

HALLIBURTON

iCem[®] Service

LARAMIE ENERGY LLC

Date: Tuesday, March 27, 2018

GUNDERSON 994-13-10W

API # 05-77-10546-00

Laramie Gunderson 994-13-10W Surface

Job Date: Friday, March 09, 2018

Sincerely,

Grand Junction Cement Engineering

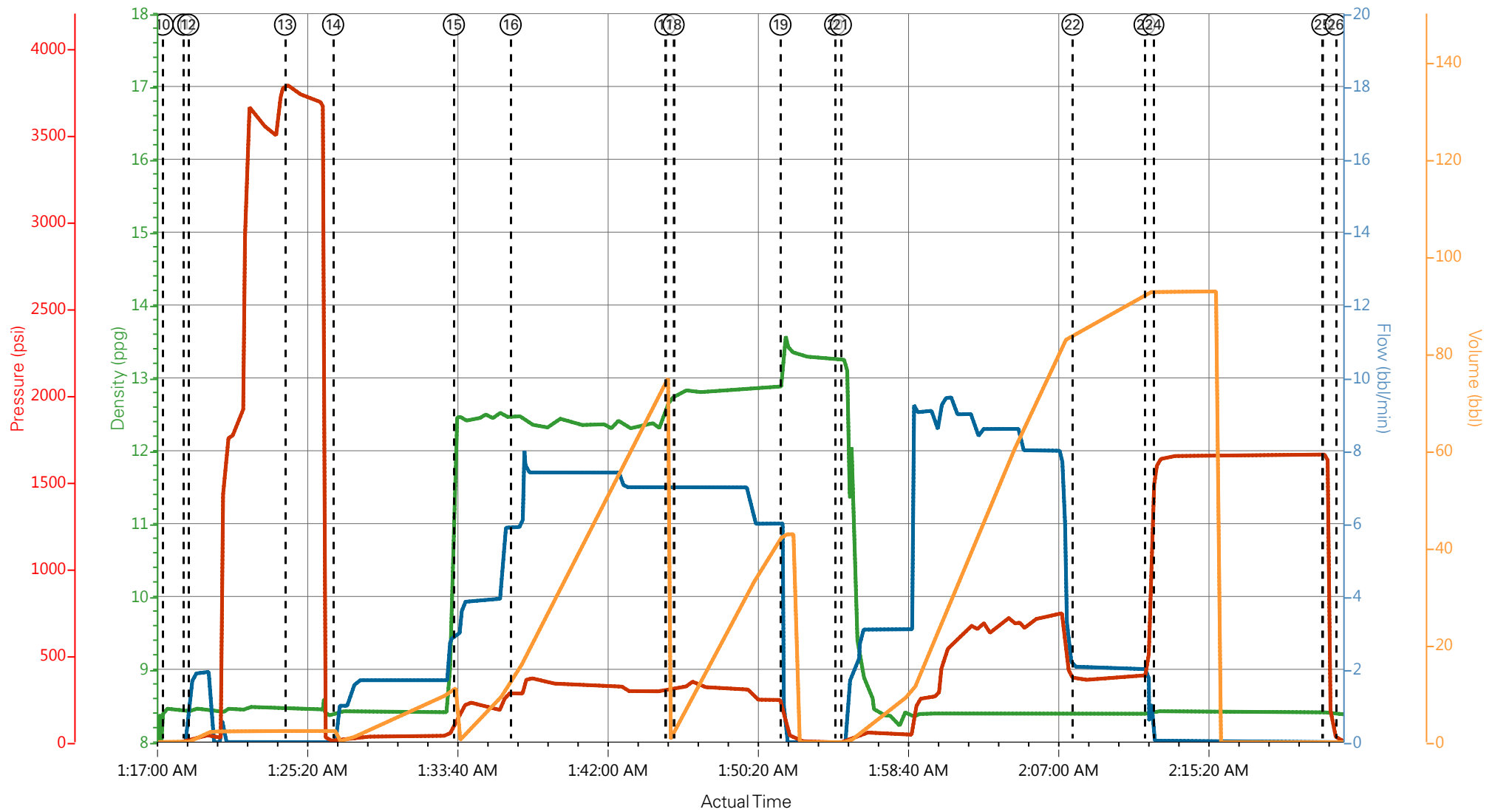
1.0 Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	3/8/2018	19:00:00	USER					ON LOCATION REQUESTED 1:30
Event	2	Pre-Convoy Safety Meeting	3/8/2018	22:00:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	3/8/2018	22:10:00	USER					
Event	4	Arrive at Rig	3/8/2018	23:20:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	3/8/2018	23:45:00	USER					MET WITH COMPANY REP SDS OFFERED
Event	6	Pre-Rig Up Safety Meeting	3/9/2018	00:00:01	USER					ALL HES PRESENT
Event	7	Rig-Up Completed	3/9/2018	00:35:00	USER					1-ELITE,1-660 BULK TRAILER, 8.625" QL, 2" PUMP IRON, 4" SUCTION HOSE
Event	8	Pre-Job Safety Meeting	3/9/2018	01:00:00	USER					ALL HES AND RIG CREW PRESENT
Event	9	Other	3/9/2018	01:01:00	USER					RIG CIRCULATED .5 HOUR. 440 GPM 270PSI. WATER:TEMP-48, PH-7,CL-0
Event	10	Start Job	3/9/2018	01:17:30	USER	8.37	0.00	-2.00	0.0	TD-1569, TP-1563.1' SET @ 15558.1', SJ-46.75', CSG-8.625" 28# J55, OH-11", MUD-9.2PPG
Event	11	Prime Pumps	3/9/2018	01:18:39	USER	8.38	2.00	40.00	3.00	FRESH WATER
Event	12	Drop Bottom Plug	3/9/2018	01:18:55	USER	8.45	1.60	21.00	0.2	PLUG AWAY
Event	13	Test Lines	3/9/2018	01:24:17	COM5	8.46	0.00	3788.00	3.3	PRESSURE HELD ON LINES
Event	14	Pump Spacer 1	3/9/2018	01:26:57	COM5	8.39	3.00	119.00	11.0	FRESH WATER

