

HALLIBURTON

iCem[®] Service

LARAMIE ENERGY II LLC EBUSINESS

Date: Friday, March 16, 2018

GUNDERSON 994-13-10E Surface

API #05-077-10539-00

Job Date: Friday, March 16, 2018

Sincerely,

Grand Junction Cement Engineering

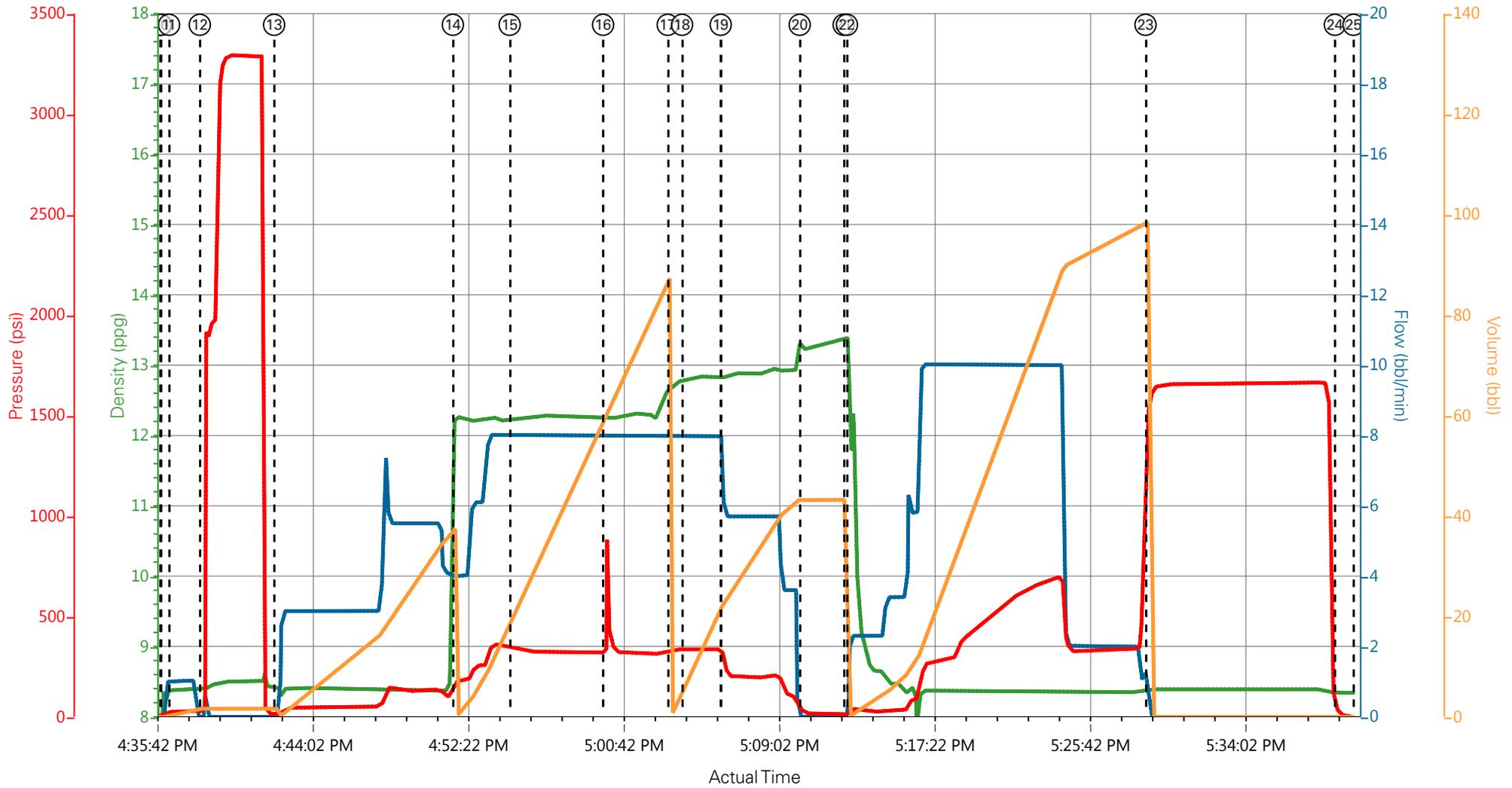
1.0 Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	PS Pump Press <i>(psi)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Call Out	3/16/2018	09:00:00	USER					REQUESTED ON LOCATION @ 15:00
Event	2	Pre-Convoy Safety Meeting	3/16/2018	10:45:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	3/16/2018	11:00:00	USER					1 HT 400 PUMP TRUCK E4, 1 660 BULK TRUCKS, 1 550 SERVICE PICKUP
Event	4	Arrive At Loc	3/16/2018	12:00:00	USER					RIG RUNNING CASING WHEN HES ARRIVED
Event	5	Assessment Of Location Safety Meeting	3/16/2018	12:10:00	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	3/16/2018	12:15:00	USER					ALL HES PRESENT
Event	7	Rig-Up Equipment	3/16/2018	12:20:00	USER					HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.
Event	8	Pre-Job Safety Meeting	3/16/2018	16:24:59	USER					ALL HES EMPLOYEES AND RIG CREW PRESENT, RIG CIRCULATED @ 10 BPM FOR .5HR PRIOR TO JOB, PRESSURE @190 PSI
Event	9	Start Job	3/16/2018	16:36:00	USER					TD-1575', TP-1565', SJ-47.61', CSG-8.625" 28# J55, OH-11", MUD-9.1PPG
Event	10	Prime Lines	3/16/2018	16:36:04	USER	8.33	2	40	2	8.33 PPG FRESH WATER
Event	11	Drop Bottom Plug	3/16/2018	16:36:30	USER					VERIFIED BY FLAG INDICATOR

