

HALLIBURTON

iCem[®] Service

LARAMIE ENERGY II LLC

For: Chuck Mallary

Date: Monday, July 24, 2017

Gunderson 20-09W Surface PJR

API #05-077-10350-00

Sincerely,

Grand Junction Cement Engineering

1.0 Real-Time Job Summary

1.1 Job Event Log

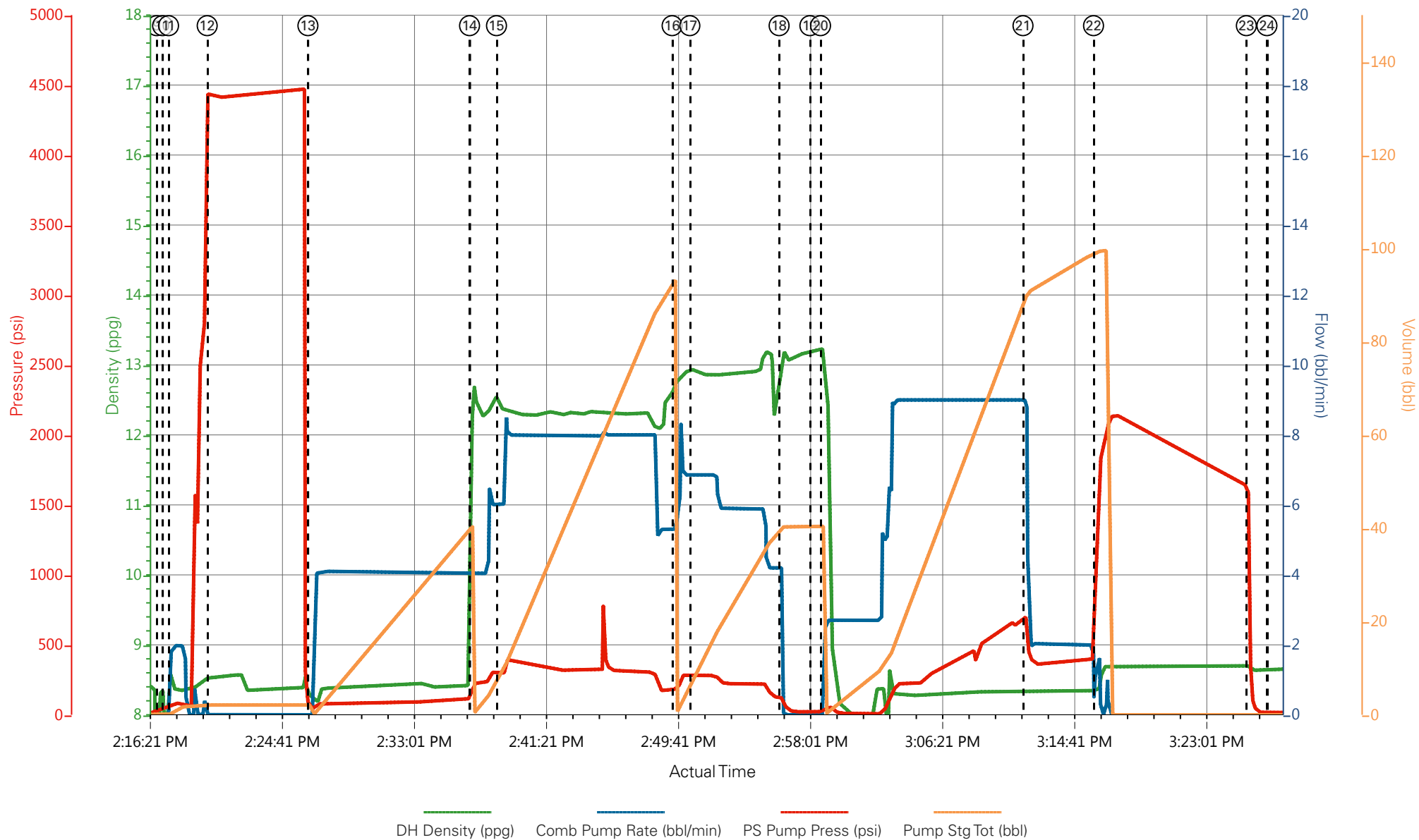
Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	7/24/2017	07:00:00	USER					REQUESTED ON LOCATION @ 13:00
Event	2	Pre-Convoy Safety Meeting	7/24/2017	08:45:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	7/24/2017	09:00:00	USER					1 HT 400 PUMP TRUCK E8, 1 660 BULK TRUCKS, 1 450 SERVICE PICKUP
Event	4	Arrive At Loc	7/24/2017	12:00:00	USER					RIG RUNNING CASING WHEN HES ARRIVED TO LOCATION 1 HOUR EARLY
Event	5	Assessment Of Location Safety Meeting	7/24/2017	12:30:00	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- 70F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Spot Equipment	7/24/2017	12:45:00	USER					1 HT 400 PUMP TRUCK E8, 1 660 BULK TRUCKS, 1 450 SERVICE PICKUP
Event	7	Pre-Rig Up Safety Meeting	7/24/2017	13:00:00	USER					ALL HES PRESENT
Event	8	Pre-Job Safety Meeting	7/24/2017	14:00:00	USER					ALL HES AND RIG CREW PRESENT, RIG CIRCULATED 10 BPM, PRESSURE 240 PSI
Event	9	Start Job	7/24/2017	14:16:58	USER					TD-1564', TP-1554', SJ-44.36', CSG-8.625" 24# J55, OH-11", MUD-9.1PPG

