



# COMPLETION REPORT

GMT Exploration

Crystal 6-65 22-10 10HN

Niobrara - 58 Intervals (1 - 58)

LOS Ticket #146590







**CUSTOMER INFORMATION**

**CUSTOMER:** GMT Exploration  
**CUSTOMER CONTACT:**

**LIBERTY INFORMATION**

**LIBERTY SALES CONTACT:** Matt Schneider  
**LIBERTY OPERATIONS CONTACT:** Jeff Brady  
**LIBERTY ENGINEERING CONTACT:** Matthew Pullos  
**LIBERTY DISTRICT:** \*  
**LIBERTY CREW:** Republic  
**REPORT PREPARED BY:** Tyler Starn  
Bryce Hardwick

**WELL INFORMATION**

**WELL NAME:** Crystal 6-65 22-10 10HN  
**COMPLETION DATE:** July 25, 2022  
**PAD NAME:** CRYSTAL  
**FORMATION:** Niobrara  
**API:** 05-039-06742  
**AFE:** 0  
**BASIN:** Denver-Julesburg  
**FIELD/PROSPECT:** Wildcat  
**STATE:** Colorado  
**COUNTY:** Elbert  
**WELL LOCATION:** NESE 22 6S65W 6  
**BHST (°F):** 185 F  
**LATITUDE:** 39.512206  
**LONGITUDE:** -104.645398

**COMPLETION INFORMATION**

**WELL TYPE:** Horizontal  
**COMPLETION TYPE:** Cemented, Plug & Perf  
**NUMBER OF INTERVALS:** 58  
**MAX PRESSURE:** 9,500 psi  
**MAIN FLUID TYPE:** LibertyFR  
**PROPPANT TYPES:** 40/70 White 100 Mesh



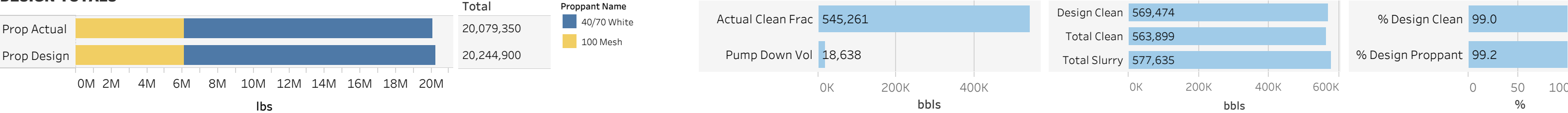
WELL COMPLETION SUMMARY

Operator Name	Customer Contact	Well Name	API	AFE	Bhst	Formation	Completion Type
GMT Exploration		Crystal 6-65 22-10 10HN	05-039-06742	0	185 F	Niobrara	Cemented, Plug & Perf

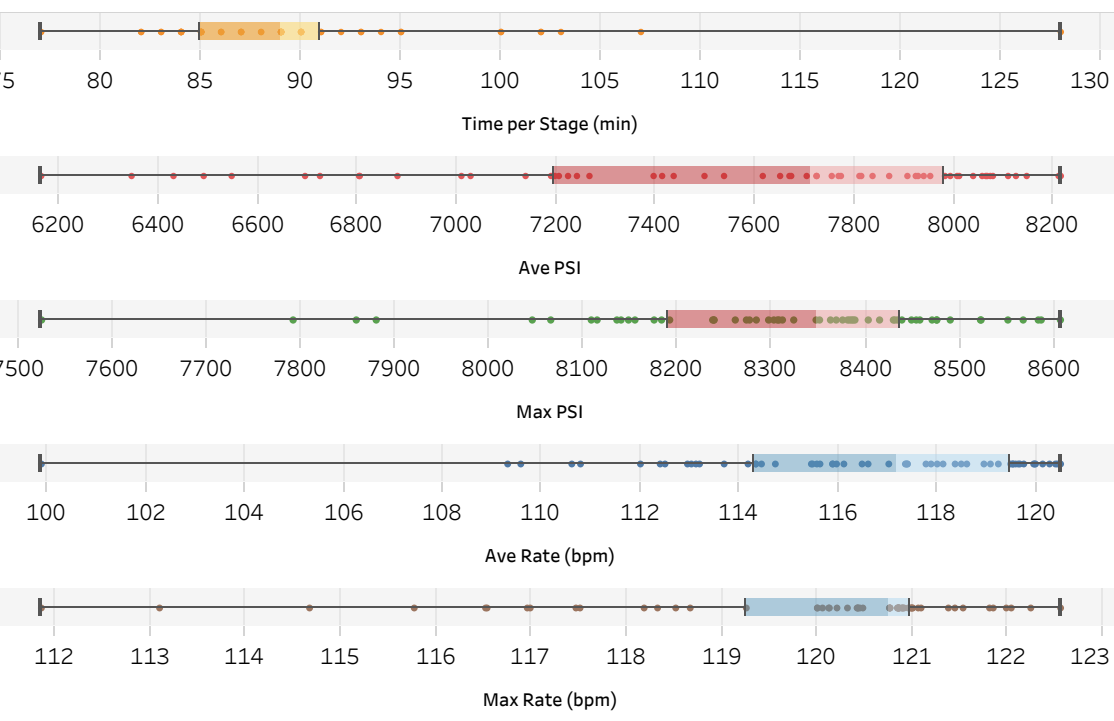
TIME SUMMARY

Start of Frac Time	End of Frac Time	Frac Pump Time	WL Pump Time (min)	MHHP	Customer/3rd Party NPT/DT	Crew LOS NPT/DT
7/15/2022 8:53:00 PM	7/25/2022 9:33:00 PM	5,205 min	1,252 min	1,710.48 MHHP*hr	2,040	234

DESIGN TOTALS



MAXIMA & AVERAGES



FLUID VOLUMES BY TYPE

Fluid Name	Fluid Vol
LibertyFR	545,013 bbls
Treated Water	18,638 bbls
SpearPoint	248 bbls

CHEMICAL VOLUMES

Chemical Name	LBS or GALS	Total	Frac	Pump Down	Chem NC
BIOSUITE GQ510X	gals	5,916	5,916	0	0
FRP-1S	gals	23,211	23,211	0	0
SPEARPOINT - WL	gals	10,354	10,354	0	0



CUSTOMER SURVEY

CRYSTAL PAD

Republic Crew

OVERALL AVG: 100.0

Customer Rep	Appearance	Correct Services	Crew Performance	Crew Preparedness	Equipment	Job Performance	Job Site	Materials	Professionalism	Promptness	Recommendations Provided	Safety Functions	Service Performance
Average Score	100	100	100	100	100	100	100	100	100	100	100	100	100
Mike Shaw	100	100	100	100	100	100	100	100	100	100	100	100	100

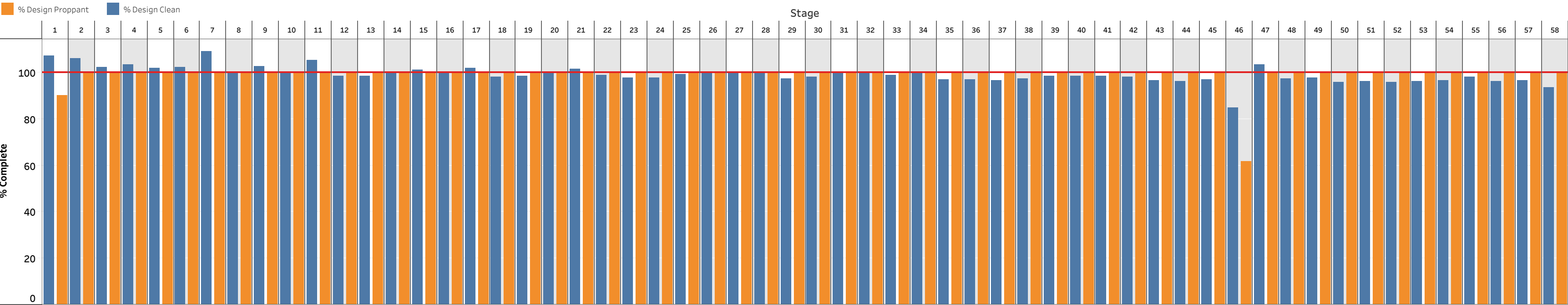
COMMENTS

Customer Rep	
Mike Shaw	Blender swap after stage 1, wasn't ideal. Crew worked well.

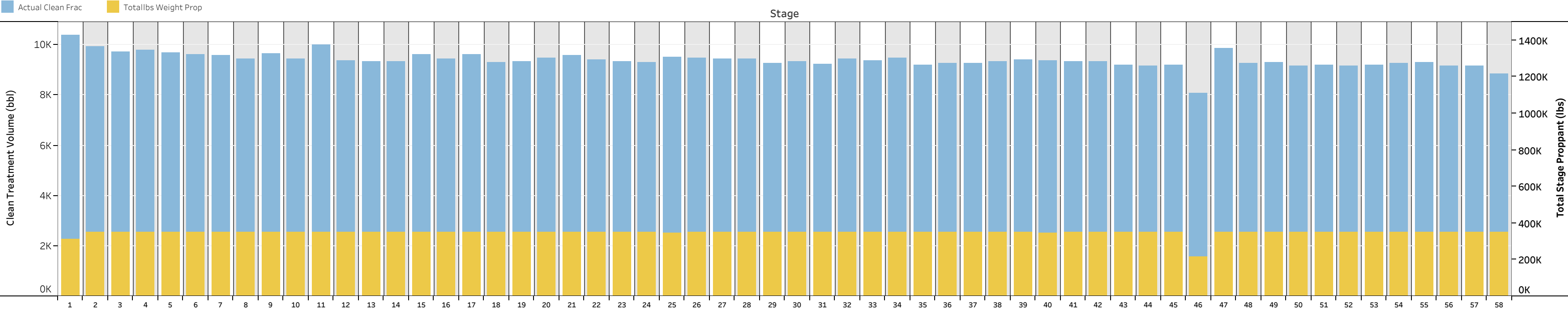




JOB COMPLETION PERCENTAGE



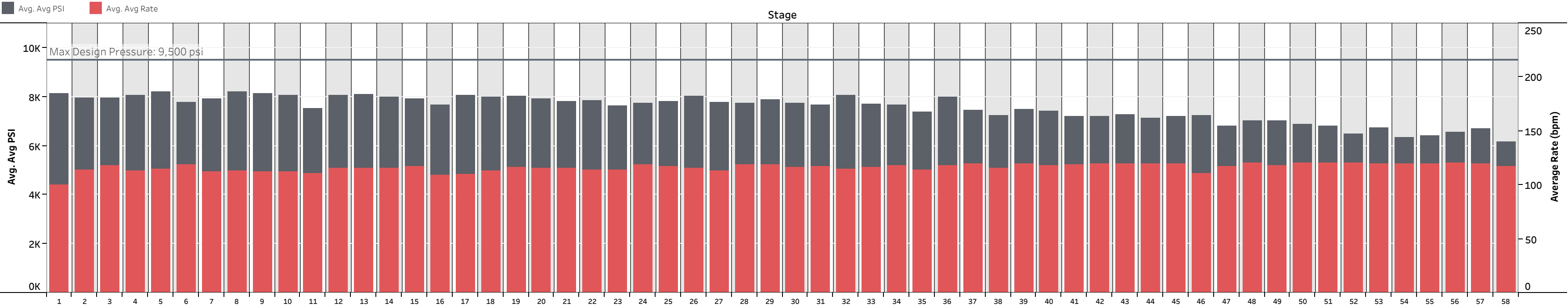
CLEAN TREATMENT VOLUME & PROPPANT MASS



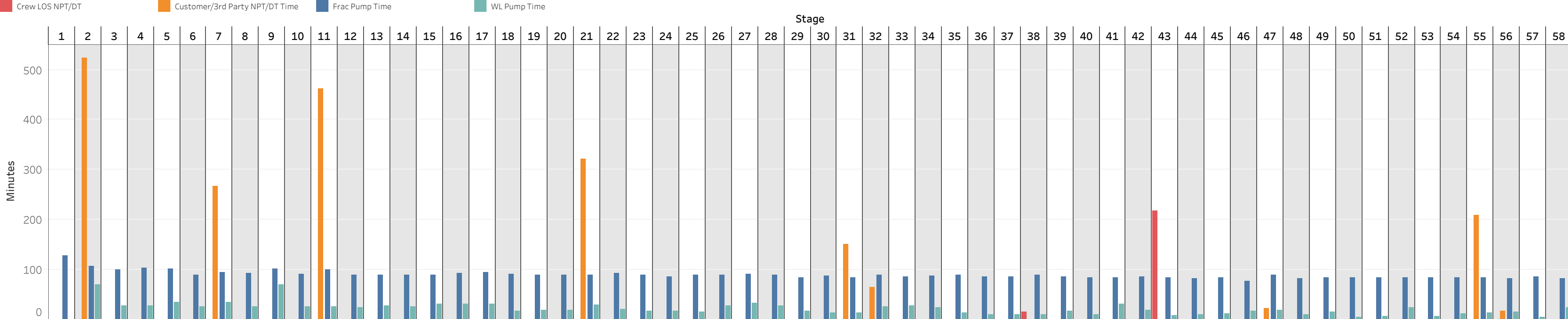




AVERAGE TREATING PRESSURE AND SLURRY RATE



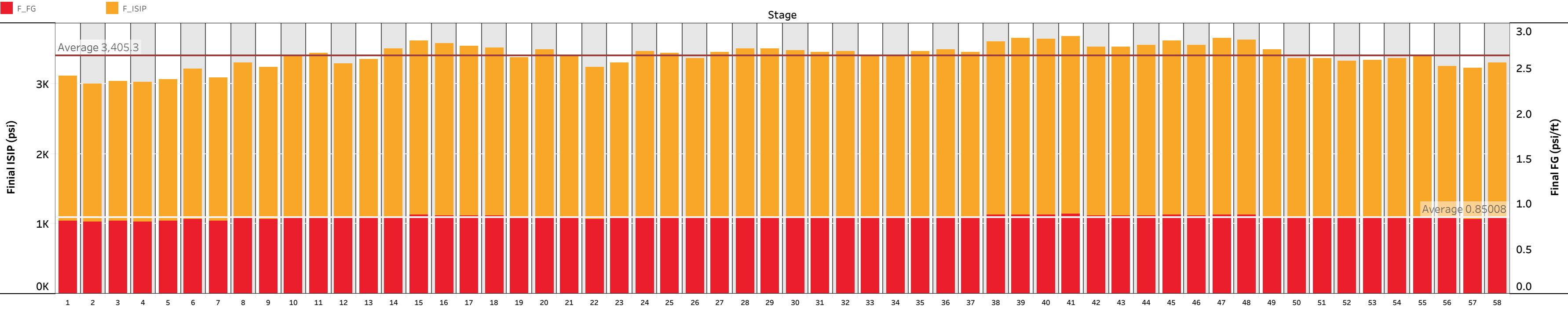
PUMP TIME SUMMARY PER STAGE



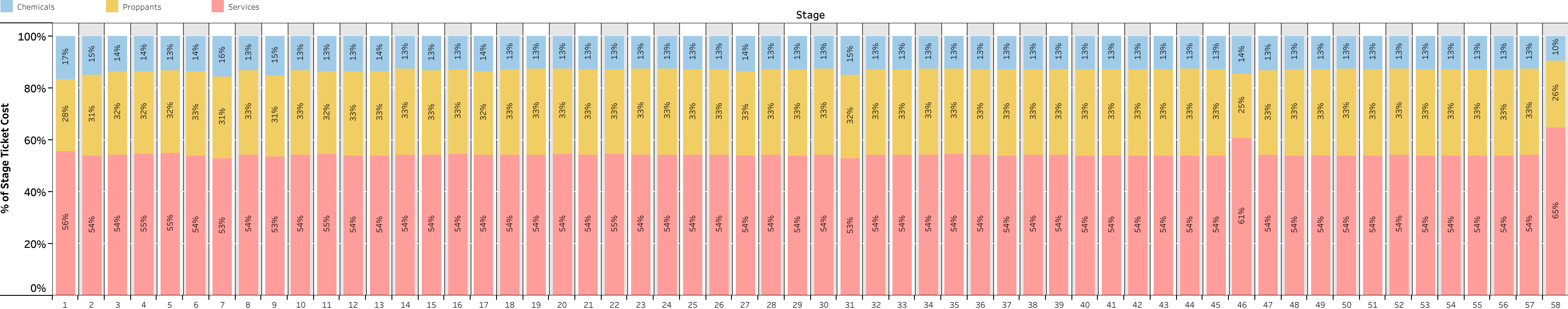




FINAL ISIP AND FRAC GRADIENT



STAGE TICKET BREAKDOWN





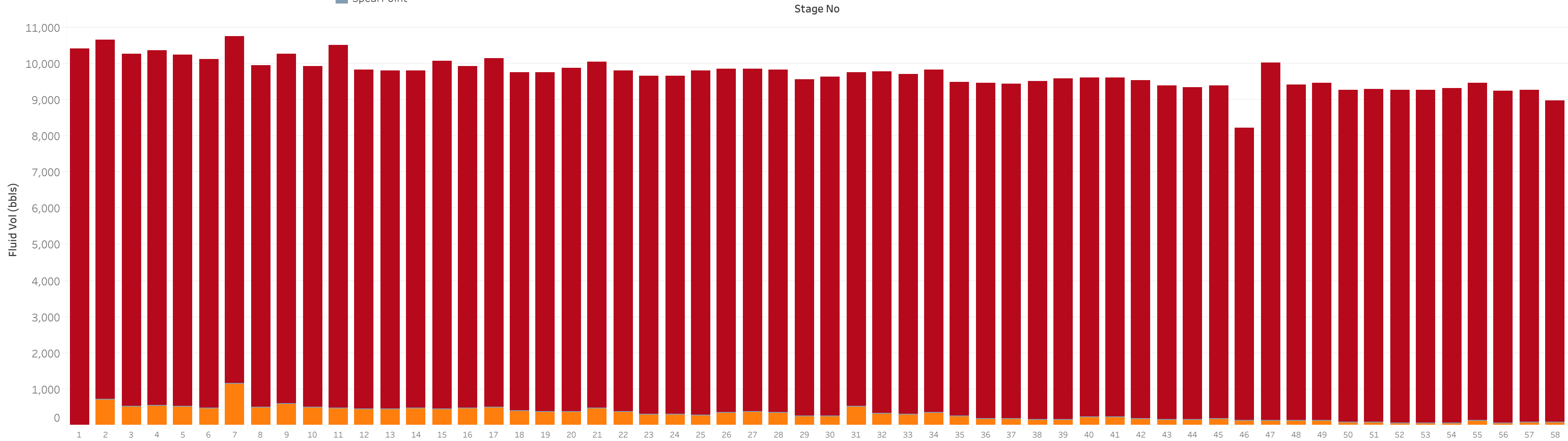


TREATMENT FLUID VOLUMES SUMMARY

					Fluids Pumped (bbls)										
		Total Well Fluid	Avg Stage Fluid	Max Stage Fluid	Min Stage Fluid	LibertyFR					SpearPoint			Treated Water	
Well Aggregates	563,899	9,722	10,7..	8,227	<b>Total:</b> 545,013					<b>Total:</b> 248			<b>Total:</b> 18,638		
					<b>Average:</b> 9,397					<b>Average:</b> 4			<b>Average:</b> 327		
					<b>Min:</b> 8,083					<b>Min:</b> 4			<b>Min:</b> 57		
					<b>Max:</b> 10,391					<b>Max:</b> 8			<b>Max:</b> 1,155		

TREATMENT FLUID VOLUME BY STAGE

- LibertyFR
- Treated Water
- SpearPoint







FLUID SUMMARY

Stage No	Treated Water	LibertyFR	SpearPoint
	bbls	bbls	bbls
1		10,391	8
2	731	9,920	4
3	526	9,726	4
4	551	9,810	4
5	543	9,685	4
6	485	9,622	4
7	1,155	9,585	8
8	500	9,449	4
9	612	9,642	8
10	495	9,432	4
11	490	10,015	4
12	453	9,360	4
13	463	9,323	4
14	475	9,330	4
15	450	9,613	4
16	472	9,450	4
17	504	9,627	4
18	421	9,321	4
19	396	9,347	4
20	388	9,472	4
21	476	9,576	4
22	387	9,406	4
23	323	9,340	4
24	321	9,322	4
25	292	9,499	4
26	355	9,489	4
27	391	9,457	4
28	353	9,462	4
29	270	9,284	4
30	269	9,351	4
31	516	9,239	8
32	332	9,438	4
33	303	9,391	4
34	354	9,473	4
35	270	9,216	4
36	193	9,275	4
37	182	9,256	4
38	173	9,331	4
39	168	9,417	4
40	229	9,377	4
41	250	9,345	4
42	192	9,345	4
43	176	9,213	4
44	177	9,167	4
45	179	9,217	4
46	140	8,083	4
47	144	9,870	4
48	151	9,262	4
49	138	9,312	4
50	105	9,166	4
51	88	9,187	4
52	78	9,176	4
53	68	9,203	4
54	57	9,258	4
55	153	9,298	4
56	79	9,151	4
57	92	9,174	4
58	104	8,867	4



PROPPANT SUMMARY

40/70 White      100 Mesh

Stage No	Proppant Name													
	40/70 White							100 Mesh						
1							-14.03%							-0.05%
2		244,330		244,300			0.01%		104,700				104,750	0.03%
3				244,300					104,780				104,750	
4		244,400					0.04%							0.07%
5				244,300			-0.08%		104,810				104,750	
6		244,220												-0.06%
7				244,300			-0.05%		104,720				104,750	
8		244,460					0.07%							-0.12%
9				244,300					105,120				104,750	0.35%
10		244,350					0.02%							0.10%
11				244,300			-0.06%		104,850				104,750	
12		244,960					0.27%							-0.51%
13				244,300			-0.04%		104,940				104,750	0.18%
14		244,270												-0.01%
15				244,300			0.01%		104,680				104,750	
16		244,340												0.00%
17				244,300			-0.02%		104,710				104,750	-0.04%
18		244,500					0.08%							0.04%
19				244,300					104,670				104,750	-0.08%
20		243,880					-0.17%							
21				244,300					104,975				104,750	0.21%
22		244,220												-0.17%
23				244,300			-0.02%		104,900				104,750	
24		244,300					0.00%							0.01%
25				244,300			-0.14%		104,515				104,750	-0.22%
26		244,370					0.03%							0.12%
27				244,300					104,680				104,750	-0.07%
28		244,260					-0.02%							0.02%
29				244,300					104,815				104,750	
30		244,360					0.02%							-0.08%
31				244,300					104,840				104,750	0.09%
32		244,160					-0.06%							
33				244,300					104,680				104,750	-0.07%
34		244,390												
35				244,300			-0.02%		104,865				104,750	0.11%
36		244,150												-0.02%
37				244,300			0.00%		104,730				104,750	
38		244,220					-0.03%							0.06%
39				244,300					104,930				104,750	
40		243,910					-0.16%							-0.42%
41				244,300			0.03%		104,855				104,750	0.10%
42		244,480												
43				244,300			0.05%		104,700				104,750	-0.05%
44		244,340												0.05%
45				244,300			0.06%		104,660				104,750	-0.09%
46	110,930						-54.59%							0.05%
47		244,300		244,300			0.00%		104,580				104,750	-0.16%
48							-0.03%							0.15%
49		244,240							104,780				104,750	
50							0.02%							0.09%
51		244,370							104,830				104,750	
52							0.00%							-0.11%
53		244,200					-0.04%		104,690				104,750	-0.01%
54														
55		244,270					-0.01%		104,760				104,750	0.01%
56							0.05%							-0.09%
57		244,920		244,300					104,960				104,750	0.20%
58							0.27%							
	0K 50K 100K 150K 200K 250K 300K	0K 50K 100K 150K 200K 250K 300K	0K 50K 100K 150K 200K 250K 300K	0K 50K 100K 150K 200K 250K 300K	0K 50K 100K 150K 200K 250K 300K	0K 50K 100K 150K 200K 250K 300K	0K 50K 100K 150K 200K 250K 300K	0K 50K 100K 150K 200K 250K 300K	0K 50K 100K 150K 200K 250K 300K	0K 50K 100K 150K 200K 250K 300K	0K 50K 100K 150K 200K 250K 300K	0K 50K 100K 150K 200K 250K 300K	0K 50K 100K 150K 200K 250K 300K	0K 50K 100K 150K 200K 250K 300K
	Prop Actual (lbs)		Prop Design (lbs)		Proppant Actual-Design (lbs)		Prop Actual (lbs)		Prop Design (lbs)		Proppant Actual-Design (lbs)			





PROPPANT SUMMARY

Stage No	Proppant Name											
	40/70 White				100 Mesh				Grand Total			
	Prop Actual	Prop Screw	Prop Design	Proppant Actual-Desi..	Prop Actual	Prop Screw	Prop Design	Proppant Actual-Desi..	Prop Actual	Prop Screw	Prop Design	Proppant Actual-Desi..
1	210,030	209,582	244,300	-34,270	104,700	105,210	104,750	-50	314,730	314,793	349,050	-34,320
2	244,330	242,959	244,300	30	104,780	106,252	104,750	30	349,110	349,212	349,050	60
3	244,330	244,067	244,300	30	104,780	105,227	104,750	30	349,110	349,294	349,050	60
4	244,400	244,224	244,300	100	104,820	105,374	104,750	70	349,220	349,598	349,050	170
5	244,100	245,596	244,300	-200	104,810	105,011	104,750	60	348,910	350,607	349,050	-140
6	244,220	243,412	244,300	-80	104,690	105,634	104,750	-60	348,910	349,046	349,050	-140
7	244,180	243,495	244,300	-120	104,720	105,884	104,750	-30	348,900	349,380	349,050	-150
8	244,460	244,423	244,300	160	104,620	105,202	104,750	-130	349,080	349,624	349,050	30
9	244,430	242,558	244,300	130	105,120	105,121	104,750	370	349,550	347,678	349,050	500
10	244,350	244,292	244,300	50	104,780	104,946	104,750	30	349,130	349,238	349,050	80
11	244,160	245,417	244,300	-140	104,850	103,764	104,750	100	349,010	349,182	349,050	-40
12	244,960	243,820	244,300	660	104,220	105,381	104,750	-530	349,180	349,200	349,050	130
13	244,210	244,288	244,300	-90	104,940	105,270	104,750	190	349,150	349,558	349,050	100
14	244,270	244,182	244,300	-30	104,740	104,895	104,750	-10	349,010	349,077	349,050	-40
15	244,320	243,962	244,300	20	104,680	105,229	104,750	-70	349,000	349,192	349,050	-50
16	244,340	248,191	244,300	40	104,750	104,668	104,750	0	349,090	352,859	349,050	40
17	244,240	243,315	244,300	-60	104,710	106,189	104,750	-40	348,950	349,503	349,050	-100
18	244,500	245,228	244,300	200	104,790	104,149	104,750	40	349,290	349,377	349,050	240
19	244,460	243,611	244,300	160	104,670	105,425	104,750	-80	349,130	349,036	349,050	80
20	243,880	243,540	244,300	-420	104,700	105,555	104,750	-50	348,580	349,096	349,050	-470
21	244,000	244,516	244,300	-300	104,975	104,861	104,750	225	348,975	349,377	349,050	-75
22	244,220	248,627	244,300	-80	104,575	105,157	104,750	-175	348,795	353,784	349,050	-255
23	244,260	249,546	244,300	-40	104,900	105,248	104,750	150	349,160	354,794	349,050	110
24	244,300	243,871	244,300	0	104,760	105,241	104,750	10	349,060	349,111	349,050	10
25	243,950	244,003	244,300	-350	104,515	105,220	104,750	-235	348,465	349,223	349,050	-585
26	244,370	243,263	244,300	70	104,880	105,840	104,750	130	349,250	349,102	349,050	200
27	244,460	242,639	244,300	160	104,680	106,651	104,750	-70	349,140	349,291	349,050	90
28	244,260	244,639	244,300	-40	104,770	106,075	104,750	20	349,030	350,714	349,050	-20
29	244,280	249,627	244,300	-20	104,815	104,599	104,750	65	349,095	354,226	349,050	45
30	244,360	242,703	244,300	60	104,670	106,415	104,750	-80	349,030	349,118	349,050	-20
31	244,410	244,762	244,300	110	104,840	104,604	104,750	90	349,250	349,366	349,050	200
32	244,160	243,455	244,300	-140	104,770	105,777	104,750	20	348,930	349,232	349,050	-120
33	244,620	245,493	244,300	320	104,680	105,938	104,750	-70	349,300	351,431	349,050	250
34	244,390	242,933	244,300	90	104,655	106,439	104,750	-95	349,045	349,372	349,050	-5
35	244,250	245,694	244,300	-50	104,865	105,382	104,750	115	349,115	351,076	349,050	65
36	244,150	243,899	244,300	-150	104,830	105,065	104,750	80	348,980	348,964	349,050	-70
37	244,310	243,871	244,300	10	104,730	105,304	104,750	-20	349,040	349,175	349,050	-10
38	244,220	243,654	244,300	-80	104,810	105,374	104,750	60	349,030	349,028	349,050	-20
39	244,230	243,400	244,300	-70	104,930	105,987	104,750	180	349,160	349,388	349,050	110
40	243,910	242,742	244,300	-390	104,315	106,352	104,750	-435	348,225	349,094	349,050	-825
41	244,380	243,629	244,300	80	104,855	105,553	104,750	105	349,235	349,182	349,050	185
42	244,480	244,020	244,300	180	104,880	105,207	104,750	130	349,360	349,227	349,050	310
43	244,430	243,635	244,300	130	104,700	105,532	104,750	-50	349,130	349,168	349,050	80
44	244,340	248,125	244,300	40	104,800	104,975	104,750	50	349,140	353,100	349,050	90
45	244,440	243,745	244,300	140	104,660	105,262	104,750	-90	349,100	349,006	349,050	50
46	110,930	108,106	244,300	-133,370	104,800	106,826	104,750	50	215,730	214,932	349,050	-133,320
47	244,300	242,606	244,300	0	104,580	107,050	104,750	-170	348,880	349,655	349,050	-170
48	244,220	243,406	244,300	-80	104,910	105,973	104,750	160	349,130	349,379	349,050	80
49	244,240	250,859	244,300	-60	104,780	105,941	104,750	30	349,020	356,800	349,050	-30
50	244,340	243,953	244,300	40	104,840	105,187	104,750	90	349,180	349,140	349,050	130
51	244,370	243,675	244,300	70	104,830	105,367	104,750	80	349,200	349,042	349,050	150
52	244,300	243,789	244,300	0	104,640	105,204	104,750	-110	348,940	348,993	349,050	-110
53	244,200	243,422	244,300	-100	104,690	105,573	104,750	-60	348,890	348,995	349,050	-160
54	244,570	242,279	244,300	270	104,740	106,980	104,750	-10	349,310	349,259	349,050	260
55	244,270	244,429	244,300	-30	104,760	106,110	104,750	10	349,030	350,538	349,050	-20
56	244,410	244,287	244,300	110	104,660	104,836	104,750	-90	349,070	349,124	349,050	20
57	244,920	243,374	244,300	620	104,960	105,701	104,750	210	349,880	349,076	349,050	830
58	244,950	254,117	244,300	650	105,060	105,559	104,750	310	350,010	359,677	349,050	960
Grand Total	14,003,370	14,014,959	14,169,400	-166,030	6,075,980	6,118,750	6,075,500	480	20,079,350	20,133,709	20,244,900	-165,550



PRESSURE SUMMARY

Stage	Operational Pressures				Maxima & Averages				Final Shut In Pressures																		
	Max Working PSI		Global Trips		PopOffSet L		PopOffSet H		Ave PSI		Max PSI		Ave Rate		Max Rate		F_ISIP		F_BHISIP		F_FG						
1		9,500		9,000		9,500		9,800		8,124		8,457		114		120		3,117		6,667		0.81					
2																											
3		9,500		9,000		9,500		9,800		7,939		8,383		113		120		3,037		6,585		0.80					
4																											
5		9,500		9,000		9,500		9,800		8,214		8,489		119		122		3,212		6,612		0.81					
6																											
7		9,500		9,000		9,500		9,800		7,906		8,438		113		118		3,298		6,634		0.81					
8																											
9		9,500		9,000		9,500		9,800		8,146		8,606		112		116		3,400		6,787		0.83					
10																											
11		9,500		9,000		9,500		9,800				8,237		116		120		3,286		6,982		0.85					
12										8,078			8,475	115		121		3,500		6,892		0.84					
13		9,500		9,000		9,500		9,800		8,006		8,140		115		121		3,500		7,154		0.87					
14														109		119		3,576		7,085		0.87					
15		9,500		9,000		9,500		9,800		8,073		8,402		113		121		3,510		6,915		0.85					
16										8,038		8,308		116		121		3,490		6,939		0.85					
17		9,500		9,000		9,500		9,800		7,813		8,311		114		118		3,490		6,939		0.85					
18														116		117		3,239		6,838		0.84					
19		9,500		9,000		9,500		9,800		7,615		8,386		119		120		3,465		6,977		0.85					
20										7,809		8,431		116		120		3,368		6,983		0.86					
21		9,500		9,000		9,500		9,800		7,767		8,475		119		121		3,499		7,030		0.86					
22										7,869		8,323		116		121		3,472		6,985		0.86					
23		9,500		9,000		9,500		9,800				8,429		115		121		3,463		6,951		0.85					
24										8,063		8,238		118		119		3,417		6,994		0.86					
25		9,500		9,000		9,500		9,800		7,669		8,239		118		121		3,492		6,987		0.86					
26										7,981		8,284		115		121		3,600		7,185		0.88					
27		9,500		9,000		9,500		9,800		7,241		8,448		118		122		3,638		7,216		0.88					
28										7,413		8,065		120		121		3,524		7,060		0.86					
29		9,500		9,000		9,500		9,800		7,205		8,046		120		120		3,548		7,144		0.88					
30										7,138				120		121		3,551		7,189		0.88					
31		9,500		9,000		9,500		9,800		7,223		8,586		117		123		3,623		7,017		0.86					
32										7,027		8,433		118		121		3,360		6,893		0.85					
33		9,500		9,000		9,500		9,800				8,155		120		122		3,326		6,858		0.84					
34										6,880				120		121		3,370		6,916		0.85					
35		9,500		9,000		9,500		9,800		6,491		7,525		120		121		3,257		6,749		0.83					
36										6,346		7,859		120		121		3,304									
37		9,500		9,000		9,500		9,800		6,547		8,470		120		121											
38										6,164		8,347		120		121											
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	0K	5K	10K	0K	5K	10K	0K	5K	10K	0K	5K	10K	0	50	100	150	0	50	100	150	0K	2K	4K	1K 2K 3K 4K 5K 6K 7K 8K 9K	0.0	0.5	1.0





PRESSURE SUMMARY

Stage	Max Working PSI	Global Trips	PopOffSet L	PopOffSet H	Ave Rate	Ave PSI	Max Rate	Max PSI	F_ISIP	F_BHISIP	F_FG	F 5Min	F 10Min	F 15Min
1	9,500	9,000	9,500	9,800	100	8,124	113	8,457	3,117	6,667	0.81			
2	9,500	9,000	9,500	9,800	114	7,952	120	8,306	3,006	6,555	0.80			
3	9,500	9,000	9,500	9,800	118	7,939	120	8,383	3,037	6,585	0.80			
4	9,500	9,000	9,500	9,800	113	8,056	120	8,583	3,025	6,571	0.80			
5	9,500	9,000	9,500	9,800	114	8,214	119	8,489	3,067	6,612	0.81			
6	9,500	9,000	9,500	9,800	119	7,772	122	8,362	3,212	6,756	0.83			
7	9,500	9,000	9,500	9,800	112	7,906	115	8,438	3,091	6,634	0.81			
8	9,500	9,000	9,500	9,800	113	8,210	118	8,567	3,298	6,841	0.84			
9	9,500	9,000	9,500	9,800	112	8,146	117	8,606	3,244	6,787	0.83			
10	9,500	9,000	9,500	9,800	112	8,066	116	8,385	3,400	6,943	0.85			
11	9,500	9,000	9,500	9,800	111	7,537	117	8,237	3,439	6,982	0.85			
12	9,500	9,000	9,500	9,800	116	8,078	120	8,551	3,286	6,828	0.83			
13	9,500	9,000	9,500	9,800	116	8,108	121	8,475	3,350	6,892	0.84			
14	9,500	9,000	9,500	9,800	115	8,006	121	8,375	3,500	7,042	0.86			
15	9,500	9,000	9,500	9,800	117	7,927	120	8,140	3,612	7,154	0.87			
16	9,500	9,000	9,500	9,800	109	7,672	112	8,453	3,576	7,117	0.87			
17	9,500	9,000	9,500	9,800	110	8,073	119	8,402	3,545	7,085	0.87			
18	9,500	9,000	9,500	9,800	113	7,992	117	8,261	3,510	7,049	0.86			
19	9,500	9,000	9,500	9,800	117	8,038	121	8,308	3,377	6,915	0.85			
20	9,500	9,000	9,500	9,800	116	7,923	117	8,175	3,490	7,027	0.86			
21	9,500	9,000	9,500	9,800	116	7,813	118	8,311	3,402	6,939	0.85			
22	9,500	9,000	9,500	9,800	114	7,836	120	8,414	3,239	6,775	0.83			
23	9,500	9,000	9,500	9,800	114	7,615	117	8,386	3,302	6,838	0.84			
24	9,500	9,000	9,500	9,800	119	7,723	121	8,183	3,465	7,001	0.86			
25	9,500	9,000	9,500	9,800	117	7,809	120	8,431	3,441	6,977	0.85			
26	9,500	9,000	9,500	9,800	116	8,010	120	8,297	3,368	6,903	0.85			
27	9,500	9,000	9,500	9,800	113	7,767	120	8,475	3,448	6,983	0.86			
28	9,500	9,000	9,500	9,800	119	7,754	120	8,522	3,499	7,034	0.86			
29	9,500	9,000	9,500	9,800	118	7,869	121	8,323	3,496	7,030	0.86			
30	9,500	9,000	9,500	9,800	116	7,723	121	8,276	3,472	7,006	0.86			
31	9,500	9,000	9,500	9,800	117	7,650	121	8,429	3,451	6,985	0.86			
32	9,500	9,000	9,500	9,800	115	8,063	120	8,273	3,463	6,997	0.86			
33	9,500	9,000	9,500	9,800	116	7,703	121	8,238	3,417	6,951	0.85			
34	9,500	9,000	9,500	9,800	118	7,669	121	8,368	3,417	6,951	0.85			
35	9,500	9,000	9,500	9,800	114	7,395	119	8,239	3,460	6,994	0.86			
36	9,500	9,000	9,500	9,800	118	7,981	121	8,351	3,492	7,025	0.86			
37	9,500	9,000	9,500	9,800	120	7,436	121	8,284	3,454	6,987	0.86			
38	9,500	9,000	9,500	9,800	115	7,241	118	8,522	3,600	7,133	0.87			
39	9,500	9,000	9,500	9,800	119	7,498	121	8,448	3,652	7,185	0.88			
40	9,500	9,000	9,500	9,800	118	7,413	122	8,108	3,638	7,172	0.88			
41	9,500	9,000	9,500	9,800	119	7,189	122	8,065	3,682	7,216	0.88			
42	9,500	9,000	9,500	9,800	120	7,205	121	8,302	3,524	7,058	0.86			
43	9,500	9,000	9,500	9,800	120	7,266	121	8,046	3,525	7,060	0.86			
44	9,500	9,000	9,500	9,800	120	7,138	121	7,792	3,548	7,083	0.87			
45	9,500	9,000	9,500	9,800	120	7,197	120	8,192	3,610	7,144	0.88			
46	9,500	9,000	9,500	9,800	111	7,223	121	8,586	3,551	7,085	0.87			
47	9,500	9,000	9,500	9,800	117	6,803	123	8,115	3,656	7,189	0.88			
48	9,500	9,000	9,500	9,800	120	7,027	122	8,433	3,623	7,156	0.88			
49	9,500	9,000	9,500	9,800	118	7,009	121	8,148	3,484	7,017	0.86			
50	9,500	9,000	9,500	9,800	120	6,880	121	8,155	3,360	6,892	0.84			
51	9,500	9,000	9,500	9,800	120	6,804	121	7,880	3,364	6,893	0.85			
52	9,500	9,000	9,500	9,800	120	6,491	121	7,525	3,326	6,851	0.84			
53	9,500	9,000	9,500	9,800	120	6,724	122	8,388	3,337	6,858	0.84			
54	9,500	9,000	9,500	9,800	120	6,346	122	7,859	3,370	6,889	0.85			
55	9,500	9,000	9,500	9,800	120	6,430	121	8,136	3,396	6,916	0.85			
56	9,500	9,000	9,500	9,800	120	6,547	121	8,470	3,257	6,777	0.83			
57	9,500	9,000	9,500	9,800	120	6,694	121	8,380	3,232	6,749	0.83			
58	9,500	9,000	9,500	9,800	117	6,164	121	8,347	3,304	6,816	0.84			
Min	9,500	9,000	9,500	9,800	100	6,164	112	7,525	3,006	6,555	0.80			
Max	9,500	9,000	9,500	9,800	120	8,214	123	8,606	3,682	7,216	0.88			
Average	9,500	9,000	9,500	9,800	116	7,532	120	8,304	3,405	6,941	0.85			



WELLBORE SUMMARY

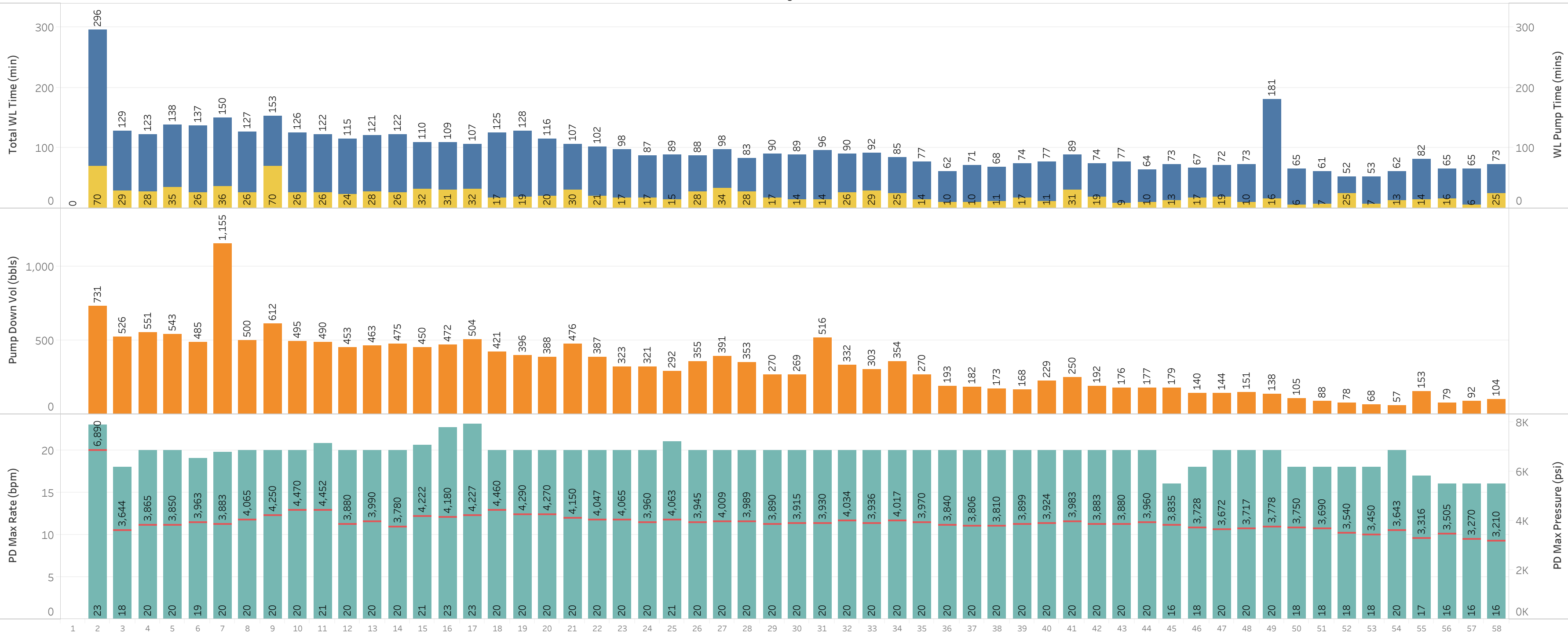
Stage No	Top Shot Flush Vol bbl	Bottom Shot Flush Vol bbl	PERF TopShot	PERF BottomShot	Sum of PERF PlugDepth	PERF TotalNumShots	PERF ClusterLength	PERF NumPerfClusters	PERF PerfDiam
1	443	447	19,981	20,160	20,275	38	1	8	0.40
2	438	442	19,763	19,938	19,950	38	1	8	0.40
3	434	438	19,563	19,738	19,750	38	1	8	0.40
4	429	433	19,363	19,538	19,550	38	1	8	0.40
5	425	429	19,163	19,338	19,350	38	1	8	0.40
6	421	424	18,963	19,138	19,150	38	1	8	0.40
7	416	420	18,763	18,938	18,950	38	1	8	0.40
8	412	416	18,563	18,738	18,750	38	1	8	0.40
9	407	411	18,363	18,538	18,550	38	1	8	0.40
10	403	407	18,163	18,338	18,350	38	1	8	0.40
11	398	402	17,963	18,138	18,150	38	1	8	0.40
12	394	398	17,763	17,938	17,950	38	1	8	0.40
13	389	393	17,563	17,738	17,750	38	1	8	0.40
14	385	389	17,363	17,538	17,550	38	1	8	0.40
15	381	384	17,163	17,338	17,350	38	1	8	0.40
16	376	380	16,963	17,138	17,150	38	1	8	0.40
17	372	376	16,763	16,938	16,950	38	1	8	0.40
18	367	371	16,563	16,738	16,750	38	1	8	0.40
19	363	367	16,363	16,538	16,550	38	1	8	0.40
20	358	362	16,163	16,338	16,350	38	1	8	0.40
21	354	358	15,963	16,138	16,150	38	1	8	0.40
22	350	353	15,763	15,938	15,950	32	1	8	0.40
23	345	349	15,563	15,738	15,750	32	1	8	0.40
24	341	345	15,363	15,538	15,550	32	1	8	0.40
25	336	340	15,163	15,338	15,350	32	1	8	0.40
26	332	336	14,963	15,138	15,150	32	1	8	0.40
27	327	331	14,763	14,938	14,950	32	1	8	0.40
28	323	327	14,563	14,738	14,750	32	1	8	0.40
29	319	322	14,363	14,538	14,550	32	1	8	0.40
30	314	318	14,163	14,338	14,350	32	1	8	0.40
31	310	314	13,963	14,138	14,150	32	1	8	0.40
32	305	309	13,763	13,938	13,950	32	1	8	0.40
33	301	305	13,563	13,738	13,750	32	1	8	0.40
34	296	300	13,363	13,538	13,550	32	1	8	0.40
35	292	296	13,163	13,338	13,350	32	1	8	0.40
36	287	291	12,963	13,138	13,150	32	1	8	0.40
37	283	287	12,763	12,938	12,950	32	1	8	0.40
38	279	282	12,563	12,738	12,750	32	1	8	0.40
39	274	278	12,363	12,538	12,550	32	1	8	0.40
40	270	274	12,163	12,338	12,350	32	1	8	0.40
41	265	269	11,963	12,138	12,150	32	1	8	0.40
42	261	265	11,763	11,938	11,950	32	1	8	0.40
43	256	260	11,563	11,738	11,750	32	1	8	0.40
44	252	256	11,363	11,538	11,550	32	1	8	0.40
45	248	251	11,163	11,338	11,350	32	1	8	0.40
46	243	247	10,963	11,138	11,150	32	1	8	0.40
47	239	243	10,763	10,938	10,950	32	1	8	0.40
48	234	238	10,563	10,738	10,750	32	1	8	0.40
49	230	234	10,363	10,538	10,550	32	1	8	0.40
50	225	229	10,163	10,338	10,350	32	1	8	0.40
51	221	225	9,963	10,138	10,150	32	1	8	0.40
52	217	220	9,763	9,938	9,950	32	1	8	0.40
53	212	216	9,563	9,738	9,750	32	1	8	0.40
54	208	212	9,363	9,538	9,550	32	1	8	0.40
55	203	207	9,163	9,338	9,350	32	1	8	0.40
56	199	203	8,963	9,138	9,150	32	1	8	0.40
57	194	198	8,763	8,938	8,950	32	1	8	0.40
58	189	194	8,543	8,738	8,750	32	1	8	0.40





PUMPDOWN SUMMARY

PD PressureMax PD RateMax Pump Down Vol Total WL Time (min) WL Pump Time Stage





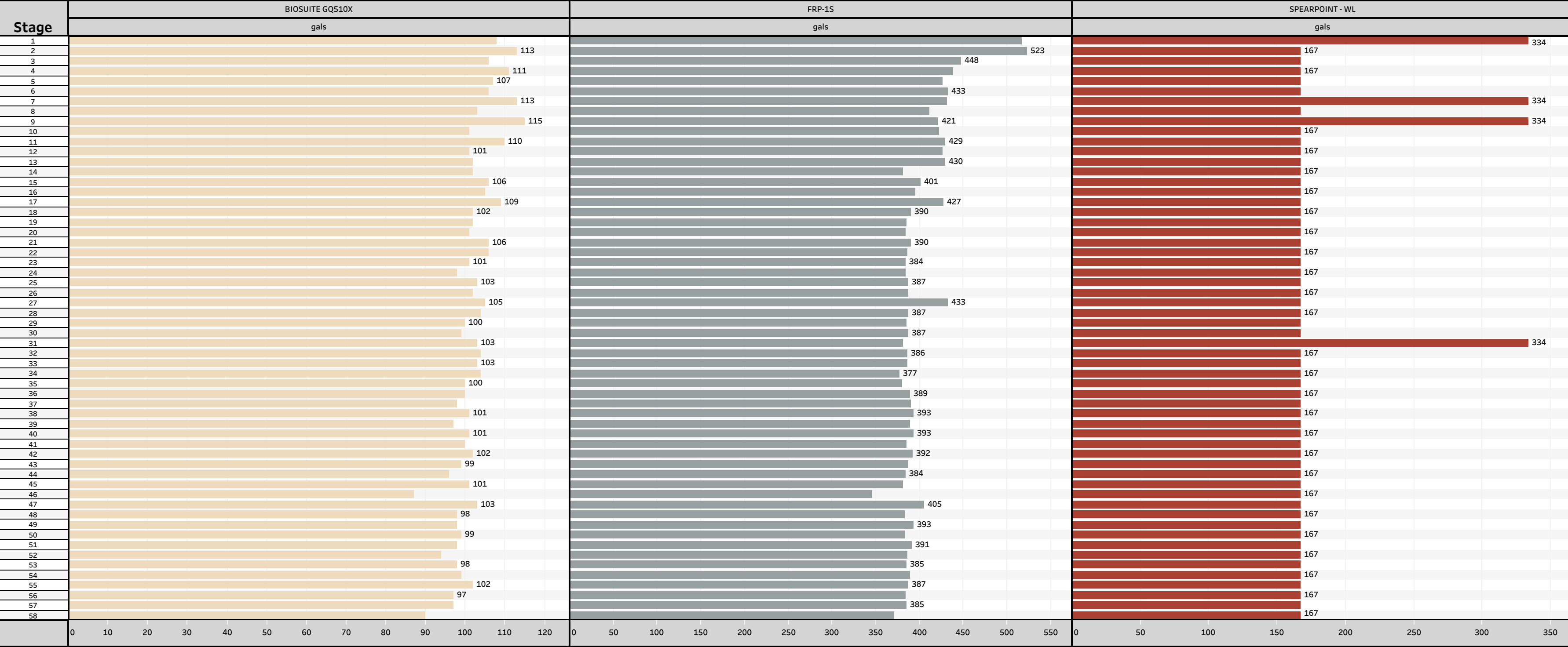
PUMPDOWN SUMMARY

Stage	PERF Company	PD Company	PD OpenWHTime	PD OpenWHPSI	PD StartTime	PD EndTime	PD CloseWHTime	WL Pump Time (min)	Total WL Time (min)	PD CloseW HPSI	PD PressureMax	PD RateMax	PD Freshbbbls	PD Brinebbbls	PD Total Vol (bbbls)
1	LBRT	LBRT	Null	Null	Null	Null	Null	0	Null	Null	Null	Null	Null	Null	
2	LBRT	LBRT	7/16/2022 8:00:00 AM	2,534	7/16/2022 9:36:00 AM	7/16/2022 10:46:00 AM	7/16/2022 12:56:00 PM	70	296	2,525	6,890	23	731	Null	731
3	LBRT	LBRT	7/16/2022 3:22:00 PM	2,757	7/16/2022 4:05:00 PM	7/16/2022 4:34:00 PM	7/16/2022 5:31:00 PM	29	129	2,675	3,644	18	526	Null	526
4	LBRT	LBRT	7/16/2022 7:36:00 PM	2,842	7/16/2022 8:12:00 PM	7/16/2022 8:40:00 PM	7/16/2022 9:39:00 PM	28	123	2,700	3,865	20	551	Null	551
5	LBRT	LBRT	7/16/2022 11:50:00 PM	2,907	7/17/2022 12:38:00 AM	7/17/2022 1:13:00 AM	7/17/2022 2:08:00 AM	35	138	2,750	3,850	20	543	Null	543
6	LBRT	LBRT	7/17/2022 4:12:00 AM	2,978	7/17/2022 4:59:00 AM	7/17/2022 5:25:00 AM	7/17/2022 6:29:00 AM	26	137	2,802	3,963	19	485	Null	485
7	LBRT	LBRT	7/17/2022 12:40:00 PM	2,769	7/17/2022 1:43:00 PM	7/17/2022 2:19:00 PM	7/17/2022 3:10:00 PM	36	150	2,733	3,883	20	1,155	Null	1,155
8	LBRT	LBRT	7/17/2022 5:18:00 PM	3,030	7/17/2022 6:01:00 PM	7/17/2022 6:27:00 PM	7/17/2022 7:25:00 PM	26	127	2,895	4,065	20	500	Null	500
9	LBRT	LBRT	7/17/2022 9:17:00 PM	3,053	7/17/2022 9:50:00 PM	7/17/2022 11:00:00 PM	7/17/2022 11:50:00 PM	70	153	2,830	4,250	20	612	Null	612
10	LBRT	LBRT	7/18/2022 1:48:00 AM	3,070	7/18/2022 2:22:00 AM	7/18/2022 2:48:00 AM	7/18/2022 3:54:00 AM	26	126	2,870	4,470	20	495	Null	495
11	LBRT	LBRT	7/18/2022 1:51:00 PM	2,754	7/18/2022 2:23:00 PM	7/18/2022 2:49:00 PM	7/18/2022 3:53:00 PM	26	122	2,851	4,452	21	490	Null	490
12	LBRT	LBRT	7/18/2022 5:49:00 PM	3,210	7/18/2022 6:26:00 PM	7/18/2022 6:50:00 PM	7/18/2022 7:44:00 PM	24	115	2,840	3,880	20	453	Null	453
13	LBRT	LBRT	7/18/2022 9:28:00 PM	3,240	7/18/2022 10:05:00 PM	7/18/2022 10:33:00 PM	7/18/2022 11:29:00 PM	28	121	3,050	3,990	20	463	Null	463
14	LBRT	LBRT	7/19/2022 1:14:00 AM	3,280	7/19/2022 1:49:00 AM	7/19/2022 2:15:00 AM	7/19/2022 3:16:00 AM	26	122	3,020	3,780	20	475	Null	475
15	LBRT	LBRT	7/19/2022 5:12:00 AM	3,235	7/19/2022 5:49:00 AM	7/19/2022 6:21:00 AM	7/19/2022 7:02:00 AM	32	110	3,072	4,222	21	450	Null	450
16	LBRT	LBRT	7/19/2022 8:45:00 AM	3,306	7/19/2022 9:24:00 AM	7/19/2022 9:55:00 AM	7/19/2022 10:34:00 AM	31	109	3,064	4,180	23	472	Null	472
17	LBRT	LBRT	7/19/2022 12:35:00 PM	3,240	7/19/2022 1:06:00 PM	7/19/2022 1:38:00 PM	7/19/2022 2:22:00 PM	32	107	3,058	4,227	23	504	Null	504
18	LBRT	LBRT	7/19/2022 5:48:00 PM	3,210	7/19/2022 6:34:00 PM	7/19/2022 6:51:00 PM	7/19/2022 7:53:00 PM	17	125	3,032	4,460	20	421	Null	421
19	LBRT	LBRT	7/19/2022 10:32:00 PM	3,100	7/19/2022 11:14:00 PM	7/19/2022 11:33:00 PM	7/20/2022 12:40:00 AM	19	128	3,003	4,290	20	396	Null	396
20	LBRT	LBRT	7/20/2022 2:36:00 AM	3,180	7/20/2022 3:15:00 AM	7/20/2022 3:35:00 AM	7/20/2022 4:32:00 AM	20	116	3,005	4,270	20	388	Null	388
21	LBRT	LBRT	7/20/2022 11:37:00 AM	2,880	7/20/2022 12:07:00 PM	7/20/2022 12:37:00 PM	7/20/2022 1:24:00 PM	30	107	2,950	4,150	20	476	Null	476
22	LBRT	LBRT	7/20/2022 3:17:00 PM	3,060	7/20/2022 3:47:00 PM	7/20/2022 4:08:00 PM	7/20/2022 4:59:00 PM	21	102	2,950	4,047	20	387	Null	387
23	LBRT	LBRT	7/20/2022 9:08:00 PM	3,830	7/20/2022 9:38:00 PM	7/20/2022 9:55:00 PM	7/20/2022 10:46:00 PM	17	98	3,035	4,065	20	323	Null	323
24	LBRT	LBRT	7/21/2022 12:44:00 AM	3,170	7/21/2022 1:08:00 AM	7/21/2022 1:25:00 AM	7/21/2022 2:11:00 AM	17	87	3,041	3,960	20	321	Null	321
25	LBRT	LBRT	7/21/2022 4:05:00 AM	3,150	7/21/2022 4:29:00 AM	7/21/2022 4:44:00 AM	7/21/2022 5:34:00 AM	15	89	3,000	4,063	21	292	Null	292
26	LBRT	LBRT	7/21/2022 7:25:00 AM	3,174	7/21/2022 7:52:00 AM	7/21/2022 8:20:00 AM	7/21/2022 8:53:00 AM	28	88	3,050	3,945	20	355	Null	355
27	LBRT	LBRT	7/21/2022 10:39:00 AM	3,200	7/21/2022 11:09:00 AM	7/21/2022 11:43:00 AM	7/21/2022 12:17:00 PM	34	98	3,000	4,009	20	391	Null	391
28	LBRT	LBRT	7/21/2022 2:05:00 PM	3,230	7/21/2022 2:31:00 PM	7/21/2022 2:59:00 PM	7/21/2022 3:28:00 PM	28	83	3,130	3,989	20	353	Null	353
29	LBRT	LBRT	7/21/2022 5:10:00 PM	3,240	7/21/2022 5:36:00 PM	7/21/2022 5:53:00 PM	7/21/2022 6:40:00 PM	17	90	3,150	3,890	20	270	Null	270
30	LBRT	LBRT	7/21/2022 8:25:00 PM	3,270	7/21/2022 8:56:00 PM	7/21/2022 9:10:00 PM	7/21/2022 9:54:00 PM	14	89	3,179	3,915	20	269	Null	269
31	LBRT	LBRT	7/22/2022 2:11:00 AM	3,223	7/22/2022 2:47:00 AM	7/22/2022 3:01:00 AM	7/22/2022 3:47:00 AM	14	96	3,160	3,930	20	516	Null	516
32	LBRT	LBRT	7/22/2022 5:55:00 AM	3,270	7/22/2022 6:27:00 AM	7/22/2022 6:53:00 AM	7/22/2022 7:25:00 AM	26	90	3,190	4,034	20	332	Null	332
33	LBRT	LBRT	7/22/2022 9:46:00 AM	3,320	7/22/2022 10:18:00 AM	7/22/2022 10:47:00 AM	7/22/2022 11:18:00 AM	29	92	3,150	3,936	20	303	Null	303
34	LBRT	LBRT	7/22/2022 1:01:00 PM	3,302	7/22/2022 1:31:00 PM	7/22/2022 1:56:00 PM	7/22/2022 2:26:00 PM	25	85	3,150	4,017	20	354	Null	354
35	LBRT	LBRT	7/22/2022 4:17:00 PM	3,323	7/22/2022 4:38:00 PM	7/22/2022 4:52:00 PM	7/22/2022 5:34:00 PM	14	77	3,170	3,970	20	270	Null	270
36	LBRT	LBRT	7/22/2022 7:18:00 PM	3,320	7/22/2022 7:38:00 PM	7/22/2022 7:48:00 PM	7/22/2022 8:20:00 PM	10	62	3,165	3,840	20	193	Null	193
37	LBRT	LBRT	7/22/2022 10:02:00 PM	3,370	7/22/2022 10:24:00 PM	7/22/2022 10:34:00 PM	7/22/2022 11:13:00 PM	10	71	3,185	3,806	20	182	Null	182
38	LBRT	LBRT	7/23/2022 12:49:00 AM	3,328	7/23/2022 1:09:00 AM	7/23/2022 1:20:00 AM	7/23/2022 1:57:00 AM	11	68	3,170	3,810	20	173	Null	173
39	LBRT	LBRT	7/23/2022 4:12:00 AM	3,300	7/23/2022 4:39:00 AM	7/23/2022 4:56:00 AM	7/23/2022 5:26:00 AM	17	74	3,200	3,899	20	168	Null	168
40	LBRT	LBRT	7/23/2022 7:09:00 AM	3,350	7/23/2022 7:39:00 AM	7/23/2022 7:50:00 AM	7/23/2022 8:26:00 AM	11	77	3,250	3,924	20	229	Null	229
41	LBRT	LBRT	7/23/2022 10:05:00 AM	3,350	7/23/2022 10:35:00 AM	7/23/2022 11:06:00 AM	7/23/2022 11:34:00 AM	31	89	3,200	3,983	20	250	Null	250
42	LBRT	LBRT	7/23/2022 1:14:00 PM	3,370	7/23/2022 1:44:00 PM	7/23/2022 2:03:00 PM	7/23/2022 2:28:00 PM	19	74	3,260	3,883	20	192	Null	192
43	LBRT	LBRT	7/23/2022 4:09:00 PM	3,426	7/23/2022 4:40:00 PM	7/23/2022 4:49:00 PM	7/23/2022 5:26:00 PM	9	77	3,284	3,880	20	176	Null	176
44	LBRT	LBRT	7/23/2022 10:55:00 PM	3,470	7/23/2022 11:15:00 PM	7/23/2022 11:25:00 PM	7/23/2022 11:59:00 PM	10	64	3,310	3,960	20	177	Null	177
45	LBRT	LBRT	7/24/2022 1:37:00 AM	3,414	7/24/2022 2:02:00 AM	7/24/2022 2:15:00 AM	7/24/2022 2:50:00 AM	13	73	3,286	3,835	16	179	Null	179
46	LBRT	LBRT	7/24/2022 4:26:00 AM	3,430	7/24/2022 4:51:00 AM	7/24/2022 5:08:00 AM	7/24/2022 5:33:00 AM	17	67	3,200	3,728	18	140	Null	140
47	LBRT	LBRT	7/24/2022 7:07:00 AM	3,303	7/24/2022 7:37:00 AM	7/24/2022 7:56:00 AM	7/24/2022 8:19:00 AM	19	72	3,100	3,672	20	144	Null	144
48	LBRT	LBRT	7/24/2022 10:21:00 AM	3,300	7/24/2022 10:54:00 AM	7/24/2022 11:04:00 AM	7/24/2022 11:34:00 AM	10	73	3,060	3,717	20	151	Null	151
49	LBRT	LBRT	7/24/2022 1:09:00 PM	3,290	7/24/2022 1:42:00 PM	7/24/2022 1:58:00 PM	7/24/2022 4:10:00 PM	16	181	2,920	3,778	20	138	Null	138
50	LBRT	LBRT	7/24/2022 5:45:00 PM	3,310	7/24/2022 6:11:00 PM	7/24/2022 6:17:00 PM	7/24/2022 6:50:00 PM	6	65	3,023	3,750	18	105	Null	105
51	LBRT	LBRT	7/24/2022 8:27:00 PM	3,163	7/24/2022 8:51:00 PM	7/24/2022 8:58:00 PM	7/24/2022 9:28:00 PM	7	61	2,944	3,690	18	88	Null	88
52	LBRT	LBRT	7/24/2022 11:11:00 PM	3,080	7/24/2022 11:11:00 PM	7/24/2022 11:36:00 PM	7/25/2022 12:03:00 AM	25	52	2,934	3,540	18	78	Null	78
53	LBRT	LBRT	7/25/2022 1:40:00 AM	3,126	7/25/2022 2:01:00 AM	7/25/2022 2:08:00 AM	7/25/2022 2:33:00 AM	7	53	2,955	3,450	18	68	Null	68
54	LBRT	LBRT	7/25/2022 4:09:00 AM	3,120	7/25/2022 4:30:00 AM	7/25/2022 4:43:00 AM	7/25/2022 5:11:00 AM	13	62	3,000	3,643	20	57	Null	57
55	LBRT	LBRT	7/25/2022 10:13:00 AM	2,800	7/25/2022 10:54:00 AM	7/25/2022 11:08:00 AM	7/25/2022 11:35:00 AM	14	82	2,950	3,316	17	153	Null	153
56	LBRT	LBRT	7/25/2022 1:24:00 PM	2,990	7/25/2022 1:58:00 PM	7/25/2022 2:14:00 PM	7/25/2022 2:29:00 PM	16	65	2,894	3,505	16	79	Null	79
57	LBRT	LBRT	7/25/2022 4:05:00 PM	3,120	7/25/2022 4:37:00 PM	7/25/2022 4:43:00 PM	7/25/2022 5:10:00 PM	6	65	2,967	3,270	16	92	Null	92
58	LBRT	LBRT	7/25/2022 6:51:00 PM	3,100	7/25/2022 7:25:00 PM	7/25/2022 7:50:00 PM	7/25/2022 8:04:00 PM	25	73	2,974	3,210	16	104	Null	104





