



WELL STIMULATION REPORT

Bayswater Exploration

Flaherty 13-6-1

05-123-47448-00

April 08, 2024 - April 19, 2024

HALLIBURTON

Production
Enhancement

Created: May 02, 2024

Engineering Executive Summary

On Monday, April 08, 2024 the stimulation of treatment(s) was performed in the Niobrara formation on the Flaherty 13-6-1 well in WELD county, COLORADO.

The proposed treatment(s) consisted of:

11,000	gallons of	15% HCl
7,909,410	gallons of	Dry FR
0	gallons of	FR Water
176,379	gallons of	Treated Water
661,500	pounds of	100 Mesh Premium White
5,959,473.75	pounds of	30/50 Premium White
57,000	pounds of	SS-200 Premium White

The actual treatment(s) consisted of:

28,994	gallons of	15% HCl
8,276,688	gallons of	Dry FR
83,990	gallons of	FR Water
240,022	gallons of	Treated Water
717,694	pounds of	100 Mesh Premium White
5,592,435	pounds of	30/50 Premium White
61,050	pounds of	SS-200 Premium White

19 of 21 treatment(s) were fully completed. 0 treatment(s) were skipped, and 2 treatment(s) were screened out or otherwise cut short of design.

The well was first opened Monday, April 08, 2024 at 17:42 with an opening pressure of 1,466.96 psi.

The total amount of proppant pumped was 6,371,179.0 lbm with an average concentration of 0.74 ppg and maximum concentration of 4.23 ppg. Treating pressure averaged 6079.03 psi and rate averaged 87.85 bpm. Total clean volume was 8,629,694.0 gallons.

The operation came offline at 07:52 and the well was shut in Friday, April 19, 2024 at 08:07 with a final shut-in pressure of 3,604.0 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	11822	11832	11848	6277	10	5	32	120	909263568	Niobrara	Niobrara
2	11632	11792	11812	6275	32	6	32	120	909263568	Niobrara	Niobrara
3	11432	11592	11612	6269	32	6	32	120	909263568	Niobrara	Niobrara
4	11232	11392	11412	6265	32	6	32	120	909263568	Niobrara	Niobrara
5	11032	11192	11212	6265	32	6	32	120	909263568	Niobrara	Niobrara
6	10832	10992	11012	6263	32	6	32	120	909263568	Niobrara	Niobrara
7	10632	10792	10812	6255	32	6	32	120	909263568	Niobrara	Niobrara
8	10432	10592	10612	6240	32	6	32	120	909263568	Niobrara	Niobrara
9	10232	10392	10412	6231	32	6	32	120	909263568	Niobrara	Niobrara
10	10032	10192	10212	6227	32	6	32	120	909263568	Niobrara	Niobrara
11	9832	9992	10012	6227	32	6	32	120	909263568	Niobrara	Niobrara
12	9632	9792	9812	6229	32	6	32	120	909263568	Niobrara	Niobrara
13	9432	9592	9612	6231	32	6	32	120	909263568	Niobrara	Niobrara
14	9232	9392	9412	6233	32	6	32	120	909263568	Niobrara	Niobrara
15	9032	9192	9212	6233	32	6	32	120	909263568	Niobrara	Niobrara
16	8832	8992	9012	6234	32	6	32	120	909263568	Niobrara	Niobrara
17	8632	8792	8812	6239	32	6	32	120	909263568	Niobrara	Niobrara
18	8432	8592	8612	6245	32	6	32	120	909263568	Niobrara	Niobrara
19	8232	8392	8412	6253	32	6	32	120	909263568	Niobrara	Niobrara
20	8032	8192	8212	6263	32	6	32	120	909263568	Niobrara	Niobrara
21	7832	7992	8012	6277	32	6	32	120	909263568	Niobrara	Niobrara

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	1000	3000	378493	134144	0	0	8399	9450	387892	146594	148509.9
2	500	1499	378316	382471	0	0	8399	40119	387215	424089	436022.16
3	500	1499	378129	390355	0	0	8399	7350	387028	399204	411691.98
4	500	2000	377943	393461	0	0	8399	8526	386842	403987	417684.12
5	500	1000	377757	292969	0	0	8399	7602	386656	301571	312170.04
6	500	1499	377570	387151	0	0	8399	27384	386469	416034	431578.98
7	500	2000	377384	419609	0	9416	8399	8064	386283	439089	456642.06
8	500	2000	377198	379506	0	0	8399	24108	386097	405614	420850.08
9	500	1000	377012	379065	0	2293	8399	6426	385911	388784	405701.1
10	500	1000	376825	456859	0	0	8399	5754	385724	463613	482367.06
11	500	1000	376639	386800	0	0	8399	5712	385538	393512	410452.98
12	500	1000	376453	434910	0	7018	8399	4746	385352	447674	463953.84
13	500	1000	376266	375772	0	0	8399	19929	385165	396701	414088.92
14	500	499	376080	377599	0	5896	8399	4578	384979	388572	405103.02
15	500	1000	375894	506787	0	9885	8399	22722	384793	540394	558642.84
16	500	499	375708	382208	0	4051	8399	18438	384607	405196	422170.98
17	500	2499	375521	492845	0	27990	8399	3444	384420	526778	543915.96
18	500	1000	375335	369869	0	17172	8399	3234	384234	391275	405468
19	500	1000	375149	383957	0	269	8399	2520	384048	387746	402963.12
20	500	2000	374962	558674	0	0	8399	2100	383861	562774	609351.12
21	500	1000	374776	391677	0	0	8399	7816	383675	400493	414219.12
Total	11000	28994	7909410	8276688	0	83990	176379	240022	8096789	8629694	8973547.38

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	12440	286498.75	0	0	3000	317998.75	15440
2	31500	29004	283498.75	283700	3000	3000	317998.75	315704
3	31500	31000	283498.75	284965	3000	3000	317998.75	318965
4	31500	31513	283498.75	284087	3000	3000	317998.75	318600
5	31500	30838	283498.75	202480	3000	3000	317998.75	236318
6	31500	31920	283498.75	283499	3000	3000	317998.75	318419
7	31500	31432	283498.75	283500	3000	3000	317998.75	317932
8	31500	31680	283498.75	284900	3000	3000	317998.75	319580
9	31500	31500	283498.75	283581	3000	3000	317998.75	318081
10	31500	96660	283498.75	276920	3000	4000	317998.75	377580
11	31500	31500	283498.75	283535	3000	3000	317998.75	318035
12	31500	32000	283498.75	283300	3000	3000	317998.75	318300
13	31500	31500	283498.75	283497	3000	3000	317998.75	317997
14	31500	31380	283498.75	283100	3000	3000	317998.75	317480
15	31500	34897	283498.75	283510	3000	3000	317998.75	321407
16	31500	31930	283498.75	283750	3000	3000	317998.75	318680
17	31500	33000	283498.75	283620	3000	3050	317998.75	319670
18	31500	31500	283498.75	283711	3000	3000	317998.75	318211
19	31500	31500	283498.75	286600	3000	3000	317998.75	321100
20	31500	39000	283498.75	283680	3000	3000	317998.75	325680
21	31500	31500	286498.75	286500	0	0	317998.75	318000
Total	661500	717694	5959473.75	5592435	57000	61050	6677973.75	6371179

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	505	1262	378.49	335	2	6	40	0	40	0	0	0	756.99	569
2	252.5	757	378.32	374	1	3	40	0	40	0	0	0	756.63	651
3	252.5	747	378.13	575	1	3	40	0	40	0	0	0	756.26	682
4	252.5	1010	377.94	343	1	4	40	0	40	0	0	0	755.89	829
5	252.5	507	377.76	245	1	2	40	0	40	0	0	0	755.51	711
6	252.5	725	377.57	375	1	3	40	0	40	0	0	0	755.14	887
7	252.5	1500	377.38	419	1	4	40	7	40	7	0	0	754.77	879
8	252.5	1010	377.2	372	1	4	40	15	40	15	0	15	754.4	872
9	252.5	500	377.01	371	1	2	40	5	40	5	0	0	754.02	989
10	252.5	505	376.82	454	1	2	40	0	40	0	0	0	753.65	1230
11	252.5	505	376.64	385	1	2	40	15	40	15	0	0	753.28	993
12	252.5	505	376.45	430	1	2	40	0	40	0	0	0	752.91	875
13	252.5	505	376.27	387	1	2	40	10	40	10	0	0	752.53	893
14	252.5	252	376.08	373	1	1	40	10	40	10	0	0	752.16	700
15	252.5	505	375.89	508	1	2	40	15	40	15	0	0	751.79	1326
16	252.5	252	375.71	364	1	1	40	10	40	10	0	0	751.42	809
17	252.5	1262	375.52	490	1	5	40	0	40	0	0	0	751.04	1135
18	252.5	505	375.34	383	1	2	40	20	40	20	0	0	750.67	903
19	252.5	504	375.15	379	1	2	40	15	40	15	0	0	750.3	957
20	252.5	1010	374.96	556	1	4	40	0	40	0	0	0	749.92	1284
21	252.5	505	374.78	395	1	2	40	0	40	0	0	0	749.55	978
Total	5555	14833	7909.41	8513	22	58	840	122	840	122	0	15	15818.83	19152

ADDITIVE SUMMARY

Treatment Interval	DCA-32019M		Div+1325		MP-D1	
	Proposed (gal)	Pumped (gal)	Proposed (lbs)	Pumped (lbs)	Proposed (lbs)	Pumped (lbs)
1	2	6	0	0	0	0
2	1	3	0	0	0	0
3	1	3	0	0	0	0
4	1	4	0	0	0	0
5	1	2	0	0	0	0
6	1	3	0	0	0	0
7	1	4	0	0	0	0
8	1	4	0	0	0	0
9	1	2	0	0	0	0
10	1	2	0	0	0	0
11	1	2	0	0	0	0
12	1	2	0	0	0	0
13	1	2	0	0	0	0
14	1	1	0	0	0	0
15	1	2	0	0	0	0
16	1	1	0	0	0	0
17	1	5	0	0	0	0
18	1	2	0	0	0	0
19	1	2	0	0	0	0
20	1	4	0	0	0	0
21	1	2	0	0	0	0
Total	22	58	0	0	0	0

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	Cut	7063	53.02	0.08	8566	90.32	0.25
2	Completed	5542	86.78	0.7	6061	99.2	2
3	Completed	6256	94.27	0.79	7392	100.52	3.01
4	Completed	5962	90.74	0.81	6898	100.38	4.23
5	Completed	6231	86.68	0.75	9082	100.33	2
6	Completed	5950	79.58	0.81	7126	93.36	4
7	Completed	5903	81.43	0.75	8801	100.71	2.01
8	Completed	6306	96.81	0.86	7575	101.5	3.16
9	Completed	6420	92.08	0.83	7272	99.91	4
10	Cut	6967	83.75	0.64	10466	100.62	2.9
11	Completed	5845	96.45	0.87	6596	101.67	4
12	Completed	6022	95.79	0.75	7035	102.84	4
13	Completed	5645	92.31	0.88	5930	101.2	4
14	Completed	6200	96.46	0.86	7180	102.23	3.96
15	Completed	6214	82.3	0.69	8712	100.32	3.91
16	Completed	6282	93.84	0.94	7095	100.52	4
17	Completed	6438	73.25	0.63	8605	101	4
18	Completed	5485	96.57	0.83	5937	101.01	4
19	Completed	5522	93.5	0.84	5847	100.48	4
20	Completed	5648	83.5	0.43	7630	101.22	3.86
21	Completed	5750	95.8	0.81	6659	100.22	3.66

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	2193	5263	15.04	5410	9.9
2	293.93	4663	19.54	0	0
3	0	0	0	4397	9.62
4	0	0	0	4983	9.51
5	0	0	0	3106	6.33
6	0	0	0	6335	5.01
7	0	0	0	0	0
8	0	0	0	6497	29.7
9	0	0	0	5425	8.92
10	0	0	0	6448	9.5
11	0	0	0	5020	9.91
12	0	0	0	5617	9.76
13	0	0	0	5651	10.01
14	0	0	0	5906	9.84
15	2612	4206	15.35	4914	9.78
16	0	0	0	6057	34.85
17	0	0	0	6485	14.77
18	0	0	0	4530	18.27
19	0	0	0	3667	4.97
20	0	0	0	0	0
21	0	0	0	4812	9.59

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	1466	6873	1.53	7.56	0	0	0	3800
2	3575	4078	1.08	0	0	0	0	3936
3	3028	4328	1.12	3.71	0	0	0	3477
4	3058	4752	1.19	0.81	0	0	0	3472
5	2809	4854	1.21	1	0	0	0	4853
6	3435	3863	1.05	9.45	0	0	0	3809
7	3287	4218	1.11	0	0	0	0	1957
8	3502	2789	0.88	10.06	0	0	0	2757
9	3428	4172	1.1	0	0	0	0	3564
10	3510	4141	1.1	4.7	0	0	0	3616
11	3448	3718	1.03	0	0	0	0	3697
12	3366	3869	1.05	1.77	0	0	0	3723
13	3548	3751	1.04	0	0	0	0	3608
14	3605	3855	1.05	0	0	0	0	3807
15	3601	5000	1.24	3.42	0	0	0	4539
16	3470	3737	1.03	0	0	0	0	3673
17	3506	3944	1.07	1.16	0	0	0	3939
18	3650	4795	1.2	2.41	0	0	0	3807
19	3627	4720	1.19	0	0	0	0	3912
20	3427	3901	1.06	5.5	0	0	0	3825
21	3640	4278	1.12	4.39	3711	3688	3604	3604

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	2024-04-08T00:00:00	2024-04-08T17:42:12	2024-04-08T17:42:31	2024-04-09T00:46:01	2024-04-09T00:49:28	01:38:29	05:25:01
2	2024-04-09T00:00:00	2024-04-09T17:20:38	2024-04-09T17:21:08	2024-04-09T19:28:18	2024-04-09T19:28:55	02:07:10	00:00:00
3	2024-04-10T00:00:00	2024-04-10T03:30:44	2024-04-10T03:31:25	2024-04-10T05:26:20	2024-04-10T05:27:03	01:54:55	00:00:00
4	2024-04-10T00:00:00	2024-04-10T08:59:01	2024-04-10T08:59:21	2024-04-10T11:01:40	2024-04-10T11:02:12	02:02:19	00:00:00
5	2024-04-10T00:00:00	2024-04-10T16:16:01	2024-04-10T16:16:15	2024-04-10T18:51:08	2024-04-10T19:02:33	02:34:53	00:00:00
6	2024-04-11T00:00:00	2024-04-11T05:00:06	2024-04-11T05:00:42	2024-04-11T07:17:33	2024-04-11T07:18:25	02:16:51	00:00:00
7	2024-04-11T00:00:00	2024-04-11T12:38:31	2024-04-11T12:38:58	2024-04-11T15:04:00	2024-04-11T17:33:00	02:25:02	00:00:00
8	2024-04-12T00:00:00	2024-04-12T03:33:26	2024-04-12T03:33:45	2024-04-12T05:22:50	2024-04-12T05:23:36	01:49:05	00:00:00
9	2024-04-12T00:00:00	2024-04-12T13:38:45	2024-04-12T13:38:58	2024-04-12T15:41:19	2024-04-12T15:41:52	02:02:21	00:00:00
10	2024-04-13T00:00:00	2024-04-13T00:08:00	2024-04-13T00:08:29	2024-04-13T04:23:16	2024-04-13T04:31:37	04:14:47	00:00:00
11	2024-04-13T00:00:00	2024-04-13T13:29:03	2024-04-13T13:29:20	2024-04-13T15:19:36	2024-04-13T15:20:18	01:50:16	00:00:00
12	2024-04-13T00:00:00	2024-04-13T23:37:39	2024-04-13T23:38:02	2024-04-14T02:12:00	2024-04-14T02:12:23	02:33:58	00:00:00
13	2024-04-14T00:00:00	2024-04-14T15:08:43	2024-04-14T15:09:01	2024-04-14T17:07:28	2024-04-14T17:07:58	01:58:27	00:00:00
14	2024-04-14T00:00:00	2024-04-14T23:43:41	2024-04-14T23:44:01	2024-04-15T01:29:05	2024-04-15T01:29:42	01:45:04	00:00:00
15	2024-04-15T00:00:00	2024-04-15T07:56:05	2024-04-15T07:56:41	2024-04-15T16:42:35	2024-04-15T16:56:04	08:45:54	00:00:00
16	2024-04-15T00:00:00	2024-04-15T22:32:22	2024-04-15T22:32:46	2024-04-16T00:23:35	2024-04-16T00:24:13	01:50:49	00:00:00
17	2024-04-16T00:00:00	2024-04-16T04:28:28	2024-04-16T04:30:02	2024-04-17T01:48:43	2024-04-17T01:49:57	04:03:48	17:14:53
18	2024-04-17T00:00:00	2024-04-17T06:47:26	2024-04-17T06:47:58	2024-04-17T08:31:59	2024-04-17T08:32:40	01:44:01	00:00:00
19	2024-04-17T00:00:00	2024-04-17T10:41:19	2024-04-17T10:41:50	2024-04-17T12:31:06	2024-04-17T12:31:38	01:49:16	00:00:00
20	2024-04-18T00:00:00	2024-04-18T04:19:50	2024-04-18T04:20:33	2024-04-18T21:09:29	2024-04-18T21:12:04	03:57:27	12:51:29
21	2024-04-19T00:00:00	2024-04-19T06:02:53	2024-04-19T06:03:34	2024-04-19T07:52:33	2024-04-19T08:07:33	01:48:59	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 - 6.957 Geo - 1.160 Bleach - 20.590 Pump Down - 9450 USG Flush -19205 Pressured out during start of .25 ppg. Couldn't get back into it so they decided to flowback.	PNP
2	0	60	0	Bio - 9.715 Geo - 9.715 Bleach - 32.697 Pump Down - 35868 USG Flush -14841	PNP
3	0	60	0	Bio - 8.772 Geo - 11.527 Bleach - 29.580 Pump Down - 7350 USG Flush - 10;668 USG	PNP
4	0	60	0	Bio: 9.606 Geo: 10.15 Bleach: 28.64 Pumpdown: 8526 USG Flush: 10458 USG	PNP
5	0	60	0	Bio - 11.149 Geo - 8.265 Bleach - 40.600 Pump Down - 7602 USG Flush - 21603	PNP
6	0	60	0	Bio: 10.875 Geo: 11.6 Bleach: 33.713 Pump Down: 27384 USG Flush: 10080 USG	PNP
7	0	60	0	Bio: 9.280 Geo: 8.482 Bleach: 29 Pumpdown: 8064 USG Flush: 9912 USG 7 lbs. Div 1315	PNP
8	0	60	0	Bio - 8.917 Geo - 9.860 Bleach - 26.100 Pump Down - 24108 USG Flush - 9702 USG Diverter 1st Drop Div 1315 5 lbs Div 1325 5 lbs 112- Psi 2nd Drop- Div 1315 10 lbs Div 1325 10 lbs 156- Psi	PNP
9	0	60	0	Bio: 10.8 Geo: 9 Bleach: 30.8 Pumpdown: 6426 USG Flush: 9534 USG 5 lbs each Div 1315/1325 sent @ 6205 psi treating pressure; 308 psi difference once it hit.	PNP
10	0	60	0	Bio - 13.63 Geo - 10.59 Bleach - 43.65 Pump Down - 5670 USG Flush - Plug Cut Procedure - Bio: 9 Geo: None pushed Bleach: 29 Dry FR: 94 lbs. TCV: 165018 USG TSV: 80010 USG 100 mesh: 63340 lbs. 30/50: 14300 lbs.	PNP

QA / QC TECHNICAL DATA

Treatment Interval	Gel Viscosity (cP)	Fluid Temperature (F)	Gel pH	Interval Comments	Technology Application
11	0	60	0	Bio: 10.8 Geo: 12.6 Bleach: 29 Pumpdown: 5712 USG Flush: 9156 USG 5 lbs. of each Div 1315/1325 @ 5778 psi treating pressure; 106 psi difference once hit. 10 lbs. of each Div 1315/1325 @ 5792 psi treating pressure; 93 psi difference once hit.	PNP
12	0	60	0	Bio - 10.1 Geo - 9 Bleach - 30.8 Pump Down - 4746 USG Flush -12896 Had to come offline after first ramp to troubleshoot a non functioning sand screw and run maintenance on 3 dirty pumps. 00:43-01:14	PNP
13	0	60	0	Bio: 7.9 Geo: 10.8 Bleach: 29.7 Pump Down: 4704 USG Flush: 8778 USG Diverter 1st Drop Div 1315: 5 lbs Div 1325: 5 lbs 130 Psi 2nd Drop Div 1315: 5 lbs Div 1325: 5 lbs 80 Psi change	PNP
14	0	60	0	Bio: 9.06 Geo: 12.7 Bleach: 27.2 Pump Down: 4578 USG Flush: 12634 Diverter 1st Drop Div 1315: 5 lbs Div 1325: 5 lbs 124 Psi 2nd Drop Div 1315: 5 lbs Div 1325: 5 lbs 646 Psi	PNP
15	0	60	0	Bio: 5.4 Geo: 1.0 Bleach: 43.5 Pump Down: USG Flush: 47230 Diverter 1st Drop Div 1315: lbs Div 1325: lbs Psi 2nd Drop Div 1315: lbs Div 1325: lbs Psi	PNP
16	0	60	0	Bio: .290 Geo: 10.376 Bleach: 1.086 Pump Down: 18438 USG Flush: 12730 USG Diverter 1st Drop Div 1315: 5 lbs Div 1325: 5 lbs 153 Psi 2nd Drop Div 1315: 5 lbs Div 1325: 5 lbs 51 Psi	PNP
17	0	60	0	Bio: 26.68 Geo: 9.461 Bleach: 69.205 Pump Down: 5880 USG Flush: 12948 USG Tried 2 scours: first 1000 lbs - second 500 lbs of 100 mesh	PNP
18	0	60	0	Bio: 7.25 Geo: 11.781 Bleach: 22.656 Pump Down: 3234 USG Flush: 7854 USG Diverter 1st Drop Div 1315: 5 lbs Div 1325: 5 lbs N/A Psi 2nd Drop Div 1315: 15 lbs Div 1325: 15 lbs 61 Psi	PNP

QA / QC TECHNICAL DATA

Treatment Interval	Gel Viscosity (cP)	Fluid Temperature (F)	Gel pH	Interval Comments	Technology Application
19	0	60	0	Bio: 8.156 Geo: 9.606 Bleach: 29 Pump Down: 2520 USG Flush: 7854 USG Diverter 1st Drop Div 1315: 5 lbs Div 1325: 5 lbs 100 Psi 2nd Drop Div 1315: 10 lbs Div 1325: 10 lbs 180 Psi	PNP
20	0	60	0	Bio: 5.365 Geo: 12.18 Bleach: 17.110 Pump Down: 2100 USG Flush: 11028 USG Wireline: 54 total shots using standard 9 gun	PNP
21	0	60	0	Bio: 10.1 Geo: 11.6 Bleach: 33.3 Pump Down: 2016 USG Flush: 7308 USG Wireline: 42 shots of deep 7 gun	PNP

TUBULAR DATA

Type	OD (in)	Weight (lbm/ft)	Top MD (ft)	Bottom MD (ft)	Volume Factor (gal/ft)
Casing	5.5	20	0	12060	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	11831	11832	1	2	0.41	120	2	Niobrara	Niobrara
1	2	11828	11829	1	2	0.41	120	2	Niobrara	Niobrara
1	3	11826	11827	1	2	0.41	120	2	Niobrara	Niobrara
1	4	11824	11825	1	2	0.41	120	2	Niobrara	Niobrara
1	5	11822	11823	1	2	0.41	120	2	Niobrara	Niobrara
2	1	11791	11792	1	6	0.35	120	6	Niobrara	Niobrara
2	2	11759	11760	1	6	0.35	120	6	Niobrara	Niobrara
2	3	11727	11728	1	6	0.35	120	6	Niobrara	Niobrara
2	4	11695	11696	1	6	0.35	120	6	Niobrara	Niobrara
2	5	11663	11664	1	4	0.35	120	4	Niobrara	Niobrara
2	6	11632	11633	1	4	0.35	120	4	Niobrara	Niobrara
3	1	11591	11592	1	6	0.35	120	6	Niobrara	Niobrara
3	2	11559	11560	1	6	0.35	120	6	Niobrara	Niobrara
3	3	11527	11528	1	6	0.35	120	6	Niobrara	Niobrara
3	4	11495	11496	1	6	0.35	120	6	Niobrara	Niobrara
3	5	11463	11464	1	4	0.35	120	4	Niobrara	Niobrara
3	6	11432	11433	1	4	0.35	120	4	Niobrara	Niobrara
4	1	11391	11392	1	6	0.35	120	6	Niobrara	Niobrara
4	2	11359	11360	1	6	0.35	120	6	Niobrara	Niobrara
4	3	11327	11328	1	6	0.35	120	6	Niobrara	Niobrara
4	4	11295	11296	1	6	0.35	120	6	Niobrara	Niobrara
4	5	11263	11264	1	4	0.35	120	4	Niobrara	Niobrara

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	6	11232	11233	1	4	0.35	120	4	Niobrara	Niobrara
5	1	11191	11192	1	6	0.35	120	6	Niobrara	Niobrara
5	2	11159	11160	1	6	0.35	120	6	Niobrara	Niobrara
5	3	11127	11128	1	6	0.35	120	6	Niobrara	Niobrara
5	4	11095	11096	1	6	0.35	120	6	Niobrara	Niobrara
5	5	11063	11064	1	4	0.35	120	4	Niobrara	Niobrara
5	6	11032	11033	1	4	0.35	120	4	Niobrara	Niobrara
6	1	10991	10992	1	6	0.35	120	6	Niobrara	Niobrara
6	2	10959	10960	1	6	0.35	120	6	Niobrara	Niobrara
6	3	10927	10928	1	6	0.35	120	6	Niobrara	Niobrara
6	4	10895	10896	1	6	0.35	120	6	Niobrara	Niobrara
6	5	10863	10864	1	4	0.35	120	4	Niobrara	Niobrara
6	6	10832	10833	1	4	0.35	120	4	Niobrara	Niobrara
7	1	10791	10792	1	6	0.35	120	6	Niobrara	Niobrara
7	2	10759	10760	1	6	0.35	120	6	Niobrara	Niobrara
7	3	10727	10728	1	6	0.35	120	6	Niobrara	Niobrara
7	4	10695	10696	1	6	0.35	120	6	Niobrara	Niobrara
7	5	10663	10664	1	4	0.35	120	4	Niobrara	Niobrara
7	6	10632	10633	1	4	0.35	120	4	Niobrara	Niobrara
8	1	10591	10592	1	6	0.35	120	6	Niobrara	Niobrara
8	2	10559	10560	1	6	0.35	120	6	Niobrara	Niobrara
8	3	10527	10528	1	6	0.35	120	6	Niobrara	Niobrara

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	4	10495	10496	1	6	0.35	120	6	Niobrara	Niobrara
8	5	10463	10464	1	4	0.35	120	4	Niobrara	Niobrara
8	6	10432	10433	1	4	0.35	120	4	Niobrara	Niobrara
9	1	10391	10392	1	6	0.35	120	6	Niobrara	Niobrara
9	2	10359	10360	1	6	0.35	120	6	Niobrara	Niobrara
9	3	10327	10328	1	6	0.35	120	6	Niobrara	Niobrara
9	4	10295	10296	1	6	0.35	120	6	Niobrara	Niobrara
9	5	10263	10264	1	4	0.35	120	4	Niobrara	Niobrara
9	6	10232	10233	1	4	0.35	120	4	Niobrara	Niobrara
10	1	10191	10192	1	6	0.35	120	6	Niobrara	Niobrara
10	2	10159	10160	1	6	0.35	120	6	Niobrara	Niobrara
10	3	10127	10128	1	6	0.35	120	6	Niobrara	Niobrara
10	4	10095	10096	1	6	0.35	120	6	Niobrara	Niobrara
10	5	10063	10064	1	4	0.35	120	4	Niobrara	Niobrara
10	6	10032	10033	1	4	0.35	120	4	Niobrara	Niobrara
11	1	9991	9992	1	6	0.35	120	6	Niobrara	Niobrara
11	2	9959	9960	1	6	0.35	120	6	Niobrara	Niobrara
11	3	9927	9928	1	6	0.35	120	6	Niobrara	Niobrara
11	4	9895	9896	1	6	0.35	120	6	Niobrara	Niobrara
11	5	9863	9864	1	4	0.35	120	4	Niobrara	Niobrara
11	6	9832	9833	1	4	0.35	120	4	Niobrara	Niobrara
12	1	9791	9792	1	6	0.35	120	6	Niobrara	Niobrara

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	2	9759	9760	1	6	0.35	120	6	Niobrara	Niobrara
12	3	9727	9728	1	6	0.35	120	6	Niobrara	Niobrara
12	4	9695	9696	1	6	0.35	120	6	Niobrara	Niobrara
12	5	9663	9664	1	4	0.35	120	4	Niobrara	Niobrara
12	6	9632	9633	1	4	0.35	120	4	Niobrara	Niobrara
13	1	9591	9592	1	6	0.35	120	6	Niobrara	Niobrara
13	2	9559	9560	1	6	0.35	120	6	Niobrara	Niobrara
13	3	9527	9528	1	6	0.35	120	6	Niobrara	Niobrara
13	4	9495	9496	1	6	0.35	120	6	Niobrara	Niobrara
13	5	9463	9464	1	4	0.35	120	4	Niobrara	Niobrara
13	6	9432	9433	1	4	0.35	120	4	Niobrara	Niobrara
14	1	9391	9392	1	6	0.35	120	6	Niobrara	Niobrara
14	2	9359	9360	1	6	0.35	120	6	Niobrara	Niobrara
14	3	9327	9328	1	6	0.35	120	6	Niobrara	Niobrara
14	4	9295	9296	1	6	0.35	120	6	Niobrara	Niobrara
14	5	9263	9264	1	4	0.35	120	4	Niobrara	Niobrara
14	6	9232	9233	1	4	0.35	120	4	Niobrara	Niobrara
15	1	9191	9192	1	6	0.35	120	6	Niobrara	Niobrara
15	2	9159	9160	1	6	0.35	120	6	Niobrara	Niobrara
15	3	9127	9128	1	6	0.35	120	6	Niobrara	Niobrara
15	4	9095	9096	1	6	0.35	120	6	Niobrara	Niobrara
15	5	9063	9064	1	4	0.35	120	4	Niobrara	Niobrara

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	6	9032	9033	1	4	0.35	120	4	Niobrara	Niobrara
16	1	8991	8992	1	6	0.35	120	6	Niobrara	Niobrara
16	2	8959	8960	1	6	0.35	120	6	Niobrara	Niobrara
16	3	8927	8928	1	6	0.35	120	6	Niobrara	Niobrara
16	4	8895	8896	1	6	0.35	120	6	Niobrara	Niobrara
16	5	8863	8864	1	4	0.35	120	4	Niobrara	Niobrara
16	6	8832	8833	1	4	0.35	120	4	Niobrara	Niobrara
17	1	8791	8792	1	6	0.35	120	6	Niobrara	Niobrara
17	2	8759	8760	1	6	0.35	120	6	Niobrara	Niobrara
17	3	8727	8728	1	6	0.35	120	6	Niobrara	Niobrara
17	4	8695	8696	1	6	0.35	120	6	Niobrara	Niobrara
17	5	8663	8664	1	4	0.35	120	4	Niobrara	Niobrara
17	6	8632	8633	1	4	0.35	120	4	Niobrara	Niobrara
18	1	8591	8592	1	6	0.35	120	6	Niobrara	Niobrara
18	2	8559	8560	1	6	0.35	120	6	Niobrara	Niobrara
18	3	8527	8528	1	6	0.35	120	6	Niobrara	Niobrara
18	4	8495	8496	1	6	0.35	120	6	Niobrara	Niobrara
18	5	8463	8464	1	4	0.35	120	4	Niobrara	Niobrara
18	6	8432	8433	1	4	0.35	120	4	Niobrara	Niobrara
19	1	8391	8392	1	6	0.35	120	6	Niobrara	Niobrara
19	2	8359	8360	1	6	0.35	120	6	Niobrara	Niobrara
19	3	8327	8328	1	6	0.35	120	6	Niobrara	Niobrara