Event	10	Drop Bottom Plug	7/24/2017	14:17:21	USER					VERIFIED BY FLAG INDICATOR
Event	11	Prime Lines	7/24/2017	14:17:43	USER	8.33	2.0	85	2	FRESH WATER
Event	12	Test Lines	7/24/2017	14:20:09	COM5			4470		PRESSURE HELD
Event	13	Pump H2O Spacer	7/24/2017	14:26:31	COM5	8.33	4.0	150	40	FRESH WATER
Event	14	Pump Lead Cement	7/24/2017	14:36:43	COM5	12.3	8.0	370	86.3	197 SKS VARICEM GJ5 CMT 12.3 PPG, 2.46 FT3/SK, 14.17 GAL/SK
Event	15	Check weight	7/24/2017	14:38:25	COM5					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	16	Pump Tail Cement	7/24/2017	14:49:30	COM5	12.8	8.0	290	42.3	109 SKS VARICEM GJ5 CMT 12.8 PPG, 2.18 FT3/SK, 12.11 GAL/SK
Event	17	Check weight	7/24/2017	14:50:37	COM5					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	18	Shutdown	7/24/2017	14:56:15	USER					END OF CEMENT
Event	19	Drop Top Plug	7/24/2017	14:58:11	USER					VERIFIED BY FLAG INDICATOR
Event	20	Pump Displacement	7/24/2017	14:58:52	COM5	8.33	9.0	700	86	FRESH WATER
Event	21	Slow Rate	7/24/2017	15:11:38	USER	8.33	2.0	380	10	SLOWED RATE TO BUMP PLUG
Event	22	Bump Plug	7/24/2017	15:16:06	COM5	8.33	2.0	400	96	PLUG BUMPED
										FLOATS HELD .5 BBL FLOW BACK TO TRUCK
Event	23	Check Floats	7/24/2017	15:25:44	USER			1640		
Event	24	End Job	7/24/2017	15:27:02	COM5					RETURNS THROUGHOUT JOB. 26 BBL CMT TO SURFACE USED 40 LBS SUGAR
Event	25	Post-Job Safety Meeting (Pre Rig-Down)	7/24/2017	15:30:00	USER	8.66	0.00	15.00	0.0	ALL HES PRESENT
Event	26	Pre-Convoy Safety Meeting	7/24/2017	16:45:00	USER					ALL HES PRESENT

