

HALLIBURTON

iCem[®] Service

LARAMIE ENERGY LLC-EBUS

United States of America, COLORADO

For: Aaron Duncan

Date: Tuesday, November 13, 2018

Sup & Shep 0993-25-09W Surface PJR

API# 05-077-10580-00

Sincerely,

Grand Junction Cement Engineering

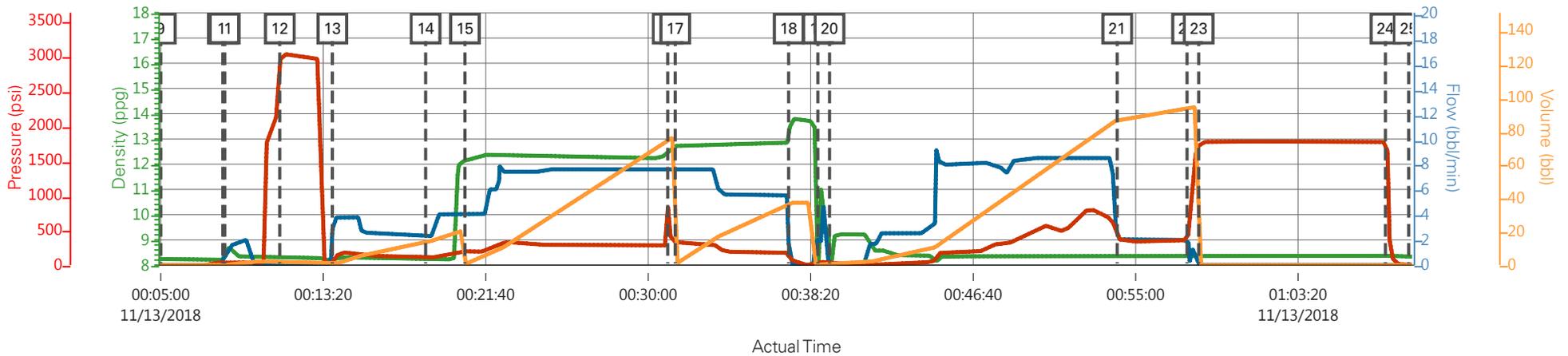
2.0 Real-Time Job Summary

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	11/12/2018	16:00:00	USER					ON LOCATION REQUESTED 21:00
Event	2	Pre-Convoy Safety Meeting	11/12/2018	18:45:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	11/12/2018	19:00:00	USER					1 ELITE, 1 660 BULK TRAILER, 1 PICK UP
Event	4	Arrive at Location from Service Center	11/12/2018	21:00:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	11/12/2018	21:05:00	USER					MET WITH COMPANY REP SDS OFFERED
Event	6	Pre-Rig Up Safety Meeting	11/12/2018	21:10:00	USER					1-ELITE, 1-660 BULK TRAILER, 8.625" QL, 2" PUMP IRON, 4" SUCTION HOSE
Event	7	Rig-Up Completed	11/12/2018	21:45:00	USER					
Event	8	Pre-Job Safety Meeting	11/12/2018	23:15:00	USER					ALL HES AND RIG CREW PRESENT
Event	9	Start Job	11/13/2018	00:05:00	USER	8.34	0.00	7.00	0.00	TD-1552', TP-1541.1', SJ-46.21', OH-11", CSG-8.625" 24# J55, MUD-9.2PPG
Event	10	Prime Pumps	11/13/2018	00:08:11	USER	8.35	1.80	38.00	2.00	FRESH WATER
Event	11	Drop Bottom Plug	11/13/2018	00:08:17	USER					PLUG AWAY
Event	12	Test Lines	11/13/2018	00:11:06	USER	8.34	0.00	3015.00	2.20	ALL PRESSURE HELD
Event	13	Pump Spacer 1	11/13/2018	00:13:48	USER	8.34	4.00	190.00	20.00	FRESH WATER
Event	14	Check Weight	11/13/2018	00:18:35	USER					WEIGHT VERIFIED BY PRESSURIZED MUD SCALES

