

HALLIBURTON

iCem[®] Service

LARAMIE ENERGY LLC

For: Laramie

Date: Thursday, July 06, 2017

GUNDERSON BCU 20-06W Surface

API #05-077-10342-00

Sincerely,

Grand Junction Cement Engineering

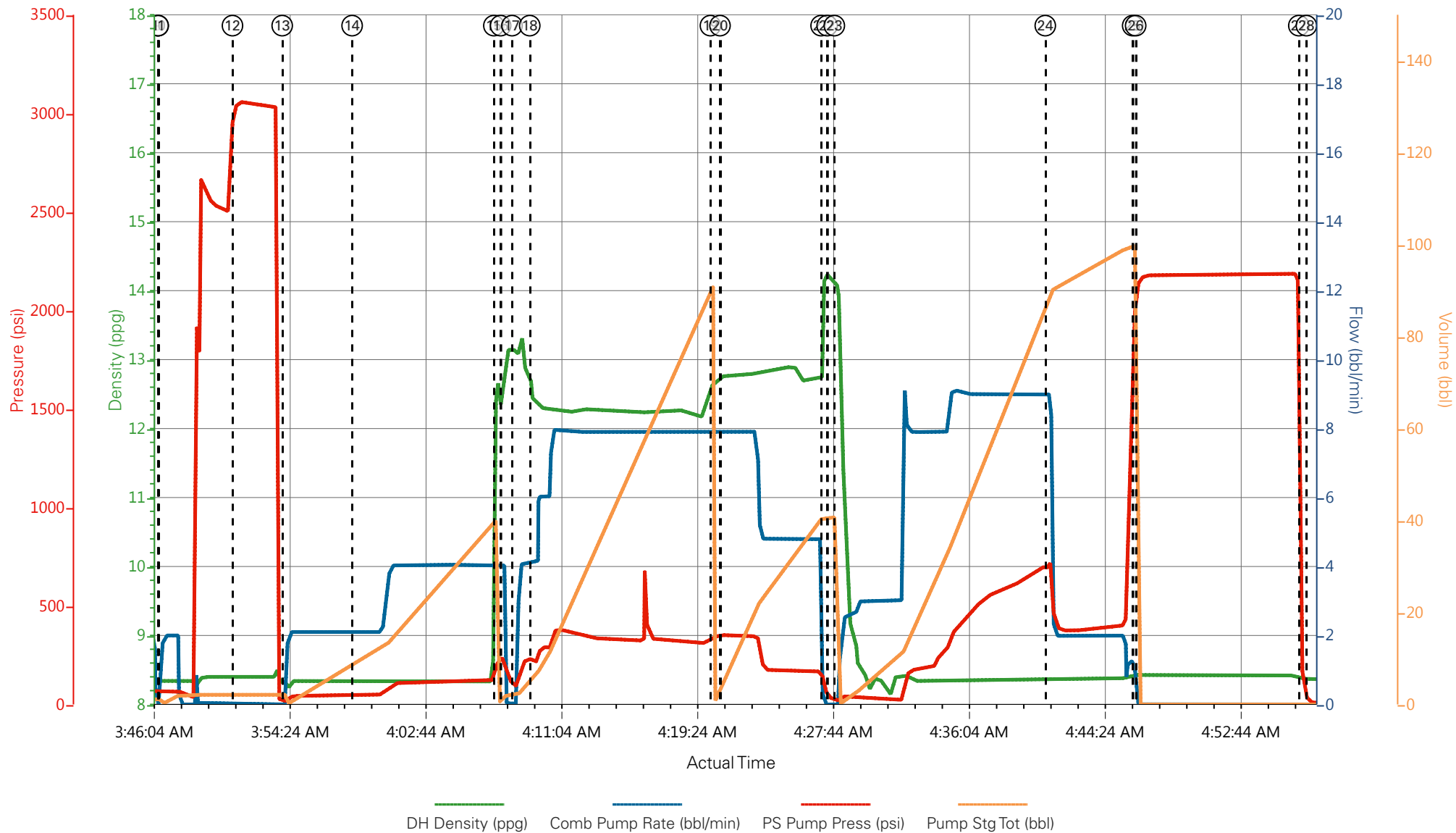
1.0 Real-Time Job Summary

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	7/5/2017	20:00:00	USER					ON LOCATION REQUESTED 02:30
Event	2	Pre-Convoy Safety Meeting	7/5/2017	22:45:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	7/5/2017	23:00:00	USER					1-ELITE #8, 1-660 BILK TRAILER, 1-450 PICK UP
Event	4	Arrive at Location from Service Center	7/6/2017	01:00:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	7/6/2017	01:10:00	USER					MET WITH COMP REP, AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7, CHLORIDES- 0, TEMP- 68F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	7/6/2017	01:15:00	USER					ALL HES PRESENT
Event	7	Rig-Up Completed	7/6/2017	02:30:00	USER					1-ELITE, 1-660 BULK TRAILER, 2" PUMP IRON, 4" SUCTION HOSE, 1-8.625" QUICK LATCH PLUG CONTAINER
Event	8	Pre-Job Safety Meeting	7/6/2017	03:30:00	USER					ALL HES EMPLOYEES AND RIG CREW PRESENT, RIG CIRCULATED FOR @ 8 BPM PRIOR TO JOB, PRESSURE @220 PSI
Event	9	Start Job	7/6/2017	03:46:30	USER					TD-1562', TP-1552', SJ-44.68', CSG-8.625" 24# J55, OH-11", MUD-9.6PPG VISC-40
Event	10	Drop Bottom Plug	7/6/2017	03:46:31	USER					VERIFIED BY FLAG INDICATOR
Event	11	Prime Lines	7/6/2017	03:46:32	USER	8.33	2.0	70	2	FRESH WATER
Event	12	Test Lines	7/6/2017	03:51:05	COM5			3060		PRESSURE HELD
Event	13	Pump H2O Spacer	7/6/2017	03:54:08	COM5	8.33	4.0	140	40	FRESH WATER
Event	14	Check weight	7/6/2017	03:58:25	COM5					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES

Event	15	Pump Lead Cement	7/6/2017	04:07:07	COM5	12.3	8.0	380	86.3	197 SKS VARICEM GJ5 CMT 12.3 PPG, 2.46 FT3/SK, 14.17 GAL/SK
Event	16	Shutdown	7/6/2017	04:07:32	USER					SHUTDOWN TO FIX DENSITY
Event	17	Resume	7/6/2017	04:08:14	USER					RESUMED PUMPING AFTER LINING OUT TUB
Event	18	Check weight	7/6/2017	04:09:19	COM5					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	19	Pump Tail Cement	7/6/2017	04:20:24	COM5	12.8	8.0	345	42.3	109 SKS VARICEM GJ5 CMT 12.8 PPG, 2.18 FT3/SK, 12.11 GAL/SK
Event	20	Check weight	7/6/2017	04:20:59	COM5					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	21	Shutdown	7/6/2017	04:27:11	COM5					END OF CEMENT, WASH UP ON TOP OF PLUG.
										VERIFIED BY FLAG INDICATOR
Event	22	Drop Top Plug	7/6/2017	04:27:34	USER					
Event	23	Pump Displacement	7/6/2017	04:28:00	COM5	8.33	9.0	710	86	FRESH WATER
Event	24	Slow Rate	7/6/2017	04:40:56	USER	8.33	2.0	385	10	SLOW RATE TO 2 BPM TO BUMP PLUG
Event	25	Bump Plug	7/6/2017	04:46:18	COM5	8.33	2.0	400	96	PLUG BUMPED
Event	26	Casing Test	7/6/2017	04:46:29	USER			2180		PRESSURE BROUGHT UPTO 2180 FOR A 10 MIN. CASING TEST
Event	27	Check Floats	7/6/2017	04:56:29	USER			2186		FLOATS HELD, 1 BBL BACK TO TRUCK
Event	28	End Job	7/6/2017	04:56:57	USER					RETURNS THROUGHOUT JOB, 31 BBLs CMT TO SURFACE
Event	29	Post-Job Safety Meeting (Pre Rig-Down)	7/6/2017	05:00:00	USER					ALL HES PRESENT
Event	30	Pre-Convoy Safety Meeting	7/6/2017	05:45:00	USER					1-ELITE #8, 1-660 BILK TRAILER, 1-450 PICK UP
Event	31	Crew Leave Location	7/6/2017	06:00:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, DUSTIN HYDE AND CREW