Event 27 Depart Location 7/24/2017 17:00:00 USER

THANK YOU FOR CHOOSING HALLIBURTON
CEMENT, DUSTIN HYDE AND CREW

LARAMIE, GUNDERSON BCU 20-09W, 8 5/8" SURFACE



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

▼ **HALLIBURTON** | iCem® Service

Created: 2017-07-24 13:12:39, Version: 4.2.393

Edit

Customer : LARAMIE ENERGY II LLC

Job Date : 7/24/2017

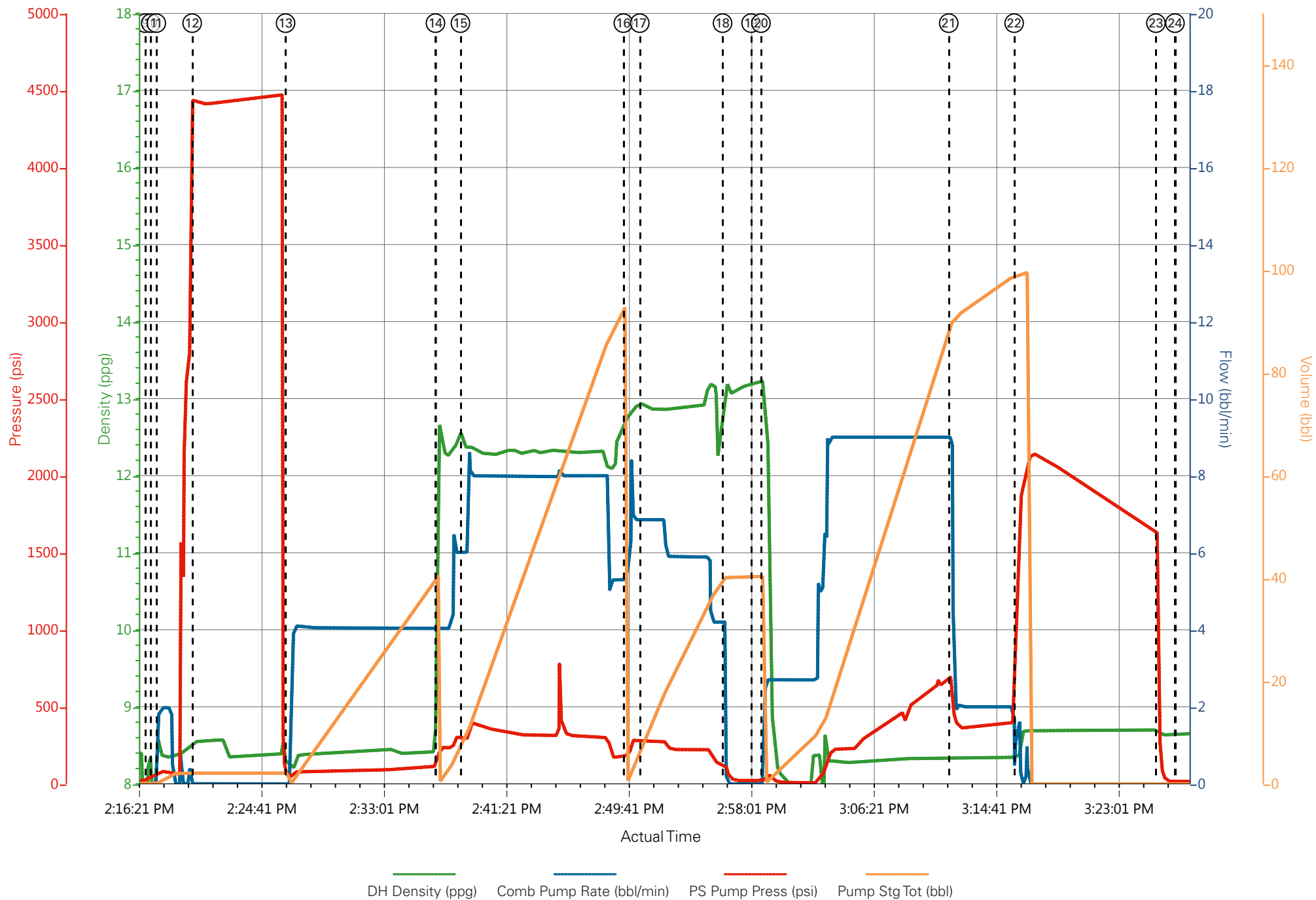
Well : GUNDERSON BCU 20-09W

Representative : TYLER HALE

Sales Order # : 904184059

ELITE 8 : HYDE / ANGELO

LARAMIE, GUNDERSON BCU 20-09W, 8 5/8" SURFACE



HALLIBURTON

iCem[®] Service

LARAMIE ENERGY LLC

For: Chuck Mallary

Date: Thursday, July 27, 2017

Gunderson 20-09W Production PJR

API# 05-077-10350-00

Sincerely,

Grand Junction Cement Engineering

2.0 Real-Time Job Summary

2.1 Job Event Log

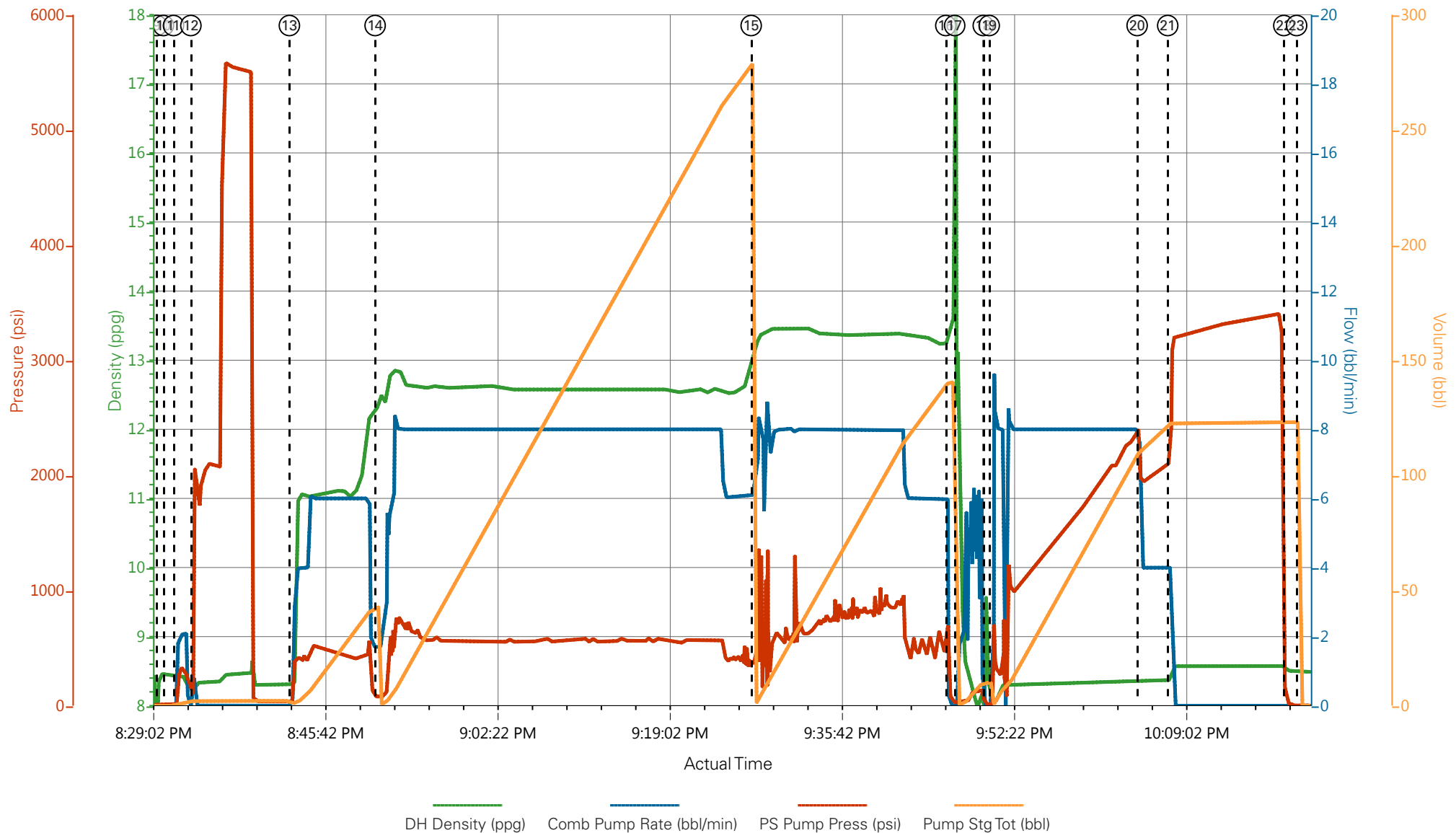
Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	7/27/2017	11:00:00	USER					ELITE # 8
Event	2	Pre-Convoy Safety Meeting	7/27/2017	13:00:00	USER					ALL HES EMPLOYEES