Event	15	Pump Lead Cement	3/9/2018	01:33:39	COM5	12.30	7.50	370.00	76.7	VARICEM LEAD 175SKS, 12.3PPG, 2.46CF/K, 14.17GL/SK
Event	16	Check weight	3/9/2018	01:36:48	COM5					WEIGHT VERIFIED BY PRESSURIZED MUD SCALES
Event	17	Pump Tail Cement	3/9/2018	01:45:23	COM5	12.80	7.00	330.00	42.3	VARICEM TAIL 109SKS, 12.8PPG, 2.18CF/SK, 12.11GL/SK
Event	18	Check weight	3/9/2018	01:45:50	COM5					WEIGHT VERIFIED BY PRESSURIZED MUD SCALES
Event	19	Shutdown	3/9/2018	01:51:46	USER					WASHED UP ON TOP OF PLUG
Event	20	Drop Top Plug	3/9/2018	01:54:48	USER					PLUG AWAY
Event	21	Pump Displacement	3/9/2018	01:55:07	COM5	8.39	9.00	782.00	94.6	FRESH WATER
Event	22	Slow Rate	3/9/2018	02:07:58	USER	8.39	2.10	363.00	84.3	SLOW RATE LAST 10 BBLS
Event	23	Bump Plug	3/9/2018	02:11:58	COM5	8.39	2.00	380.00	94.6	PLUG BUMPED 380 PSI
Event	24	Casing Test	3/9/2018	02:12:27	COM5	8.43	0.00	1593.00	94.6	10 MINUTE 1600PSI CASING TEST
Event	25	Check Floats	3/9/2018	02:21:50	USER	8.41	0.00	1659.00	0.0	FLOATS HELD .5 BBLS BACK
Event	26	End Job	3/9/2018	02:22:34	COM5					GOOD RETURNS THROUGH OUT JOB, 34 BBLS CEMENT TO SURFACE
Event	27	Post-Job Safety Meeting (Pre Rig-Down)	3/9/2018	02:32:00	USER					ALL HES PRESENT
Event	28	Rig-Down Completed	3/9/2018	03:00:00	USER					
Event	29	Pre-Convoy Safety Meeting	3/9/2018	03:15:00	USER					ALL HES PRESENT
Event	30	Crew Leave Location	3/9/2018	03:30:00	USER					THANK YOU FOR CHOOSING HALLIBURTON, ANDREW BRENNECKE AND CREW

LARAMIE - GUNDERSON 994-13-10W - 8.625" SURFACE



DH Density (ppg) 8.39 Comb Pump Rate (bbl/min) 0 PS Pump Press (psi) -1 Pump Stg Tot (bbl) 0