Event	15	Pump Lead Cement	11/13/2018	00:20:36	USER	12.30	7.50	300.00	77.50	177SKS, 12.3PPG, 2.46CF/SK, 14.17GL/SK
Event	16	Bottom Plug Rupture	11/13/2018	00:31:00	USER			848.00	74.00	
Event	17	Pump Tail Cement	11/13/2018	00:31:23	USER	12.80	7.60	325.00	38.00	98SKS, 12.8PG, 2.18CF/SK, 12.11GL/SK
Event	18	Shutdown	11/13/2018	00:37:12	USER					
Event	19	Pump Displacement	11/13/2018	00:38:42	USER	8.35	8.50	700.00	95.10	FRESH WATER
Event	20	Drop Top Plug	11/13/2018	00:39:18	USER					
Event	21	Slow Rate	11/13/2018	00:54:03	USER	8.32	2.00	343.00	86.10	SLOW RATE 10 BARRELS FROM CALCULATED TOTAL
Event	22	Bump Plug	11/13/2018	00:57:38	USER	8.34	2.00	357.00	95.10	PLUG BUMPED AT 357 PSI
Event	23	Casing Test	11/13/2018	00:58:14	USER	8.39	0.00	1711.00	0.00	10 MINUTE CASING TEST
Event	24	Check Floats	11/13/2018	01:07:48	USER	8.37	0.00	1759.00	0.00	FLOATS HELD, 1 BBL BACK TO DISPLACEMENT TANK
Event	25	End Job	11/13/2018	01:09:00	USER	8.34	0.00	-8.00	0.00	GOOD RETURNS THROUGH OUT JOB, 25 BBLS CEMENT TO SURFACE
Event	26	Post-Job Safety Meeting (Pre Rig-Down)	11/13/2018	01:11:00	USER					ALL HES PRESENT
Event	27	Rig-Down Completed	11/13/2018	01:45:00	USER					
Event	28	Pre-Convoy Safety Meeting	11/13/2018	02:30:00	USER					ALL HES PRESENT
Event	29	Crew Leave Location	11/13/2018	02:40:00	USER					THANK YOU FOR CHOOSING HALLIBURTON, ANDREW BRENNECKE AND CREW

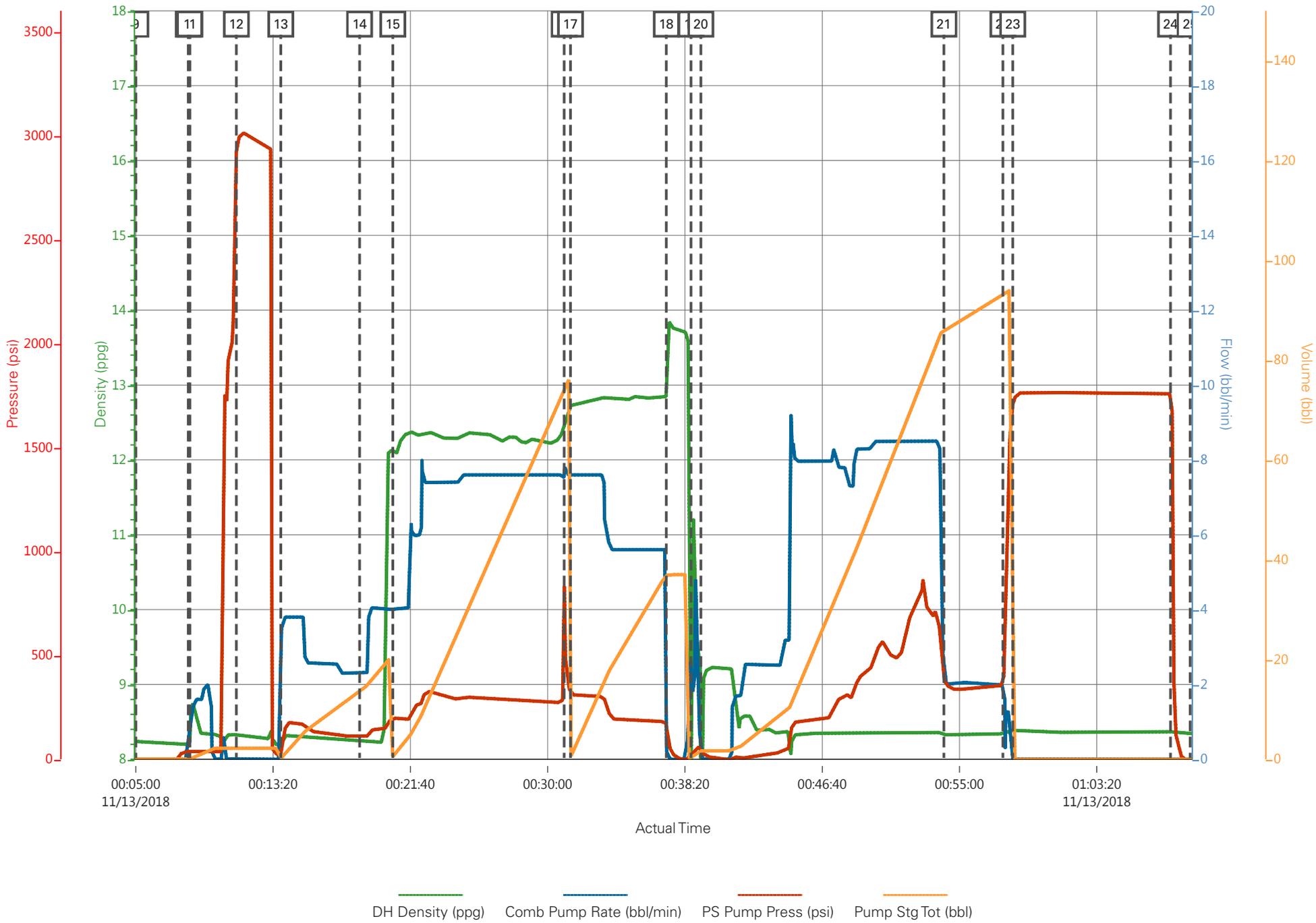
LARAMIE ENERGY - SUP & SHEP 993-25-09W - 8.625" SURFACE