Event	3	Arrive At Loc	7/27/2017	15:00:00	USER					ARRIVED ON LOCATION 2 HOURS EARLY, RIG RUNNING CASING
Event	4	Meet With Company Rep	7/27/2017	15:30:00	USER					COMPANY REP OFFERED SDS WATER TEST: TEMP: 70 PH: 7 CHLORIDES: 0
Event	5	Assessment Of Location Safety Meeting	7/27/2017	15:45:00	USER					ALL HES EMPLOYEES
Event	6	Pre-Rig Up Safety Meeting	7/27/2017	15:50:00	USER					ALL HES EMPLOYEES
Event	7	Rig-Up Equipment	7/27/2017	16:00:00	USER					1 HT-400 PUMP TRUCK 1 660 BULK TRUCK 2 SILOS 1 F-550 PICKUP
Event	8	Pre-Job Safety Meeting	7/27/2017	18:30:00	USER					ALL HES EMPLOYEES AND RIG RIG CIRCULATED ON FOR 45 MINUTES PRIOR TO THE JOB @ 10.5 PPG 830 PSI
Event	9	Start Job	7/27/2017	20:29:40	COM5					TD 7700', TP 7689.35', SJ 89.94', OH: 7 7/8 " SURFACE CASING SET AT 1554', CASING 4 1/2" 11.6# L80., MUD WEIGHT 9.1 PPG
Event	10	Drop Bottom Plug	7/27/2017	20:30:19	USER					PLUG AWAY, NO PROBLEMS
Event	11	Prime Lines	7/27/2017	20:31:18	USER	8.33	2.0	370	2.0	PRIME LINES WITH 2 BBLS FRESH WATER
Event	12	Test Lines	7/27/2017	20:32:59	COM5	8.33	0.0	5601	2.0	TESTED LINES TO 5601 PSI. PRESSURE HELD

