



WELL STIMULATION REPORT

Bayswater Exploration

Flaherty 13-5-3

05-123-47449-00

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 13-5-3 well in WELD county, COLORADO.

The proposed treatment(s) consisted of:

10,500	gallons of	15% HCl
7,915,452	gallons of	Dry FR
0	gallons of	FR Water
176,379	gallons of	Treated Water
661,500	pounds of	100 Mesh Premium White
5,956,473.75	pounds of	30/50 Premium White
60,000	pounds of	SS-200 Premium White

The actual treatment(s) consisted of:

29,638	gallons of	15% HCl
8,196,238	gallons of	Dry FR
147,534	gallons of	FR Water
130,141	gallons of	Treated Water
650,743	pounds of	100 Mesh Premium White
5,246,817	pounds of	30/50 Premium White
56,990	pounds of	SS-200 Premium White

15 of 21 treatment(s) were fully completed. 0 treatment(s) were skipped, and 6 treatment(s) were screened out or otherwise cut short of design.

The well was first opened Monday, April 08, 2024 at 16:07 with an opening pressure of 1,601.36 psi.

The total amount of proppant pumped was 5,954,550.0 lbm with an average concentration of 0.7 ppg and maximum concentration of 4.0 ppg. Treating pressure averaged 6315.99 psi and rate averaged 85.14 bpm. Total clean volume was 8,503,551.0 gallons.

The operation came offline at 05:37 and the well was shut in Friday, April 19, 2024 at 05:49 with a final shut-in pressure of 3,639.0 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	12131	12137	12157	6383	6	6	32	120	909263484	Niobrara	Niobrara
2	11941	12101	12121	6383	32	6	32	120	909263484	Niobrara	Niobrara
3	11741	11901	11921	6383	32	6	32	120	909263484	Niobrara	Niobrara
4	11541	11701	11721	6383	32	6	32	120	909263484	Niobrara	Niobrara
5	11341	11501	11521	6383	32	6	32	120	909263484	Niobrara	Niobrara
6	11141	11301	11321	6383	32	6	32	120	909263484	Niobrara	Niobrara
7	10941	11101	11121	6383	32	6	32	120	909263484	Niobrara	Niobrara
8	10741	10901	10921	6383	32	6	32	120	909263484	Niobrara	Niobrara
9	10541	10701	10721	6383	32	6	32	120	909263484	Niobrara	Niobrara
10	10341	10501	10521	6383	32	6	32	120	909263484	Niobrara	Niobrara
11	10141	10301	10321	6384	32	6	32	120	909263484	Niobrara	Niobrara
12	9941	10101	10121	6384	32	6	32	120	909263484	Niobrara	Niobrara
13	9741	9901	9921	6384	32	6	32	120	909263484	Niobrara	Niobrara
14	9541	9701	9721	6385	32	6	32	120	909263484	Niobrara	Niobrara
15	9341	9501	9521	6385	32	6	32	120	909263484	Niobrara	Niobrara
16	9141	9301	9321	6384	32	6	32	120	909263484	Niobrara	Niobrara
17	8941	9101	9121	6384	32	6	32	120	909263484	Niobrara	Niobrara
18	8741	8901	8921	6385	32	6	32	120	909263484	Niobrara	Niobrara
19	8541	8701	8721	6385	32	6	32	120	909263484	Niobrara	Niobrara
20	8341	8501	8521	6385	32	6	32	120	909263484	Niobrara	Niobrara
21	8141	8301	8321	6385	32	6	32	120	909263484	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	500	3000	378780	399573	0	0	8399	10513	387679	413086	426483.96
2	500	3000	378603	258889	0	10062	8399	5964	387502	277915	280363.86
3	500	1394	378417	377667	0	6270	8399	5796	387316	391127	403885.02
4	500	1499	378231	409033	0	5122	8399	8232	387130	423886	434290.08
5	500	1002	378045	378468	0	5495	8399	8694	386944	393659	407352.96
6	500	998	377858	364674	0	6434	8399	7434	386757	379540	393280.86
7	500	2000	377672	527041	0	11639	8399	11970	386571	552650	569638.02
8	500	1000	377486	370686	0	5155	8399	7772	386385	384613	401881.2
9	500	1000	377299	399712	0	8376	8399	6678	386198	415766	433741.98
10	500	998	377113	462003	0	3765	8399	7654	386012	474420	491843.1
11	500	1000	376927	375540	0	8499	8399	6636	385826	391675	408487.8
12	500	2000	376740	558862	0	12342	8399	5334	385639	578538	598127.04
13	500	2248	376554	378537	0	8530	8399	5376	385453	394691	410888.94
14	500	499	376368	379208	0	5575	8399	4536	385267	389818	406783.86
15	500	501	376182	381482	0	5017	8399	4536	385081	391536	407985.9
16	500	2499	375995	412001	0	31627	8399	7518	384894	453645	468407.94
17	500	1000	375809	391975	0	5536	8399	3990	384708	402501	415603.86
18	500	1000	375623	334106	0	3001	8399	3486	384522	341593	352912.14
19	500	1000	375436	376018	0	5089	8399	3612	384335	385719	400472.94
20	500	1000	375250	224585	0	0	8399	2436	384149	228021	234756.06
21	500	1000	375064	436178	0	0	8399	1974	383963	439152	453781.02
Total	10500	29638	7915452	8196238	0	147534	176379	130141	8102331	8503551	8800968.54

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	37260	283498.75	242820	3000	5640	317998.75	285720
2	31500	0	283498.75	7800	3000	0	317998.75	7800
3	31500	31423	283498.75	286104	3000	3000	317998.75	320527
4	31500	31160	283498.75	283440	3000	3000	317998.75	317600
5	31500	31432	283498.75	283980	3000	3000	317998.75	318412
6	31500	31000	283498.75	280600	3000	3000	317998.75	314600
7	31500	36668	283498.75	283980	3000	3300	317998.75	323948
8	31500	31760	283498.75	284120	3000	3000	317998.75	318880
9	31500	32500	283498.75	283499	3000	3000	317998.75	318999
10	31500	31360	283498.75	265440	3000	3000	317998.75	299800
11	31500	31520	283498.75	283499	3000	3000	317998.75	318019
12	31500	31260	283498.75	283860	3000	3000	317998.75	318120
13	31500	31000	283498.75	283374	3000	3000	317998.75	317374
14	31500	31000	283498.75	283960	3000	3000	317998.75	317960
15	31500	31000	283498.75	283520	3000	3000	317998.75	317520
16	31500	31600	283498.75	182440	3000	3050	317998.75	217090
17	31500	31500	283498.75	283660	3000	3000	317998.75	318160
18	31500	31500	283498.75	182889	3000	3000	317998.75	217389
19	31500	31500	283498.75	283172	3000	3000	317998.75	317672
20	31500	31540	283498.75	108160	3000	0	317998.75	139700
21	31500	42760	286498.75	286500	0	0	317998.75	329260
Total	661500	650743	5956473.75	5246817	60000	56990	6677973.75	5954550

ADDITIVE SUMMARY

Treatment Interval	28% HCl		DCA-13001		DCA-17008		DCA-21008		DCA-21009		DCA-23010		DCA-23011	
	Proposed (gal)	Pumped (gal)	Proposed (lbs)	Pumped (lbs)	Proposed (gal)	Pumped (gal)	Proposed (lbs)	Pumped (lbs)	Proposed (lbs)	Pumped (lbs)	Proposed (gal)	Pumped (gal)	Proposed (lbs)	Pumped (lbs)
1	252.5	1262	378.78	349	1	6	40	0			0	0	757.56	875.78
2	252.5	1515	378.6	356	1	6	40	0	40	0	0	0	757.21	561
3	252.5	704	378.42	377	1	2.79	40	0	40	0	0	0	756.83	678
4	252.5	757	378.23	406	1	3	40	0	40	0	0	0	756.46	888
5	252.5	500	378.04	361	1	2	40	0	40	0	0	0	756.09	940
6	252.5	505	377.86	363	1	2	40	0	40	0	0	0	755.72	768
7	252.5	1005	377.67	414	1	4	40	0	40	0	0	0	755.34	1592
8	252.5	505	377.49	369	1	2	40	0	40	0	0	0	754.97	912
9	252.5	500	377.3	453	1	2	40	5	40	5	0	0	754.6	1162
10	252.5	505	377.11	603	1	2	40	0	40	0	0	0	754.23	1454
11	252.5	505	376.93	379	1	2	40	10	40	10	0	0	753.85	888
12	252.5	1010	376.74	556	1	4	40	0	40	0	0	0	753.48	1283
13	252.5	1135	376.55	377	1	4.5	40	25	40	25	0	0	753.11	886
14	252.5	252	376.37	362	1	1	40	10	40	10	0	0	752.74	720
15	252.5	253	376.18	386	1	1	40	15	40	15	0	0	752.36	964
16	252.5	1262	376	396	1	5	40	0	40	0	0	16	751.99	1079
17	252.5	505	375.81	393	1	2	40	15	40	15	0	0	751.62	936
18	252.5	505	375.62	340	1	2	40	10	40	10	0	0	751.25	855
19	252.5	505	375.44	376	1	2	40	0	40	0	0	0	750.87	869
20	252.5	505	375.25	225	1	2	40	10	40	10	0	0	750.5	521
21	252.5	505	375.06	393	1	2	40	0	40	0	0	0	750.13	1008
Total	5302.5	14700	7915.45	8234	21	59.29	840	100	800	100	0	16	15830.91	19839.78

ADDITIVE SUMMARY

Treatment Interval	DCA-32019M		Div+1325		MP-D1	
	Proposed (gal)	Pumped (gal)	Proposed (lbs)	Pumped (lbs)	Proposed (lbs)	Pumped (lbs)
1	1	6	40	0		
2	1	6	0	0	0	0
3	1	2.79	0	0	0	0
4	1	3	0	0	0	0
5	1	2	0	0	0	0
6	1	2	0	0	0	0
7	1	4	0	0	0	0
8	1	2	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	4	0	0	0	0
13	1	4.5	0	0	0	0
14	1	1	0	0	0	0
15	1	1	0	0	0	0
16	1	5	0	0	0	0
17	1	2	0	0	0	0
18	1	2	0	0	0	0
19	1	2	0	0	0	0
20	1	2	0	0	0	3000
21	1	2	0	0	0	0
Total	21	59.29	40	0	0	3000

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	7000	79.09	0.56	8668	102.97	2
2	Cut	7429	56.76	0.02	8481	80.2	0.25
3	Completed	5767	84.77	0.76	6494	93.59	2
4	Completed	6546	73.66	0.64	8161	92.62	2
5	Completed	6603	92.43	0.79	7628	100.58	3.95
6	Completed	5744	81.83	0.7	6267	85.29	2.02
7	Completed	6433	83.04	0.67	8773	99.99	2
8	Completed	6069	97.02	0.84	7393	100.18	3.56
9	Completed	6943	90.83	0.88	8418	100.6	4
10	Cut	7537	65.4	0.53	8707	90.91	2
11	Completed	5859	94.79	0.89	6259	100.36	3.89
12	Completed	6191	83.86	0.56	8047	99.78	3.86
13	Completed	6054	94.27	0.85	7082	101.25	3.92
14	Completed	6132	96.05	0.79	6987	100.58	4
15	Completed	6807	96.34	0.92	7755	100.78	4
16	Cut	6815	57.46	0.54	8585	96.65	3
17	Completed	5753	94.81	0.78	6640	100.81	4
18	Cut	5991	89.38	0.71	7499	100.26	2
19	Completed	5662	93.89	0.83	5879	100.53	3.83
20	Cut	5784	88.39	0.59	8563	100.1	2
21	Completed	5505	93.85	0.78	6733	100.82	4

BREAKDOWN TECHNICAL DATA

Treatment Interval	Ball Seat Volume (bbl)	Ball Seat Pressure (psi)	Ball Seat Rate (bpm)	Formation Break Pressure (psi)	Formation Break Rate (bpm)
1	2527	5956	14.87	7549	28.99
2	280.65	8122	29.28	0	0
3	0	0	0	5740	9.74
4	0	0	0	5178	9.7
5	0	0	0	5672	9.55
6	0	0	0	0	0
7	0	0	0	6556	9.85
8	0	0	0	6392	32.12
9	0	0	0	5084	9.88
10	0	0	0	6380	10.16
11	0	0	0	4290	11.02
12	0	0	0	7107	29.14
13	0	0	0	5264	9.74
14	0	0	0	6159	28.37
15	35.24	4039	9.63	5597	9.76
16	0	0	0	0	0
17	0	0	0	6374	38.75
18	0	0	0	5068	9.83
19	0	0	0	5358	9.74
20	0	0	0	6152	34.27
21	0	0	0	3590	10

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	1601	4312	1.11	6.05	0	0	0	3779
2	2807	3577	0.99	12.81	0	0	0	1217
3	3251	3987	1.06	0	0	0	0	3532
4	3252	3774	1.02	4.48	0	0	0	3686
5	4002	4390	1.12	0	0	0	0	3750
6	2873	3796	1.03	6.02	0	0	0	3723
7	2899	3833	1.03	0	0	0	0	3769
8	3214	3855	1.04	7.89	0	0	0	3793
9	4274	3924	1.05	0	0	0	0	3893
10	3062	3872	1.04	0	0	0	0	3775
11	3418	4320	1.11	0	0	0	0	3752
12	3742	3964	1.05	2.65	0	0	0	3907
13	3282	4190	1.09	0	0	0	0	3794
14	3455	3917	1.05	0	0	0	0	3908
15	3447	4440	1.13	5	0	0	0	3874
16	3800	7808	1.66	0	0	0	0	4790
17	3541	4715	1.17	3.5	0	0	0	3971
18	3693	4094	1.07	0.47	0	0	0	3888
19	3844	4820	1.19	0	0	0	0	3727
20	3378	5080	1.23	5.52	0	0	0	3496
21	3137	4604	1.15	4.48	3745	3675	3639	3639

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	2024-04-08T16:07:08	2024-04-08T16:09:30	2024-04-08T23:35:22	2024-04-08T23:36:19	02:43:55	04:41:57
2	2024-04-09T00:00:00	2024-04-09T06:27:14	2024-04-09T06:28:10	2024-04-09T08:58:17	2024-04-09T09:00:20	02:30:07	00:00:00
3	2024-04-09T00:00:00	2024-04-09T14:45:32	2024-04-09T14:45:51	2024-04-09T16:52:57	2024-04-09T16:53:26	02:07:06	00:00:00
4	2024-04-10T00:00:00	2024-04-10T00:25:21	2024-04-10T00:25:52	2024-04-10T03:02:12	2024-04-10T03:02:59	02:36:20	00:00:00
5	2024-04-10T00:00:00	2024-04-10T13:58:29	2024-04-10T13:58:29	2024-04-10T15:59:46	2024-04-10T16:00:20	02:01:17	00:00:00
6	2024-04-11T00:00:00	2024-04-11T02:40:10	2024-04-11T02:40:52	2024-04-11T04:42:13	2024-04-11T04:42:55	02:01:21	00:00:00
7	2024-04-11T00:00:00	2024-04-11T11:44:48	2024-04-11T11:45:05	2024-04-11T20:32:15	2024-04-11T20:32:44	03:35:26	05:11:44
8	2024-04-12T00:00:00	2024-04-12T01:44:22	2024-04-12T01:44:48	2024-04-12T03:27:10	2024-04-12T03:27:50	01:42:22	00:00:00
9	2024-04-12T00:00:00	2024-04-12T11:15:30	2024-04-12T11:18:24	2024-04-12T13:24:03	2024-04-12T13:24:37	02:05:39	00:00:00
10	2024-04-12T00:00:00	2024-04-12T20:19:17	2024-04-12T20:19:45	2024-04-12T23:59:02	2024-04-12T23:59:42	03:39:17	00:00:00
11	2024-04-13T00:00:00	2024-04-13T11:27:53	2024-04-13T11:28:18	2024-04-13T13:21:17	2024-04-13T13:22:00	01:52:59	00:00:00
12	2024-04-13T00:00:00	2024-04-13T19:23:55	2024-04-13T19:24:23	2024-04-14T04:25:00	2024-04-14T04:25:47	09:00:37	00:00:00
13	2024-04-14T00:00:00	2024-04-14T13:01:37	2024-04-14T13:01:55	2024-04-14T14:57:01	2024-04-14T14:57:40	01:55:06	00:00:00
14	2024-04-14T00:00:00	2024-04-14T21:42:44	2024-04-14T21:43:10	2024-04-14T23:30:24	2024-04-14T23:30:58	01:47:14	00:00:00
15	2024-04-15T00:00:00	2024-04-15T06:01:31	2024-04-15T06:02:01	2024-04-15T07:49:48	2024-04-15T07:50:30	01:47:47	00:00:00
16	2024-04-15T00:00:00	2024-04-15T17:36:36	2024-04-15T17:37:06	2024-04-16T23:18:56	2024-04-16T23:21:40	07:59:56	21:41:54
17	2024-04-17T00:00:00	2024-04-17T04:49:35	2024-04-17T04:50:01	2024-04-17T06:39:25	2024-04-17T06:40:05	01:49:24	00:00:00
18	2024-04-17T00:00:00	2024-04-17T08:40:39	2024-04-17T08:41:06	2024-04-17T10:27:05	2024-04-17T10:27:46	01:45:59	00:00:00
19	2024-04-17T00:00:00	2024-04-17T12:37:54	2024-04-17T12:38:25	2024-04-17T14:26:36	2024-04-17T14:27:04	01:48:11	00:00:00
20	2024-04-18T00:00:00	2024-04-18T01:50:13	2024-04-18T01:50:52	2024-04-18T04:07:14	2024-04-18T04:11:17	02:16:22	00:00:00
21	2024-04-19T00:00:00	2024-04-19T03:28:24	2024-04-19T03:29:21	2024-04-19T05:37:45	2024-04-19T05:49:30	02:08:24	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 - 5.17 Geo - 5.092 Bleach - 19.137 Pump Down - 6384 USG Flush -13336 Stage 0 totals included with this stage 1. Cut stage due to pressure; total prop put away was ~87%	PNP
2	0	60	0	Bio: 1.08 Geo: 5 Bleach: 3.6 Flush: 11;130 Multipile sand scours. Pressured out well.	PNP
3	0	60	0	Bio: 7.9 Geo: 9 Bleach: 24.6 Flush: 11;13	PNP
4	0	60	0	Bio - 12.832 Geo - 9.642 Bleach - 36.902 Pump Down - 8232 USG Flush -14673	PNP
5	0	60	0	Bio: 10.150 Geo: 11.781 Bleach: 36.25 Pumpdown: 8694 USG Flush: 10374	PNP
6	0	60	0	Bio - 9.280 Geo - 8.482 Bleach - 29 Pump Down - 7434 USG Flush -14622	PNP
7	0	60	0	Bio: 7.162 Geo: 13.376 Bleach: 23.430 Pumpdown: 11970 USG Flush: 10206 Cut interval early due to pressure spike/screen out. 8749 psi	PNP
8	0	60	0	Bio - 8.555 Geo - 12.325 Bleach - 25.737 Pump Down - USG Flush - 1363	PNP
9	0	60	0	Bio: 22.4 Geo: 11.2 Bleach: 59.4 Pumpdown: 6678 USG Flush: 9828 USG 5 lbs of each Div 1315/1325 sent @ 6735; 338 psi pressure difference once hit.	PNP
10	0	60	0	Bio - 19.937 Geo - 7.76 Bleach - 40.24 Pump Down - 6972 USG Flush -11869	PNP
11	0	60	0	Bio: 10.1 Geo: 9 Bleach: 30.8 Pumpdown: 6636 USG Flush: 9450 USG 5 lbs of each Div 1315/1325 sent @ 5919 psi treating pressure; 145 psi difference once hit. 5 lbs of each Div 1315/1325 sent @ 5983 pse treating pressure; 71 psi difference once hit.	PNP
12	0	60	0	Bio - 20.36 Geo - 14.49 Bleach - 69.6 Pump Down - 5334 USG Flush -13511 Pressured out. Wireline went back in for more shots. Continued stage after.	PNP

QA / QC TECHNICAL DATA

Treatment Interval	Gel Viscosity (cP)	Fluid Temperature (F)	Gel pH	Interval Comments	Technology Application
13	0	60	0	Bio: 7.25 Geo: 10.8 Bleach: 31.9 Pump Down: 5376 USG Flush: 9072 USG Diverter 1st Drop Div 1315: 5 lbs Div 1325: 5 lbs 104 Psi change 2nd Drop- Div 1315: 20 lbs Div 1325: 20 lbs 409 Psi	PNP
14	0	60	0	Bio: 7.25 Geo: 12.69 Bleach: 27.93 Pump Down: 4536 USG Flush: 13120 Diverter 1st Drop Div 1315: 5 lbs Div 1325: 5 lbs 156 Psi 2nd Drop Div 1315: 5 lbs Div 1325: 5 lbs 143 Psi	PNP
15	0	60	0	Bio: 10.8 Geo: 11.9 Bleach: 43.5 Pump Down: 4536 USG Flush: 8694 USG Diverter 1st Drop Div 1315: 10 lbs Div 1325: 10 lbs 1398 Psi 2nd Drop Div 1315: 5 lbs Div 1325: 5 lbs 291 Psi	PNP
16	0	60	0	Bio: 15.225 Geo: 5.003 Bleach: 37.555 Pump Down: 7518 USG Flush: 210 USG	PNP
17	0	60	0	Bio: 16.372 Geo: 12.622 Bleach: 42.485 Pump Down: 3990 USG Flush: 8316 USG Diverter 1st Drop Div 1315: 5 lbs Div 1325: 5 lbs 50 Psi 2nd Drop Div 1315: 10 lbs Div 1325: 10 lbs 29 Psi	PNP
18	0	60	0	Bio: 9.063 Geo: 7.25 Bleach: 24.106 Pump Down: 3486 USG Flush: 8148 USG Diverter 1st Drop Div 1315: 10 lbs Div 1325: 10 lbs 132 Psi Cut early with 68% sand in hole.	PNP
19	0	60	0	Bio: 7.25 Geo: 10.875 Bleach: 21.496 Pump Down: 3612 USG Flush: 7938 USG	PNP
20	0	60	0	Bio: 10512 Geo: 4.93 Bleach: 32.987 Pump Down: 2436 USG Flush: 6636 USG Diverter 1st Drop Div 1315: 10 lbs Div 1325: 10 lbs 2503 Psi First diverter drop hit bottom and kicked us out. 44% of sand placed	PNP
21	0	60	0	Bio: 10.947 Geo: 15.877 Bleach: 34.655 Pump Down: 1974 USG Flush: 7602 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	12270	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	12136	12137	0.83	1.2	0.35	120	1	Niobrara	Niobrara
1	2	12135	12135	0.84	1.2	0.35	120	1	Niobrara	Niobrara
1	3	12134	12134	0.83	1.2	0.35	120	1	Niobrara	Niobrara
1	4	12133	12133	0.83	1.2	0.35	120	1	Niobrara	Niobrara
1	5	12132	12132	0.84	1.2	0.35	120	1	Niobrara	Niobrara
1	6	12131	12131	0.83	1.2	0.35	120	1	Niobrara	Niobrara
2	1	12100	12101	1	6	0.35	120	6	Niobrara	Niobrara
2	2	12068	12069	1	6	0.35	120	6	Niobrara	Niobrara
2	3	12036	12037	1	6	0.35	120	6	Niobrara	Niobrara
2	4	12004	12005	1	6	0.35	120	6	Niobrara	Niobrara
2	5	11972	11973	1	4	0.35	120	4	Niobrara	Niobrara
2	6	11941	11942	1	4	0.35	120	4	Niobrara	Niobrara
3	1	11900	11901	1	6	0.35	120	6	Niobrara	Niobrara
3	2	11868	11869	1	6	0.35	120	6	Niobrara	Niobrara
3	3	11836	11837	1	6	0.35	120	6	Niobrara	Niobrara
3	4	11804	11805	1	6	0.35	120	6	Niobrara	Niobrara
3	5	11772	11773	1	4	0.35	120	4	Niobrara	Niobrara
3	6	11741	11742	1	4	0.35	120	4	Niobrara	Niobrara
4	1	11700	11701	1	6	0.35	120	6	Niobrara	Niobrara
4	2	11668	11669	1	6	0.35	120	6	Niobrara	Niobrara
4	3	11636	11637	1	6	0.35	120	6	Niobrara	Niobrara
4	4	11604	11605	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
4	5	11572	11573	1	4	0.35	120	4	Niobrara	Niobrara
4	6	11541	11542	1	4	0.35	120	4	Niobrara	Niobrara
5	1	11500	11501	1	6	0.35	120	6	Niobrara	Niobrara
5	2	11468	11469	1	6	0.35	120	6	Niobrara	Niobrara
5	3	11436	11437	1	6	0.35	120	6	Niobrara	Niobrara
5	4	11404	11405	1	6	0.35	120	6	Niobrara	Niobrara
5	5	11372	11373	1	4	0.35	120	4	Niobrara	Niobrara
5	6	11341	11342	1	4	0.35	120	4	Niobrara	Niobrara
6	1	11300	11301	1	6	0.35	120	6	Niobrara	Niobrara
6	2	11268	11269	1	6	0.35	120	6	Niobrara	Niobrara
6	3	11236	11237	1	6	0.35	120	6	Niobrara	Niobrara
6	4	11204	11205	1	6	0.35	120	6	Niobrara	Niobrara
6	5	11172	11173	1	4	0.35	120	4	Niobrara	Niobrara
6	6	11141	11142	1	4	0.35	120	4	Niobrara	Niobrara
7	1	11100	11101	1	6	0.35	120	6	Niobrara	Niobrara
7	2	11068	11069	1	6	0.35	120	6	Niobrara	Niobrara
7	3	11036	11037	1	6	0.35	120	6	Niobrara	Niobrara
7	4	11004	11005	1	6	0.35	120	6	Niobrara	Niobrara
7	5	10972	10973	1	4	0.35	120	4	Niobrara	Niobrara
7	6	10941	10942	1	4	0.35	120	4	Niobrara	Niobrara
8	1	10900	10901	1	6	0.35	120	6	Niobrara	Niobrara
8	2	10868	10869	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	3	10836	10837	1	6	0.35	120	6	Niobrara	Niobrara
8	4	10804	10805	1	6	0.35	120	6	Niobrara	Niobrara
8	5	10772	10773	1	4	0.35	120	4	Niobrara	Niobrara
8	6	10741	10742	1	4	0.35	120	4	Niobrara	Niobrara
9	1	10700	10701	1	6	0.35	120	6	Niobrara	Niobrara
9	2	10668	10669	1	6	0.35	120	6	Niobrara	Niobrara
9	3	10636	10637	1	6	0.35	120	6	Niobrara	Niobrara
9	4	10604	10605	1	6	0.35	120	6	Niobrara	Niobrara
9	5	10572	10573	1	4	0.35	120	4	Niobrara	Niobrara
9	6	10541	10542	1	4	0.35	120	4	Niobrara	Niobrara
10	1	10500	10501	1	6	0.35	120	6	Niobrara	Niobrara
10	2	10468	10469	1	6	0.35	120	6	Niobrara	Niobrara
10	3	10436	10437	1	6	0.35	120	6	Niobrara	Niobrara
10	4	10404	10405	1	6	0.35	120	6	Niobrara	Niobrara
10	5	10372	10373	1	4	0.35	120	4	Niobrara	Niobrara
10	6	10341	10342	1	4	0.35	120	4	Niobrara	Niobrara
11	1	10300	10301	1	6	0.35	120	6	Niobrara	Niobrara
11	2	10268	10269	1	6	0.35	120	6	Niobrara	Niobrara
11	3	10236	10237	1	6	0.35	120	6	Niobrara	Niobrara
11	4	10204	10205	1	6	0.35	120	6	Niobrara	Niobrara
11	5	10172	10173	1	4	0.35	120	4	Niobrara	Niobrara
11	6	10141	10142	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
12	1	10100	10101	1	6	0.35	120	6	Niobrara	Niobrara
12	2	10068	10069	1	6	0.35	120	6	Niobrara	Niobrara
12	3	10036	10037	1	6	0.35	120	6	Niobrara	Niobrara
12	4	10004	10005	1	6	0.35	120	6	Niobrara	Niobrara
12	5	9972	9973	1	4	0.35	120	4	Niobrara	Niobrara
12	6	9941	9942	1	4	0.35	120	4	Niobrara	Niobrara
13	1	9900	9901	1	6	0.35	120	6	Niobrara	Niobrara
13	2	9868	9869	1	6	0.35	120	6	Niobrara	Niobrara
13	3	9836	9837	1	6	0.35	120	6	Niobrara	Niobrara
13	4	9804	9805	1	6	0.35	120	6	Niobrara	Niobrara
13	5	9772	9773	1	4	0.35	120	4	Niobrara	Niobrara
13	6	9741	9742	1	4	0.35	120	4	Niobrara	Niobrara
14	1	9700	9701	1	6	0.35	120	6	Niobrara	Niobrara
14	2	9668	9669	1	6	0.35	120	6	Niobrara	Niobrara
14	3	9636	9637	1	6	0.35	120	6	Niobrara	Niobrara
14	4	9604	9605	1	6	0.35	120	6	Niobrara	Niobrara
14	5	9572	9573	1	4	0.35	120	4	Niobrara	Niobrara
14	6	9541	9542	1	4	0.35	120	4	Niobrara	Niobrara
15	1	9500	9501	1	6	0.35	120	6	Niobrara	Niobrara
15	2	9468	9469	1	6	0.35	120	6	Niobrara	Niobrara
15	3	9436	9437	1	6	0.35	120	6	Niobrara	Niobrara
15	4	9404	9405	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
15	5	9372	9373	1	4	0.35	120	4	Niobrara	Niobrara
15	6	9341	9342	1	4	0.35	120	4	Niobrara	Niobrara
16	1	9300	9301	1	6	0.35	120	6	Niobrara	Niobrara
16	2	9268	9269	1	6	0.35	120	6	Niobrara	Niobrara
16	3	9236	9237	1	6	0.35	120	6	Niobrara	Niobrara
16	4	9204	9205	1	6	0.35	120	6	Niobrara	Niobrara
16	5	9172	9173	1	4	0.35	120	4	Niobrara	Niobrara
16	6	9141	9142	1	4	0.35	120	4	Niobrara	Niobrara
17	1	9100	9101	1	6	0.35	120	6	Niobrara	Niobrara
17	2	9068	9069	1	6	0.35	120	6	Niobrara	Niobrara
17	3	9036	9037	1	6	0.35	120	6	Niobrara	Niobrara
17	4	9004	9005	1	6	0.35	120	6	Niobrara	Niobrara
17	5	8972	8973	1	4	0.35	120	4	Niobrara	Niobrara
17	6	8941	8942	1	4	0.35	120	4	Niobrara	Niobrara
18	1	8900	8901	1	6	0.35	120	6	Niobrara	Niobrara
18	2	8868	8869	1	6	0.35	120	6	Niobrara	Niobrara
18	3	8836	8837	1	6	0.35	120	6	Niobrara	Niobrara
18	4	8804	8805	1	6	0.35	120	6	Niobrara	Niobrara
18	5	8772	8773	1	4	0.35	120	4	Niobrara	Niobrara
18	6	8741	8742	1	4	0.35	120	4	Niobrara	Niobrara
19	1	8700	8701	1	6	0.35	120	6	Niobrara	Niobrara
19	2	8668	8669	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	3	8636	8637	1	6	0.35	120	6	Niobrara	Niobrara
19	4	8604	8605	1	6	0.35	120	6	Niobrara	Niobrara
19	5	8572	8573	1	4	0.35	120	4	Niobrara	Niobrara
19	6	8541	8542	1	4	0.35	120	4	Niobrara	Niobrara
20	1	8500	8501	1	6	0.35	120	6	Niobrara	Niobrara
20	2	8468	8469	1	6	0.35	120	6	Niobrara	Niobrara
20	3	8436	8437	1	6	0.35	120	6	Niobrara	Niobrara
20	4	8404	8405	1	6	0.35	120	6	Niobrara	Niobrara
20	5	8372	8373	1	4	0.35	120	4	Niobrara	Niobrara
20	6	8341	8342	1	4	0.35	120	4	Niobrara	Niobrara
21	1	8300	8301	1	6	0.35	120	6	Niobrara	Niobrara
21	2	8268	8269	1	6	0.35	120	6	Niobrara	Niobrara
21	3	8236	8237	1	6	0.35	120	6	Niobrara	Niobrara
21	4	8204	8205	1	6	0.35	120	6	Niobrara	Niobrara
21	5	8172	8173	1	4	0.35	120	4	Niobrara	Niobrara
21	6	8141	8142	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	500	3000	1000	500	11300	24058	0	4129	328680	268161	37800	94769	0	8902
2	500	2000	1000	1793	11123	81488	0	0	328680	35524	37800	56781	0	0
3	500	1394	1000	758	10937	20253	0	0	328680	323764	37800	36908	0	0
4	500	1499	1000	1161	10751	9552	0	5122	328680	302114	37800	42550	0	4502
5	500	1002	1000	736	10565	19391	0	0	328680	326818	37800	37018	0	0
6	500	998	1000	945	10378	8188	0	6434	328680	315601	37800	35252	0	4688
7	500	2000	1000	466	10192	18502	0	0	328680	377764	37800	107918	0	411
8	500	1000	1000	884	10006	8475	0	5155	328680	325932	37800	31614	0	4665
9	500	1000	1000	306	9819	18053	0	0	328680	332287	37800	39650	0	0
10	500	998	0	0	9633	8103	0	3765	328680	340540	37800	65792	0	3159
11	500	1000	1000	412	9447	17959	0	0	328680	328162	37800	37506	0	0
12	500	1000	1000	736	9260	81962	0	0	328680	386790	37800	74598	0	335
13	500	2248	1000	535	9074	13806	0	0	328680	327119	37800	42731	0	2876
14	500	499	1000	487	8888	8376	0	4744	328680	335101	37800	32315	0	3760
15	500	501	1000	133	8702	15951	0	0	328680	330757	37800	39658	0	0
16	500	2499	1000	567	8515	56867	0	0	328680	273922	37800	90980	0	151
17	500	1000	1000	310	8329	16753	0	0	328680	334820	37800	33458	0	0
18	500	1000	1000	147	8143	22657	0	0	328680	258033	37800	39256	0	0
19	500	1000	1000	201	7956	15860	0	0	328680	327105	37800	37941	0	0
20	500	1000	1000	428	7770	6186	0	0	328680	159033	37800	56657	0	2279
21	500	1000	1000	392	7584	20857	0	0	328680	345279	37800	39591	0	0
Total	10500	27638	20000	11897	198372	493297	0	29349	6902280	6354626	793800	1072943	0	35728

