

HALLIBURTON

iCem[®] Service

LARAMIE ENERGY LLC

For: Laramie

Date: Sunday, July 02, 2017

GUNDERSON BCU 20-06E Surface

API# 05-077-10352-00

Sincerely,

Grand Junction Cement Engineering

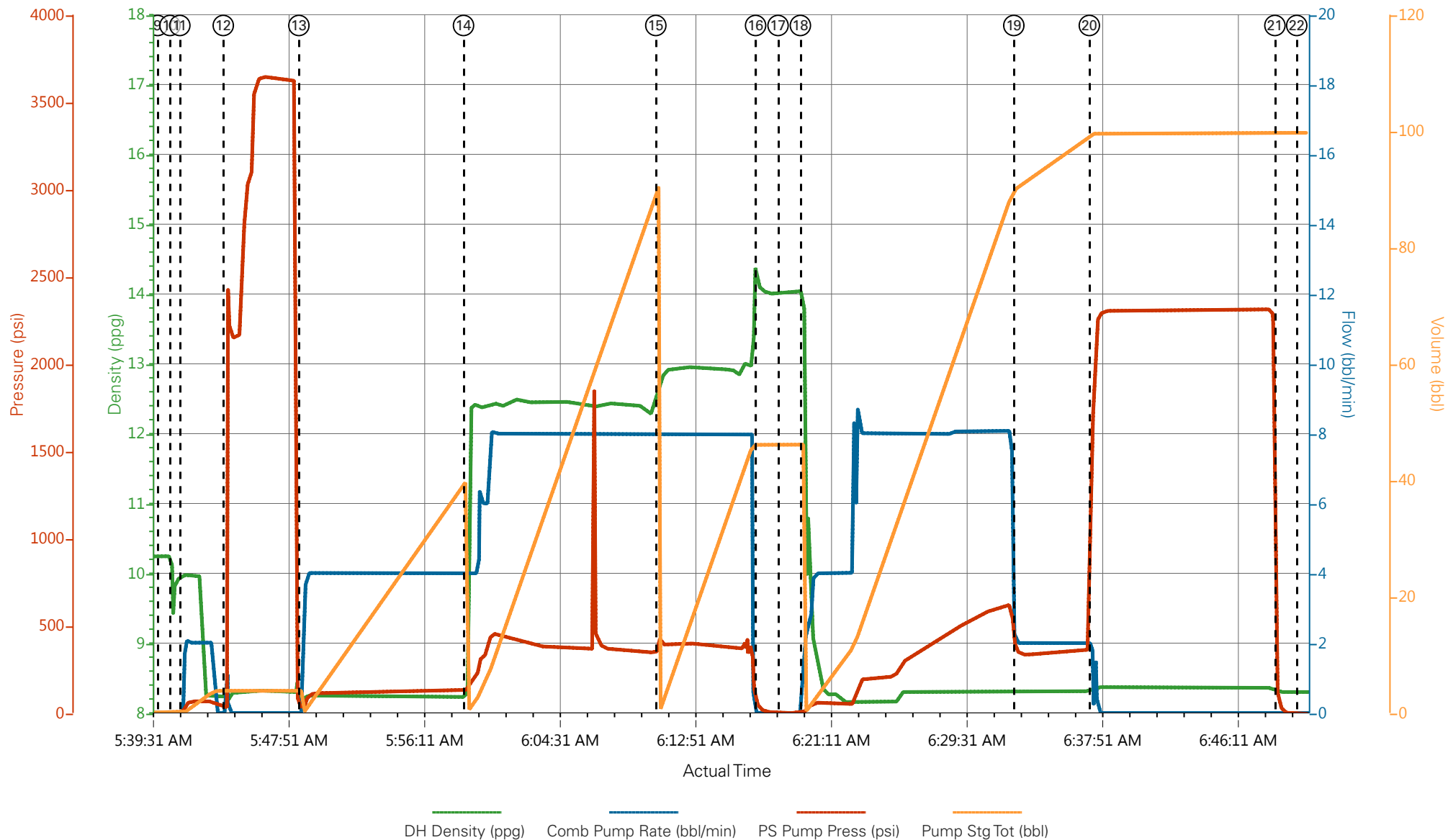
2.0 Real-Time Job Summary

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	7/1/2017	21:30:00	USER					ELITE #8
Event	2	Pre-Convoy Safety Meeting	7/1/2017	22:30:00	USER					ALL HES EMPLOYEES
Event	3	Arrive At Loc	7/2/2017	02:00:00	USER					ARRIVED ON LOCATION 1 1/2 HOURS EARLY RIG PREPARING TO RUN CASING
Event	4	Meet With Company Rep	7/2/2017	02:30:00	USER					COMPANY REP OFFERED SDS WATER TEST: TEMP: 71 PH: 7 CHLORIDES: 0
Event	5	Assessment Of Location Safety Meeting	7/2/2017	03:45:00	USER					ALL HES EMPLOYEES
Event	6	Pre-Rig Up Safety Meeting	7/2/2017	03:50:00	USER					ALL HES EMPLOYEES
Event	7	Rig-Up Equipment	7/2/2017	04:00:00	USER					1 HT-400 PUMP TRUCK 1 660 BULK TRUCK 1 F-550 PICKUP