Event	13	Pump Tuned Spacer III	7/27/2017	20:42:31	COM5	11.0	6.0	550	40	40 BBLs TUNED SPACER III. @11 PPG. 4.86 YIELD. 31.9 GAL/SK. WEIGHT VERIFIED VIA PRESSURIZED MUD SCALES
Event	14	Pump Lead Cement	7/27/2017	20:50:49	COM5	12.5	8.0	580	273	790 SKS 12.5 PPG 1.94 YIELD 9.6 GAL/SK LEAD CEMENT WEIGHT VERIFIED VIA PRESSURIZED MUD SCALES
Event	15	Pump Tail Cement	7/27/2017	21:27:13	COM5	13.3	8.0	858	131.6	427 SKS 13.3 PPG 1.73 YIELD 7.81 GAL/SK TAIL CEMENT WEIGHT VERIFIED VIA PRESSURIZED MUD SCALES
Event	16	Shutdown	7/27/2017	21:46:03	USER					SHUTDOWN TO CLEAN PUMPS AND LINES
Event	17	Clean Lines	7/27/2017	21:46:55	COM5	8.33			10.0	CLEAN PUMPS AND LINES TO CELLAR
Event	18	Drop Top Plug	7/27/2017	21:49:41	COM5					PLUG AWAY NO PROBLEMS
Event	19	Pump Displacement	7/27/2017	21:50:15	COM5	8.4	8.0	2380	117.8	1 GAL MMCR 5 GAL CLA-WEB, FRESH WATER DISPLACEMENT
Event	20	Slow Rate	7/27/2017	22:04:34	USER	8.4	4.0	2100	107	SLOW RATE TO BUMP PLUG
Event	21	Bump Plug	7/27/2017	22:07:32	COM5	8.4	4.0	3372	117.8	PSI BEFORE BUMPING PLUG @ 2100, BUMPED PLUG UP TO 3000 FOR 10 MINUTE CASING TEST PRESSURE @ 3372 PRIOR TO CHECKING FLOATS
Event	22	Check Floats	7/27/2017	22:18:46	USER					FLOATS HELD, 1 1/2 BBLs BACK TO DISPLACEMENT TANKS
Event	23	End Job	7/27/2017	22:20:01	COM5					MAINTAINED RETURNS THROUGHOUT JOB, PIPE STATIC THROUGHOUT JOB 20 BBLs OF TUNED SPACER TO SURFACE
Event	24	Pre-Rig Down Safety Meeting	7/27/2017	22:30:00	USER					ALL HES EMPLOYEES
Event	25	Rig-Down Equipment	7/27/2017	22:45:00	USER					
Event	26	Pre-Convoy Safety Meeting	7/27/2017	23:50:00	USER					ALL HES EMPLOYEES