LARAMIE, GUNDERSON 20-06W, 8 5/8" SURFACE



- | | | | | | |
|--|--------------------------|--------------------|----------------------|---|------------------------|
| ① Call Out | ⑦ Rig-Up Completed | ⑬ Pump H2O Spacer | ⑰ Pump Tail Cement | 25 Bump Plug | 31 Crew Leave Location |
| ② Pre-Convoy Safety Meeting | ⑧ Pre-Job Safety Meeting | ⑭ Check weight | 20 Check weight | 26 Casing Test | |
| ③ Crew Leave Yard | ⑨ Start Job | ⑮ Pump Lead Cement | 21 Shutdown | 27 Check Floats | |
| ④ Arrive at Location from Service Center | ⑩ Drop Bottom Plug | ⑯ Shutdown | 22 Drop Top Plug | 28 End Job | |
| ⑤ Assessment Of Location Safety Meeting | ⑪ Prime Lines | ⑰ Resume | 23 Pump Displacement | 29 Post-Job Safety Meeting (Pre Rig-Down) | |
| ⑥ Pre-Rig Up Safety Meeting | ⑫ Test Lines | ⑱ Check weight | 24 Slow Rate | 30 Pre-Convoy Safety Meeting | |

▼ **HALLIBURTON** | iCem® Service

Created: 2017-07-06 01:27:44, Version: 4.2.393

Edit

Customer : LARAMIE ENERGY II LLC

Job Date : 7/6/2017

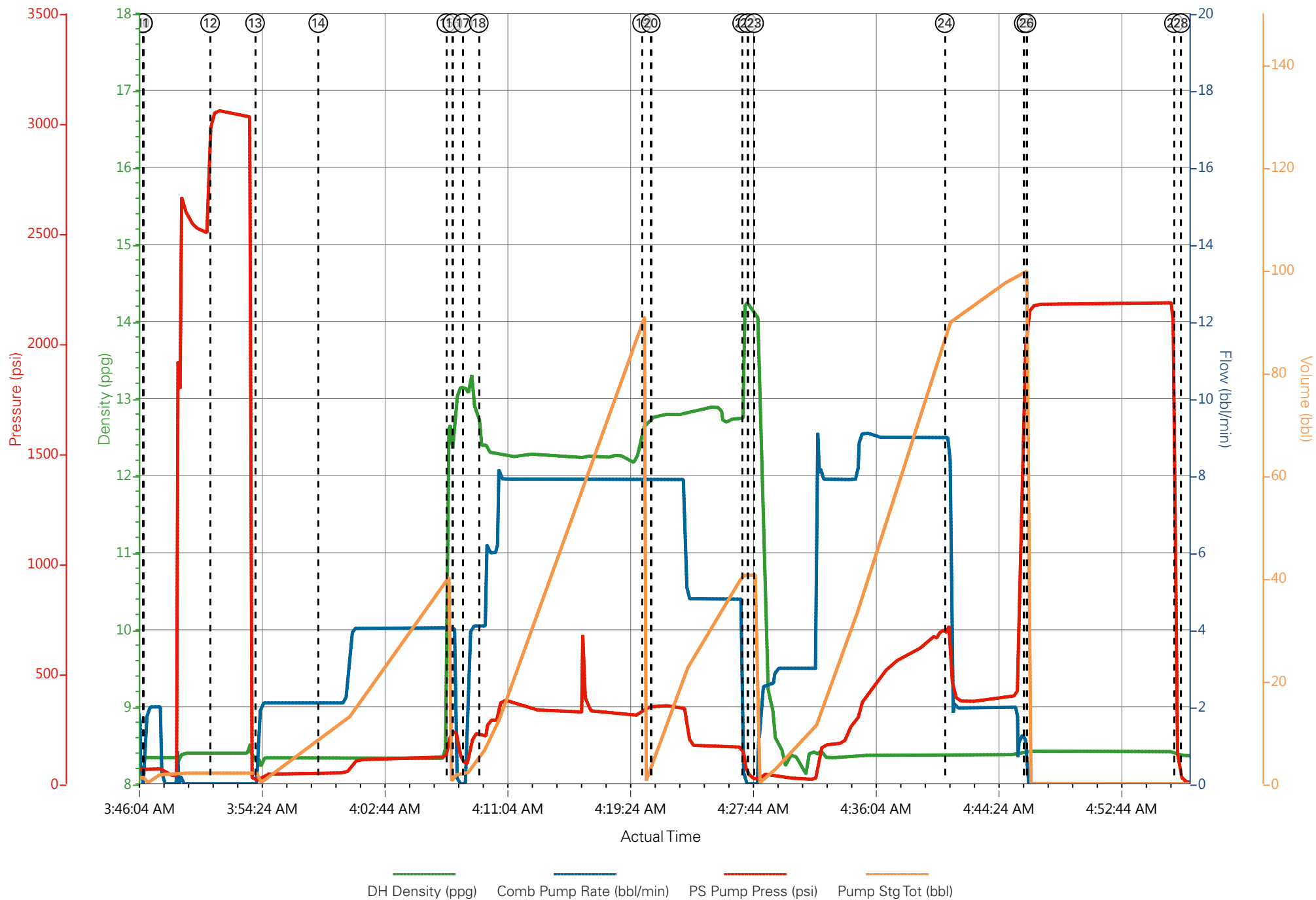
