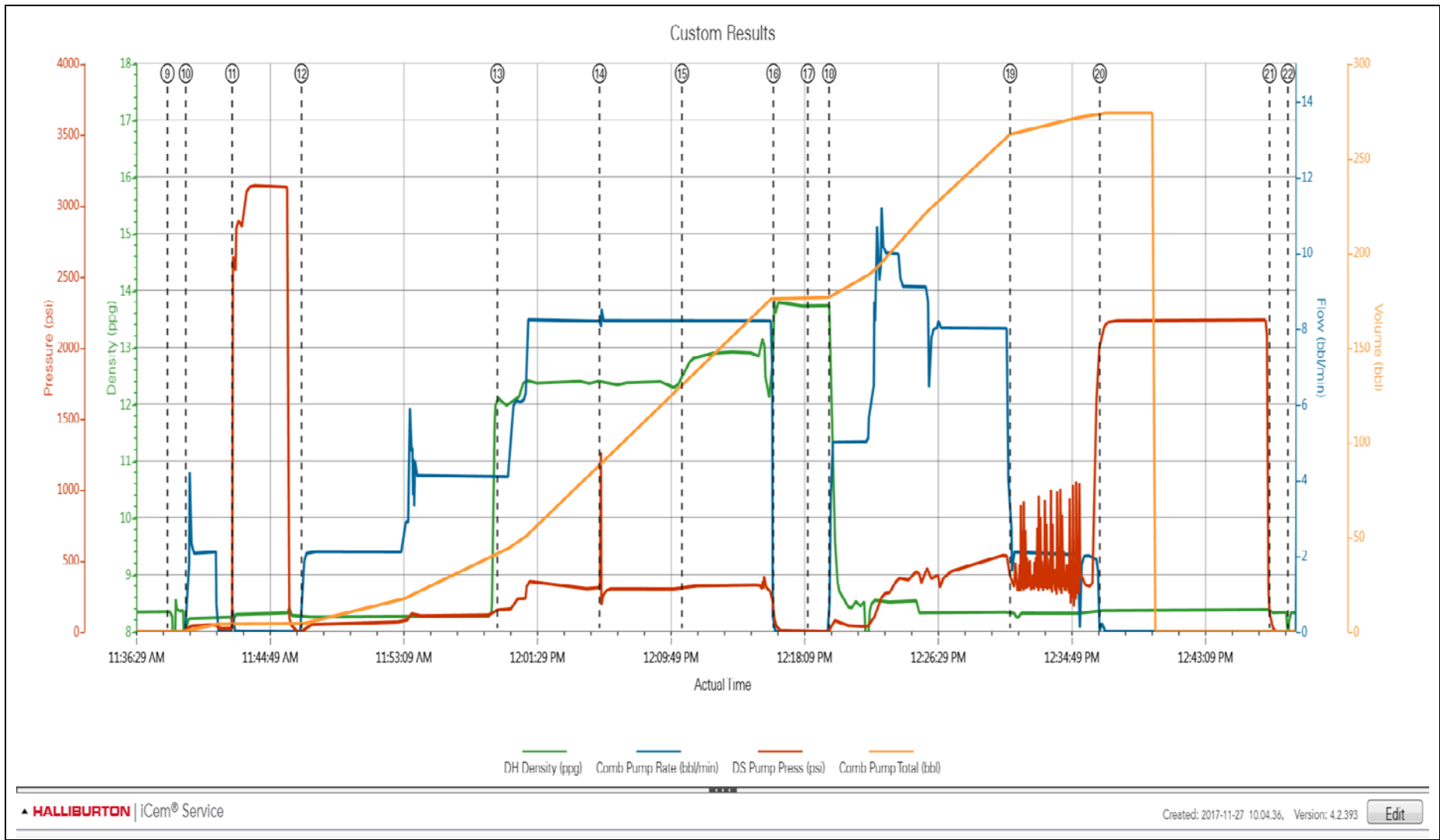
Event	18	Pump Displacement	11/27/2017	12:19:49	8.33	10	530		Fresh Water
Event	19	Slow Rate	11/27/2017	12:31:06	8.33	2	420	86	Slow Rate 10 bbls prior to Calculated Displacement, Had To Shut Down And Swap To Passenger Side HT To Bump Plug.
Event	20	Bump Plug	11/27/2017	12:36:42	8.33		2167	96.5	Plug Bumped at psi 420, Brought up to psi 2167 And Held For 10 Min.
Event	21	Check Floats	11/27/2017	12:47:17					Floats Held, 1 bbl Back To Truck
Event	22	End Job	11/27/2017	12:48:26					Good returns throughout job, pipe was not reciprocated during cement, 33 bbls of cement to surface
Event	23	Pre-Rig Down Safety Meeting	11/27/2017	12:53:32					40 lbs sugar, No add hours
Event	24	Rig-Down Equipment	11/27/2017	12:56:38					
Event	25	Pre-Convoy Safety Meeting	11/27/2017	13:05:08					
Event	26	Crew Leave Location	11/27/2017	13:09:31					Thanks For Using Halliburton Cement. Chris Martinez And Crew

