

# HALLIBURTON

iCem<sup>®</sup> Service

**LARAMIE ENERGY LLC**

API/UWI #: 05-077-09989-00

**For: Laramie**

Date: Tuesday, May 02, 2017

**Piceance Fed 29-19E Surface**

API# 05-077-10310-00

Sincerely,

**Grand Junction Cement Engineering**

## 1.0 Real-Time Job Summary

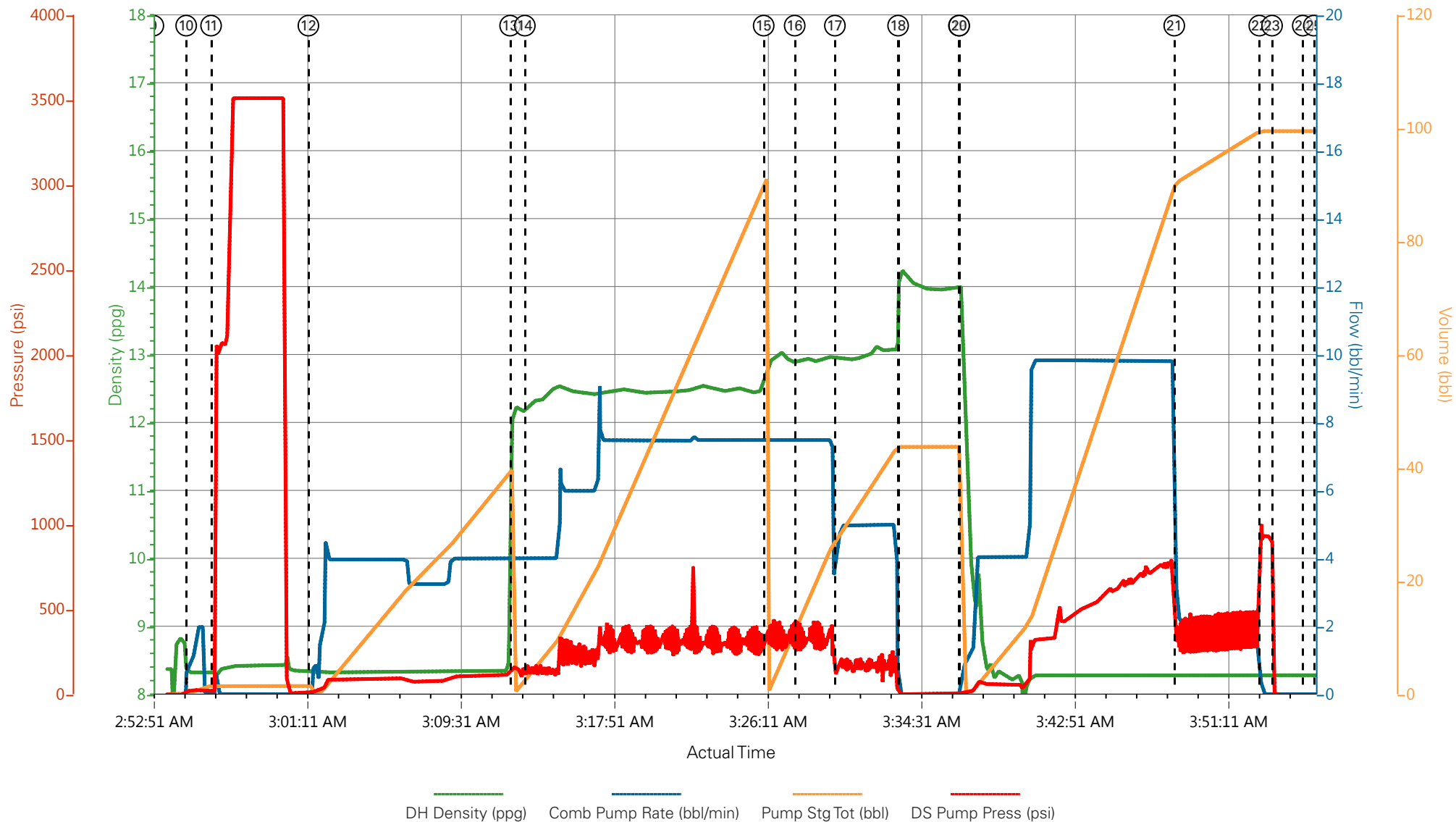
## 1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	Driv-Side Pump Pressure (psi)	Comments
Event	1	Call Out	5/2/2017	06:00:00	USER					Requested on Location @ 1500
Event	2	Pre-Convoy Safety Meeting	5/2/2017	08:45:00	USER					With All HES Personnel
Event	3	Crew Leave Yard	5/2/2017	09:00:00	USER					1 Elite, 1 660, 1 pickup
Event	4	Arrive At Loc	5/2/2017	11:00:00	USER					Rig Running Casing Upon HES Arrival
Event	5	Assessment Of Location Safety Meeting	5/2/2017	11:05:00	USER					JSA completed - Customer offered/received SDS - water test pH 7.5, CI <200, temp 68 degrees
Event	6	Pre-Rig Up Safety Meeting	5/2/2017	11:10:00	USER					With All HES Personnel
Event	7	Rig-Up Equipment	5/2/2017	11:15:00	USER					1 hardline to standpipe, water hoses to upright and day tank, bulk hoses to 660.
Event	8	Pre-Job Safety Meeting	5/2/2017	16:45:00	USER					With All Personnel
Event	9	Start Job	5/2/2017	17:00:00	USER					TD 1553', TP 1543', SJ 43.8', CSG 8 5/8" 24 LB/FT J-55, OH 11", Mud 9.4 PPG
Event	10	Prime Lines	5/2/2017	17:11:00	USER	8.4	2.0	2.0	32.0	Fresh Water
Event	11	Test Lines	5/2/2017	17:13:00	RTD Import				3570.0	Tested Lines to 3570 PSI, Pressure Holding
Event	12	Pump Water Spacer	5/2/2017	17:19:00	RTD Import	8.4	4.0	40.0	130.0	Fresh Water

