



# WELL STIMULATION REPORT

Bayswater Exploration

**Flaherty 13-4-4**

05-123-47451-00

April 19, 2024 - April 28, 2024

**HALLIBURTON**

Production  
Enhancement

Created: May 02, 2024

## Engineering Executive Summary

On Friday, April 19, 2024 the stimulation of treatment(s) was performed in the Codell formation on the Flaherty 13-4-4 well in WELD county, COLORADO.

**The proposed treatment(s) consisted of:**

11,000	gallons of	15% HCl
8,277,880	gallons of	Dry FR
0	gallons of	FR Water
184,778	gallons of	Treated Water
693,000	pounds of	100 Mesh Premium White
6,302,972.5	pounds of	30/50 Premium White
0	pounds of	SS-200 Premium White

**The actual treatment(s) consisted of:**

25,958	gallons of	15% HCl
8,580,625	gallons of	Dry FR
178,338	gallons of	FR Water
151,524	gallons of	Treated Water
704,090	pounds of	100 Mesh Premium White
6,249,356	pounds of	30/50 Premium White
0	pounds of	SS-200 Premium White

21 of 22 treatment(s) were fully completed. 0 treatment(s) were skipped, and 1 treatment(s) were screened out or otherwise cut short of design.

The well was first opened Friday, April 19, 2024 at 19:49 with an opening pressure of 1,987.35 psi.

The total amount of proppant pumped was 6,953,446.0 lbm with an average concentration of 0.82 ppg and maximum concentration of 4.0 ppg. Treating pressure averaged 6305.86 psi and rate averaged 94.3 bpm. Total clean volume was 8,936,445.0 gallons.

The operation came offline at 15:33 and the well was shut in Sunday, April 28, 2024 at 15:48 with a final shut-in pressure of 3,952.32 psi. A more detailed description of the actual treatment can be found further down in this report.

Halliburton maintains a continuous quality improvement process and appreciates any comments or suggestions that you may have. Halliburton again thanks you for the opportunity to perform service work on this well.

Regards,

Thomas Nowak

Isaac Attobrah

Crew Service Leader

Crew Lead Engineer

## WELL COMPLETION DATA

Treatment Interval	Perforation Top (ft)	Perforation Bottom (ft)	Plug Depth (ft)	Vertical Depth (ft)	Perforation Count	Cluster Count	Cluster Spacing (ft)	Perforation Phasing	SalesOrder Number	Formation	Sub Formation
1	11533	11693	11713	6475	32	6	32	120	909263483	Codell	Codell
2	11333	11493	11513	6475	32	6	32	120	909263483	Codell	Codell
3	11133	11293	11313	6476	32	6	32	120	909263483	Codell	Codell
4	10933	11093	11113	6474	32	6	32	120	909263483	Codell	Codell
5	10733	10893	10913	6472	32	6	32	120	909263483	Codell	Codell
6	10533	10693	10713	6467	32	6	32	120	909263483	Codell	Codell
7	10333	10493	10513	6465	32	6	32	120	909263483	Codell	Codell
8	10133	10293	10313	6465	32	6	32	120	909263483	Codell	Codell
9	9933	10093	10113	6467	32	6	32	120	909263483	Codell	Codell
10	9733	9893	9913	6467	32	6	32	120	909263483	Codell	Codell
11	9533	9693	9713	6465	32	6	32	120	909263483	Codell	Codell
12	9333	9493	9513	6465	32	6	32	120	909263483	Codell	Codell
13	9133	9293	9313	6465	32	6	32	120	909263483	Codell	Codell
14	8933	9093	9113	6464	32	6	32	120	909263483	Codell	Codell
15	8733	8893	8913	6465	32	6	32	120	909263483	Codell	Codell
16	8533	8693	8713	6468	32	6	32	120	909263483	Codell	Codell
17	8333	8493	8513	6469	32	6	32	120	909263483	Codell	Codell
18	8133	8293	8313	6469	32	6	32	120	909263483	Codell	Codell
19	7933	8093	8113	6469	32	6	32	120	909263483	Codell	Codell
20	7733	7893	7913	6469	32	6	32	120	909263483	Codell	Codell
21	7533	7693	7713	6467	32	6	32	120	909263483	Codell	Codell
22	7333	7493	7513	6465	32	6	32	120	909263483	Codell	Codell

## FLUID SYSTEM SUMMARY

Treatment Interval	15% HCl		Dry FR		FR Water		Treated Water		Total Fluid		Slurry Volume
	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Pumped (gal)
1	500	3000	378223	426242	0	13541	8399	5796	387122	448579	463614.9
2	500	1000	378037	388934	0	0	8399	13185	386936	403119	418272.12
3	500	1000	377851	386612	0	5473	8399	7182	386750	400267	414841.14
4	500	1000	377664	394815	0	0	8399	13364	386563	409179	423759.84
5	500	1000	377478	387973	0	10853	8399	8316	386377	408142	423444.84
6	500	1000	377292	393196	0	0	8399	12817	386191	407013	421465.8
7	500	1000	377106	412204	0	0	8399	12366	386005	425570	440104.14
8	500	1000	376919	381529	0	23306	8399	6930	385818	412765	426389.04
9	500	1000	376733	388381	0	8230	8399	7812	385632	405423	418939.08
10	500	1000	376547	389226	0	9156	8399	6048	385446	405430	419787.9
11	500	968	376360	388417	0	5921	8399	5460	385259	400766	415615.2
12	500	1000	376174	385400	0	17116	8399	5628	385073	409144	423916.08
13	500	1000	375988	373645	0	5804	8399	6258	384887	386707	401375.94
14	500	1000	375802	355907	0	33770	8399	4536	384701	395213	410549.16
15	500	990	375615	374742	0	0	8399	3822	384514	379554	397962.18
16	500	2000	375429	426458	0	11931	8399	3948	384328	444337	460889.94
17	500	1000	375243	358280	0	1484	8399	3402	384142	364166	375655.14
18	500	1000	375056	416214	0	0	8399	16212	383955	433426	447174
19	500	2000	374870	385741	0	7946	8399	3234	383769	398921	413781.06
20	500	1000	374684	384675	0	7226	8399	2100	383583	395001	408993.9
21	500	1000	374498	396314	0	7717	8399	1680	383397	406711	421871.94
22	500	1000	374311	385720	0	8864	8399	1428	383210	397012	412332.06

FLUID SYSTEM SUMMARY

Treatment Interval	15% HCl		Dry FR		FR Water		Treated Water		Total Fluid		Slurry Volume
	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Pumped (gal)
Total	11000	25958	8277880	8580625	0	178338	184778	151524	8473658	8936445	9260735.4

## PROPPANT SUMMARY

Treatment Interval	100 Mesh Premium White		30/50 Premium White		SS-200 Premium White		Total	
	Proposed (lbm)	Pumped (lbm)	Proposed (lbm)	Pumped (lbm)	Proposed (lbm)	Pumped (lbm)	Proposed (lbm)	Pumped (lbm)
1	31500	37040	286498.75	289660	0	0	317998.75	326700
2	31500	31500	286498.75	286224	0	0	317998.75	317724
3	31500	31610	286498.75	289590	0	0	317998.75	321200
4	31500	31500	286498.75	286499	0	0	317998.75	317999
5	31500	31620	286498.75	289680	0	0	317998.75	321300
6	31500	31560	286498.75	286737	0	0	317998.75	318297
7	31500	31500	286498.75	286596	0	0	317998.75	318096
8	31500	34000	286498.75	286680	0	0	317998.75	320680
9	31500	31260	286498.75	289100	0	0	317998.75	320360
10	31500	31940	286498.75	286280	0	0	317998.75	318220
11	31500	31200	286498.75	286720	0	0	317998.75	317920
12	31500	31000	286498.75	286180	0	0	317998.75	317180
13	31500	31540	286498.75	289560	0	0	317998.75	321100
14	31500	31500	286498.75	286360	0	0	317998.75	317860
15	31500	31120	286498.75	286550	0	0	317998.75	317670
16	31500	34000	286498.75	286220	0	0	317998.75	320220
17	31500	31500	286498.75	217840	0	0	317998.75	249340
18	31500	31500	286498.75	286620	0	0	317998.75	318120
19	31500	31800	286498.75	286800	0	0	317998.75	318600
20	31500	31520	286498.75	286560	0	0	317998.75	318080
21	31500	31720	286498.75	285920	0	0	317998.75	317640
22	31500	32160	286498.75	286980	0	0	317998.75	319140

PROPPANT SUMMARY

Treatment Interval	100 Mesh Premium White		30/50 Premium White		SS-200 Premium White		Total	
	Proposed (lbm)	Pumped (lbm)	Proposed (lbm)	Pumped (lbm)	Proposed (lbm)	Pumped (lbm)	Proposed (lbm)	Pumped (lbm)
Total	693000	704090	6302972.5	6249356	0	0	6995972.5	6953446

## ADDITIVE SUMMARY

Treatment Interval	28% HCl		DCA-13001		DCA-17008		DCA-21008		DCA-21009		DCA-23010		DCA-23011	
	Proposed (gal)	Pumped (gal)	Proposed (lbs)	Pumped (lbs)	Proposed (gal)	Pumped (gal)	Proposed (lbs)	Pumped (lbs)	Proposed (lbs)	Pumped (lbs)	Proposed (gal)	Pumped (gal)	Proposed (lbs)	Pumped (lbs)
1	252.5	1515	378.22	430	1	6	40	0	40	0	0	0	756.45	1047
2	252.5	505	378.04	389	1	2	40	0	40	0	0	0	756.07	984
3	252.5	505	377.85	382	1	2	40	0	40	0	0	0	755.7	846
4	252.5	505	377.66	396	1	2	40	0	40	0	0	0	755.33	992
5	252.5	505	377.48	394	1	2	40	10	40	10	0	0	754.96	945
6	252.5	505	377.29	394	1	2	40	0	40	0	0	0	754.58	988
7	252.5	505	377.11	414	1	2	40	0	40	0	0	0	754.21	1052
8	252.5	505	376.92	391	1	2	40	0	40	0	0	0	753.84	929
9	252.5	505	376.73	393	1	2	40	5	40	5	0	0	753.47	950
10	252.5	505	376.55	389	1	2	40	0	40	0	0	0	753.09	953
11	252.5	489	376.36	360	1	1.94	40	0	40	0	0	0	752.72	944
12	252.5	505	376.17	382	1	2	40	0	40	0	0	14.37	752.35	920
13	252.5	505	375.99	375	1	2	40	0	40	0	0	0	751.98	920
14	252.5	505	375.8	380	1	2	40	15	40	15	0	75.7	751.6	859
15	252.5	500	375.62	440	1	1.98	40	0	40	0	0	16.05	751.23	875
16	252.5	1010	375.43	385	1	4	40	0	40	0	0	118.71	750.86	1019
17	252.5	505	375.24	359	1	2	40	0	40	0	0	0	750.49	852
18	252.5	505	375.06	410	1	2	40	5	40	5	0	141.61	750.11	1054
19	252.5	1010	374.87	287	1	4	40	0	40	0	0	366.8	749.74	1049
20	252.5	505	374.68	385	1	2	40	10	40	10	0	37.81	749.37	1009
21	252.5	505	374.5	396	1	2	40	10	40	10	0	41.59	749	1015
22	252.5	505	374.31	383	1	2	40	15	40	15	0	45.9	748.62	975

ADDITIVE SUMMARY

Treatment Interval	28% HCl		DCA-13001		DCA-17008		DCA-21008		DCA-21009		DCA-23010		DCA-23011	
	Proposed (gal)	Pumped (gal)	Proposed (lbs)	Pumped (lbs)	Proposed (gal)	Pumped (gal)	Proposed (lbs)	Pumped (lbs)	Proposed (lbs)	Pumped (lbs)	Proposed (gal)	Pumped (gal)	Proposed (lbs)	Pumped (lbs)
Total	5555	13109	8277.88	8514	22	51.92	880	70	880	70	0	858.54	16555.77	21177

ADDITIVE SUMMARY

Treatment Interval	DCA-32019M	
	Proposed (gal)	Pumped (gal)
1	1	6
2	1	2
3	1	2
4	1	2
5	1	2
6	1	2
7	1	2
8	1	2
9	1	2
10	1	2
11	1	1.94
12	1	2
13	1	2
14	1	2
15	1	1.98
16	1	4
17	1	2
18	1	2
19	1	4
20	1	2
21	1	2
22	1	2

ADDITIVE SUMMARY

Treatment Interval	DCA-32019M	
	Proposed (gal)	Pumped (gal)
Total	22	51.92

## AVG / MAX TECHNICAL DATA

Treatment Interval	Treatment Status	Average Pressure (psi)	Average Slurry Rate (bpm)	Average Proppant Conc (ppg)	Maximum Pressure (psi)	Maximum Slurry Rate (bpm)	Maximum Proppant Conc (ppg)
1	Completed	5887	89.98	0.75	7014	100.06	4
2	Completed	6252	94.64	0.75	7230	100.55	3.2
3	Completed	5964	96.72	0.85	6861	100.03	4
4	Completed	6421	95.14	0.82	7405	100.47	3.75
5	Completed	6315	96.01	0.86	6994	101.16	4
6	Completed	6448	93.76	0.86	7398	100.45	4
7	Completed	6413	96.92	0.77	6991	100.28	2.13
8	Completed	5957	94.82	0.85	6825	102.12	4
9	Completed	5834	95.64	0.85	6953	101.04	4
10	Completed	6421	95.04	0.84	6924	101.48	4
11	Completed	6471	95.84	0.82	7149	100.62	4
12	Completed	6366	93.62	0.78	8566	100.76	4
13	Completed	6198	94.9	0.99	6670	100.36	3.87
14	Completed	6400	96.33	0.86	7375	100.22	4
15	Completed	6268	93.53	0.81	6932	100.46	3.06
16	Completed	6577	90.83	0.82	7181	100.82	2.5
17	Cut	6731	83.11	0.69	8704	100.12	2
18	Completed	6355	96.67	0.75	7204	100.25	2.51
19	Completed	6650	95.37	0.8	7324	106.21	2.5
20	Completed	6275	92.13	0.79	6921	102.74	4
21	Completed	6220	97.37	0.81	7118	100.01	3
22	Completed	6293	96.17	0.81	7318	101.07	4

## BREAKDOWN TECHNICAL DATA

Treatment Interval	Ball Seat Volume (bbl)	Ball Seat Pressure (psi)	Ball Seat Rate (bpm)	Formation Break Pressure (psi)	Formation Break Rate (bpm)
1	1489	4430	18.02	4417	9.7
2	250.35	5463	20.02	5657	20.02
3	0	0	0	6290	48.12
4	0	0	0	4641	7.72
5	0	0	0	4676	9.78
6	0	0	0	6367	34.58
7	0	0	0	3657	8.75
8	0	0	0	6181	35.25
9	0	0	0	4948	9.6
10	0	0	0	4746	10.95
11	0	0	0	5882	27.81
12	0	0	0	6867	53.21
13	0	0	0	4880	19.44
14	0	0	0	6685	50.68
15	0	0	0	5960	19.65
16	0	0	0	7038	31.44
17	0	0	0	6977	26.32
18	0	0	0	6496	33.82
19	0	0	0	6285	11.65
20	0	0	0	6150	27.66
21	0	0	0	4819	10.66
22	0	0	0	6838	28.59

## PRESSURE TECHNICAL DATA

Treatment Interval	Open Well Pressure (psi)	Initial Shut In Pressure (psi)	Fracture Gradient (psi/ft)	Max Annulus Pressure (psi)	5 Min Pressure (psi)	10 Min Pressure (psi)	15 Min Pressure (psi)	Final Shut In Pressure (psi)
1	1987	3764	1.01	13.78	0	0	0	3705
2	3119	4265	1.09	89.76	0	0	0	3738
3	3026	3809	1.02	91.73	0	0	0	3721
4	3452	4530	1.13	101.13	0	0	0	3767
5	3199	3996	1.05	61.07	0	0	0	3836
6	4098	4564	1.14	89.95	0	0	0	3886
7	3332	4778	1.17	47.89	0	0	0	4104
8	3396	4185	1.08	72.47	0	0	0	4113
9	3476	4401	1.11	83.05	0	0	0	4268
10	3472	3938	1.04	59.83	0	0	0	3837
11	3503	4137	1.07	81.08	0	0	0	4003
12	3473	6857	1.49	41.61	0	0	0	6585
13	3486	4187	1.08	76.79	0	0	0	4061
14	3649	4119	1.07	71.74	0	0	0	4024
15	3533	4402	1.11	73.08	0	0	0	4284
16	3604	4418	1.12	80.41	0	0	0	4371
17	3644	4638	1.15	64.28	0	0	0	4501
18	3640	4296	1.1	82.14	0	0	0	4213
19	3655	4534	1.13	88.94	0	0	0	4416
20	3666	4573	1.14	86.85	0	0	0	4402
21	3632	4133	1.07	89.21	0	0	0	4006
22	3732	4324	1.1	58.32	4023	3970	0	3952

## TREATMENT TIME TECHNICAL DATA

Treatment Interval	Start Date (YYYY-MM-DD)	Well Open Time (YYYY-MM-DD hh-mm-ss)	Start Time (YYYY-MM-DD hh-mm-ss)	End Time (YYYY-MM-DD hh-mm-ss)	Well Shut In Time (YYYY-MM-DD hh-mm-ss)	Total Pump Time (hh:mm:ss)	Down Time (hh:mm:ss)
1	2024-04-19T00:00:00	2024-04-19T19:49:32	2024-04-19T19:50:13	2024-04-20T04:07:23	2024-04-20T04:08:59	02:24:38	05:52:32
2	2024-04-20T00:00:00	2024-04-20T12:24:55	2024-04-20T12:25:37	2024-04-20T14:23:53	2024-04-20T14:24:43	01:58:16	00:00:00
3	2024-04-20T00:00:00	2024-04-20T21:22:35	2024-04-20T21:23:15	2024-04-20T23:08:51	2024-04-20T23:10:11	01:45:36	00:00:00
4	2024-04-21T00:00:00	2024-04-21T06:05:30	2024-04-21T06:06:20	2024-04-21T07:58:24	2024-04-21T07:59:12	01:52:04	00:00:00
5	2024-04-21T00:00:00	2024-04-21T16:55:41	2024-04-21T16:56:01	2024-04-21T18:45:57	2024-04-21T18:46:47	01:49:56	00:00:00
6	2024-04-22T00:00:00	2024-04-22T04:31:32	2024-04-22T04:32:20	2024-04-22T06:26:06	2024-04-22T06:26:53	01:53:46	00:00:00
7	2024-04-22T00:00:00	2024-04-22T13:08:54	2024-04-22T13:09:06	2024-04-22T15:00:19	2024-04-22T15:00:50	01:51:13	00:00:00
8	2024-04-22T00:00:00	2024-04-22T21:43:01	2024-04-22T21:43:40	2024-04-22T23:39:26	2024-04-22T23:40:24	01:55:46	00:00:00
9	2024-04-23T00:00:00	2024-04-23T05:36:47	2024-04-23T05:36:58	2024-04-23T07:27:38	2024-04-23T07:27:58	01:50:40	00:00:00
10	2024-04-23T00:00:00	2024-04-23T15:19:36	2024-04-23T15:20:00	2024-04-23T17:12:11	2024-04-23T17:12:45	01:52:11	00:00:00
11	2024-04-24T00:00:00	2024-04-24T00:57:09	2024-04-24T00:57:49	2024-04-24T02:47:59	2024-04-24T02:49:01	01:50:10	00:00:00
12	2024-04-24T00:00:00	2024-04-24T14:58:32	2024-04-24T14:59:00	2024-04-24T18:12:43	2024-04-24T18:14:17	03:13:43	00:00:00
13	2024-04-25T00:00:00	2024-04-25T01:08:10	2024-04-25T01:08:34	2024-04-25T02:57:11	2024-04-25T02:58:33	01:48:37	00:00:00
14	2024-04-25T00:00:00	2024-04-25T08:54:25	2024-04-25T08:54:47	2024-04-25T10:40:37	2024-04-25T10:42:32	01:45:50	00:00:00
15	2024-04-25T00:00:00	2024-04-25T19:24:25	2024-04-25T19:24:58	2024-04-25T21:12:53	2024-04-25T21:13:24	01:47:55	00:00:00
16	2024-04-26T00:00:00	2024-04-26T05:15:06	2024-04-26T05:15:35	2024-04-26T07:34:34	2024-04-26T07:35:16	02:18:59	00:00:00
17	2024-04-26T00:00:00	2024-04-26T16:34:37	2024-04-26T16:35:05	2024-04-26T18:39:33	2024-04-26T18:42:28	02:04:28	00:00:00
18	2024-04-27T00:00:00	2024-04-27T02:34:15	2024-04-27T02:34:52	2024-04-27T04:28:10	2024-04-27T04:29:19	01:53:18	00:00:00
19	2024-04-27T00:00:00	2024-04-27T10:29:36	2024-04-27T10:30:17	2024-04-27T12:21:13	2024-04-27T12:21:26	01:50:56	00:00:00
20	2024-04-27T00:00:00	2024-04-27T18:26:03	2024-04-27T18:26:35	2024-04-27T20:18:54	2024-04-27T20:20:02	01:52:19	00:00:00
21	2024-04-28T00:00:00	2024-04-28T05:32:58	2024-04-28T05:33:35	2024-04-28T07:21:42	2024-04-28T07:22:12	01:48:07	00:00:00
22	2024-04-28T00:00:00	2024-04-28T13:43:51	2024-04-28T13:44:17	2024-04-28T15:33:42	2024-04-28T15:48:11	01:49:25	00:00:00

## QA / QC TECHNICAL DATA

Treatment Interval	Gel Viscosity (cP)	Fluid Temperature (F)	Gel pH	Interval Comments	Technology Application
1	0	60	0	Bio: 6.307 Geo: 6.452 Bleach: 24.360 Pump Down: 5796 USG Flush: 13032 USG Wireline: 32 shots on deep 6 guns	PNP
2	0	60	0	Bio: 10.5 Geo: 14.5 Bleach: 25.3 Pump Down: 7182 USG Flush: 10542 USG Wireline: 32 shots of 6 gun	PNP
3	0	60	0	Bio: 10.678 Geo: 14.137 Bleach: 26.1 Pump Down: 7182 USG Flush: 14245 USG Wireline: 32 shots of 6 gun	PNP
4	0	60	0	Bio: 10.8 Geo: 12.397 Bleach: 30.160 Pump Down: 8652 USG Flush: 10164 USG Wireline: 32 shots of 6 gun	PNP
5	0	60	0	Bio: 9.062 Geo: 11.962 Bleach: 19.937 Pump Down: 8316 USG Flush: 17097 USG Wireline: 32 shots of 6 gun Diverter 1st Drop Div 1315: 5 lbs Div 1325: 5 lbs 20 Psi 2nd Drop Div 1315: 5 lbs Div 1325: 5 lbs 60 Psi	PNP
6	0	60	0	Bio: 10.875 Geo: 15.406 Bleach: 26.281 Pump Down: 8190 USG Flush: 9828 USG Wireline: 32 shots on 6 guns	PNP
7	0	60	0	Bio: 12.688 Geo: 14.5 Bleach: 29 Pump Down: 8064 USG Flush: 9618 USG Wireline: 32 shots on 6 guns	PNP
8	0	60	0	Bio: 11.455 Geo: 13.775 Bleach: 26.1 Pump Down: 6930 USG Flush: 14565 USG Wireline: 32 shots on 6 guns	PNP
9	0	60	0	Bio: 13.7 Geo: 14.5 Bleach: 39.1 Pump Down: 7812 USG Flush: 15360 USG Wireline: 32 shots on 6 guns Diverter 1st Drop Div 1315: 0 lbs Div 1325: 0 lbs 0 Psi 2nd Drop Div 1315: 5 lbs Div 1325: 5 lbs 0 Psi	PNP
10	0	60	0	Bio: 7.25 Geo: 11.2 Bleach: 21.7 Pump Down: 6048 USG Flush: 13039 USG Wireline: 32 shots on 6 guns	PNP

## QA / QC TECHNICAL DATA

Treatment Interval	Gel Viscosity (cP)	Fluid Temperature (F)	Gel pH	Interval Comments	Technology Application
11	0	60	0	Bio: 9.06 Geo: 11.6 Bleach: 28.348 Pump Down: 5460 USG Flush: 12704 USG Wireline: 32 shots on 6 guns	PNP
12	0	60	0	Bio: 8.7 Geo: 9.425 Bleach: 26.11 Pump Down: 5628 USG Flush: USG Wireline: 32 shots on 6 guns	PNP
13	0	60	0	Bio: 12.687 Geo: 12.180 Bleach: 35.435 Pump Down: 6258 USG Flush: 12376 USG Wireline: 32 shots on 6 guns	PNP
14	0	60	0	Bio: 10.15 Geo: 10.875 Bleach: 27.602 Pump Down: 4536 USG Flush: 13530 USG Wireline: 32 shots on 6 guns Diverter 1st Drop Div 1315: 5 lbs Div 1325: 5 lbs 0 Psi 2nd Drop Div 1315: 10 lbs Div 1325: 10 lbs 25 Psi	PNP
15	0	60	0	Bio: 12.687 Geo: 4.500 Bleach: 29.0 Pump Down: 3822 USG Flush: 10743 USG Wireline: 34 shots on 6 guns Diverter 1st Drop Div 1315: 0 lbs Div 1325: 0 lbs Psi 2nd Drop Div 1315: 0 lbs Div 1325: 0 lbs Psi	PNP
16	0	60	0	Bio: 13.956 Geo: 13.775 Bleach: 37.3 Pump Down: 3948 USG Flush: 15163 USG Wireline: 32 shots on 6 guns	PNP
17	0	60	0	Bio: 7.25 Geo: 8.7 Bleach: 30.959 Pump Down: 3402 USG Flush: 4462 USG Wireline: 32 shots on 6 guns	PNP
18	0	60	0	Bio: 10.875 Geo: 13.557 Bleach: 23.722 Pump Down: 16212 USG Flush: 9833 USG Wireline: 32 shots on 6 guns Diverter 1st Drop Div 1315: 5 lbs Div 1325: 5 lbs 36 Psi	PNP
19	0	60	0	Bio: 10.5 Geo: 10.8 Bleach: 29.4 Pump Down: 3234 USG Flush: 15206 USG Wireline: 32 shots on 6 guns	PNP

QA / QC TECHNICAL DATA

Treatment Interval	Gel Viscosity (cP)	Fluid Temperature (F)	Gel pH	Interval Comments	Technology Application
20	0	60	0	Bio: 10.295 Geo: 9.787 Bleach: 28.273 Pump Down: 2100 USG Flush: 10801 USG Wireline: 32 shots on 6 guns Diverter 1st Drop Div 1315: 5 lbs Div 1325: 5 lbs 102 Psi 2nd Drop Div 1315: 5 lbs Div 1325: 5 lbs 87 Psi	PNP
21	0	60	0	Bio: 16.3 Geo: 10.8 Bleach: 18.2 Pump Down: 1680 USG Flush: 15478 USG Wireline: 32 shots on 6 guns Diverter 1st Drop Div 1315: 5 lbs Div 1325: 5 lbs 0 Psi 2nd Drop Div 1315: 5 lbs Div 1325: 5 lbs 0 Psi	PNP
22	0	60	0	Bio: 10.1 Geo: 11.2 Bleach: 29 Pump Down: 1428 USG Flush: 10898 USG Wireline: 32 shots on 6 guns Diverter 1st Drop Div 1315: 5 lbs Div 1325: 5 lbs 0 Psi 2nd Drop Div 1315: 10 lbs Div 1325: 10 lbs 0 Psi	PNP

TUBULAR DATA

Type	OD (in)	Weight (lbm/ft)	Top MD (ft)	Bottom MD (ft)	Volume Factor (gal/ft)
Casing	5.5	20	0	11790	0.931

## CLUSTER DATA

Treatment Interval	Cluster Number	Top Depth MD (ft)	Bottom Depth MD (ft)	Cluster Length (ft)	Perforation Density (spf)	Perforation Diameter (inches)	Perforation Phasing (deg)	Total Perforations	Formation	Sub Formation
1	1	11692	11693	1	6	0.35	120	6	Codell	Codell
1	2	11660	11661	1	6	0.35	120	6	Codell	Codell
1	3	11628	11629	1	6	0.35	120	6	Codell	Codell
1	4	11596	11597	1	6	0.35	120	6	Codell	Codell
1	5	11564	11565	1	4	0.35	120	4	Codell	Codell
1	6	11533	11534	1	4	0.35	120	4	Codell	Codell
2	1	11492	11493	1	6	0.35	120	6	Codell	Codell
2	2	11460	11461	1	6	0.35	120	6	Codell	Codell
2	3	11428	11429	1	6	0.35	120	6	Codell	Codell
2	4	11396	11397	1	6	0.35	120	6	Codell	Codell
2	5	11364	11365	1	4	0.35	120	4	Codell	Codell
2	6	11333	11334	1	4	0.35	120	4	Codell	Codell
3	1	11292	11293	1	6	0.35	120	6	Codell	Codell
3	2	11260	11261	1	6	0.35	120	6	Codell	Codell
3	3	11228	11229	1	6	0.35	120	6	Codell	Codell
3	4	11196	11197	1	6	0.35	120	6	Codell	Codell
3	5	11164	11165	1	4	0.35	120	4	Codell	Codell
3	6	11133	11134	1	4	0.35	120	4	Codell	Codell
4	1	11092	11093	1	6	0.35	120	6	Codell	Codell
4	2	11060	11061	1	6	0.35	120	6	Codell	Codell
4	3	11028	11029	1	6	0.35	120	6	Codell	Codell
4	4	10996	10997	1	6	0.35	120	6	Codell	Codell

## CLUSTER DATA

Treatment Interval	Cluster Number	Top Depth MD (ft)	Bottom Depth MD (ft)	Cluster Length (ft)	Perforation Density (spf)	Perforation Diameter (inches)	Perforation Phasing (deg)	Total Perforations	Formation	Sub Formation
4	5	10964	10965	1	4	0.35	120	4	Codell	Codell
4	6	10933	10934	1	4	0.35	120	4	Codell	Codell
5	1	10892	10893	1	6	0.35	120	6	Codell	Codell
5	2	10860	10861	1	6	0.35	120	6	Codell	Codell
5	3	10828	10829	1	6	0.35	120	6	Codell	Codell
5	4	10796	10797	1	6	0.35	120	6	Codell	Codell
5	5	10764	10765	1	4	0.35	120	4	Codell	Codell
5	6	10733	10734	1	4	0.35	120	4	Codell	Codell
6	1	10692	10693	1	6	0.35	120	6	Codell	Codell
6	2	10660	10661	1	6	0.35	120	6	Codell	Codell
6	3	10628	10629	1	6	0.35	120	6	Codell	Codell
6	4	10596	10597	1	6	0.35	120	6	Codell	Codell
6	5	10564	10565	1	4	0.35	120	4	Codell	Codell
6	6	10533	10534	1	4	0.35	120	4	Codell	Codell
7	1	10492	10493	1	6	0.35	120	6	Codell	Codell
7	2	10460	10461	1	6	0.35	120	6	Codell	Codell
7	3	10428	10429	1	6	0.35	120	6	Codell	Codell
7	4	10396	10397	1	6	0.35	120	6	Codell	Codell
7	5	10364	10365	1	4	0.35	120	4	Codell	Codell
7	6	10333	10334	1	4	0.35	120	4	Codell	Codell
8	1	10292	10293	1	6	0.35	120	6	Codell	Codell
8	2	10260	10261	1	6	0.35	120	6	Codell	Codell

## CLUSTER DATA

Treatment Interval	Cluster Number	Top Depth MD (ft)	Bottom Depth MD (ft)	Cluster Length (ft)	Perforation Density (spf)	Perforation Diameter (inches)	Perforation Phasing (deg)	Total Perforations	Formation	Sub Formation
8	3	10228	10229	1	6	0.35	120	6	Codell	Codell
8	4	10196	10197	1	6	0.35	120	6	Codell	Codell
8	5	10164	10165	1	4	0.35	120	4	Codell	Codell
8	6	10133	10134	1	4	0.35	120	4	Codell	Codell
9	1	10092	10093	1	6	0.35	120	6	Codell	Codell
9	2	10060	10061	1	6	0.35	120	6	Codell	Codell
9	3	10028	10029	1	6	0.35	120	6	Codell	Codell
9	4	9996	9997	1	6	0.35	120	6	Codell	Codell
9	5	9964	9965	1	4	0.35	120	4	Codell	Codell
9	6	9933	9934	1	4	0.35	120	4	Codell	Codell
10	1	9892	9893	1	6	0.35	120	6	Codell	Codell
10	2	9860	9861	1	6	0.35	120	6	Codell	Codell
10	3	9828	9829	1	6	0.35	120	6	Codell	Codell
10	4	9796	9797	1	6	0.35	120	6	Codell	Codell
10	5	9764	9765	1	4	0.35	120	4	Codell	Codell
10	6	9733	9734	1	4	0.35	120	4	Codell	Codell
11	1	9692	9693	1	6	0.35	120	6	Codell	Codell
11	2	9660	9661	1	6	0.35	120	6	Codell	Codell
11	3	9628	9629	1	6	0.35	120	6	Codell	Codell
11	4	9596	9597	1	6	0.35	120	6	Codell	Codell
11	5	9564	9565	1	4	0.35	120	4	Codell	Codell
11	6	9533	9534	1	4	0.35	120	4	Codell	Codell