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

▼ **HALLIBURTON** | iCem® Service

Created: 2018-03-08 21:02:57, Version: 4.2.393

Edit

Customer : LARAMIE ENERGY II LLC

Job Date : 3/9/2018 12:24:29 AM

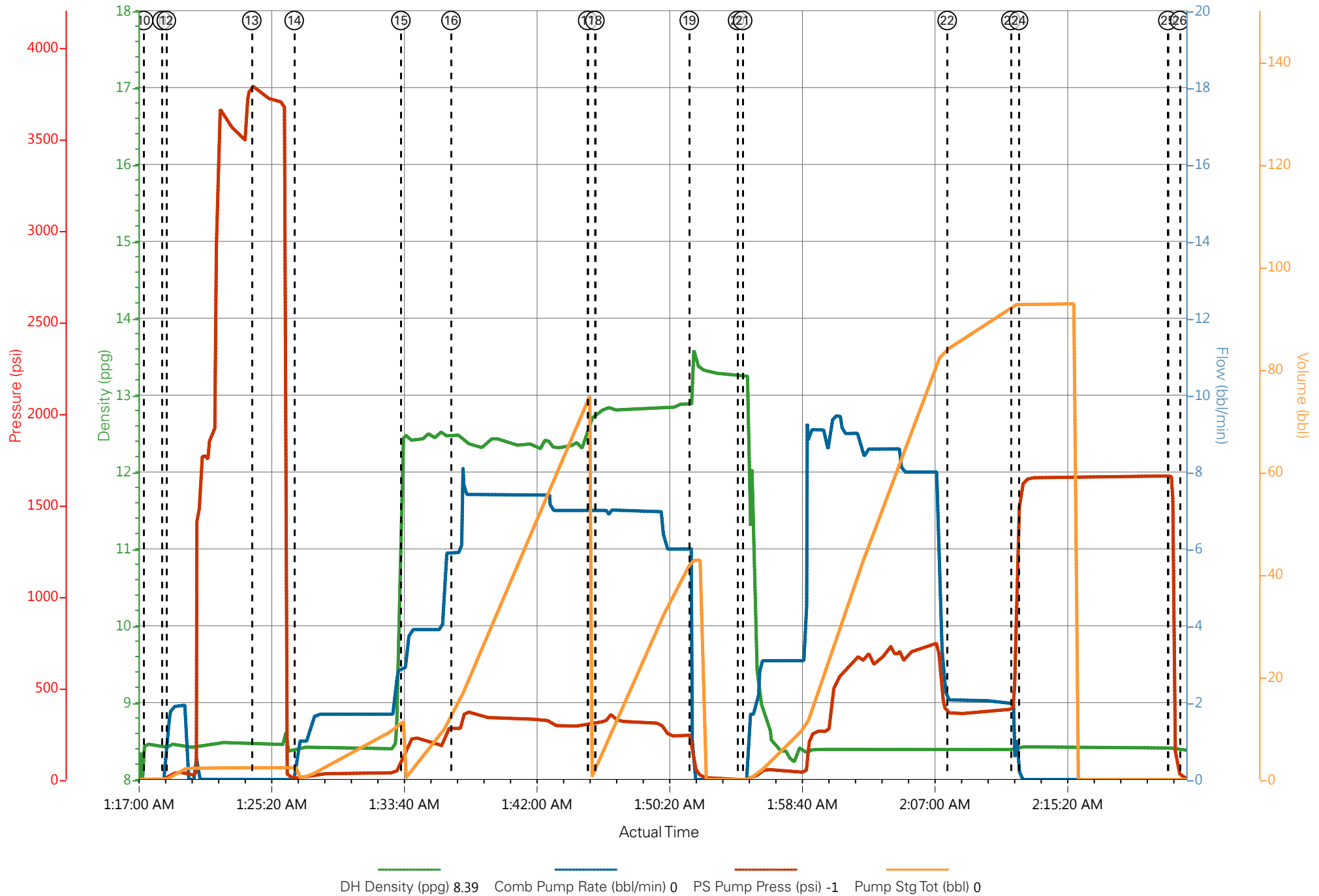
Well : GUNDERSON 994-13-10W

Representative : TYLER HALE

Sales Order # : 904693392

ELITE #1 : D.BRENNECKE

LARAMIE - GUNDERSON 994-13-10W - 8.625" SURFACE



HALLIBURTON

iCem[®] Service

LARAMIE ENERGY LLC-EBUS

For: Aaron Duncan

Date: Monday, March 12, 2018

Gunderson 994-13-10W Production PJR

API# 05-077-10546-00

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	3/11/2018	18:00:00	USER					ON LOCATION REQUESTED 00:00 3/12/18
Event	2	Pre-Convoy Safety Meeting	3/11/2018	20:45:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	3/11/2018	21:00:00	USER					
Event	4	Arrive at Location from Service Center	3/11/2018	22:45:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	3/11/2018	23:00:00	USER					SDS OFFERED
Event	6	Pre-Rig Up Safety Meeting	3/11/2018	23:10:00	USER					ALL HES PRESENT
Event	7	Rig-Up Completed	3/12/2018	00:30:00	USER					1-ELITE, 1-660 BULK TRAILER, 2- FIELD SILO, 4.5" QL, 2" PUMP IRON, 4" SUCTION HOSE
Event	8	Pre-Job Safety Meeting	3/12/2018	01:30:00	USER					ALL HES AND RIG CREW PRESENT
Event	9	Other	3/12/2018	01:45:00	USER					RIG CIRCULATED 1.5 SURFACE TO SURFACE 420GPM 715PSI. WATER:TEMP-60,PH-7, CL-0
Event	10	Start Job	3/12/2018	02:14:00	USER	8.40	0.00	5.00	0.0	TD-7767', TP-7762', SJ-82.38', CSG-4.5" 11.6# P110, SCSG-8.625" 28# SET AT 1558', OH-7.875", MUD-9.5PPG
Event	11	Prime Pumps	3/12/2018	02:14:34	USER	8.43	1.80	149.00	3.0	FRESH WATER
Event	12	Drop Bottom Plug	3/12/2018	02:14:53	USER					PLUG AWAY

