

HALLIBURTON

iCem[®] Service

LARAMIE ENERGY LLC

Date: Wednesday, March 28, 2018

GUNDERSON 994-13-12 W

Gunderson 994-13-12W Surface
API # 05-077-10534-00
Job Date: Tuesday, March 20, 2018

Sincerely,

Grand Junction Cement Engineering

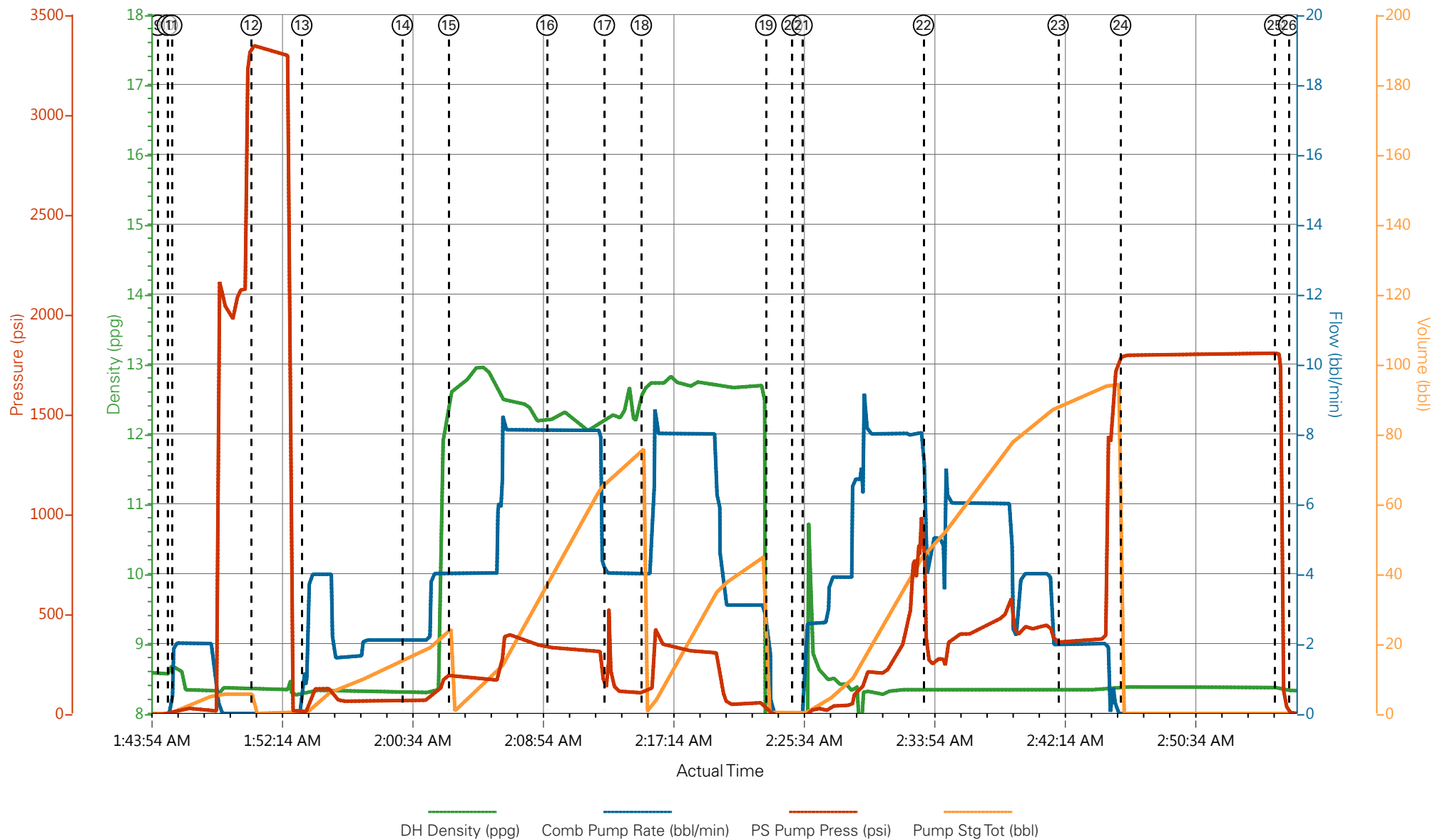
1.0 Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	Pass-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Pump Stage Total (bbl)	Comments
Event	1	Call Out	3/19/2018	19:00:00	USER					REQUESTED ON LOCATION @ 0300
Event	2	Pre-Convoy Safety Meeting	3/19/2018	21:00:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	3/19/2018	21:05:00	USER					1 F550, 1 PUMP TRUCK & 1 660 BULK TURCK
Event	4	Arrive At Loc	3/20/2018	00:20:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	3/20/2018	00:30:00	USER					MET WITH COMP REP, SHANE, AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7, CHLORIDES- 0, TEMP- 75F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	3/20/2018	00:35:00	USER					ALL HES PRESENT
Event	7	Rig-Up Equipment	3/20/2018	00:40:00	USER					HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.
Event	8	Pre-Job Safety Meeting	3/20/2018	01:15:00	USER					ALL HES AND RIG CREW PRESENT
Event	9	Start Job	3/20/2018	01:44:30	COM3					TD 1551', TP 1541', SJ 44.7', OH 11'', CSG 8.625'' 24#, MUD 9.5 PPG.
Event	10	Drop Bottom Plug	3/20/2018	01:45:06	USER					PLUG WENT, VERIFIED BY CO REP.
Event	11	Prime Pumps	3/20/2018	01:45:23	USER	67.00	8.33	1.00	2.0	8.33 PPG FRESH WATER
Event	12	Test Lines	3/20/2018	01:50:27	COM3	3347.00	8.33	0.50	0.5	ALL LINES HELD PRESSURE AT 3347 PSI
Event	13	Pump Spacer	3/20/2018	01:53:41	USER	150.00	8.33	4.00	20.0	8.33 PPG FRESH WATER (20BBL)