## CLUSTER DATA

Treatment Interval	Cluster Number	Top Depth MD (ft)	Bottom Depth MD (ft)	Cluster Length (ft)	Perforation Density (spf)	Perforation Diameter (inches)	Perforation Phasing (deg)	Total Perforations	Formation	Sub Formation
12	1	9492	9493	1	6	0.35	120	6	Codell	Codell
12	2	9460	9461	1	6	0.35	120	6	Codell	Codell
12	3	9428	9429	1	6	0.35	120	6	Codell	Codell
12	4	9396	9397	1	6	0.35	120	6	Codell	Codell
12	5	9364	9365	1	4	0.35	120	4	Codell	Codell
12	6	9333	9334	1	4	0.35	120	4	Codell	Codell
13	1	9292	9293	1	6	0.35	120	6	Codell	Codell
13	2	9260	9261	1	6	0.35	120	6	Codell	Codell
13	3	9228	9229	1	6	0.35	120	6	Codell	Codell
13	4	9196	9197	1	6	0.35	120	6	Codell	Codell
13	5	9164	9165	1	4	0.35	120	4	Codell	Codell
13	6	9133	9134	1	4	0.35	120	4	Codell	Codell
14	1	9092	9093	1	6	0.35	120	6	Codell	Codell
14	2	9060	9061	1	6	0.35	120	6	Codell	Codell
14	3	9028	9029	1	6	0.35	120	6	Codell	Codell
14	4	8996	8997	1	6	0.35	120	6	Codell	Codell
14	5	8964	8965	1	4	0.35	120	4	Codell	Codell
14	6	8933	8934	1	4	0.35	120	4	Codell	Codell
15	1	8892	8893	1	6	0.35	120	6	Codell	Codell
15	2	8860	8861	1	6	0.35	120	6	Codell	Codell
15	3	8828	8829	1	6	0.35	120	6	Codell	Codell
15	4	8796	8797	1	6	0.35	120	6	Codell	Codell

## CLUSTER DATA

Treatment Interval	Cluster Number	Top Depth MD (ft)	Bottom Depth MD (ft)	Cluster Length (ft)	Perforation Density (spf)	Perforation Diameter (inches)	Perforation Phasing (deg)	Total Perforations	Formation	Sub Formation
15	5	8764	8765	1	4	0.35	120	4	Codell	Codell
15	6	8733	8734	1	4	0.35	120	4	Codell	Codell
16	1	8692	8693	1	6	0.35	120	6	Codell	Codell
16	2	8660	8661	1	6	0.35	120	6	Codell	Codell
16	3	8628	8629	1	6	0.35	120	6	Codell	Codell
16	4	8596	8597	1	6	0.35	120	6	Codell	Codell
16	5	8564	8565	1	4	0.35	120	4	Codell	Codell
16	6	8533	8534	1	4	0.35	120	4	Codell	Codell
17	1	8492	8493	1	6	0.35	120	6	Codell	Codell
17	2	8460	8461	1	6	0.35	120	6	Codell	Codell
17	3	8428	8429	1	6	0.35	120	6	Codell	Codell
17	4	8396	8397	1	6	0.35	120	6	Codell	Codell
17	5	8364	8365	1	4	0.35	120	4	Codell	Codell
17	6	8333	8334	1	4	0.35	120	4	Codell	Codell
18	1	8292	8293	1	6	0.35	120	6	Codell	Codell
18	2	8260	8261	1	6	0.35	120	6	Codell	Codell
18	3	8228	8229	1	6	0.35	120	6	Codell	Codell
18	4	8196	8197	1	6	0.35	120	6	Codell	Codell
18	5	8164	8165	1	4	0.35	120	4	Codell	Codell
18	6	8133	8134	1	4	0.35	120	4	Codell	Codell
19	1	8092	8093	1	6	0.35	120	6	Codell	Codell
19	2	8060	8061	1	6	0.35	120	6	Codell	Codell

## CLUSTER DATA

Treatment Interval	Cluster Number	Top Depth MD (ft)	Bottom Depth MD (ft)	Cluster Length (ft)	Perforation Density (spf)	Perforation Diameter (inches)	Perforation Phasing (deg)	Total Perforations	Formation	Sub Formation
19	3	8028	8029	1	6	0.35	120	6	Codell	Codell
19	4	7996	7997	1	6	0.35	120	6	Codell	Codell
19	5	7964	7965	1	4	0.35	120	4	Codell	Codell
19	6	7933	7934	1	4	0.35	120	4	Codell	Codell
20	1	7892	7893	1	6	0.35	120	6	Codell	Codell
20	2	7860	7861	1	6	0.35	120	6	Codell	Codell
20	3	7828	7829	1	6	0.35	120	6	Codell	Codell
20	4	7796	7797	1	6	0.35	120	6	Codell	Codell
20	5	7764	7765	1	4	0.35	120	4	Codell	Codell
20	6	7733	7734	1	4	0.35	120	4	Codell	Codell
21	1	7692	7693	1	6	0.35	120	6	Codell	Codell
21	2	7660	7661	1	6	0.35	120	6	Codell	Codell
21	3	7628	7629	1	6	0.35	120	6	Codell	Codell
21	4	7596	7597	1	6	0.35	120	6	Codell	Codell
21	5	7564	7565	1	4	0.35	120	4	Codell	Codell
21	6	7533	7534	1	4	0.35	120	4	Codell	Codell
22	1	7492	7493	1	6	0.35	120	6	Codell	Codell
22	2	7460	7461	1	6	0.35	120	6	Codell	Codell
22	3	7428	7429	1	6	0.35	120	6	Codell	Codell
22	4	7396	7397	1	6	0.35	120	6	Codell	Codell
22	5	7364	7365	1	4	0.35	120	4	Codell	Codell
22	6	7333	7334	1	4	0.35	120	4	Codell	Codell

## STAGE DESCRIPTION

Treatment Interval	Acid		Breakdown		Flush		Overflush		PLF		Pad		Pre-Flush	
	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)
1	500	3000	1000	586	10743	29700	0	0	328680	352164	37800	57333	0	0
2	500	1000	1000	2149	10557	21094	0	0	328680	329177	37800	42517	0	0
3	500	1000	1000	311	10371	18228	0	0	328680	327082	37800	46464	0	0
4	500	1000	1000	979	10184	18225	0	0	328680	341828	37800	38495	0	0
5	500	1000	1000	244	9998	17097	0	0	328680	341933	37800	38979	0	573
6	500	1000	1000	930	9812	18346	0	0	328680	344321	37800	34226	0	0
7	500	1000	1000	314	9626	18897	0	0	328680	350173	37800	45455	0	0
8	500	1000	1000	513	9439	14565	0	0	328680	348374	37800	39050	0	2333
9	500	1000	1000	607	9253	8435	0	6925	328680	337339	37800	38844	0	4461
10	500	1000	0	0	9067	18568	0	0	328680	338598	37800	39325	0	0
11	500	968	1000	417	8880	17384	0	0	328680	339321	37800	37216	0	0
12	500	1000	1000	907	8694	25396	0	0	328680	336297	37800	39916	0	0
13	500	1000	1000	609	8508	12376	0	0	328680	322508	37800	42840	0	1116
14	500	1000	1000	1119	8322	3766	0	13530	328680	333760	37800	37502	0	0
15	500	990	0	0	8135	15385	0	0	328680	302849	37800	45144	0	0
16	500	2000	1000	1657	7949	8909	0	6253	328680	349548	37800	66989	0	3183
17	500	1000	1000	432	7763	260	0	0	328680	301781	37800	37230	0	2347
18	500	1000	1000	190	7576	13294	0	0	328680	351960	37800	50770	0	0
19	500	2000	1000	695	7390	8730	0	6476	328680	326535	37800	38635	0	4212
20	500	1000	1000	468	7204	16863	0	0	328680	336748	37800	37822	0	0
21	500	1000	1000	808	7018	9100	0	6378	328680	335610	37800	38526	0	3058
22	500	1000	1000	1642	6831	4747	0	6150	328680	338706	37800	38873	0	4466

STAGE DESCRIPTION

Treatment Interval	Acid		Breakdown		Flush		Overflush		PLF		Pad		Pre-Flush	
	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)
Total	11000	25958	20000	15577	193320	319365	0	45712	7230960	7386612	831600	932151	0	25749

## STAGE DESCRIPTION

Treatment Interval	Shut-In		Spacer		Wireline Pump-In		Total	
	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)
1	0	0	0	0	0	5796	378723	448579
2	0	0	0	0	0	7182	378537	403119
3	0	0	0	0	0	7182	378351	400267
4	0	0	0	0	0	8652	378164	409179
5	0	0	0	0	0	8316	377978	408142
6	0	0	0	0	0	8190	377792	407013
7	0	0	0	1667	0	8064	377606	425570
8	0	0	0	0	0	6930	377419	412765
9	0	0	0	0	0	7812	377233	405423
10	0	0	0	1891	0	6048	376047	405430
11	0	0	0	0	0	5460	376860	400766
12	0	0	0	0	0	5628	376674	409144
13	0	0	0	0	0	6258	376488	386707
14	0	0	0	0	0	4536	376302	395213
15	0	0	0	11364	0	3822	375115	379554
16	0	0	0	1850	0	3948	375929	444337
17	0	0	0	17714	0	3402	375743	364166
18	0	0	0	0	0	16212	375556	433426
19	0	0	0	8404	0	3234	375370	398921
20	0	0	0	0	0	2100	375184	395001
21	0	0	0	10551	0	1680	374998	406711
22	0	0	0	0	0	1428	374811	397012

STAGE DESCRIPTION

Treatment Interval	Shut-In		Spacer		Wireline Pump-In		Total	
	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)
Total	0	0	0	53441	0	131880	8286880	8936445

## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
1	1	Wireline Pump-In	Treated Water		0	0	0	22	5796	5796	5796
	2	Breakdown	FR Water		0	0	0	7.16	586	651	6382
	3	Acid	15% HCl		0	0	0	9.75	1000	1000	7382
	4	Pad	FR Water		0	0	0	9.76	1917	1974	9299
	5	Acid	15% HCl		0	0	0	9.77	1000	1000	10299
	6	Pad	FR Water		0	0	0	12.14	526	507	10825
	7	Pad	Dry FR		0	0	0	41.87	11756	11676	22581
	8	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	69.23	21488	21710	44069
	9	Flush	Dry FR		0	0	0	69.9	7440	7444	51509
	10	Flush	FR Water		0	0	0	38.74	5369	5395	56878
	11	Acid	15% HCl		0	0	0	9.99	1000	1000	57878
	12	Pad	FR Water		0	0	0	10.34	695	746	58573
	13	Pad	Dry FR		0	0	0	46.22	42439	42801	101012
	14	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	95.99	51350	52031	152362
	15	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	96.9	21770	22669	174132
	16	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	98.68	12081	12251	186213
	17	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.64	62978	66154	249191
	18	PLF	Dry FR	30/50 Premium White	2	2	2	99.51	11046	11995	260237
	19	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.72	9856	9978	270093
	20	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.72	64105	67028	334198
	21	PLF	Dry FR	30/50 Premium White	2	2	2	99.64	11167	12088	345365
	22	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.92	44080	44642	389445

## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
1	23	PLF	Dry FR	30/50 Premium White	0.25	4	2.12	99.66	42243	46008	431688
	24	Flush	Dry FR		0	0	0	99.9	3858	3800	435546
	25	Flush	Dry FR		0	0	0	97.04	8585	8620	444131
	26	Flush	FR Water		0	0	0	75.58	4448	4651	448579
2	1	Wireline Pump-In	Treated Water		0	0	0	18	7182	7182	455761
	2	Breakdown	Treated Water		0	0	0	8.98	2149	2159	457910
	3	Acid	15% HCl		0	0	0	10.37	1000	1000	458910
	4	Pad	Dry FR		0	0	0	13.03	1318	1383	460228
	5	Pad	Dry FR		0	0	0	48.15	41199	41392	501427
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	95	51246	52024	552673
	7	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	100.05	21899	22848	574572
	8	PLF	Dry FR	100 Mesh Premium White	1.5	1.5	1.5	99.76	3655	3936	578227
	9	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.04	21645	21993	599872
	10	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100	62959	66511	662831
	11	PLF	Dry FR	30/50 Premium White	2	2	2	99.93	10902	11966	673733
	12	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.09	9587	9731	683320
	13	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.05	64007	67575	747327
	14	PLF	Dry FR	30/50 Premium White	2	2	2	99.84	11284	12383	758611
	15	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.15	39279	39870	797890
	16	PLF	Dry FR	30/50 Premium White	0.25	3.2	1.72	99.94	32714	35161	830604
	17	Flush	Dry FR		0	0	0	100.18	6678	6702	837282
	18	Flush	Dry FR		0	0	0	100.31	10562	10532	847844

## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
2	19	Flush	Treated Water		0	0	0	82.31	3854	3924	851698
3	1	Wireline Pump-In	Treated Water		0	0	0	22	7182	7182	858880
	2	Breakdown	FR Water		0	0	0	6.42	311	384	859191
	3	Acid	15% HCl		0	0	0	10	1000	1000	860191
	4	Pad	FR Water		0	0	0	17.39	1065	994	861256
	5	Pad	Dry FR		0	0	0	71.1	45399	45483	906655
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	99.91	43558	44151	950213
	7	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	99.8	21878	22728	972091
	8	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.8	14707	14920	986798
	9	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.67	62876	66191	1049674
	10	PLF	Dry FR	30/50 Premium White	2	2	2	99.5	11352	12342	1061026
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.81	9846	9998	1070872
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.7	64045	67167	1134917
	13	PLF	Dry FR	30/50 Premium White	2	2	2	99.52	11516	12550	1146433
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.81	43803	44402	1190236
	15	PLF	Dry FR	30/50 Premium White	0.25	3.99	2.12	99.55	40706	44197	1230942
	16	PLF	Dry FR	30/50 Premium White	4	4	4	99.54	2795	2948	1233737
	17	Flush	Dry FR		0	0	0	99.77	3982	3934	1237719
	18	Flush	Dry FR		0	0	0	99.73	10149	10196	1247868
	19	Flush	FR Water		0	0	0	73.49	4097	4074	1251965
4	1	Wireline Pump-In	Treated Water		0	0	0	18	8652	8652	1260617
	2	Breakdown	Treated Water		0	0	0	6.75	979	920	1261596

## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
4	3	Acid	15% HCl		0	0	0	10.25	1000	1000	1262596
	4	Pad	Treated Water		0	0	0	12.64	691	680	1263287
	5	Pad	Dry FR		0	0	0	57.06	37804	37736	1301091
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	92.86	61918	62691	1363009
	7	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	99.93	21848	22677	1384857
	8	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.91	13481	13662	1398338
	9	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.95	62921	66180	1461259
	10	PLF	Dry FR	30/50 Premium White	2	2	2	99.93	11955	13021	1473214
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.05	9594	9735	1482808
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.01	63983	67243	1546791
	13	PLF	Dry FR	30/50 Premium White	2	2	2	99.96	17657	19221	1564448
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.17	40140	40665	1604588
	15	PLF	Dry FR	30/50 Premium White	0.25	3.75	2	99.98	38331	41352	1642919
	16	Flush	Dry FR		0	0	0	100.1	4175	4164	1647094
	17	Flush	Dry FR		0	0	0	100.27	11008	11025	1658102
	18	Flush	Treated Water		0	0	0	77.57	3042	3136	1661144
5	1	Wireline Pump-In	Treated Water		0	0	0	22	8316	8316	1669460
	2	Breakdown	FR Water		0	0	0	4.68	244	267	1669704
	3	Acid	15% HCl		0	0	0	9.82	1000	1000	1670704
	4	Pad	FR Water		0	0	0	25.75	6092	6115	1676796
	5	Pad	Dry FR		0	0	0	65.01	32887	32972	1709683
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	97.52	52073	52792	1761756

## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
5	7	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	100.3	22166	23029	1783922
	8	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.25	12041	12221	1795963
	9	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.15	62903	66144	1858866
	10	PLF	Dry FR	30/50 Premium White	2	2	2	99.92	11010	11972	1869876
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.06	9848	10022	1879724
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.04	63990	67196	1943714
	13	PLF	Dry FR	30/50 Premium White	2	2	2	99.86	11285	12252	1954999
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.14	51602	52394	2006601
	15	PLF	Dry FR	30/50 Premium White	0.25	4	2.12	99.8	40708	44319	2047309
	16	PLF	Dry FR	30/50 Premium White	4	4	4	99.56	4307	4557	2051616
	17	Pre-Flush	Dry FR		0	0	0	99.92	573	562	2052189
	18	Flush	Dry FR		0	0	0	100.11	12580	12565	2064769
	19	Flush	FR Water		0	0	0	67.98	4517	4750	2069286
6	1	Wireline Pump-In	Treated Water		0	0	0	18	8190	8190	2077476
	2	Breakdown	Treated Water		0	0	0	6.67	930	993	2078406
	3	Acid	15% HCl		0	0	0	11.34	1000	1000	2079406
	4	Pad	Dry FR		0	0	0	18.66	3559	3468	2082965
	5	Pad	Dry FR		0	0	0	63.05	30667	30676	2113632
	6	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	87.04	3364	3371	2116996
	7	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	89.36	52120	52718	2169116
	8	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	90.76	21765	22542	2190881
	9	PLF	Dry FR	100 Mesh Premium White	1.5	1.5	1.5	90.67	3376	3581	2194257

## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
6	10	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	90.76	12125	12282	2206382
	11	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	97.16	62935	65953	2269317
	12	PLF	Dry FR	30/50 Premium White	2	2	2	99.98	13001	14102	2282318
	13	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.25	12909	13071	2295227
	14	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.18	63980	67006	2359207
	15	PLF	Dry FR	30/50 Premium White	2	2	2	100.02	11631	12613	2370838
	16	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.34	43748	44276	2414586
	17	PLF	Dry FR	30/50 Premium White	0.25	3.99	2.12	100.1	40723	44103	2455309
	18	PLF	Dry FR	30/50 Premium White	4	4	4	99.59	2644	3021	2457953
	19	Flush	Dry FR		0	0	0	97.31	4747	4663	2462700
	20	Flush	Dry FR		0	0	0	97.03	9902	9917	2472602
	21	Flush	Treated Water		0	0	0	74.5	3697	3920	2476299
7	1	Wireline Pump-In	Treated Water		0	0	0	18	8064	8064	2484363
	2	Breakdown	Treated Water		0	0	0	5.44	314	317	2484677
	3	Acid	15% HCl		0	0	0	10.35	1000	1000	2485677
	4	Pad	Treated Water		0	0	0	13.27	723	732	2486400
	5	Pad	Dry FR		0	0	0	72.08	44732	44784	2531132
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	95.31	2749	2756	2533881
	7	Spacer	Dry FR		0	0	0	95.3	1667	1678	2535548
	8	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	98.41	47335	48007	2582883
	9	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	99.93	23327	24224	2606210
	10	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.91	11864	12036	2618074

## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
7	11	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.89	62863	65962	2680937
	12	PLF	Dry FR	30/50 Premium White	2	2	2	99.73	19291	20951	2700228
	13	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.91	12293	12457	2712521
	14	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.88	64006	67078	2776527
	15	PLF	Dry FR	30/50 Premium White	2	2	2	99.72	11735	12725	2788262
	16	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.9	52544	53241	2840806
	17	PLF	Dry FR	30/50 Premium White	0.25	2.13	1.19	99.83	22011	23085	2862817
	18	PLF	Dry FR	30/50 Premium White	2	2	2	99.7	20155	21857	2882972
	19	Flush	Dry FR		0	0	0	99.88	5503	5490	2888475
	20	Flush	Dry FR		0	0	0	100.1	10129	10155	2898604
	21	Flush	Treated Water		0	0	0	74.6	3265	3505	2901869
8	1	Wireline Pump-In	Treated Water		0	0	0	22	6930	6930	2908799
	2	Breakdown	FR Water		0	0	0	6.11	513	551	2909312
	3	Acid	15% HCl		0	0	0	9.5	1000	1000	2910312
	4	Pad	FR Water		0	0	0	10.25	506	510	2910818
	5	Pad	Dry FR		0	0	0	29.4	6222	6152	2917040
	6	Pad	FR Water		0	0	0	44.79	14527	14507	2931567
	7	Pad	Dry FR		0	0	0	46.78	1187	1186	2932754
	8	Pad	FR Water		0	0	0	46.83	1855	1850	2934609
	9	Pad	Dry FR		0	0	0	55.42	14753	14688	2949362
	10	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	97.47	55655	56135	3005017
	11	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	100.19	22694	23462	3027711

## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
8	12	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.18	12030	12156	3039741
	13	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.17	62906	65808	3102647
	14	PLF	Dry FR	30/50 Premium White	2	2	2	100.76	12115	13144	3114762
	15	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	101.48	16135	16311	3130897
	16	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.65	64001	67051	3194898
	17	PLF	Dry FR	30/50 Premium White	2	2	2	99.77	12863	13926	3207761
	18	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.54	46346	46991	3254107
	19	PLF	Dry FR	30/50 Premium White	0.25	4	2.12	100.84	40699	44162	3294806
	20	PLF	Dry FR	30/50 Premium White	4	4	4	100.84	2930	2990	3297736
	21	Pre-Flush	Dry FR		0	0	0	101.14	2333	2283	3300069
	22	Flush	Dry FR		0	0	0	101.24	8660	8702	3308729
	23	Flush	FR Water		0	0	0	83.94	5905	5894	3314634
9	1	Wireline Pump-In	Treated Water		0	0	0	20	7812	7812	3322446
	2	Breakdown	FR Water		0	0	0	7.8	607	679	3323053
	3	Acid	15% HCl		0	0	0	11.83	1000	1000	3324053
	4	Pad	FR Water		0	0	0	11.68	698	680	3324751
	5	Pad	Dry FR		0	0	0	56.86	38146	37982	3362897
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	93.93	56364	56902	3419261
	7	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	100.38	22374	23140	3441635
	8	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.14	12039	12154	3453674
	9	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.06	62966	65804	3516640
	10	PLF	Dry FR	30/50 Premium White	2	2	2	99.95	10949	11839	3527589

## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
9	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.23	9570	9678	3537159
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.16	64031	66912	3601190
	13	PLF	Dry FR	30/50 Premium White	2	2	2	100.01	11024	11914	3612214
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.32	43844	44342	3656058
	15	PLF	Dry FR	30/50 Premium White	0.25	4	2.12	100	40777	44209	3696835
	16	PLF	Dry FR	30/50 Premium White	4	4	4	99.71	3401	4005	3700236
	17	Pre-Flush	Dry FR		0	0	0	100.15	4461	4379	3704697
	18	Flush	Dry FR		0	0	0	100.37	8435	8494	3713132
	19	Overflush	FR Water		0	0	0	89.43	6925	7014	3720057
10	1	Wireline Pump-In	Treated Water		0	0	0	22	6048	6048	3726105
	2	Shut-In	FR Water		0	0	0	0	0	0	3726105
	3	Pad	FR Water		0	0	0	9.67	1787	1833	3727892
	4	Acid	15% HCl		0	0	0	10.74	1000	1000	3728892
	5	Pad	FR Water		0	0	0	11.26	422	429	3729314
	6	Pad	Dry FR		0	0	0	57.84	37116	37054	3766430
	7	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	81.6	2182	2186	3768612
	8	Spacer	Dry FR		0	0	0	81.53	1891	1897	3770503
	9	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	94.9	50337	50958	3820840
	10	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	100.18	21950	22800	3842790
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.59	17844	18103	3860634
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.45	62941	65939	3923575
	13	PLF	Dry FR	30/50 Premium White	2	2	2	99.32	11036	11965	3934611

## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
10	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.48	9481	9596	3944092
	15	PLF	Dry FR	30/50 Premium White	0.25	1.99	1.12	99.46	63787	66784	4007879
	16	PLF	Dry FR	30/50 Premium White	2	2	2	99.29	11016	11970	4018895
	17	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.44	43937	44481	4062832
	18	PLF	Dry FR	30/50 Premium White	0.25	4	2.12	99.23	40686	44131	4103518
	19	PLF	Dry FR	30/50 Premium White	4	4	4	99.16	3401	3982	4106919
	20	Flush	Dry FR		0	0	0	98.39	5529	5485	4112448
	21	Flush	Dry FR		0	0	0	99.15	6092	6149	4118540
	22	Flush	FR Water		0	0	0	87.99	6947	6998	4125487
11	1	Wireline Pump-In	Treated Water		0	0	0	22	5460	5460	4130947
	2	Breakdown	FR Water		0	0	0	7.9	417	422	4131364
	3	Acid	15% HCl		0	0	0	10.72	968	968	4132332
	4	Pad	FR Water		0	0	0	11.77	482	518	4132814
	5	Pad	Dry FR		0	0	0	49.28	36734	36691	4169548
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	96.84	51568	52264	4221116
	7	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	100.23	21911	22756	4243027
	8	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.2	12056	12220	4255083
	9	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.11	62934	66046	4318017
	10	PLF	Dry FR	30/50 Premium White	2	2	2	100.01	14926	16205	4332943
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.24	9756	9890	4342699
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.33	63981	67103	4406680
	13	PLF	Dry FR	30/50 Premium White	2	2	2	100.25	11183	12158	4417863

## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
11	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.42	48964	49684	4466827
	15	PLF	Dry FR	30/50 Premium White	0.25	4	2.12	100.21	42042	45910	4508869
	16	Flush	Dry FR		0	0	0	100.35	4680	4599	4513549
	17	Flush	Dry FR		0	0	0	100.43	7682	7721	4521231
	18	Flush	FR Water		0	0	0	83.58	5022	5000	4526253
12	1	Wireline Pump-In	Treated Water		0	0	0	22	5628	5628	4531881
	2	Breakdown	FR Water		0	0	0	9.4	907	1026	4532788
	3	Acid	15% HCl		0	0	0	10.81	1000	1000	4533788
	4	Pad	FR Water		0	0	0	12	622	537	4534410
	5	Pad	Dry FR		0	0	0	73.01	39294	39278	4573704
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	99.72	52053	52639	4625757
	7	PLF	Dry FR	100 Mesh Premium White	0.25	1.49	0.87	99.64	21738	22553	4647495
	8	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.76	13605	13786	4661100
	9	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.49	62986	66112	4724086
	10	PLF	Dry FR	30/50 Premium White	2	2	2	99.32	11704	12730	4735790
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.47	10238	10368	4746028
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.38	63908	67011	4809936
	13	PLF	Dry FR	30/50 Premium White	2	2	2	99.2	11898	12924	4821834
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.49	44773	45299	4866607
	15	PLF	Dry FR	30/50 Premium White	0.25	4	2.12	99.25	40741	44197	4907348
	16	PLF	Dry FR	30/50 Premium White	4	4	4	98.9	2653	3063	4910001
	17	Flush	Dry FR		0	0	0	97.29	5277	5216	4915278

## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
12	18	Flush	Dry FR		0	0	0	62.58	3011	2989	4918289
	19	Flush	FR Water		0	0	0	2.96	278	380	4918567
	20	Flush	Dry FR		0	0	0	3.11	1521	1627	4920088
	21	Flush	FR Water		0	0	0	8.18	15309	15553	4935397
13	1	Wireline Pump-In	Treated Water		0	0	0	22	6258	6258	4941655
	2	Breakdown	FR Water		0	0	0	8.18	609	611	4942264
	3	Acid	15% HCl		0	0	0	9.83	1000	1000	4943264
	4	Pad	FR Water		0	0	0	10.89	468	489	4943732
	5	Pad	Dry FR		0	0	0	49.76	42372	42354	4986104
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	97.92	46984	47521	5033088
	7	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.87	100.01	21794	22623	5054882
	8	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.06	12102	12257	5066984
	9	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.94	63055	66249	5130039
	10	PLF	Dry FR	30/50 Premium White	2	2	2	99.92	11070	12039	5141109
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.13	9690	9810	5150799
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.04	64006	67185	5214805
	13	PLF	Dry FR	30/50 Premium White	2	2	2	99.96	11089	12047	5225894
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.19	43856	44616	5269750
	15	PLF	Dry FR	30/50 Premium White	0.25	3.87	2.06	99.89	38862	42933	5308612
	16	Pre-Flush	Dry FR		0	0	0	100.13	1116	1060	5309728
	17	Flush	Dry FR		0	0	0	97.37	7649	7613	5317377
	18	Flush	FR Water		0	0	0	69.31	4727	4711	5322104

## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
14	1	Wireline Pump-In	Treated Water		0	0	0	20	4536	4536	5326640
	2	Breakdown	FR Water		0	0	0	8.65	1119	1060	5327759
	3	Acid	15% HCl		0	0	0	9.56	1000	1000	5328759
	4	Pad	FR Water		0	0	0	11.41	310	315	5329069
	5	Pad	Dry FR		0	0	0	69.2	37192	37246	5366261
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	99.4	51838	52581	5418099
	7	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.87	91.94	21817	22673	5439916
	8	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.26	12019	12174	5451935
	9	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.18	62914	66168	5514849
	10	PLF	Dry FR	30/50 Premium White	2	2	2	99.05	11052	12075	5525901
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.17	9722	9852	5535623
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.16	63902	67139	5599525
	13	PLF	Dry FR	30/50 Premium White	2	2	2	99.07	11056	12070	5610581
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.3	44160	44705	5654741
	15	PLF	Dry FR	30/50 Premium White	0.25	2.95	1.6	99.15	30235	32345	5684976
	16	PLF	FR Water	30/50 Premium White	2.96	3.99	3.48	98.95	10502	12128	5695478
	17	PLF	FR Water	30/50 Premium White	4	4	4	98.91	4543	5302	5700021
	18	Flush	FR Water		0	0	0	99.1	3766	3775	5703787
	19	Overflush	FR Water		0	0	0	75.95	13530	13405	5717317
15	1	Wireline Pump-In	Treated Water		0	0	0	22	3822	3822	5721139
	2	Shut-In	Dry FR		0	0	0	0	0	0	5721139
	3	Pad	Dry FR		0	0	0	8.89	394	457	5721533

## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
15	4	Acid	15% HCl		0	0	0	10	990	990	5722523
	5	Pad	Dry FR		0	0	0	10.74	460	489	5722983
	6	Pad	Dry FR		0	0	0	54.49	44290	44704	5767273
	7	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	74.65	1943	2054	5769216
	8	Spacer	Dry FR		0	0	0	76.09	11364	11653	5780580
	9	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	93.78	39376	40334	5819956
	10	PLF	Dry FR	100 Mesh Premium White	0.25	1.09	0.67	99.79	12623	13212	5832579
	11	PLF	Dry FR	100 Mesh Premium White	1.09	1.5	1.29	99.72	6457	6956	5839036
	12	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.94	11894	12189	5850930
	13	PLF	Dry FR	30/50 Premium White	0.25	0.39	0.32	100.06	5219	5359	5856149
	14	PLF	Dry FR	30/50 Premium White	0.39	2	1.19	99.74	56805	60896	5912954
	15	PLF	Dry FR	30/50 Premium White	2	2	2	99.62	10837	12076	5923791
	16	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.88	9538	9778	5933329
	17	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.78	62837	67168	5996166
	18	PLF	Dry FR	30/50 Premium White	2	2	2	99.61	10822	12076	6006988
	19	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.84	43624	44686	6050612
	20	PLF	Dry FR	30/50 Premium White	0.25	3.06	1.66	99.63	30874	33567	6081486
	21	Flush	Dry FR		0	0	0	99.88	4244	4220	6085730
	22	Flush	Dry FR		0	0	0	100.04	4185	4227	6089915
	23	Flush	Dry FR		0	0	0	79.71	6956	7049	6096871
16	1	Wireline Pump-In	Treated Water		0	0	0	20	3948	3948	6100819
	2	Breakdown	FR Water		0	0	0	9.06	1657	1729	6102476

## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
16	3	Acid	15% HCl		0	0	0	9.95	1000	1000	6103476
	4	Pad	FR Water		0	0	0	9.86	937	959	6104413
	5	Acid	15% HCl		0	0	0	9.76	1000	1000	6105413
	6	Pad	FR Water		0	0	0	10.44	3084	3102	6108497
	7	Pad	Dry FR		0	0	0	57.87	45568	45568	6154065
	8	Pad	Dry FR		0	0	0	83.32	17400	17439	6171465
	9	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	84.01	6486	6514	6177951
	10	Spacer	Dry FR		0	0	0	84.85	1850	1853	6179801
	11	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	90.25	24013	24357	6203814
	12	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	100.2	23674	24633	6227488
	13	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.31	12065	12231	6239553
	14	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.16	62971	66203	6302524
	15	PLF	Dry FR	30/50 Premium White	2	2	2	100.06	11390	12413	6313914
	16	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.3	9543	9682	6323457
	17	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.13	63971	67174	6387428
	18	PLF	Dry FR	30/50 Premium White	2	2	2	94.8	11350	12355	6398778
	19	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	91.59	45515	46150	6444293
	20	PLF	Dry FR	30/50 Premium White	0.25	0.26	0.26	91.18	1457	1478	6445750
	21	PLF	Dry FR	30/50 Premium White	0.5	0.5	0.5	91.16	10597	10863	6456347
	22	PLF	Dry FR	30/50 Premium White	1	1	1	91.05	12137	12703	6468484
	23	PLF	Dry FR	30/50 Premium White	1.5	1.5	1.5	90.98	15903	16985	6484387
	24	PLF	Dry FR	30/50 Premium White	2	2	2	90.94	15901	17309	6500288

## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
16	25	PLF	Dry FR	30/50 Premium White	2.5	2.5	2.5	90.9	22575	24911	6522863
	26	Pre-Flush	Dry FR		0	0	0	91.2	3183	3148	6526046
	27	Flush	Dry FR		0	0	0	91.31	8909	8951	6534955
	28	Overflush	FR Water		0	0	0	81.3	6253	6232	6541208
17	1	Wireline Pump-In	Treated Water		0	0	0	22	3402	3402	6544610
	2	Breakdown	FR Water		0	0	0	6.7	432	424	6545042
	3	Acid	15% HCl		0	0	0	11.16	1000	1000	6546042
	4	Pad	FR Water		0	0	0	15.43	792	790	6546834
	5	Pad	Dry FR		0	0	0	51.74	36438	36388	6583272
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	91.03	52212	52865	6635484
	7	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	99.88	22475	23438	6657959
	8	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.61	12197	12355	6670156
	9	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.56	62974	66069	6733130
	10	PLF	Dry FR	30/50 Premium White	2	2	2	99.46	11551	12551	6744681
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.6	9502	9617	6754183
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.53	63997	67048	6818180
	13	PLF	Dry FR	30/50 Premium White	2	2	2	93.67	9354	10155	6827534
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	70	1303	1324	6828837
	15	Spacer	Dry FR		0	0	0	46.52	17714	17774	6846551
	16	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	50.84	32530	32990	6879081
	17	PLF	Dry FR	30/50 Premium White	0.25	1.5	0.87	50.71	14414	14970	6893495
	18	PLF	Dry FR	30/50 Premium White	1.5	1.5	1.5	48.29	9272	9866	6902767

## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
17	19	Pre-Flush	Dry FR		0	0	0	28.5	2347	2357	6905114
	20	Flush	FR Water		0	0	0	4.52	260	272	6905374
18	1	Wireline Pump-In	Treated Water		0	0	0	22	16212	16212	6921586
	2	Breakdown	Dry FR		0	0	0	6.52	190	246	6921776
	3	Acid	15% HCl		0	0	0	10.27	1000	1000	6922776
	4	Pad	Dry FR		0	0	0	11.17	569	566	6923345
	5	Pad	Dry FR		0	0	0	63.01	50201	50217	6973546
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	100.15	58743	59382	7032289
	7	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	100.04	22387	23192	7054676
	8	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.03	12064	12202	7066740
	9	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.88	62995	65983	7129735
	10	PLF	Dry FR	30/50 Premium White	2	2	2	99.77	14192	15402	7143927
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.9	10644	10776	7154571
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.84	63974	66933	7218545
	13	PLF	Dry FR	30/50 Premium White	2	2	2	99.72	11791	12798	7230336
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.93	50198	50796	7280534
	15	PLF	Dry FR	30/50 Premium White	0.25	2.5	1.38	99.85	25634	27030	7306168
	16	PLF	Dry FR	30/50 Premium White	2.51	2.51	2.51	97.2	19338	21162	7325506
	17	Flush	Dry FR		0	0	0	90.14	3461	3429	7328967
	18	Flush	Dry FR		0	0	0	90.14	3306	3306	7332273
	19	Flush	Dry FR		0	0	0	74.73	6527	6542	7338800
19	1	Wireline Pump-In	Treated Water		0	0	0	20	3234	3234	7342034

## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
19	2	Breakdown	FR Water		0	0	0	8.57	695	744	7342729
	3	Acid	15% HCl		0	0	0	11.1	1000	1000	7343729
	4	Pad	FR Water		0	0	0	11.23	507	515	7344236
	5	Acid	15% HCl		0	0	0	11.21	1000	1000	7345236
	6	Pad	FR Water		0	0	0	13.18	268	268	7345504
	7	Pad	Dry FR		0	0	0	57.98	37860	37922	7383364
	8	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	88.6	4975	5056	7388339
	9	Spacer	Dry FR		0	0	0	88.63	8404	8437	7396743
	10	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	95.62	38354	38958	7435097
	11	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	98.09	22128	23049	7457225
	12	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	96.84	12668	12838	7469893
	13	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.94	62945	66208	7532838
	14	PLF	Dry FR	30/50 Premium White	2	2	2	100.11	12502	13627	7545340
	15	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	98.77	10202	10372	7555542
	16	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.93	63967	67202	7619509
	17	PLF	Dry FR	30/50 Premium White	2	2	2	99.65	10970	11936	7630479
	18	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.01	43942	44547	7674421
	19	PLF	Dry FR	30/50 Premium White	0.25	2.5	1.37	99.89	25532	27034	7699953
	20	PLF	Dry FR	30/50 Premium White	2.5	2.5	2.5	99.68	18350	20306	7718303
	21	Pre-Flush	Dry FR		0	0	0	99.99	4212	4158	7722515
	22	Flush	Dry FR		0	0	0	100.05	8730	8747	7731245
	23	Overflush	FR Water		0	0	0	88.05	6476	6623	7737721

## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
20	1	Wireline Pump-In	Treated Water		0	0	0	22	2100	2100	7739821
	2	Breakdown	FR Water		0	0	0	7.94	468	468	7740289
	3	Acid	15% HCl		0	0	0	11.55	1000	1000	7741289
	4	Pad	FR Water		0	0	0	11.23	508	506	7741797
	5	Pad	Dry FR		0	0	0	53.62	37314	37336	7779111
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	86.8	52173	52802	7831284
	7	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	93.56	21911	22740	7853195
	8	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	93.69	11984	12145	7865179
	9	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	96.02	62884	66032	7928063
	10	PLF	Dry FR	30/50 Premium White	2	2	2	100.25	12414	13493	7940477
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.75	11018	11181	7951495
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	96.84	63982	66991	8015477
	13	PLF	Dry FR	30/50 Premium White	2	2	2	97.01	11856	12855	8027333
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	95.94	47487	47931	8074820
	15	PLF	Dry FR	30/50 Premium White	0.25	4	2.12	99.91	41039	44564	8115859
	16	Flush	Dry FR		0	0	0	99.61	6062	5970	8121921
	17	Flush	Dry FR		0	0	0	98.19	4551	4568	8126472
	18	Flush	FR Water		0	0	0	80.8	6250	6312	8132722
21	1	Wireline Pump-In	Treated Water		0	0	0	20	1680	1680	8134402
	2	Breakdown	FR Water		0	0	0	8.39	808	814	8135210
	3	Acid	15% HCl		0	0	0	10.34	1000	1000	8136210
	4	Pad	FR Water		0	0	0	14.78	531	524	8136741

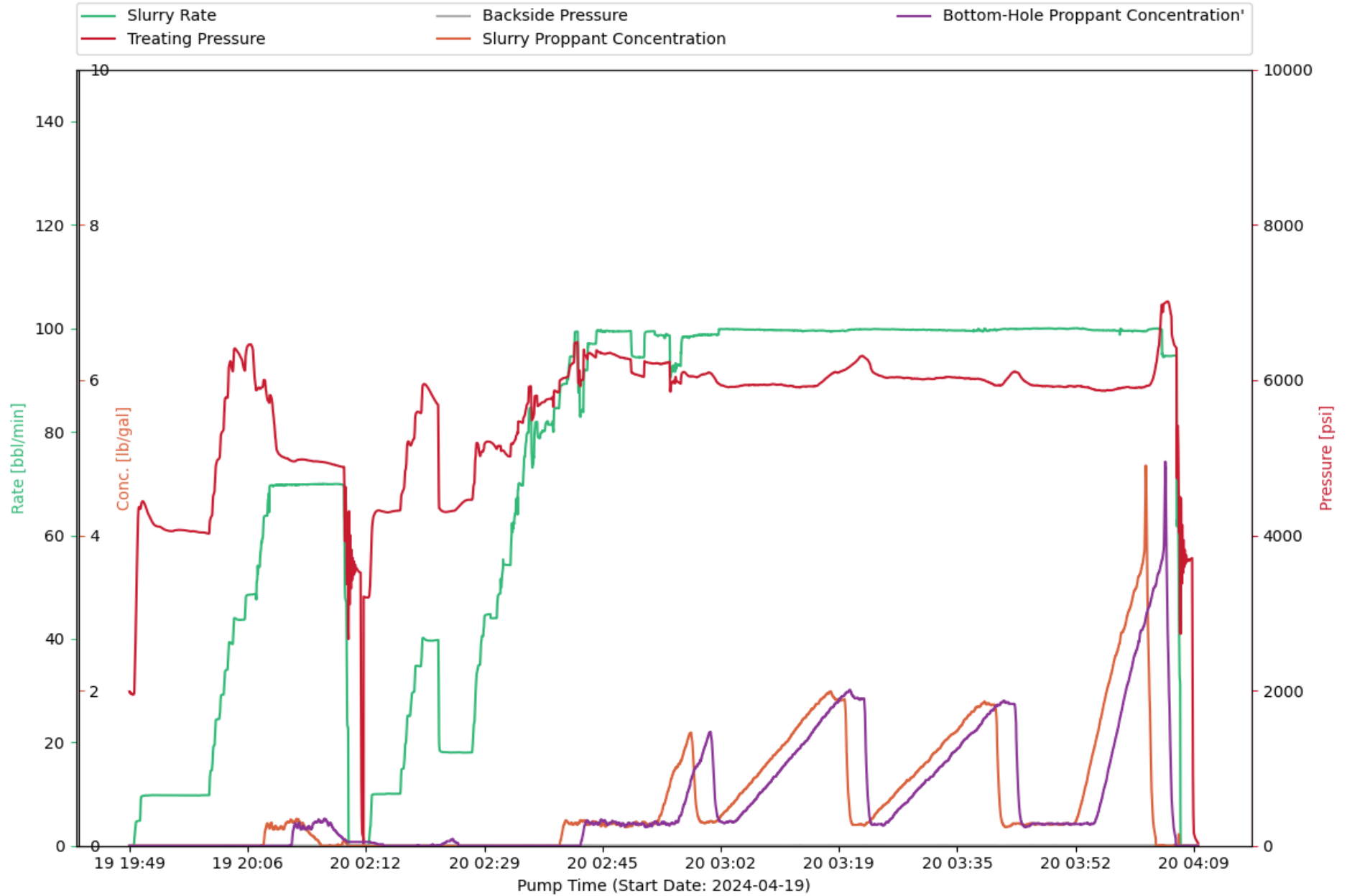
## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
21	5	Pad	Dry FR		0	0	0	69.97	37995	38103	8174736
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	99.6	3465	3511	8178201
	7	Spacer	Dry FR		0	0	0	99.56	10551	10593	8188752
	8	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	99.72	37493	38026	8226245
	9	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.87	99.74	21836	22636	8248081
	10	PLF	Dry FR	100 Mesh Premium White	1.5	1.5	1.5	99.58	2975	3160	8251056
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.74	14954	15182	8266010
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.61	63004	66179	8329014
	13	PLF	Dry FR	30/50 Premium White	2	2	2	99.49	11012	11995	8340026
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.72	12519	12716	8352545
	15	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.6	63997	67245	8416542
	16	PLF	Dry FR	30/50 Premium White	2	2	2	99.51	15826	17185	8432368
	17	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.76	44799	45471	8477167
	18	PLF	Dry FR	30/50 Premium White	0.25	2.99	1.62	99.56	30647	32759	8507814
	19	PLF	Dry FR	30/50 Premium White	3	3	3	99.38	13083	14508	8520897
	20	Pre-Flush	Dry FR		0	0	0	99.81	3058	3025	8523955
	21	Flush	Dry FR		0	0	0	99.95	9100	9164	8533055
	22	Overflush	FR Water		0	0	0	53.31	6378	6396	8539433
22	1	Wireline Pump-In	Treated Water		0	0	0	20	1428	1428	8540861
	2	Breakdown	FR Water		0	0	0	9.4	1642	1915	8542503
	3	Acid	15% HCl		0	0	0	11.72	1000	1000	8543503
	4	Pad	FR Water		0	0	0	15.4	1072	766	8544575

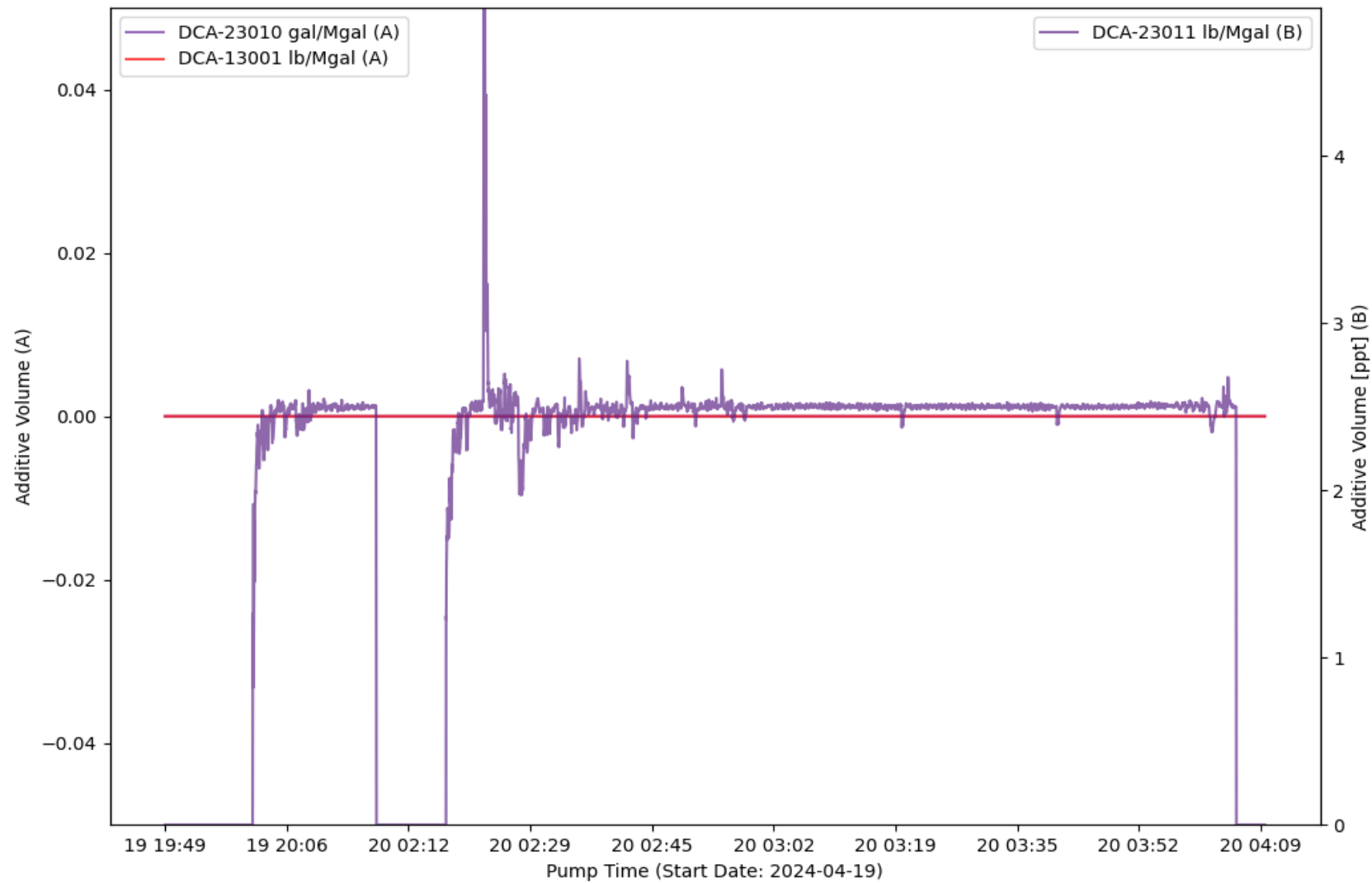
## ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
22	5	Pad	Dry FR		0	0	0	67.71	37801	38004	8582376
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	96.53	1143	1157	8583519
	7	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	97.79	52033	52725	8635552
	8	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.87	99.41	21858	22629	8657410
	9	PLF	Dry FR	100 Mesh Premium White	1.5	1.5	1.5	99.23	2828	3007	8660238
	10	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.36	10905	11069	8671143
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.43	1106	1122	8672249
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.32	62898	65905	8735147
	13	PLF	Dry FR	30/50 Premium White	2	2	2	99.17	11157	12082	8746304
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.36	12298	12400	8758602
	15	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.2	63958	67228	8822560
	16	PLF	Dry FR	30/50 Premium White	2	2	2	99.07	11142	12144	8833702
	17	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.36	44067	44737	8877769
	18	PLF	Dry FR	30/50 Premium White	0.25	4	2.12	99.21	40634	44262	8918403
	19	PLF	Dry FR	30/50 Premium White	4	4	4	98.99	2679	3140	8921082
	20	Pre-Flush	Dry FR		0	0	0	99.36	4466	4413	8925548
	21	Flush	Dry FR		0	0	0	99.57	4747	4771	8930295
	22	Overflush	FR Water		0	0	0	8.54	6150	6428	8936445
Total									8936445	9260735	

# TREATMENT PLOT : Treatment Interval 1



# CHEMISTRY PLOT : Treatment Interval 1



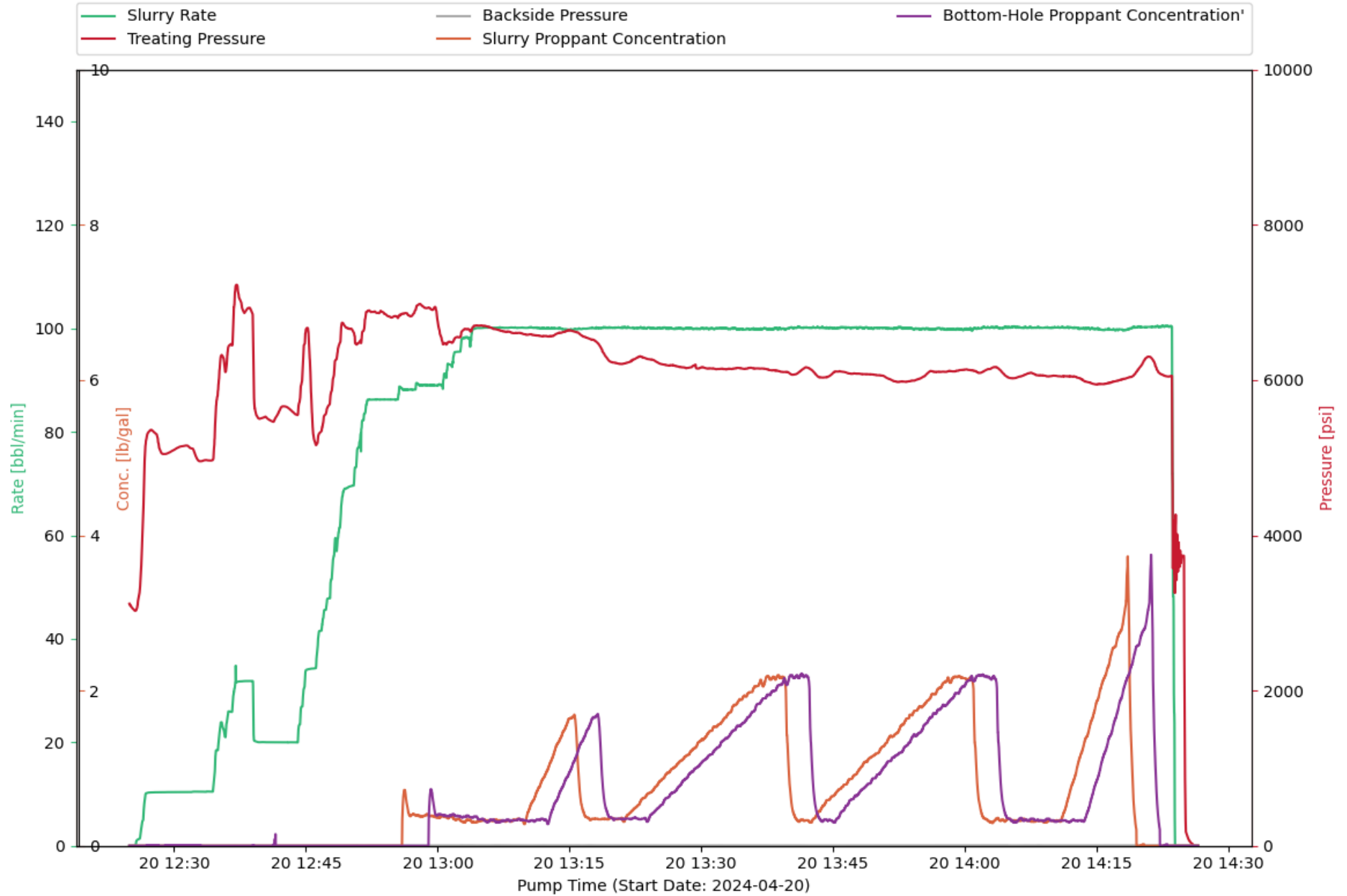
## EVENT LOG : TREATMENT INTERVAL 1

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-19T19:49:32	0	1987	0	0	0	0	0
2	Start Pumping	2024-04-19T19:50:13	1.29	1988	0	0	0	2.15	0
3	Break Formation	2024-04-19T19:51:37	9.7	4417	0	0	292.69	370.89	0
4	Pump Acid	2024-04-19T19:52:19	9.75	4251	0	0	593.88	658.2	0
5	Pump Acid	2024-04-19T19:59:34	9.77	4037	0	0	3510	3632	0
6	Spot Acid	2024-04-19T20:06:48	48.57	6439	0	0	13129	13120	0
7	Flush Acid	2024-04-19T20:07:25	47.6	5868	0	0	14400	14386	0
8	Spot Acid	2024-04-19T20:08:34	63.68	6001	0.14	0	17092	17103	25.87
9	Flush Acid	2024-04-19T20:10:15	69.68	5134	0.24	0	21820	21877	1186
10	Stop Pumping	2024-04-19T20:20:24	5.36	2663	0	0.05	50652	50878	5363
11	ISIP	2024-04-19T20:20:30	0	4310	0	0.05	50661	50881	5363
12	Shut In Well	2024-04-19T20:21:41	0	3553	0	0.05	50664	50881	5363
13	Suspending Job	2024-04-19T20:22:31	0	99.32	0	0.05	50664	50881	5363
14	Open Well	2024-04-20T02:12:16	0	3211	0	0.05	50664	50891	5363
15	Start Pumping	2024-04-20T02:12:56	0	3197	0	0.05	50664	50891	5363
16	Pump Acid	2024-04-20T02:14:18	9.99	4320	0	0.02	51089	51345	5363
17	Ball on Seat	2024-04-20T02:26:19	18.02	4430	0	0	62075	62645	5363
18	Break Formation	2024-04-20T02:27:23	18.05	4458	0	0	62862	63447	5363
19	Spot Acid	2024-04-20T02:28:17	33.79	5191	0	0	63796	64394	5363
20	Flush Acid	2024-04-20T02:28:39	34.96	5030	0	0	64332	64933	5363
21	Stop Pumping	2024-04-20T04:07:23	6.12	2839	0	0	442763	457849	322654
22	ISIP	2024-04-20T04:07:29	0	4477	0	0	442779	457851	322654

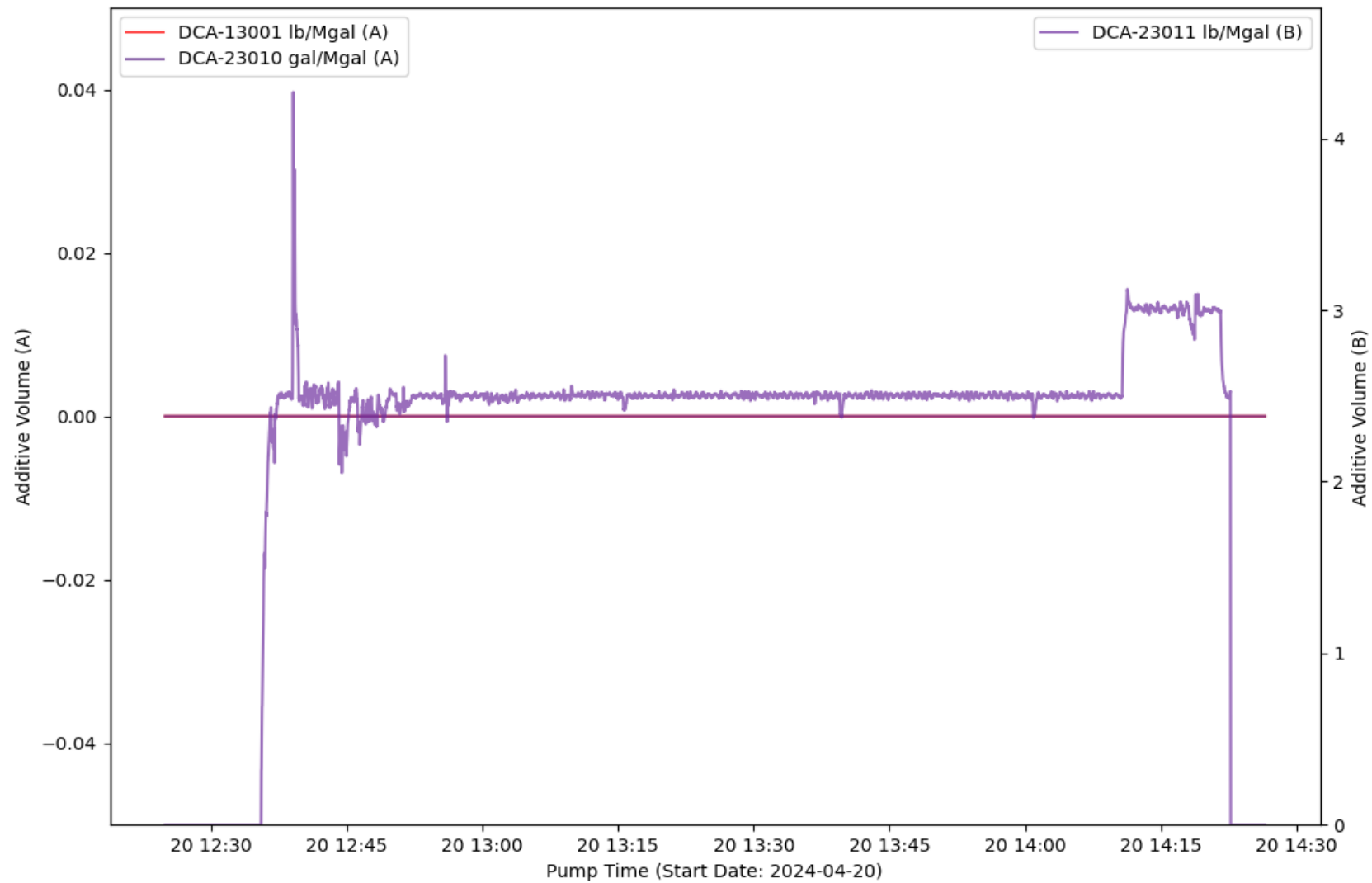
EVENT LOG : TREATMENT INTERVAL 1

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
23	Shut In Well	2024-04-20T04:08:59	0	3705	0	0	442783	457851	322654
24	Suspending Job	2024-04-20T04:09:51	0	42.98	0	0	442783	457851	322654

# TREATMENT PLOT : Treatment Interval 2



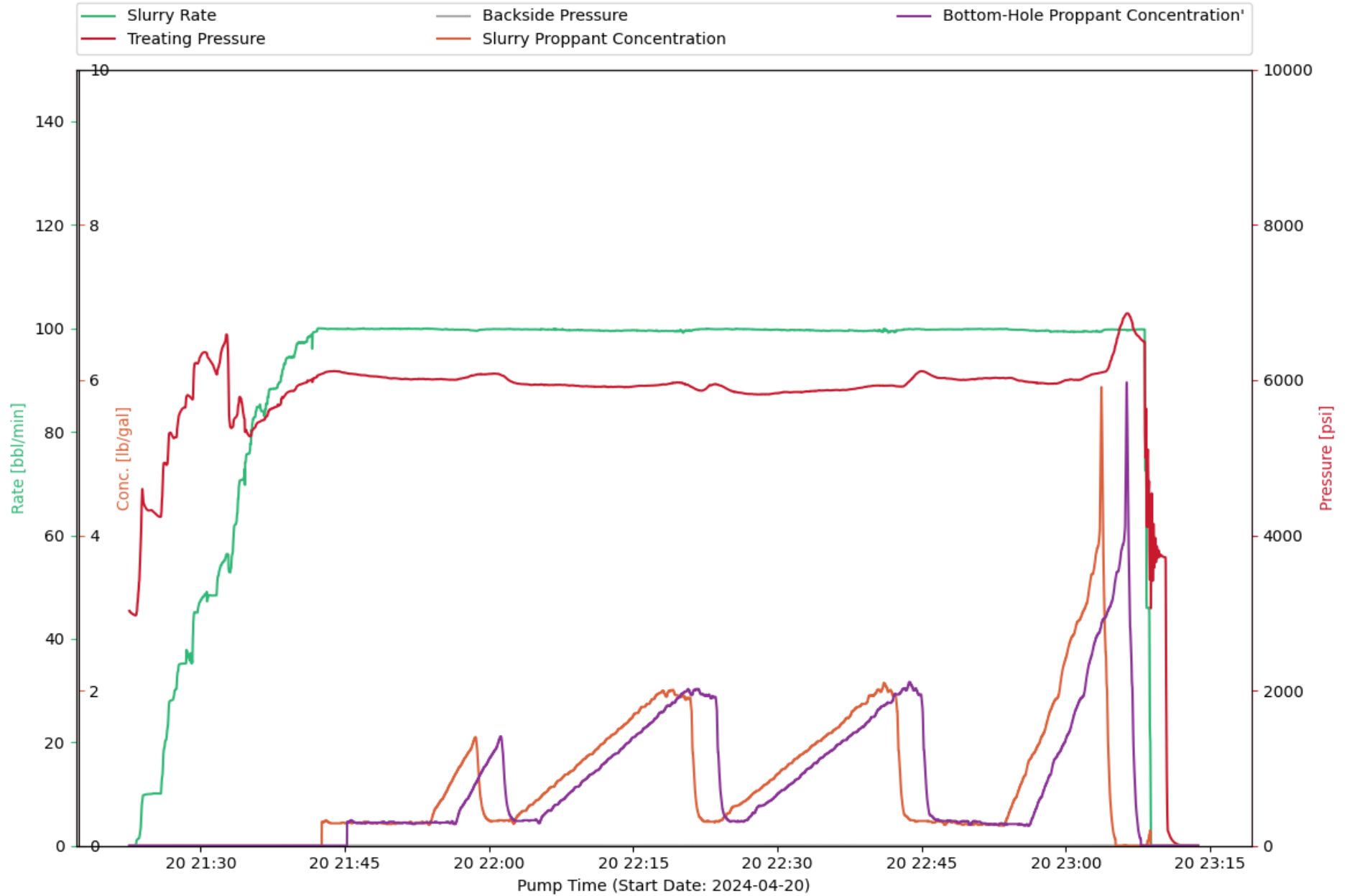
# CHEMISTRY PLOT : Treatment Interval 2



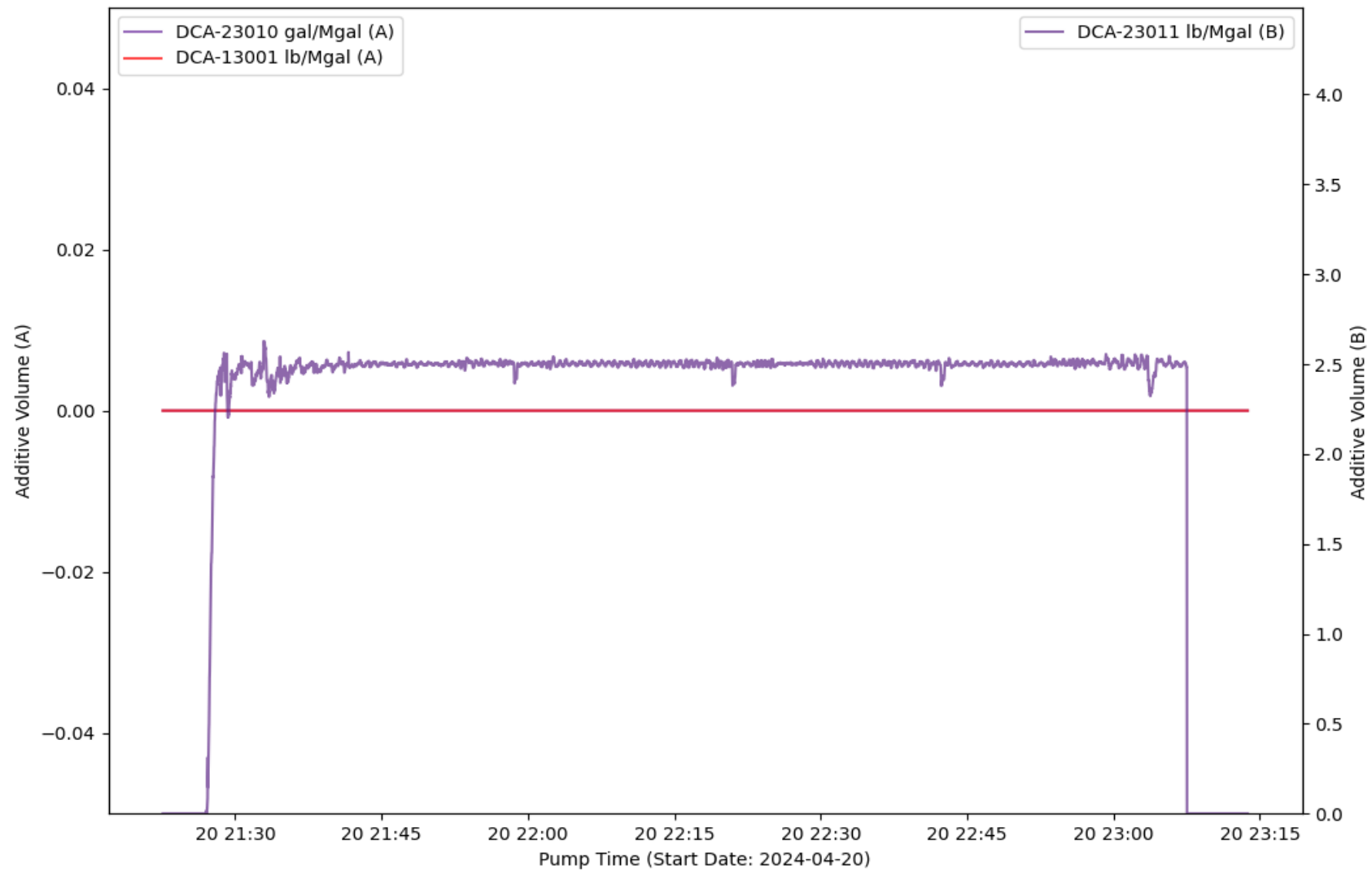
EVENT LOG : TREATMENT INTERVAL 2

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-20T12:24:55	0	3119	0	0	0	0	0
2	Start Pumping	2024-04-20T12:25:37	0.03	3028	0	0	1.68	0.02	0
3	Pump Acid	2024-04-20T12:31:20	10.37	5156	0	0.01	2155	2166	0
4	Ball on Seat	2024-04-20T12:41:18	20.02	5463	0	0.01	10535	10615	0
5	Break Formation	2024-04-20T12:42:16	20.02	5657	0	0	11335	11417	0
6	Spot Acid	2024-04-20T12:45:11	34.1	6672	0	0	14197	14263	0
7	Flush Acid	2024-04-20T12:45:56	34.28	5232	0	0	15279	15347	0
8	Stop Pumping	2024-04-20T14:23:53	2.5	3256	0	0	395932	411092	331207
9	ISIP	2024-04-20T14:23:57	0	4168	0	0	395933	411092	331207
10	Shut In Well	2024-04-20T14:24:43	0	3738	0	0	395935	411092	331207
11	Suspending Job	2024-04-20T14:26:30	0	0.01	0	0	395935	411092	331207