Event	13	Pump Lead Cement*	5/2/2017	17:30:00	RTD Import	12.3	8.0	86.3	310.0	197 Sks 12.3 ppg 2.46 yield 14.17 gal/sk
Event	14	Mud Cup Sample Pulled	5/2/2017	17:32:00	RTD Import					Density verified via mud scales
Event	15	Pump Tail Cement*	5/2/2017	17:43:00	RTD Import	12.8	8.0	42.3	330.0	109 Sks 12.8 ppg 2.18 yield 12.11 gal/sk
Event	16	Mud Cup Sample Pulled	5/2/2017	17:45:00	RTD Import					Density verified via mud scales
Event	17	Slow Rate	5/2/2017	17:49:00	USER	12.8	5.0	37.0	160.0	Slowed Rate to Finish Cement
Event	18	Shutdown	5/2/2017	17:51:00	USER					
Event	19	Pump Displacement*	5/2/2017	17:55:00	RTD Import	8.4	10.0	95.3	750.0	Fresh Water
Event	20	Drop Top Plug	5/2/2017	17:54:00	USER					Verified Plug Launch
Event	21	Slow Rate	5/2/2017	18:03:00	USER	8.4	2.0	85.3	340.0	Slow Rate 10 bbls prior to Calculated Displacement
Event	22	Bump Plug	5/2/2017	18:07:00	USER				910.0	Plug Bumped at 360 psi, Brought up to 910 psi
Event	23	Check Floats	5/2/2017	18:09:00	USER				910.0	Floats held – ½ bbl back to the truck
Event	24	End Job	5/2/2017	18:11:00	USER					Good returns throughout job, pipe was not reciprocated during cement, 35 bbls of cement to surface
Event	25	Other	5/2/2017	18:30:00	USER					Chart times are not reflecting actual times since we had to pull RTD from the FLECs
Event	26	Pre-Rig Down Safety Meeting	5/2/2017	18:45:15	USER					With All HES Personnel
Event	27	Rig-Down Equipment	5/2/2017	19:00:16	USER					

Event	28	Pre-Convoy Safety Meeting	5/2/2017	19:45:17	USER	With All HES Personnel
Event	29	Crew Leave Location	5/2/2017	19:50:18	USER	
Event	30	Comment	5/2/2017	19:55:19	USER	Thank You for Choosing Halliburton Cement Department, Steven Wardell and Crew

# LARAMIE ENERGY II LLC - Piceance Fed 29-19E - Surface



- |   |                          |                         |                      |                                |
|---|--------------------------|-------------------------|----------------------|--------------------------------|
| ① Call Out                              | ⑦ Rig-Up Equipment       | ⑬ Pump Lead Cement*     | ⑰ Pump Displacement* | 25 Other                       |
| ② Pre-Convoy Safety Meeting             | ⑧ Pre-Job Safety Meeting | ⑭ Mud Cup Sample Pulled | 20 Drop Top Plug     | 26 Pre-Rig Down Safety Meeting |
| ③ Crew Leave Yard                       | ⑨ Start Job              | ⑮ Pump Tail Cement*     | 21 Slow Rate         | 27 Rig-Down Equipment          |
| ④ Arrive At Loc                         | ⑩ Prime Lines            | ⑯ Mud Cup Sample Pulled | 22 Bump Plug         | 28 Pre-Convoy Safety Meeting   |
| ⑤ Assessment Of Location Safety Meeting | ⑪ Test Lines             | ⑰ Slow Rate             | 23 Check Floats      | 29 Crew Leave Location         |
| ⑥ Pre-Rig Up Safety Meeting             | ⑫ Pump Water Spacer      | ⑱ Shutdown              | 24 End Job           | 30 Comment                     |

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Created: 2017-05-02 19:22:38, Version: 4.2.393