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

Description	Actual Time	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)
9 Start Job	00:05:00	8.24	0.00	-7.00	0.00
10 Prime Pumps	00:08:11	8.20	0.00	38.00	0.00
11 Drop Bottom Plug	00:08:17	8.26	0.80	37.00	0.00
12 Test Lines	00:11:06	8.34	0.00	2922.00	2.20
13 Pump Spacer 1	00:13:48	8.17	2.60	26.00	0.10
14 Check Weight	00:18:35	8.24	2.30	109.00	13.70
15 Pump Lead Cement	00:20:36	12.12	4.10	200.00	0.60
16 Bottom Plug Rupture	00:31:00	12.47	7.50	848.00	74.00
17 Pump Tail Cement	00:31:23	12.73	7.60	325.00	0.40
18 Shutdown	00:37:12	12.84	1.70	154.00	37.00
19 Pump Displacement	00:38:42	7.56	1.80	20.00	0.40
20 Drop Top Plug	00:39:18	5.98	0.00	41.00	1.70
21 Slow Rate	00:54:03	8.32	2.00	383.00	86.10
22 Bump Plug	00:57:38	8.34	2.00	357.00	93.40
23 Casing Test	00:58:14	8.39	0.00	1711.00	0.00
24 Check Floats	01:07:48	8.37	0.00	1759.00	0.00
25 End Job	01:09:00	8.34	0.00	-8.00	0.00