### TREATMENT PLOT : Treatment Interval 3



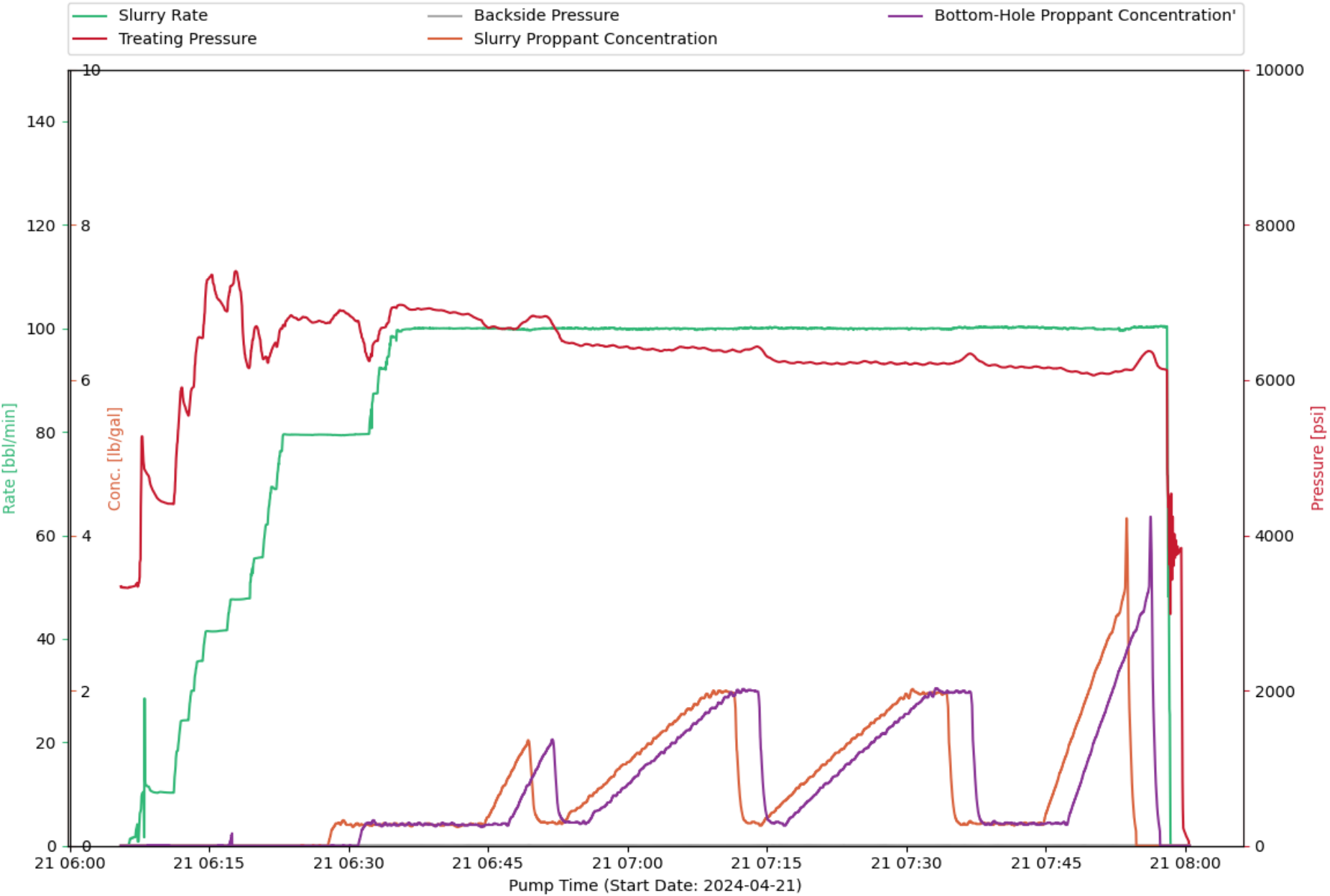
### CHEMISTRY PLOT : Treatment Interval 3



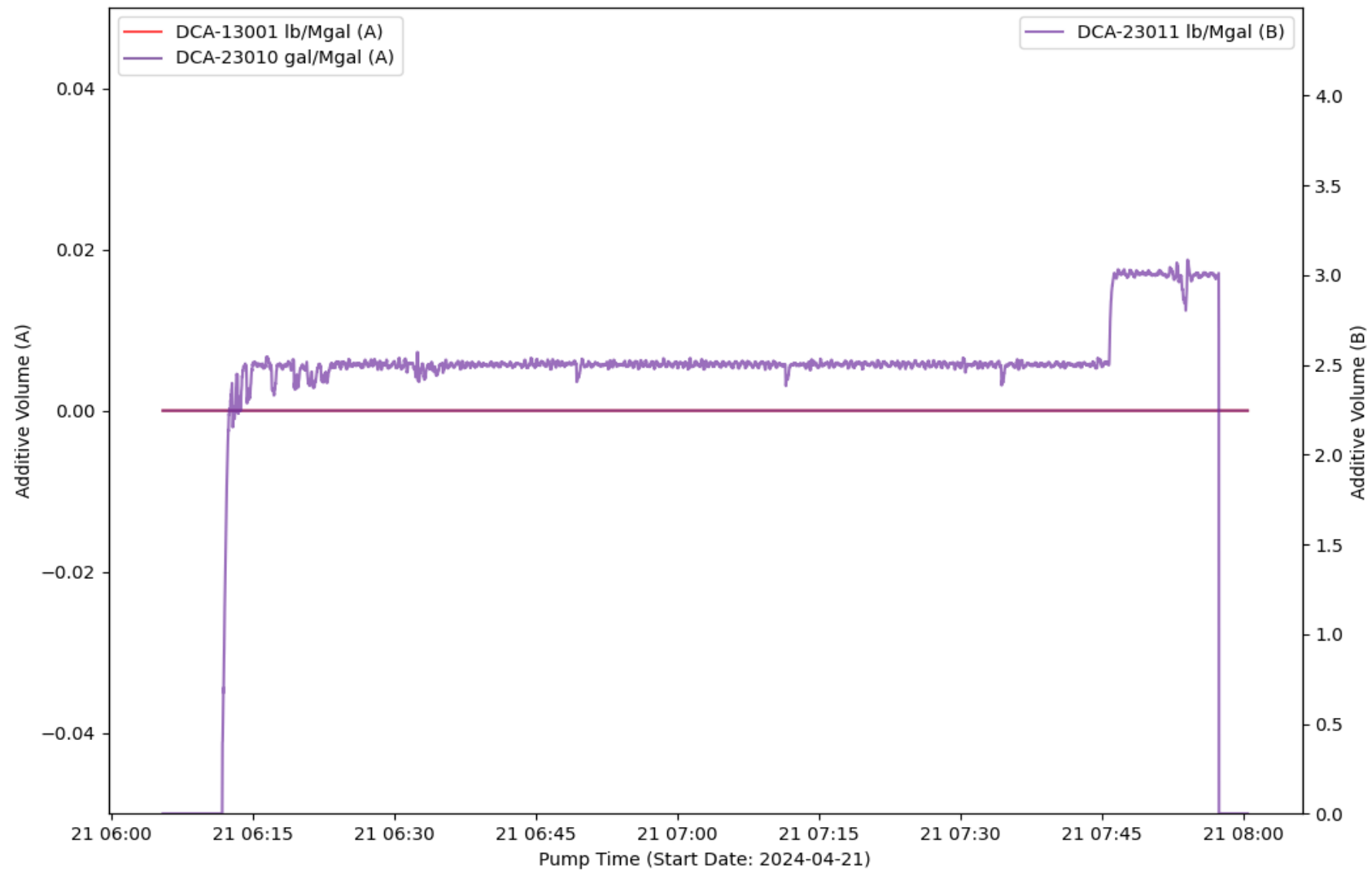
EVENT LOG : TREATMENT INTERVAL 3

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-20T21:22:35	0	3026	0	0	0	0	0
2	Start Pumping	2024-04-20T21:23:15	0.01	2971	0	0	0	0.01	0
3	Pump Acid	2024-04-20T21:24:40	10	4319	0	0	320.58	391.19	0
4	Break Formation	2024-04-20T21:30:45	48.12	6290	0	0	8150	8124	0
5	Spot Acid	2024-04-20T21:32:42	56.38	6587	0	0	12353	12327	0
6	Flush Acid	2024-04-20T21:33:10	53.7	5382	0	0	13427	13401	0
7	Stop Pumping	2024-04-20T23:08:51	1.53	3060	0	0	393079	407655	325496
8	ISIP	2024-04-20T23:08:57	0	4100	0	0	393082	407655	325496
9	Shut In Well	2024-04-20T23:10:11	0	3721	0	0	393082	407655	325496
10	Suspending Job	2024-04-20T23:13:44	0	0.01	0	0	393082	407655	325496

### TREATMENT PLOT : Treatment Interval 4



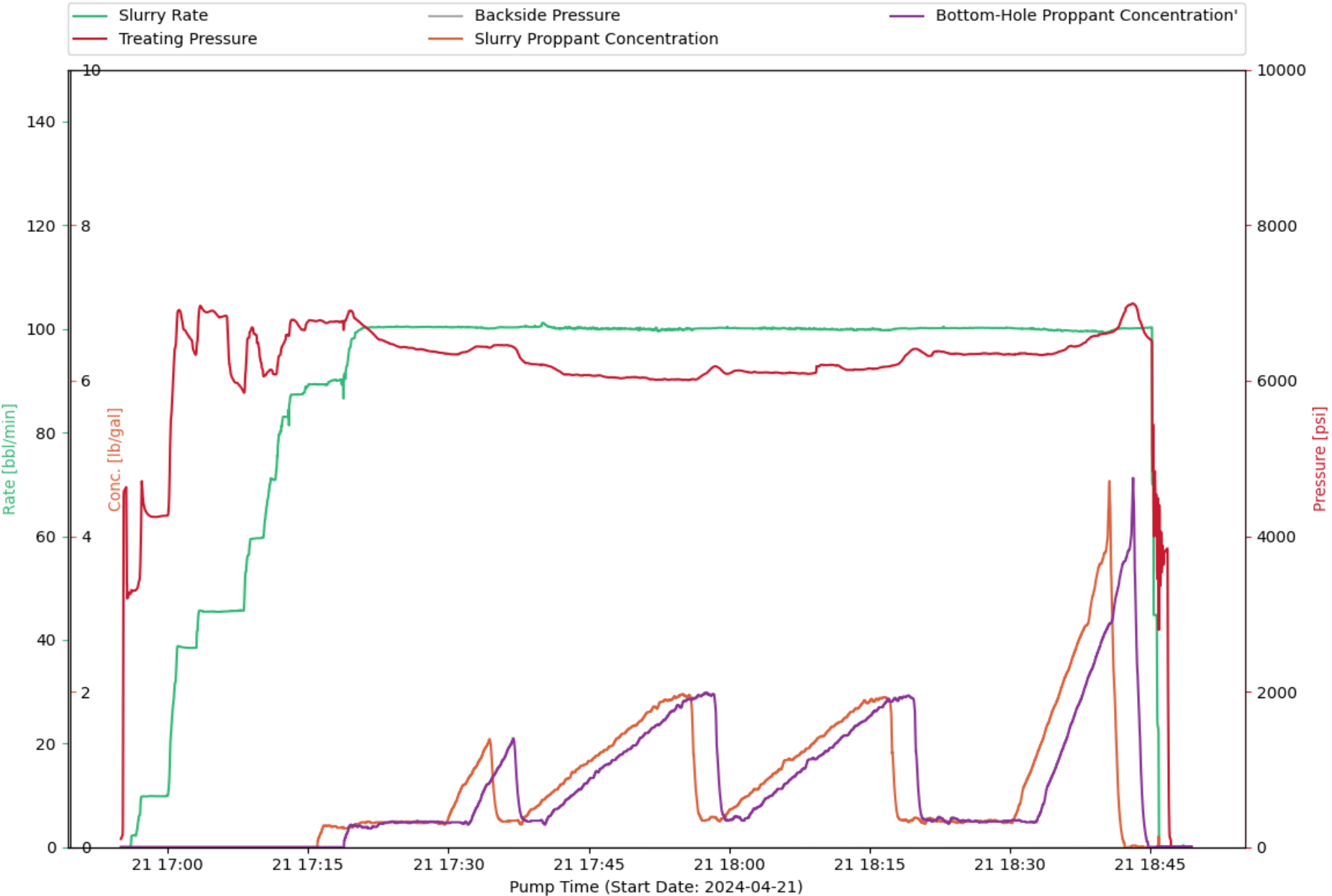
# CHEMISTRY PLOT : Treatment Interval 4



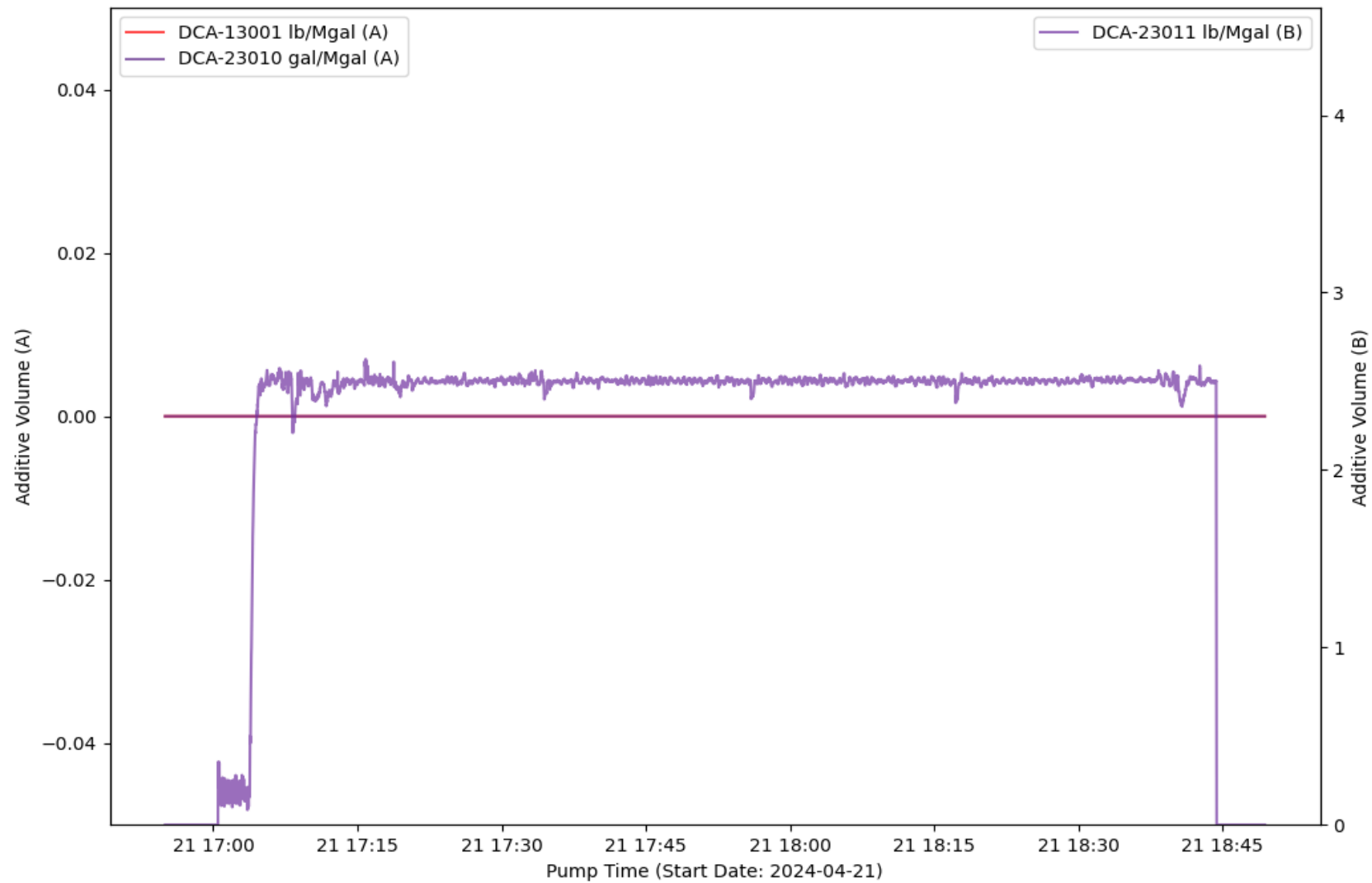
EVENT LOG : TREATMENT INTERVAL 4

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Start Pumping	2024-04-21T06:06:20	0.07	3323	0	0	0	0.05	0
2	Break Formation	2024-04-21T06:07:41	7.72	4641	0	0	164.66	140.86	0
3	Pump Acid	2024-04-21T06:09:24	10.25	4483	0	0.01	986.78	927.64	0
4	Spot Acid	2024-04-21T06:17:52	47.59	7405	0	0	11748	11587	0
5	Flush Acid	2024-04-21T06:19:08	47.81	6174	0	0	14308	14139	0
6	Stop Pumping	2024-04-21T07:58:24	1.44	2986	0	0	400524	415097	325867
7	ISIP	2024-04-21T07:58:28	0	4241	0	0	400525	415097	325867
8	Shut In Well	2024-04-21T07:59:12	0	3810	0	0	400527	415097	325867
9	Suspending Job	2024-04-21T08:00:27	0	-0.01	0	0	400527	415097	325867

# TREATMENT PLOT : Treatment Interval 5



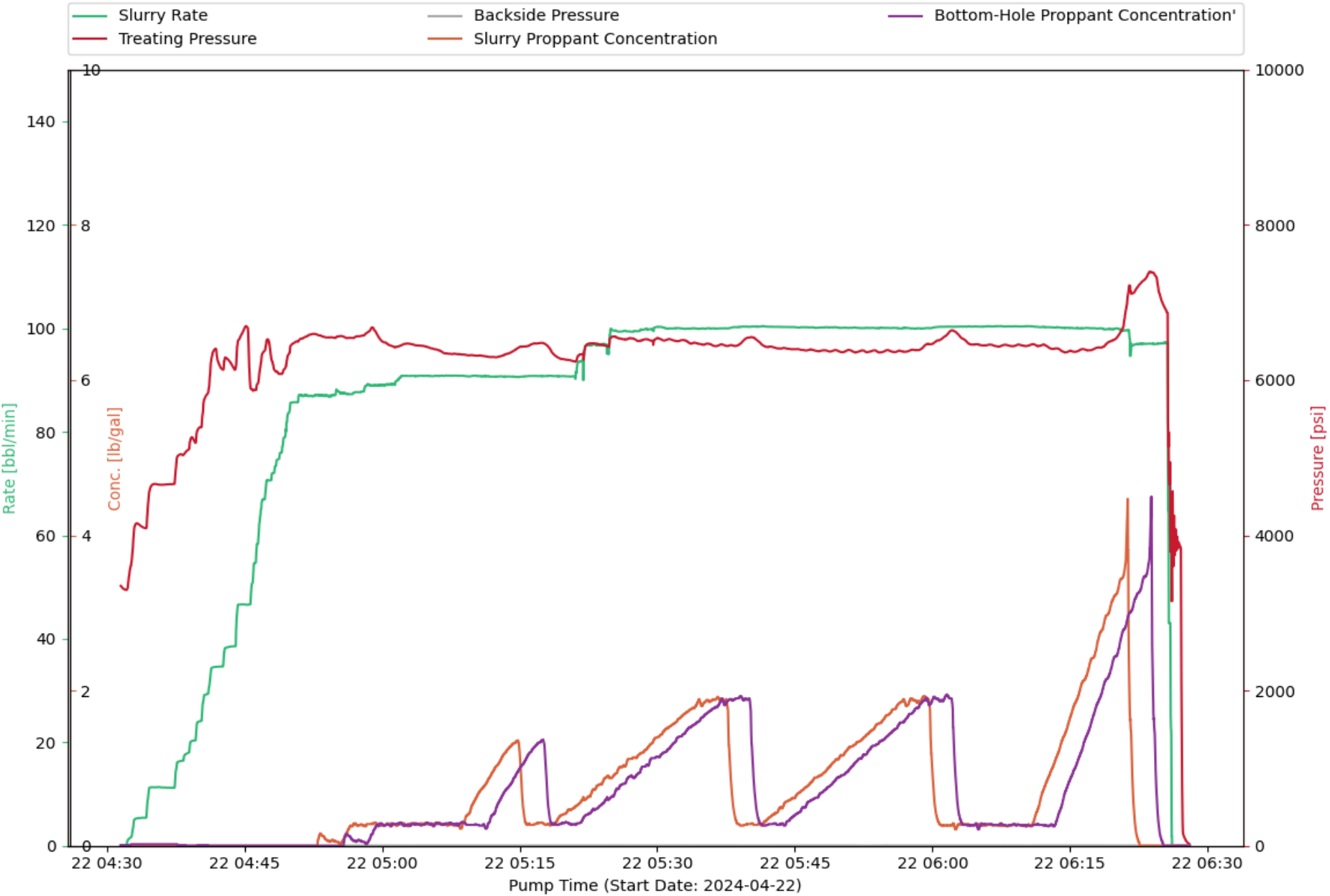
# CHEMISTRY PLOT : Treatment Interval 5



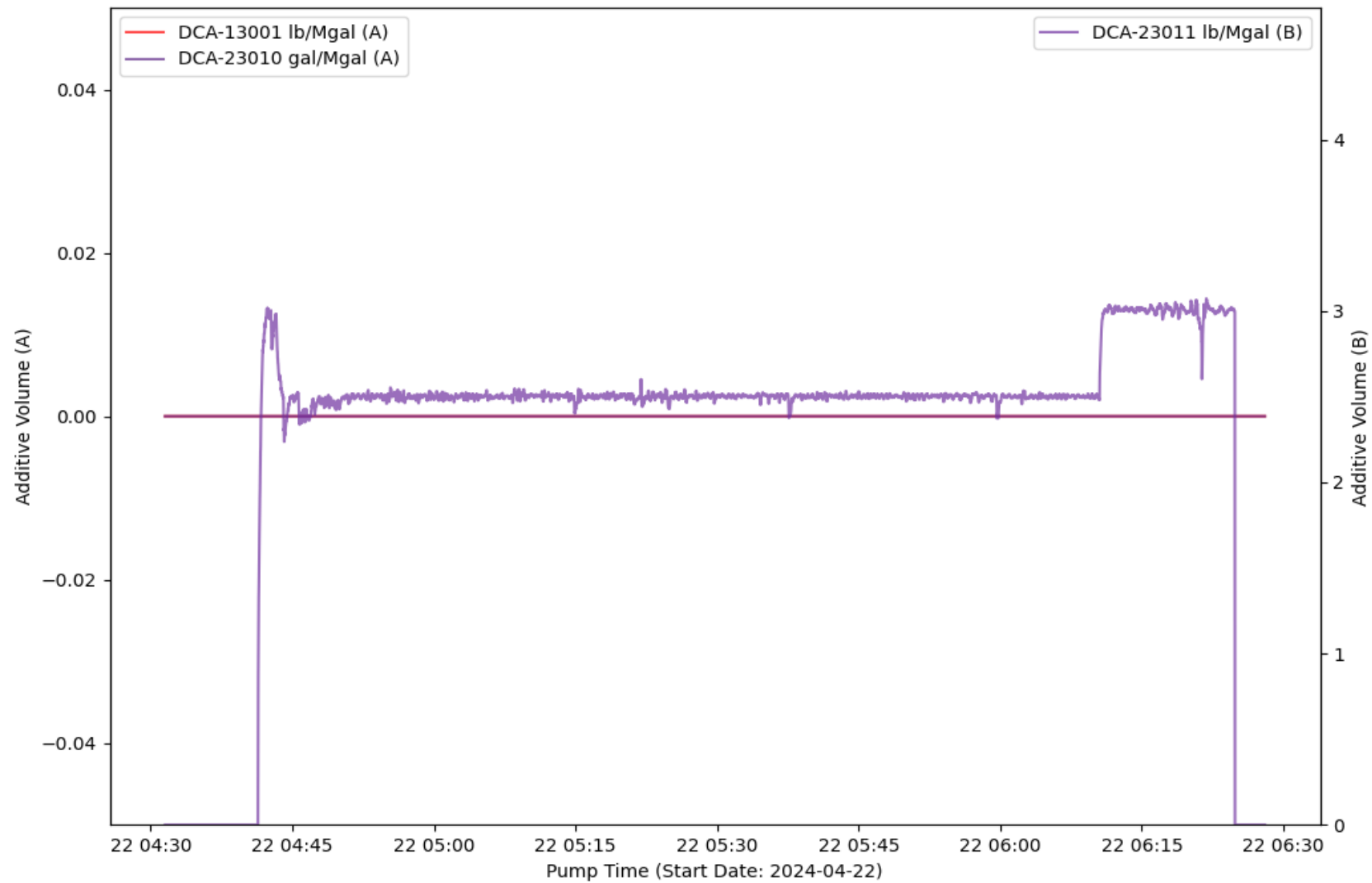
EVENT LOG : TREATMENT INTERVAL 5

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-21T16:55:41	0	3199	0	0	0	0	0
2	Start Pumping	2024-04-21T16:56:01	0	3259	0	0	0.02	0	0
3	Break Formation	2024-04-21T16:57:14	9.78	4676	0	0	186.39	211.4	0
4	Pump Acid	2024-04-21T16:57:23	9.82	4446	0	0	250.45	273.7	0
5	Spot Acid	2024-04-21T17:06:16	45.47	6834	0	0	11803	11837	0
6	Flush Acid	2024-04-21T17:08:07	45.65	5850	0	0	15324	15379	0
7	Stop Pumping	2024-04-21T18:45:57	2.52	2839	0	0.01	399822	415127	335663
8	ISIP	2024-04-21T18:46:01	0	4390	0	0.01	399823	415128	335663
9	Shut In Well	2024-04-21T18:46:47	0	3836	0	0.01	399826	415128	335663
10	Suspending Job	2024-04-21T18:49:24	0	-6.41	0	0.01	399826	415129	335663

### TREATMENT PLOT : Treatment Interval 6



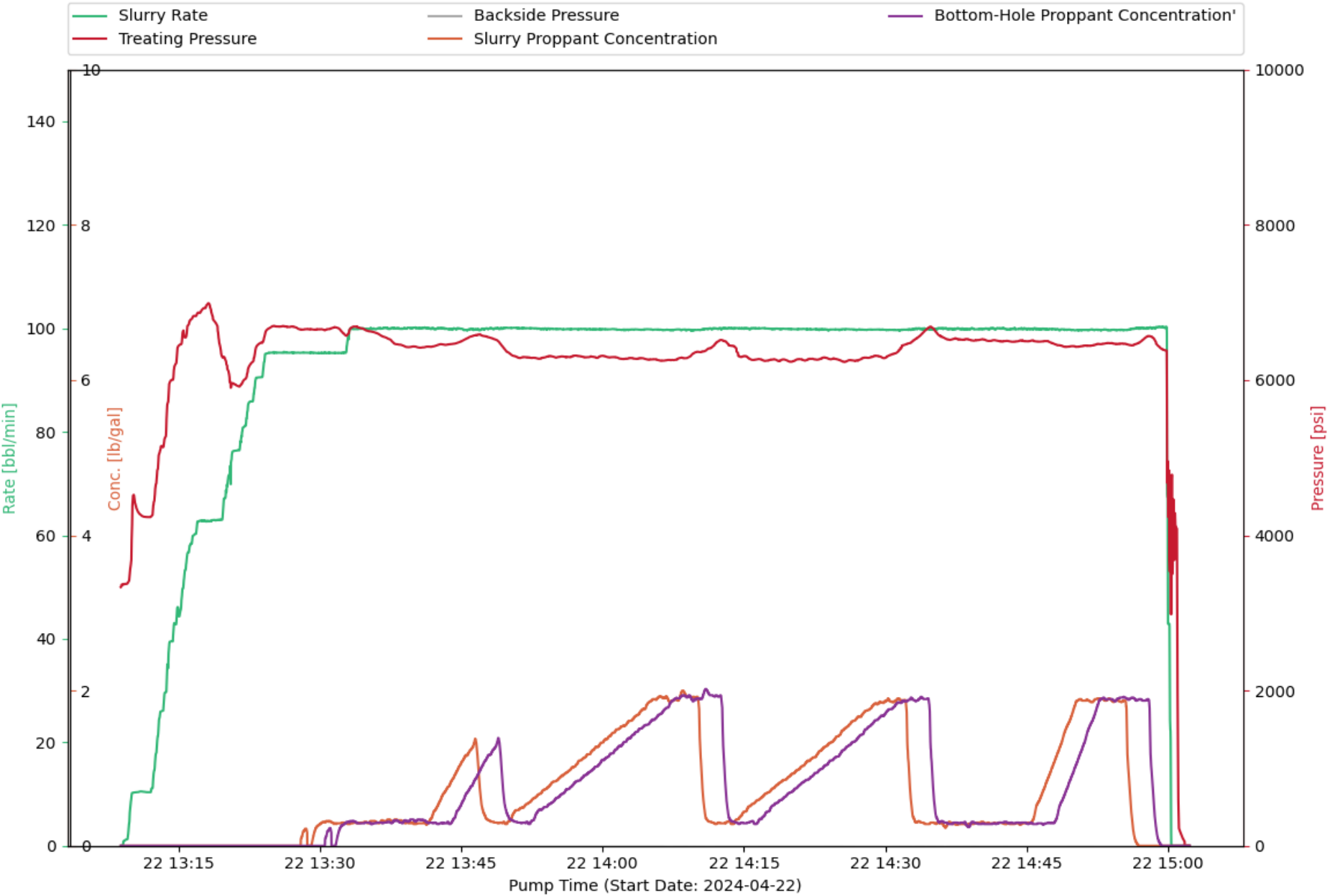
# CHEMISTRY PLOT : Treatment Interval 6



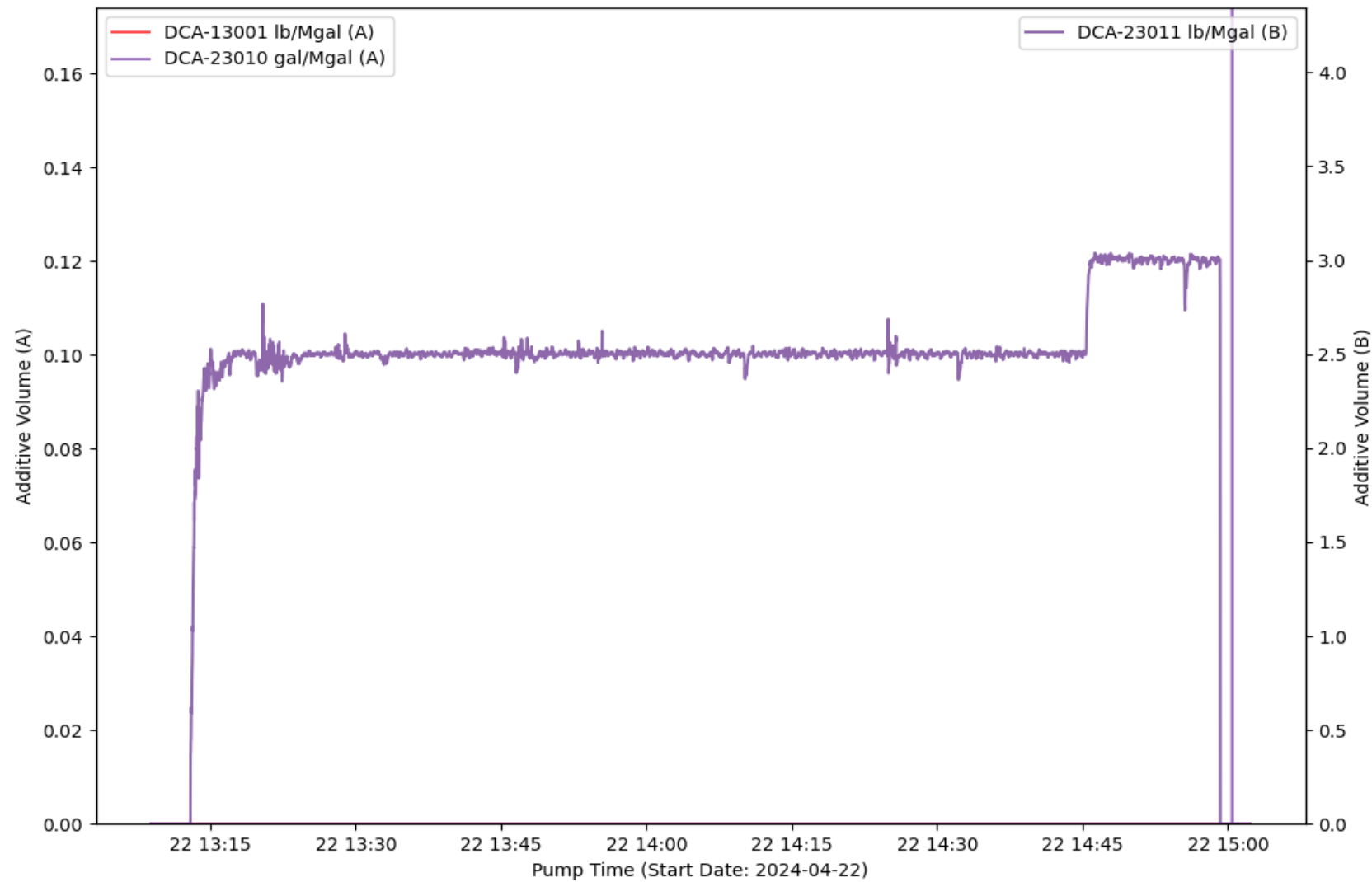
EVENT LOG : TREATMENT INTERVAL 6

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Start Pumping	2024-04-22T04:32:20	1.22	3386	0	0.01	0	0.86	0
2	Pump Acid	2024-04-22T04:35:43	11.34	4653	0	0.02	939.69	995.64	0
3	Break Formation	2024-04-22T04:41:57	34.58	6367	0	0	6307	6257	0
4	Spot Acid	2024-04-22T04:45:11	46.62	6695	0	0	11766	11721	0
5	Flush Acid	2024-04-22T04:45:56	51.45	5862	0	0	13251	13206	0
6	Stop Pumping	2024-04-22T06:26:06	1.86	3150	0	0	398820	413269	317276
7	ISIP	2024-04-22T06:26:09	0	4171	0	0	398820	413269	317276
8	Shut In Well	2024-04-22T06:26:53	0	3893	0	0	398823	413269	317276
9	Suspending Job	2024-04-22T06:28:01	0	23.32	0	0	398823	413269	317276