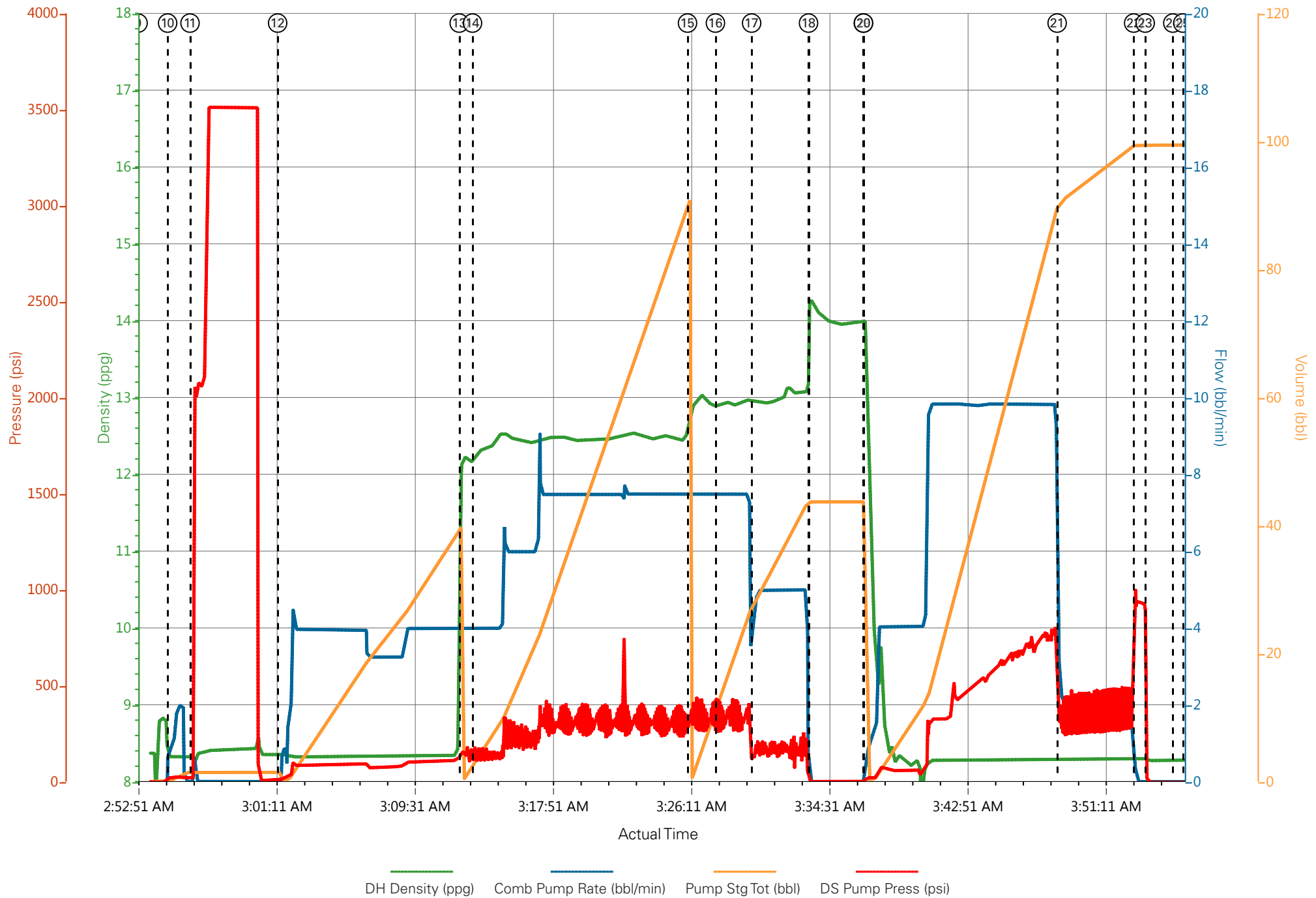
Edit

Customer : LARAMIE ENERGY II LLC  
Representative : Roger Foster

Job Date : 5/2/2017 2:53:21 PM  
Sales Order # : 904008634

Well : Piceance Fed 29-19E  
Elite #4 : Steve Wardell / Dirk Brennecke

# LARAMIE ENERGY II LLC - Piceance Fed 29-19E - Surface



# HALLIBURTON

iCem<sup>®</sup> Service

## **LARAMIE ENERGY LLC**

**For: Laramie Energy**

Date: Saturday, May 06, 2017

**Piceance Federal 29-19E Production PJR**

API# 05-077-10310-00

Sincerely,

**Grand Junction Cement Engineering**

## 1.0 Real-Time Job Summary

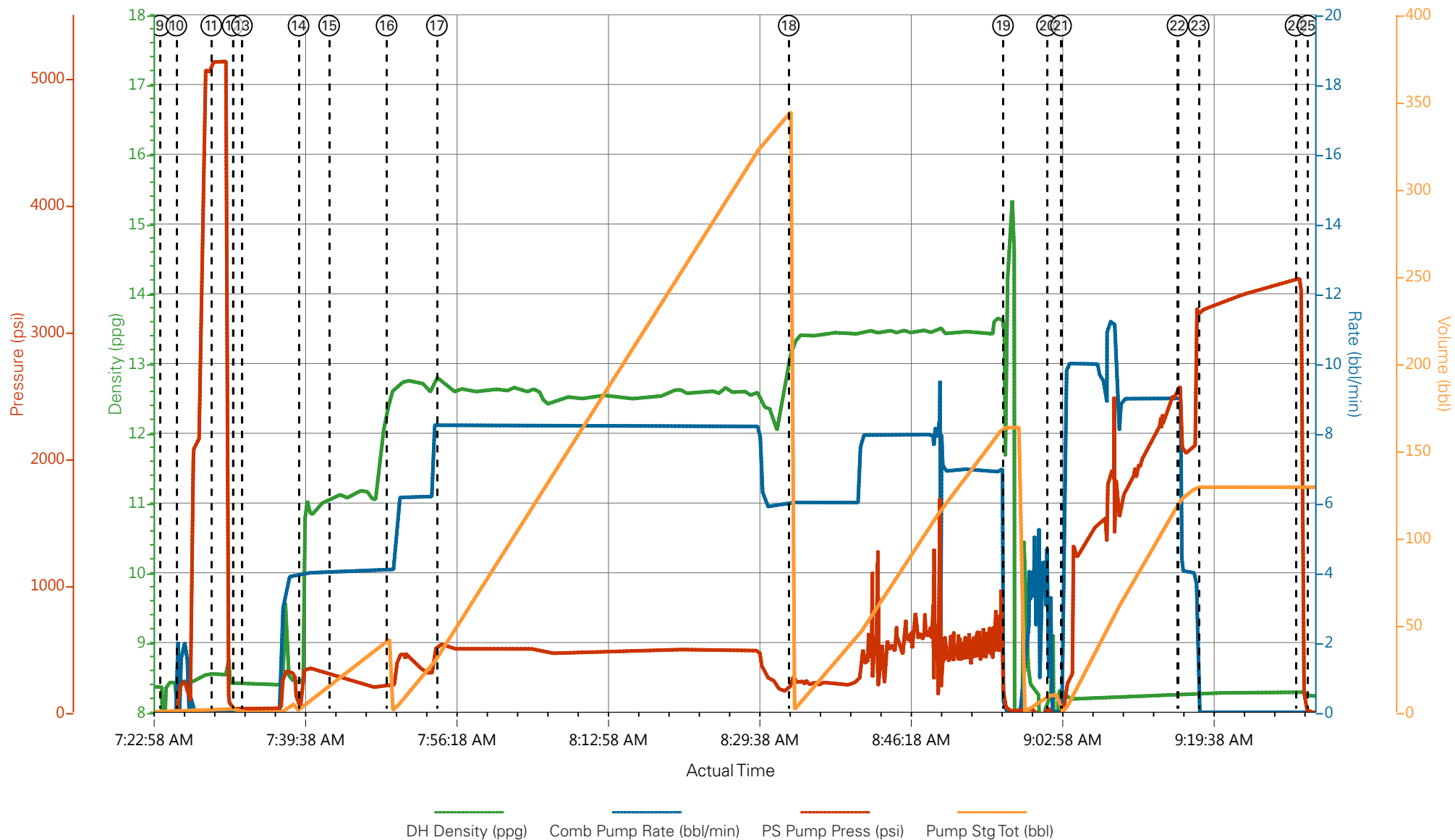
## 1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	5/6/2017	01:00:00	USER					O/L time 0700
Event	2	Pre-Convoy Safety Meeting	5/6/2017	01:45:00	USER					Crew already in field
Event	3	Crew Leave Previous Location	5/6/2017	02:00:00	USER					1 Elite, 1 660, 1 pickup
Event	4	Arrive At Location	5/6/2017	05:00:00	USER					Rig finishing running casing