Event	8	Pre-Job Safety Meeting	7/2/2017	05:25:00	USER					ALL HES EMPLOYEES AND RIG CREW RIG CIRCULATED FOR 1/2 HOUR PRIOR TO THE JOB @ 10 BPM @ 250 PSI
Event	9	Start Job	7/2/2017	05:40:00	COM5					TD: 1564 TP: 1553.1 SJ: 43.74 CSG: 8 5/8 24# J-55 OH: 11 MUD WT: 9.3 PPG
Event	10	Drop Bottom Plug	7/2/2017	05:40:45	USER					PLUG AWAY NO PROBLEMS
Event	11	Prime Lines	7/2/2017	05:41:21	USER	8.33	2.0	45	2.0	PRIME LINES WITH 2 BBLs FRESH WATER
Event	12	Test Lines	7/2/2017	05:44:02	COM5	8.33	0.0	3643	2.0	PRESSURE TEST OK
Event	13	Pump Fresh Water Spacer	7/2/2017	05:48:40	COM5	8.22	4.0	132	40	PUMP 40 BBL FRESH WATER SPACER
Event	14	Pump Lead Cement	7/2/2017	05:58:47	COM5	12.3	8.0	420	86.3	197 SKS 12.3 PPG 2.46 YIELD 14.17 GAL/SK LEAD CEMENT WEIGHT VERIFIED VIA PRESSURIZED MUD SCALES
Event	15	Pump Tail Cement	7/2/2017	06:10:36	COM5	12.8	8.0	400	42.3	109 SKS 12.8 PPG 2.18 YIELD 12.11 GAL/SK TAIL CEMENT

