

HALLIBURTON

iCem[®] Service

Laramie Energy LLC

United States of America, COLORADO

For: Aaron Duncan

Date: Wednesday, May 22, 2019

CC 697-04-07E Surface PJR

API# 05-045-23986-00

Sincerely,

Grand Junction Cement Engineering

2.0 Real-Time Job Summary

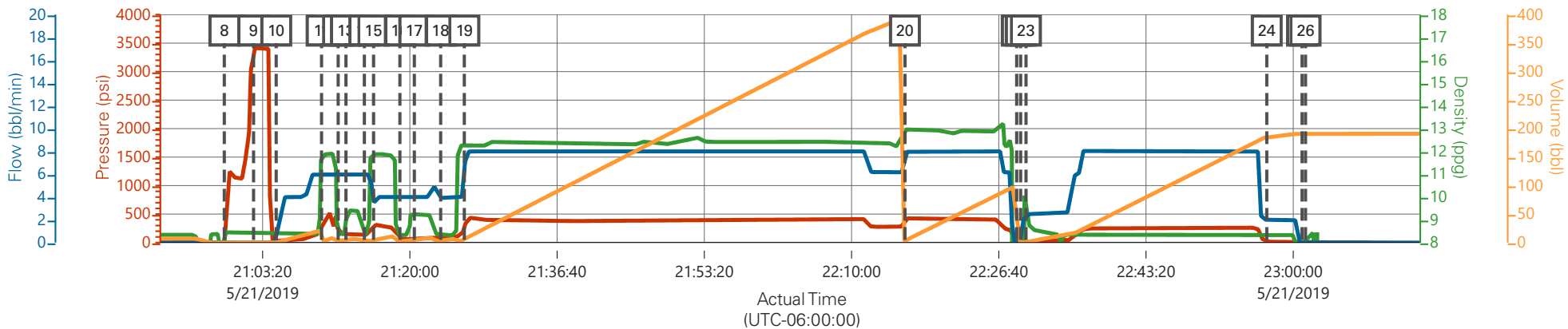
2.1 Job Event Log

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	5/21/2019	10:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	5/21/2019	12:45:00	USER					JOURNEY MANAGEMENT COMPLETE, AS WELL AS JSA
Event	3	Crew Leave Yard	5/21/2019	13:00:00	USER					
Event	4	Arrive At Loc	5/21/2019	15:30:00	USER					JOURNEY MANAGEMENT CLOSED OUT. RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	5/21/2019	15:45:00	USER					
Event	6	Pre-Rig Up Safety Meeting	5/21/2019	16:00:00	USER					JSA COMPLETE
Event	7	Rig-Up Equipment	5/21/2019	16:10:00	USER					
Event	8	Other	5/21/2019	16:30:00	USER					WATER TEST: PH-7, CL-0, TEMP-67 WELL INFO: 9 5/8 36# SET @ 2577, TD-2587, F.C.-2530.75, HOLE- 14.3/4, MUD#-9.1
Event	9	Other	5/21/2019	16:35:00	USER					MUD SCALES CHECKED WITH WATER PRIOR TO JOB.
Event	10	Pre-Job Safety Meeting	5/21/2019	20:00:00	USER					JSA COMPLETE
Event	11	Start Job	5/21/2019	20:59:00	USER					
Event	12	Test Lines	5/21/2019	21:02:18	USER	8.33	0.00	3420.00	0.10	3420 PSI
Event	13	Pump Spacer 1	5/21/2019	21:04:52	USER	8.33	4.00	70.0	20.00	FRESH WATER
Event	14	Pump Spacer 2	5/21/2019	21:10:00	USER	11.80	6.00	388.00	10.00	SUPERFLUSH
Event	15	Pump Spacer 1	5/21/2019	21:11:53	USER	8.33	6.00	212.00	5.00	FRESH WATER