Event	5	Assessment Of Location Safety Meeting	5/6/2017	05:10:00	USER					JSA completed - customer offered/received SDS - water test pH 7.5, Cl 0, temp 53 degrees
Event	6	Pre-Rig Up Safety Meeting	5/6/2017	05:20:00	USER					
Event	7	Rig-Up Equipment	5/6/2017	05:30:00	USER					Manifold on ground, hard line to standpipe, hard line to cellar, water hoses to upright and day tank, bulk hoses to silos and 660
Event	8	Pre-Job Safety Meeting	5/6/2017	07:10:00	USER					All HES personnel, rig crew, and company rep - Rig circulating approx 10 bpm w/ 1100 psi for almost 1 hr
Event	9	Start Job	5/6/2017	07:24:00	USER					TD 8081', TP 8071', SJ 84', Mud 9.3 ppg, 7 7/8" OH, 8 5/8" Surf casing @ 1543', 4 1/2" 11.6# casing
Event	10	Prime Lines	5/6/2017	07:25:48	USER	8.33	2.0	275	2.0	Fresh water
Event	11	Test Lines	5/6/2017	07:29:39	COM5			5148		Pressure held well
Event	12	Drop Bottom Plug	5/6/2017	07:32:00	USER					
Event	13	Pump H2O Spacer	5/6/2017	07:33:01	COM5	8.33	4.0	310	5.0	Water ahead - returns established