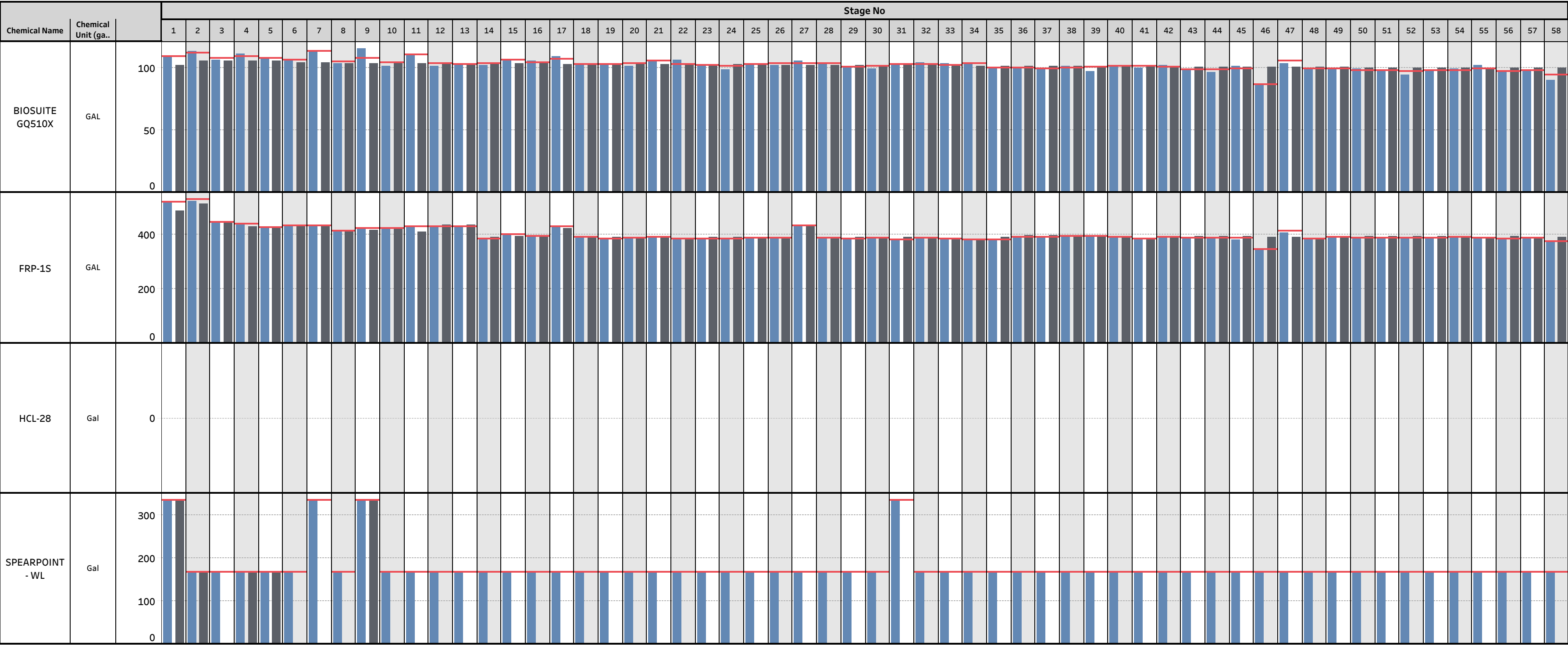
CHEMICAL SUMMARY  
(Please Note Independent Axis)





Chemical Actual
  Chemical Field Design
  Chemical Quote

Chemical Actual
  Chemical Field Design
  Chemical Quote







CHEMICAL SUMMARY TABLE

		BIOSUITE GQ510X			FRP-1S			SPEARPOINT - WL		
		gals			gals			gals		
T O T A L	Frac	5,916			23,211			10,354		
	Pump Down									
	Chem Design	5,918			23,215			10,354		
	Chem NC									
	Chem Difference	-2			-4			0		
Total Chem Varian..		0.0%			0.0%			0.0%		

Stage	BIOSUITE GQ510X			FRP-1S			SPEARPOINT - WL		
	Frac	Pump Down	Chem NC	Frac	Pump Down	Chem NC	Frac	Pump Down	Chem NC
1	108			517			334		
2	113			523			167		
3	106			448			167		
4	111			439			167		
5	107			426			167		
6	106			433			167		
7	113			432			334		
8	103			411			167		
9	115			421			334		
10	101			422			167		
11	110			429			167		
12	101			426			167		
13	102			430			167		
14	102			381			167		
15	106			401			167		
16	105			395			167		
17	109			427			167		
18	102			390			167		
19	102			385			167		
20	101			384			167		
21	106			390			167		
22	106			386			167		
23	101			384			167		
24	98			384			167		
25	103			387			167		
26	102			387			167		
27	105			433			167		
28	104			387			167		
29	100			385			167		
30	99			387			167		
31	103			381			334		
32	104			386			167		
33	103			386			167		
34	104			377			167		
35	100			380			167		
36	100			389			167		
37	98			390			167		
38	101			393			167		
39	97			389			167		
40	101			393			167		
41	100			385			167		
42	102			392			167		
43	99			387			167		
44	96			384			167		
45	101			381			167		
46	87			346			167		
47	103			405			167		
48	98			383			167		
49	98			393			167		
50	99			383			167		
51	98			391			167		
52	94			386			167		
53	98			385			167		
54	99			389			167		
55	102			387			167		
56	97			384			167		
57	97			385			167		
58	90			371			167		



**BALL HIT INFO**  
(Please Note Independent Axis)

Stage No	Ball Hit Vol (bbls)	Ball Rate (bpm)	Ball Initial (psi)	Ball Max (psi)	Ball Final (psi)	BallHit Diff (psi)
1						
2						
3						
4	<div><div></div></div> 425	<div><div></div></div> 18	<div><div></div></div> 3,334	<div><div></div></div> 3,515	<div><div></div></div> 3,508	<div><div></div></div> 181
5	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>
6						
7						
8						
9						
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57						
58						
	0100200300400500	05101520	0K1K2K3K	0K1K2K3K4K	0K1K2K3K4K	050100150200

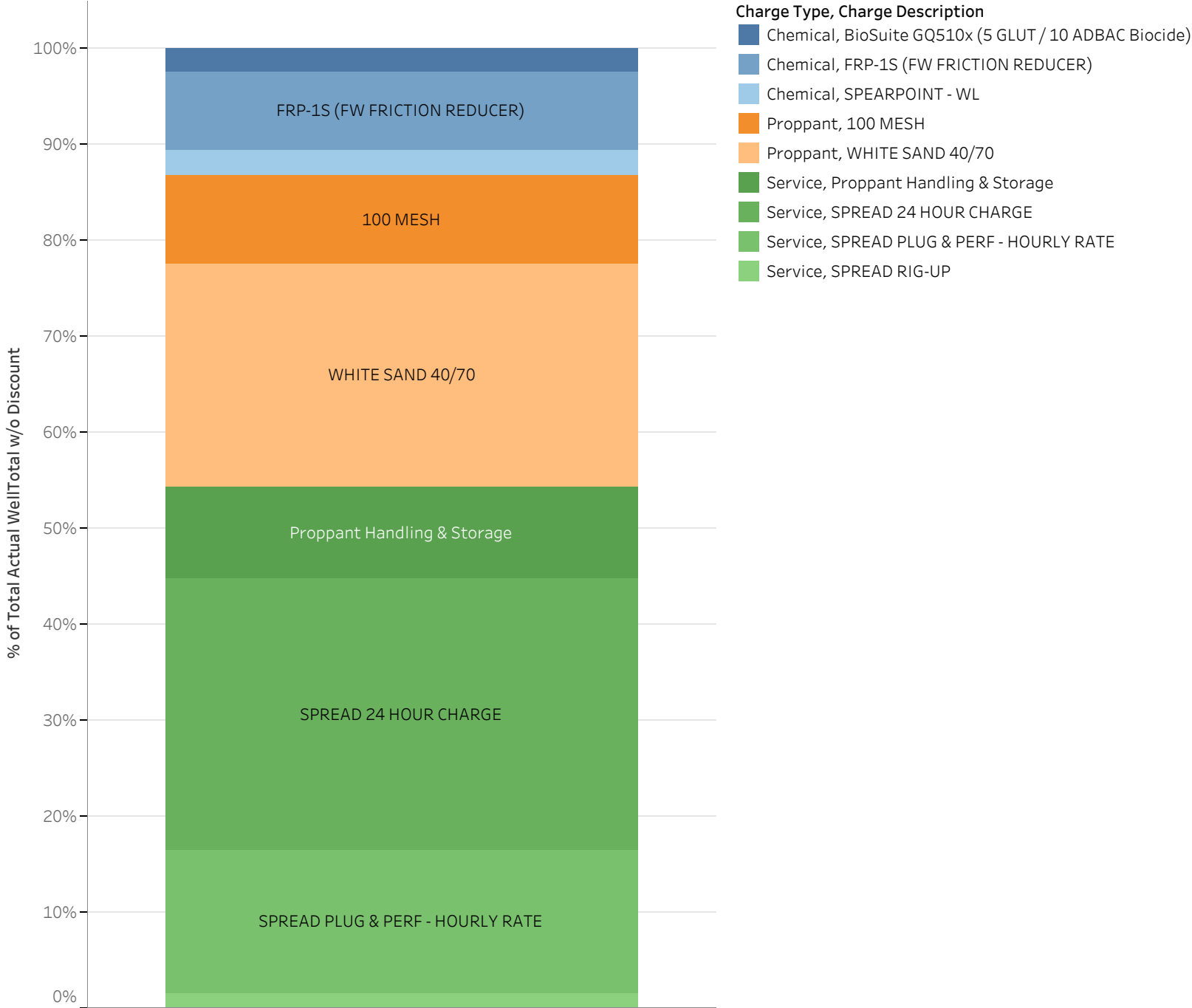




TICKET SUMMARY - Crystal 6-65 22-10 10HN

Charge Type	Charge Description	Quote Qty	Actual Qty	Quote Discount	% Diff/Quote
Service	Proppant Handling & Storage	20,943,000.00	20,079,350.00	0%	-4.1%
	SPREAD 24 HOUR CHARGE	9.00	9.59	0%	6.6%
	SPREAD PLUG & PERF - HOURLY RATE	96.10	86.75	0%	-9.7%
	SPREAD RIG-UP	1.00	1.00	0%	0.0%
Chemical	BioSuite GQ510x (5 GLUT / 10 ADBAC Biocide)	6,025.00	5,916.00	0%	-1.8%
	FRP-1S (FW FRICTION REDUCER)	28,196.00	23,211.00	0%	-17.7%
	SPEARPOINT - WL	14,250.00	10,354.00	0%	-27.3%
Proppant	100 MESH	6,285,000.00	6,075,980.00	0%	-3.3%
	WHITE SAND 40/70	14,658,000.00	14,003,370.00	0%	-4.5%

Total Quote % Variance		-30.40%			
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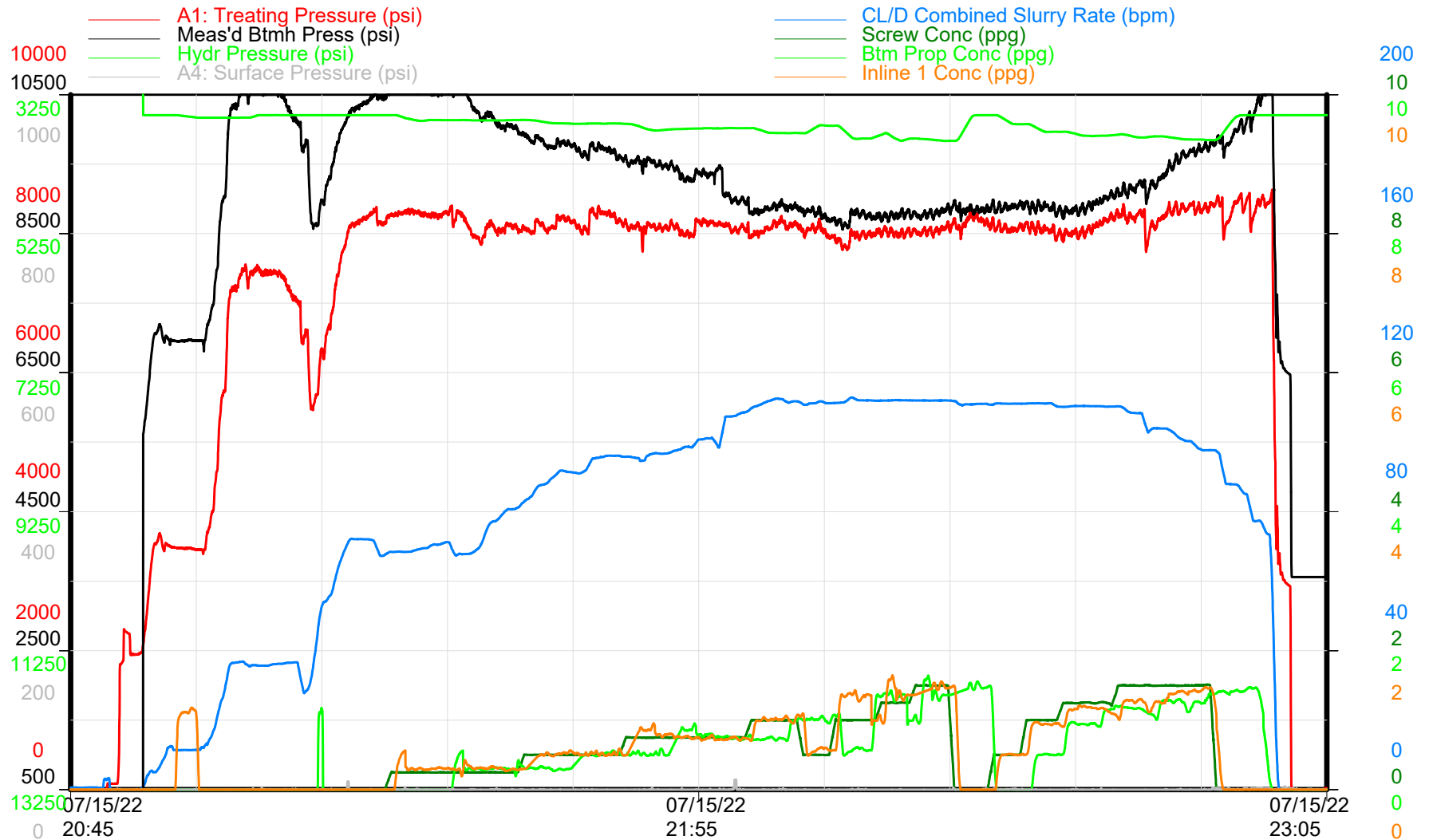


Cystal 6-65 22-10 10HN Stage 01



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 01 of 58



Treatment Plot

Time

Republic Crew

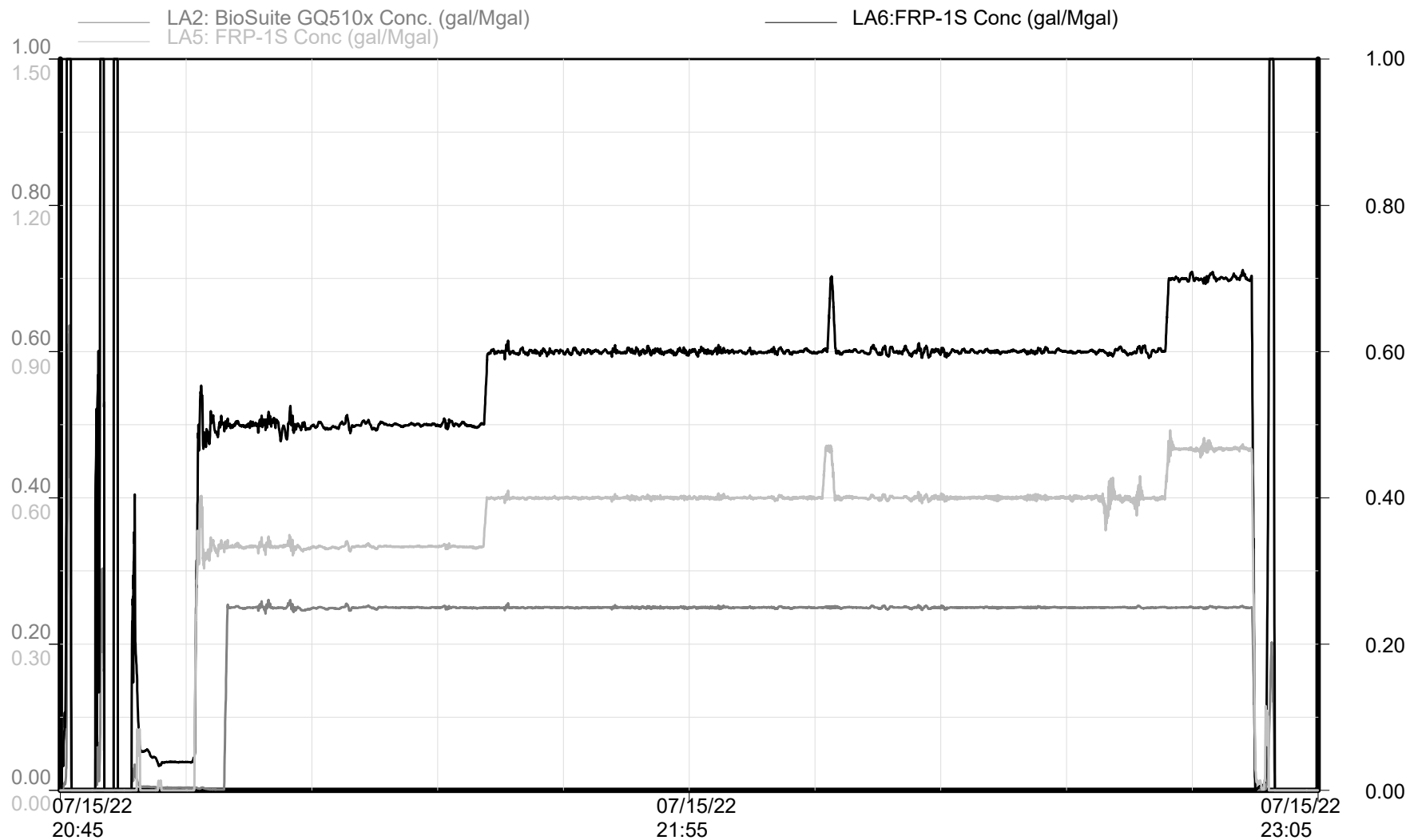


Cystal 6-65 22-10 10HN Stage 01



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 01 of 58



Chemical Additives

Time

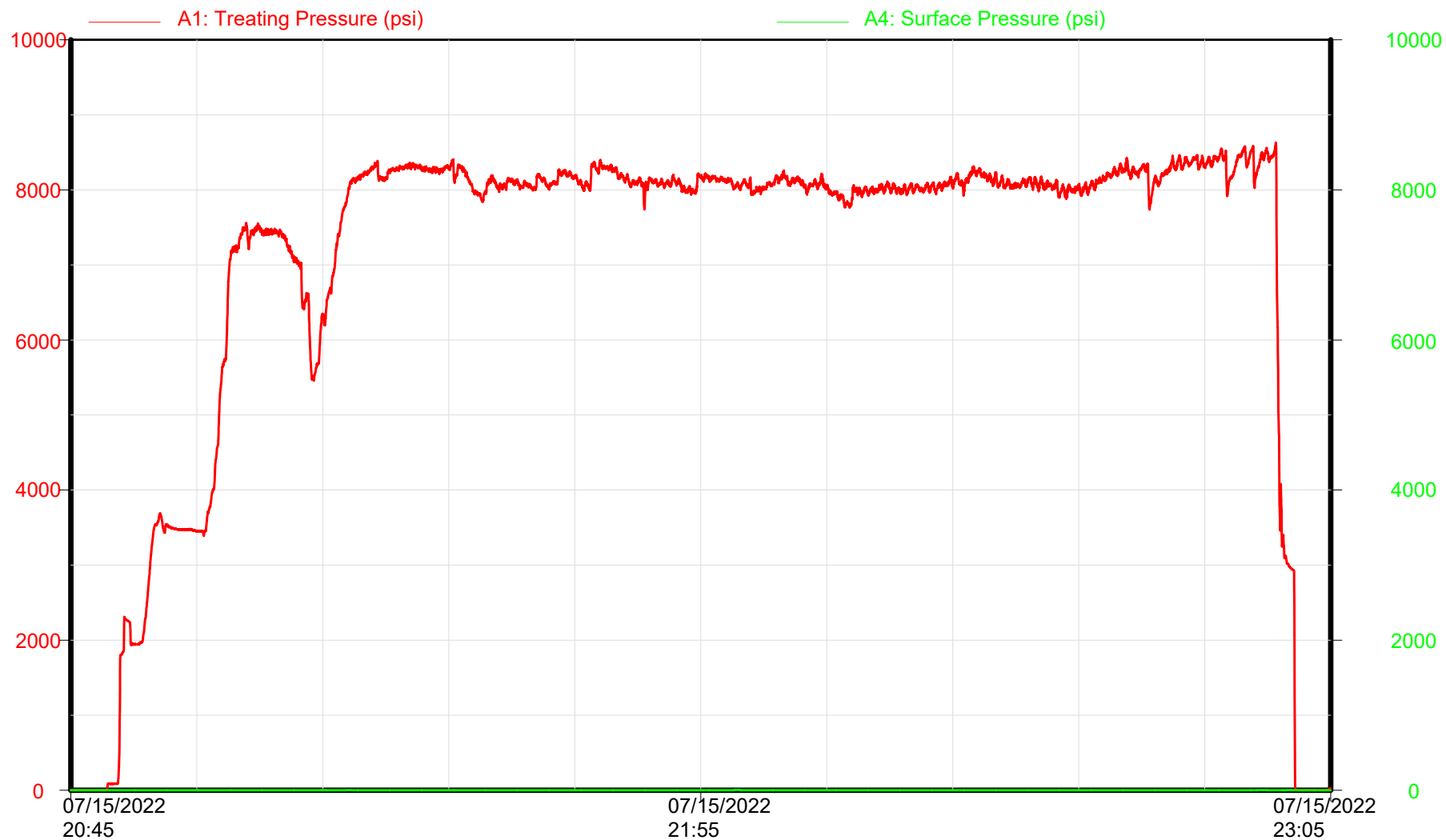
Republic Crew

Cystal 6-65 22-10 10HN Stage 01



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 01 of 58



Zipper Pressures

Time

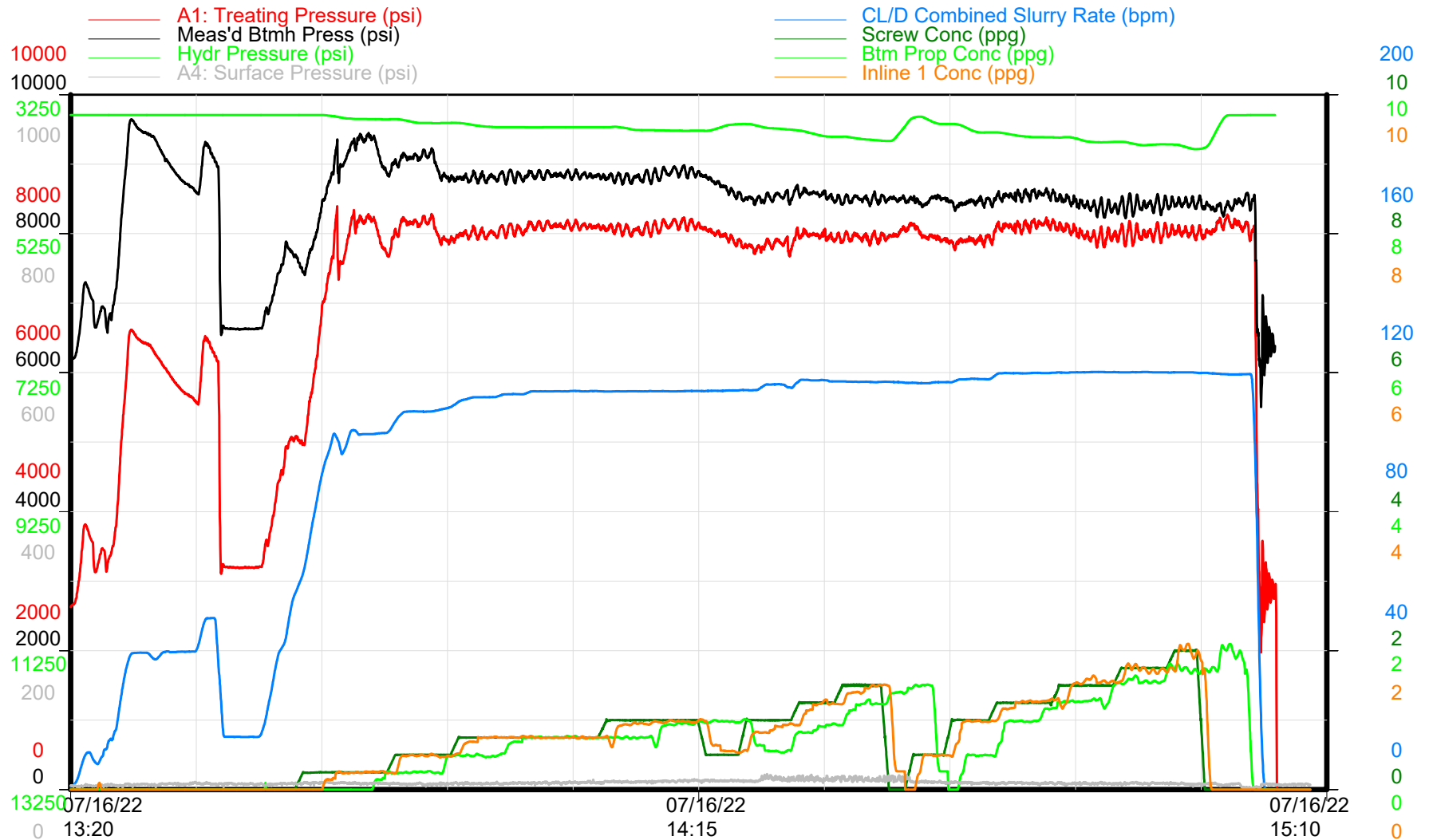
Republic Crew



Cystal 6-65 22-10 10HN Stage 02

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 02 of 58



Treatment Plot

Time

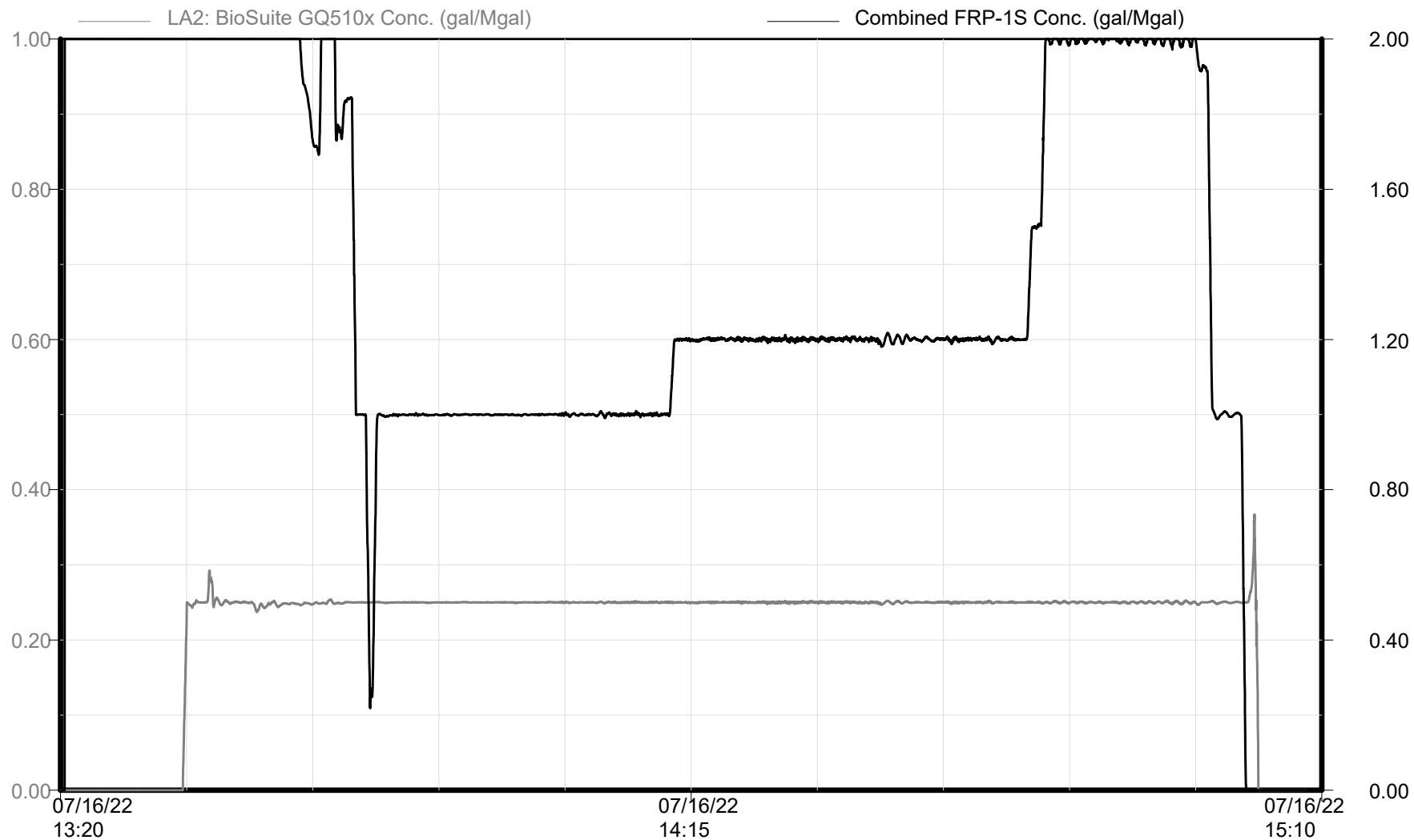
Republic Crew

Cystal 6-65 22-10 10HN Stage 02



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 02 of 58



Chemical Additives

Time

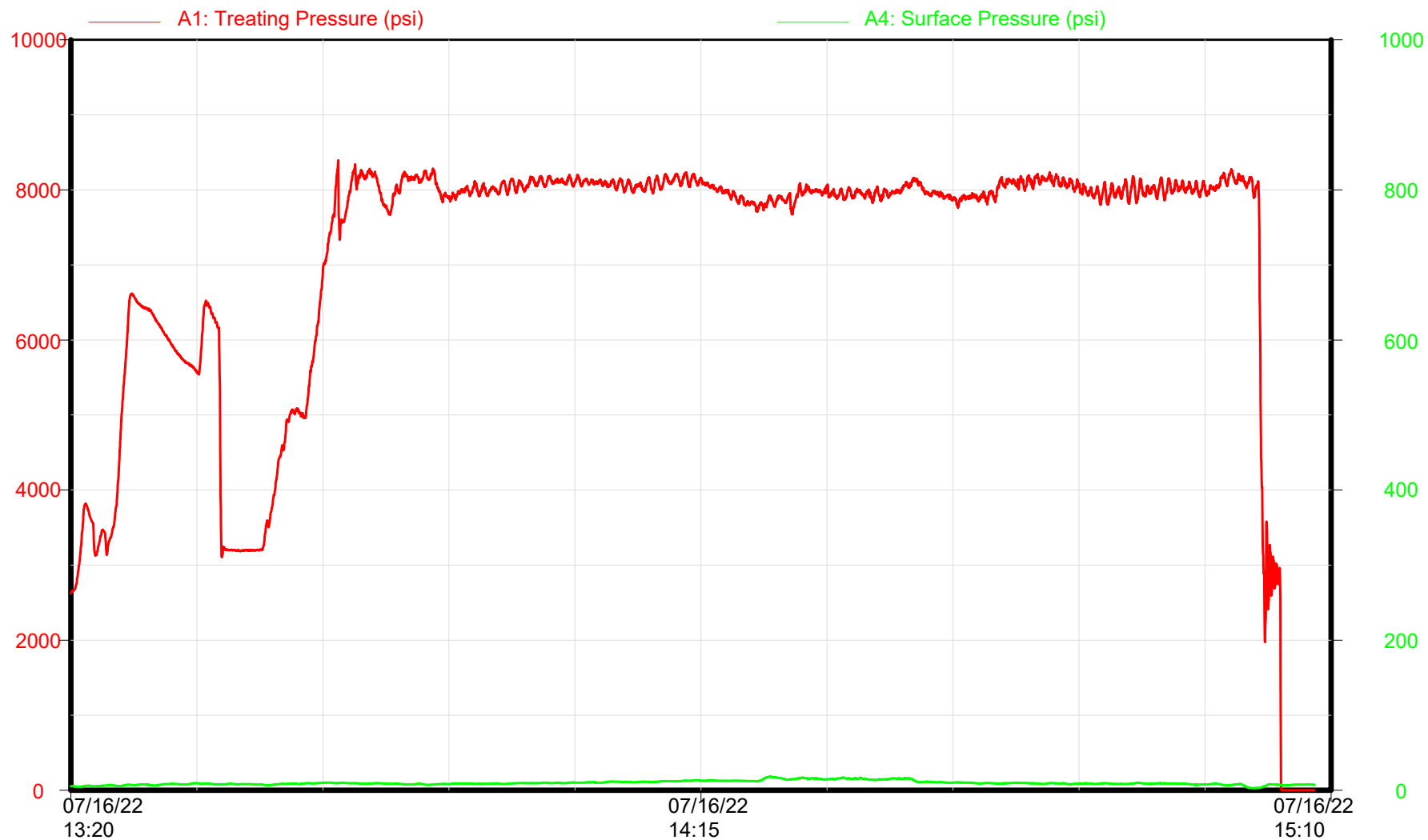
Republic Crew



Cystal 6-65 22-10 10HN Stage 02

GMT - Crystal 6-65 22-10 10HN

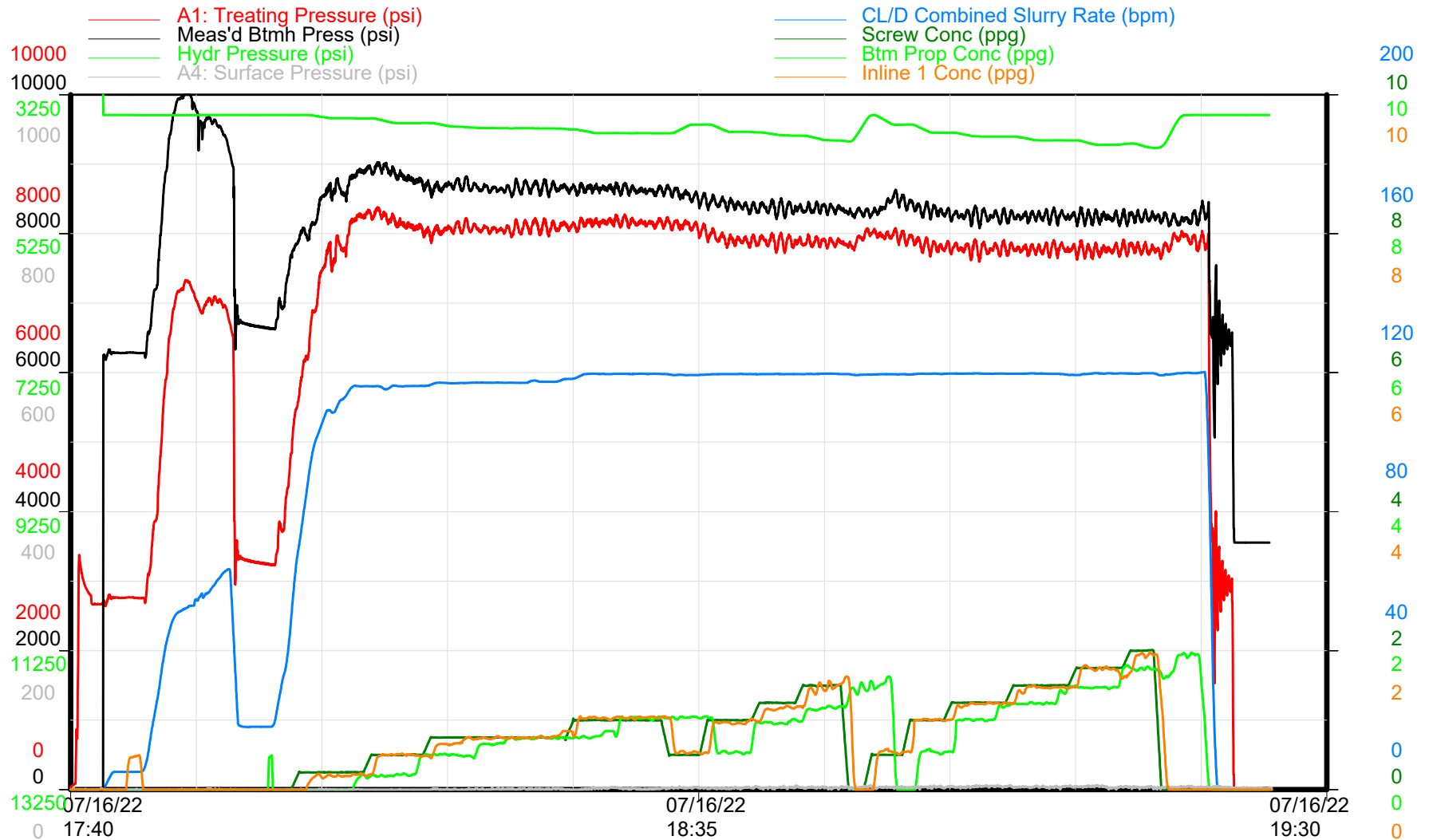
Niobrara - Stage 02 of 58



Surface/Treating Pressures

Time

Republic Crew



Treatment Plot

Time

Republic Crew

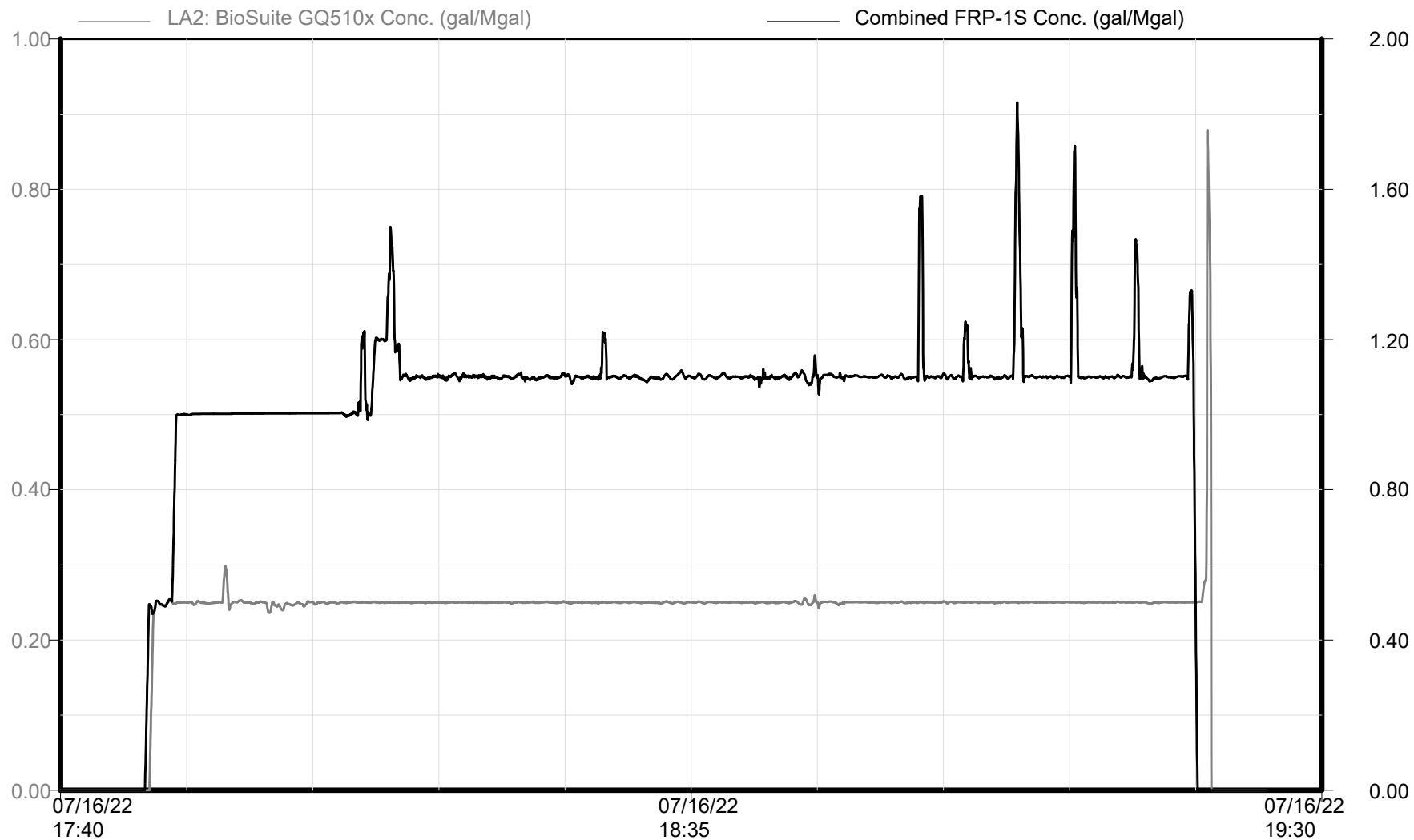


Cystal 6-65 22-10 10HN Stage 03



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 03 of 58



Chemical Additives

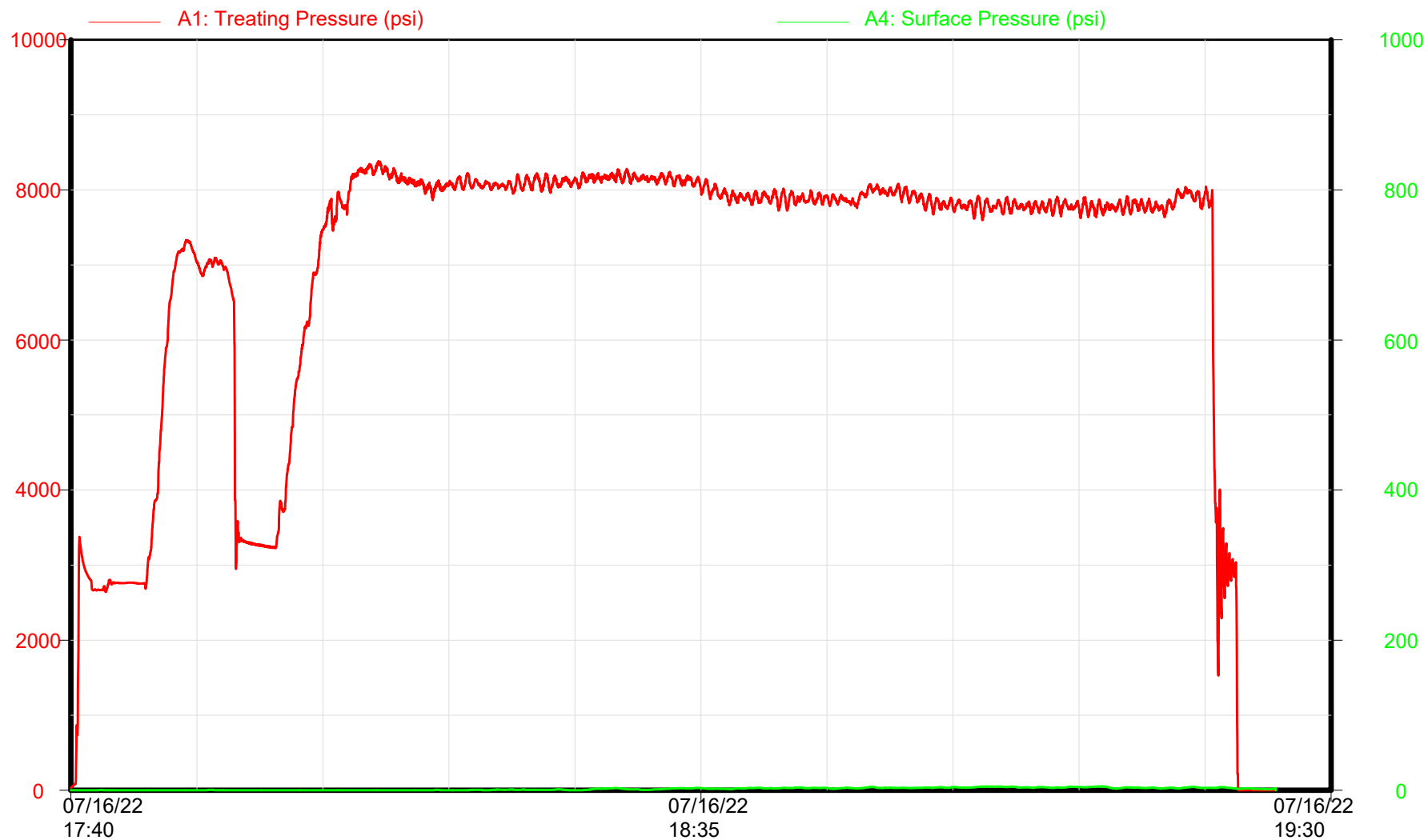
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 03

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 03 of 58



Surface/Treating Pressures

Time

Republic Crew

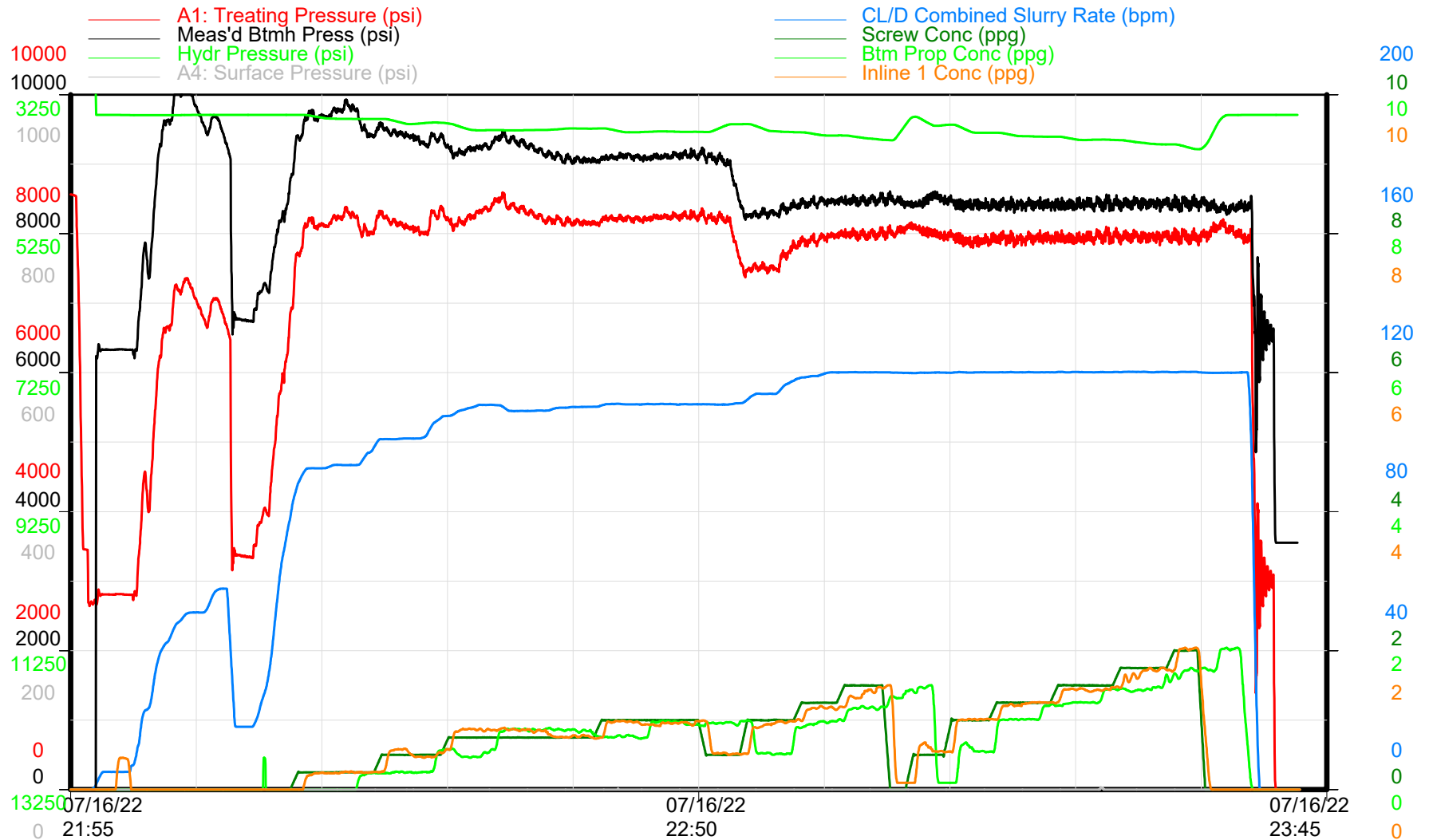


Cystal 6-65 22-10 10HN Stage 04



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 04 of 58



Treatment Plot

Time

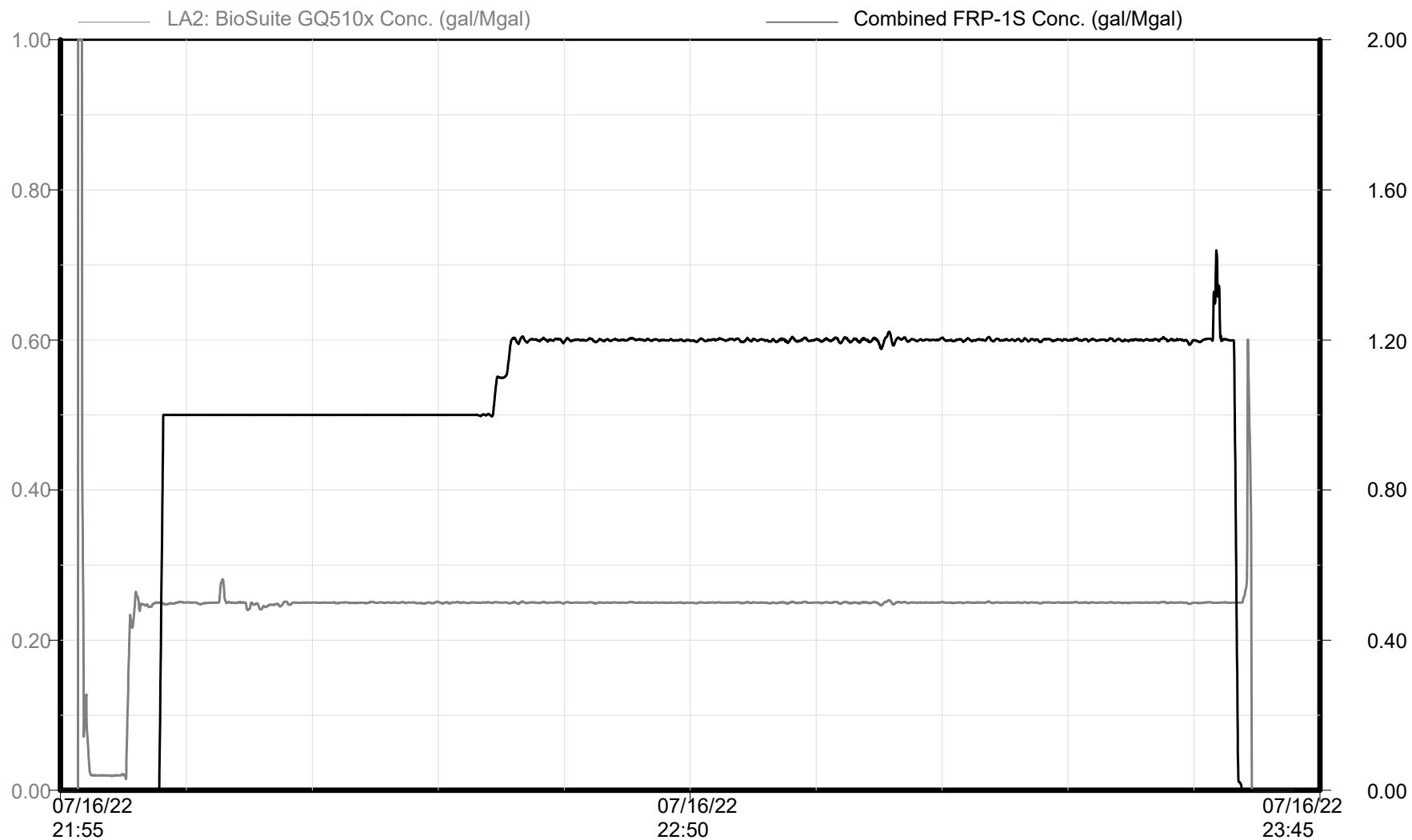
Republic Crew

Cystal 6-65 22-10 10HN Stage 04



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 04 of 58



Chemical Additives

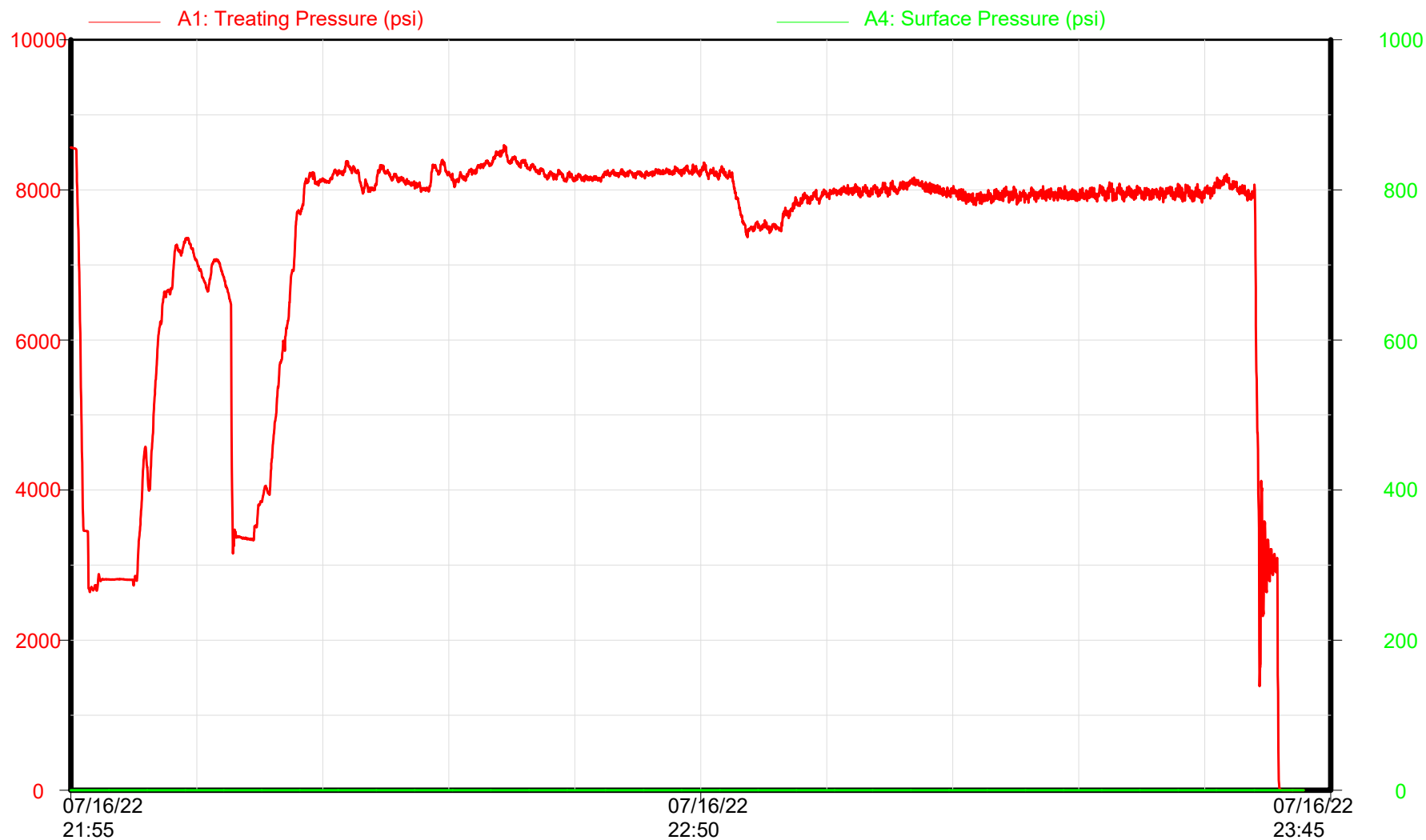
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 04