Event	12	Test Lines	3/16/2018	16:38:08	COM6			3290		ALL LINES HELD PRESSURE AT 3290 PSI
Event	13	Pump H2o Spacer	3/16/2018	16:42:07	COM6	8.33	4	100	40	8.33 PPG FRESH WATER
Event	14	Pump Lead Cement	3/16/2018	16:51:42	COM6	12.3	8	320	78	178 SKS VARICEM GJ5 CMT 12.3 PPG, 2.46 FT3/SK, 14.17 GAL/SK
Event	15	Check weight	3/16/2018	16:54:45	COM6					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	16	Bump Bottom Plug	3/16/2018	16:59:46	USER					PRESSURED UP FROM 320PSI TO 1060PSI
Event	17	Pump Tail Cement	3/16/2018	17:03:13	COM6	12.8	8	340	42.3	109 SKS VARICEM GJ5 CMT 12.8 PPG, 2.18 FT3/SK, 12.11 GAL/SK
Event	18	Check weight	3/16/2018	17:04:00	COM6					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	19	Slow Rate	3/16/2018	17:06:04	USER					SLOWED TO END CEMENT
Event	20	Shutdown	3/16/2018	17:10:18	USER					END OF CEMENT, WASH UP ON TOP OF PLUG.
Event	21	Pump Displacement	3/16/2018	17:12:39	COM6	8.33	10	700	94.7	FRESH WATER, SLOWED TO 2BPM AT 84.7BBLS TO BUMP PLUG. PRESSURE @2 WAS 330PSI
Event	22	Drop Top Plug	3/16/2018	17:12:50	USER					VERIFIED BY FLAG INDICATOR
Event	23	Bump Plug	3/16/2018	17:28:50	COM6	8.33	4	340	94.7	LAND PLUG AT 340 PSI, BROUGHT UP TO 1650 PSI AND HELD FOR TEN MINS FOR CASING TEST
Event	24	Check Floats	3/16/2018	17:39:00	USER					FLOATS HELD, 1 BBL BACK TO TRUCK
Event	25	End Job	3/16/2018	17:40:00	USER					RETURNS THROUGHOUT JOB, 28 BBLs CMT TO SURFACE
Event	26	Post-Job Safety Meeting (Pre Rig-Down)	3/16/2018	17:50:00	USER					ALL HES PRESENT
Event	27	Rig-Down Equipment	3/16/2018	18:00:00	USER					ALL HES PRESENT
Event	28	Pre-Convoy Safety Meeting	3/16/2018	18:45:00	USER					ALL HES PRESENT
Event	29	Crew Leave Location	3/16/2018	19:00:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, SHAWN BLOSSOM AND CREW