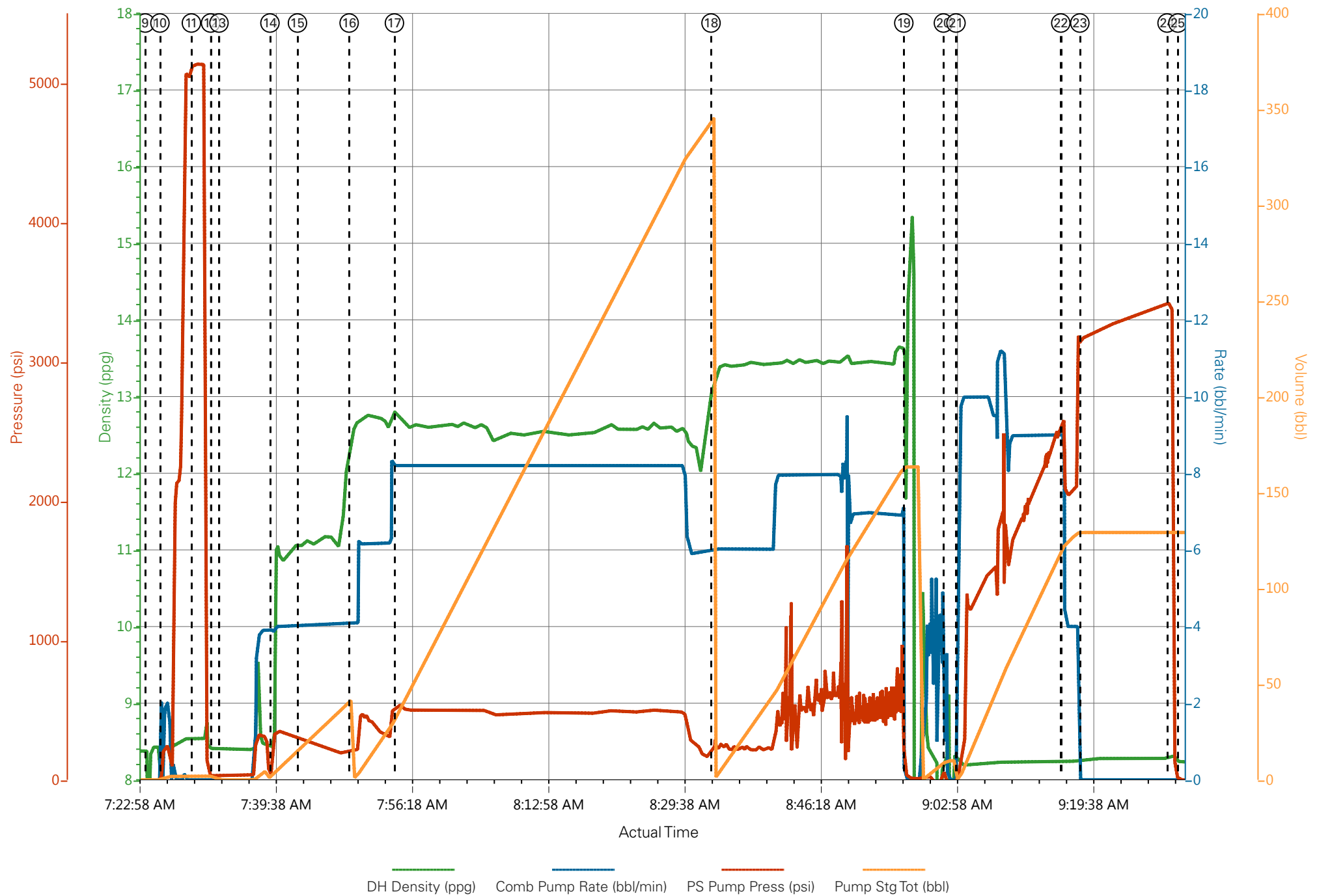
Event	14	Pump Tuned Spacer	5/6/2017	07:39:15	COM5	11.0	4.0	320	40.0	11.0 ppg TS III, 4.86 yield, 31.90 gal/sk
Event	15	Check weight	5/6/2017	07:42:37	COM5	11.0				
Event	16	Pump Lead Cement	5/6/2017	07:48:56	COM5	12.5	8.0	540	305.1	883 sks, 12.5 ppg, 1.94 yield, 9.60 gal/sk
Event	17	Check weight	5/6/2017	07:54:29	COM5	12.5				Recirc matched mud scales
Event	18	Pump Tail Cement	5/6/2017	08:33:12	COM5	13.3	8.0	605	126.3	410 sks, 13.3 ppg, 1.73 yield, 7.81 gal/sk
Event	19	Shutdown	5/6/2017	08:56:47	USER					Wash up into cellar
Event	20	Drop Top Plug	5/6/2017	09:01:38	USER					Plug launched – verified by company rep
Event	21	Pump Displacement	5/6/2017	09:03:10	COM5	8.4	10.0	2560	123.8	1 gal MMCR, 5 gal Cla-Web
Event	22	Slow Rate	5/6/2017	09:16:00	USER	8.4	4.0	2170	@ 113	Good returns throughout job
Event	23	Bump Plug	5/6/2017	09:18:19	COM5			2190		Casing test to 3000 psi for 10 minutes
Event	24	Check Floats	5/6/2017	09:29:00	USER			3280		Floats held – 1 bbl flow back
Event	25	End Job	5/6/2017	09:30:19	COM5					Approx 35 bbls Tuned Spacer to surface- used 50 lbs sugar – no add hours, no derrick charge
Event	26	Pre-Rig Down Safety Meeting	5/6/2017	09:45:00	USER					
Event	27	Rig-Down Equipment	5/6/2017	10:00:00	USER					
Event	28	Pre-Convoy Safety Meeting	5/6/2017	10:45:00	USER					
Event	29	Crew Leave Location	5/6/2017	11:00:00	USER					Thank you for using Halliburton - Ed Deussen and crew