Event	16	Pump Spacer 2	5/21/2019	21:12:46	USER	9.20	6.00	154.00	10.00	CALCIUM CHLORIDE WATER 50 LBS/BBL
Event	17	Pump Spacer 1	5/21/2019	21:14:51	USER	8.33	6.00	136.00	5.0	FRESH WATER
Event	18	Pump Spacer 2	5/21/2019	21:15:53	USER	11.80	4.00	305.00	10.00	SUPERFLUSH
Event	19	Pump Spacer 1	5/21/2019	21:18:52	USER	8.33	4.00	70.00	5.00	FRESH WATER
Event	20	Pump Spacer 2	5/21/2019	21:20:30	USER	9.20	4.00	63.00	10.00	CALCIUM CHLORIDE WATER 50 LBS/BBL
Event	21	Pump Spacer 1	5/21/2019	21:23:29	USER	8.33	4.00	88.00	10.00	FRESH WATER
Event	22	Pump Lead Cement	5/21/2019	21:26:10	USER	12.30	8.00	390.00	370	878 SKS VARICEM, 12.3 PPG, 2.37 FT3/SK, 13.74 GAL/SK
Event	23	Pump Tail Cement	5/21/2019	22:16:03	USER	12.80	8.00	419.00	94.7	252 SKS VARICEM, 12.8 PPG, 2.11 FT3/SK, 11.75 GAL/SK
Event	24	Shutdown	5/21/2019	22:28:42	USER					TO DROP TOP PLUG AND WASH UP ON TOP OF PLUG.
Event	25	Drop Top Plug	5/21/2019	22:29:09	USER					AWAY
Event	26	Pump Displacement	5/21/2019	22:29:45	USER	8.33	8.00	265.0	195.60	FRESH WATER
Event	27	Slow Rate	5/21/2019	22:57:00	USER	8.33	2.00	15.00	184.00	TO BUMP PLUG
Event	28	Standby - Other - see comments	5/21/2019	23:01:00	USER	8.33	0.00	-7.00	195.6	RIG PARTED THE PARISITE STRING WHILE RUNNING CASING, THEY WERE UNSURE OF WHERE. THE PLUG DID NOT BUMP AND HAVING NO LIFT PSI, OSR DESIDED TO PUMP 400 SKS OF TOP OUT CMT DOWN PARISITE STRING. WAIT 2.5 HOURS THEN START TOP OUT JOB. COORDINATOR AND ENGINEER WERE CALLED AND INFORMED FOR HES.
Event	29	Shut In Well	5/21/2019	23:01:24	USER	8.33	0.00	-9.00	195.6	PLUG DID NOT BUMP, SHUT DOWN ON CALULATED DISPLACEMENT, SHUT IN AT 2 IN VALVE ON CEMENT HEAD.
Event	30	Pump Spacer	5/21/2019	23:52:18	USER	8.33	1.00	14.00	1.00	FRESH WATER TO MAKE SURE IRON AND PARISITE IS CLEAR.
Event	31	Pump Cement	5/21/2019	23:54:51	USER	15.60	2.5	950.0	84.0	400 SKS TOP OUT, 15.6 PPG, 1.19 FT3/SK, 5.24 GAL/SK. 2 BAGS CALCIUM CHLORIDE
Event	32	SHUTDOWN	5/22/2019	00:29:05	USER					SHUTDOWN CEMENT
Event	33	Standby - Other - see comments	5/22/2019	00:30:00	USER					WAIT ON CEMENT

Event	34	Pump Cement - Start	5/22/2019	03:51:05	USER	15.6	2.0	140.0	84.0	400 SKS TOP OUT, 15.6 PPG, 1.19 FT3/SK, 5.24 GAL/SK NO CEMENT RETURNED TO SURFACE. DROPPED 10 BBLS SUPERFLUSH DOWN BACKSIDE PRIOR TO PUMPING CEMENT, 2 BAGS CALCIUM CHLORIDE
Event	35	Pump Cement - End	5/22/2019	04:32:51	USER					SHUTDOWN
Event	36	Standby - Other - see comments	5/22/2019	04:35:05	USER					WAIT ON CEMENT
Event	37	Pump Cement - Start	5/22/2019	06:39:16	USER	15.60	2.00	502.00	49.8	235 SKS TOP OUT, 15.6 PPG, 1.19 FT3/SK, 5.24 GAL/SK 2 BAGS OF CALCIUM CHLORIDE, RAN 5 BBLS OF SUPERFLUSH DOWN BACK SIDE PRIOR TO PUMPING CEMENT.
Event	38	Pump Cement - End	5/22/2019	06:58:33	USER					SHUTDOWN, NO CEMENT RETURNED TO SURFACE
Event	39	Standby - Other - see comments	5/22/2019	06:59:53	USER					WAIT ON CEMENT
Event	40	Pump Cement - Start	5/22/2019	11:58:12	USER	15.6	2.30	138.0	19.1	90 SKS TOP OUT, 15.6 PPG, 1.19 FT3/SK, 5.24 GAL/SK RAN 5 BBLS OF SUPERFLUSH DOWN BACK SIDE PRIOR TO PUMPING CEMENT.
Event	41	Pump Cement - End	5/22/2019	12:06:42	USER					SHUTDOWN CEMENT TO SURFACE.
Event	42	End Job	5/22/2019	12:08:00	USER					NO CEMENT TO SURFACE DURING THE PRIMARY JOB. NO PIPE MOVEMENT.
Event	43	Post-Job Safety Meeting (Pre Rig-Down)	5/22/2019	12:15:00	USER					
Event	44	Crew Leave Location	5/22/2019	13:30:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT, JAMES LEIST AND CREW.