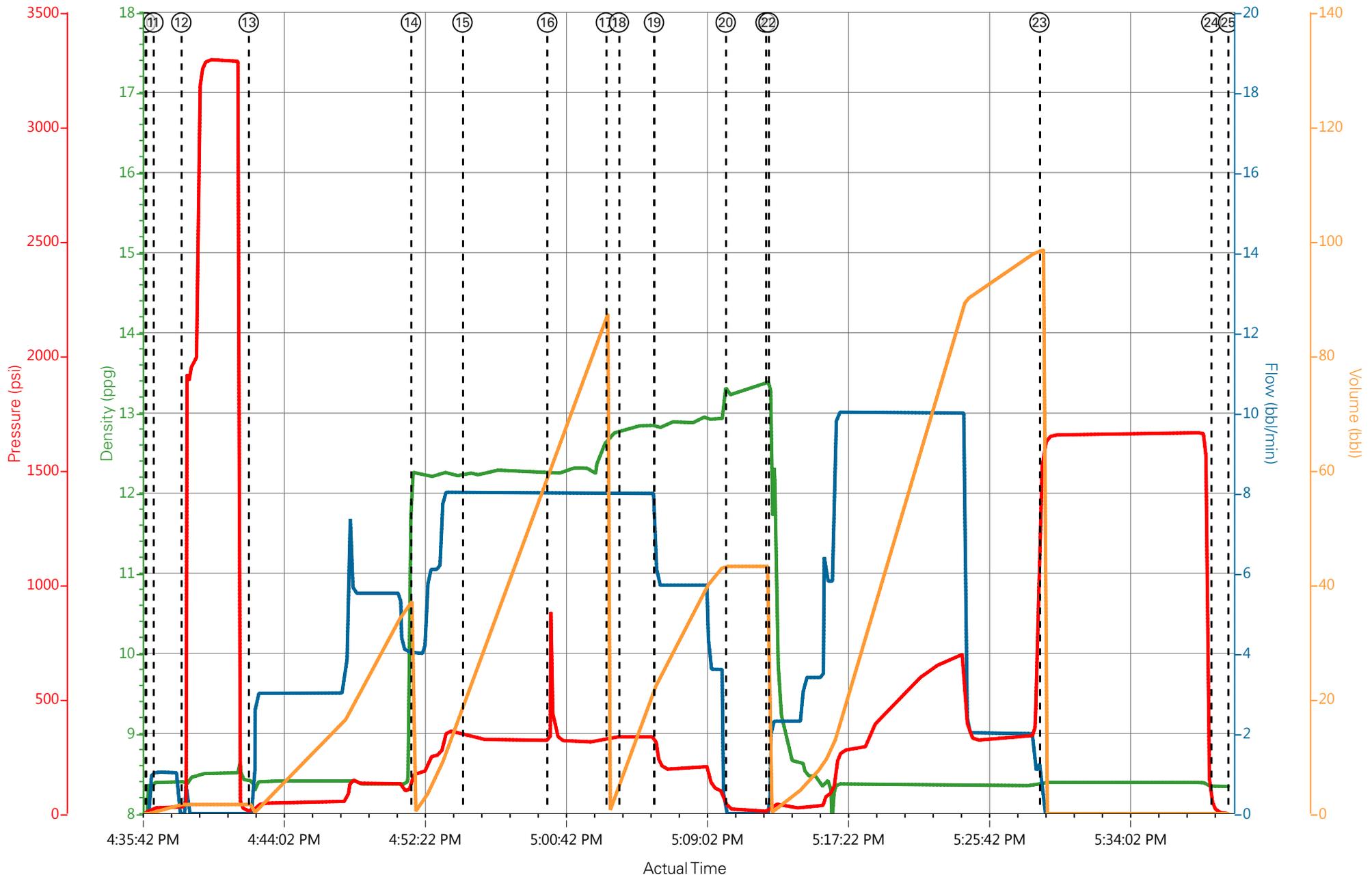
LARAMIE GUNDERSON 994-13-10E, 8 5/8" SURFACE



DH Density (ppg) 8.34 Comb Pump Rate (bbl/min) 0 PS Pump Press (psi) 1 Pump Stg Tot (bbl) 0

- | | | | | |
|---|--------------------------|--------------------|----------------------|---|
| ① Call Out | ⑦ Rig-Up Equipment | ⑬ Pump H2o Spacer | ⑰ Slow Rate | 25 End Job |
| ② Pre-Convoy Safety Meeting | ⑧ Pre-Job Safety Meeting | ⑭ Pump Lead Cement | ⑱ Shutdown | 26 Post-Job Safety Meeting (Pre Rig-Down) |
| ③ Crew Leave Yard | ⑨ Start Job | ⑮ Check weight | 21 Pump Displacement | 27 Rig-Down Equipment |
| ④ Arrive At Loc | ⑩ Prime Lines | ⑯ Bump Bottom Plug | 22 Drop Top Plug | 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 994-13-10E, 8 5/8" SURFACE



DH Density (ppg) 8.34 Comb Pump Rate (bbl/min) 0 PS Pump Press (psi) 1 Pump Stg Tot (bbl) 0