3.0 Attachments

3.1 Bruton 30-14W-Custom Results.png



3.2 Bruton 30-14W-Custom Results (1).png



# HALLIBURTON

iCem<sup>®</sup> Service

## **LARAMIE ENERGY LLC EBUSINESS**

**For: Laramie**

Date: Thursday, December 07, 2017

**BRUTON 30-14W Production**

Sincerely,

Grand Junction Cement Engineering

## 1.0 Real-Time Job Summary

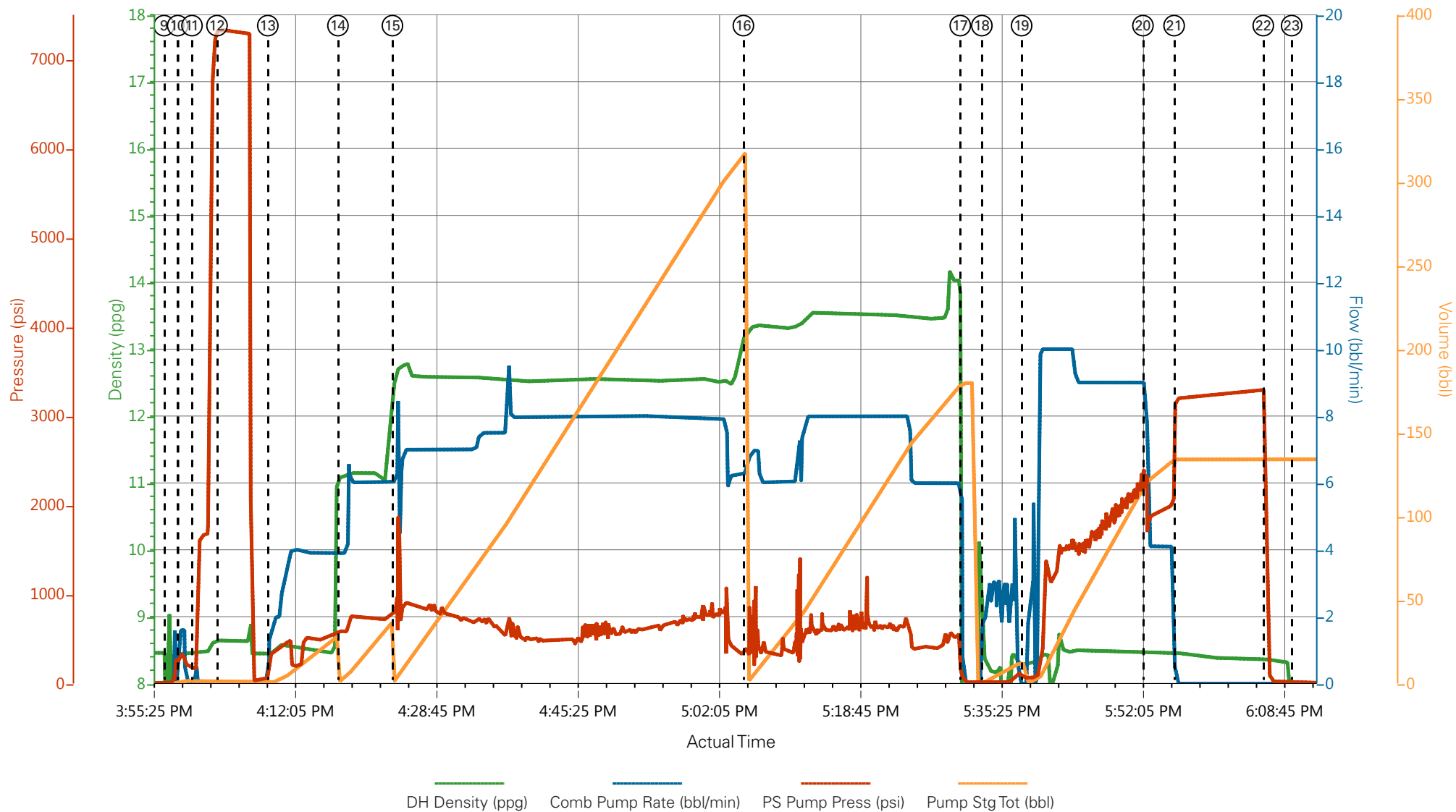
## 1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	Pass-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Pump Stage Total (bbl)	Comments
Event	1	Call Out	12/7/2017	06:00:00	USER					CALLED OUT AT 6 WITH AN ORIGINAL ON LOCATION TIME OF 12. JOB PUSHED AND CALLED OUT AT 10 AM WITH AN ON LOCATION TIME OF 15:00
Event	2	Pre-Convoy Safety Meeting	12/7/2017	10:55:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	12/7/2017	11:00:00	USER					1 F550, 1 PUMP TRUCK & 1 660 BULK TURCK
Event	4	Arrive At Loc	12/7/2017	13:00:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	12/7/2017	13:10:00	USER					MET WITH COMP REP, TYLER, AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7, CHLORIDES- 0, TEMP- 57F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	12/7/2017	13:15:00	USER					ALL HES PRESENT
Event	7	Rig-up Lines	12/7/2017	13:20:00	USER					HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.
Event	8	Pre-Job Safety Meeting	12/7/2017	15:26:24	USER					ALL HES AND RIG CREW PRESENT
Event	9	Start Job	12/7/2017	15:57:00	COM6					TD 8199', TP 8189', SJ 86.8', OH 7.875'', CSG 4.5'' 11.6#, MUD 11.2 PPG. RIG CIRCULATED WELL @ APPROX 10 BPM WITH 980 PSI FOR APPROX 1.5 HRS.
Event	10	Prime Pumps	12/7/2017	15:58:36	COM6					8.33 PPG FRESH WATER
Event	11	Drop Bottom Plug	12/7/2017	15:59:30	USER					PLUG WENT
Event	12	Test Lines	12/7/2017	16:03:14	COM6	7334.00	8.33	0.50	0.50	ALL LINES HELD PRESSURE AT 7334 PSI
Event	13	Pump Spacer 1	12/7/2017	16:09:14	COM6	573.00	8.45	4.00	20.00	8.4 PPG MUD FLUSH III
Event	14	Pump Spacer 2	12/7/2017	16:17:30	COM6	745.00	11.07	4.00	40.00	TUNED SPACER III (40 BBL), 11 PPG