LARAMIE ENERGY - SUP & SHEP 993-25-09W - 8.625" SURFACE



HALLIBURTON

iCem[®] Service

Laramie Energy LLC-EBUS

United States of America, COLORADO

For: Aaron Duncan

Date: Friday, November 16, 2018

Sup & Shep 993-25-09W Production PJR

API# 05-077-10580-00

Sincerely,

Grand Junction Cement Engineering

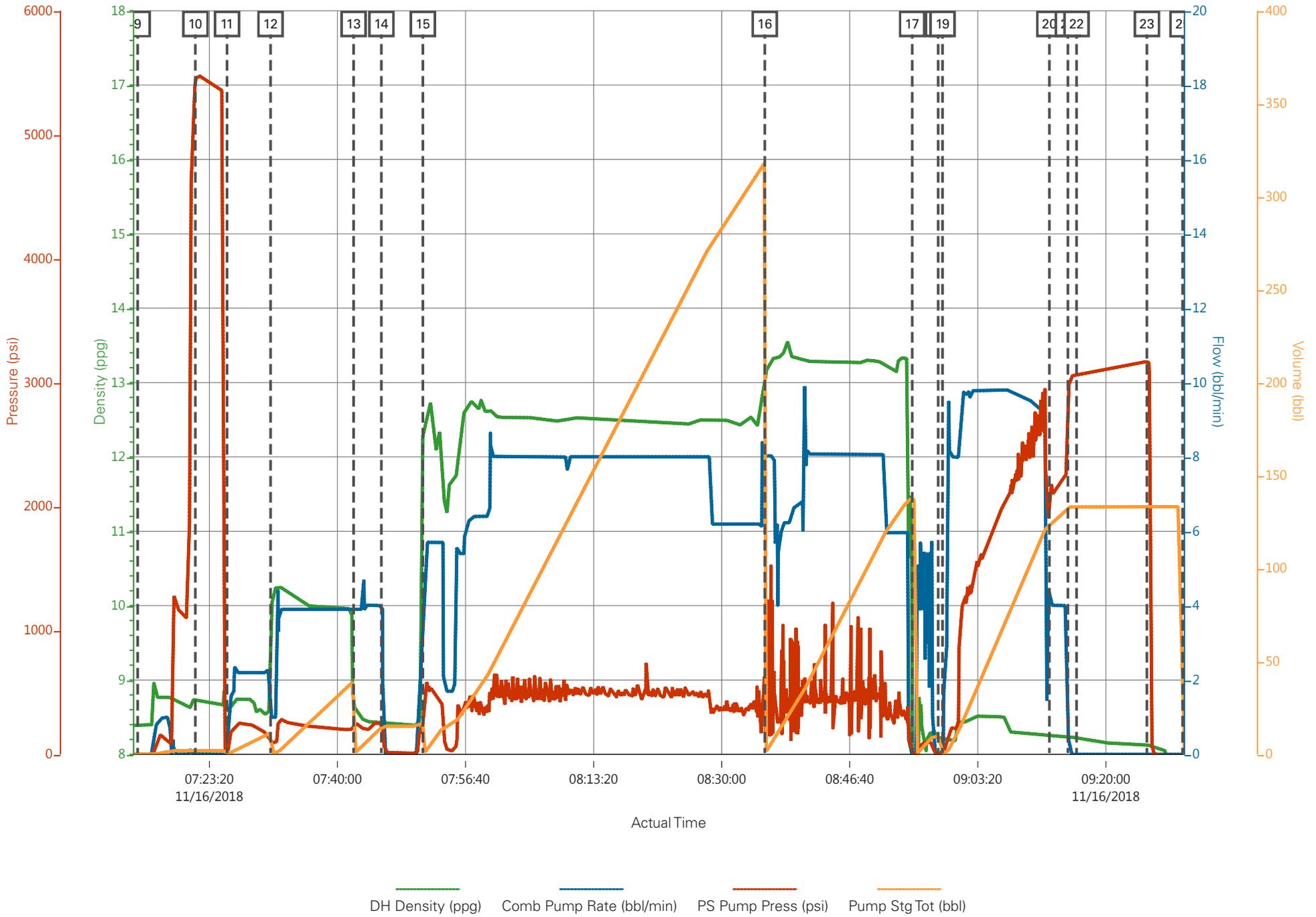
2.0 Real-Time Job Summary

2.1 Job Event Log

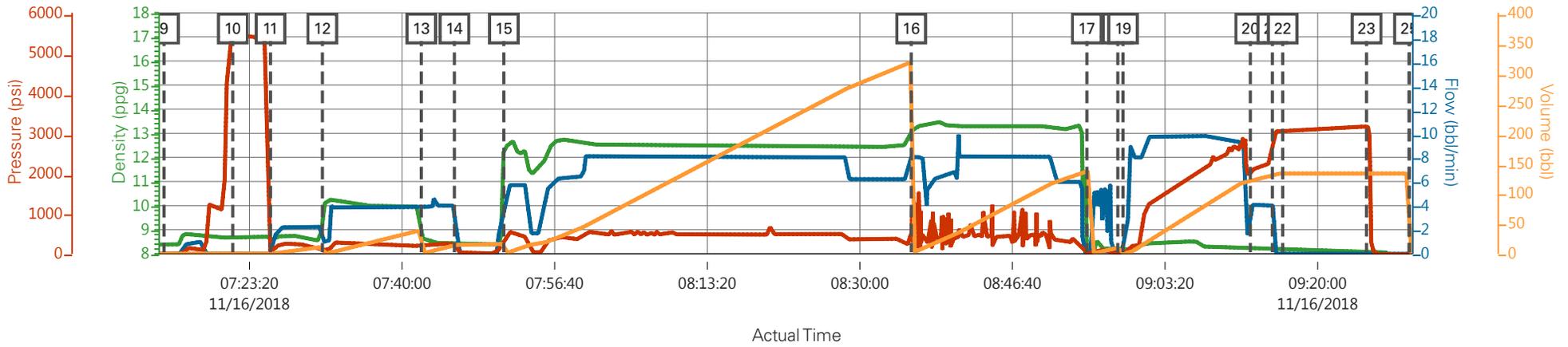
Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	11/15/2018	22:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	11/16/2018	02:30:00	USER					JOURNEY MANAGEMENT COMPLETE, AS WELL AS JSA
Event	3	Crew Leave Yard	11/16/2018	03:00:00	USER					
Event	4	Arrive At Loc	11/16/2018	05:00:00	USER					JOURNEY MANAGEMENT CLOSED OUT. RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	11/16/2018	05:10:00	USER					
Event	6	Pre-Rig Up Safety Meeting	11/16/2018	05:20:00	USER					JSA COMPLETE
Event	7	Rig-Up Equipment	11/16/2018	05:30:00	USER					
Event	8	Other	11/16/2018	06:00:00	USER					WATER TEST: PH-7, CL-0, TEMP-67 WELL INFO: 4.5 11.6# SET AT 8623, TD-8633, S.J.-85.98 HOLE- 7 7/8, SURFACE CASING SET AT 1543FT.
Event	9	Other	11/16/2018	06:10:00	USER					MUD SCALES CHECKED WITH WATER PRIOR TO JOB.
Event	10	Pre-Job Safety Meeting	11/16/2018	06:30:00	USER					JSA COMPLETE
Event	11	Prime Pumps	11/16/2018	07:04:52	COM5					
Event	12	Start Job	11/16/2018	07:14:00	COM5					