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 04 of 58



Surface/Treating Pressures

Time

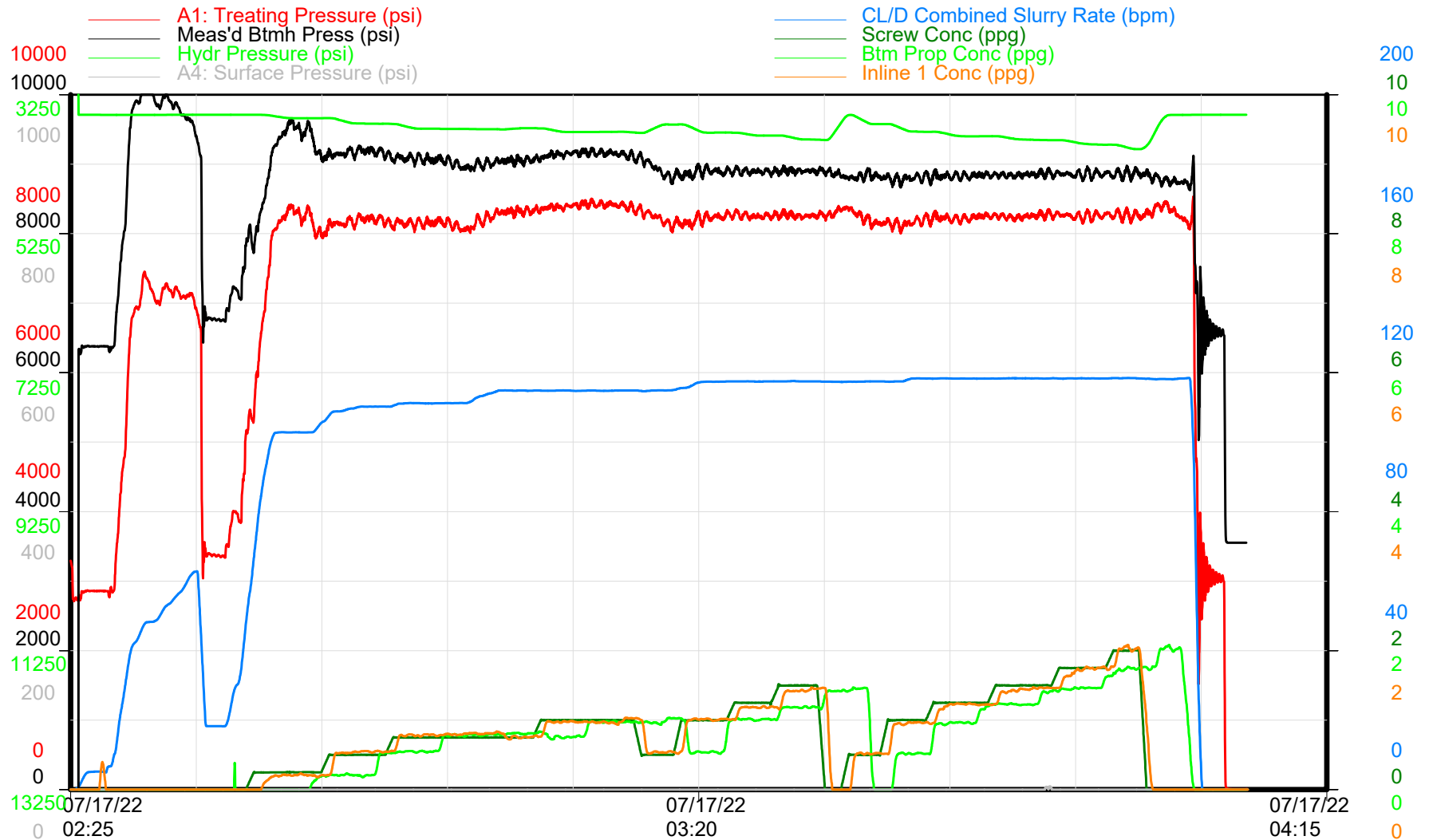
Republic Crew



Cystal 6-65 22-10 10HN Stage 05

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 05 of 58



Treatment Plot

Time

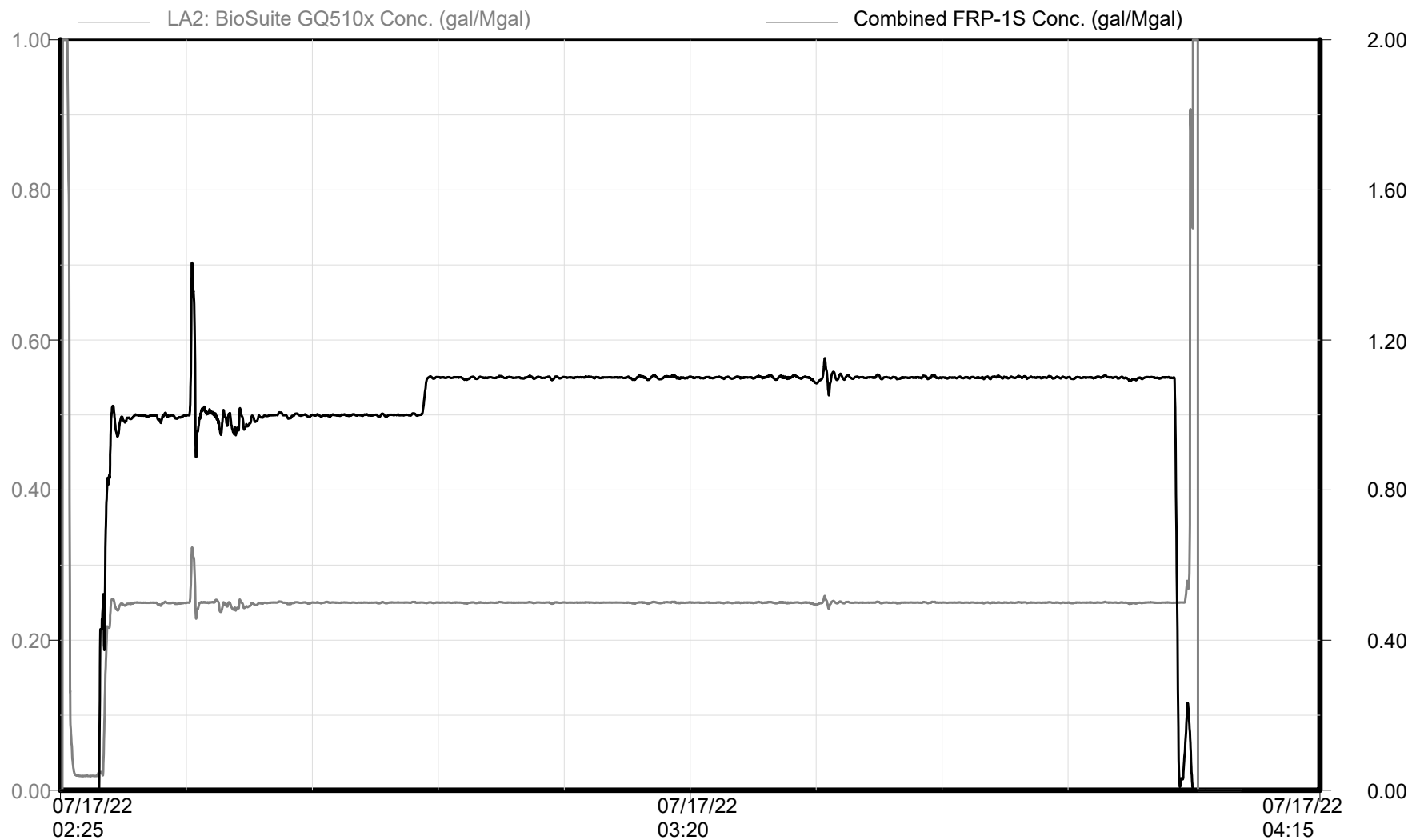
Republic Crew

Cystal 6-65 22-10 10HN Stage 05



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 05 of 58



Chemical Additives

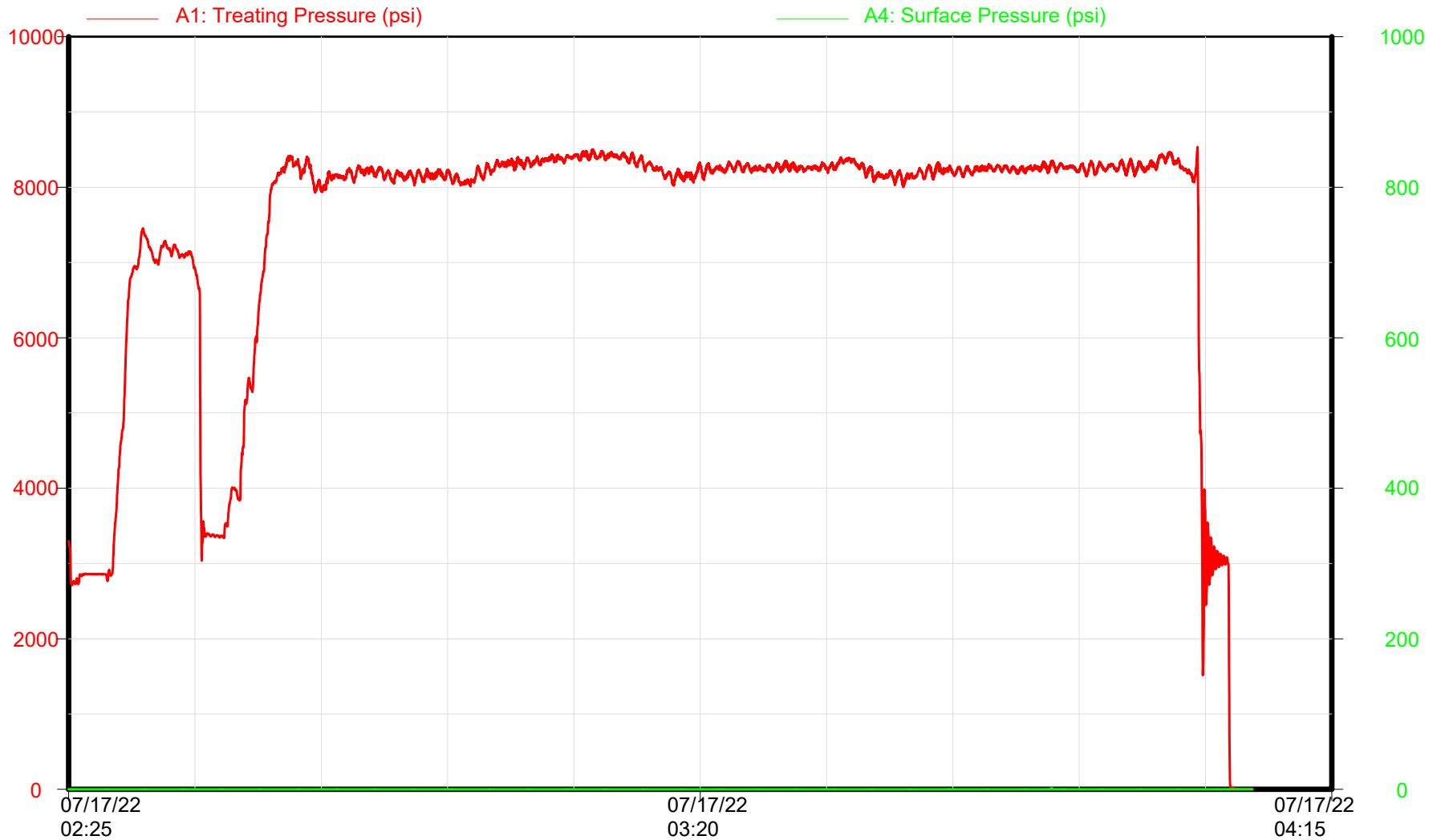
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 05

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 05 of 58



Surface/Treating Pressures

Time

Republic Crew

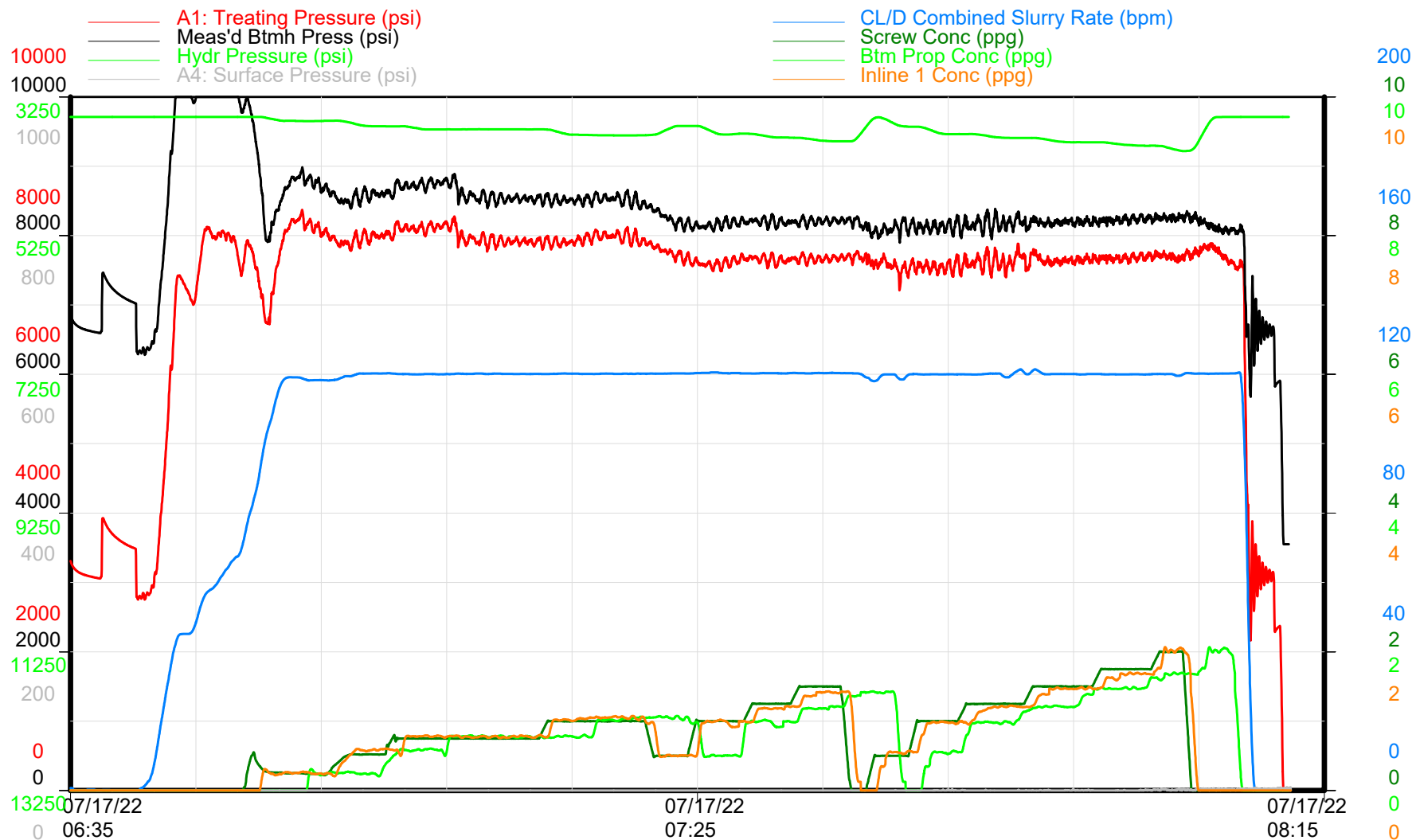


Cystal 6-65 22-10 10HN Stage 06



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 06 of 58



Treatment Plot

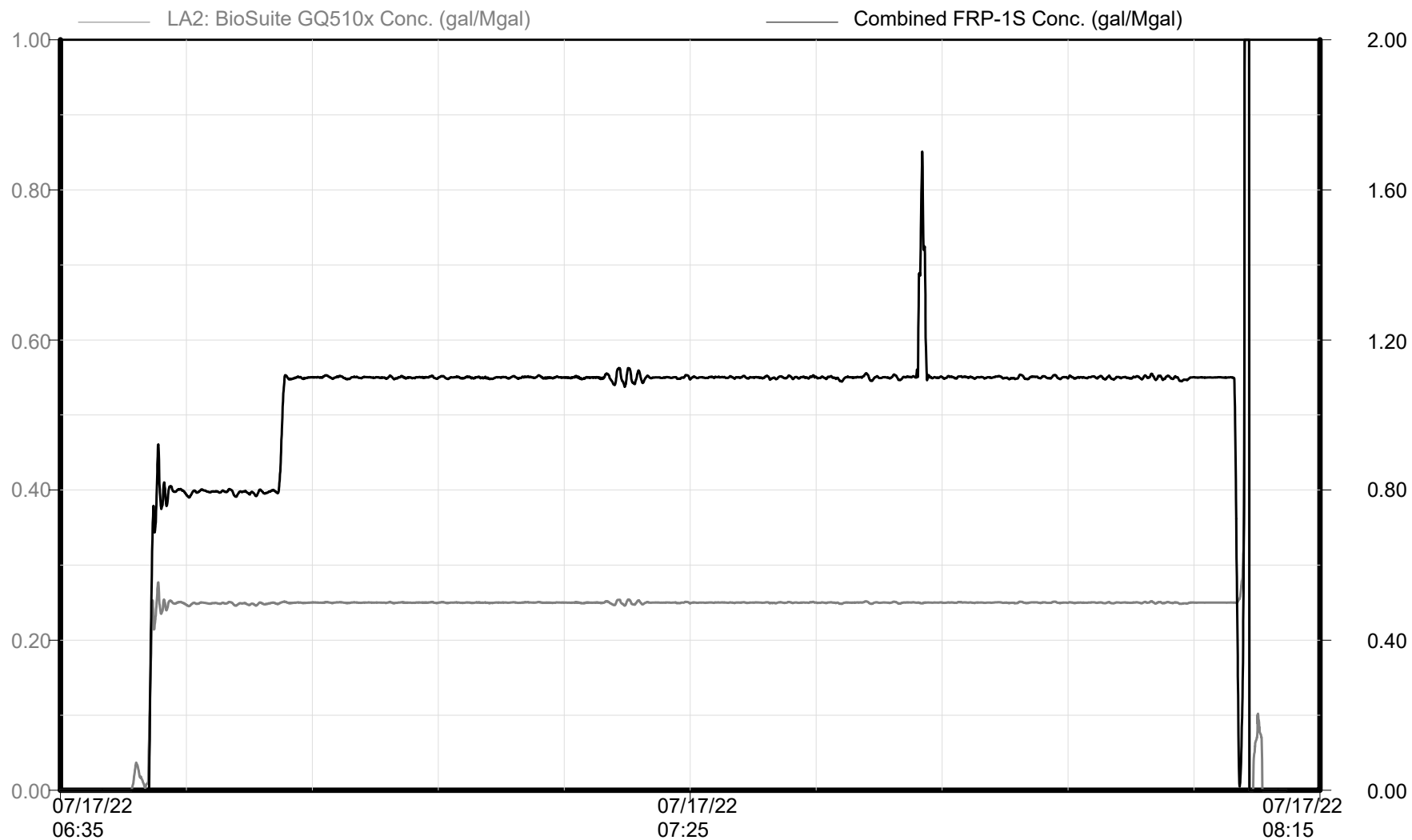
Time

Republic Crew



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 06 of 58



Chemical Additives

Time

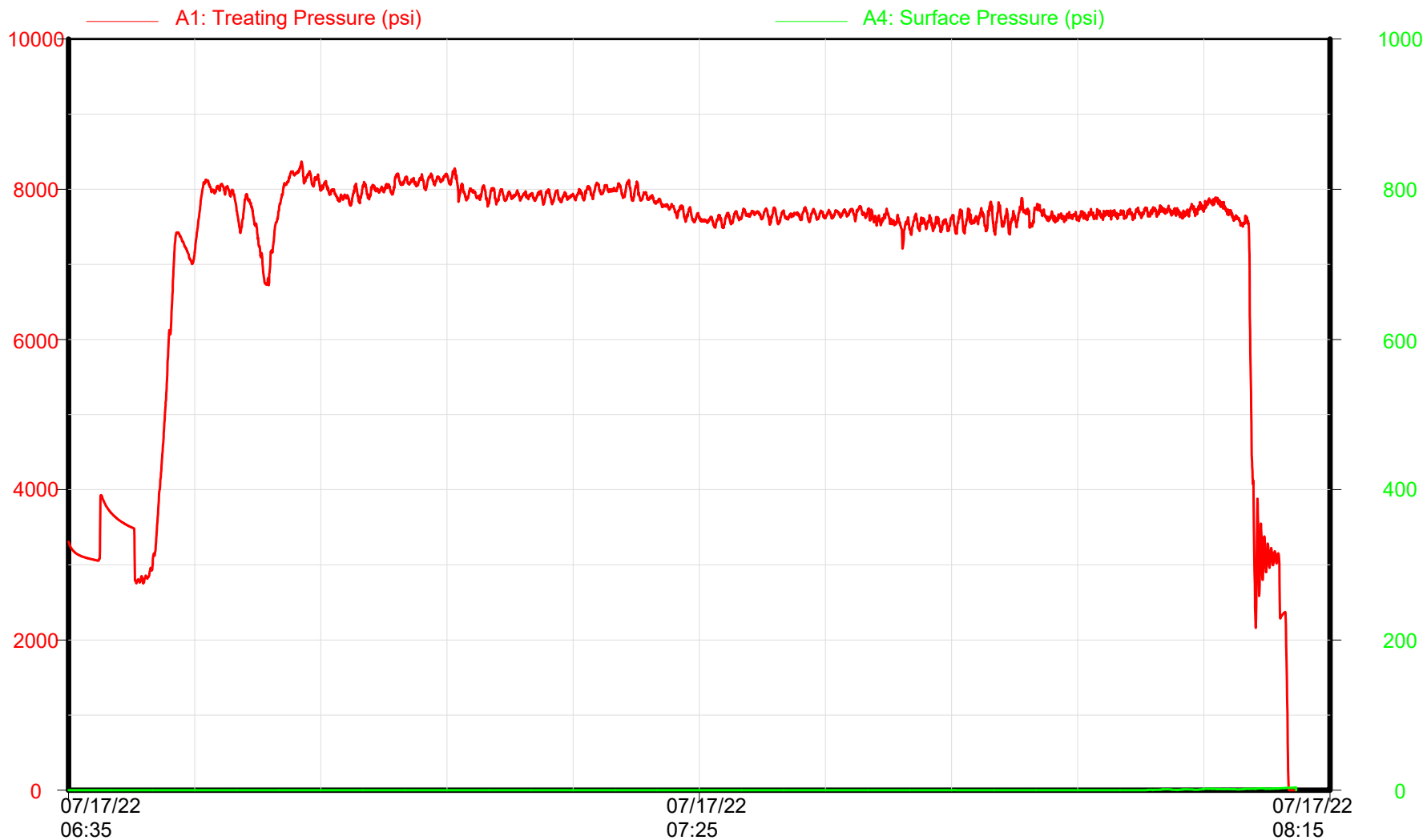
Republic Crew

Cystal 6-65 22-10 10HN Stage 06



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 06 of 58



Surface/Treating Pressures

Time

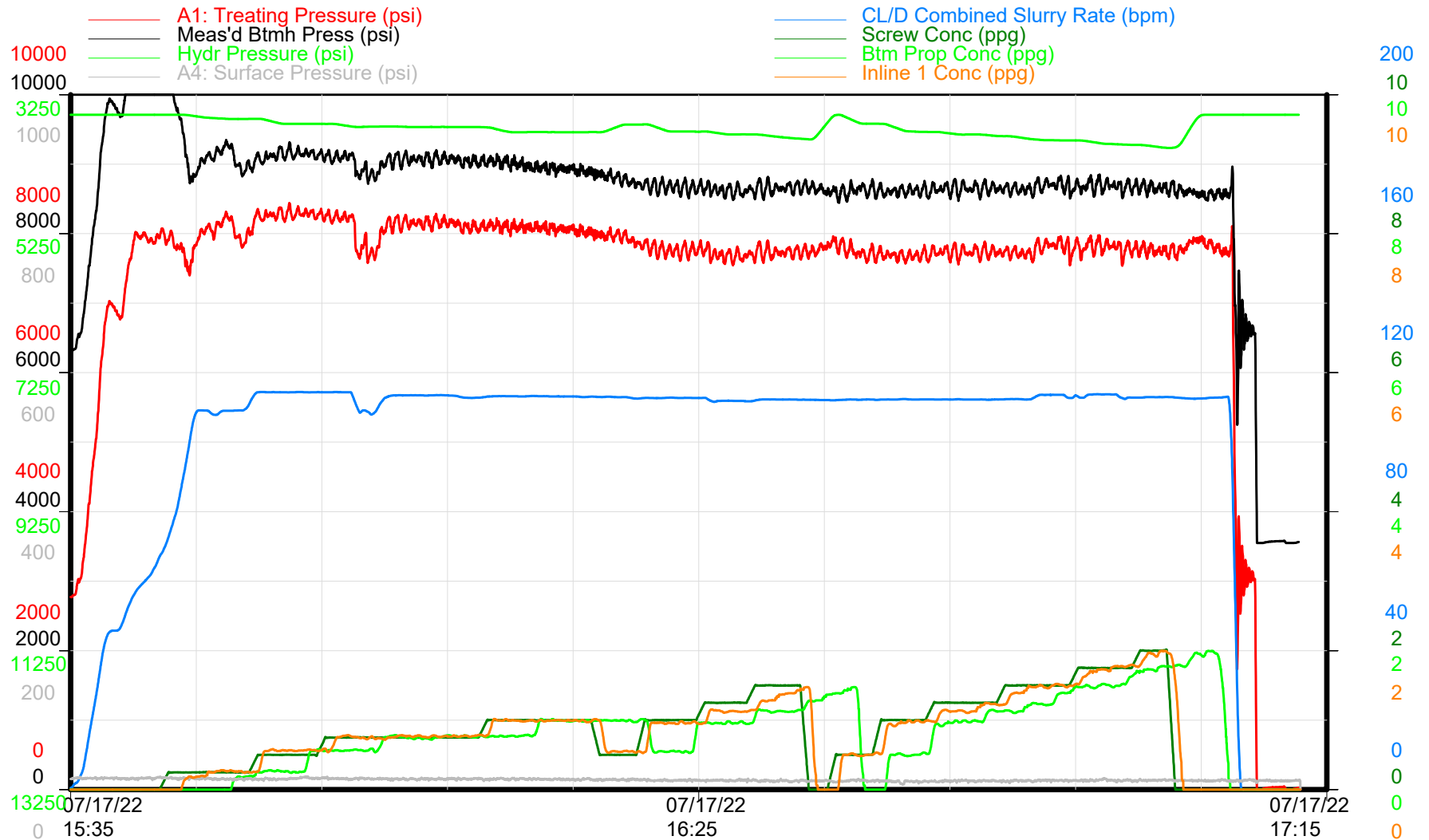
Republic Crew



Cystal 6-65 22-10 10HN Stage 07

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 07 of 58



Treatment Plot

Time

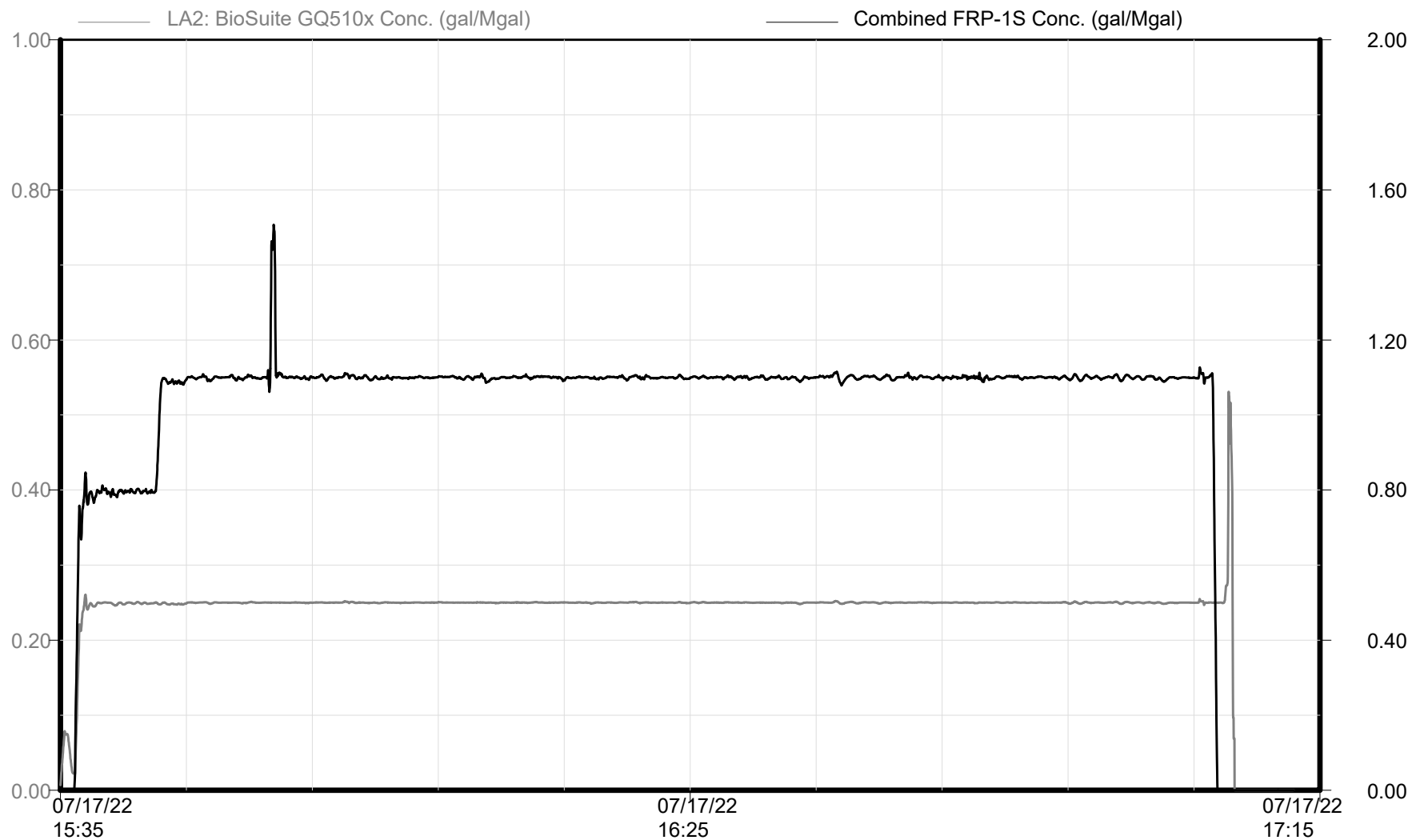
Republic Crew

Cystal 6-65 22-10 10HN Stage 07



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 07 of 58



Chemical Additives

Time

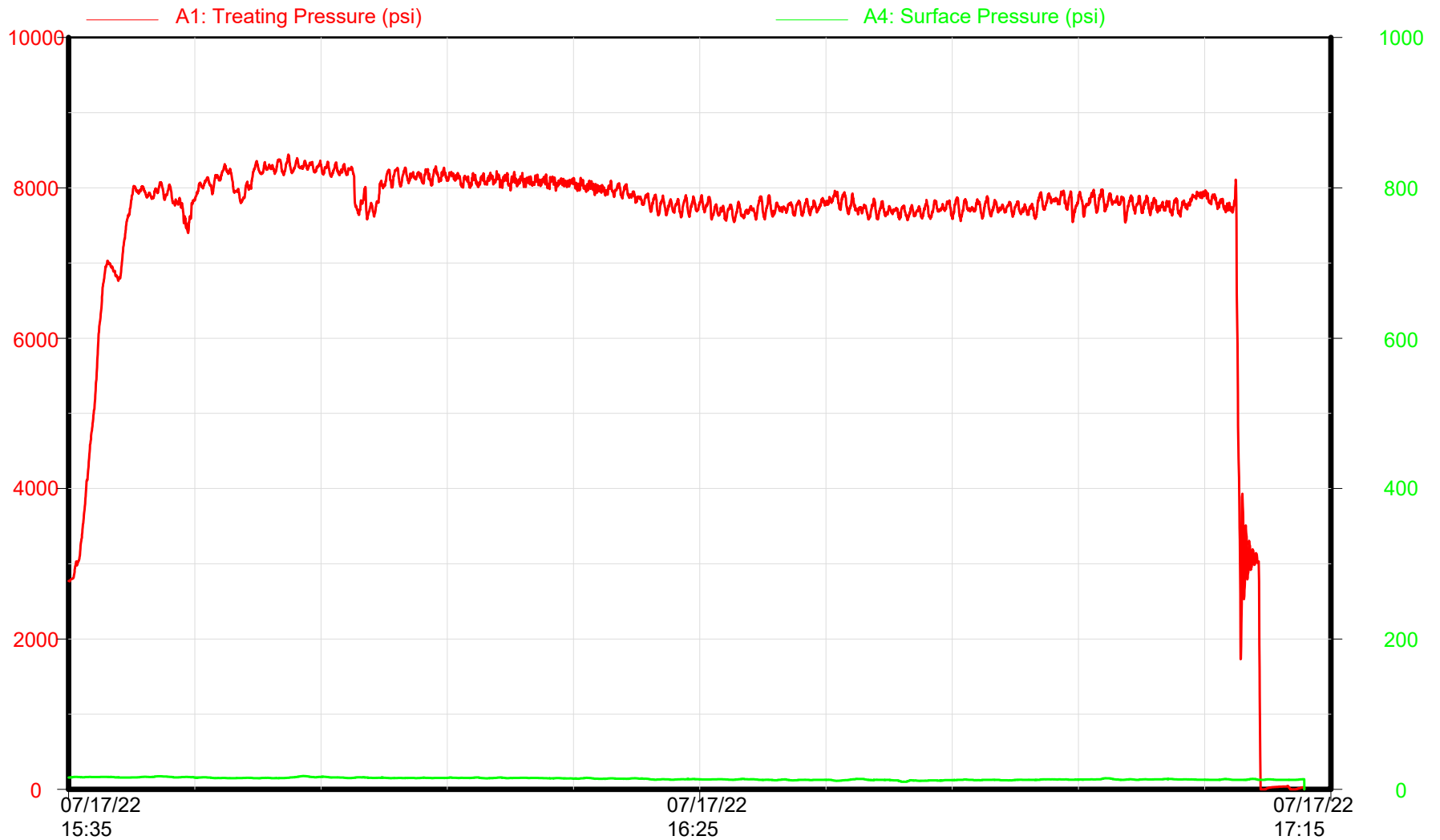
Republic Crew

Cystal 6-65 22-10 10HN Stage 07



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 07 of 58



Surface/Treating Pressures

Time

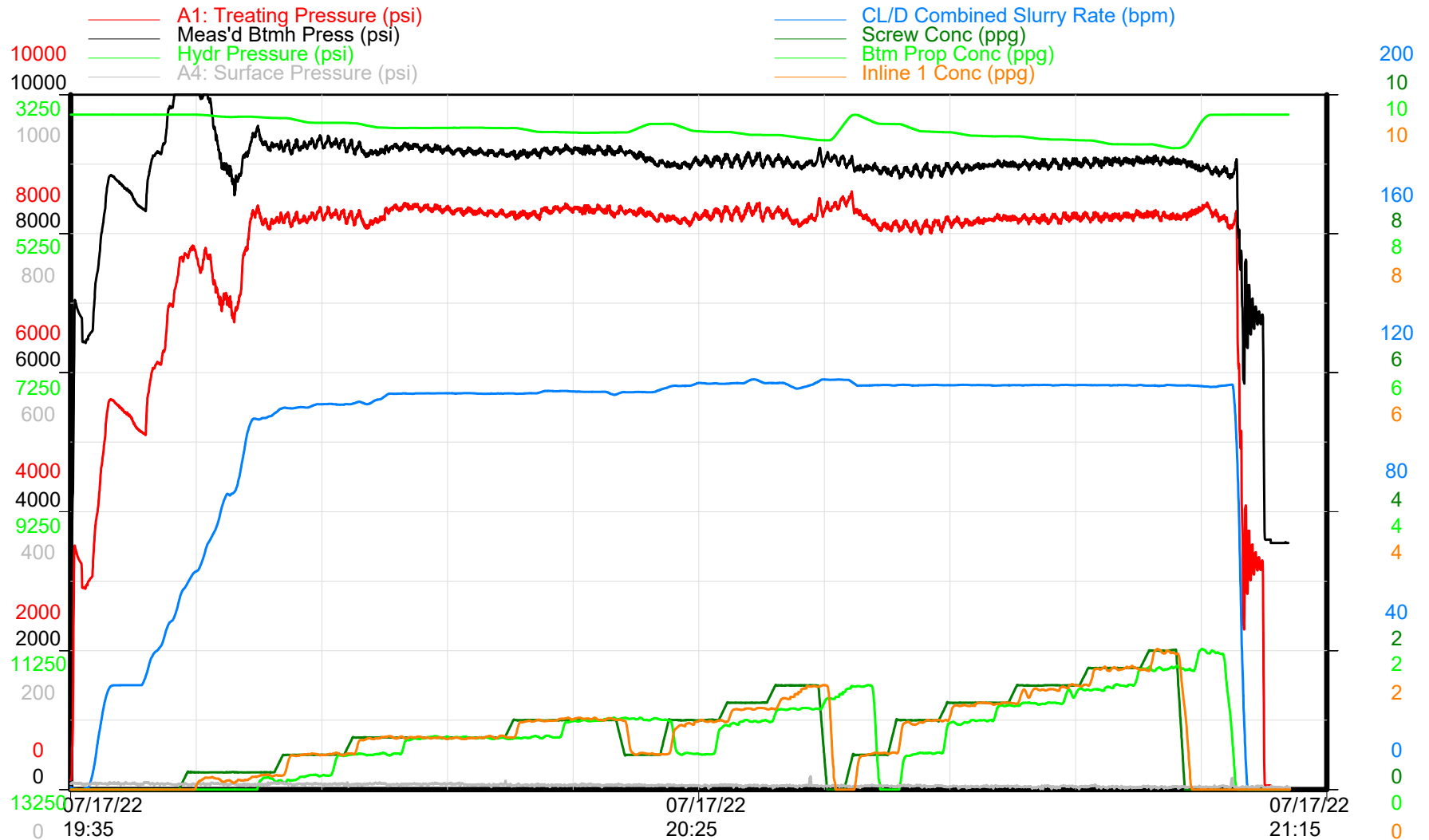
Republic Crew



Cystal 6-65 22-10 10HN Stage 08

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 08 of 58



Treatment Plot

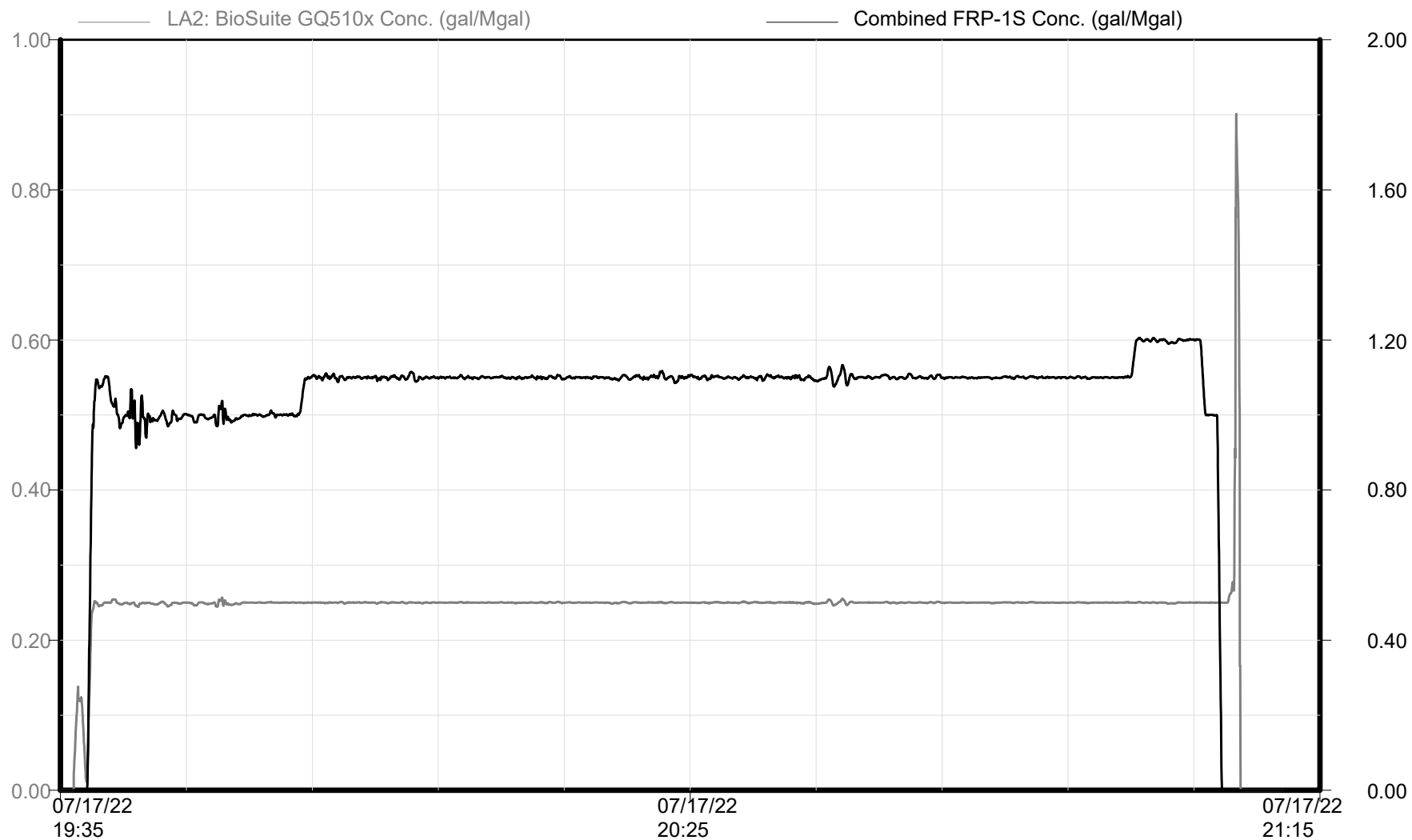
Time

Republic Crew



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 08 of 58



Chemical Additives

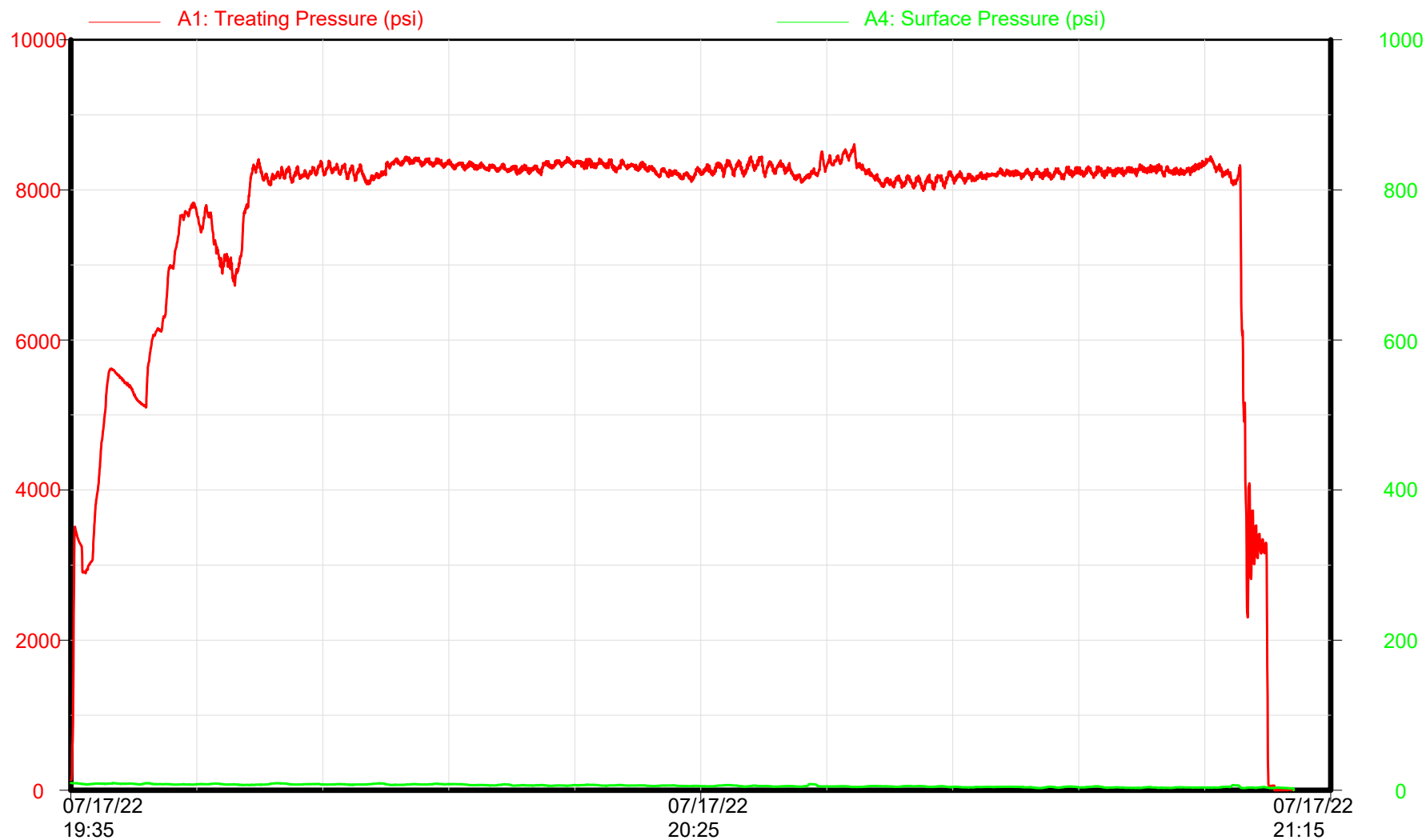
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 08

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 08 of 58



Surface/Treating Pressures

Time

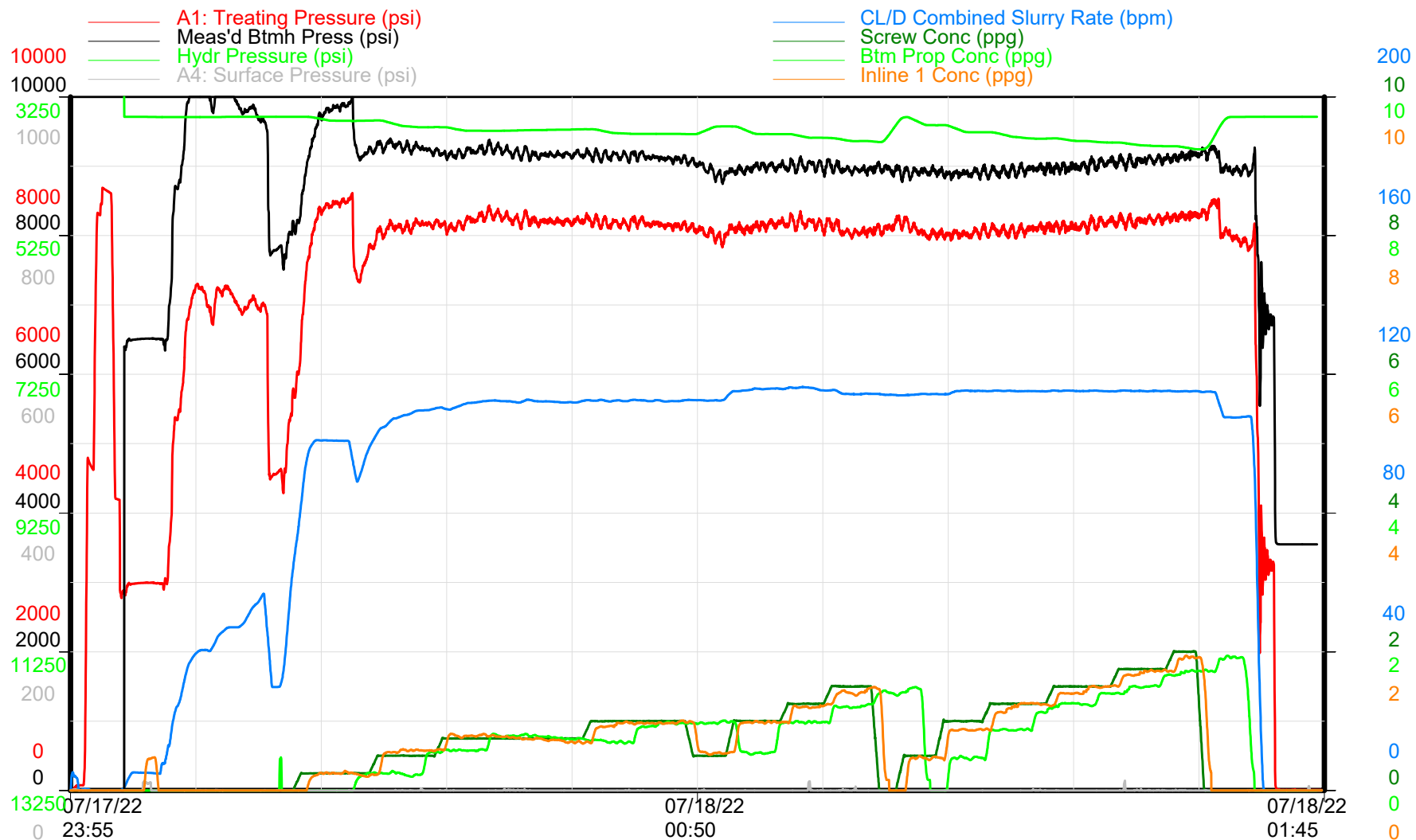
Republic Crew

Cystal 6-65 22-10 10HN Stage 09



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 09 of 58



Treatment Plot

Time

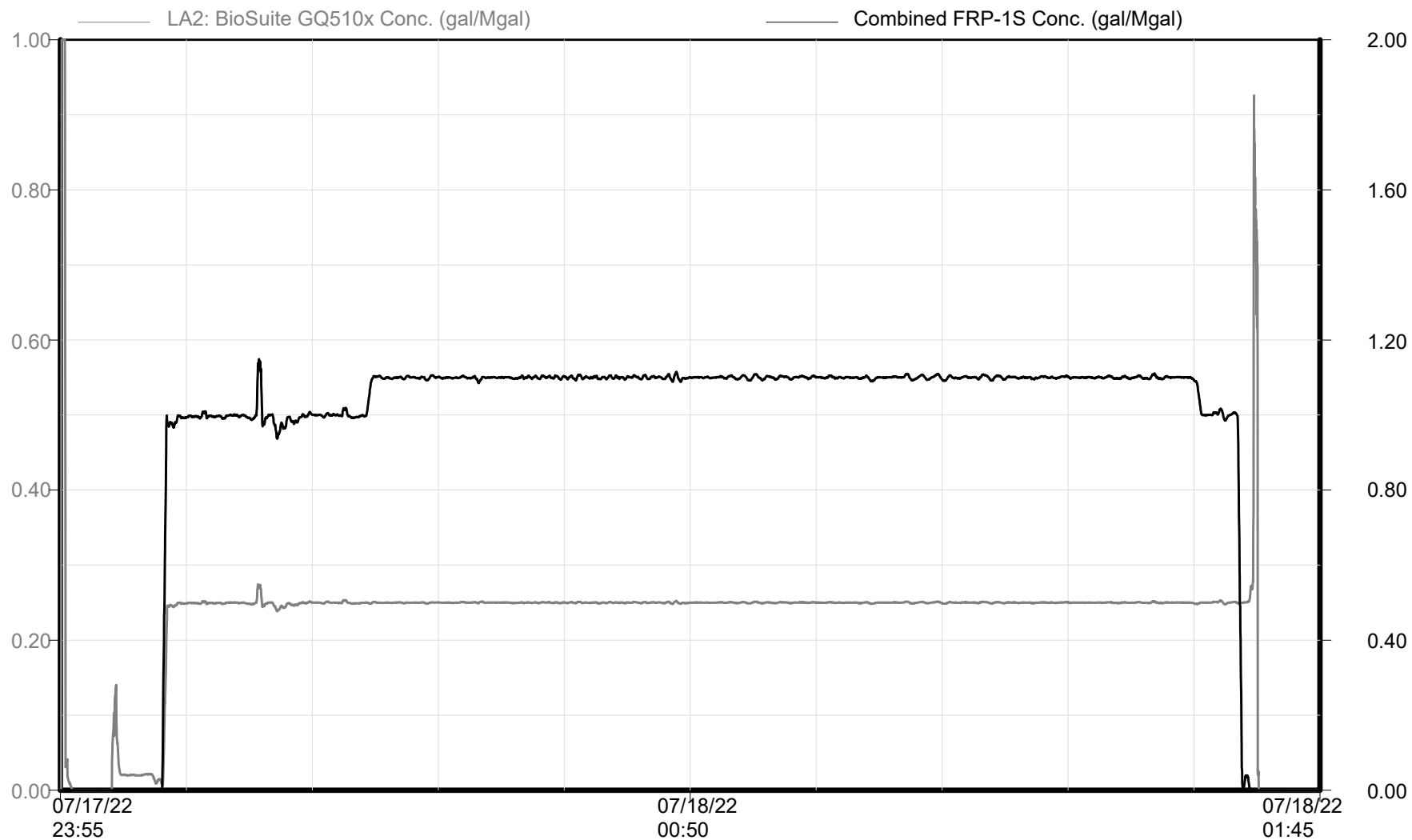
Republic Crew





GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 09 of 58



Chemical Additives

Time

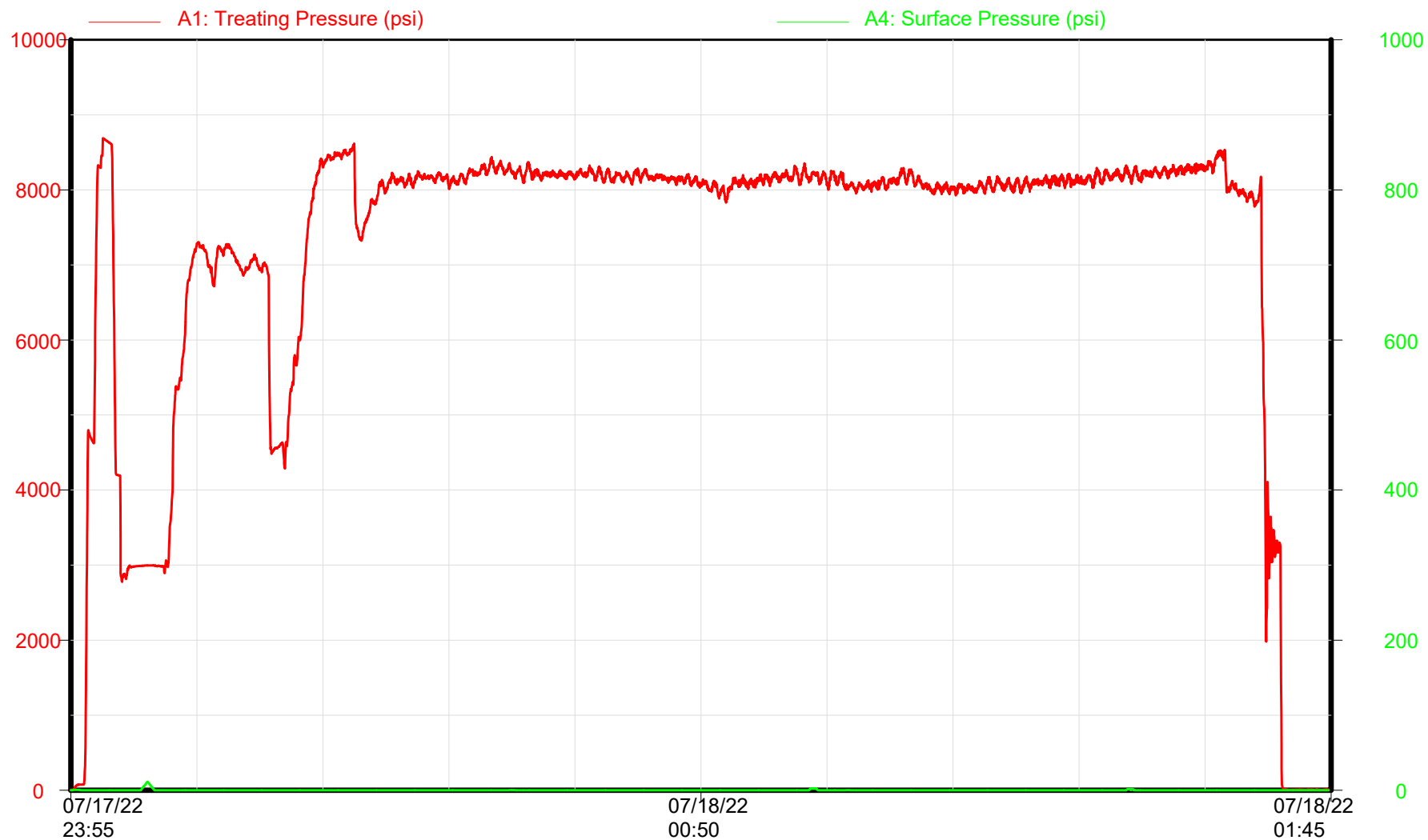
Republic Crew

Cystal 6-65 22-10 10HN Stage 09



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 09 of 58



Surface/Treating Pressures

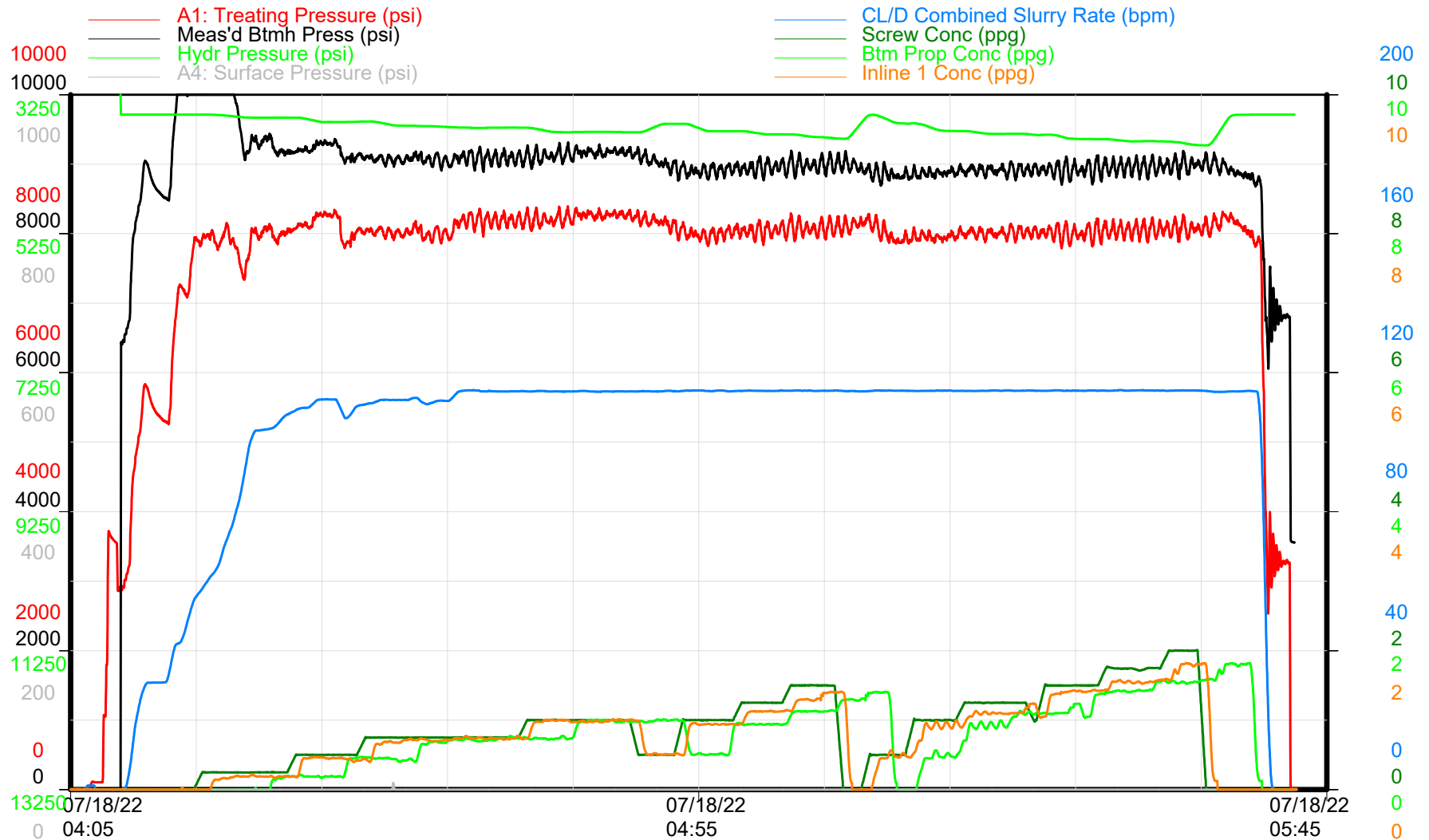
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 10