HALLIBURTON

iCem[®] Service

LARAMIE ENERGY II LLC EBUSINESS

For: Laramie

Date: Monday, March 19, 2018

GUNDERSON0994-13-10E Production

API#05-077-10539

Sincerely,

Grand Junction Cement Engineering

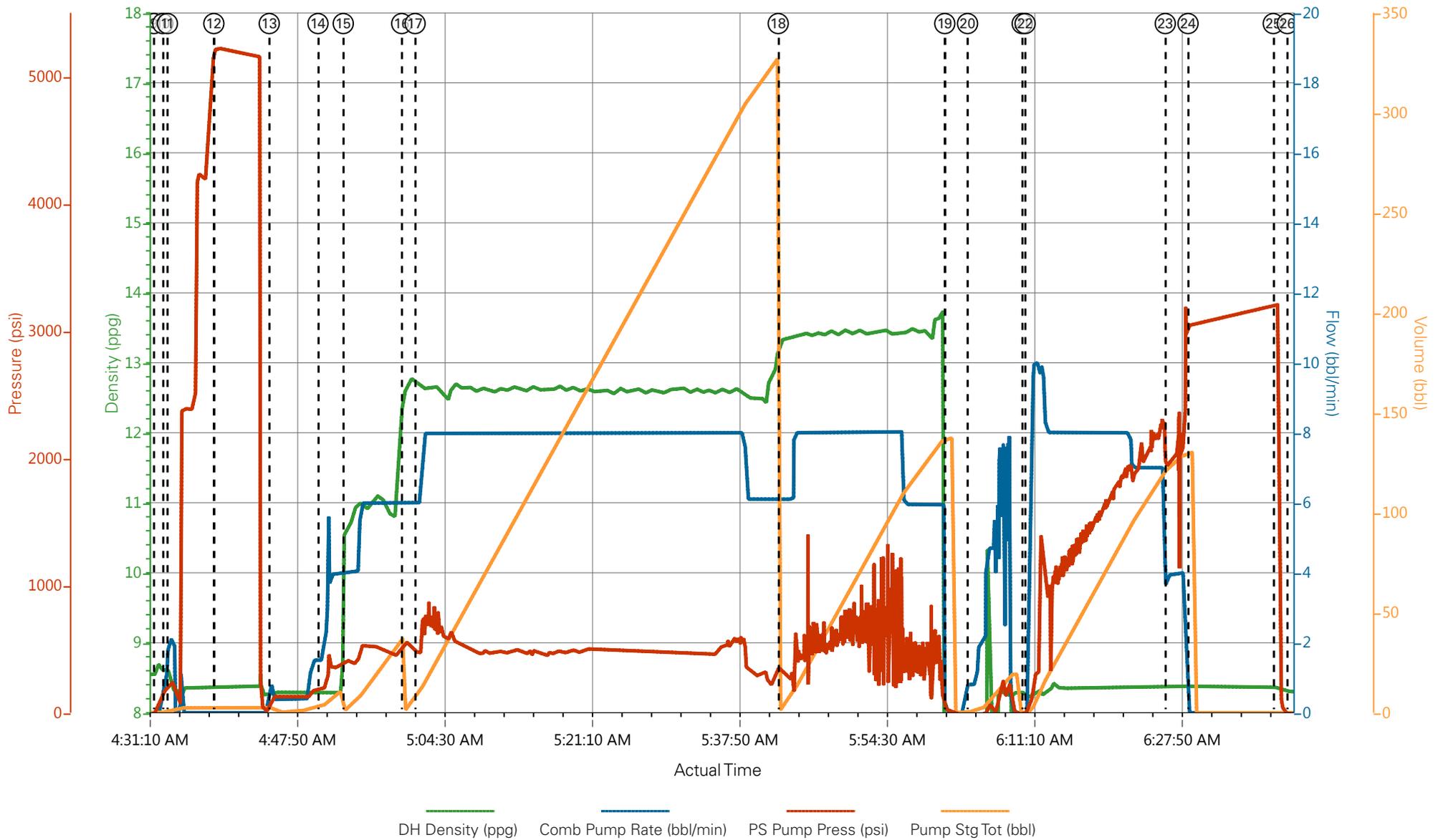
1.0 Real-Time Job Summary

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	3/18/2018	21:00:00	USER					REQUESTED ON LOCATION @ 0400
Event	2	Pre-Convoy Safety Meeting	3/18/2018	22:30:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	3/18/2018	22:40:00	USER					1 F550, 1 PUMP TRUCK & 1 660 BULK TURCK
Event	4	Arrive At Loc	3/19/2018	02:00:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	3/19/2018	02:10:00	USER					MET WITH COMP REP AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7, CHLORIDES- 0, TEMP- 71F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	3/19/2018	02:20:00	USER					ALL HES PRESENT
Event	7	Rig-Up Equipment	3/19/2018	02:30:00	USER					HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.
Event	8	Pre-Job Safety Meeting	3/19/2018	04:00:00	USER					ALL HES AND RIG CREW PRESENT
Event	9	Start Job	3/19/2018	04:32:00	COM3					TD 8447', TP 8437', SJ 85.14', OH 7.875'', CSG 4.5'' 11.6#, MUD 9.4 PPG. RIG CIRCULATED WELL @ APPROX 10 BPM WITH 780 PSI.
Event	10	Prime Pumps	3/19/2018	04:33:00	USER	168.00	8.30	1.00	2.0	8.33 PPG FRESH WATER
Event	11	Drop Bottom Plug	3/19/2018	04:33:31	USER					PLUG WENT, VERIFIED BY CO REP.
Event	12	Test Lines	3/19/2018	04:38:46	COM3	5228.00	8.38	0.50	0.5	ALL LINES HELD PRESSURE AT 5228 PSI
Event	13	Pump Spacer 1	3/19/2018	04:45:02	COM3	346.00	8.30	0.80	2.7	FRESH WATER SPACER (10 BBL), 8.33 PPG
Event	14	Check weight	3/19/2018	04:50:32	COM3					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	15	Pump Spacer 2	3/19/2018	04:53:24	COM3	533.00	11.00	3.90	40.0	TUNED SPACER III (40 BBL), 11 PPG