Event	13	Test Lines	11/16/2018	07:21:31	COM5			5583.00		5583 PSI
Event	14	Pump Spacer 1	11/16/2018	07:25:38	COM5	8.33	2.00	230.00	10.00	FRESH WATER WITH POLY
Event	15	Pump Spacer 2	11/16/2018	07:31:18	COM5	11.7	4.00	275.00	40.00	SUPERFLUSH
Event	16	Pump Spacer 1	11/16/2018	07:42:06	COM5	8.33	4.00	246.00	15.00	FRESH WATER
Event	17	Drop Bottom Plug	11/16/2018	07:45:43	USER					AWAY
Event	18	Pump Lead Cement	11/16/2018	07:51:07	COM5	12.50	8.00	470.00	316.10	915 SKS NEOCEM, 12.5 PPG, 1.94 FT3/SK, 9.59 GAL/SK
Event	19	Pump Tail Cement	11/16/2018	08:35:37	COM5	13.30	8.00	585.00	112.2	362 SKS THERMACEM, 13.3 PPG, 1.74 FT3/SK, 7.8 GAL/SK
Event	20	Shutdown	11/16/2018	08:54:48	USER					TO CLEAN UP PUMPS AND LINES AND DROP TOP PLUGS
Event	21	Drop Top Plug	11/16/2018	08:58:10	USER					DROPPED 2 TOP PLUGS AWAY
Event	22	Pump Displacement	11/16/2018	08:58:44	COM5	8.33	10.00	2639.00	132.3	FRESH WATER WITH 5 GAL CLA-WEB, 1 GAL MMCR, 3 LBS BE-6
Event	23	Slow Rate	11/16/2018	09:12:39	USER	8.33	4.00	2119.00	123.30	TO BUMP PLUG
Event	24	Bump Plug	11/16/2018	09:15:03	USER	8.33	4.00	2190.00	132.30	PLUGS BUMPED
Event	25	Standby - Other - see comments	11/16/2018	09:16:11	USER			3057.00		CASING TEST FOR 10 MINS
Event	26	Check Floats	11/16/2018	09:25:20	USER			3169.00		FLOATS HELD 1.5 BBLS BACK TO TRUCK
Event	27	Post-Job Safety Meeting (Pre Rig-Down)	11/16/2018	09:30:00	USER					JSA COMPLETE
Event	28	End Job	11/16/2018	09:30:00	COM5					GOOD RETURNS THROUGHOUT JOB, NO PIPE MOVEMENT, 30 BBLS OF SUPERFLUSH TO SURFACE
Event	29	Crew Leave Location	11/16/2018	11:00:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT, JAMES LEIST AND CREW