Well : GUNDERSON BCU 20-06W

Representative : SHANE HEARD

Sales Order # : 904144931

ELITE 8 : ANGELO / HYDE

LARAMIE, GUNDERSON 20-06W, 8 5/8" SURFACE



HALLIBURTON

iCem[®] Service

LARAMIE ENERGY LLC

For: Laramie

Date: Saturday, July 08, 2017

Gunderson 20-06W Production

API# 05-077-10342-00

Sincerely,

Grand Junction Cement Engineering

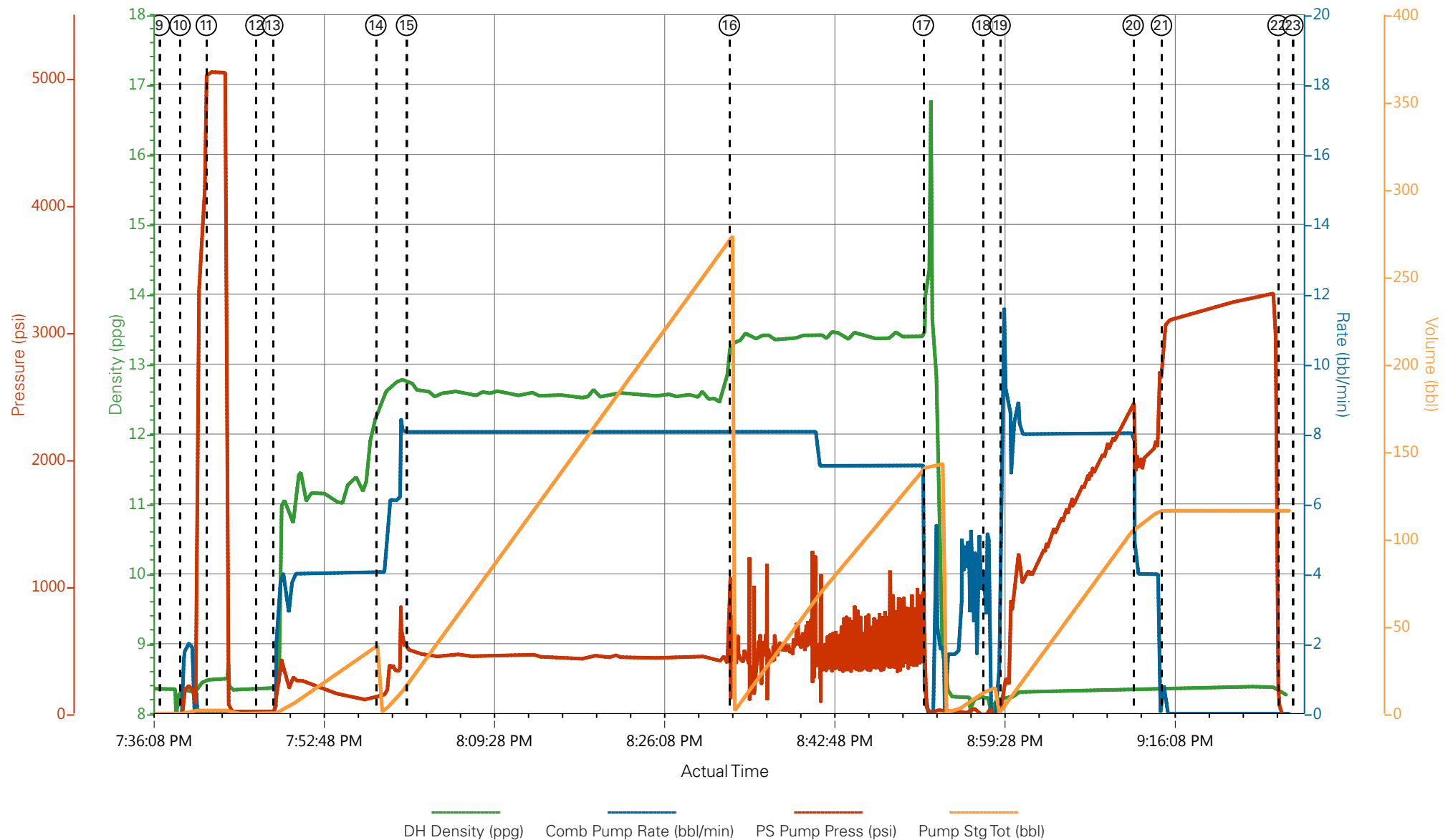
1.0 Real-Time Job Summary

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	7/8/2017	13:00:00	USER					O/L time 1900
Event	2	Pre-Convoy Safety Meeting	7/8/2017	14:45:00	USER					
Event	3	Crew Leave Yard	7/8/2017	15:00:00	USER					1 Elite, 1 660, 1 pickup
Event	4	Arrive At Location	7/8/2017	16:30:00	USER					Rig running casing
Event	5	Assessment Of Location Safety Meeting	7/8/2017	16:45:00	USER					JSA completed - customer offered/received SDS - water test pH 7.5, Cl 0, temp 68 degrees
Event	6	Pre-Rig Up Safety Meeting	7/8/2017	17:15:00	USER					
