

HALLIBURTON

iCem[®] Service

LARAMIE ENERGY LLC

For: Laramie

Date: Wednesday, August 02, 2017

GUNDERSON 20-10E Surface

Sincerely,

Grand Junction Cement Engineering

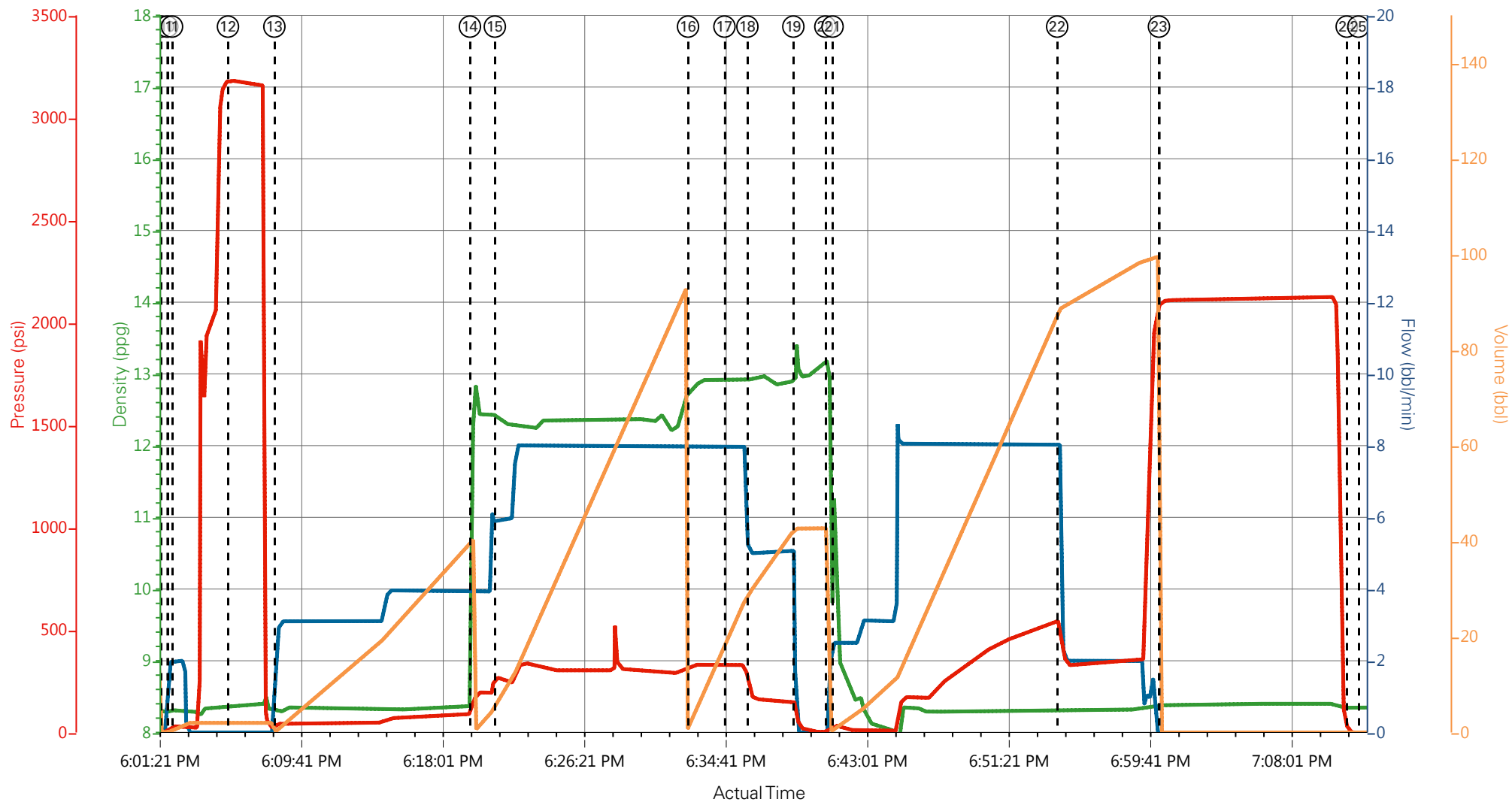
1.0 Real-Time Job Summary

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	8/2/2017	11:30:00	USER					REQUESTED ON LOCATION @ 17:30
Event	2	Pre-Convoy Safety Meeting	8/2/2017	13:45:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	8/2/2017	14:00:00	USER					1 HT 400 PUMP TRUCK E4, 1 660 BULK TRUCKS, 1 450 SERVICE PICKUP
Event	4	Arrive At Loc	8/2/2017	16:30:00	USER					ARRIVED 1HR EARLY RIG RUNNING CASING WHEN HES ARRIVED
Event	5	Assessment Of Location Safety Meeting	8/2/2017	16:45:00	USER					MET WITH COMP REP, AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7.0, CHLORIDES-0, TEMP- 68F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	8/2/2017	17:00:00	USER					ALL HES PRESENT
Event	7	Rig-up Lines	8/2/2017	17:09:39	USER					HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.
Event	8	Pre-Job Safety Meeting	8/2/2017	17:59:04	USER					ALL HES EMPLOYEES AND RIG CREW PRESENT, RIG CIRCULATED @ 9 BPM FOR .5HR PRIOR TO JOB, PRESSURE @200 PSI
Event	9	Start Job	8/2/2017	18:01:37	USER					TD-1564', TP-1554', SJ-45', CSG-8.625" 24# J55, OH-11", MUD-9.1PPG
Event	10	Prime Lines	8/2/2017	18:01:59	USER	8.33	2.0	30	2	FRESH WATER
Event	11	Drop Bottom Plug	8/2/2017	18:02:15	USER					VERIFIED BY FLAG INDICATOR
Event	12	Test Lines	8/2/2017	18:05:33	COM5			3180		ALL LINES HELD PRESSURE AT 3180 PSI

Event	13	Pump H2O Spacer	8/2/2017	18:08:17	COM5	8.33	4.0	100	40	FRESH WATER