Event	15	Pump Lead Cement	12/7/2017	16:23:56	COM6	837.00	12.52	8.00	318.00	NEOCER CEMENT 867 SKS (300 BBLs), 12.5 PPG, 1.94 FT <sup>3</sup> /SK, 9.6 GAL/SK
Event	16	Pump Tail Cement	12/7/2017	17:05:19	COM6	985.00	13.30	8.00	179.00	THERMACER CEMENT 461 SKS (142 BBLs), 13.3 PPG, 1.73 FT <sup>3</sup> /SK, 7.81 GAL/SK.
Event	17	Shutdown	12/7/2017	17:30:54	USER					END OF CMT
Event	18	Clean Lines	12/7/2017	17:33:27	USER	26.00	8.32	2.00	10.00	WASH UP PUMPS AND LINES
Event	19	Drop Top Plug	12/7/2017	17:37:44	USER					PLUG WENT, VERIFIED BY CO REP.
Event	20	Pump Displacement	12/7/2017	17:38:08	COM6	2800.00	8.33	9.00	125.50	8.34 PPG CLAY WEB (125.5 BBLs) & 1 GAL MMCR
Event	21	Slow Rate	12/7/2017	17:52:27	USER	1909.00	8.33	4.00	10.00	SLOW RATE TO 4 BPM PER CO REP TO LAND PLUG
Event	22	Bump Plug	12/7/2017	17:56:08	USER	2221.00	8.33	4.00	1.00	LAND PLUG AT 2210 PSI, BROUGHT UP TO 3100 PSI. HELD FOR 10 MIN. CASING TEST.
Event	23	Check Floats	12/7/2017	18:06:39	USER					FLOATS HELD, 1 BBL BACK TO TRUCK
Event	24	End Job	12/7/2017	18:10:00	USER					PIPE WAS NOT RECIPROCATED DURING THE JOB, 20 BBL OF MUD FLUSH BACK TO SURFACE
Event	25	Post-Job Safety Meeting (Pre Rig-Down)	12/7/2017	18:26:50	USER					ALL HES PRESENT
Event	26	Rig-Down Equipment	12/7/2017	18:28:00	USER					ALL HES PRESENT
Event	27	Pre-Convoy Safety Meeting	12/7/2017	18:29:51	USER					ALL HES PRESENT
Event	28	Crew Leave Location	12/7/2017	18:32:03	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, CHRIS SMITH AND CREW