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 10 of 58



Treatment Plot

Time

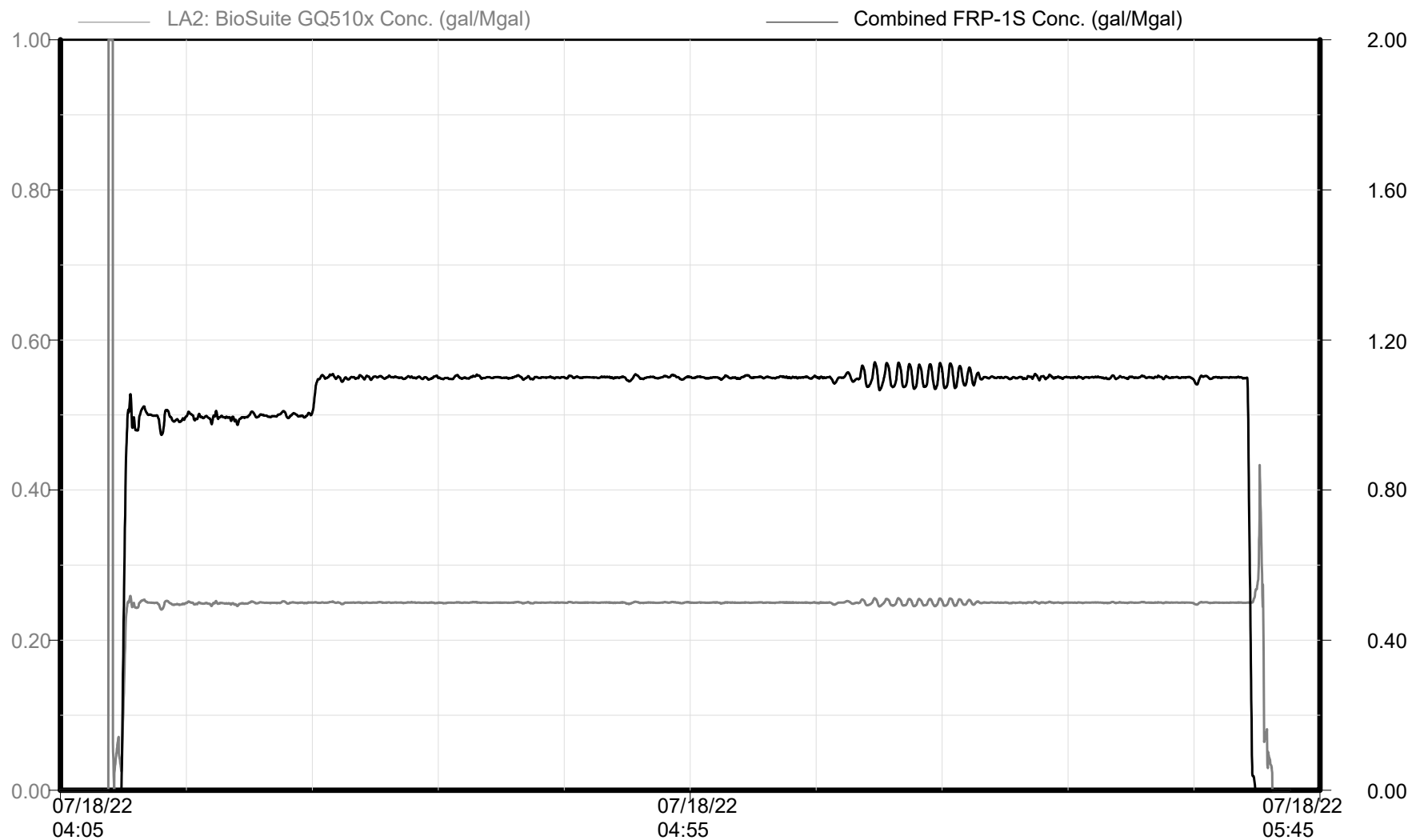
Republic Crew

Cystal 6-65 22-10 10HN Stage 10



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 10 of 58



Chemical Additives

Time

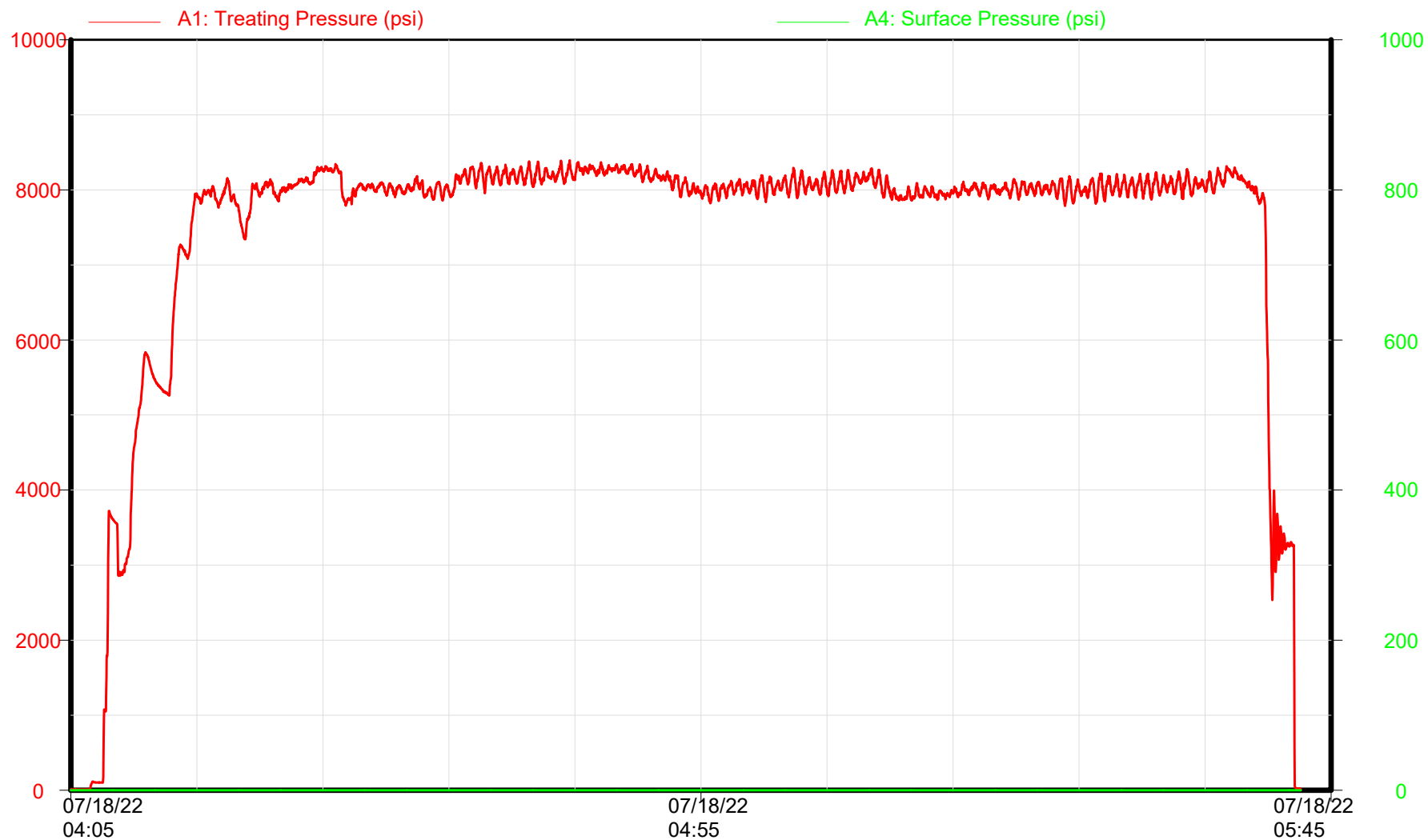
Republic Crew



Cystal 6-65 22-10 10HN Stage 10

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 10 of 58



Surface/Treating Pressures

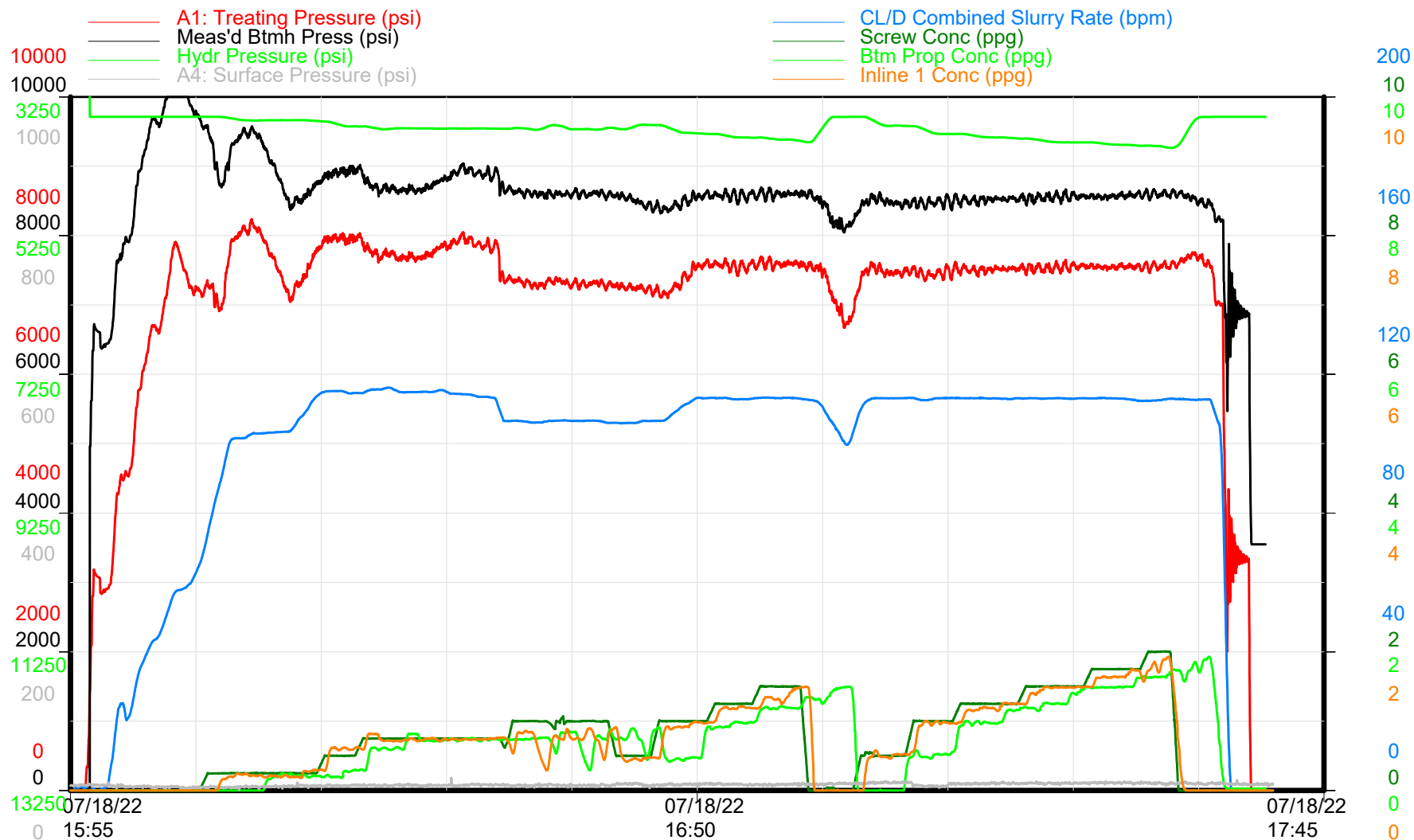
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 11

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 11 of 58



Treatment Plot

Time

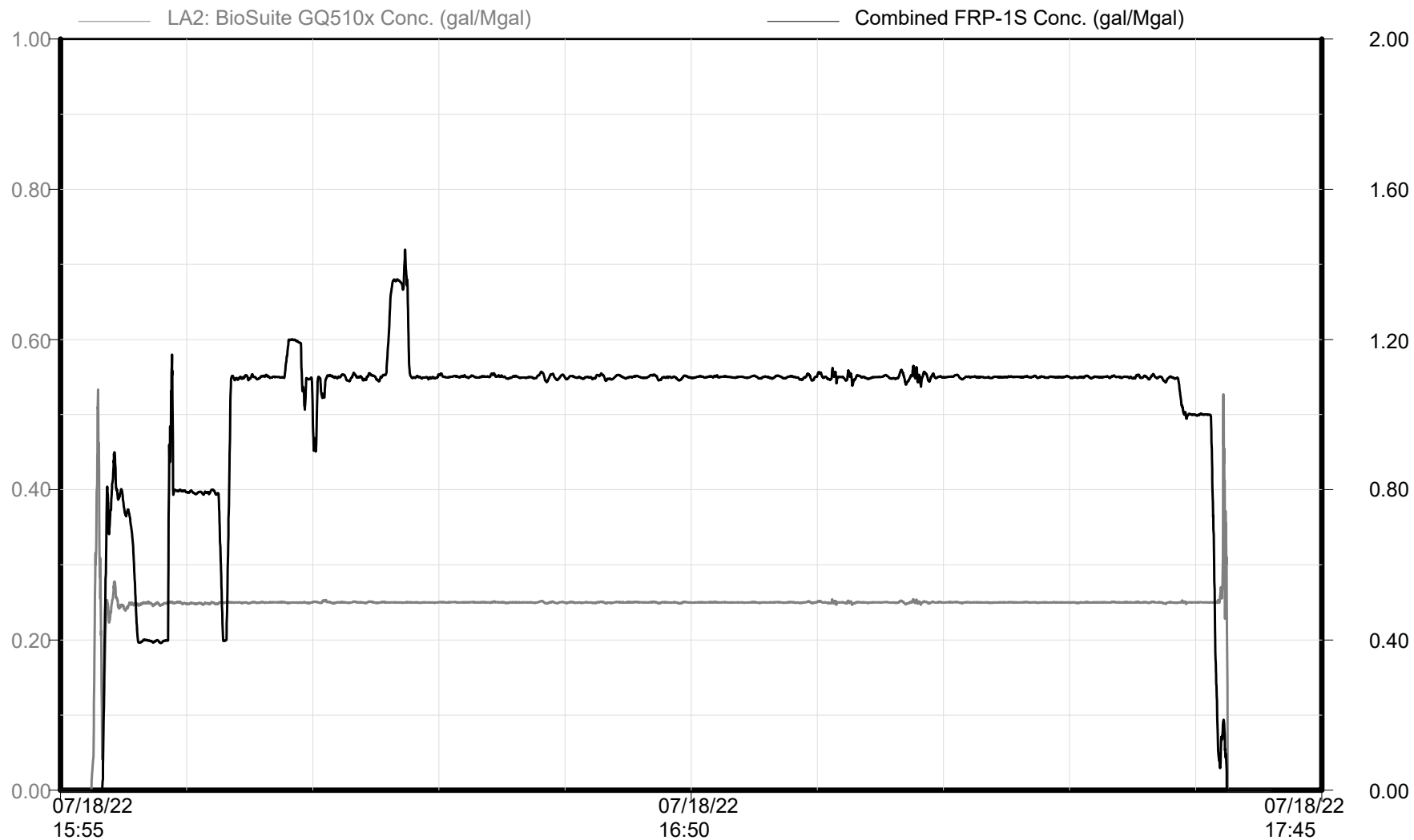
Republic Crew

Cystal 6-65 22-10 10HN Stage 11



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 11 of 58



Chemical Additives

Time

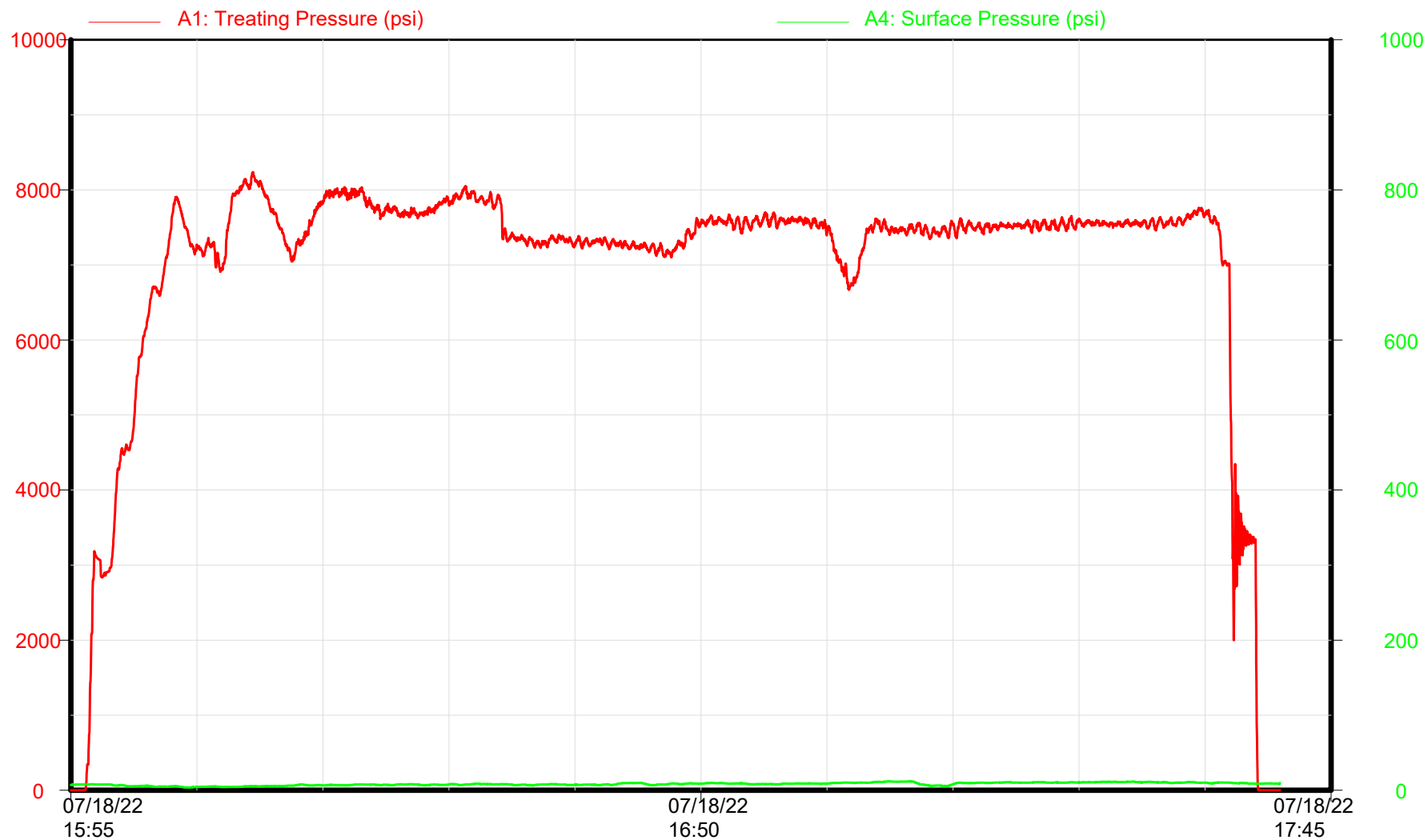
Republic Crew

Cystal 6-65 22-10 10HN Stage 11



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 11 of 58



Surface/Treating Pressures

Time

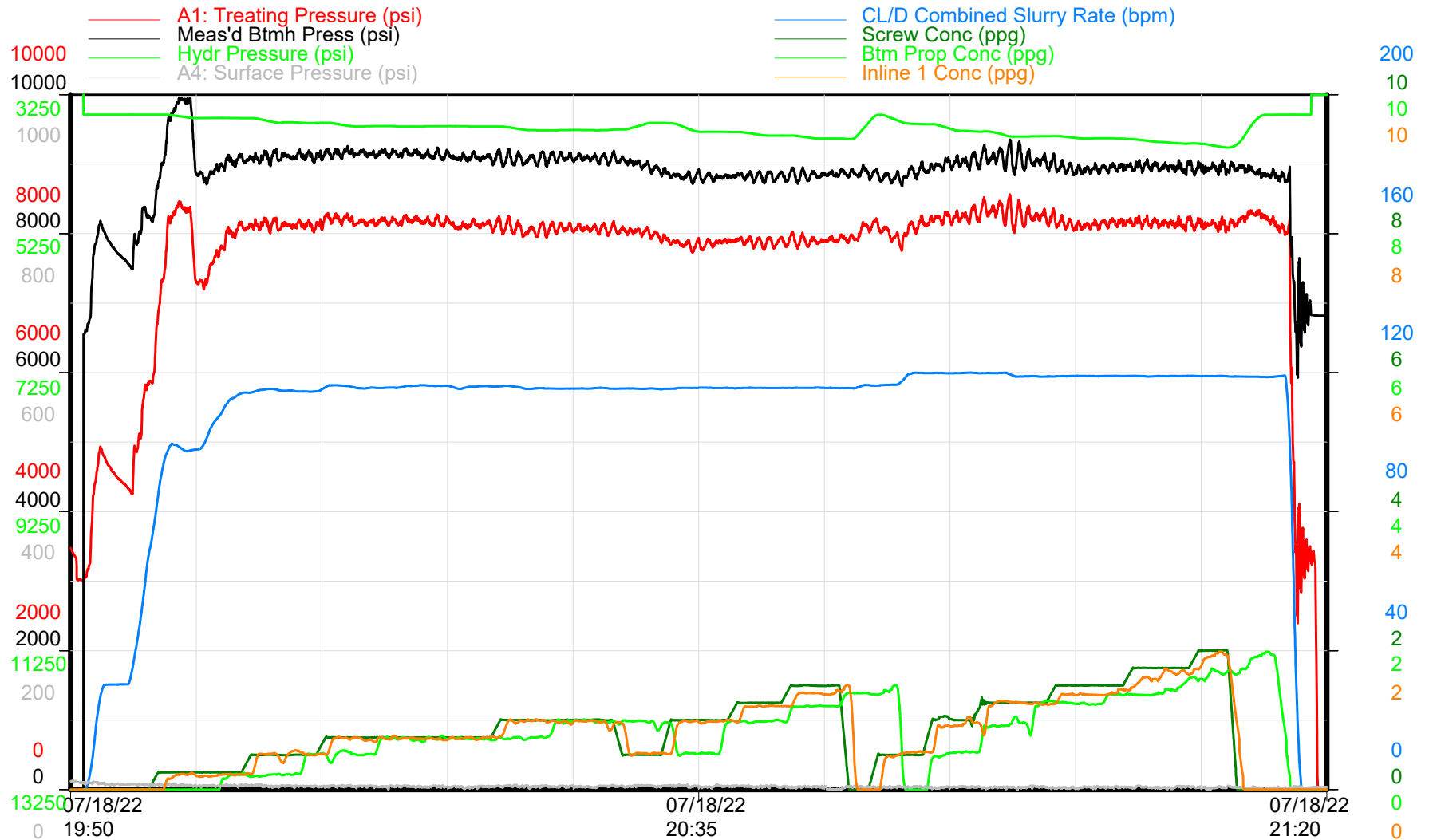
Republic Crew



Cystal 6-65 22-10 10HN Stage 12

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 12 of 58



Treatment Plot

Time

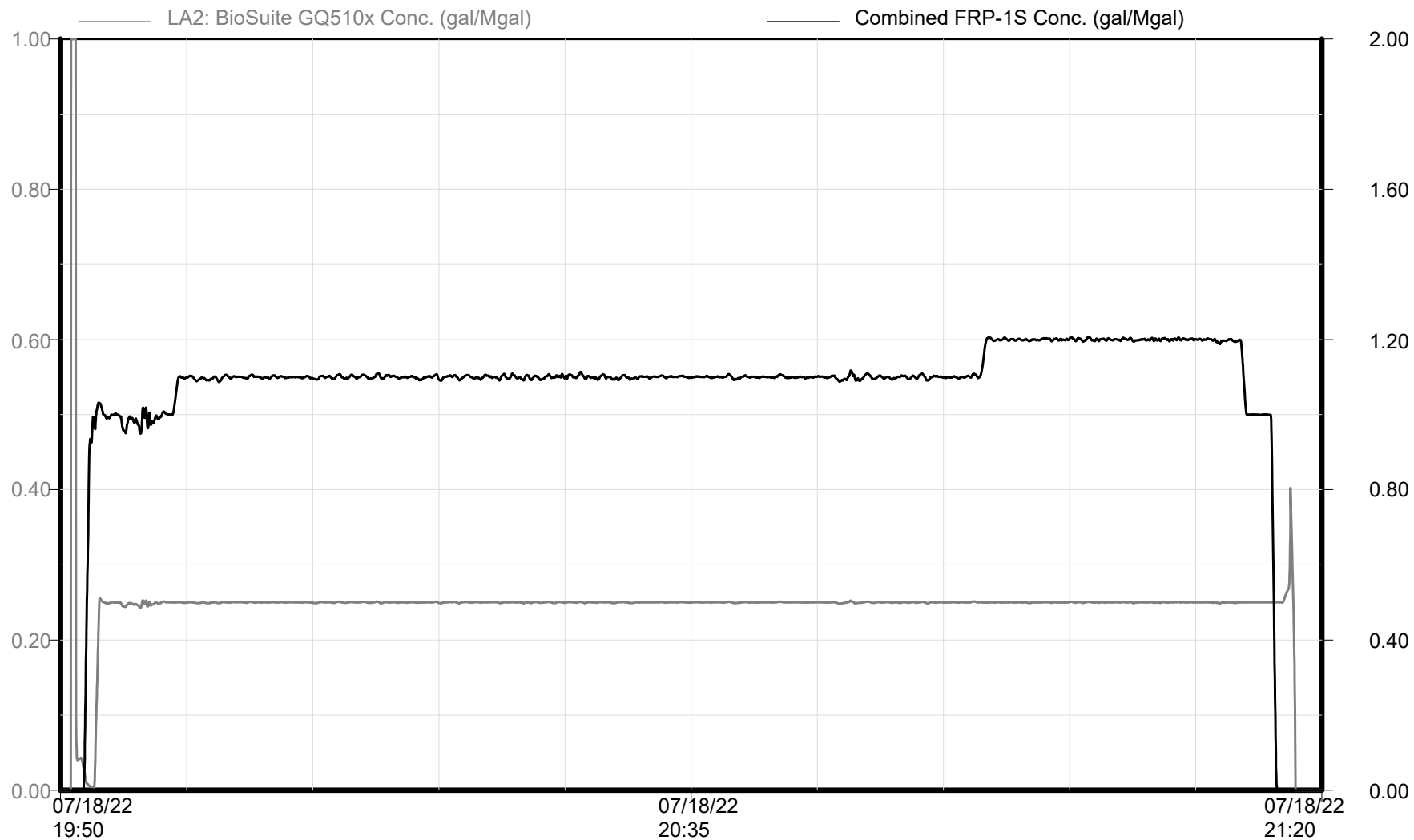
Republic Crew

Cystal 6-65 22-10 10HN Stage 12



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 12 of 58



Chemical Additives

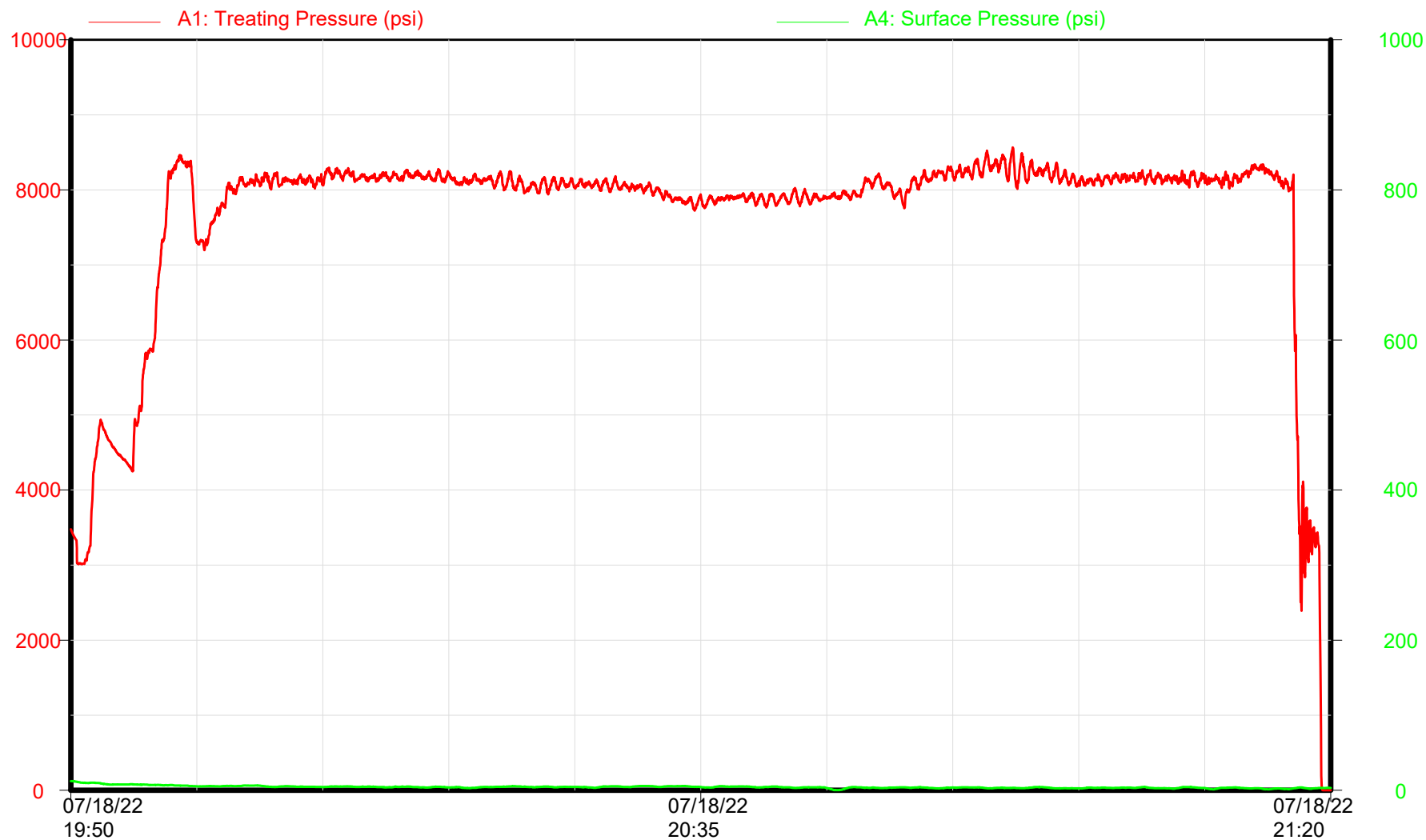
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 12

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 12 of 58



Surface/Treating Pressures

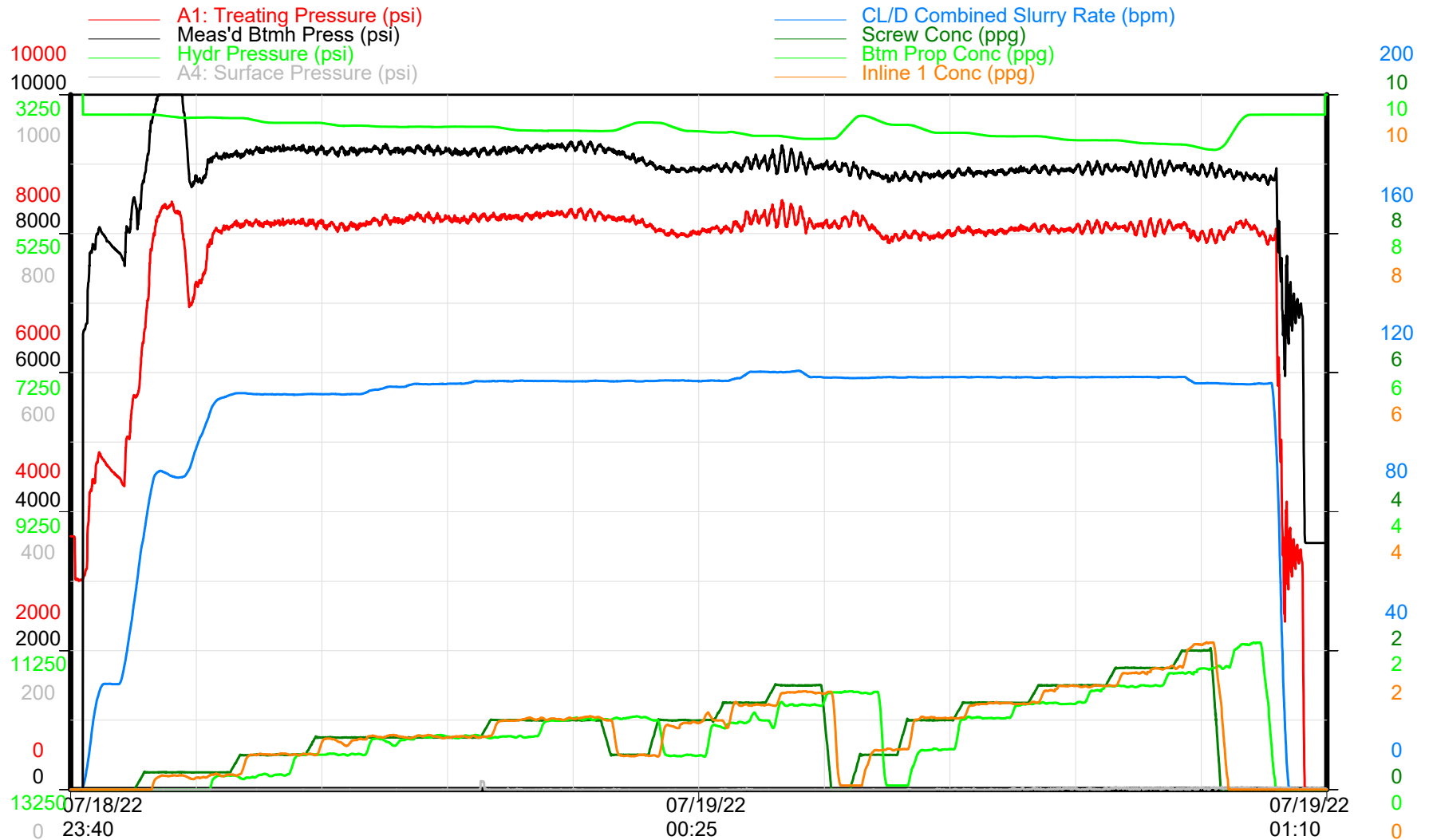
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 13

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 13 of 58



Treatment Plot

Time

Republic Crew

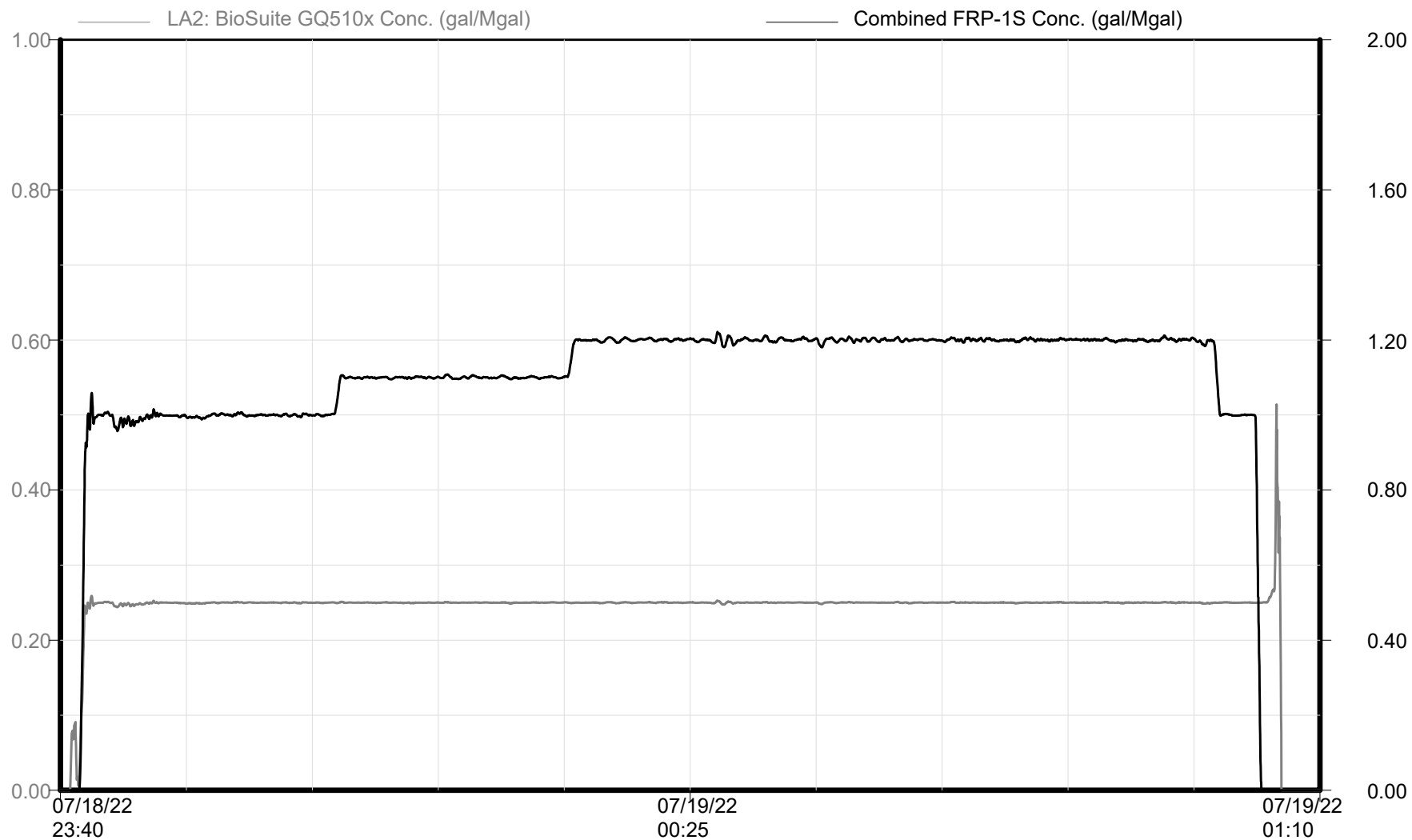


Cystal 6-65 22-10 10HN Stage 13



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 13 of 58



Chemical Additives

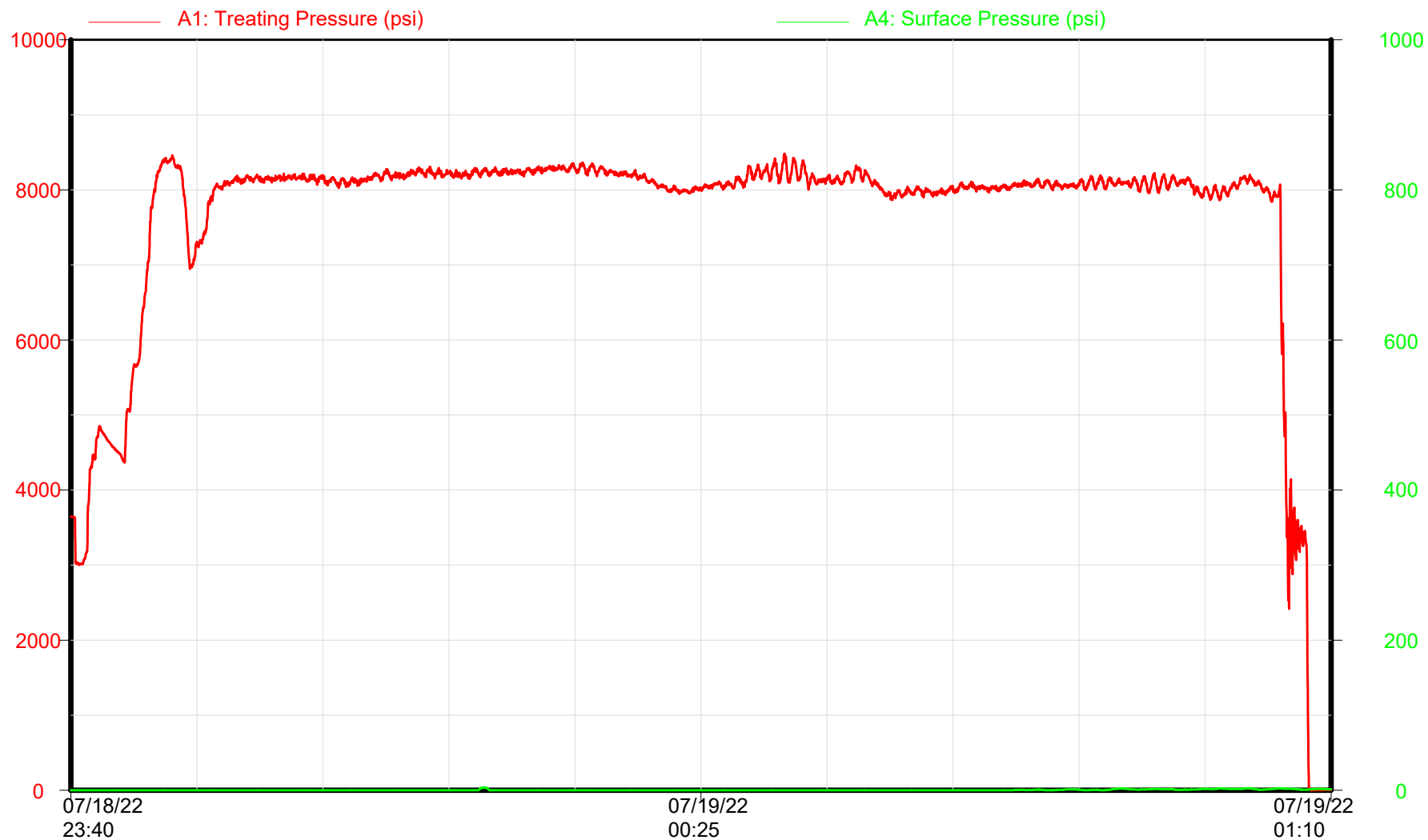
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 13

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 13 of 58



Surface/Treating Pressures

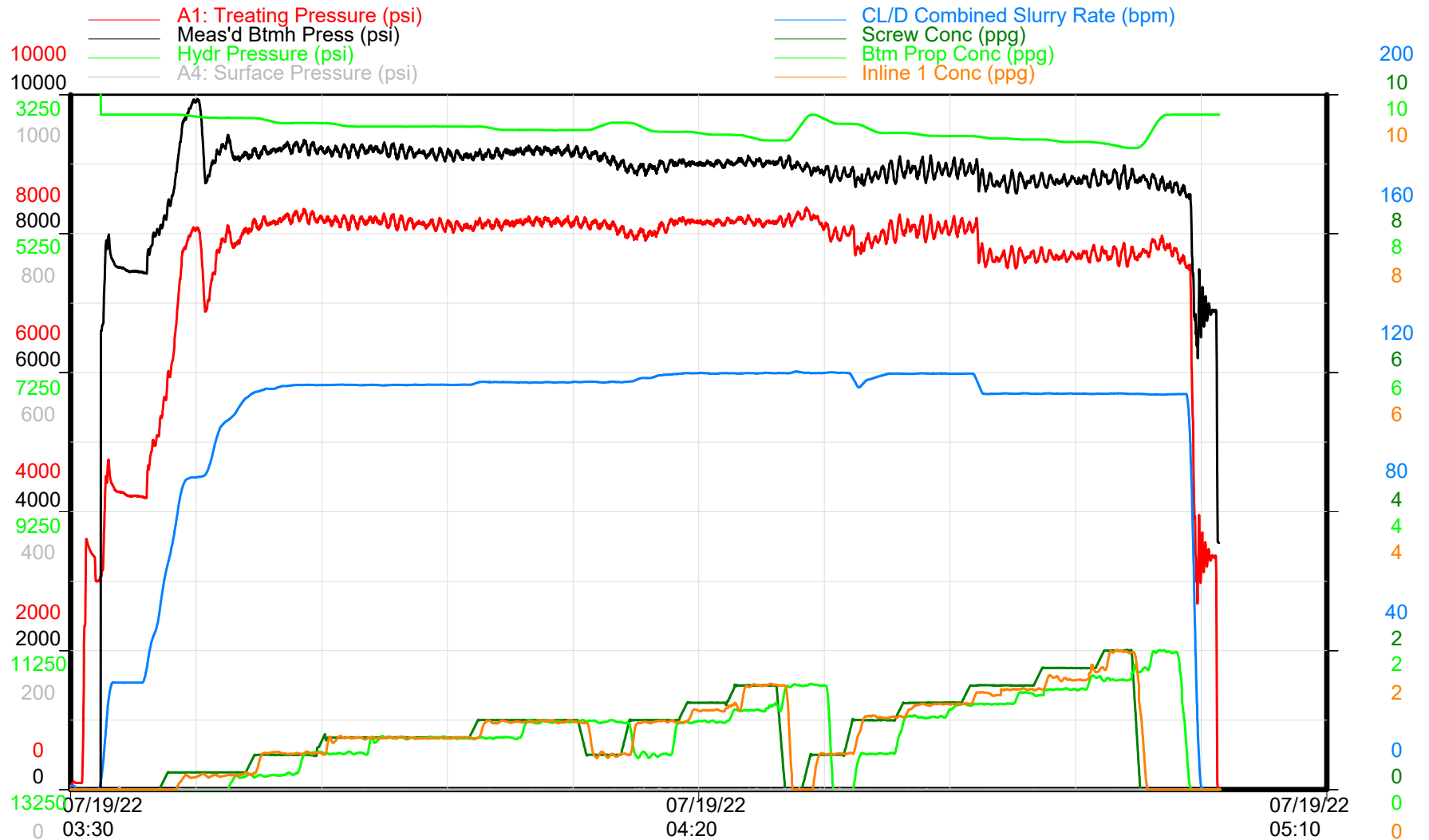
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 14

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 14 of 58



Treatment Plot

Time

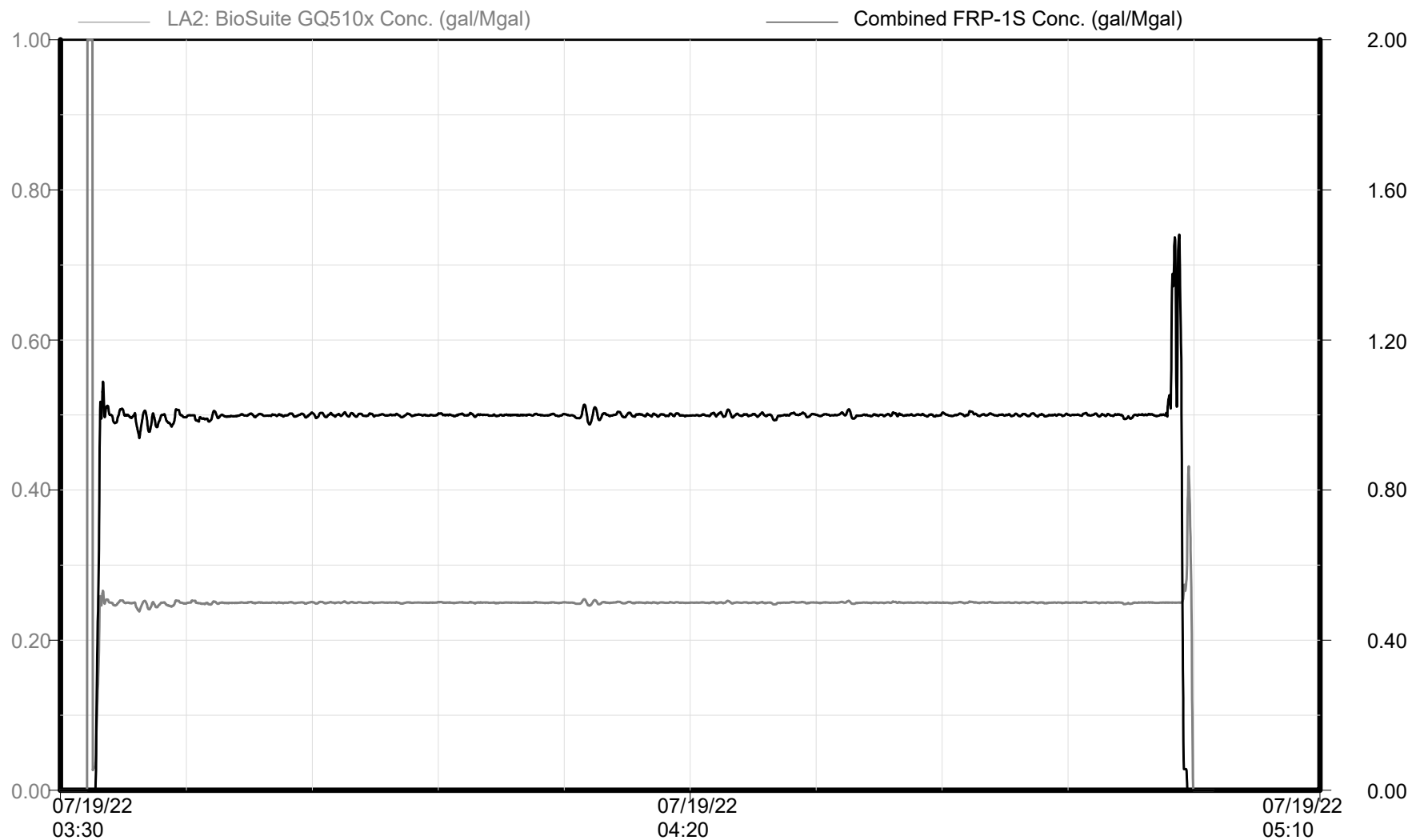
Republic Crew

Cystal 6-65 22-10 10HN Stage 14



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 14 of 58



Chemical Additives

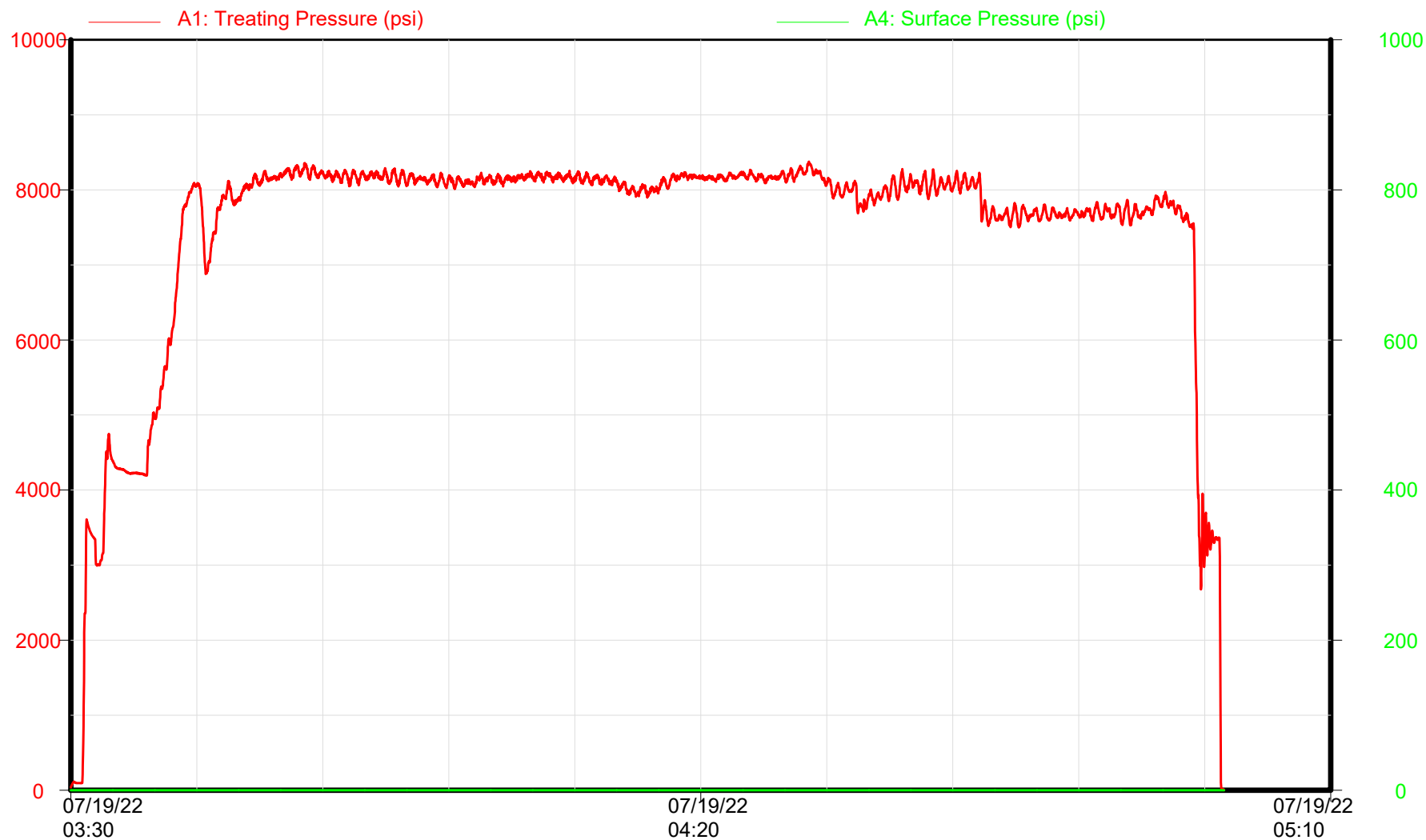
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 14