Event 27 Crew Leave Location 7/28/2017 00:00:00 USER

THANK YOU FOR USING HALLIBURTON CEMENT,
DUSTIN SMITH AND CREW

LARAMIE - GUNDERSON BCU 20-09W - 4 1/2 PRODUCTION



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

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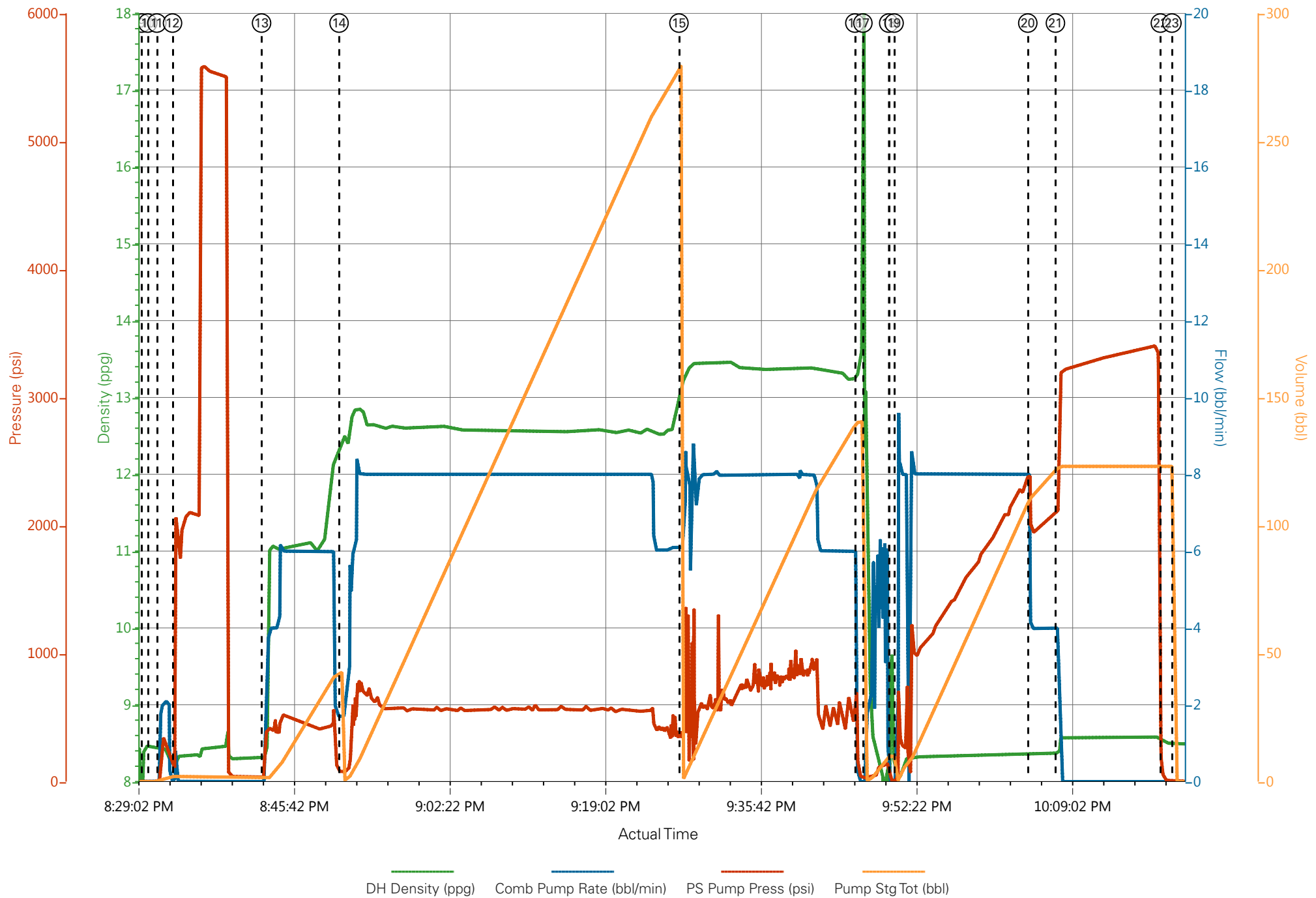
Edit

Customer : LARAMIE ENERGY II LLC
Representative : TYLER HALE

Job Date : 7/27/2017 7:05:46 PM
Sales Order # : 0904190206

Well : GUNDERSON BCU 20-09W
ELITE # 8 : DUSTIN SMITH / TRAVIS BROWN

LARAMIE - GUNDERSON BCU 20-09W - 4 1/2 PRODUCTION



Job Information

Request/Slurry	2405131/1	Rig Name	H&P 522	Date	24/JUL/2017
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Gunderson 20-09W

Well Information

Casing/Liner Size	4.5 in	Depth MD	7698 ft	BHST	113°C / 235°F
Hole Size	7.875 in	Depth TVD	7526 ft	BHCT	76°C / 168°F
Pressure	4570 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



<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		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		