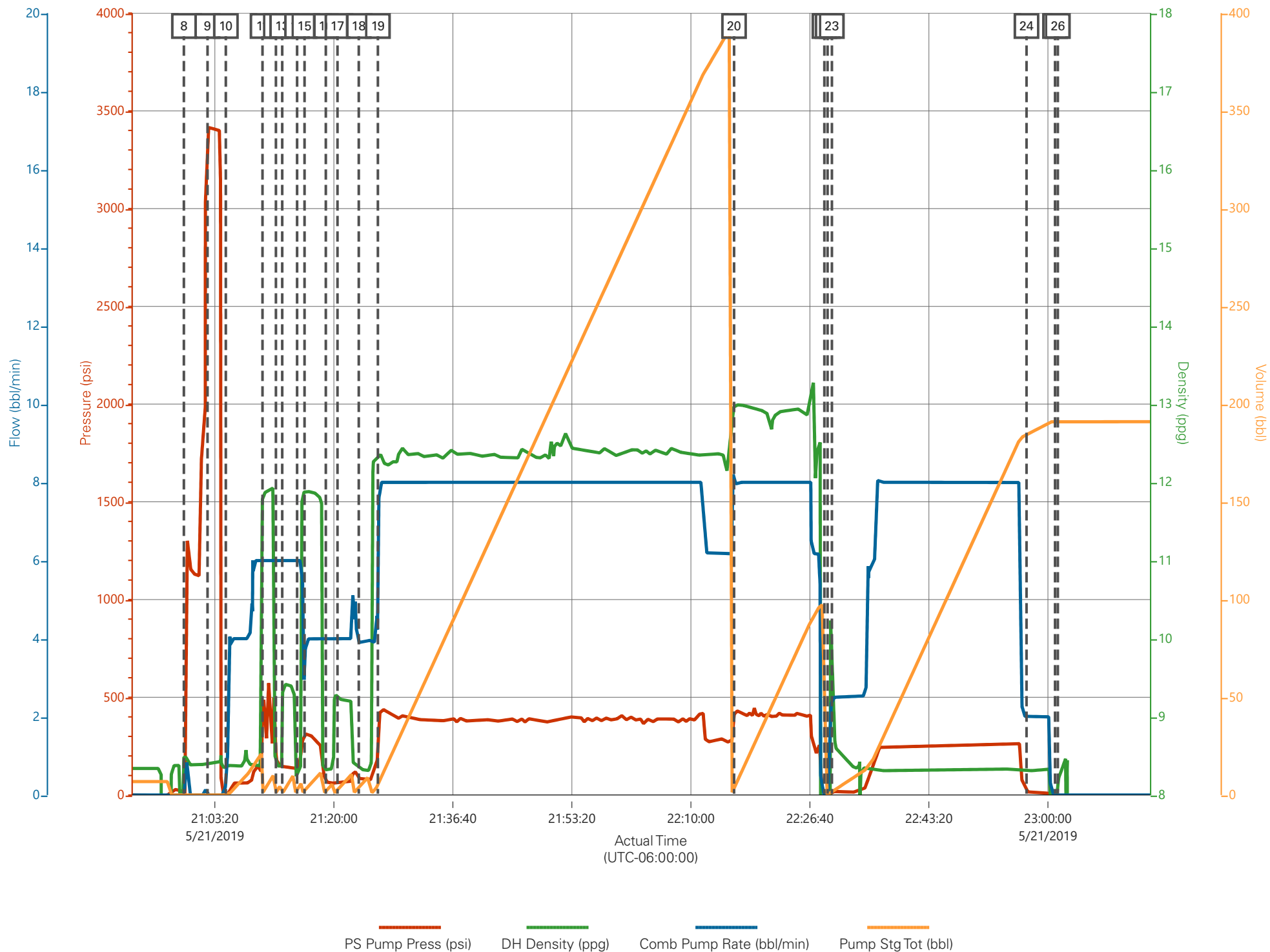
Laramie CC 0697-04-07E Surface



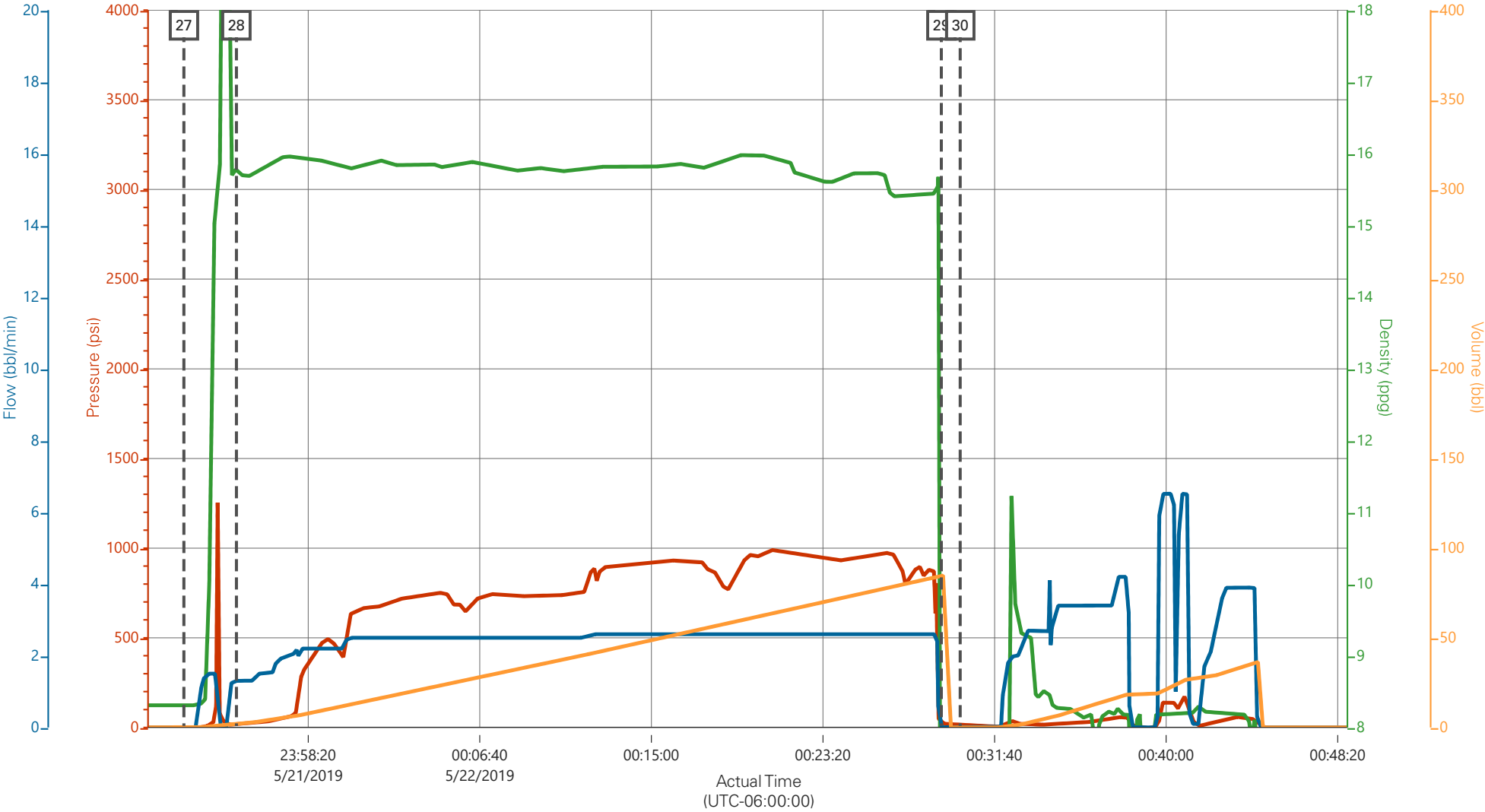
PS Pump Press (psi) DH Density (ppg) Comb Pump Rate (bbl/min) Pump Stg Tot (bbl)