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 14 of 58



Surface/Treating Pressures

Time

Republic Crew

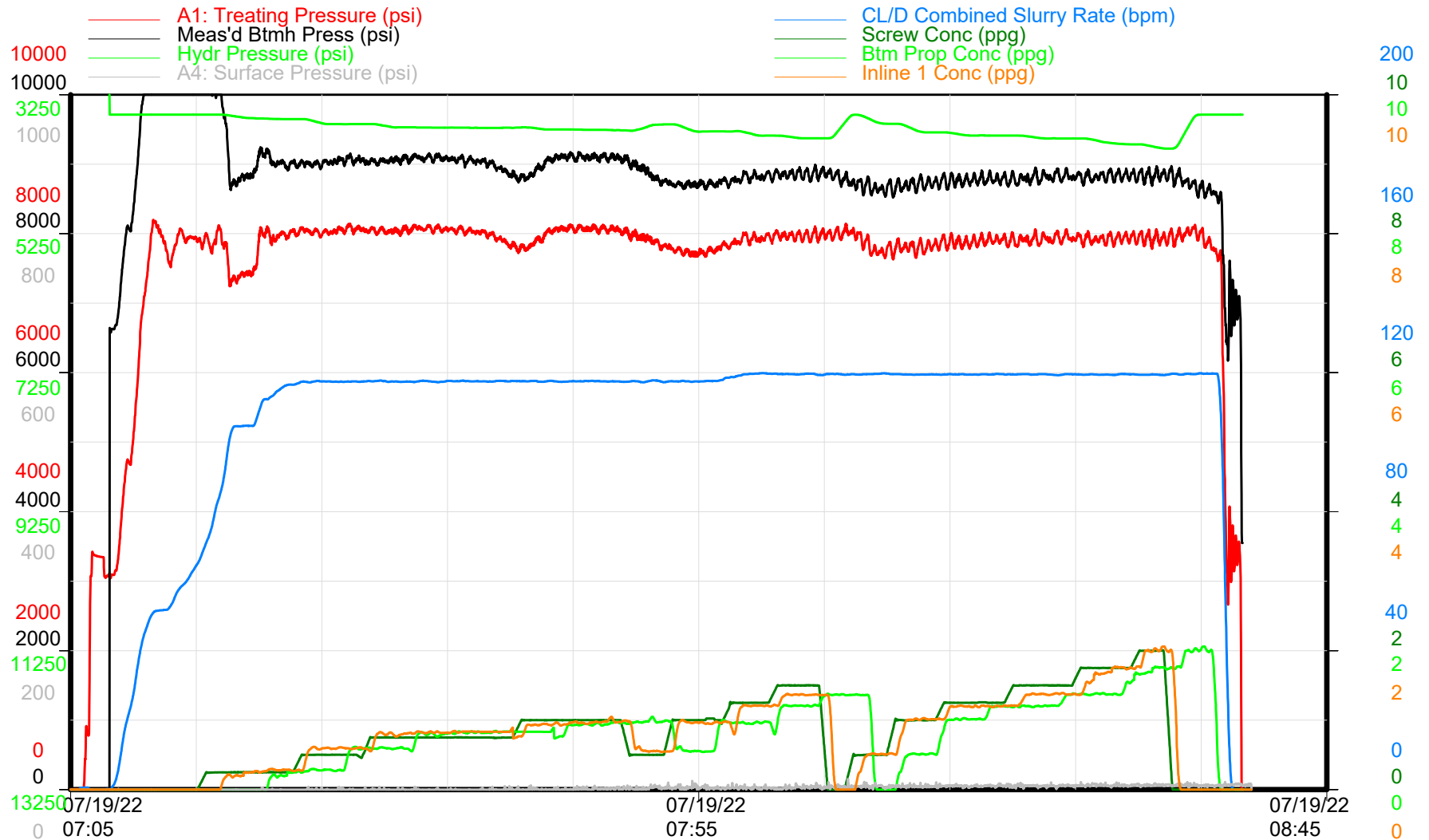


Cystal 6-65 22-10 10HN Stage 15



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 15 of 58



Treatment Plot

Time

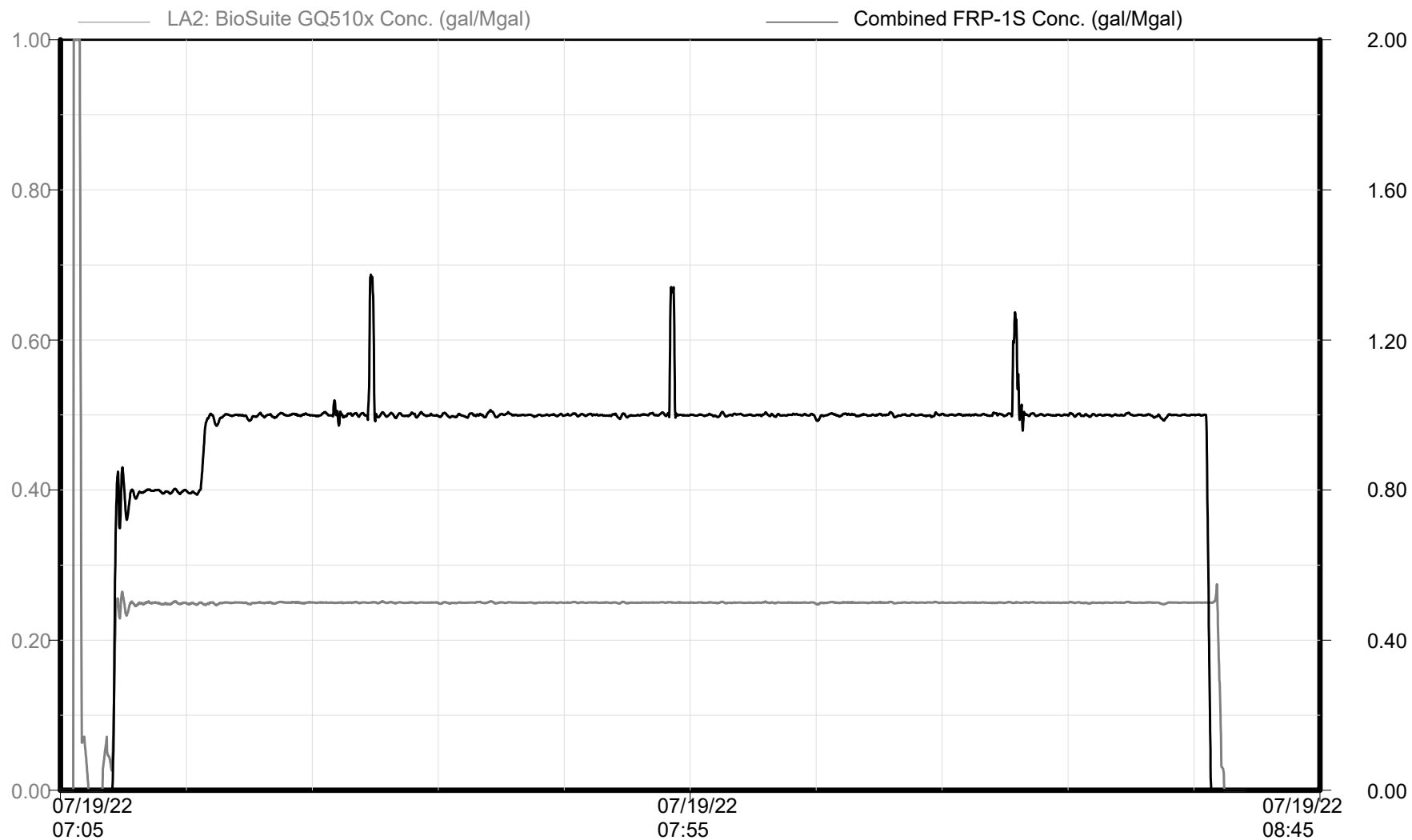
Republic Crew

Cystal 6-65 22-10 10HN Stage 15



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 15 of 58



Chemical Additives

Time

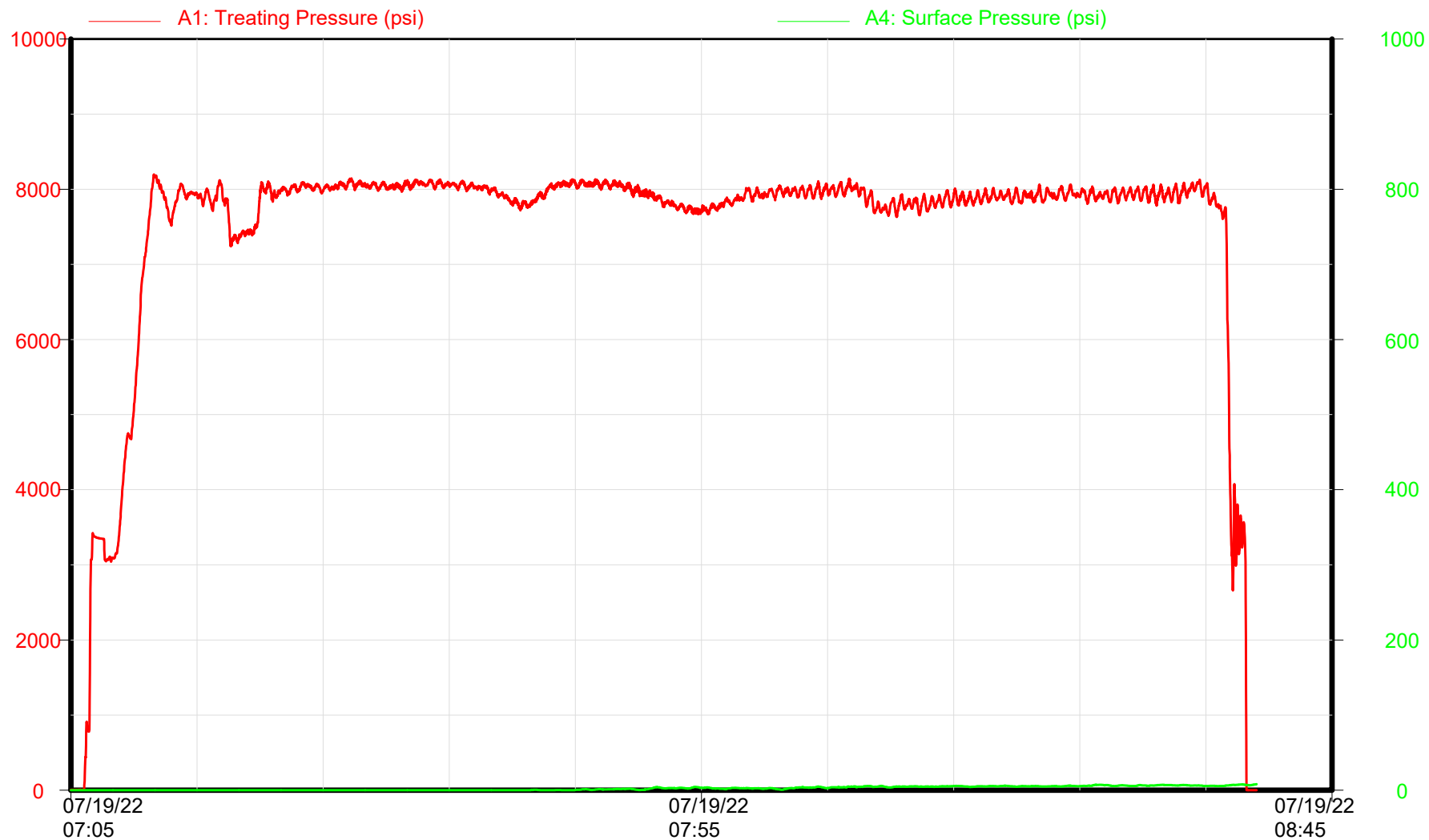
Republic Crew

Cystal 6-65 22-10 10HN Stage 15



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 15 of 58



Surface/Treating Pressures

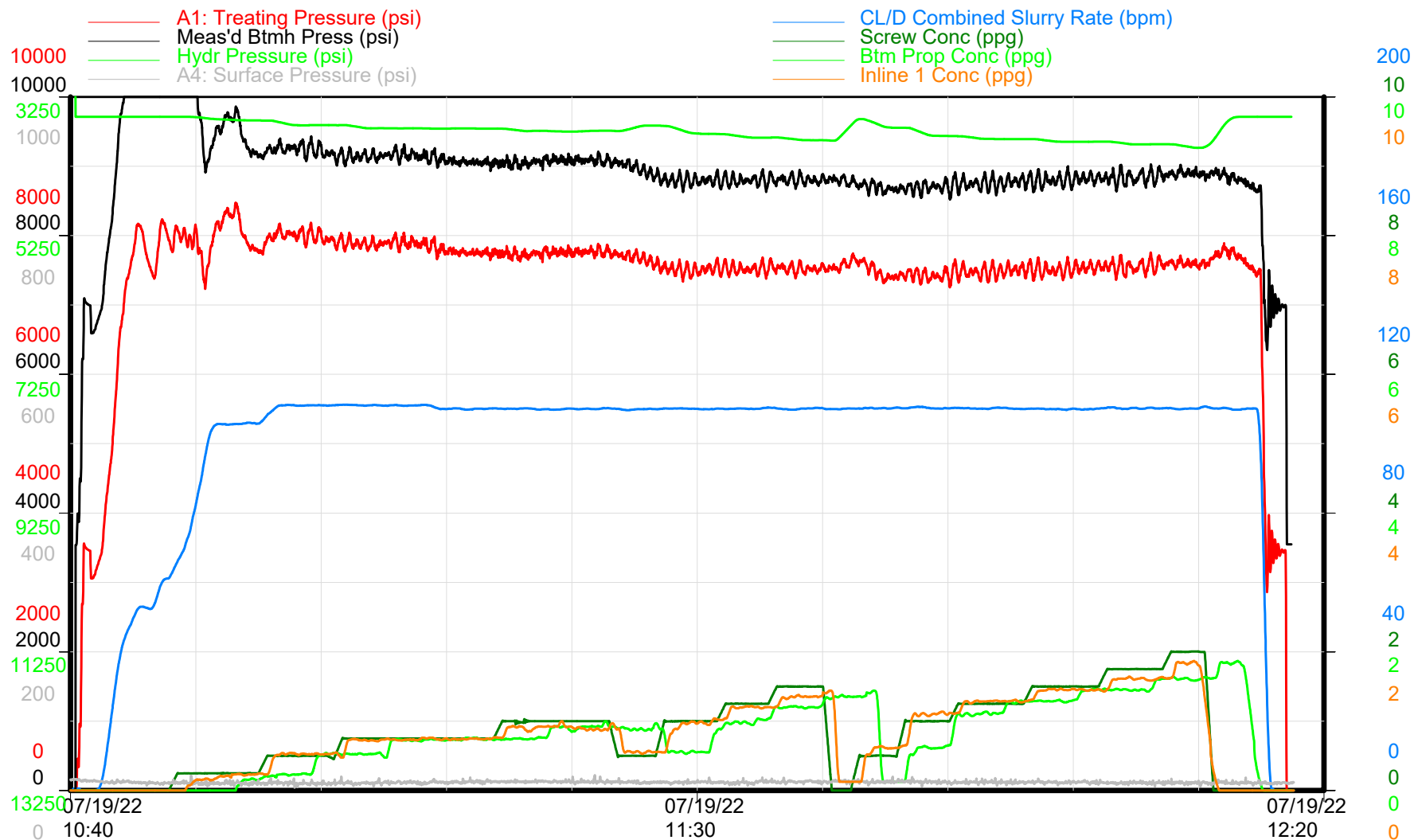
Time

Republic Crew



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 16 of 58



Treatment Plot

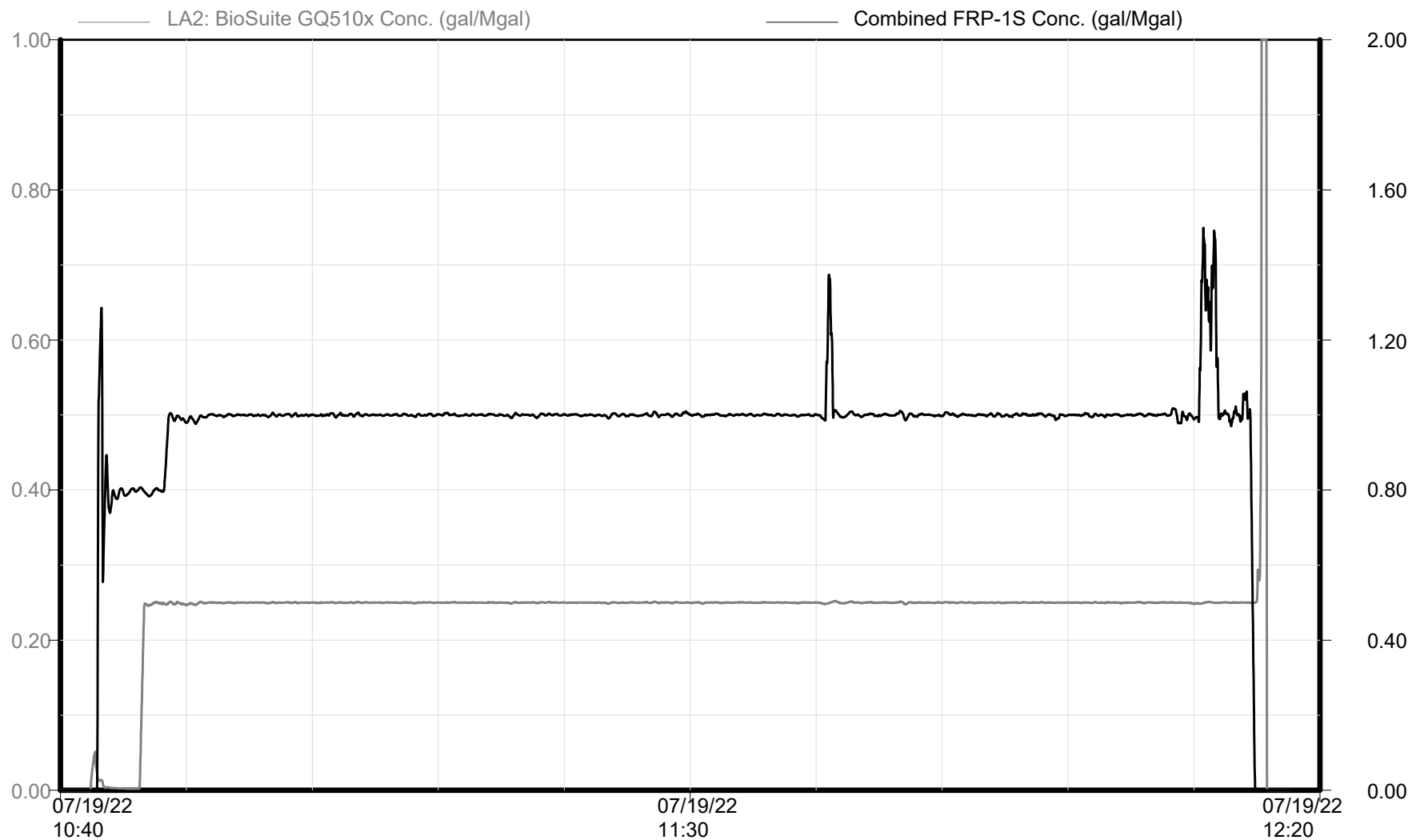
Time

Republic Crew



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 16 of 58



Chemical Additives

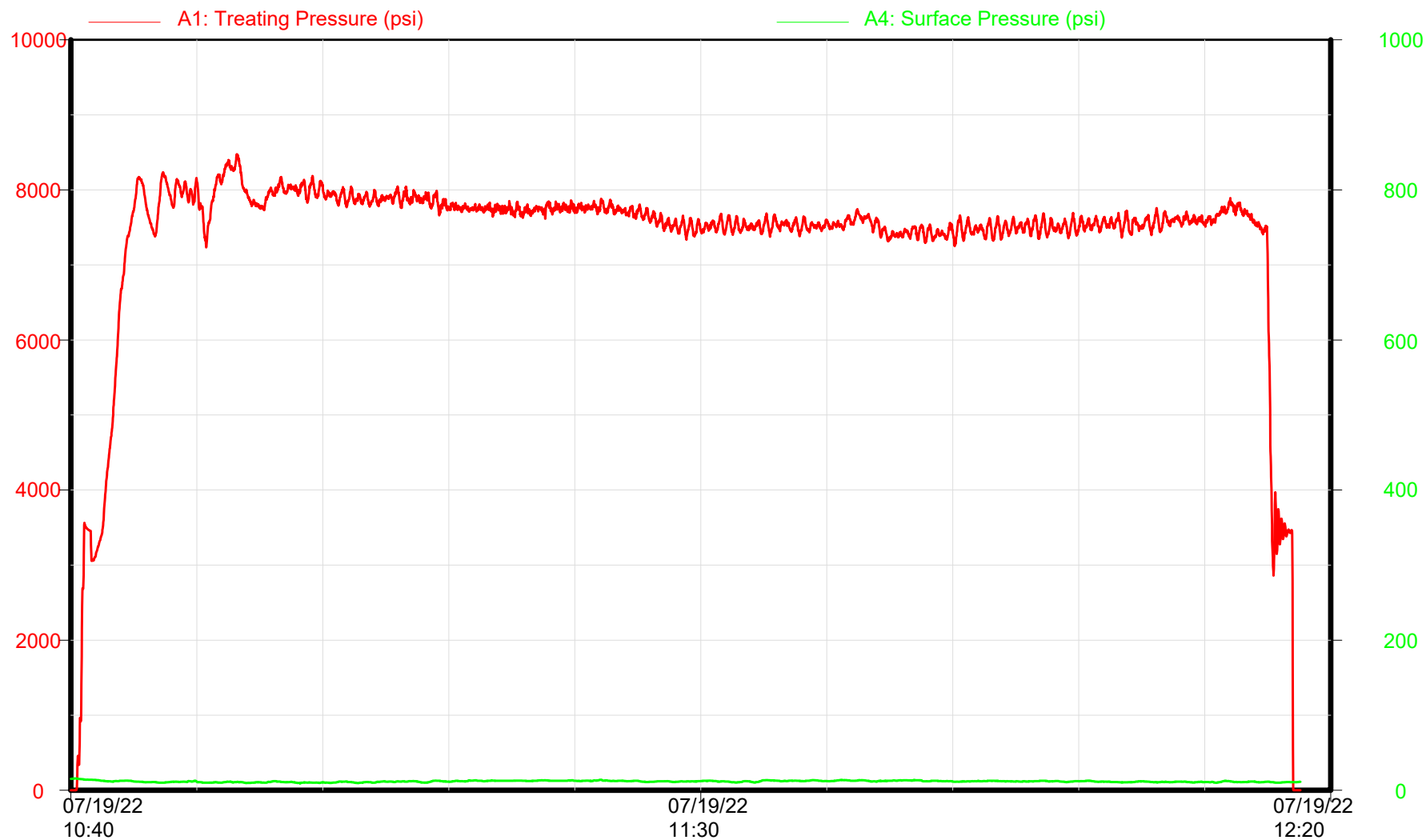
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 16

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 16 of 58



Surface/Treating Pressures

Time

Republic Crew

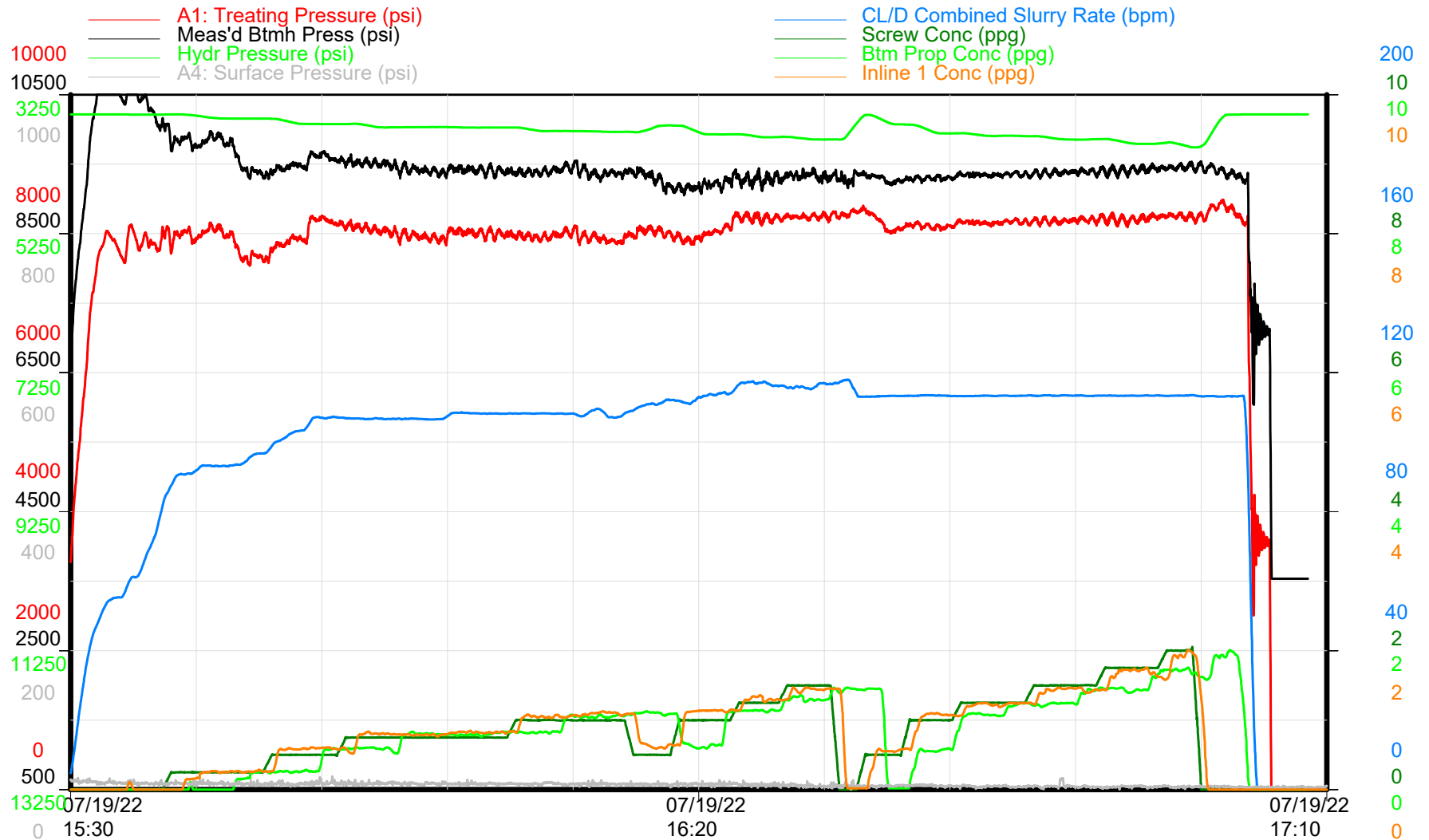


Cystal 6-65 22-10 10HN Stage 17



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 17 of 58



Treatment Plot

Time

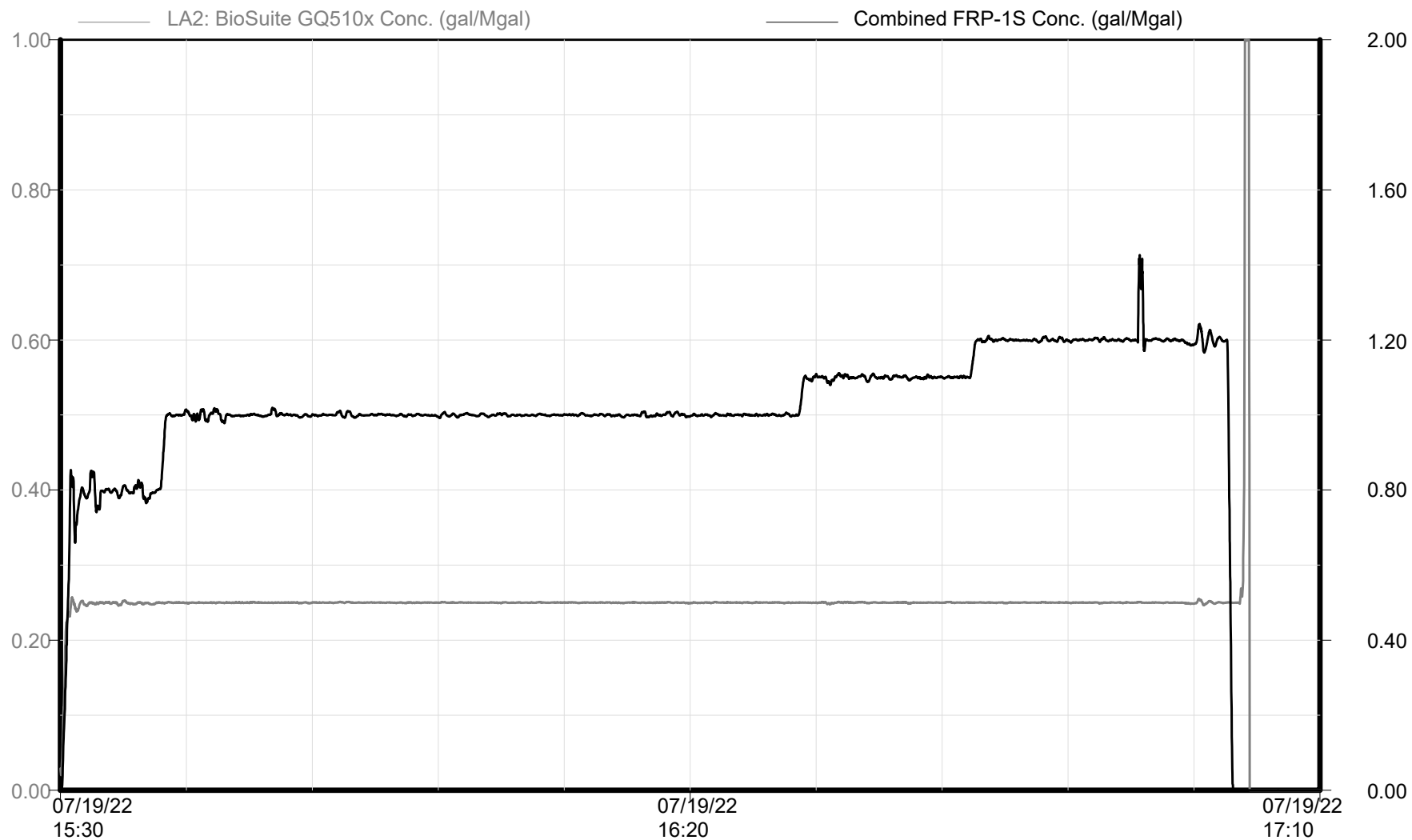
Republic Crew

Cystal 6-65 22-10 10HN Stage 17



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 17 of 58



Chemical Additives

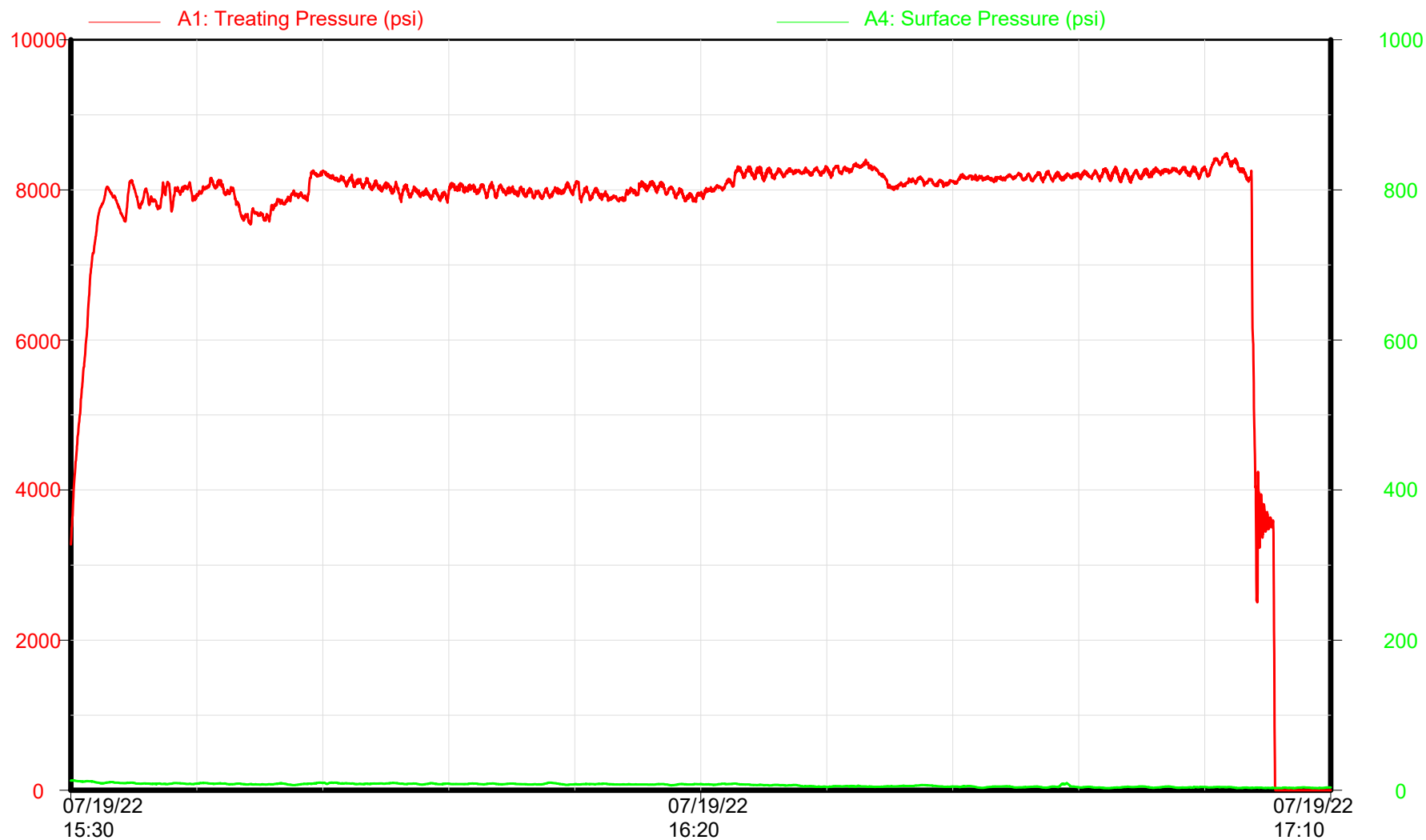
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 17

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 17 of 58



Surface/Treating Pressures

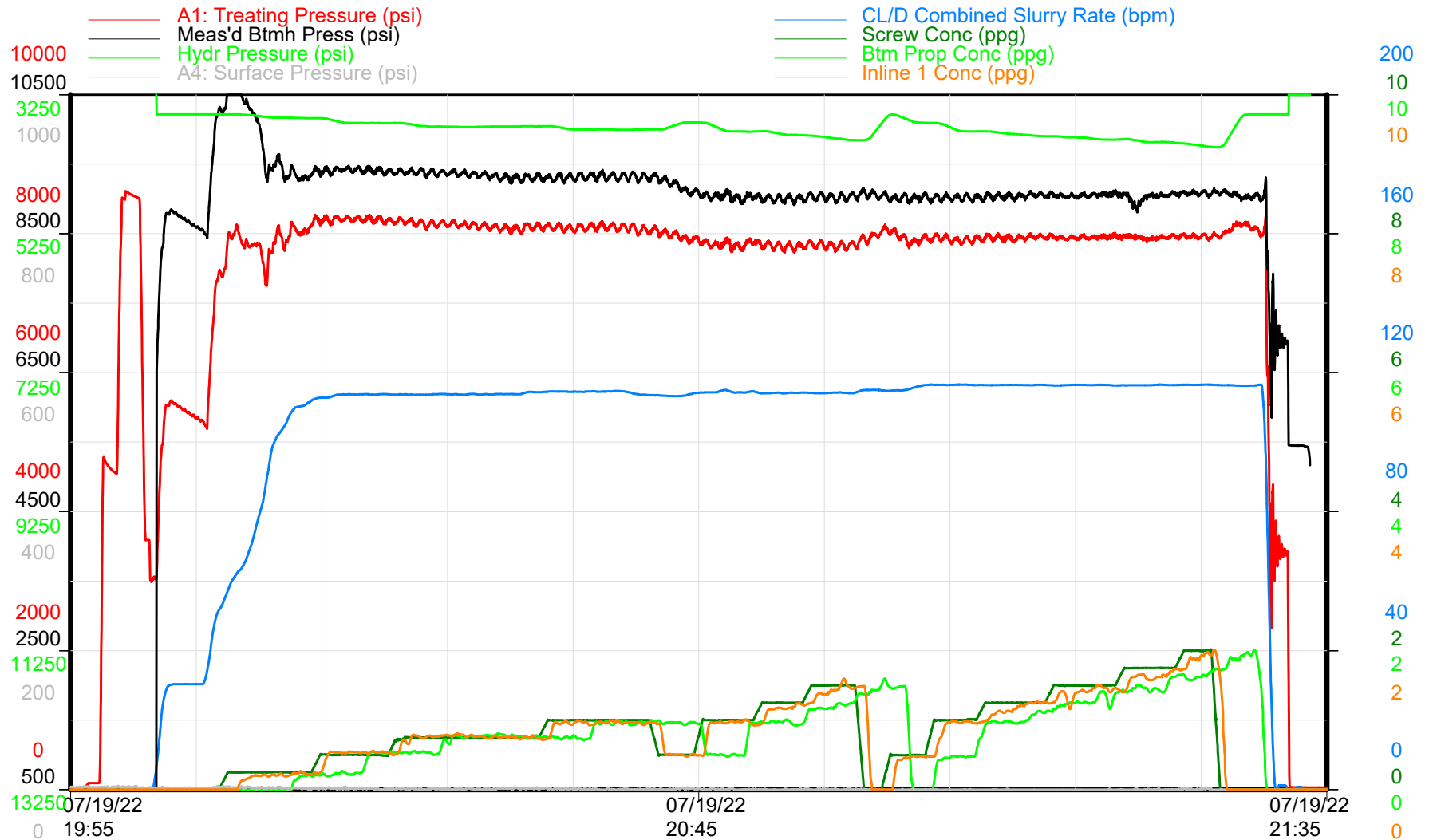
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 18

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 18 of 58



Treatment Plot

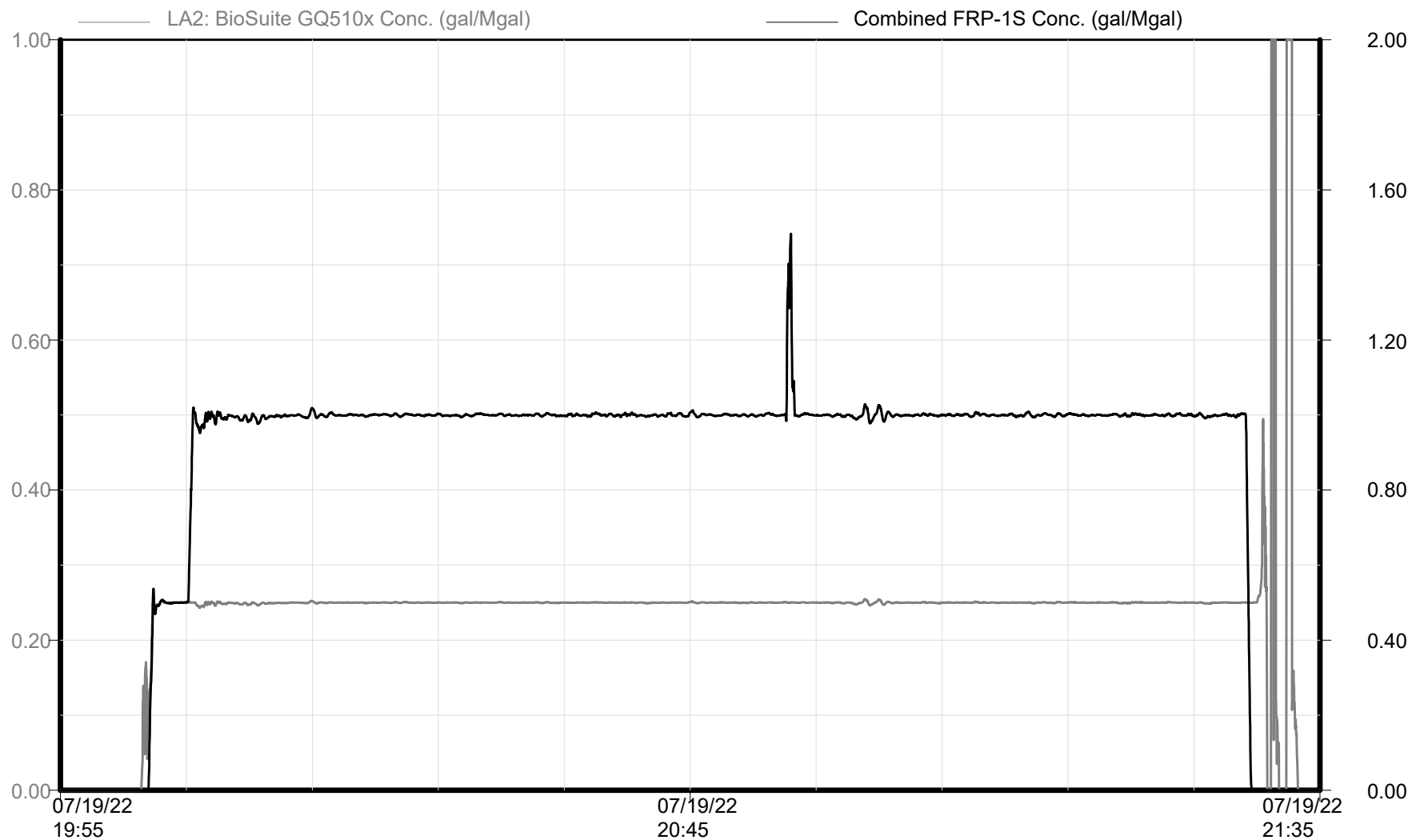
Time

Republic Crew



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 18 of 58



Chemical Additives

Time

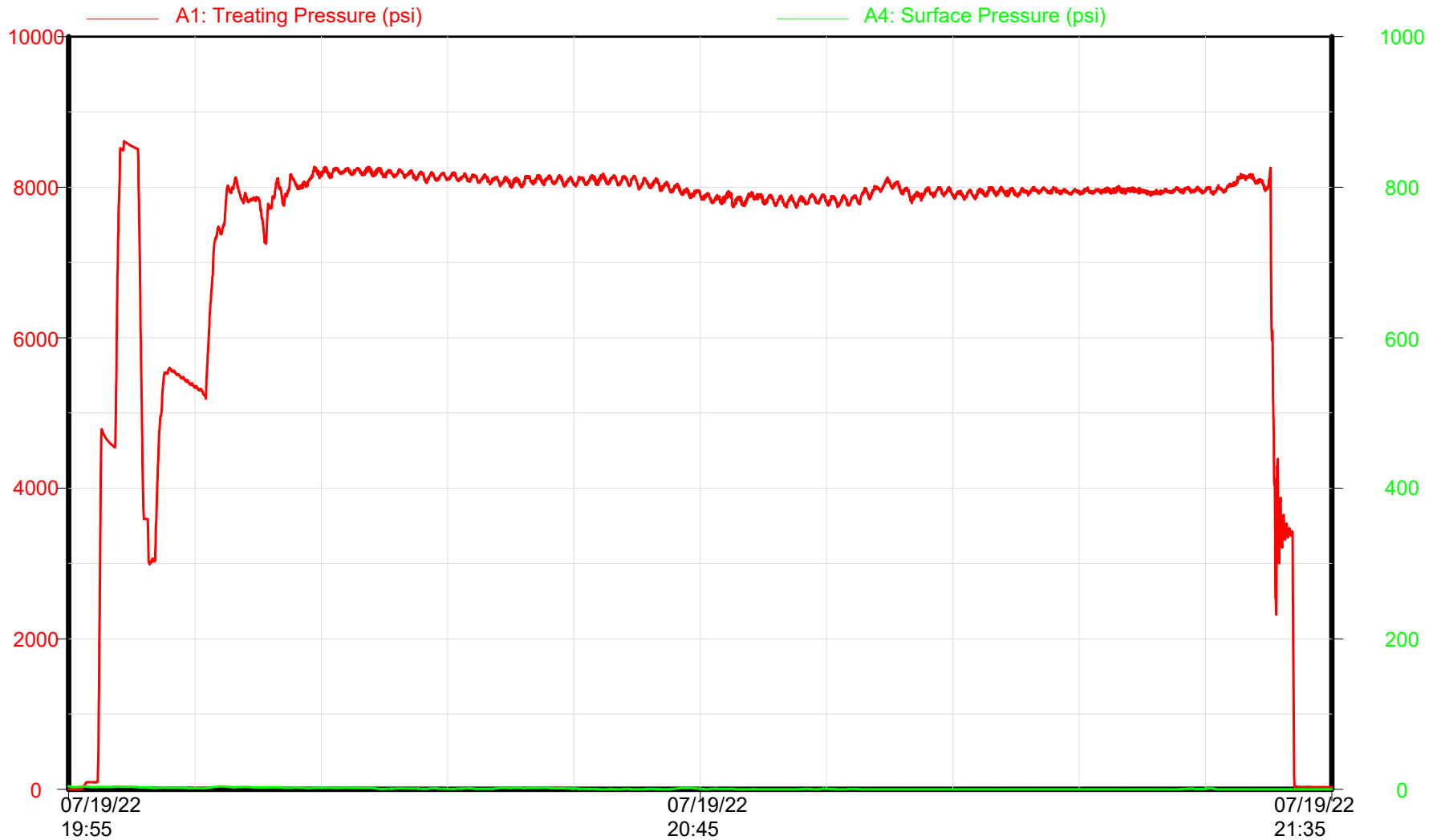
Republic Crew

Cystal 6-65 22-10 10HN Stage 18



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 18 of 58



Surface/Treating Pressures

Time

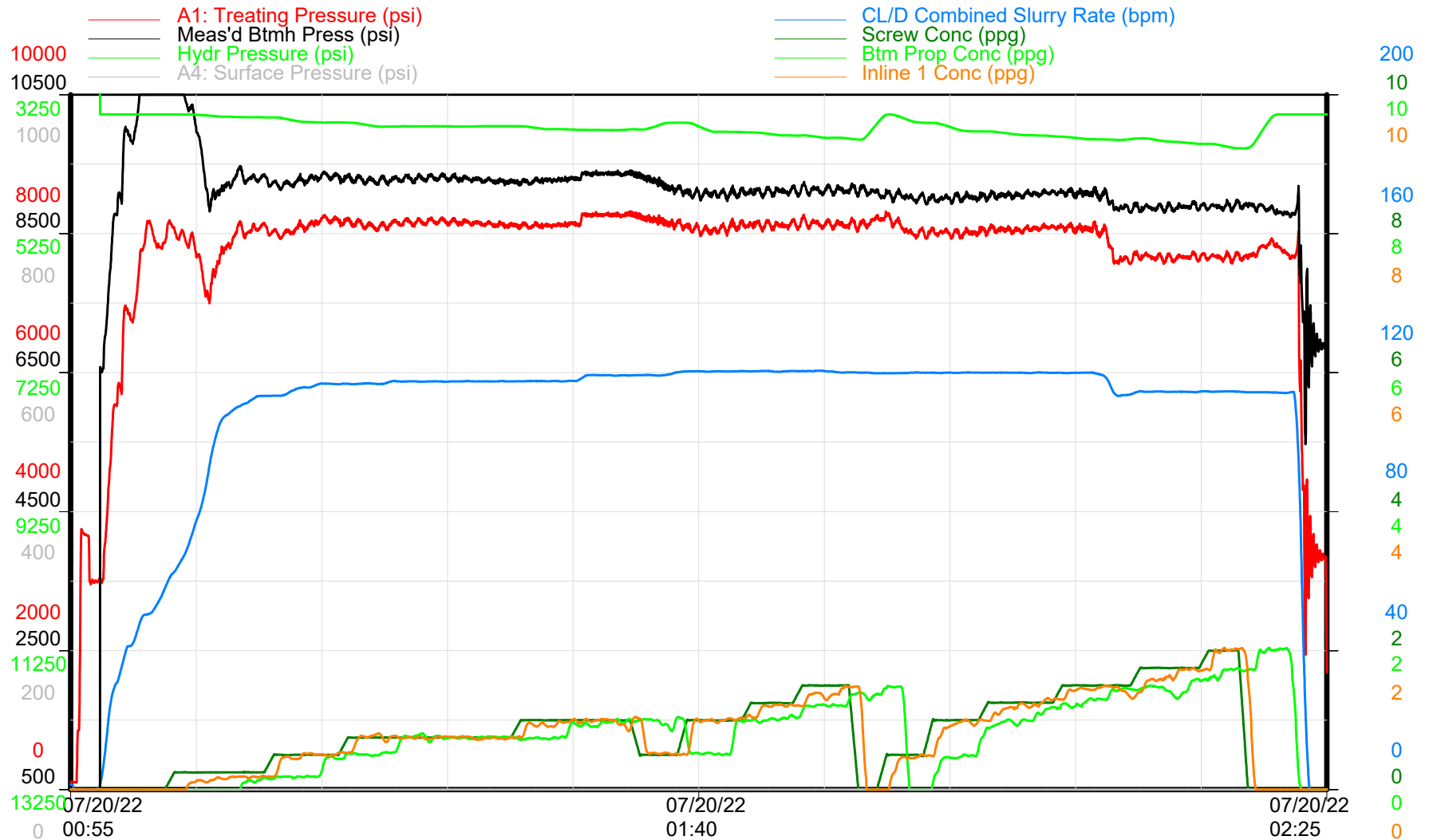
Republic Crew



Cystal 6-65 22-10 10HN Stage 19

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 19 of 58



Treatment Plot

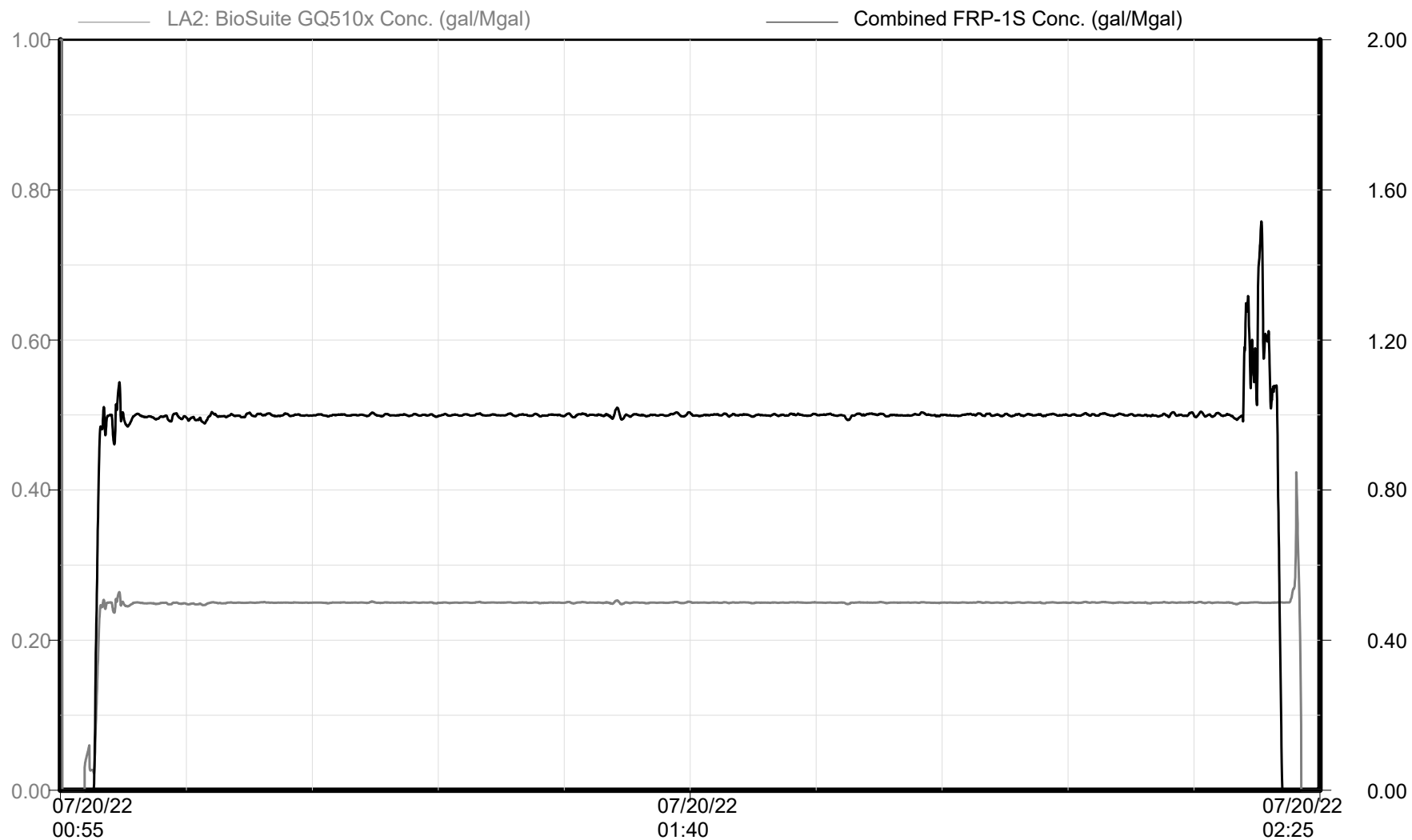
Time

Republic Crew



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 19 of 58



Chemical Additives

Time

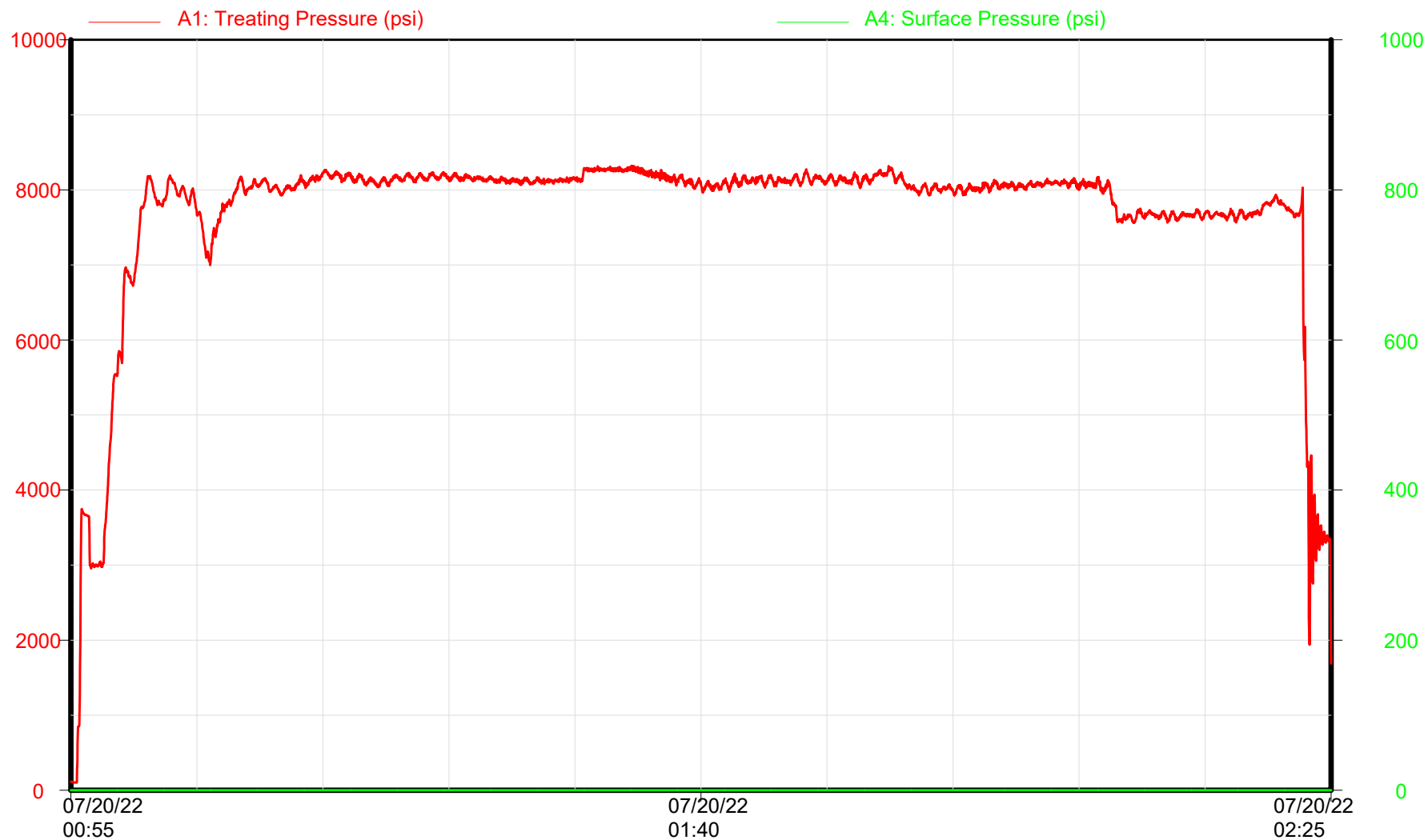
Republic Crew

Cystal 6-65 22-10 10HN Stage 19



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 19 of 58



Surface/Treating Pressures

Time

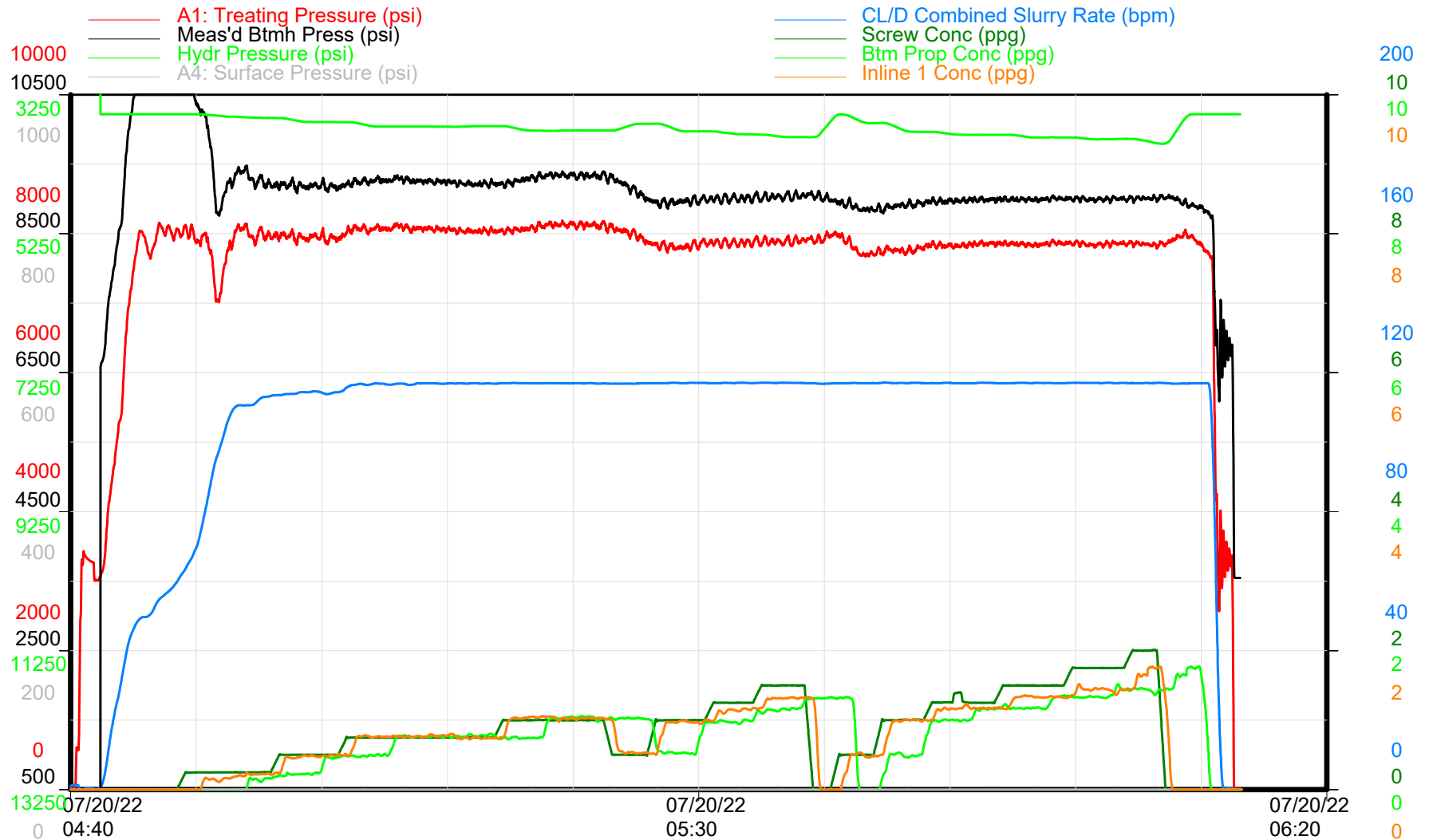
Republic Crew

Cystal 6-65 22-10 10HN Stage 20



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 20 of 58



Treatment Plot

Time

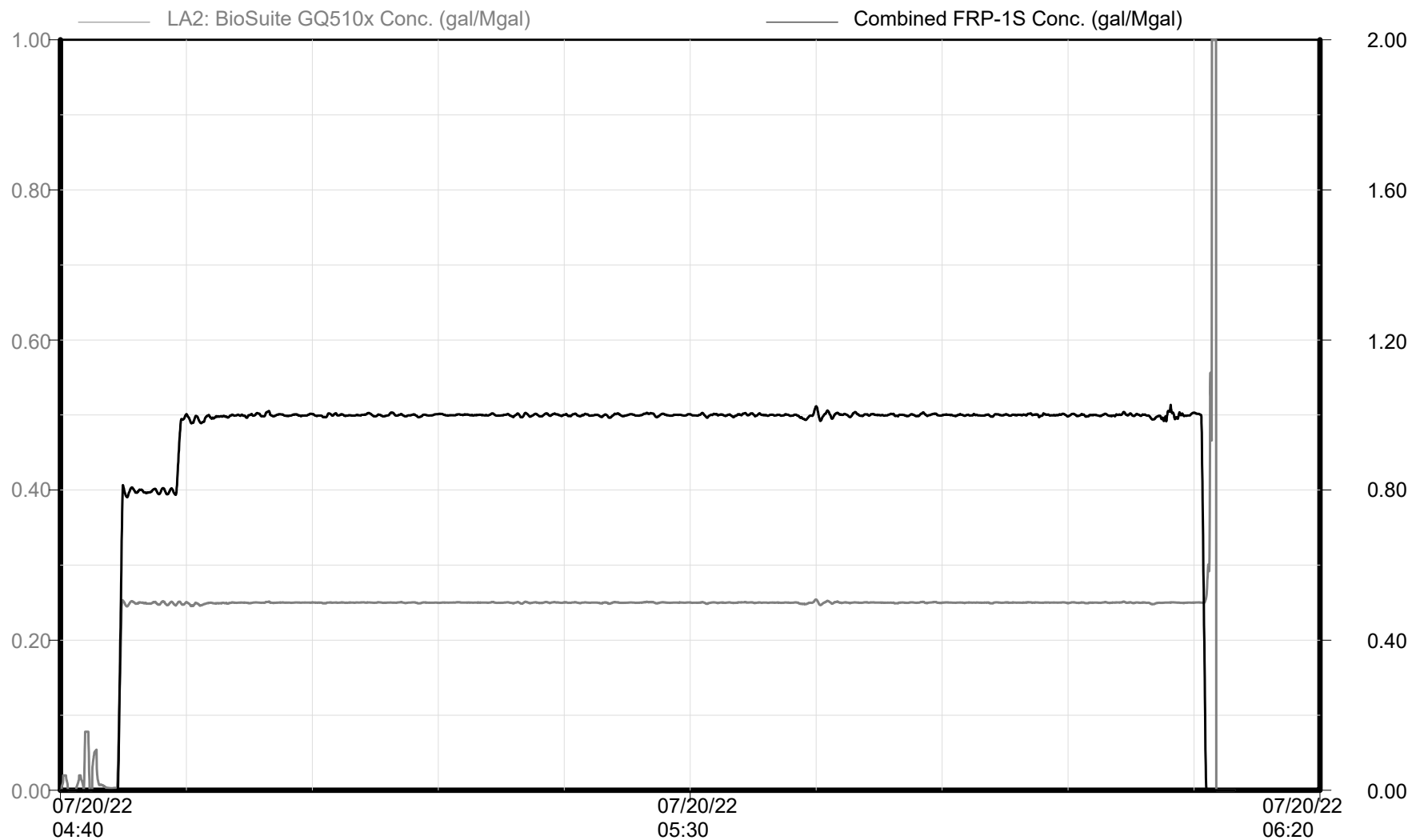
Republic Crew

Cystal 6-65 22-10 10HN Stage 20



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 20 of 58



Chemical Additives

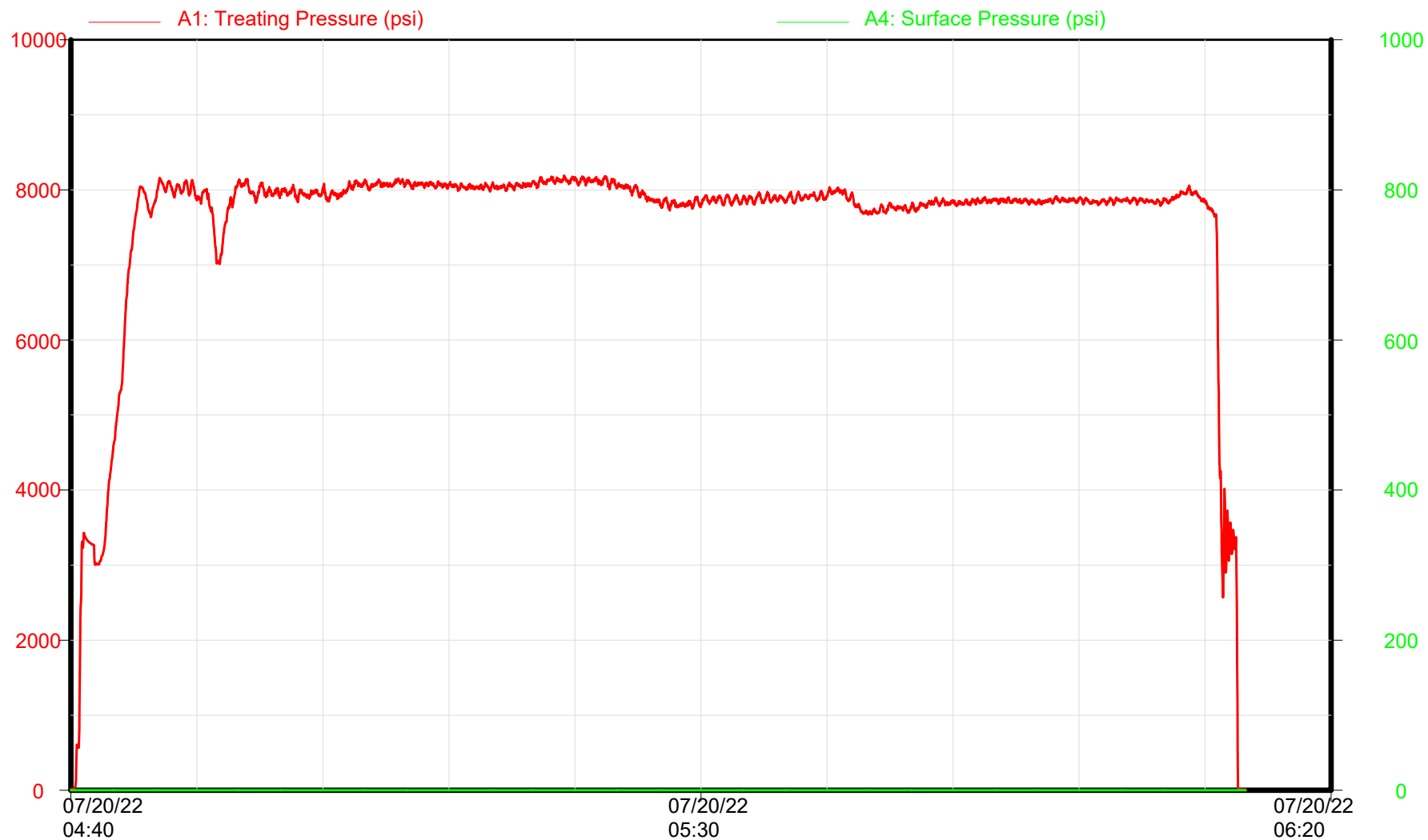
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 20