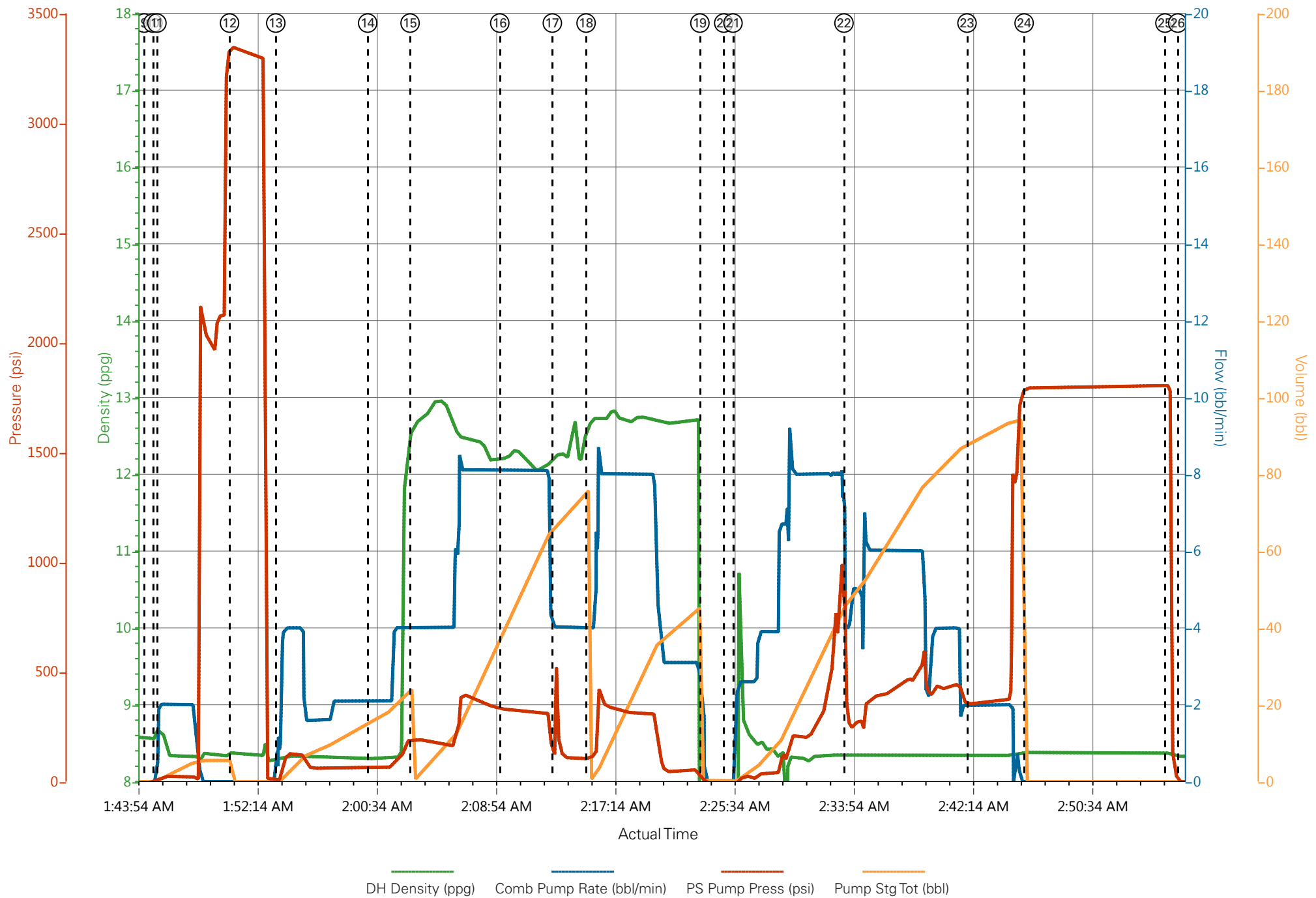
Event	14	Check weight	3/20/2018	02:00:06	COM3					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	15	Pump Lead Cement	3/20/2018	02:03:04	COM3	393.00	12.32	8.00	78.0	VARICEM CEMENT 178 SKS (78 BBLS), 12.3 PPG, 2.46 FT3/SK, 14.17 GAL/SK
Event	16	Check weight	3/20/2018	02:09:20	COM3					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	17	Slow Rate	3/20/2018	02:13:01	USER	122.00	12.34	4.00		SLOWED RATE FOR BOTTOM PLUG
Event	18	Pump Tail Cement	3/20/2018	02:15:22	COM3	330.00	12.84	8.00	42.0	VARICEM CEMENT 109 SKS (42 BBLS), 12.8 PPG, 2.18 FT3/SK, 12.11 GAL/SK.
Event	19	Shutdown	3/20/2018	02:23:19	USER					END OF CEMENT
Event	20	Drop Top Plug	3/20/2018	02:25:00	USER					PLUG WENT, VERIFIED BY CO REP.
Event	21	Pump Displacement	3/20/2018	02:25:38	COM3	470.00	8.33	8.00	86.7	8.34 PPG FRESH WATER (96.7 BBLS)
