

HALLIBURTON

iCem[®] Service

Laramie Energy LLC

United States of America, COLORADO

For: Aaron Duncan

Date: Thursday, June 27, 2019

CC Federal 0697-04-01E Surface PJR

API# 05-045-23982-00

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	6/26/2019	18:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	6/26/2019	19:30:00	USER					JOURNEY MANAGEMENT COMPLETE, AS WELL AS JSA
Event	3	Crew Leave Yard	6/26/2019	20:00:00	USER					
Event	4	Arrive At Loc	6/26/2019	22:00:00	USER					JOURNEY MANAGEMENT CLOSED OUT.
Event	5	Assessment Of Location Safety Meeting	6/26/2019	22:10:00	USER					
Event	6	Pre-Rig Up Safety Meeting	6/26/2019	22:20:00	USER					JSA COMPLETE
Event	7	Rig-Up Equipment	6/26/2019	22:30:00	USER					
Event	8	Other	6/26/2019	22:40:00	USER					WATER TEST: PH-7, CL-0, TEMP-67 WELL INFO: 9 5/8 36# SET @ 2598, TD-2610, F.C.-2553.8, HOLE- 14.3/4, MUD#-9.1
Event	9	Other	6/26/2019	22:45:00	USER					MUD SCALES CHECKED WITH WATER PRIOR TO JOB.
Event	10	Pre-Job Safety Meeting	6/27/2019	00:20:00	USER					JSA COMPLETE
Event	11	Start Job	6/27/2019	00:45:00	USER					
Event	12	Test Lines	6/27/2019	00:48:27	USER			3410.00		3410 PSI

Event	13	Pump Spacer 1	6/27/2019	00:51:30	USER	8.33	8.00	280.00	190.0	FRESH WATER
Event	14	Pump Lead Cement	6/27/2019	01:17:24	USER	12.30	8.00	255.00	370.6	878 SKS VARICEM, 12.3 PPG, 2.37 FT3/SK, 13.74 GAL/SK
Event	15	Pump Tail Cement	6/27/2019	02:07:49	USER	12.80	8.00	289.00	94.7	252 SKS VARICEM, 12.8 PPG, 2.11 FT3/SK, 11.75 GAL/SK
Event	16	Shutdown	6/27/2019	02:20:03	USER					TO DROP TOP PLUG AND WASH UP ON TOP OF PLUG.
Event	17	Drop Top Plug	6/27/2019	02:21:18	USER					AWAY
Event	18	Pump Displacement	6/27/2019	02:21:35	USER	8.33	10.0	578.0	197.4	FRESH WATER
Event	19	Bump Plug	6/27/2019	02:44:55	USER	8.33	2.00	255.00	197.4	PLUG BUMPED ON CALCULATED
Event	20	Check Floats	6/27/2019	02:48:28	USER			702.00		0.5 BBLS BACK TO TRUCK, FLOATS HELD
Event	21	Standby Other	6/27/2019	02:56:50	USER	8.33	1.50	260.00	10.0	PUMP 10 BBLS OF SUGAR WATER DOWN PARASITE STRING. 10 LBS OF SUGAR USED.
Event	22	Pump Spacer	6/27/2019	03:34:14	USER	8.30	1.00	8.00	1.00	FRESH WATER TO MAKE SURE IRON IS CLEAR
Event	23	Pump Cement	6/27/2019	03:41:06	USER	15.60	2.50	107.00	84.8	400 SKS TOP OUT (84.8 BBLS), 15.6 PPG, 1.19 FT3/SK, 5.24 GAL/SK. RAN 10 BBLS OF SUPERFLUSH DOWN THE BACK SIDE PRIOR TO CEMENT. 2 BAGS OF CALCIUM CHLORIDE
Event	24	SHUTDOWN	6/27/2019	04:27:42	USER					SHUTDOWN CEMENT, NO CEMENT TO SURFACE
Event	25	Wait on Cement	6/27/2019	04:30:15	USER					108 SKS TOP OUT CEMENT (22.9 BBLS), 15.6 PPG, 1.19 FT3/SK, 5.24 GAL/SK
Event	26	Pump Cement - Start	6/27/2019	06:25:51	USER	15.6	1.50	103.0	22.9	RAN 5 BBLS OF SUPERFLUSH DOWN BACK SIDE PRIOR TO CEMENT, 3 BAGS OF CALCIUM CHLORIDE
Event	27	Pump Cement - End	6/27/2019	06:32:55	USER					

GAINED GOOD RETURNS AT 270 BBLS GONE OF LEAD CEMENT, RETURNS STOPPED AT 85 GONE ON TAIL CEMENT.

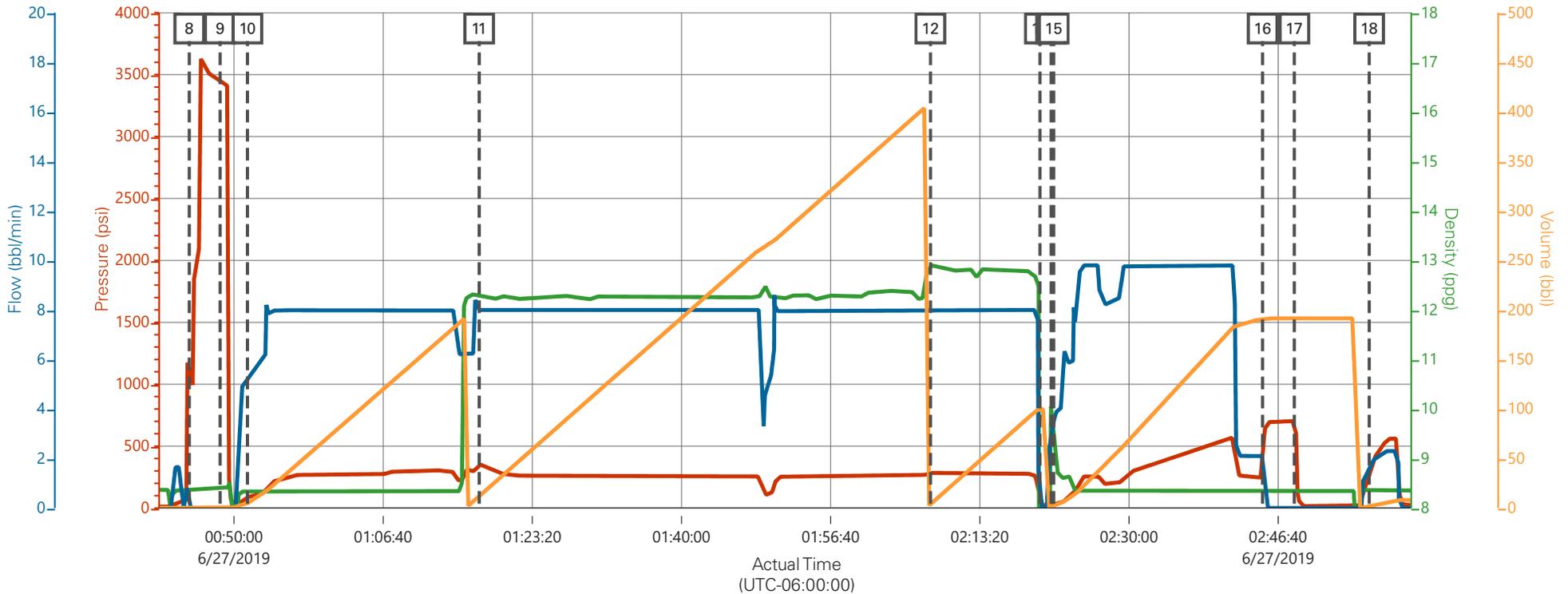
Event	28	End Job	6/27/2019	06:33:00	USER
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Event	29	Post-Job Safety Meeting (Pre Rig-Down)	6/27/2019	06:41:42	USER
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Event	30	Crew Leave Location	6/27/2019	08:00:00	USER
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THANK YOU FOR USING HALLIBURTON CEMENT, JAMES LEIST AND CREW.