STAGE DESCRIPTION

Treatment Interval	Shut-In		Spacer		Sweep		Wireline Pump-In		Total	
	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)	Proposed (gal)	Pumped (gal)
1	0	0	0	3183	0	0	0	6384	379280	413086
2	0	0	0	94365	0	0	0	5964	379103	277915
3	0	0	0	2254	0	0	0	5796	378917	391127
4	0	0	0	49154	0	0	0	8232	378731	423886
5	0	0	0	0	0	0	0	8694	378545	393659
6	0	0	0	0	0	0	0	7434	378358	379540
7	0	0	0	33619	0	0	0	11970	378172	552650
8	0	0	0	0	0	0	0	6888	377986	384613
9	0	0	0	17792	0	0	0	6678	377799	415766
10	0	0	0	42245	0	2846	0	6972	376613	474420
11	0	0	0	0	0	0	0	6636	377427	391675
12	0	0	0	27783	0	0	0	5334	377240	578538
13	0	0	0	0	0	0	0	5376	377054	394691
14	0	0	0	0	0	0	0	4536	376868	389818
15	0	0	0	0	0	0	0	4536	376682	391536
16	0	18	0	21123	0	0	0	7518	376495	453645
17	0	0	0	12170	0	0	0	3990	376309	402501
18	0	0	0	17014	0	0	0	3486	376123	341593
19	0	0	0	0	0	0	0	3612	375936	385719
20	0	2	0	0	0	0	0	2436	375750	228021
21	0	0	0	30059	0	0	0	1974	375564	439152
Total	0	20	0	350761	0	2846	0	124446	7924952	8503551

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	6384	6384	6384
	2	Breakdown	Dry FR		0	0	0	7.64	500	516	6884
	3	Acid	15% HCl		0	0	0	9.85	1000	1000	7884
	4	Pad	Dry FR		0	0	0	14.86	1528	1529	9412
	5	Pad	Dry FR		0	0	0	29.14	15302	15177	24714
	6	Pad	Dry FR		0	0	0	9.96	889	889	25603
	7	Acid	15% HCl		0	0	0	9.98	1000	1000	26603
	8	Pad	Dry FR		0	0	0	15.19	1115	1130	27718
	9	Pad	Dry FR		0	0	0	43.2	35205	35613	62923
	10	Pad	Dry FR		0	0	0	50.87	587	608	63510
	11	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	50.46	27788	28704	91298
	12	Flush	Dry FR		0	0	0	50.5	4966	5078	96264
	13	Flush	Dry FR		0	0	0	33.18	3646	3744	99910
	14	Acid	15% HCl		0	0	0	9.82	1000	1000	100910
	15	Pad	Dry FR		0	0	0	10.8	442	460	101352
	16	Pad	Dry FR		0	0	0	39.23	39701	39996	141053
	17	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	87.72	49116	50034	190169
	18	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	100.16	21617	22676	211786
	19	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	100.09	8159	8375	219945
	20	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	100.2	3882	3945	223827
	21	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.26	62016	66167	285843
	22	PLF	Dry FR	30/50 Premium White	2	2	2	100.05	10796	12030	296639

ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
1	23	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.41	9598	9813	306237
	24	PLF	Dry FR	30/50 Premium White	0.25	0.41	0.33	99.74	7077	7153	313314
	25	Spacer	Dry FR		0	0	0	98.1	3183	3173	316497
	26	PLF	Dry FR	30/50 Premium White	0.8	0.53	0.66	98.65	3428	3468	319925
	27	PLF	Dry FR	30/50 Premium White	0.6	2	1.3	99.26	50550	53457	370475
	28	PLF	Dry FR	30/50 Premium White	2	2	2	99.51	10946	12001	381421
	29	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.2	3188	3209	384609
	30	Pre-Flush	Dry FR		0	0	0	100.07	8902	8866	393511
	31	Flush	Dry FR		0	0	0	60.09	15446	15233	408957
	32	Overflush	Treated Water		0	0	0	24.14	4129	4056	413086
2	1	Wireline Pump-In	Treated Water		0	0	0	10	5964	5964	419050
	2	Breakdown	FR Water		0	0	0	11.62	1793	1808	420843
	3	Acid	15% HCl		0	0	0	9.71	1000	1000	421843
	4	Pad	FR Water		0	0	0	20.54	5496	5511	427339
	5	Acid	15% HCl		0	0	0	9.83	1000	1000	428339
	6	Pad	FR Water		0	0	0	12.97	673	612	429012
	7	Pad	Dry FR		0	0	0	40.21	33697	33552	462709
	8	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	79.98	3343	3374	466052
	9	Spacer	Dry FR		0	0	0	79.94	19805	19785	485857
	10	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	79.93	3767	3821	489624
	11	Spacer	Dry FR		0	0	0	79.14	26752	26765	516376
	12	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	78.65	4134	4204	520510

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	13	Flush	Dry FR		0	0	0	70.11	24504	24542	545014
	14	Pad	Dry FR		0	0	0	60.08	1939	1943	546953
	15	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	60.07	997	1014	547950
	16	Spacer	Dry FR		0	0	0	60.08	14128	14151	562078
	17	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	60.1	2206	2240	564284
	18	Spacer	Dry FR		0	0	0	60.09	14510	14534	578794
	19	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	60.08	960	972	579754
	20	Flush	Dry FR		0	0	0	54.91	16737	16791	596491
	21	Pad	Dry FR		0	0	0	54.91	14976	15020	611467
	22	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	54.92	911	927	612378
	23	Spacer	Dry FR		0	0	0	54.91	4468	4478	616846
	24	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	54.93	915	927	617761
	25	Spacer	Dry FR		0	0	0	54.9	14702	14747	632463
	26	PLF	Dry FR	100 Mesh Premium White	0.15	0.15	0.15	54.91	18291	18416	650754
	27	Flush	Dry FR		0	0	0	40.16	21315	21360	672069
	28	Flush	FR Water		0	0	0	9.99	1360	1479	673429
	29	Flush	15% HCl		0	0	0	10.04	1000	1000	674429
	30	Flush	FR Water		0	0	0	11.2	326	324	674755
	31	Flush	Dry FR		0	0	0	21.01	15832	15676	690587
	32	Flush	FR Water		0	0	0	9.38	414	2427	691001
3	1	Wireline Pump-In	Treated Water		0	0	0	10	5796	5796	696797
	2	Breakdown	FR Water		0	0	0	8.45	758	725	697555

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	9.75	598	598	698153
	4	Pad	FR Water		0	0	0	9.82	264	269	698417
	5	Pad	Dry FR		0	0	0	21.27	3755	3718	702172
	6	Pad	FR Water		0	0	0	8.52	495	516	702667
	7	Acid	15% HCl		0	0	0	10.68	796	796	703463
	8	Pad	FR Water		0	0	0	10.82	384	392	703847
	9	Pad	Dry FR		0	0	0	11.49	118	114	703965
	10	Pad	FR Water		0	0	0	20.34	845	847	704810
	11	Pad	Dry FR		0	0	0	41.1	31047	30641	735857
	12	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	72.79	52504	53028	788361
	13	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	88.87	21619	22497	809980
	14	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	89.69	1713	1703	811693
	15	Spacer	Dry FR		0	0	0	89.71	2254	2271	813947
	16	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	89.85	8174	8276	822121
	17	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	91.23	62761	66262	884882
	18	PLF	Dry FR	30/50 Premium White	2	2	2	93.26	10985	12065	895867
	19	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	93.41	9760	9852	905627
	20	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	93.38	63881	67101	969508
	21	PLF	Dry FR	30/50 Premium White	2	2	2	93.25	11014	12064	980522
	22	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	93.45	44326	44680	1024848
	23	PLF	Dry FR	30/50 Premium White	0.25	0.59	0.42	93.46	2088	2103	1026936
	24	PLF	Dry FR	30/50 Premium White	0.35	1.92	1.14	93.37	17308	18185	1044244

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	25	PLF	Dry FR	30/50 Premium White	1.93	1.93	1.93	93.36	4087	4464	1048331
	26	PLF	Dry FR	30/50 Premium White	2	2	2	93.29	13544	14759	1061875
	27	Flush	Dry FR		0	0	0	93.42	3650	3613	1065525
	28	Flush	Dry FR		0	0	0	93.47	331	329	1065856
	29	Flush	Dry FR		0	0	0	93.48	132	131	1065988
	30	Flush	Dry FR		0	0	0	93.5	265	263	1066253
	31	Flush	Dry FR		0	0	0	93.52	331	329	1066584
	32	Flush	Dry FR		0	0	0	91.67	12020	11987	1078604
	33	Flush	FR Water		0	0	0	75.89	3524	3511	1082128
4	1	Wireline Pump-In	Treated Water		0	0	0	21	8232	8232	1090360
	2	Breakdown	Dry FR		0	0	0	9.69	1161	1077	1091521
	3	Acid	15% HCl		0	0	0	9.73	499	499	1092020
	4	Pad	Dry FR		0	0	0	9.91	2176	2177	1094196
	5	Acid	15% HCl		0	0	0	9.81	1000	1000	1095196
	6	Pad	Dry FR		0	0	0	16.17	988	988	1096184
	7	Pad	Dry FR		0	0	0	46.58	39386	38984	1135570
	8	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	66.5	2208	2198	1137778
	9	Spacer	Dry FR		0	0	0	66.48	1496	1496	1139274
	10	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	66.41	2548	2568	1141822
	11	Spacer	Dry FR		0	0	0	56.72	35797	35527	1177619
	12	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	50.95	3971	3977	1181590
	13	Spacer	Dry FR		0	0	0	50.99	11861	11760	1193451

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	14	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	51.46	24211	24278	1217662
	15	PLF	Dry FR	100 Mesh Premium White	0.25	0.99	0.62	56.51	8925	9061	1226587
	16	PLF	Dry FR	100 Mesh Premium White	0.74	1.5	1.12	60.68	12550	13143	1239137
	17	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	63.41	12191	12261	1251328
	18	PLF	Dry FR	30/50 Premium White	0.56	0.28	0.42	66.03	3995	4040	1255323
	19	PLF	Dry FR	30/50 Premium White	0.36	2	1.18	74.6	59179	62163	1314502
	20	PLF	Dry FR	30/50 Premium White	2	2	2	81.95	11014	12043	1325516
	21	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	82.09	10249	10332	1335765
	22	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	82.1	1089	1097	1336854
	23	PLF	Dry FR	30/50 Premium White	0.26	2	1.13	88.07	62438	65522	1399292
	24	PLF	Dry FR	30/50 Premium White	2	2	2	92.18	11043	12055	1410335
	25	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	92.42	44506	44775	1454841
	26	PLF	Dry FR	30/50 Premium White	0.25	0.59	0.42	92.44	1616	1625	1456457
	27	PLF	Dry FR	30/50 Premium White	0.32	1.96	1.14	92.33	18355	19217	1474812
	28	PLF	Dry FR	30/50 Premium White	1.97	1.97	1.97	91.89	12026	12986	1486838
	29	Pre-Flush	Dry FR		0	0	0	91.44	4502	4437	1491340
	30	Flush	Dry FR		0	0	0	92.38	9552	9548	1500892
	31	Overflush	FR Water		0	0	0	75.81	5122	5224	1506014
5	1	Wireline Pump-In	Treated Water		0	0	0	10	8694	8694	1514708
	2	Breakdown	FR Water		0	0	0	8.41	736	739	1515444
	3	Acid	15% HCl		0	0	0	9.78	501	501	1515945
	4	Pad	FR Water		0	0	0	9.79	90	93	1516035

ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
5	5	Pad	Dry FR		0	0	0	9.74	2342	2357	1518377
	6	Pad	FR Water		0	0	0	9.67	209	211	1518586
	7	Acid	15% HCl		0	0	0	9.66	501	501	1519087
	8	Pad	FR Water		0	0	0	9.74	336	336	1519423
	9	Pad	Dry FR		0	0	0	36.81	34041	33958	1553464
	10	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	84.53	52389	52971	1605853
	11	PLF	Dry FR	100 Mesh Premium White	0.25	1.49	0.87	100.1	21719	22593	1627572
	12	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	100.1	12044	12177	1639616
	13	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.15	62926	66195	1702542
	14	PLF	Dry FR	30/50 Premium White	2	2	2	100.1	11017	12035	1713559
	15	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.26	9753	9869	1723312
	16	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.16	63837	67117	1787149
	17	PLF	Dry FR	30/50 Premium White	2	2	2	100.02	10934	11955	1798083
	18	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.25	44237	44758	1842320
	19	PLF	Dry FR	30/50 Premium White	0.25	3.95	2.1	100.12	37962	40832	1880282
	20	Flush	Dry FR		0	0	0	100.22	3720	3664	1884002
	21	Flush	Dry FR		0	0	0	98.71	11547	11520	1895549
	22	Flush	FR Water		0	0	0	21.81	4124	4277	1899673
6	1	Wireline Pump-In	Treated Water		0	0	0	18	7434	7434	1907107
	2	Breakdown	Dry FR		0	0	0	9.1	945	847	1908052
	3	Acid	15% HCl		0	0	0	9.72	499	499	1908551
	4	Pad	Dry FR		0	0	0	9.76	1142	1115	1909693

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	5	Acid	15% HCl		0	0	0	10.22	499	499	1910192
	6	Pad	Dry FR		0	0	0	13.26	886	901	1911078
	7	Pad	Dry FR		0	0	0	56.68	33224	33567	1944302
	8	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	80.27	1007	1016	1945309
	9	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	82.62	52133	52982	1997442
	10	PLF	Dry FR	100 Mesh Premium White	0.25	1.49	0.87	84.53	21611	22527	2019053
	11	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	84.66	12086	12264	2031139
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	84.74	62696	66201	2093835
	13	PLF	Dry FR	30/50 Premium White	2	2	2	84.62	10997	12078	2104832
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	84.9	9758	9909	2114590
	15	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	84.72	63458	66956	2178048
	16	PLF	Dry FR	30/50 Premium White	2	2	2	84.49	10972	12060	2189020
	17	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	84.91	44095	44715	2233115
	18	PLF	Dry FR	30/50 Premium White	0.25	2.01	1.13	84.72	20287	21326	2253402
	19	PLF	Dry FR	30/50 Premium White	2.02	2.02	2.02	84.55	6501	7074	2259903
	20	Pre-Flush	Dry FR		0	0	0	84.86	4688	4654	2264591
	21	Flush	Dry FR		0	0	0	85.04	8188	8252	2272779
	22	Overflush	FR Water		0	0	0	73.65	6434	6405	2279213
7	1	Wireline Pump-In	Treated Water		0	0	0	18	11970	11970	2291183
	2	Breakdown	FR Water		0	0	0	7.36	466	321	2291649
	3	Acid	15% HCl		0	0	0	9.92	1000	1000	2292649
	4	Pad	FR Water		0	0	0	9.68	568	552	2293217

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	5	Pad	Dry FR		0	0	0	38.22	39018	39200	2332235
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	58.35	12185	12397	2344420
	7	Pre-Flush	Dry FR		0	0	0	20.74	411	347	2344831
	8	Shut-In	FR Water		0	0	0	0	0	38	2344831
	9	Pad	Dry FR		0	0	0	3.38	85	109	2344916
	10	Pad	FR Water		0	0	0	0.76	474	333	2345390
	11	Shut-In	FR Water		0	0	0	0	0	0	2345390
	12	Pad	FR Water		0	0	0	3.06	180	288	2345570
	13	Pad	Dry FR		0	0	0	35.36	29753	29880	2375323
	14	Pad	FR Water		0	0	0	16.1	2833	2873	2378156
	15	Pad	Dry FR		0	0	0	33.11	10072	10105	2388228
	16	Pad	FR Water		0	0	0	11.92	935	937	2389163
	17	Acid	15% HCl		0	0	0	9.81	1000	1000	2390163
	18	Pad	FR Water		0	0	0	19.03	700	732	2390863
	19	Pad	Dry FR		0	0	0	55.11	23300	23530	2414163
	20	PLF	Dry FR	30/50 Premium White	0.15	0.15	0.15	80.07	1507	1520	2415670
	21	PLF	Dry FR	30/50 Premium White	0.15	0.15	0.15	79.91	5406	5450	2421076
	22	Spacer	Dry FR		0	0	0	80.11	19315	19432	2440391
	23	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	80.05	6043	6136	2446434
	24	Spacer	Dry FR		0	0	0	80.08	14304	14358	2460738
	25	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	81.33	51485	52213	2512223
	26	PLF	Dry FR	100 Mesh Premium White	0.25	1.49	0.87	89.05	21748	22544	2533971

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	27	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	90.64	12008	12173	2545979
	28	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	97.38	63144	66148	2609123
	29	PLF	Dry FR	30/50 Premium White	2	2	2	97.59	11165	12039	2620288
	30	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	98.28	9766	9882	2630054
	31	PLF	Dry FR	30/50 Premium White	0.25	1.99	1.12	98.16	63868	67089	2693922
	32	PLF	Dry FR	30/50 Premium White	2	2	2	97.88	10932	11976	2704854
	33	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	97.31	44113	44744	2748967
	34	PLF	Dry FR	30/50 Premium White	0.25	1.98	1.12	97.67	20050	21151	2769017
	35	PLF	Dry FR	30/50 Premium White	1.99	1.99	1.99	97.36	44344	48673	2813361
	36	Flush	Dry FR		0	0	0	98.04	4514	4481	2817875
	37	Flush	Dry FR		0	0	0	98.14	8505	8557	2826380
	38	Flush	FR Water		0	0	0	81.47	5483	5460	2831863
8	1	Wireline Pump-In	Treated Water		0	0	0	18	6888	6888	2838751
	2	Breakdown	Treated Water		0	0	0	8.63	884	937	2839635
	3	Acid	15% HCl		0	0	0	9.71	1000	1000	2840635
	4	Pad	Dry FR		0	0	0	13.17	316	320	2840951
	5	Pad	Dry FR		0	0	0	63.99	31298	31886	2872249
	6	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.94	3127	3162	2875376
	7	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	99.81	51754	52847	2927130
	8	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.87	99.66	21595	22633	2948725
	9	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	99.7	12077	12338	2960802
	10	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.63	62258	66130	3023060

ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
8	11	PLF	Dry FR	30/50 Premium White	2	2	2	99.41	10968	12093	3034028
	12	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.74	9616	9818	3043644
	13	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.64	63272	67116	3106916
	14	PLF	Dry FR	30/50 Premium White	2	2	2	99.4	10908	12022	3117824
	15	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.82	44121	44991	3161945
	16	PLF	Dry FR	30/50 Premium White	0.25	3.56	1.9	99.55	36236	39339	3198181
	17	Pre-Flush	Dry FR		0	0	0	99.77	4665	4630	3202846
	18	Flush	Dry FR		0	0	0	100.03	8475	8581	3211321
	19	Overflush	FR Water		0	0	0	80.04	5155	5150	3216476
9	1	Wireline Pump-In	Treated Water		0	0	0	18	6678	6678	3223154
	2	Breakdown	FR Water		0	0	0	6.35	306	281	3223460
	3	Acid	15% HCl		0	0	0	9.9	499	499	3223959
	4	Pad	FR Water		0	0	0	9.92	1733	1783	3225692
	5	Acid	15% HCl		0	0	0	10.5	501	501	3226193
	6	Pad	FR Water		0	0	0	11.17	697	681	3226890
	7	Pad	Dry FR		0	0	0	48.28	37220	37696	3264110
	8	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	79.92	8040	8204	3272150
	9	Spacer	Dry FR		0	0	0	75.23	7920	7985	3280070
	10	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	80	35441	36177	3315511
	11	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	94.38	21627	22631	3337138
	12	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	94.93	11987	12215	3349125
	13	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	98.87	62566	66185	3411691

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	14	PLF	Dry FR	30/50 Premium White	2	2	2	100.02	10958	12026	3422649
	15	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.43	9675	9886	3432324
	16	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.22	63430	67084	3495754
	17	PLF	Dry FR	30/50 Premium White	2	2	2	99.91	4354	4777	3500108
	18	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	96.6	3988	4073	3504096
	19	Spacer	Dry FR		0	0	0	95.54	9872	9943	3513968
	20	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	95.52	40588	41373	3554556
	21	PLF	Dry FR	30/50 Premium White	0.26	0.26	0.26	95.56	1251	1277	3555807
	22	PLF	Dry FR	30/50 Premium White	0.5	0.5	0.5	95.44	8598	8858	3564405
	23	PLF	Dry FR	30/50 Premium White	1	1	1	95.26	9221	9712	3573626
	24	PLF	Dry FR	30/50 Premium White	1.5	1.5	1.5	95.12	9444	10165	3583070
	25	PLF	Dry FR	30/50 Premium White	2	2	2	95.03	9805	10757	3592875
	26	PLF	Dry FR	30/50 Premium White	2.5	2.5	2.5	94.89	7950	8873	3600825
	27	PLF	Dry FR	30/50 Premium White	3	3	3	94.76	5744	6530	3606569
	28	PLF	Dry FR	30/50 Premium White	4	4	4	94.71	7620	8590	3614189
	29	Flush	Dry FR		0	0	0	95.56	4422	4435	3618611
	30	Flush	Dry FR		0	0	0	86.26	7991	8068	3626602
	31	Flush	FR Water		0	0	0	68.78	5640	5799	3632242
10	1	Wireline Pump-In	Treated Water		0	0	0	20	6972	6972	3639214
	2	Shut-In	Treated Water		0	0	0	0	0	0	3639214
	3	Pad	Treated Water		0	0	0	7.25	682	667	3639896
	4	Acid	15% HCl		0	0	0	10.04	499	499	3640395

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	5	Pad	Dry FR		0	0	0	12.97	388	370	3640783
	6	Pad	Dry FR		0	0	0	48.43	35782	36394	3676565
	7	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	81.84	2084	2129	3678649
	8	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	80.63	12873	13152	3691522
	9	Sweep	Dry FR		0	0	0	15.47	2060	2080	3693582
	10	Sweep	Dry FR		0	0	0	3.37	786	896	3694368
	11	Acid	15% HCl		0	0	0	6.16	499	499	3694867
	12	Pad	Dry FR		0	0	0	6.12	275	288	3695142
	13	Pad	Dry FR		0	0	0	8.31	527	553	3695669
	14	Pad	Dry FR		0	0	0	10.05	2568	2657	3698237
	15	Pad	Dry FR		0	0	0	30.57	25570	26106	3723807
	16	PLF	Dry FR	100 Mesh Premium White	0.5	0.5	0.5	42.78	2101	2196	3725908
	17	Spacer	Dry FR		0	0	0	37.49	11769	12018	3737677
	18	PLF	Dry FR	100 Mesh Premium White	0.5	0.5	0.5	36.42	4322	4509	3741999
	19	Spacer	Dry FR		0	0	0	35.09	9953	10164	3751952
	20	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	48.13	46588	47825	3798540
	21	PLF	Dry FR	100 Mesh Premium White	0.25	1.49	0.87	62.47	21267	22313	3819807
	22	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	66.18	11909	12193	3831716
	23	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	69.97	62507	66172	3894223
	24	PLF	Dry FR	30/50 Premium White	2	2	2	79.74	11099	12113	3905322
	25	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	82.42	9744	9910	3915066
	26	PLF	Dry FR	30/50 Premium White	0.25	0.43	0.34	81.79	7437	7591	3922503

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	27	Spacer	Dry FR		0	0	0	56.67	20523	20793	3943026
	28	PLF	Dry FR	30/50 Premium White	0.5	0.5	0.5	56.97	16339	16902	3959365
	29	PLF	Dry FR	30/50 Premium White	1	1	1	73.55	24177	25449	3983542
	30	PLF	Dry FR	30/50 Premium White	1.5	1.5	1.5	83.57	19720	21213	4003262
	31	PLF	Dry FR	30/50 Premium White	1.5	0.25	0.88	84.26	2934	3081	4006196
	32	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	84.58	8573	8742	4014769
	33	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	84.6	27289	27840	4042058
	34	PLF	Dry FR	30/50 Premium White	0.5	0.5	0.5	85.89	15943	16428	4058001
	35	PLF	Dry FR	30/50 Premium White	1	1	1	88.04	18172	19130	4076173
	36	PLF	Dry FR	30/50 Premium White	1.5	1.5	1.5	86.24	15462	16670	4091635
	37	Pre-Flush	Dry FR		0	0	0	59.1	3159	3204	4094794
	38	Flush	Dry FR		0	0	0	58.07	8103	8288	4102897
	39	Overflush	FR Water		0	0	0	34.58	3765	3837	4106662
11	1	Wireline Pump-In	Treated Water		0	0	0	18	6636	6636	4113298
	2	Breakdown	FR Water		0	0	0	6.65	412	473	4113710
	3	Acid	15% HCl		0	0	0	10.03	501	501	4114211
	4	Pad	FR Water		0	0	0	9.95	1492	1535	4115703
	5	Acid	15% HCl		0	0	0	10.5	499	499	4116202
	6	Pad	FR Water		0	0	0	13.17	464	501	4116666
	7	Pad	Dry FR		0	0	0	48.28	35550	35869	4152216
	8	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	90.76	1436	1470	4153652
	9	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	99.93	51979	52910	4205631

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	10	PLF	Dry FR	100 Mesh Premium White	0.25	1.49	0.87	100.04	21593	22581	4227224
	11	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	100.1	12080	12317	4239304
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.84	62536	66127	4301840
	13	PLF	Dry FR	30/50 Premium White	2	2	2	99.64	10924	11980	4312764
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.06	9718	9920	4322482
	15	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.88	63435	67065	4385917
	16	PLF	Dry FR	30/50 Premium White	2	2	2	99.6	11034	12116	4396951
	17	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.23	43746	44612	4440697
	18	PLF	Dry FR	30/50 Premium White	0.25	3.89	2.07	99.71	39681	43186	4480378
	19	Flush	Dry FR		0	0	0	96.93	4107	4087	4484485
	20	Flush	Dry FR		0	0	0	85.89	7721	7848	4492206
	21	Flush	FR Water		0	0	0	76.11	6131	6255	4498337
12	1	Wireline Pump-In	Treated Water		0	0	0	19	5334	5334	4503671
	2	Breakdown	FR Water		0	0	0	8.4	736	939	4504407
	3	Acid	15% HCl		0	0	0	8.97	1000	1000	4505407
	4	Pad	FR Water		0	0	0	10.46	323	320	4505730
	5	Pad	Dry FR		0	0	0	40.85	30490	31111	4536220
	6	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	80.68	3953	4029	4540173
	7	Spacer	Dry FR		0	0	0	76.06	20708	20902	4560881
	8	PLF	Dry FR	100 Mesh Premium White	0.5	0.5	0.5	64.93	3435	3561	4564316
	9	Flush	Dry FR		0	0	0	57.84	27459	27770	4591775
	10	Flush	FR Water		0	0	0	20.22	855	844	4592630

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	11	Pad	Dry FR		0	0	0	36.89	3093	3171	4595723
	12	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	40.09	2142	2199	4597865
	13	Flush	Dry FR		0	0	0	31.11	14280	14492	4612145
	14	Flush	FR Water		0	0	0	2.06	337	552	4612482
	15	Pad	Dry FR		0	0	0	29.5	4040	4012	4616522
	16	PLF	Dry FR	100 Mesh Premium White	0.5	0.5	0.5	47.72	7559	7833	4624081
	17	Spacer	Dry FR		0	0	0	58.09	7075	7146	4631156
	18	PLF	Dry FR	100 Mesh Premium White	0.5	0.5	0.5	55.57	1242	1290	4632398
	19	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	73.96	39959	40673	4672357
	20	Pre-Flush	Dry FR		0	0	0	17.86	335	397	4672692
	21	Flush	FR Water		0	0	0	6.91	188	224	4672880
	22	Flush	Dry FR		0	0	0	34.94	15801	15961	4688681
	23	Flush	FR Water		0	0	0	35.44	4503	4514	4693184
	24	Flush	15% HCl		0	0	0	10.03	1000	1000	4694184
	25	Flush	FR Water		0	0	0	10.13	556	574	4694740
	26	Pad	Dry FR		0	0	0	61.79	36652	37080	4731392
	27	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	99.37	2224	2236	4733616
	28	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	99.47	50287	51198	4783903
	29	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.87	99.33	21764	22698	4805667
	30	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	99.35	11946	12155	4817613
	31	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.2	62787	66195	4880400
	32	PLF	Dry FR	30/50 Premium White	2	2	2	98.98	11079	12110	4891479

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	33	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.37	9672	9853	4901151
	34	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.2	63687	67168	4964838
	35	PLF	Dry FR	30/50 Premium White	2	2	2	98.88	10877	11958	4975715
	36	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.37	43849	44649	5019564
	37	PLF	Dry FR	30/50 Premium White	0.25	3.86	2.06	98.96	40328	43976	5059892
	38	Flush	Dry FR		0	0	0	99.35	3473	3423	5063365
	39	Flush	Dry FR		0	0	0	99.53	8666	8747	5072031
	40	Flush	FR Water		0	0	0	82.03	4844	4833	5076875
13	1	Wireline Pump-In	Treated Water		0	0	0	18	5376	5376	5082251
	2	Breakdown	FR Water		0	0	0	7	535	443	5082786
	3	Acid	15% HCl		0	0	0	10.08	1125	1125	5083911
	4	Pad	FR Water		0	0	0	9.79	1299	1297	5085210
	5	Pad	Dry FR		0	0	0	9.79	32	34	5085242
	6	Acid	15% HCl		0	0	0	9.79	1123	1123	5086365
	7	Pad	Dry FR		0	0	0	48.88	41400	41768	5127765
	8	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	90.04	51394	52244	5179159
	9	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	100.53	21753	22689	5200912
	10	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	100.63	11970	12171	5212882
	11	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.24	62727	66179	5275609
	12	PLF	Dry FR	30/50 Premium White	2	2	2	100.29	11088	12129	5286697
	13	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.68	9719	9911	5296416
	14	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.7	63492	67054	5359908

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	15	PLF	Dry FR	30/50 Premium White	2	2	2	100.32	11088	12133	5370996
	16	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.9	43775	44553	5414771
	17	PLF	Dry FR	30/50 Premium White	0.25	3.92	2.09	100.49	40113	43667	5454884
	18	Pre-Flush	Dry FR		0	0	0	100.7	2876	2903	5457760
	19	Flush	Dry FR		0	0	0	100.97	7110	7170	5464870
	20	Flush	FR Water		0	0	0	67.8	6696	6920	5471566
14	1	Wireline Pump-In	Treated Water		0	0	0	21	4536	4536	5476102
	2	Breakdown	FR Water		0	0	0	6.38	487	489	5476589
	3	Acid	15% HCl		0	0	0	10.13	499	499	5477088
	4	Pad	FR Water		0	0	0	12.72	344	354	5477432
	5	Pad	Dry FR		0	0	0	50.81	31971	32491	5509403
	6	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	94.82	5739	5803	5515142
	7	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	98.84	51974	52890	5567116
	8	PLF	Dry FR	100 Mesh Premium White	0.25	1.49	0.87	100.35	21670	22578	5588786
	9	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	100.28	12127	12340	5600913
	10	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.2	62735	66158	5663648
	11	PLF	Dry FR	30/50 Premium White	2	2	2	99.98	10991	12021	5674639
	12	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.22	9675	9866	5684314
	13	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.13	63695	67168	5748009
	14	PLF	Dry FR	30/50 Premium White	2	2	2	99.88	11049	12080	5759058
	15	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.29	43790	44569	5802848
	16	PLF	Dry FR	30/50 Premium White	0.25	4	2.12	99.98	41656	45623	5844504

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	17	Pre-Flush	Dry FR		0	0	0	100.07	3760	3729	5848264
	18	Flush	Dry FR		0	0	0	100.48	8376	8408	5856640
	19	Overflush	FR Water		0	0	0	51.17	4744	5182	5861384
15	1	Wireline Pump-In	Treated Water		0	0	0	18	4536	4536	5865920
	2	Breakdown	FR Water		0	0	0	5.05	133	199	5866053
	3	Acid	15% HCl		0	0	0	9.67	501	501	5866554
	4	Pad	FR Water		0	0	0	10.35	1570	1630	5868124
	5	Pad	Dry FR		0	0	0	59.14	38088	38259	5906212
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	96.85	51094	52035	5957306
	7	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.87	100.44	21735	22669	5979041
	8	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	100.49	12019	12224	5991060
	9	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.35	62820	66255	6053880
	10	PLF	Dry FR	30/50 Premium White	2	2	2	100.24	11022	12052	6064902
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.52	9575	9753	6074477
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.18	63715	67196	6138192
	13	PLF	Dry FR	30/50 Premium White	2	2	2	100.03	10989	12027	6149181
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.48	43930	44722	6193111
	15	PLF	Dry FR	30/50 Premium White	0.25	3.99	2.12	100.18	40619	44305	6233730
	16	PLF	Dry FR	30/50 Premium White	4	4	4	99.86	3239	3581	6236969
	17	Flush	Dry FR		0	0	0	100.44	3318	3320	6240287
	18	Flush	Dry FR		0	0	0	100.67	9319	9414	6249606
	19	Flush	FR Water		0	0	0	82.47	3314	3308	6252920