Event	22	Slow Rate	3/20/2018	02:33:24	USER					SLOWED RATE DUE TO HIGH PRESSURE
Event	23	Slow Rate	3/20/2018	02:42:00	USER	353.00	8.34	2.00	10.0	SLOW RATE TO 2 BPM PER CO REP TO LAND PLUG
Event	24	Bump Plug	3/20/2018	02:45:59	COM3	1792.00	8.33	2.00	86.7	LAND PLUG AT 375 PSI, BROUGHT UP TO 1790 PSI FOR A 10 MIN CASING TEST
Event	25	Check Floats	3/20/2018	02:55:50	USER	1803.00	8.33	0.00	0.0	FLOATS HELD, 1 BBL BACK TO TRUCK
Event	26	End Job	3/20/2018	02:56:43	COM3					RETURNS THROUGHOUT JOB, PIPE WAS NOT RECIPROCATED, 33 BBL OF CEMENT BACK TO SURFACE
Event	27	Post-Job Safety Meeting (Pre Rig-Down)	3/20/2018	03:00:00	USER					ALL HES PRESENT
Event	28	Rig-Down Equipment	3/20/2018	03:10:00	USER					ALL HES PRESENT
Event	29	Pre-Convoy Safety Meeting	3/20/2018	03:30:00	USER					ALL HES PRESENT
Event	30	Crew Leave Loc	3/20/2018	03:40:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, CHRIS SMITH AND CREW