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	20:59:00	2.00	8.50	0.00	0.00	
9 Test Lines	21:02:18	3420.00	8.42	0.00	0.10	
10 Pump Spacer 1	21:04:52	-1.00	8.36	0.80	0.10	
11 Pump Spacer 2	21:10:00	388.00	11.82	6.00	1.00	
12 Pump Spacer 1	21:11:53	219.00	8.32	6.00	1.10	
13 Pump Spacer 2	21:12:46	154.00	8.83	6.00	0.70	
14 Pump Spacer 1	21:14:51	136.00	8.30	6.00	2.50	
15 Pump Spacer 2	21:15:53	305.00	11.87	3.50	2.40	
16 Pump Spacer 1	21:18:52	69.00	8.33	4.00	1.90	
17 Pump Spacer 2	21:20:30	64.00	9.23	4.00	2.60	
18 Pump Spacer 1	21:23:29	88.00	8.37	3.90	4.00	
19 Pump Lead Cement	21:26:10	216.00	12.28	6.00	4.60	
20 Pump Tail Cement	22:16:03	419.00	12.98	7.90	3.30	
21 Shutdown	22:28:42	8.00	0.00	0.00	0.00	
22 Drop Top Plug	22:29:09	0.00	-0.06	0.00	0.00	
23 Pump Displacement	22:29:45	25.00	9.34	2.50	1.00	
24 Slow Rate	22:57:00	19.00	8.34	2.00	184.40	
25 Standby - Other - see comments	23:01:00	-7.00	7.31	0.00	191.00	
26 Shut In Well	23:01:24	-9.00	8.14	0.00	191.00	