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	4	8295	8296	1	6	0.35	120	6	Niobrara	Niobrara
19	5	8263	8264	1	4	0.35	120	4	Niobrara	Niobrara
19	6	8232	8233	1	4	0.35	120	4	Niobrara	Niobrara
20	1	8191	8192	1	6	0.35	120	6	Niobrara	Niobrara
20	2	8159	8160	1	6	0.35	120	6	Niobrara	Niobrara
20	3	8127	8128	1	6	0.35	120	6	Niobrara	Niobrara
20	4	8095	8096	1	6	0.35	120	6	Niobrara	Niobrara
20	5	8063	8064	1	4	0.35	120	4	Niobrara	Niobrara
20	6	8032	8033	1	4	0.35	120	4	Niobrara	Niobrara
21	1	7991	7992	1	6	0.35	120	6	Niobrara	Niobrara
21	2	7959	7960	1	6	0.35	120	6	Niobrara	Niobrara
21	3	7927	7928	1	6	0.35	120	6	Niobrara	Niobrara
21	4	7895	7896	1	6	0.35	120	6	Niobrara	Niobrara
21	5	7863	7864	1	4	0.35	120	4	Niobrara	Niobrara
21	6	7832	7833	1	4	0.35	120	4	Niobrara	Niobrara

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	1000	3000	1000	514	11013	17407	0	0	328680	48014	37800	58392	0	540
2	500	1499	1000	1784	10836	10590	0	4251	328680	301566	37800	47484	0	7178
3	500	1499	1000	750	10649	19110	0	0	328680	325131	37800	41739	0	0
4	500	2000	1000	508	10463	19530	0	0	328680	324318	37800	46505	0	0
5	500	1000	1000	540	10277	12281	0	0	328680	241495	37800	38653	0	0
6	500	1499	1000	415	10090	19314	0	0	328680	334538	37800	23403	0	0
7	500	2000	1000	979	9904	4344	0	0	328680	344886	37800	65545	0	0
8	500	2000	1000	1549	9718	18220	0	0	328680	318937	37800	40800	0	0
9	500	1000	1000	1223	9532	18052	0	0	328680	322453	37800	39630	0	0
10	500	1000	0	0	9345	6052	0	0	328680	323766	37800	87176	0	843
11	500	1000	1000	437	9159	18594	0	0	328680	330963	37800	36806	0	0
12	500	1000	0	0	8973	19130	0	4553	328680	349541	37800	56131	0	3168
13	500	1000	1000	413	8786	16963	0	0	328680	325461	37800	48160	0	0
14	500	499	1000	415	8600	7721	0	4913	328680	333320	37800	33218	0	3908
15	500	1000	1000	910	8414	32004	0	0	328680	347788	37800	72585	0	2935
16	500	499	1000	537	8228	9580	0	3150	328680	339328	37800	30144	0	3520
17	500	2499	0	0	8041	73442	0	0	328680	319045	37800	83996	0	0
18	500	1000	1000	371	7855	18940	0	0	328680	332726	37800	16801	0	0
19	500	1000	1000	269	7669	16100	0	0	328680	329597	37800	38260	0	0
20	500	2000	1000	619	7482	22299	0	0	328680	257959	37800	201146	0	1895
21	500	1000	1000	197	7296	14557	0	0	328680	343879	37800	40860	0	0
Total	11000	28994	18000	12430	192330	394230	0	16867	6902280	6494711	793800	1147434	0	23987

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	9277	0	9450	379493	146594
2	0	0	0	13869	0	35868	378816	424089
3	0	0	0	3625	0	7350	378629	399204
4	0	0	0	2600	0	8526	378443	403987
5	0	0	0	0	0	7602	378257	301571
6	0	0	0	9481	0	27384	378070	416034
7	0	48	0	13223	0	8064	377884	439089
8	0	0	0	0	0	24108	377698	405614
9	0	0	0	0	0	6426	377512	388784
10	0	84	0	39022	0	5670	376325	463613
11	0	0	0	0	0	5712	377139	393512
12	0	0	0	9405	0	4746	375953	447674
13	0	0	0	0	0	4704	376766	396701
14	0	0	0	0	0	4578	376580	388572
15	0	113	0	60337	0	22722	376394	540394
16	0	0	0	0	0	18438	376208	405196
17	0	82	0	44270	0	3444	375021	526778
18	0	0	0	18203	0	3234	375835	391275
19	0	0	0	0	0	2520	375649	387746
20	0	0	0	74756	0	2100	375462	562774
21	0	0	0	0	0	0	375276	400493
Total	0	327	0	298068	0	212646	7917410	8629694

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	18	9450	9450	9450
	2	Breakdown	Dry FR		0	0	0	7.85	514	525	9964
	3	Acid	15% HCl		0	0	0	9.81	1000	1000	10964
	4	Pad	Dry FR		0	0	0	9.95	2554	2686	13518
	5	Acid	15% HCl		0	0	0	9.83	1000	1000	14518
	6	Pad	Dry FR		0	0	0	30.75	18628	19019	33146
	7	PLF	Dry FR		0	0	0	51.85	5540	5734	38686
	8	Spacer	Dry FR		0	0	0	52.34	9277	9473	47963
	9	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	55.83	25910	26512	73873
	10	Flush	Dry FR		0	0	0	39.62	15364	15626	89237
	11	Acid	15% HCl		0	0	0	9.6	1000	1000	90237
	12	Pad	Dry FR		0	0	0	17.43	652	628	90889
	13	Pad	Dry FR		0	0	0	42.96	36558	36454	127447
	14	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	83.69	16564	16795	144011
	15	Pre-Flush	Dry FR		0	0	0	22.57	540	529	144551
	16	Flush	Dry FR		0	0	0	3.41	2043	2079	146594
2	1	Wireline Pump-In	Treated Water		0	0	0	20	35868	35868	182462
	2	Breakdown	Dry FR		0	0	0	8.59	1784	1831	184246
	3	Acid	15% HCl		0	0	0	9.84	1000	1000	185246
	4	Pad	Dry FR		0	0	0	9.85	582	580	185828
	5	Acid	15% HCl		0	0	0	9.78	499	499	186327
	6	Pad	Dry FR		0	0	0	12.38	539	553	186866

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	7	Pad	Dry FR		0	0	0	42.4	46363	45848	233229
	8	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	79.63	5129	5165	238358
	9	Spacer	Dry FR		0	0	0	79.99	11519	11444	249877
	10	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	85.08	13571	13667	263448
	11	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	88.18	18760	18891	282208
	12	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.87	90.04	18976	19793	301184
	13	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	89.98	12120	12234	313304
	14	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	91.38	62649	66141	375953
	15	PLF	Dry FR	30/50 Premium White	2	2	2	92.96	10922	12058	386875
	16	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	93.04	5580	5639	392455
	17	Spacer	Dry FR		0	0	0	93.09	2350	2360	394805
	18	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	93.12	1822	1839	396627
	19	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	96.66	63644	67098	460271
	20	PLF	Dry FR	30/50 Premium White	2	2	2	96.07	10960	12049	471231
	21	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	93.92	44379	44726	515610
	22	PLF	Dry FR	30/50 Premium White	0.25	1.97	1.11	93.93	20078	20923	535688
	23	PLF	Dry FR	30/50 Premium White	1.98	1.98	1.98	93.84	12976	13888	548664
	24	Pre-Flush	Dry FR		0	0	0	91.91	7178	7122	555842
	25	Flush	Dry FR		0	0	0	95.86	10590	10608	566432
	26	Overflush	Treated Water		0	0	0	71.18	4251	4198	570683
3	1	Wireline Pump-In	Treated Water		0	0	0	10	7350	7350	578033
	2	Breakdown	Dry FR		0	0	0	7.58	750	709	578783

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)
3	3	Acid	15% HCl		0	0	0	9.8	499	499	579282
	4	Pad	Dry FR		0	0	0	9.92	1526	1577	580808
	5	Acid	15% HCl		0	0	0	9.85	1000	1000	581808
	6	Pad	Dry FR		0	0	0	46.75	40213	39654	622021
	7	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	89.44	2209	2204	624230
	8	Spacer	Dry FR		0	0	0	89.8	2021	2023	626251
	9	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	88.75	5047	5001	631298
	10	Spacer	Dry FR		0	0	0	89.83	1604	1648	632902
	11	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	96.1	41547	41834	674449
	12	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	99.94	21862	22675	696311
	13	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	99.75	12203	12298	708514
	14	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.02	63044	66231	771558
	15	PLF	Dry FR	30/50 Premium White	2	2	2	99.8	10971	12018	782529
	16	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.71	9819	9906	792348
	17	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.61	63889	67069	856237
	18	PLF	Dry FR	30/50 Premium White	2	2	2	99.38	10993	12038	867230
	19	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.6	44282	44623	911512
	20	PLF	Dry FR	30/50 Premium White	0.25	3.01	1.63	99.59	31048	33332	942560
	21	PLF	Dry FR	30/50 Premium White	3	3	3	99.42	8217	9034	950777
	22	Flush	Dry FR		0	0	0	98.64	3818	3752	954595
	23	Flush	Dry FR		0	0	0	93.9	15292	15217	969887
4	1	Wireline Pump-In	Treated Water		0	0	0	10	8526	8526	978413

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	2	Breakdown	Dry FR		0	0	0	7.84	508	514	978921
	3	Acid	15% HCl		0	0	0	9.77	1000	1000	979921
	4	Pad	Dry FR		0	0	0	9.85	1059	1095	980980
	5	Acid	15% HCl		0	0	0	9.8	1000	1000	981980
	6	Pad	Dry FR		0	0	0	43.6	45446	45067	1027426
	7	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	70.94	12760	12896	1040186
	8	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	78.23	40357	40730	1080543
	9	PLF	Dry FR	100 Mesh Premium White	0.45	0.45	0.45	92.12	8278	8434	1088821
	10	PLF	Dry FR	100 Mesh Premium White	0.5	0.5	0.5	94.89	1444	1472	1090265
	11	PLF	Dry FR	100 Mesh Premium White	0.55	0.55	0.55	94.85	1113	1137	1091378
	12	PLF	Dry FR	100 Mesh Premium White	0.55	1.43	0.99	94.81	1496	1536	1092874
	13	PLF	Dry FR	100 Mesh Premium White	1.18	1.49	1.34	94.78	5277	5618	1098151
	14	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	94.86	2133	2138	1100284
	15	Spacer	Dry FR		0	0	0	94.87	2600	2607	1102884
	16	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	94.87	7432	7488	1110316
	17	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.45	62908	66292	1173224
	18	PLF	Dry FR	30/50 Premium White	2	2	2	99.94	10945	12036	1184169
	19	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.07	9709	9801	1193878
	20	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.04	63780	67169	1257658
	21	PLF	Dry FR	30/50 Premium White	2	2	2	99.91	10949	12033	1268607
	22	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.11	44219	44643	1312826
	23	PLF	Dry FR	30/50 Premium White	0.25	4.23	2.24	100	41518	44949	1354344

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	24	Flush	Dry FR		0	0	0	100.17	4461	4377	1358805
	25	Flush	Dry FR		0	0	0	93.21	15069	15126	1373874
5	1	Wireline Pump-In	Treated Water		0	0	0	21	7602	7602	1381476
	2	Breakdown	Dry FR		0	0	0	7.7	540	586	1382016
	3	Acid	15% HCl		0	0	0	9.76	501	501	1382517
	4	Pad	Dry FR		0	0	0	9.79	1660	1654	1384177
	5	Acid	15% HCl		0	0	0	9.83	499	499	1384676
	6	Pad	Dry FR		0	0	0	36.67	36993	36731	1421669
	7	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	81.43	51621	52272	1473290
	8	PLF	Dry FR	100 Mesh Premium White	0.25	1.49	0.87	100.06	21746	22568	1495036
	9	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	100.01	12099	12265	1507135
	10	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.98	62561	66139	1569696
	11	PLF	Dry FR	30/50 Premium White	2	2	2	99.78	11018	12096	1580714
	12	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.93	9627	9784	1590341
	13	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.87	63568	67189	1653909
	14	PLF	Dry FR	30/50 Premium White	2	2	2	97.42	9255	10092	1663164
	15	Flush	Dry FR		0	0	0	5.03	12281	12192	1675445
6	1	Wireline Pump-In	Treated Water		0	0	0	18	27384	27384	1702829
	2	Breakdown	Dry FR		0	0	0	6.58	415	384	1703244
	3	Acid	15% HCl		0	0	0	9.83	499	499	1703743
	4	Pad	Dry FR		0	0	0	9.6	472	456	1704215
	5	Acid	15% HCl		0	0	0	9.5	1000	1000	1705215

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	6	Pad	Dry FR		0	0	0	25.86	22931	23109	1728146
	7	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	54.49	4135	4225	1732281
	8	Spacer	Dry FR		0	0	0	59.14	9481	9501	1741762
	9	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	75.35	73838	74930	1815600
	10	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	90.53	6315	6444	1821915
	11	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	89.84	4473	4624	1826388
	12	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	89.79	1205	1267	1827593
	13	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	89.89	7448	7535	1835041
	14	PLF	Dry FR	30/50 Premium White	0.35	0.35	0.35	89.85	5039	5133	1840080
	15	PLF	Dry FR	30/50 Premium White	0.44	0.44	0.44	89.85	2170	2219	1842250
	16	PLF	Dry FR	30/50 Premium White	0.49	0.49	0.49	89.86	1424	1460	1843674
	17	PLF	Dry FR	30/50 Premium White	0.55	0.55	0.55	89.8	3325	3419	1846999
	18	PLF	Dry FR	30/50 Premium White	0.59	0.59	0.59	89.77	1965	2024	1848964
	19	PLF	Dry FR	30/50 Premium White	0.68	0.68	0.68	89.82	1960	2025	1850924
	20	PLF	Dry FR	30/50 Premium White	0.73	0.73	0.73	89.84	1284	1331	1852208
	21	PLF	Dry FR	30/50 Premium White	0.78	0.78	0.78	89.84	1583	1646	1853791
	22	PLF	Dry FR	30/50 Premium White	0.84	0.84	0.84	89.85	1216	1267	1855007
	23	PLF	Dry FR	30/50 Premium White	0.94	0.94	0.94	89.87	1940	2030	1856947
	24	PLF	Dry FR	30/50 Premium White	1.1	1.1	1.1	89.87	1748	1838	1858695
	25	PLF	Dry FR	30/50 Premium White	1.18	1.18	1.18	89.87	1498	1583	1860193
	26	PLF	Dry FR	30/50 Premium White	1.21	1.21	1.21	89.84	1018	1075	1861211
	27	PLF	Dry FR	30/50 Premium White	1.28	1.28	1.28	89.81	1733	1835	1862944

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	28	PLF	Dry FR	30/50 Premium White	1.3	1.3	1.3	89.83	1312	1391	1864256
	29	PLF	Dry FR	30/50 Premium White	1.35	1.65	1.5	89.82	4697	5002	1868953
	30	PLF	Dry FR	30/50 Premium White	1.75	1.75	1.75	89.3	1934	2080	1870887
	31	PLF	Dry FR	30/50 Premium White	1.85	1.85	1.85	86.79	1749	1891	1872636
	32	PLF	Dry FR	30/50 Premium White	1.49	2	1.74	84.95	17891	19351	1890527
	33	PLF	Dry FR	30/50 Premium White	2	2	2	84.82	10959	12024	1901486
	34	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	84.65	9881	10028	1911367
	35	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	83.39	63467	66947	1974834
	36	PLF	Dry FR	30/50 Premium White	2	2	2	84.89	10974	12029	1985808
	37	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	85.34	44054	44751	2029862
	38	PLF	Dry FR	30/50 Premium White	0.25	3.99	2.12	85.04	40372	44189	2070234
	39	PLF	Dry FR	30/50 Premium White	4	4	4	84.76	1931	2211	2072165
	40	Flush	Dry FR		0	0	0	85.21	4184	4210	2076349
	41	Flush	Dry FR		0	0	0	76.17	15130	15232	2091479
7	1	Wireline Pump-In	Treated Water		0	0	0	21	8064	8064	2099543
	2	Breakdown	FR Water		0	0	0	7.27	979	1006	2100522
	3	Acid	15% HCl		0	0	0	10.03	1000	1000	2101522
	4	Pad	FR Water		0	0	0	9.62	730	705	2102252
	5	Pad	Dry FR		0	0	0	17.78	1844	1948	2104096
	6	Pad	FR Water		0	0	0	11.13	1281	1265	2105377
	7	Pad	Dry FR		0	0	0	38.74	22527	22660	2127904
	8	Pad	FR Water		0	0	0	17.35	2076	2107	2129980

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	9	Acid	15% HCl		0	0	0	10.07	1000	1000	2130980
	10	Pad	FR Water		0	0	0	9.78	464	455	2131444
	11	Pad	Dry FR		0	0	0	45.2	18785	18921	2150229
	12	PLF	Dry FR	30/50 Premium White	0.15	0.15	0.15	54.04	2480	2515	2152709
	13	Spacer	Dry FR		0	0	0	54.14	13223	13310	2165932
	14	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	67.82	54821	55611	2220753
	15	PLF	Dry FR	100 Mesh Premium White	0.25	1.49	0.87	84.83	21658	22484	2242411
	16	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	86.06	12026	12193	2254437
	17	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	96.32	62948	66236	2317385
	18	PLF	Dry FR	30/50 Premium White	2	2	2	99.96	10920	11915	2328305
	19	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.26	9748	9910	2338053
	20	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.22	63790	67114	2401843
	21	PLF	Dry FR	30/50 Premium White	2	2	2	99.99	11057	12076	2412900
	22	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.41	43983	44612	2456883
	23	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.28	20414	21421	2477297
	24	PLF	Dry FR	30/50 Premium White	2.01	2.01	2.01	95.73	31041	33859	2508338
	25	Flush	Dry FR		0	0	0	66.34	4344	4279	2512682
	26	Shut-In	FR Water		0	0	0	0	0	92	2512682
	27	Pad	FR Water		0	0	0	3.01	3838	4288	2516520
	28	Pad	Dry FR		0	0	0	3.37	8049	9061	2524569
	29	Shut-In	FR Water		0	0	0	2.71	48	42	2524617
	30	Pad	Dry FR		0	0	0	3.72	5951	6493	2530568

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	31	Shut-In	FR Water		0	0	0	0	0	0	2530568
8	1	Wireline Pump-In	Treated Water		0	0	0	18	24108	24108	2554676
	2	Breakdown	Dry FR		0	0	0	8.86	1549	1548	2556225
	3	Acid	15% HCl		0	0	0	10.13	1000	1000	2557225
	4	Pad	Dry FR		0	0	0	9.65	1284	1316	2558509
	5	Acid	15% HCl		0	0	0	9.85	1000	1000	2559509
	6	Pad	Dry FR		0	0	0	13.79	478	479	2559987
	7	Pad	Dry FR		0	0	0	69.92	39038	39270	2599025
	8	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	100.05	51315	52140	2650340
	9	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	99.89	21757	22677	2672097
	10	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	99.92	11958	12180	2684055
	11	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.77	62584	66207	2746639
	12	PLF	Dry FR	30/50 Premium White	2	2	2	99.55	10918	11994	2757557
	13	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.95	9730	9938	2767287
	14	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.82	63387	67090	2830674
	15	PLF	Dry FR	30/50 Premium White	2	2	2	99.63	10986	12078	2841660
	16	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.14	43854	44742	2885514
	17	PLF	Dry FR	30/50 Premium White	0.25	3.16	1.71	99.82	32448	34776	2917962
	18	Flush	Dry FR		0	0	0	100.18	4550	4526	2922512
	19	Flush	Dry FR		0	0	0	100.19	7600	7701	2930112
	20	Flush	Dry FR		0	0	0	62.54	6070	6080	2936182
9	1	Wireline Pump-In	Treated Water		0	0	0	18	6426	6426	2942608

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	2	Breakdown	FR Water		0	0	0	7.44	1223	1344	2943831
	3	Acid	15% HCl		0	0	0	9.86	501	501	2944332
	4	Pad	FR Water		0	0	0	9.44	1070	983	2945402
	5	Acid	15% HCl		0	0	0	9.67	499	499	2945901
	6	Pad	Dry FR		0	0	0	34.72	38560	39057	2984461
	7	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	88.34	51138	52178	3035599
	8	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	99.55	21696	22675	3057295
	9	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	99.71	12086	12304	3069381
	10	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.43	62622	66234	3132003
	11	PLF	Dry FR	30/50 Premium White	2	2	2	99.15	10951	12029	3142954
	12	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.5	9694	9891	3152648
	13	PLF	Dry FR	30/50 Premium White	0.25	1.62	0.94	99.35	50092	52563	3202740
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.62	43761	44613	3246501
	15	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.41	20205	21304	3266706
	16	PLF	Dry FR	30/50 Premium White	2	2	2	98.97	13547	14860	3280253
	17	PLF	Dry FR	30/50 Premium White	2.5	2.5	2.5	98.89	10417	11631	3290670
	18	PLF	Dry FR	30/50 Premium White	3	3	3	98.83	6069	6896	3296739
	19	PLF	Dry FR	30/50 Premium White	3.5	3.5	3.5	98.74	7013	8077	3303752
	20	PLF	Dry FR	30/50 Premium White	4	4	4	98.9	3162	3415	3306914
	21	Flush	Dry FR		0	0	0	99.59	4081	4068	3310995
	22	Flush	Dry FR		0	0	0	93.87	13971	14153	3324966
10	1	Wireline Pump-In	Treated Water		0	0	0	20	5670	5670	3330636

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	2	Shut-In	Treated Water		0	0	0	0	0	0	3330636
	3	Pad	Dry FR		0	0	0	7.39	1111	1105	3331747
	4	Acid	15% HCl		0	0	0	9.51	1000	1000	3332747
	5	Pad	Dry FR		0	0	0	11.91	322	320	3333069
	6	Pad	Dry FR		0	0	0	43.68	36656	37458	3369725
	7	Pad	Dry FR		0	0	0	75.02	2921	2960	3372646
	8	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	65.37	13755	14070	3386401
	9	Pre-Flush	Dry FR		0	0	0	2.99	403	479	3386804
	10	Flush	Dry FR		0	0	0	3.56	882	970	3387686
	11	Flush	Dry FR		0	0	0	1.74	1340	1588	3389026
	12	Pad	Dry FR		0	0	0	46.86	23107	23455	3412133
	13	PLF	Dry FR	100 Mesh Premium White	0.5	0.5	0.5	70.03	2652	2761	3414785
	14	Spacer	Dry FR		0	0	0	78.96	10714	10852	3425499
	15	PLF	Dry FR	100 Mesh Premium White	0.5	0.5	0.5	79.85	4277	4445	3429776
	16	Spacer	Dry FR		0	0	0	80.03	14155	14323	3443931
	17	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	82.43	34769	35557	3478700
	18	PLF	Dry FR	100 Mesh Premium White	0.25	1.03	0.64	85.96	13868	14361	3492568
	19	PLF	Dry FR	100 Mesh Premium White	1.13	1.08	1.1	70.96	2205	2288	3494773
	20	Pre-Flush	Dry FR		0	0	0	11.06	440	470	3495213
	21	Flush	Dry FR		0	0	0	1.08	378	498	3495591
	22	Pad	Dry FR		0	0	0	48.37	23059	23356	3518650
	23	PLF	Dry FR	SS-200 Premium White	0.75	0.75	0.75	70.39	4249	4465	3522899

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	24	Spacer	Dry FR		0	0	0	70.57	14153	14326	3537052
	25	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	74.02	14283	14612	3551335
	26	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	95.81	62507	66180	3613842
	27	PLF	Dry FR	30/50 Premium White	2	2	2	99.95	4368	4793	3618210
	28	PLF	Dry FR	30/50 Premium White	2	2	2	99.91	2309	2533	3620519
	29	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.24	9601	9824	3630120
	30	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.11	63445	67152	3693565
	31	PLF	Dry FR	30/50 Premium White	2	2	2	99.69	10948	12008	3704513
	32	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.39	43810	44789	3748323
	33	PLF	Dry FR	30/50 Premium White	0.25	2.9	1.58	100.09	29339	31668	3777662
	34	PLF	Dry FR	30/50 Premium White	2.9	2.9	2.9	99.55	7381	8413	3785043
	35	Flush	Dry FR		0	0	0	79.55	3452	3406	3788495
	36	Shut-In	Treated Water		0	0	0	1.38	84	212	3788579
	37	Shut-In	FR Water		0	0	0	0	0	0	3788579
11	1	Wireline Pump-In	Treated Water		0	0	0	18	5712	5712	3794291
	2	Breakdown	Dry FR		0	0	0	7.05	437	517	3794728
	3	Acid	15% HCl		0	0	0	10.09	499	499	3795227
	4	Pad	Dry FR		0	0	0	9.95	1477	1429	3796704
	5	Acid	15% HCl		0	0	0	10.47	501	501	3797205
	6	Pad	Dry FR		0	0	0	13.2	631	607	3797836
	7	Pad	Dry FR		0	0	0	58.39	34698	35069	3832534
	8	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.17	2288	2330	3834822

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	9	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	100.19	51842	52798	3886664
	10	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	99.97	21762	22739	3908426
	11	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	100.13	12066	12270	3920492
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.01	62710	66227	3983202
	13	PLF	Dry FR	30/50 Premium White	2	2	2	99.74	11028	12085	3994230
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.19	9564	9742	4003794
	15	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.04	63652	67194	4067446
	16	PLF	Dry FR	30/50 Premium White	2	2	2	99.76	11046	12109	4078492
	17	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.25	43802	44580	4122294
	18	PLF	Dry FR	30/50 Premium White	0.25	4	2.12	99.7	41203	44900	4163497
	19	Flush	Dry FR		0	0	0	99.98	4577	4581	4168074
	20	Flush	Dry FR		0	0	0	96.1	6832	6969	4174906
	21	Flush	Dry FR		0	0	0	60.21	7185	7595	4182091
12	1	Wireline Pump-In	Treated Water		0	0	0	20	4746	4746	4186837
	2	Shut-In	FR Water		0	0	0	0	0	0	4186837
	3	Pad	FR Water		0	0	0	7.35	455	527	4187292
	4	Acid	15% HCl		0	0	0	10.05	1000	1000	4188292
	5	Pad	FR Water		0	0	0	10.38	509	516	4188801
	6	Pad	Dry FR		0	0	0	58	32055	32600	4220856
	7	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	94.9	5374	5485	4226230
	8	Spacer	Dry FR		0	0	0	97.75	9405	9514	4235635
	9	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	99.98	43392	43957	4279027

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	10	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.87	99.51	22118	22652	4301145
	11	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	100.07	12062	12200	4313207
	12	PLF	Dry FR	30/50 Premium White	0.25	1.46	0.85	99.98	44647	45772	4357854
	13	PLF	Dry FR	30/50 Premium White	0.77	2	1.38	100.18	19045	20464	4376899
	14	PLF	Dry FR	30/50 Premium White	2	2	2	100.72	29319	30790	4406218
	15	Flush	Dry FR		0	0	0	100.58	9286	9345	4415504
	16	Flush	FR Water		0	0	0	24.6	1501	1506	4417005
	17	Pad	Dry FR		0	0	0	63.86	23112	23312	4440117
	18	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.65	10332	10459	4450449
	19	PLF	Dry FR	30/50 Premium White	0.25	0.47	0.36	100.42	9143	9266	4459592
	20	PLF	Dry FR	30/50 Premium White	0.3	2	1.15	100	54531	57771	4514123
	21	PLF	Dry FR	30/50 Premium White	2	2	2	100.24	11052	12078	4525175
	22	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.61	43923	44717	4569098
	23	PLF	Dry FR	30/50 Premium White	0.25	3.99	2.12	100.21	40404	44346	4609502
	24	PLF	Dry FR	30/50 Premium White	4	4	4	99.74	4199	4849	4613701
	25	Pre-Flush	Dry FR		0	0	0	100.49	3168	3114	4616869
	26	Flush	Dry FR		0	0	0	94.88	8343	8415	4625212
	27	Overflush	FR Water		0	0	0	69.08	4553	4553	4629765
13	1	Wireline Pump-In	Treated Water		0	0	0	20	4704	4704	4634469
	2	Breakdown	Treated Water		0	0	0	6.66	413	326	4634882
	3	Acid	15% HCl		0	0	0	10.06	501	501	4635383
	4	Pad	Treated Water		0	0	0	9.84	1333	1344	4636716

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)
13	5	Acid	15% HCl		0	0	0	10	499	499	4637215
	6	Pad	Dry FR		0	0	0	46.9	46827	47432	4684042
	7	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	85.4	42749	43549	4726791
	8	PLF	Dry FR	100 Mesh Premium White	0.25	1.49	0.87	90.63	21641	22600	4748432
	9	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	90.79	12062	12283	4760494
	10	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.65	62682	66139	4823176
	11	PLF	Dry FR	30/50 Premium White	2	2	2	99.46	10997	12054	4834173
	12	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.88	9744	9923	4843917
	13	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.76	63518	67013	4907435
	14	PLF	Dry FR	30/50 Premium White	2	2	2	99.54	11020	12069	4918455
	15	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.02	43972	44755	4962427
	16	PLF	Dry FR	30/50 Premium White	0.25	3.99	2.12	99.65	40622	44312	5003049
	17	PLF	Dry FR	30/50 Premium White	4	4	4	99.24	6454	7405	5009503
	18	Flush	Dry FR		0	0	0	99.82	3484	3513	5012987
	19	Flush	Treated Water		0	0	0	93.74	13479	13668	5026466
14	1	Wireline Pump-In	Treated Water		0	0	0	20	4578	4578	5031044
	2	Breakdown	FR Water		0	0	0	7.38	415	549	5031459
	3	Acid	15% HCl		0	0	0	10.08	499	499	5031958
	4	Pad	FR Water		0	0	0	11.9	568	546	5032526
	5	Pad	Dry FR		0	0	0	57.69	32650	33095	5065176
	6	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	95.38	5437	5510	5070613
	7	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	99.77	51946	52929	5122559

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	8	PLF	Dry FR	100 Mesh Premium White	0.25	1.49	0.87	100.24	21639	22595	5144198
	9	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	100.27	12074	12288	5156272
	10	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.1	62830	66287	5219102
	11	PLF	Dry FR	30/50 Premium White	2	2	2	100.1	10966	11991	5230068
	12	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.35	9639	9822	5239707
	13	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.31	63731	67212	5303438
	14	PLF	Dry FR	30/50 Premium White	2	2	2	100.09	10960	11983	5314398
	15	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.38	43947	44729	5358345
	16	PLF	Dry FR	30/50 Premium White	0.25	3.96	2.1	100.12	40151	43890	5398496
	17	Pre-Flush	Dry FR		0	0	0	100.15	3908	3882	5402404
	18	Flush	Dry FR		0	0	0	90.21	7721	7814	5410125
	19	Overflush	FR Water		0	0	0	75.02	4913	4904	5415038
15	1	Wireline Pump-In	Treated Water		0	0	0	20	22722	22722	5437760
	2	Breakdown	FR Water		0	0	0	6.88	910	847	5438670
	3	Acid	15% HCl		0	0	0	10	499	499	5439169
	4	Pad	FR Water		0	0	0	14.55	1225	1316	5440394
	5	Pad	Dry FR		0	0	0	52.7	37455	37860	5477849
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	91.72	12608	12855	5490457
	7	Spacer	Dry FR		0	0	0	41.05	11719	11862	5502176
	8	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	35.19	2891	2951	5505067
	9	Pre-Flush	Dry FR		0	0	0	30.48	2075	2110	5507142
	10	Flush	Dry FR		0	0	0	20.36	13349	13615	5520491

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	11	Flush	FR Water		0	0	0	12.87	2703	2762	5523194
	12	Flush	Dry FR		0	0	0	47.2	12107	12192	5535301
	13	Flush	FR Water		0	0	0	21.62	3003	3113	5538304
	14	Acid	15% HCl		0	0	0	10.11	501	501	5538805
	15	Pad	FR Water		0	0	0	10.62	1024	1037	5539829
	16	Pad	Dry FR		0	0	0	41.07	29427	29732	5569256
	17	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	80.29	3727	3790	5572983
	18	Spacer	Dry FR		0	0	0	80.26	24084	24210	5597067
	19	PLF	Dry FR	100 Mesh Premium White	0.15	0.15	0.15	80.27	2733	2771	5599800
	20	Spacer	Dry FR		0	0	0	80.3	12822	12897	5612622
	21	PLF	Dry FR	100 Mesh Premium White	0.15	0.15	0.15	80.32	3132	3169	5615754
	22	Spacer	Dry FR		0	0	0	80.35	11712	11778	5627466
	23	PLF	Dry FR	100 Mesh Premium White	0.15	0.15	0.15	80.38	14535	14720	5642001
	24	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	80.39	14087	14330	5656088
	25	PLF	Dry FR	100 Mesh Premium White	0.5	0.5	0.5	80.42	13739	14112	5669827
	26	PLF	Dry FR	100 Mesh Premium White	0.75	0.75	0.75	81.95	13503	14037	5683330
	27	PLF	Dry FR	100 Mesh Premium White	1	1	1	85.24	9724	10212	5693054
	28	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	89	12085	12290	5705139
	29	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	97.26	62779	66193	5767918
	30	PLF	Dry FR	30/50 Premium White	2	2	2	99.76	11064	12089	5778982
	31	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.07	9695	9871	5788677
	32	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.96	63640	67058	5852317