# LARAMIE - BRUTON 30-14W - 4.5" PRODUCTION



- |   |                          |                     |   |
|---|--------------------------|---------------------|---|
| ① Call Out                              | ⑧ Pre-Job Safety Meeting | ⑮ Pump Lead Cement  | 22 Check Floats                           |
| ② Pre-Convoy Safety Meeting             | ⑨ Start Job              | ⑯ Pump Tail Cement  | 23 End Job                                |
| ③ Crew Leave Yard                       | ⑩ Prime Pumps            | ⑰ Shutdown          | 24 Post-Job Safety Meeting (Pre Rig-Down) |
| ④ Arrive At Loc                         | ⑪ Drop Top Plug          | ⑱ Clean Lines       | 25 Rig-Down Equipment                     |
| ⑤ Assessment Of Location Safety Meeting | ⑫ Test Lines             | ⑲ Pump Displacement | 26 Pre-Convoy Safety Meeting              |
| ⑥ Pre-Rig Up Safety Meeting             | ⑬ Pump Spacer 1          | 20 Slow Rate        | 27 Crew Leave Location                    |
| ⑦ Rig-up Lines                          | ⑭ Pump Spacer 2          | 21 Bump Plug        |   |

▼ **HALLIBURTON** | iCem® Service

Created: 2017-12-07 13:36:10, Version: 4.2.393

Edit

Customer : LARAMIE ENERGY II LLC EBUSINESS

Job Date : 12/7/2017