### TREATMENT PLOT : Treatment Interval 7



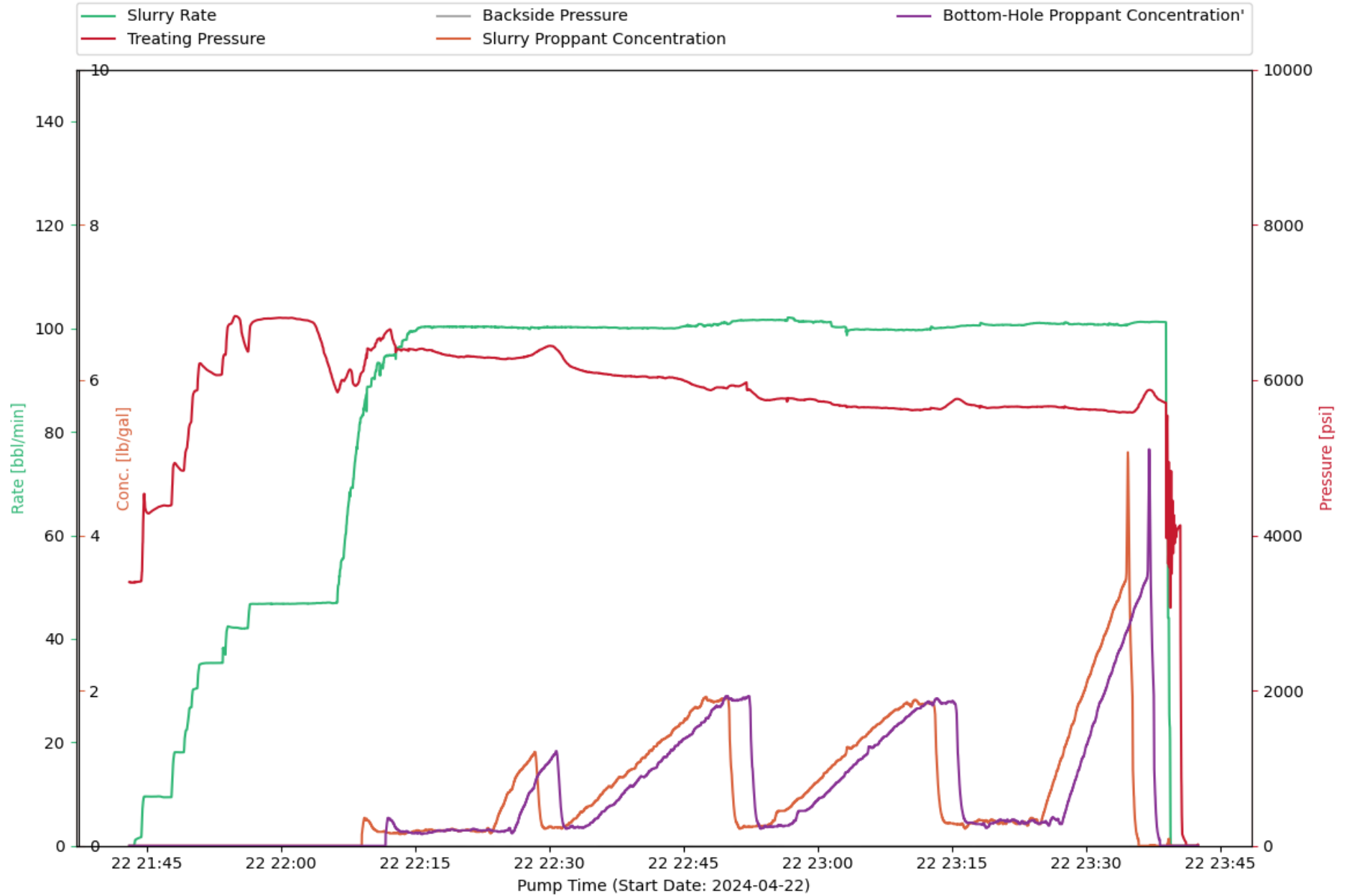
CHEMISTRY PLOT : Treatment Interval 7



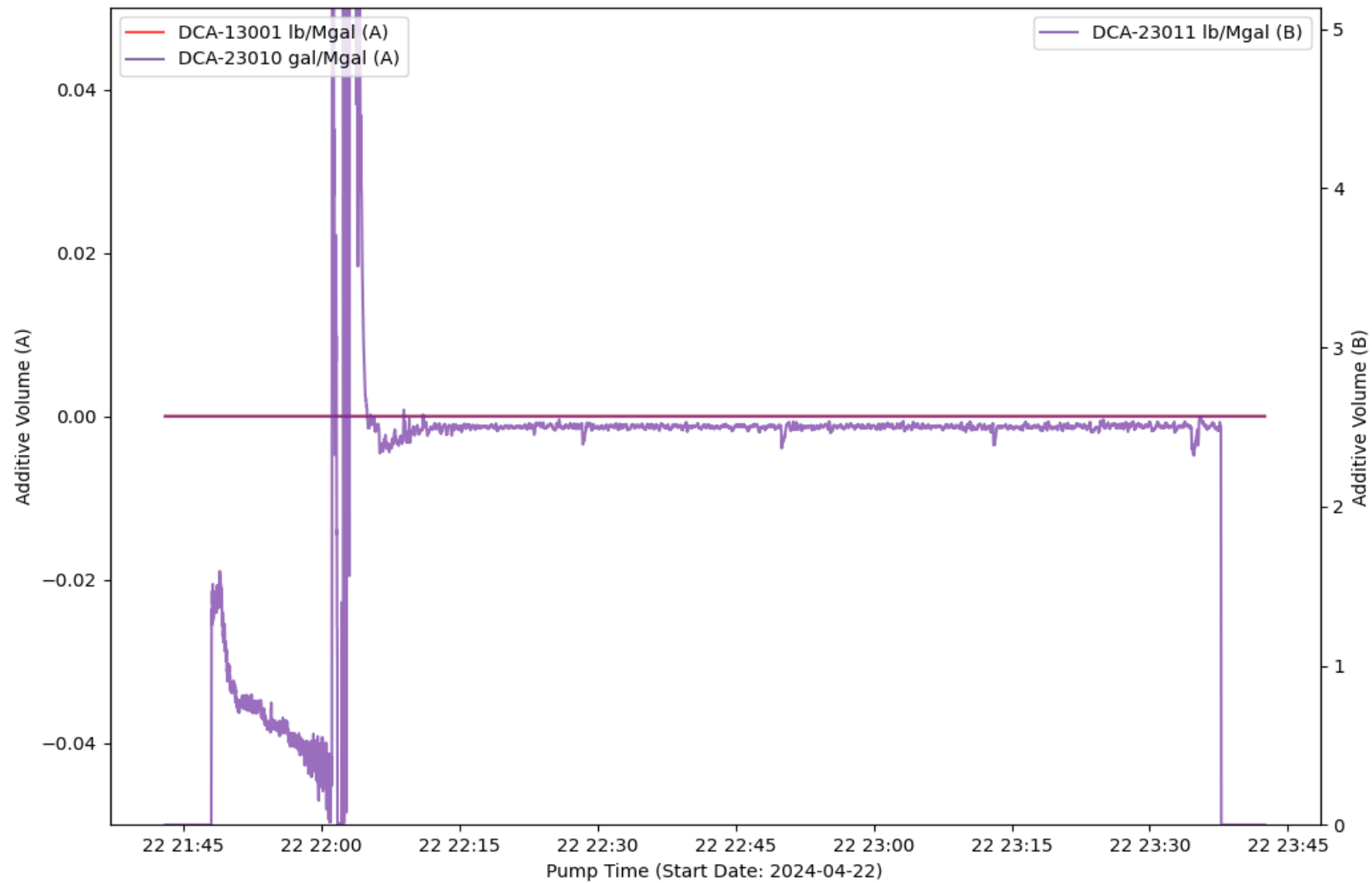
EVENT LOG : TREATMENT INTERVAL 7

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-22T13:08:54	0	3332	0	0	0	0	0
2	Start Pumping	2024-04-22T13:09:06	0	3362	0	0	0.03	0	0
3	Break Formation	2024-04-22T13:09:59	8.75	3657	0	0	62.41	102.2	0
4	Pump Acid	2024-04-22T13:10:30	10.35	4379	0	0	320.56	324.57	0
5	Spot Acid	2024-04-22T13:18:12	62.74	6991	0	0	12444	12413	0
6	Flush Acid	2024-04-22T13:18:55	62.9	6745	0	0	14299	14275	0
7	Stop Pumping	2024-04-22T15:00:19	2.48	2981	0	0	417501	432049	313842
8	ISIP	2024-04-22T15:00:23	0	4734	0	0	417501	432049	313842
9	Shut In Well	2024-04-22T15:00:50	0	4110	0	0	417503	432049	313842
10	Suspending Job	2024-04-22T15:02:16	0	0.91	0	0	417503	432049	313842

### TREATMENT PLOT : Treatment Interval 8



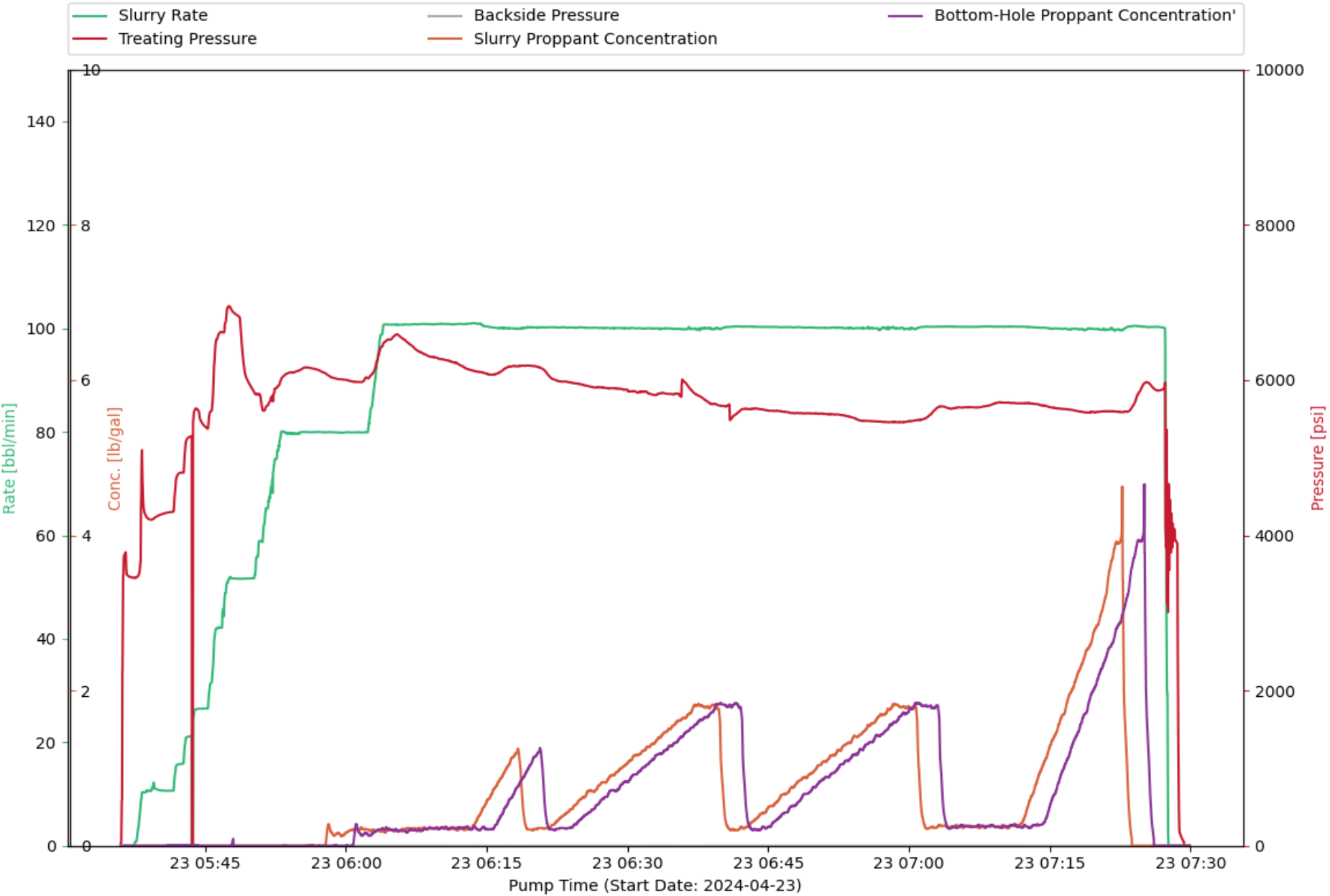
CHEMISTRY PLOT : Treatment Interval 8



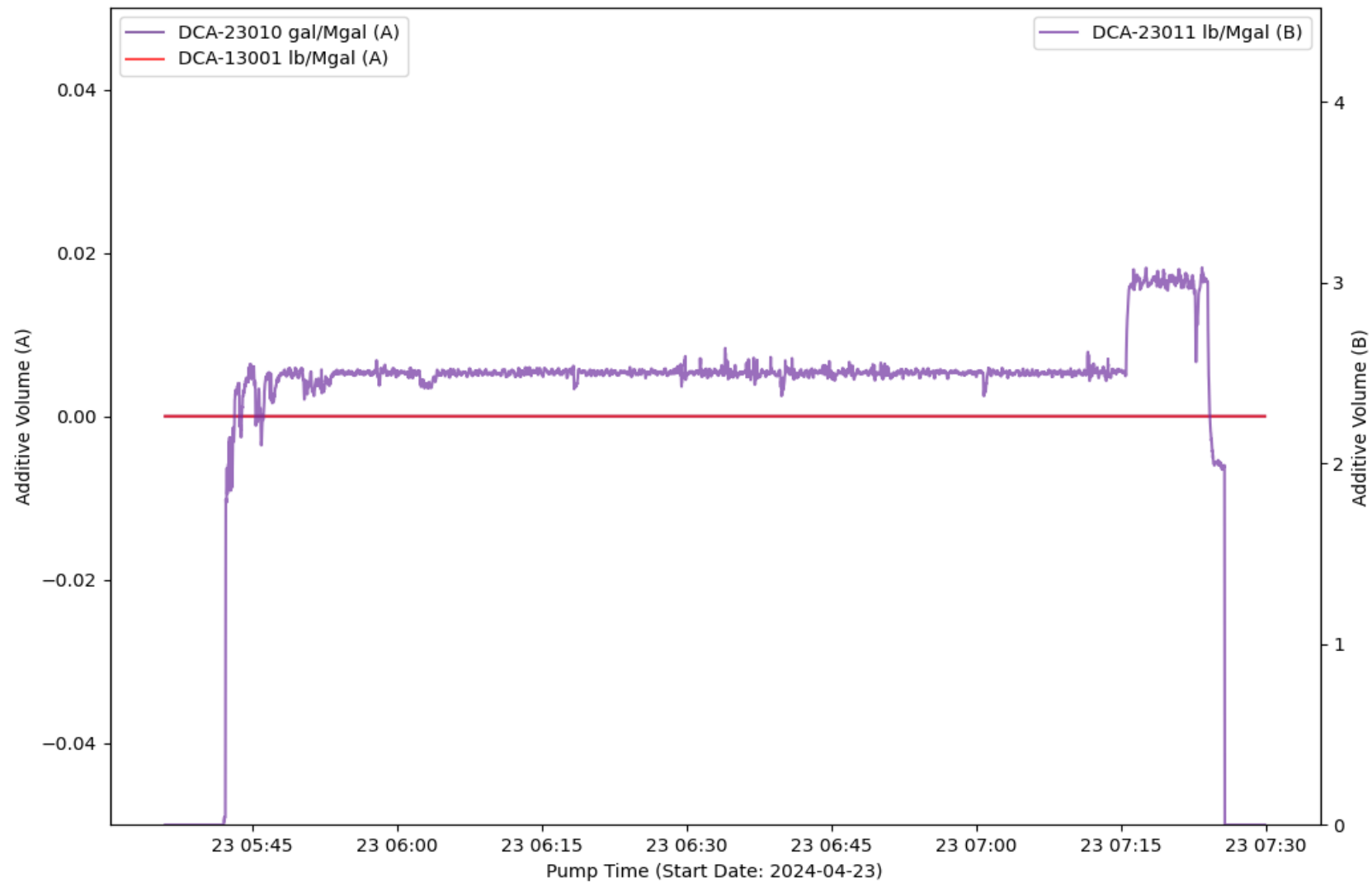
EVENT LOG : TREATMENT INTERVAL 8

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-22T21:43:01	0	3396	0	0	0	0	0
2	Start Pumping	2024-04-22T21:43:40	1.15	3394	0	0	0	4.34	0
3	Pump Acid	2024-04-22T21:45:41	9.51	4326	0	0	519.69	558.14	0
4	Break Formation	2024-04-22T21:51:13	35.25	6181	0	0	4947	4934	0
5	Spot Acid	2024-04-22T21:54:54	42.16	6823	0	0	10766	10770	0
6	Flush Acid	2024-04-22T21:56:15	42.23	6367	0	0	13156	13144	0
7	Stop Pumping	2024-04-22T23:39:26	2.55	3068	0	0	405827	419466	309753
8	ISIP	2024-04-22T23:39:31	0	4482	0	0	405829	419466	309753
9	Shut In Well	2024-04-22T23:40:24	0	4113	0	0	405832	419466	309753
10	Suspending Job	2024-04-22T23:42:30	0	18.3	0	0	405832	419466	309753

### TREATMENT PLOT : Treatment Interval 9



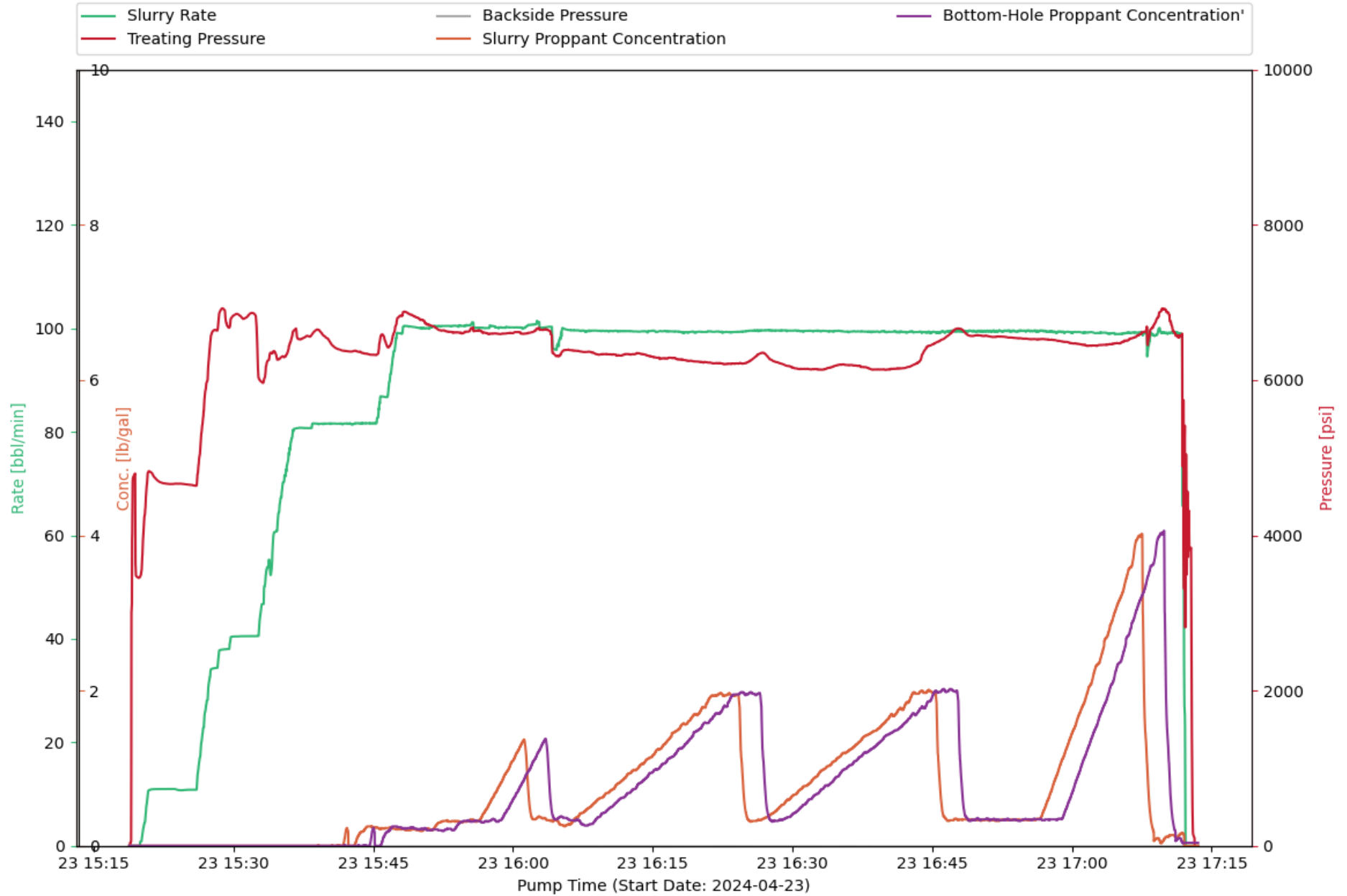
# CHEMISTRY PLOT : Treatment Interval 9



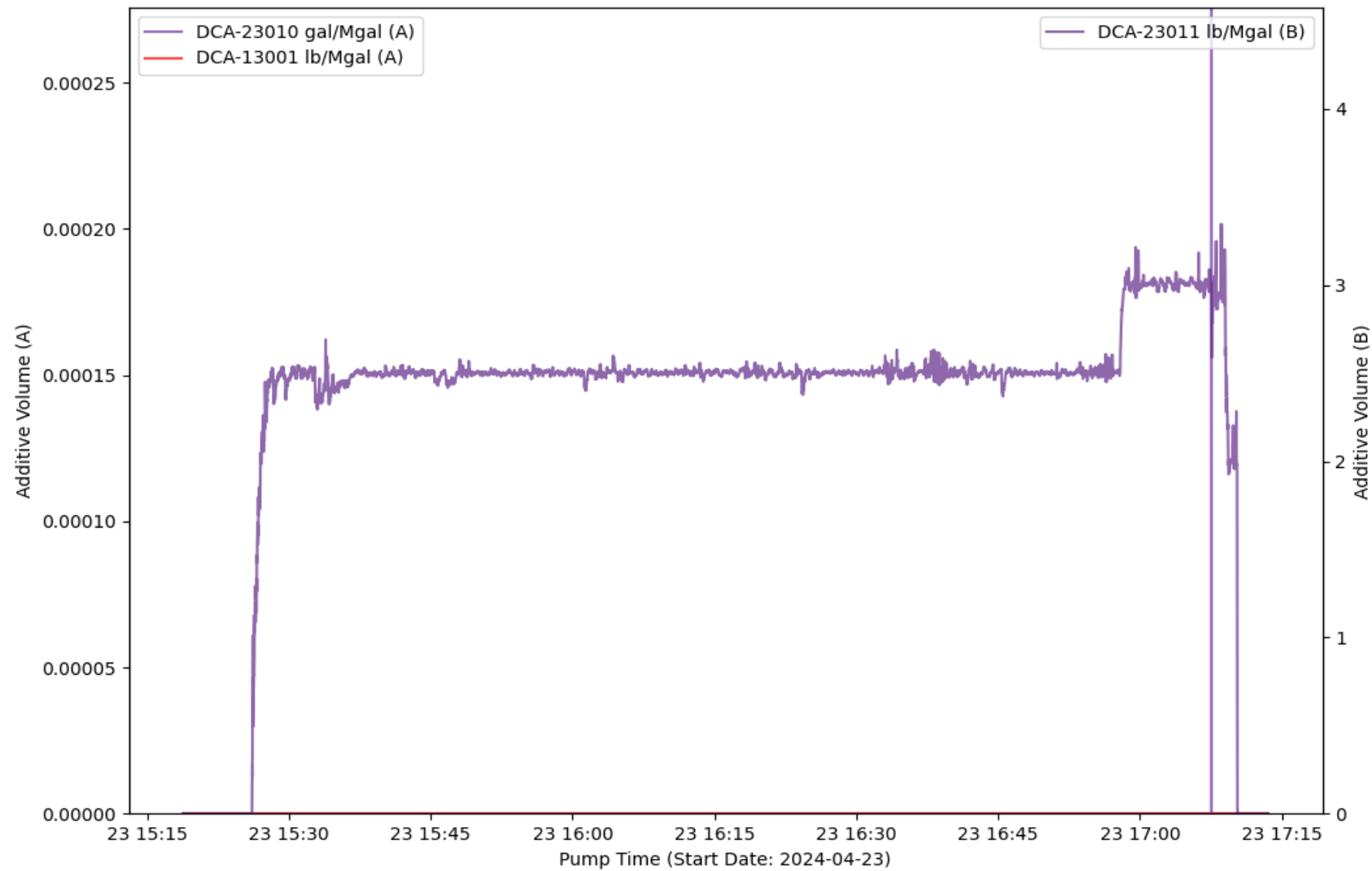
## EVENT LOG : TREATMENT INTERVAL 9

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-23T05:36:47	0	3476	0	0	0	0	0
2	Start Pumping	2024-04-23T05:36:58	0	3463	0	0	0	0	0
3	Break Formation	2024-04-23T05:38:13	9.6	4948	0	0	7.55	125.4	0
4	Pump Acid	2024-04-23T05:39:29	12.14	4213	0	0	615.67	687.51	0
5	Suspending Job	2024-04-23T05:43:34	21.31	5282	0	0.01	3101	3106	0
6	Resuming Job	2024-04-23T05:43:37	0	0	0	0.01	3101	3106	0
7	Spot Acid	2024-04-23T05:48:37	51.61	6815	0	0	11206	11111	0
8	Flush Acid	2024-04-23T05:50:08	51.68	5863	0	0	14498	14389	0
9	Stop Pumping	2024-04-23T07:27:38	1.25	4378	0	0	397610	411108	299557
10	ISIP	2024-04-23T07:27:49	0	4458	0	0	397612	411108	299557
11	Shut In Well	2024-04-23T07:27:58	0	4283	0	0	397613	411108	299557
12	Suspending Job	2024-04-23T07:29:54	0	-2.95	0	0	397613	411108	299557

TREATMENT PLOT : Treatment Interval 10



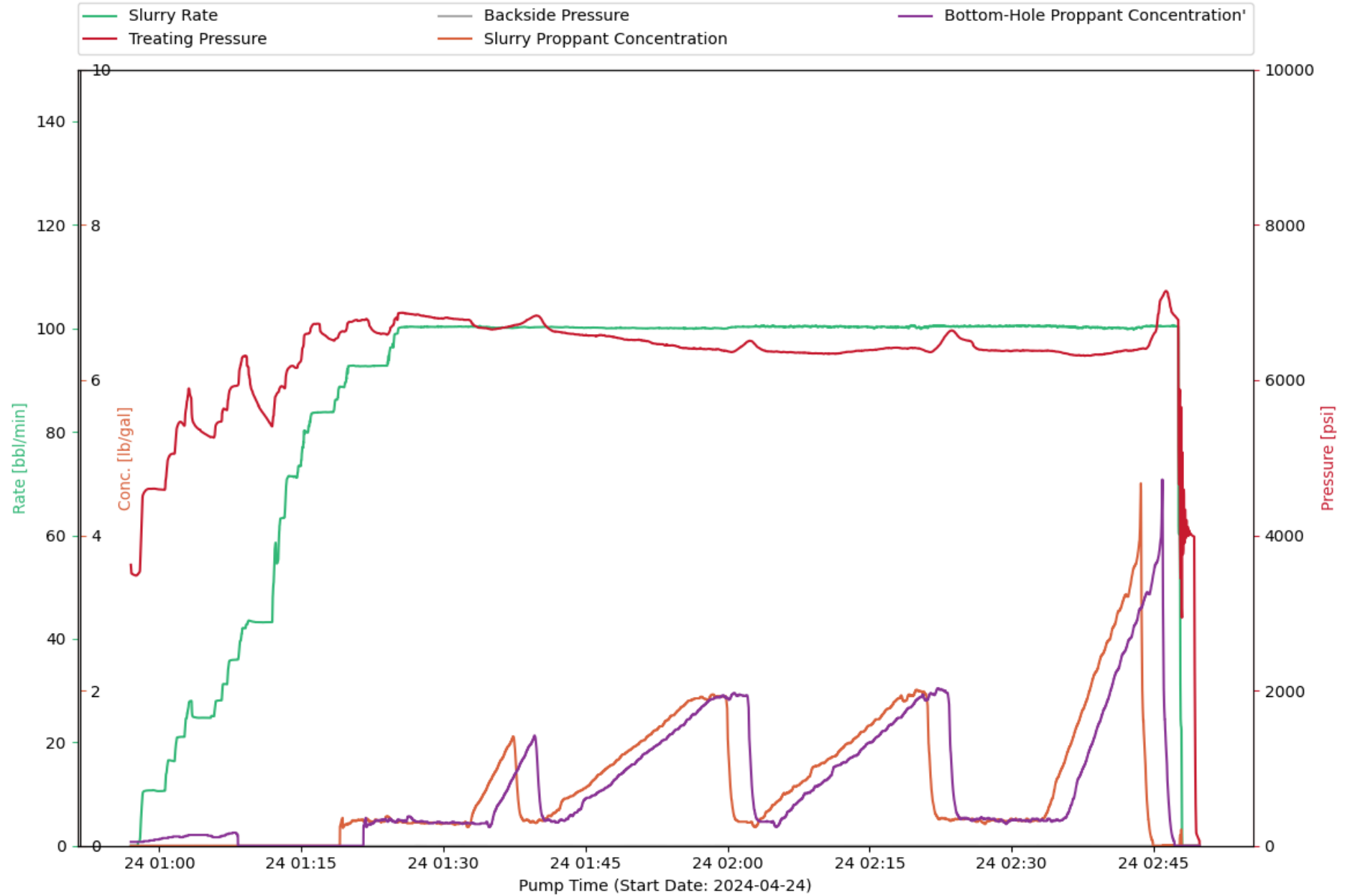
# CHEMISTRY PLOT : Treatment Interval 10