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	1	Wireline Pump-In	Treated Water		0	0	0	22	7518	7518	6260438
	2	Breakdown	FR Water		0	0	0	7.26	567	532	6261005
	3	Acid	15% HCl		0	0	0	9.94	499	499	6261504
	4	Pad	FR Water		0	0	0	13.78	465	462	6261969
	5	Pad	Dry FR		0	0	0	30.18	9591	9661	6271560
	6	Pad	FR Water		0	0	0	8.39	816	863	6272376
	7	Pad	Dry FR		0	0	0	5.94	2408	2514	6274784
	8	Pad	FR Water		0	0	0	2.22	1834	2006	6276618
	9	Pad	Dry FR		0	0	0	4.4	9841	10270	6286459
	10	Shut-In	FR Water		0	0	0	0.49	18	95	6286477
	11	Pad	Dry FR		0	0	0	27.66	3825	3780	6290302
	12	Pad	FR Water		0	0	0	5.97	507	531	6290809
	13	Pad	Dry FR		0	0	0	3.64	6209	6712	6297018
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	3.4	241	210	6297259
	15	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	3.64	1111	1144	6298370
	16	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	3.6	1266	1338	6299636
	17	Flush	Dry FR		0	0	0	3.6	6494	6883	6306130
	18	Flush	FR Water		0	0	0	5.2	23387	23792	6329517
	19	Acid	15% HCl		0	0	0	10.03	1000	1000	6330517
	20	Pad	FR Water		0	0	0	14.13	980	966	6331497
	21	Pad	Dry FR		0	0	0	51.72	40648	41137	6372145
	22	PLF	Dry FR	30/50 Premium White	0.5	0.5	0.5	56.04	1322	1337	6373467

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	23	Flush	Dry FR		0	0	0	30.66	25560	25883	6399027
	24	Flush	FR Water		0	0	0	10.23	715	726	6399742
	25	Acid	15% HCl		0	0	0	10.22	1000	1000	6400742
	26	Pad	FR Water		0	0	0	10.7	1336	1340	6402078
	27	Pad	Dry FR		0	0	0	20.26	7374	7468	6409452
	28	Pad	FR Water		0	0	0	2.44	291	368	6409743
	29	Pad	Dry FR		0	0	0	26.6	4855	4925	6414598
	30	PLF	Dry FR	30/50 Premium White	0.5	0.5	0.5	45.05	2086	2154	6416684
	31	Spacer	Dry FR		0	0	0	45.14	13361	13488	6430045
	32	PLF	Dry FR	30/50 Premium White	0.15	0.15	0.15	48.28	32180	32698	6462225
	33	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	63.46	10157	10355	6472382
	34	Spacer	Dry FR		0	0	0	56.83	3358	3395	6475740
	35	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	61.67	43570	44411	6519310
	36	PLF	Dry FR	100 Mesh Premium White	0.5	0.5	0.5	68.06	13284	13686	6532594
	37	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.87	71.79	21016	21912	6553610
	38	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	80.18	11964	12182	6565574
	39	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	87.45	62978	66293	6628552
	40	PLF	Dry FR	30/50 Premium White	2	2	2	94.05	11055	12036	6639607
	41	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	94.85	9693	9871	6649300
	42	PLF	Dry FR	30/50 Premium White	0.25	0.46	0.35	96.45	8702	8884	6658002
	43	Spacer	Dry FR		0	0	0	56.65	4404	4434	6662406
	44	PLF	Dry FR	30/50 Premium White	0.59	0.59	0.59	50.28	611	636	6663017

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	45	PLF	Dry FR	30/50 Premium White	0.15	0.15	0.15	50.16	1833	1869	6664850
	46	PLF	Dry FR	30/50 Premium White	0.15	0.15	0.15	50.12	730	740	6665580
	47	PLF	Dry FR	30/50 Premium White	0.5	0.5	0.5	51.73	11704	12079	6677284
	48	PLF	Dry FR	30/50 Premium White	1.25	0.5	0.87	49.5	637	661	6677921
	49	PLF	Dry FR	30/50 Premium White	1	1	1	49.48	2411	2540	6680332
	50	PLF	Dry FR	30/50 Premium White	2	1	1.5	49.44	826	869	6681158
	51	PLF	Dry FR	30/50 Premium White	1.75	1.75	1.75	50.54	6517	7074	6687675
	52	PLF	Dry FR	30/50 Premium White	1.75	2.79	2.27	54.15	628	685	6688303
	53	PLF	Dry FR	30/50 Premium White	2.5	2.5	2.5	57.86	15978	17985	6704281
	54	PLF	Dry FR	30/50 Premium White	3	3	3	58.57	1422	1605	6705703
	55	Pre-Flush	Dry FR		0	0	0	11.26	151	183	6705854
	56	Flush	FR Water		0	0	0	2.36	711	723	6706565
17	1	Wireline Pump-In	Treated Water		0	0	0	18	3990	3990	6710555
	2	Breakdown	FR Water		0	0	0	7.61	310	332	6710865
	3	Acid	15% HCl		0	0	0	10.02	1000	1000	6711865
	4	Pad	FR Water		0	0	0	15.67	1395	1462	6713260
	5	Pad	Dry FR		0	0	0	61.22	32063	32048	6745323
	6	PLF	Dry FR	30/50 Premium White	0.15	0.15	0.15	80.09	3413	3435	6748736
	7	Spacer	Dry FR		0	0	0	80.19	12170	12179	6760906
	8	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	91.64	51707	52264	6812613
	9	PLF	Dry FR	100 Mesh Premium White	0.25	1.49	0.87	99.72	21950	22655	6834563
	10	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	99.86	12165	12287	6846728

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	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.71	63276	66182	6910004
	12	PLF	Dry FR	30/50 Premium White	2	2	2	99.47	11093	12029	6921097
	13	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.77	9795	9892	6930892
	14	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.64	64152	67117	6995044
	15	PLF	Dry FR	30/50 Premium White	2	2	2	99.41	11015	11952	7006059
	16	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.9	44282	44675	7050341
	17	PLF	Dry FR	30/50 Premium White	0.25	4	2.12	99.5	41972	45403	7092313
	18	Flush	Dry FR		0	0	0	99.88	4411	4425	7096724
	19	Flush	Dry FR		0	0	0	100.06	8511	8513	7105235
	20	Flush	FR Water		0	0	0	83.9	3831	3764	7109066
18	1	Wireline Pump-In	Treated Water		0	0	0	18	3486	3486	7112552
	2	Breakdown	FR Water		0	0	0	4.2	147	183	7112699
	3	Acid	15% HCl		0	0	0	9.85	1000	1000	7113699
	4	Pad	FR Water		0	0	0	10.83	810	788	7114509
	5	Pad	Dry FR		0	0	0	69.01	38446	38576	7152955
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	98.62	50411	51106	7203366
	7	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.87	99.78	21720	22591	7225086
	8	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	99.9	11986	12152	7237072
	9	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.75	62986	66280	7300058
	10	PLF	Dry FR	30/50 Premium White	2	2	2	99.55	10972	11969	7311030
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.87	9740	9901	7320770
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.74	63711	67047	7384481

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	13	PLF	Dry FR	30/50 Premium White	2	2	2	99.43	11012	12025	7395493
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	88.31	13921	14155	7409414
	15	Spacer	Dry FR		0	0	0	43.33	17014	17143	7426428
	16	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	40.07	1574	1606	7428002
	17	Flush	Dry FR		0	0	0	40.35	20026	20173	7448028
	18	Flush	Dry FR		0	0	0	39.99	587	591	7448615
	19	Flush	FR Water		0	0	0	36.28	2044	2140	7450659
19	1	Wireline Pump-In	Treated Water		0	0	0	18	3612	3612	7454271
	2	Breakdown	FR Water		0	0	0	5.9	201	172	7454472
	3	Acid	15% HCl		0	0	0	9.85	1000	1000	7455472
	4	Pad	FR Water		0	0	0	10.43	521	496	7455993
	5	Pad	Dry FR		0	0	0	51.5	37420	37685	7493413
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	90.42	51495	52201	7544908
	7	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	96.81	21830	22666	7566738
	8	PLF	Dry FR	SS-200 Premium White	0.25	0.25	0.25	96.89	12143	12331	7578881
	9	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	96.67	62827	66138	7641708
	10	PLF	Dry FR	30/50 Premium White	2	2	2	97.8	11042	12036	7652750
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.28	9573	9731	7662323
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.1	63885	67216	7726208
	13	PLF	Dry FR	30/50 Premium White	2	2	2	99.84	11064	12074	7737272
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.39	44008	44683	7781280
	15	PLF	Dry FR	30/50 Premium White	0.25	3.83	2.04	99.9	39238	42496	7820518

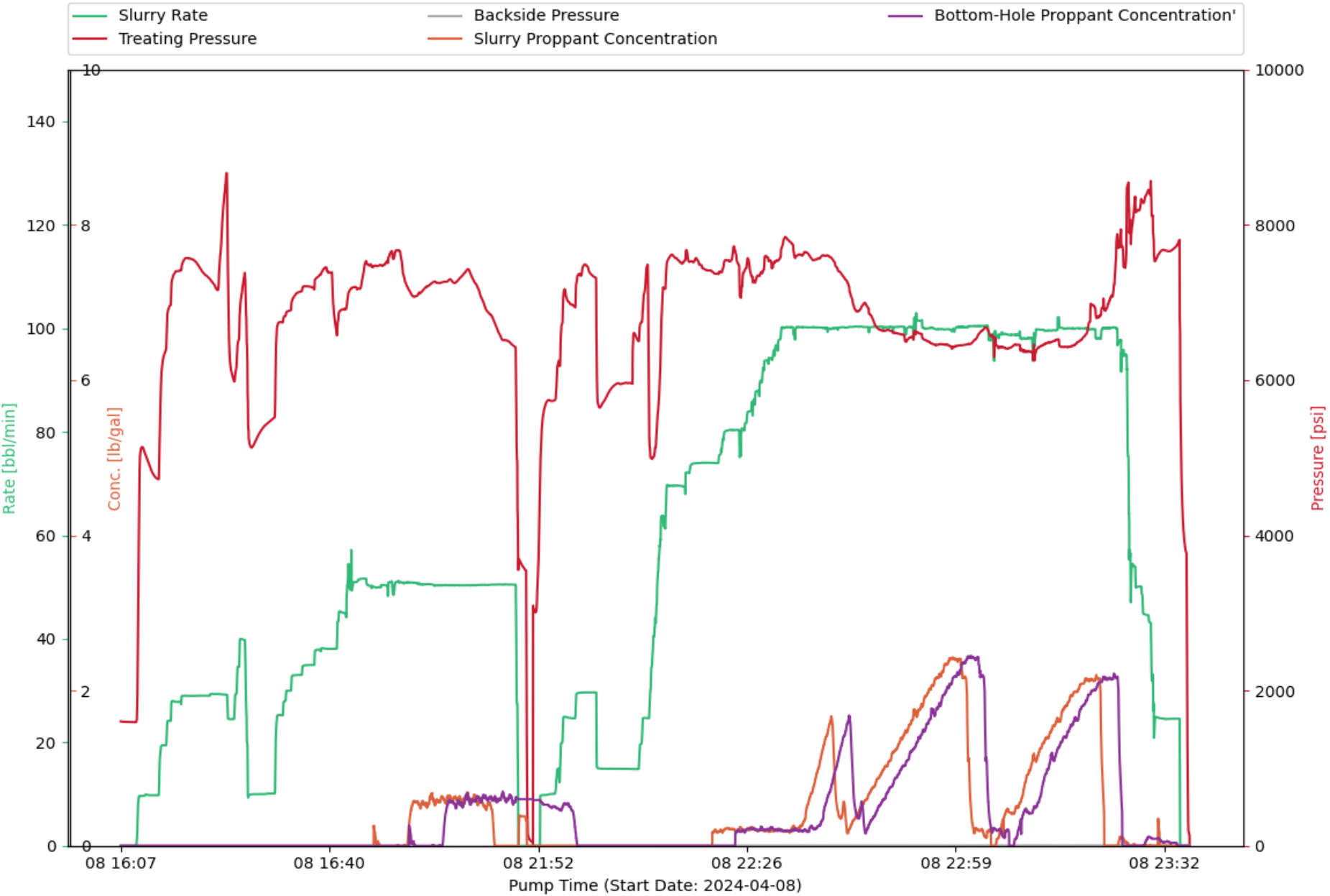
ACTUAL DESIGN

Treatment Interval	Stage Number	Stage Description	Fluid Description	Proppant Type	Proppant Conc. At Start (ppg)	Proppant Conc. At End (ppg)	Slurry Proppant Conc. (ppg)	Slurry Rate (bpm)	Actual Clean Volume (gal)	Slurry Volume (gal)	Total Clean Volume (gal)
19	16	Flush	Dry FR		0	0	0	99.04	3619	3621	7824137
	17	Flush	Dry FR		0	0	0	95.3	7874	7905	7832011
	18	Flush	FR Water		0	0	0	79.57	4367	4410	7836378
20	1	Wireline Pump-In	Treated Water		0	0	0	22	2436	2436	7838814
	2	Breakdown	Dry FR		0	0	0	7.48	428	435	7839242
	3	Acid	15% HCl		0	0	0	9.9	1000	1000	7840242
	4	Pad	Dry FR		0	0	0	12.53	1459	1413	7841701
	5	Pad	Dry FR		0	0	0	63.82	54567	54915	7896268
	6	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	99.69	33614	34069	7929882
	7	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.87	99.75	21740	22583	7951622
	8	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.85	12105	12287	7963727
	9	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	99.62	62857	66122	8026584
	10	PLF	Dry FR	30/50 Premium White	2	2	2	99.39	11031	12020	8037615
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.8	9728	9895	8047343
	12	PLF	Dry FR	30/50 Premium White	0.25	0.44	0.34	89.75	7958	8063	8055301
	13	Pre-Flush	Dry FR		0	0	0	5.82	2279	2400	8057580
	14	Flush	Dry FR		0	0	0	4.45	1270	1356	8058850
	15	Flush	Dry FR		0	0	0	5.05	4916	5101	8063766
	16	Shut-In	Dry FR		0	0	0	0.63	1	11	8063767
	17	Pad	Dry FR		0	0	0	4.74	390	398	8064157
	18	Shut-In	Dry FR		0	0	0	1.44	1	17	8064158
	19	Pad	Dry FR		0	0	0	4.51	241	235	8064399

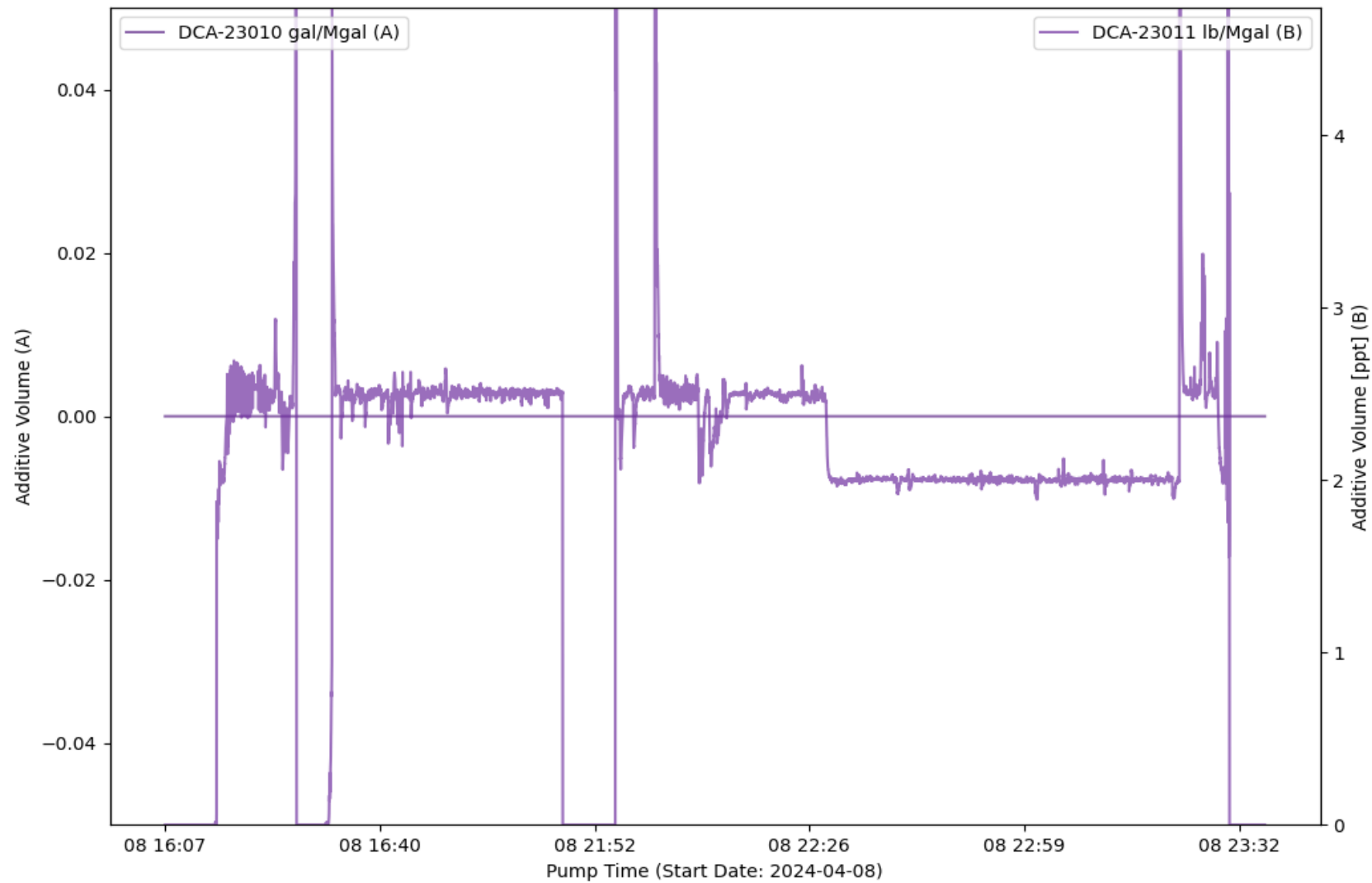
ACTUAL DESIGN

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	20	Shut-In	Dry FR		0	0	0	0	0	0	8064399
21	1	Wireline Pump-In	Treated Water		0	0	0	18	1974	1974	8066373
	2	Breakdown	Dry FR		0	0	0	8.01	392	443	8066765
	3	Acid	15% HCl		0	0	0	10.04	1000	1000	8067765
	4	Pad	Dry FR		0	0	0	42.42	39591	39649	8107356
	5	PLF	Dry FR	100 Mesh Premium White	0.25	0.25	0.25	97.34	53011	53593	8160367
	6	PLF	Dry FR	100 Mesh Premium White	0.25	1.5	0.88	99.89	23715	24652	8184082
	7	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	99.98	10763	10897	8194845
	8	Spacer	Dry FR		0	0	0	74.03	30059	30054	8224904
	9	PLF	Dry FR	30/50 Premium White	0.28	2	1.14	92.53	61999	65131	8286903
	10	PLF	Dry FR	30/50 Premium White	2	2	2	100.1	11573	12599	8298476
	11	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.34	9479	9595	8307955
	12	PLF	Dry FR	30/50 Premium White	0.25	2	1.12	100.25	64009	67178	8371964
	13	PLF	Dry FR	30/50 Premium White	2	2	2	100.11	11113	12107	8383077
	14	PLF	Dry FR	30/50 Premium White	0.25	0.25	0.25	100.49	55031	55681	8438108
	15	PLF	Dry FR	30/50 Premium White	0.25	4	2.12	100.2	40691	44199	8478799
	16	PLF	Dry FR	30/50 Premium White	4	4	4	100.04	3895	4150	8482694
	17	Flush	Dry FR		0	0	0	100.54	7750	7776	8490444
	18	Flush	Dry FR		0	0	0	94.66	13107	13103	8503551
Total									8503551	8800969	

TREATMENT PLOT : Treatment Interval 1



CHEMISTRY PLOT : Treatment Interval 1



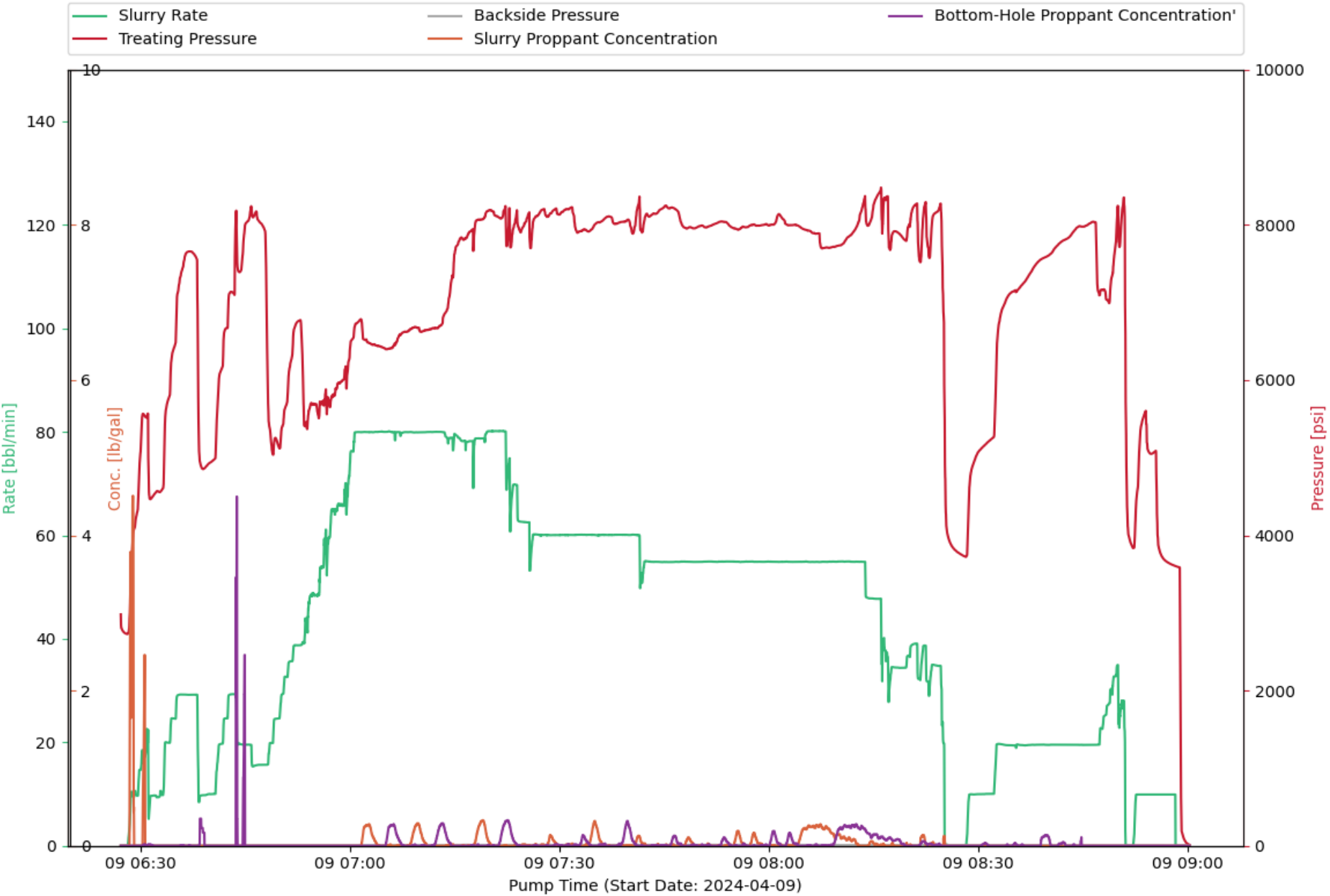
EVENT LOG : TREATMENT INTERVAL 1

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-08T16:07:08	0	1601	0	0	0	0	0
2	Start Pumping	2024-04-08T16:09:30	0.31	1608	0	0	0.45	0.37	0
3	Pump Acid	2024-04-08T16:10:57	9.87	5035	0	0	509.95	522.62	0
4	Break Formation	2024-04-08T16:18:37	28.99	7549	0	0	7467	7381	0
5	Spot Acid	2024-04-08T16:23:53	29.21	8667	0	0	13930	13819	0
6	Flush Acid	2024-04-08T16:25:07	24.91	5981	0	0	15233	15121	0
7	Pump Acid	2024-04-08T16:29:32	9.98	5366	0	0	19226	19115	0
8	Spot Acid	2024-04-08T16:40:40	38.05	7389	0	0	32556	32578	0
9	Flush Acid	2024-04-08T16:41:29	38.17	6577	0	0	33853	33862	0
10	Stop Pumping	2024-04-08T17:10:29	1.39	3554	0	0.6	93139	94620	16033
11	ISIP	2024-04-08T17:10:45	0	3667	0.39	0.6	93142	94620	16033
12	Shut In Well	2024-04-08T17:11:42	0	3549	0.34	0.6	93143	94620	16034
13	Suspending Job	2024-04-08T17:12:48	0	45.31	0	0.6	93143	94620	16034
14	Open Well	2024-04-08T21:52:04	0	3054	0	0.59	93143	94620	16034
15	Start Pumping	2024-04-08T21:52:26	0	3009	0	0.59	93143	94620	16034
16	Pump Acid	2024-04-08T21:54:01	9.82	5690	0	0.53	93533	94991	16034
17	Ball on Seat	2024-04-08T22:07:46	14.87	5956	0	0	104628	106204	16034
18	Break Formation	2024-04-08T22:08:16	14.85	6595	0	0	104940	106517	16034
19	Spot Acid	2024-04-08T22:10:13	24.69	7468	0	0	106590	108161	16034
20	Flush Acid	2024-04-08T22:10:46	30.12	5003	0	0	107172	108749	16034
21	Stop Pumping	2024-04-08T23:35:22	0.02	5895	0	0	406698	420113	252262
22	ISIP	2024-04-08T23:36:01	0	3934	0	0	406702	420113	252262

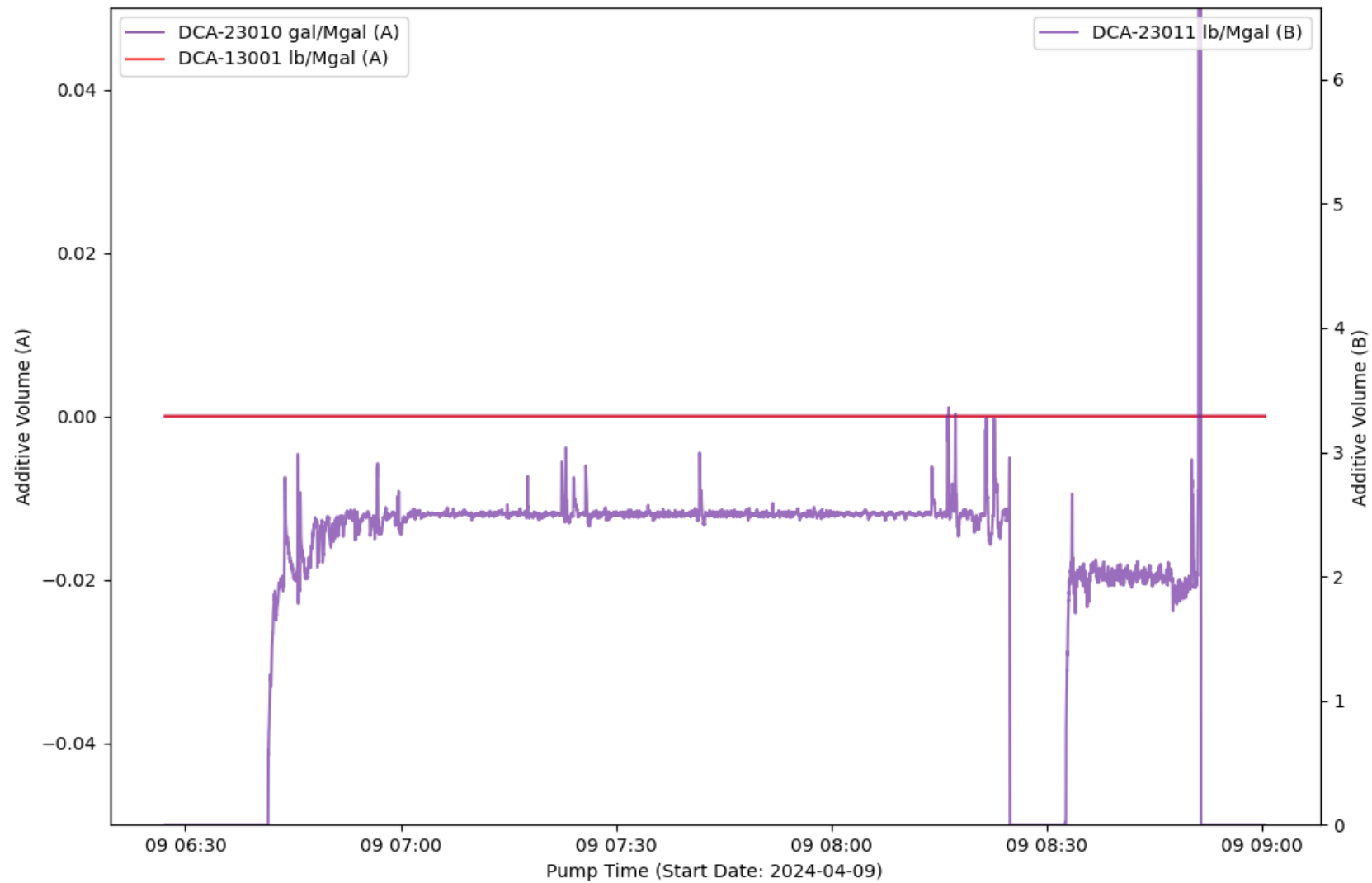
EVENT LOG : TREATMENT INTERVAL 1

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
23	Shut In Well	2024-04-08T23:36:19	0	3779	0	0	406702	420113	252262
24	Suspending Job	2024-04-08T23:36:51	0	131.13	0	0	406702	420113	252262