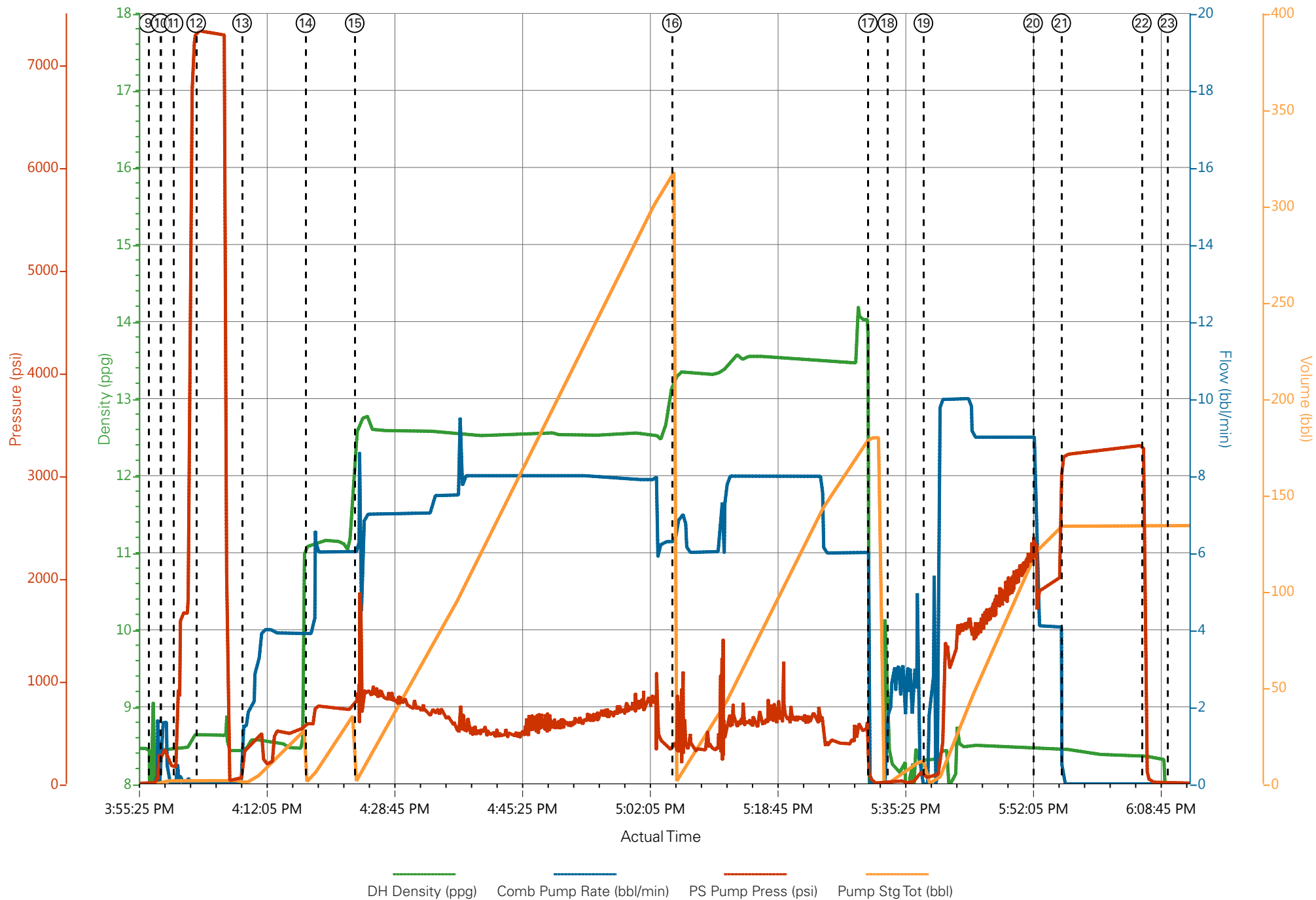
Well : BRUTON 30-14W

Representative : TYLER

Sales Order # : 904465218

ELITE 8 : K. BENNETT/D.PORTER

# LARAMIE - BRUTON 30-14W - 4.5" PRODUCTION



### Job Information

<b>Request/Slurry</b>	2436570/1	<b>Rig Name</b>	H&P 522	<b>Date</b>	05/DEC/2017
<b>Submitted By</b>	Patrick Ealey	<b>Job Type</b>	Production Casing	<b>Bulk Plant</b>	Grand Junction
<b>Customer</b>	Laramie Energy	<b>Location</b>	Garfield	<b>Well</b>	Bruton 30-14W

### Well Information

<b>Casing/Liner Size</b>	4.5 in	<b>Depth MD</b>	8218 ft	<b>BHST</b>	116°C / 240°F
<b>Hole Size</b>	7.875 in	<b>Depth TVD</b>	7739 ft	<b>BHCT</b>	78°C / 172°F
<b>Pressure</b>	4720 psi				

### Drilling Fluid Information

<b>Mud Supplier Name</b>		<b>Mud Trade Name</b>		<b>Density</b>	9.9 lbm/gal
--------------------------	--	-----------------------	--	----------------	-------------

### Cement Information - Lead Design

<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<b>Cement Properties</b>		
		NeoCem Lead w/0.2% Super CBL				Slurry Density	12.5	lbm/gal
						Slurry Yield	1.945	ft3/sack
						Water Requirement	9.643	gal/sack
						Total Mix Fluid	9.643	gal/sack
						Water Source	Field (Fresh) Water	
						Water Chloride		