Event	7	Rig-Up Equipment	7/8/2017	17:30:00	USER					Manifold on ground, hard line to standpipe, hard line to cellar, bulk hoses to silos and 660, water hoses to upright and day tank
Event	8	Pre-Job Safety Meeting	7/8/2017	19:20:00	USER					All HES personnel, rig crew, and company rep - Rig circulating @ 8 bpm w/ 670 psi for 1 hour
Event	9	Start Job	7/8/2017	19:37:00	USER					TD 7601', TP 7591', SJ 89', Mud 9.3 ppg, 7 7/8" OH, Surf @ 1554', 4 1/2" 11.6# N80 casing
Event	10	Prime Lines	7/8/2017	19:39:01	USER	8.33	2.0	245	2.0	Fresh water
Event	11	Test Lines	7/8/2017	19:41:35	COM5			5063		Pressure held very well
Event	12	Drop Bottom Plug	7/8/2017	19:46:27	USER					Plug launched
Event	13	Pump Tuned Spacer	7/8/2017	19:48:05	COM5	11.0	4.0	280	40.0	40 bbl, 11.0 ppg, 4.86 yield, 31.90 gal/sk
Event	14	Pump Lead Cement	7/8/2017	19:58:11	COM5	12.5	8.0	490	267.1	773 sks, 12.5 ppg, 1.94 yield, 9.60 gal/sk
Event	15	Check weight	7/8/2017	20:01:12	COM5	12.5				Recirc matched mud scales
Event	16	Pump Tail Cement	7/8/2017	20:32:48	COM5	13.0	8.0	620	135.6	440 sks, 13.3 ppg, 1.73 yield, 7.81 gal/sk