LARAMIE ENERGY - SUP & SHEP - 993-25-09W - 4.5" PRODUCTION CASING



LARAMIE ENERGY - SUP & SHEP - 993-25-09W - 4.5" PRODUCTION CASING



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

Description	Actual Time	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)
9 Start Job	07:14:00	8.38	0.00	-10.00	0.00
10 Test Lines	07:21:31	8.75	0.00	5432.00	2.00
11 Pump Spacer 1	07:25:38	8.59	0.00	31.00	2.00
12 Pump Spacer 2	07:31:18	9.63	1.00	101.00	11.40
13 Pump Spacer 1	07:42:06	8.70	3.90	246.00	0.00
14 Drop Bottom Plug	07:45:43	8.41	4.00	249.00	14.40
15 Pump Lead Cement	07:51:07	12.28	2.90	242.00	16.70
16 Pump Tail Cement	08:35:37	13.09	8.00	585.00	0.10
17 Shutdown	08:54:48	7.87	0.00	8.00	137.20
18 Drop Top Plug	08:58:10	8.23	0.00	0.00	9.70
19 Pump Displacement	08:58:44	8.23	0.00	-2.00	0.00
20 Slow Rate	09:12:39	8.25	4.20	2119.00	123.30
21 Bump Plug	09:15:03	8.23	4.00	2579.00	132.90
22 Standby - Other - see comments	09:16:11	8.22	0.00	3057.00	133.20
23 Check Floats	09:25:20	8.12	0.00	3169.00	133.20
24 Post-Job Safety Meeting (Pre Rig-Down)	09:30:00	-0.38	0.00	-16.00	0.00
25 End Job	09:30:00	-0.38	0.00	-16.00	0.00

Job Information

Request/Slurry	2514761/1	Rig Name	H&P 522	Date	12/NOV/2018
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Sup & Shep 0993-25-09W

Well Information

Casing/Liner Size	4.5 in	Depth MD	8688 ft	BHST	114°C / 237°F
Hole Size	7.875 in	Depth TVD	8636 ft	BHCT	74°C / 165°F
Pressure	5345 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>		
		NeoCem Lead				Slurry Density	12.5	lbm/gal
						Slurry Yield	1.946	ft3/sack
						Water Requirement	9.615	gal/sack
						Total Mix Fluid	9.615	gal/sack
						Water Source	Field (Fresh) Water	
						Water Chloride		

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Thickening Time - ON-OFF-ON

14/NOV/2018

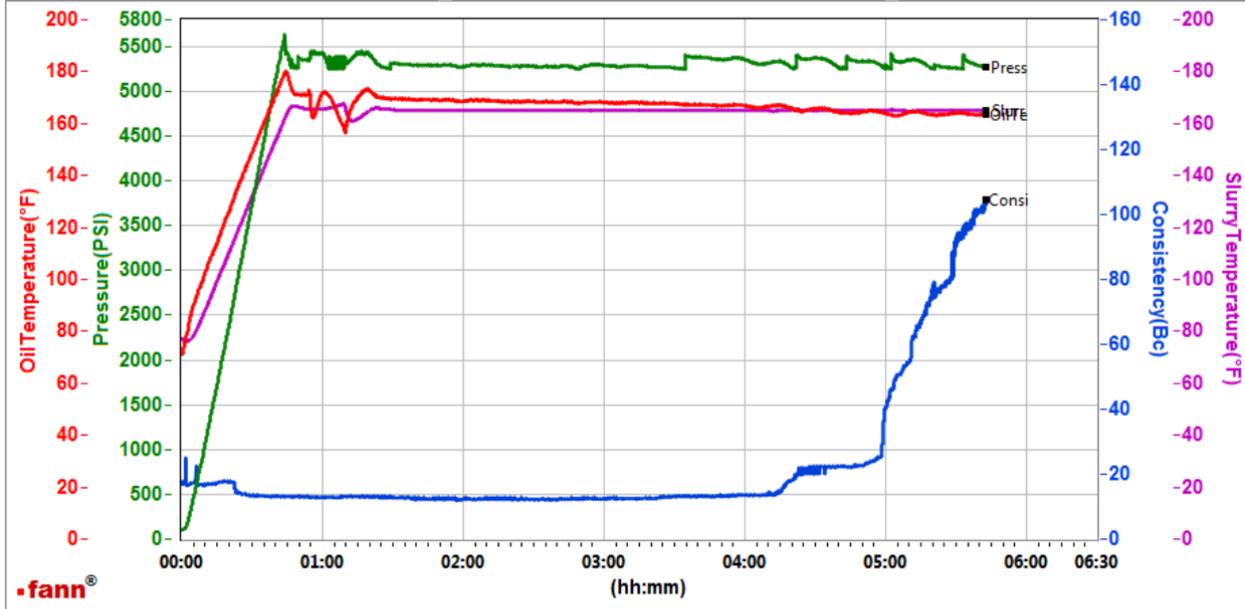
Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
165	5345	44	4:58	5:04	5:17	5:38	17	54	15	13

Grand Junction

Fields	Values
Project Name	2514761-1 H&P 522 Lara
SW Version	1.0
Test ID	35975940-TT
Request ID	GJ2514761-1
Tested by	DEBA
Customer	LARAMIE ENERGY
Well No	SUP&SHEP 0993-25-09\