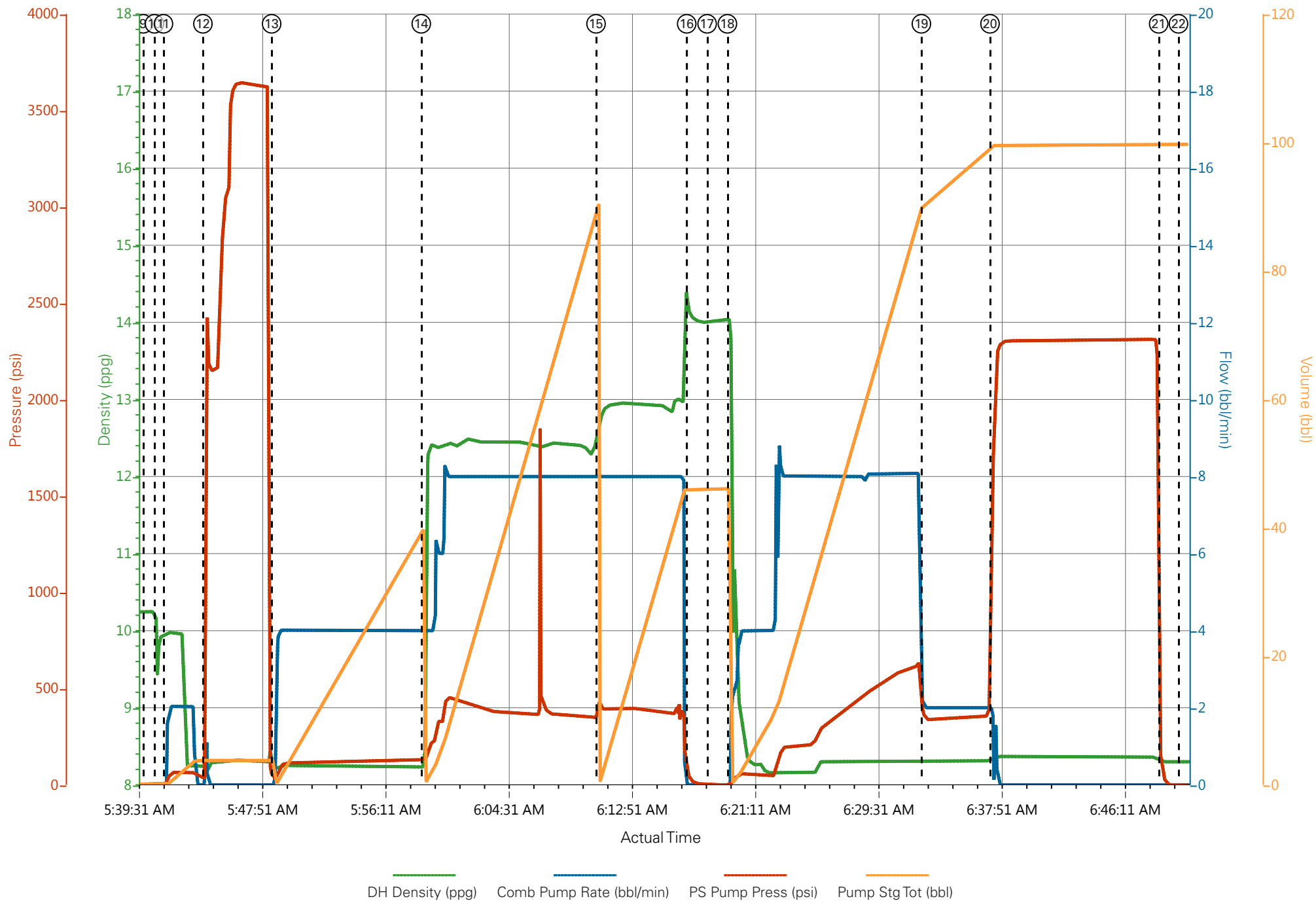
WEIGHT VERIFIED VIA PRESSURIZED MUD SCALES										
Event	16	Shutdown	7/2/2017	06:16:44	USER					SHUTDOWN TO DROP TOP PLUG
Event	17	Drop Top Plug	7/2/2017	06:18:07	COM5					PLUG AWAY NO PROBLEMS, WASHED UP ON TOP OF THE PLUG
Event	18	Pump Displacement	7/2/2017	06:19:29	COM5	8.33	8.0	630	96	FRESH WATER DISPLACEMENT
Event	19	Slow Rate	7/2/2017	06:32:36	USER	8.33	2.0	360	86	SLOW RATE TO BUMP PLUG
Event	20	Bump Plug	7/2/2017	06:37:15	COM5	8.33	2.0	2383	86	PSI BEFORE BUMPING PLUG @360 BUMPED PLUG UP TO 2100 PSI FOR 10 MINUTE CSG TEST PRESSURE @ 2383 PRIOR TO CHECKING FLOATS AFTER CSG TEST
Event	21	Check Floats	7/2/2017	06:48:39	USER					FLOATS HELD, 1 BBL BACK TO DISPLACEMENT TANKS
Event	22	End Job	7/2/2017	06:50:00	USER					GOOD RETURNS THROUGHOUT JOB PIPE STATIC THROUGHOUT JOB 26 BBLS OF CEMENT TO SURFACE RIG USED 30#S OF SUGAR
Event	23	Pre-Rig Down Safety Meeting	7/2/2017	07:00:00	USER					ALL HES EMPLOYEES
Event	24	Rig-Down Equipment	7/2/2017	07:15:00	USER					
Event	25	Pre-Convoy Safety Meeting	7/2/2017	08:25:00	USER					ALL HES EMPLOYEES
Event	26	Crew Leave Location	7/2/2017	08:30:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT, DUSTIN SMITH AND CREW