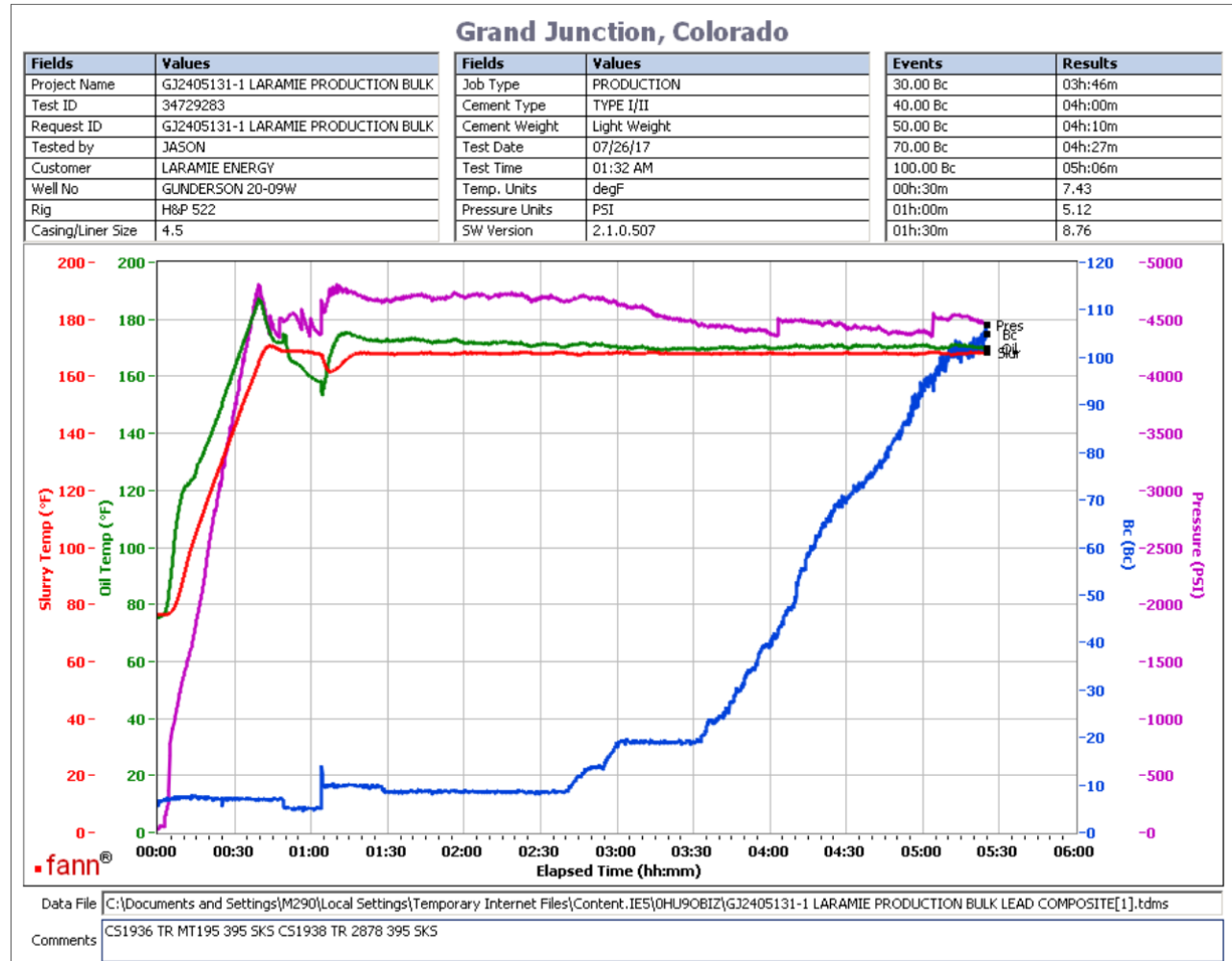
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Operation Test Results Request ID 2405131/1

Thickening Time - ON-OFF-ON

26/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	4570	39	3:46	4:10	4:27	5:06	6	47	15	18



Total sks = 790

Composite:

CS1936 TR MT195 395 SKS

CS1938 TR 2878 395 SKS

deflected from 5Bc to 18Bc and back down to 10Bc within one minutes

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HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2405132/1	Rig Name	H&P 522	Date	24/JUL/2017
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Gunderson 20-09W

Well Information

Casing/Liner Size	4.5 in	Depth MD	7698 ft	BHST	113°C / 235°F
Hole Size	7.875 in	Depth TVD	7526 ft	BHCT	76°C / 168°F
Pressure	4570 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