LARAMIE - GUNDERSON 994-13-12W - 8.625" SURFACE



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

LARAMIE - GUNDERSON 994-13-12W - 8.625" SURFACE



HALLIBURTON

iCem[®] Service

LARAMIE ENERGY II LLC EBUSINESS

For: Laramie

Date: Thursday, March 22, 2018

GUNDERSON 994-13-12W Production

API# 05-077-10534-00

Job Date: Thursday, March 22, 2018

Sincerely,

Grand Junction Cement Engineering

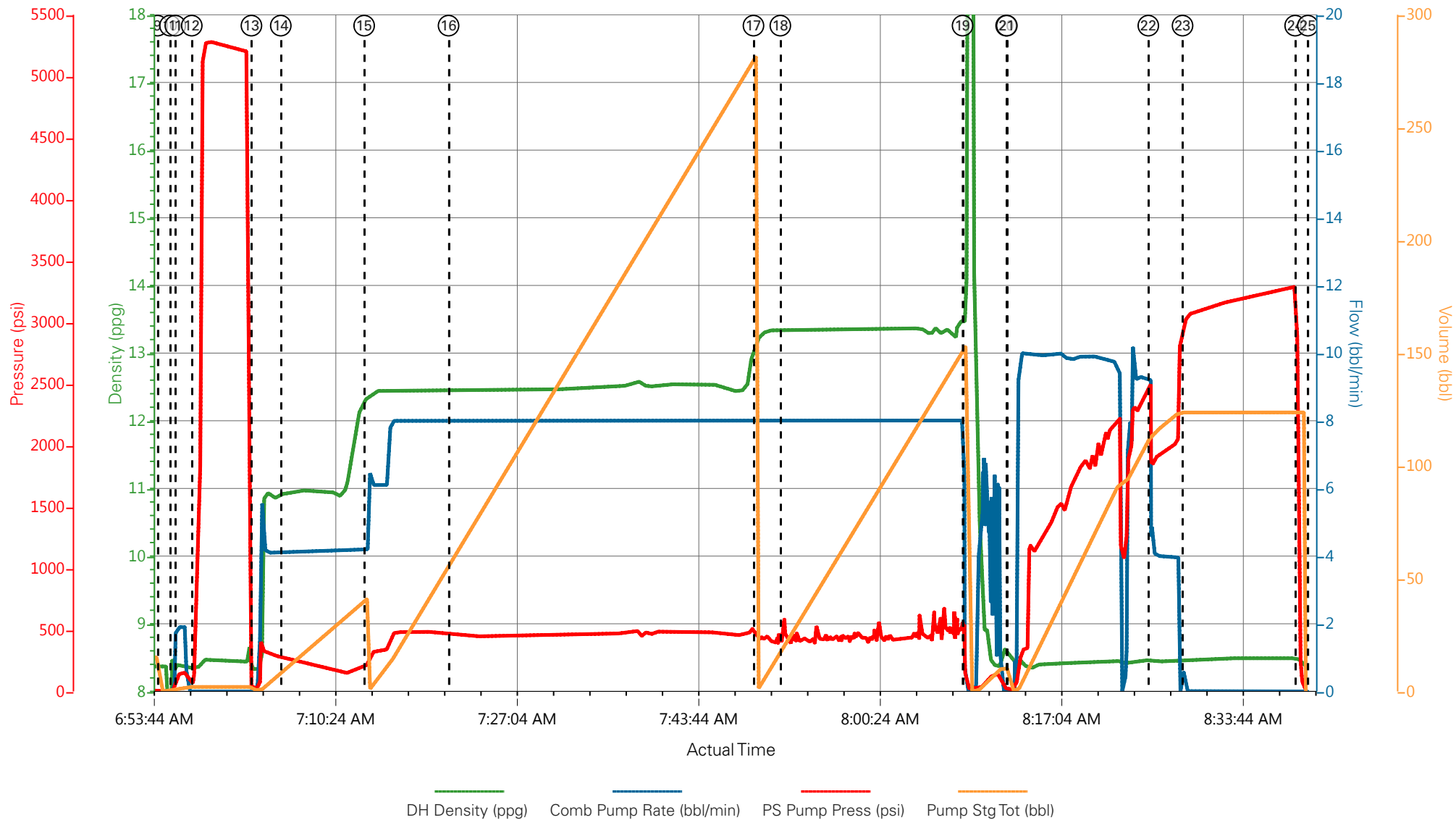
2.0 Real-Time Job Summary

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	3/22/2018	00:00:00	USER					REQUESTED ON LOCATION @ 06:00
Event	2	Pre-Convoy Safety Meeting	3/22/2018	02:00:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	3/22/2018	02:15:00	USER					1 HT 400 PUMP TRUCK E4, 1 660 BULK TRUCK, 1 550 SERVICE PICKUP
Event	4	Arrive At Loc	3/22/2018	05:00:00	USER					RIG RUNNING CASING WHEN HES ARRIVED AT LOCATION
Event	5	Assessment Of Location Safety Meeting	3/22/2018	05:15:00	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- 50F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	3/22/2018	05:20:00	USER					ALL HES PRESENT
Event	7	Rig-Up Equipment	3/22/2018	05:30:00	USER					HES RIGGED UP 1 HT400 PUMP TRUCK, 1 660 BULK TRUCK, 2 CEMENT SILOS, 2" DISCHARGE IRON, AND 4" SUCTION HOSE WITHOUT ENTERING RED ZONE.
Event	8	Pre-Job Safety Meeting	3/22/2018	06:40:00	USER					ALL HES EMPLOYEES AND RIG CREW PRESENT, RIG CIRCULATED @ 10 BPM PRIOR TO JOB PRESSURE @ 600 PSI.
Event	9	Start Job	3/22/2018	06:54:21	COM6					TD 7641', TP 7631' OF 4 ½" 11.6# P110 CSG, SJ 86.86', SURFACE CSG 8 5/8" 28# J55 SET @ 1564', OH 7 7/8", MUD 9.1 PPG
Event	10	Prime Lines	3/22/2018	06:55:30	USER	8.33	2	160	2	8.33 PPG FRESH WATER
Event	11	Drop Bottom Plug	3/22/2018	06:56:00	USER					VERIFIED BY PLUG INDICATOR