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	33	PLF	Dry FR	30/50 Premium White	2	2	2	99.75	11064	12088	5863381
	34	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.16	43917	44676	5907298
	35	PLF	Dry FR	30/50 Premium White	0.25	3.9	2.08	99.81	39855	43339	5947153
	36	PLF	Dry FR	30/50 Premium White	3.91	3.91	3.91	96.75	3010	3339	5950163
	37	Pre-Flush	Dry FR		0	0	0	43.54	860	795	5951023
	38	Flush	FR Water		0	0	0	4.99	530	611	5951553
	39	Flush	Dry FR		0	0	0	4.87	312	325	5951865
	40	Shut-In	FR Water		0	0	0	0	0	4	5951865
	41	Pad	Dry FR		0	0	0	3.62	1869	2052	5953734
	42	Pad	FR Water		0	0	0	0	0	68	5953734
	43	Pad	Dry FR		0	0	0	3.2	166	175	5953900
	44	Pad	FR Water		0	0	0	0.67	377	476	5954277
	45	Pad	Dry FR		0	0	0	3.51	1042	1146	5955319
	46	Shut-In	FR Water		0	0	0	0.18	113	48	5955432
16	1	Wireline Pump-In	Treated Water		0	0	0	20	18438	18438	5973870
	2	Breakdown	FR Water		0	0	0	5.78	537	555	5974407
	3	Acid	15% HCl		0	0	0	10.05	499	499	5974906
	4	Pad	FR Water		0	0	0	12.58	364	364	5975270
	5	Pad	Dry FR		0	0	0	45.19	29780	30134	6005050
	6	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	75.02	7853	7983	6012903
	7	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	90.66	52036	52901	6064939
	8	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.87	100.05	21717	22622	6086656

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	9	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	100.07	12050	12270	6098706
	10	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.04	62665	66124	6161371
	11	PLF	Dry FR	30/50 Premium White	2	2	2	99.9	11002	12033	6172373
	12	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.21	9701	9889	6182074
	13	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.09	63588	67073	6245662
	14	PLF	Dry FR	30/50 Premium White	2	2	2	99.94	11005	12037	6256667
	15	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.33	43840	44620	6300507
	16	PLF	Dry FR	30/50 Premium White	0.25	3.99	2.12	100.14	40503	44373	6341010
	17	PLF	Dry FR	30/50 Premium White	4	4	4	99.65	3368	3932	6344378
	18	Pre-Flush	Dry FR		0	0	0	91.99	3520	3498	6347898
	19	Flush	Dry FR		0	0	0	81.09	9580	9708	6357478
	20	Overflush	FR Water		0	0	0	62.64	3150	3118	6360628
17	1	Wireline Pump-In	Treated Water		0	0	0	22	3444	3444	6364072
	2	Shut-In	FR Water		0	0	0	0.86	82	37	6364154
	3	Acid	15% HCl		0	0	0	0.88	1000	1000	6365154
	4	Pad	FR Water		0	0	0	11.19	680	698	6365834
	5	Pad	Dry FR		0	0	0	25.34	12818	13044	6378652
	6	Pad	FR Water		0	0	0	9.97	1577	1649	6380229
	7	Acid	15% HCl		0	0	0	10.27	1000	1000	6381229
	8	Pad	FR Water		0	0	0	9.98	415	422	6381644
	9	Pad	Dry FR		0	0	0	19.29	22230	22795	6403874
	10	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	55.34	2250	2301	6406124

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	11	Spacer	Dry FR		0	0	0	40.83	33052	33483	6439176
	12	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	36.44	2484	2542	6441660
	13	Flush	Dry FR		0	0	0	24.47	42139	42806	6483799
	14	Flush	FR Water		0	0	0	15.11	14321	14581	6498120
	15	Acid	15% HCl		0	0	0	8.94	499	499	6498619
	16	Pad	FR Water		0	0	0	13.33	3218	3227	6501837
	17	Pad	Dry FR		0	0	0	44.98	39964	40199	6541801
	18	Pad	Dry FR		0	0	0	55.23	3094	3117	6544895
	19	PLF	Dry FR	100 Mesh Premium White	0.5	0.5	0.5	57.31	2473	2542	6547368
	20	Spacer	Dry FR		0	0	0	60.19	8899	8911	6556267
	21	PLF	Dry FR	100 Mesh Premium White	0.15	0.15	0.15	65.33	15685	15843	6571952
	22	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	77.62	52225	52947	6624177
	23	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.87	89.48	21672	22514	6645849
	24	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	90.98	12152	12313	6658001
	25	PLF	Dry FR	30/50 Premium White	0.25	0.8	0.53	96.88	20519	21033	6678520
	26	Spacer	Dry FR		0	0	0	81.03	2319	2333	6680839
	27	PLF	Dry FR	30/50 Premium White	0.87	1.99	1.43	87.88	40055	42737	6720894
	28	PLF	Dry FR	30/50 Premium White	2	2	2	100.26	11013	12012	6731907
	29	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.75	9713	9867	6741620
	30	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.54	63884	67182	6805504
	31	PLF	Dry FR	30/50 Premium White	2	2	2	100.28	11079	12086	6816583
	32	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.67	8725	8863	6825308

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	33	PLF	Dry FR	30/50 Premium White	0.25	3.99	2.12	100.39	40850	44431	6866158
	34	PLF	Dry FR	30/50 Premium White	4	4	4	100.2	4266	4591	6870424
	35	Flush	Dry FR		0	0	0	100.86	4033	3983	6874457
	36	Flush	Dry FR		0	0	0	100.79	5252	5250	6879709
	37	Flush	FR Water		0	0	0	92.61	7697	7634	6887406
18	1	Wireline Pump-In	Treated Water		0	0	0	18	3234	3234	6890640
	2	Breakdown	FR Water		0	0	0	6.93	371	306	6891011
	3	Acid	15% HCl		0	0	0	10.01	1000	1000	6892011
	4	Pad	FR Water		0	0	0	43.33	16801	16760	6908812
	5	PLF	Dry FR	30/50 Premium White	0.15	0.15	0.15	80.41	3405	3407	6912217
	6	Spacer	Dry FR		0	0	0	80.5	18203	18165	6930420
	7	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	95.68	51367	52016	6981787
	8	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	99.92	21914	22726	7003701
	9	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	100.43	12094	12245	7015795
	10	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.3	62975	66181	7078770
	11	PLF	Dry FR	30/50 Premium White	2	2	2	100.07	11136	12127	7089906
	12	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.45	9705	9844	7099611
	13	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.34	63841	67119	7163452
	14	PLF	Dry FR	30/50 Premium White	2	2	2	100.12	11022	12002	7174474
	15	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.63	44024	44643	7218498
	16	PLF	Dry FR	30/50 Premium White	0.25	4	2.12	100.17	41243	44713	7259741
	17	Flush	Dry FR		0	0	0	100.64	6554	6667	7266295

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)
18	18	Flush	Dry FR		0	0	0	92.63	12386	12313	7278681
19	1	Wireline Pump-In	Treated Water		0	0	0	18	2520	2520	7281201
	2	Breakdown	FR Water		0	0	0	5.97	269	320	7281470
	3	Acid	15% HCl		0	0	0	9.92	1000	1000	7282470
	4	Pad	Dry FR		0	0	0	49.46	38260	38386	7320730
	5	PLF	Dry FR	100 Mesh Premium White	0.15	0.15	0.15	79.48	16780	16972	7337510
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	83.89	34402	34945	7371912
	7	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	96.52	21712	22603	7393624
	8	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	99.95	12080	12248	7405704
	9	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.92	62933	66195	7468637
	10	PLF	Dry FR	30/50 Premium White	2	2	2	99.62	11073	12078	7479710
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.15	9715	9880	7489425
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.95	63808	67133	7553233
	13	PLF	Dry FR	30/50 Premium White	2	2	2	99.68	11010	12013	7564243
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.33	43980	44631	7608223
	15	PLF	Dry FR	30/50 Premium White	0.25	4	2.12	99.65	42104	45853	7650327
	16	Flush	Dry FR		0	0	0	100.05	3942	3949	7654269
	17	Flush	Dry FR		0	0	0	90.47	12158	12237	7666427
20	1	Wireline Pump-In	Treated Water		0	0	0	22	2100	2100	7668527
	2	Breakdown	Dry FR		0	0	0	6.69	619	632	7669146
	3	Acid	15% HCl		0	0	0	9.85	1000	1000	7670146
	4	Pad	Dry FR		0	0	0	9.74	2982	2977	7673128

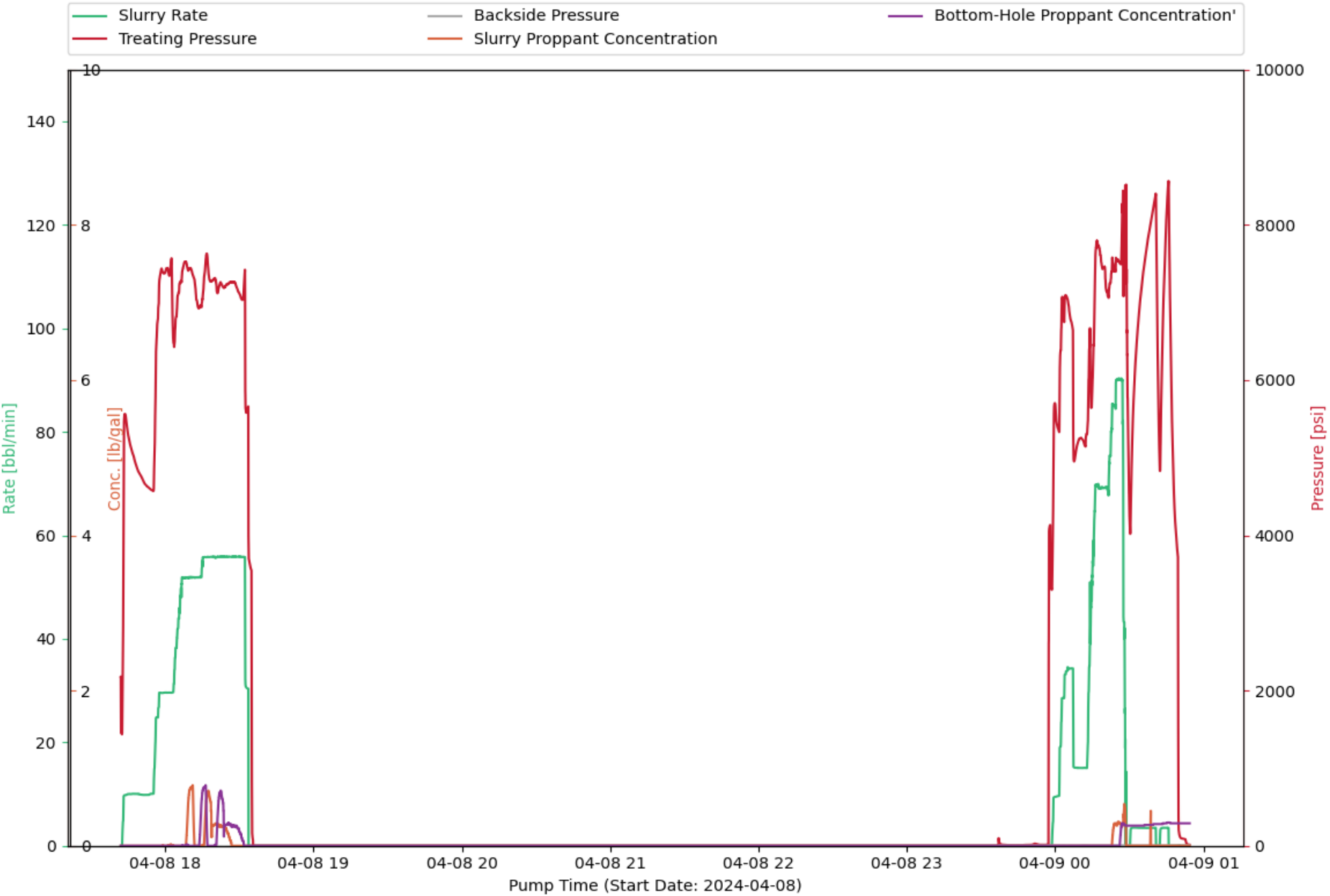
ACTUAL DESIGN

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	5	Acid	15% HCl		0	0	0	10.36	1000	1000	7674128
	6	Pad	Dry FR		0	0	0	10.65	551	526	7674679
	7	Pad	Dry FR		0	0	0	69.03	43321	43400	7718000
	8	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	99.37	58247	59059	7776247
	9	PLF	Dry FR	100 Mesh Premium White	0.25	0.51	0.38	99.42	1244	1262	7777491
	10	Spacer	Dry FR		0	0	0	99.41	1998	2030	7779489
	11	PLF	Dry FR	100 Mesh Premium White	1.12	1.48	1.3	99.15	6181	6570	7785670
	12	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	99.32	12088	12256	7797758
	13	PLF	Dry FR	30/50 Premium White	0.25	1.25	0.75	99.36	28321	28999	7826079
	14	Pre-Flush	Dry FR		0	0	0	99.58	1895	1893	7827974
	15	Flush	Dry FR		0	0	0	99.64	4623	4707	7832597
	16	Pad	Dry FR		0	0	0	42.88	154292	183787	7986889
	17	PLF	Dry FR	30/50 Premium White	0.9	1.05	0.98	86.26	5232	5538	7992121
	18	Spacer	Dry FR		0	0	0	85.97	5326	5667	7997447
	19	PLF	Dry FR	30/50 Premium White	1.2	1.39	1.3	85.86	6884	7385	8004331
	20	Spacer	Dry FR		0	0	0	97.07	67432	71578	8071763
	21	PLF	Dry FR	30/50 Premium White	0.84	2	1.42	99.93	41162	44327	8112925
	22	PLF	Dry FR	30/50 Premium White	2	2	2	99.18	14249	15725	8127174
	23	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	84.49	45084	46193	8172258
	24	PLF	Dry FR	30/50 Premium White	0.25	3.86	2.06	84.23	39267	42796	8211525
	25	Flush	Dry FR		0	0	0	84.49	6648	6672	8218173
	26	Flush	Dry FR		0	0	0	70.22	11028	11272	8229201

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	1	Breakdown	Treated Water		0	0	0	4.38	197	200	8229398
	2	Acid	15% HCl		0	0	0	9.68	1000	1000	8230398
	3	Pad	Dry FR		0	0	0	10.43	574	558	8230972
	4	Pad	Dry FR		0	0	0	61.96	40286	40254	8271258
	5	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	85.04	2071	2095	8273329
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	95.02	53526	54124	8326855
	7	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	99.81	23338	24261	8350193
	8	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.9	18991	19218	8369184
	9	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.69	62969	66101	8432153
	10	PLF	Dry FR	30/50 Premium White	2	2	2	99.6	12446	13544	8444599
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.82	9934	10051	8454533
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.66	64032	67192	8518565
	13	PLF	Dry FR	30/50 Premium White	2	2	2	99.5	14499	15772	8533064
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.82	44697	45216	8577761
	15	PLF	Dry FR	30/50 Premium White	0.25	3.66	1.96	99.64	37376	40084	8615137
	16	Flush	Dry FR		0	0	0	99.8	6938	6960	8622075
	17	Flush	Treated Water		0	0	0	99.93	3317	3314	8625392
	18	Flush	Treated Water		0	0	0	85.65	4302	4275	8629694
Total									8629694	8973547	

TREATMENT PLOT : Treatment Interval 1



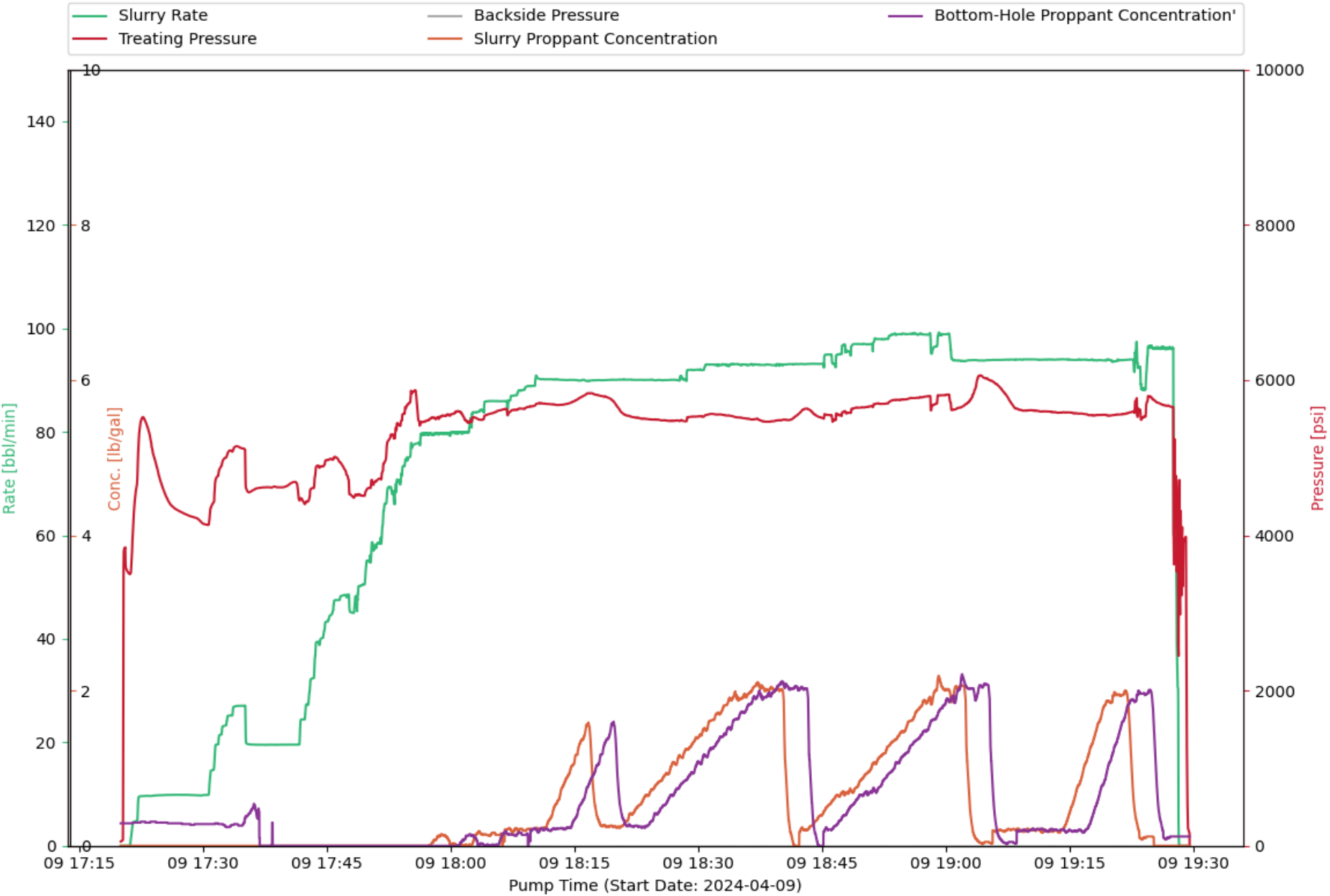
CHEMISTRY PLOT : Treatment Interval 1



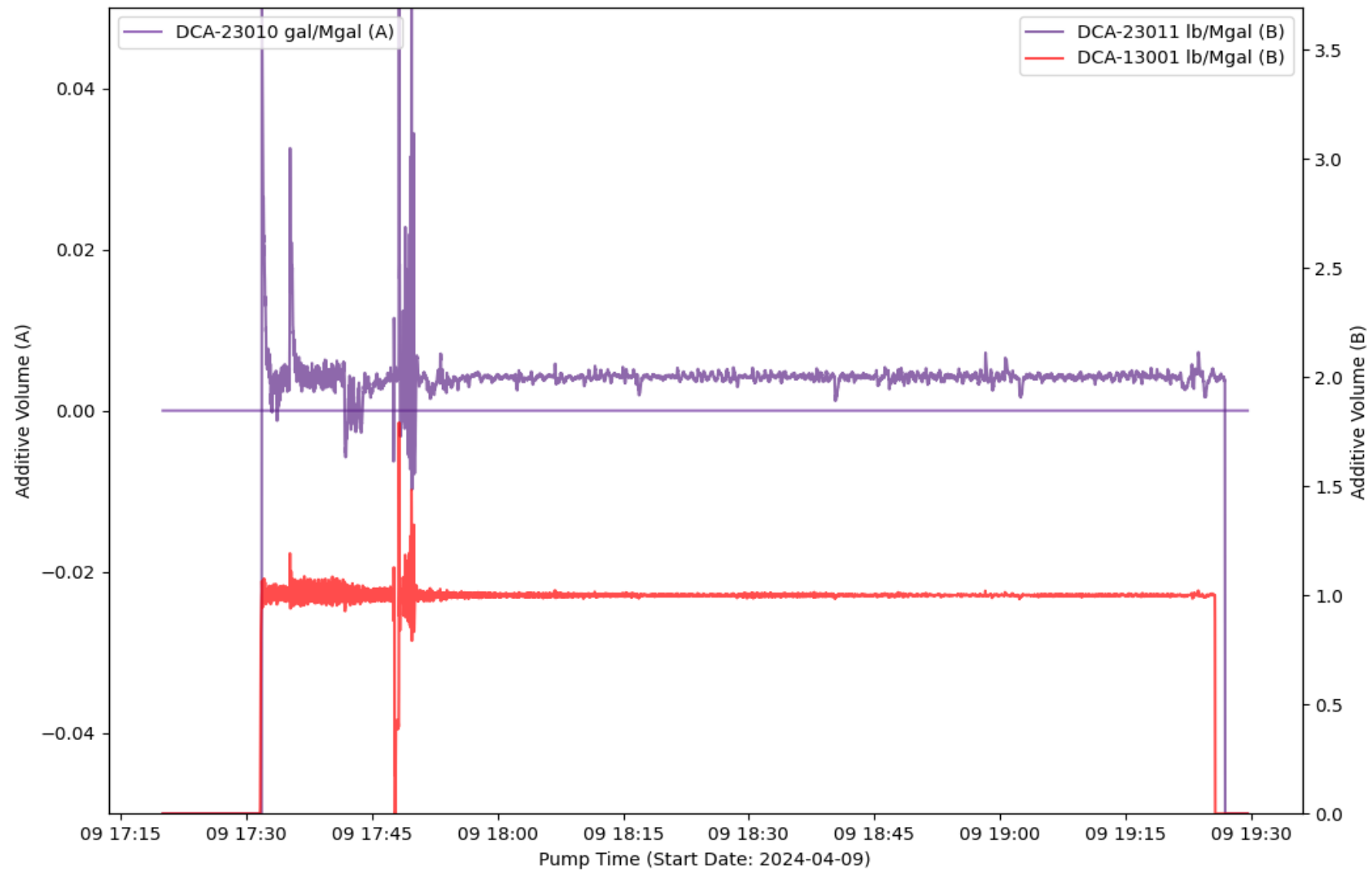
EVENT LOG : TREATMENT INTERVAL 1

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	Start Avg Trt 1	2024-04-08T17:42:05	0	1465	0	0	0	0	0
2	Open Well	2024-04-08T17:42:12	0	1466	0	0	0	0	0
3	Start Pumping	2024-04-08T17:42:31	0	1441	0	0	0	0	0
4	Pump Acid	2024-04-08T17:44:08	9.81	5499	0	0	520.73	532.22	0
5	Break Formation	2024-04-08T17:44:28	9.9	5410	0	0	650.05	663.95	0
6	Pump Acid	2024-04-08T17:52:58	9.83	4621	0	0	4074	4218	0
7	Spot Acid	2024-04-08T18:02:30	29.59	7569	0	0	13136	13463	8.41
8	Flush Acid	2024-04-08T18:03:12	29.68	6504	0.01	0	14000	14342	11.09
9	Stop Pumping	2024-04-08T18:33:41	0	3989	0	0	78964	80754	11568
10	ISIP	2024-04-08T18:33:55	0	3678	0	0	78966	80754	11568
11	Shut In Well	2024-04-08T18:34:08	0	3634	0	0	78967	80754	11568
12	Suspending Job	2024-04-08T18:35:28	0	73.82	0	0	78967	80754	11568
13	Resuming Job	2024-04-08T23:37:01	0	0	0	0	78967	80754	11568
14	Open Well	2024-04-08T23:58:06	0	3390	0	0	78967	80754	11568
15	Start Pumping	2024-04-08T23:58:42	0	3300	0	0	78967	80754	11568
16	Pump Acid	2024-04-09T00:01:09	9.6	5380	0	0	79789	81582	11568
17	Ball on Seat	2024-04-09T00:12:27	15.04	5263	0	0	90497	92222	11568
18	Break Formation	2024-04-09T00:12:50	15.03	5304	0	0	90752	92465	11568
19	Spot Acid	2024-04-09T00:14:02	37.93	6634	0	0	92114	93740	11568
20	Flush Acid	2024-04-09T00:14:41	47.39	5644	0	0	93318	94923	11568
21	Stop Pumping	2024-04-09T00:46:01	0	8356	0	0.3	137130	139039	16519
22	Shut In Well	2024-04-09T00:49:28	0	3800	0	0.29	137140	139039	16519

TREATMENT PLOT : Treatment Interval 2



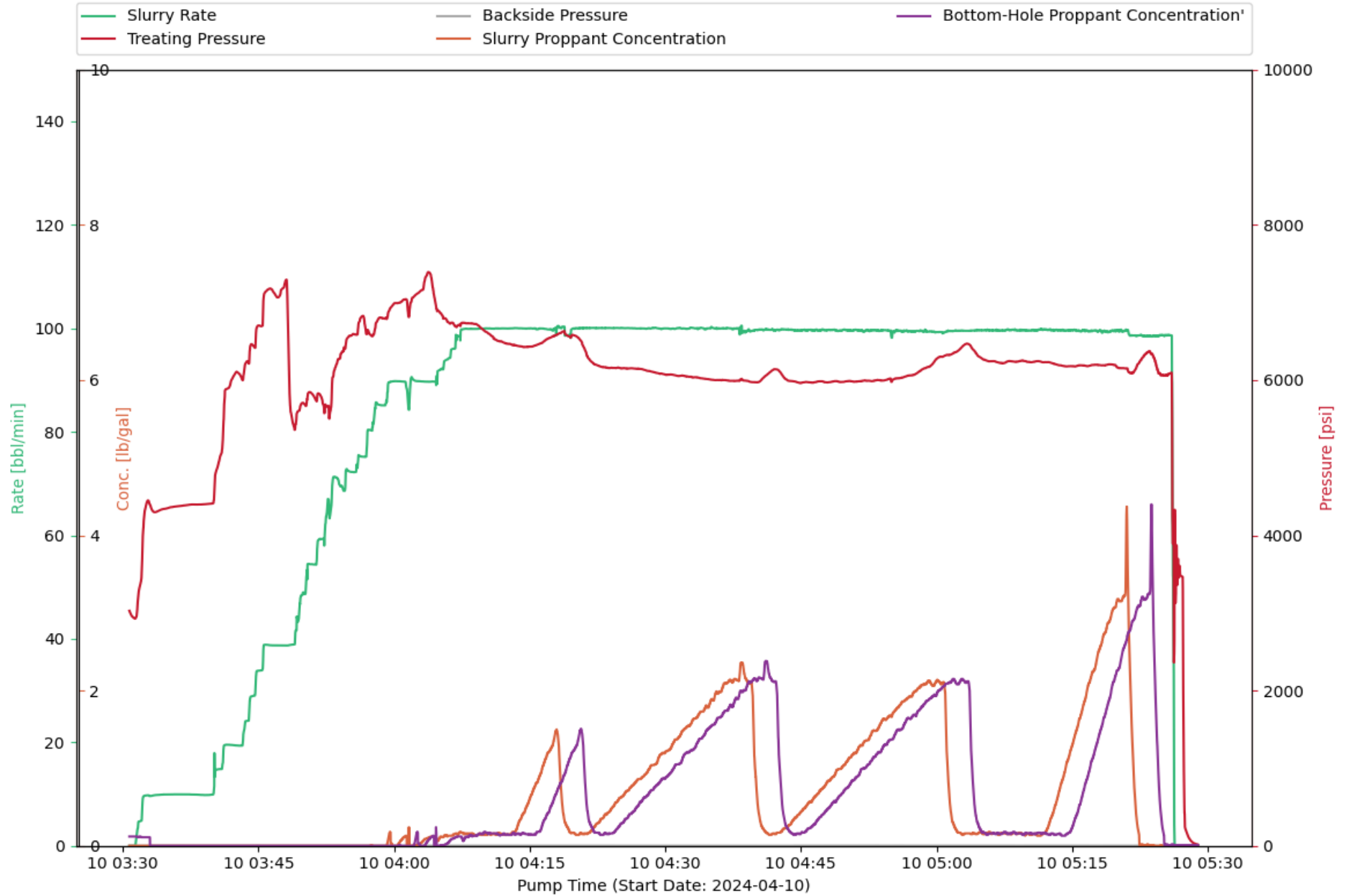
CHEMISTRY PLOT : Treatment Interval 2



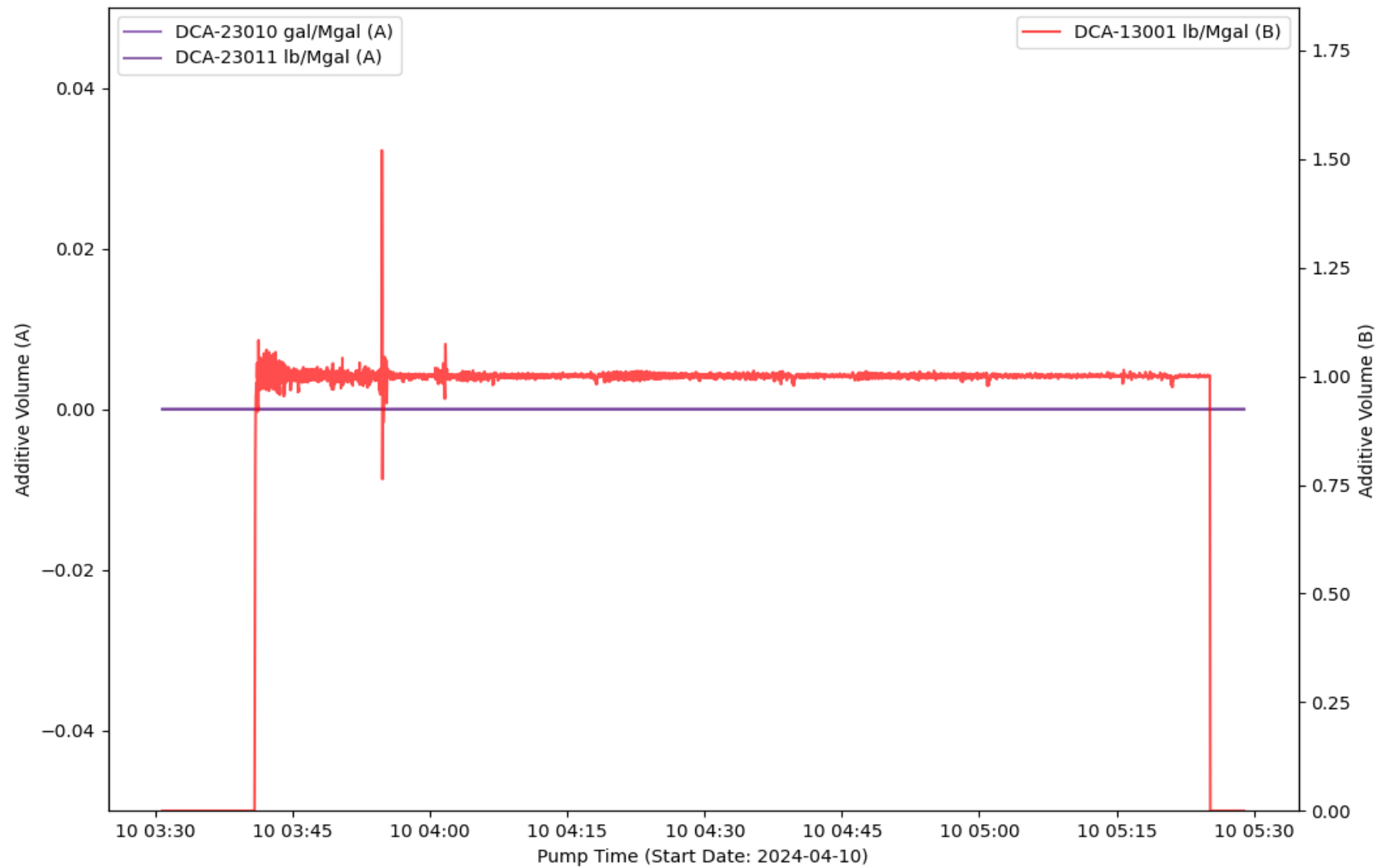
EVENT LOG : TREATMENT INTERVAL 2

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	2024-04-09T17:20:38	0	3575	0	0.29	0	0	0
2	Start Pumping	2024-04-09T17:21:08	0.1	3501	0	0.29	1.07	0.08	0
3	Pump Acid	2024-04-09T17:26:11	9.84	4378	0	0.29	1790	1837	0
4	Pump Acid	2024-04-09T17:29:01	9.78	4229	0	0.28	2960	3005	0
5	Ball on Seat	2024-04-09T17:40:29	19.54	4663	0	0	12378	12366	0
6	Ball on Seat	2024-04-09T17:41:24	19.56	4648	0	0	13131	13109	0
7	Spot Acid	2024-04-09T17:45:54	47.43	5010	0	0	19830	19694	0
8	Flush Acid	2024-04-09T17:47:47	45.23	4529	0	0	23687	23507	0
9	Spot Acid	2024-04-09T17:52:04	66.17	4960	0	0	33526	33192	0
10	Flush Acid	2024-04-09T17:54:35	74.47	5637	0	0	40977	40585	0
11	Stop Pumping	2024-04-09T19:28:18	0.81	4543	0	0.12	388220	400153	273416
12	ISIP	2024-04-09T19:28:40	0	4051	0	0.12	388221	400153	273416
13	Shut In Well	2024-04-09T19:28:55	0	3936	0	0.12	388221	400153	273416
14	Suspending Job	2024-04-09T19:29:35	0	160.62	0	0.12	388221	400153	273416