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 20 of 58



Surface/Treating Pressures

Time

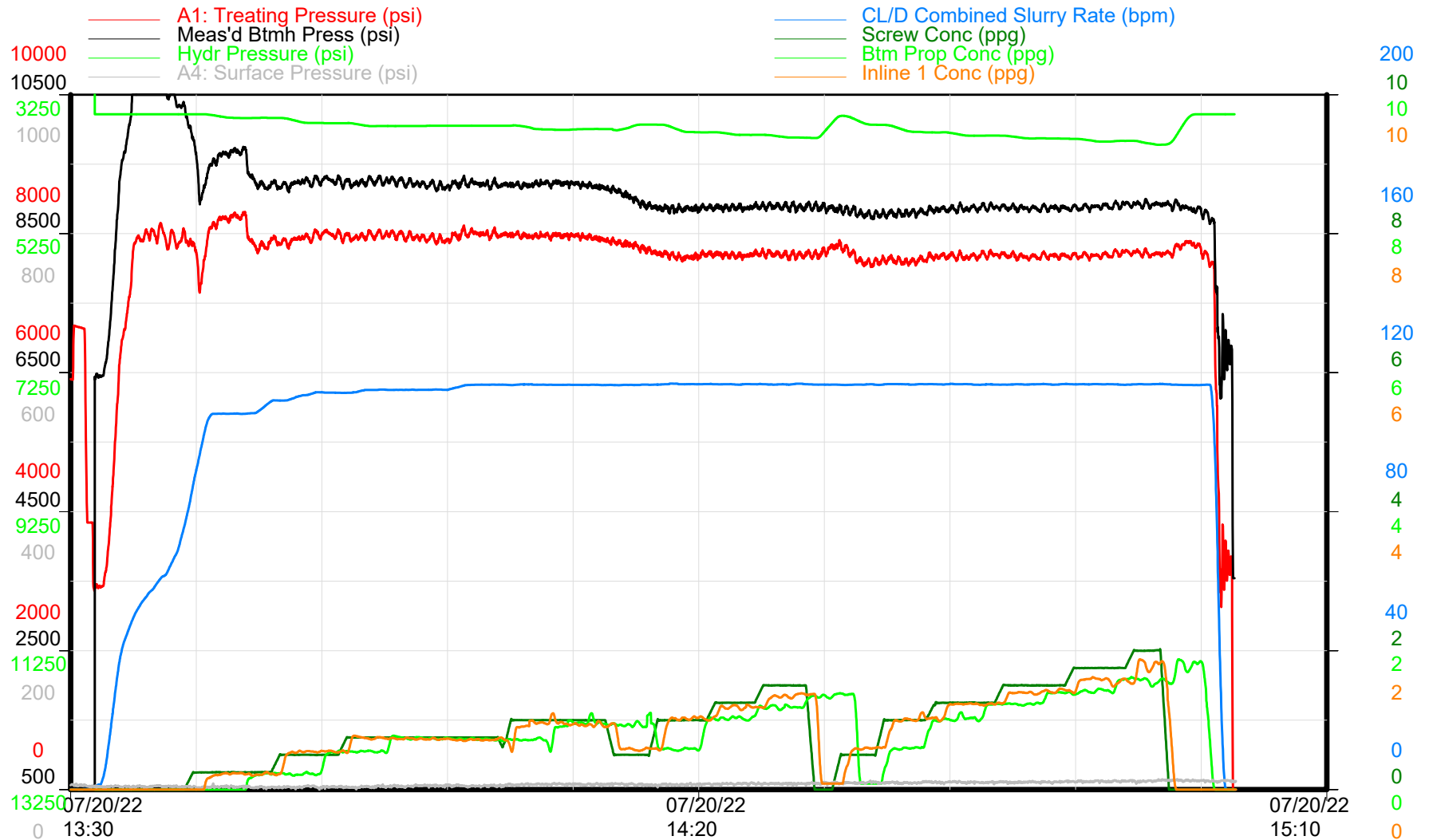
Republic Crew



Cystal 6-65 22-10 10HN Stage 21

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 21 of 58



Treatment Plot

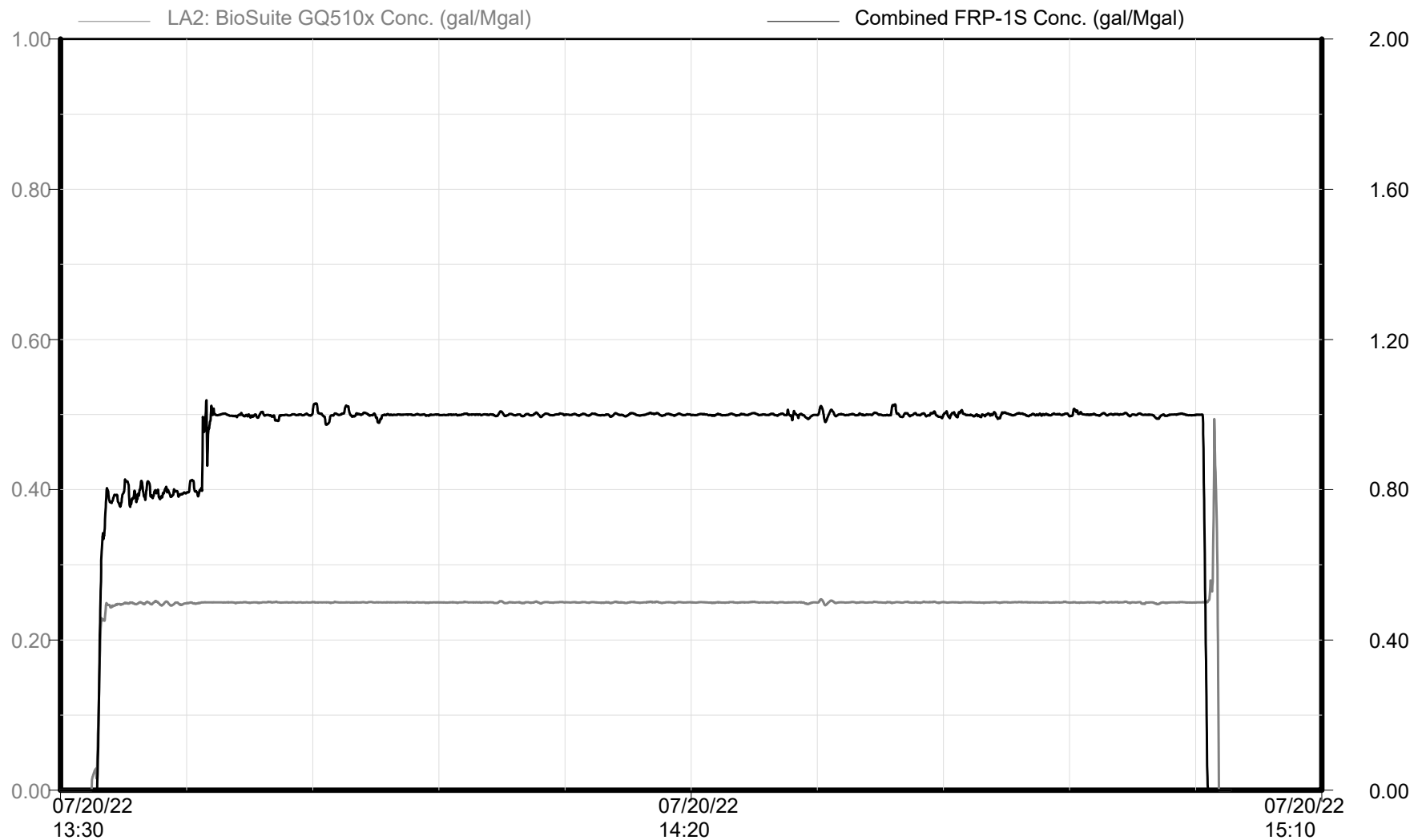
Time

Republic Crew



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 21 of 58



Chemical Additives

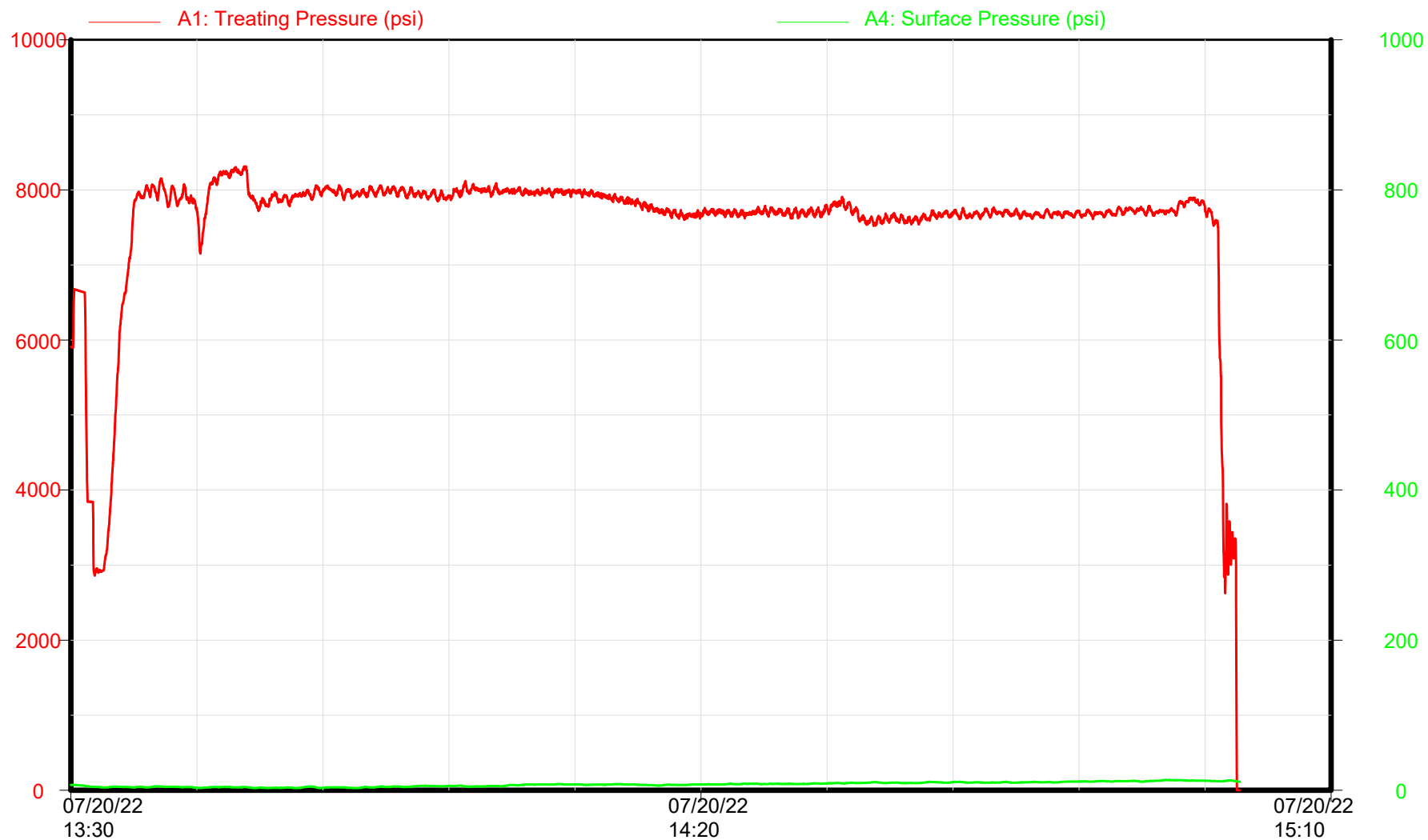
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 21

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 21 of 58



Surface/Treating Pressures

Time

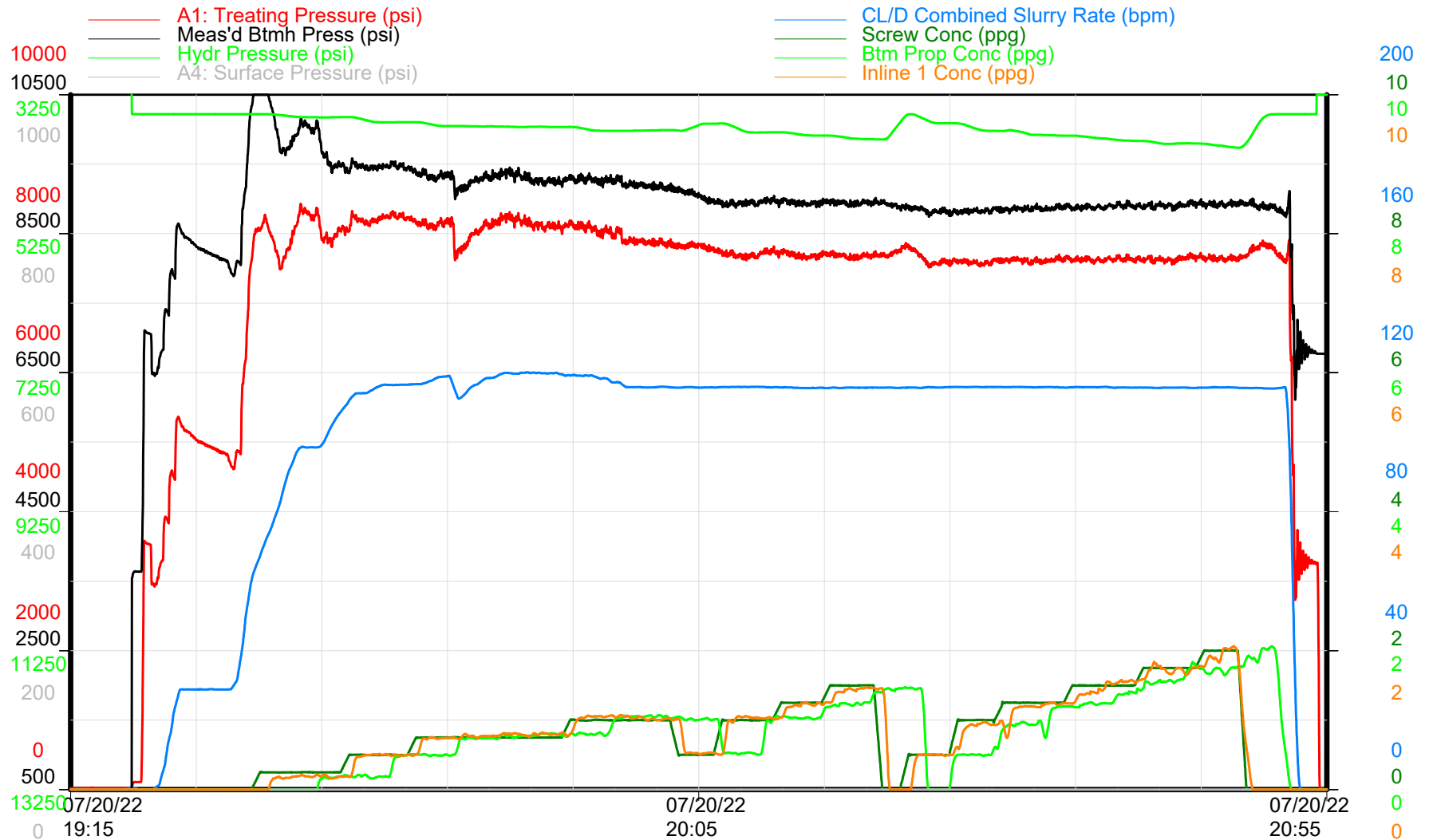
Republic Crew

Cystal 6-65 22-10 10HN Stage 22



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 22 of 58



Treatment Plot

Time

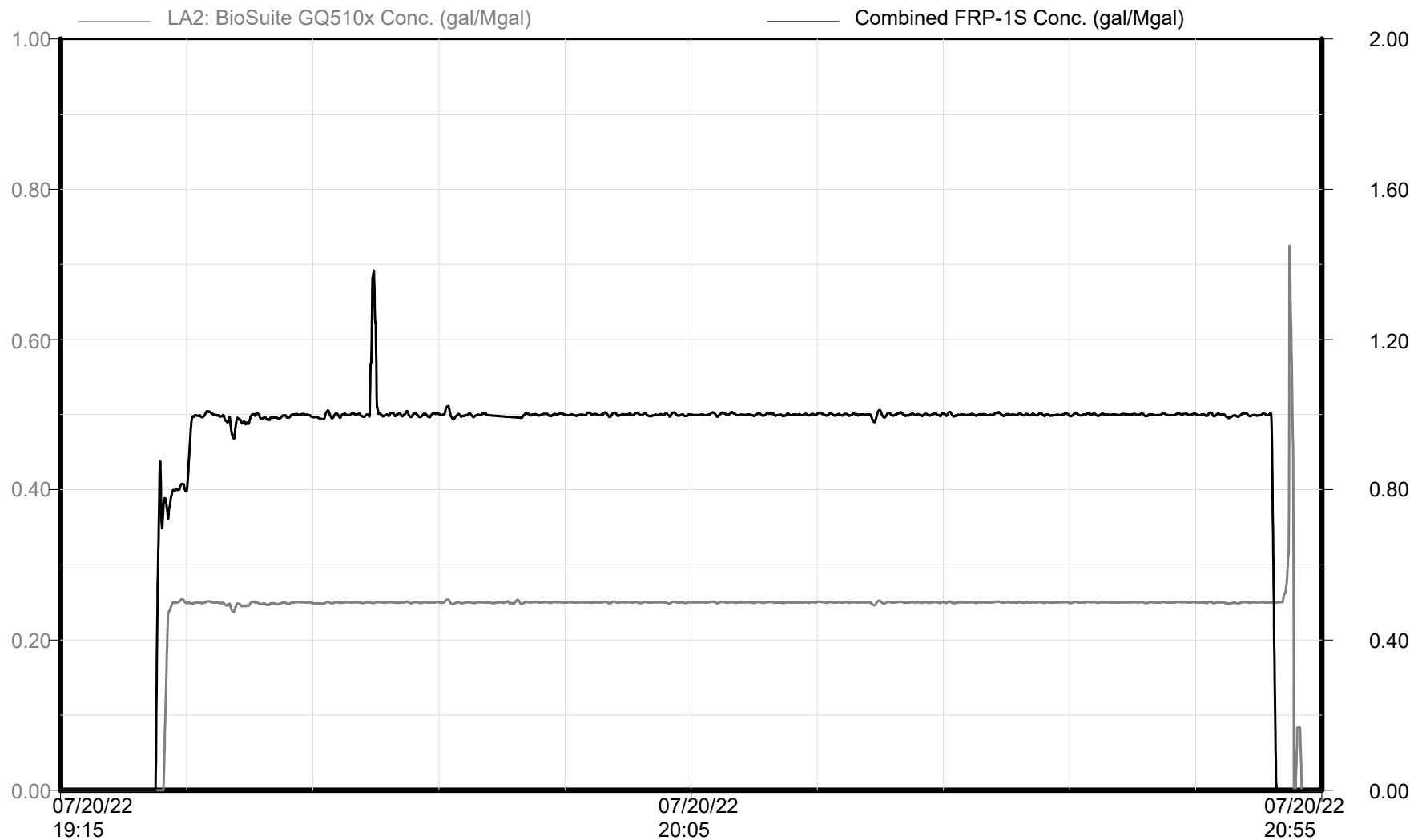
Republic Crew

Cystal 6-65 22-10 10HN Stage 22



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 22 of 58



Chemical Additives

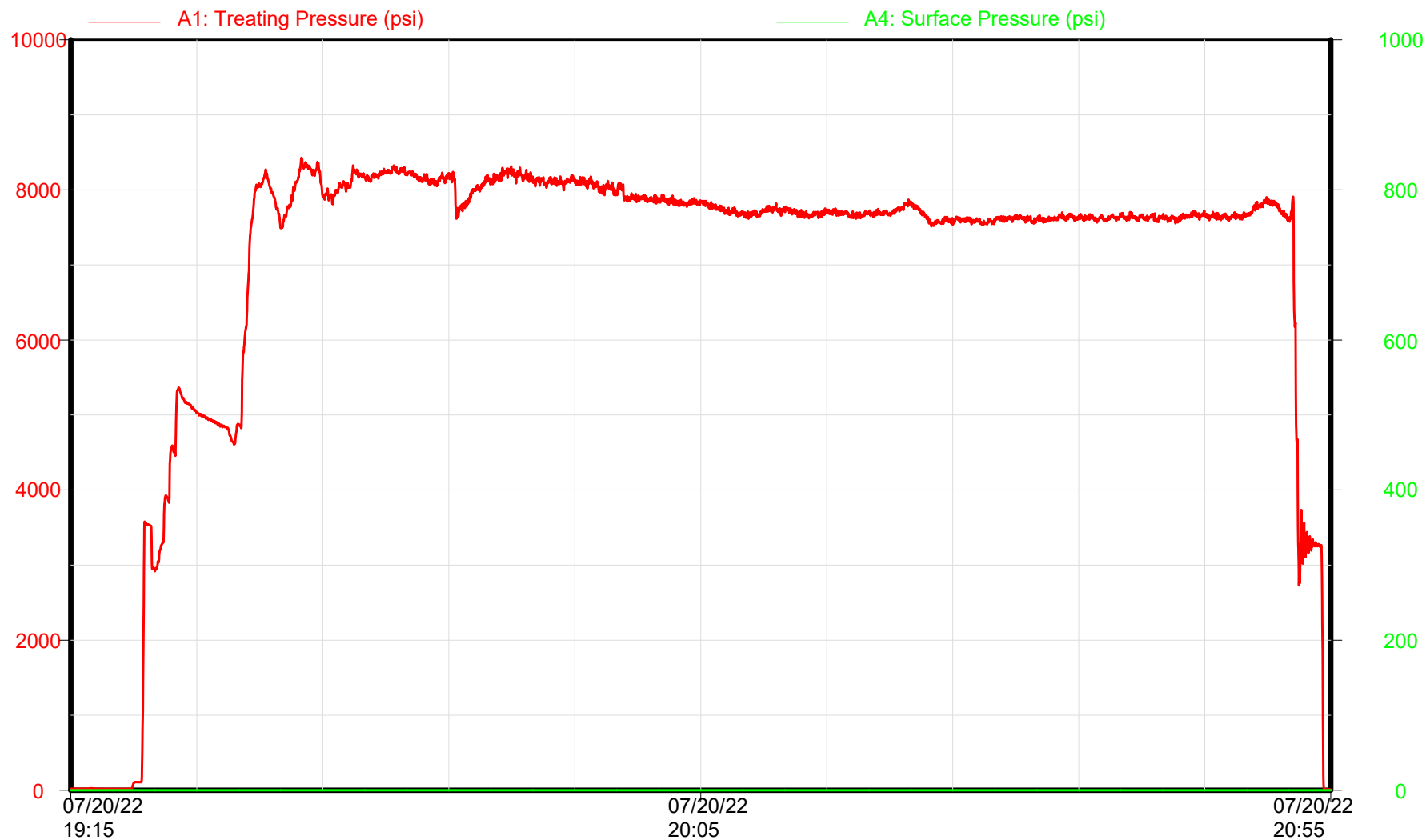
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 22

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 22 of 58



Surface/Treating Pressures

Time

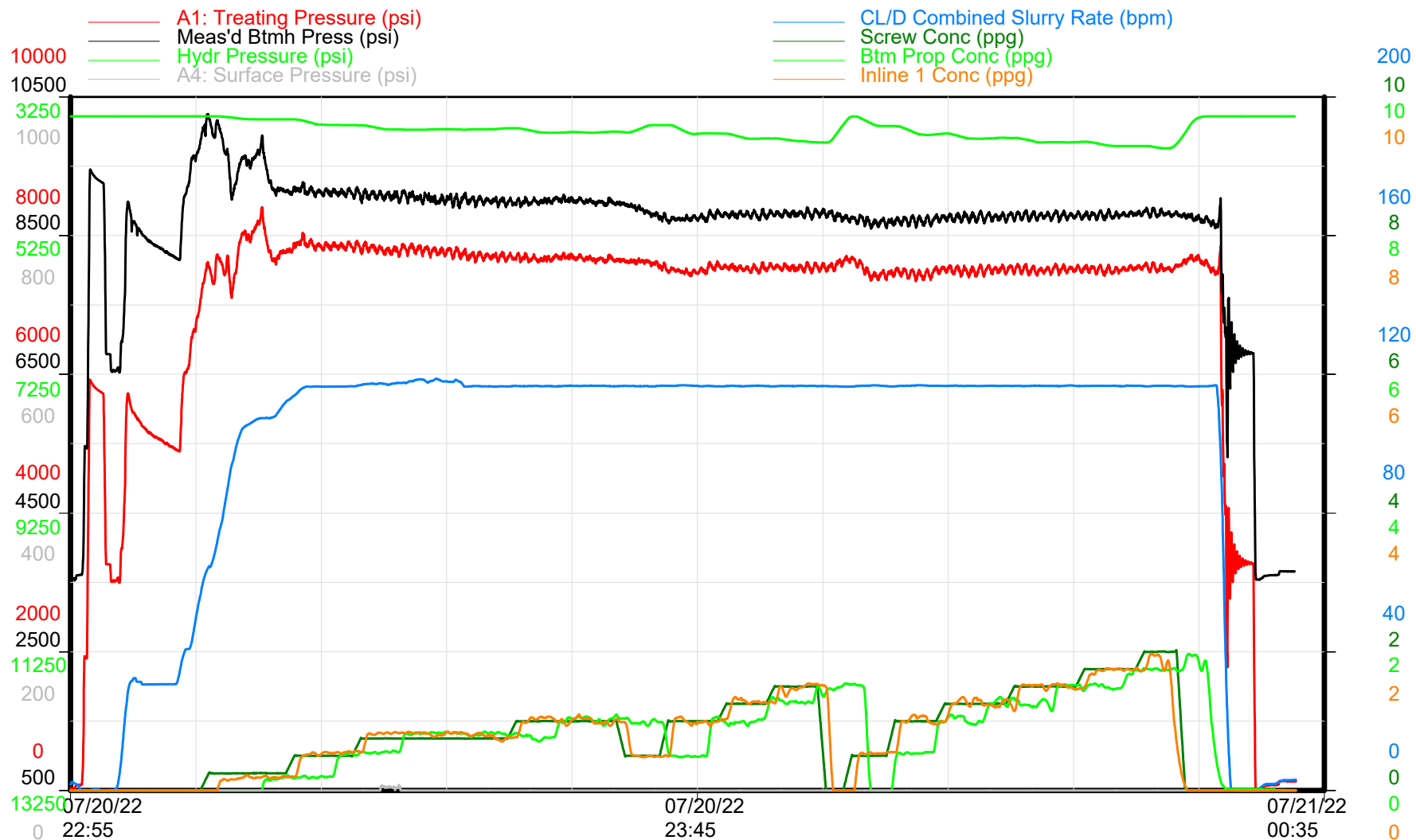
Republic Crew

Cystal 6-65 22-10 10HN Stage 23



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 23 of 58



Treatment Plot

Time

Republic Crew

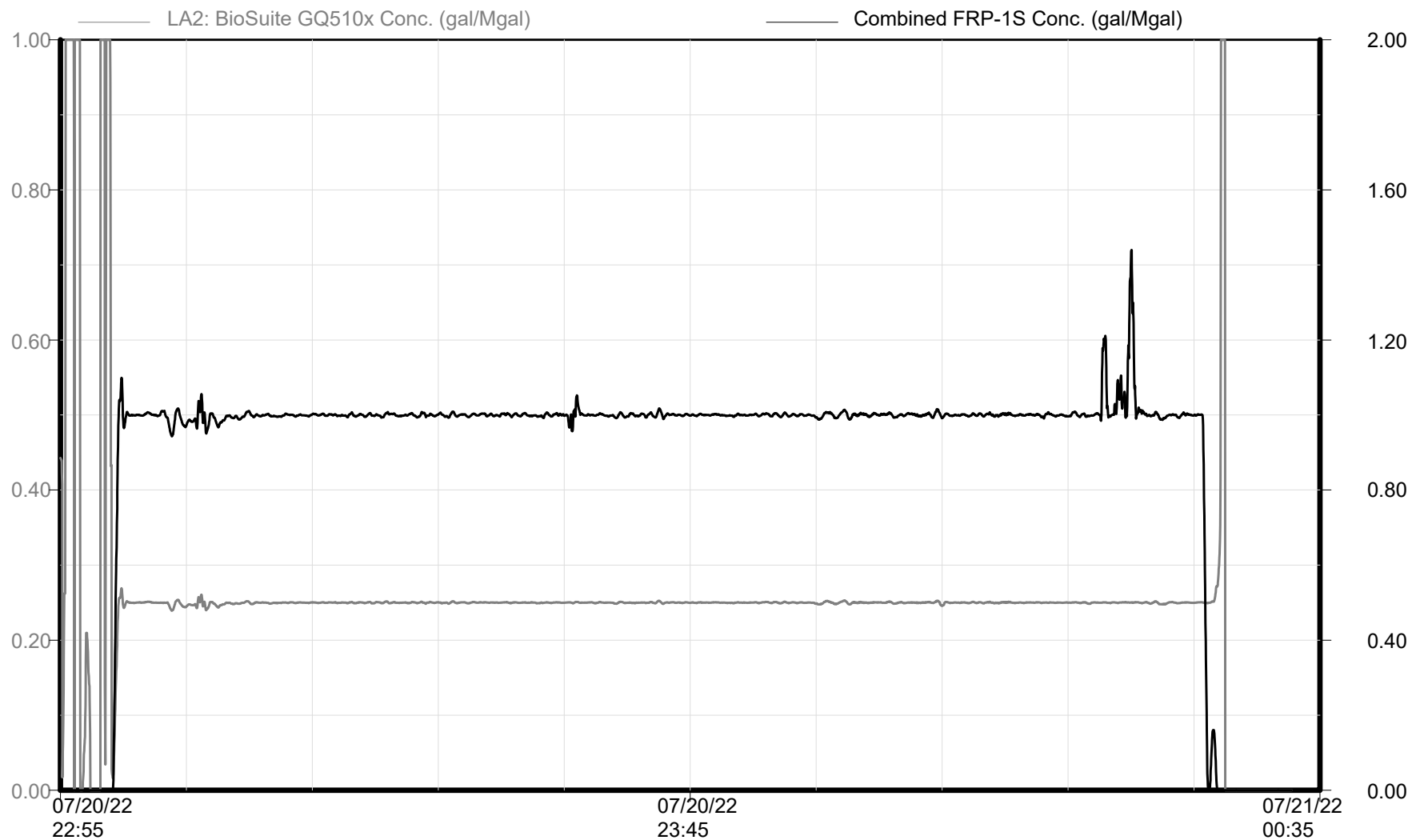


Cystal 6-65 22-10 10HN Stage 23



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 23 of 58



Chemical Additives

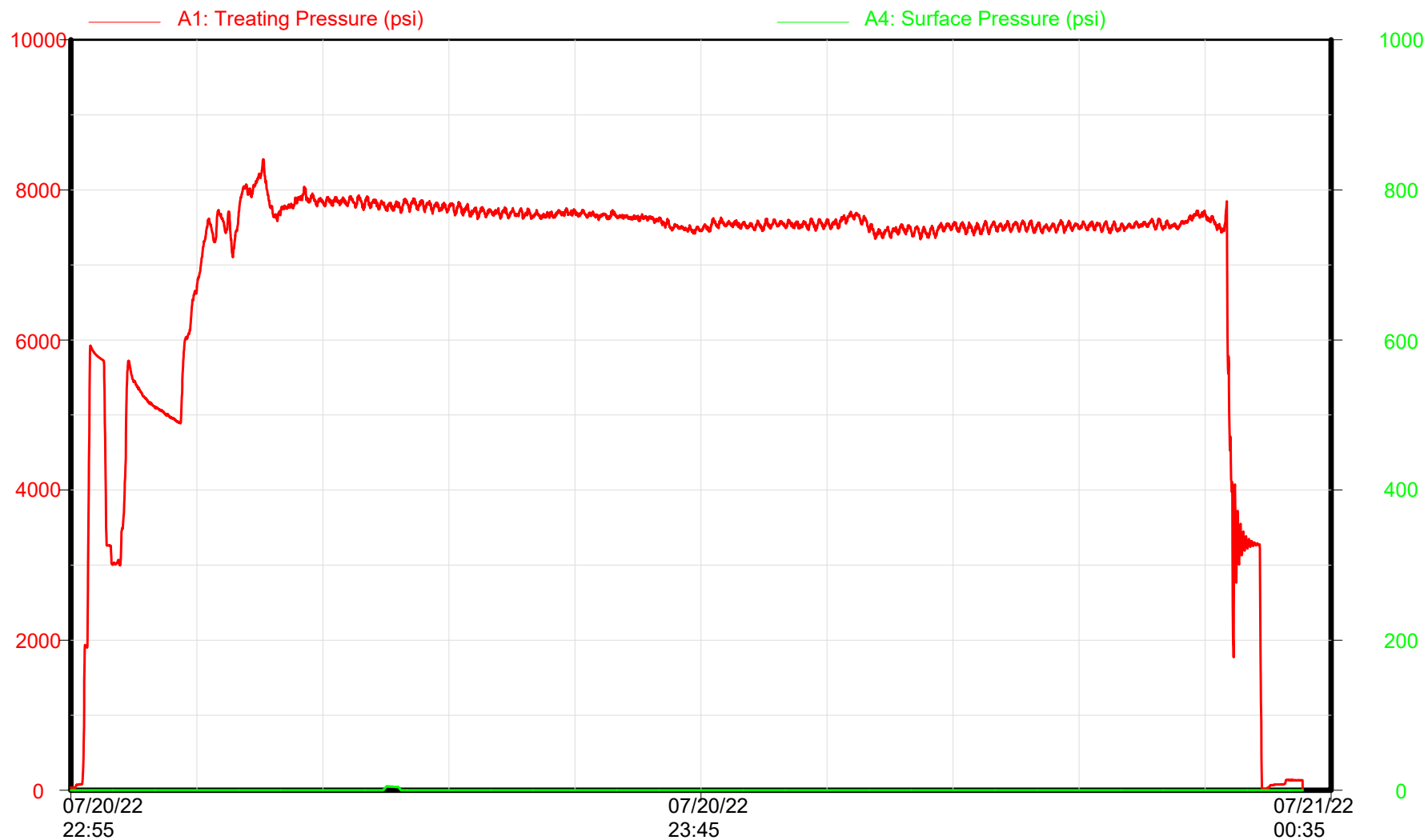
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 23

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 23 of 58



Surface/Treating Pressures

Time

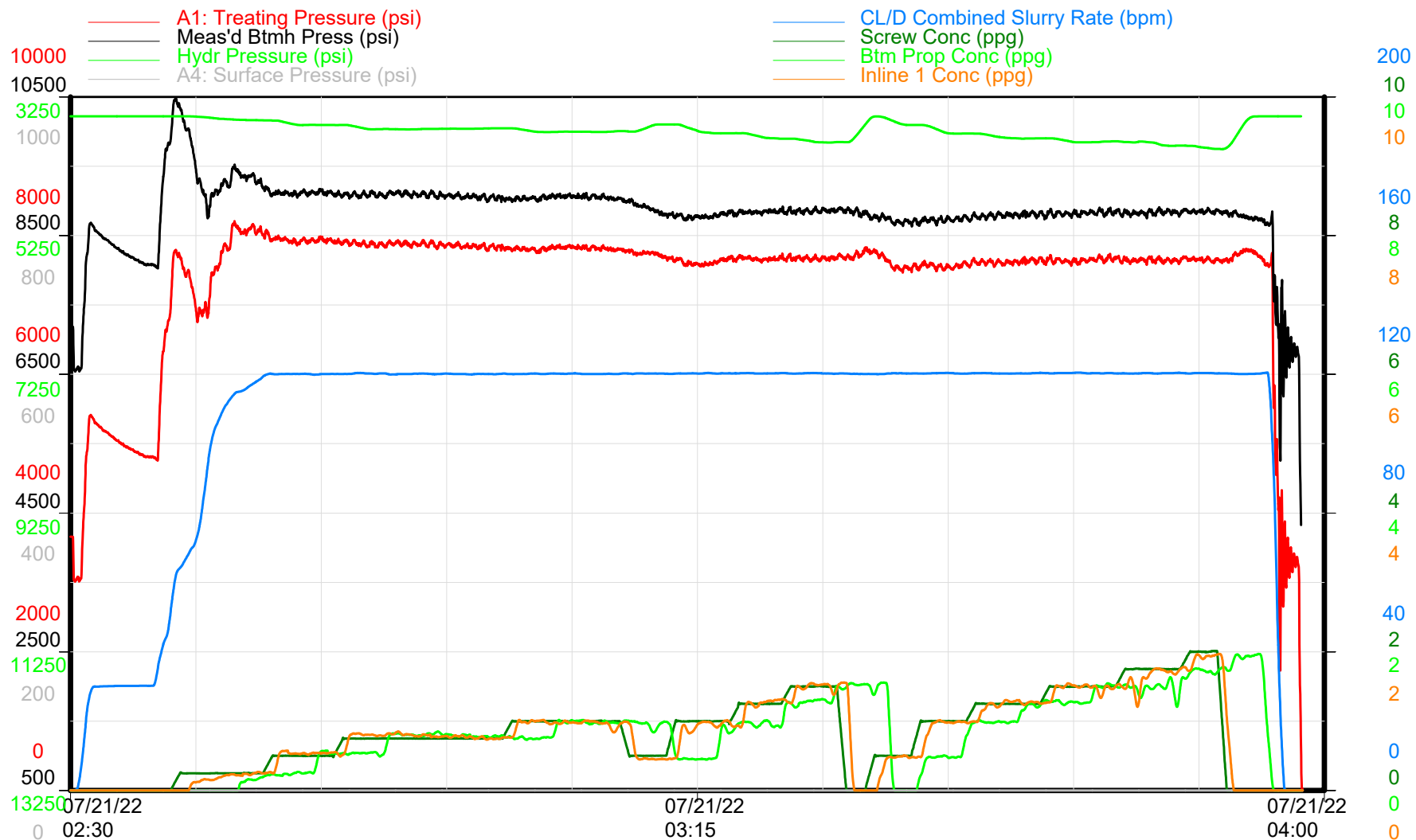
Republic Crew

Cystal 6-65 22-10 10HN Stage 24



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 24 of 58



Treatment Plot

Time

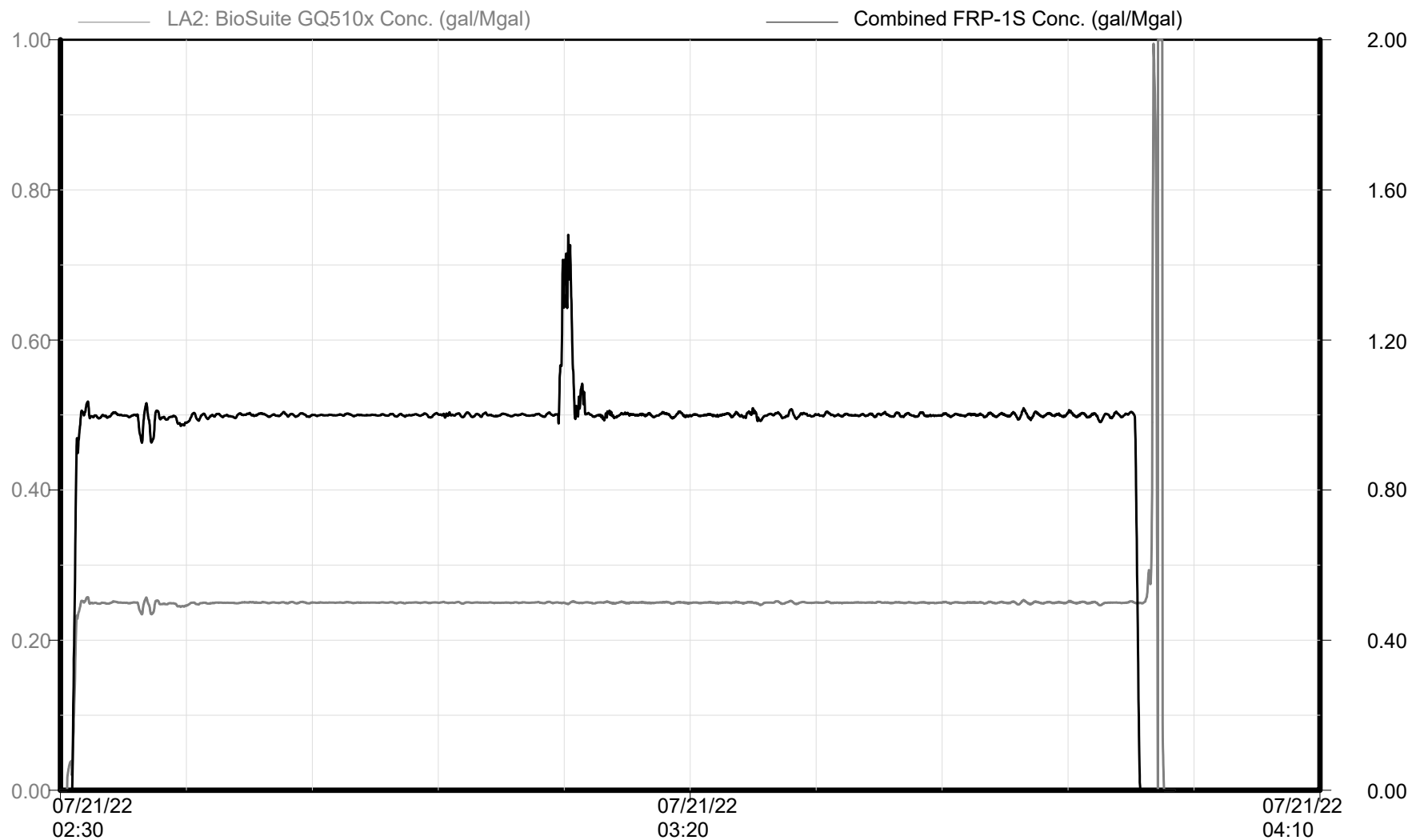
Republic Crew

Cystal 6-65 22-10 10HN Stage 24



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 24 of 58



Chemical Additives

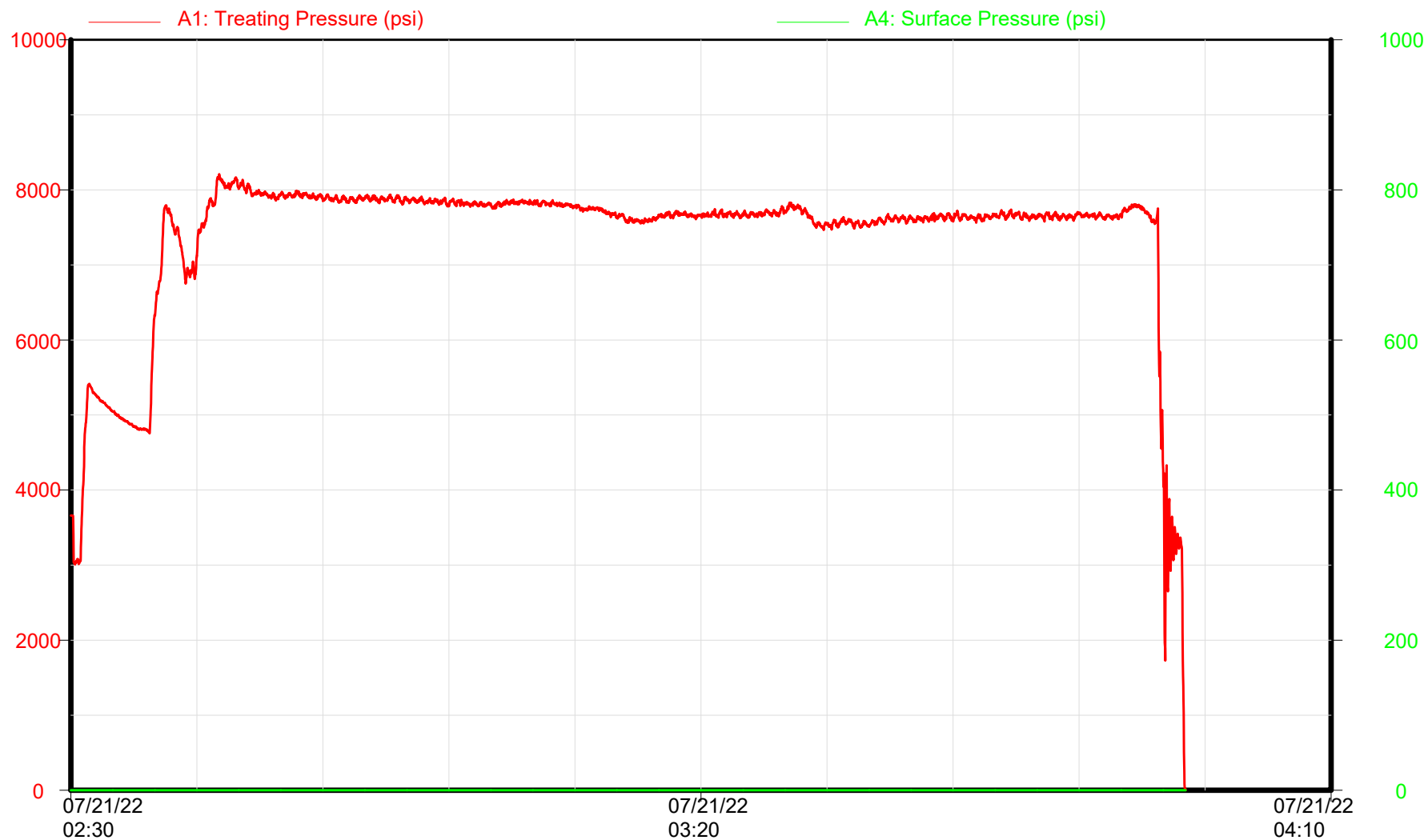
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 24

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 24 of 58



Surface/Treating Pressures

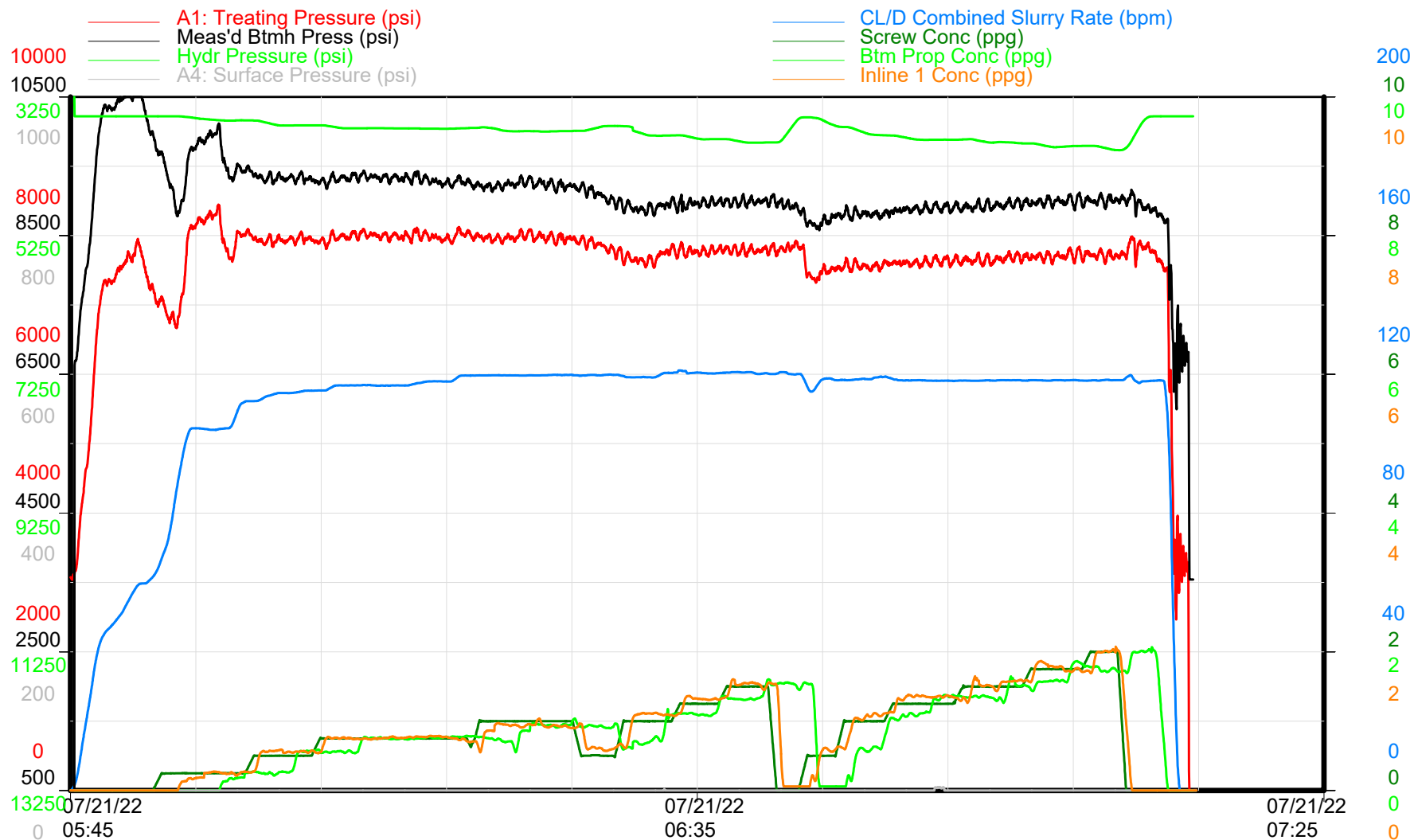
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 25