Laramie CC 0697-04-07E Surface

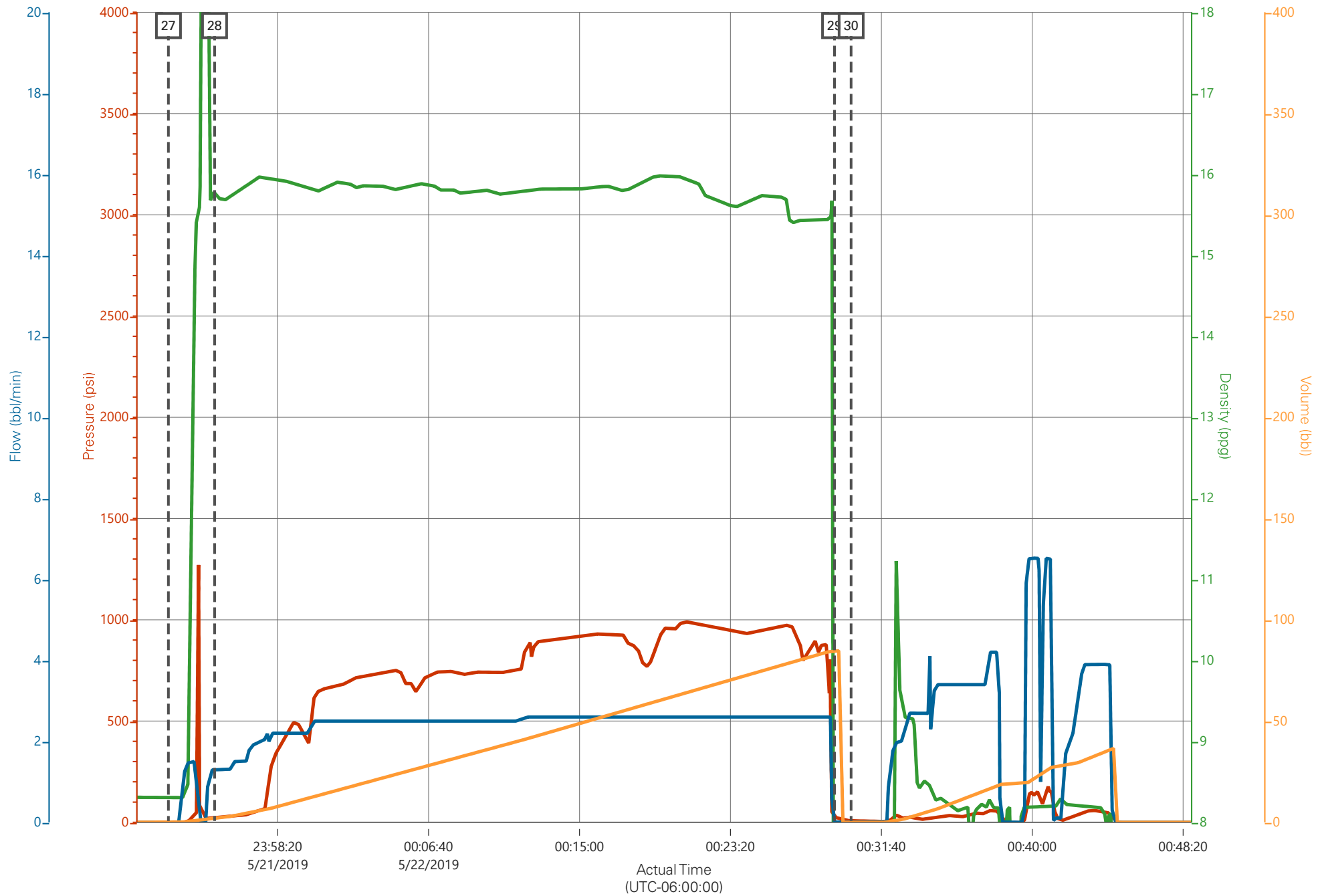


Laramie CC 0697-04-07E Surface



Description		Actual Time (UTC-06:00:00)	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	
27	Pump Spacer	23:52:18	-7.00	8.31	0.00	0.00	
28	Pump Cement	23:54:51	22.00	15.77	1.30	1.80	
29	SHUTDOWN	00:29:05	29.00	1.48	0.00	84.70	
30	Standby - Other - see comments	00:30:00	8.00	0.24	0.00	0.00	

Laramie CC 0697-04-07E Surface



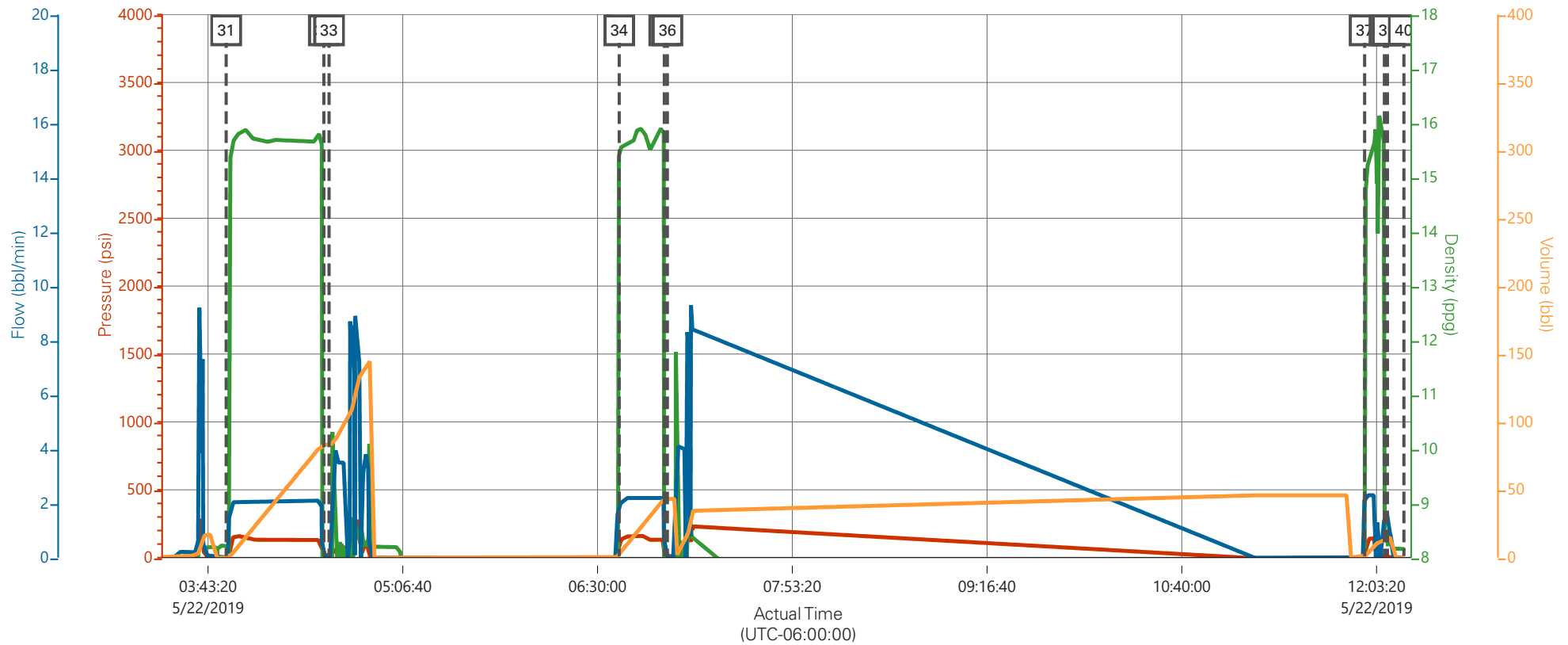
PS Pump Press (psi)