TREATMENT PLOT : Treatment Interval 3



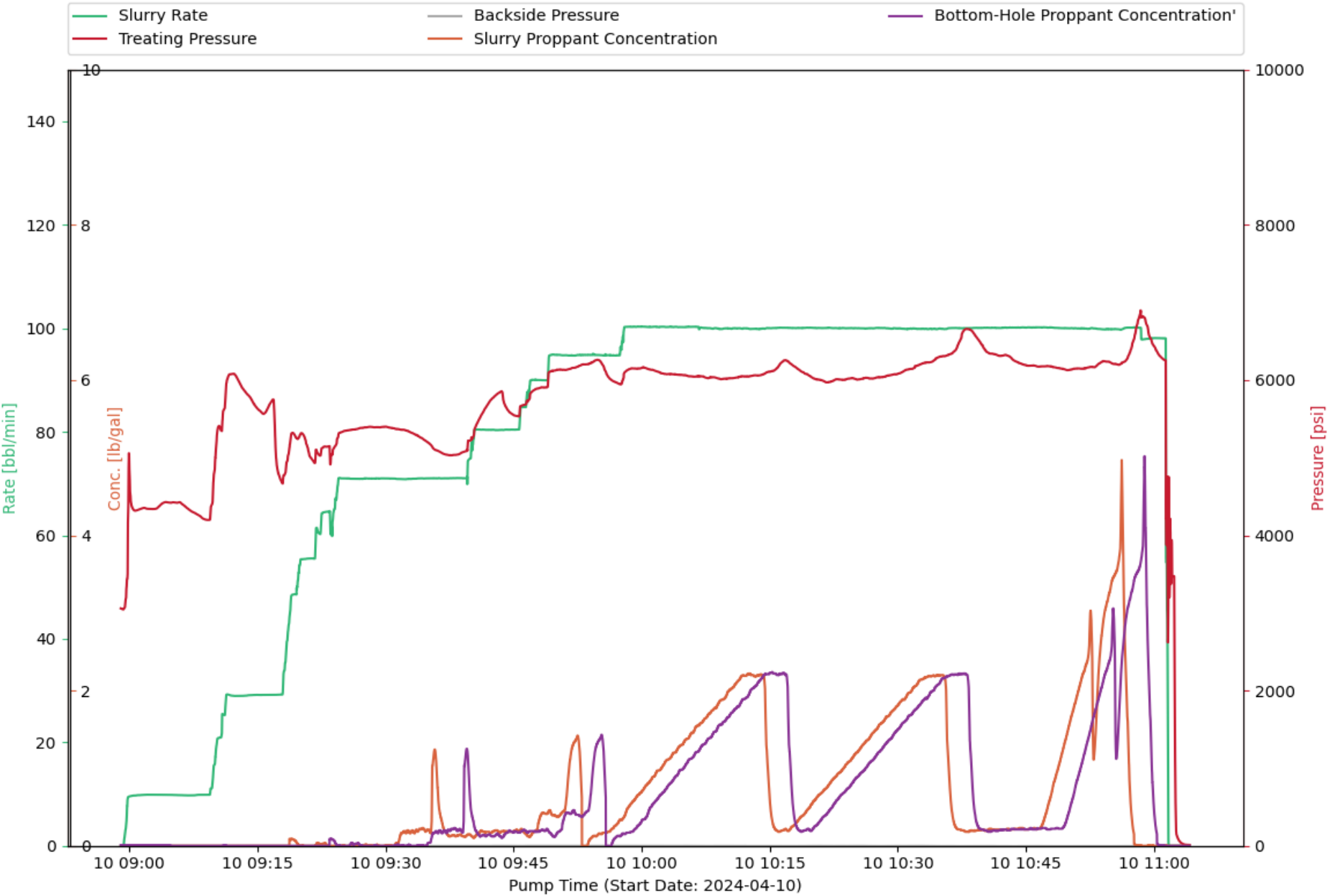
CHEMISTRY PLOT : Treatment Interval 3



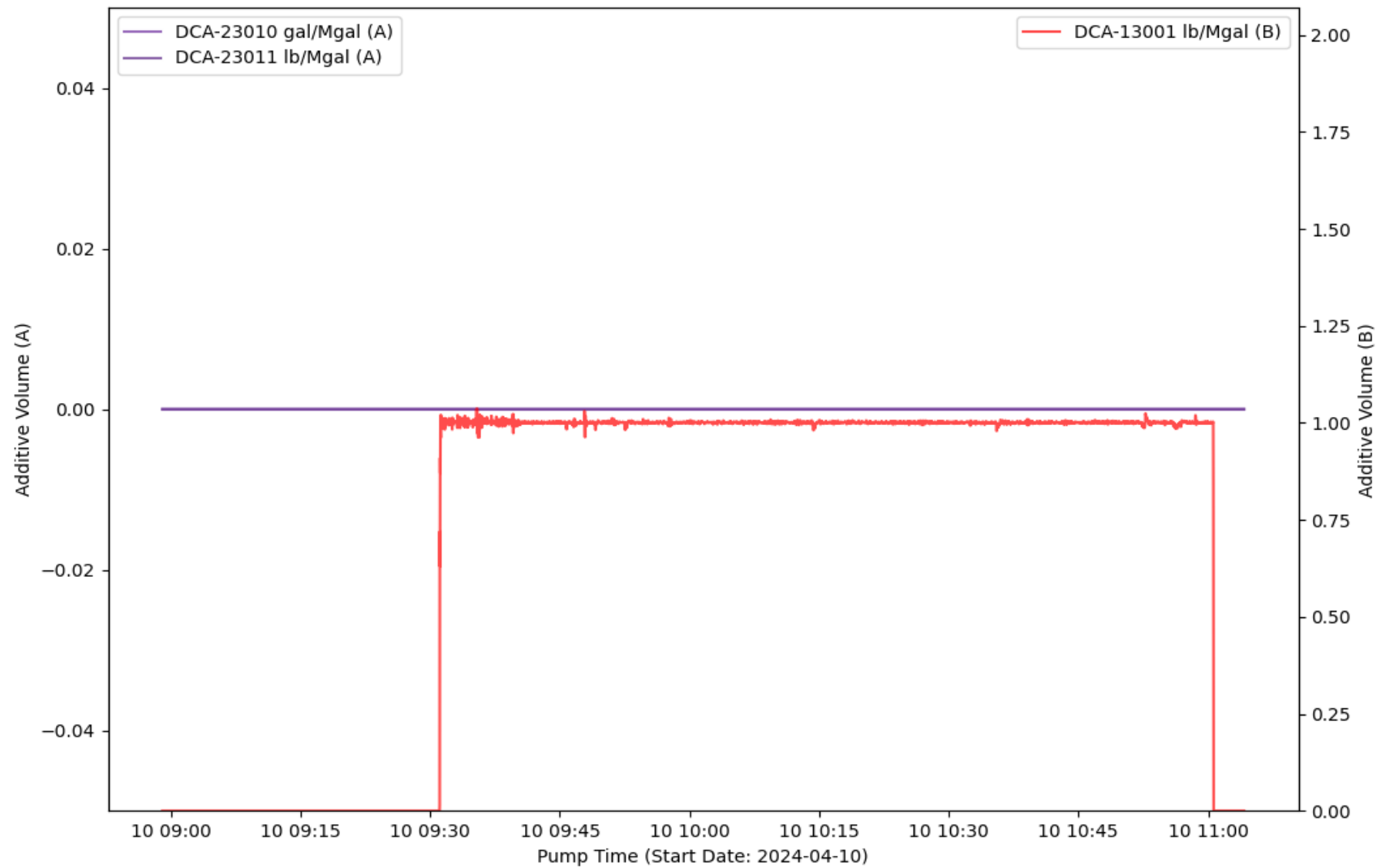
EVENT LOG : TREATMENT INTERVAL 3

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	2024-04-10T03:30:44	0	3028	0	0.12	0	0	0
2	Start Pumping	2024-04-10T03:31:25	0.32	2932	0	0.12	20.05	0.28	0
3	Break Formation	2024-04-10T03:33:00	9.62	4397	0	0.11	514.09	469.43	0
4	Pump Acid	2024-04-10T03:33:37	9.8	4299	0	0	756.59	715.77	0
5	Pump Acid	2024-04-10T03:38:35	9.85	4397	0	0	2780	2791	0
6	Spot Acid	2024-04-10T03:48:02	38.72	7286	0	0	12746	12641	0
7	Flush Acid	2024-04-10T03:48:57	38.92	5392	0	0	14269	14144	0
8	Spot Acid	2024-04-10T03:51:04	54.38	5804	0	0	18711	18492	0
9	Flush Acid	2024-04-10T03:52:46	66.88	5667	0	0	23015	22713	0
10	ISIP	2024-04-10T05:26:20	0.99	4306	0	0.01	391843	404341	294456
11	Stop Pumping	2024-04-10T05:26:20	0.99	4306	0	0.01	391843	404341	294456
12	Shut In Well	2024-04-10T05:27:03	0	3478	0	0.01	391852	404341	294456
13	Suspending Job	2024-04-10T05:28:55	0	17.22	0	0.01	391852	404341	294456

TREATMENT PLOT : Treatment Interval 4



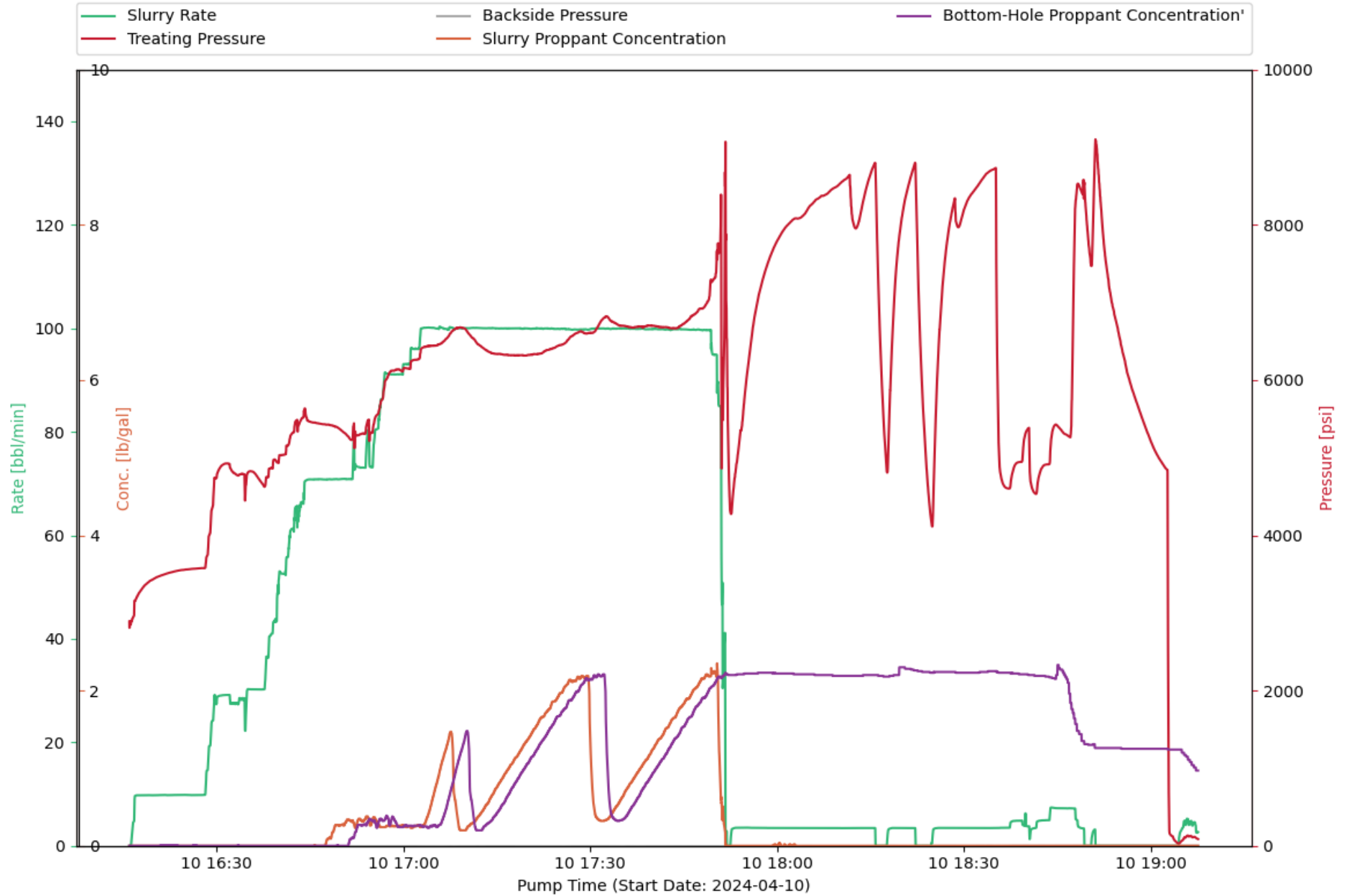
CHEMISTRY PLOT : Treatment Interval 4



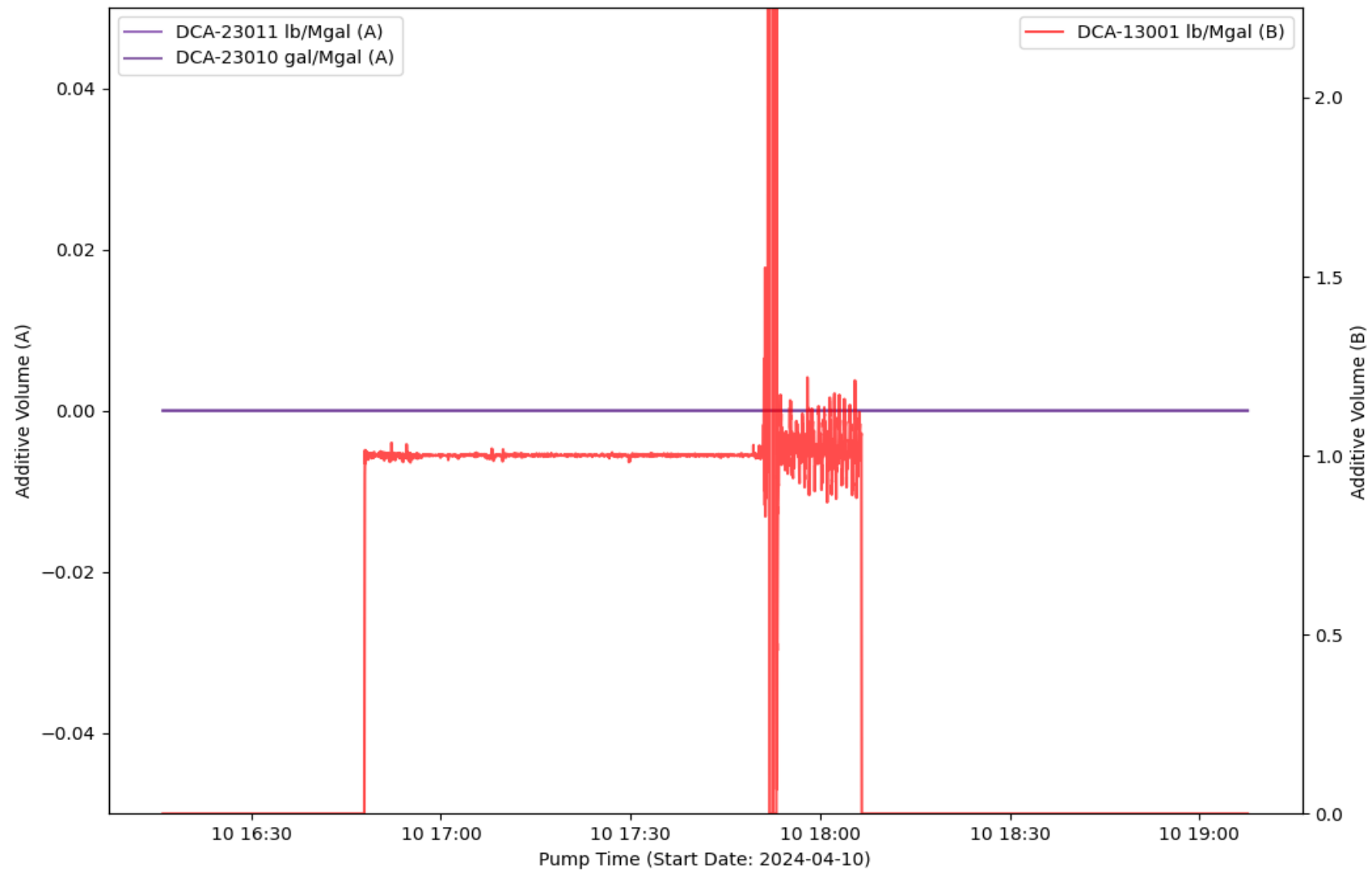
EVENT LOG : TREATMENT INTERVAL 4

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	Open Well	2024-04-10T08:59:01	0	3058	0	0.01	0	0	0
2	Start Pumping	2024-04-10T08:59:21	0.07	3049	0	0.01	0	0.05	0
3	Break Formation	2024-04-10T08:59:57	9.51	4983	0	0.01	88.87	126.04	0
4	Pump Acid	2024-04-10T09:00:55	9.77	4322	0	0.01	514.21	520.6	0
5	Pump Acid	2024-04-10T09:05:59	9.8	4424	0	0	2576	2615	0
6	Spot Acid	2024-04-10T09:12:19	28.97	6078	0	0	6779	6786	0
7	Start Avg Trt 4	2024-04-10T09:12:33	28.98	6044	0	0	7050	7052	0
8	Flush Acid	2024-04-10T09:15:26	29.14	5591	0	0	10583	10576	0
9	Spot Acid	2024-04-10T09:16:55	29.15	5741	0	0	12415	12403	0
10	Flush Acid	2024-04-10T09:17:57	29.27	4667	0	0	13675	13659	0
11	Stop Pumping	2024-04-10T11:01:40	2.31	3111	0	0	395455	409156	315705
12	ISIP	2024-04-10T11:01:41	1.21	4636	0	0	395456	409157	315705
13	Shut In Well	2024-04-10T11:02:12	0	3472	0	0	395459	409157	315705

TREATMENT PLOT : Treatment Interval 5



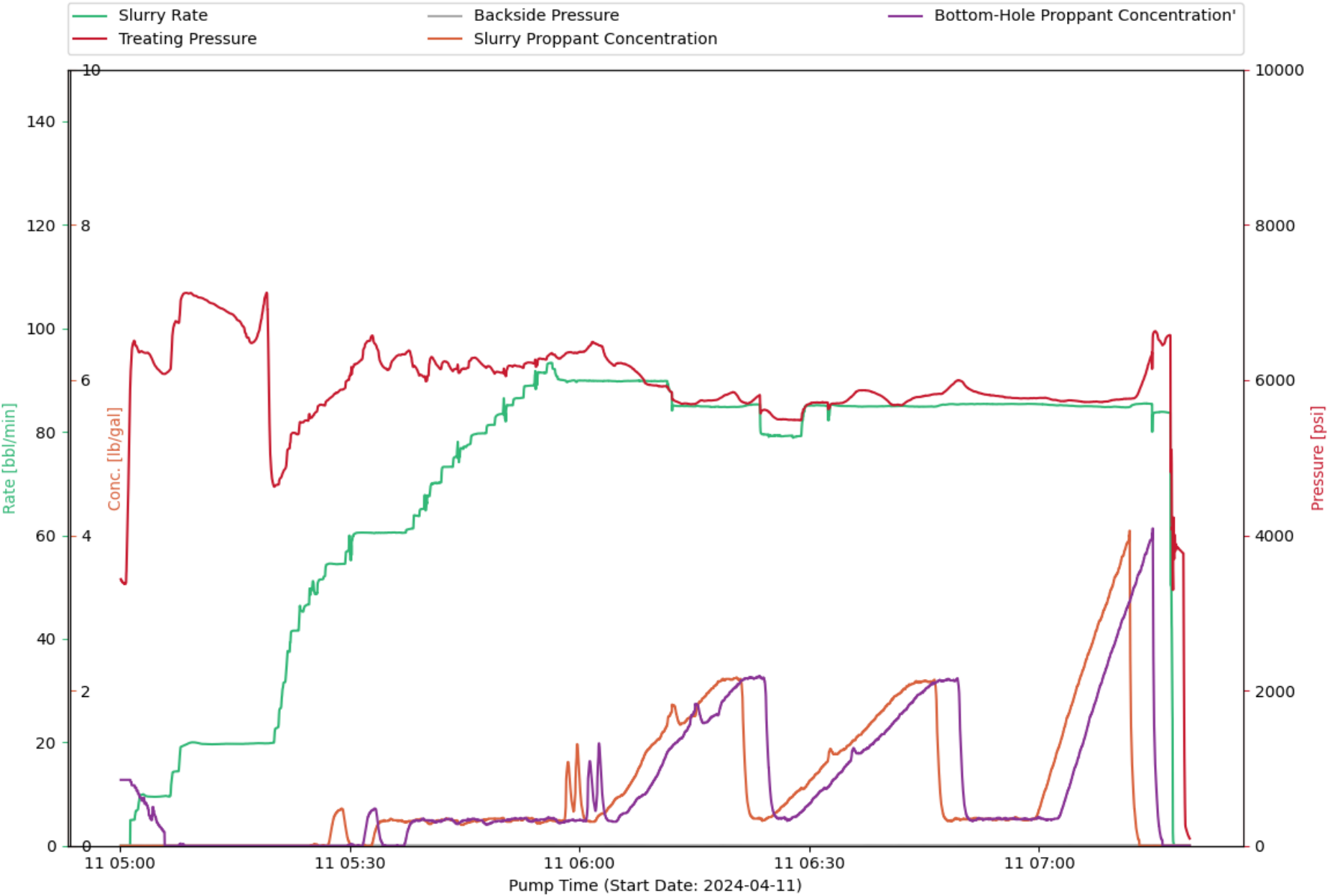
CHEMISTRY PLOT : Treatment Interval 5



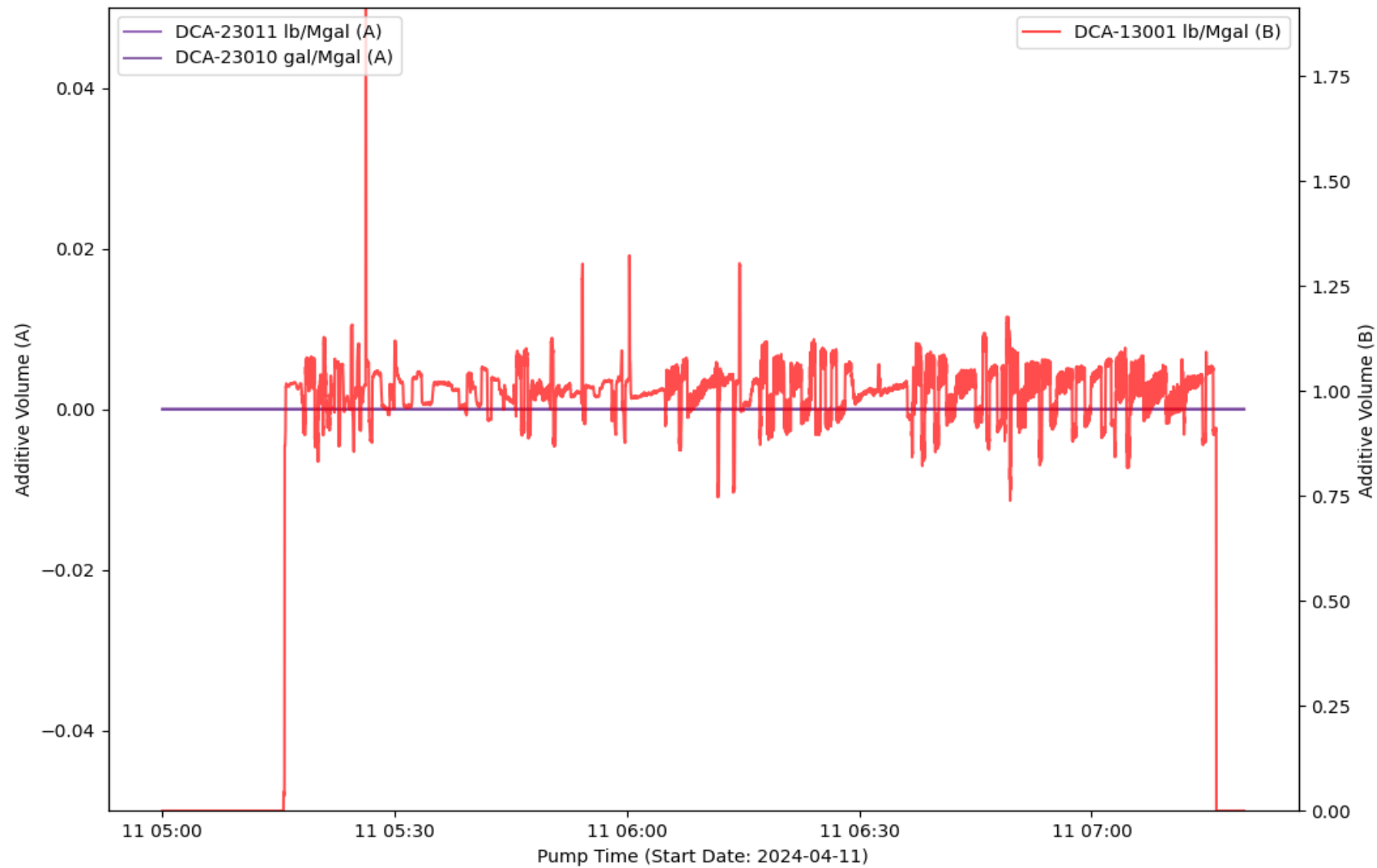
EVENT LOG : TREATMENT INTERVAL 5

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	2024-04-10T16:16:01	0	2809	0	0	0	0	0
2	Start Pumping	2024-04-10T16:16:15	0.01	2885	0	0	0	0.01	0
3	Break Formation	2024-04-10T16:16:47	6.33	3106	0	0	0.01	73.4	0
4	Pump Acid	2024-04-10T16:18:04	9.76	3317	0	0	548.7	592.5	0
5	Pump Acid	2024-04-10T16:23:18	9.83	3535	0	0.01	2707	2745	0
6	Spot Acid	2024-04-10T16:31:53	29.15	4925	0	0	8642	8665	0
7	Flush Acid	2024-04-10T16:34:27	28.2	4787	0	0	11686	11683	0
8	Spot Acid	2024-04-10T16:35:31	30.24	4825	0	0	12989	12969	0
9	Flush Acid	2024-04-10T16:37:40	30.25	4625	0	0	15731	15698	0
10	Stop Pumping	2024-04-10T18:51:08	1.39	9082	0	1.26	293486	304060	241423
11	ISIP	2024-04-10T18:59:46	0	5272	0	1.25	293507	304060	241423
12	Shut In Well	2024-04-10T19:02:33	0	4853	0	1.25	293507	304060	241423