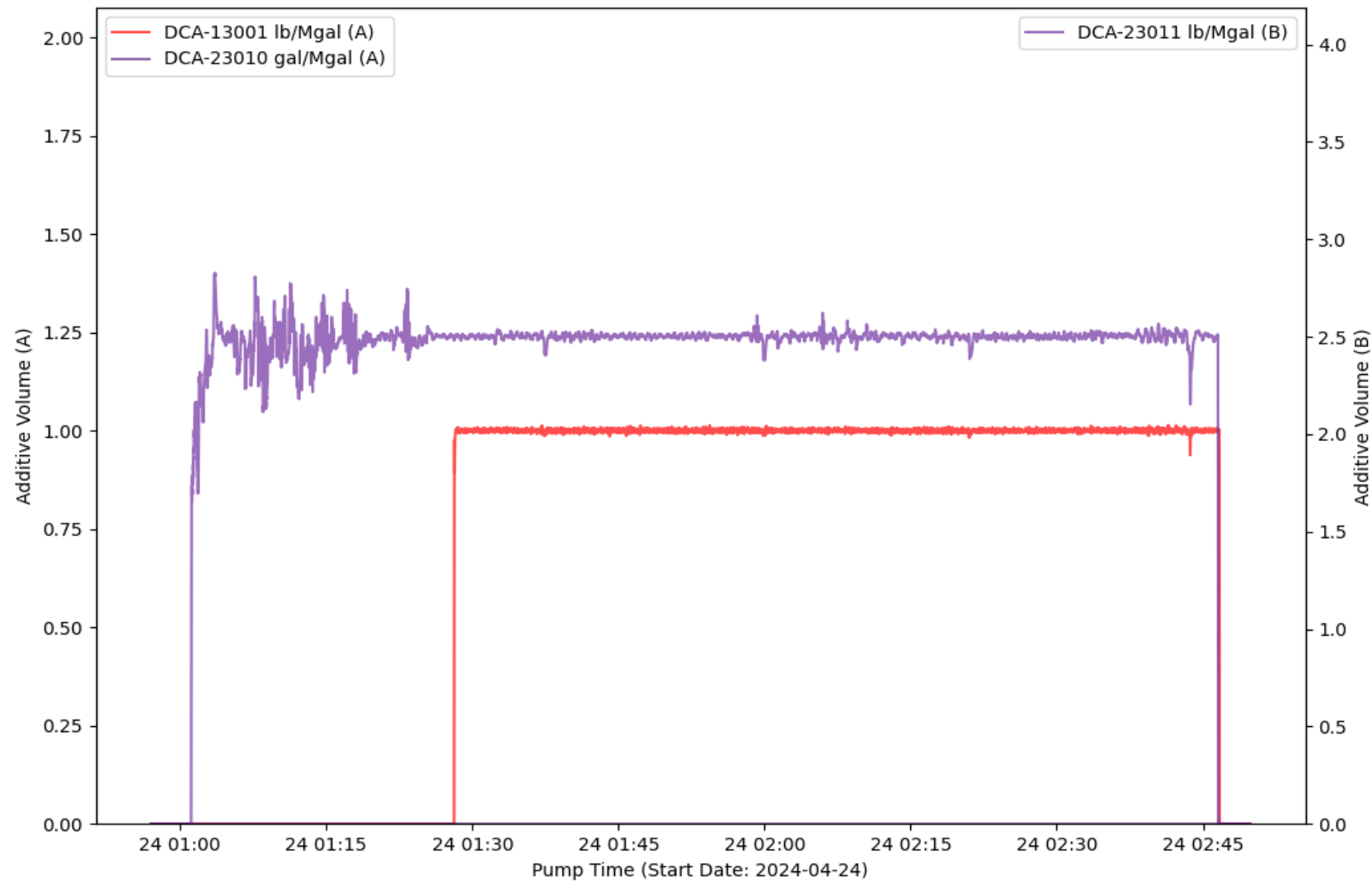
## EVENT LOG : TREATMENT INTERVAL 10

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	End Avg Trt 9	2024-04-23T15:18:54	0	0	0	0	0	0	0
2	Start Avg Trt 10	2024-04-23T15:18:59	0	45.47	0	0	0	0	0
3	Open Well	2024-04-23T15:19:36	0	3472	0	0	0	0	0
4	Start Pumping	2024-04-23T15:20:00	0.76	3472	0	0	0	1.07	0
5	Break Formation	2024-04-23T15:21:32	10.95	4746	0	0	512.1	486.32	0
6	Pump Acid	2024-04-23T15:24:29	10.74	4663	0	0	1794	1840	0
7	Spot Acid	2024-04-23T15:32:19	40.51	6844	0	0	11765	11765	0
8	Flush Acid	2024-04-23T15:32:48	43.41	6006	0	0	12597	12601	0
9	Stop Pumping	2024-04-23T17:12:11	1.97	3057	0	0.04	399377	413748	330908
10	ISIP	2024-04-23T17:12:16	0	4578	0	0.04	399379	413748	330908
11	Shut In Well	2024-04-23T17:12:45	0	3837	0	0.04	399381	413748	330908
12	Suspending Job	2024-04-23T17:13:31	0	-13.36	0	0.04	399381	413748	330908

### TREATMENT PLOT : Treatment Interval 11



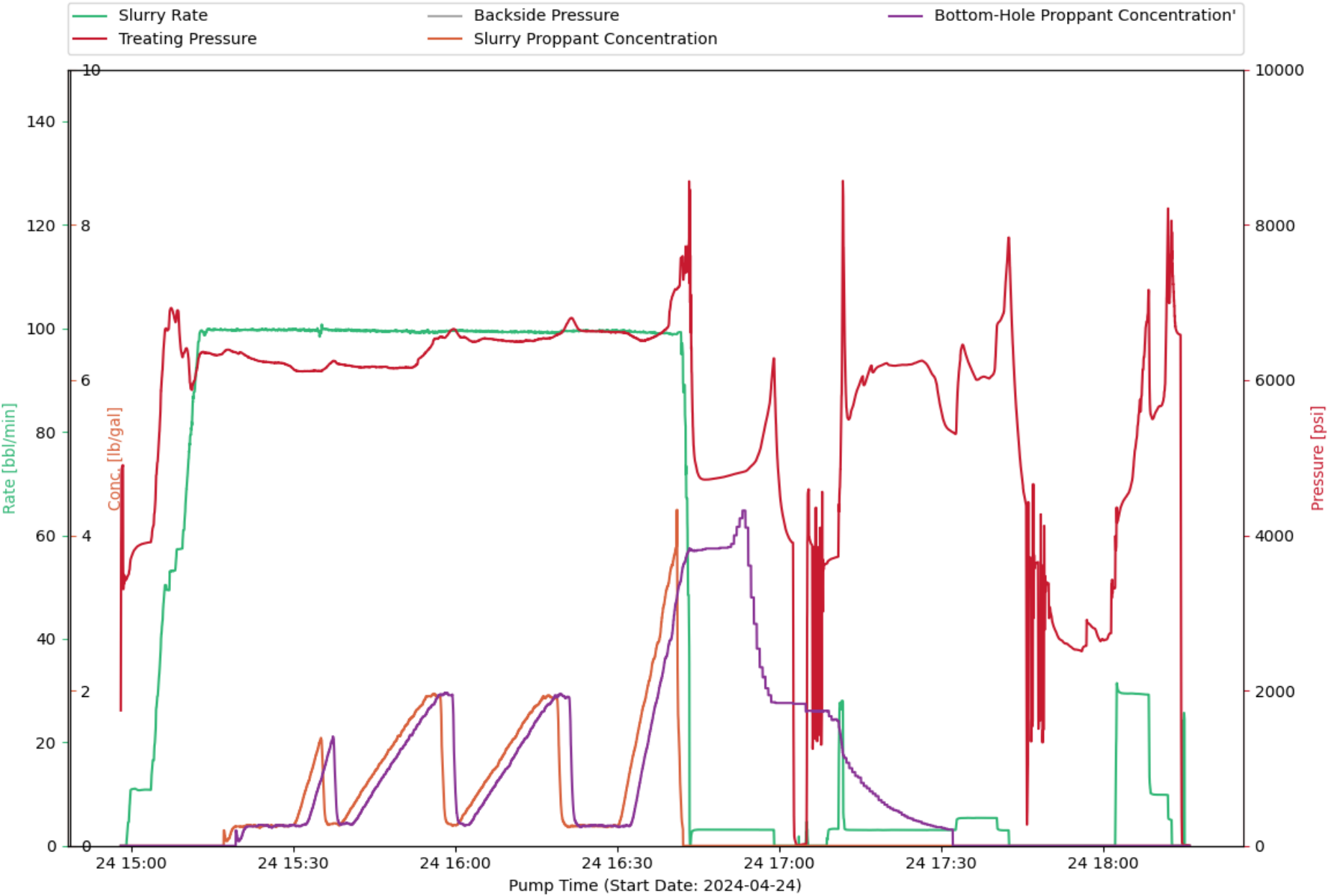
# CHEMISTRY PLOT : Treatment Interval 11



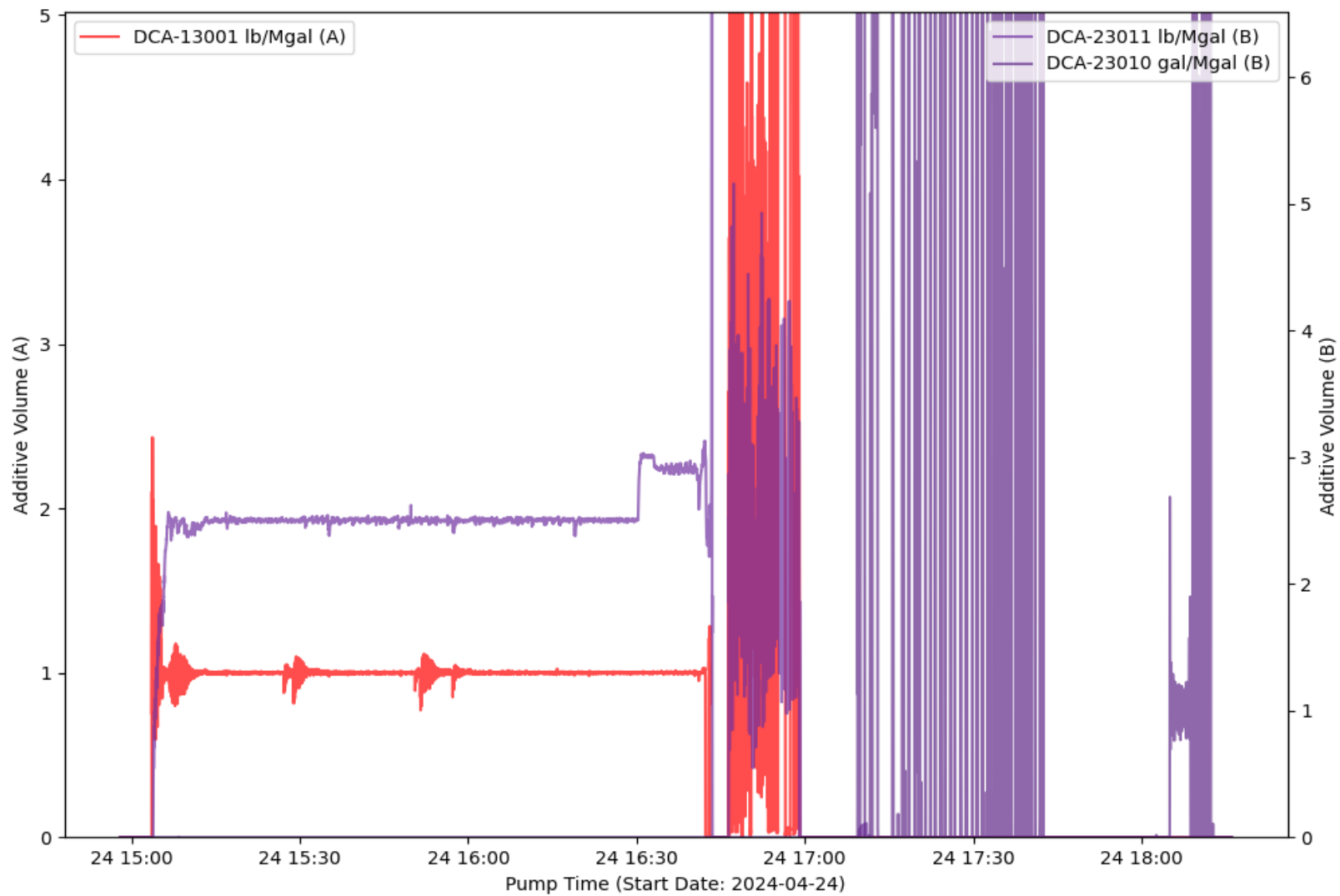
EVENT LOG : TREATMENT INTERVAL 11

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-24T00:57:09	0	3503	0	0.05	0	0	0
2	Start Pumping	2024-04-24T00:57:49	0.77	3509	0	0.05	0	2.48	0
3	Pump Acid	2024-04-24T00:59:02	10.72	4599	0	0.07	425.15	429.43	0
4	Break Formation	2024-04-24T01:03:10	27.81	5882	0	0.14	3269	3233	0
5	Spot Acid	2024-04-24T01:09:09	42.65	6311	0	0	10892	10821	0
6	Flush Acid	2024-04-24T01:11:53	43.22	5404	0	0	15822	15785	0
7	Stop Pumping	2024-04-24T02:47:59	2.32	2939	0	0	395296	410189	333992
8	ISIP	2024-04-24T02:48:03	0	4852	0	0	395304	410189	333992
9	Shut In Well	2024-04-24T02:49:01	0	4003	0	0	395306	410189	333992
10	Suspending Job	2024-04-24T02:49:50	0	65.7	0	0	395306	410189	333992

### TREATMENT PLOT : Treatment Interval 12



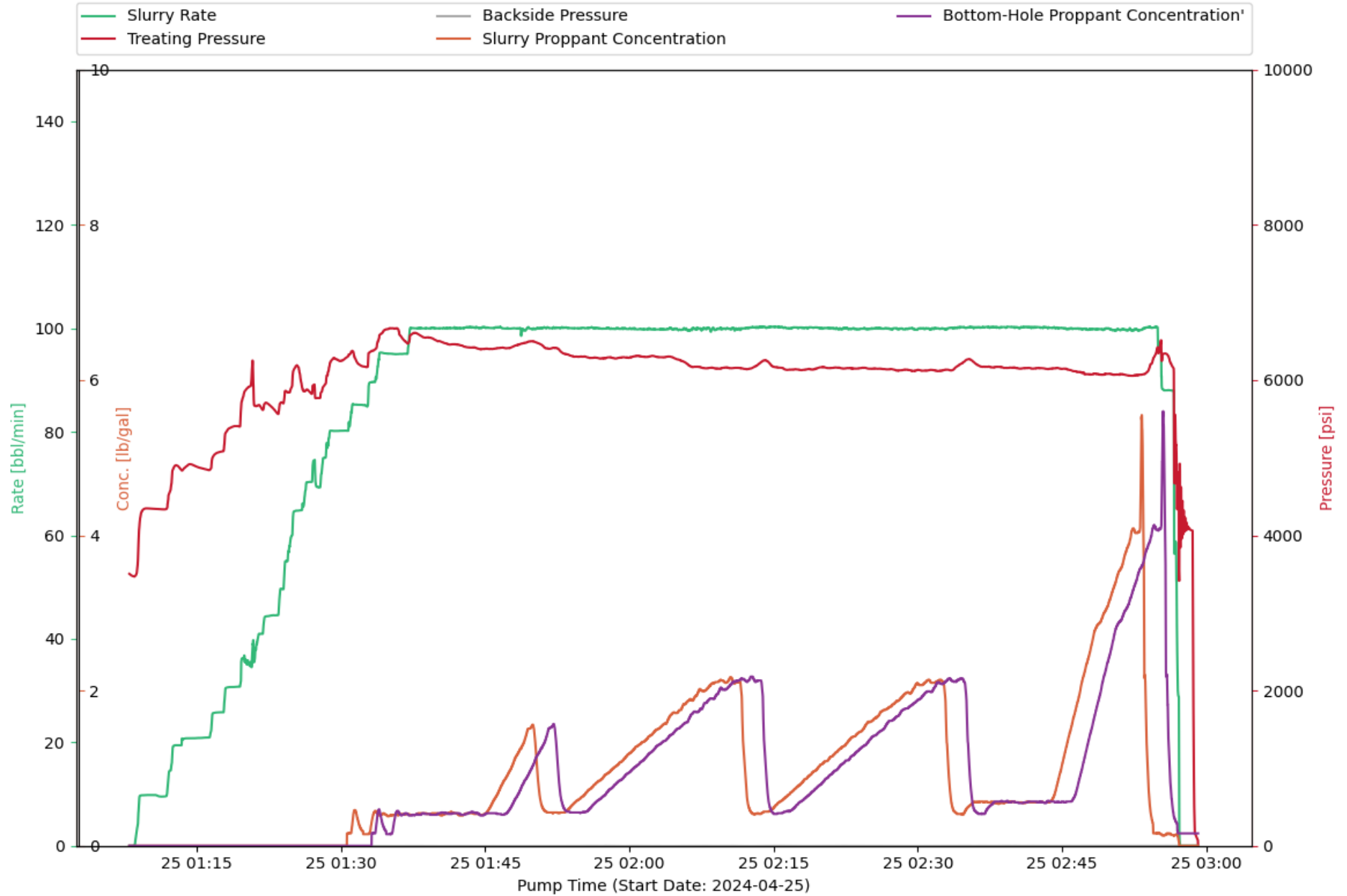
# CHEMISTRY PLOT : Treatment Interval 12



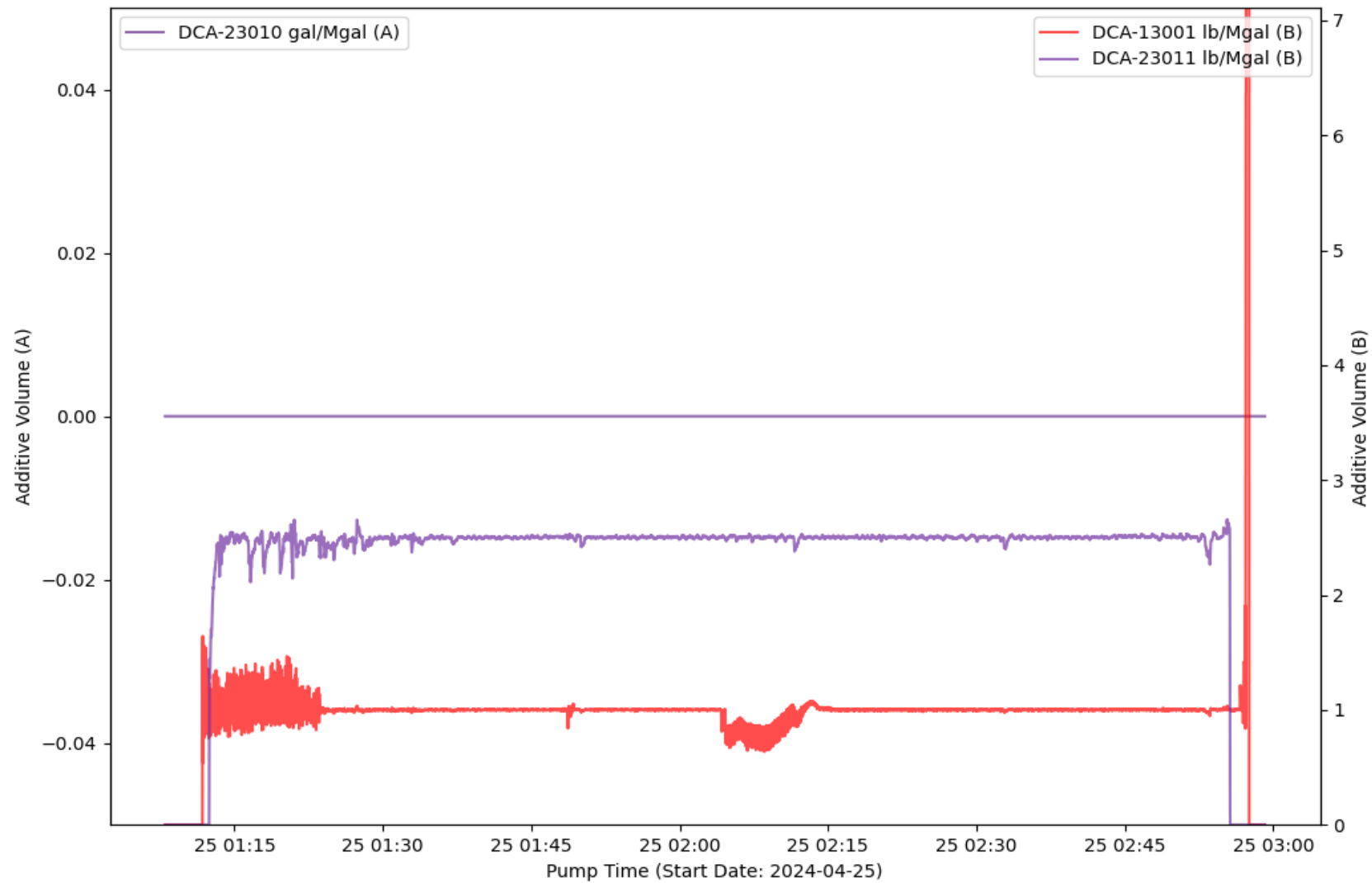
## EVENT LOG : TREATMENT INTERVAL 12

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-24T14:58:32	0	3473	0	0	0	0	0
2	Start Pumping	2024-04-24T14:59:00	0	3438	0	0	0	0	0
3	Start Avg Trt 12	2024-04-24T14:59:46	9.94	3659	0	0	7.88	7.05	0
4	Pump Acid	2024-04-24T15:02:01	10.81	3890	0	0	909.19	1033	0
5	Break Formation	2024-04-24T15:07:41	53.21	6867	0	0	8425	8317	0
6	Spot Acid	2024-04-24T15:08:34	57.34	6899	0	0	10429	10329	0
7	Flush Acid	2024-04-24T15:10:47	77.53	5968	0	0	16357	16266	0
8	Stop Pumping	2024-04-24T18:12:43	1.99	7831	0	0	403119	417829	322141
9	ISIP	2024-04-24T18:12:47	0	7611	0	0	403128	417831	322141
10	Shut In Well	2024-04-24T18:14:17	0	6585	0	0	403138	417831	322141
11	Suspending Job	2024-04-24T18:16:01	0	-1.54	0	0	403514	418207	322141

### TREATMENT PLOT : Treatment Interval 13



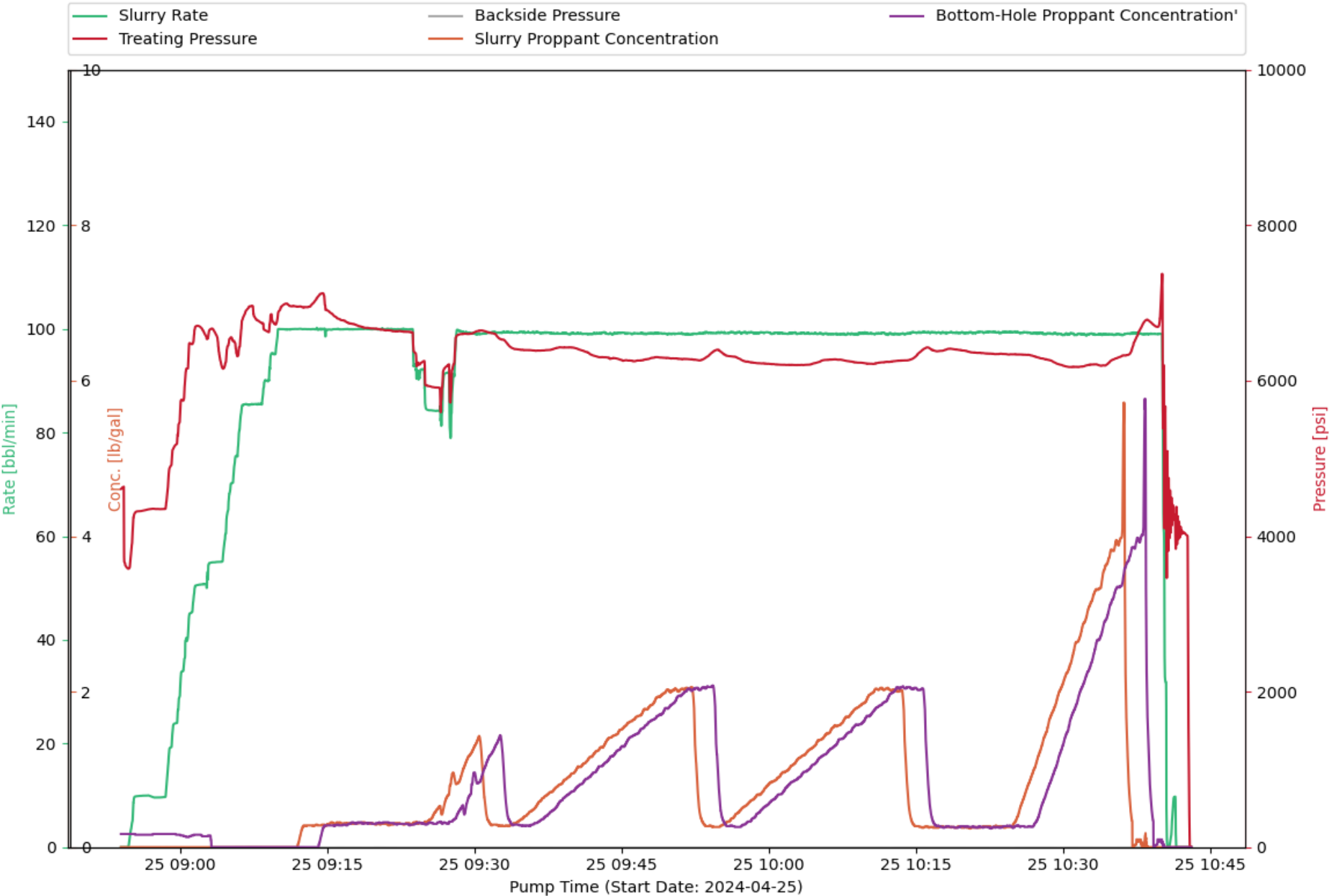
# CHEMISTRY PLOT : Treatment Interval 13



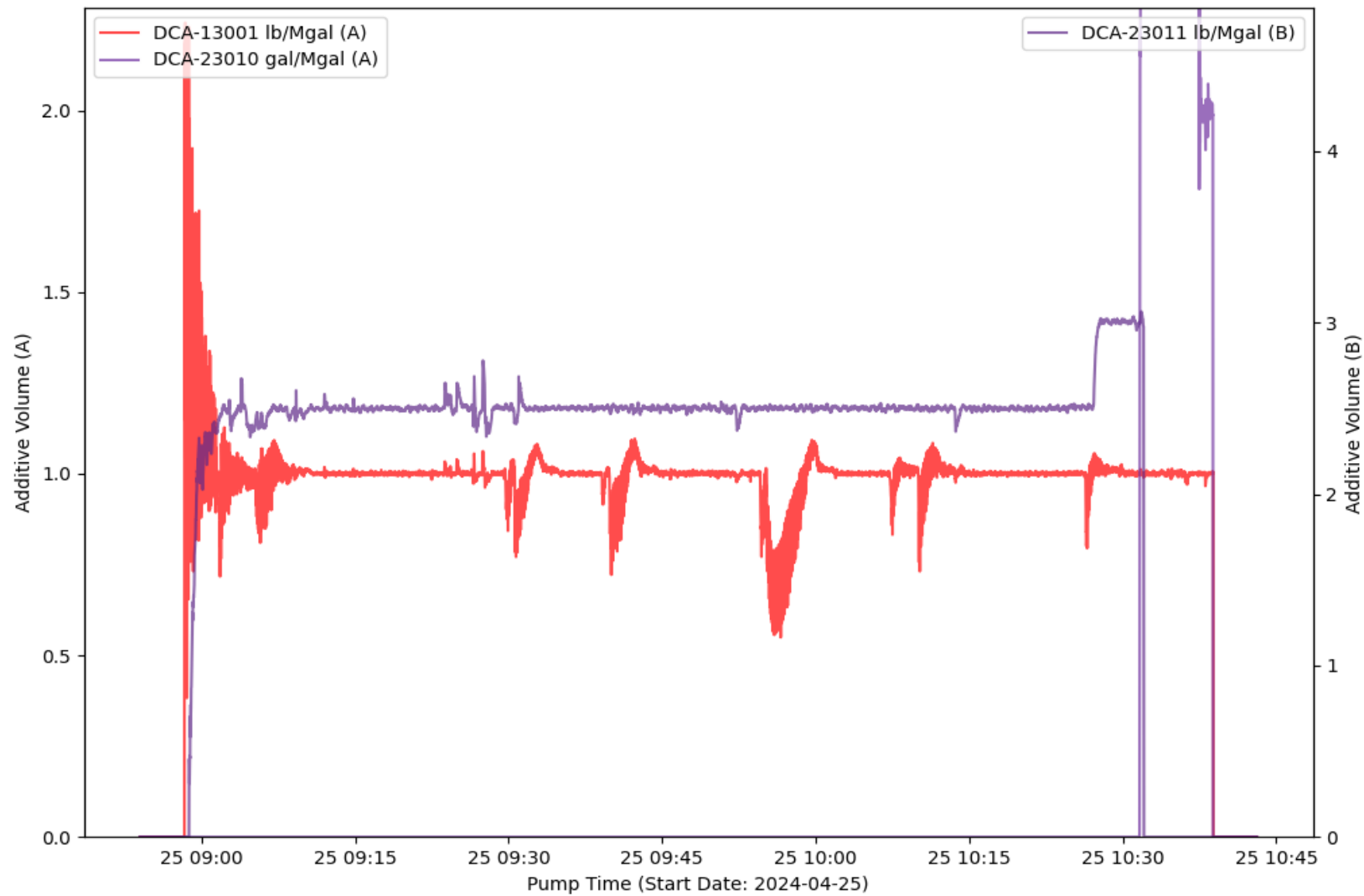
EVENT LOG : TREATMENT INTERVAL 13

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-25T01:08:10	0	3486	0	0	0	0	0
2	Start Pumping	2024-04-25T01:08:34	0.09	3472	0	0	0.86	0.07	0
3	Pump Acid	2024-04-25T01:10:21	9.83	4343	0	0	615.8	617.98	0
4	Break Formation	2024-04-25T01:13:09	19.44	4880	0	0	2111	2142	0
5	Spot Acid	2024-04-25T01:20:48	38.47	6252	0	0	10597	10569	0
6	Flush Acid	2024-04-25T01:20:58	35.47	5680	0	0	10878	10836	0
7	Stop Pumping	2024-04-25T02:57:11	7.9	3413	0	0.16	380429	395133	387686
8	ISIP	2024-04-25T02:57:15	0.71	4923	0	0.16	380445	395138	387686
9	Shut In Well	2024-04-25T02:58:33	0	4061	0	0.16	380449	395138	387686
10	Suspending Job	2024-04-25T02:59:08	0	71.77	0	0.16	380449	395138	387686

### TREATMENT PLOT : Treatment Interval 14



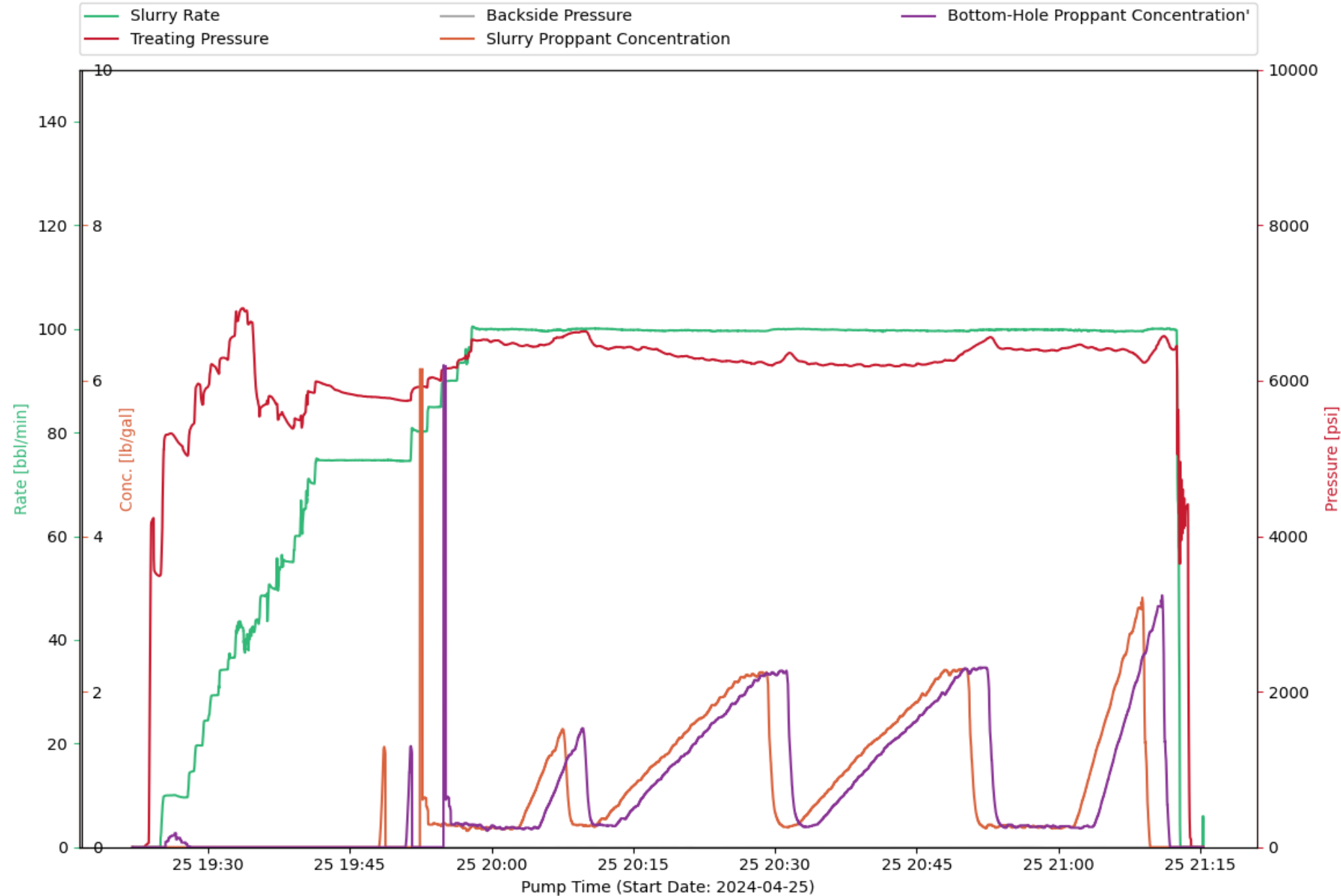
# CHEMISTRY PLOT : Treatment Interval 14