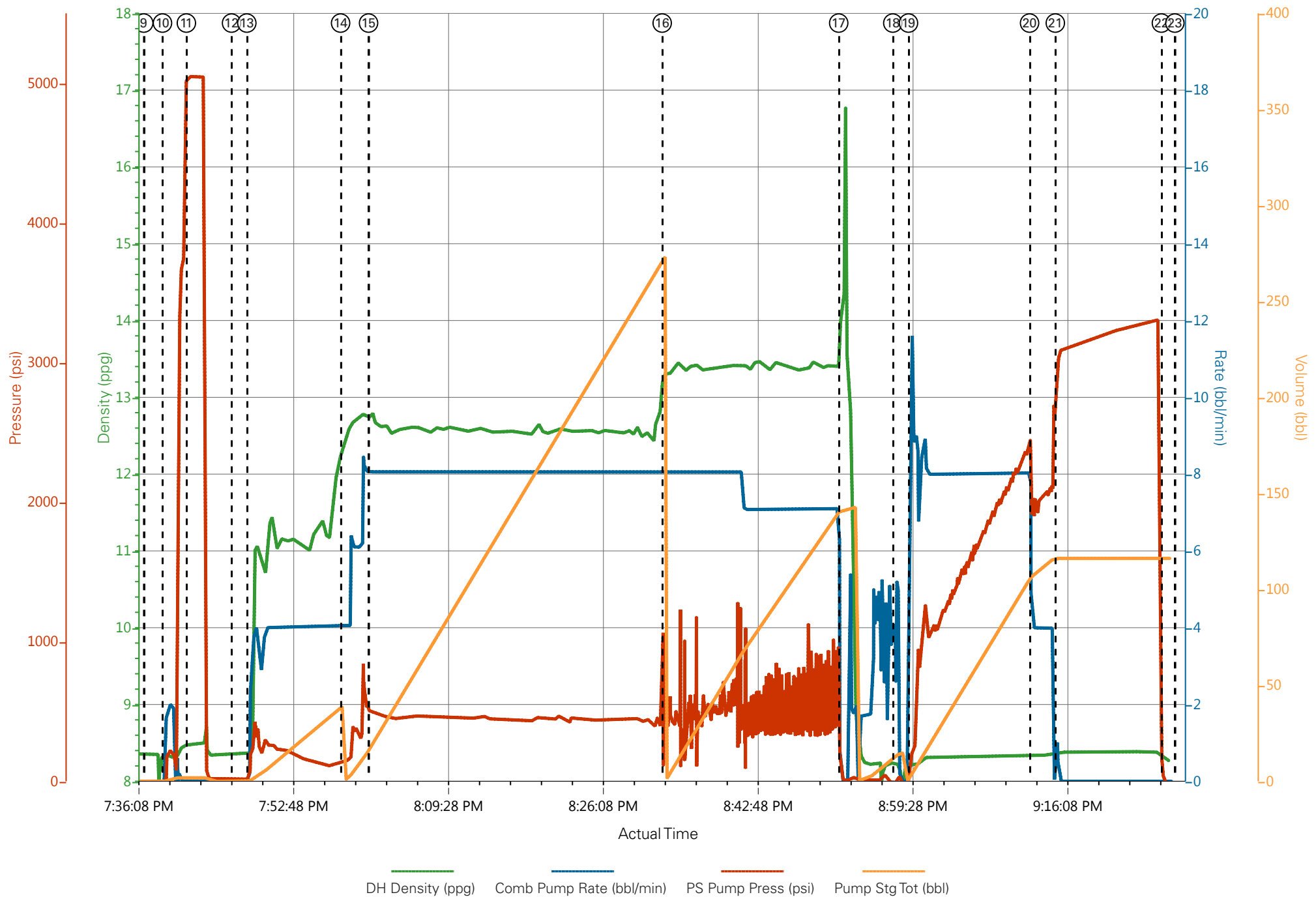
Event	17	Shutdown	7/8/2017	20:51:48	USER					Wash lines to cellar
Event	18	Drop Top Plug	7/8/2017	20:57:38	USER					Plug launched - verified by driller
Event	19	Pump Displacement	7/8/2017	20:59:19	COM5	8.4	8.0	2450	116.3	1 gal MMCR, 5 gal Cla-Web
Event	20	Slow Rate	7/8/2017	21:12:21	USER	8.4	4.0	2010	@ 106	Good returns throughout job
Event	21	Bump Plug	7/8/2017	21:15:07	COM5			2155		Approx 40 bbls Tuned Spacer to surface – 3000 psi casing test for 10 minutes
Event	22	Check Floats	7/8/2017	21:26:33	USER			3210		Floats held 1 ½ bbl flow back
Event	23	End Job	7/8/2017	21:28:00	USER					40 lbs sugar used
Event	24	Pre-Rig Down Safety Meeting	7/8/2017	21:45:00	USER					
Event	25	Rig-Down Equipment	7/8/2017	22:00:00	USER					
Event	26	Pre-Convoy Safety Meeting	7/8/2017	22:45:00	USER					
Event	27	Crew Leave Location	7/8/2017	23:00:00	USER					Thank you for using Halliburton - Ed Deussen and crew

LARAMIE ENERGY - Gunderson 20-06W - 4 1/2" Production



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

LARAMIE ENERGY - Gunderson 20-06W - 4 1/2" Production



Job Information

Request/Slurry	2399790/1	Rig Name	H&P 522	Date	07/JUL/2017
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Gunderson BCU 20-06W

Well Information

Casing/Liner Size	4.5 in	Depth MD	7597 ft	BHST	113°C / 235°F
Hole Size	7.875 in	Depth TVD	7538 ft	BHCT	76°C / 168°F
Pressure	4580 psi				

Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	9.9 lbm/gal
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Cement Information - Lead Design



Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
						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 2399790/1

Thickening Time - ON-OFF-ON

08/JUL/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)
168	4580	39	2:43	4:05	4:18	4:36	6	49	15	18

Total sks = 773

Composite:

CS1720 TR 8678 386.5 SKS

CS1721 TR 2878 386.5 SKS

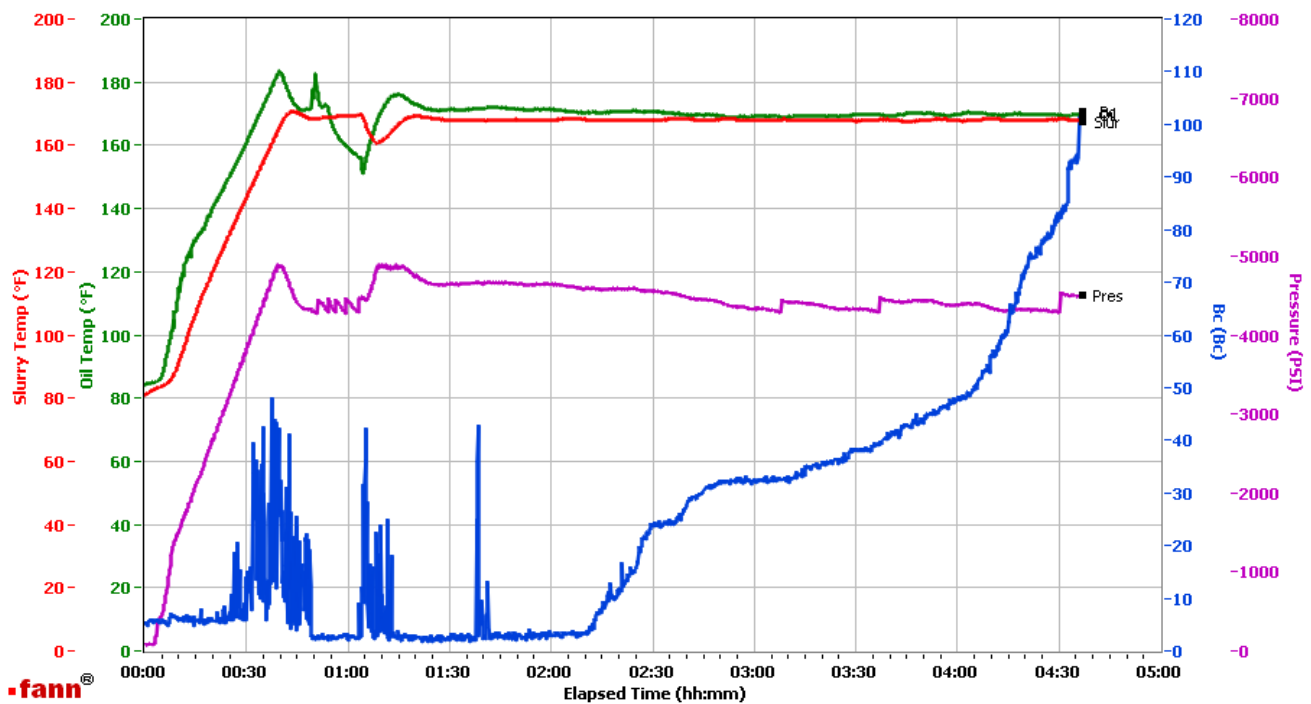
Deflection: 2 - 18

Grand Junction Colorado

Fields	Values
Project Name	GJ2399790-1 LARAMIE PRODUCTION LEAD
Test ID	34686481
Request ID	GJ2399790-1 LARAMIE PRODUCTION LEAD
Tested by	JASON
Customer	LARAMIE ENERGY
Well No	GUNDERSON BCU 20-06W
Rig	H&P 522
Casing/Liner Size	4.5

Fields	Values
Job Type	PRODUCTION
Cement Type	TYPE I/II
Cement Weight	Light Weight
Test Date	07/08/17
Test Time	03:40 AM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	00h:31m
40.00 Bc	00h:34m
50.00 Bc	04h:05m
70.00 Bc	04h:18m
100.00 Bc	04h:36m
00h:30m	13.29
01h:00m	1.90
01h:30m	2.54



Data File C:\Documents and Settings\Administrator\Local Settings\Temporary Internet Files\Content.IE5\OTUB09Y7\GJ2399790-1 LARAMIE LEAD BULK COMPOSITE[1].tdms

Comments CS1720 TR 8678 386.5 SKS CS1721 TR 2878 386.5 SKS

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HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2399791/1	Rig Name	H&P 522	Date	07/JUL/2017
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Gunderson BCU 20-06W