Event	14	Pump Lead Cement	8/2/2017	18:19:48	COM5	12.3	8.0	330	86.3	197 SKS VARICEM GJ5 CMT 12.3 PPG, 2.46 FT3/SK, 14.17 GAL/SK
Event	15	Check weight	8/2/2017	18:21:16	COM5					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	16	Pump Tail Cement	8/2/2017	18:32:39	COM5	12.8	8.0	340	42.3	109 SKS VARICEM GJ5 CMT 12.8 PPG, 2.18 FT3/SK, 12.11 GAL/SK
Event	17	Check weight	8/2/2017	18:34:48	COM5					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	18	Slow Rate	8/2/2017	18:36:09	USER					SLOWED RATE TO END CEMENT
Event	19	Shutdown	8/2/2017	18:38:51	USER					END OF CEMENT, WASH UP ON TOP OF PLUG.
Event	20	Pump Displacement	8/2/2017	18:40:44	COM5	8.33	8.0	550	86	FRESH WATER
Event	21	Drop Top Plug	8/2/2017	18:41:10	USER					VERIFIED BY FLAG INDICATOR
										SLOW RATE TO 2 BPM TO BUMP PLUG
Event	22	Slow Rate	8/2/2017	18:54:23	USER	8.33	2	360	10	
Event	23	Bump Plug	8/2/2017	19:00:23	COM5	8.33	2	360	96	LAND PLUG AT 360 PSI, BROUGHT UP TO 2100 PSI AND HELD FOR TEN MINS FOR CASING TEST
Event	24	Check Floats	8/2/2017	19:11:26	USER					FLOATS HELD, 1 BBL BACK TO TRUCK
Event	25	End Job	8/2/2017	19:12:08	USER					RETURNS THROUGHOUT JOB, 38 BBLs CMT TO SURFACE, USED 40 POUNDS OF SUGAR
Event	26	Post-Job Safety Meeting (Pre Rig-Down)	8/2/2017	19:20:00	USER					ALL HES PRESENT
Event	27	Rig Down Lines	8/2/2017	19:30:00	USER					ALL HES PRESENT
Event	28	Pre-Convoy Safety Meeting	8/2/2017	20:00:00	USER					ALL HES PRESENT
Event	29	Crew Leave Location	8/2/2017	20:15:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, SHAWN BLOSSOM AND CREW