LARAMIE - GUNDERSON BCU 20-06E - 8 5/8 SURFACE



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

LARAMIE - GUNDERSON BCU 20-06E - 8 5/8 SURFACE



HALLIBURTON

iCem[®] Service

LARAMIE ENERGY LLC

For: Laramie

Date: Wednesday, July 05, 2017

GUNDERSON BCU 20-06E Production

API #05-077-10352-00

Sincerely,

Grand Junction Cement Engineering

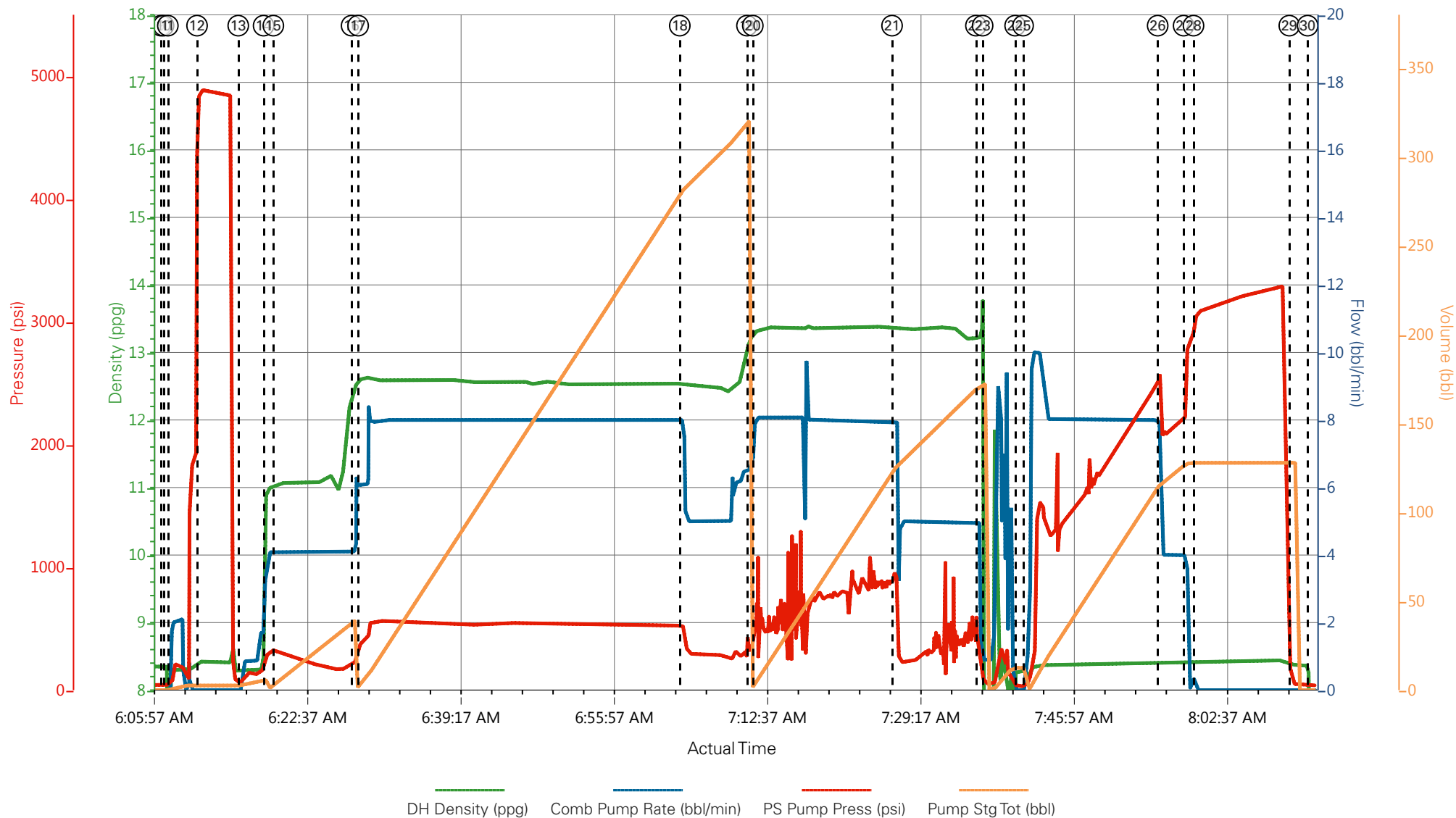
1.0 Real-Time Job Summary

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	7/4/2017	22:00:00	USER					REQUESTED ON LOCATION @ 04:00
Event	2	Pre-Convoy Safety Meeting	7/4/2017	22:45:00	USER					ALL HES EMPLOYEES PRESENT
Event	3	Crew Leave Yard	7/4/2017	23:00:00	USER					1 HT 400 PUMP TRUCK E8, 1 660 BULK TRUCK, 1 450 SERVICE PICKUP
Event	4	Arrive At Loc	7/5/2017	03:00:00	USER					ARRIVED ONE HOUR EARLY TO LOCATION, RIG RUNNING CASING WHEN HES ARRIVED AT LOCATION
Event	5	Assessment Of Location Safety Meeting	7/5/2017	03:15:00	USER					MET WITH COMP REP, AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7, CHLORIDES- 0, TEMP- 67F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Spot Equipment	7/5/2017	03:30:00	USER					1 HT 400 PUMP TRUCK E8, 1 660 BULK TRUCK, 1 450 SERVICE PICKUP
										ALL HES EMPLOYEES PRESENT
Event	7	Pre-Rig Up Safety Meeting	7/5/2017	03:45:00	USER					
Event	8	Pre-Job Safety Meeting	7/5/2017	05:30:00	USER					ALL HES EMPLOYEES AND RIG CREW PRESENT, RIG CIRCULATED @ 8 BPM 1.5 HOUR PRIOR TO JOB PRESSURE @ 610 PSI.
Event	9	Start Job	7/5/2017	06:07:03	COM5					TD 7950', TP 7940' OF 4 ½" 11.6# CSG, SJ 90.62', SURFACE CSG 8 5/8" 24# J55 SET @ 1554', OH 8 7/8", MUD 9.1 PPG
Event	10	Drop Bottom Plug	7/5/2017	06:07:20	USER					VERIFIED BY FLAG INDICATOR
Event	11	Prime Lines	7/5/2017	06:07:48	USER	8.33	2.0	100	2	FRESH WATER