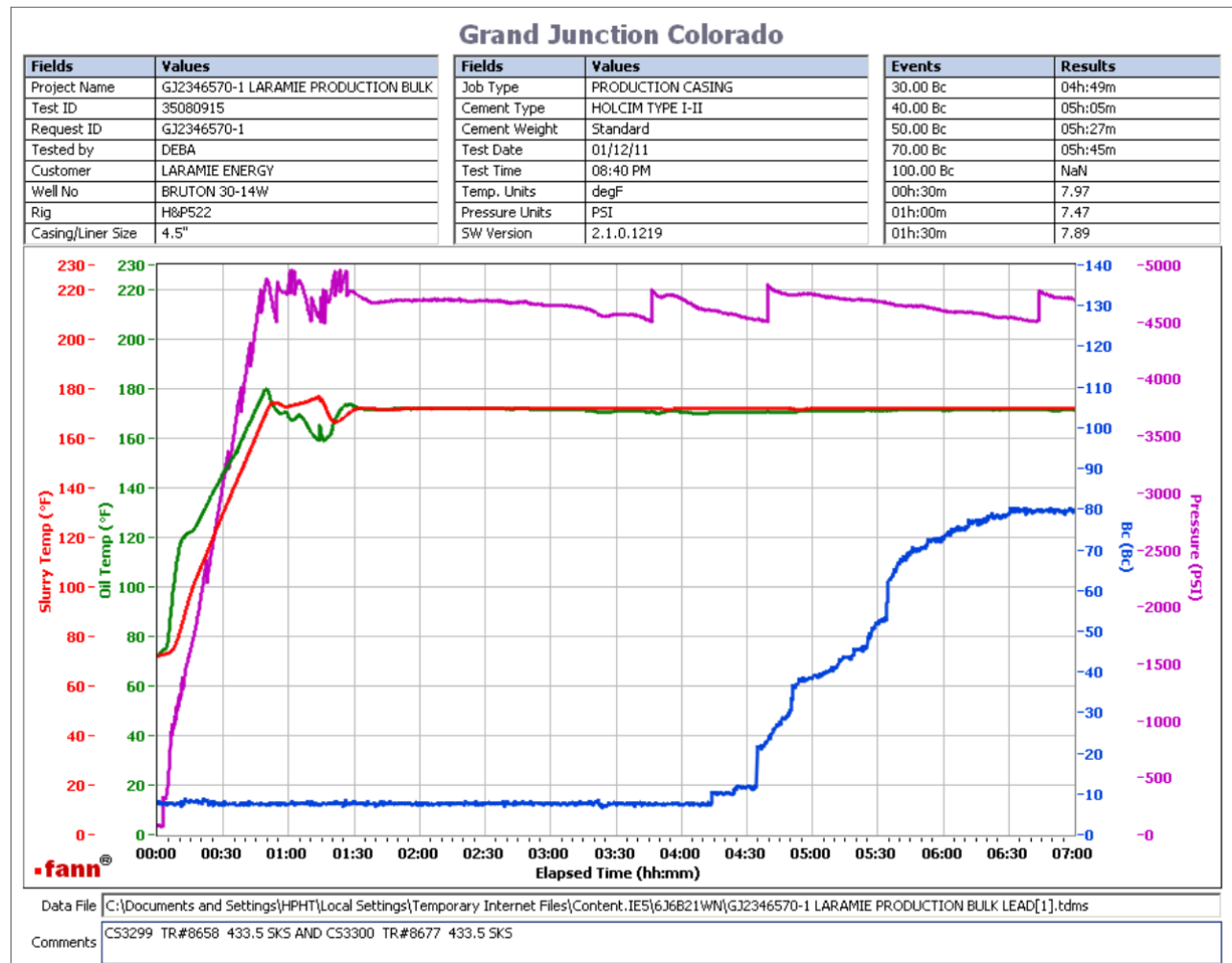
This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.

# **Operation Test Results Request ID 2436570/1**

## **Thickening Time - ON-OFF-ON**

**06/DEC/2017**

Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
172	4720	49	4:49	5:27	5:45	7	59	15	7



Total sks = 867

Reblended with 0.2% BWOC Super CBL

Composite:

CS3299 TR#8658 433.5 sks

CS3300 TR#8677 433.5 sks

Deflection: 7 - 7

This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.

# HALLIBURTON

## Rockies, Grand Junction

## Lab Results- Tail

### Job Information

<b>Request/Slurry</b>	2433482/1	<b>Rig Name</b>	H&P 522	<b>Date</b>	24/NOV/2017
<b>Submitted By</b>	Aaron Katz	<b>Job Type</b>	Production Casing	<b>Bulk Plant</b>	Grand Junction
<b>Customer</b>	Laramie Energy	<b>Location</b>	Garfield	<b>Well</b>	Bruton 30-14W

### Well Information

<b>Casing/Liner Size</b>	4.5 in	<b>Depth MD</b>	8218 ft	<b>BHST</b>	116°C / 240°F
<b>Hole Size</b>	7.875 in	<b>Depth TVD</b>	7739 ft	<b>BHCT</b>	78°C / 172°F
<b>Pressure</b>	4720 psi				

### Drilling Fluid Information

<b>Mud Supplier Name</b>		<b>Mud Trade Name</b>		<b>Density</b>	9.9 lbm/gal
--------------------------	--	-----------------------	--	----------------	-------------