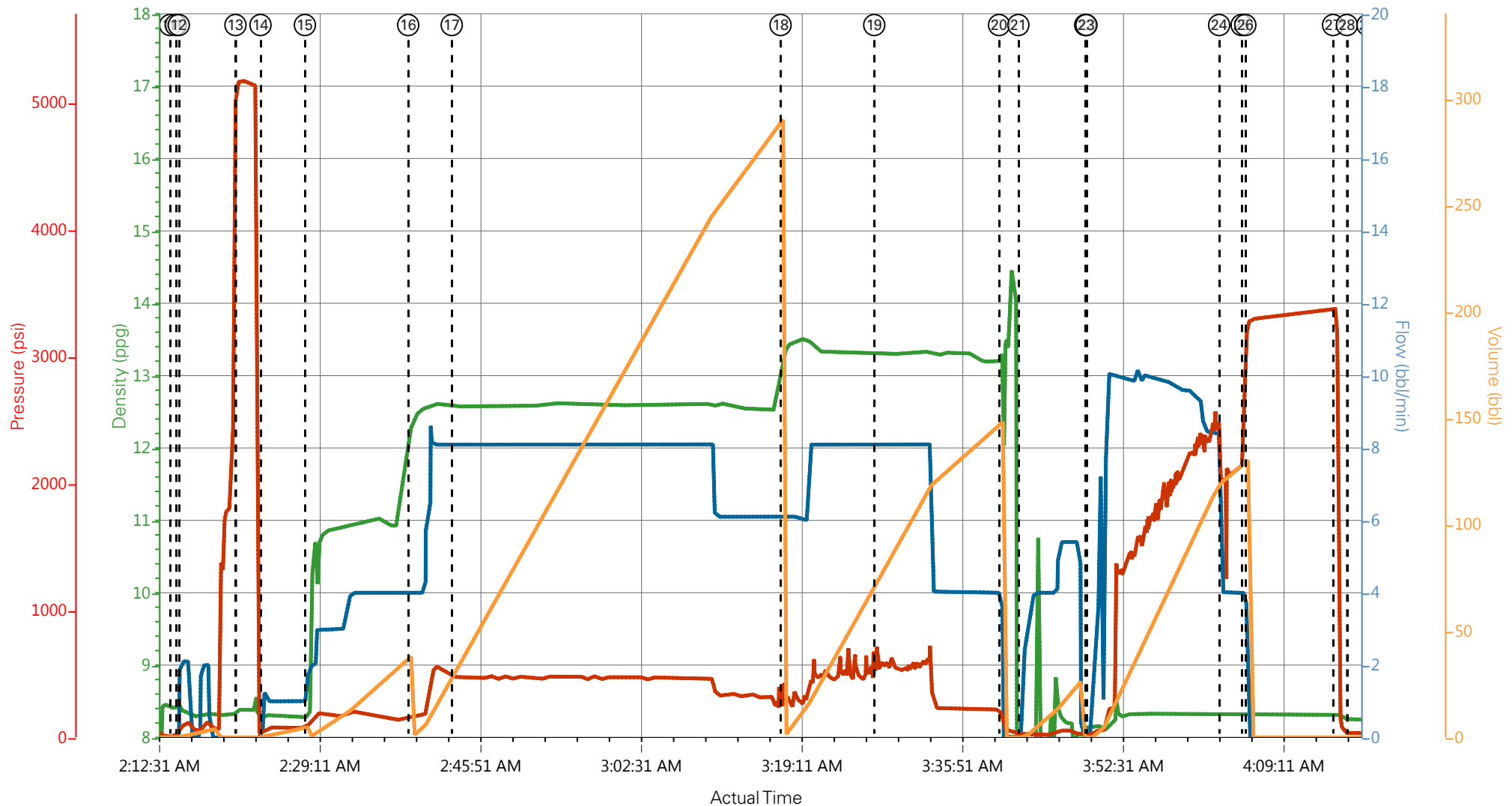
Event	13	Test Lines	3/12/2018	02:20:46	COM5	8.39	0.00	5174.00	3.0	ALL PRESSURE HELD ON LINES
Event	14	Pump Water	3/12/2018	02:23:22	USER	8.30	1.30	131.00	4.0	WATER AHEAD TO ESTABLISH RETURNS
Event	15	Pump Tuned Spacer	3/12/2018	02:27:58	COM5	11.00	4.00	208.00	40.0	TUNED SPACER III, 11.0PPG, 4.86CF/SK, 31.9CF/SK
Event	16	Pump Lead Cement	3/12/2018	02:38:41	COM5	12.50	8.00	554.00	269.2	NEOCHEM LEAD 779SKS, 12.5PPG, 1.94CF/SK, 9.6GL/SK
Event	17	Check weight	3/12/2018	02:43:12	COM5					WEIGHT VERIFIED BY PRESSURIZED MUD SCALES
Event	18	Pump Tail Cement	3/12/2018	03:17:19	COM5	13.30	8.00	545.00	122.0	THERMACEM TAIL 396SKS, 13.3PPG, 1.73CF/SK, 7.81GL/SK
Event	19	Check weight	3/12/2018	03:27:02	COM5					WEIGHT VERIFIED BY PRESSURIZED MUD SCALES
Event	20	Shutdown	3/12/2018	03:40:00	USER					END OF CEMENT
Event	21	Clean Lines	3/12/2018	03:42:00	USER					CLEANED PUMPS AND LINES TO CELLAR