TREATMENT PLOT : Treatment Interval 6



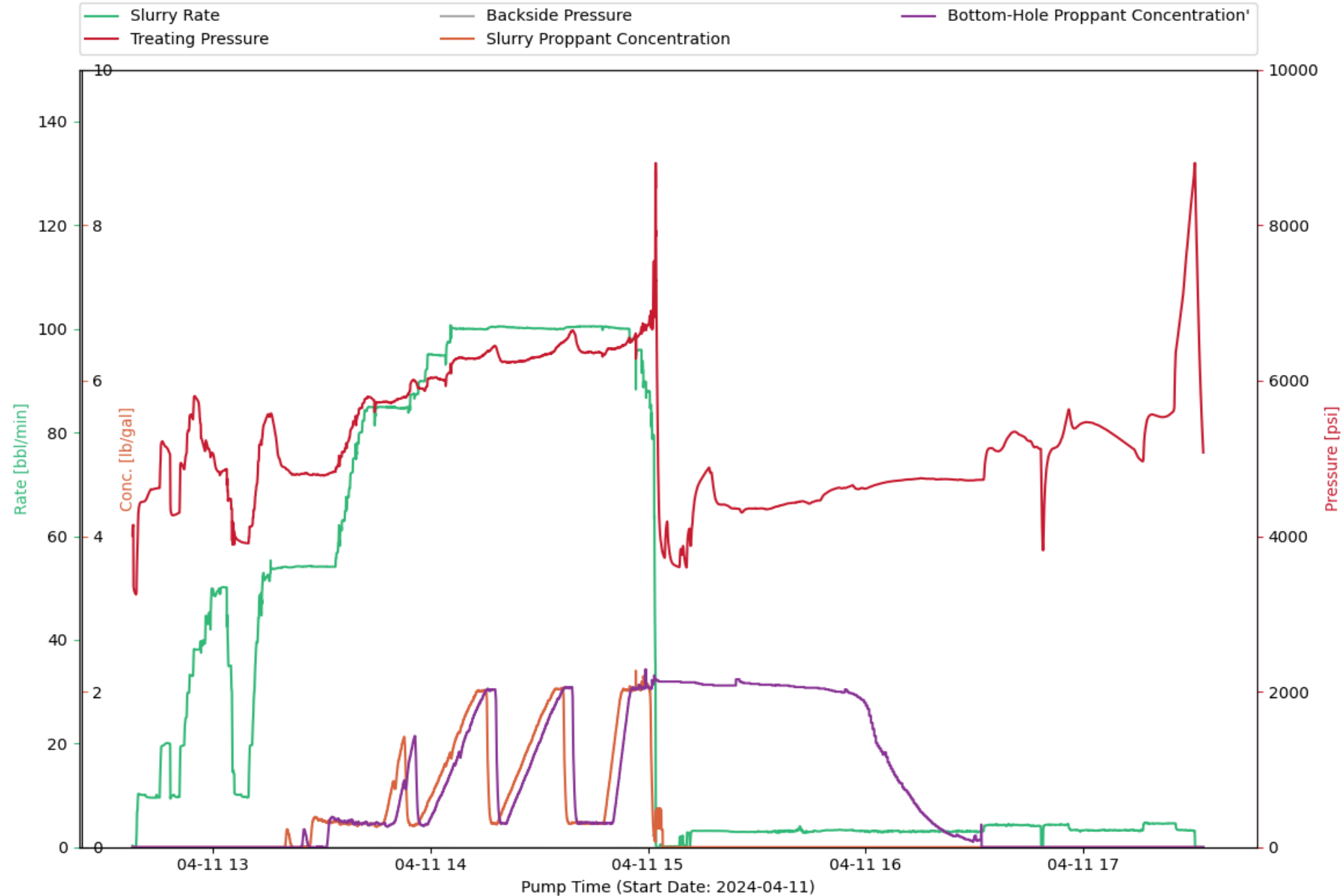
CHEMISTRY PLOT : Treatment Interval 6



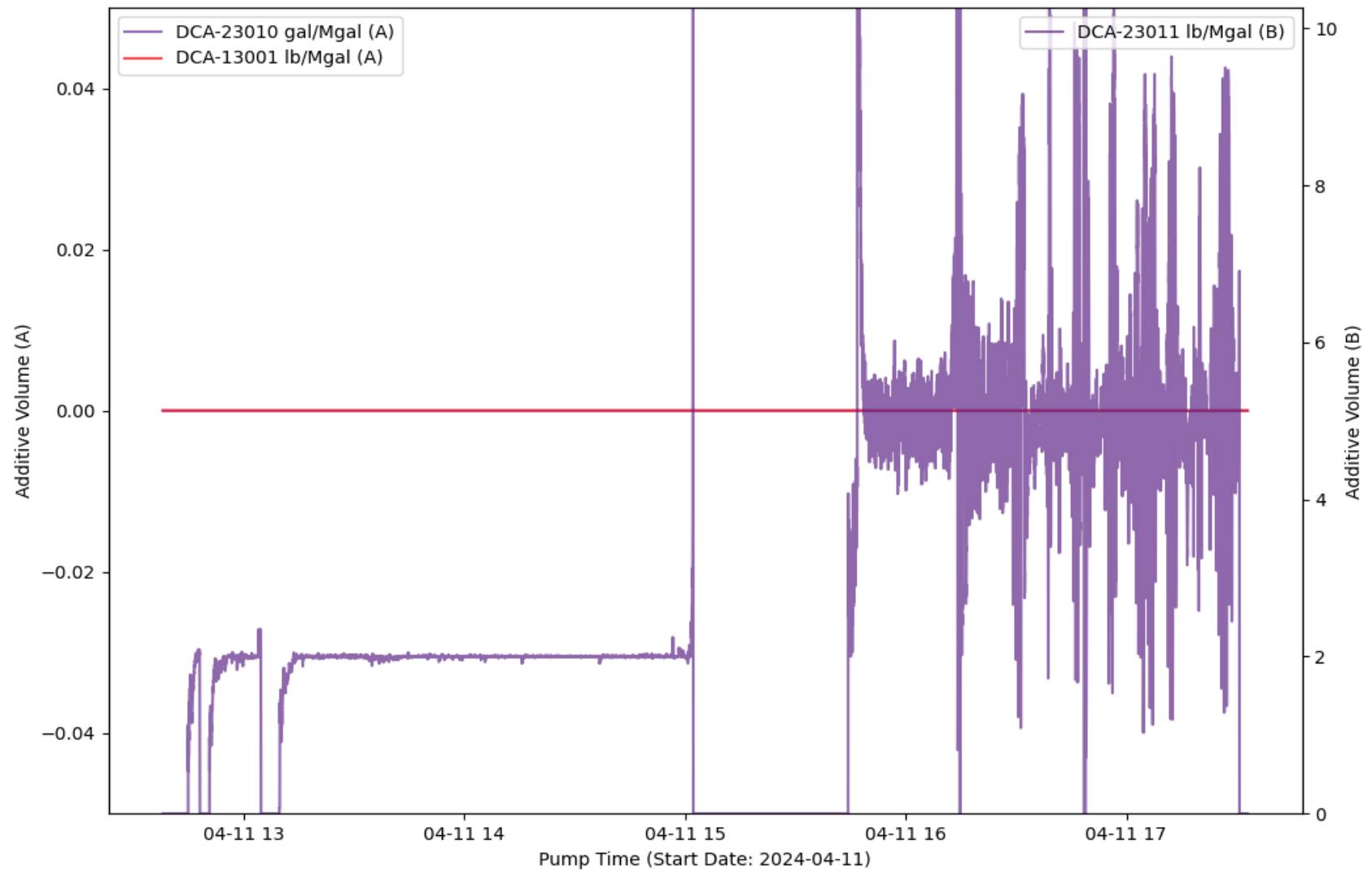
EVENT LOG : TREATMENT INTERVAL 6

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	Open Well	2024-04-11T05:00:06	0	3435	0	0.85	0	0	0
2	Start Pumping	2024-04-11T05:00:42	0	3373	0	0.85	0	0	0
3	Break Formation	2024-04-11T05:01:30	5.01	6335	0	0.78	45.01	38.06	0
4	Pump Acid	2024-04-11T05:02:44	9.83	6372	0	0.62	422.89	390.97	0
5	Pump Acid	2024-04-11T05:05:01	9.5	6135	0	0.27	1374	1310	0
6	Spot Acid	2024-04-11T05:16:07	19.7	6688	0	0	9610	9543	0
7	Flush Acid	2024-04-11T05:17:08	19.77	6478	0	0	10437	10377	0
8	Spot Acid	2024-04-11T05:19:09	19.78	7126	0	0	12107	12066	0
9	Flush Acid	2024-04-11T05:20:08	20.54	4625	0	0	12908	12878	0
10	Stop Pumping	2024-04-11T07:17:33	0.57	4225	0	0	388651	404177	338193
11	ISIP	2024-04-11T07:17:42	0	3990	0	0	388651	404177	338193
12	Shut In Well	2024-04-11T07:18:25	0	3809	0	0	388651	404177	338193

TREATMENT PLOT : Treatment Interval 7



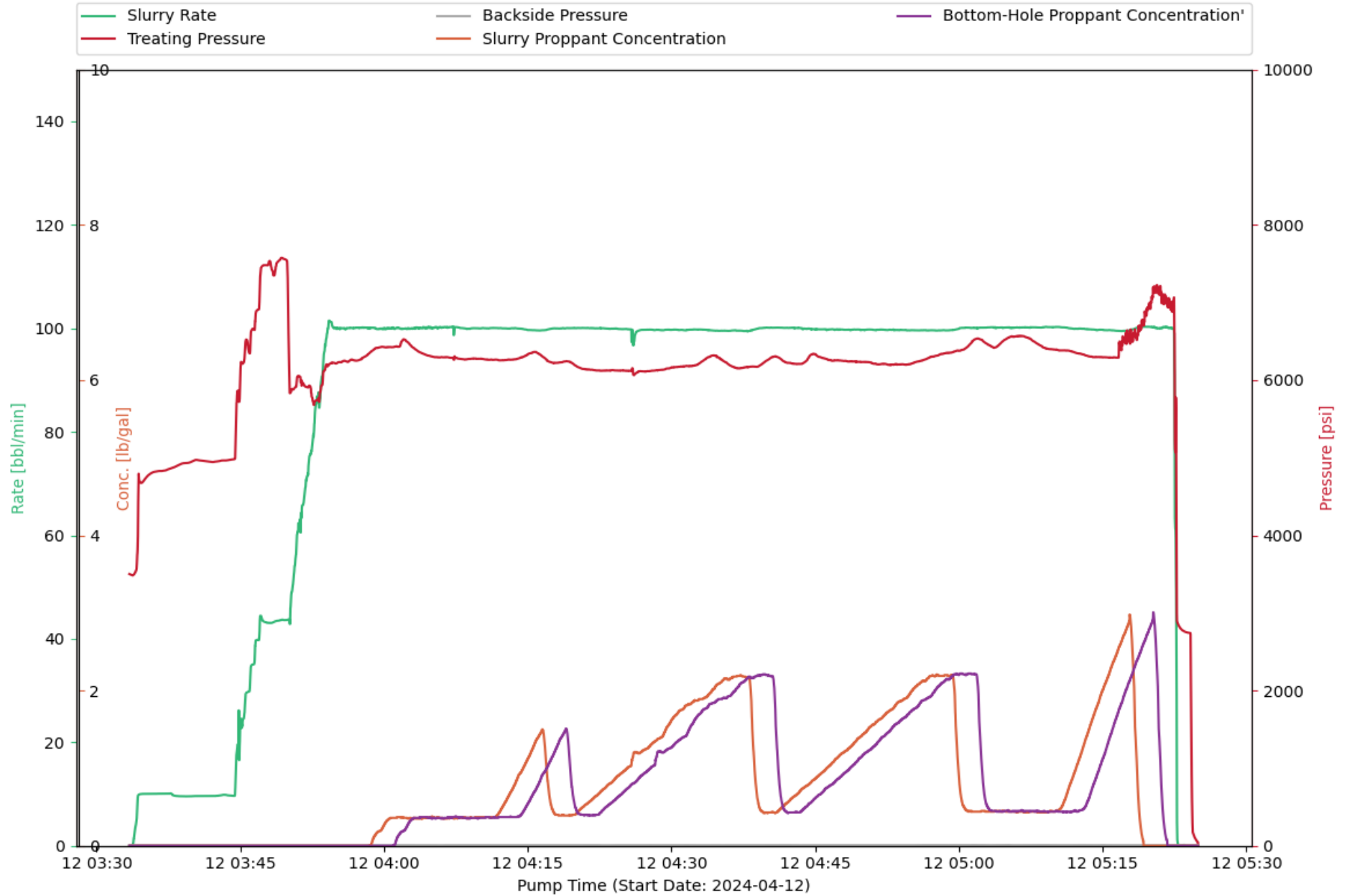
CHEMISTRY PLOT : Treatment Interval 7



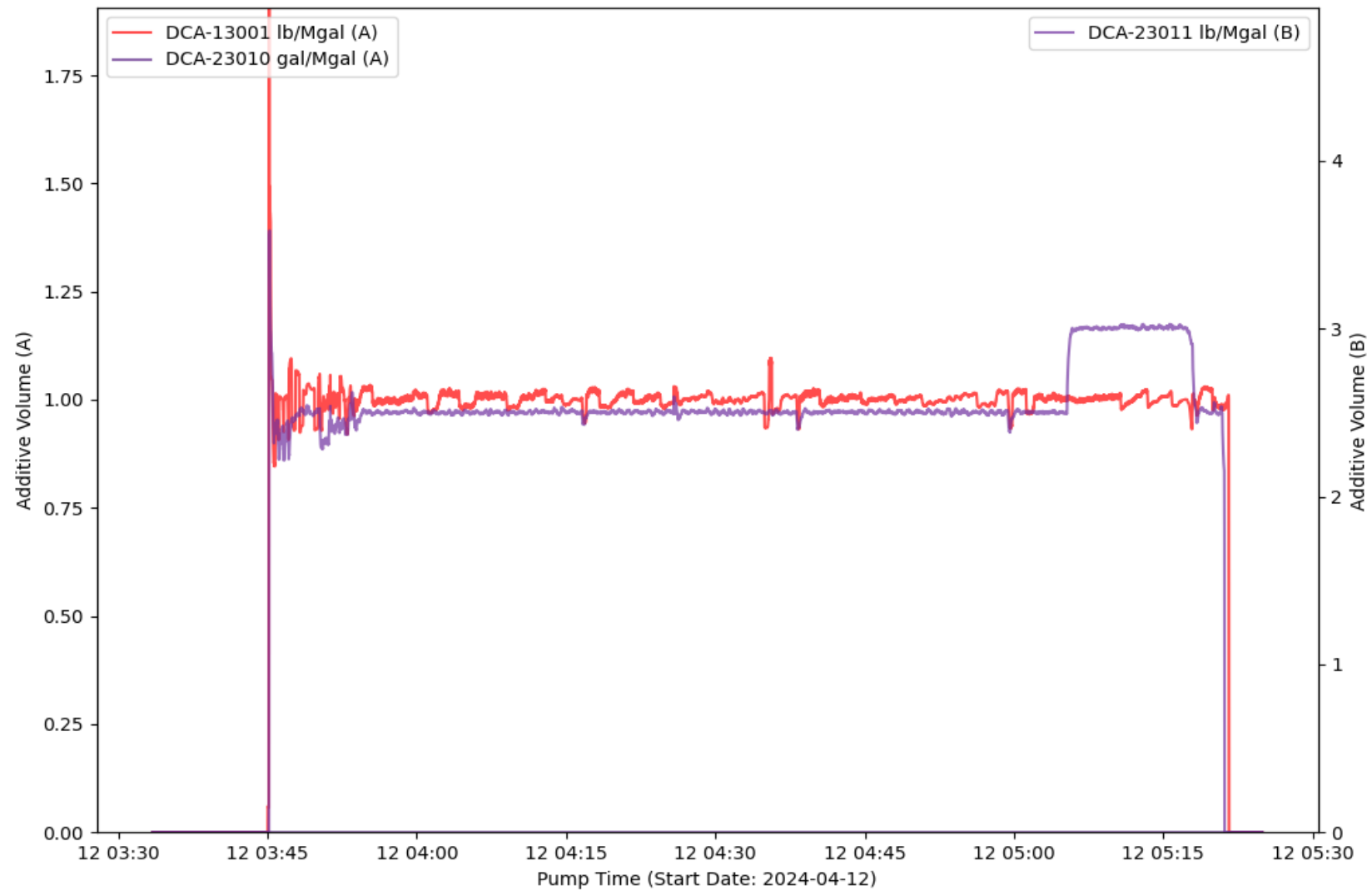
EVENT LOG : TREATMENT INTERVAL 7

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	2024-04-11T12:38:31	0	3287	0	0	0	0	0
2	Start Pumping	2024-04-11T12:38:58	0.01	3250	0	0	0	0.48	0
3	Pump Acid	2024-04-11T12:41:35	10.03	4462	0	0	986.15	1012	0
4	Spot Acid	2024-04-11T12:55:05	38.21	5802	0	0	10448	10634	0
5	Flush Acid	2024-04-11T12:57:53	39.31	5110	0	0	14990	15167	0
6	Spot Acid	2024-04-11T12:59:51	49.9	5072	0	0	18689	18873	0
7	Flush Acid	2024-04-11T13:02:02	49.03	4786	0	0	23185	23384	0
8	Pump Acid	2024-04-11T13:07:35	10.07	3936	0	0	30444	30671	0
9	Spot Acid	2024-04-11T13:16:13	53.68	5576	0	0	42104	42409	0
10	Flush Acid	2024-04-11T13:18:14	53.91	5017	0	0	46640	46960	0
11	Stop Pumping	2024-04-11T15:04:00	0	3797	0.22	2.13	413137	428572	334247

TREATMENT PLOT : Treatment Interval 8



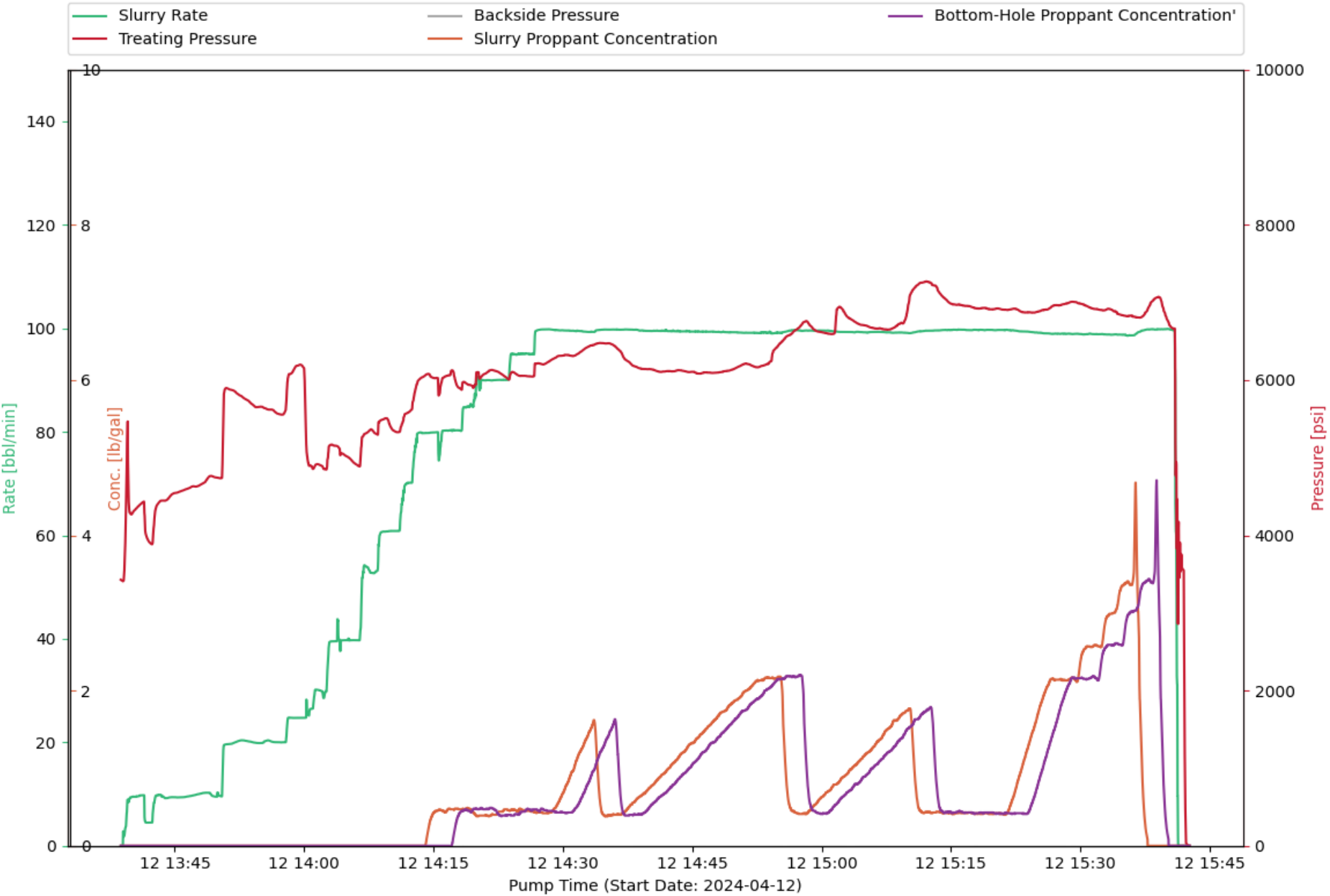
CHEMISTRY PLOT : Treatment Interval 8



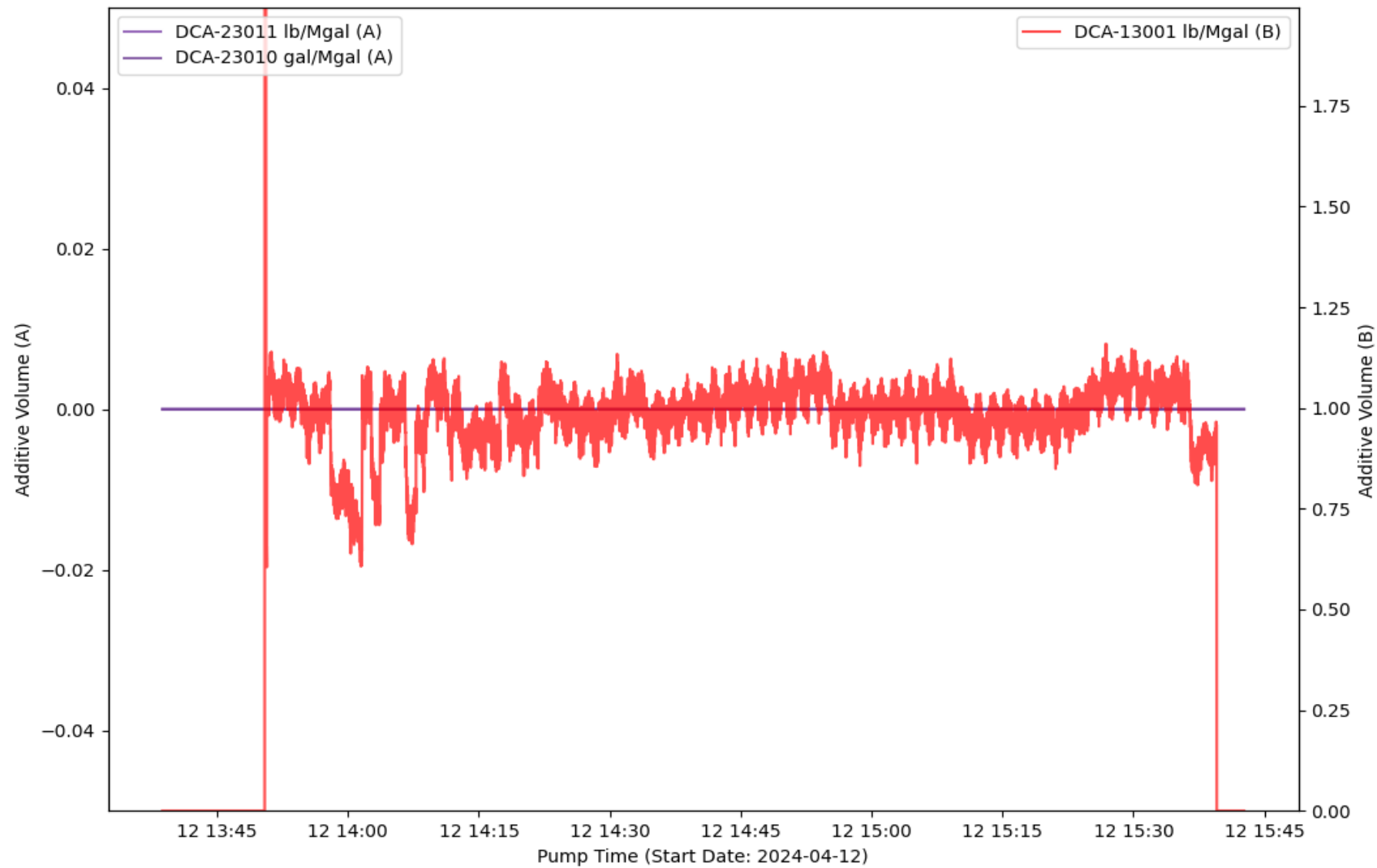
EVENT LOG : TREATMENT INTERVAL 8

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	2024-04-12T03:33:26	0	3502	0	0	0	0	0
2	Start Pumping	2024-04-12T03:33:45	0.16	3484	0	0	0	0.83	0
3	Pump Acid	2024-04-12T03:37:47	10.12	4863	0	0	1556	1554	0
4	Pump Acid	2024-04-12T03:43:30	9.85	4965	0	0	3839	3871	0
5	Break Formation	2024-04-12T03:45:45	29.7	6497	0	0	5443	5505	0
6	Spot Acid	2024-04-12T03:49:46	43.64	7549	0	0	12303	12412	0
7	Flush Acid	2024-04-12T03:50:16	46.59	5843	0	0	13222	13342	0
8	Spot Acid	2024-04-12T03:51:09	61.82	6052	0	0	15272	15397	0
9	Flush Acid	2024-04-12T03:52:18	75.72	5921	0	0	18540	18688	0
10	Stop Pumping	2024-04-12T05:22:50	0.54	2865	0	0	381506	396740	333863
11	ISIP	2024-04-12T05:23:03	0.03	2812	0	0	381507	396740	333863
12	Shut In Well	2024-04-12T05:23:36	0.08	2757	0	0	381507	396742	333863
13	Suspending Job	2024-04-12T05:24:56	0	47.82	0	0	381507	396742	333863

TREATMENT PLOT : Treatment Interval 9



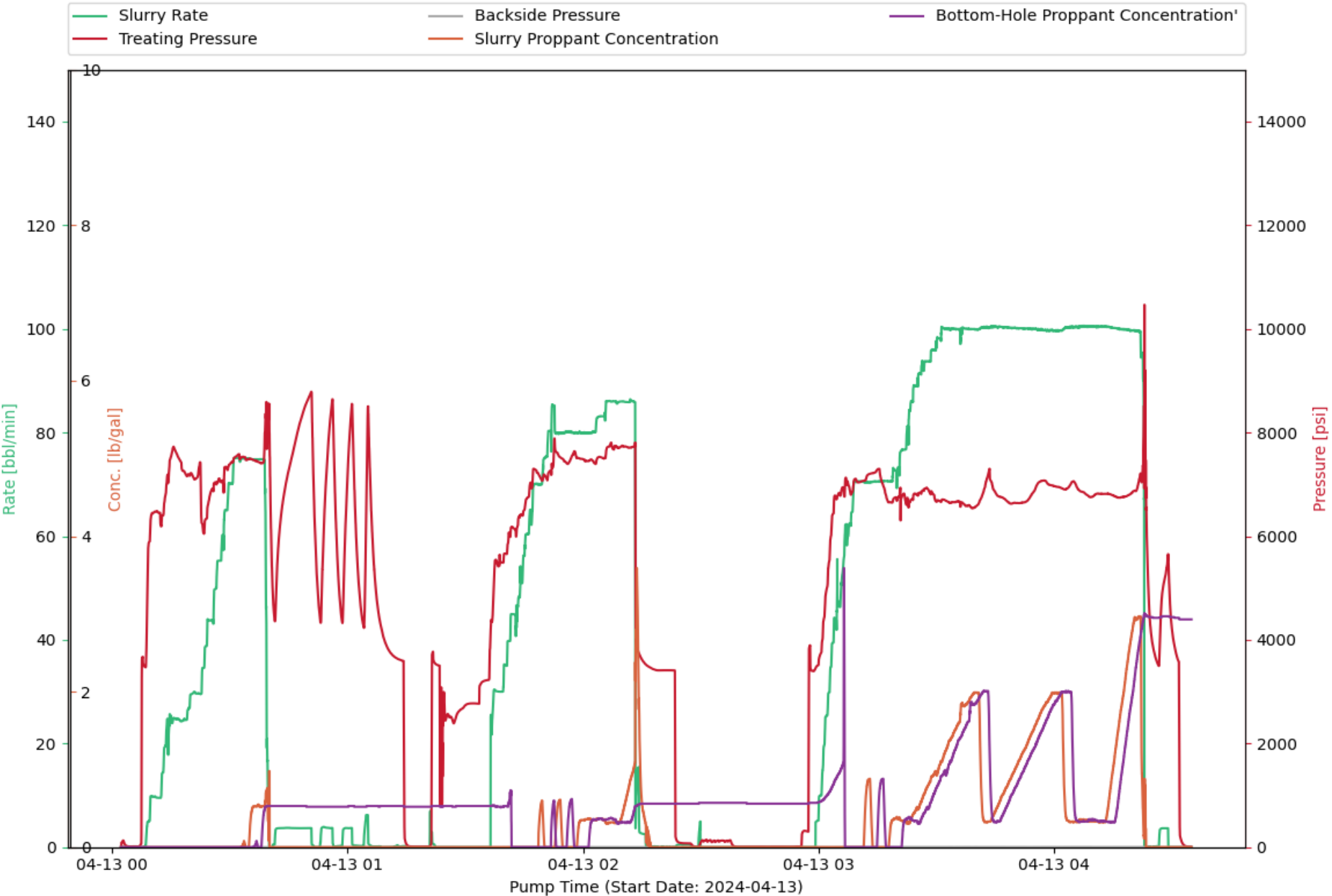
CHEMISTRY PLOT : Treatment Interval 9



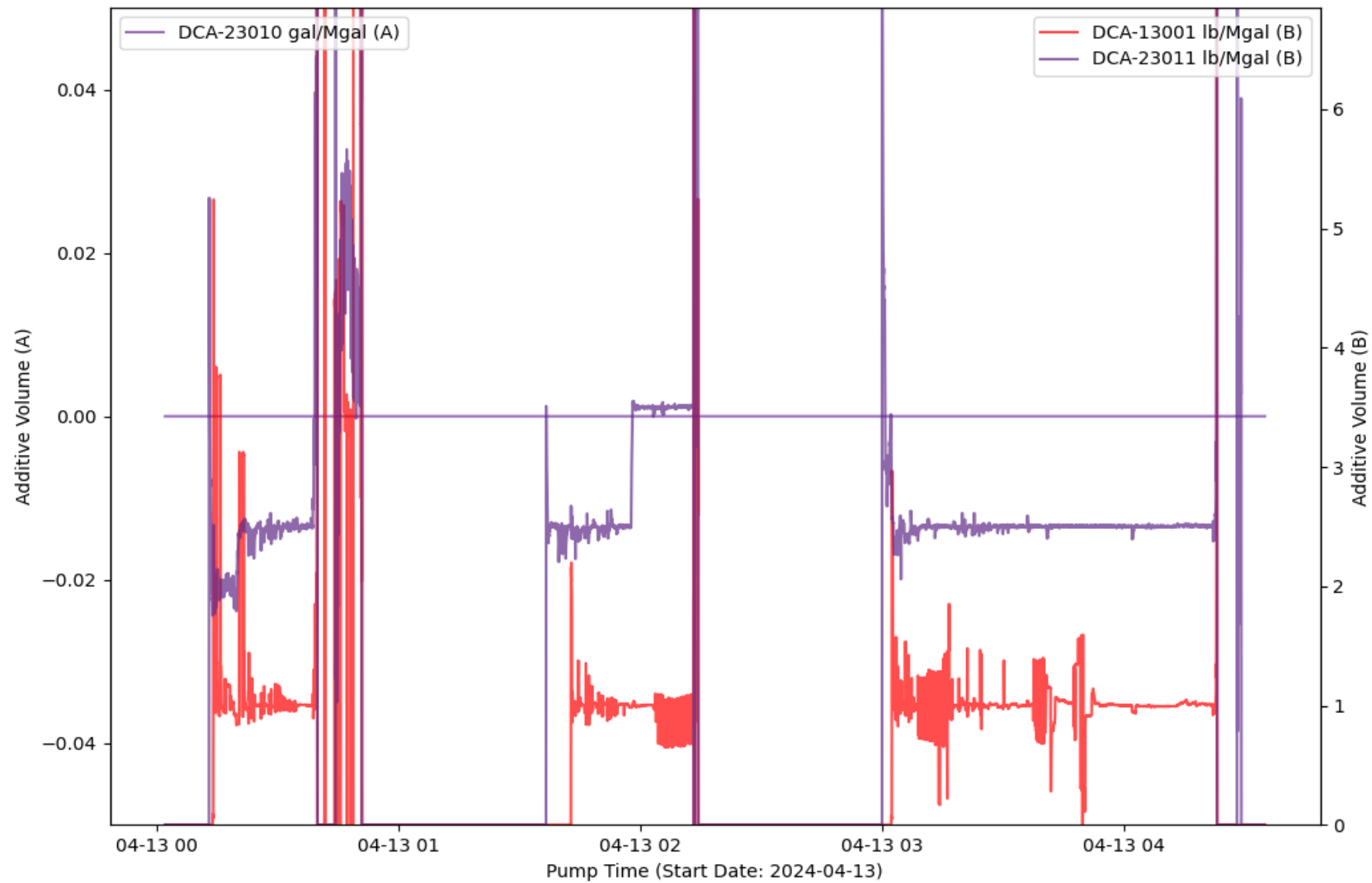
EVENT LOG : TREATMENT INTERVAL 9

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	2024-04-12T13:38:45	0	3428	0	0	0	0	0
2	Start Pumping	2024-04-12T13:38:58	0	3410	0	0	0	0.05	0
3	Break Formation	2024-04-12T13:39:32	8.92	5425	0	0	30.64	94.71	0
4	Pump Acid	2024-04-12T13:43:13	9.86	4430	0	0	1229	1351	0
5	Pump Acid	2024-04-12T13:46:58	9.67	4626	0	0	2800	2835	0
6	Spot Acid	2024-04-12T13:59:55	24.73	6164	0	0	12374	12583	0
7	Flush Acid	2024-04-12T14:00:34	25.16	4896	0	0	13042	13259	0
8	Stop Pumping	2024-04-12T15:41:19	1.84	2859	0	0	382349	399275	364150
9	ISIP	2024-04-12T15:41:22	0	4105	0	0	382355	399275	364150
10	Shut In Well	2024-04-12T15:41:52	0	3564	0	0	382356	399275	364150
11	Suspending Job	2024-04-12T15:42:39	0	-14.1	0	0	382356	399275	364150