LARAMIE GUNDERSON 20-10E 8 5/8" SURFACE



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

▼ **HALLIBURTON** | iCem® Service

Created: 2017-08-02 14:16:08, Version: 4.2.393

Edit

Customer : LARAMIE ENERGY II LLC

Job Date : 8/2/2017

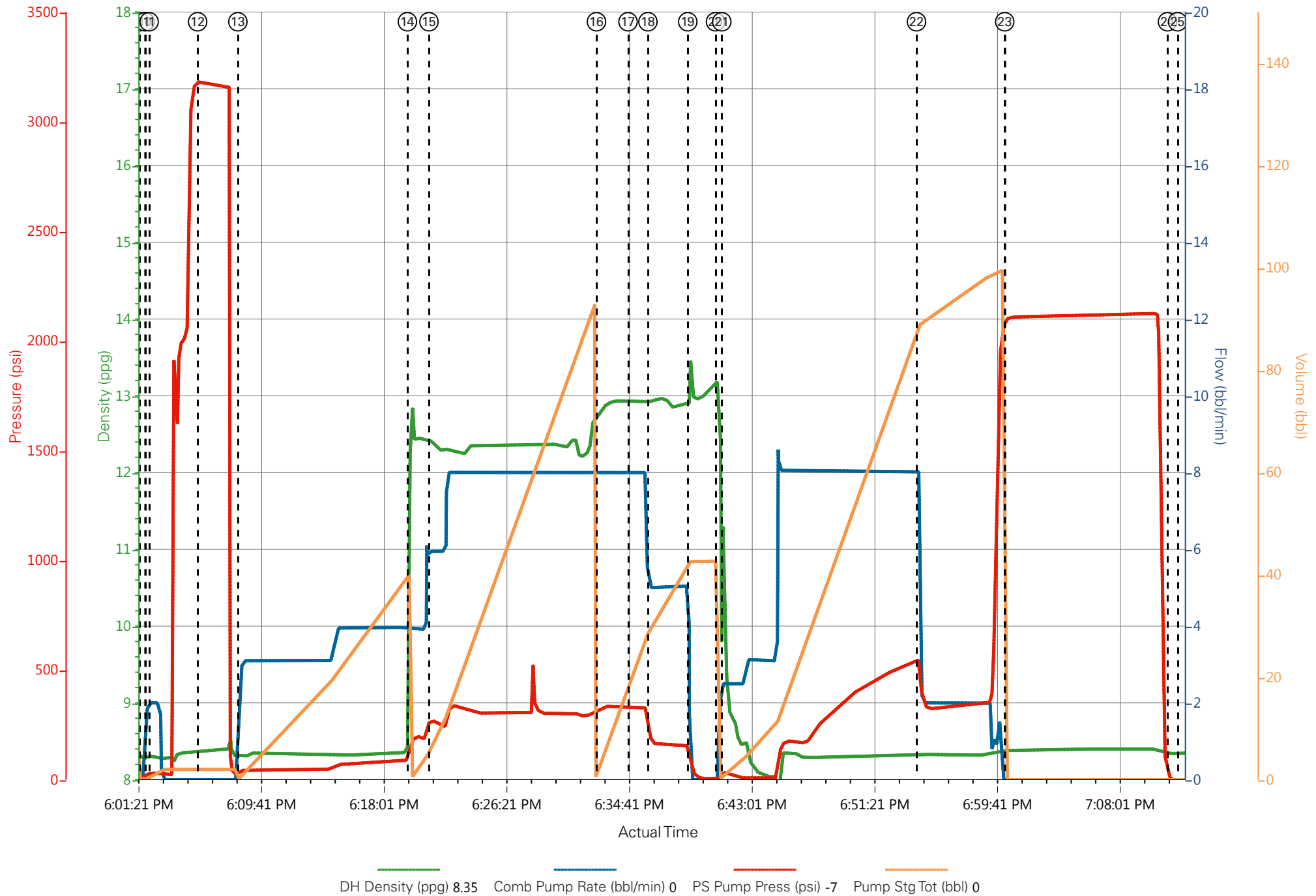
Well : GUNDERSON 20-10E

Representative : SHANE HEARD

Sales Order # : 904203093

ELITE 4 : A.ANGELO/S.BLOSSOM

LARAMIE GUNDERSON 20-10E 8 5/8" SURFACE



HALLIBURTON

iCem[®] Service

LARAMIE ENERGY LLC

For: Laramie

Date: Saturday, August 05, 2017

Gunderson BCU 20-10E Production

Sincerely,
Grand Junction Cement Engineering

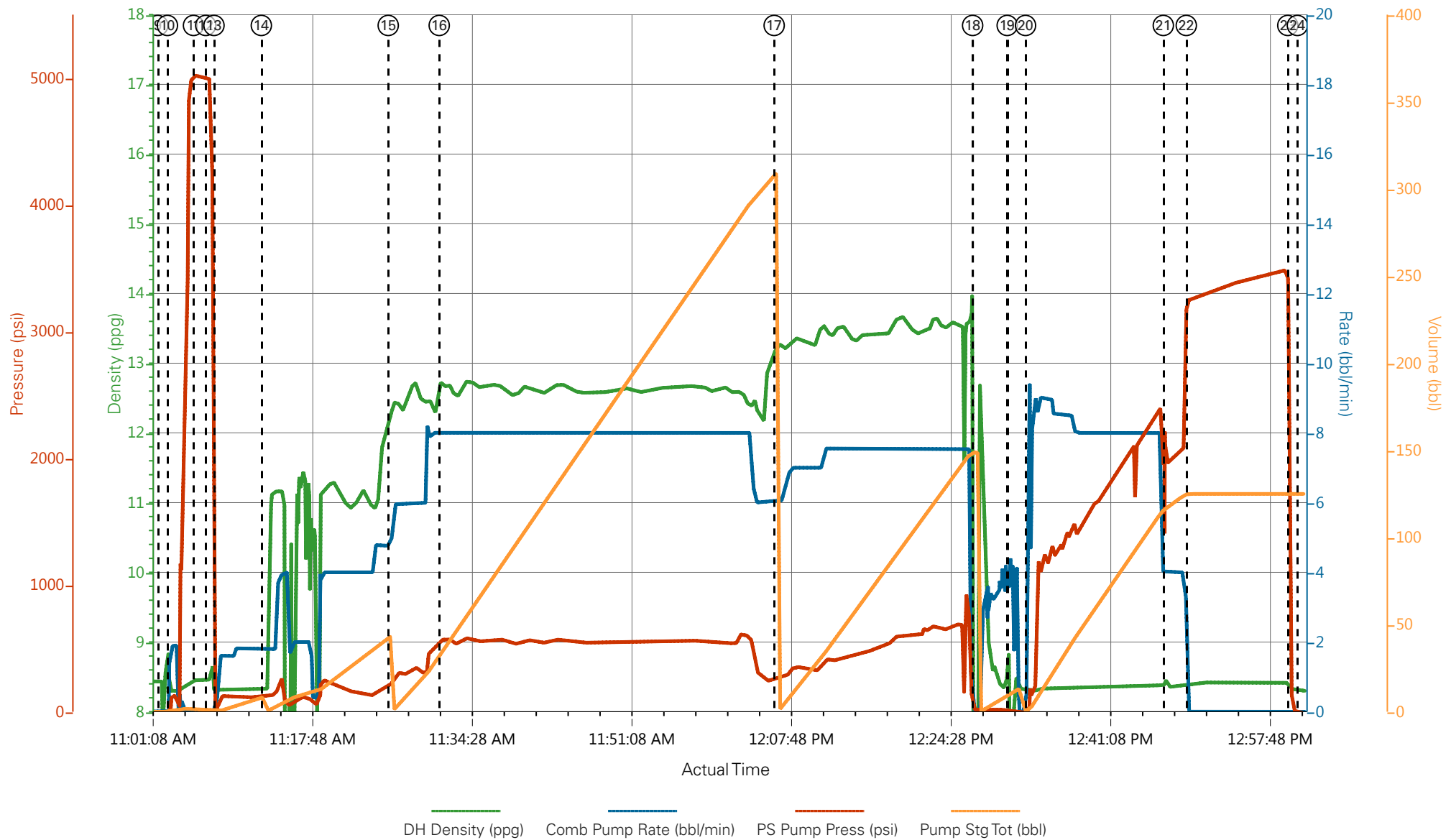
1.0 Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	8/5/2017	03:00:00	USER					O/L time 0930