# LARAMIE - Piceance Fed 29-19E - 4 1/2" Production



- |   |                             |                     |                    |                      |                                |
|---|-----------------------------|---------------------|--------------------|----------------------|--------------------------------|
| ① Call Out                              | ⑥ Pre-Rig Up Safety Meeting | ⑪ Test Lines        | ⑯ Pump Lead Cement | 21 Pump Displacement | 26 Pre-Rig Down Safety Meeting |
| ② Pre-Convoy Safety Meeting             | ⑦ Rig-Up Equipment          | ⑫ Drop Bottom Plug  | ⑰ Check weight     | 22 Slow Rate         | 27 Rig-Down Equipment          |
| ③ Crew Leave Previous Location          | ⑧ Pre-Job Safety Meeting    | ⑬ Pump H2O Spacer   | ⑱ Pump Tail Cement | 23 Bump Plug         | 28 Pre-Convoy Safety Meeting   |
| ④ Arrive At Location                    | ⑨ Start Job                 | ⑭ Pump Tuned Spacer | ⑲ Shutdown         | 24 Check Floats      | 29 Crew Leave Location         |
| ⑤ Assessment Of Location Safety Meeting | ⑩ Prime Lines               | ⑮ Check weight      | 20 Drop Top Plug   | 25 End Job           |                                |

# LARAMIE - Piceance Fed 29-19E - 4 1/2" Production



### Job Information

<b>Request/Slurry</b>	2385790/1	<b>Rig Name</b>	H&P 522	<b>Date</b>	03/MAY/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>	Piceance Federal 29-19E

### Well Information

<b>Casing/Liner Size</b>	4.5 in	<b>Depth MD</b>	8095 ft	<b>BHST</b>	114°C / 238°F
<b>Hole Size</b>	7.875 in	<b>Depth TVD</b>	7681 ft	<b>BHCT</b>	72°C / 161°F
<b>Pressure</b>	4680 psi				

### Drilling Fluid Information

<b>Mud Supplier Name</b>	Baroid	<b>Mud Trade Name</b>	BARADRIL-N	<b>Density</b>	9.9 lbm/gal
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### 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				Slurry Density	12.5 lbm/gal
						Slurry Yield	1.941 ft3/sack
						Water Requirement	9.623 gal/sack
						Total Mix Fluid	9.623 gal/sack
						Water Source	Field (Fresh) Water
						Water Chloride	

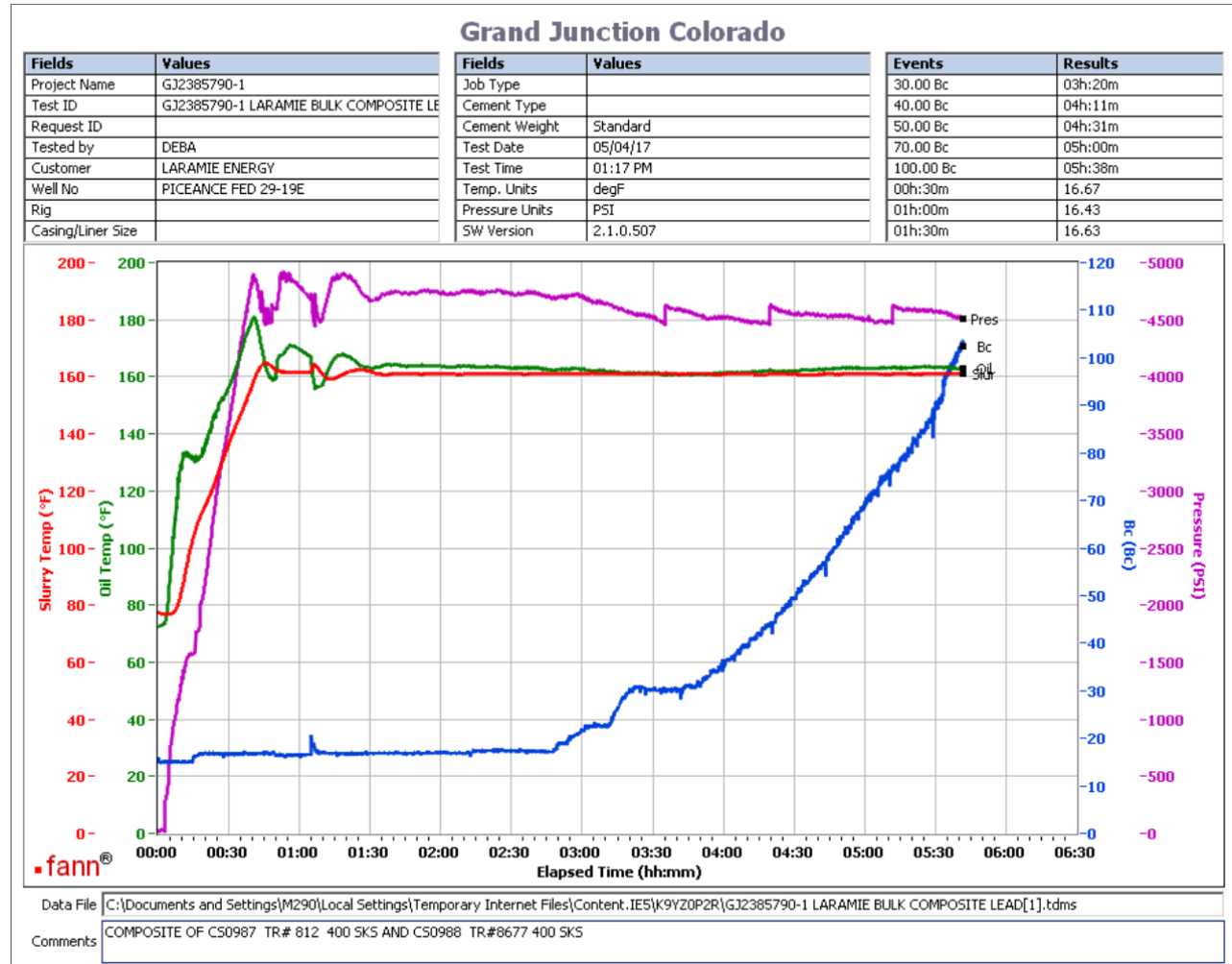
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# **Operation Test Results Request ID 2385790/1**