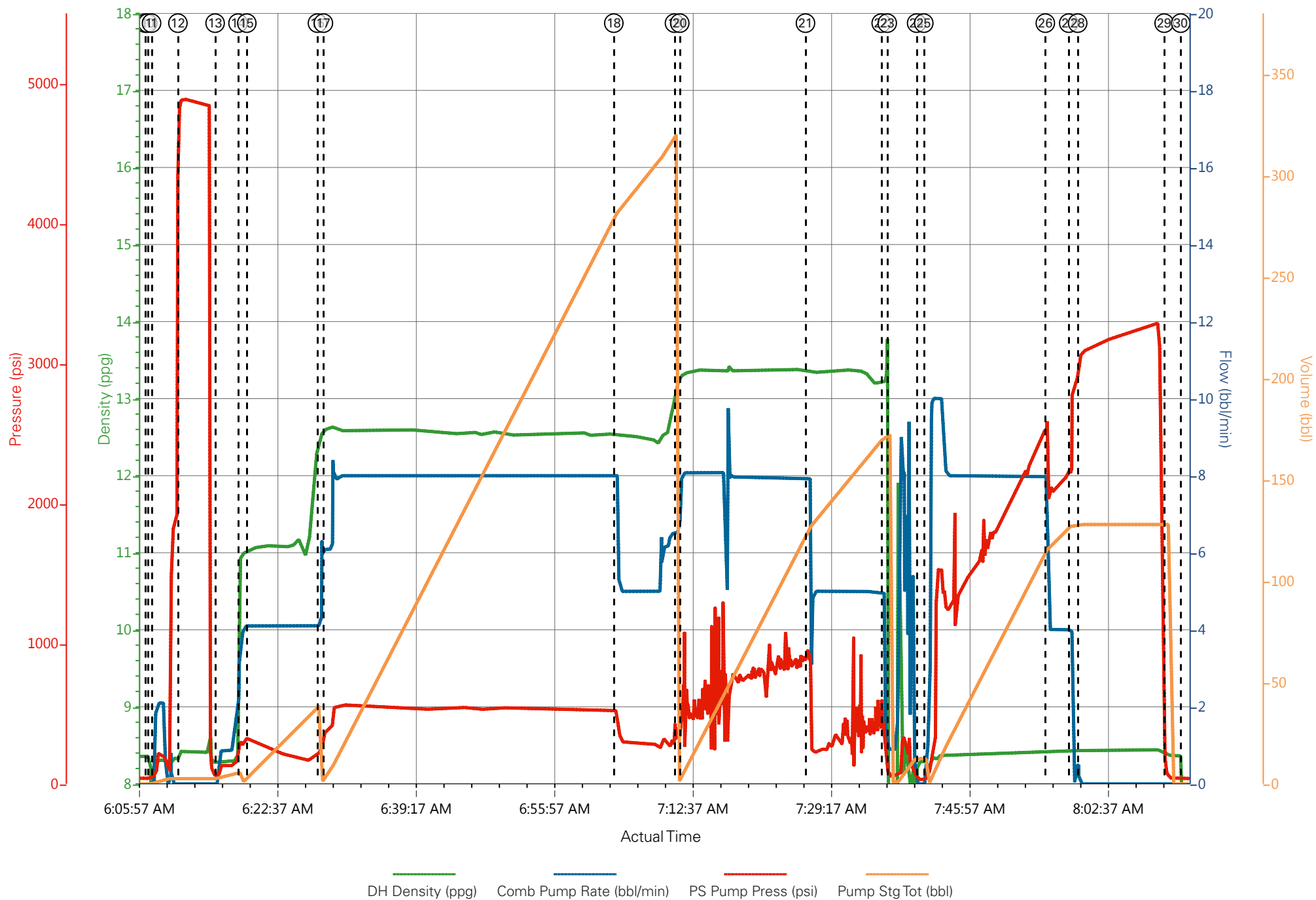
Event	12	Test Lines	7/5/2017	06:10:58	COM5			4890		PRESSURE HELD
Event	13	Pump Water	7/5/2017	06:15:27	USER	8.33	2.0	160	2	PUMPED WATER TO ESTABLISH RETURNS
Event	14	Pump Tuned Spacer III	7/5/2017	06:18:13	COM5	11.0	4.0	240	40	40 BBL TUNED SPACER III, 11 PPG, 4.86 FT3/SK, 31.9 GAL/SK
Event	15	Check weight	7/5/2017	06:19:16	COM5					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	16	Pump Lead Cement	7/5/2017	06:27:47	COM5	12.5	8.0	560	288.2	834 SKS OF NEOCEM CMT 12.5 PPG, 1.94 FT3/SK, 9.6 GAL/SK.
Event	17	Check weight	7/5/2017	06:28:29	COM5					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	18	Slow Rate	7/5/2017	07:03:27	USER					SLOWED RATE TO END SILO
Event	19	Pump Tail Cement	7/5/2017	07:10:46	COM5	13.3	8.0	880	131.6	427 SKS NEOCEM CMT 13.3 PPG, 1.73 FT3/SK, 7.81 GAL/SK.
Event	20	Check weight	7/5/2017	07:11:24	COM5					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	21	Slow Rate	7/5/2017	07:26:32	USER					SLOWED TO END SILO
Event	22	Shutdown	7/5/2017	07:35:39	USER					END OF CMT