Event	2	Pre-Convoy Safety Meeting	8/5/2017	06:45:00	USER					
Event	3	Crew Leave Yard	8/5/2017	07:00:00	USER					1 Elite, 1 660, 1 pickup
Event	4	Arrive At Location	8/5/2017	10:00:00	USER					Arrived 1/2 hour late due to pump maintenance in yard - Rig circulating
Event	5	Assessment Of Location Safety Meeting	8/5/2017	10:10:00	USER					JSA completed- customer offered/received SDS - water test pH 7.5, Cl 0, temp 61 degrees
Event	6	Pre-Rig Up Safety Meeting	8/5/2017	10:20:00	USER					
Event	7	Rig-Up Equipment	8/5/2017	10:30:00	USER					Manifold on ground, hard line to standpipe, hard line to cellar, water hoses to upright and day tank, bulk hoses to 660 and silos
Event	8	Pre-Job Safety Meeting	8/5/2017	10:45:00	USER					All HES personnel, rig crew, and company rep - rig circulating @ 9 bpm w/ 440 psi for 1 1/2 hrs
Event	9	Start Job	8/5/2017	11:01:59	COM5					TD 8113', TP 8103', SJ 91', Mud 9.4 ppg, 7 7/8" OH, Surf casing @ 1554', 4 1/2" 11.6# N80 casing
Event	10	Prime Lines	8/5/2017	11:03:00	USER	8.33	2.0	162	2.0	Fresh water
Event	11	Test Lines	8/5/2017	11:05:43	COM5			5035		Pressure held well
Event	12	Drop Bottom Plug	8/5/2017	11:07:00	USER					
Event	13	Pump H2O Spacer	8/5/2017	11:07:51	COM5	8.33	2.0	110	5.0	Water ahead - returns established
Event	14	Pump Tuned Spacer	8/5/2017	11:12:48	COM5	11.0	4.0	265	40.0	40 bbls, 11.0 ppg, 4.86 yield, 31.90 gal/sk - had to mix entire job by hand
Event	15	Pump Lead Cement	8/5/2017	11:26:03	COM5	12.5	8.0	580	299.6	867 sks, 12.5 ppg, 1.94 yield, 9.60 gal/sk