Event	16	Pump Lead Cement	3/19/2018	05:00:00	COM3	536.00	12.51	8.00	310.3	NEOCEM CEMENT 897 SKS (310 BBLs), 12.5 PPG, 1.94 FT3/SK, 9.6 GAL/SK
Event	17	Check weight	3/19/2018	05:01:31	COM3					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	18	Pump Tail Cement	3/19/2018	05:42:34	COM3	347.00	13.30	8.00	119.2	THERMACEM CEMENT 386 SKS (119 BBLs), 13.3 PPG, 1.73 FT3/SK, 7.81 GAL/SK.
Event	19	Shutdown	3/19/2018	06:01:23	USER					END OF CMT
Event	20	Clean Lines	3/19/2018	06:03:58	USER					WASH UP PUMPS AND LINES
Event	21	Drop Top Plug	3/19/2018	06:10:08	USER					PLUG WENT, VERIFIED BY CO REP.
Event	22	Pump Displacement	3/19/2018	06:10:28	COM3	2228.00	8.32	8.00	119.5	8.34 PPG FRESH WATER (129.5 BBLs) 5 GAL CLA WEB & 1 GAL MMCR
Event	23	Slow Rate	3/19/2018	06:26:19	USER	1958.00	8.36	3.90	10.0	SLOW RATE TO 4 BPM PER CO REP TO LAND PLUG
Event	24	Bump Plug	3/19/2018	06:28:53	USER	3038.00	8.38	0.00	129.5	LAND PLUG AT 2280 PSI, BROUGHT UP TO 3038 PSI FOR A 10 MIN CSG TEST.
Event	25	Check Floats	3/19/2018	06:38:31	USER	3208.00	8.37	0.00	0.0	FLOATS HELD, 1 BBL BACK TO TRUCK
Event	26	End Job	3/19/2018	06:40:06	USER					PIPE WAS NOT RECIPROCATED DURING THE JOB, 10 BBL OF SPACER BACK TO SURFACE
Event	27	Post-Job Safety Meeting (Pre Rig-Down)	3/19/2018	06:43:40	USER					ALL HES PRESENT
Event	28	Rig-Down Equipment	3/19/2018	06:47:20	USER					ALL HES PRESENT
Event	29	Pre-Convoy Safety Meeting	3/19/2018	07:28:31	USER					ALL HES PRESENT
Event	30	Crew Leave Location	3/19/2018	07:35:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, CHRIS SMITH AND CREW

LARAMIE - GUNDERSON 994-13-10E - 4.5" PRODUCTION



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|---|-----------------------------|--------------------|-----------------|--------------------|--------------------|--------------------|----------------|-----------------------------|--|
| ① Call Out | ⑥ Pre-Rig Up Safety Meeting | ⑪ Drop Bottom Plug | ⑬ Pump Spacer 1 | ⑮ Pump Lead Cement | ⑲ Shutdown | ⑳ Clean Lines | ㉒ DropTop Plug | ㉔ Pump Displacement | ㉖ End Job |
| ② Pre-Convoy Safety Meeting | ⑦ Rig-Up Equipment | ⑫ Test Lines | ⑭ Check weight | ⑯ Check weight | ㉑ Pump Tail Cement | ㉓ Pump Tail Cement | ㉕ Slow Rate | ㉗ Bump Plug | ㉙ Post-Job Safety Meeting (Pre Rig-Down) |
| ③ Crew Leave Yard | ⑧ Pre-Job Safety Meeting | ⑬ Pump Spacer 2 | ⑰ Prime Pumps | ⑱ Pump Spacer 2 | ㉒ Pump Spacer 2 | ㉔ Check Floats | ㉖ Check Floats | ㉘ Rig-Down Equipment | ㉚ Pre-Convoy Safety Meeting |
| ④ Arrive At Loc | ⑨ Start Job | | | | | | | ㉜ Pre-Convoy Safety Meeting | ㉞ Crew Leave Location |
| ⑤ Assessment Of Location Safety Meeting | | | | | | | | | |