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

**04/MAY/2017**

Test Temp (°F)	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)
161	4680	40	3:20	4:31	5:00	5:38	15	50	15	21



Total sks=883

Composite of: CS0987 TR# 812 400 SKS and CS0988 TR#8677 400 SKS

deflected from 16Bc to 21Bc and back down to 17Bc within one minute.

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## Operation Test Results Request ID 2385790/2

### Thickening Time - ON-OFF-ON

05/MAY/2017

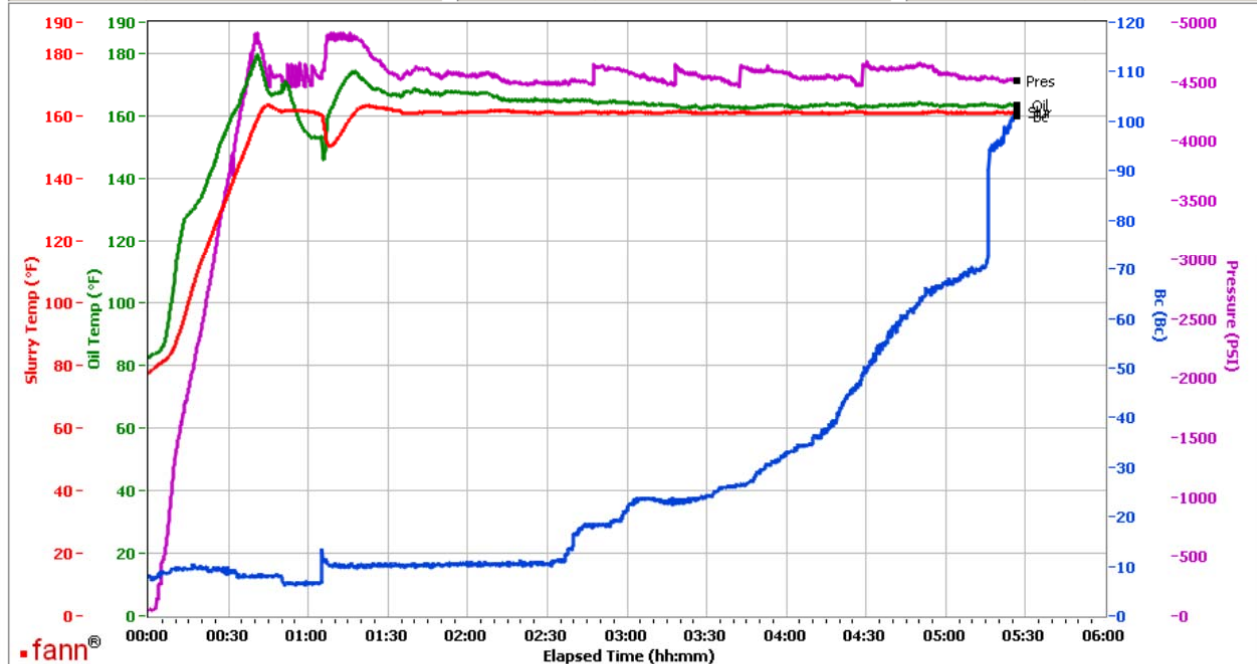
Test Temp (°F)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
161	4680	40	3:52	4:29	5:09	5:24	8	50	15	12

### Grand Junction, Colorado

Fields	Values
Project Name	GJ2385790-2 LARAMIE BULK LEAD RETEST
Test ID	GJ2385790-2 LARAMIE BULK LEAD RETEST
Request ID	
Tested by	DEBA
Customer	LARAMIE ENERGY
Well No	PICEANCE FED 29-19E
Rig	
Casing/Liner Size	

Fields	Values
Job Type	
Cement Type	
Cement Weight	Standard
Test Date	05/05/17
Test Time	12:57 AM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:52m
40.00 Bc	04h:19m
50.00 Bc	04h:29m
70.00 Bc	05h:09m
100.00 Bc	05h:24m
00h:30m	8.92
01h:00m	6.53
01h:30m	10.01



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\0HU90BIZ\GJ2385790-2 LARAMIE BULK LEAD RETEST[1].tdms