Event	23	Clean Lines	7/5/2017	07:36:23	COM5					CLEANED PUMPS AND LINES TO CELLAR
Event	24	Drop Top Plug	7/5/2017	07:39:55	USER					VERIFIED BY FLAG INDICATOR
Event	25	Pump Displacement	7/5/2017	07:40:47	COM5	8.4	8.0	2260	111.7	FRESH WATER, 1-GAL MMCR, 5-GAL CLA WEB
Event	26	Slow Rate	7/5/2017	07:55:25	USER	8.4	4.0	2200	10	SLOWED TO BUMP PLUG
Event	27	Bump Plug	7/5/2017	07:58:14	COM5	8.40	4.0	2250	127.6	PLUG BUMPED 2250 PSI
Event	28	Casing Test	7/5/2017	07:59:18	COM5					3000 PSI CASING TEST
Event	29	Check Floats	7/5/2017	08:09:43	USER			3290		FLOATS HELD 1.5 BBL FLOW BACK TO PUMP
Event	30	End Job	7/5/2017	08:11:43	USER					GOOD RETURNS THROUGHOUT JOB. 40 BBL TUNED SPACER III TO SURFACE. RIG USED 40 LBS SUGAR
Event	31	Post-Job Safety Meeting (Pre Rig-Down)	7/5/2017	08:15:00	USER					ALL HES EMPLOYEES PRESENT
Event	32	Pre-Convoy Safety Meeting	7/5/2017	09:45:00	USER					ALL HES EMPLOYEES PRESENT
Event	33	Crew Leave Location	7/5/2017	10:00:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, DUSTIN HYDE AND CREW