Event	22	Pump Displacement	3/12/2018	03:48:56	COM5	8.36	10.00	2350.00	119.0	FRESH WATER. 5 GAL CLA-WEB, 1 GAL MMCR ADDED, AND 5 GAL BIOCIDES ADDED (PROVIDED BY RIG).
Event	23	Drop Top Plug	3/12/2018	03:49:03	COM5					PLUG AWAY
Event	24	Slow Rate	3/12/2018	04:02:50	USER	8.32	4.00	2036.00	109.0	SLOW RATE LAST 10 BBLS
Event	25	Bump Plug	3/12/2018	04:05:09	COM5	8.32	4.00	2160.00	119.0	PLUG BUMPED 2160PSI
Event	26	Casing Test	3/12/2018	04:05:32	COM5	8.33	0.00	3000.00	119.0	10 MINUTE CASING TEST
Event	27	Check Floats	3/12/2018	04:14:39	USER	8.31	0.00	3365.00	0.0	FLOATS HELD 1.5 BBLS BACK
Event	28	End Job	3/12/2018	04:16:05	COM5					GOOD RETURNS THROUGH OUT JOB, 30 BBLS TUNED SPACER TO SURFACE
Event	29	Post-Job Safety Meeting (Pre Rig-Down)	3/12/2018	04:18:13	USER					ALL HES PRESENT
Event	30	Rig-Down Completed	3/12/2018	05:20:00	USER					
Event	31	Pre-Convoy Safety	3/12/2018	05:45:00	USER					ALL HES PRESENT

Meeting

Event	32	Crew Leave Location	3/12/2018	06:00:00	USER
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THANK YOU FOR CHOOSING HALLIBURTON,
ANDREW BRENNECKE AND CREW