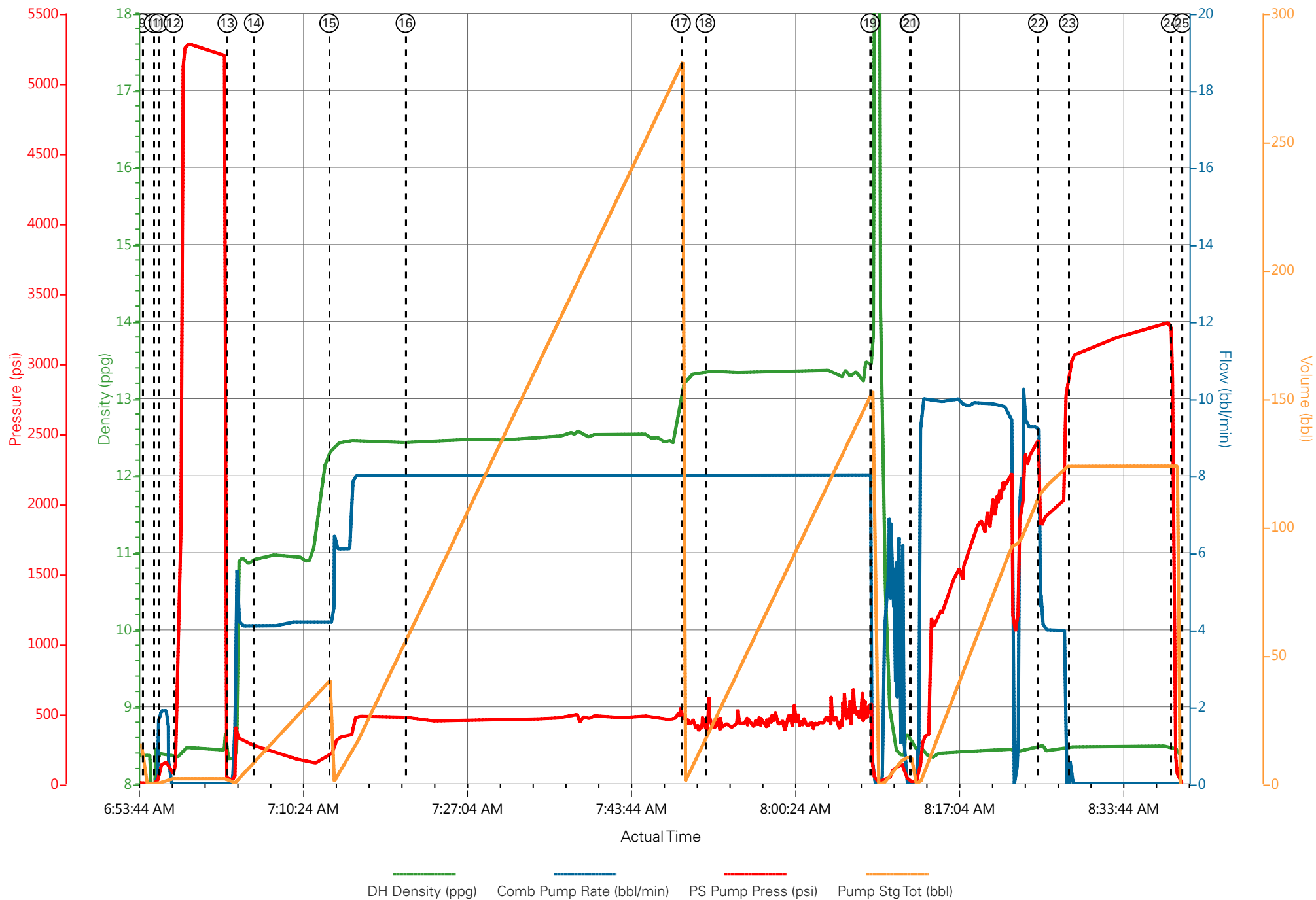
Event	12	Test Lines	3/22/2018	06:57:30	COM6			5285		ALL LINES HELD PRESSURE AT 5285 PSI
Event	13	Tuned Spacer	3/22/2018	07:02:59	COM6	11	4	270	4	40 BBL TUNED SPACER III, 11 PPG, 4.86 FT3/SK, 31.9 GAL/SK
Event	14	Check Weight	3/22/2018	07:05:41	USER					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	15	Pump Lead Cement	3/22/2018	07:13:20	COM6	12.5	8	480	261	755 SKS OF NEOCEM CMT 12.5 PPG, 1.94 FT3/SK, 9.6 GAL/SK.
Event	16	Check Weight	3/22/2018	07:21:05	USER					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	17	Pump Tail Cement	3/22/2018	07:49:05	COM6	13.3	8	430	122	396 SKS THERMACEM CMT 13.3 PPG, 1.73 FT3/SK, 7.81 GAL/SK.
Event	18	Check Weight	3/22/2018	07:51:33	USER					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	19	Clean Lines	3/22/2018	08:08:17	COM6					END OF CEMENT. CLEAN PUMPS AND LINES TO CELLAR.
Event	20	Drop Top Plug	3/22/2018	08:12:17	COM6					VERIFIED BY PLUG INDICATOR
Event	21	Pump Displacement	3/22/2018	08:12:21	COM6	8.4	10	2450	117	1 GAL MMCR IN FIRST 10 BBLS, 5 GALS CLAY WEB THROUGHT DISPLACEMENT
Event	22	Slow Rate	3/22/2018	08:25:20	USER	8.4	4	1920	107	SLOW RATE TO 4 BPM TO BUMP PLUG