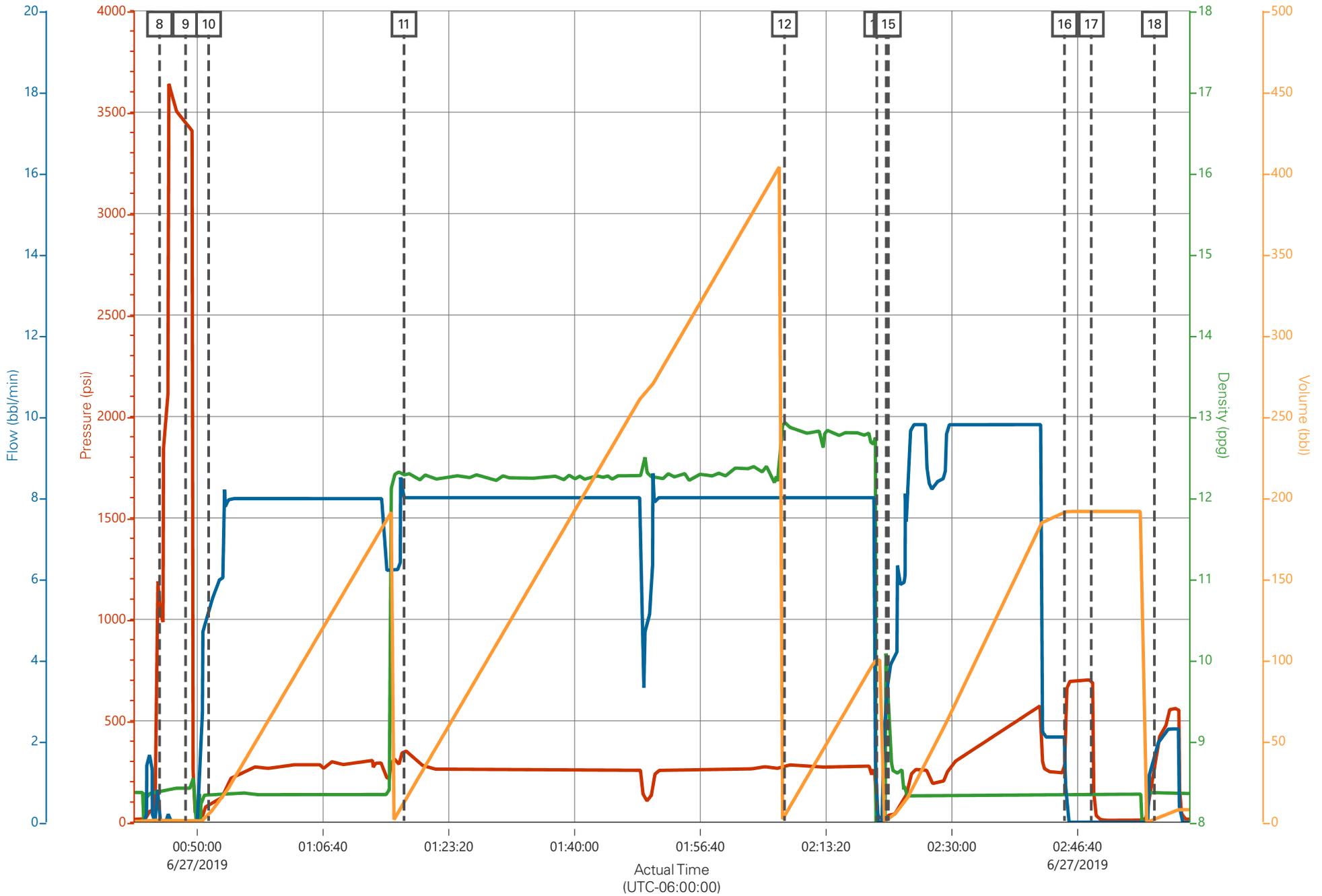
Laramie CC Federal 0697-04-01E Surface



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

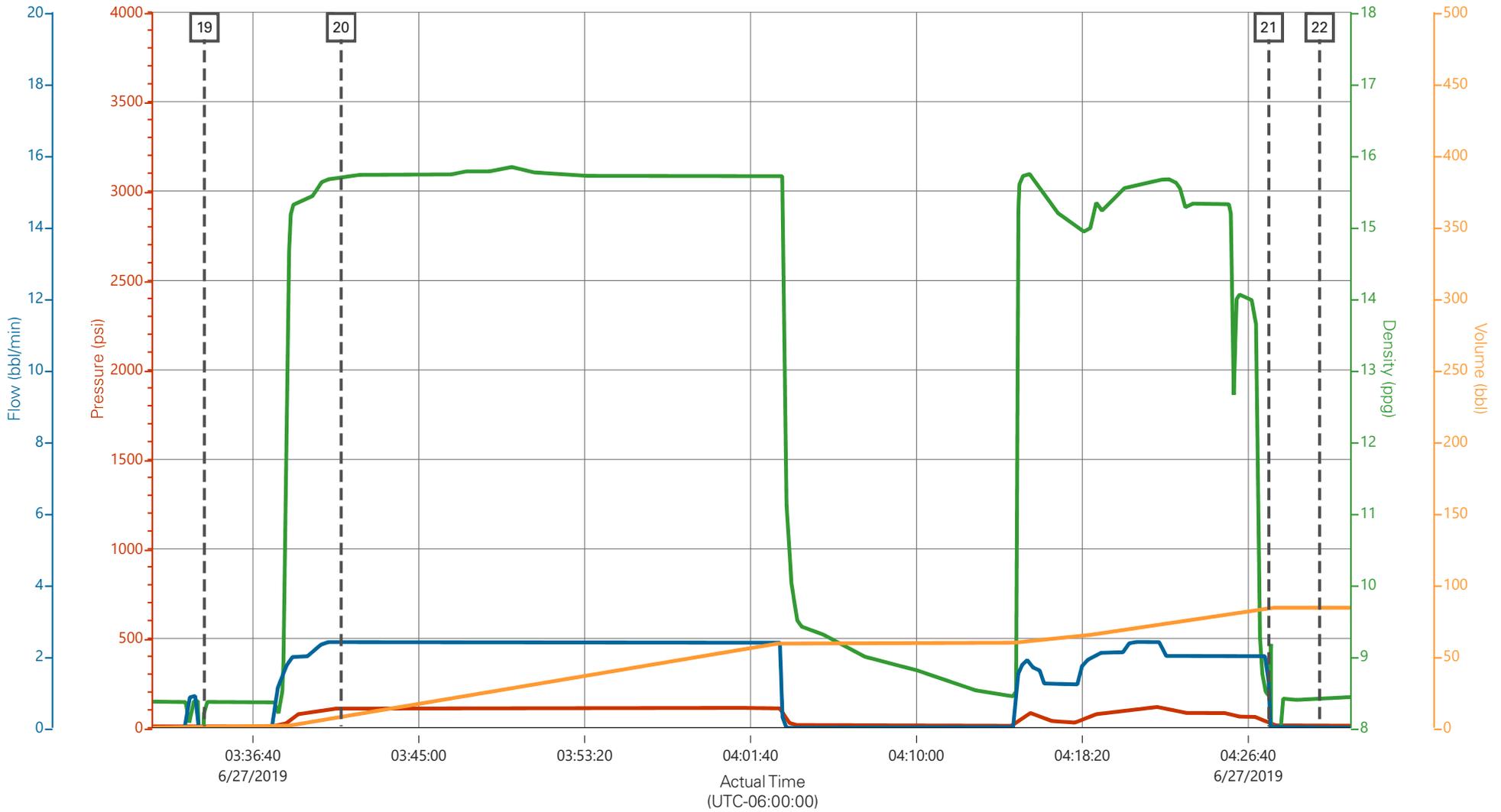
Description	Actual Time (UTC-06:00:00)	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)
8 Start Job	00:45:00	1072.00	8.38	0.00	1.20
9 Test Lines	00:48:27	3456.00	8.42	0.00	1.20
10 Pump Spacer 1	00:51:30	84.00	8.33	5.00	4.80
11 Pump Lead Cement	01:17:24	354.00	12.27	8.00	10.80
12 Pump Tail Cement	02:07:49	289.00	12.94	8.00	3.90
13 Shutdown	02:20:03	57.00	0.40	0.00	100.00
14 Drop Top Plug	02:21:18	31.00	10.06	2.80	0.90
15 Pump Displacement	02:21:35	35.00	9.34	3.60	1.80
16 Bump Plug	02:44:55	252.00	8.34	2.10	191.20
17 Check Floats	02:48:28	702.00	8.35	0.00	191.50
18 Standby Other	02:56:50	260.00	8.37	1.50	1.00