### Cement Information - Tail Design



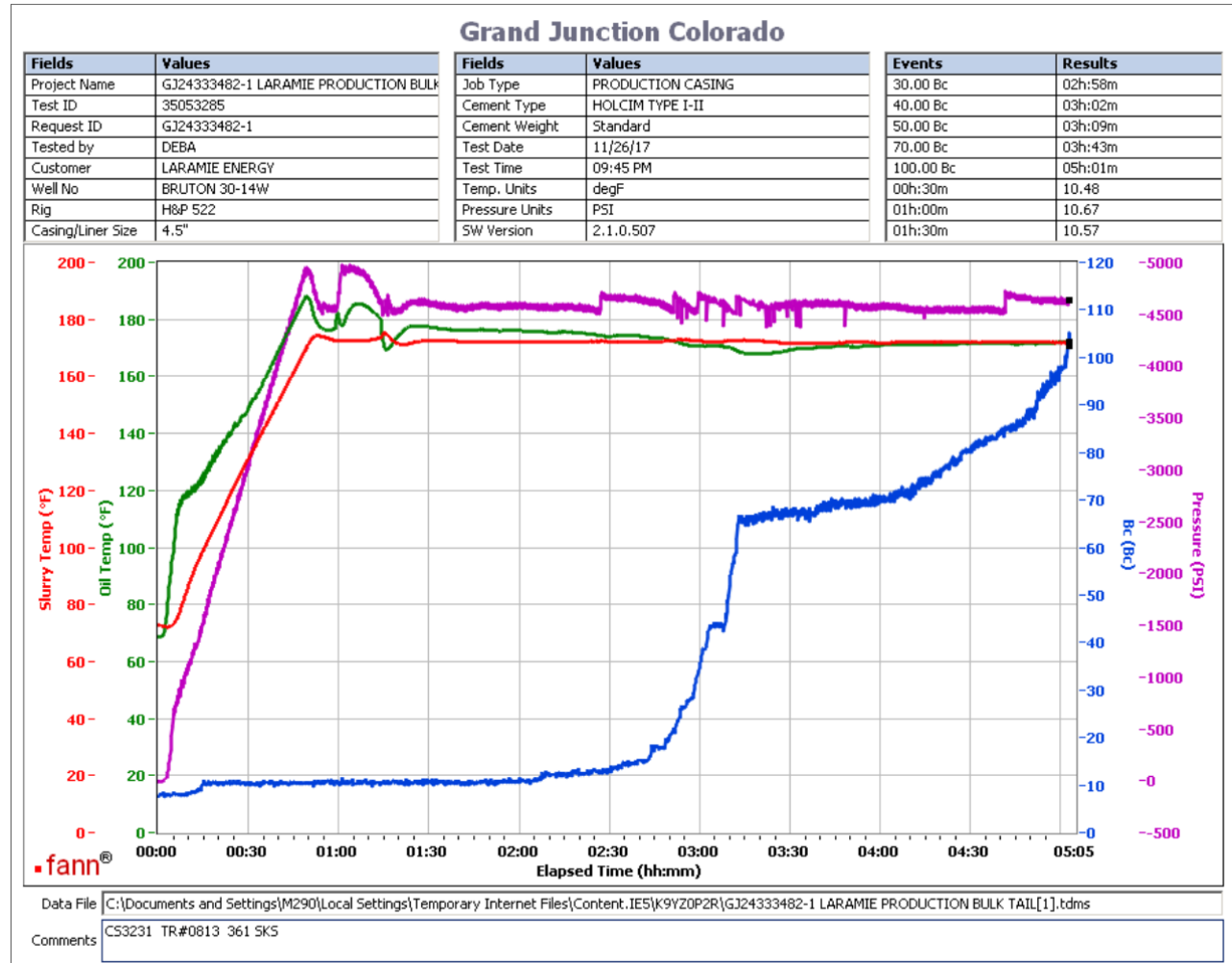
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<b>Cement Properties</b>		
		ThermaCem Tail				Slurry Density	13.3	lbm/gal
						Slurry Yield	1.733	ft3/sack
						Water Requirement	7.799	gal/sack
						Total Mix Fluid	7.799	gal/sack
						Water Source	Field (Fresh) Water	
						Water Chloride		

This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.