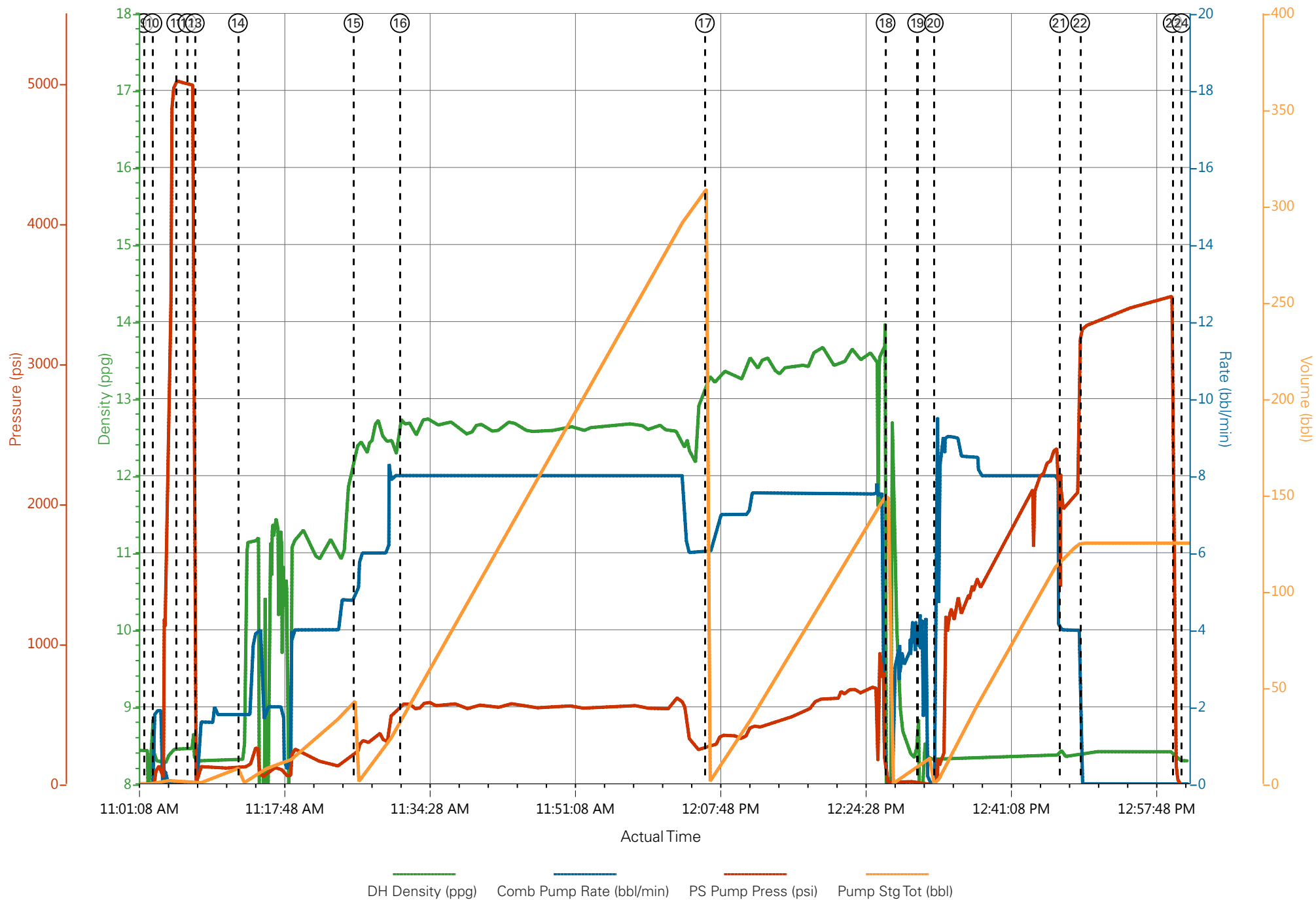
Event	16	Check weight	8/5/2017	11:31:23	COM5	12.5				Verified with mud scales
Event	17	Pump Tail Cement	8/5/2017	12:06:21	COM5	13.3	7.5	685	135.6	440 sks, 13.3 ppg, 1.73 yield, 7.81 gal/sk
Event	18	Shutdown	8/5/2017	12:27:05	USER					Wash lines to cellar
Event	19	Drop Top Plug	8/5/2017	12:30:41	USER					Plug launched
Event	20	Pump Displacement	8/5/2017	12:32:36	COM5	8.33	8.0	2410	124.2	5 gal Cla-Web, 1 gal MMCR
Event	21	Slow Rate	8/5/2017	12:47:00	USER	8.33	4.0	2040	@ 114	Good returns throughout job
Event	22	Bump Plug	8/5/2017	12:49:23	COM5			2260		Approx 10 bbls cement to surface - Casing test 3000 psi for 10 minutes
Event	23	Check Floats	8/5/2017	12:59:59	USER			3290		Floats held - 1 1/2 bbl flowback
Event	24	End Job	8/5/2017	13:01:00	USER					No add hours, no derrick, no sugar
Event	25	Pre-Rig Down Safety Meeting	8/5/2017	13:15:00	USER					
Event	26	Rig-Down Equipment	8/5/2017	13:30:00	USER					
Event	27	Pre-Convoy Safety Meeting	8/5/2017	13:45:00	USER					
Event	28	Crew Leave Location	8/5/2017	14:00:00	USER					Thank you for using Halliburton - Ed Deussen and crew