Laramie CC Federal 0697-04-01E Surface



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

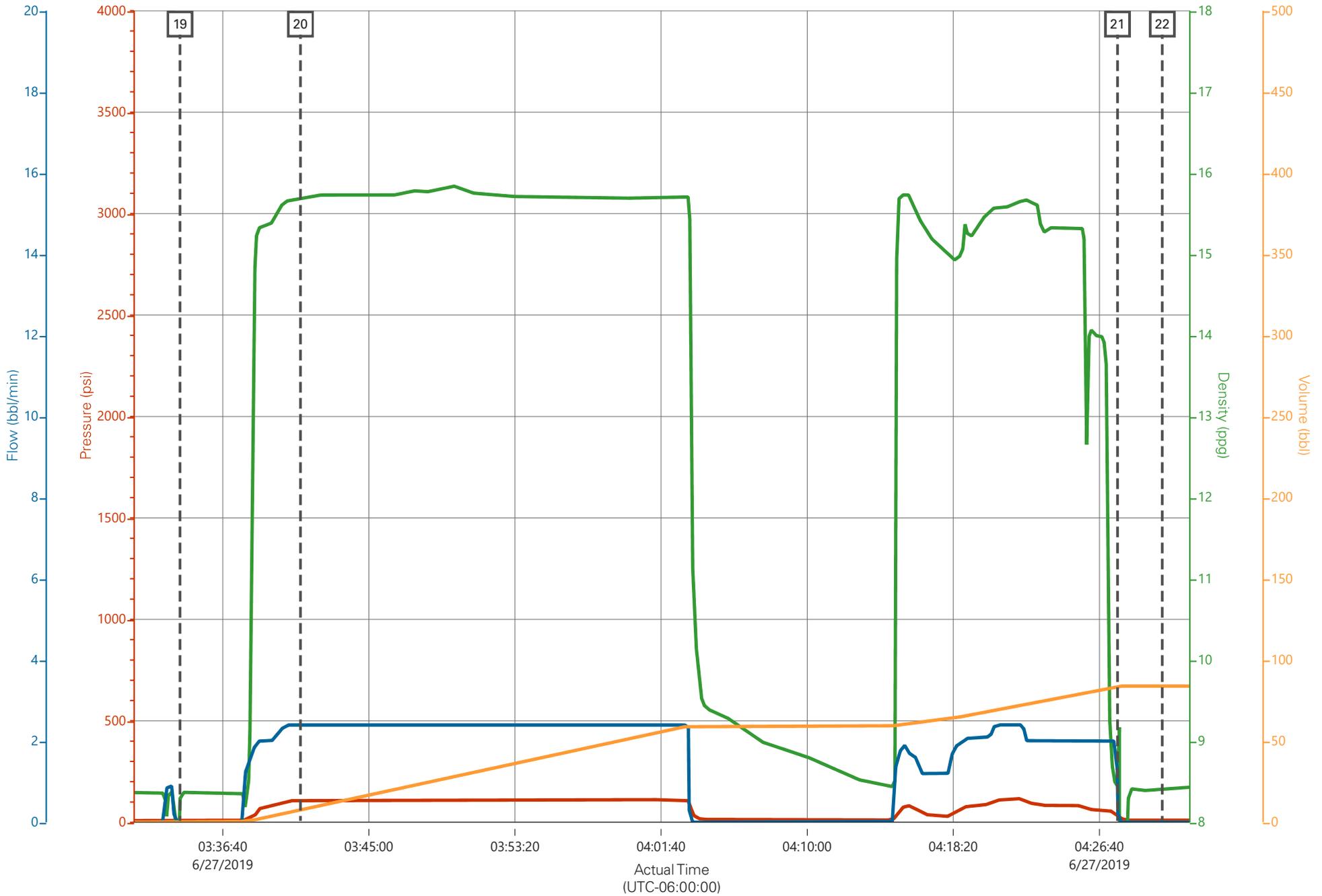
Laramie CC Federal 0697-04-01E Surface



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

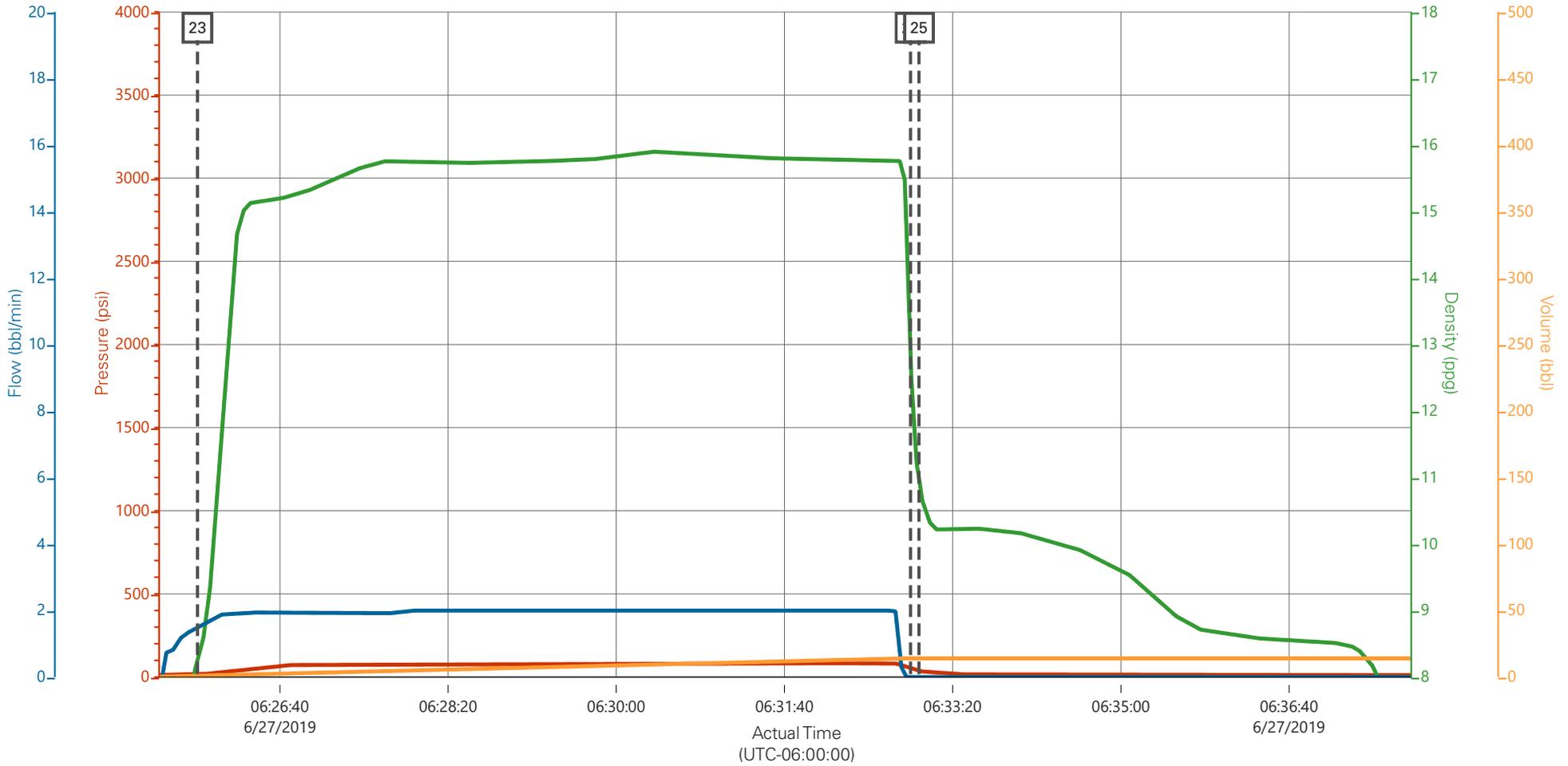
Description	Actual Time (UTC-06:00:00)	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)
19 Pump Spacer	03:34:14	8.00	8.30	0.00	0.50
20 Pump Cement	03:41:06	107.00	15.68	2.40	7.20
21 SHUTDOWN	04:27:42	37.00	8.42	0.70	83.90
22 Wait on Cement	04:30:15	10.00	8.41	0.00	83.90