TREATMENT PLOT : Treatment Interval 2



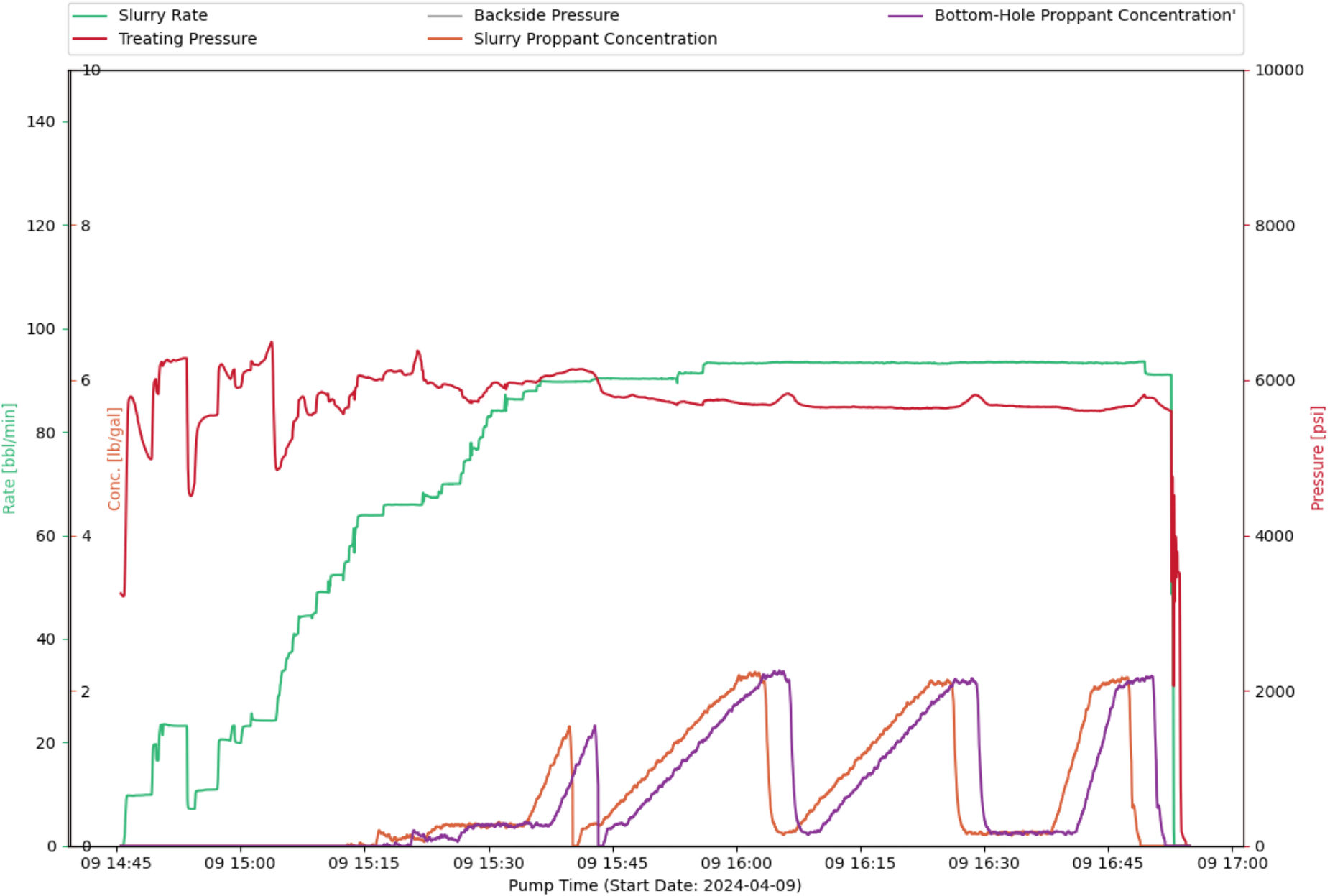
CHEMISTRY PLOT : Treatment Interval 2



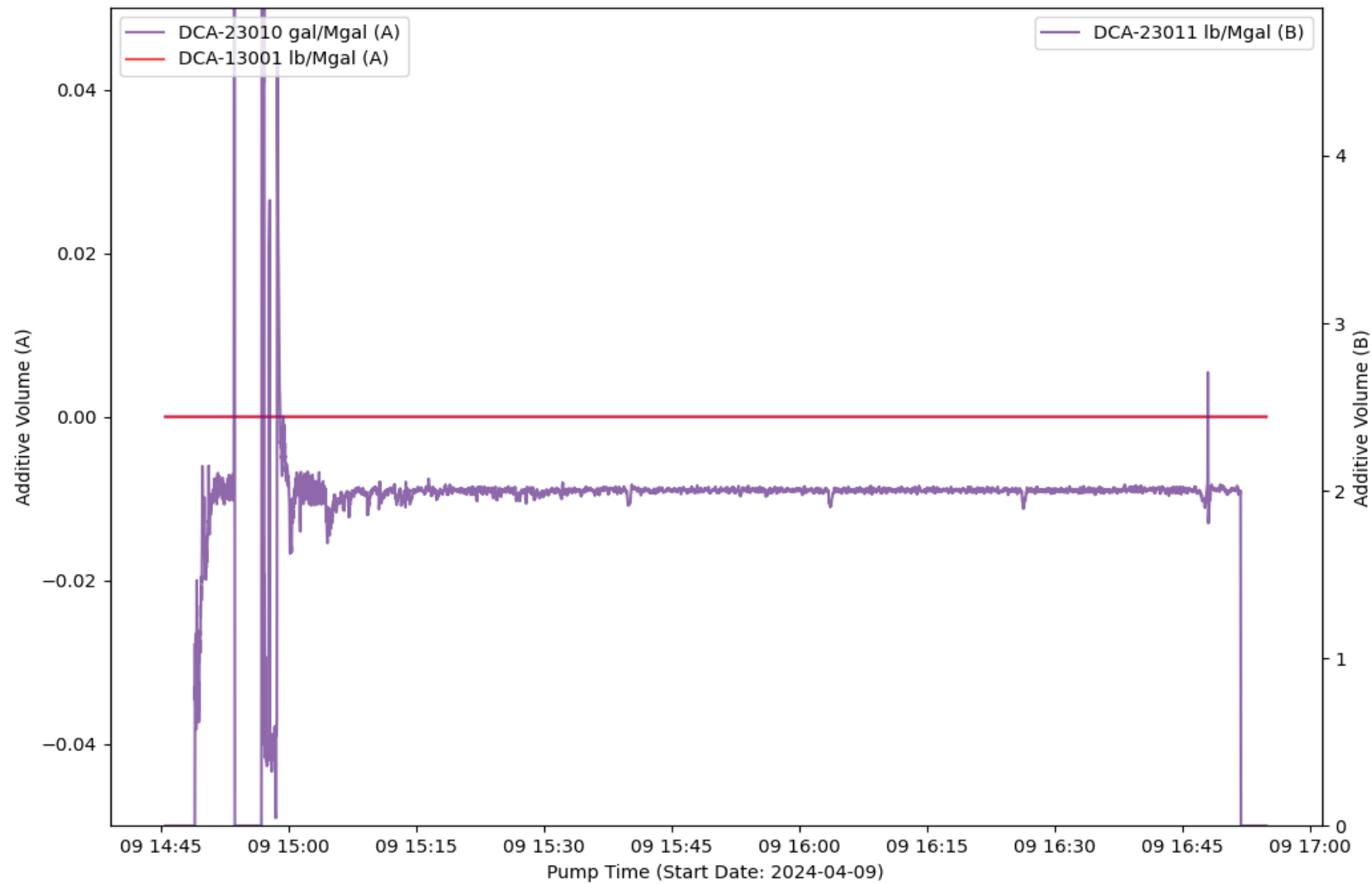
EVENT LOG : TREATMENT INTERVAL 2

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	2024-04-09T06:27:14	0	2807	0	0	0	0	0
2	Start Pumping	2024-04-09T06:28:10	0.01	2729	0	0	0	0.01	0
3	Pump Acid	2024-04-09T06:31:52	9.72	4515	0	0	1797	1814	1017
4	Pump Acid	2024-04-09T06:39:25	9.83	4886	0	0	8294	8327	1017
5	Ball on Seat	2024-04-09T06:43:39	29.28	8122	0	0	11850	11782	1017
6	Spot Acid	2024-04-09T06:47:49	15.65	7930	0	0	15090	14942	1017
7	Flush Acid	2024-04-09T06:48:57	19.83	5047	0	0	15956	15791	1017
8	Spot Acid	2024-04-09T06:52:52	38.76	6772	0	0	21251	21047	1017
9	Flush Acid	2024-04-09T06:53:26	39.38	5425	0	0	22188	21981	1017
10	Pump Acid	2024-04-09T08:31:16	10.04	5187	0	0.02	254388	254920	10928
11	Stop Pumping	2024-04-09T08:58:17	9.92	3604	0	0	271950	274339	10928
12	ISIP	2024-04-09T08:58:54	0	3587	0	0	271950	274339	10928

TREATMENT PLOT : Treatment Interval 3



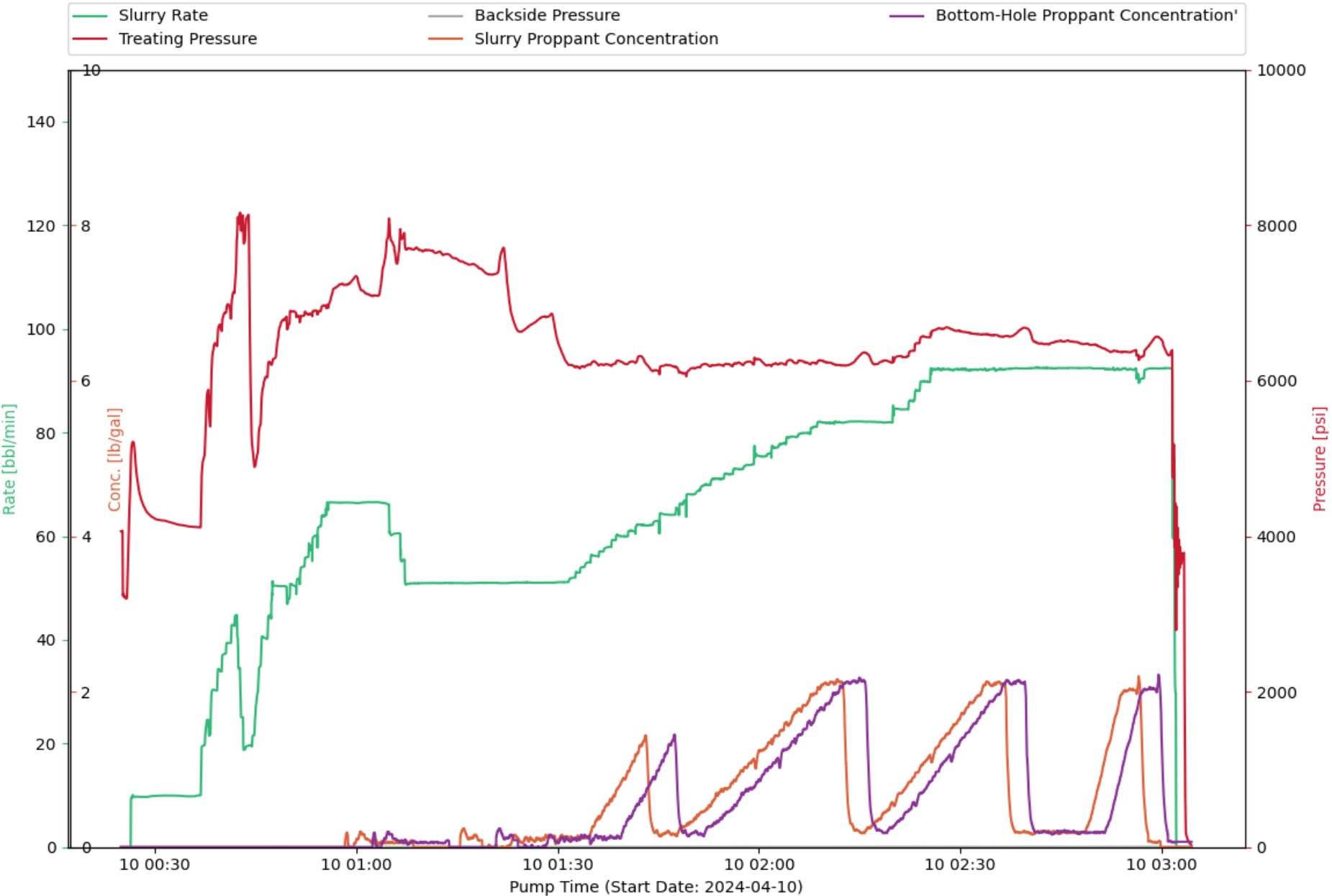
CHEMISTRY PLOT : Treatment Interval 3



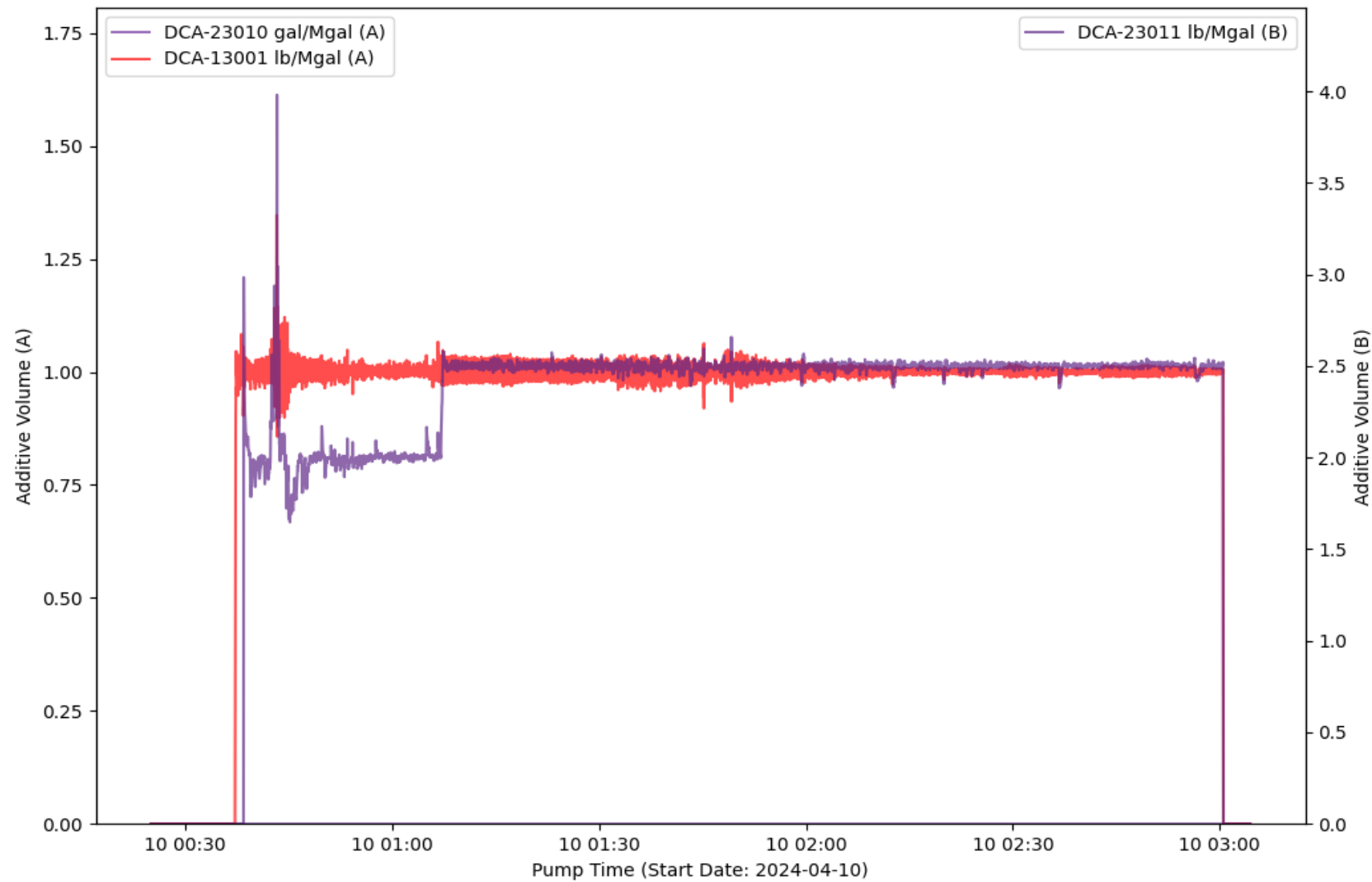
EVENT LOG : TREATMENT INTERVAL 3

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	2024-04-09T14:45:32	0	3251	0	0	0	0	0
2	Start Pumping	2024-04-09T14:45:51	0.02	3213	0	0	1.56	0.02	0
3	Break Formation	2024-04-09T14:46:29	9.74	5740	0	0	216.78	171.38	0
4	Pump Acid	2024-04-09T14:47:51	9.76	5356	0	0	763.99	731.57	0
5	Pump Acid	2024-04-09T14:55:08	10.68	5457	0	0	5878	5839	0
6	Spot Acid	2024-04-09T15:03:49	24.17	6489	0	0	13114	12988	0
7	Flush Acid	2024-04-09T15:04:24	25.5	4844	0	0	13718	13587	0
8	Spot Acid	2024-04-09T15:07:33	44.33	5789	0	0	18729	18507	0
9	Flush Acid	2024-04-09T15:08:22	44.46	5550	0	0	20251	20006	0
10	Stop Pumping	2024-04-09T16:52:57	1	4512	0	0	385325	398096	293925
11	ISIP	2024-04-09T16:53:07	0	3987	0	0	385327	398096	293925
12	Shut In Well	2024-04-09T16:53:26	0	3536	0	0	385329	398096	293925

TREATMENT PLOT : Treatment Interval 4



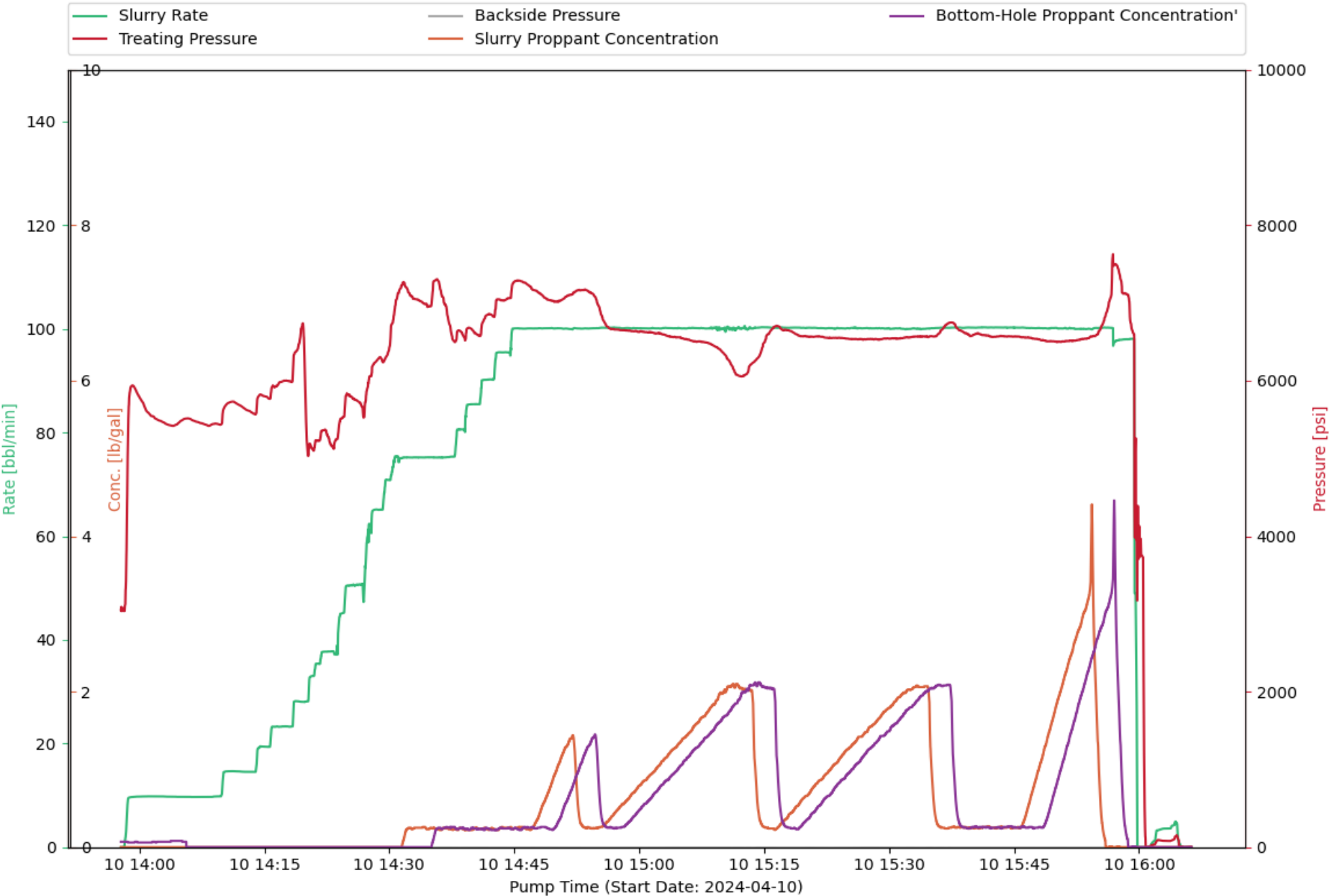
CHEMISTRY PLOT : Treatment Interval 4



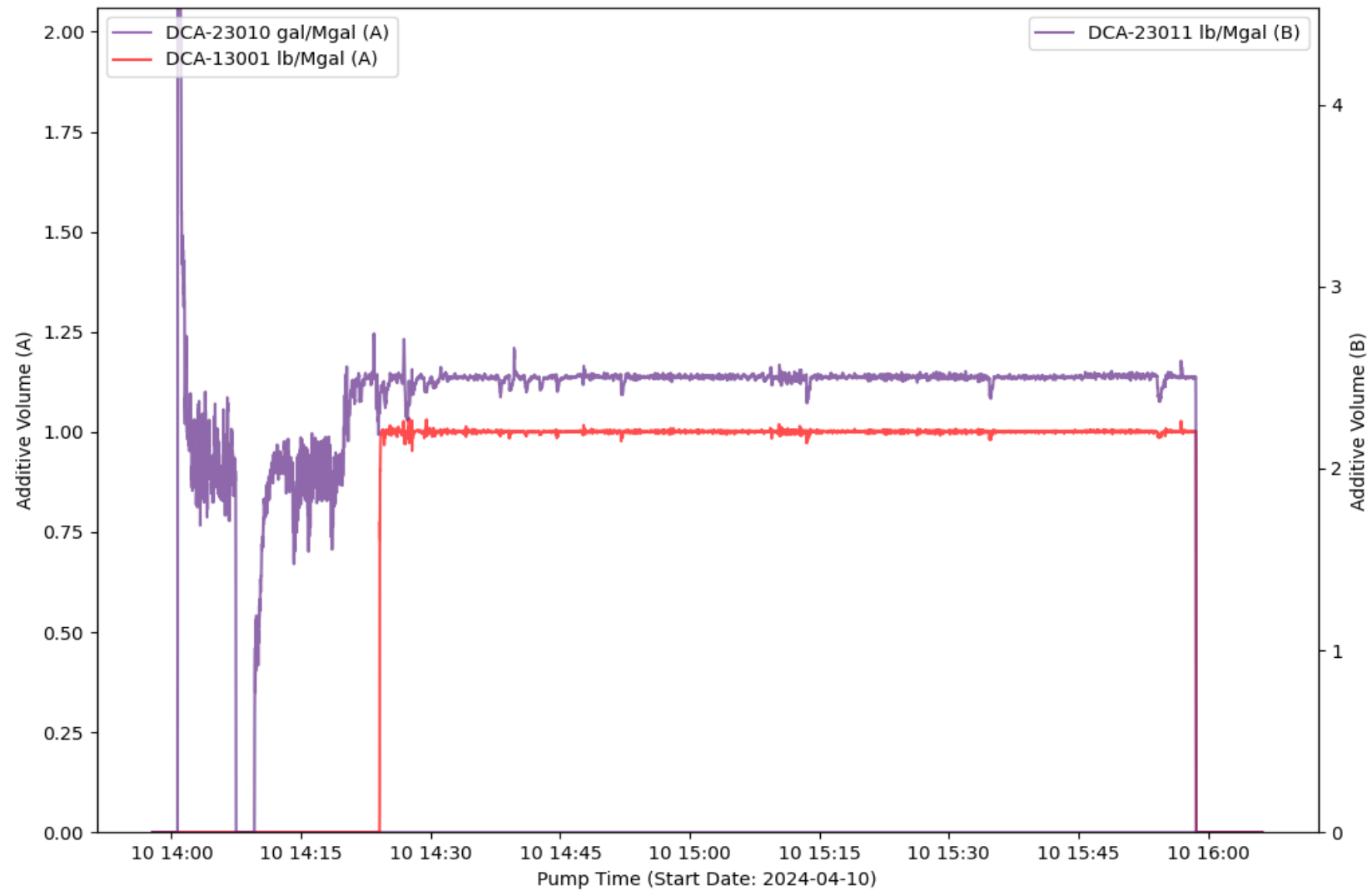
EVENT LOG : TREATMENT INTERVAL 4

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	2024-04-10T00:25:21	0	3252	0	0	0	0	0
2	Start Pumping	2024-04-10T00:25:52	0	3205	0	0	0	0	0
3	Break Formation	2024-04-10T00:26:57	9.7	5178	0	0	231.02	203.02	0
4	Pump Acid	2024-04-10T00:29:07	9.73	4287	0	0	1168	1083	0
5	Pump Acid	2024-04-10T00:35:32	9.81	4122	0	0	3842	3758	0
6	Spot Acid	2024-04-10T00:43:56	19.59	8128	0	0	13685	13481	0
7	Flush Acid	2024-04-10T00:44:41	21.57	5049	0	0	14314	14114	0
8	Spot Acid	2024-04-10T00:45:57	40.1	5790	0	0	15938	15709	0
9	Flush Acid	2024-04-10T00:46:55	44.19	6220	0	0	17596	17337	0
10	Stop Pumping	2024-04-10T03:02:12	0	4341	0	0.07	415652	426054	271521
11	ISIP	2024-04-10T03:02:42	0	3773	0	0.07	415652	426054	271521
12	Shut In Well	2024-04-10T03:02:59	0	3686	0	0.07	415652	426054	271521
13	Suspending Job	2024-04-10T03:04:24	0	30.83	0	0.07	415652	426054	271521

TREATMENT PLOT : Treatment Interval 5



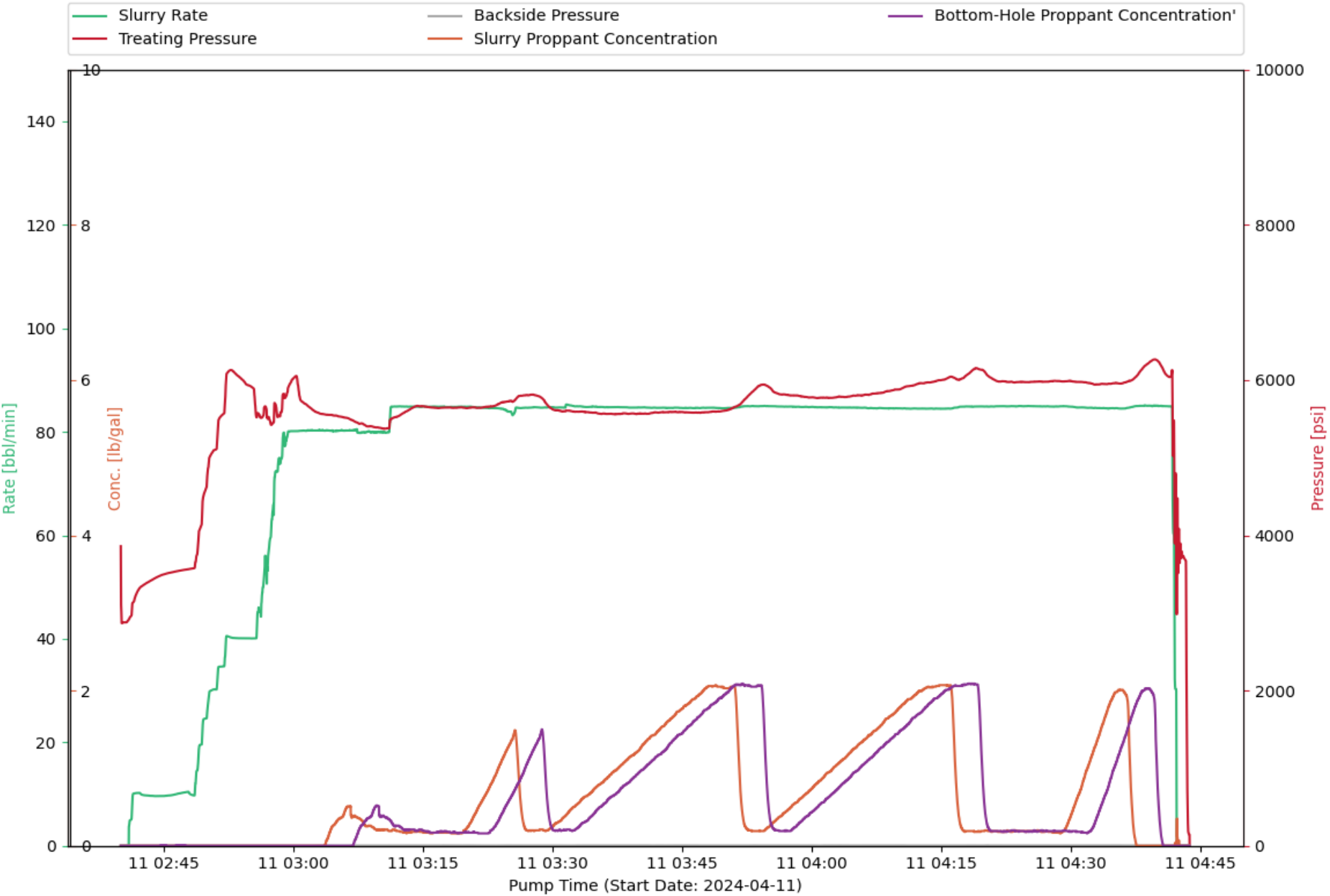
CHEMISTRY PLOT : Treatment Interval 5



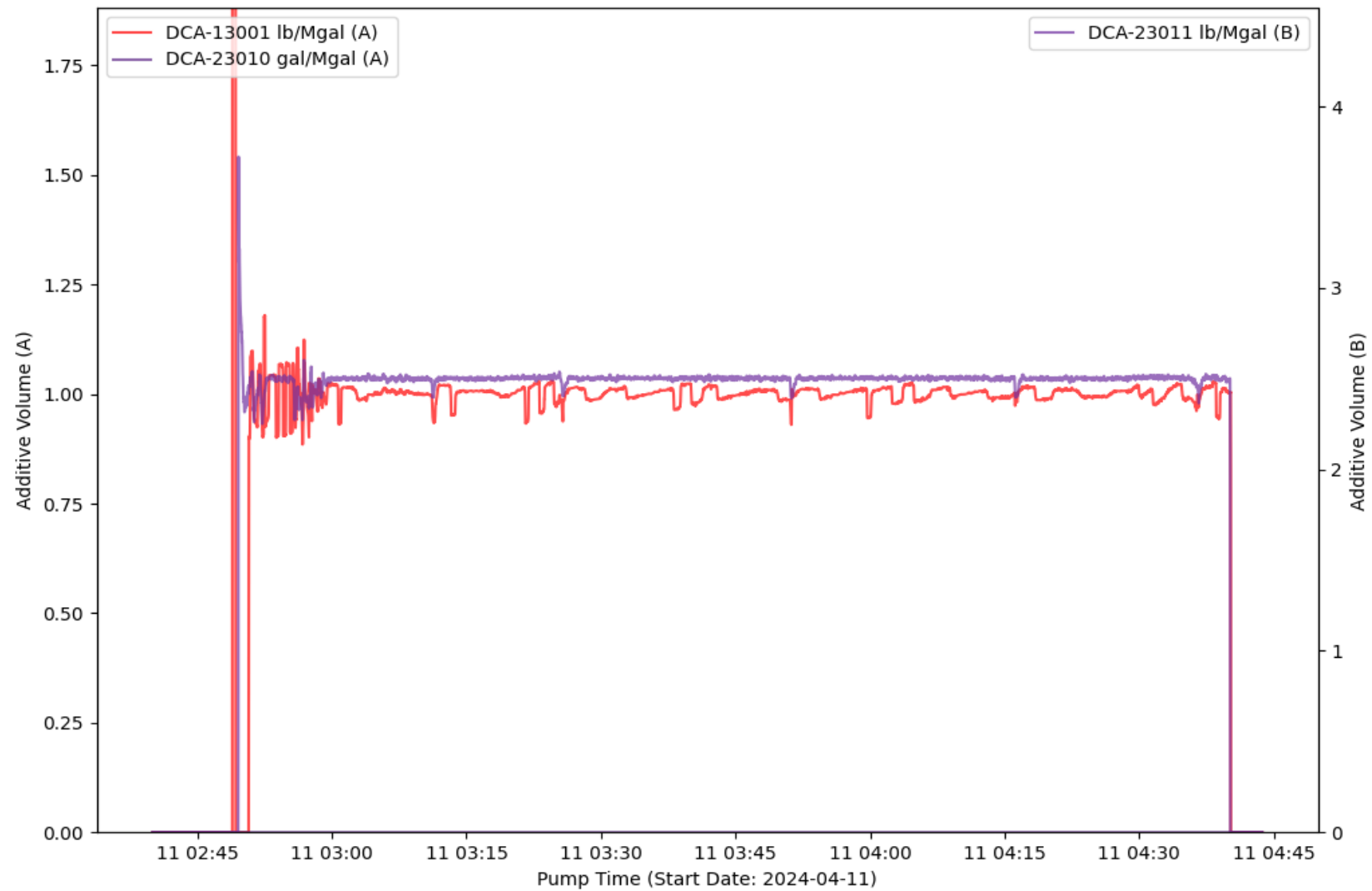
EVENT LOG : TREATMENT INTERVAL 5

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	Start Pumping	2024-04-10T13:58:13	0.26	3042	0	0.07	0	0.18	0
2	Break Formation	2024-04-10T13:58:44	9.55	5672	0	0.06	79.52	118.26	0
3	Pump Acid	2024-04-10T14:00:16	9.78	5744	0	0.06	742.22	746.04	0
4	Pump Acid	2024-04-10T14:08:00	9.66	5433	0	0	3884	3910	0
5	Spot Acid	2024-04-10T14:19:35	28.05	6733	0	0	12589	12551	0
6	Flush Acid	2024-04-10T14:20:13	28.14	5066	0	0	13342	13301	0
7	Spot Acid	2024-04-10T14:22:13	37.71	5367	0	0	16236	16191	0
8	Flush Acid	2024-04-10T14:23:27	37.2	5214	0	0	18189	18154	0
9	Stop Pumping	2024-04-10T15:59:46	4.32	3355	0	0	384535	398209	306885
10	ISIP	2024-04-10T15:59:49	0	4333	0	0	384536	398211	306885
11	Shut In Well	2024-04-10T16:00:20	0	3750	0	0	384539	398211	306885
12	Suspending Job	2024-04-10T16:06:16	0	7.19	0	0	384964	398659	306885