LARAMIE ENERGY - Gunderson 20-10E - 4 1/2" Production



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

LARAMIE ENERGY - Gunderson 20-10E - 4 1/2" Production



Job Information

Request/Slurry	2407101/1	Rig Name	H&P 522	Date	02/AUG/2017
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Gunderson 20-10E

Well Information

Casing/Liner Size	4.5 in	Depth MD	8120 ft	BHST	113°C / 235°F
Hole Size	7.875 in	Depth TVD	7549 ft	BHCT	76°C / 168°F
Pressure	4590 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 2407101/1

Thickening Time - ON-OFF-ON

04/AUG/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	4590	48	3:24	3:48	4:17	9:19	20	58	15	28

Total sks = 867

Composite:

CS2024 TR# 8658 433.5 SKS

CS2026 TR 2878 433.5 SKS

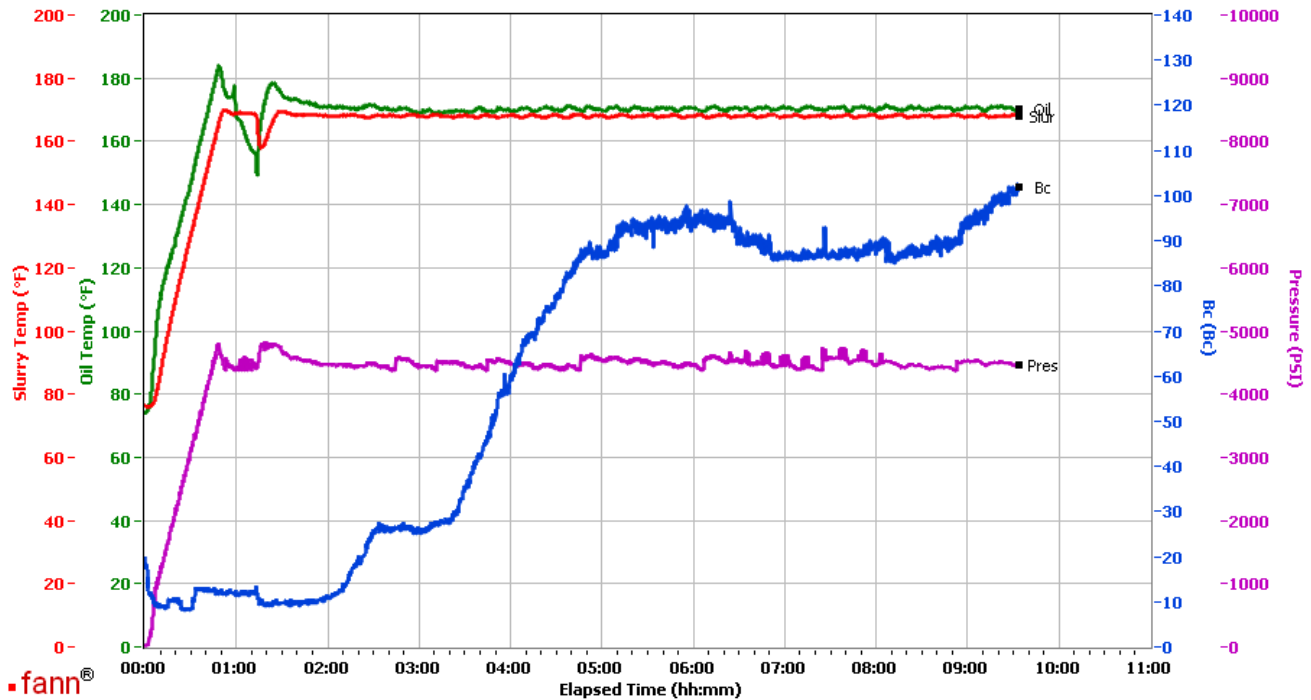
Deflection: 12 - 28 back to 12 after one minute

Grand Junction, Colorado

Fields	Values
Project Name	GJ2407101-1 LARAMIE PRODUCTION LEAD
Test ID	34753087
Request ID	GJ2407101-1
Tested by	JASON
Customer	LARAMIE ENERGY
Well No	GUNDERSON 20-10E
Rig	H&P 522
Casing/Liner Size	4.5"

Fields	Values
Job Type	PRODUCTION
Cement Type	HOLCIM TYPE I-II
Cement Weight	Light Weight
Test Date	08/04/17
Test Time	12:05 AM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:24m
40.00 Bc	03h:35m
50.00 Bc	03h:48m
70.00 Bc	04h:17m
100.00 Bc	09h:19m
00h:30m	8.48
01h:00m	11.98
01h:30m	9.74



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\0HU90BIZ\GJ2407101-1 LARAMIE PRODUCTION LEAD BULK COMP.[1].tdms

Comments CS2024 TR 5658 433.5 SKS CS2026 TR 2878 433.5 SKS

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HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2407102/1	Rig Name	H&P 522	Date	02/AUG/2017
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Gunderson 20-10E

Well Information

Casing/Liner Size	4.5 in	Depth MD	8120 ft	BHST	113°C / 235°F
Hole Size	7.875 in	Depth TVD	7549 ft	BHCT	76°C / 168°F
Pressure	4590 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 2407102/1