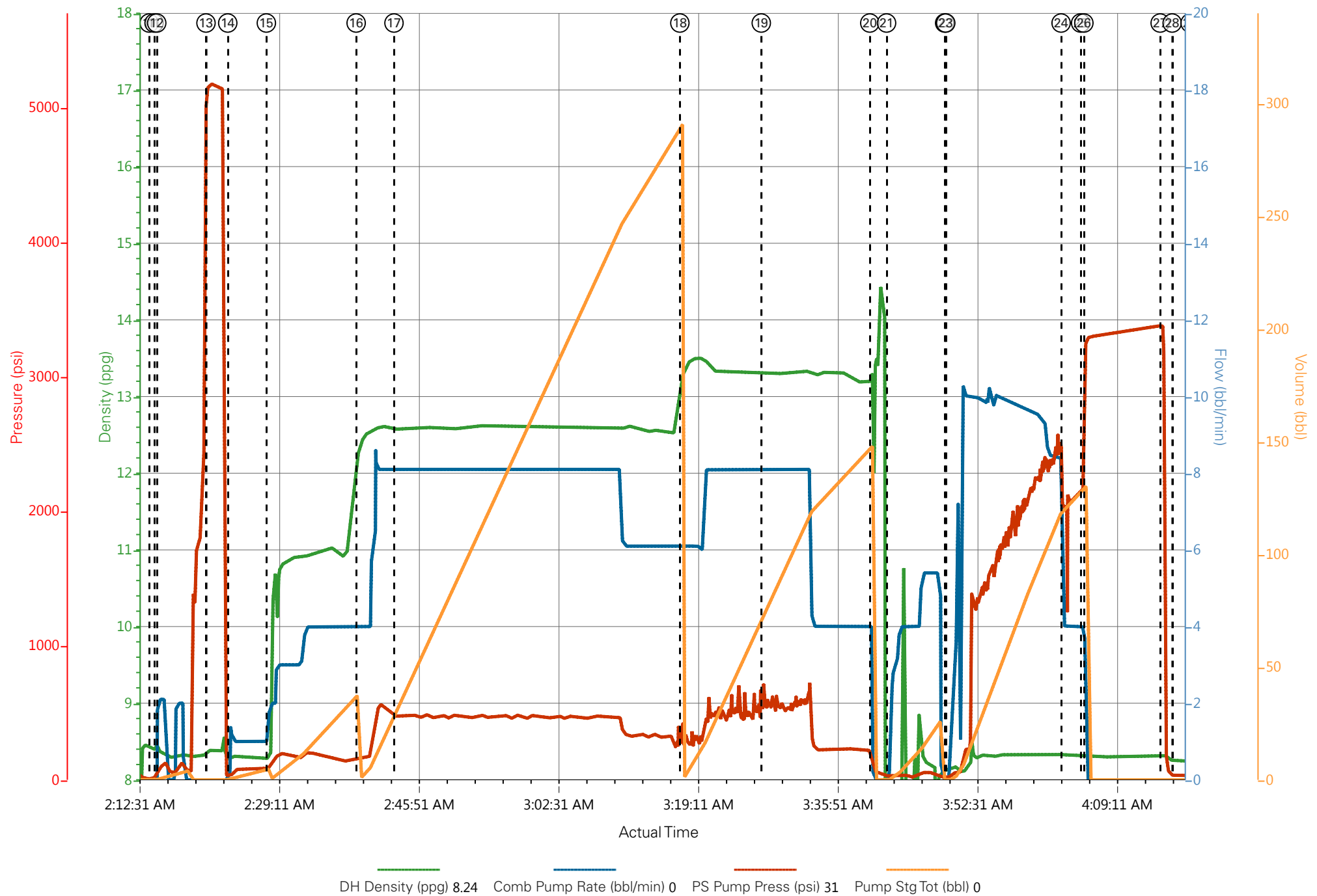
LARAMIE - GUNDERSON 994-13-10W - 4.5" PRODUCTION



DH Density (ppg) 8.24 Comb Pump Rate (bbl/min) 0 PS Pump Press (psi) 31 Pump Stg Tot (bbl) 0

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

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



Job Information

Request/Slurry	2459388/1	Rig Name	H&P 522	Date	MAR/09/2018
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Gunderson 994-13-10W

Well Information

Casing/Liner Size	4.5 in	Depth MD	7786 ft	BHST	113°C / 236°F
Hole Size	7.875 in	Depth TVD	7602 ft	BHCT	76°C / 169°F
Pressure	4621 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		
		NeoCem™ Lead				Slurry Density	12.5	lbm/gal
						Slurry Yield	1.941	ft3/sack
						Water Requirement	9.623	gal/sack

Operation Test Results Request ID 2459388/1

Mixability (0 - 5) - 0 is not mixable, Request Test ID:35320061

MAR/09/2018

Mixability rating (0 - 5)	Avg rpm mixing under load (~12,000)	Blend addition time (sec) @ 4,000 RPM
5	12000	0

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Thickening Time - ON-OFF-ON, Request Test ID:35322391