TREATMENT PLOT : Treatment Interval 6



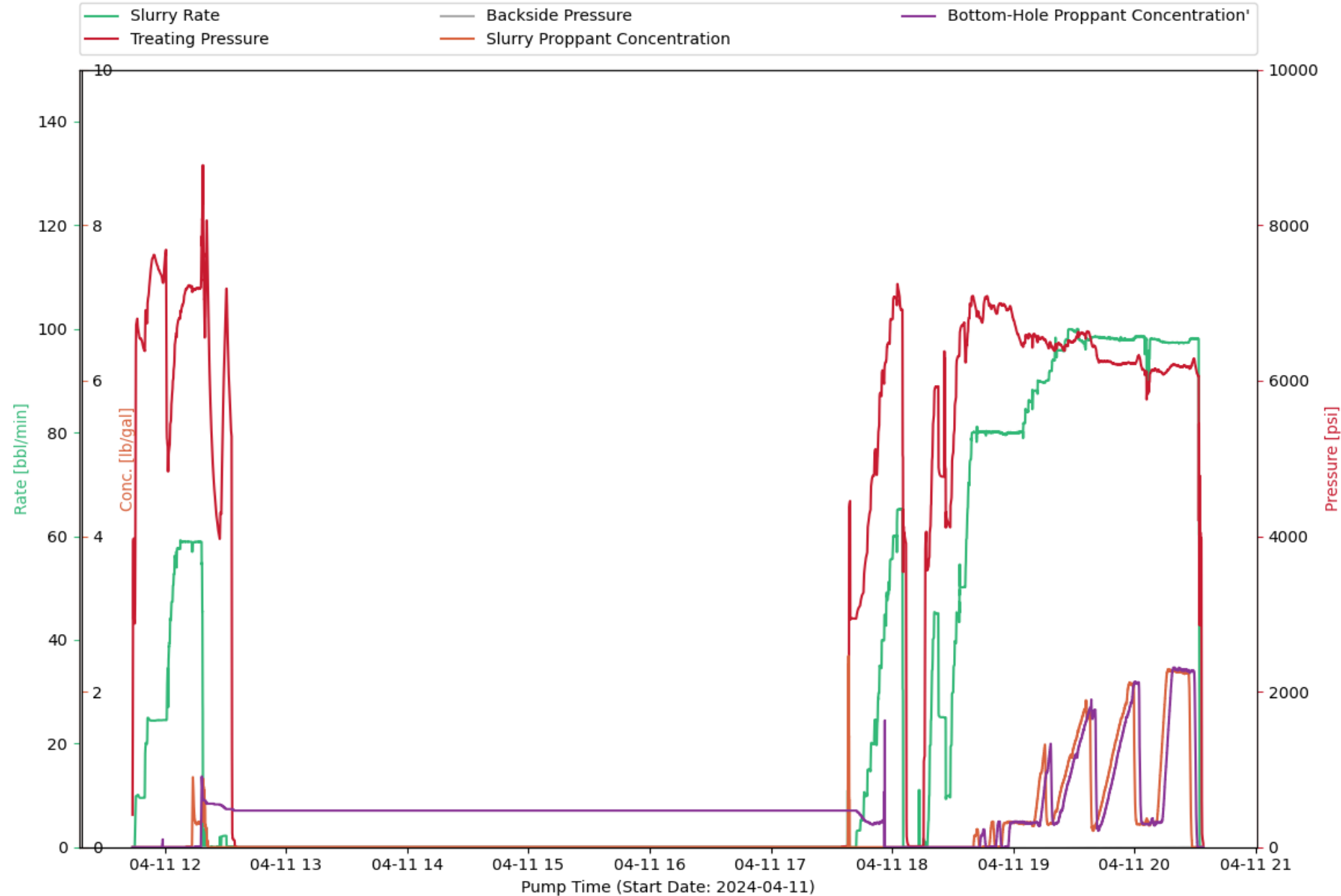
CHEMISTRY PLOT : Treatment Interval 6



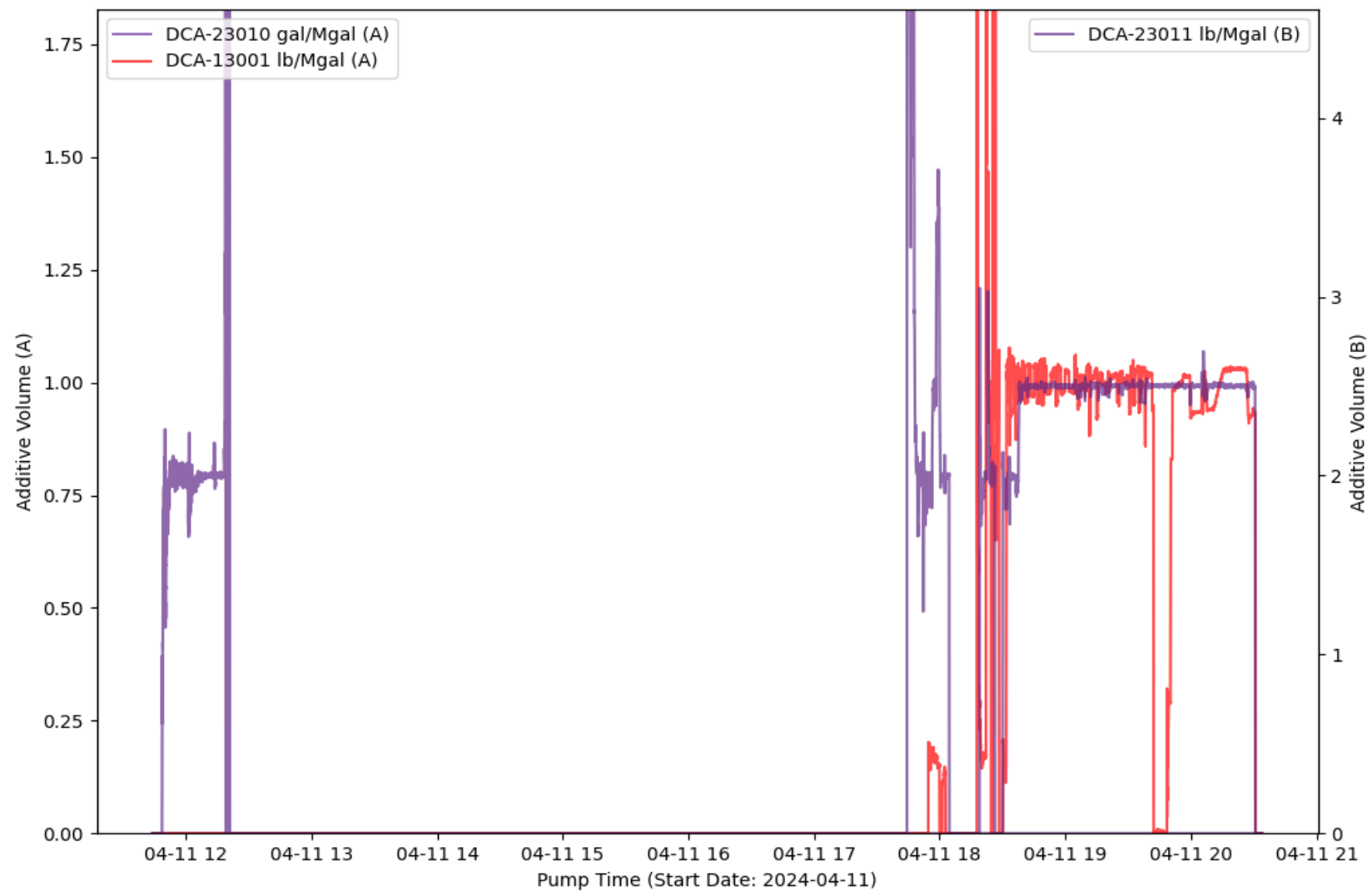
EVENT LOG : TREATMENT INTERVAL 6

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	2024-04-11T02:40:10	0	2873	0	0	0	0	0
2	Start Pumping	2024-04-11T02:40:52	0	2905	0	0	0	0	0
3	Pump Acid	2024-04-11T02:43:09	9.72	3397	0	0	952.95	853.98	0
4	Pump Acid	2024-04-11T02:47:05	10.23	3550	0	0.01	2594	2467	0
5	Spot Acid	2024-04-11T02:55:22	40.08	5893	0	0	12607	12628	0
6	Flush Acid	2024-04-11T02:55:43	40.55	5520	0	0	13191	13221	0
7	Spot Acid	2024-04-11T02:56:08	45.24	5520	0	0	13963	14009	0
8	Flush Acid	2024-04-11T02:56:37	52.91	5651	0	0	14915	14968	0
9	Stop Pumping	2024-04-11T04:42:13	2.47	2984	0.16	0	372100	385845	262870
10	ISIP	2024-04-11T04:42:38	0	3890	0	0	372109	385846	262872
11	Shut In Well	2024-04-11T04:42:55	0	3723	0	0	372109	385846	262872
12	Suspending Job	2024-04-11T04:43:42	0	144.6	0	0	372109	385846	262872

TREATMENT PLOT : Treatment Interval 7



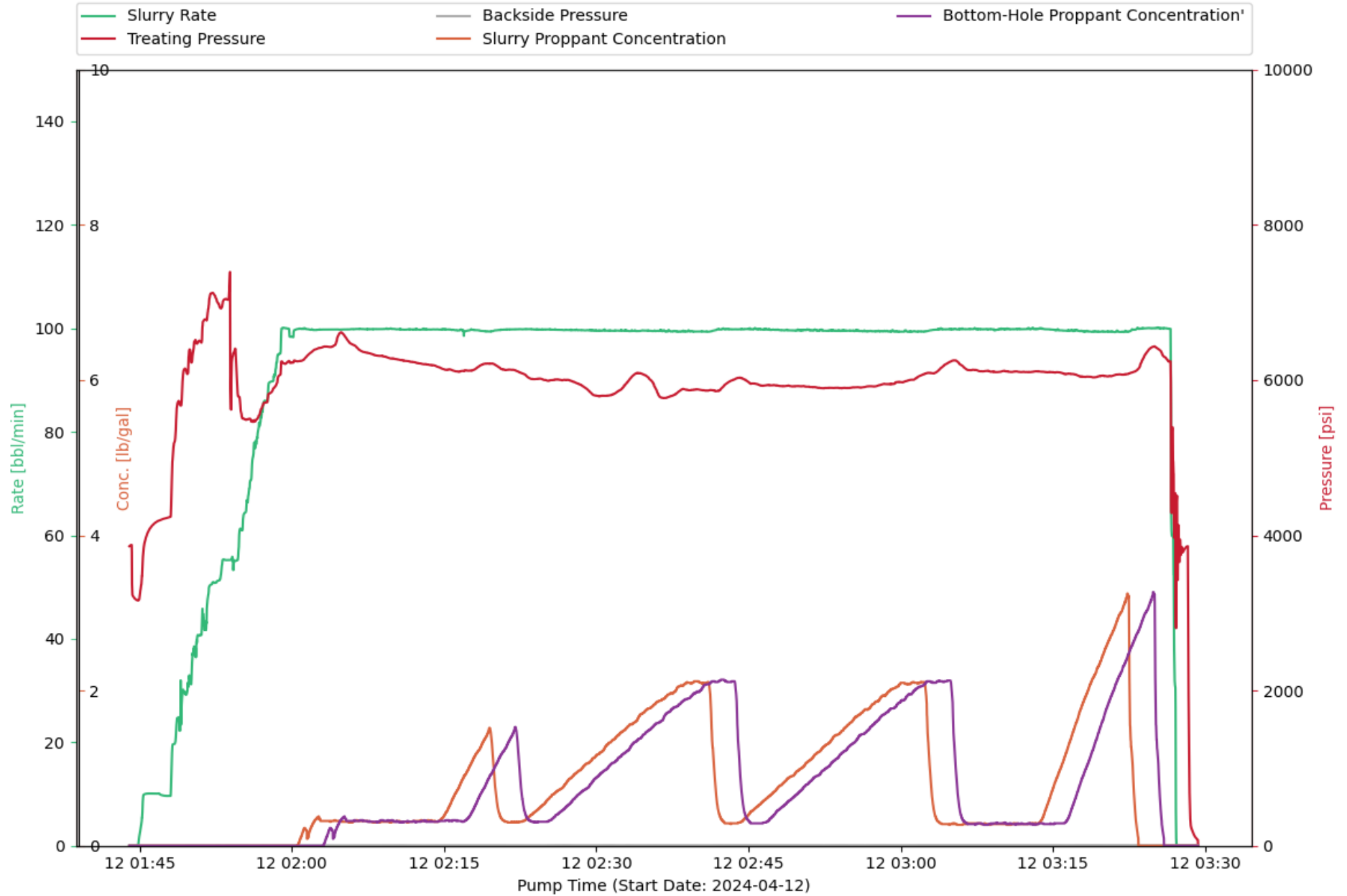
CHEMISTRY PLOT : Treatment Interval 7



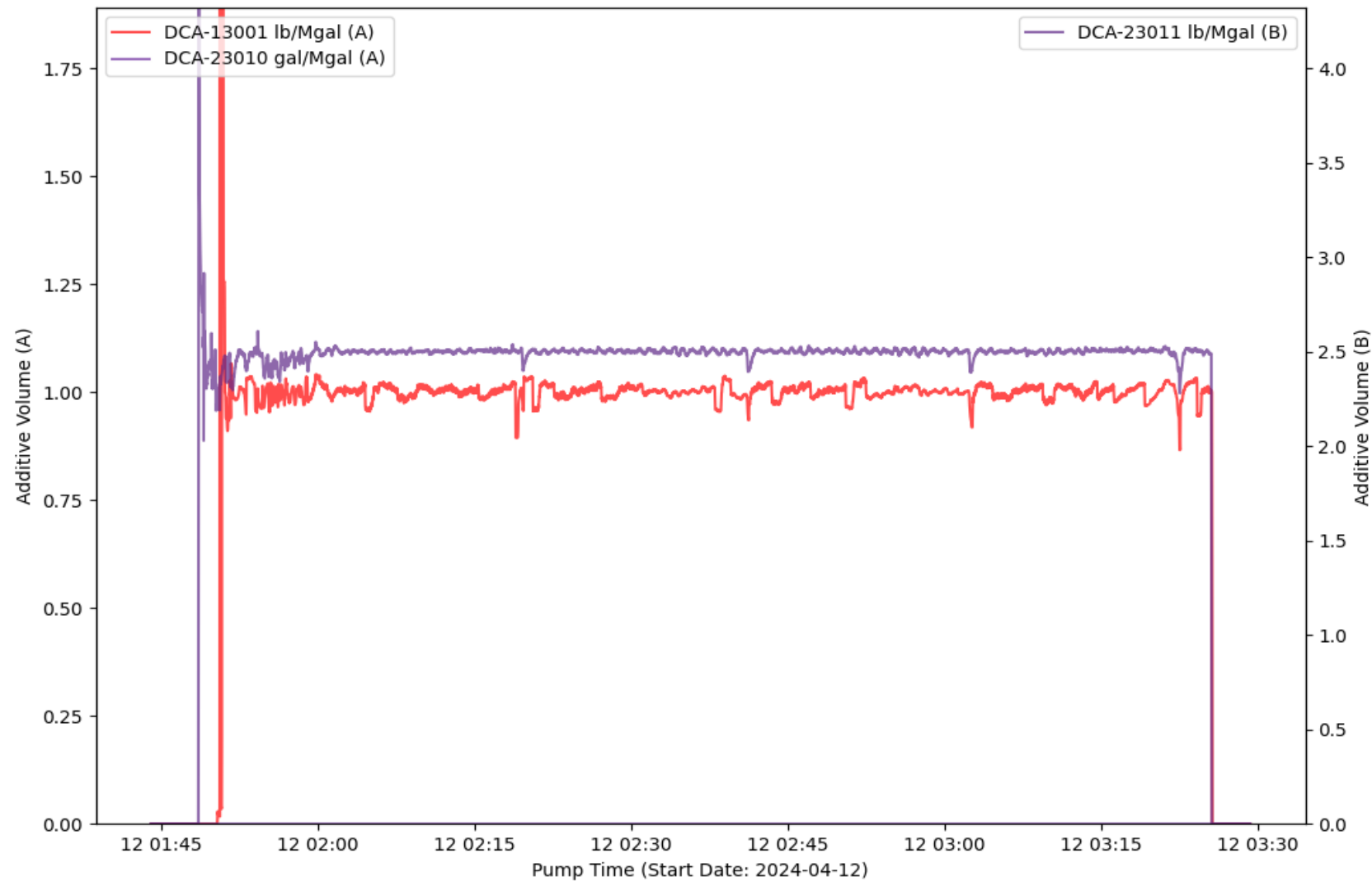
EVENT LOG : TREATMENT INTERVAL 7

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	2024-04-11T11:44:48	0	2899	0	0	0	0	0
2	Start Pumping	2024-04-11T11:45:05	0.16	2877	0	0	0	0.11	0
3	Break Formation	2024-04-11T11:45:42	9.85	6556	0	0	255.43	153.9	0
4	Pump Acid	2024-04-11T11:46:07	9.92	6777	0	0	472.94	327.95	0
5	Spot Acid	2024-04-11T12:00:33	24.52	7684	0	0	12559	12431	0
6	Flush Acid	2024-04-11T12:01:01	27.23	5286	0	0	13042	12919	0
7	Stop Pumping	2024-04-11T12:30:29	0.87	7182	0	0.49	53900	54205	5017
8	ISIP	2024-04-11T12:30:32	0.01	7178	0	0.49	53904	54205	5017
9	Shut In Well	2024-04-11T12:32:59	0.01	5296	0	0.49	53916	54210	5017
10	Suspending Job	2024-04-11T12:35:24	0	4.73	0	0.47	53916	54214	5017
11	Resuming Job	2024-04-11T17:35:10	0	0	0	0.47	53916	54214	5017
12	Open Well	2024-04-11T17:39:27	0	2948	0	0.47	54207	54281	5440
13	Start Pumping	2024-04-11T17:42:13	0	2939	0	0.47	54207	54281	5440
14	Pump Acid	2024-04-11T18:28:16	9.8	4137	0	0	97985	98371	5440
15	Spot Acid	2024-04-11T18:35:47	50.16	6744	0	0	109904	110512	5440
16	Flush Acid	2024-04-11T18:36:18	51.67	6238	0	0	110994	111608	5440
17	Stop Pumping	2024-04-11T20:32:15	2.66	2900	0	0	540671	557682	365969
18	ISIP	2024-04-11T20:32:38	0	4004	0	0	540680	557684	365969
19	Shut In Well	2024-04-11T20:32:44	0	3977	0	0	540680	557684	365969
20	Suspending Job	2024-04-11T20:34:04	0	49.45	0	0	540680	557684	365969

TREATMENT PLOT : Treatment Interval 8



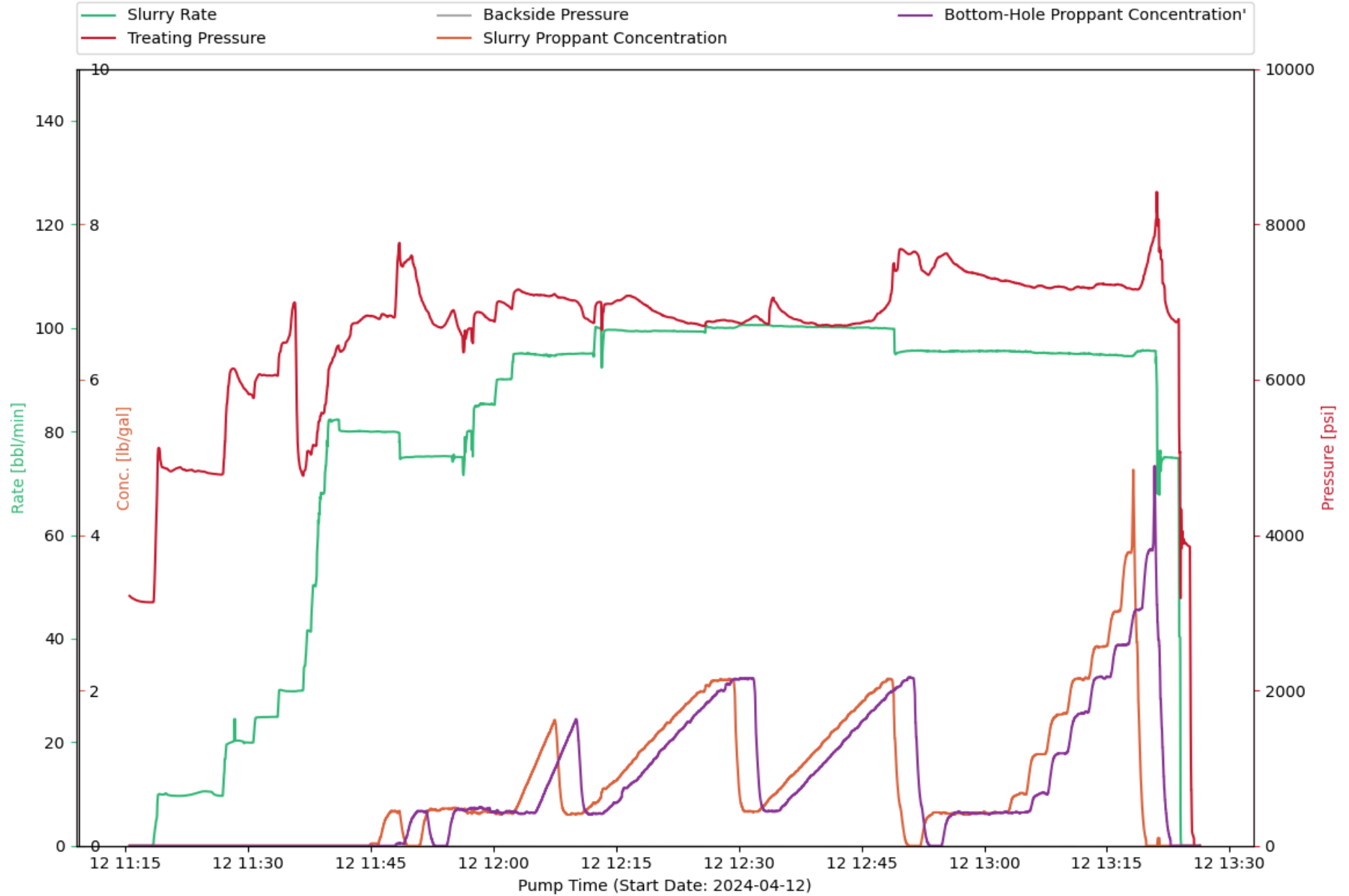
CHEMISTRY PLOT : Treatment Interval 8



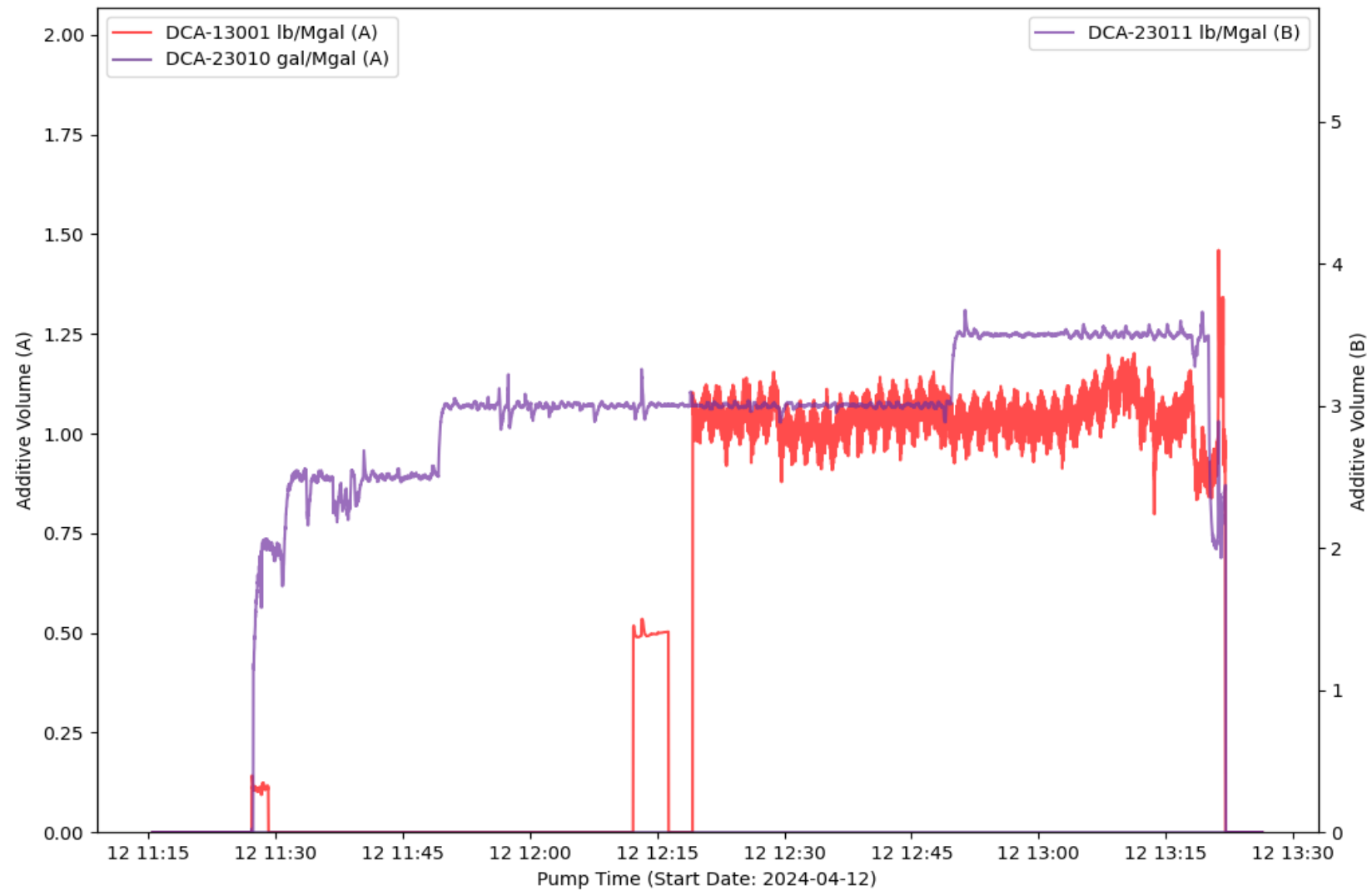
EVENT LOG : TREATMENT INTERVAL 8

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	2024-04-12T01:44:22	0	3214	0	0	0	0	0
2	Start Pumping	2024-04-12T01:44:48	0	3161	0	0	0	0.02	0
3	Pump Acid	2024-04-12T01:47:24	9.71	4214	0	0	890.42	943.58	0
4	Break Formation	2024-04-12T01:49:58	32.12	6392	0	0	3054	3229	0
5	Spot Acid	2024-04-12T01:53:48	55.22	7086	0	0	10408	10745	0
6	Flush Acid	2024-04-12T01:55:52	70.21	5503	0	0	15540	15972	0
7	Stop Pumping	2024-04-12T03:27:10	0.79	4273	0	0	377721	395000	318733
8	ISIP	2024-04-12T03:27:31	0	3939	0	0	377724	395000	318733
9	Shut In Well	2024-04-12T03:27:50	0	3793	0	0	377724	395000	318733

TREATMENT PLOT : Treatment Interval 9



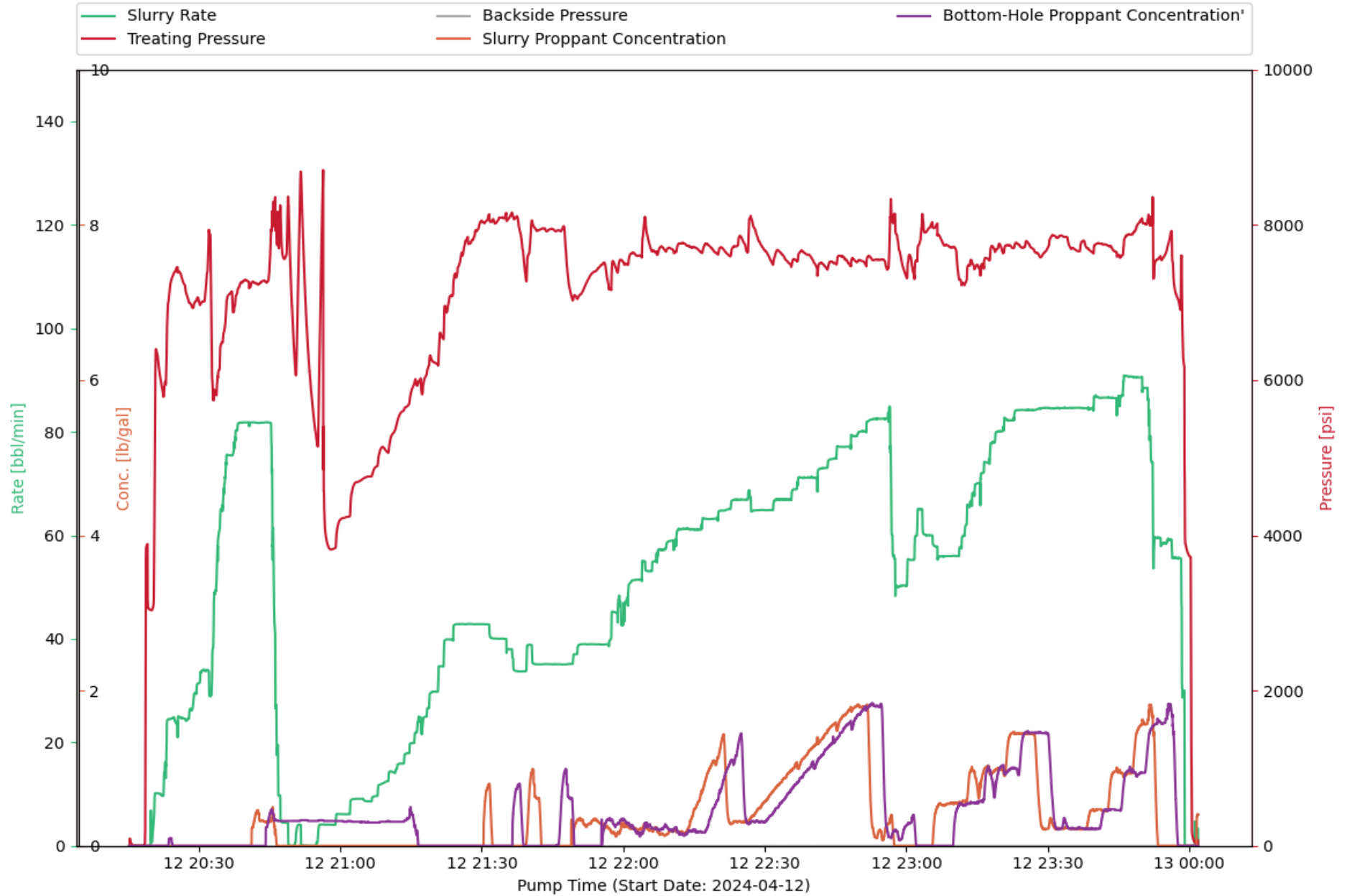
CHEMISTRY PLOT : Treatment Interval 9



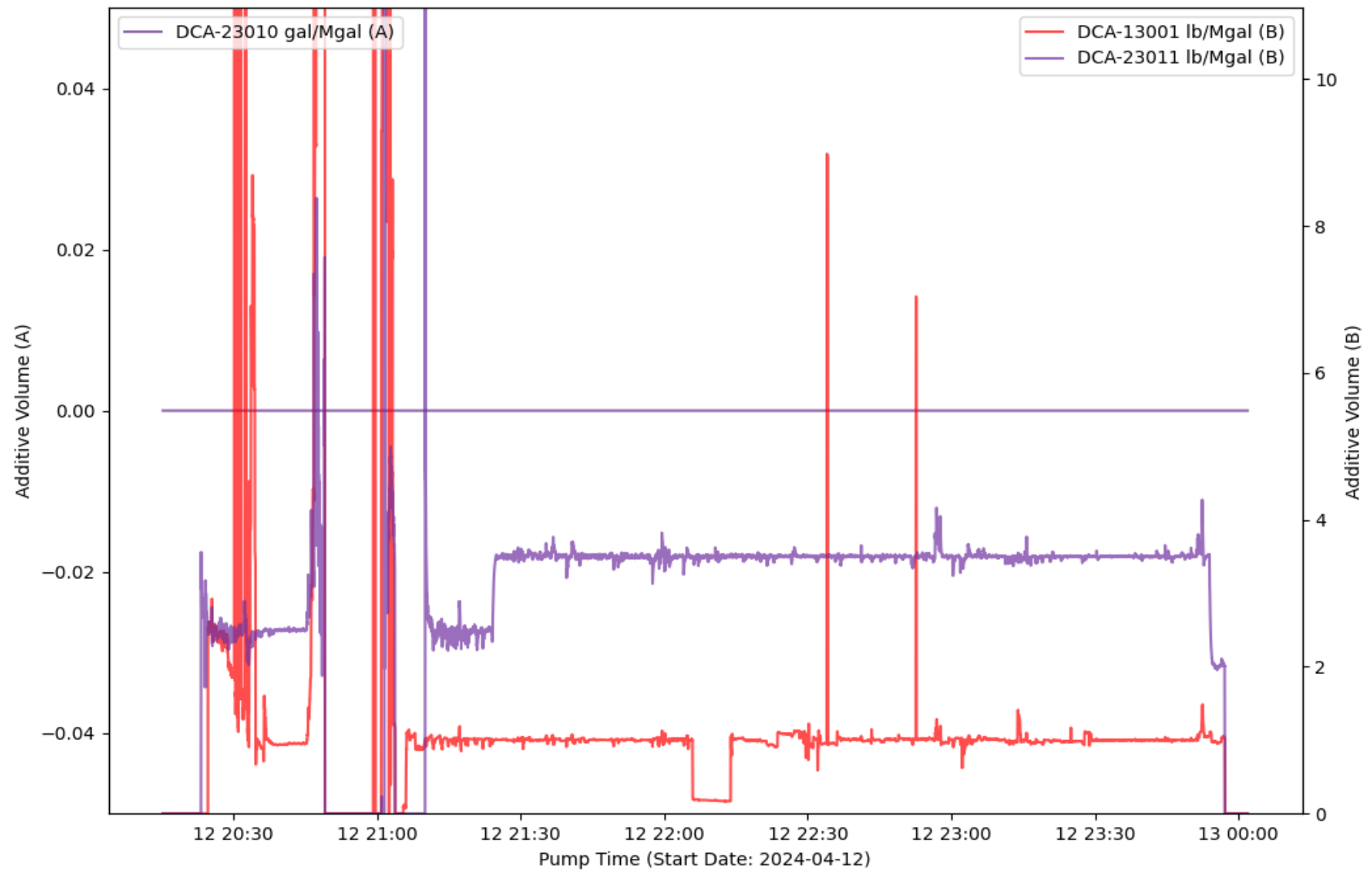
EVENT LOG : TREATMENT INTERVAL 9

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	Start Pumping	2024-04-12T11:18:24	0.07	3138	0	0	0	0.05	0
2	Break Formation	2024-04-12T11:18:59	9.88	5084	0	0	89.03	113.42	0
3	Pump Acid	2024-04-12T11:19:24	9.9	4890	0	0	312.76	288.34	0
4	Pump Acid	2024-04-12T11:24:53	10.5	4806	0	0	2544	2570	0
5	Spot Acid	2024-04-12T11:27:59	20.01	6136	0	0	4229	4232	0
6	Flush Acid	2024-04-12T11:30:34	19.93	5785	0	0	6386	6425	0
7	Spot Acid	2024-04-12T11:31:09	24.81	6038	0	0	6934	6982	0
8	Flush Acid	2024-04-12T11:33:30	24.89	6053	0	0	9373	9446	0
9	Stop Pumping	2024-04-12T13:24:03	0.83	4336	0	0	409085	427065	382141
10	ISIP	2024-04-12T13:24:13	0	4054	0	0	409089	427065	382141
11	Shut In Well	2024-04-12T13:24:37	0	3893	0	0	409089	427065	382141