Thickening Time - ON-OFF-ON

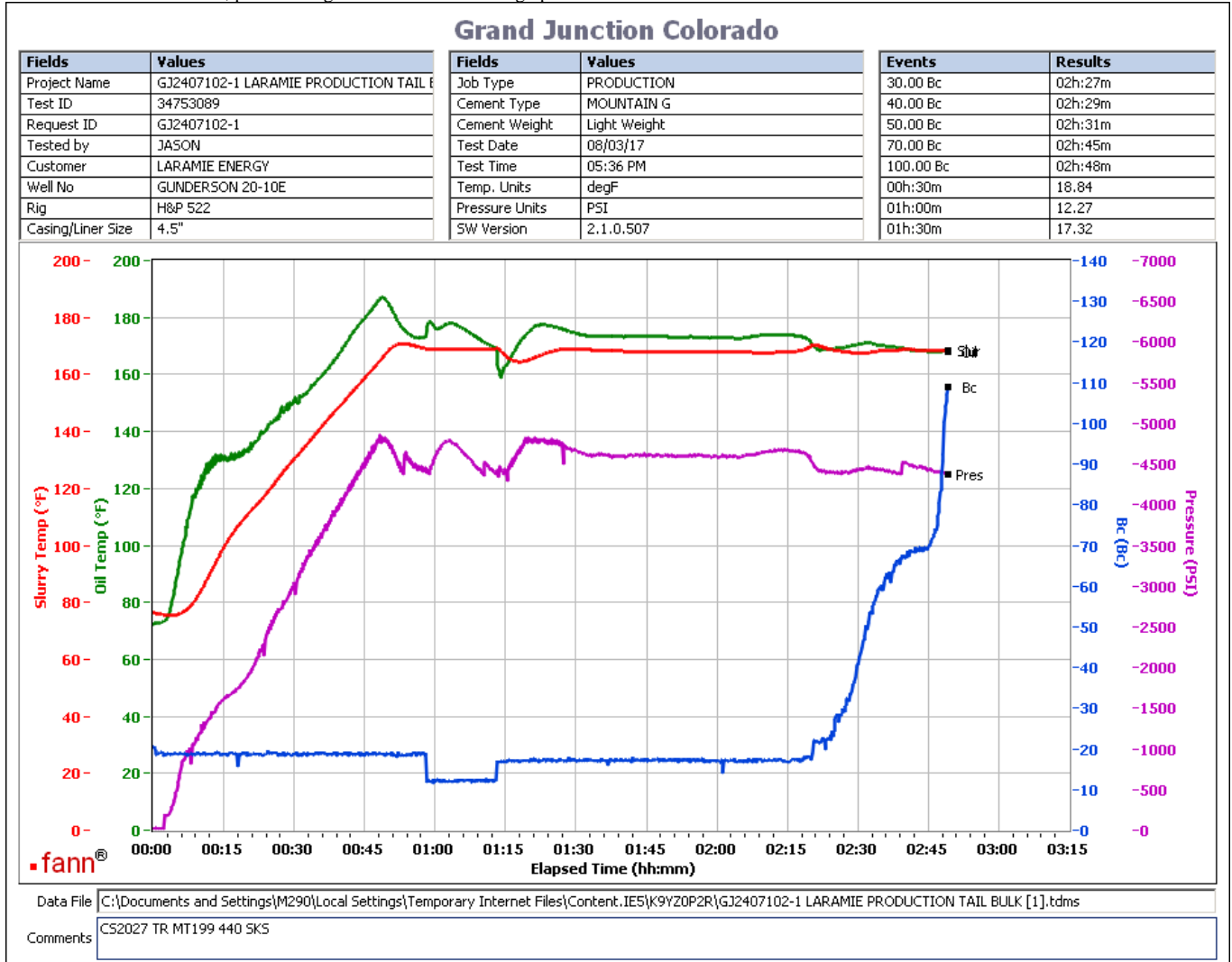
04/AUG/2017

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	4590	48	2:27	2:31	2:45	2:48	21	58	15	19

Total sks = 440

CS2027 TR MT199 440 SKS

Deflection was not observed, peak reading was recorded from the graph data.



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