LARAMIE, GUNDERSON 20-06E, 4 1/2" PRODUCTION



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|---|-----------------------------|-------------------------|--------------------|----------------------|---|
| ① Call Out | ⑦ Pre-Rig Up Safety Meeting | ⑬ Pump Water | ⑲ Pump Tail Cement | 25 Pump Displacement | 31 Post-Job Safety Meeting (Pre Rig-Down) |
| ② Pre-Convoy Safety Meeting | ⑧ Pre-Job Safety Meeting | ⑭ Pump Tuned Spacer III | 20 Check weight | 26 Slow Rate | 32 Pre-Convoy Safety Meeting |
| ③ Crew Leave Yard | ⑨ Start Job | ⑮ Check weight | 21 Slow Rate | 27 Bump Plug | 33 Crew Leave Location |
| ④ Arrive At Loc | ⑩ Drop Bottom Plug | ⑯ Pump Lead Cement | 22 Shutdown | 28 Casing Test | |
| ⑤ Assessment Of Location Safety Meeting | ⑪ Prime Lines | ⑰ Check weight | 23 Clean Lines | 29 Check Floats | |
| ⑥ Spot Equipment | ⑫ Test Lines | ⑱ Slow Rate | 24 Drop Top Plug | 30 End Job | |

LARAMIE, GUNDERSON 20-06E, 4 1/2" PRODUCTION



Job Information

Request/Slurry	2398584/1	Rig Name	H&P 522	Date	01/JUL/2017
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Gunderson BCU 20-06E

Well Information

Casing/Liner Size	4.5 in	Depth MD	7940 ft	BHST	113°C / 235°F
Hole Size	7.875 in	Depth TVD	7553 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



<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		

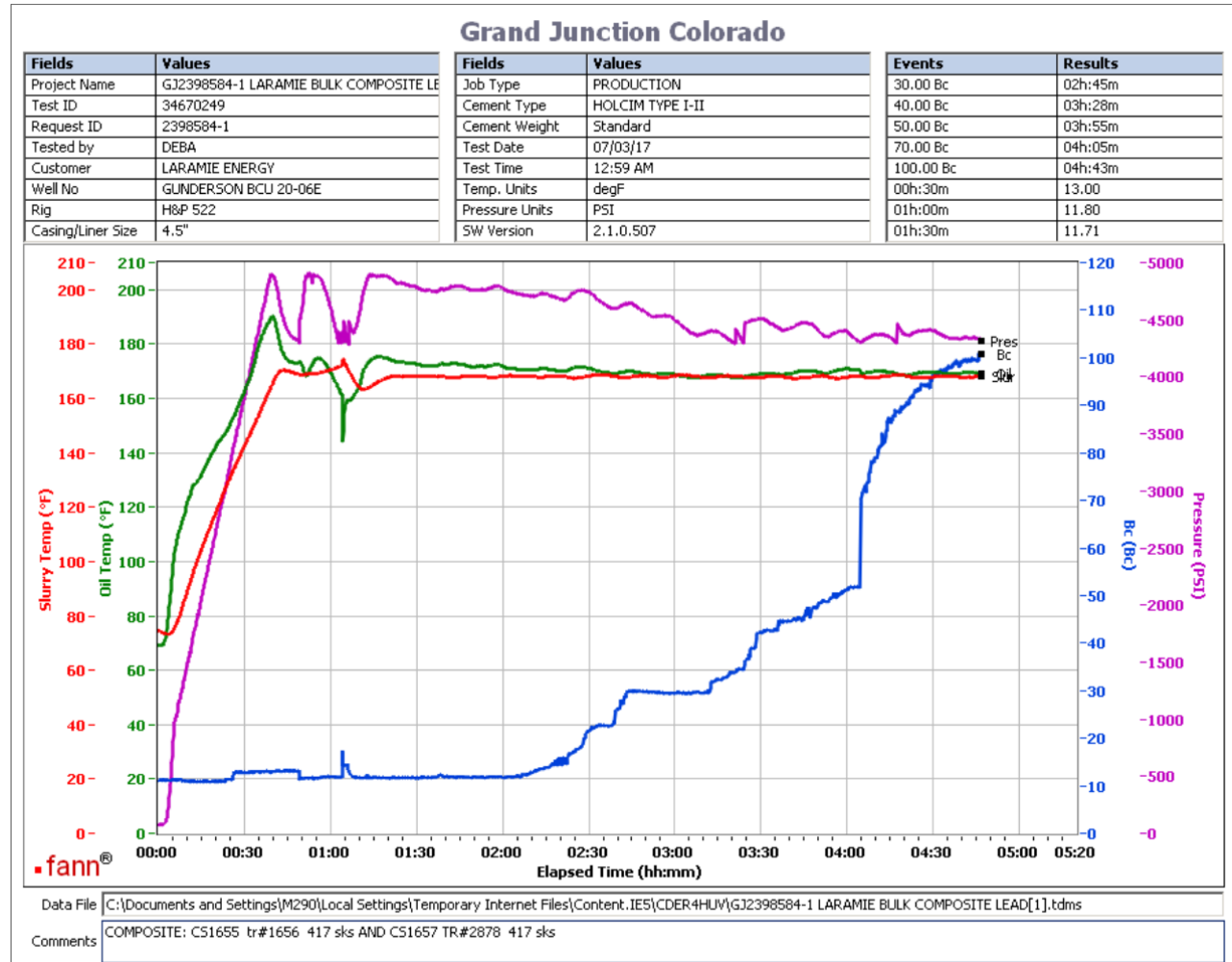
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Operation Test Results Request ID 2398584/1

Thickening Time - ON-OFF-ON

03/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	4590	39	2:45	3:55	4:05	4:43	11	49	15	19



Total sks = 834

Composite:

CS1655 TR#1656 417 sks

CS1657 TR#2878 417 SKS

deflected from 11Bc to 19Bc and back down to 14Bc

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HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2398585/1	Rig Name	H&P 522	Date	01/JUL/2017
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Gunderson BCU 20-06E

Well Information

Casing/Liner Size	4.5 in	Depth MD	7940 ft	BHST	113°C / 235°F
Hole Size	7.875 in	Depth TVD	7553 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>	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		

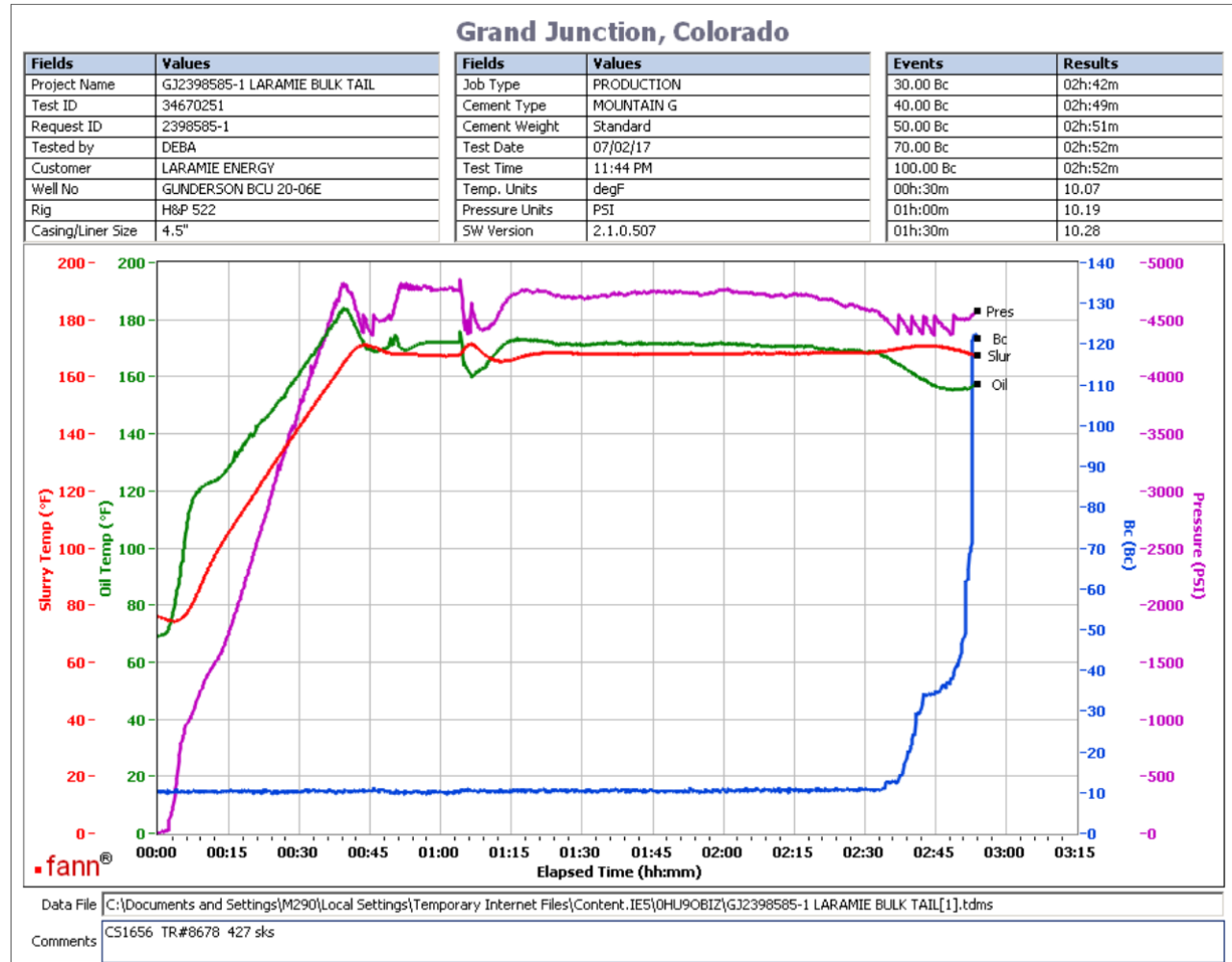
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Operation Test Results Request ID 2398585/1

Thickening Time - ON-OFF-ON

02/JUL/2017

Test Temp (°F)	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)
168	4590	39	2:42	2:51	2:52	2:52	10	49	15	10



Total sks = 427
CS1656 TR#8678 427 SKS
no deflection

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