TREATMENT PLOT : Treatment Interval 10



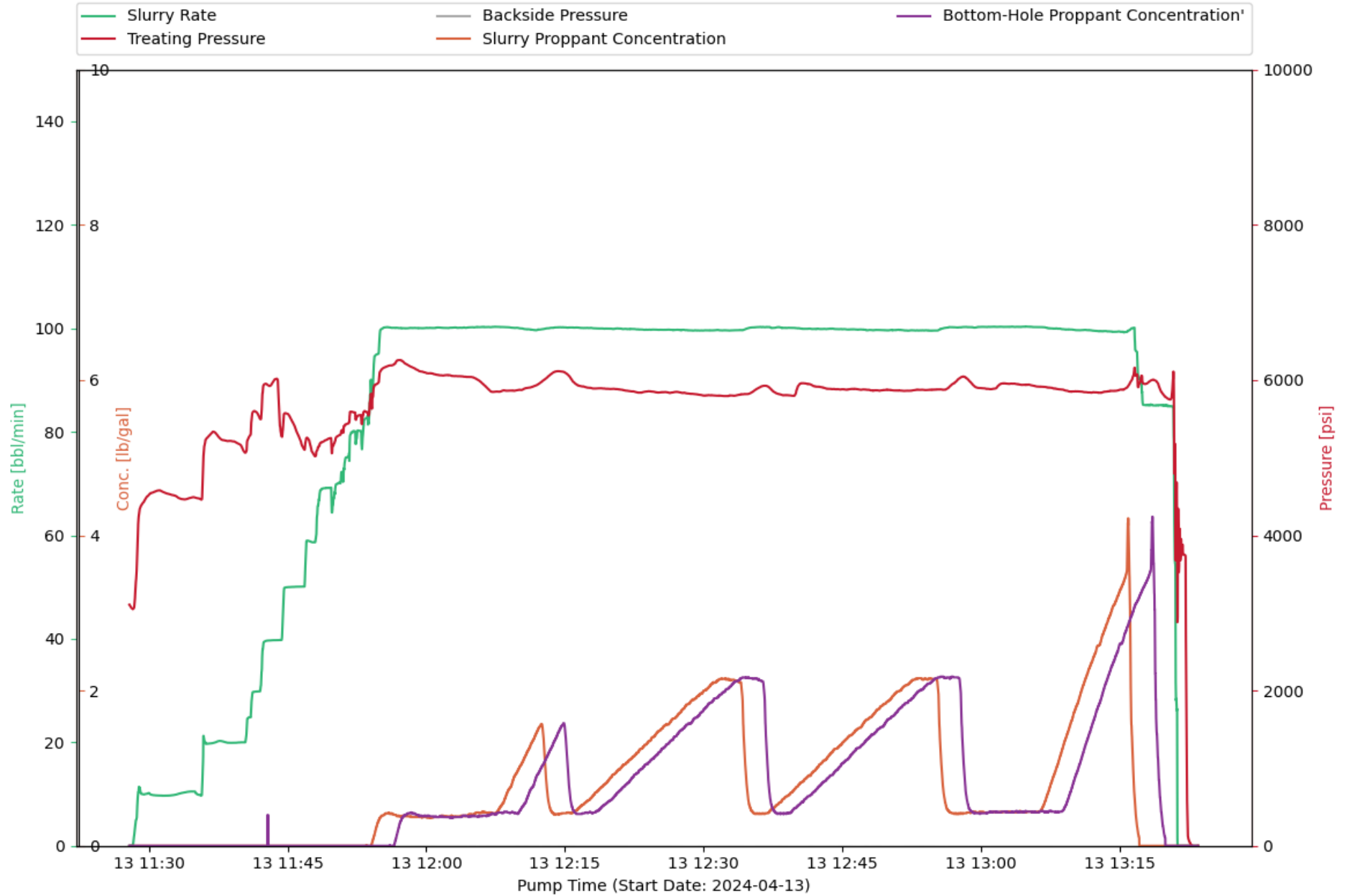
CHEMISTRY PLOT : Treatment Interval 10



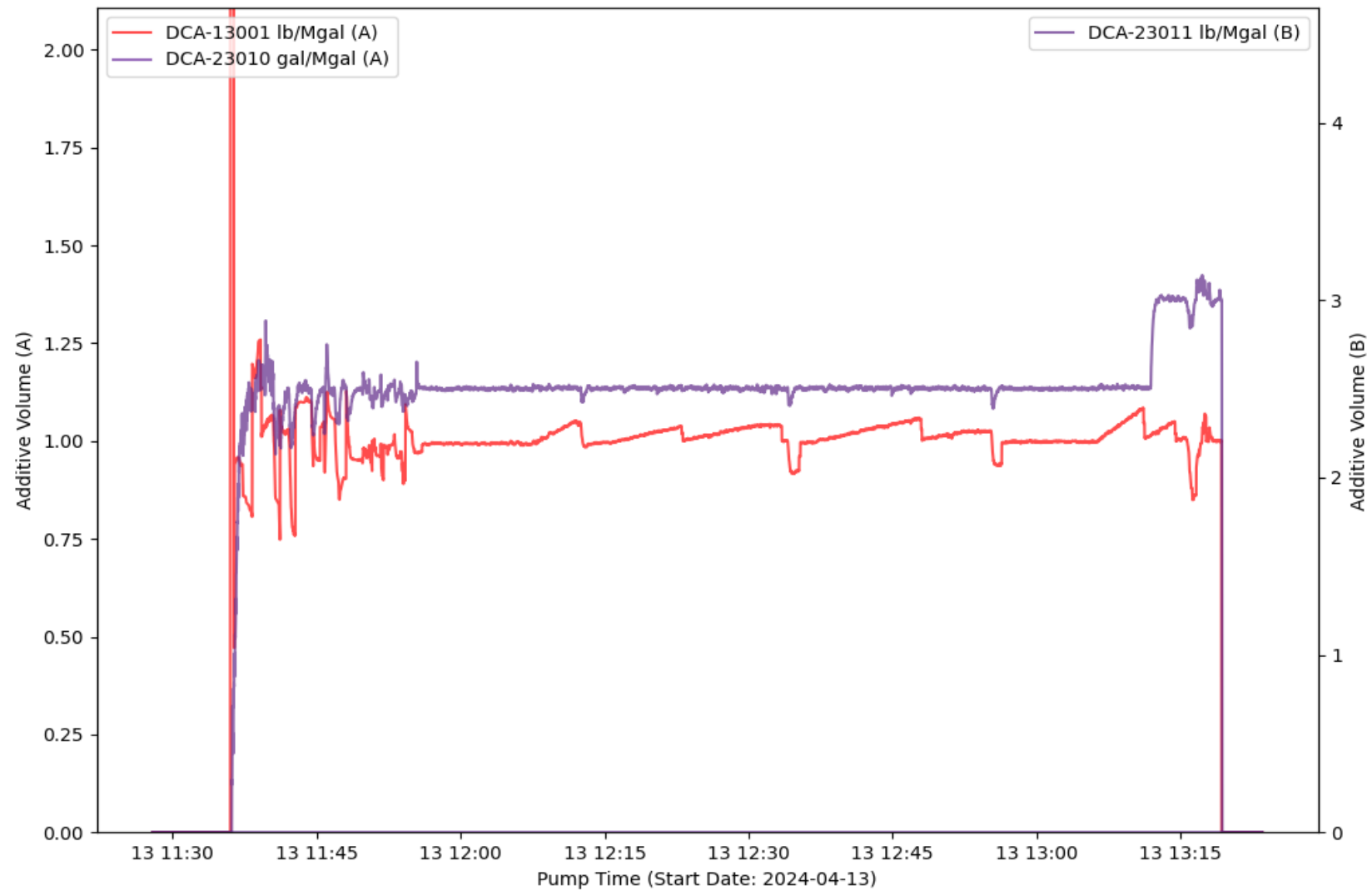
EVENT LOG : TREATMENT INTERVAL 10

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	2024-04-12T20:15:31	0	52.1	0	0	0	0	0
2	Start Avg Trt 10	2024-04-12T20:15:36	0	40.8	0	0	0	0	0
3	Open Well	2024-04-12T20:19:17	0	3062	0	0	0	0	0
4	Start Pumping	2024-04-12T20:19:45	0	3039	0	0	0	0.01	0
5	Break Formation	2024-04-12T20:21:03	10.16	6380	0	0	309.99	298.12	0
6	Pump Acid	2024-04-12T20:21:56	10.04	5990	0	0	689.08	674.44	0
7	Spot Acid	2024-04-12T20:32:08	33.7	7920	0	0	11453	11658	0
8	Flush Acid	2024-04-12T20:33:08	41	5736	0	0	12776	13022	0
9	Pump Acid	2024-04-12T20:59:20	6.16	4069	0	0.32	55159	56174	5388
10	Stop Pumping	2024-04-12T23:59:02	6.24	4833	0	0	467291	484768	252167
11	ISIP	2024-04-12T23:59:16	0	3875	0	0	467309	484771	252167
12	Shut In Well	2024-04-12T23:59:42	0	3775	0	0	467309	484771	252167
13	Suspending Job	2024-04-13T00:01:52	3.37	73.13	0.4	0	467449	484866	252186

TREATMENT PLOT : Treatment Interval 11



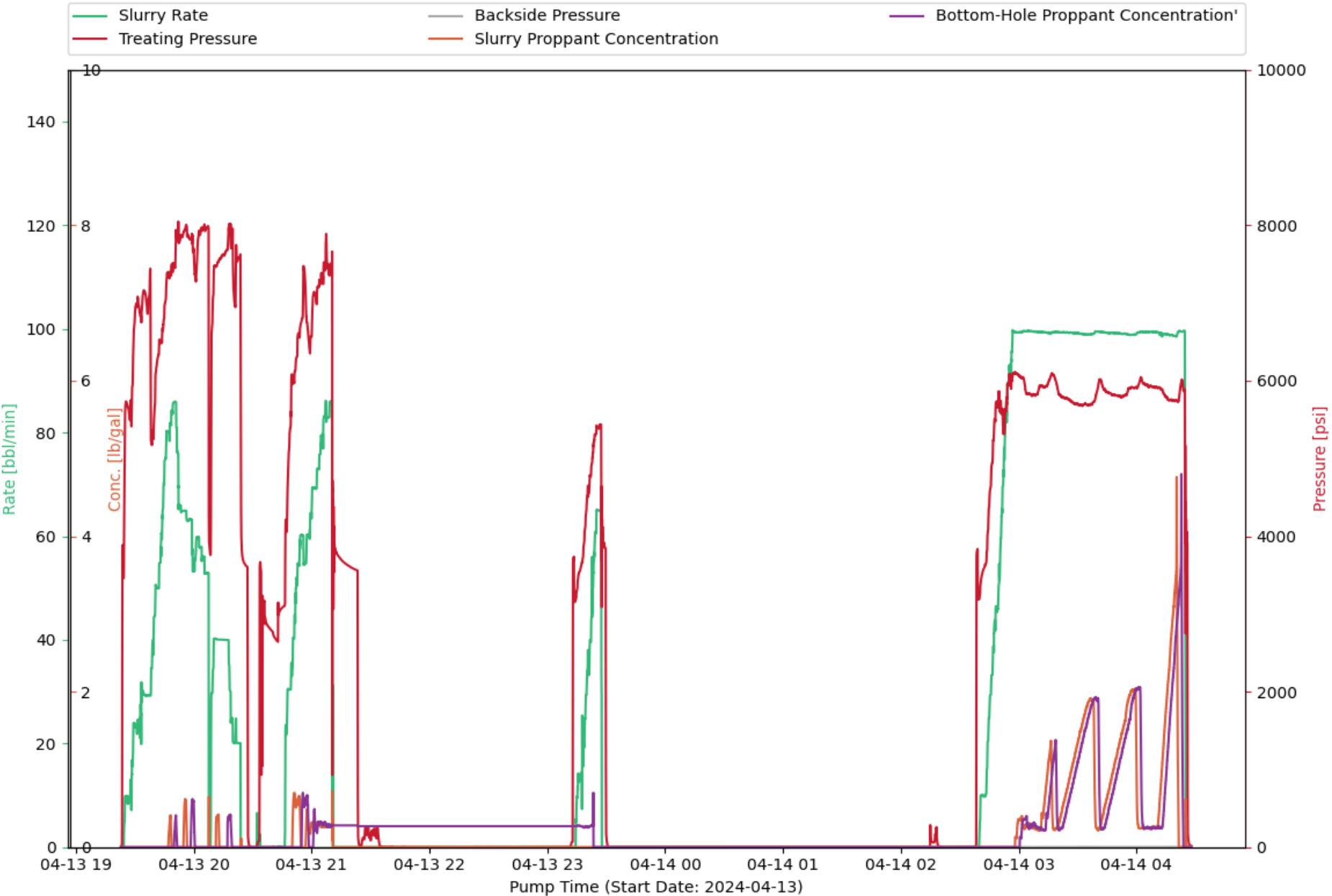
CHEMISTRY PLOT : Treatment Interval 11



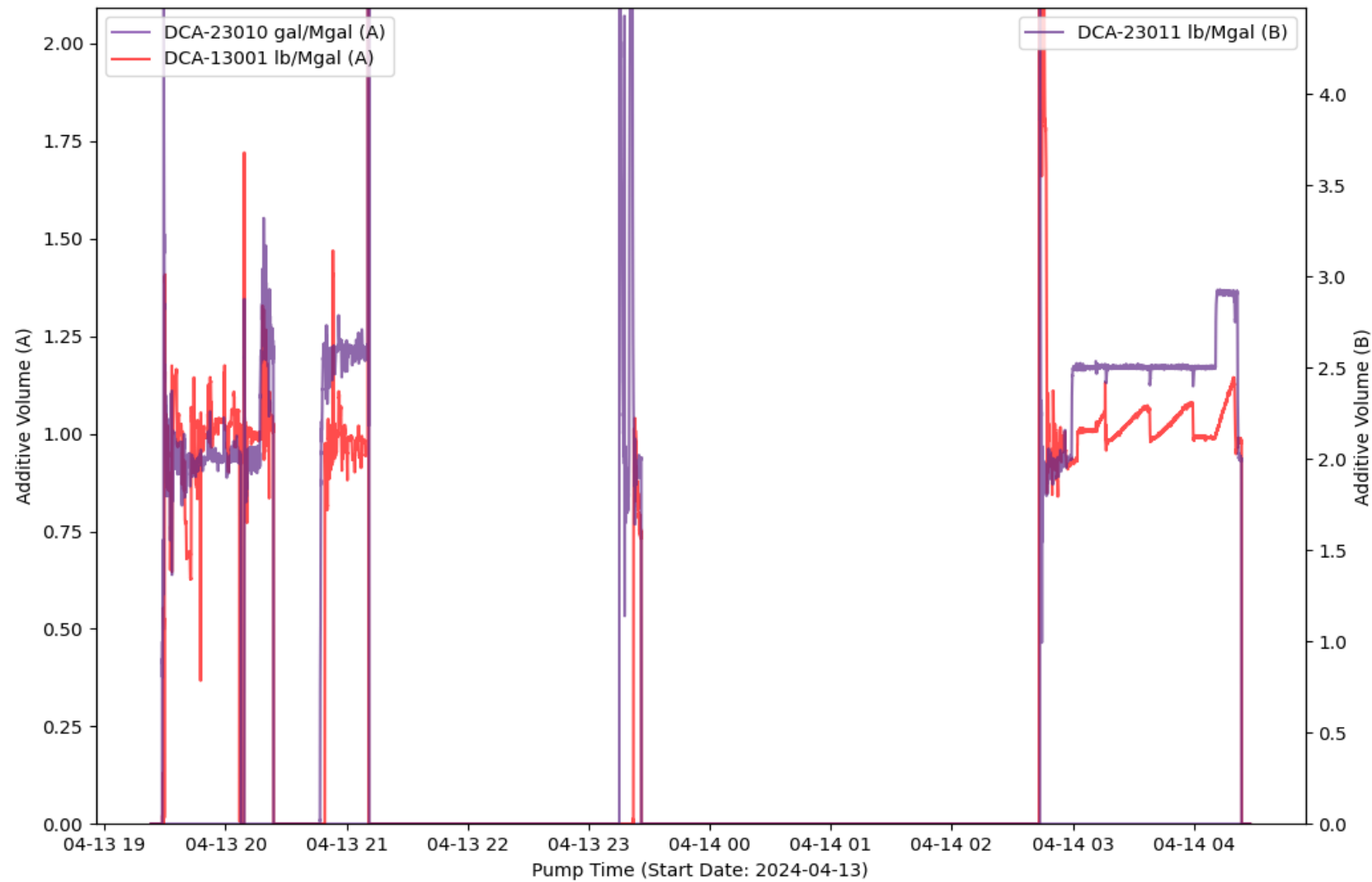
EVENT LOG : TREATMENT INTERVAL 11

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	Start Pumping	2024-04-13T11:28:17	0.2	3050	0	0	0	0.14	0
2	Break Formation	2024-04-13T11:28:57	11.02	4290	0	0	105.37	165.18	0
3	Pump Acid	2024-04-13T11:29:41	10.03	4481	0	0	418.98	479.29	0
4	Pump Acid	2024-04-13T11:34:34	10.5	4485	0	0	2412	2516	0
5	Spot Acid	2024-04-13T11:43:53	39.73	6013	0	0	11576	11785	0
6	Flush Acid	2024-04-13T11:44:22	39.86	5272	0	0	12379	12596	0
7	Spot Acid	2024-04-13T11:44:34	48.02	5524	0	0	12726	12966	0
8	Flush Acid	2024-04-13T11:46:48	50.1	5104	0	0	17364	17643	0
9	Stop Pumping	2024-04-13T13:21:17	1.51	2881	0	0	385039	401887	359595
10	ISIP	2024-04-13T13:21:20	0	4214	0	0	385039	401887	359595
11	Shut In Well	2024-04-13T13:22:00	0	3752	0	0	385039	401887	359595
12	Suspending Job	2024-04-13T13:23:30	0	-8.8	0	0	385039	401887	359595

TREATMENT PLOT : Treatment Interval 12



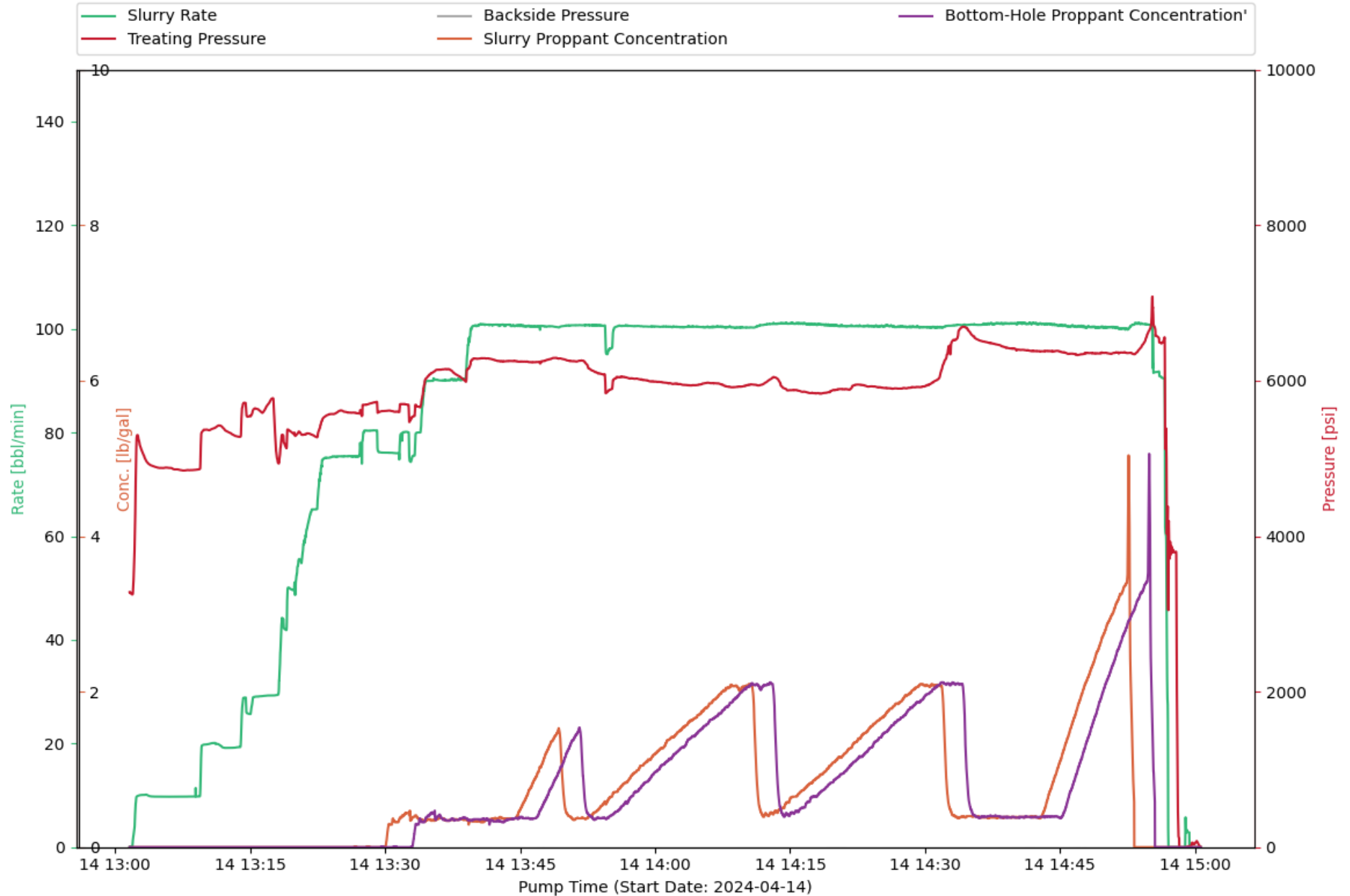
CHEMISTRY PLOT : Treatment Interval 12



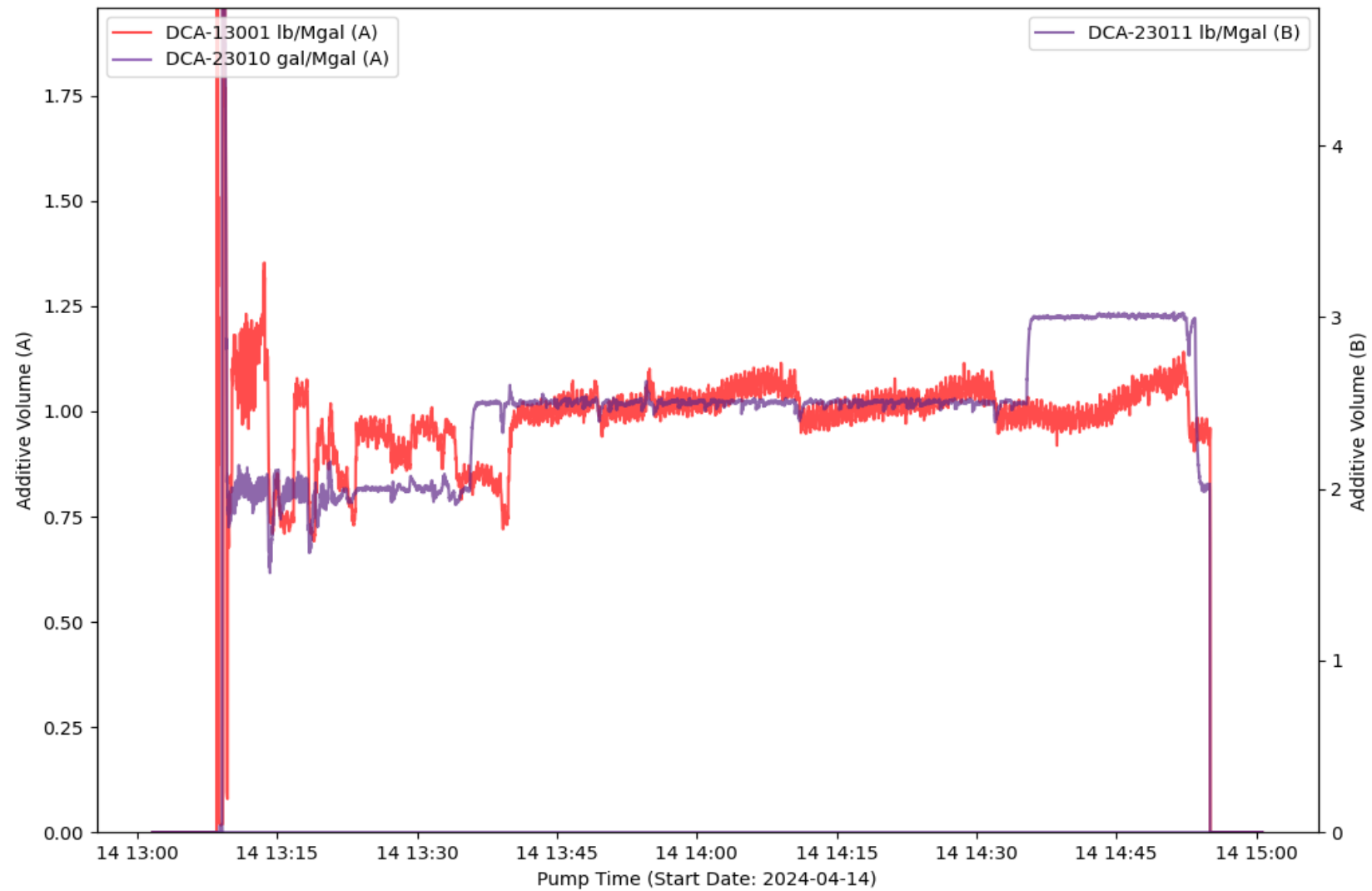
EVENT LOG : TREATMENT INTERVAL 12

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-13T19:23:55	0	3742	0	0	0	0	0
2	Start Pumping	2024-04-13T19:24:23	0	3470	0	0	0	0	0
3	Pump Acid	2024-04-13T19:27:05	9.05	5588	0	0	742.3	945.47	0
4	Break Formation	2024-04-13T19:35:32	29.14	7107	0	0	8496	8912	0
5	Spot Acid	2024-04-13T19:37:47	29.25	7393	0	0	11208	11671	0
6	Flush Acid	2024-04-13T19:38:14	30.44	5237	0	0	11756	12228	0
7	Shut In Well	2024-04-13T23:28:29	0	3916	0	0	189226	192608	20702
8	Suspending Job	2024-04-13T23:30:36	0	36.01	0	0	189226	192608	20702
9	Resuming Job	2024-04-14T02:14:52	0	0	0	0	189226	192608	20702
10	Open Well	2024-04-14T02:39:12	0	3197	0	0	189226	192608	20702
11	Start Pumping	2024-04-14T02:39:49	0.29	3199	0	0	189226	192608	20702
12	Pump Acid	2024-04-14T02:40:58	10.03	3466	0	0	189518	192944	20702
13	Stop Pumping	2024-04-14T04:25:00	2.59	2747	0	0	573193	592807	326091
14	ISIP	2024-04-14T04:25:31	0	3977	0	0	573203	592807	326096
15	Shut In Well	2024-04-14T04:25:47	0	3907	0	0	573203	592807	326096

TREATMENT PLOT : Treatment Interval 13



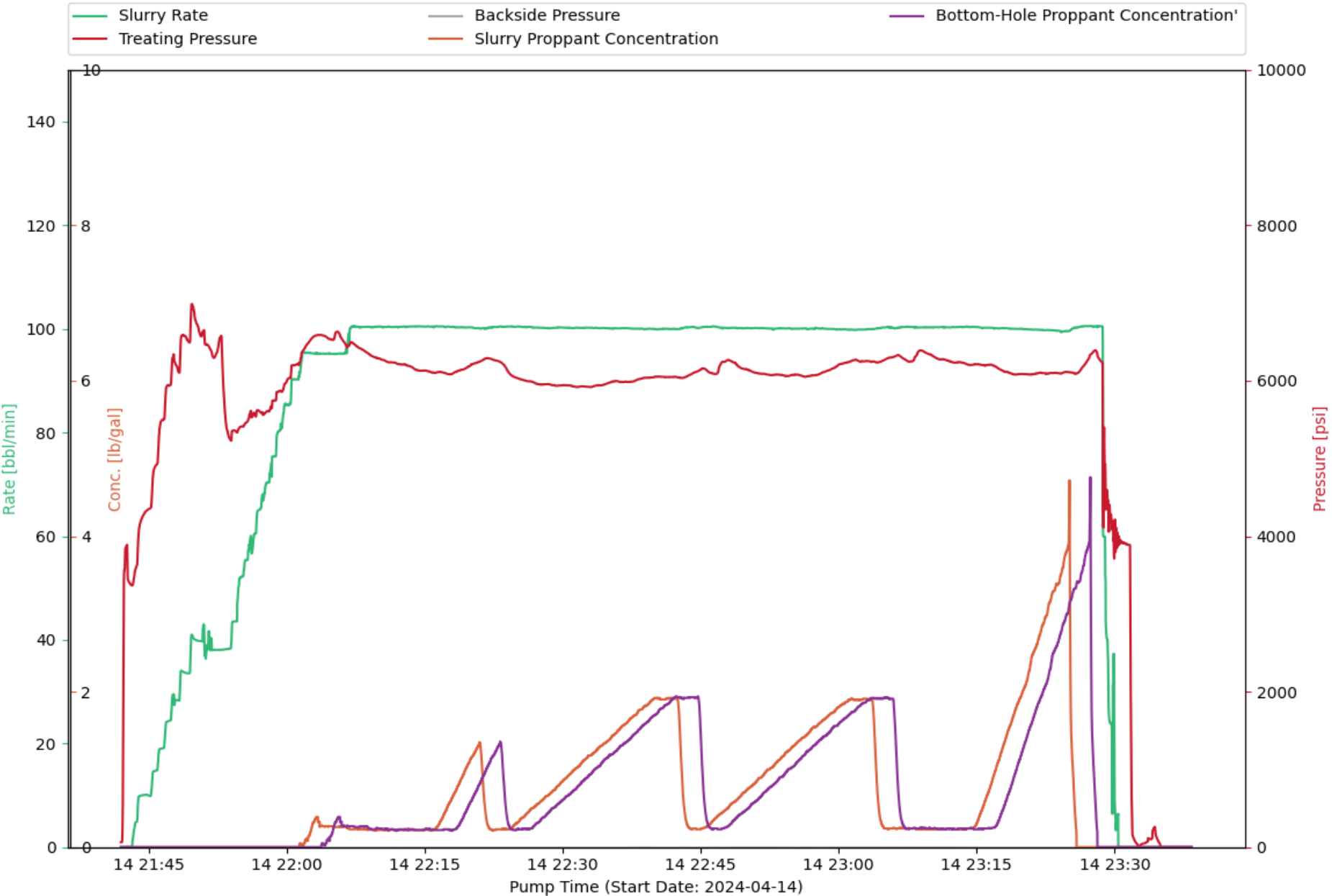
CHEMISTRY PLOT : Treatment Interval 13



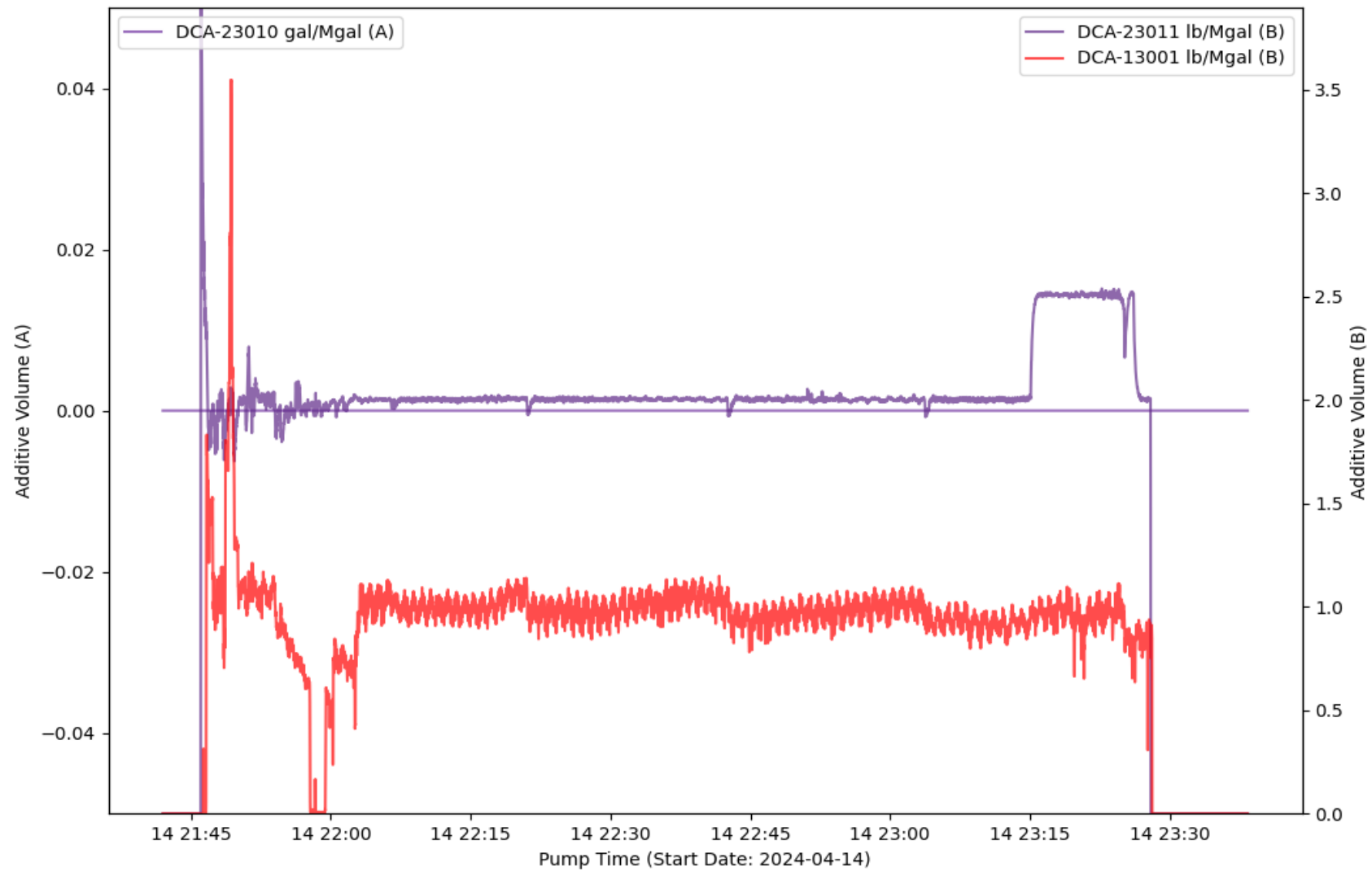
EVENT LOG : TREATMENT INTERVAL 13

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	2024-04-14T13:01:37	0.03	3282	0	0	0	0	0
2	Start Pumping	2024-04-14T13:01:55	0.19	3251	0	0	0	0.4	0
3	Break Formation	2024-04-14T13:02:23	9.74	5264	0	0	131.12	98.54	0
4	Pump Acid	2024-04-14T13:03:13	10.07	5027	0	0	541.41	450.2	0
5	Pump Acid	2024-04-14T13:09:12	9.79	4858	0	0	2996	2906	0
6	Spot Acid	2024-04-14T13:17:34	29.28	5770	0	0	10911	10974	0
7	Flush Acid	2024-04-14T13:18:09	29.62	4936	0	0	11630	11697	0
8	Spot Acid	2024-04-14T13:18:29	42.85	5274	0	0	12080	12183	0
9	Flush Acid	2024-04-14T13:19:01	41.87	5133	0	0	13042	13145	0
10	Stop Pumping	2024-04-14T14:57:01	3.65	3163	0	0	389300	405453	348534
11	ISIP	2024-04-14T14:57:04	0	4174	0	0	389312	405454	348534
12	Shut In Well	2024-04-14T14:57:40	0	3794	0	0	389314	405454	348534
13	Suspending Job	2024-04-14T15:00:37	0	2.21	0	0	389314	405516	348534