Well Information

Casing/Liner Size	4.5 in	Depth MD	7597 ft	BHST	113°C / 235°F
Hole Size	7.875 in	Depth TVD	7538 ft	BHCT	76°C / 168°F
Pressure	4580 psi				

Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	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>	<u>Cement Properties</u>	
						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 2399791/1

Thickening Time - ON-OFF-ON

08/JUL/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)
168	4580	39	3:21	3:36	3:47	3:55	12	49	15	11

Total sks = 440

Composite:

CS1725, Trailer 1513, 390 sks

CS1722, Trailer 4064, 50 sks

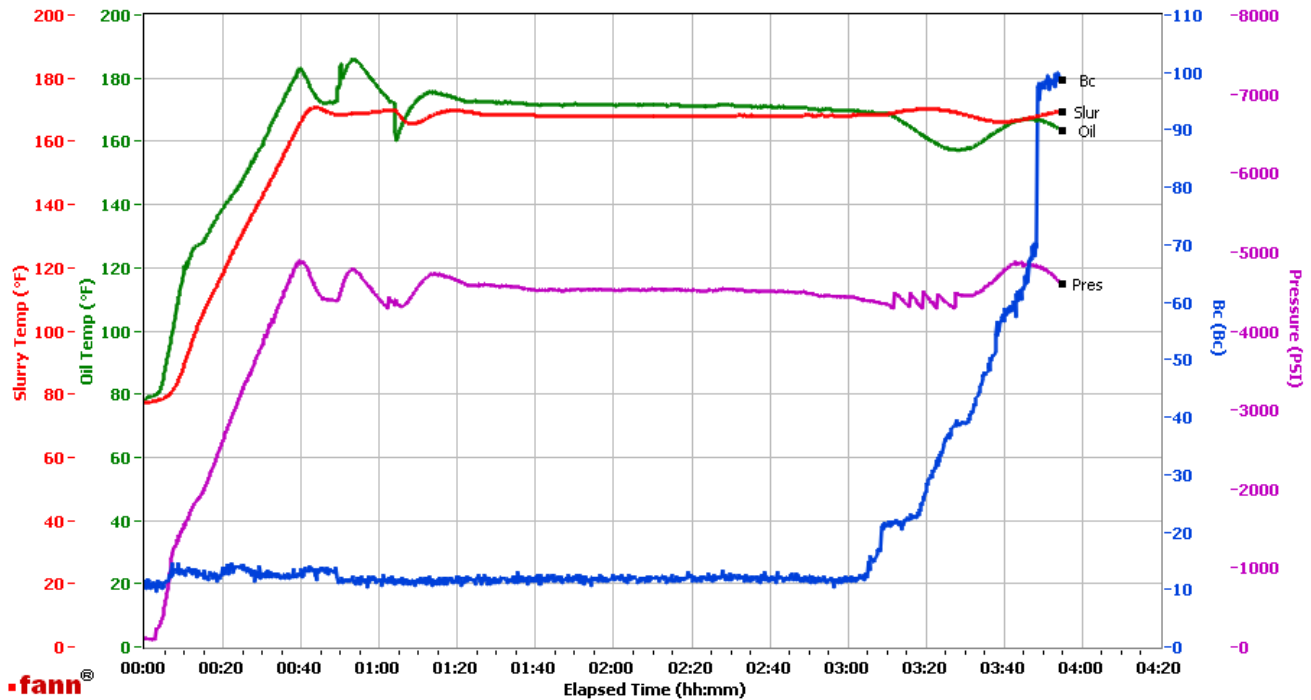
Deflection: 13-11

Grand Junction Colorado

Fields	Values
Project Name	2399791-1 LARAMIE ENERGY BULK PRODUCTION TAIL TT
Test ID	34686483 TT
Request ID	2399791-1
Tested by	CT
Customer	LARAMIE ENERGY
Well No	GUINDERSON BCU 20-06W
Rig	H&P 522
Casing/Liner Size	4.5 INCH

Fields	Values
Job Type	PRODUCTION CASING
Cement Type	MOUNTAIN G
Cement Weight	Standard
Test Date	07/08/17
Test Time	06:46 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:21m
40.00 Bc	03h:31m
50.00 Bc	03h:36m
70.00 Bc	03h:47m
100.00 Bc	NaN
00h:30m	12.29
01h:00m	11.30
01h:30m	11.91



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Comments OPERATION - COMPOSITE TT - CS1725, TRAILER 1513, 390 SKS - CS1722, TRAILER 4064, 50 SKS

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