DH Density (ppg)

Comb Pump Rate (bbl/min)

Pump Stg Tot (bbl)

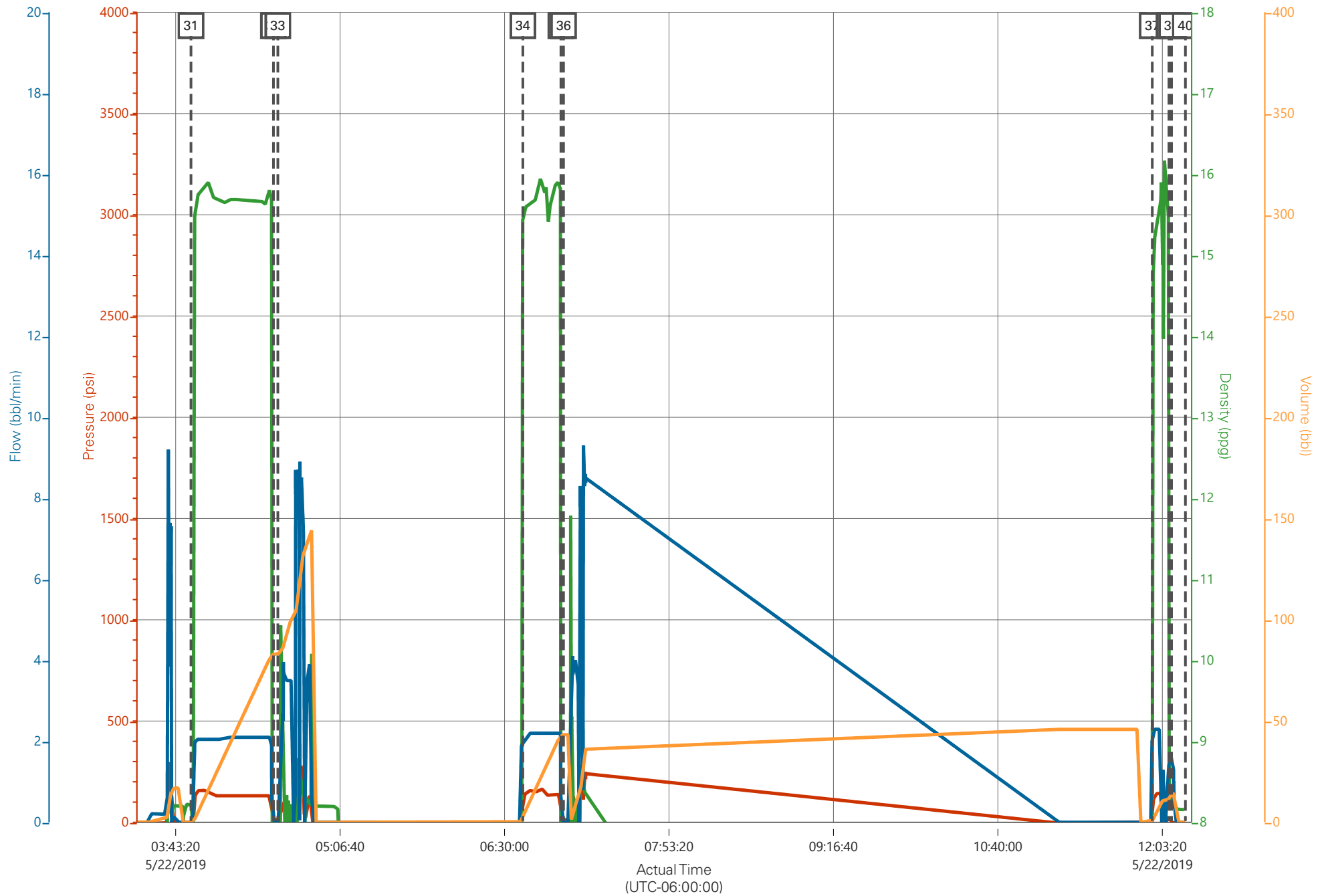
Laramie CC 0697-04-07E Surface



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)	
31 Pump Cement - Start	03:51:05	-7.00	8.21	0.00	0.00	
32 Pump Cement - End	04:32:51	14.00	0.25	0.00	83.10	
33 Standby - Other - see comments	04:35:05	9.00	0.22	0.00	83.10	
34 Pump Cement - Start	06:39:16	102.00	15.54	2.00	1.50	
35 Pump Cement - End	06:58:33	34.00	1.55	0.00	43.30	
36 Standby - Other - see comments	06:59:53	13.00	0.21	0.00	43.30	
37 Pump Cement - Start	11:58:12	3.00	7.99	2.30	0.50	
38 Pump Cement - End	12:06:42	24.00	8.96	1.70	11.40	
39 End Job	12:08:00	1.00	8.24	1.60	13.60	
40 Post-Job Safety Meeting (Pre Rig-Down)	12:15:00	n/a	n/a	n/a	n/a	

Laramie CC 0697-04-07E 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: Laramie

Date: Wednesday, May 29, 2019

CC 697-04-07E Surface

API#05-045-23986

Sincerely,

Grand Junction Cement Engineering

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	Call Out	5/28/2019	11:00:00	USER					REQUESTED ON LOCATION 5/28/19 @ 16:00
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	5/28/2019	12:55:00	USER					JSA COMPLETED
Event	3	Crew Leave Shop	Crew Leave Shop	5/28/2019	13:00:00	USER					
Event	4	Arrive At Loc	Arrive At Loc	5/28/2019	15:00:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	5/28/2019	15:15:00	USER					JSA COMPLETED
Event	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	5/28/2019	15:25:00	USER					JSA COMPLETED
Event	7	Rig-Up Equipment	Rig-Up Equipment	5/28/2019	15:30:00	USER					
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	5/28/2019	16:00:00	USER					JSA COMPLETED, PRESSURIZED MUD SCALES CALIBRATED TO FRESH WATER