Fields	Values
Rig	H&P 522
Casing/Liner Size	4.5"
Job Type	PRODUCTION CASING
Cement Weight	GCC TYPE I/II
Comments	Standard
Date Time	11/13/2018 14:55:57.482
Temp. Units	degF

Events	Results
30 BC	4:58
50 BC	5:04
70 BC	5:17
100 BC	5:38



Data File	C:\Users\H185329\Desktop\000 Graphs\GJ2514761-1 LARAMIE PRODUCTION BULK LEAD.tdms
Comments	Standard

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Operation Test Results Request ID 2514761/2

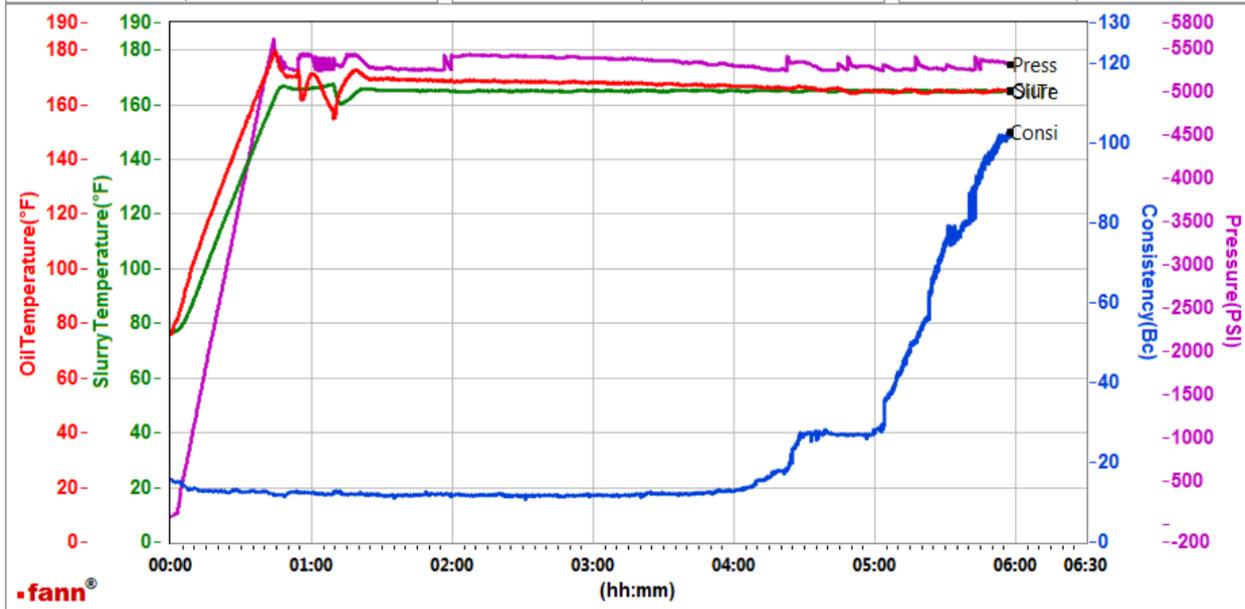
Thickening Time - ON-OFF-ON

14/NOV/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)
165	5345	44	5:03	5:16	5:27	5:52	17	54	15	12

Grand Junction

Fields	Values	Fields	Values	Events	Results
Project Name	GJ2514761-2 Laramie Pr	Rig	H&P 522	30 Bc	05:03
SW Version	1.0	Casing/Liner Size	4.5"	50 Bc	05:16
Test ID	35981764 - TT	Job Type	PRODUCTION CASING	70 Bc	05:27
Request ID	GJ2514761-2	Cement Weight	GCC TYPE III	100 Bc	05:52
Tested by	CT	Comments	Standard		
Customer	LARAMIE ENERGY	Date Time	11/14/2018 05:44:28.82		
Well No	SUP&SHEP 0993-25-09\	Temp. Units	degF		



Data File P:\Z Lab\HPHT 3\GJ2514761-2 LARAMIE PRODUCTION BULK LEAD.tdms

Comments Standard

Total sks = 915
 CS2464, Trailer 7304, 115 sks
 No deflection

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Job Information

Request/Slurry	2514762/1	Rig Name	H&P 522	Date	12/NOV/2018
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Sup & Shep 0993-25-09W

Well Information

Casing/Liner Size	4.5 in	Depth MD	8688 ft	BHST	114°C / 237°F
Hole Size	7.875 in	Depth TVD	8636 ft	BHCT	74°C / 165°F
Pressure	5345 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 