TREATMENT PLOT : Treatment Interval 10



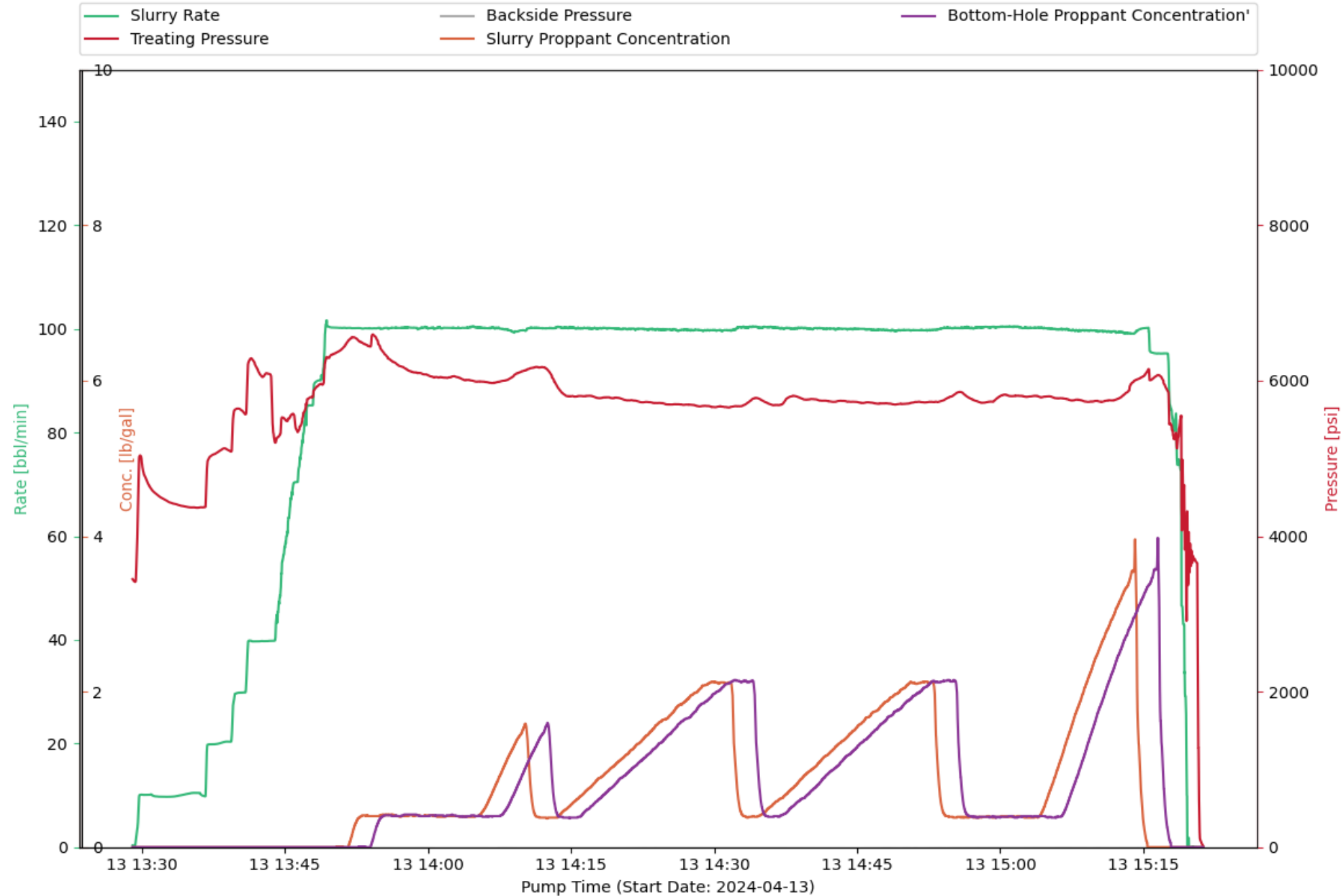
CHEMISTRY PLOT : Treatment Interval 10



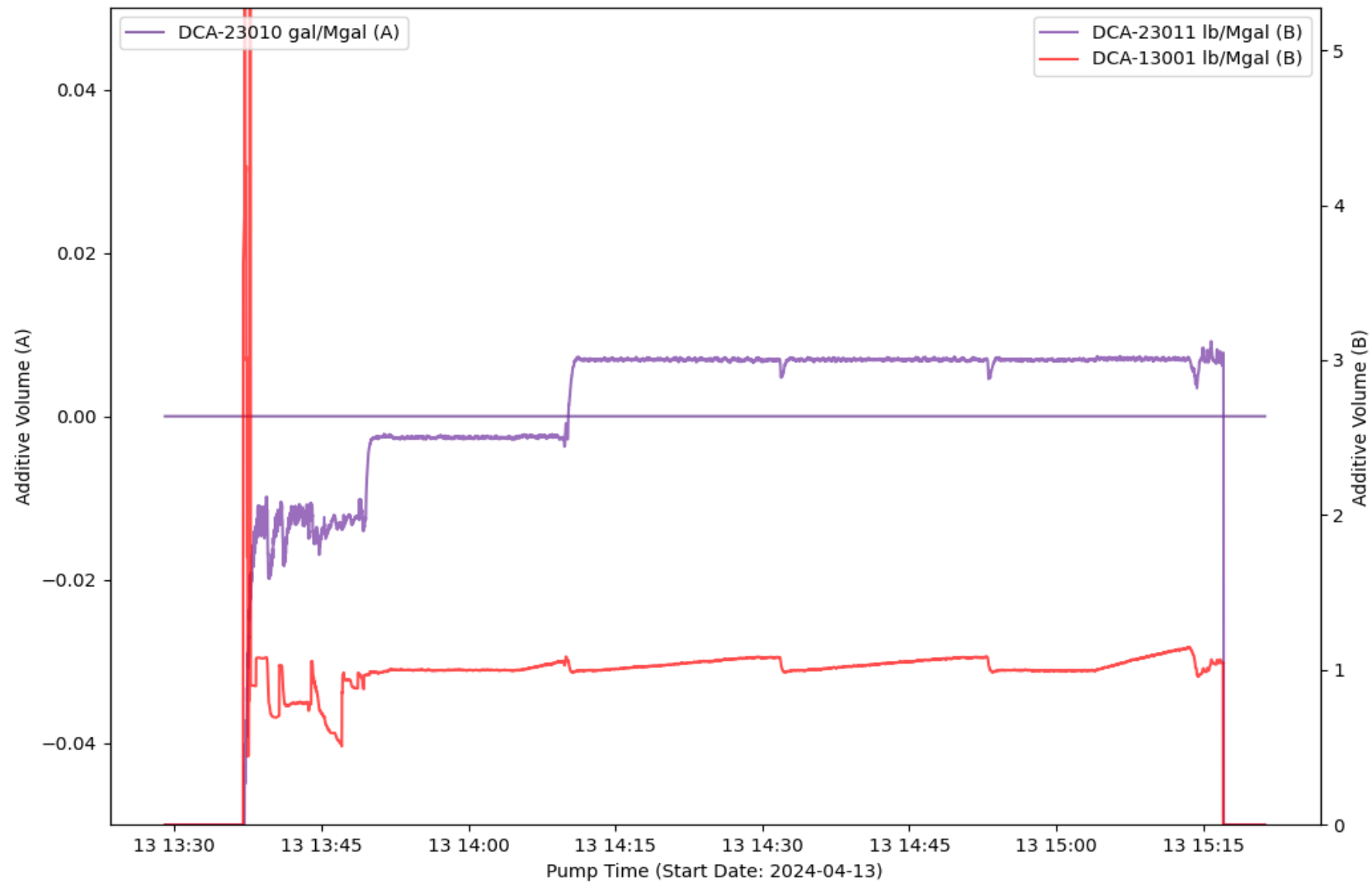
EVENT LOG : TREATMENT INTERVAL 10

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	2024-04-13T00:02:16	0	0	0	0	0	0	0
2	Start Avg Trt 10	2024-04-13T00:02:22	0	79.59	0	0	0	0	0
3	Open Well	2024-04-13T00:08:00	0	3510	0	0	0	0	0
4	Start Pumping	2024-04-13T00:08:29	0	3469	0	0	0	0.76	0
5	Pump Acid	2024-04-13T00:11:52	9.51	6454	0	0	1124	1111	0
6	Break Formation	2024-04-13T00:12:10	9.5	6448	0	0	1281	1232	0
7	Spot Acid	2024-04-13T00:22:19	29.59	7422	0	0	11322	11637	0
8	Flush Acid	2024-04-13T00:22:50	32.81	6253	0	0	11956	12290	0
9	Stop Pumping	2024-04-13T02:13:36	10.69	3812	3.09	0.53	164138	168044	33275
10	Stop Pumping	2024-04-13T04:23:16	1.31	8761	0.75	3	457859	476479	309578
11	Shut In Well	2024-04-13T04:31:37	0	3616	0	2.95	458097	476833	309578
12	Suspending Job	2024-04-13T04:35:04	0	10.08	0	2.93	458097	476833	309578

TREATMENT PLOT : Treatment Interval 11



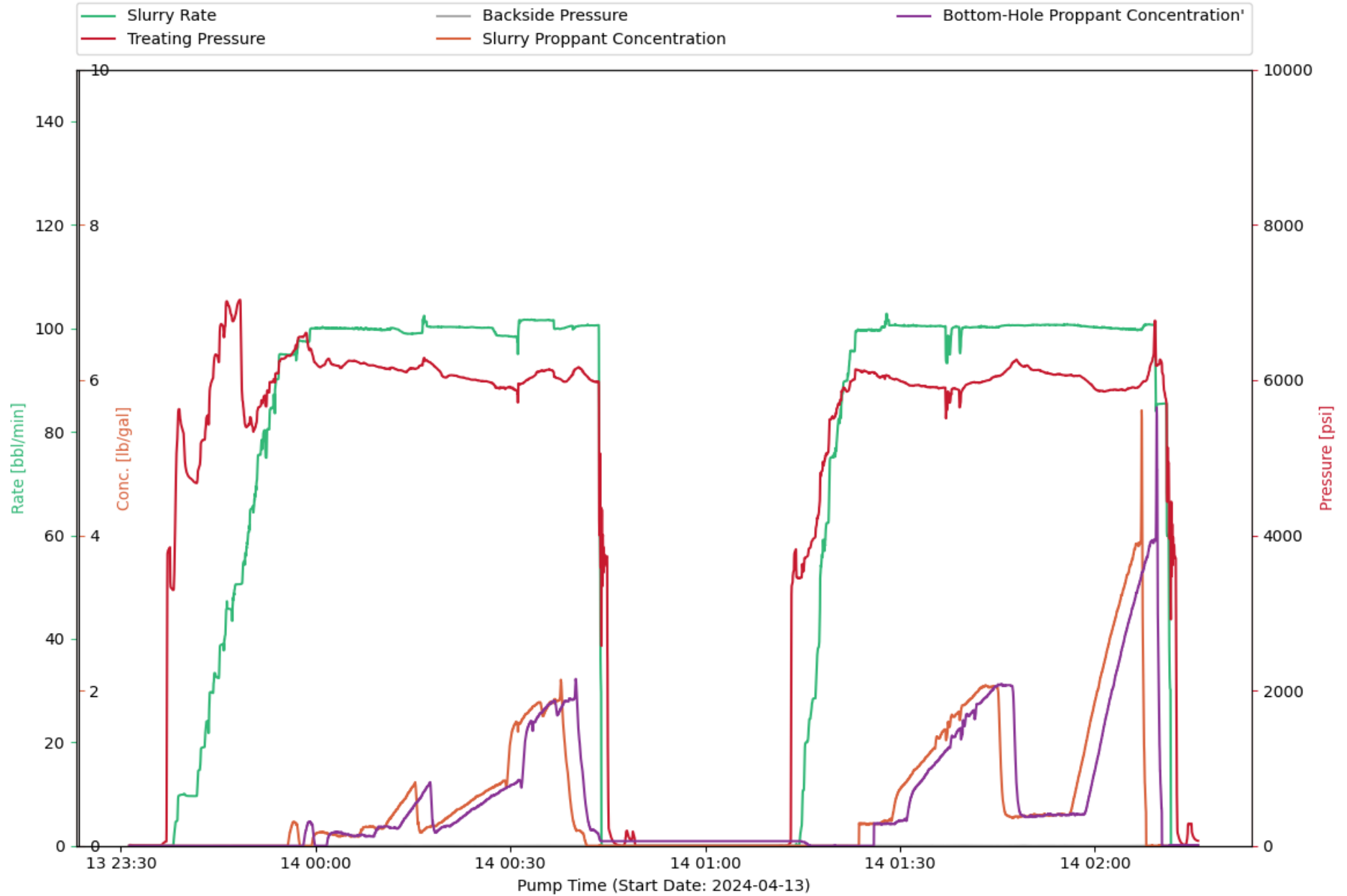
CHEMISTRY PLOT : Treatment Interval 11



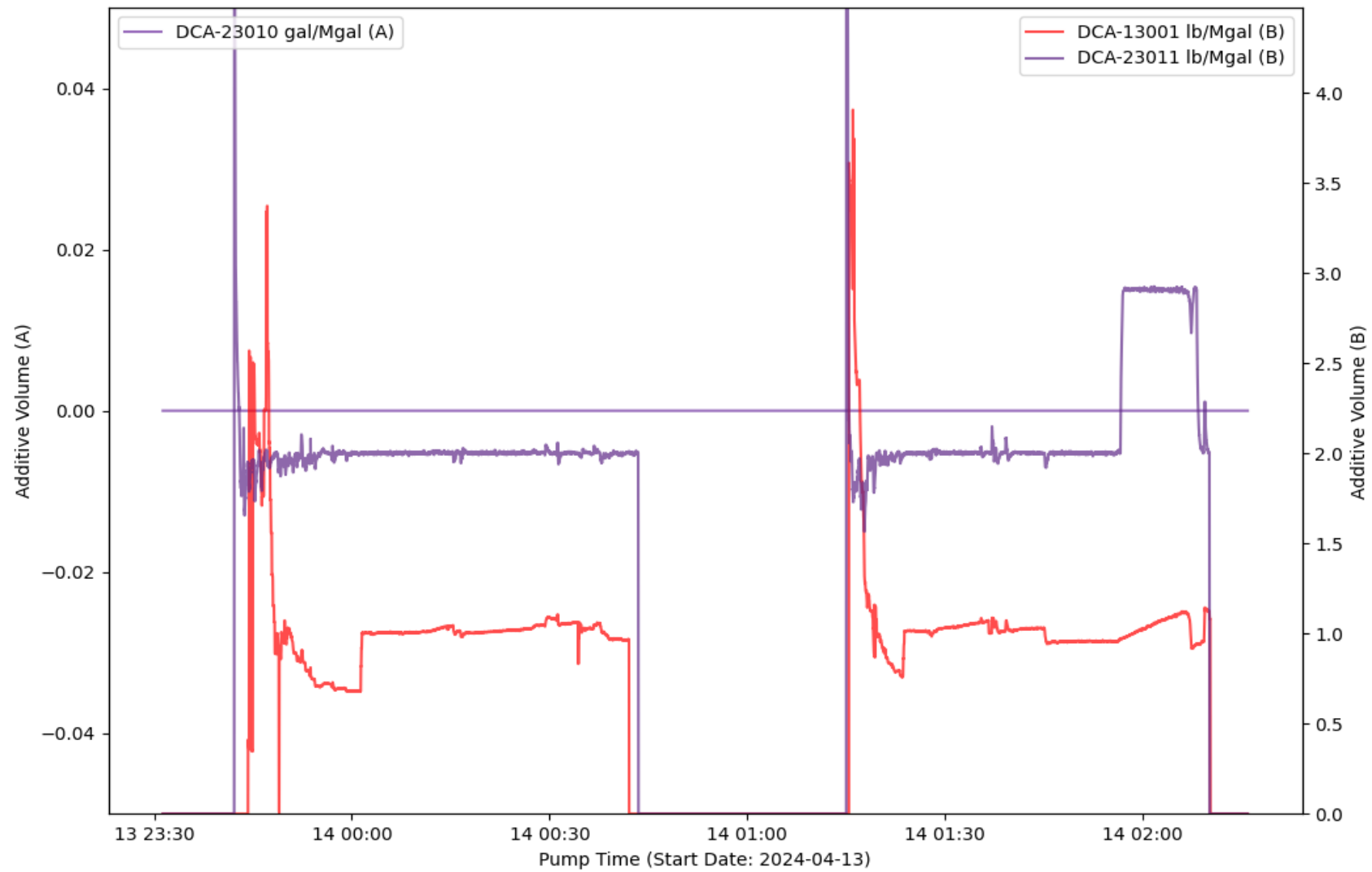
EVENT LOG : TREATMENT INTERVAL 11

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	2024-04-13T13:29:03	0.33	3448	0	0	0	0	0
2	Start Pumping	2024-04-13T13:29:20	0.39	3412	0	0	0	3.77	0
3	Break Formation	2024-04-13T13:29:45	9.91	5020	0	0	18.04	82.19	0
4	Pump Acid	2024-04-13T13:30:47	10.09	4650	0	0	443.74	523.63	0
5	Pump Acid	2024-04-13T13:35:25	10.47	4372	0	0	2419	2452	0
6	Spot Acid	2024-04-13T13:43:32	39.8	6074	0	0	11280	11412	0
7	Flush Acid	2024-04-13T13:43:56	39.86	5220	0	0	11953	12085	0
8	Spot Acid	2024-04-13T13:45:50	69.24	5572	0	0	16298	16497	0
9	Flush Acid	2024-04-13T13:46:14	70.45	5371	0	0	17477	17688	0
10	Stop Pumping	2024-04-13T15:19:36	5.25	4320	0	0	387738	404736	357303
11	ISIP	2024-04-13T15:19:45	1.81	4051	0	0	387739	404739	357303
12	Shut In Well	2024-04-13T15:20:18	0.02	3697	0	0	387749	404740	357303
13	Suspending Job	2024-04-13T15:21:16	0	17.02	0	0	387797	404740	357303

TREATMENT PLOT : Treatment Interval 12



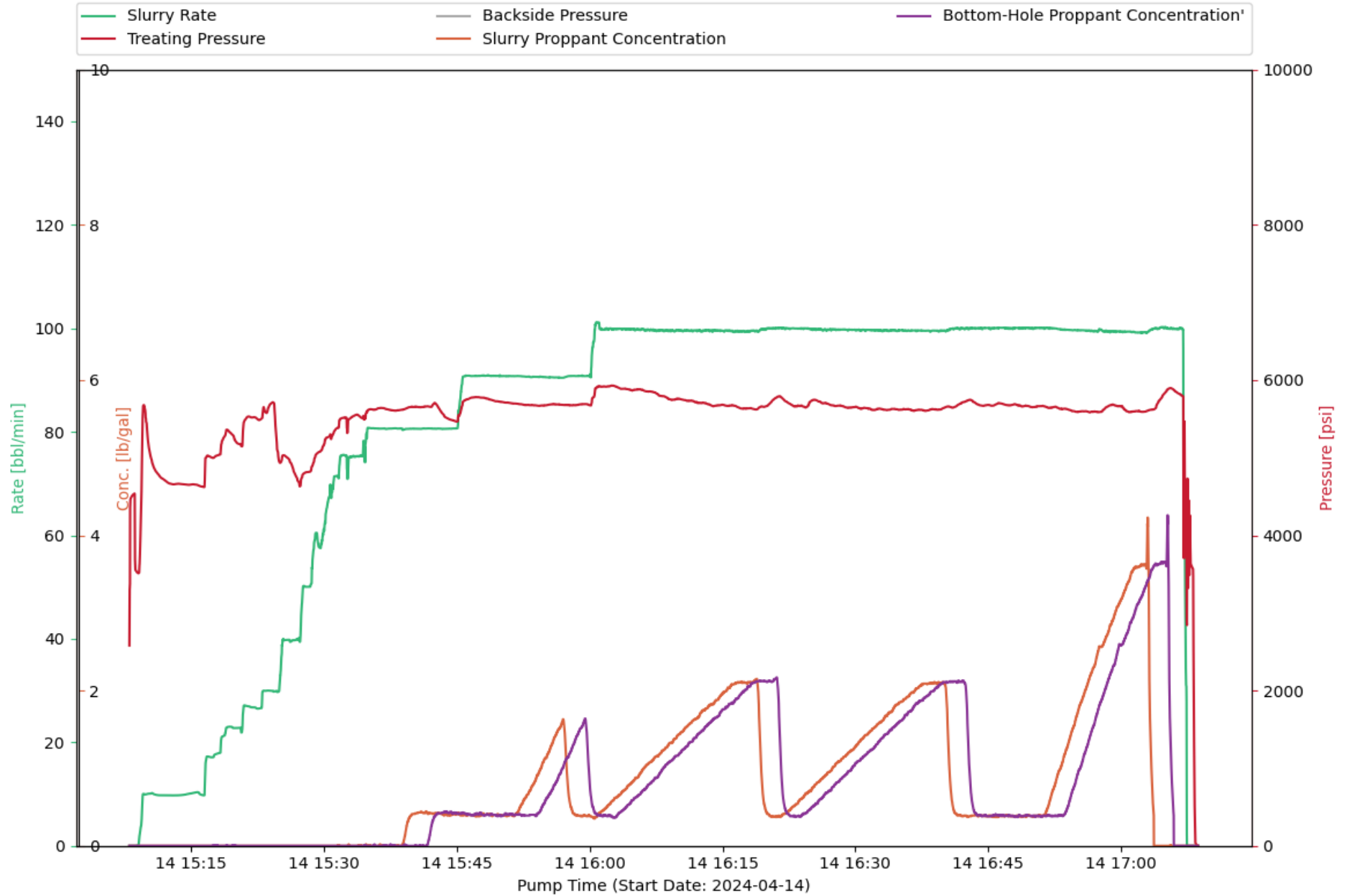
CHEMISTRY PLOT : Treatment Interval 12



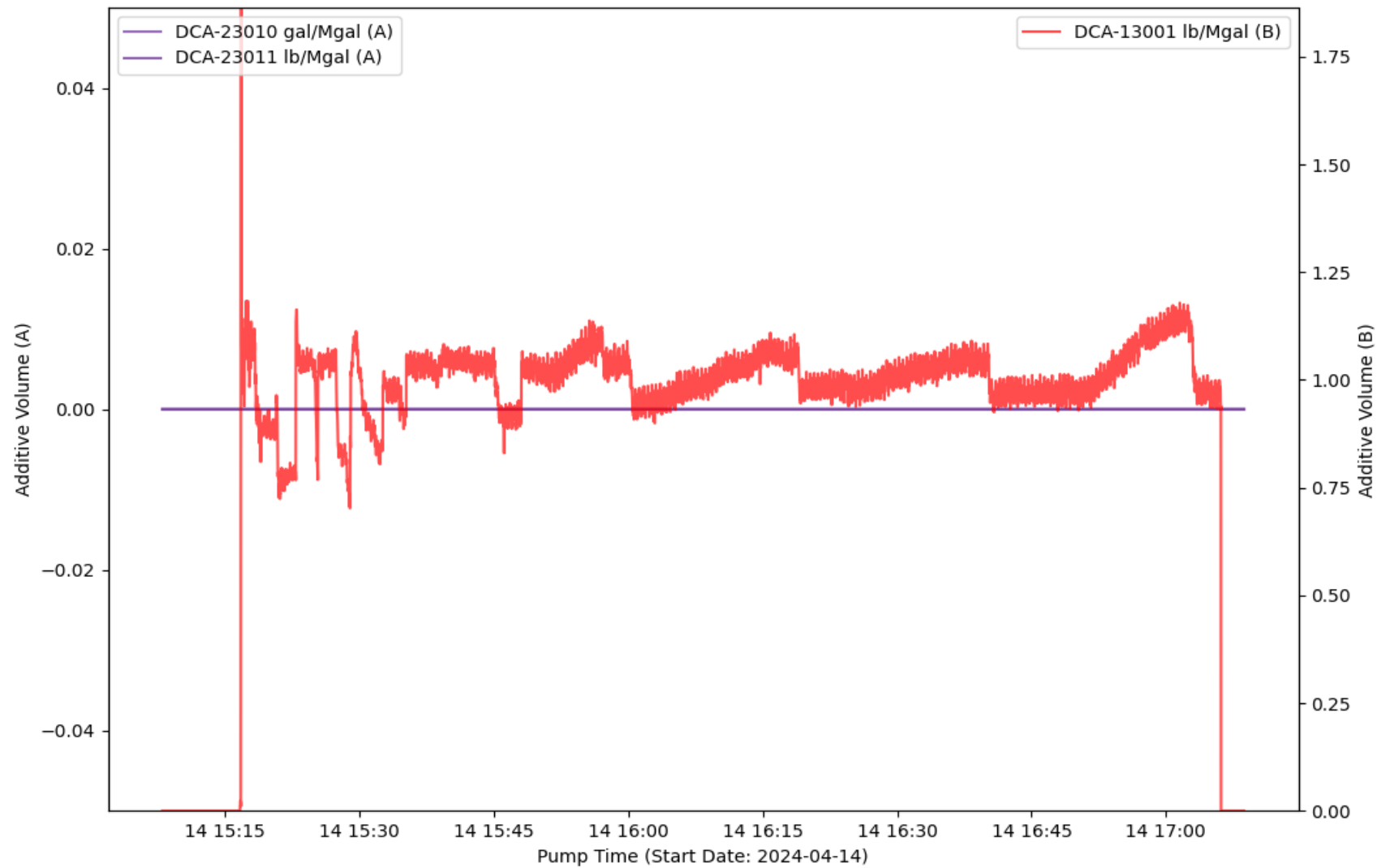
EVENT LOG : TREATMENT INTERVAL 12

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	End Avg Trt 11	2024-04-13T23:31:26	0	12.59	0	0	0	0	0
2	Start Avg Trt 12	2024-04-13T23:31:33	0	10.65	0	0	0	0	0
3	Open Well	2024-04-13T23:37:39	0	3366	0	0	0	0	0
4	Start Pumping	2024-04-13T23:38:02	0	3296	0	0	0	0	0
5	Break Formation	2024-04-13T23:39:02	9.76	5617	0	0	135.42	212.76	0
6	Pump Acid	2024-04-13T23:39:49	10.04	5030	0	0	462.11	533.63	0
7	Spot Acid	2024-04-13T23:48:21	50.56	7034	0	0	10500	10876	0
8	Flush Acid	2024-04-13T23:49:28	58.48	5404	0	0	13018	13421	0
9	Stop Pumping	2024-04-14T02:12:00	0	3618	0	0.01	442925	459213	335774
10	ISIP	2024-04-14T02:12:12	0	3865	0	0.01	442925	459213	335774
11	Shut In Well	2024-04-14T02:12:23	0	3723	0	0.01	442925	459213	335774

TREATMENT PLOT : Treatment Interval 13



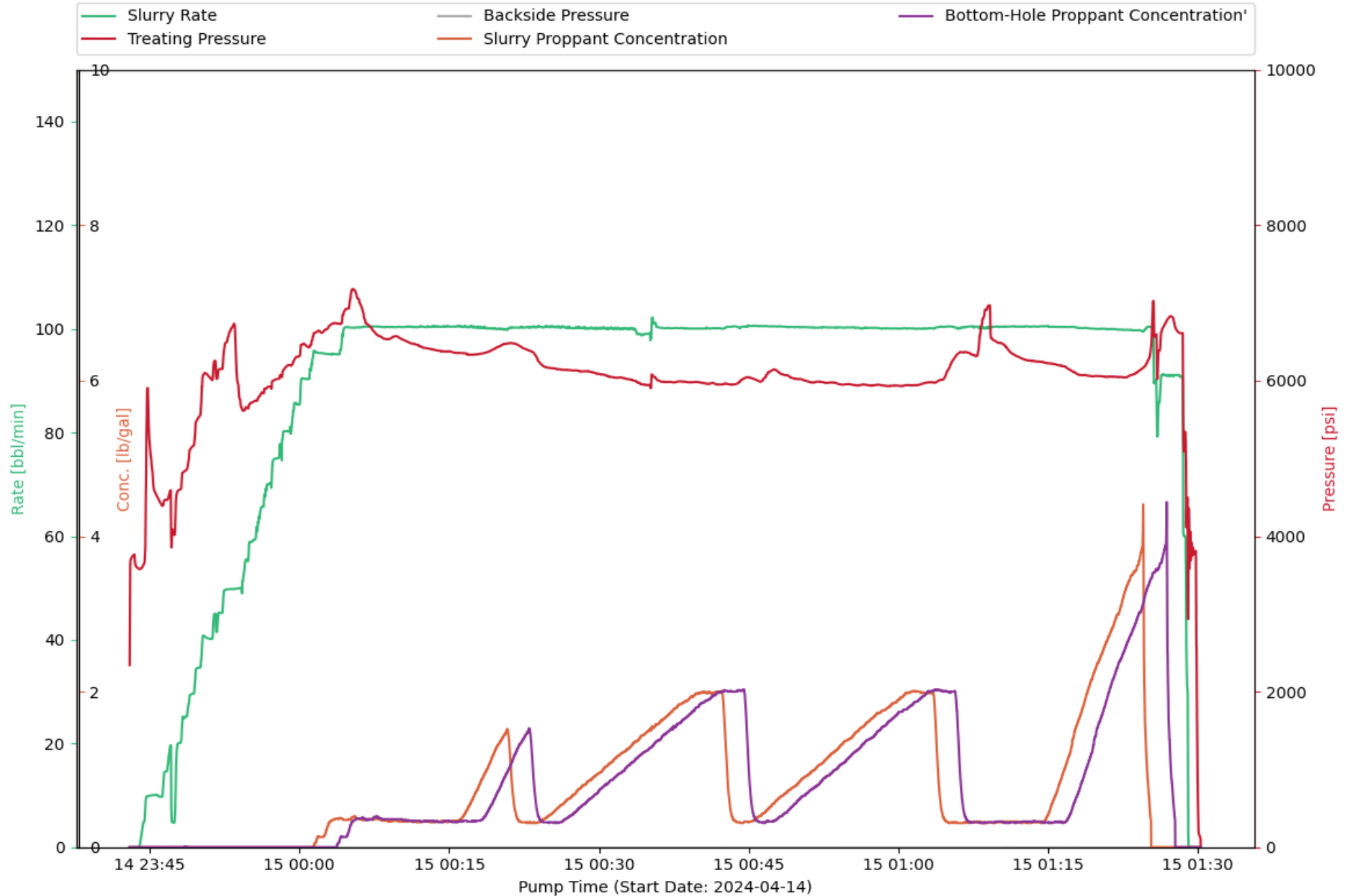
CHEMISTRY PLOT : Treatment Interval 13



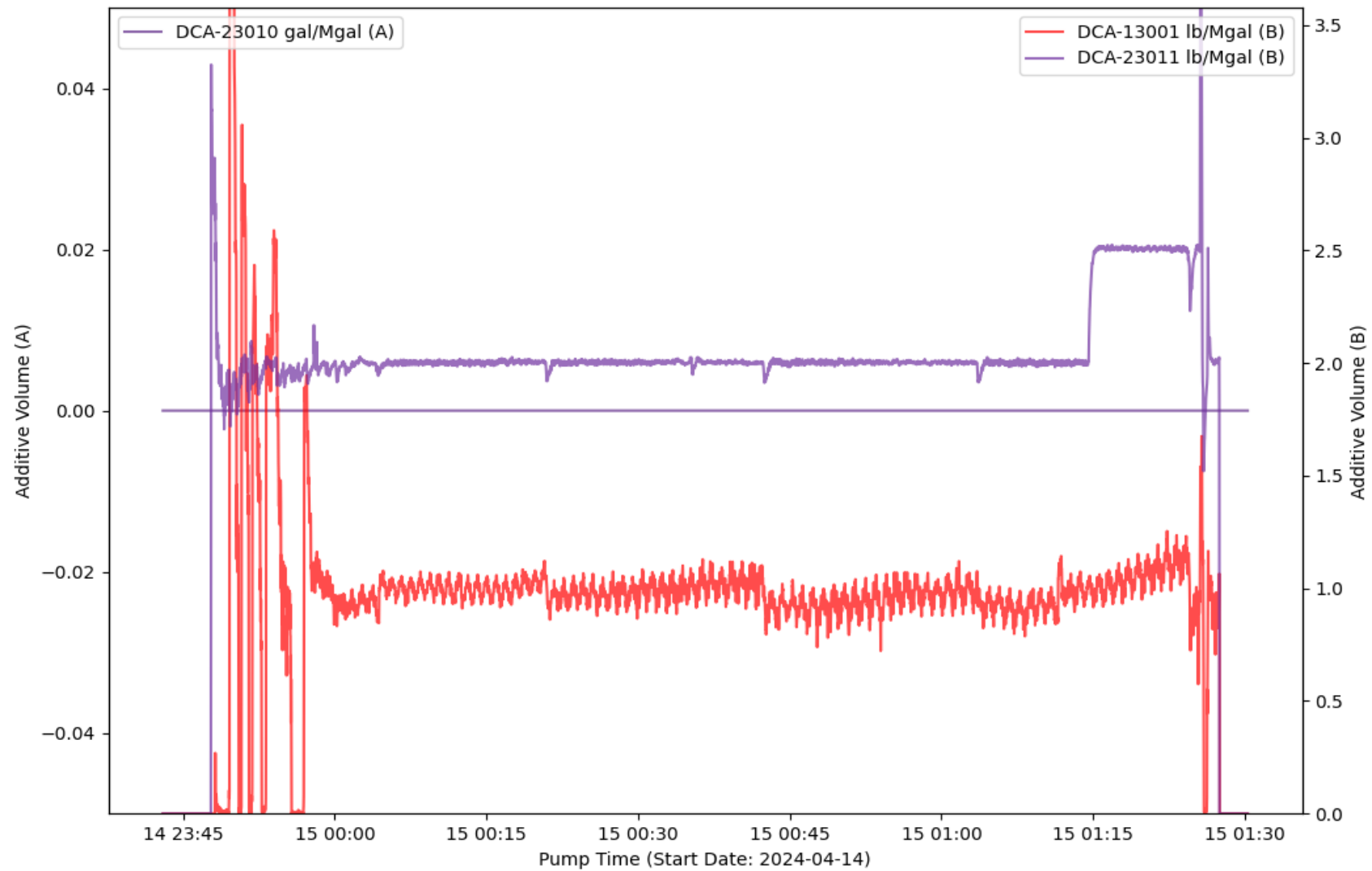
EVENT LOG : TREATMENT INTERVAL 13

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	2024-04-14T15:08:43	0	3548	0	0	0	0	0
2	Start Pumping	2024-04-14T15:09:01	0	3510	0	0	0	0.13	0
3	Break Formation	2024-04-14T15:09:32	10.01	5651	0	0	170.88	93.91	0
4	Pump Acid	2024-04-14T15:10:07	10.06	5202	0	0	420.8	332.9	0
5	Pump Acid	2024-04-14T15:14:34	10	4650	0	0	2253	2177	0
6	Spot Acid	2024-04-14T15:24:13	29.94	5714	0	0	10503	10662	0
7	Flush Acid	2024-04-14T15:24:56	30.34	4947	0	0	11395	11567	0
8	Spot Acid	2024-04-14T15:25:34	39.76	5024	0	0	12333	12536	0
9	Flush Acid	2024-04-14T15:27:03	39.94	4699	0	0	14807	15030	0
10	Stop Pumping	2024-04-14T17:07:28	0	2843	0	0	391990	409383	371026
11	ISIP	2024-04-14T17:07:51	0	3840	0	0	391995	409383	371026
12	Shut In Well	2024-04-14T17:07:58	0	3608	0	0	391995	409383	371026
13	Suspending Job	2024-04-14T17:08:42	0	-11.43	0	0	391995	409383	371026