Event	9	Start Job	Start Job	5/28/2019	23:51:24	COM4					4 1/2"-11.6# CASING IN 8 3/4" OH, TD 9481' TP 5036', ST 48.2', MUD WEIGHT 8.9 PPG, WATER TEMP 45, PH 7, CHLORIDES 0
Event	10	Test Lines	Test Lines	5/28/2019	23:53:41	COM4			5000.00		TEST LINES TO 5000 PSI
Event	11	Pump Spacer 1	Pump Spacer 1	5/29/2019	00:26:08	COM4	4.00	8.40	120.00	20.00	20 BBLS MUDFLUSH
Event	12	Pump Cement	Pump Cement	5/29/2019	00:31:47	COM4	6.00	12.50	550.00	297.10	297.1 BBLS LEAD CEMENT, 860 SKS @ 12.5 PPG / 1.94 YLD / 9.59 GAL/SK

Event	13	Drop Top Plug	Drop Top Plug	5/29/2019	01:25:03	COM4						BOTH PLUGS AWAY
Event	14	Pump Displacement	Pump Displacement	5/29/2019	01:27:11	COM4	6.00	8.33	580.00	77.30		77.3 BBLS FRESH WATER DISPLACEMENT WITH 1 GALLON MMCR AND 5 GALLONS CLA-WEB THROUGHOUT
Event	15	Bump Plug	Bump Plug	5/29/2019	01:38:58	COM4	4.00	8.33	450.00	77.30		PLUG BUMPED AT CALCULATED, FINAL CIRCULATING PRESSURE 450 PSI @ 4 BBL/MIN, BROUGHT TO 1100 PSI FOR 10 MINUTES
Event	16	Other	CHECK FLOATS	5/29/2019	01:49:08	COM4			1274.00			FLOATS HELD, .5 BBL BACK TO PUMP
Event	17	End Job	End Job	5/29/2019	01:53:00	COM4						PIPE LEFT STATIC, GOOD CIRCULATION UNTIL 230 BBLS AWAY ON CEMENT, LOST ALL RETURNS AND NEVER REGAINED CIRCULATION, 9 ADD HOURS CHARGED
Event	18	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	5/29/2019	01:55:00	USER						JSA COMPLETED
Event	19	Rig-Down Equipment	Rig-Down Equipment	5/29/2019	02:00:00	USER						
Event	20	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	5/29/2019	02:25:00	USER						JSA COMPLETED
Event	21	Crew Leave Location	Crew Leave Location	5/29/2019	02:30:00	USER						THANK YOU FOR CHOOSING HALLIBURTON CEMENTING OF GRAND JUNCTION, CO - RYAN MARTIN AND CREW

3.0 Attachments

3.1 905717858-Custom Results.png