Event	23	Bump Plug	3/22/2018	08:28:29	COM6	8.4	4	2000	117	LANDED PLUG AT 2000 PSI, BROUGHT UP TO 3000 PSI HELD TEN MINS FOR CASING TEST
Event	24	Check Floats	3/22/2018	08:38:50	USER					FLOATS HELD, 1.5 BBL BACK TO TRUCK
Event	25	End Job	3/22/2018	08:40:00	USER					RETURNS THROUGHT JOB, 40 BBLS OF TUNED SPACER TO SURFACE. 40# OF SUGAR USED.
Event	26	Post-Job Safety Meeting (Pre Rig-Down)	3/22/2018	08:50:00	USER					ALL HES PRESENT
Event	27	Rig-Down Equipment	3/22/2018	08:55:00	USER					ALL HES PRESENT
Event	28	Pre-Convoy Safety Meeting	3/22/2018	10:00:00	USER					ALL HES PRESENT
Event	29	Crew Leave Location	3/22/2018	10:15:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, SHAWN BLOSSOM AND CREW

LARAMIE GUNDERSON 994-13-12W, 4.5" PRODUCTION



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

LARAMIE GUNDERSON 994-13-12W, 4.5" PRODUCTION



Job Information

Request/Slurry	2461538/1	Rig Name	H&P 522	Date	19/MAR/2018
Submitted By	Lukas Van Zyl	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Gunderson 0994-13-12W

Well Information

Casing/Liner Size	4.5 in	Depth MD	7649 ft	BHST	113°C / 236°F
Hole Size	7.875 in	Depth TVD	7592 ft	BHCT	76°C / 169°F
Pressure	4614 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