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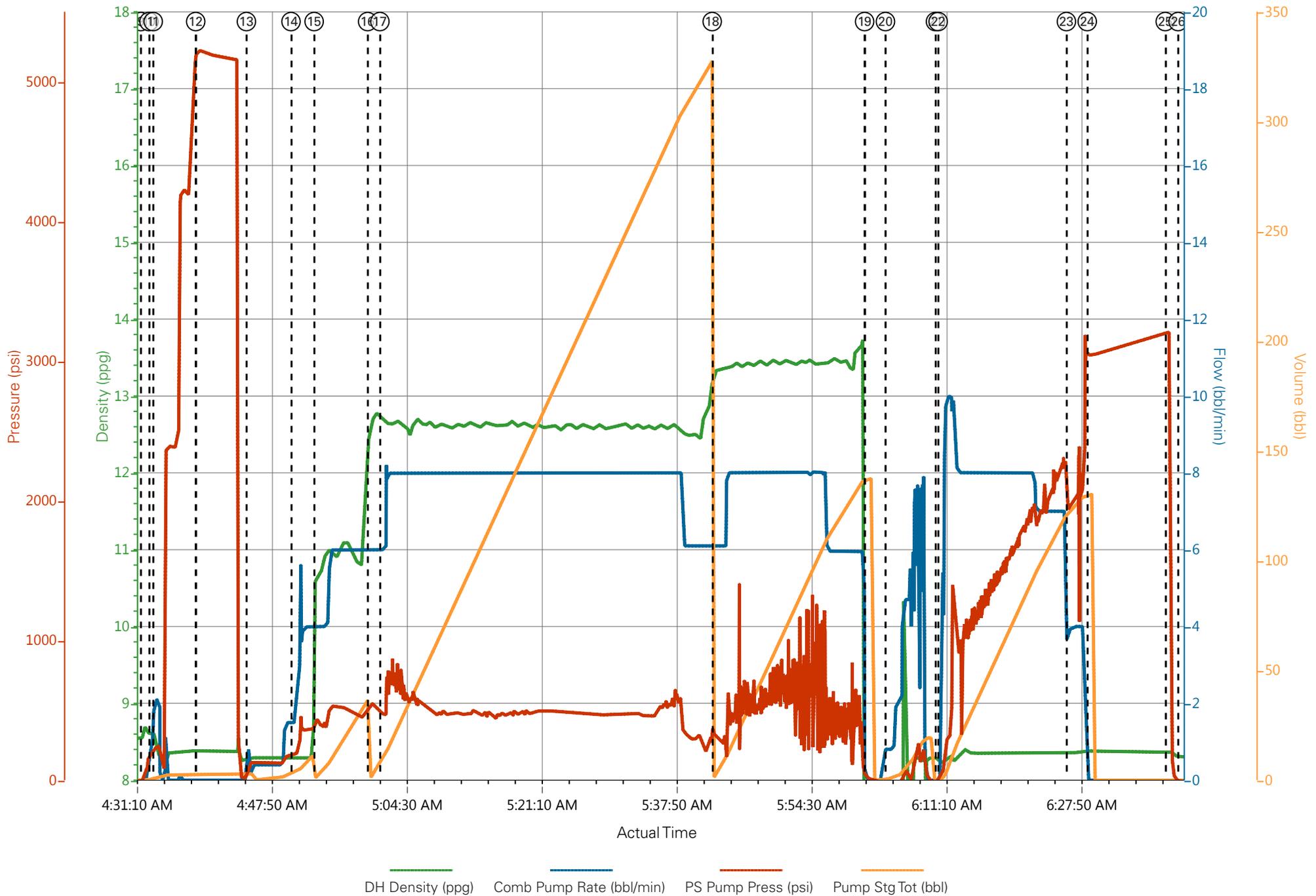
Edit

Customer: LARAMIE ENERGY II LLC EBUSINESS
 Representative: SHANE

Job Date: 3/19/2018
 Sales Order #: 904718306

Well: GUNDERSON0994-13-10E
 E1: C.SMITH/S.LEWIS

LARAMIE - GUNDERSON 994-13-10E - 4.5" PRODUCTION



Job Information

Request/Slurry	2460779/1	Rig Name	H&P 522	Date	15/MAR/2018
Submitted By	Lukas Van Zyl	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Gunderson 0994-13-10E

Well Information

Casing/Liner Size	4.5 in	Depth MD	8449 ft	BHST	114°C / 237°F
Hole Size	7.875 in	Depth TVD	7630 ft	BHCT	77°C / 170°F
Pressure	4641 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>	<u>Cement Properties</u>		
						Slurry Density	12.5	lbm/gal
						Slurry Yield	1.941	ft ³ /sack
						Water Requirement	9.623	gal/sack
						Total Mix Fluid	9.623	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Operation Test Results Request ID 2460779/1