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 25 of 58



Treatment Plot

Time

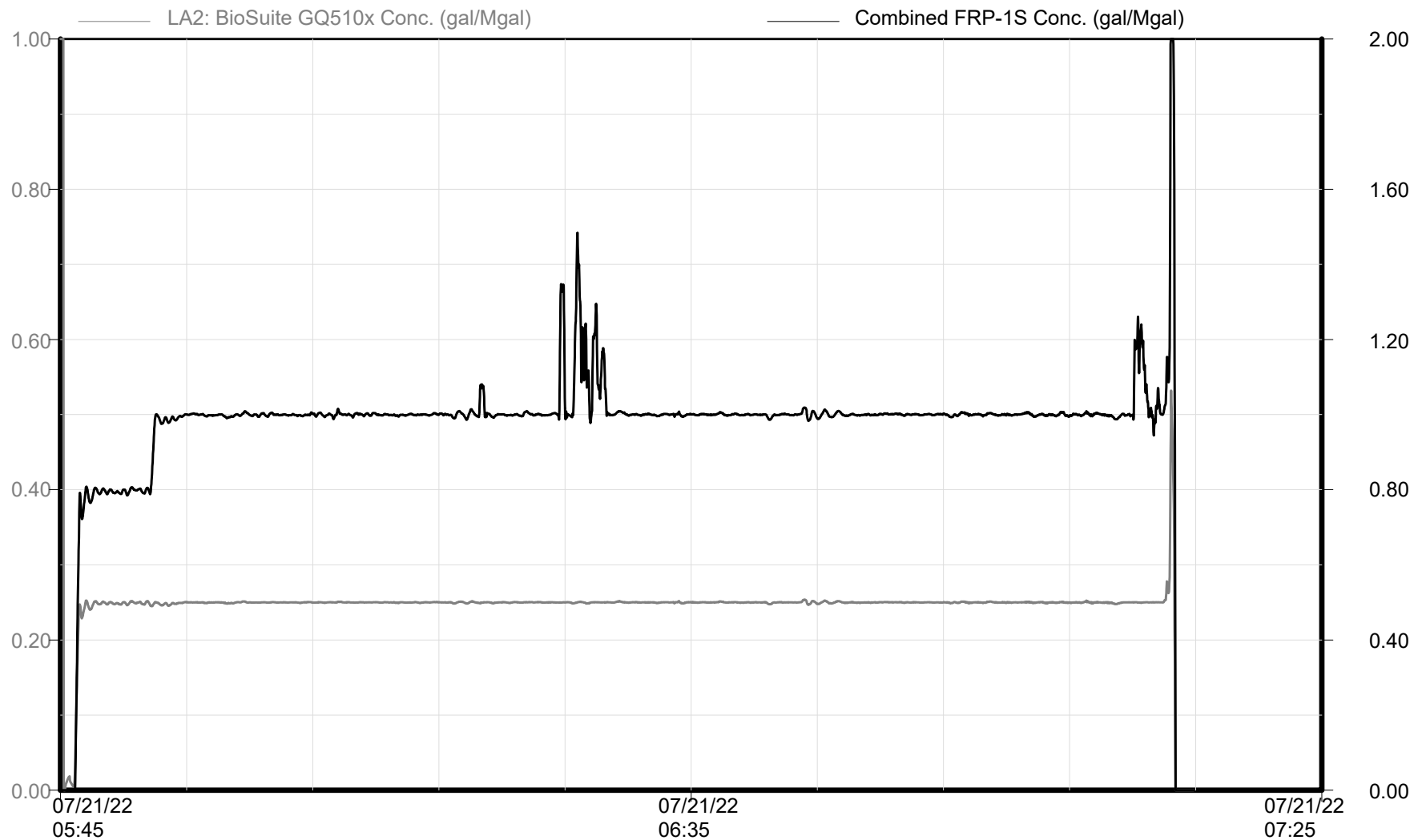
Republic Crew

Cystal 6-65 22-10 10HN Stage 25



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 25 of 58



Chemical Additives

Time

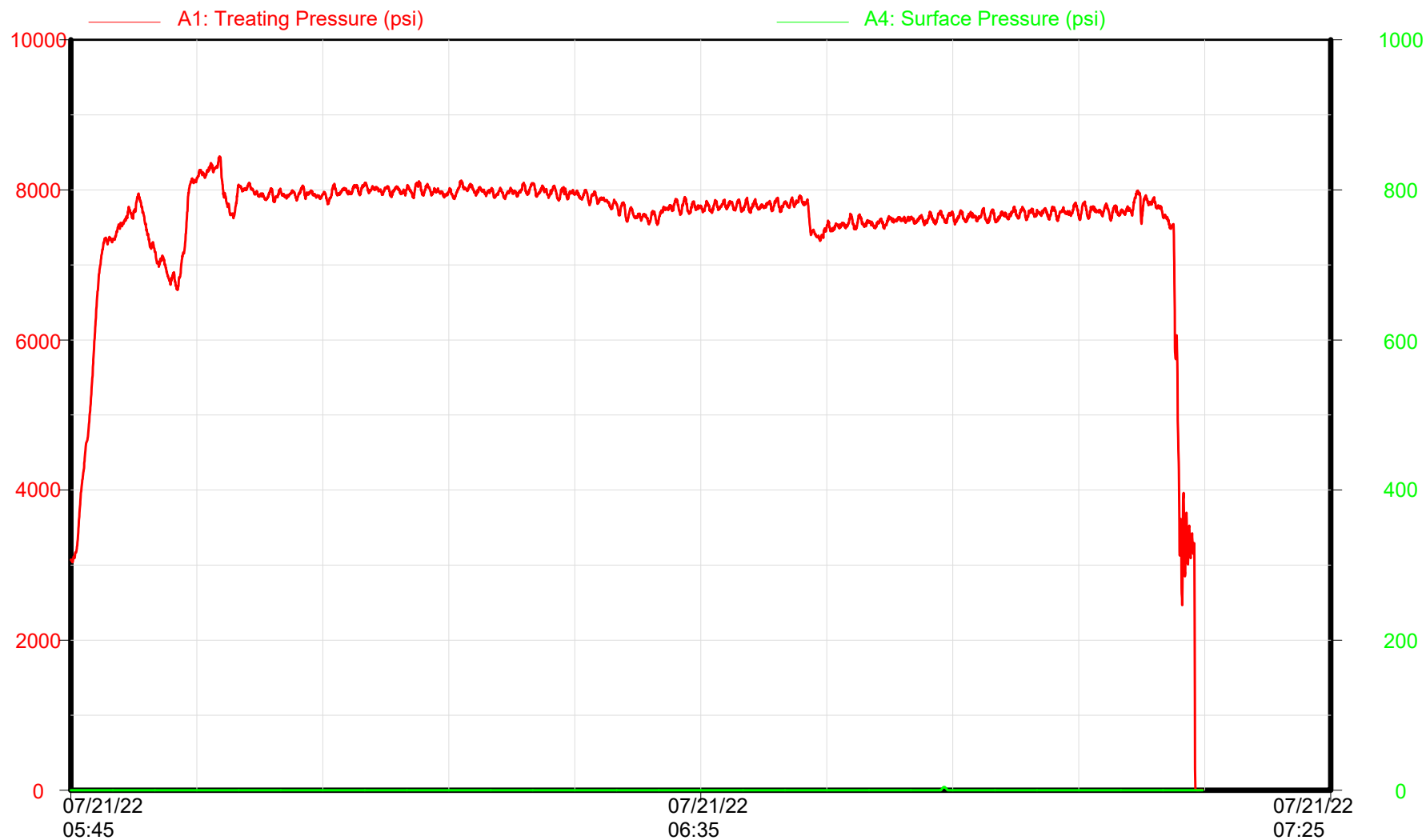
Republic Crew



Cystal 6-65 22-10 10HN Stage 25

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 25 of 58



Surface/Treating Pressures

Time

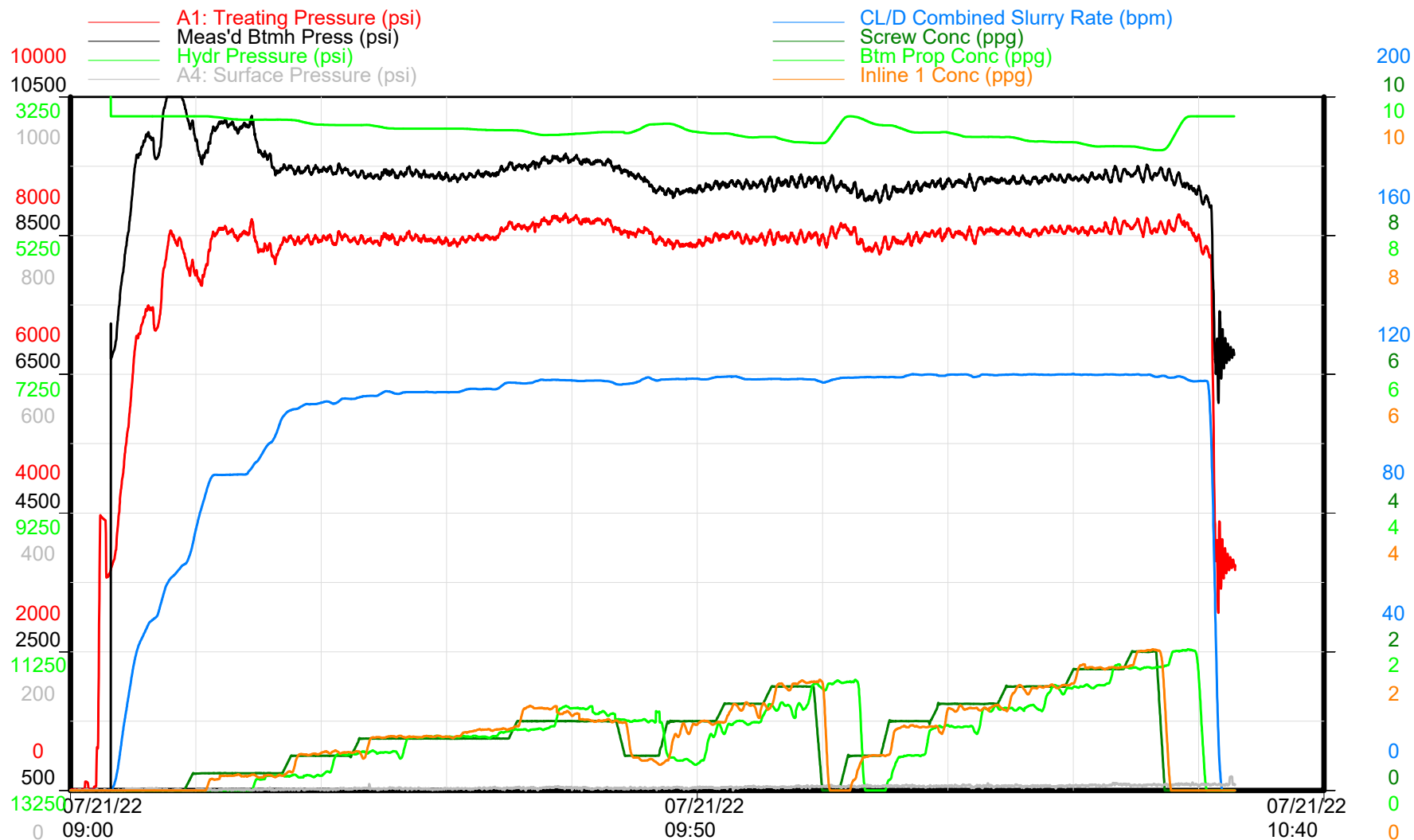
Republic Crew

Cystal 6-65 22-10 10HN Stage 26



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 26 of 58



Treatment Plot

Time

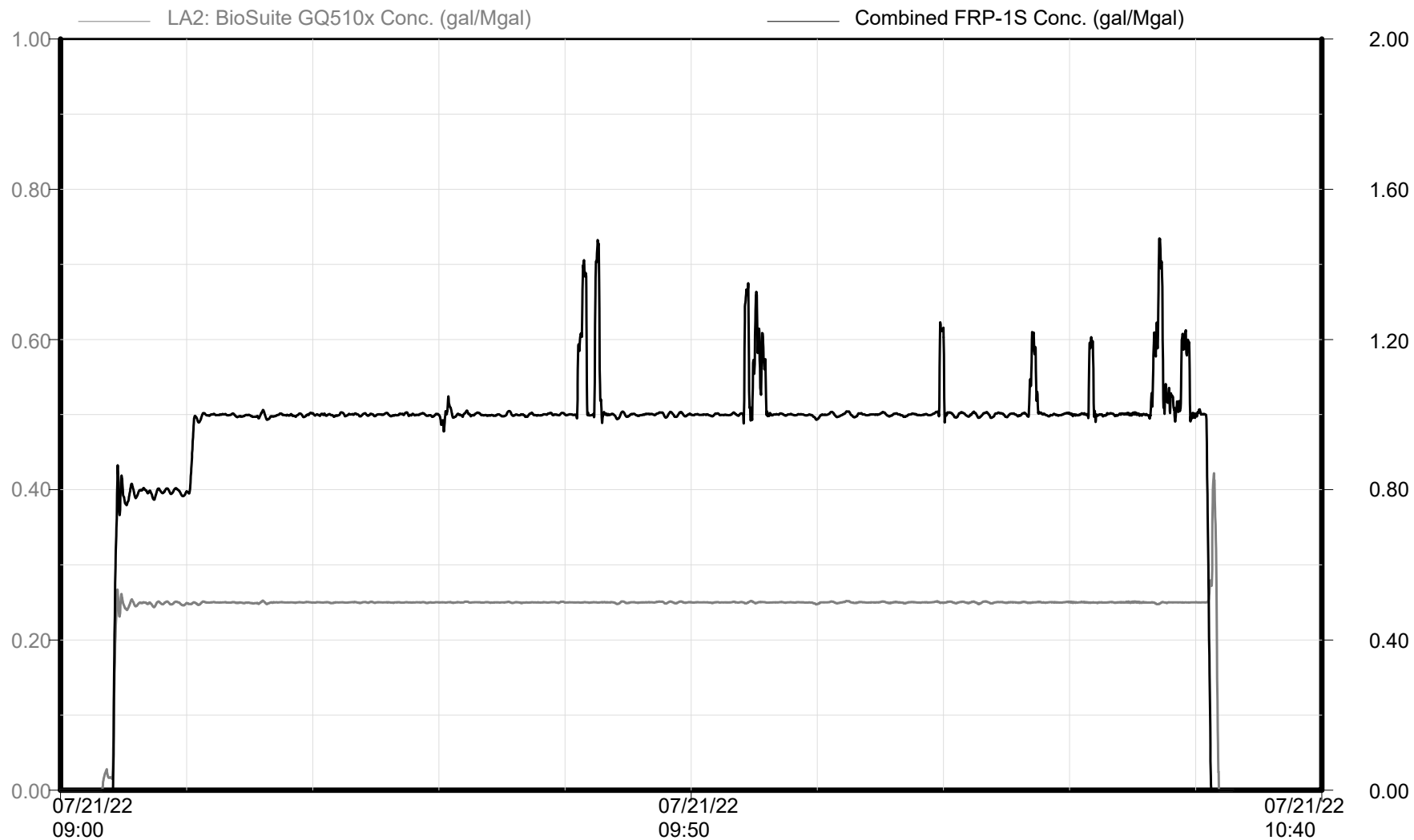
Republic Crew

Cystal 6-65 22-10 10HN Stage 26



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 26 of 58



Chemical Additives

Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 26



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 26 of 58



Surface/Treating Pressures

Time

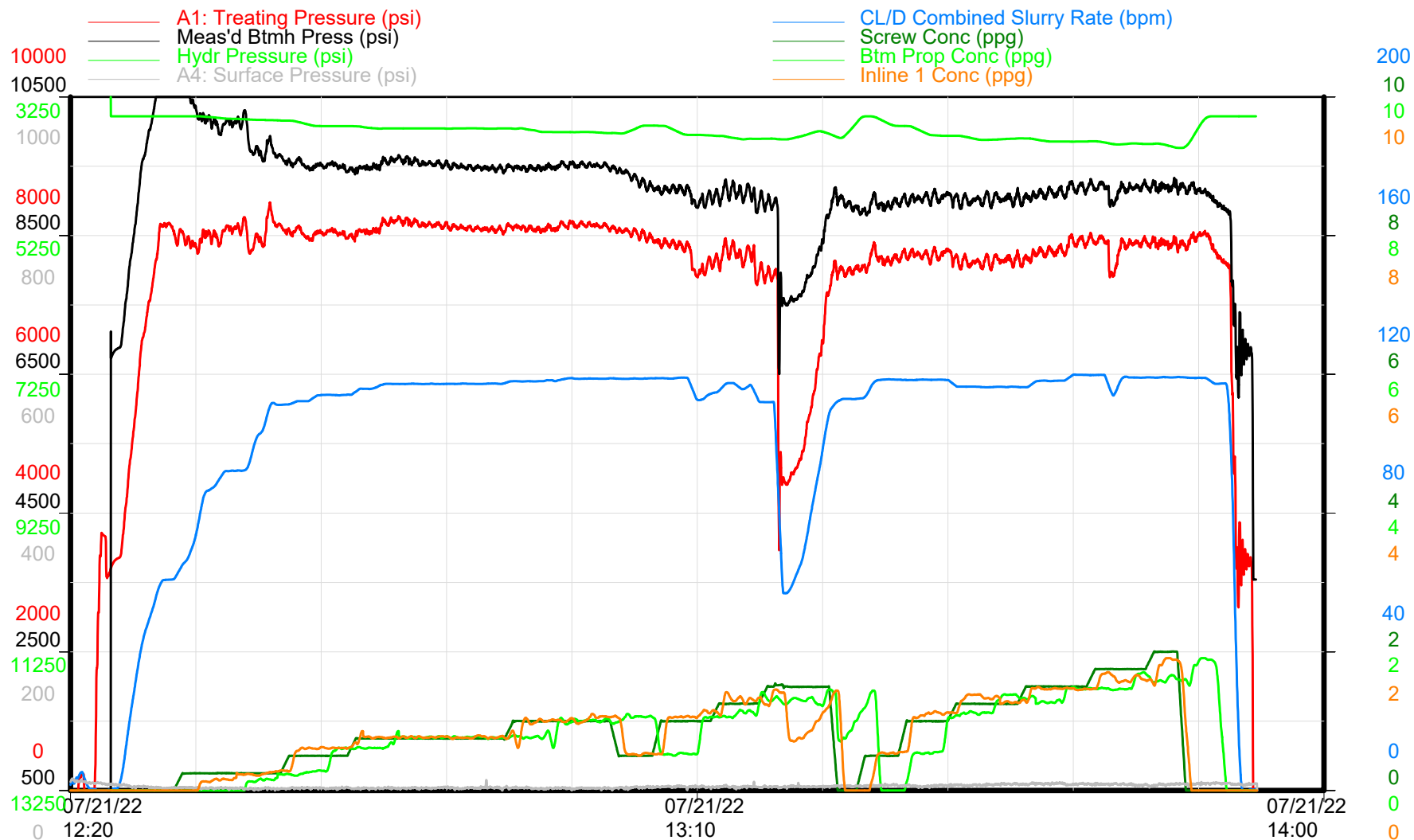
Republic Crew

Cystal 6-65 22-10 10HN Stage 27



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 27 of 58



Treatment Plot

Time

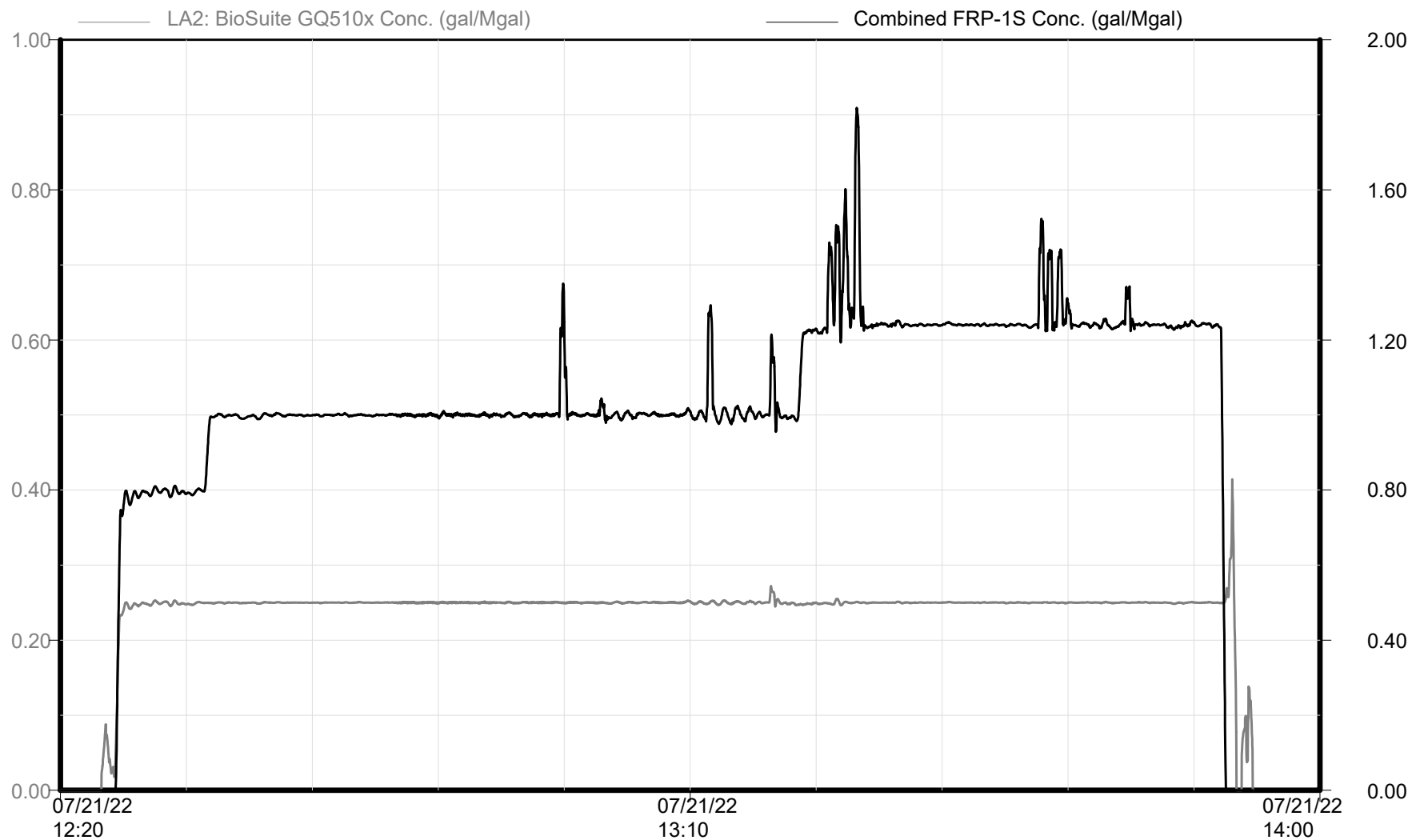
Republic Crew

Cystal 6-65 22-10 10HN Stage 27



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 27 of 58



Chemical Additives

Time

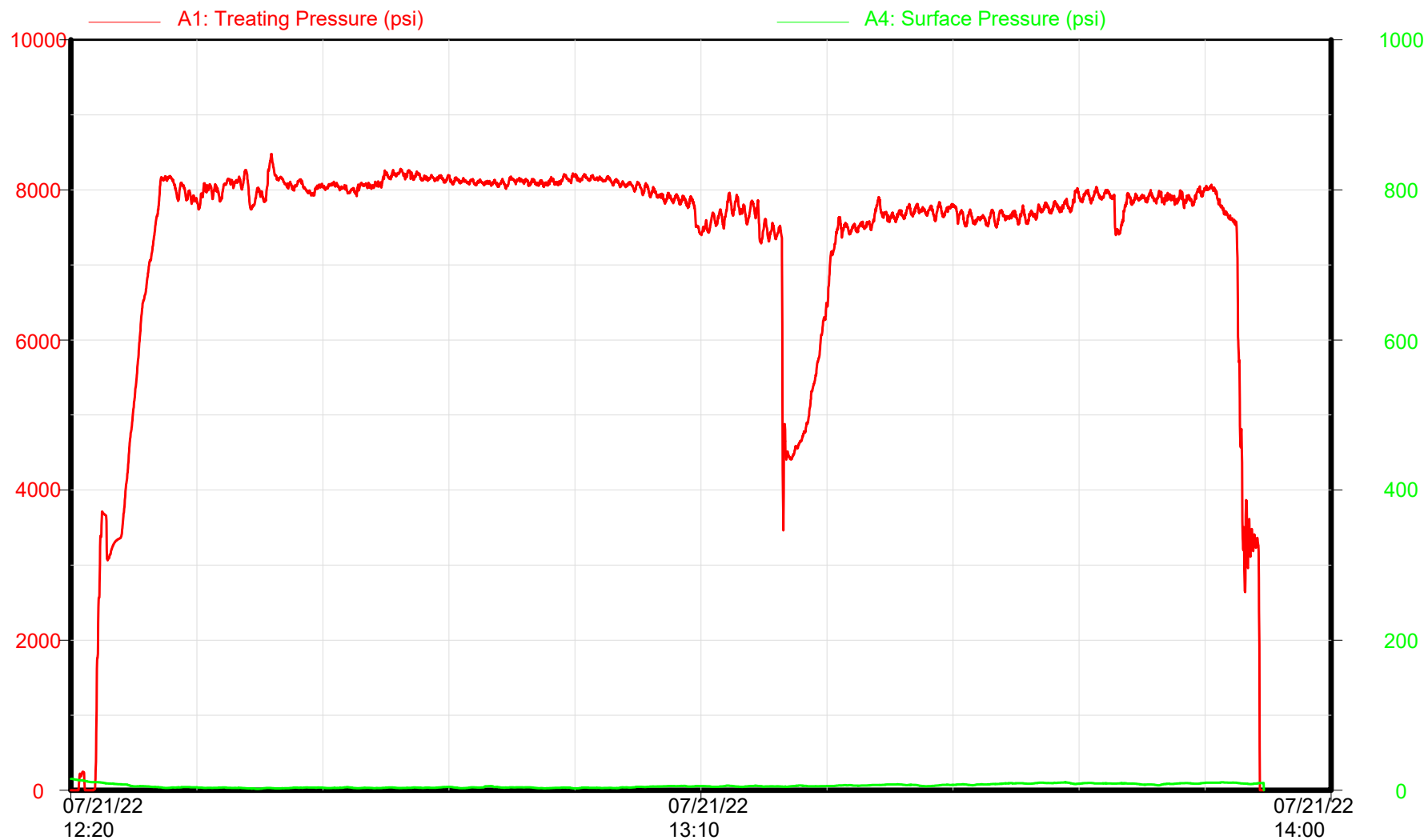
Republic Crew

Cystal 6-65 22-10 10HN Stage 27



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 27 of 58



Surface/Treating Pressures

Time

Republic Crew

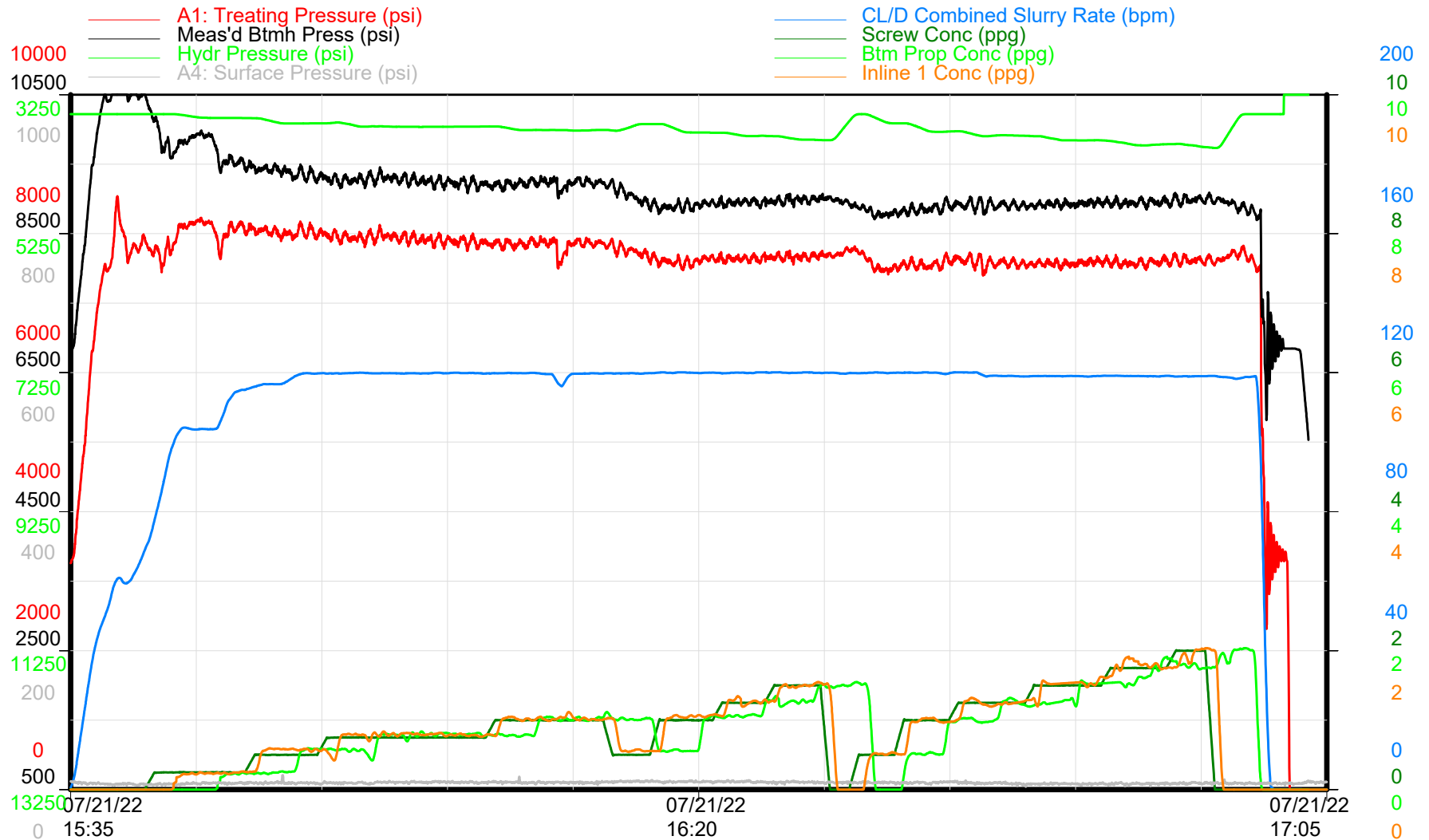


Cystal 6-65 22-10 10HN Stage 28



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 28 of 58



Treatment Plot

Time

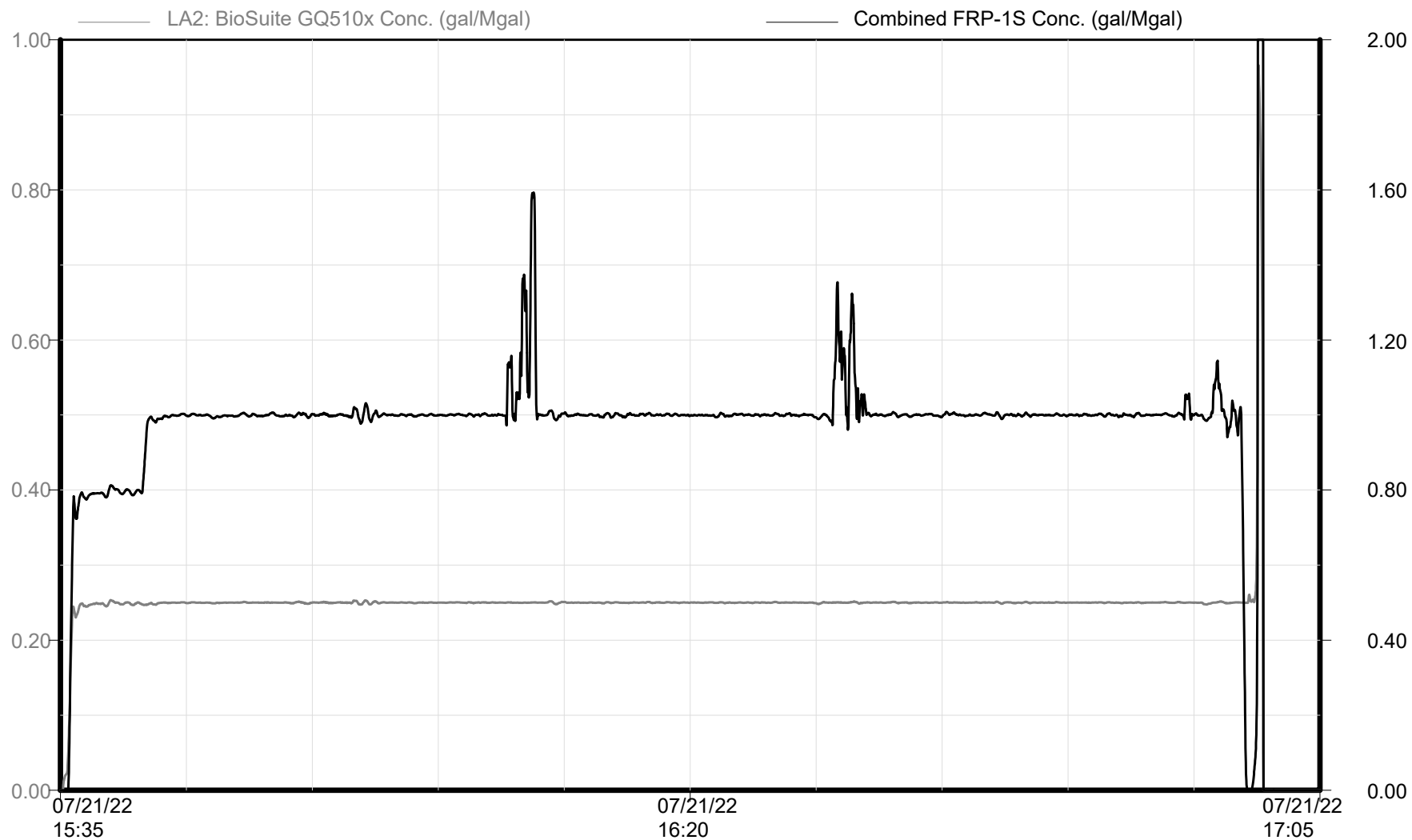
Republic Crew

Cystal 6-65 22-10 10HN Stage 28



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 28 of 58



Chemical Additives

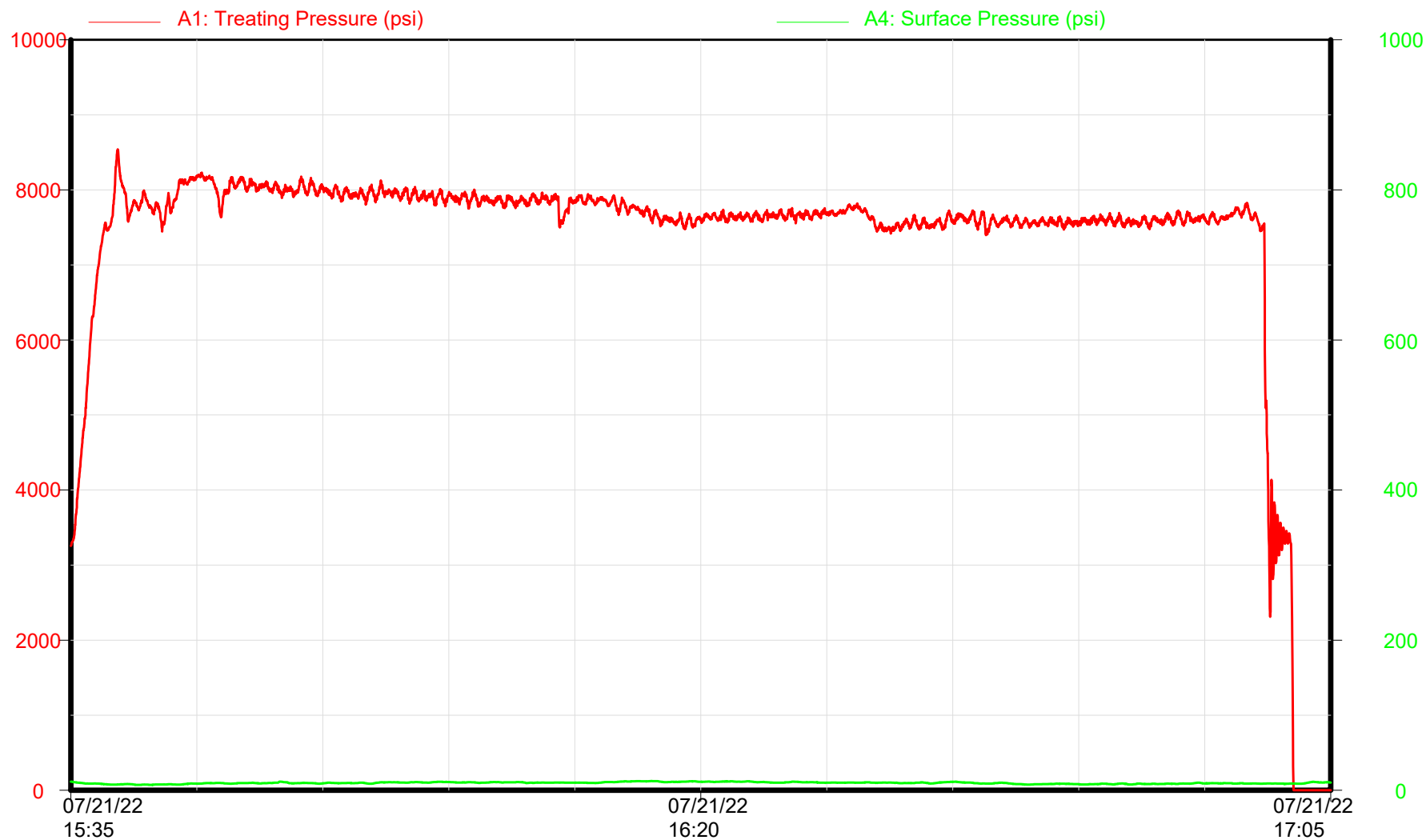
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 28

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 28 of 58



Surface/Treating Pressures

Time

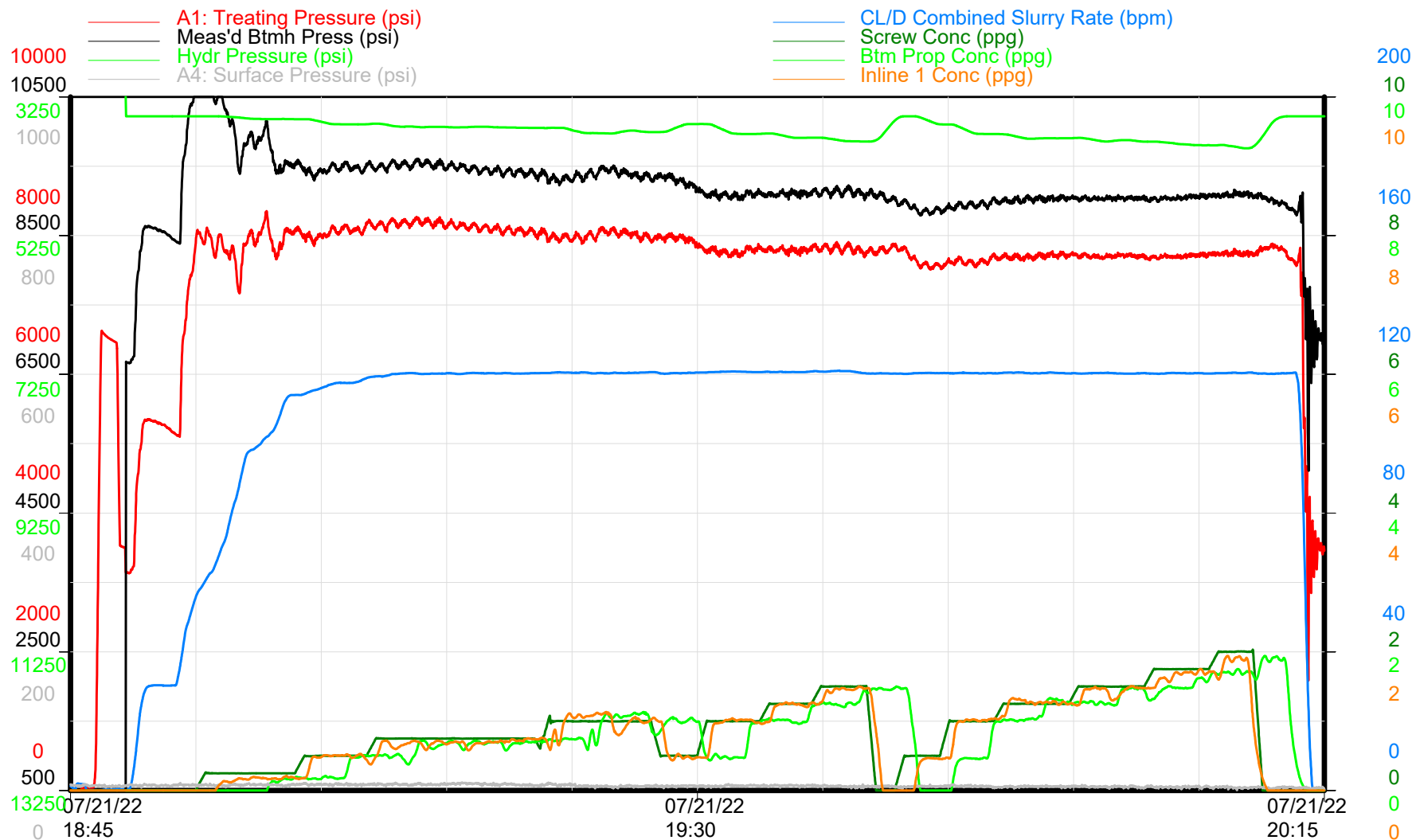
Republic Crew

Cystal 6-65 22-10 10HN Stage 29



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 29 of 58



Treatment Plot

Time

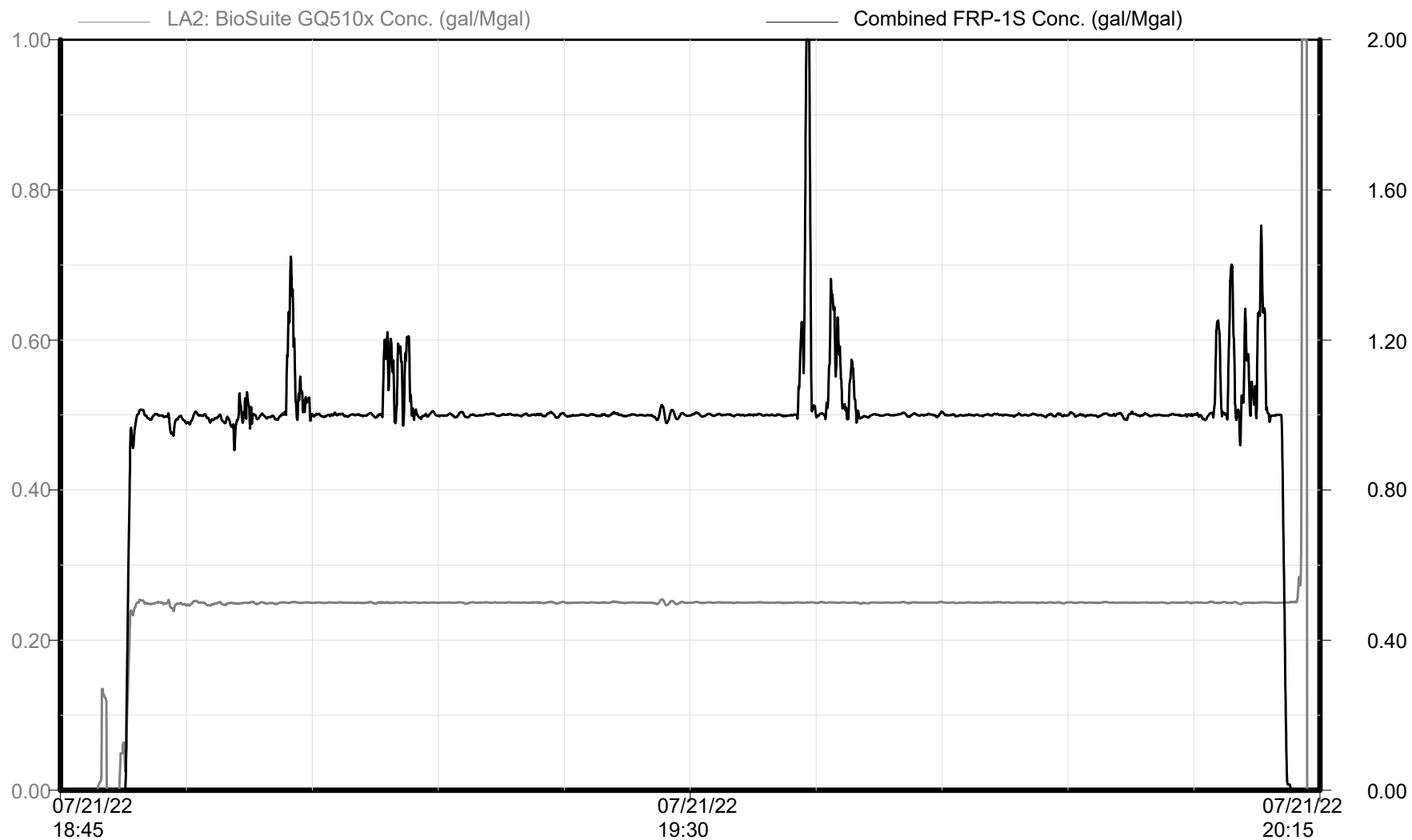
Republic Crew

Cystal 6-65 22-10 10HN Stage 29



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 29 of 58



Chemical Additives

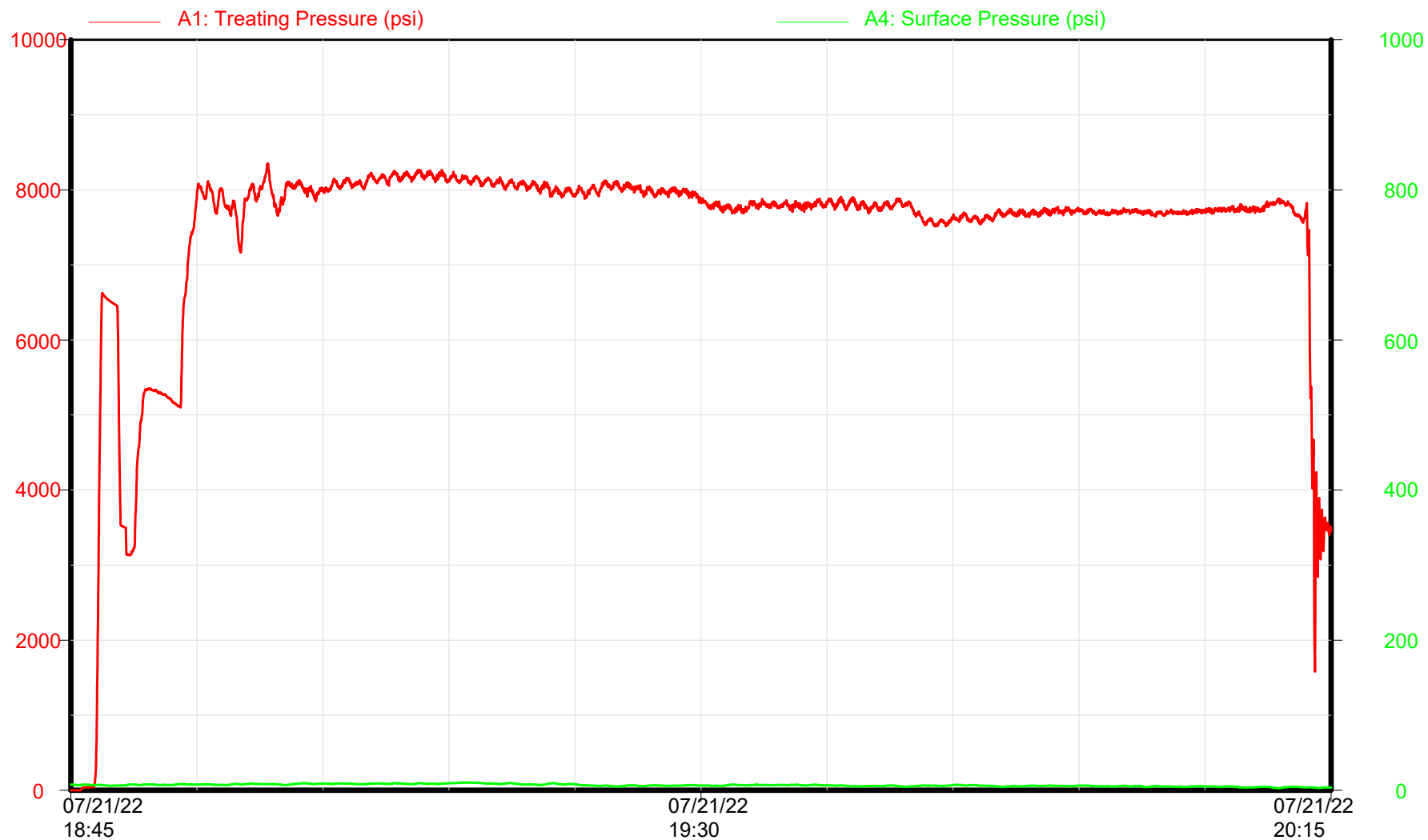
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 29

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 29 of 58



Surface/Treating Pressures

Time

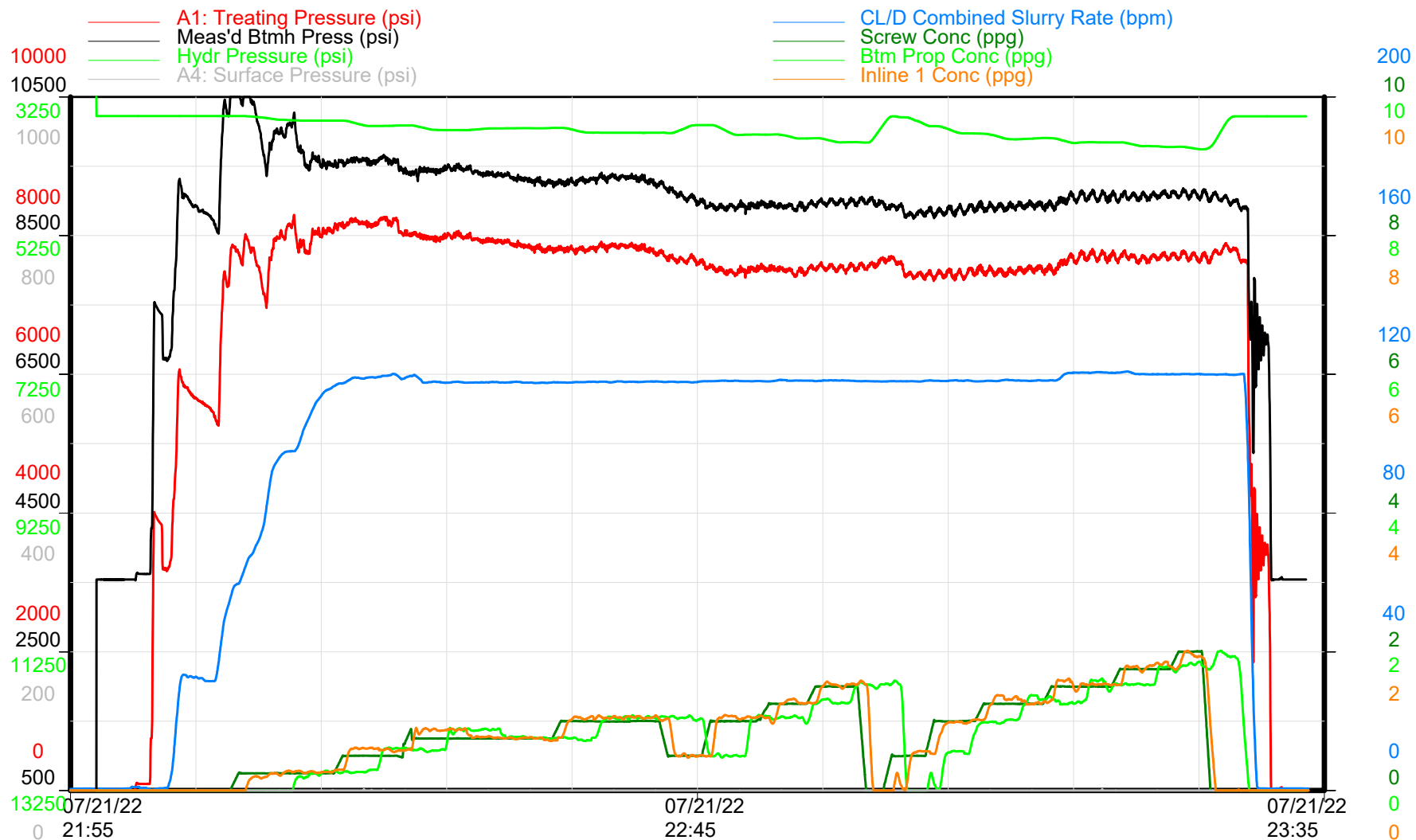
Republic Crew

Cystal 6-65 22-10 10HN Stage 30



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 30 of 58



Treatment Plot

Time

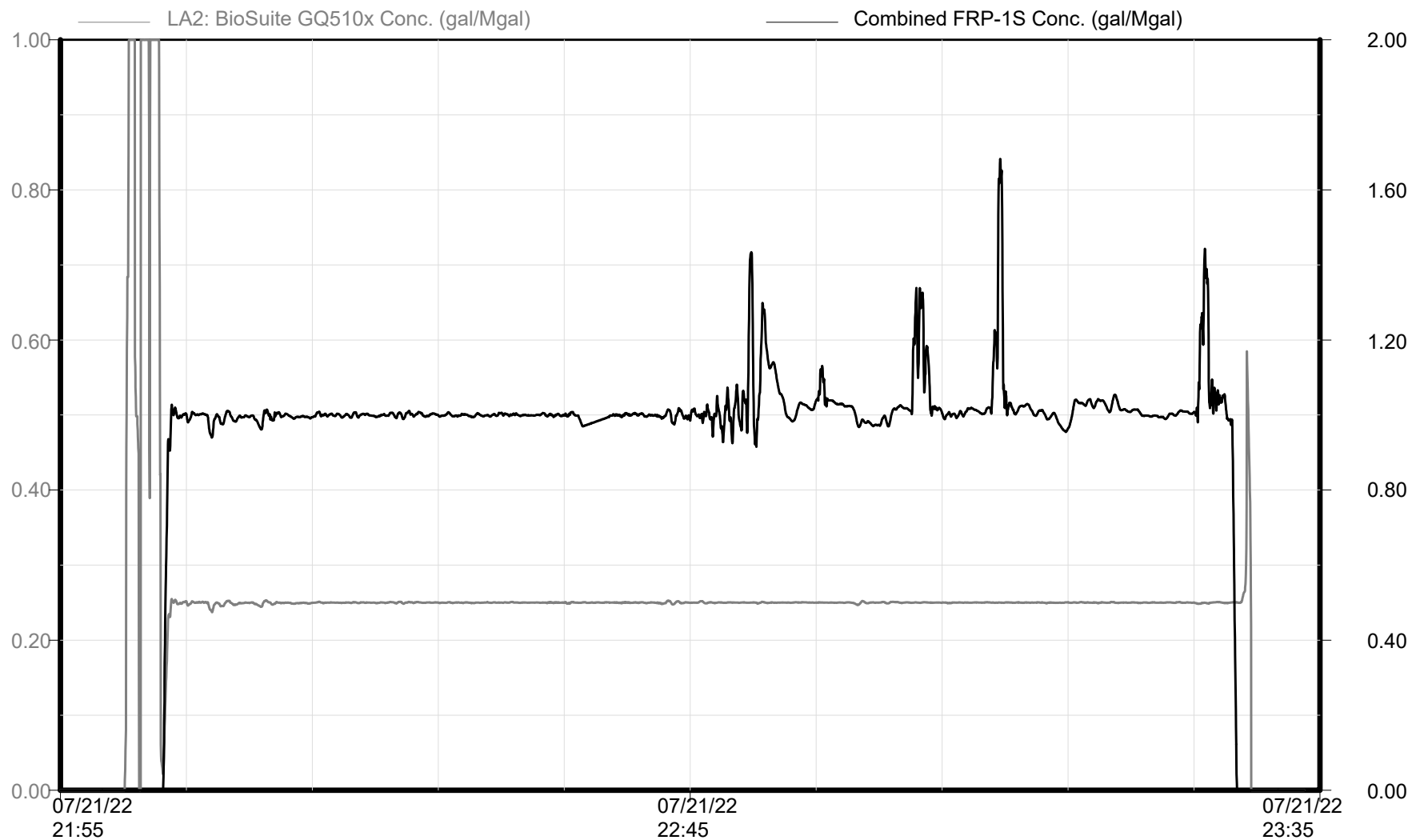
Republic Crew

Cystal 6-65 22-10 10HN Stage 30



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 30 of 58



Chemical Additives

Time

Republic Crew

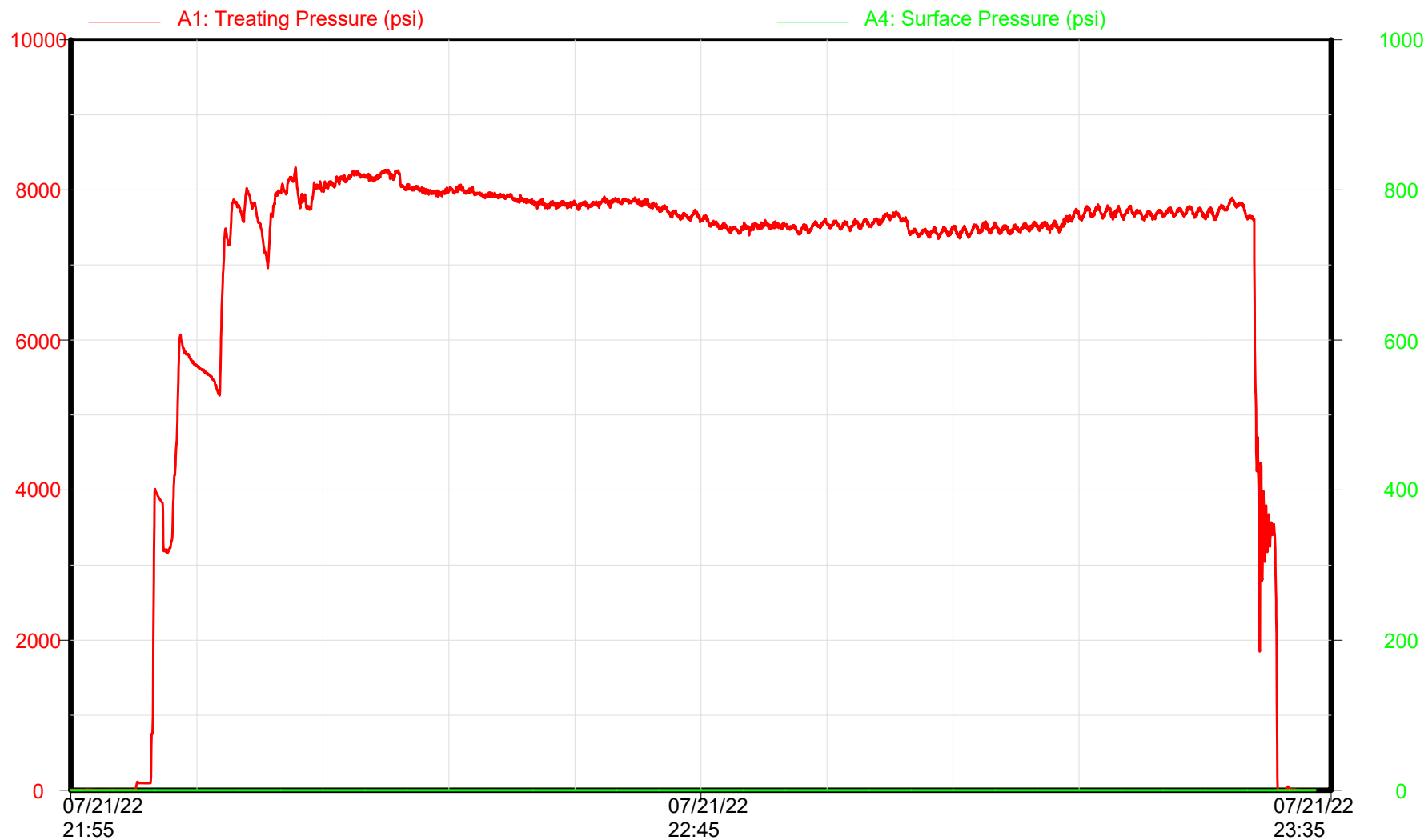


Cystal 6-65 22-10 10HN Stage 30



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 30 of 58



Surface/Treating Pressures

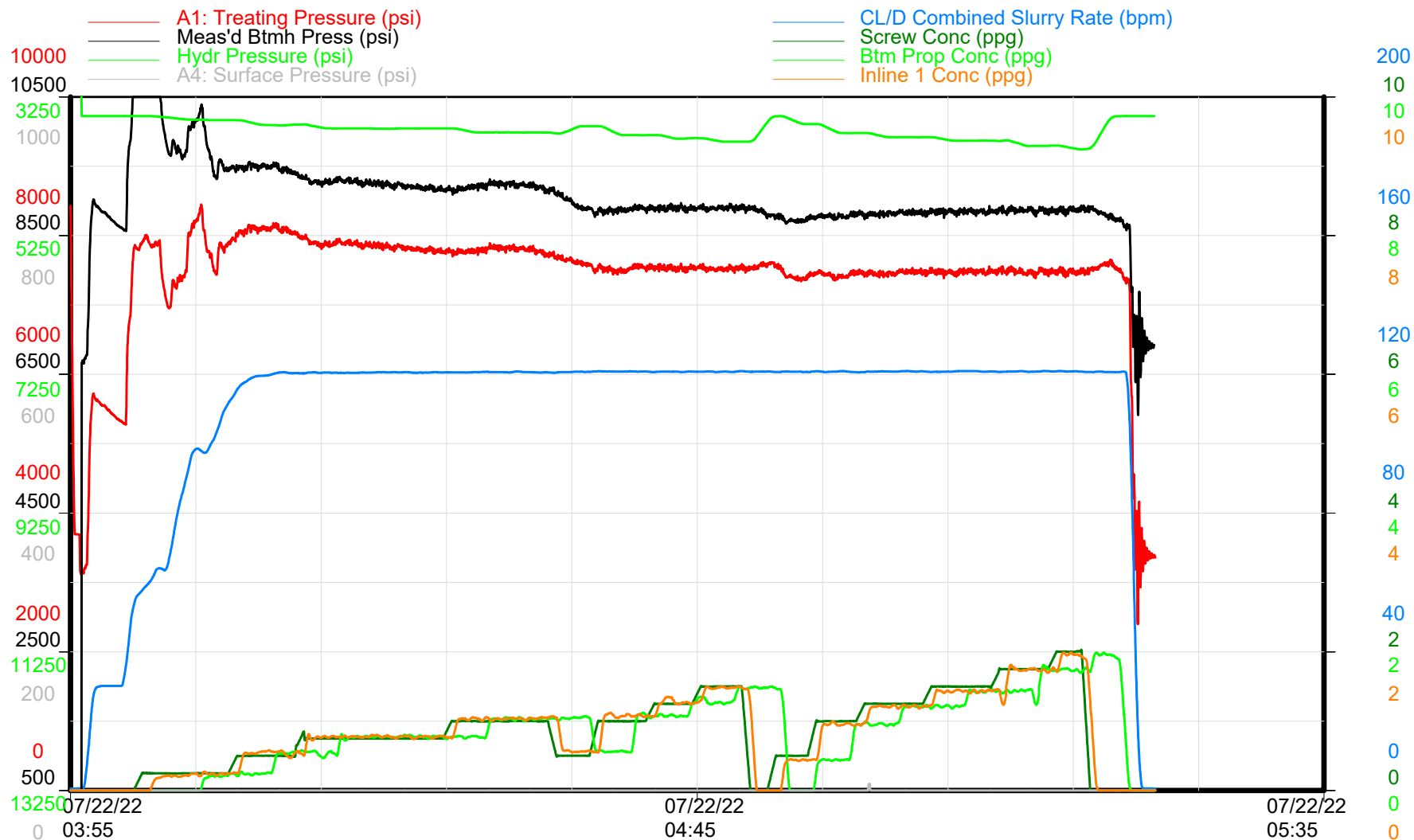
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 31

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 31 of 58



Treatment Plot

Time

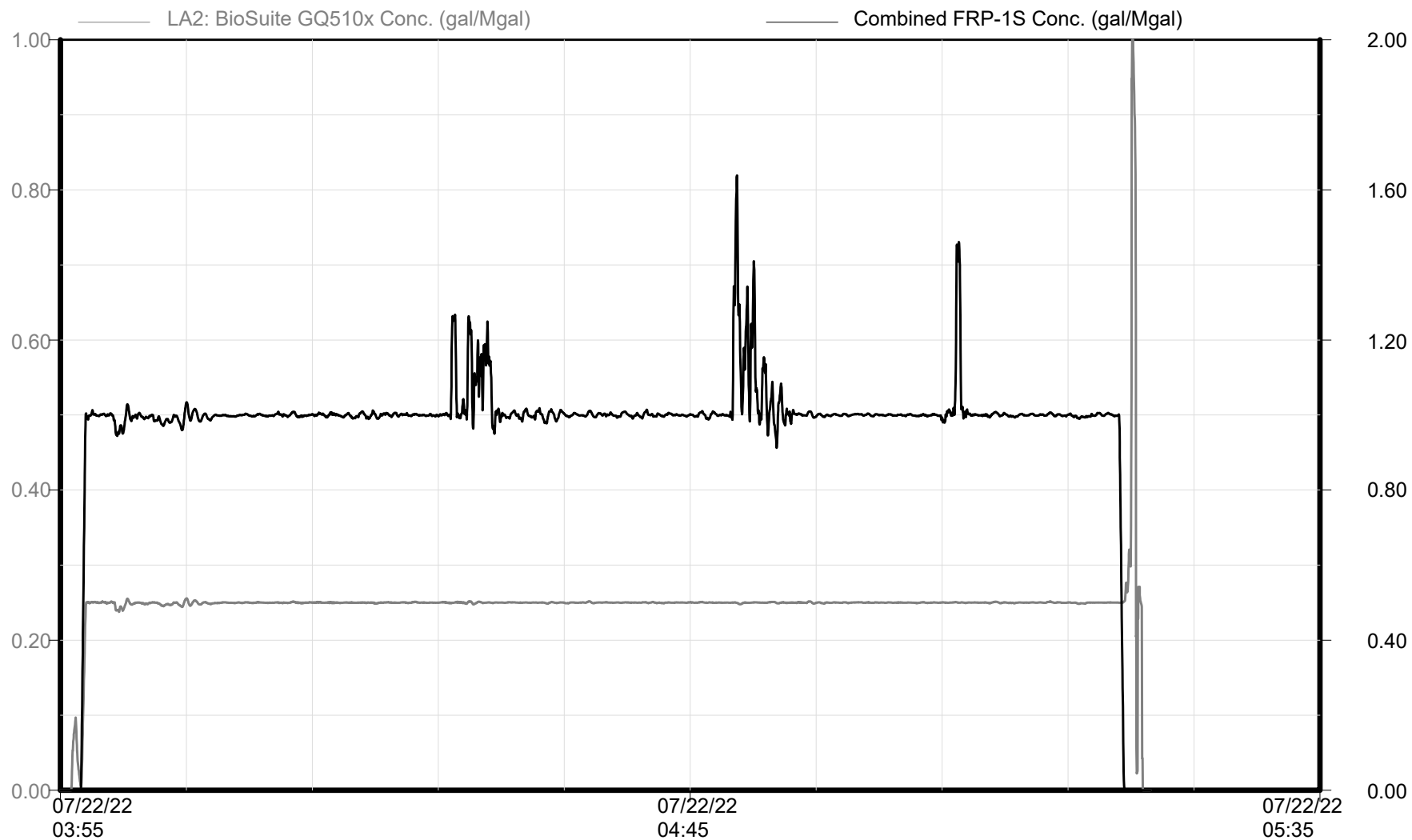
Republic Crew

Cystal 6-65 22-10 10HN Stage 31



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 31 of 58



Chemical Additives

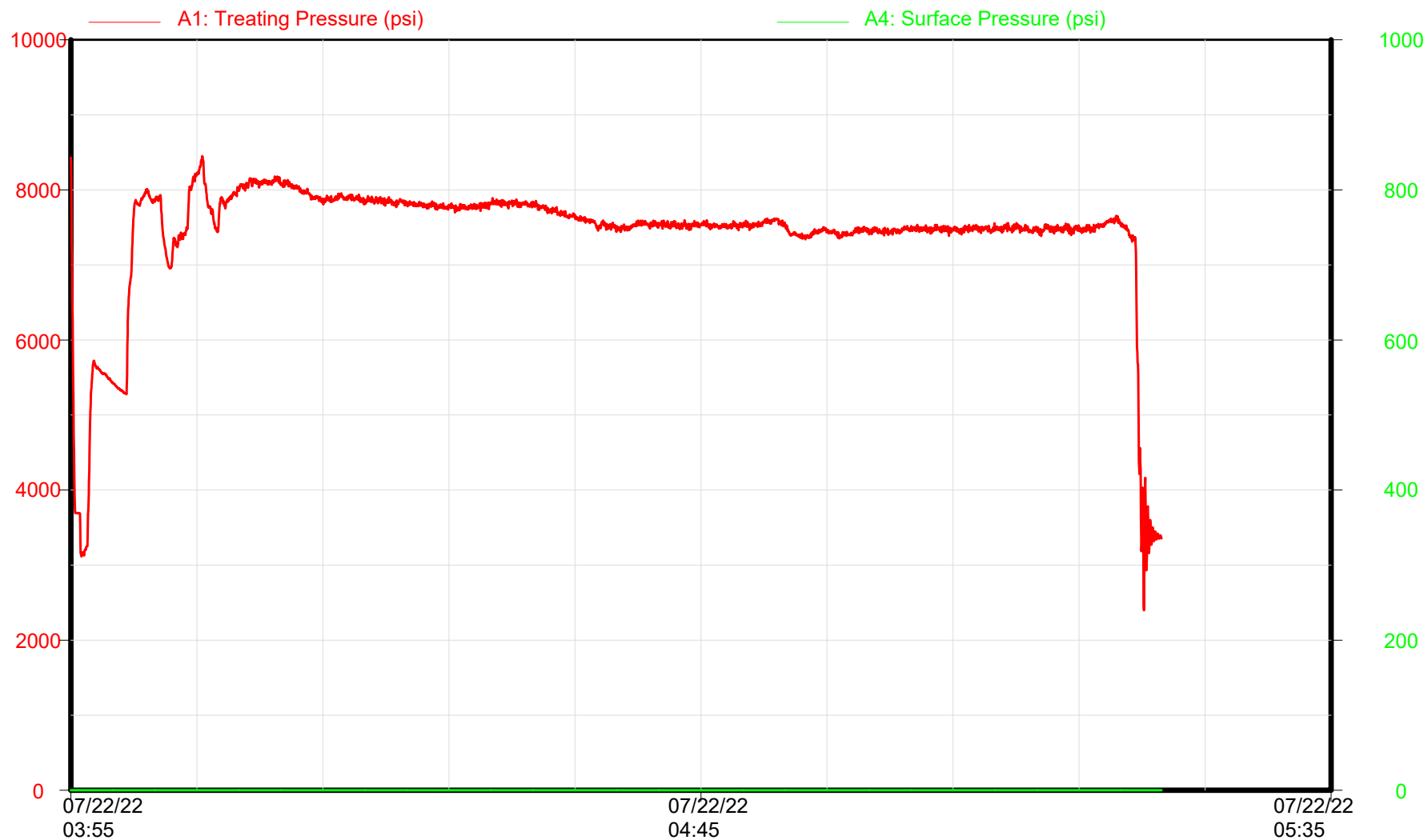
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 31