Thickening Time - ON-OFF-ON

27/NOV/2017

Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:min)	50 Bc (hh:min)	70 Bc (hh:min)	100 Bc (hh:min)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
172	4770	49	2:58	3:09	3:43	5:01	7	59	15	10



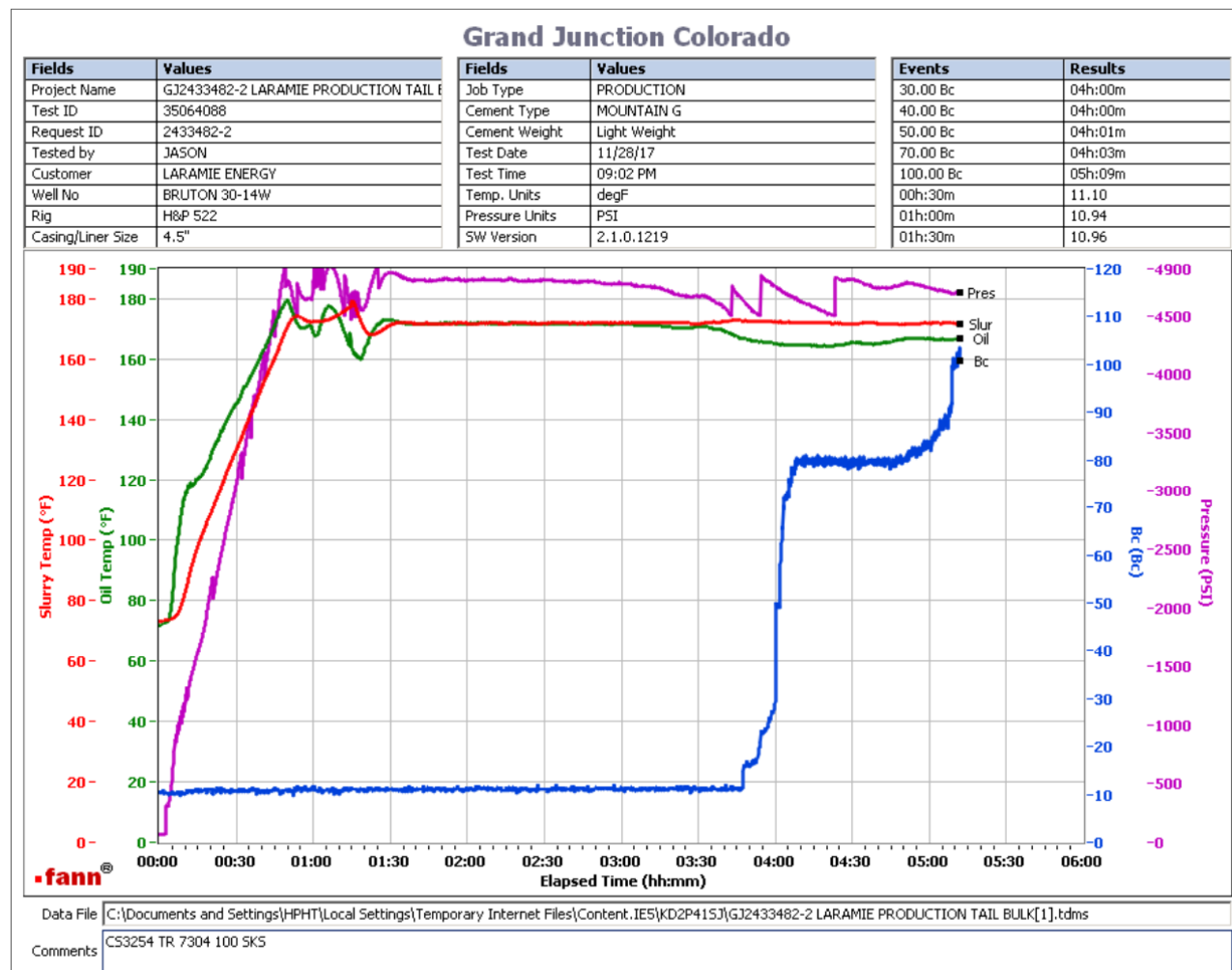
total sks 461  
cs3231 tr#0813 361 SKS  
no deflection was recorded by the graph. 10Bc---10Bc

This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.

## Thickening Time - ON-OFF-ON

29/NOV/2017

Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
172	4720	49	4:00	4:01	4:03	5:09	10	59	15	12



CS3254 TR 7304 100 SK5

no deflection was recorded by the graph. 12Bc-- > 12Bc  
 please note , Heat of hydration at 3:35

This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.