Thickening Time - ON-OFF-ON

17/MAR/2018

Test Temp (degF)	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)
170	4641	48	4:45	5:09	5:09	5:44	9	50	15	11

Total sks = 897

Composite:

CS0649 TR 2878 390 SKS

CS0650 TR 8677 390 SKS

CS0652 TR 1283 117 SKS

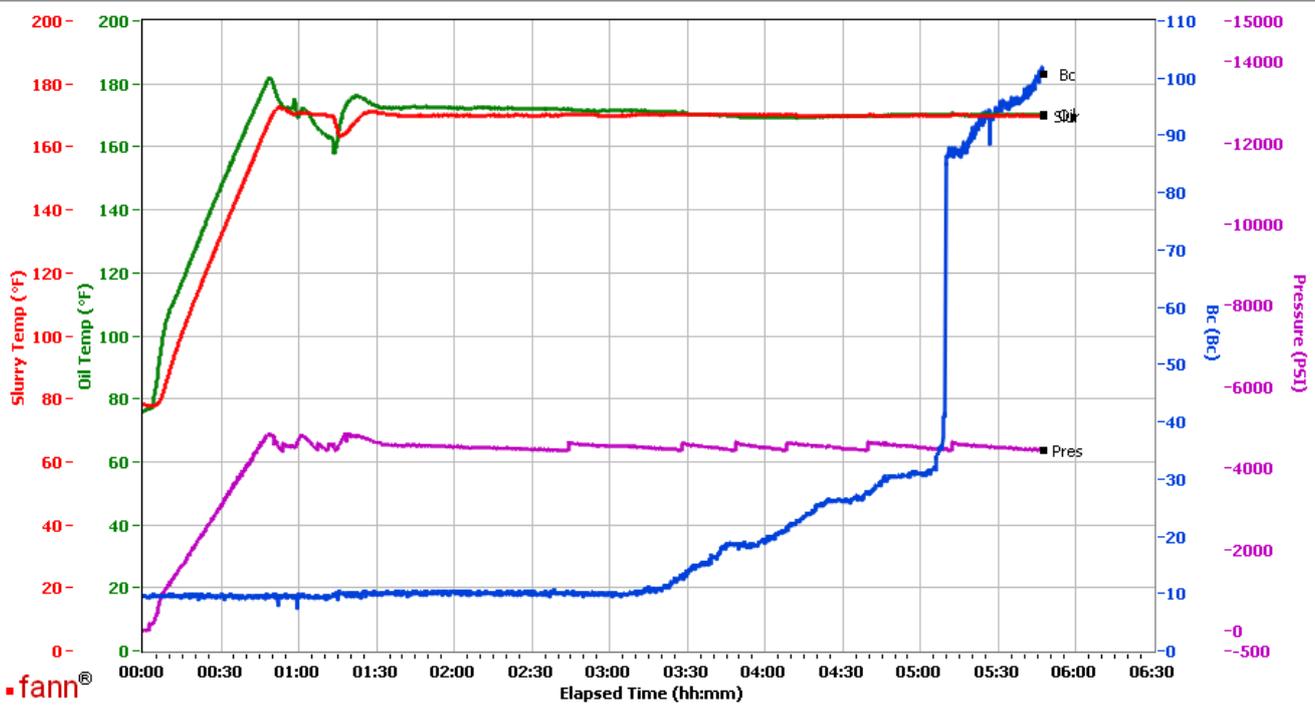
No Deflection

Grand Junction Colorado

Fields	Values
Project Name	GJ2460779-1 LARAMIE PRODUCTION LEAD
Test ID	35337215
Request ID	2460779-1
Tested by	JASON
Customer	LARAMIE ENERGY
Well No	GUNDERSON 0994-13-10E
Rig	H&P 522
Casing/Liner Size	4.5 INCH

Fields	Values
Job Type	PRODUCTION
Cement Type	GCC TYPE I-II
Cement Weight	Light Weight
Test Date	03/16/18
Test Time	04:39 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	04h:45m
40.00 Bc	05h:08m
50.00 Bc	05h:09m
70.00 Bc	05h:09m
100.00 Bc	05h:44m
00h:30m	9.54
01h:00m	9.46
01h:30m	9.85



Data File C:\Documents and Settings\M290\Desktop\Test Data\GJ2460779-1 LARAMIE PRODUCTION LEAD BULK.tdms

Comments CS0649 TR 2878 390 SKS CS0650 TR 8677 390 SKS CS0652 TR 1283 117 SKS

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Job Information

Request/Slurry	2460780/1	Rig Name	H&P 522	Date	15/MAR/2018
Submitted By	Lukas Van Zyl	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Gunderson 0994-13-10E