Laramie CC Federal 0697-04-01E Surface



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

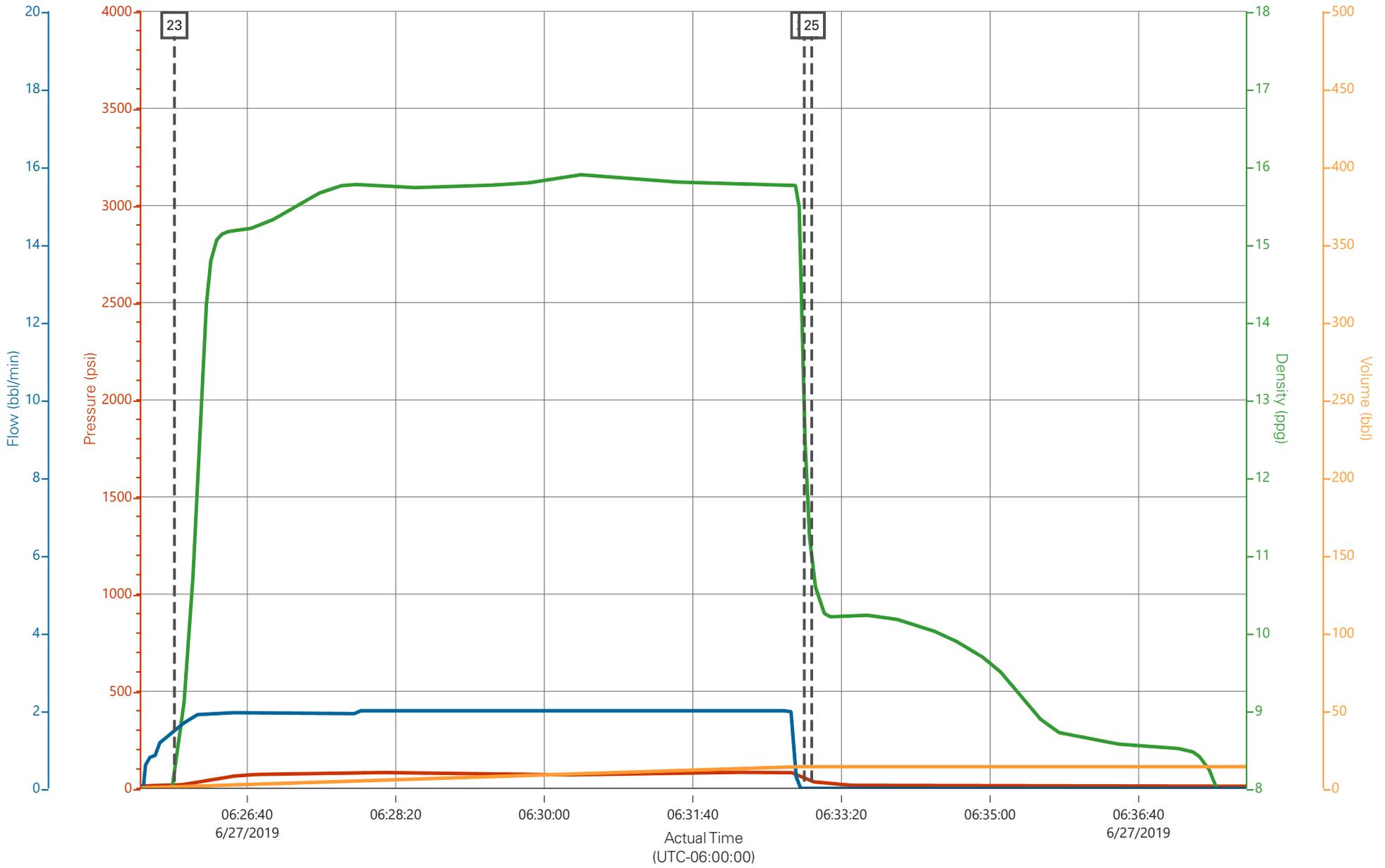
Laramie CC Federal 0697-04-01E Surface



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

Description	Actual Time (UTC-06:00:00)	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)
23 Pump Cement - Start	06:25:51	16.00	8.24	1.40	0.40
24 Pump Cement - End	06:32:55	51.00	13.12	0.00	14.00
25 End Job	06:33:00	37.00	10.99	0.00	14.00

Laramie CC Federal 0697-04-01E Surface



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

HALLIBURTON

iCem[®] Service

Laramie Energy LLC

United States of America, COLORADO

For: Aaron Duncan

Date: Sunday, June 30, 2019

CC Federal 697-04-01E Production PJR

API# 05-045-23982-00

Sincerely,

Grand Junction Cement Engineering

2.0 Real-Time Job Summary

2.1 Job Event Log

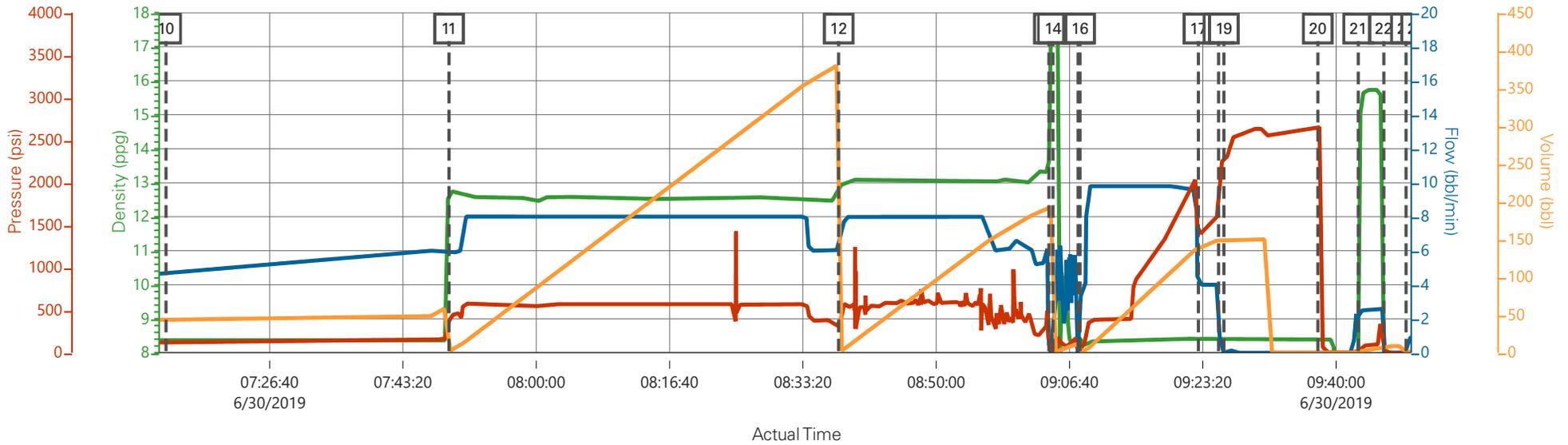
Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	6/30/2019	00:01:00	USER					
Event	2	Pre-Convoy Safety Meeting	6/30/2019	01:50:00	USER					JOURNEY MANAGEMENT COMPLETE, AS WELL AS JSA
Event	3	Crew Leave Yard	6/30/2019	02:00:00	USER					
Event	4	Arrive At Loc	6/30/2019	04:00:00	USER					JOURNEY MANAGEMENT CLOSED OUT.
Event	5	Assessment Of Location Safety Meeting	6/30/2019	04:10:00	USER					
Event	6	Pre-Rig Up Safety Meeting	6/30/2019	04:20:00	USER					JSA COMPLETE
Event	7	Rig-Up Equipment	6/30/2019	04:25:00	USER					
Event	8	Other	6/30/2019	05:00:00	USER					WATER TEST: PH-7, CL-0, TEMP-67 WELL INFO: 4.5 11.6# SET AT 9807, TD-9817, S.J.-88.52, HOLE- 8 3/4, MUD#- 9.0, 9 5/8 36# SET @ 2598
Event	9	Other	6/30/2019	05:10:00	USER					MUD SCALES CHECKED WITH WATER PRIOR TO JOB.
Event	10	Pre-Job Safety Meeting	6/30/2019	06:30:00	USER					JSA COMPLETE
Event	11	Start Job	6/30/2019	07:10:00	USER					