TREATMENT PLOT : Treatment Interval 14



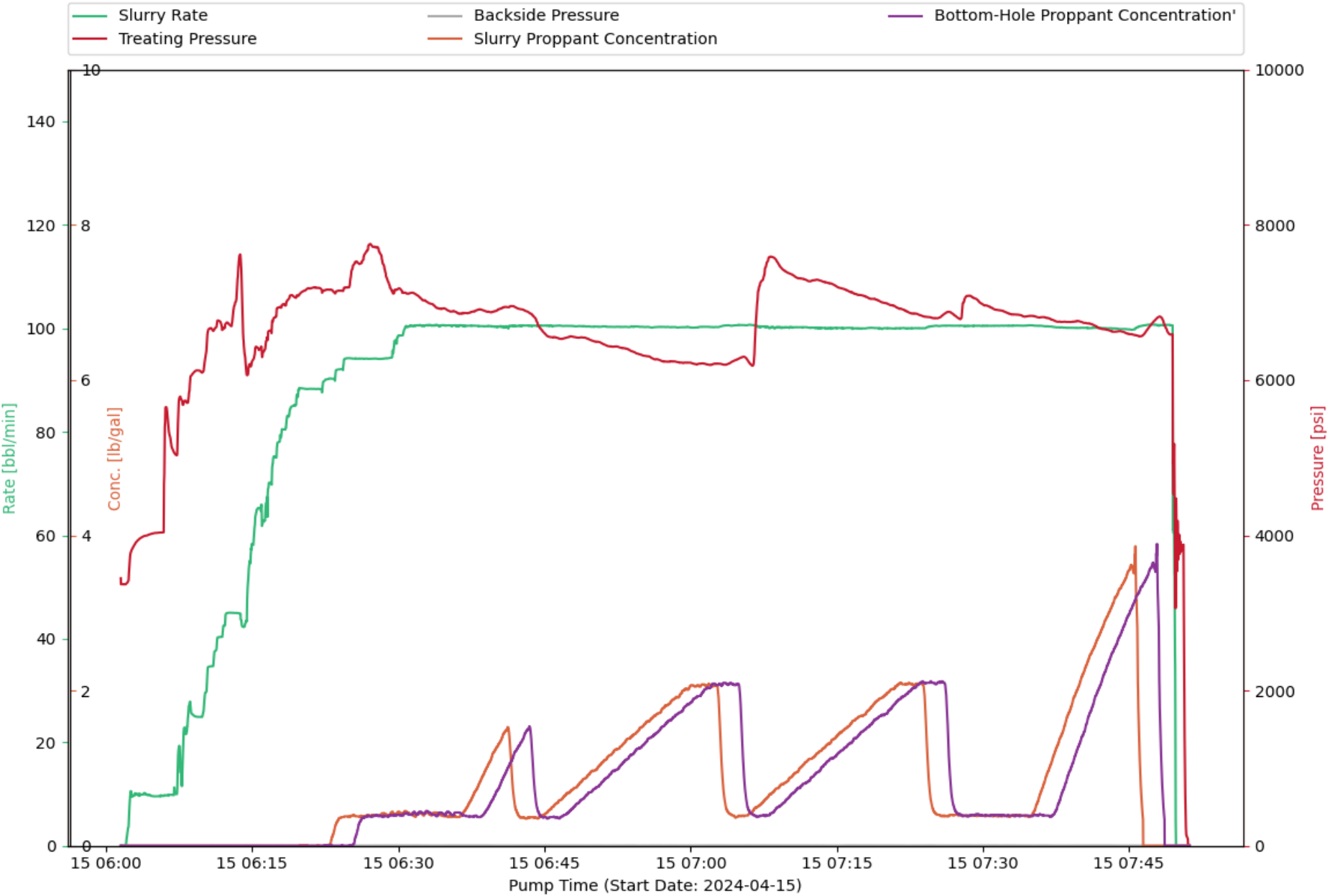
CHEMISTRY PLOT : Treatment Interval 14



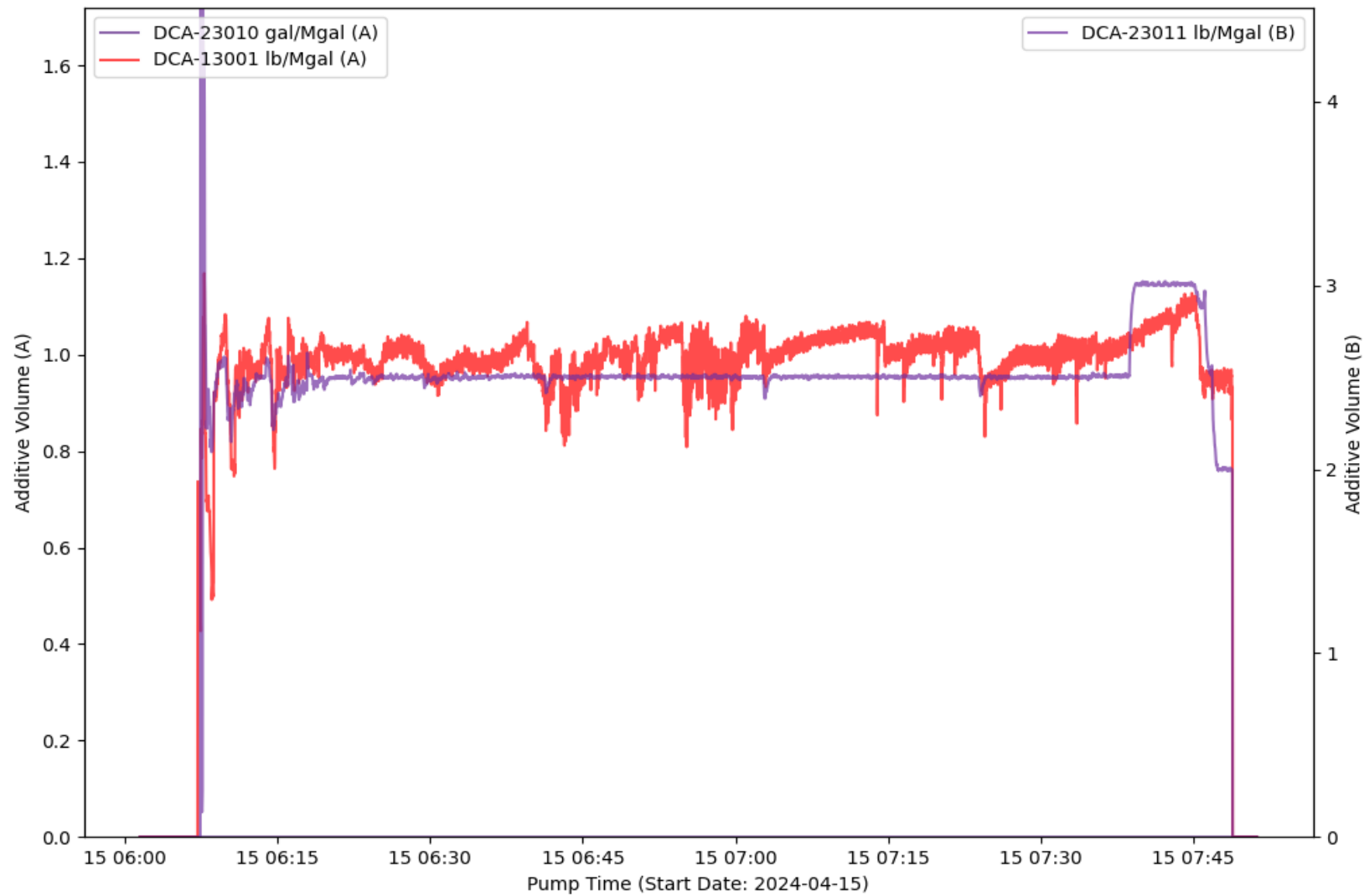
EVENT LOG : TREATMENT INTERVAL 14

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	2024-04-14T21:42:44	0.06	3455	0	0	0	0.04	0
2	Start Pumping	2024-04-14T21:43:10	0	3365	0	0	0	0.16	0
3	Pump Acid	2024-04-14T21:44:46	10.13	4328	0	0	494.15	496.03	0
4	Break Formation	2024-04-14T21:48:08	28.37	6159	0	0	3161	3256	0
5	Spot Acid	2024-04-14T21:52:50	38.06	6571	0	0	10391	10618	0
6	Flush Acid	2024-04-14T21:53:51	38.32	5246	0	0	11970	12229	0
7	Stop Pumping	2024-04-14T23:30:24	0	3884	0	0	385280	402257	306590
8	ISIP	2024-04-14T23:30:44	0	3928	0	0	385280	402257	306590
9	Shut In Well	2024-04-14T23:30:58	0	3908	0	0	385280	402257	306590
10	Suspending Job	2024-04-14T23:35:07	0	0.13	0	0	385280	402257	306590
11	Resuming Job	2024-04-14T23:36:06	0	0	0	0	385280	402257	306590
12	Suspending Job	2024-04-14T23:38:20	0	0	0	0	385280	402257	306590

TREATMENT PLOT : Treatment Interval 15



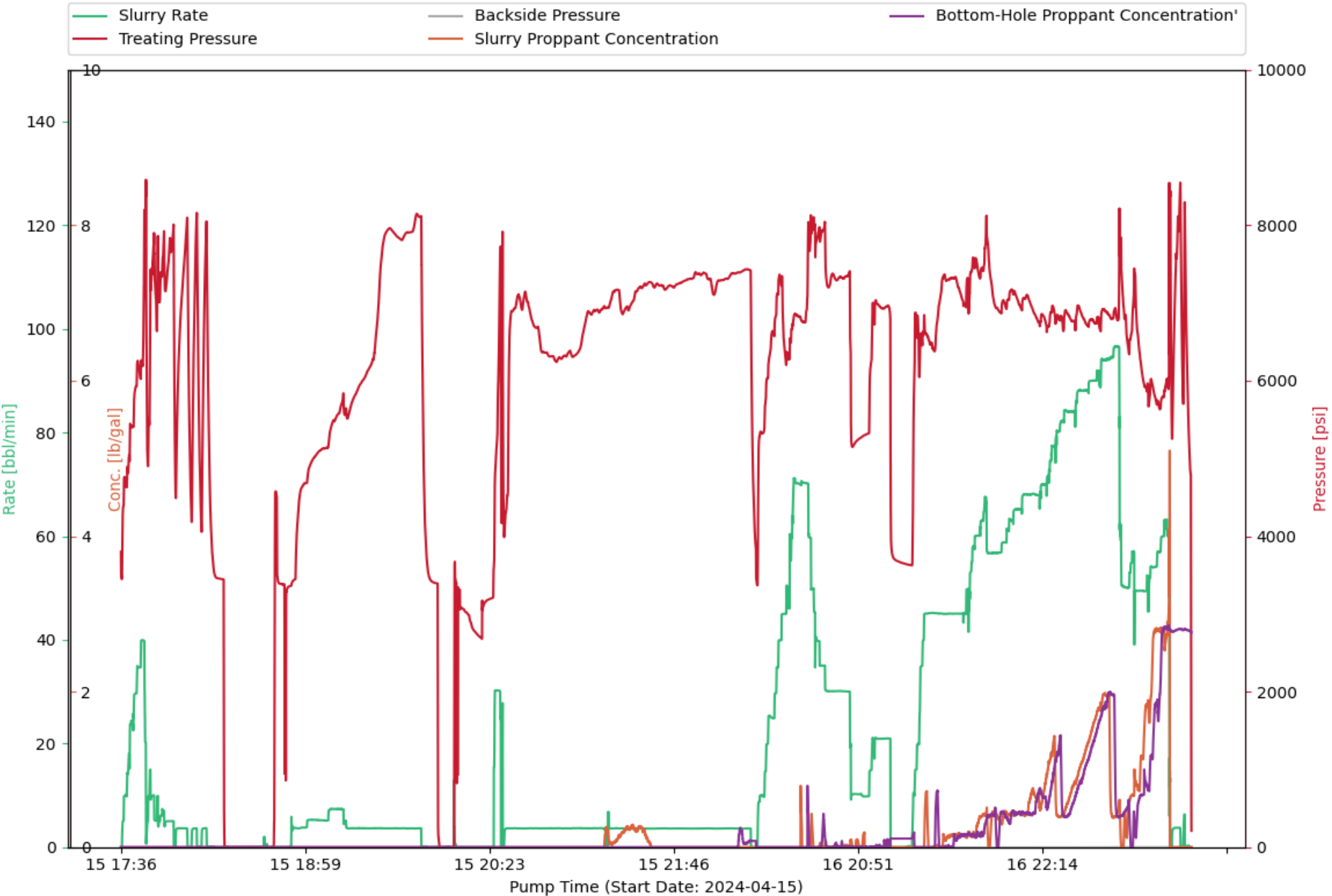
CHEMISTRY PLOT : Treatment Interval 15



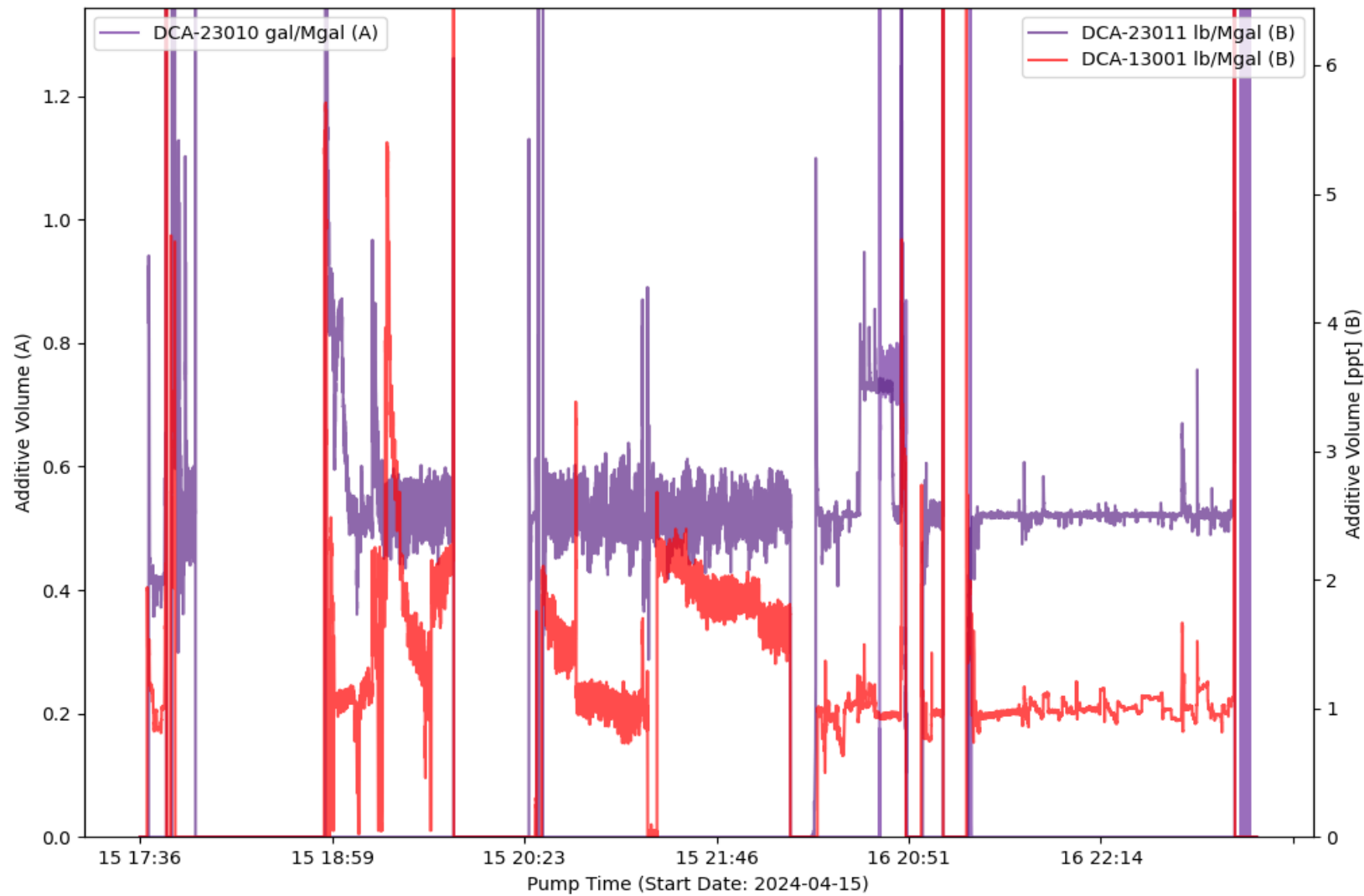
EVENT LOG : TREATMENT INTERVAL 15

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	2024-04-15T06:01:31	0.04	3447	0	0	0	0	0
2	Start Pumping	2024-04-15T06:02:01	0	3370	0	0	0	0.36	0
3	Pump Acid	2024-04-15T06:02:47	9.67	3847	0	0	138.13	205.68	0
4	Ball on Seat	2024-04-15T06:05:54	9.63	4039	0	0	1325	1485	0
5	Break Formation	2024-04-15T06:06:05	9.76	5597	0	0	1398	1561	0
6	Spot Acid	2024-04-15T06:13:42	44.92	7606	0	0	10767	10845	0
7	Flush Acid	2024-04-15T06:14:28	46.48	6062	0	0	12152	12243	0
8	Stop Pumping	2024-04-15T07:49:48	1.05	3213	0	0	386989	403452	359531
9	ISIP	2024-04-15T07:49:49	0	4461	0	0	386994	403452	359531
10	Shut In Well	2024-04-15T07:50:30	0	3874	0	0	386999	403452	359531
11	Suspending Job	2024-04-15T07:51:12	0	-0.02	0	0	386999	403452	359531

TREATMENT PLOT : Treatment Interval 16



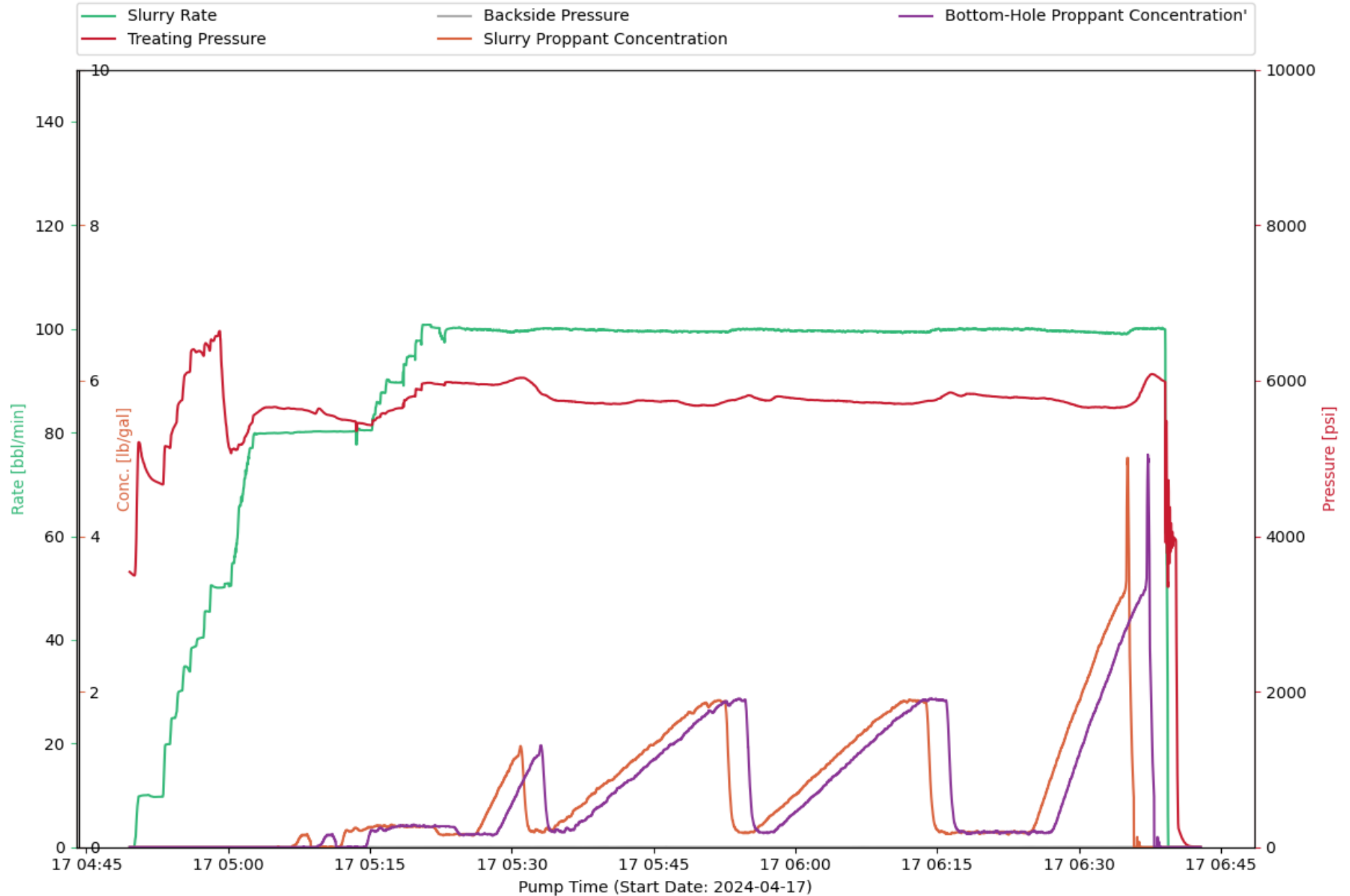
CHEMISTRY PLOT : Treatment Interval 16



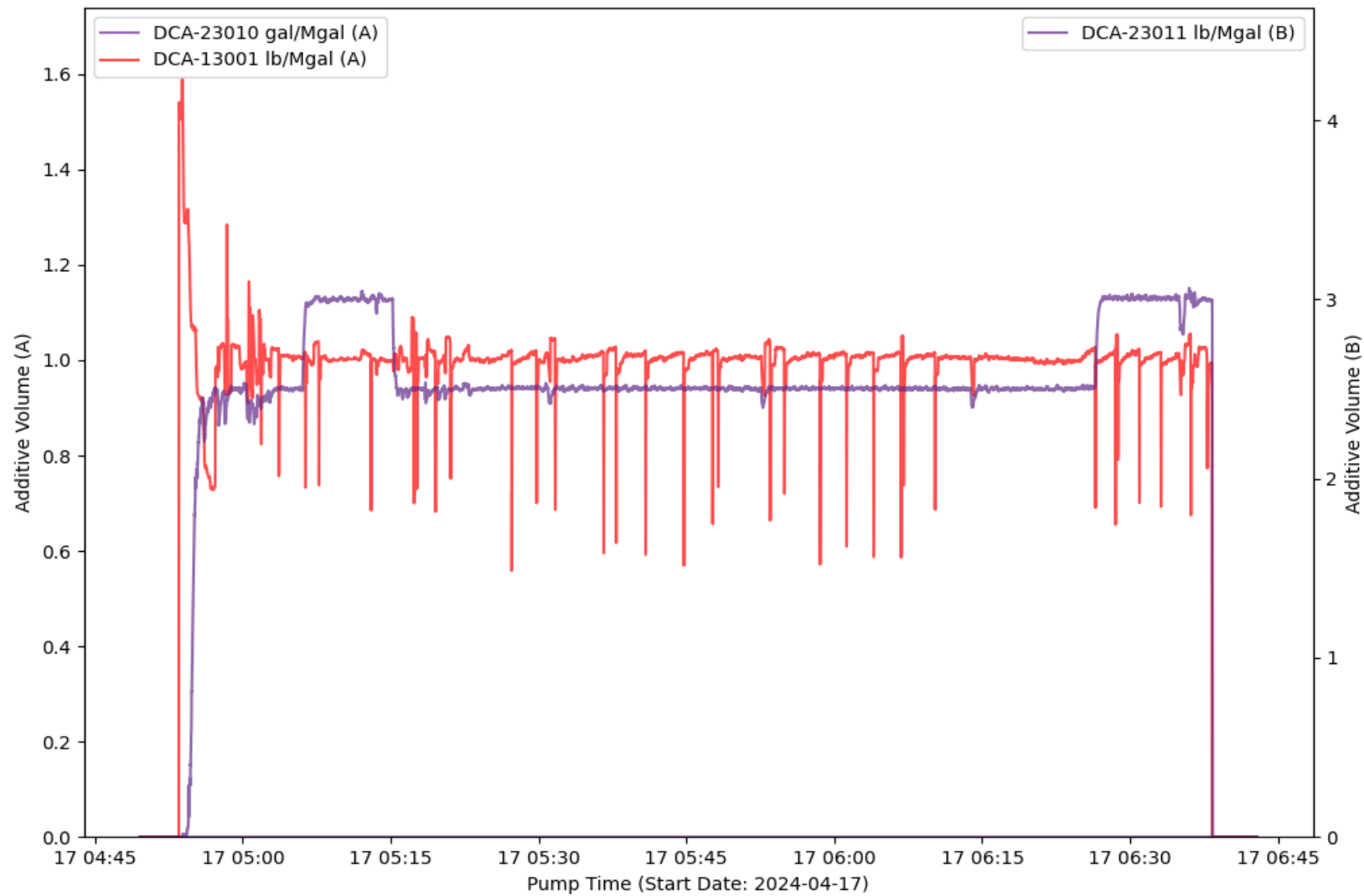
EVENT LOG : TREATMENT INTERVAL 16

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	2024-04-15T17:36:36	0	3800	0	0	0	0	0
2	Start Pumping	2024-04-15T17:37:06	2.13	3544	0	0	0	6.43	0
3	Pump Acid	2024-04-15T17:38:47	9.95	4642	0	0	574.71	539.11	0
4	Spot Acid	2024-04-15T17:47:49	20.2	8335	0	0	11046	11091	0
5	Flush Acid	2024-04-15T17:48:41	4.9	4961	0	0	11176	11247	0
6	Stop Pumping	2024-04-15T18:53:28	0.07	3360	0	0	15716	16014	0
7	Stop Pumping	2024-04-15T22:23:47	0	3855	0	0.08	46064	47941	526.52
8	Open Well	2024-04-16T20:05:09	0	3440	0	0	68520	70703	526.52
9	Start Pumping	2024-04-16T20:05:41	0.98	3375	0	0	68520	70705	526.52
10	Pump Acid	2024-04-16T20:07:20	10.03	5334	0	0	69084	71296	526.52
11	Spot Acid	2024-04-16T20:16:47	44.96	7343	0	0	79059	81364	526.52
12	Flush Acid	2024-04-16T20:18:38	45.06	6201	0	0	82553	84877	526.52
13	Pump Acid	2024-04-16T20:51:54	10.22	5258	0	0	139310	142333	2166
14	Spot Acid	2024-04-16T21:17:06	14.91	6877	0	0	149517	152717	2221
15	Flush Acid	2024-04-16T21:18:51	21.48	6046	0	0	150848	154056	2221
16	Stop Pumping	2024-04-16T23:18:56	3.2	8288	0	2.81	446106	460861	242318
17	ISIP	2024-04-16T23:19:08	0.39	7863	0	2.81	446127	460866	242318
18	Shut In Well	2024-04-16T23:21:40	0	4790	0	2.78	446127	460875	242318