MAR/11/2018

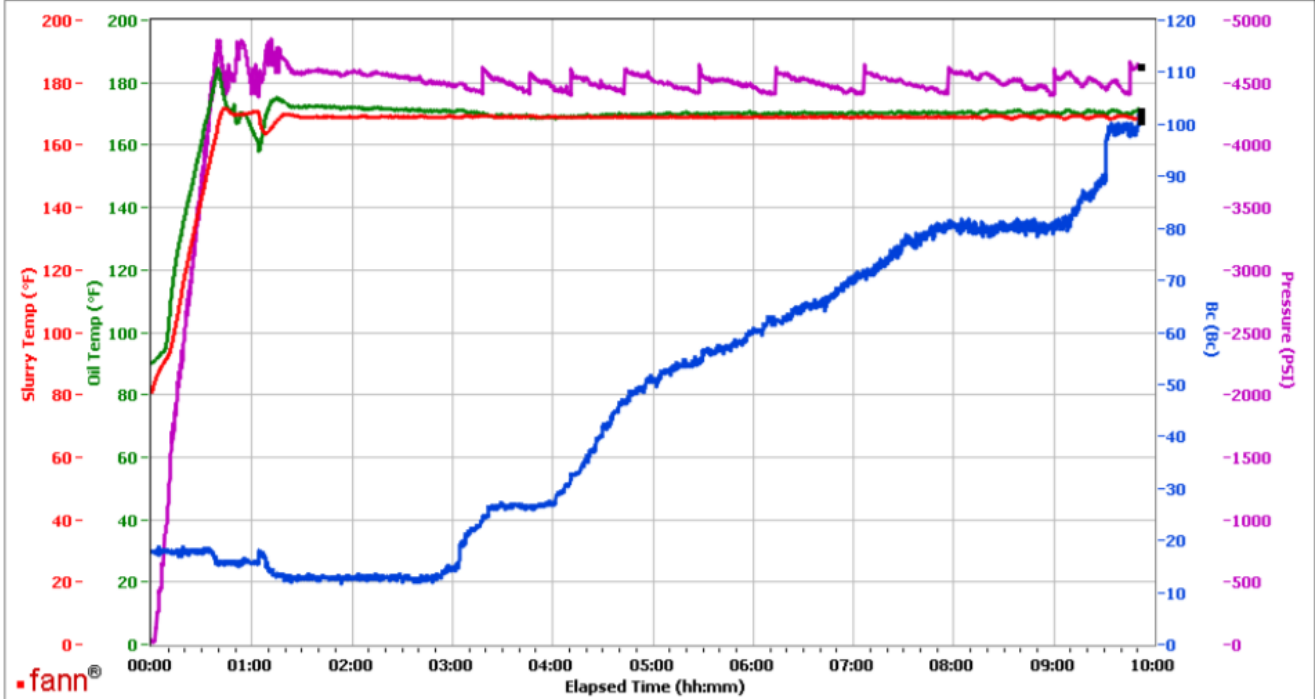
Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
169	4621	39	4:07	4:55	6:56	9:34	18	49	15	18

Grand Junction, Colorado

Fields	Values
Project Name	2459388-1 LARAMIE BULK PRODUCTION LE
Test ID	35322391 - TT
Request ID	2459388-1
Tested by	CT
Customer	LARAMIE ENERGY
Well No	GUNDERSON 994-13-10W
Rig	H&P 522
Casing/Liner Size	4.5 INCH

Fields	Values
Job Type	H&P 522
Cement Type	HOLCIM TYPE I-II
Cement Weight	Standard
Test Date	03/10/18
Test Time	11:05 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	04h:07m
40.00 Bc	04h:28m
50.00 Bc	04h:55m
70.00 Bc	06h:56m
100.00 Bc	09h:34m
00h:30m	18.28
01h:00m	15.63
01h:30m	12.74



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\4TJ389YN\GJ2459388-1 LARAMIE BULK PRODUCTION LEAD CONFIRMATION[1].tdms

Comments CS0599, TRAILER 8658, 389.5 SKS - CS0600, TRAILER 8677, 389.5 SKS

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Job Information

Request/Slurry	2459389/1	Rig Name	H&P 522	Date	MAR/09/2018
Submitted By	Patrick Ealey	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Gunderson 994-13-10W

Well Information

Casing/Liner Size	4.5 in	Depth MD	7786 ft	BHST	113°C / 236°F
Hole Size	7.875 in	Depth TVD	7602 ft	BHCT	76°C / 169°F
Pressure	4621 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



Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
		ThermaCem Tail				Slurry Density	13.3	lbm/gal
						Slurry Yield	1.733	ft3/sack
						Water Requirement	7.799	gal/sack

Operation Test Results Request ID 2459389/1

Mixability (0 - 5) - 0 is not mixable, Request Test ID:35320063

MAR/10/2018

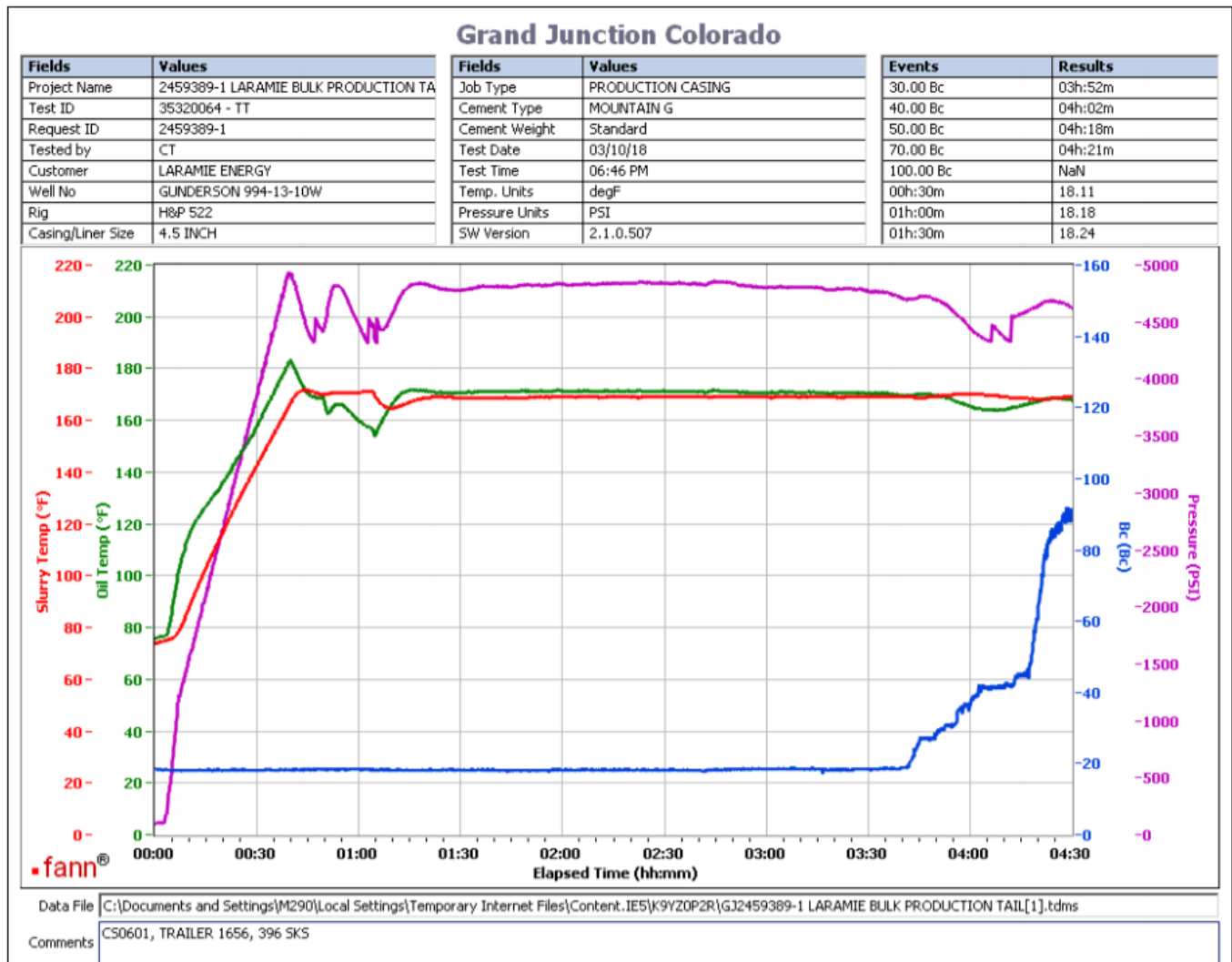
Mixability rating (0 - 5)	Avg rpm mixing under load (~12,000)	Blend addition time (sec) @ 4,000 RPM
5	12000	0

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Thickening Time - ON-OFF-ON, Request Test ID:35320064

MAR/10/2018

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	4621	39	3:52	4:18	4:21	19	49	15	18	4:54	83



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