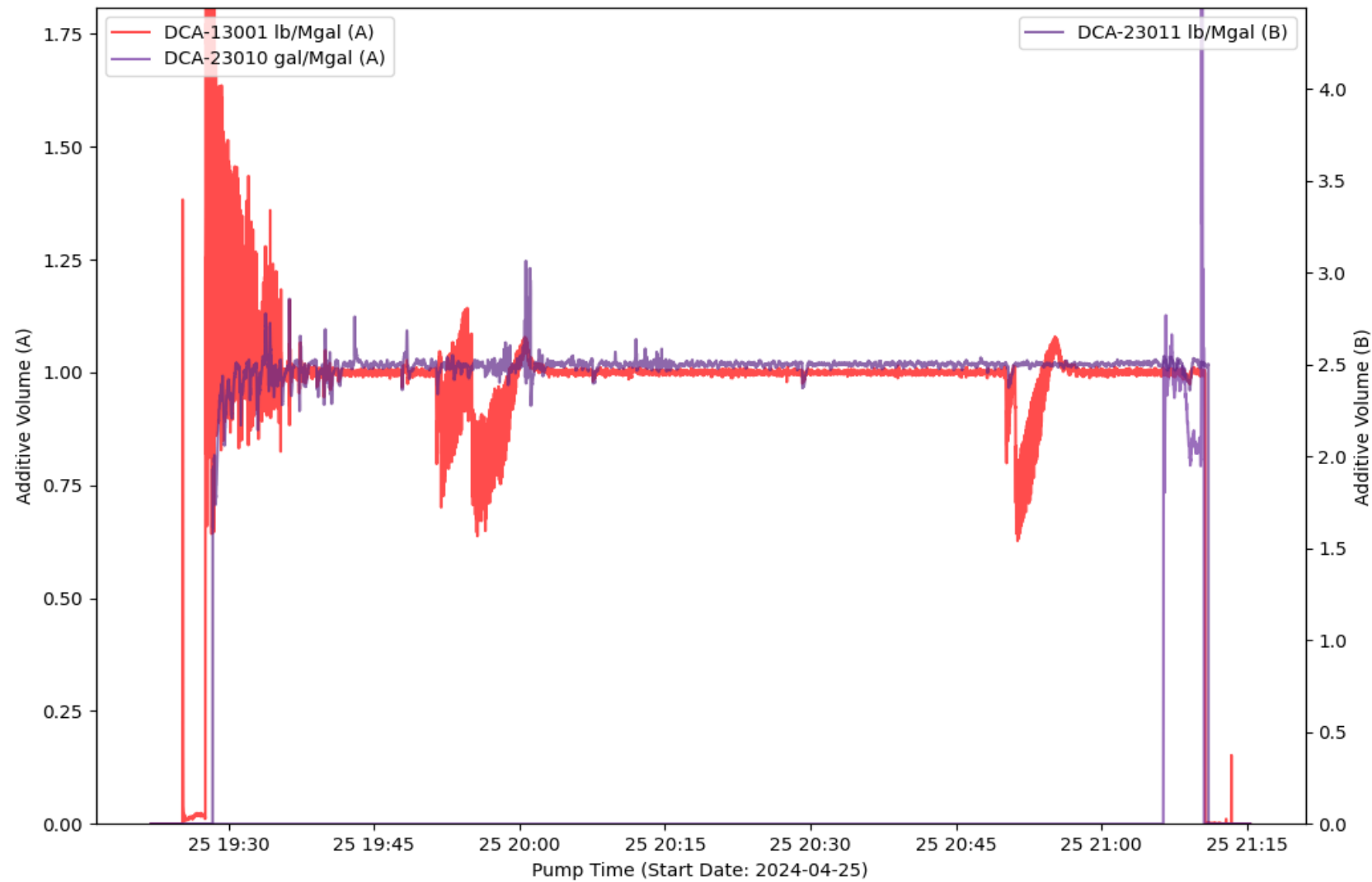
EVENT LOG : TREATMENT INTERVAL 14

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-25T08:54:25	0	3649	0	0.17	0	0	0
2	Start Pumping	2024-04-25T08:54:47	0.34	3583	0	0.17	0	0.36	0
3	Pump Acid	2024-04-25T08:57:40	9.56	4350	0	0.17	1126	1066	0
4	Break Formation	2024-04-25T09:02:08	50.68	6685	0	0.16	6718	6623	0
5	Spot Acid	2024-04-25T09:03:41	55.02	6595	0	0	10128	10060	0
6	Flush Acid	2024-04-25T09:04:19	55.15	6168	0	0	11589	11532	0
7	Stop Pumping	2024-04-25T10:40:37	1.41	4416	0	0	390674	405856	341233
8	ISIP	2024-04-25T10:41:58	0	4040	0	0	390678	406015	341233
9	Shut In Well	2024-04-25T10:42:32	0	4024	0	0	390678	406015	341233
10	Suspending Job	2024-04-25T10:43:06	0	-2.92	0	0	390678	406015	341233

### TREATMENT PLOT : Treatment Interval 15



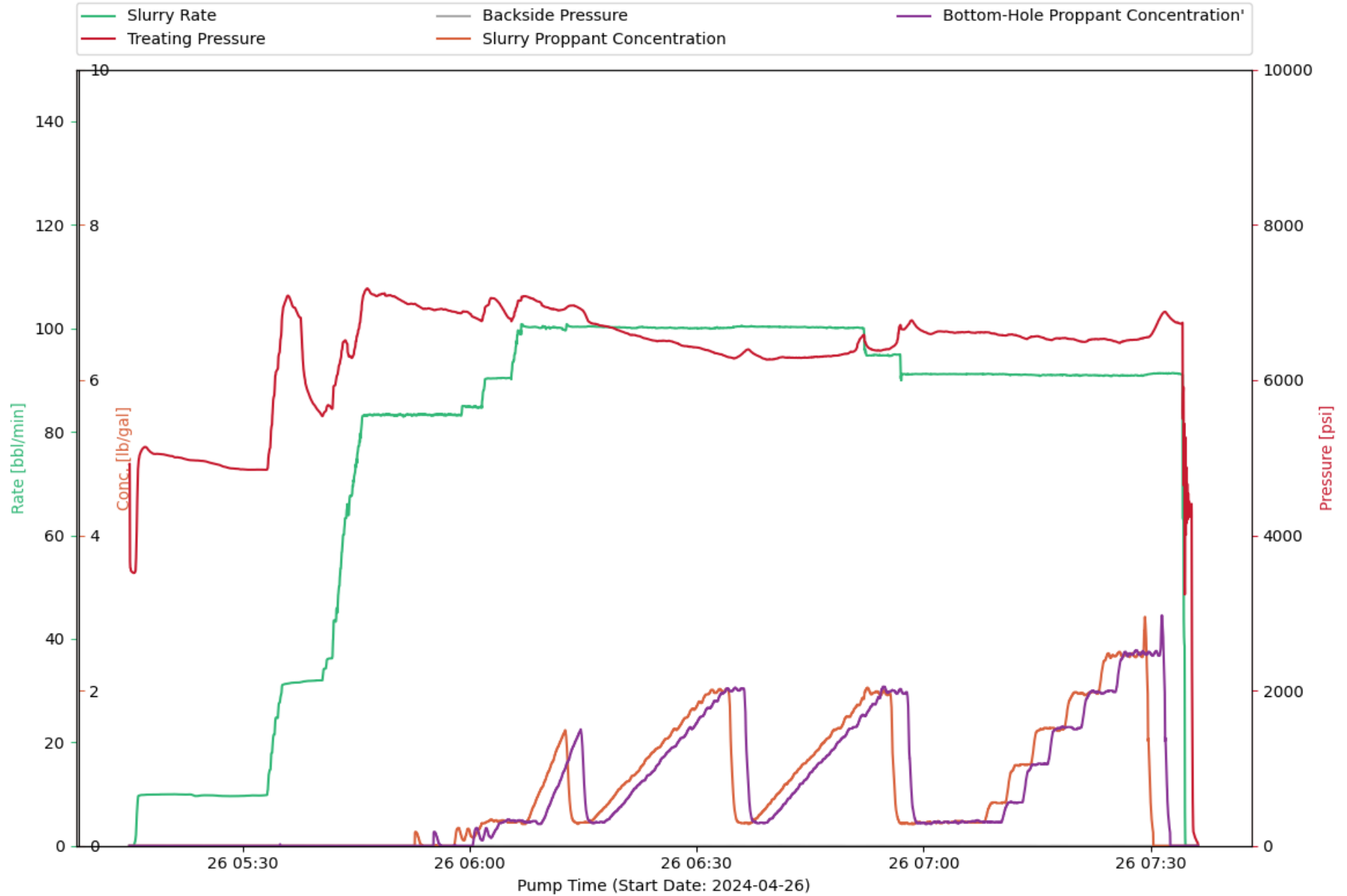
# CHEMISTRY PLOT : Treatment Interval 15



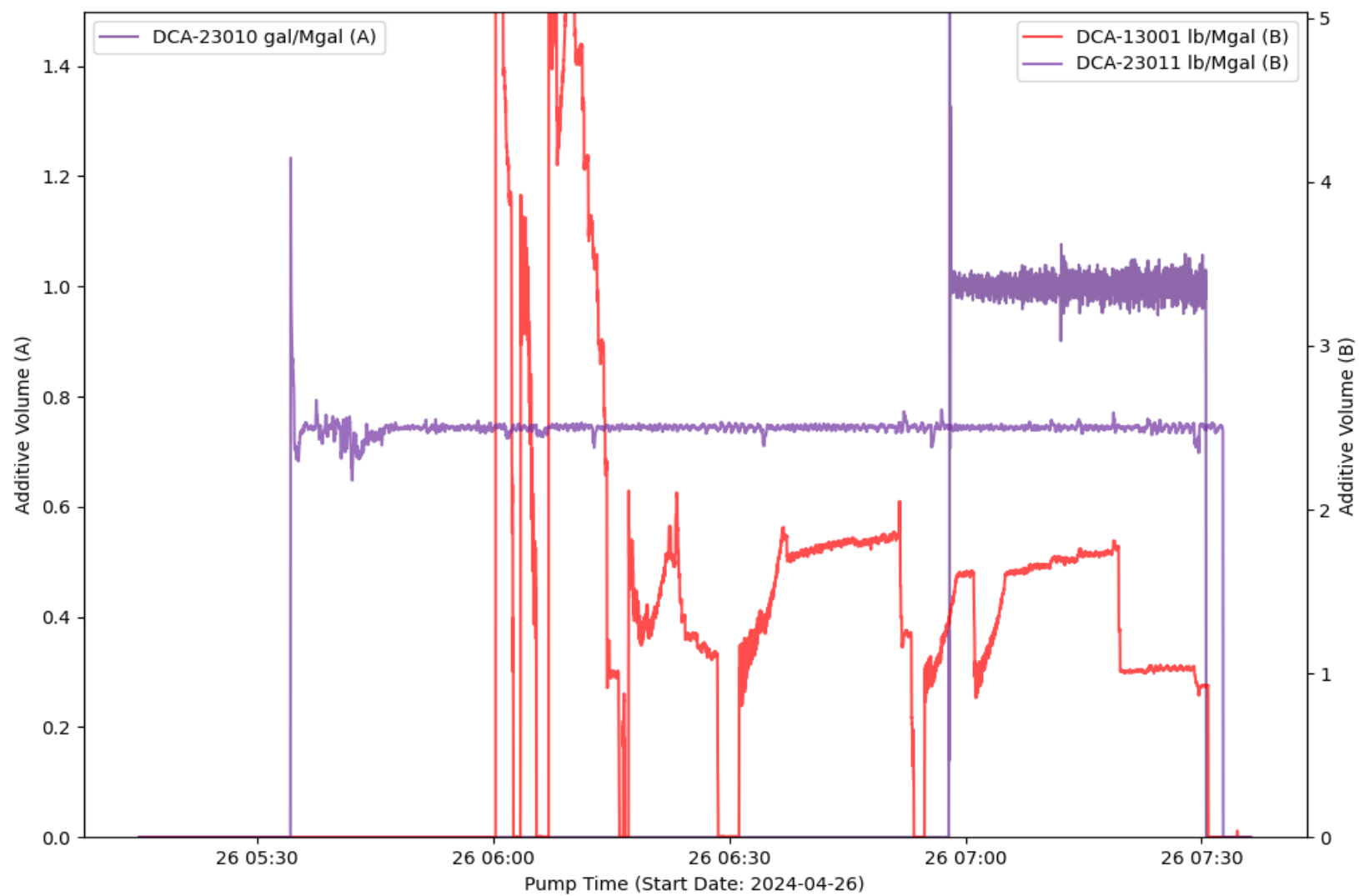
## EVENT LOG : TREATMENT INTERVAL 15

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	End Avg Trt 14	2024-04-25T19:22:11	0	-8.28	0	0	0	0	0
2	Start Avg Trt 15	2024-04-25T19:22:20	0	-8.52	0	0	0	0	0
3	Open Well	2024-04-25T19:24:25	0	3533	0	0	0	0	0
4	Start Pumping	2024-04-25T19:24:58	0	3499	0	0	0	0	0
5	Pump Acid	2024-04-25T19:26:13	10.01	5315	0	0.15	401.87	463.9	0
6	Break Formation	2024-04-25T19:29:00	19.65	5960	0	0	1795	1905	0
7	Spot Acid	2024-04-25T19:34:37	41.54	6751	0	0	9692	9776	0
8	Flush Acid	2024-04-25T19:35:27	44.15	5543	0	0	11175	11260	0
9	Stop Pumping	2024-04-25T21:12:53	0.85	4918	0	0	375727	394158	309301
10	ISIP	2024-04-25T21:13:07	0	4092	0	0	375732	394158	309301
11	Shut In Well	2024-04-25T21:13:24	0	4284	0	0	375733	394158	309301
12	Suspending Job	2024-04-25T21:15:18	5.99	7.85	0	0	375733	394169	309301

### TREATMENT PLOT : Treatment Interval 16



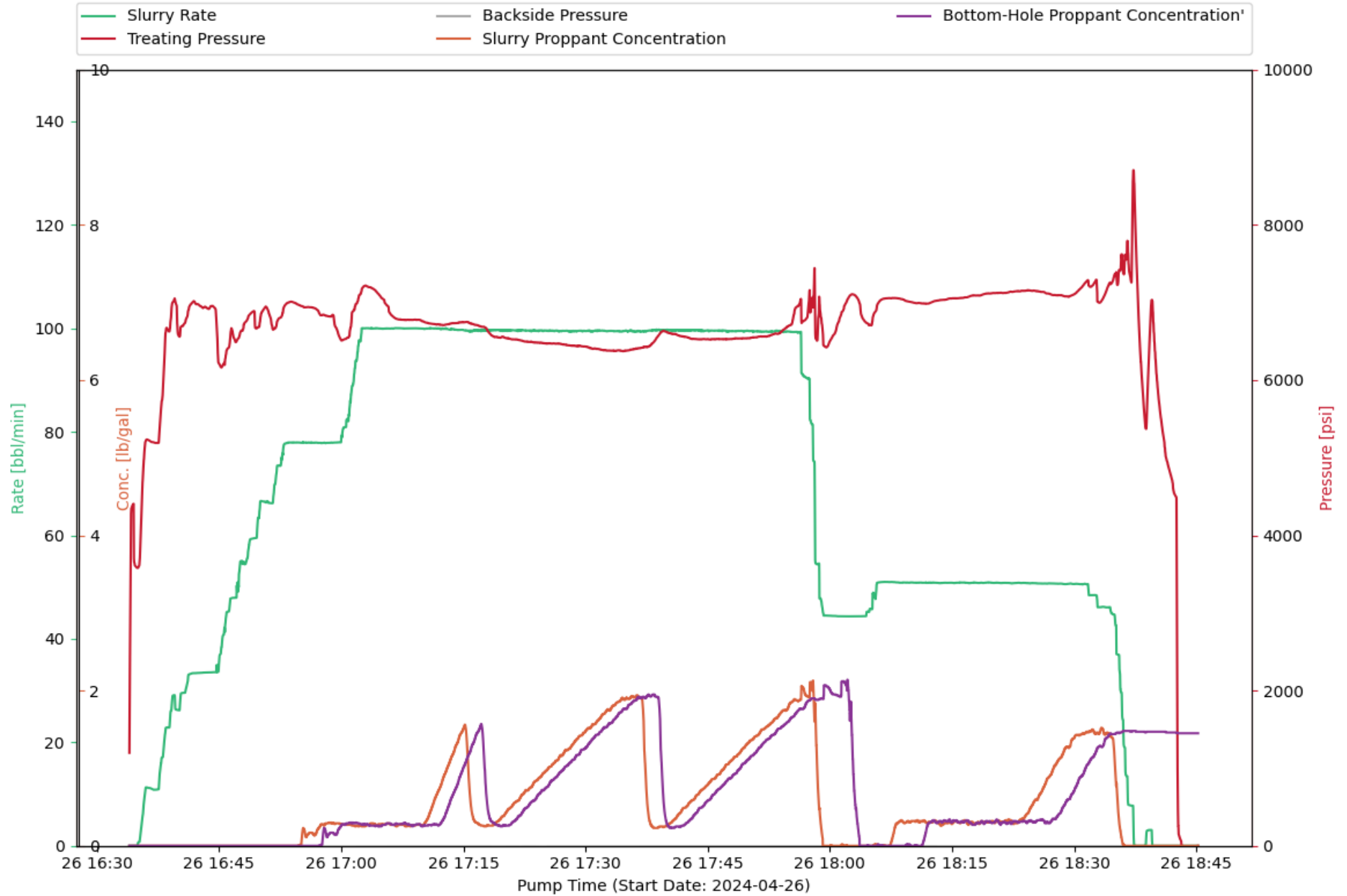
# CHEMISTRY PLOT : Treatment Interval 16



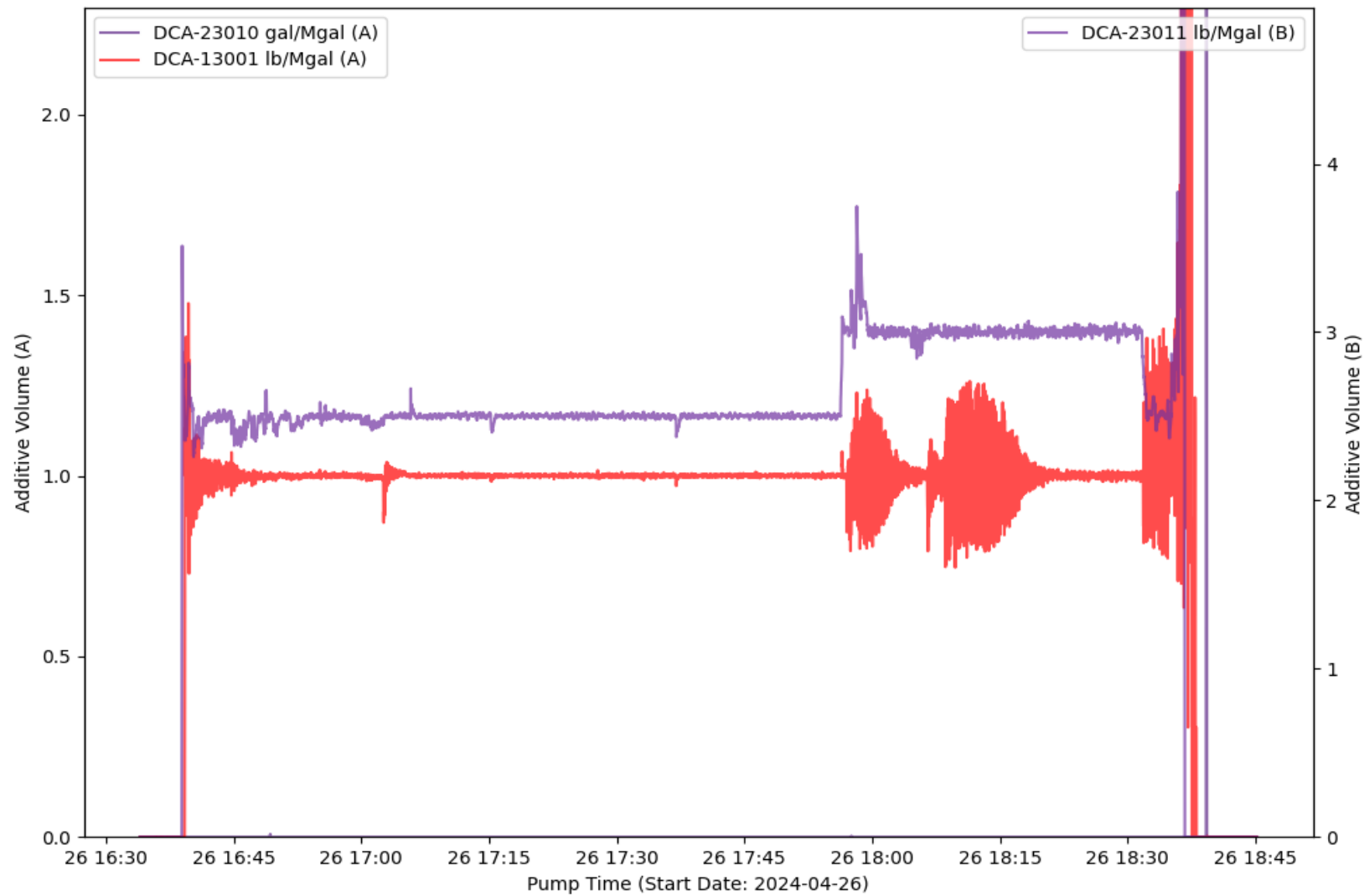
## EVENT LOG : TREATMENT INTERVAL 16

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-26T05:15:06	0	3604	0	0	0	0	0
2	Start Pumping	2024-04-26T05:15:35	0.01	3514	0	0	0	0.01	0
3	Pump Acid	2024-04-26T05:20:06	9.95	5028	0	0	1663	1735	0
4	Pump Acid	2024-04-26T05:24:45	9.76	4958	0	0	3544	3661	0
5	Break Formation	2024-04-26T05:36:16	31.44	7038	0	0	10245	10316	0
6	Spot Acid	2024-04-26T05:37:34	31.59	6808	0	0	11973	12031	0
7	Flush Acid	2024-04-26T05:40:28	31.99	5539	0	0	15871	15922	0
8	Spot Acid	2024-04-26T05:41:36	36.23	5652	0	0	17529	17574	0
9	Flush Acid	2024-04-26T05:42:58	53.83	6283	0	0	20082	20147	0
10	Stop Pumping	2024-04-26T07:34:34	1.38	5264	0	0	440384	456962	365774
11	ISIP	2024-04-26T07:35:04	0	4401	0	0	440387	456962	365774
12	Shut In Well	2024-04-26T07:35:16	0	4371	0	0	440387	456962	365774
13	Suspending Job	2024-04-26T07:36:15	0	0.01	0	0	440387	456962	365774

### TREATMENT PLOT : Treatment Interval 17



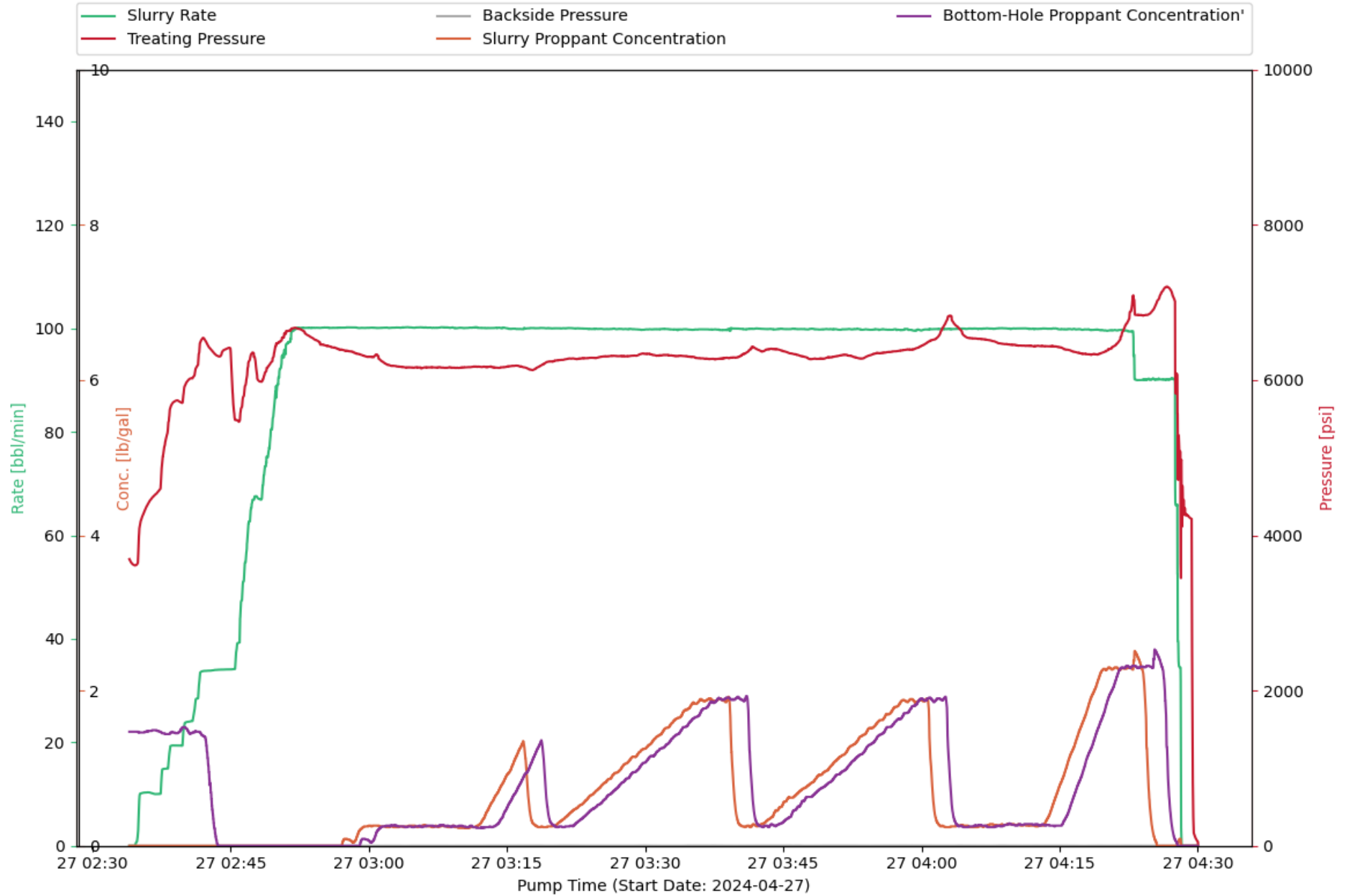
CHEMISTRY PLOT : Treatment Interval 17



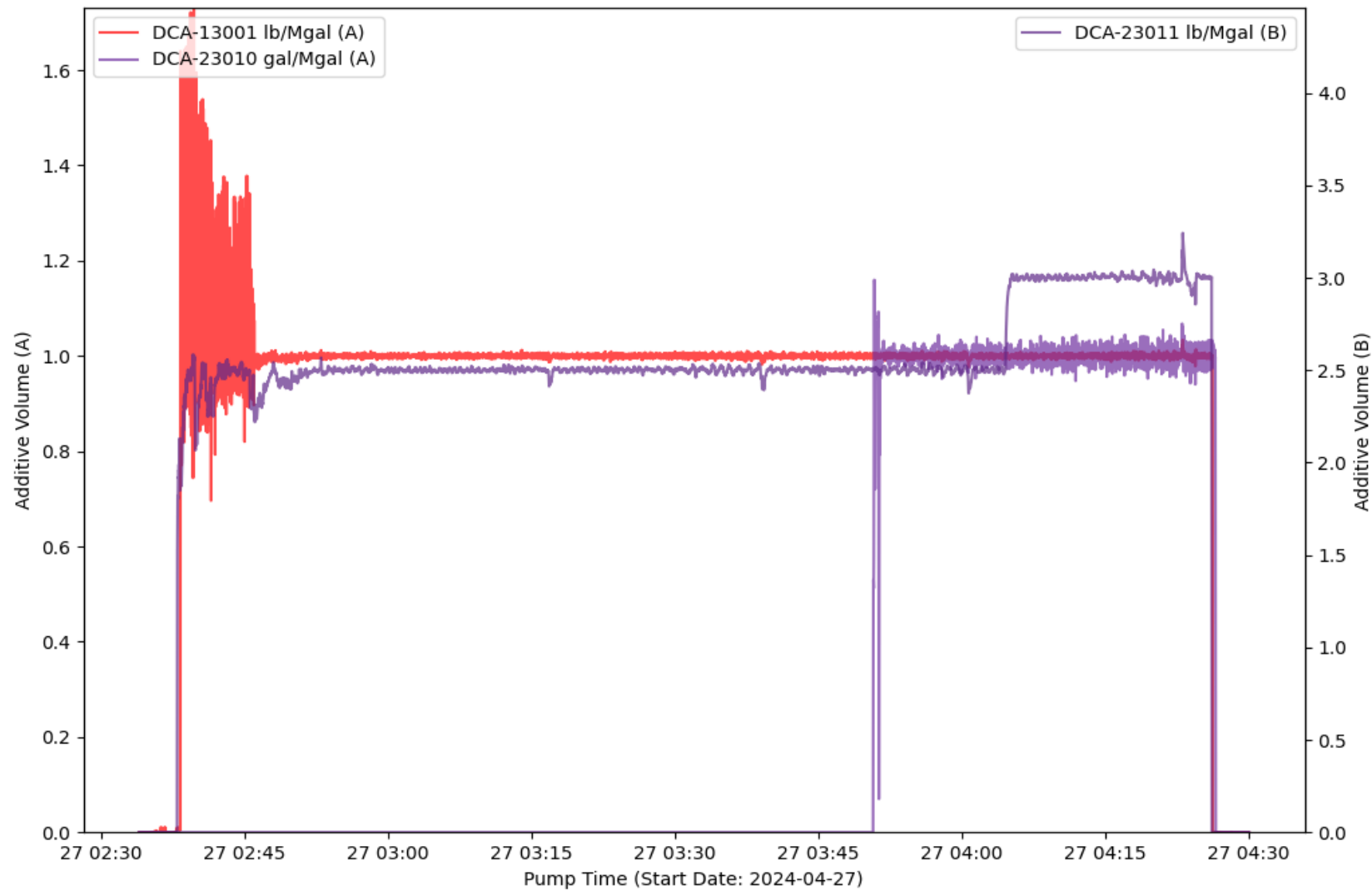
EVENT LOG : TREATMENT INTERVAL 17

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-26T16:34:37	0	3644	0	0	0.15	0	0
2	Start Pumping	2024-04-26T16:35:05	0.66	3585	0	0	5.47	2.01	0
3	Pump Acid	2024-04-26T16:36:29	11.16	5216	0	0	438.66	432.19	0
4	Break Formation	2024-04-26T16:39:44	26.32	6977	0	0	2980	2953	0
5	Spot Acid	2024-04-26T16:44:34	33.56	6915	0	0	9546	9452	0
6	Flush Acid	2024-04-26T16:44:54	33.62	6236	0	0	10022	9925	0
7	Stop Pumping	2024-04-26T18:39:33	0.97	7031	0	1.47	360741	372249	253211
8	ISIP	2024-04-26T18:39:47	0	6612	0	1.47	360756	372249	253211
9	Shut In Well	2024-04-26T18:42:28	0	4501	0	1.46	360763	372249	253211
10	Suspending Job	2024-04-26T18:45:11	0	-10.93	0	1.45	360763	372249	253211