Event	12	Pressure Test	6/30/2019	07:11:00	USER					5400 PSI, MY CHART ON THE COMPUTER DID NOT START, DID NOT GET THE PSI TEST AND SOME OF SPACER ON GRAPH.
Event	13	Pump Spacer	6/30/2019	07:13:43	USER	8.50	6.00	175.0	60.0	MUD FLUSH
Event	14	Pump Lead Cement	6/30/2019	07:49:06	USER	12.50	8.00	550.0	367.0	1062 SKS NEOCEM, 12.5 PPG, 1.94 FT3/SK, 9.59 GAL/SK
Event	15	Pump Tail Cement	6/30/2019	08:37:48	COM5	13.0	8.00	550.0	162.2	440 SKS NEOCEM, 13 PPG, 2.07 FT3/SK, 9.42 GAL/SK
Event	16	Shutdown	6/30/2019	09:04:05	USER					TO WASH UP PUMPS AND LINES
Event	17	Clean Lines	6/30/2019	09:04:36	COM5					WASH UP TO CELLAR
Event	18	Drop Top Plug	6/30/2019	09:07:44	COM5					BOTH TOP PLUGS AWAY
Event	19	Pump Displacement	6/30/2019	09:07:59	COM5	8.33	10.00	2070.0	151.6	FRESH WATER WITH 5 GAL CLA - WEB, 1 GAL MMCR
Event	20	Slow Rate	6/30/2019	09:22:47	USER	8.33	4.00	1380.00	141.0	TO BUMP PLUG
Event	21	Bump Plug	6/30/2019	09:25:18	COM5	8.33	4.00	1616.00	151.6	PLUG BUMPED ON CALCULATED
Event	22	Standby - Other - see comments	6/30/2019	09:25:58	USER	8.33	0.00	2281.00	151.6	CASING TEST 10 MINS.
Event	23	Check Floats	6/30/2019	09:37:43	USER			2649.00		FLOATS HELD 1.5 BBLS BACK TO TRUCK
Event	24	Pump Cement	6/30/2019	09:42:46	USER	15.8	2.20	10.00	6.3	PUMP 6.3 BBLS OF TOP OUT CEMENT DOWN PARASITE STRING. 15.6 PPG, 1.19 FT3/SK, 5.24 GAL/SK
Event	25	Shutdown	6/30/2019	09:45:57	USER					
Event	26	End Job	6/30/2019	09:48:44	COM5					GOOD RETURNS WHILE AIR WAS ON, SHUT OFF AIR AT 80 GONE IN DISPLACEMENT, 20 BBLS OF MUD FLUSH TO SURFACE. NO PIPE MOVEMENT
Event	27	Post-Job Safety Meeting (Pre Rig-Down)	6/30/2019	09:50:00	USER					

Event 28 Crew Leave Location 6/30/2019 11:00:00 USER

THANK YOU FOR USING HALLIBURTON CEMENT,
JAMES LEIST AND CREW

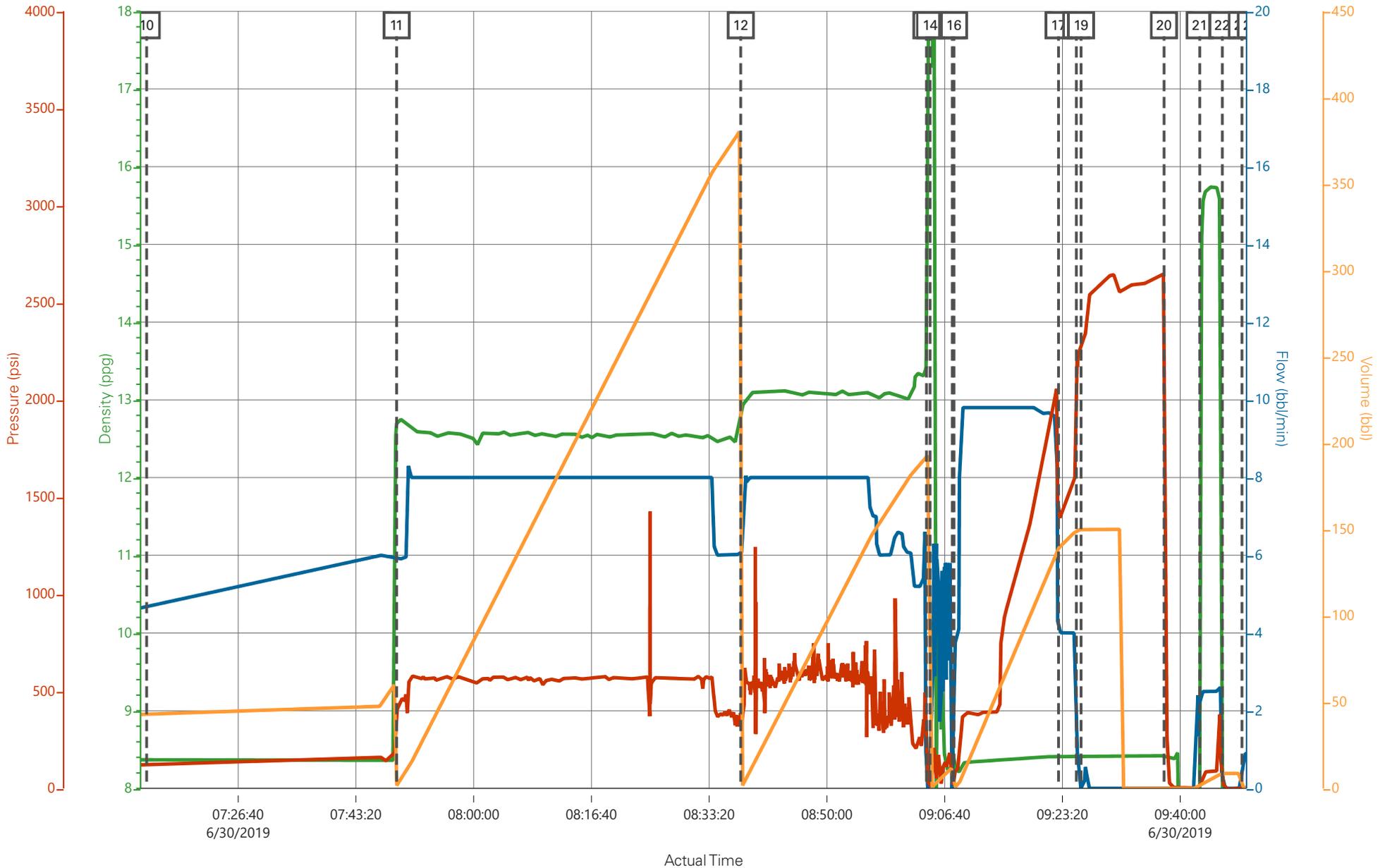
LARAMIE ENERGY - CC FEDERAL 697-04-01E - 4.5" PRODUCTION CASING