Comments CS0990 TR#4064 83 SKS RESHAKEN THE BAG

CS0990 TR#4064 83 SKS Reshaken the sample bag.  
deflected from 8Bc to 12 Bc

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# HALLIBURTON

## Rockies, Grand Junction

## Lab Results- Tail

### Job Information

<b>Request/Slurry</b>	2385791/1	<b>Rig Name</b>	H&P 522	<b>Date</b>	03/MAY/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>	Piceance Federal 29-19E

### Well Information

<b>Casing/Liner Size</b>	4.5 in	<b>Depth MD</b>	8095 ft	<b>BHST</b>	114°C / 238°F
<b>Hole Size</b>	7.875 in	<b>Depth TVD</b>	7681 ft	<b>BHCT</b>	72°C / 161°F
<b>Pressure</b>	4680 psi				

### Drilling Fluid Information

<b>Mud Supplier Name</b>	Baroid	<b>Mud Trade Name</b>	BARADRIL-N	<b>Density</b>	9.9 lbm/gal
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### 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		

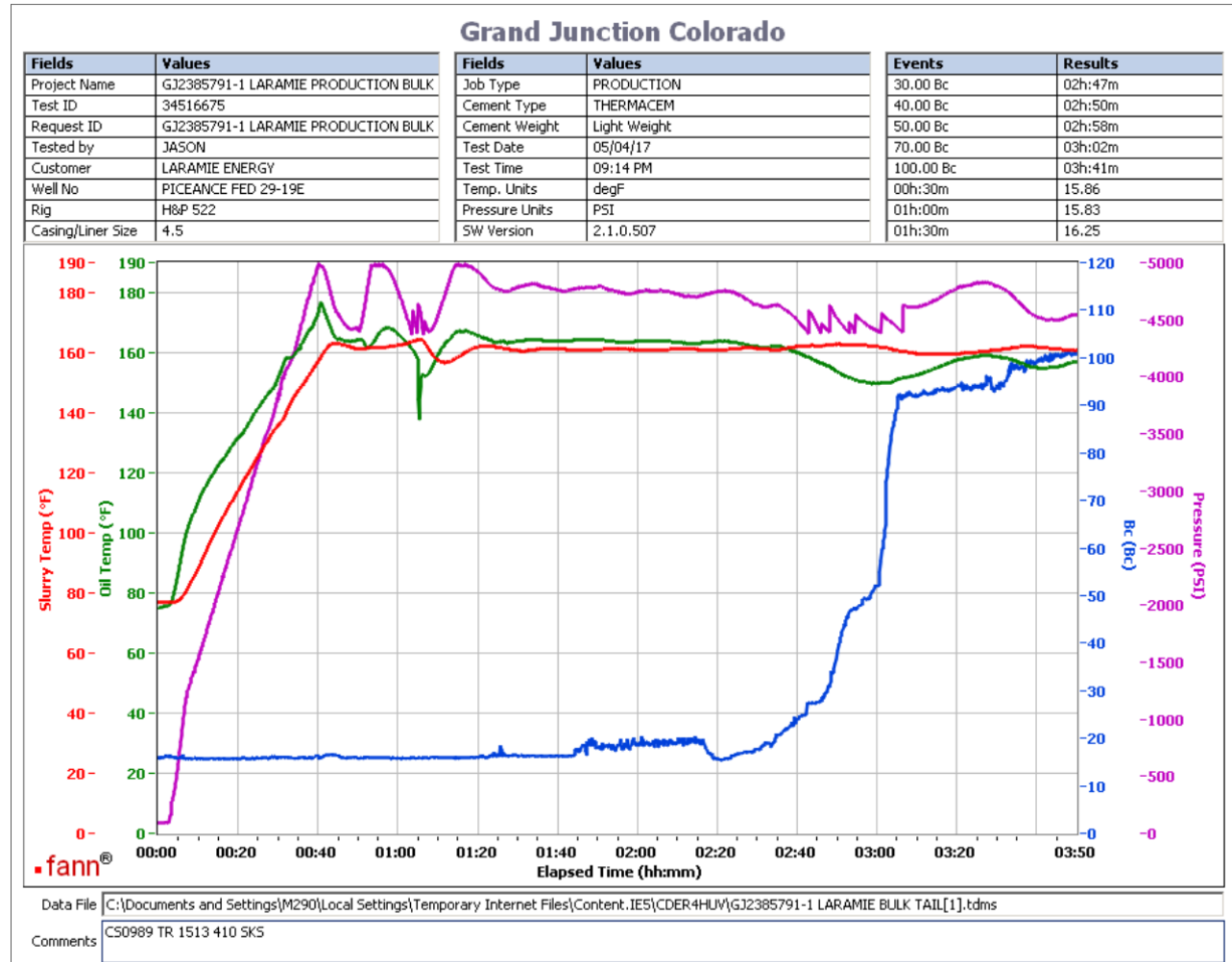
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# **Operation Test Results Request ID 2385791/1**

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

**04/MAY/2017**

Test Temp (°F)	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)
161	4680	40	2:47	2:58	3:02	3:41	16	50	15	15



Total sks = 410  
 CS0989 TR 1513 410 SKS  
 no deflection

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