### TREATMENT PLOT : Treatment Interval 18



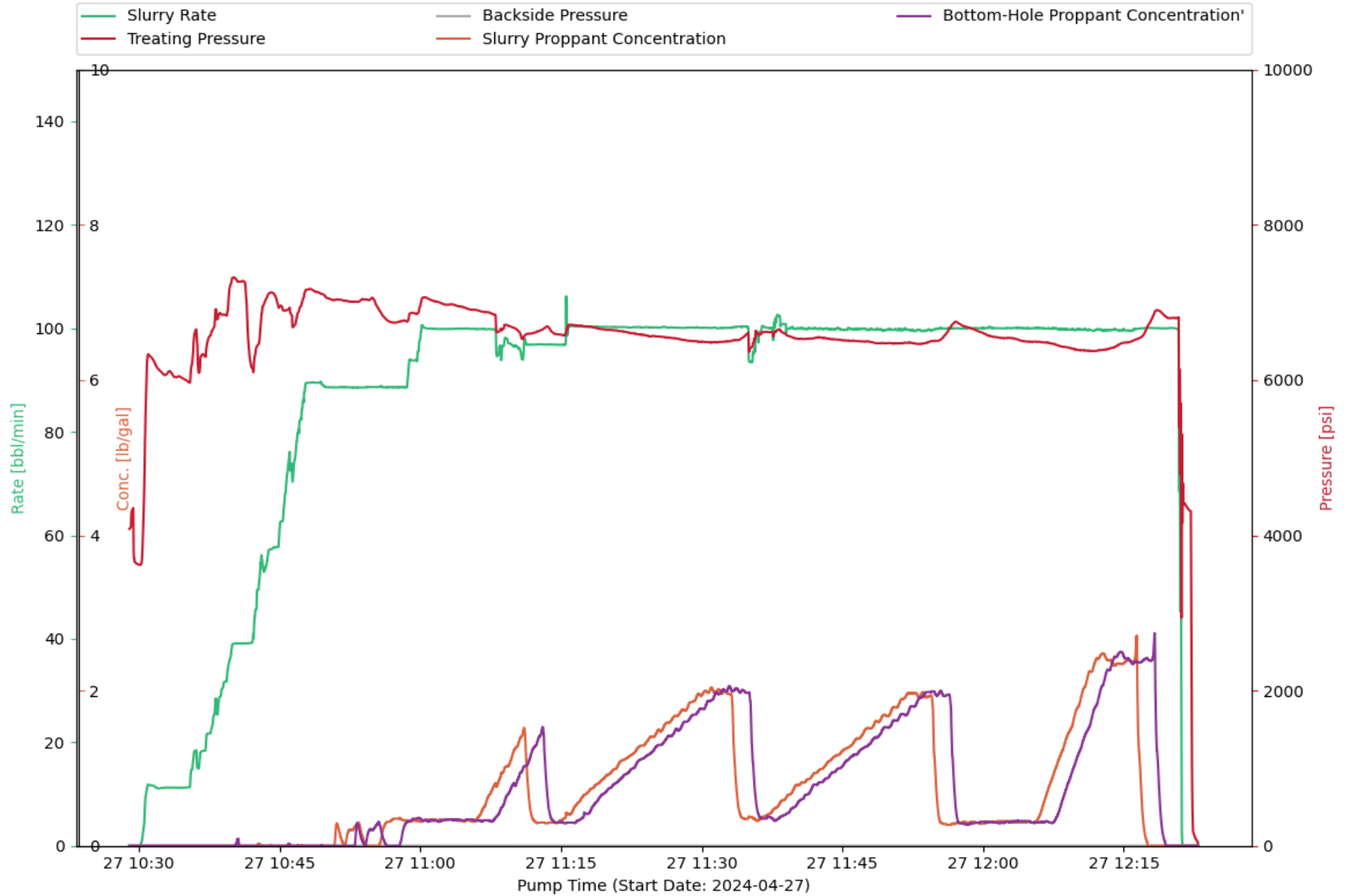
CHEMISTRY PLOT : Treatment Interval 18



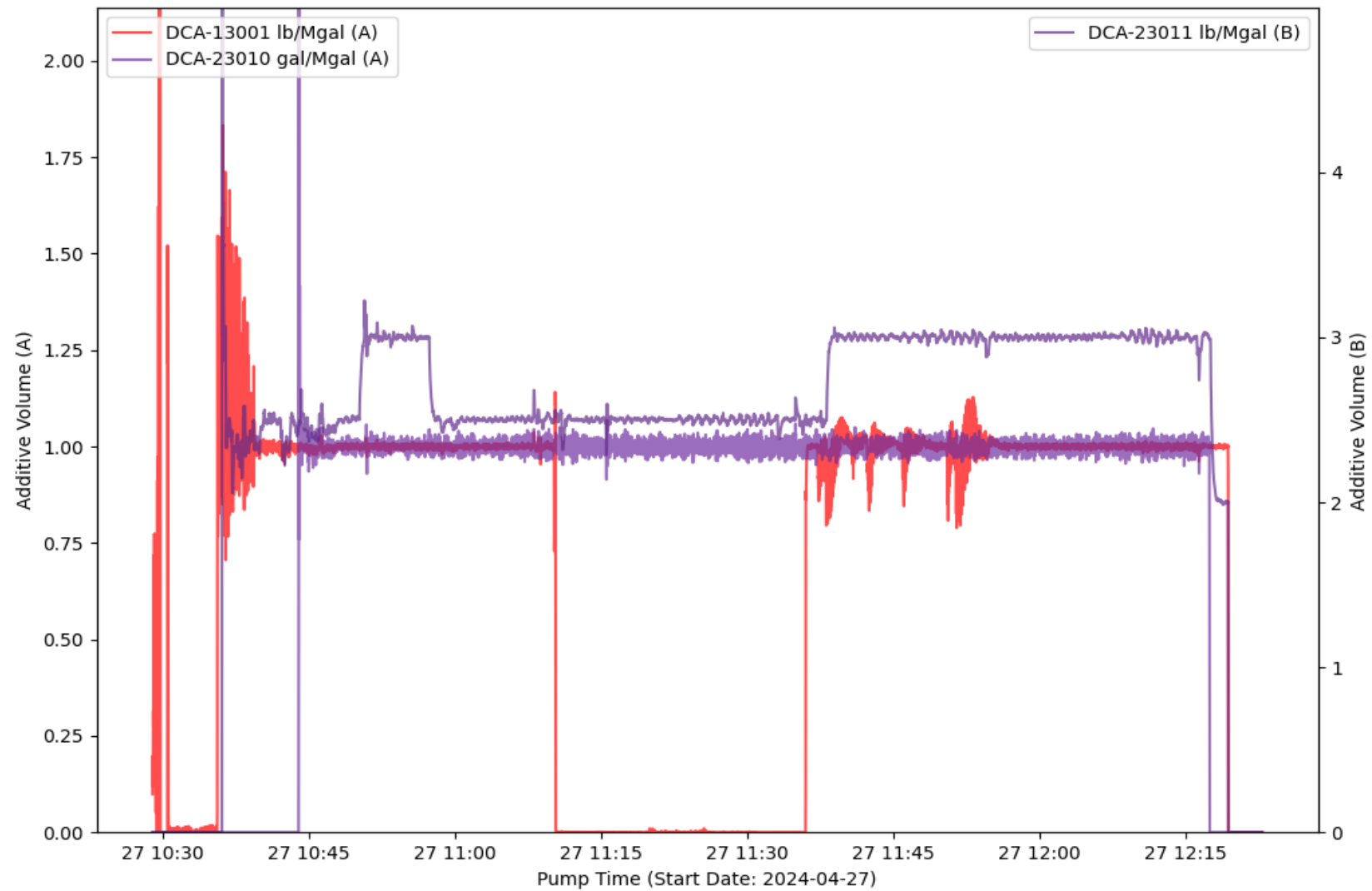
EVENT LOG : TREATMENT INTERVAL 18

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-27T02:34:15	0	3640	0	1.47	0	0	0
2	Start Pumping	2024-04-27T02:34:52	1.41	3634	0	1.47	0	6.95	0
3	Pump Acid	2024-04-27T02:35:34	10.27	4292	0	1.46	197.74	253.5	0
4	Break Formation	2024-04-27T02:42:19	33.82	6496	0	1.35	5785	5734	0
5	Spot Acid	2024-04-27T02:44:53	34.08	6416	0	0	9449	9405	0
6	Flush Acid	2024-04-27T02:45:27	34.16	5489	0	0	10271	10225	0
7	Stop Pumping	2024-04-27T04:28:10	19.09	3506	0.06	0	417176	430949	304578
8	ISIP	2024-04-27T04:28:13	1.96	4975	0	0	417209	430959	304579
9	Shut In Well	2024-04-27T04:29:19	0	4213	0	0	417215	430959	304579
10	Suspending Job	2024-04-27T04:30:01	0	50.58	0	0	417215	430959	304579

### TREATMENT PLOT : Treatment Interval 19



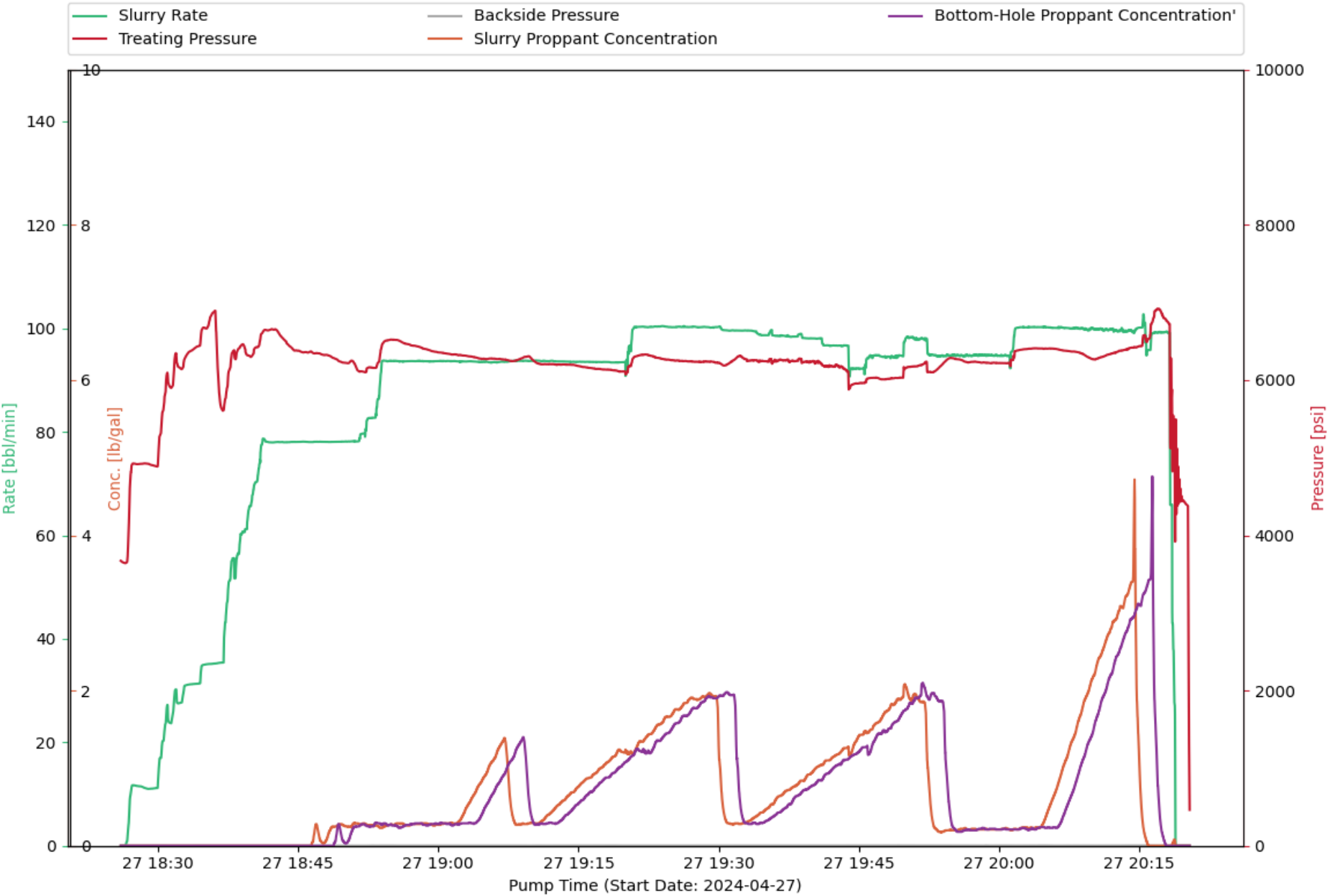
# CHEMISTRY PLOT : Treatment Interval 19



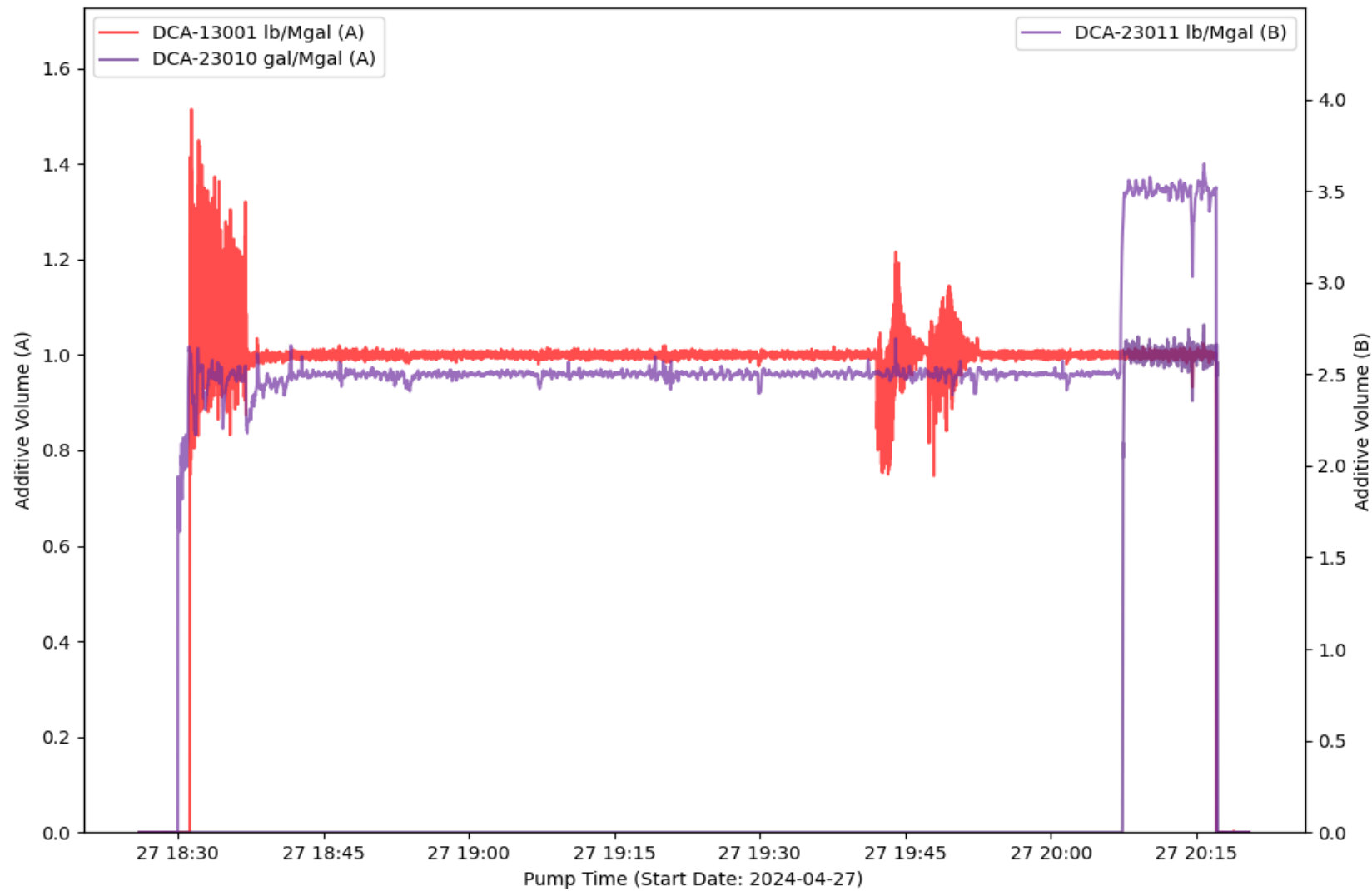
## EVENT LOG : TREATMENT INTERVAL 19

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-27T10:29:36	0	3655	0	0	0	0	0
2	Start Pumping	2024-04-27T10:30:17	0.69	3637	0	0	0	2.3	0
3	Break Formation	2024-04-27T10:31:24	11.65	6285	0	0	361.95	406.67	0
4	Pump Acid	2024-04-27T10:32:07	11.1	6135	0	0	703.01	751.62	0
5	Pump Acid	2024-04-27T10:34:19	11.21	6049	0	0	1724	1789	0
6	Spot Acid	2024-04-27T10:41:17	39.13	7265	0	0	9026	9036	0
7	Flush Acid	2024-04-27T10:41:45	39.16	6374	0	0	9794	9809	0
8	Spot Acid	2024-04-27T10:41:59	39.21	6176	0	0	10179	10194	0
9	Flush Acid	2024-04-27T10:42:10	40.32	6150	0	0	10481	10500	0
10	Stop Pumping	2024-04-27T12:21:13	0.96	4867	0	0	395680	410553	322232
11	ISIP	2024-04-27T12:21:19	0	4635	0	0	395682	410554	322232
12	Shut In Well	2024-04-27T12:21:26	0	4416	0	0	395683	410554	322232
13	Suspending Job	2024-04-27T12:22:54	0	48.36	0	0	395685	410554	322232

TREATMENT PLOT : Treatment Interval 20



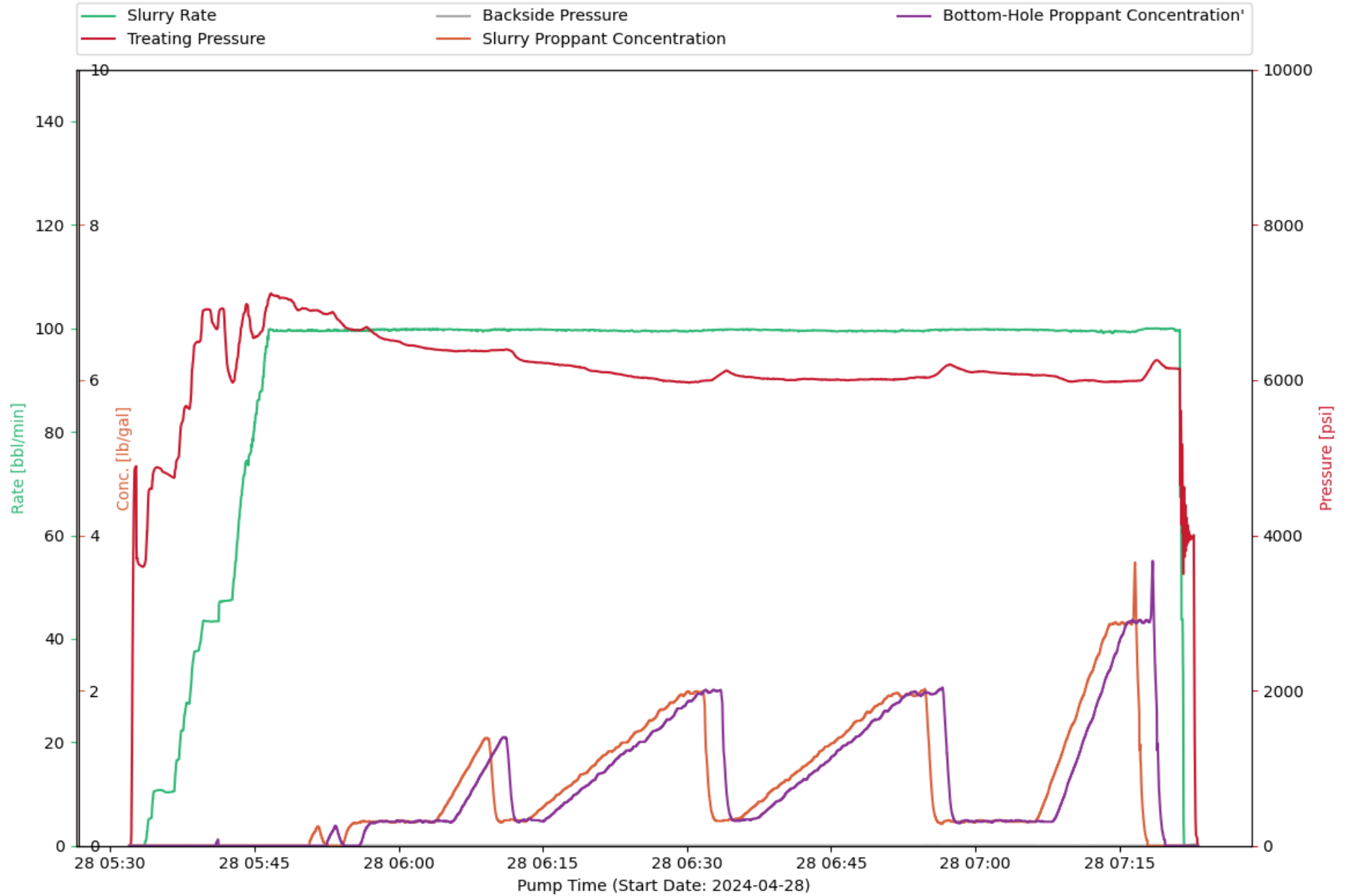
# CHEMISTRY PLOT : Treatment Interval 20



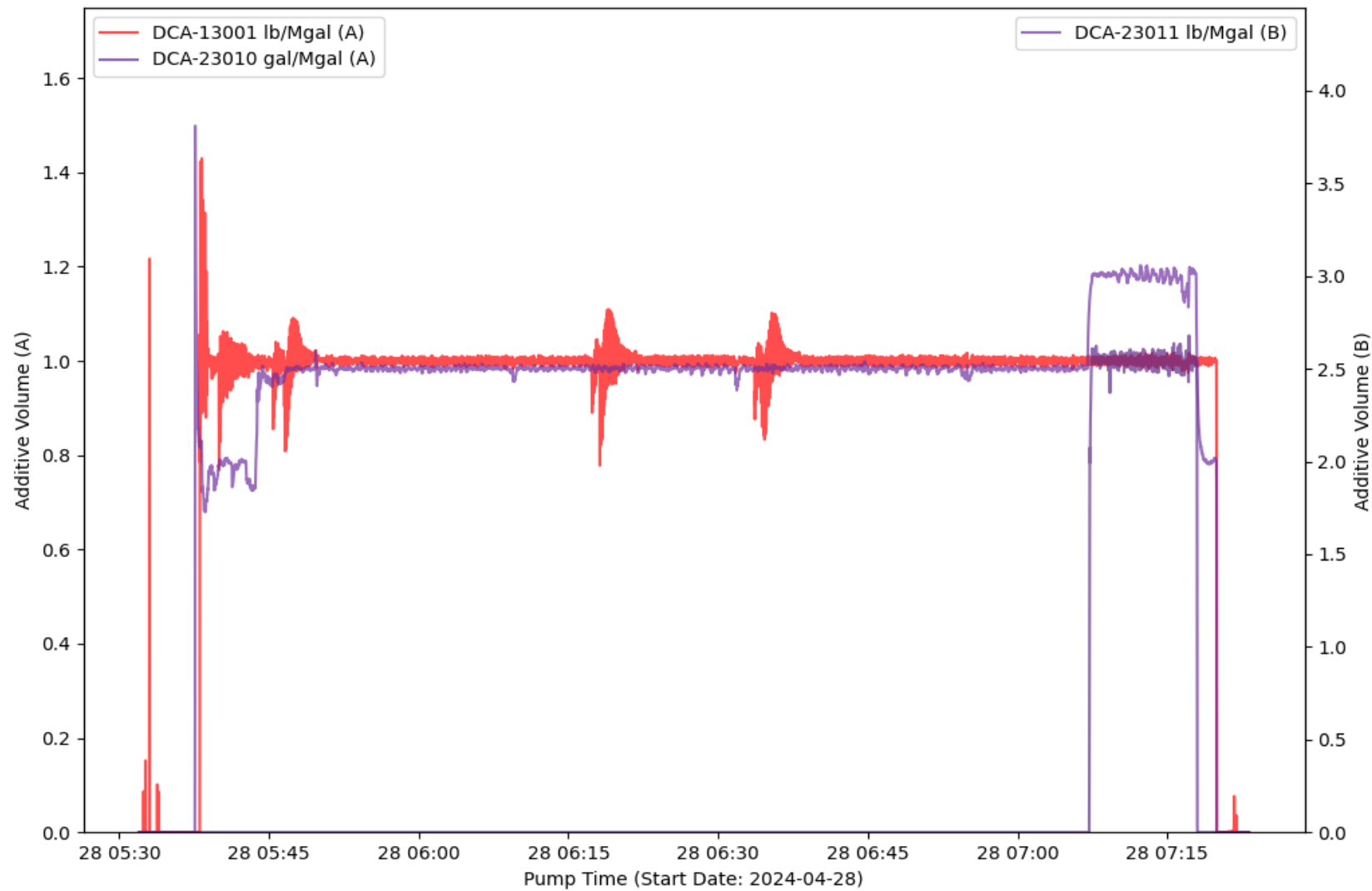
EVENT LOG : TREATMENT INTERVAL 20

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-27T18:26:03	0	3666	0	0	0	0	0
2	Start Pumping	2024-04-27T18:26:35	0.52	3645	0	0	0	0.88	0
3	Pump Acid	2024-04-27T18:27:51	11.54	4917	0	0	475.89	475.94	0
4	Break Formation	2024-04-27T18:32:24	27.66	6150	0	0	3956	3906	0
5	Spot Acid	2024-04-27T18:36:05	35.23	6894	0	0	9057	8962	0
6	Flush Acid	2024-04-27T18:36:52	35.41	5614	0	0	10200	10107	0
7	Stop Pumping	2024-04-27T20:18:54	1.72	5311	0	0	392890	406894	309319
8	ISIP	2024-04-27T20:18:57	0	4983	0	0	392895	406894	309319
9	Shut In Well	2024-04-27T20:20:02	0	4402	0	0	392899	406894	309319

TREATMENT PLOT : Treatment Interval 21



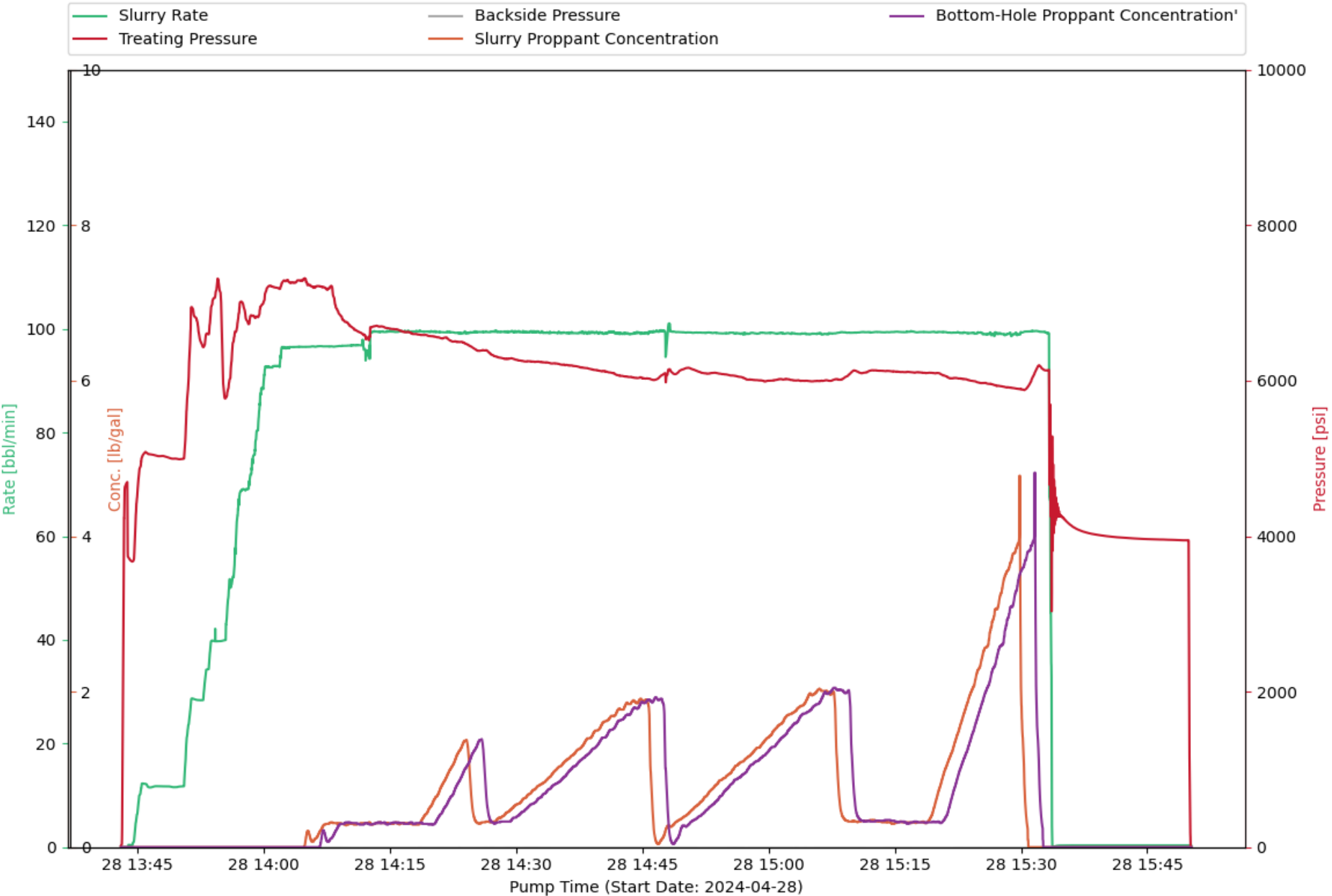
# CHEMISTRY PLOT : Treatment Interval 21



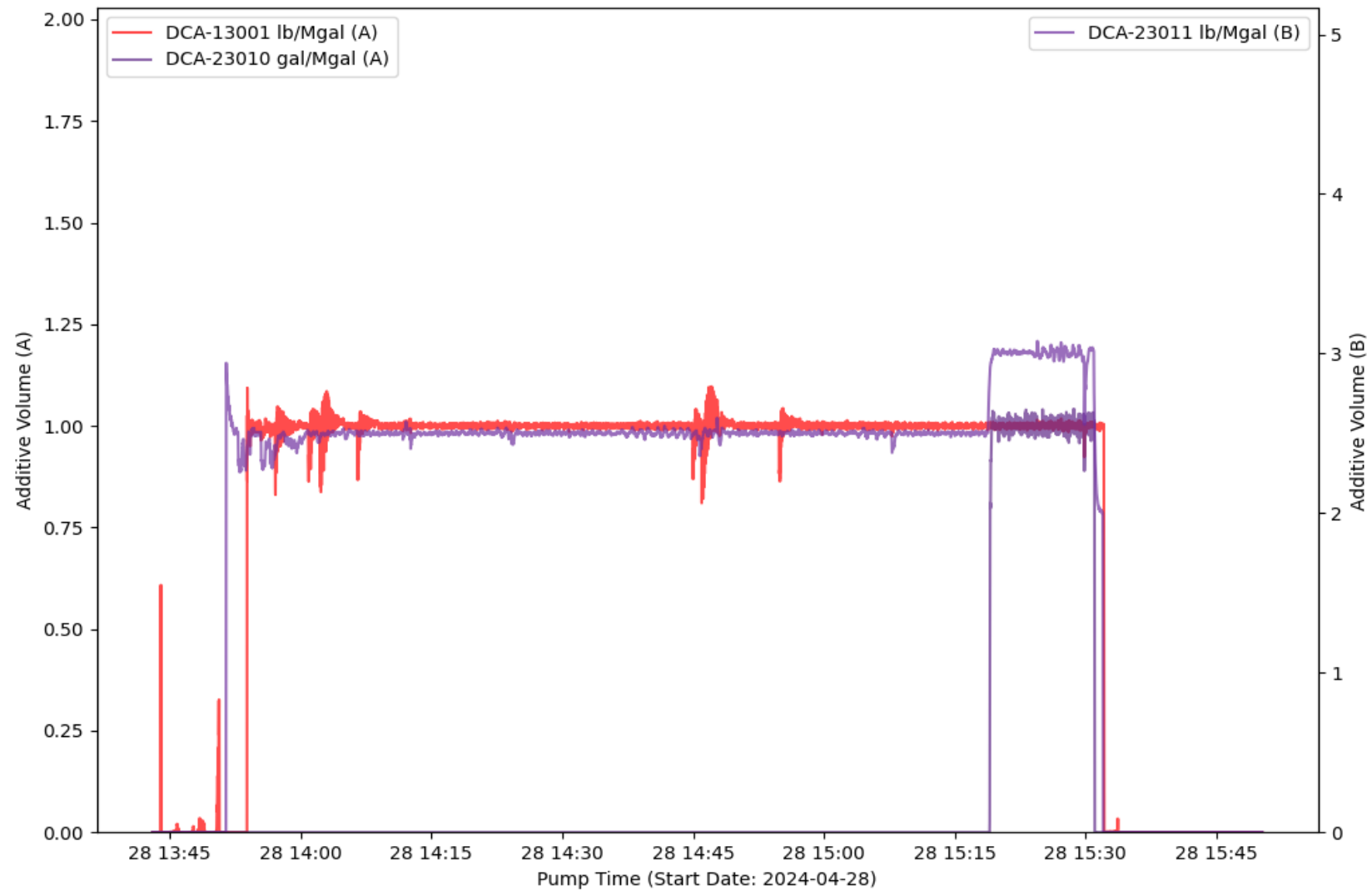
EVENT LOG : TREATMENT INTERVAL 21

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-28T05:32:58	0	3632	0	0	0	0	0
2	Start Pumping	2024-04-28T05:33:35	0	3626	0	0	0	0	0
3	Break Formation	2024-04-28T05:35:29	10.66	4819	0	0	622.12	621.86	0
4	Pump Acid	2024-04-28T05:35:57	10.34	4792	0	0	815.11	821.3	0
5	Spot Acid	2024-04-28T05:41:47	47.28	6912	0	0	8758	8712	0
6	Flush Acid	2024-04-28T05:42:41	47.57	5973	0	0	10528	10482	0
7	Stop Pumping	2024-04-28T07:21:42	1.14	4622	0	0	405026	420176	333396
8	ISIP	2024-04-28T07:22:02	0.09	4024	0	0	405029	420176	333396
9	Shut In Well	2024-04-28T07:22:12	0.15	4006	0	0	405030	420177	333396
10	Suspending Job	2024-04-28T07:23:09	0	-0.4	0	0	405030	420184	333396

### TREATMENT PLOT : Treatment Interval 22



# CHEMISTRY PLOT : Treatment Interval 22



EVENT LOG : TREATMENT INTERVAL 22

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-28T13:43:51	0	3732	0	0	0	0	0
2	Start Pumping	2024-04-28T13:44:17	0.39	3675	0	0	0.01	7.41	0
3	Pump Acid	2024-04-28T13:48:44	11.72	5007	0	0	1643	1923	0
4	Break Formation	2024-04-28T13:51:40	28.59	6838	0	0	3979	3949	0
5	Spot Acid	2024-04-28T13:54:37	39.75	7239	0	0	8145	8113	0
6	Flush Acid	2024-04-28T13:55:24	39.95	5771	0	0	9449	9432	0
7	Stop Pumping	2024-04-28T15:33:42	2.12	5285	0	0	395578	410676	329849
8	ISIP	2024-04-28T15:34:32	0.31	4267	0	0	395585	410684	329849
9	Shut In Well	2024-04-28T15:48:11	0.32	3952	0	0	395585	410878	329849

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