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)
10 Pump Spacer	07:13:43	8.37	4.69	110.82	41.83
11 Pump Lead Cement	07:49:06	12.71	5.90	372.00	1.60
12 Pump Tail Cement	08:37:48	12.83	6.00	354.00	0.10
13 Shutdown	09:04:05	13.62	0.00	110.00	192.70
14 Clean Lines	09:04:36	30.91	1.70	9.00	0.10
15 Drop Top Plug	09:07:44	8.48	0.00	23.00	11.60
16 Pump Displacement	09:07:59	8.42	2.60	23.00	0.10
17 Slow Rate	09:22:47	8.39	4.00	1380.00	139.20
18 Bump Plug	09:25:18	8.40	4.00	1616.00	149.30
19 Standby - Other - see comments	09:25:58	8.41	0.00	2281.00	149.90
20 Check Floats	09:37:43	8.42	0.00	2649.00	0.00
21 Pump Cement	09:42:46	8.28	2.20	10.00	1.00
22 Shutdown	09:45:57	10.59	0.00	53.00	8.70
23 End Job	09:48:44	0.02	0.00	3.00	0.00

LARAMIE ENERGY - CC FEDERAL 697-04-01E - 4.5" PRODUCTION CASING



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

Job Information

Request/Slurry	2565677/1	Rig Name	H&P 522	Date	24/JUN/2019
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Cascade Creek FED 0697-04-01E

Well Information

Casing/Liner Size	4.5 in	Depth MD	9836 ft	BHST	117°C / 243°F
Hole Size	8.75 in	Depth TVD	9614 ft	BHCT	78°C / 173°F
Pressure	6030 psi				

Drilling Fluid Information

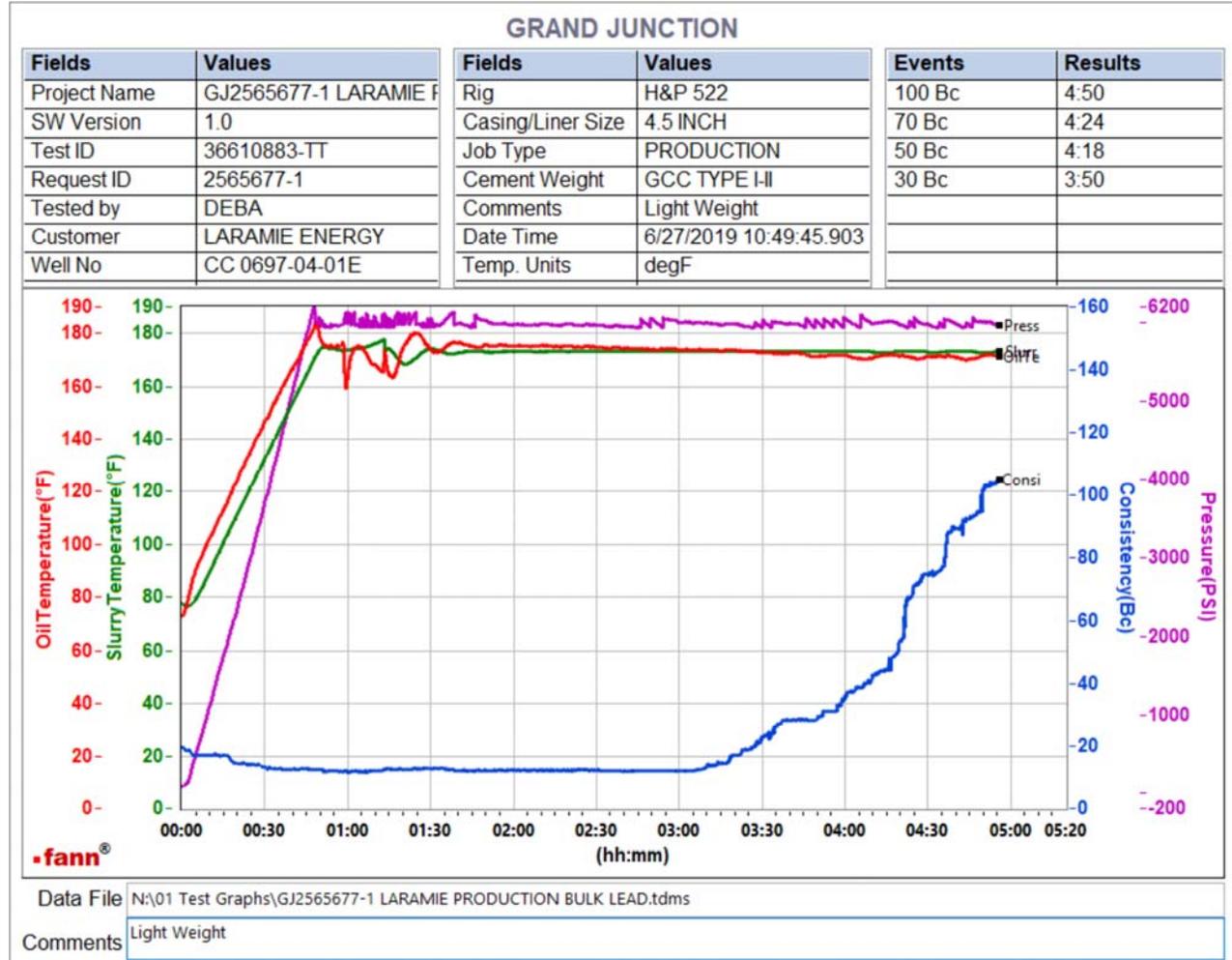
Mud Supplier Name	Mud Trade Name	Density
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Cement Information - Lead Design