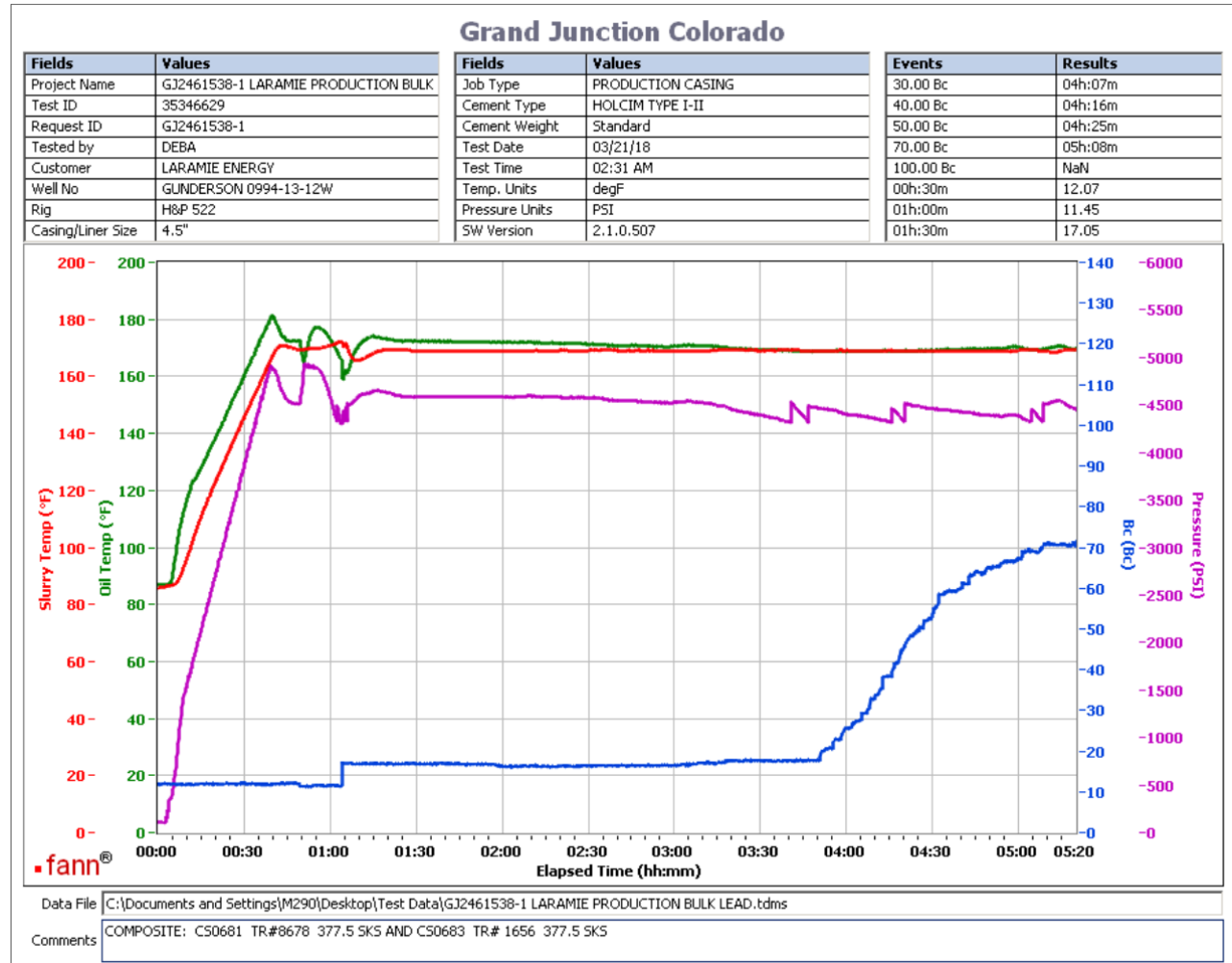
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		NeoCem Lead				Slurry Density	12.5	lbm/gal
						Slurry Yield	1.941	ft3/sack
						Water Requirement	9.623	gal/sack
						Total Mix Fluid	9.623	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Thickening Time - ON-OFF-ON

21/MAR/2018

Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)	Termination time (hh:mm)	Termination Bc
169	4614	39	4:07	4:25	5:08	11	49	15	17	11:34	91



Total sks = 755

Composite:

CS0681 TR#8678 377.5 SKS

CS0683 TR#1656 377.5 SKS

Deflected 12-- > 17

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HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2461539/1	Rig Name	H&P 522	Date	19/MAR/2018
Submitted By	Lukas Van Zyl	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Gunderson 0994-13-12W