TREATMENT PLOT : Treatment Interval 17



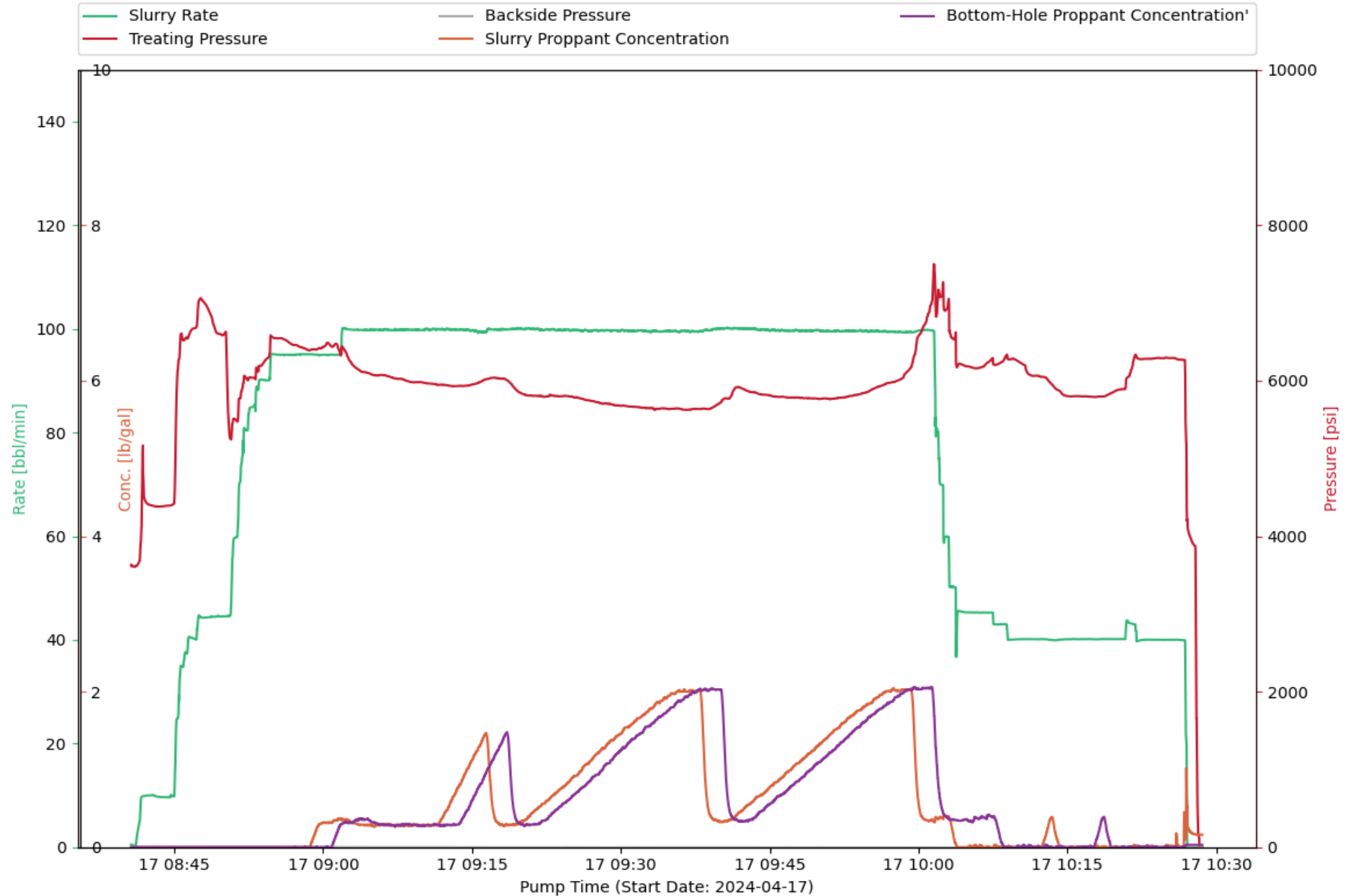
CHEMISTRY PLOT : Treatment Interval 17



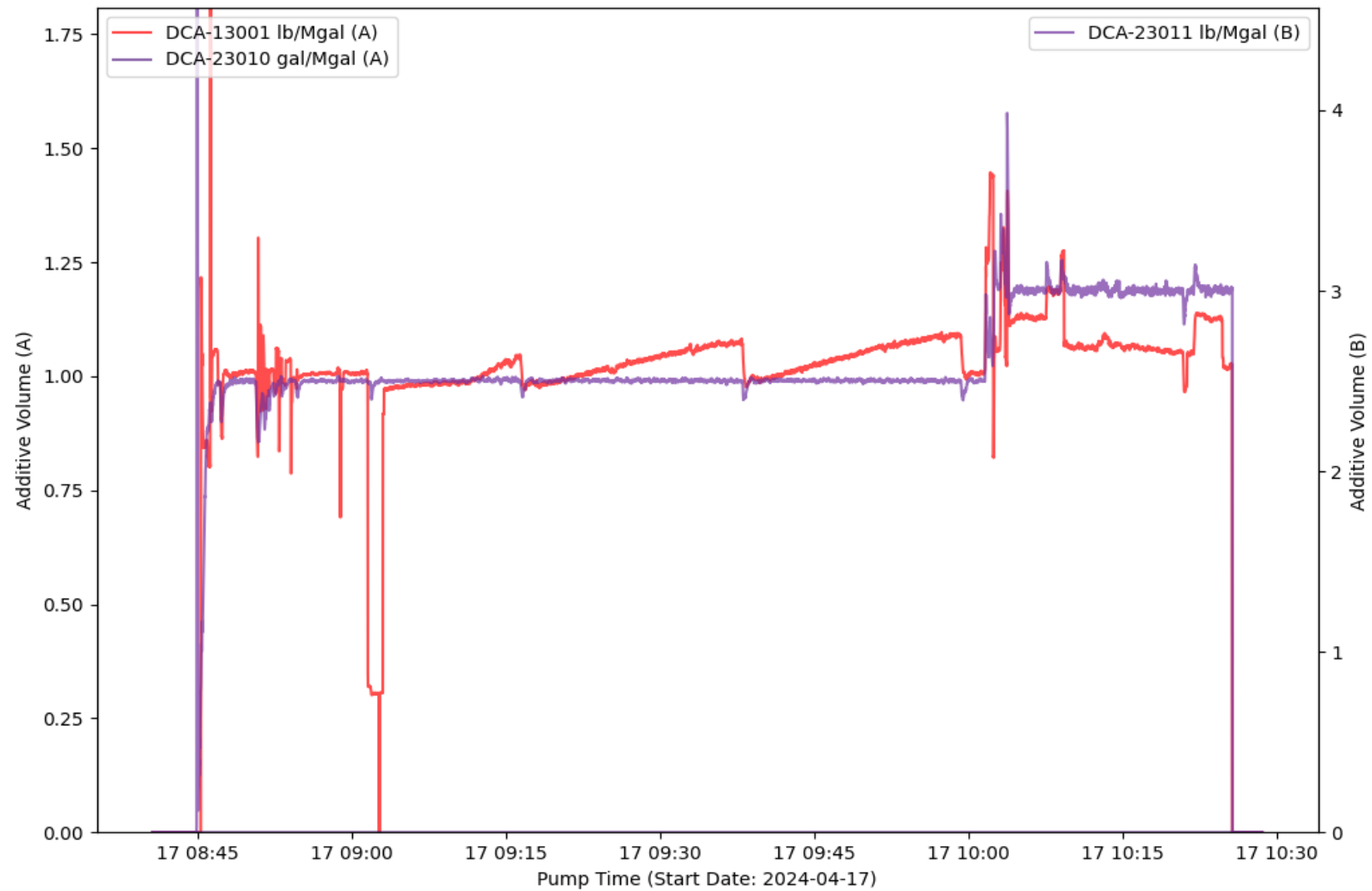
EVENT LOG : TREATMENT INTERVAL 17

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-17T04:49:35	0	3541	0	0	0	0	0
2	Start Pumping	2024-04-17T04:50:01	0	3496	0	0	0	0	0
3	Pump Acid	2024-04-17T04:51:06	10.02	4932	0	0	317.46	338.94	0
4	Break Formation	2024-04-17T04:56:32	38.75	6374	0	0	5105	5280	0
5	Spot Acid	2024-04-17T04:59:07	50.05	6638	0	0	10131	10230	0
6	Flush Acid	2024-04-17T05:00:17	50.44	5069	0	0	12598	12678	0
7	Stop Pumping	2024-04-17T06:39:25	2.57	3347	0	0	398499	411611	293527
8	ISIP	2024-04-17T06:39:26	0.33	4669	0	0	398504	411611	293527
9	Shut In Well	2024-04-17T06:40:05	0	3975	0	0	398509	411611	293527
10	Suspending Job	2024-04-17T06:42:51	0	5.89	0	0	398509	411611	293527

TREATMENT PLOT : Treatment Interval 18



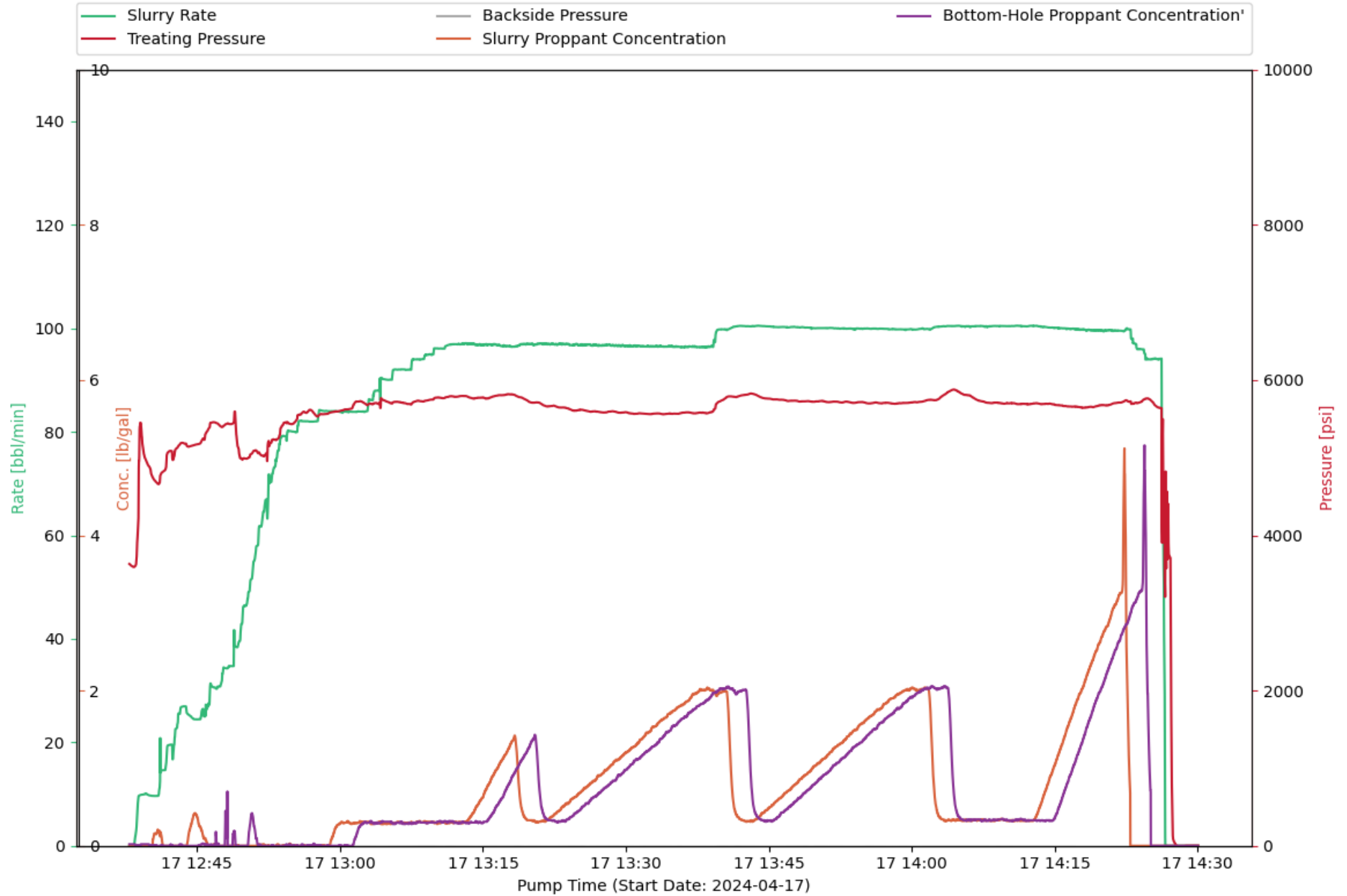
CHEMISTRY PLOT : Treatment Interval 18



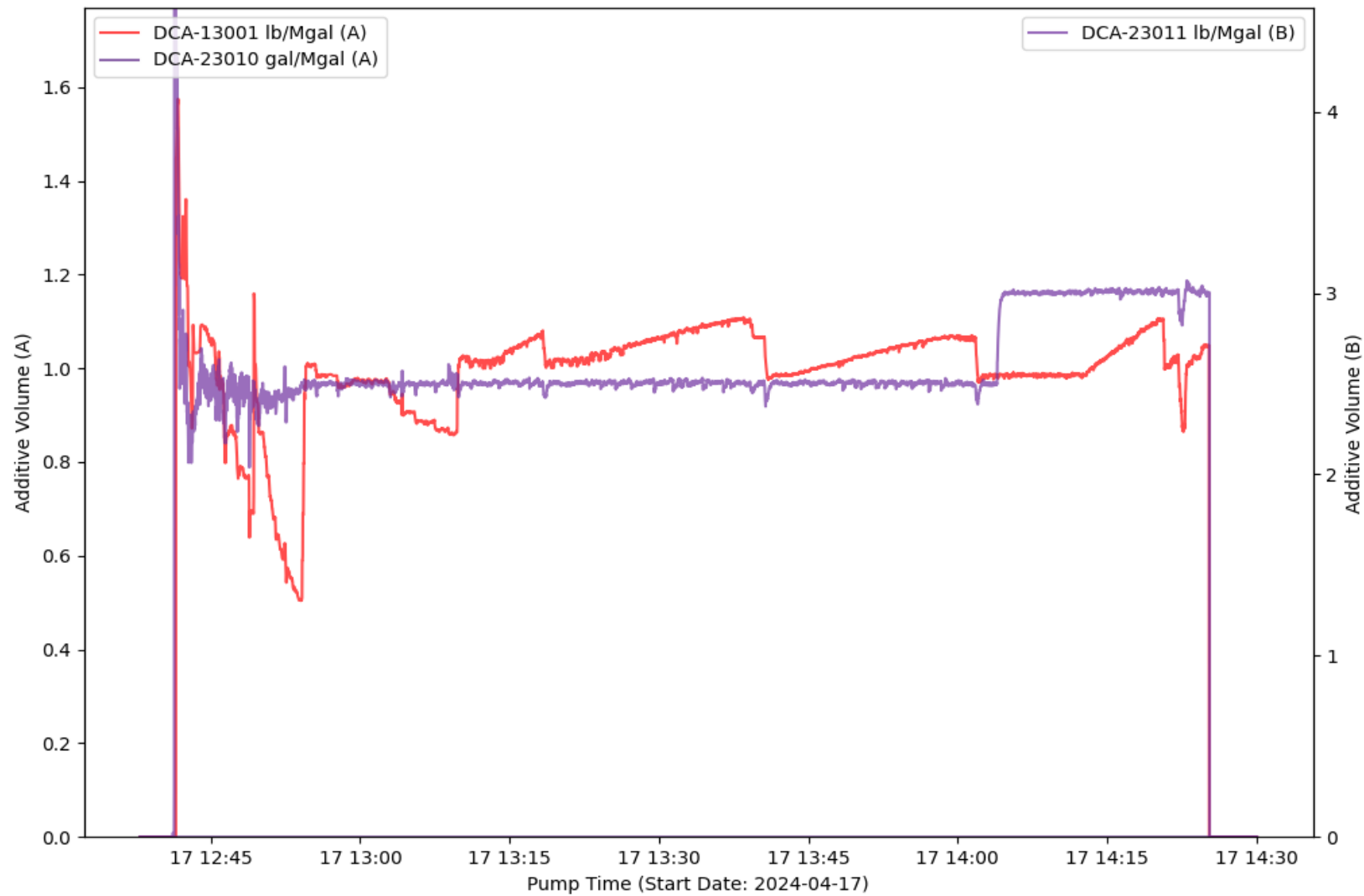
EVENT LOG : TREATMENT INTERVAL 18

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	2024-04-17T08:41:06	0.07	3609	0	0	0	0.05	0
2	Break Formation	2024-04-17T08:41:48	9.83	5068	0	0	124.85	157.95	0
3	Pump Acid	2024-04-17T08:41:52	9.85	4738	0	0	153.33	185.65	0
4	Spot Acid	2024-04-17T08:50:10	44.53	6629	0	0	10170	10196	0
5	Flush Acid	2024-04-17T08:50:40	44.84	5248	0	0	11080	11106	0
6	Stop Pumping	2024-04-17T10:27:05	1.06	4215	0.53	0.03	338103	349398	239920
7	ISIP	2024-04-17T10:27:08	0	4132	0.26	0.03	338105	349398	239921
8	Shut In Well	2024-04-17T10:27:46	0	3888	0.17	0.03	338105	349398	239921
9	Suspending Job	2024-04-17T10:28:35	0	-5.29	0.16	0.03	338105	349398	239921

TREATMENT PLOT : Treatment Interval 19



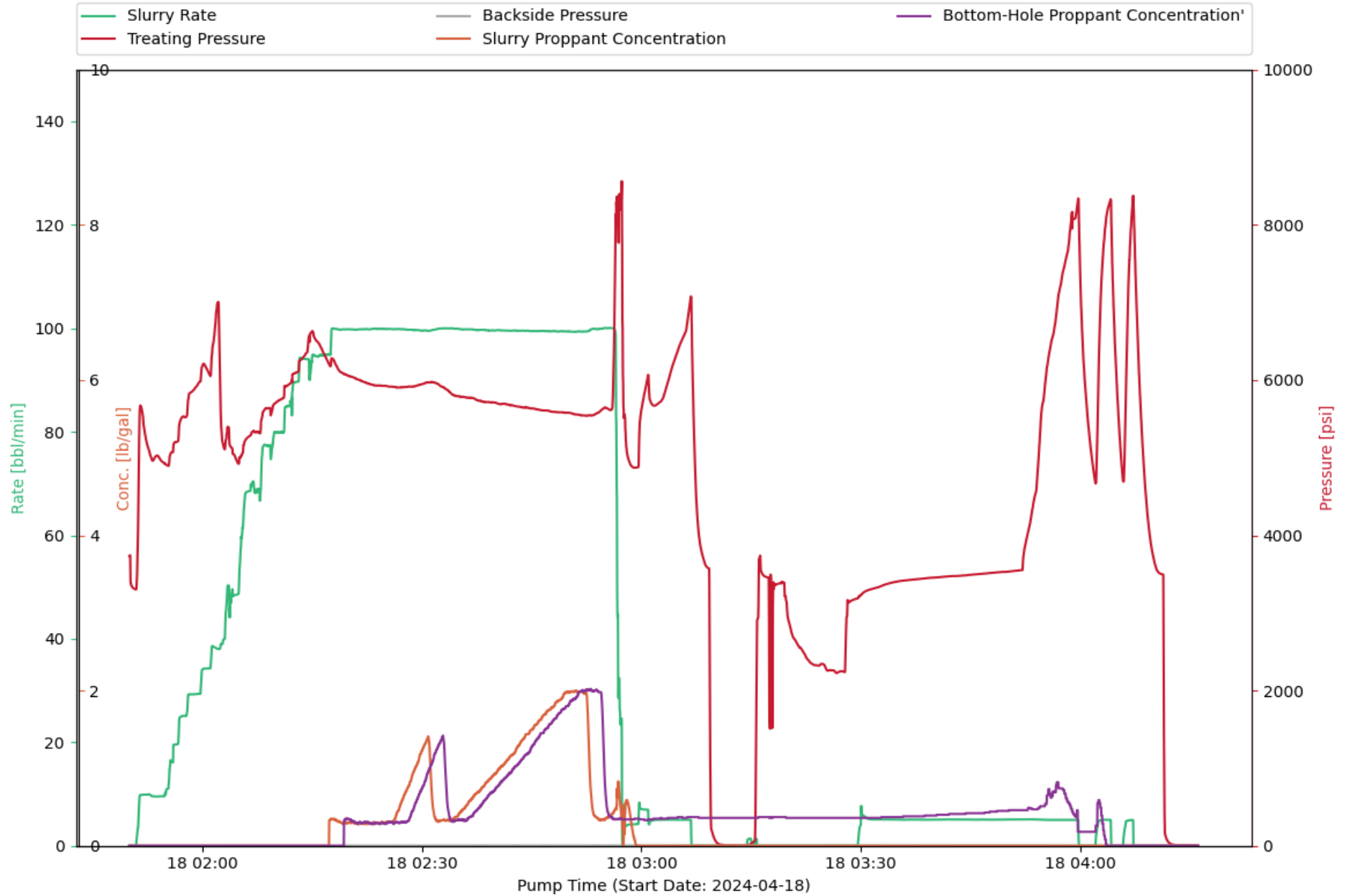
CHEMISTRY PLOT : Treatment Interval 19



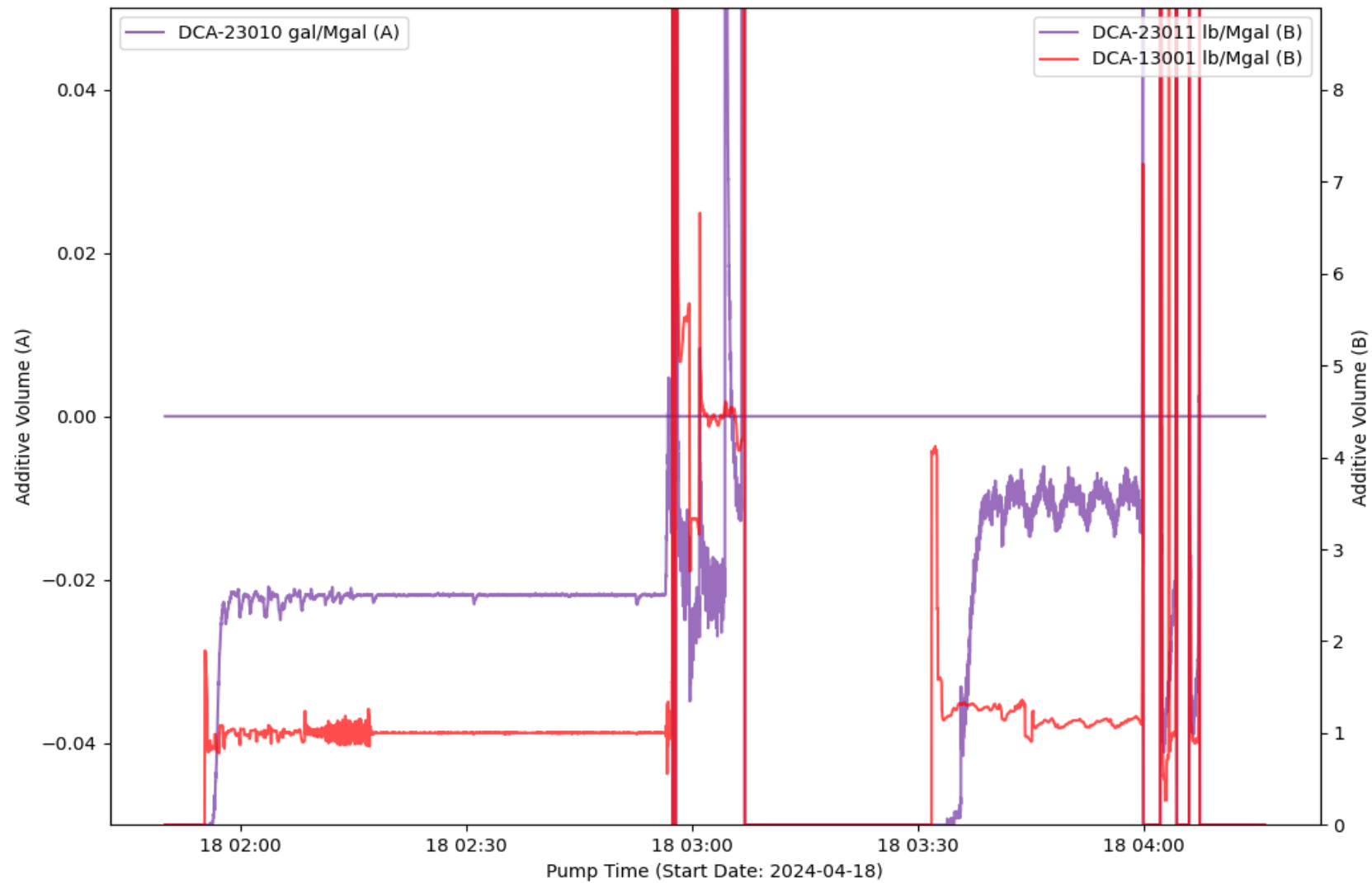
EVENT LOG : TREATMENT INTERVAL 19

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	Start Pumping	2024-04-17T12:38:25	0.34	3593	0	0.02	0.76	0.24	0
2	Break Formation	2024-04-17T12:38:58	9.74	5358	0	0.01	116.53	123.11	0
3	Pump Acid	2024-04-17T12:39:06	9.85	5445	0	0.02	187.15	178.31	0
4	Spot Acid	2024-04-17T12:48:57	38.51	5596	0	0.13	9601	9677	601.96
5	Flush Acid	2024-04-17T12:49:29	39.57	5012	0	0	10469	10550	605.74
6	Stop Pumping	2024-04-17T14:26:36	1.68	3207	0	0	382077	396832	325074
7	ISIP	2024-04-17T14:26:38	0	4783	0	0	382083	396832	325074
8	Shut In Well	2024-04-17T14:27:04	0	3728	0	0	382085	396832	325074

TREATMENT PLOT : Treatment Interval 20



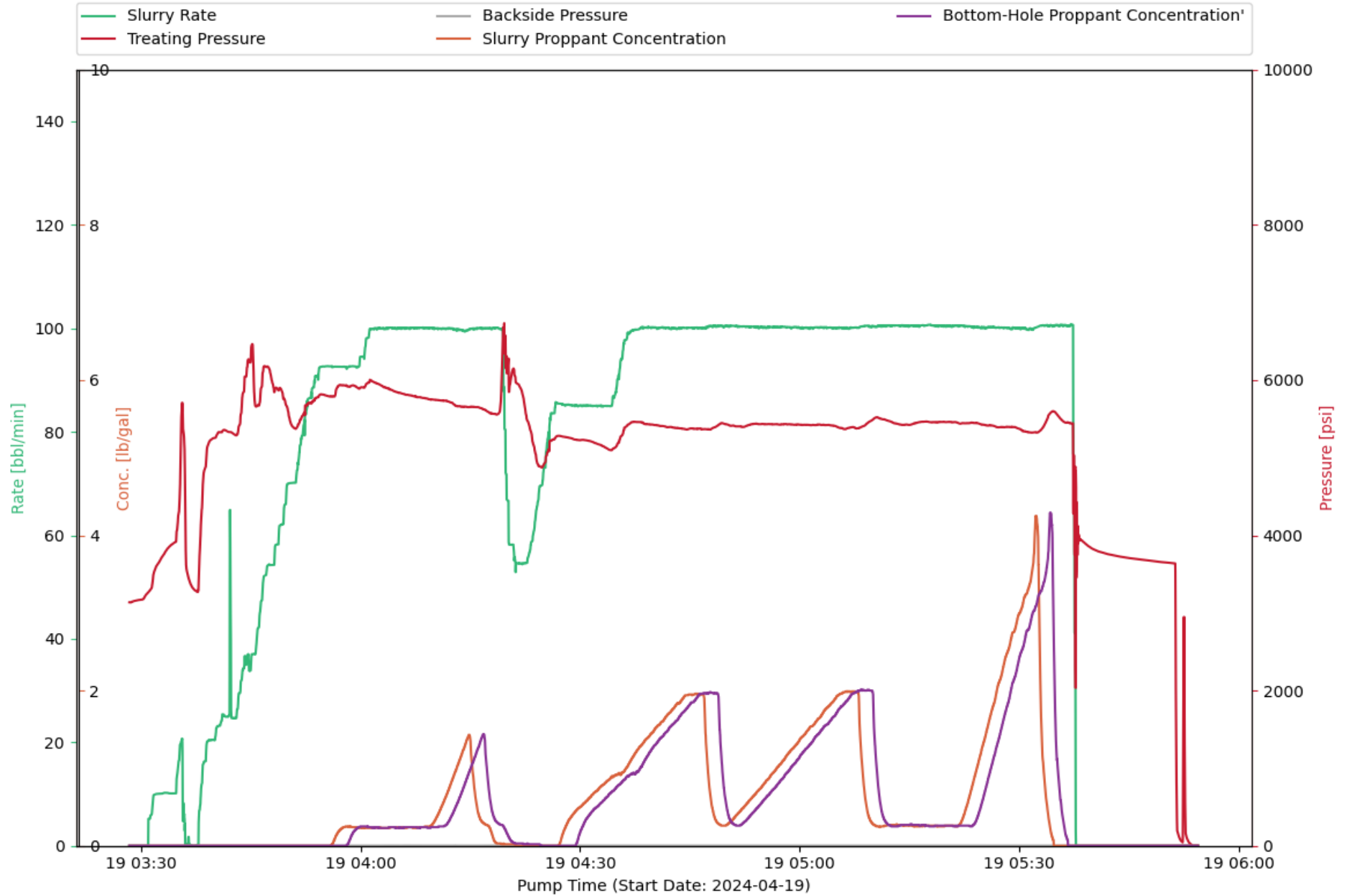
CHEMISTRY PLOT : Treatment Interval 20



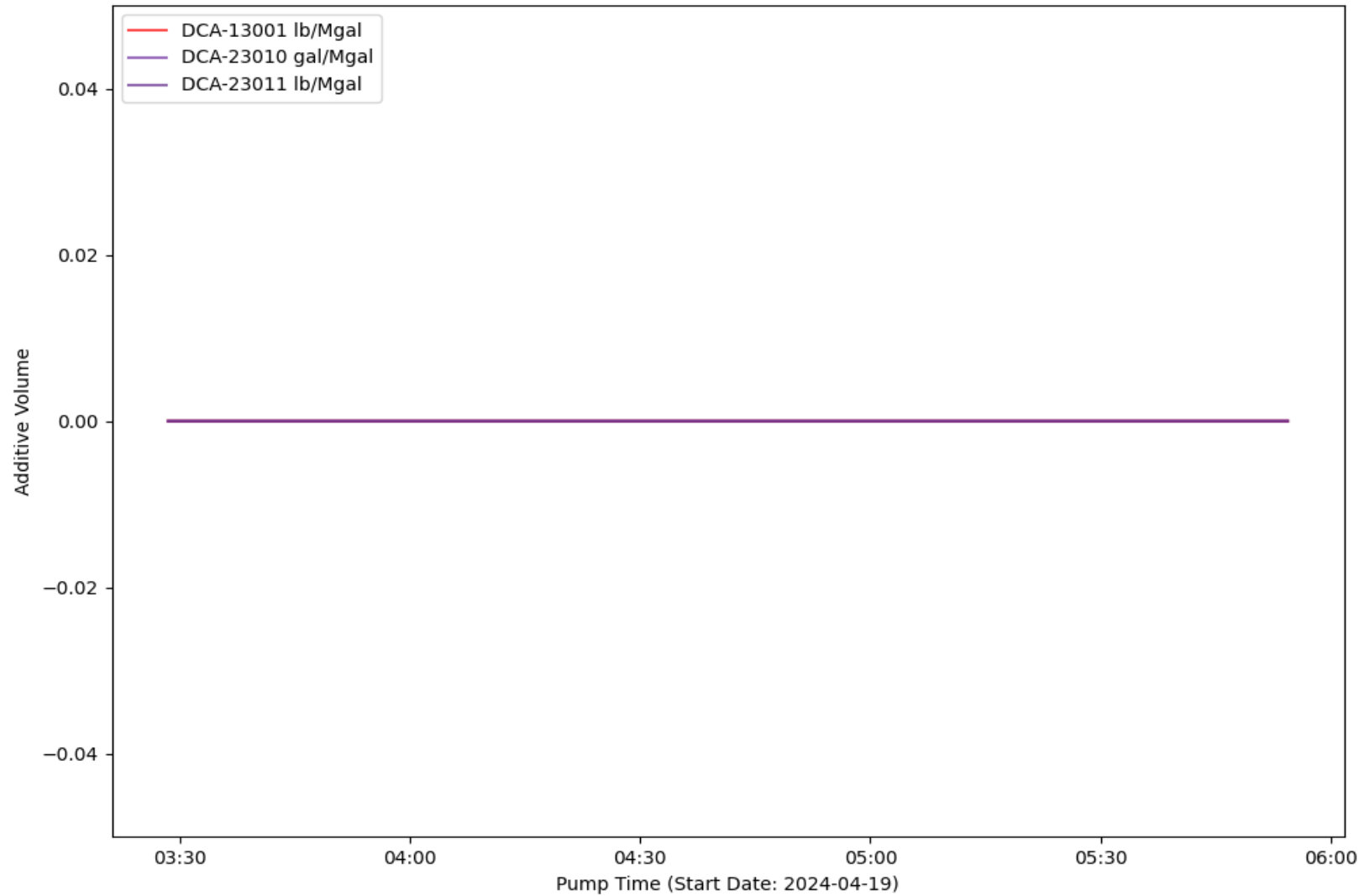
EVENT LOG : TREATMENT INTERVAL 20

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	2024-04-18T01:50:13	0	3378	0	0	0	0	0
2	Start Pumping	2024-04-18T01:50:52	0	3303	0	0	0	0.02	0
3	Pump Acid	2024-04-18T01:52:16	9.9	5237	0	0	435.97	441.76	0
4	Break Formation	2024-04-18T02:00:32	34.27	6152	0	0	7404	7354	0
5	Spot Acid	2024-04-18T02:02:08	38.04	7006	0	0	9873	9834	0
6	Flush Acid	2024-04-18T02:04:50	48.6	4929	0	0	14943	14915	0
7	Stop Pumping	2024-04-18T04:07:14	4.42	8371	0	0	225559	232318	134796
8	ISIP	2024-04-18T04:07:29	0	7556	0	0	225581	232320	134796
9	Shut In Well	2024-04-18T04:11:17	0	3496	0	0	225581	232320	134796
10	Suspending Job	2024-04-18T04:16:05	0	5.8	0	0	225581	232320	134796

TREATMENT PLOT : Treatment Interval 21



CHEMISTRY PLOT : Treatment Interval 21



EVENT LOG : TREATMENT INTERVAL 21

Event Number	Event Name	Event Time (YYYY-MM-DD hh-mm-ss)	Slurry Rate (bpm)	Pressure (psi)	Proppant Conc. (ppg)	Bottom Hole Proppant Conc. (ppg)	Cumulative Clean Volume (gal)	Cumulative Slurry Volume (gal)	Cumulative Proppant Weight (lbm)
1	Open Well	2024-04-19T03:28:24	0	3137	0	0	0	0	0
2	Start Pumping	2024-04-19T03:29:21	0	3161	0	0	0	0	0
3	Break Formation	2024-04-19T03:32:01	10	3590	0	0	299.72	330.39	0
4	Pump Acid	2024-04-19T03:32:18	10.04	3633	0	0	395.79	450.23	0
5	Break Formation	2024-04-19T03:41:55	25.04	5333	0	0	5481	5655	0
6	Spot Acid	2024-04-19T03:49:33	65.4	5762	0	0	19409	19498	0
7	Flush Acid	2024-04-19T03:51:01	70.17	5375	0	0	23691	23784	0
8	Stop Pumping	2024-04-19T05:37:45	1.18	4772	0	0	437167	451809	329320
9	ISIP	2024-04-19T05:37:46	0	4643	0	0	437173	451809	329320
10	Shut In Well	2024-04-19T05:49:30	0	3655	0	0	437176	451809	329320
11	Suspending Job	2024-04-19T05:54:26	0	4.17	0	0	437176	451809	329320

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