Well Information

Casing/Liner Size	4.5 in	Depth MD	8449 ft	BHST	114°C / 237°F
Hole Size	7.875 in	Depth TVD	7630 ft	BHCT	77°C / 170°F
Pressure	4641 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	
						Slurry Density	13.3 lbm/gal
						Slurry Yield	1.733 ft ³ /sack
						Water Requirement	7.799 gal/sack
						Total Mix Fluid	7.799 gal/sack
						Water Source	Fresh Water
						Water Chloride	N/A

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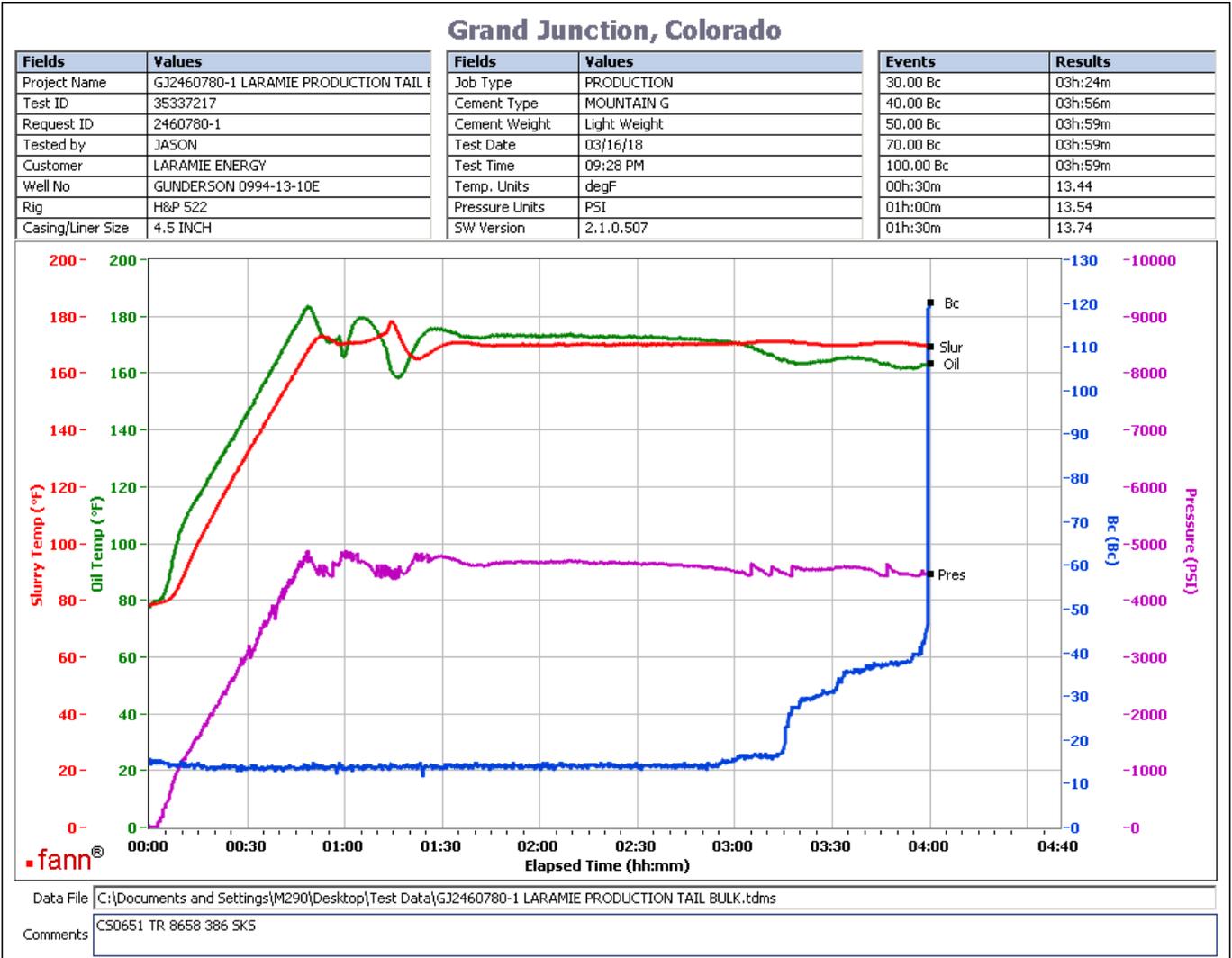
Operation Test Results Request ID 2460780/1

Thickening Time - ON-OFF-ON

17/MAR/2018

Test Temp (degF)	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)
170	4641	48	3:34	3:59	3:59	3:59	16	58	15	14

Total sks = 386
 CS0651 TR 8658 386 SKS
 No deflection out of SD



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