Well Information

Casing/Liner Size	4.5 in	Depth MD	7649 ft	BHST	113°C / 236°F
Hole Size	7.875 in	Depth TVD	7592 ft	BHCT	76°C / 169°F
Pressure	4614 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	Fresh Water	
						Water Chloride		

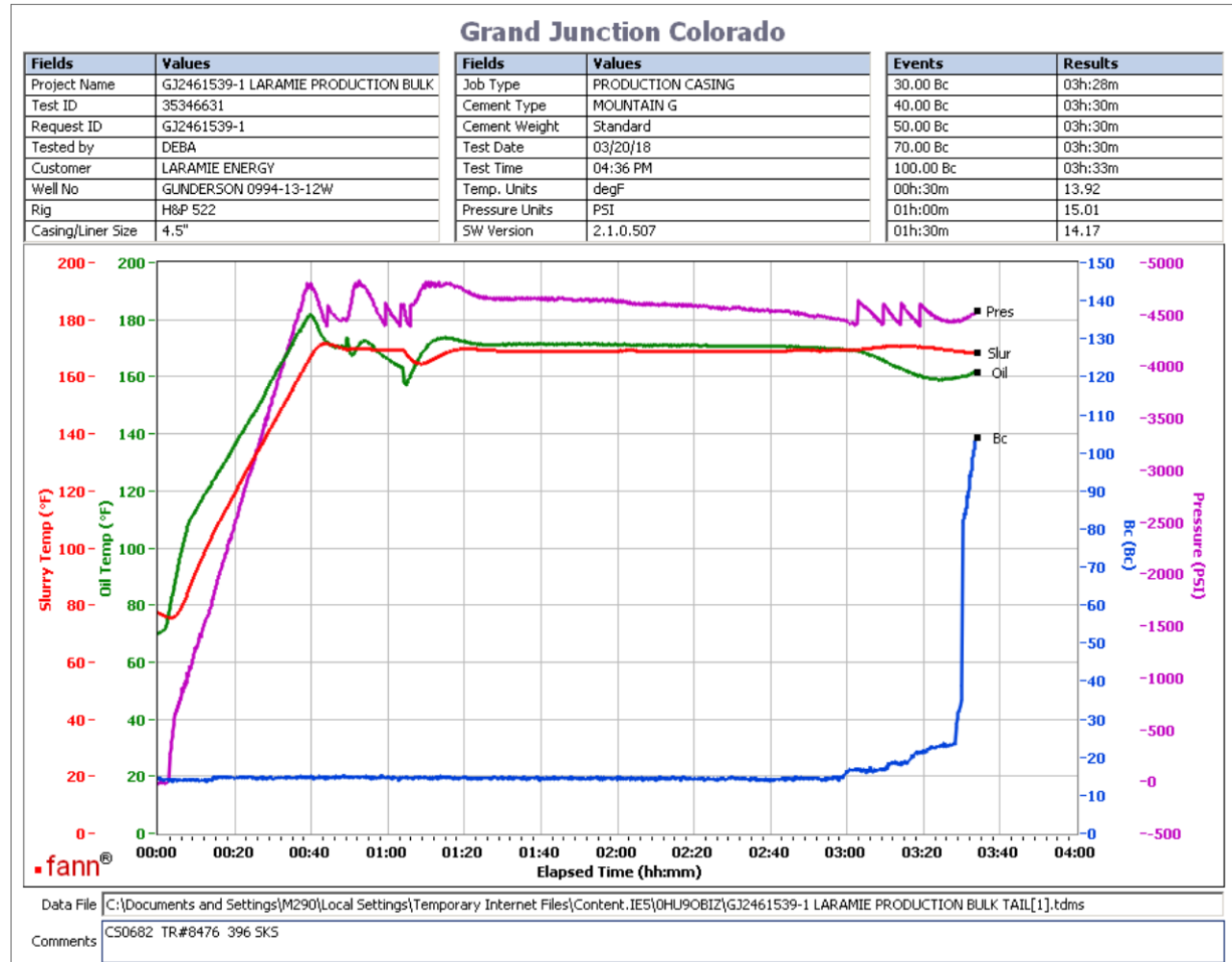
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Operation Test Results Request ID 2461539/1

Thickening Time - ON-OFF-ON

21/MAR/2018

Test Temp (degF)	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)
169	4614	39	3:28	3:30	3:30	3:30	14	49	15	15



Total sks = 396
 CS0682 TR#8476 396 SKS
 No deflection. Please note heat of hydration started around 2:59.

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