TREATMENT PLOT : Treatment Interval 14



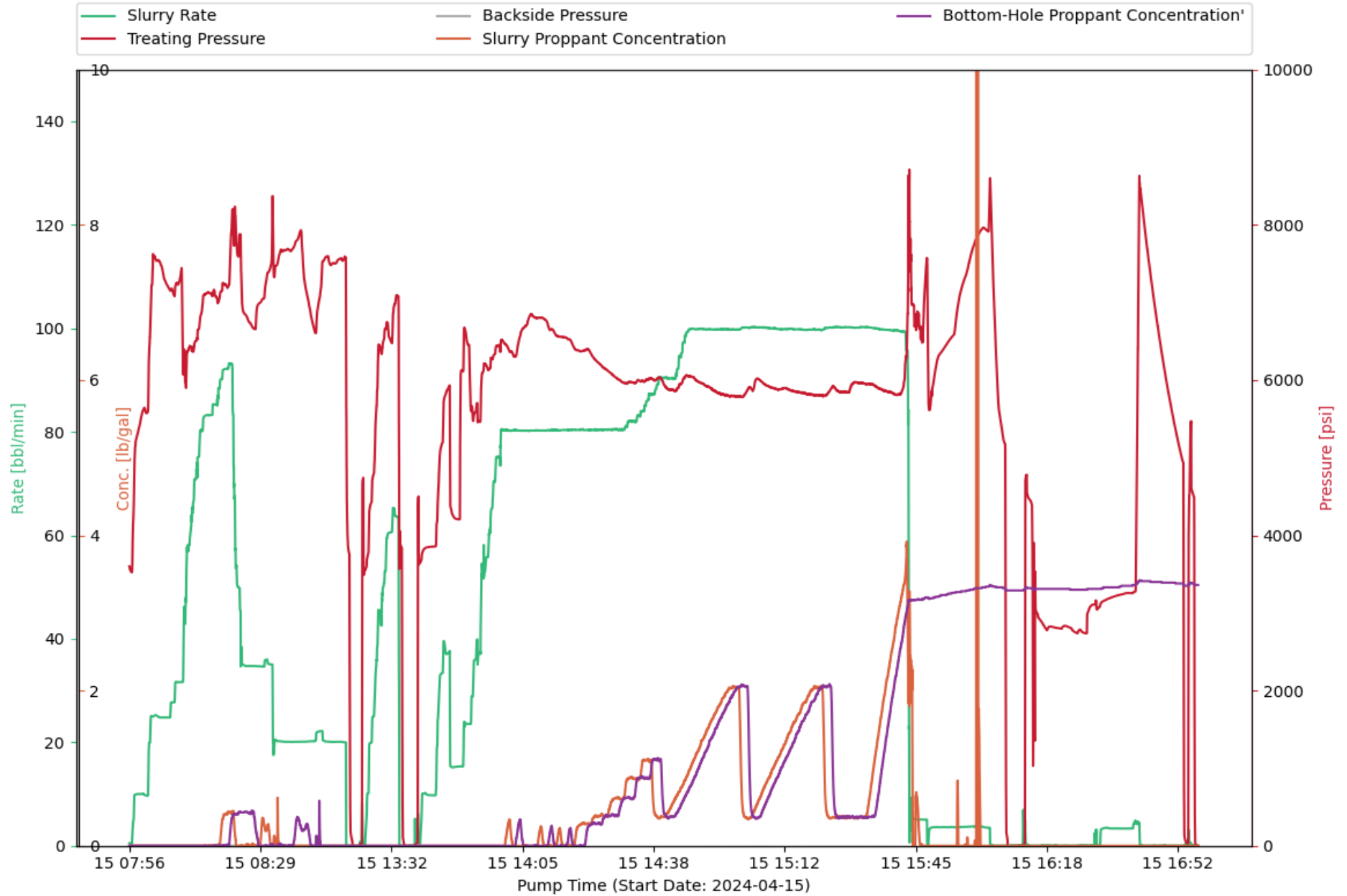
CHEMISTRY PLOT : Treatment Interval 14



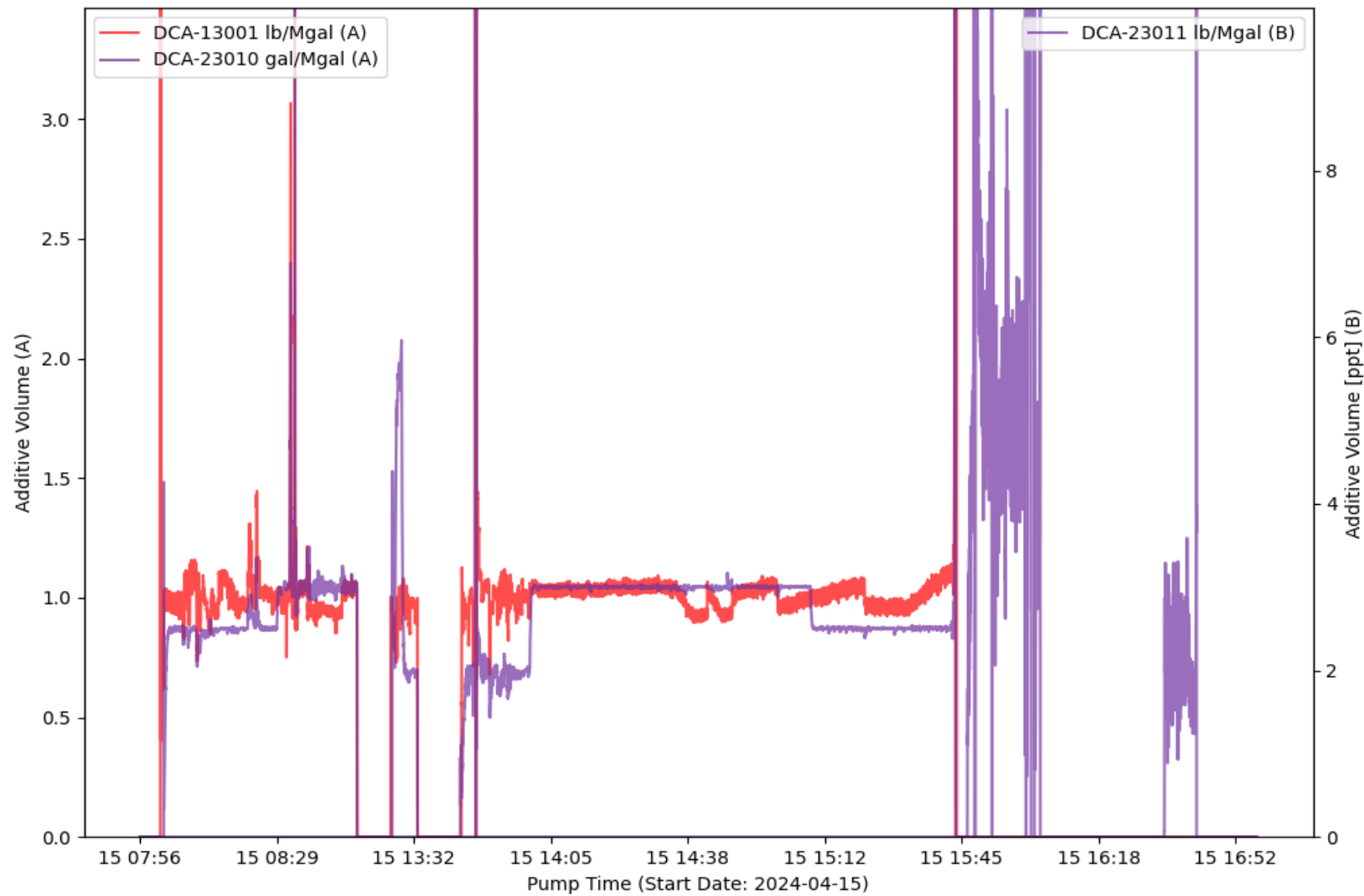
EVENT LOG : TREATMENT INTERVAL 14

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	2024-04-14T23:43:41	0	3605	0	0	0	0	0
2	Start Avg Trt 14	2024-04-14T23:43:52	0	3582	0	0	0	0	0
3	Start Pumping	2024-04-14T23:44:01	0.39	3577	0	0	0	0.54	0
4	Break Formation	2024-04-14T23:44:49	9.84	5906	0	0	103.2	189.61	0
5	Pump Acid	2024-04-14T23:45:42	10.04	4523	0	0	421.42	556.2	0
6	Spot Acid	2024-04-14T23:53:23	49.81	6715	0	0	10134	10428	0
7	Flush Acid	2024-04-14T23:54:28	53.53	5615	0	0	12409	12729	0
8	Stop Pumping	2024-04-15T01:29:05	0	4357	0	0	383993	400526	335072
9	ISIP	2024-04-15T01:29:30	0	3855	0	0	383994	400526	335072
10	Shut In Well	2024-04-15T01:29:42	0	3807	0	0	383994	400526	335072
11	Suspending Job	2024-04-15T01:30:16	0	111.49	0	0	383994	400526	335072

TREATMENT PLOT : Treatment Interval 15



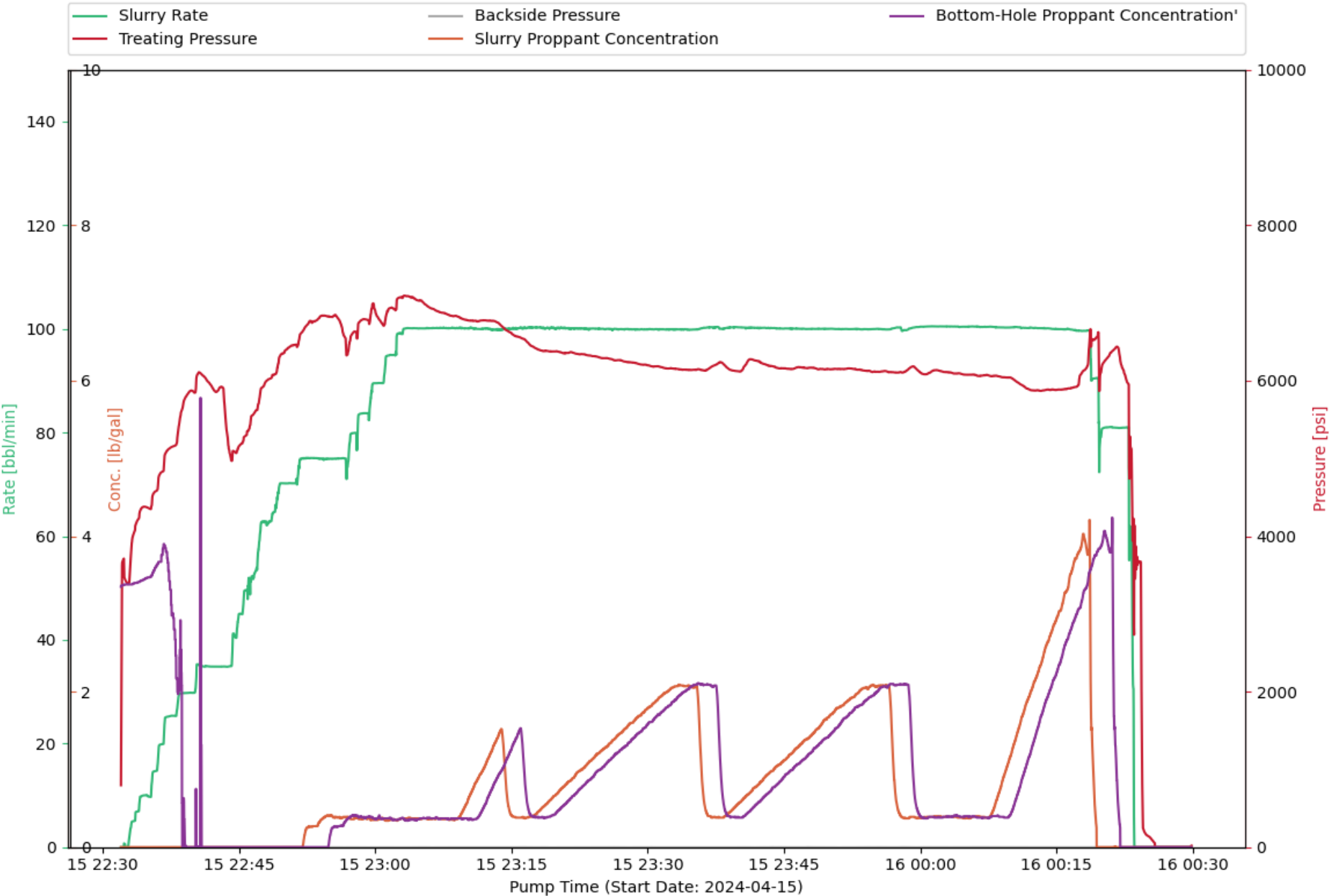
CHEMISTRY PLOT : Treatment Interval 15



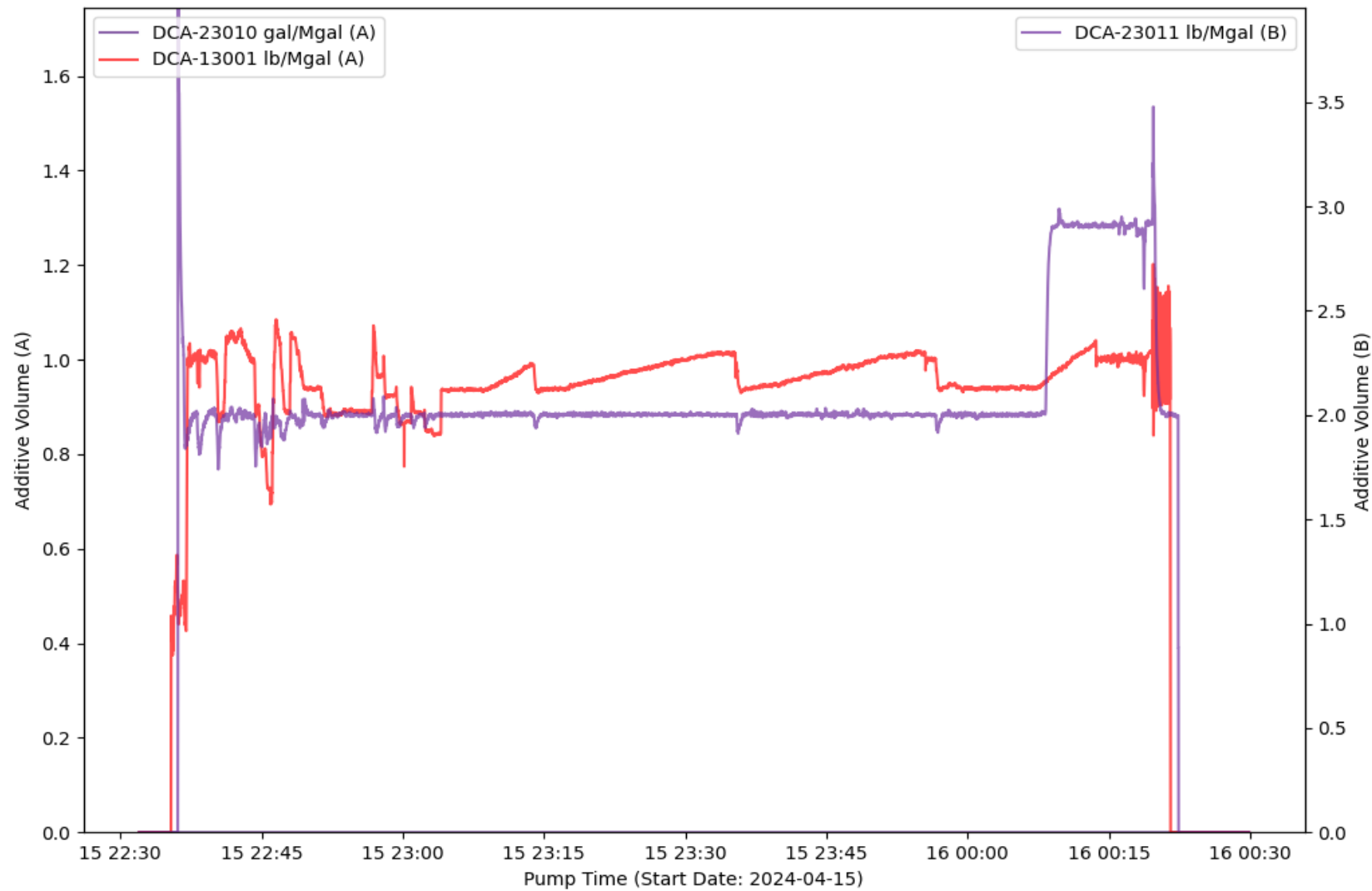
EVENT LOG : TREATMENT INTERVAL 15

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	Open Well	2024-04-15T07:56:05	0.5	3601	0	0	0	0	0
2	Start Pumping	2024-04-15T07:56:41	0.03	3523	0	0	0.23	8.47	0
3	Break Formation	2024-04-15T07:57:22	9.78	4914	0	0	128.57	144.44	0
4	Pump Acid	2024-04-15T07:59:03	10	5515	0	0	917.01	853.96	0
5	Spot Acid	2024-04-15T08:09:22	31.62	7442	0	0	10813	10960	0
6	Flush Acid	2024-04-15T08:09:45	32.21	6071	0	0	11322	11473	0
7	Suspending Job	2024-04-15T08:54:40	0	-4.49	0	0	84608	85813	6164
8	Start Pumping	2024-04-15T13:25:28	0.13	3550	0	0	84770	85993	6164
9	Pump Acid	2024-04-15T13:40:27	10.11	3821	0	0	100551	101989	6164
10	Ball on Seat	2024-04-15T13:49:35	15.35	4206	0	0	108097	109767	6164
11	Break Formation	2024-04-15T13:49:51	15.33	6095	0	0	108269	109940	6164
12	Spot Acid	2024-04-15T13:51:57	23.55	6453	0	0	110100	111777	6164
13	Flush Acid	2024-04-15T13:52:27	23.89	5603	0	0	110604	112276	6164
14	Stop Pumping	2024-04-15T16:42:35	0.88	8464	0	3.42	517551	535944	358991
15	ISIP	2024-04-15T16:53:14	0	5003	0	3.38	517610	535947	358991
16	Shut In Well	2024-04-15T16:56:04	0	4539	0	3.38	517649	535992	358991
17	Suspending Job	2024-04-15T16:57:22	0	0	0	3.36	517670	535992	358991

TREATMENT PLOT : Treatment Interval 16



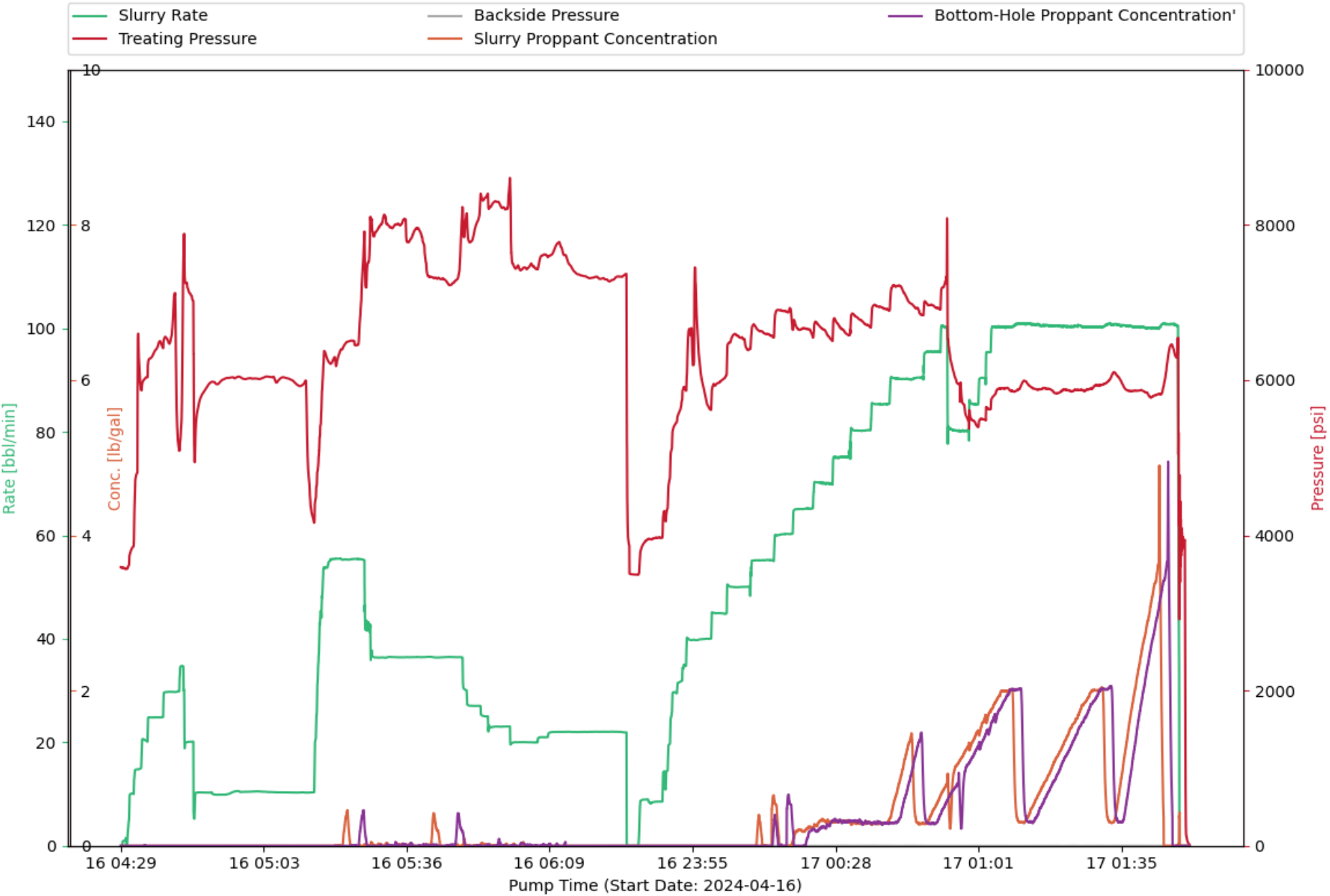
CHEMISTRY PLOT : Treatment Interval 16



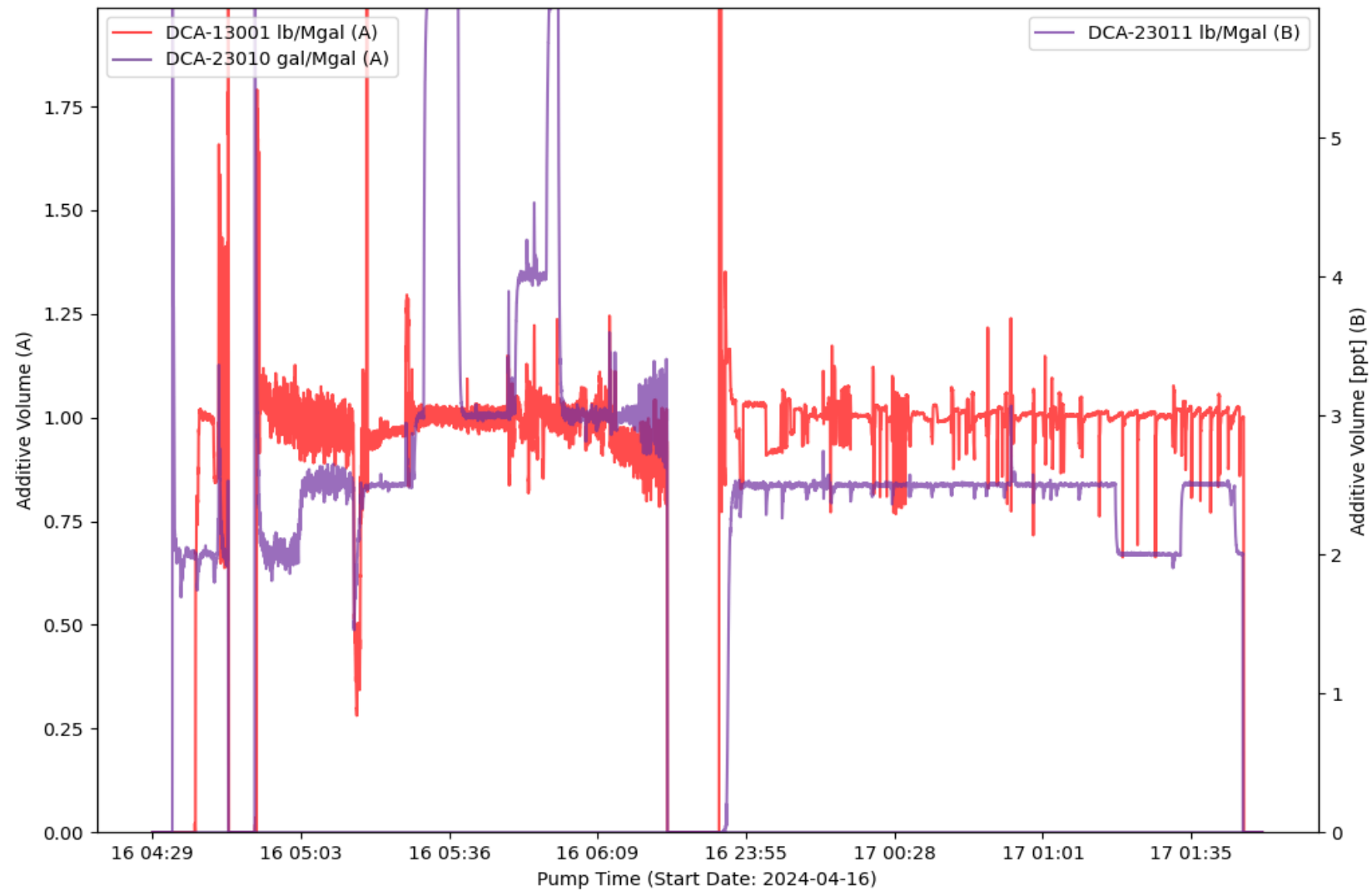
EVENT LOG : TREATMENT INTERVAL 16

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	2024-04-15T22:32:22	0.69	3470	0	3.38	1.86	0.49	0
2	Start Pumping	2024-04-15T22:32:46	0	3385	0	3.38	26.06	2.74	0
3	Pump Acid	2024-04-15T22:34:45	10.06	4376	0	3.46	540.41	561.22	0
4	Break Formation	2024-04-15T22:41:07	34.85	6057	0	0	7043	7180	0
5	Spot Acid	2024-04-15T22:43:16	34.86	5903	0	0	10136	10325	0
6	Flush Acid	2024-04-15T22:44:12	35.21	4968	0	0	11493	11702	0
7	Stop Pumping	2024-04-16T00:23:35	0.01	4140	0	0	386751	403731	367631
8	ISIP	2024-04-16T00:23:52	0	3737	0	0	386753	403731	367631
9	Shut In Well	2024-04-16T00:24:13	0	3673	0	0	386753	403731	367631
10	Suspending Job	2024-04-16T00:25:50	0	51.62	0	0	386753	403731	367631
11	Resuming Job	2024-04-16T00:29:50	0	0	0	0	386753	403731	367631