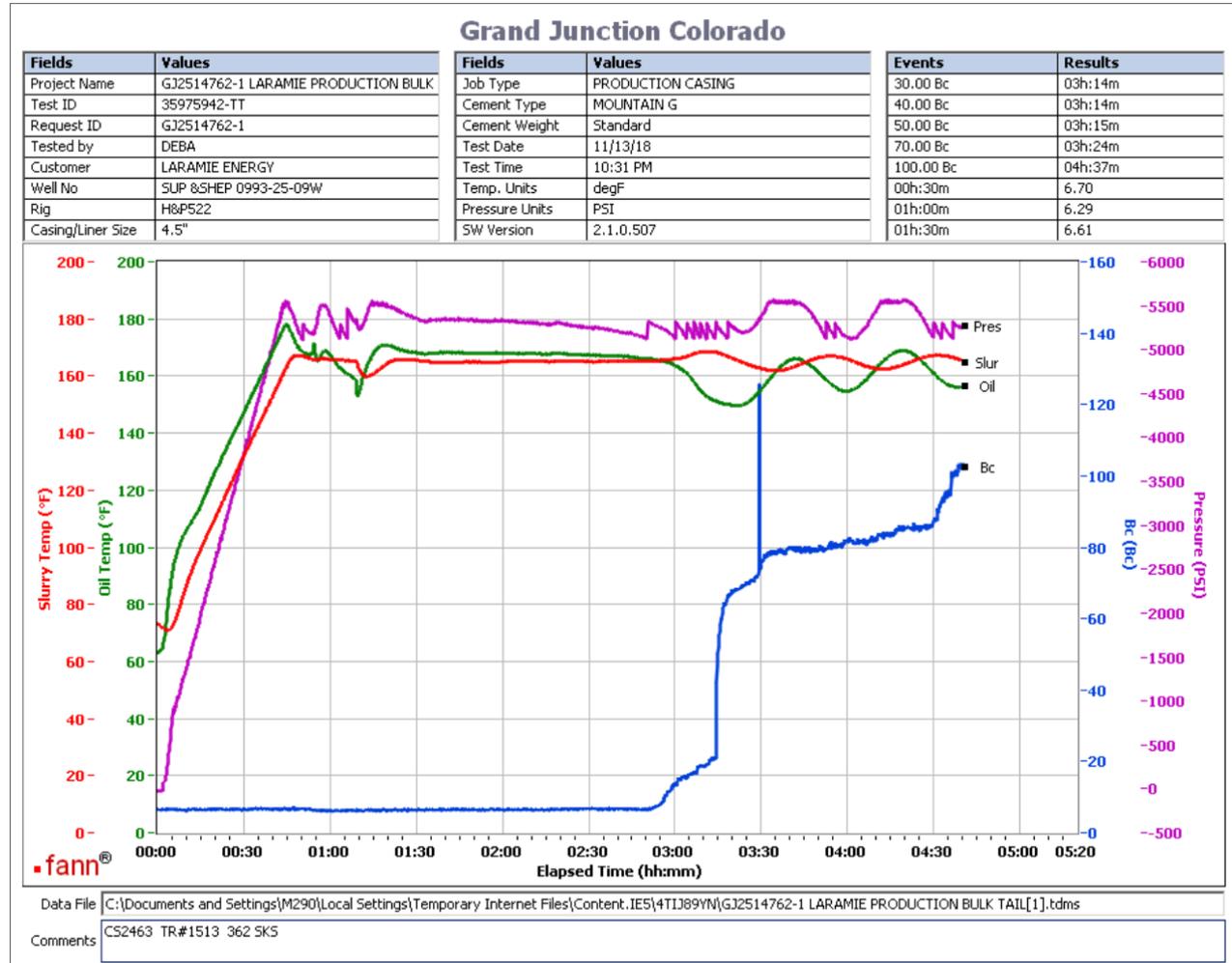
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		ThermaCem Tail				Slurry Density	13.3	lbm/gal
						Slurry Yield	1.738	ft3/sack
						Water Requirement	7.795	gal/sack
						Total Mix Fluid	7.795	gal/sack
						Water Source	Field (Fresh) Water	
						Water Chloride		

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Thickening Time - ON-OFF-ON

14/NOV/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)
165	5345	44	3:14	3:15	3:24	4:37	7	54	15	6



Total sks = 362
 CS2463 TR#1513 362 SKS
 Deflection: 6 - 6

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