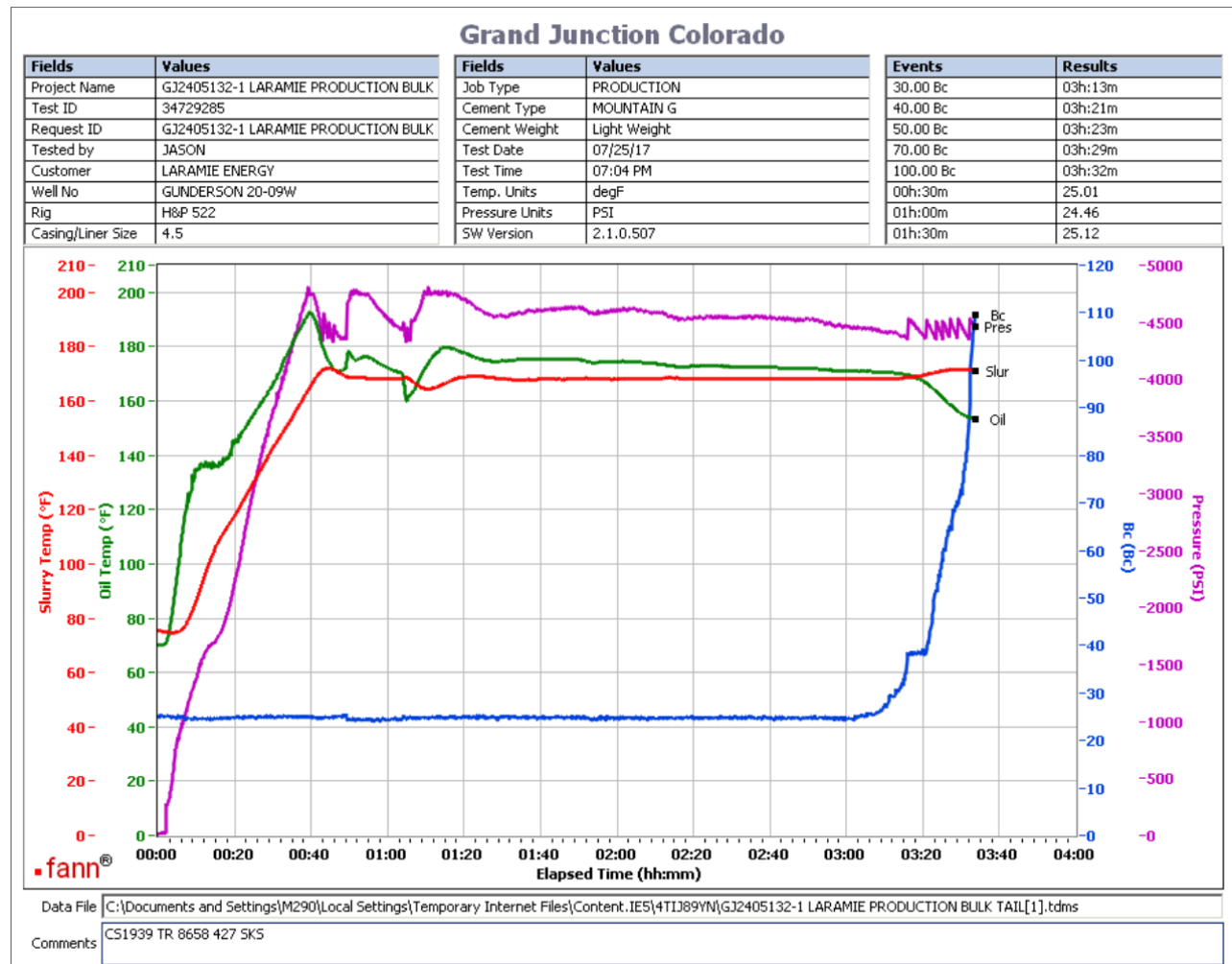
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		ThermaCem Tail				Slurry Density	13.3	lbm/gal
						Slurry Yield	1.733	ft3/sack
						Water Requirement	7.799	gal/sack
						Total Mix Fluid	7.799	gal/sack
						Water Source	Field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

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Thickening Time - ON-OFF-ON

26/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	4570	39	3:13	3:23	3:29	3:32	25	49	15	25



Total sks = 427
 CS1939 TR 8658 427 SKS
 No deflection was observed. 25Bc--- > 25Bc

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