TREATMENT PLOT : Treatment Interval 17



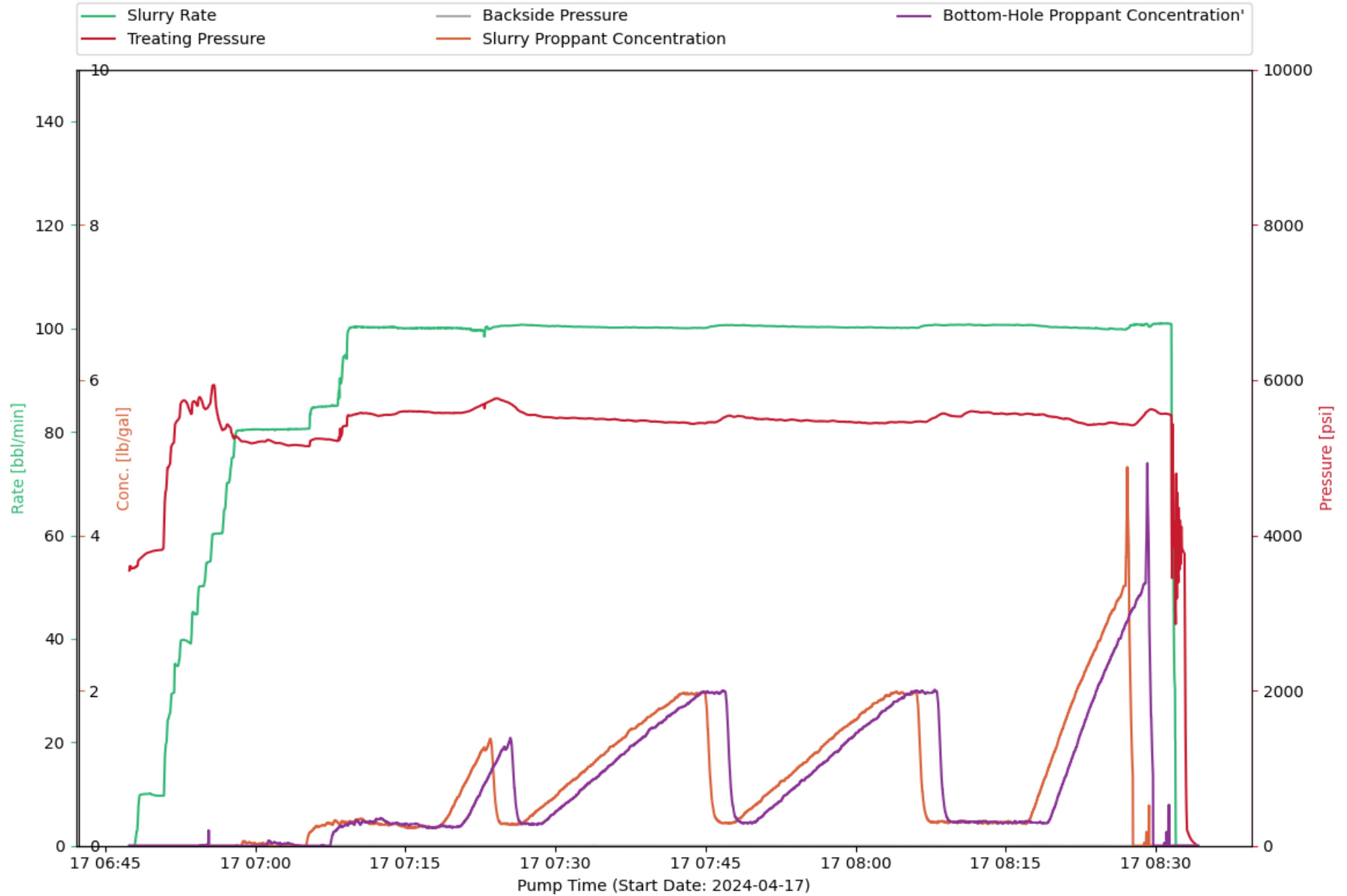
CHEMISTRY PLOT : Treatment Interval 17



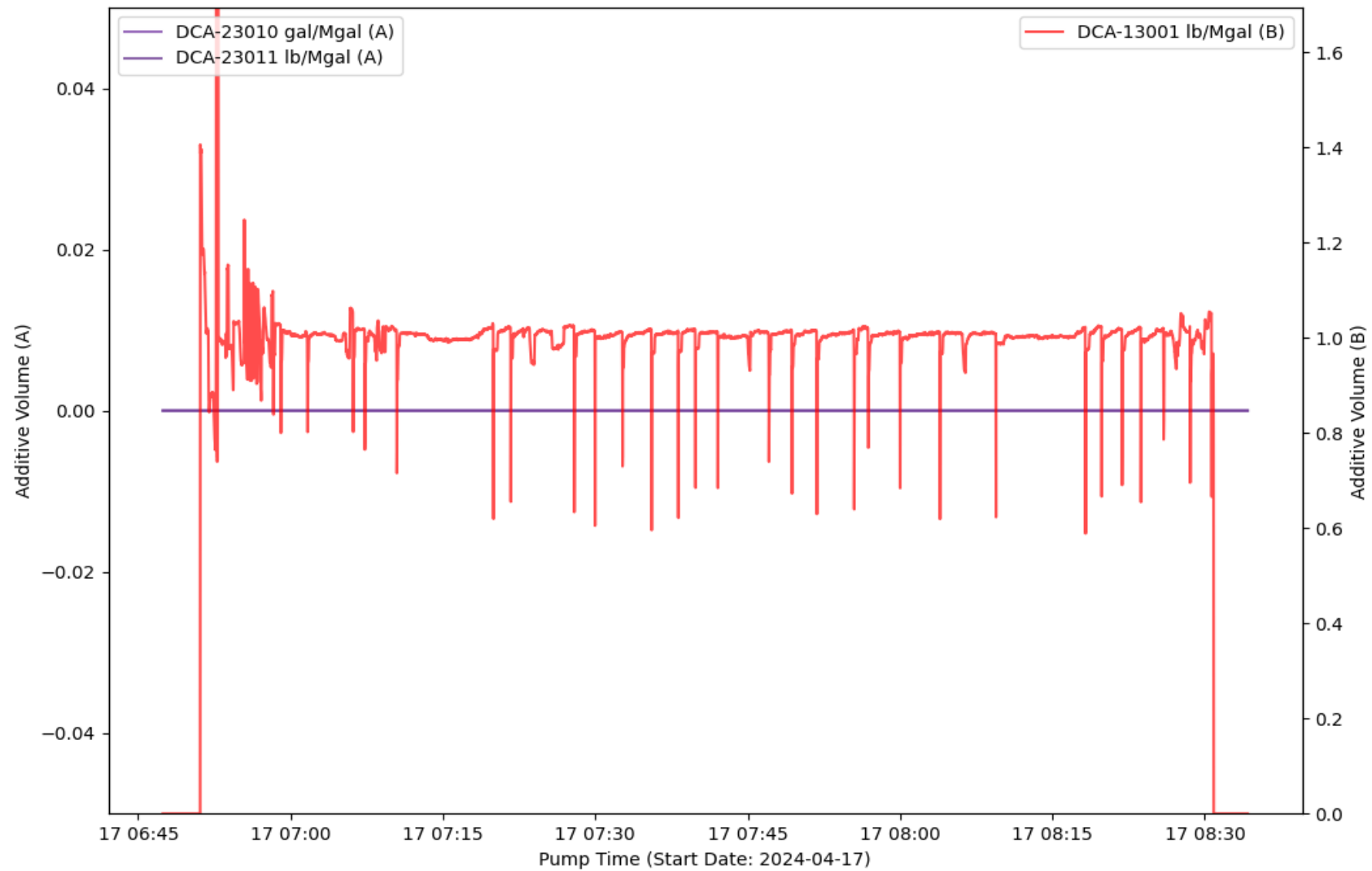
EVENT LOG : TREATMENT INTERVAL 17

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	Start Pumping	2024-04-16T04:30:02	0	3587	0	0	0	0	0
2	Pump Acid	2024-04-16T04:31:11	1.05	3579	0	0	81.94	38.11	0
3	Break Formation	2024-04-16T04:33:47	14.77	6485	0	0	1229	1215	0
4	Spot Acid	2024-04-16T04:42:17	29.72	7123	0	0	9872	10052	0
5	Flush Acid	2024-04-16T04:43:08	29.86	5148	0	0	10929	11122	0
6	Pump Acid	2024-04-16T04:50:37	10.27	5970	0	0	16163	16455	0
7	Spot Acid	2024-04-16T05:12:50	10.28	5987	0	0	25382	26068	0
8	Flush Acid	2024-04-16T05:14:43	10.34	4168	0	0	26178	26882	0
9	Stop Pumping	2024-04-16T06:27:40	0	5852	0	0	121796	123925	1982
10	ISIP	2024-04-16T06:27:46	0	4479	0	0	121798	123925	1982
11	Shut In Well	2024-04-16T06:28:15	0	3865	0	0	121798	123925	1982
12	Open Well	2024-04-16T23:40:28	0	3506	0	0	133468	135785	1982
13	Start Pumping	2024-04-16T23:42:33	0.01	3492	0	0	133468	135785	1982
14	Pump Acid	2024-04-16T23:44:24	8.94	3934	0	0	134054	136391	1982
15	Spot Acid	2024-04-16T23:55:43	39.77	7448	0	0	144702	147089	1982
16	Flush Acid	2024-04-16T23:59:20	40.01	5619	0	0	150701	153143	1982
17	Stop Pumping	2024-04-17T01:48:43	1.19	2917	0.39	0	523316	540499	334802
18	ISIP	2024-04-17T01:48:47	0	4605	0.43	0	523331	540499	334808
19	Shut In Well	2024-04-17T01:49:57	0	3939	0	0	523333	540499	334808
20	Suspending Job	2024-04-17T01:51:06	0	14.92	0	0	523333	540499	334808

TREATMENT PLOT : Treatment Interval 18



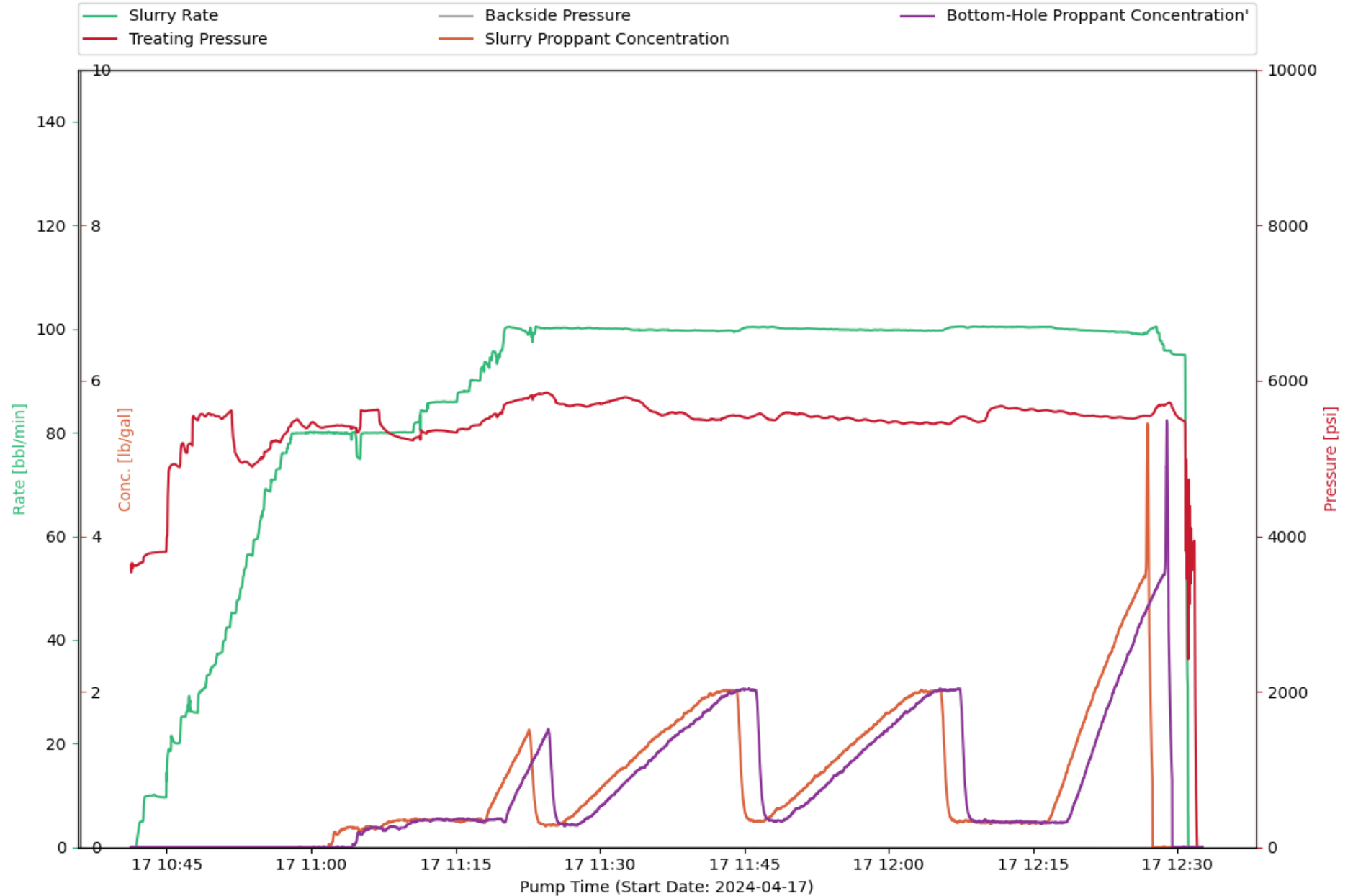
CHEMISTRY PLOT : Treatment Interval 18



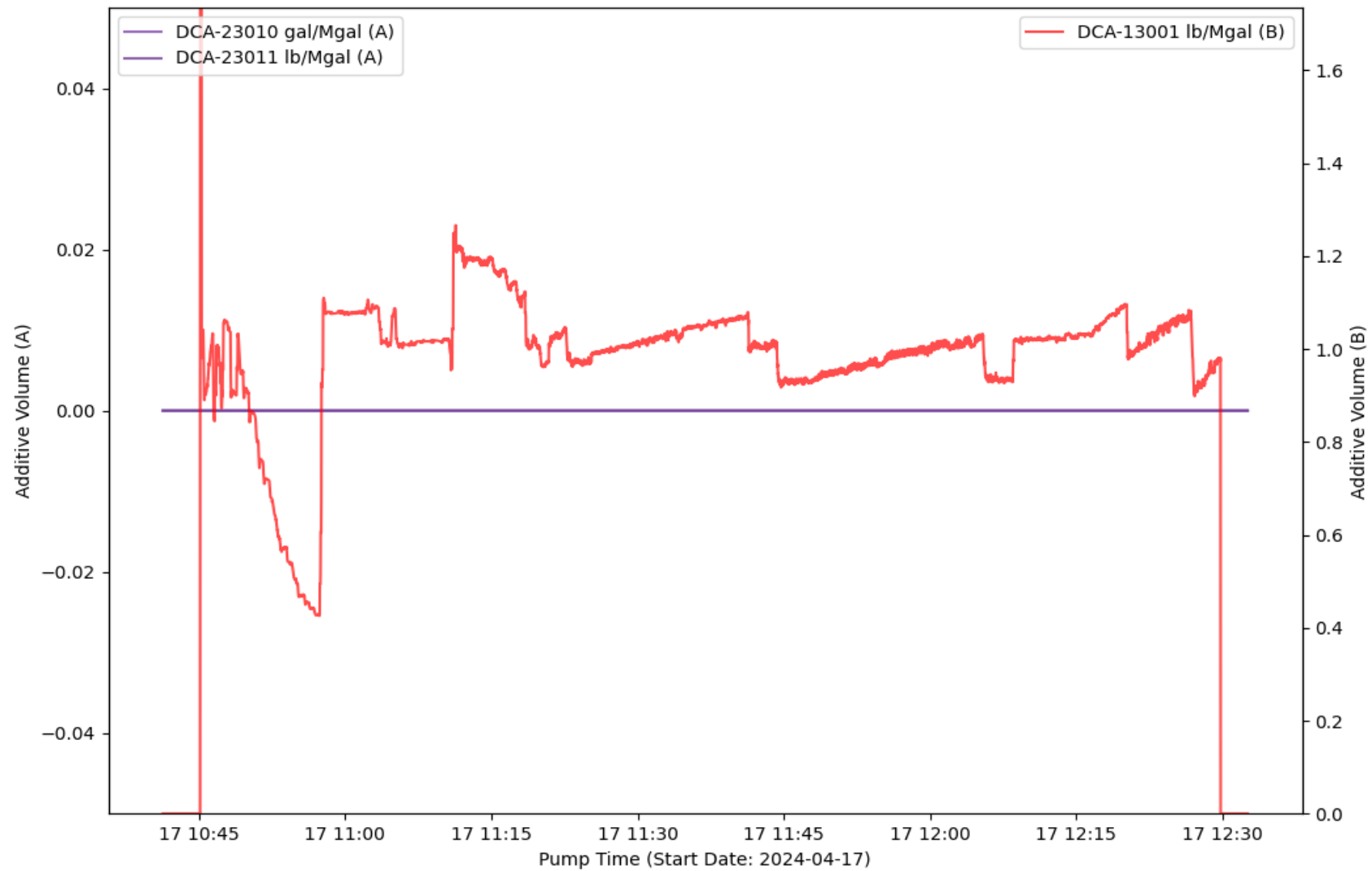
EVENT LOG : TREATMENT INTERVAL 18

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	Start Pumping	2024-04-17T06:47:58	0.01	3581	0	0	9.99	0.01	0
2	Pump Acid	2024-04-17T06:48:59	10.01	3752	0	0	346.68	313.1	0
3	Break Formation	2024-04-17T06:51:01	18.27	4530	0	0	1242	1181	0
4	Spot Acid	2024-04-17T06:55:55	60.29	5931	0	0	9826	9807	0
5	Flush Acid	2024-04-17T06:56:43	60.41	5357	0	0	11893	11850	0
6	Stop Pumping	2024-04-17T08:31:59	3	2858	0	0	387987	402231	321024
7	ISIP	2024-04-17T08:32:01	0	4750	0	0	388006	402231	321024
8	Shut In Well	2024-04-17T08:32:40	0	3812	0	0	388010	402231	321024
9	Suspending Job	2024-04-17T08:34:12	0	0	0	0	388010	402231	321024

TREATMENT PLOT : Treatment Interval 19



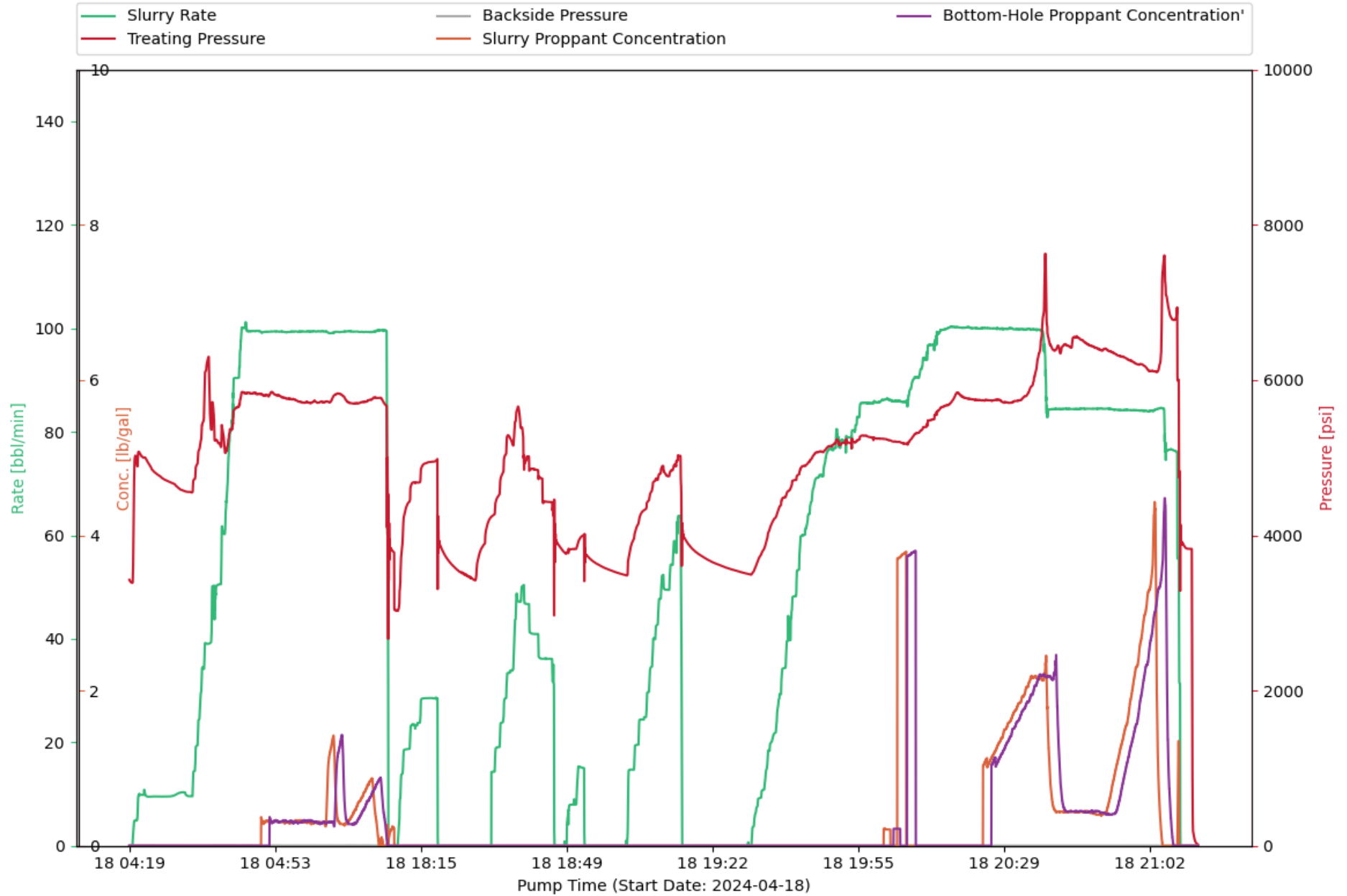
CHEMISTRY PLOT : Treatment Interval 19



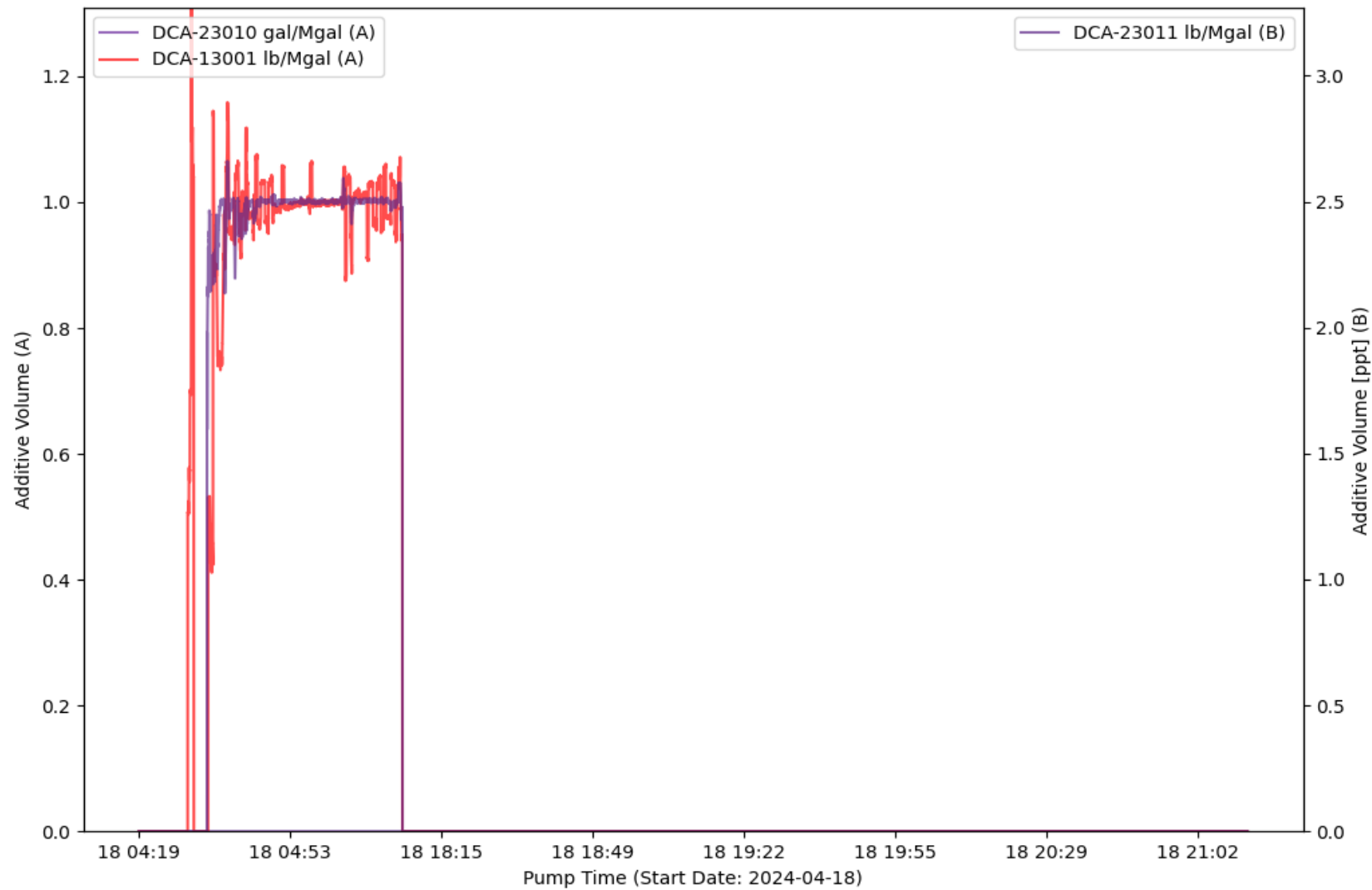
EVENT LOG : TREATMENT INTERVAL 19

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	2024-04-17T10:41:19	0	3627	0	0	0	0	0
2	Start Pumping	2024-04-17T10:41:50	0.01	3619	0	0	0	0.01	0
3	Break Formation	2024-04-17T10:42:32	4.97	3667	0	0	74.76	108.9	0
4	Pump Acid	2024-04-17T10:43:06	9.92	3773	0	0	275.02	326.7	0
5	Spot Acid	2024-04-17T10:51:43	45.09	5615	0	0	9489	9488	0
6	Flush Acid	2024-04-17T10:52:43	50.02	4953	0	0	11435	11460	0
7	Stop Pumping	2024-04-17T12:31:06	2.16	2419	0	0	385215	400442	333695
8	ISIP	2024-04-17T12:31:08	0	4306	0	0	385224	400442	333695
9	Shut In Well	2024-04-17T12:31:38	0	3912	0	0	385225	400442	333695
10	Suspending Job	2024-04-17T12:32:33	0	-14.37	0	0	385225	400442	333695

TREATMENT PLOT : Treatment Interval 20



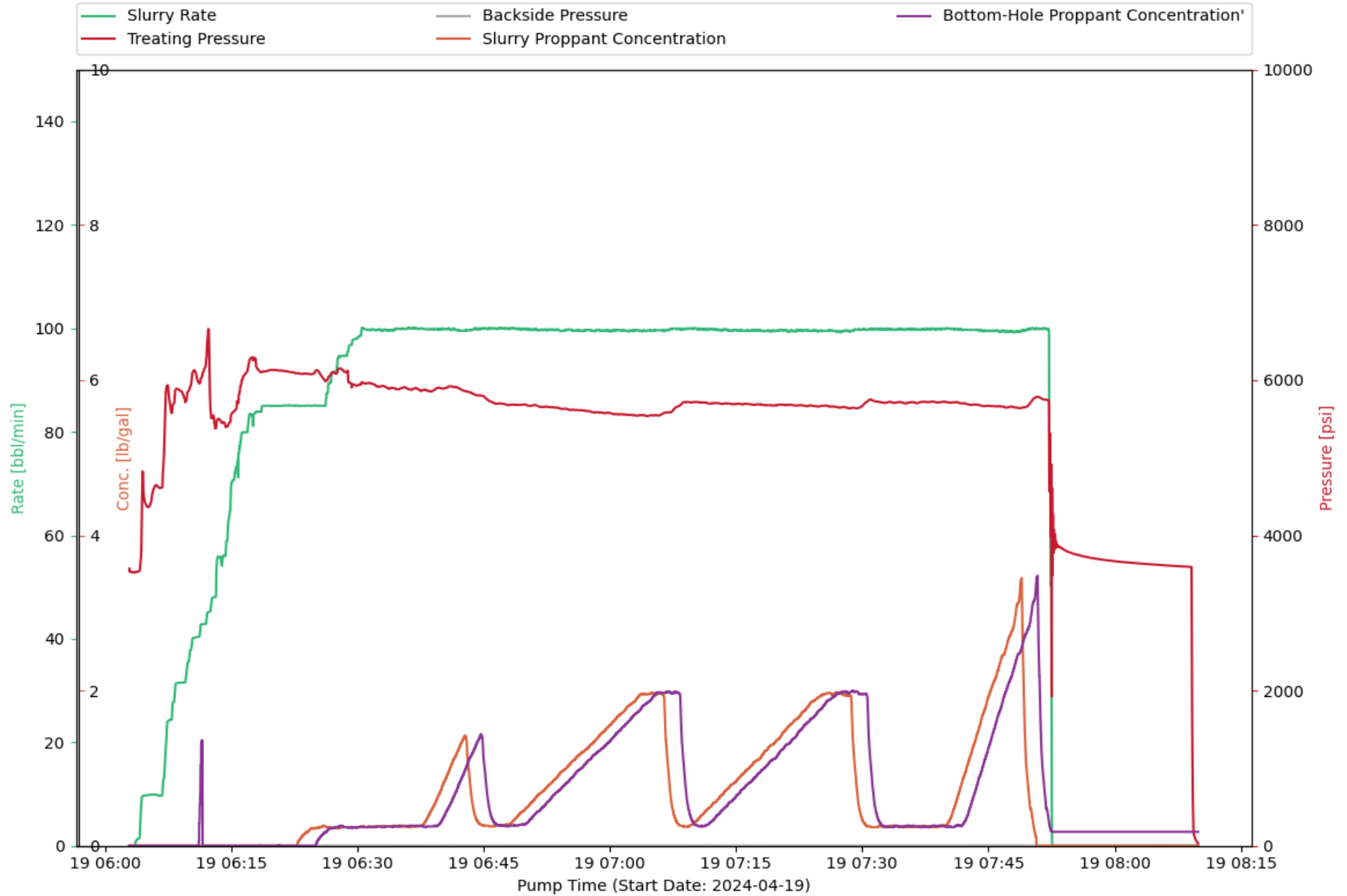
CHEMISTRY PLOT : Treatment Interval 20



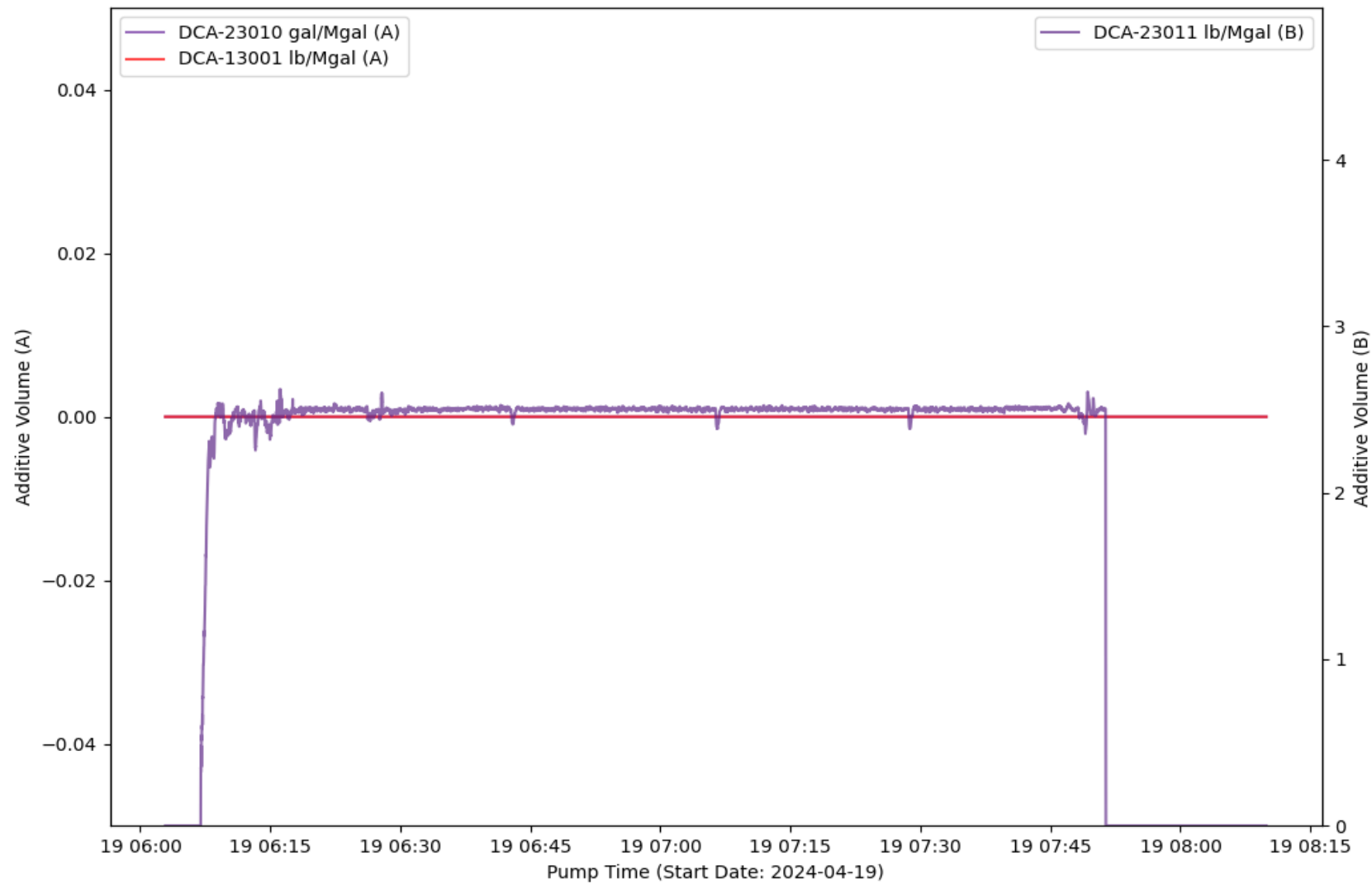
EVENT LOG : TREATMENT INTERVAL 20

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	2024-04-18T04:19:50	0	3427	0	0	0	0	0
2	Start Pumping	2024-04-18T04:20:33	0.38	3391	0	0	0	0.34	0
3	Pump Acid	2024-04-18T04:22:45	9.85	5012	0	0	619.1	632.09	0
4	Start Avg Trt 20	2024-04-18T04:22:51	9.87	5011	0	0	662.3	673.88	0
5	Pump Acid	2024-04-18T04:32:29	10.36	4569	0	0	4607	4616	0
6	Spot Acid	2024-04-18T04:37:51	39.03	6285	0	0	9476	9479	0
7	Flush Acid	2024-04-18T04:38:27	39.28	5393	0	0	10505	10473	0
8	Spot Acid	2024-04-18T04:40:56	60.45	5411	0	0	15632	15584	0
9	Flush Acid	2024-04-18T04:41:46	61.99	5060	0	0	17774	17725	0
10	Stop Pumping	2024-04-18T05:19:02	15.47	2666	0	0	168039	170296	47783
11	Start Pumping	2024-04-18T18:10:31	0.63	3036	0	0	194944	224212	47783
12	Stop Pumping	2024-04-18T21:09:29	3.18	4004	0	0	560656	607221	271860
13	ISIP	2024-04-18T21:09:31	0.81	4140	0	0	560669	607223	271860
14	Shut In Well	2024-04-18T21:12:04	0	3825	0	0	560673	607223	271860
15	Suspending Job	2024-04-18T21:13:32	0	17.63	0	0	560673	607223	271860

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	Start Pumping	2024-04-19T06:03:34	0.16	3528	0	0	0	0.11	0
2	Break Formation	2024-04-19T06:04:27	9.59	4812	0	0	122.57	132.6	0
3	Pump Acid	2024-04-19T06:04:38	9.68	4482	0	0	197.45	200.45	0
4	Spot Acid	2024-04-19T06:12:17	45.2	6658	0	0	8829	8752	0
5	Flush Acid	2024-04-19T06:12:38	47.06	5507	0	0	9504	9426	0
6	Stop Pumping	2024-04-19T07:52:33	2.22	4609	0	0.18	400471	414202	309767
7	ISIP	2024-04-19T07:52:39	0	3981	0	0.18	400494	414202	309767
8	Shut In Well	2024-04-19T08:07:33	0	3602	0	0.18	400494	414202	309767
9	Suspending Job	2024-04-19T08:09:54	0	38.03	0	0.18	400494	414202	309767

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