<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>MP</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	1.95	ft ³ /sack
							Water Requirement	9.61	gal/sack
							Total Mix Fluid	9.61	gal/sack
							Water Source	Fresh Water	
							Water Chloride		

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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)
173	6030	48	3:50	4:18	4:24	4:50	19	58	15	12



Total SKS = 1062
 CS0750 TR#8658 400 SKS
 CS0751 TR#8677 400 SKS
 CS0752 TR#1283 262 SKS
 No deflection

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Job Information

Request/Slurry	2565678/1	Rig Name	H&P 522	Date	24/JUN/2019
Submitted By	Aaron Katz	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Cascade Creek FED 0697-04-01E

Well Information

Casing/Liner Size	4.5 in	Depth MD	9836 ft	BHST	117°C / 243°F
Hole Size	8.75 in	Depth TVD	9614 ft	BHCT	78°C / 173°F
Pressure	6030 psi				

Drilling Fluid Information

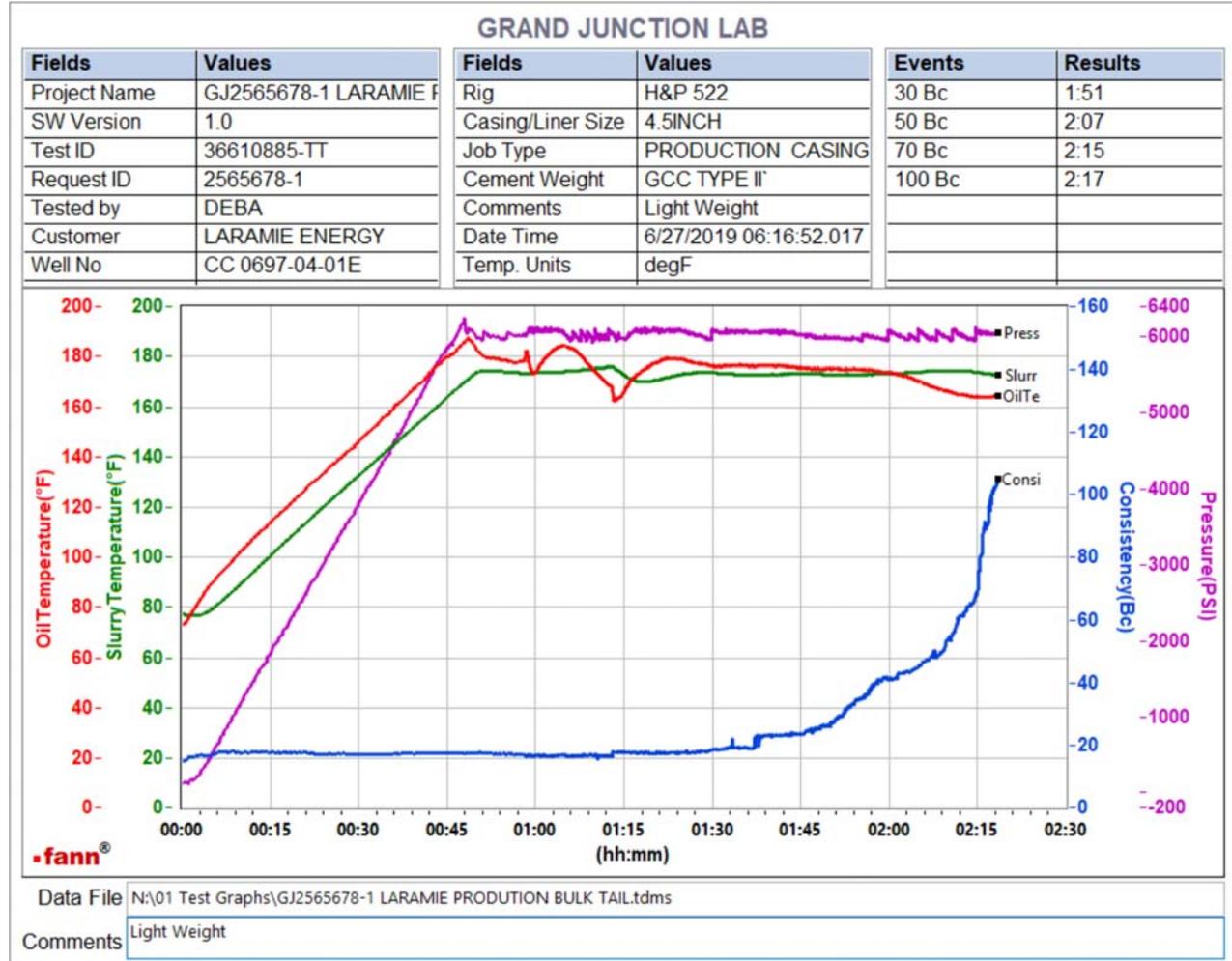
Mud Supplier Name		Mud Trade Name		Density	
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Cement Information - Tail Design 

<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>MP</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
		NeoCem HT Tail					Slurry Density	13	lbm/gal
							Slurry Yield	2.07	ft3/sack
							Water Requirement	9.42	gal/sack
							Total Mix Fluid	9.42	gal/sack
							Water Source	Fresh Water	
							Water Chloride		

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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)
173	6030	48	1:51	2:07	2:15	2:17	15	58	15	17



Total SKS = 440
 CS0748 TR#8476 340 SKS
 CS0749 TR#8321 100 SKS

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