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 31 of 58



Surface/Treating Pressures

Time

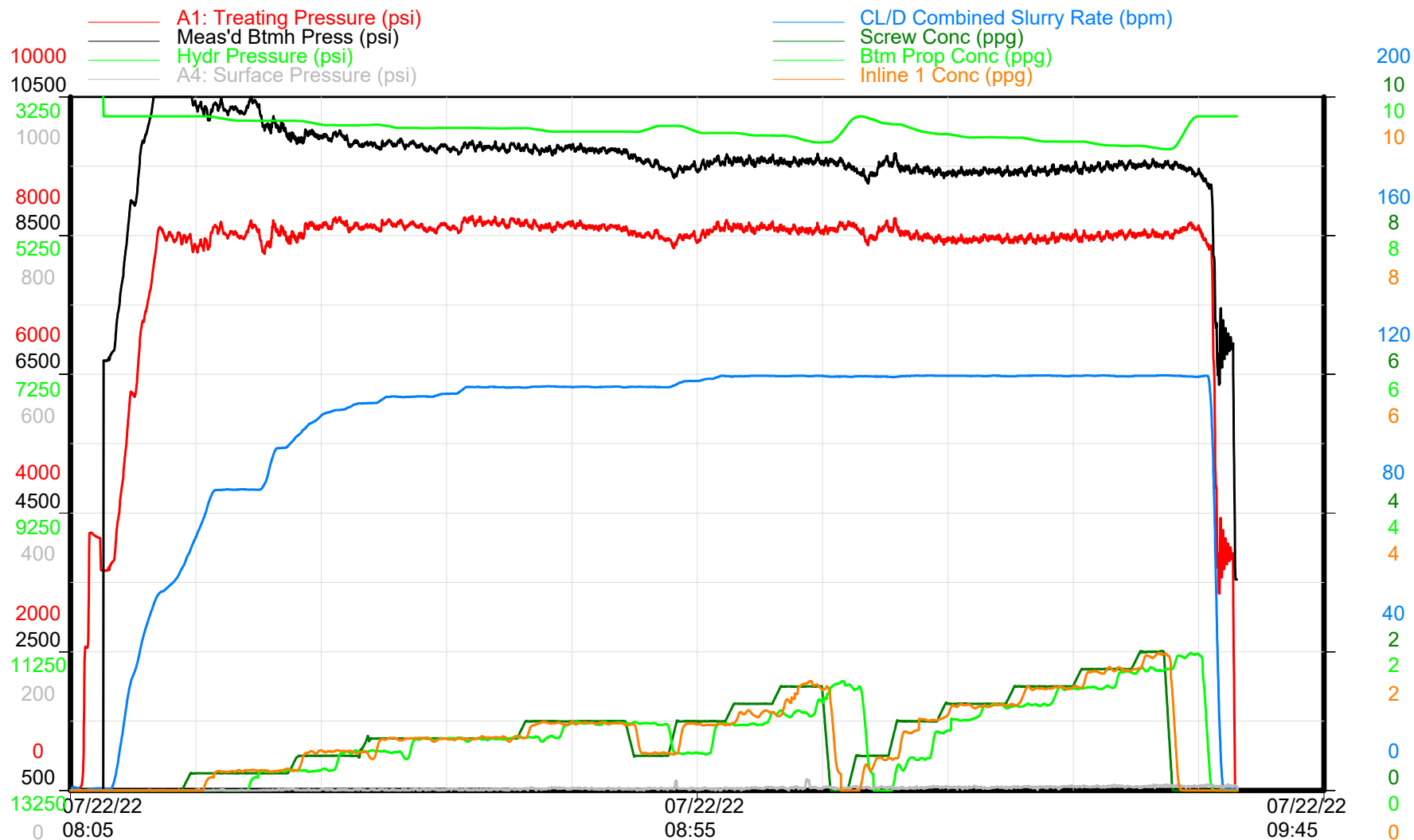
Republic Crew

Cystal 6-65 22-10 10HN Stage 32



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 32 of 58



Treatment Plot

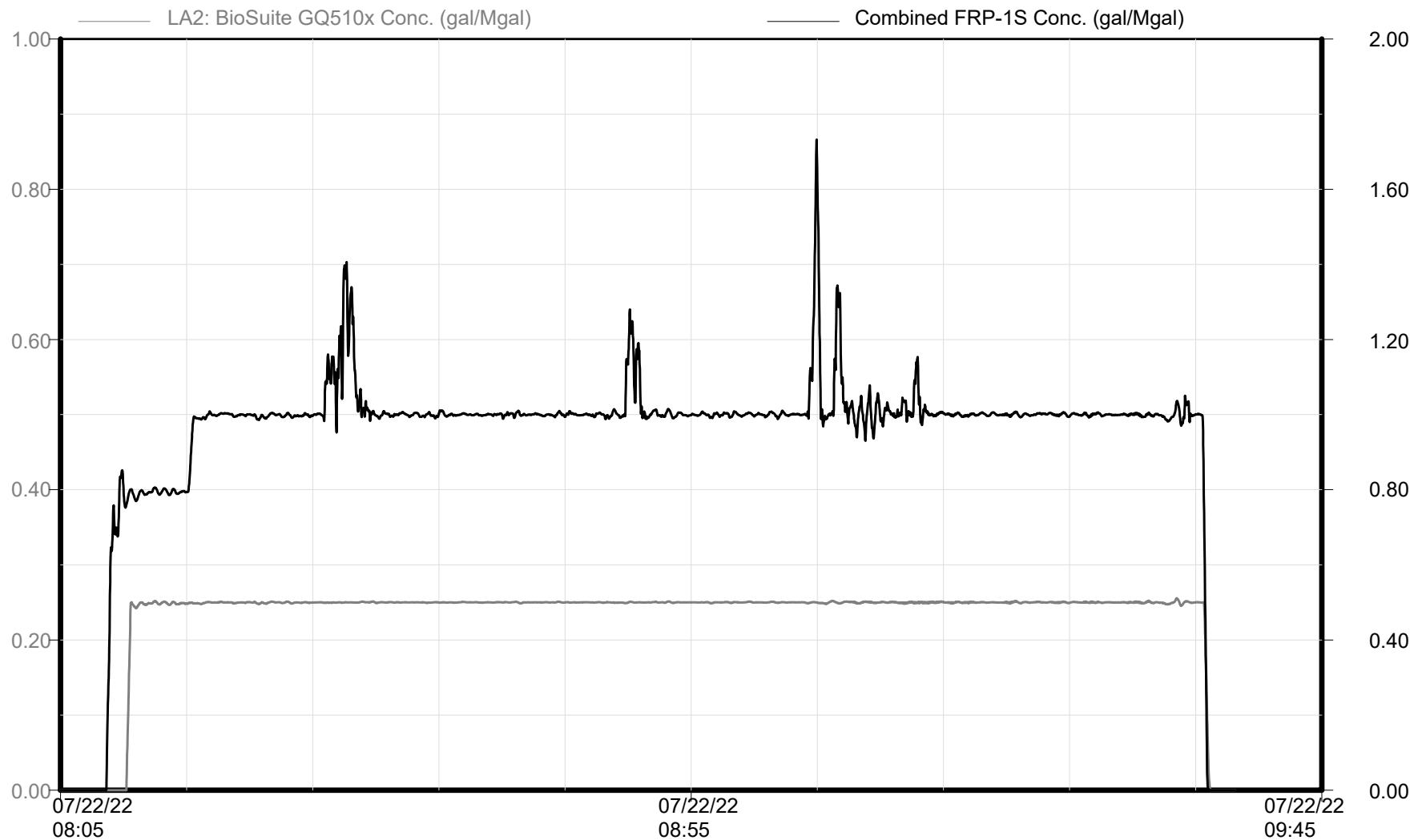
Time

Republic Crew



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 32 of 58



Chemical Additives

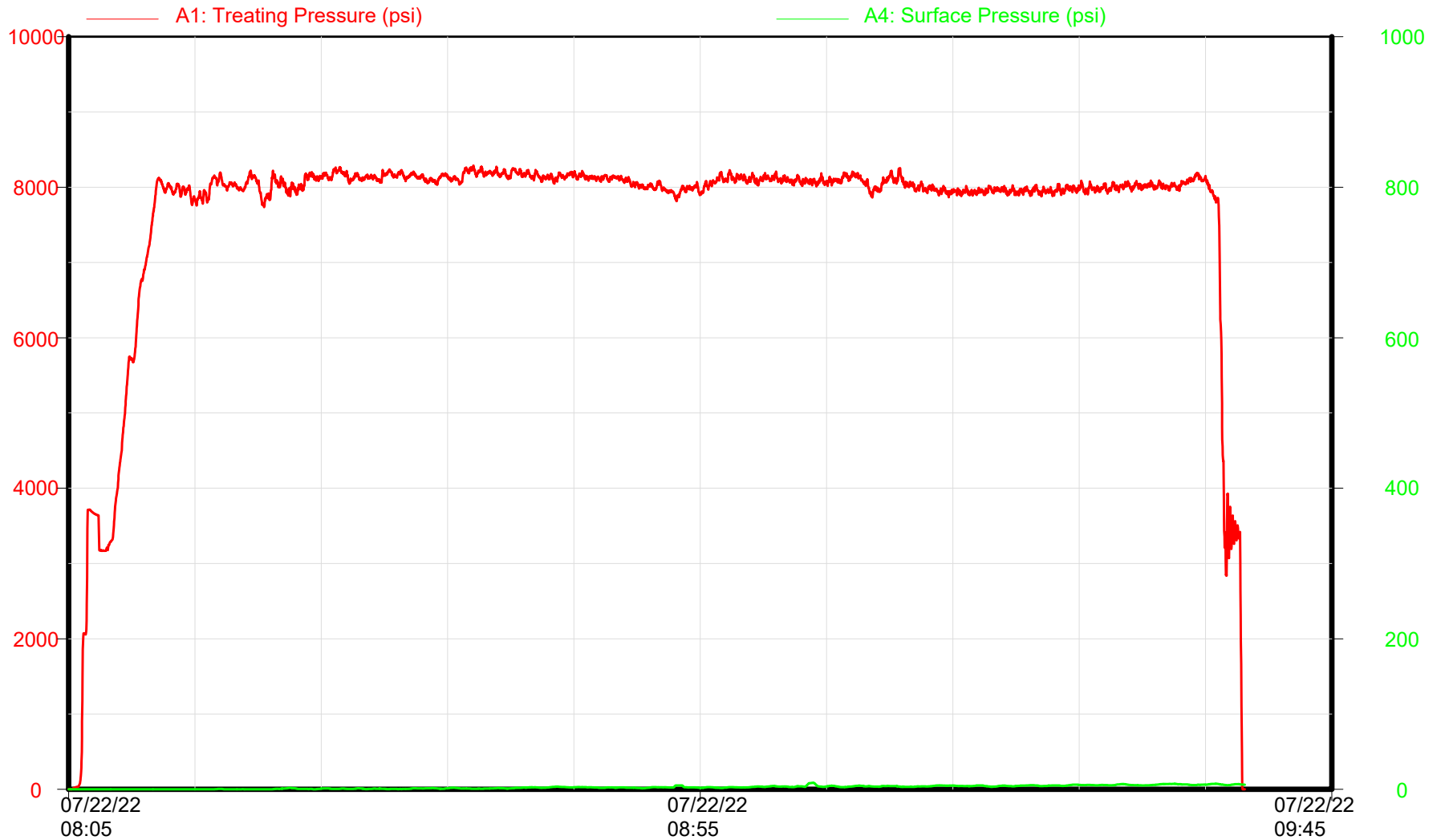
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 32

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 32 of 58



Surface/Treating Pressures

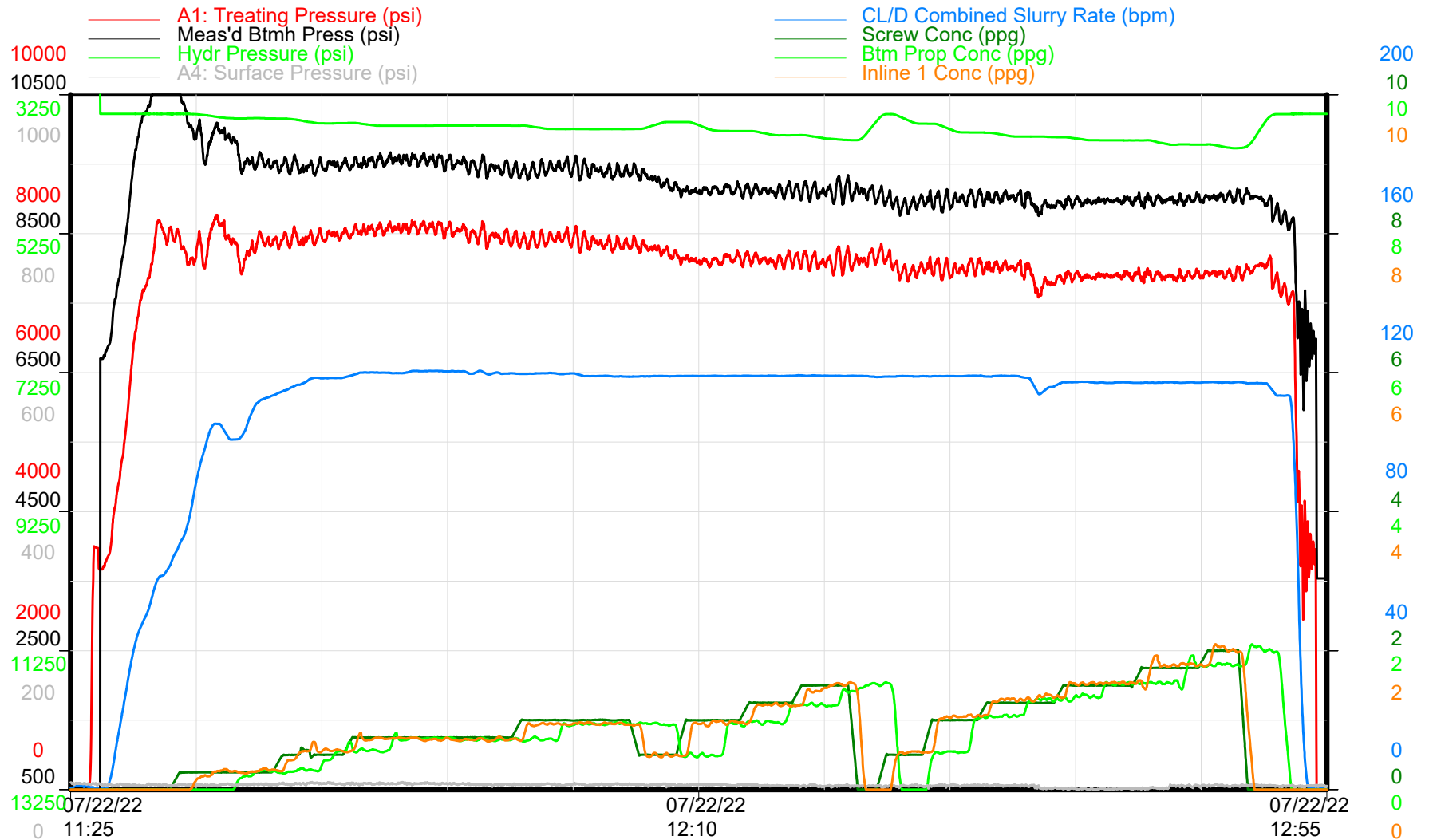
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 33

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 33 of 58



Treatment Plot

Time

Republic Crew

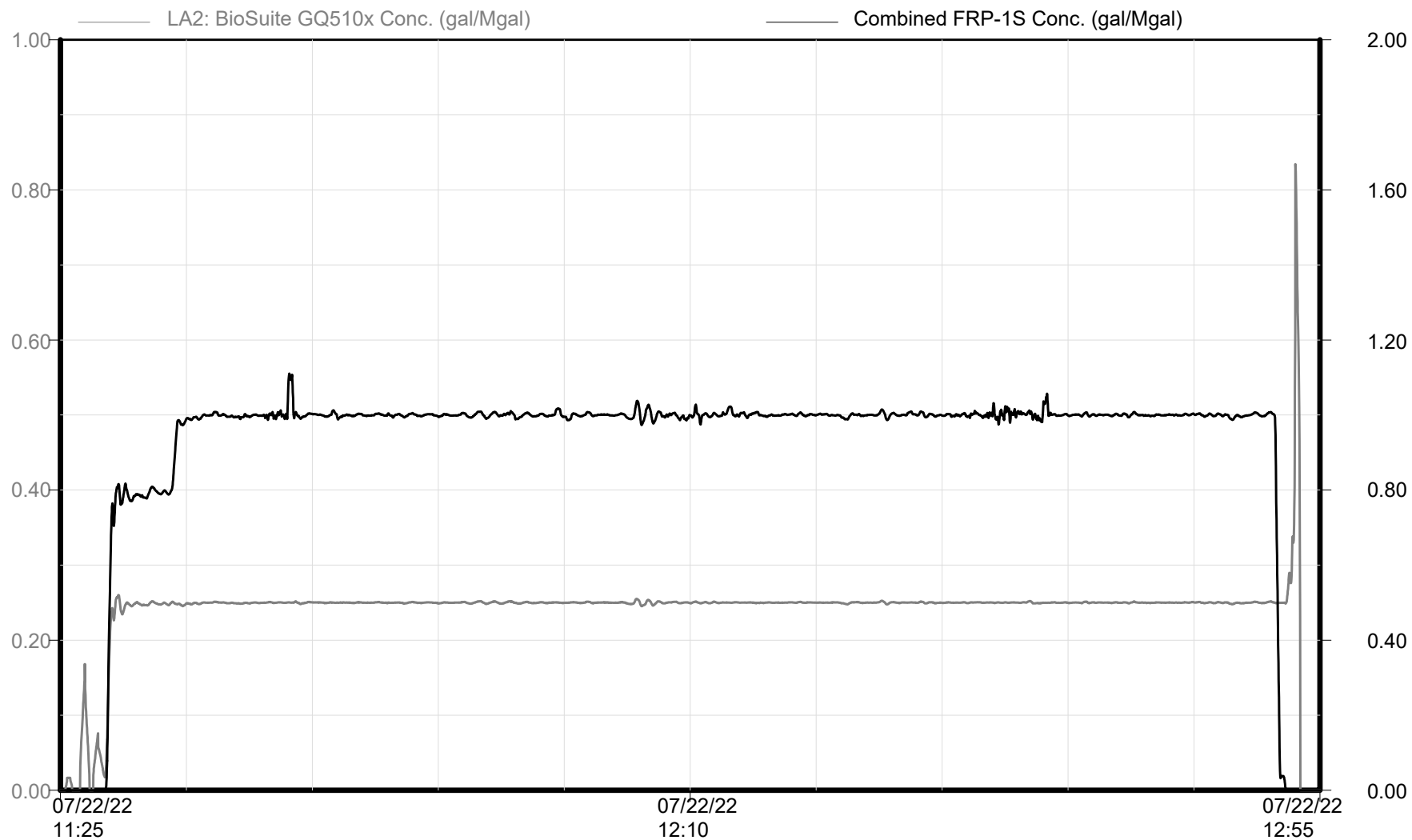


Cystal 6-65 22-10 10HN Stage 33



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 33 of 58



Chemical Additives

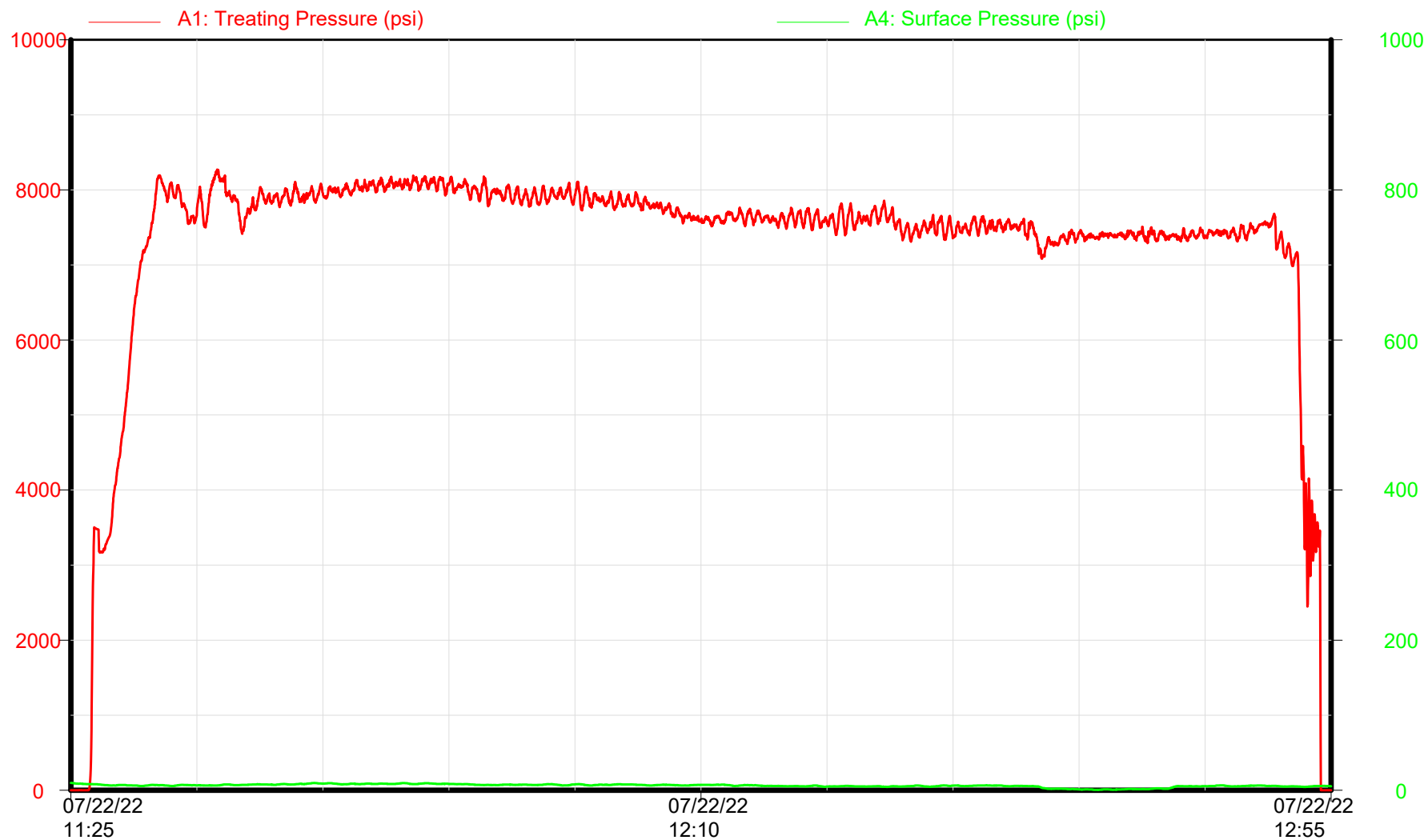
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 33

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 33 of 58



Surface/Treating Pressures

Time

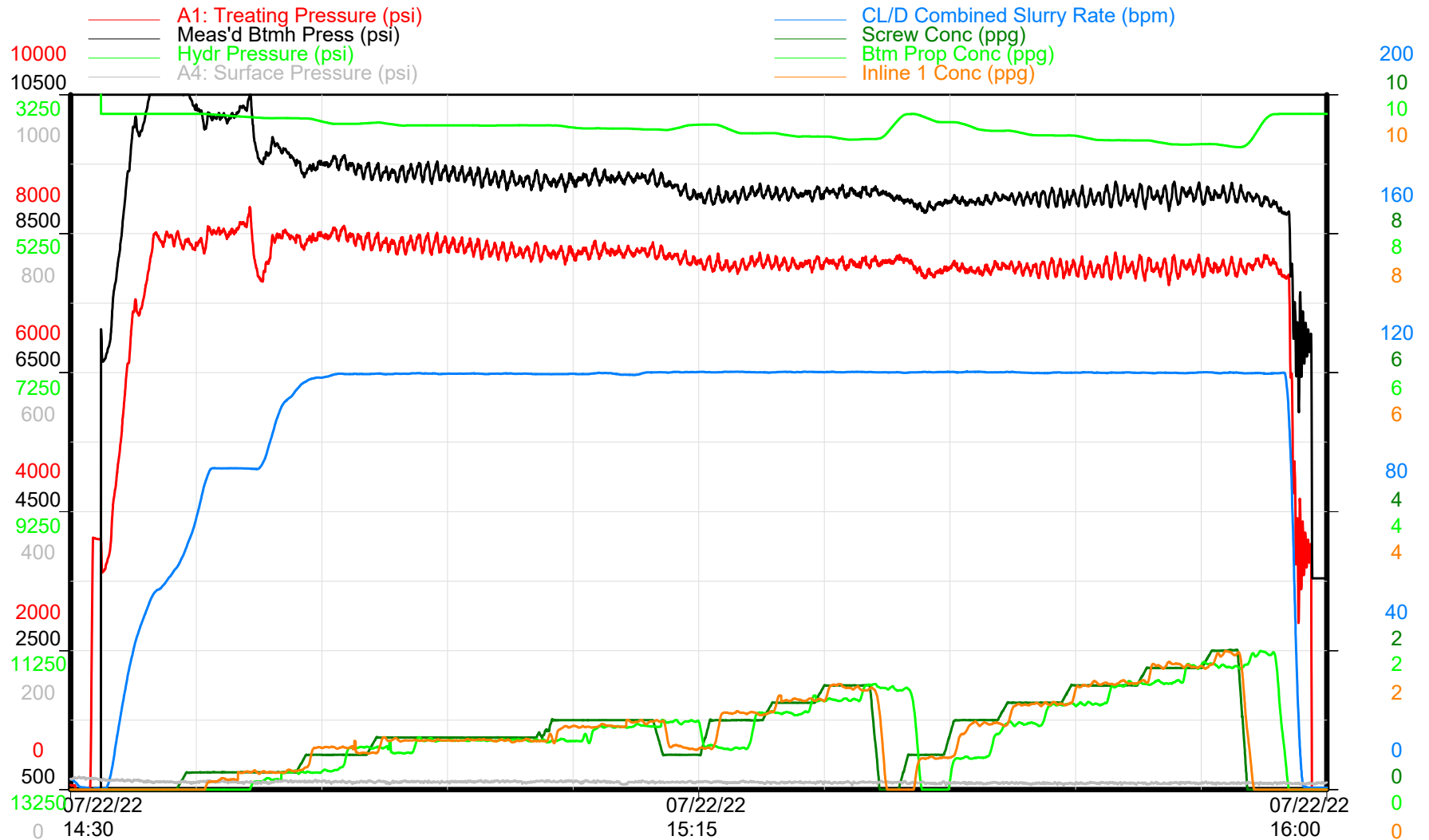
Republic Crew

Cystal 6-65 22-10 10HN Stage 34



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 34 of 58



Treatment Plot

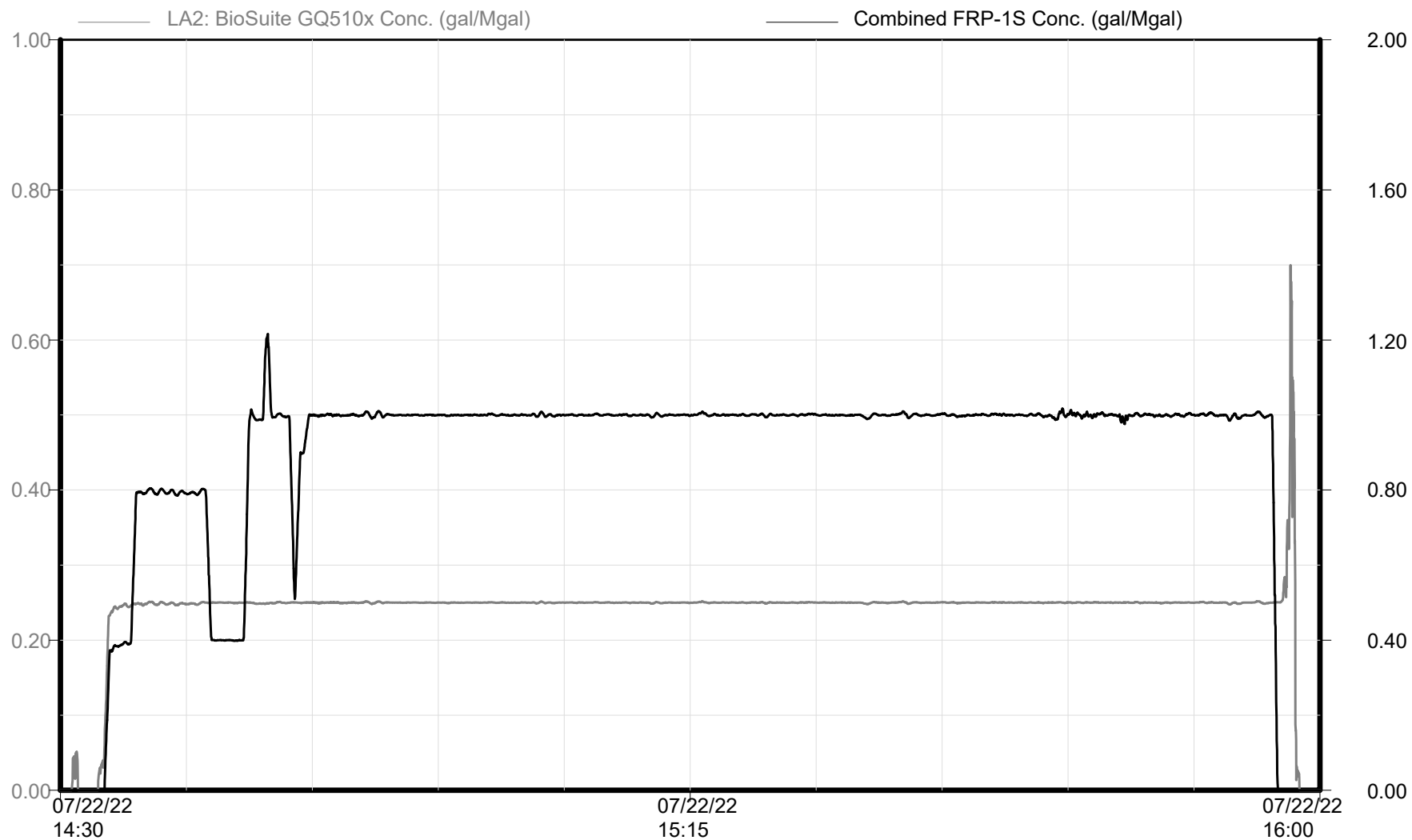
Time

Republic Crew



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 34 of 58



Chemical Additives

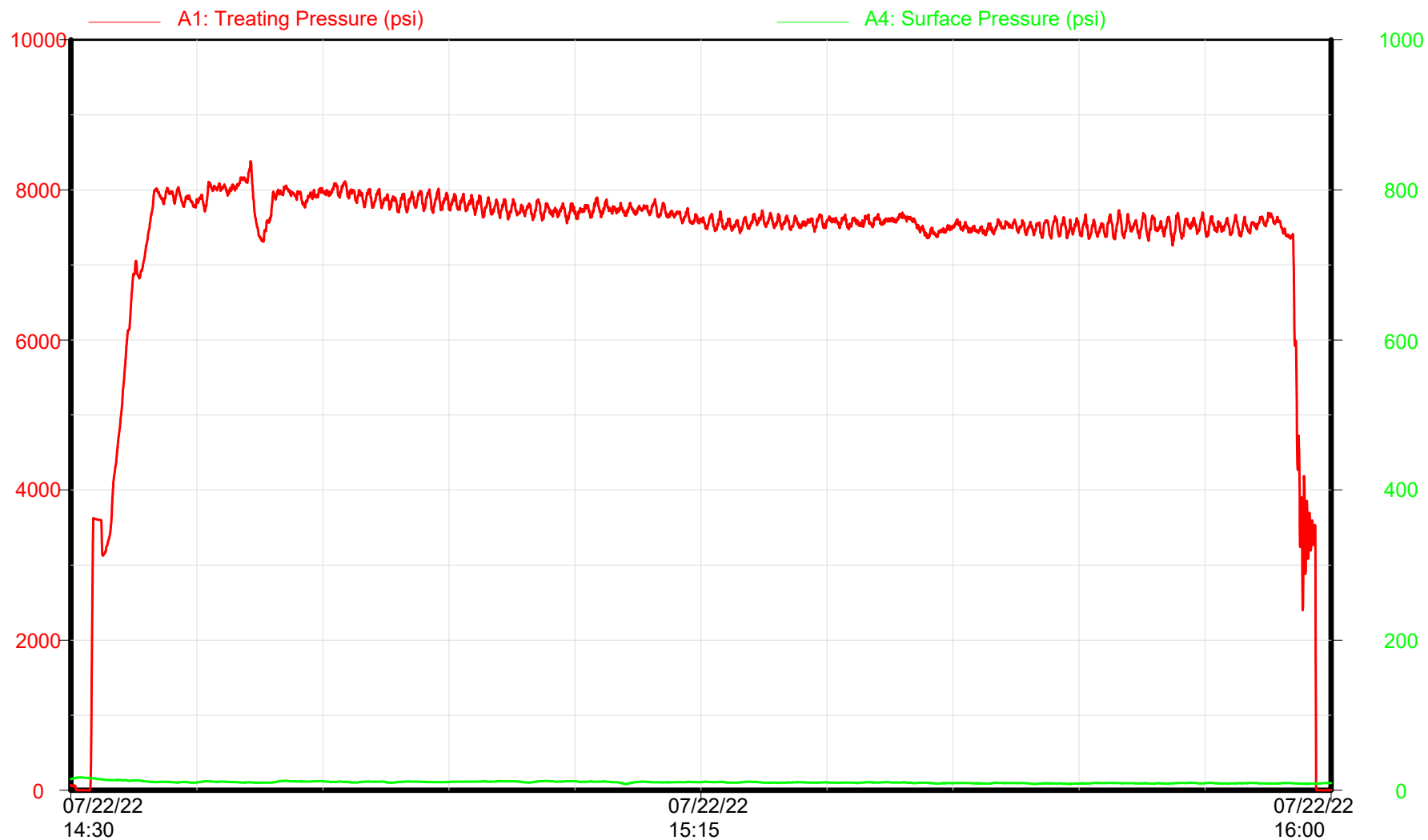
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 34

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 34 of 58



Surface/Treating Pressures

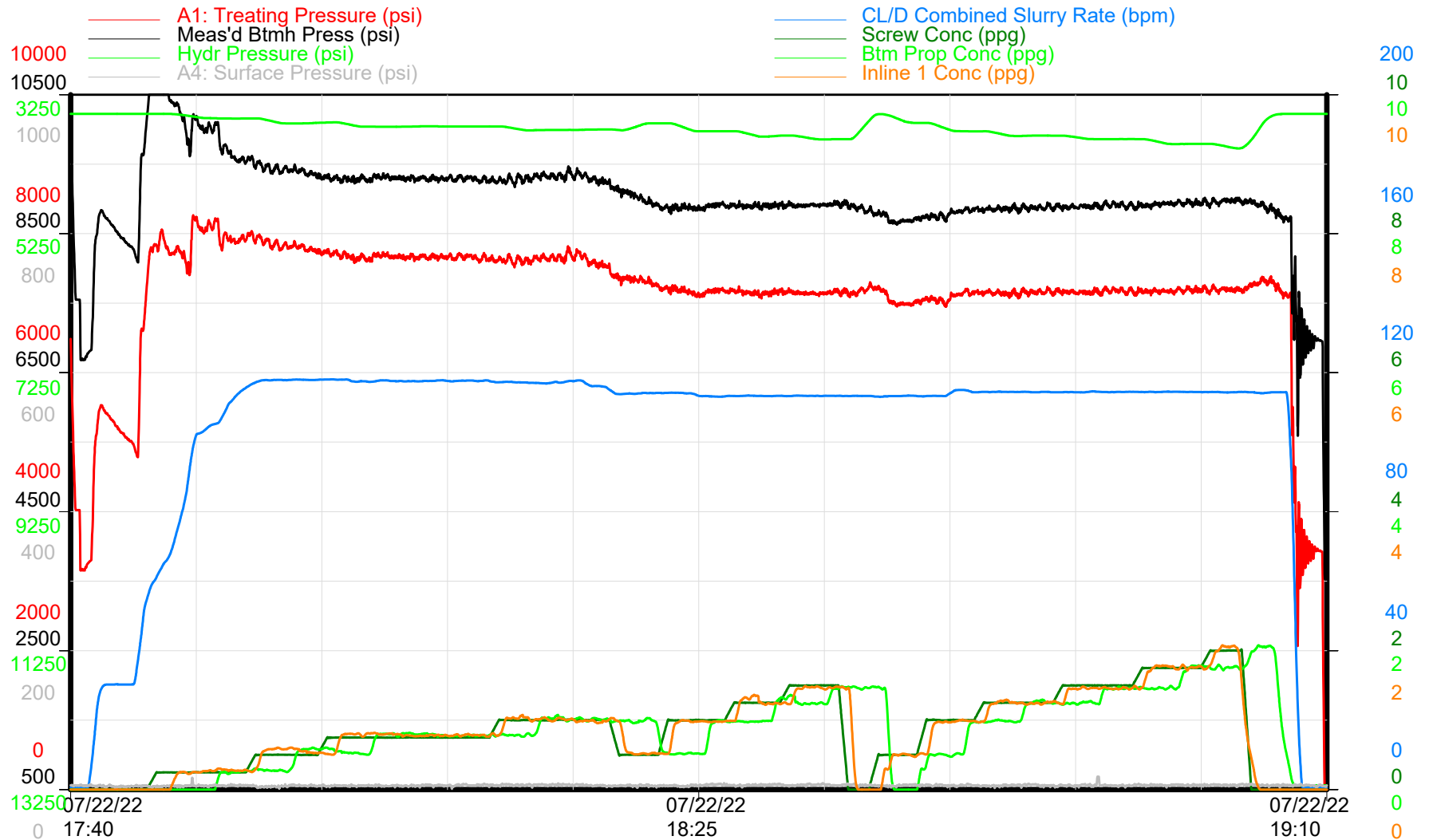
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 35

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 35 of 58



Treatment Plot

Time

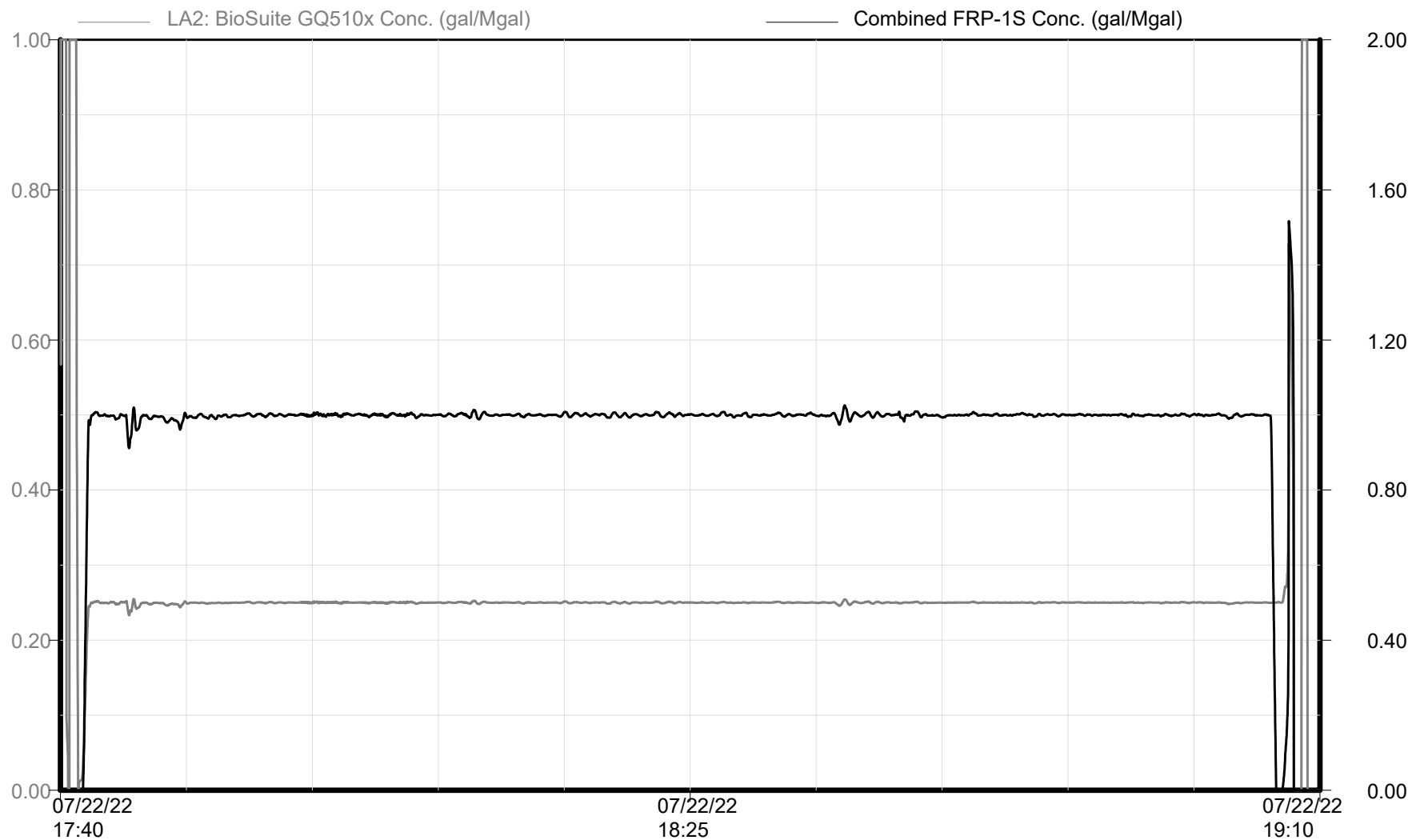
Republic Crew

Cystal 6-65 22-10 10HN Stage 35



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 35 of 58



Chemical Additives

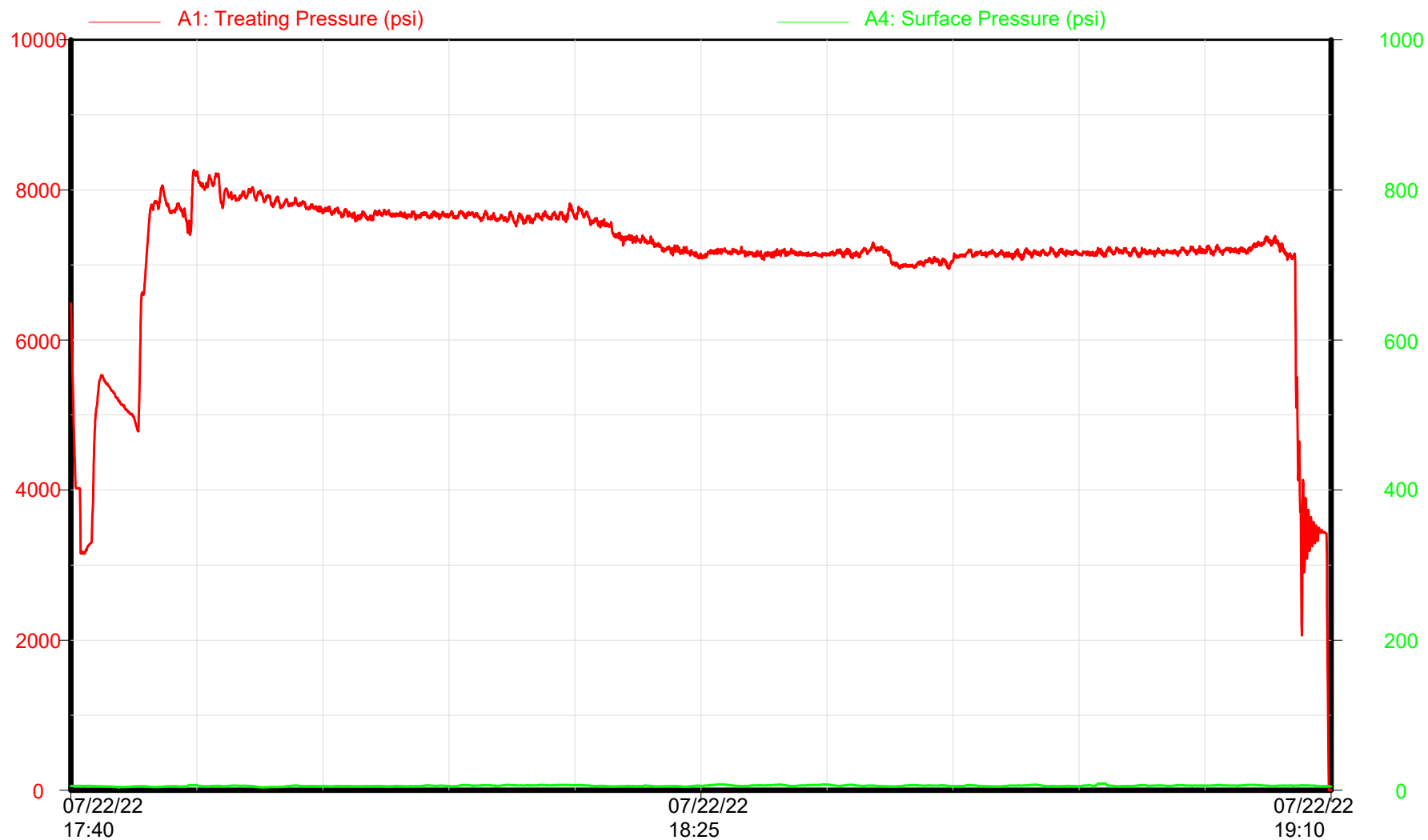
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 35

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 35 of 58



Surface/Treating Pressures

Time

Republic Crew

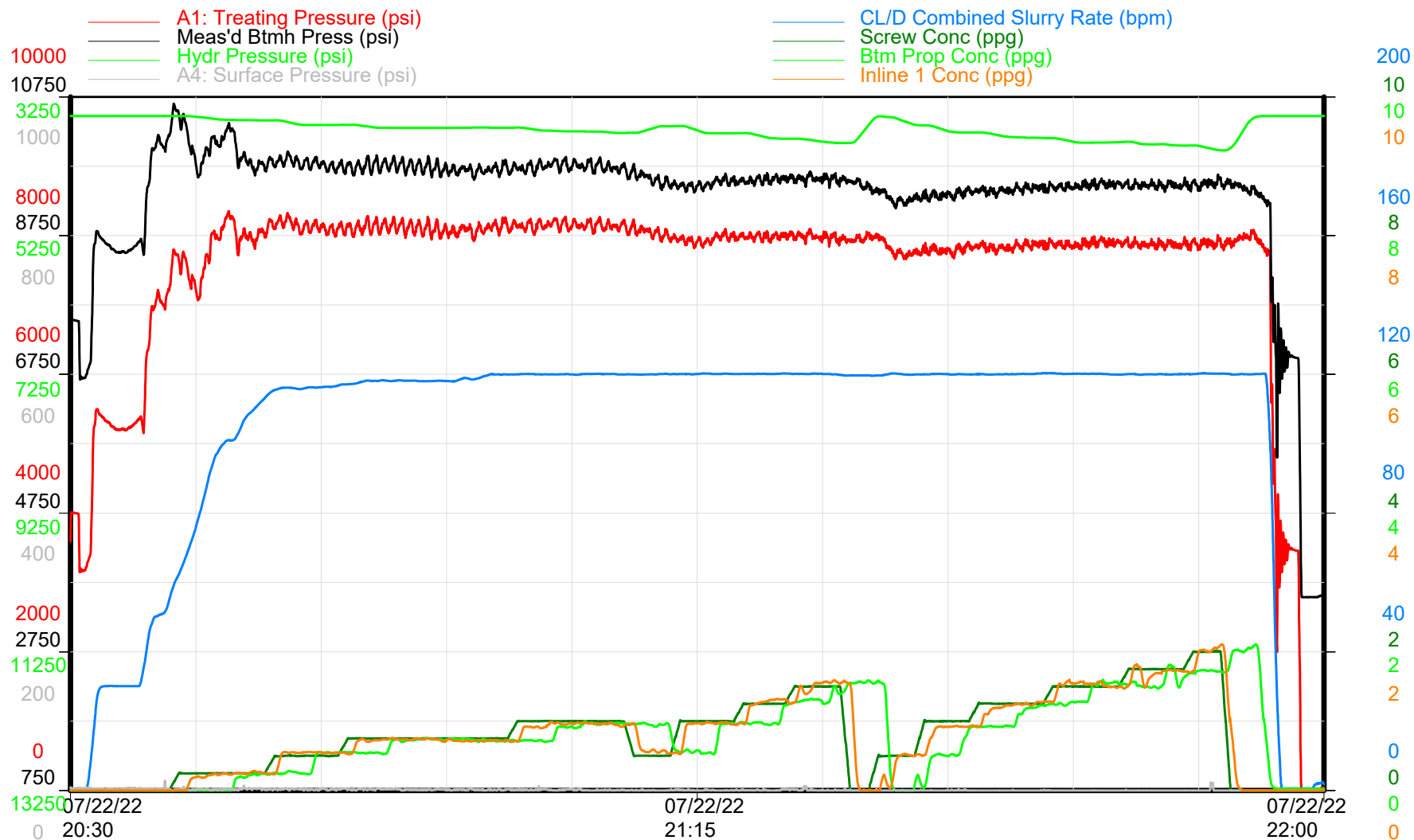


Cystal 6-65 22-10 10HN Stage 36



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 36 of 58



Treatment Plot

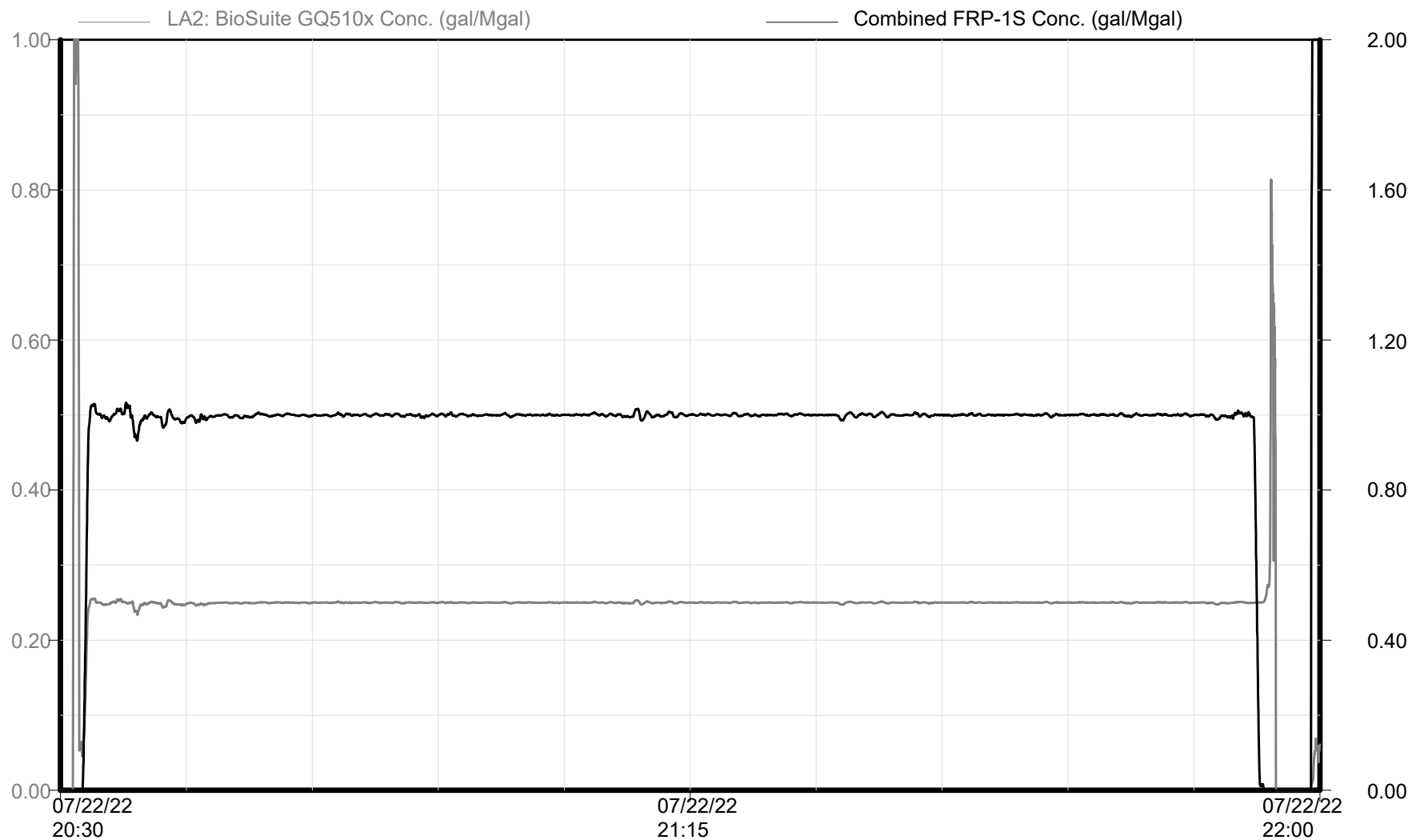
Time

Republic Crew



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 36 of 58



Chemical Additives

Time

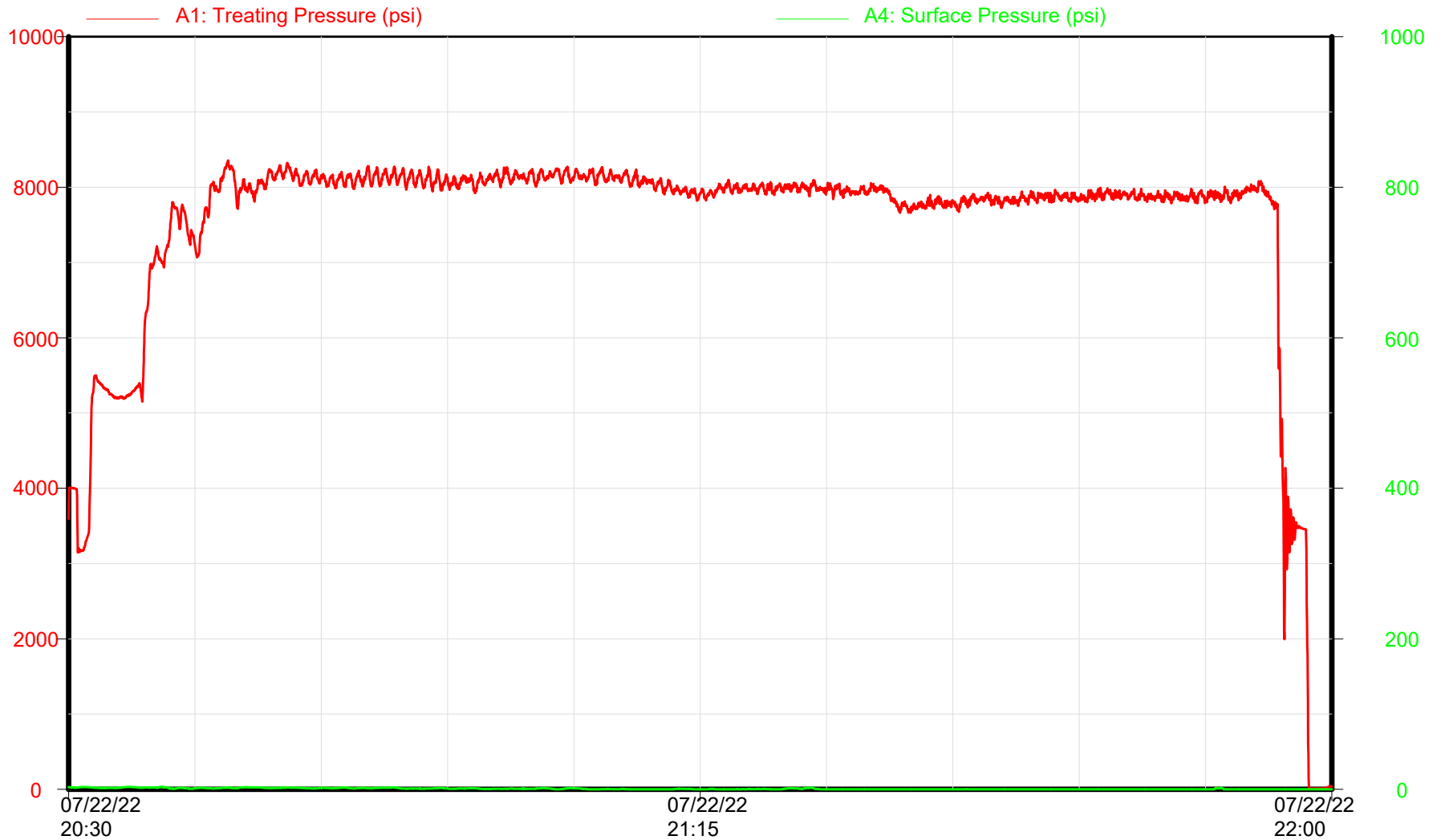
Republic Crew

Cystal 6-65 22-10 10HN Stage 36



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 36 of 58



Surface/Treating Pressures

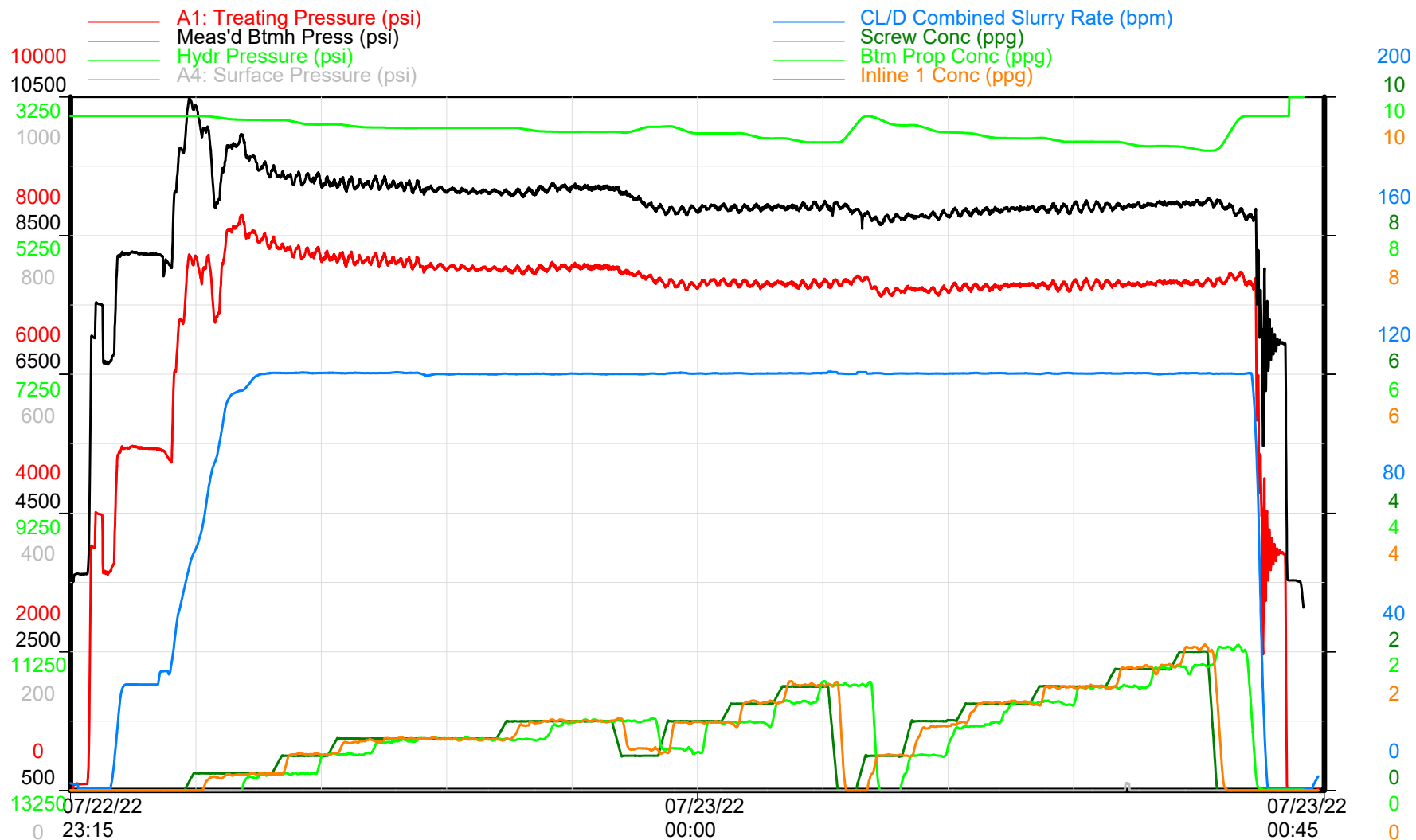
Time

Republic Crew



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 37 of 58



Treatment Plot

Time

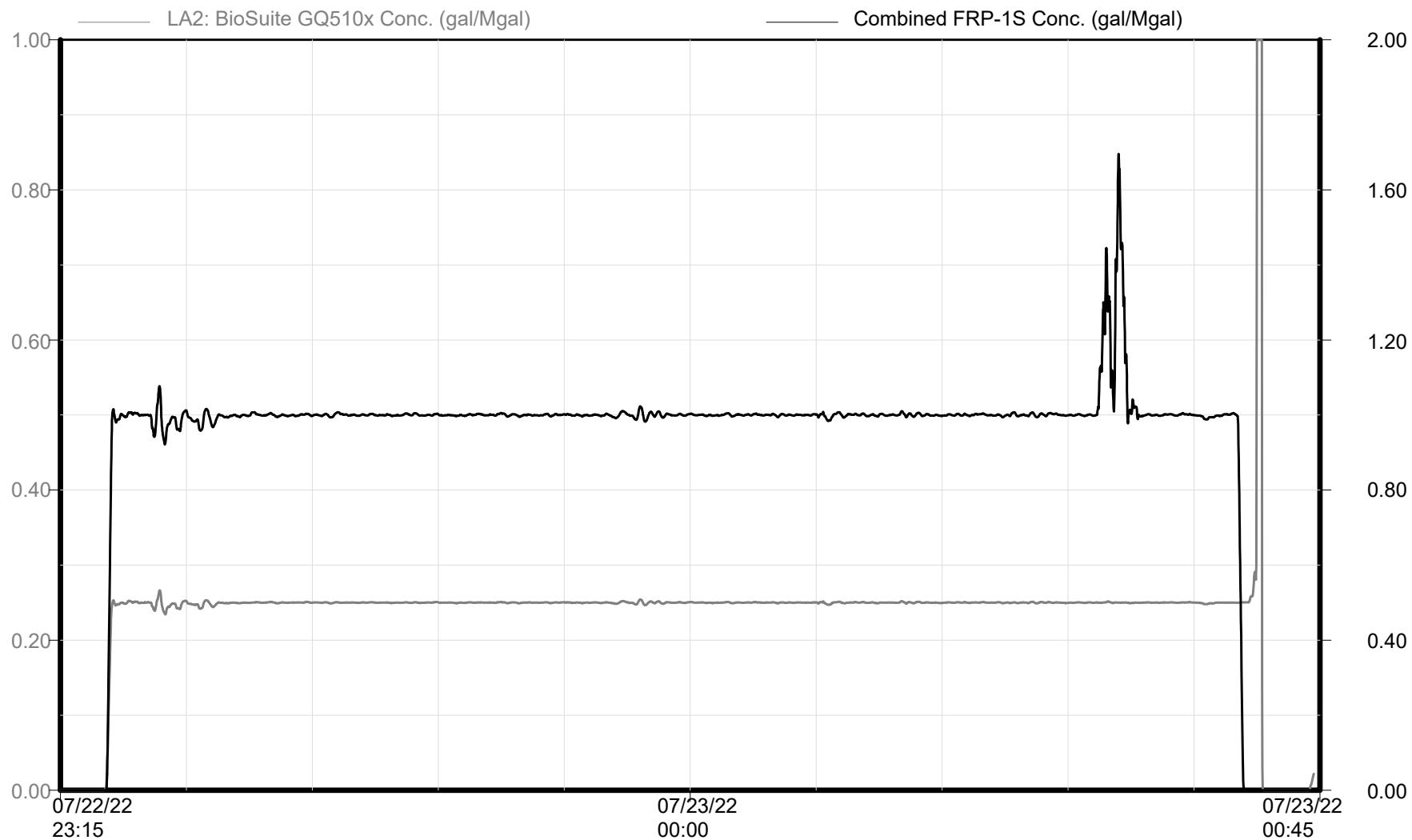
Republic Crew

Cystal 6-65 22-10 10HN Stage 37



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 37 of 58



Chemical Additives

Time

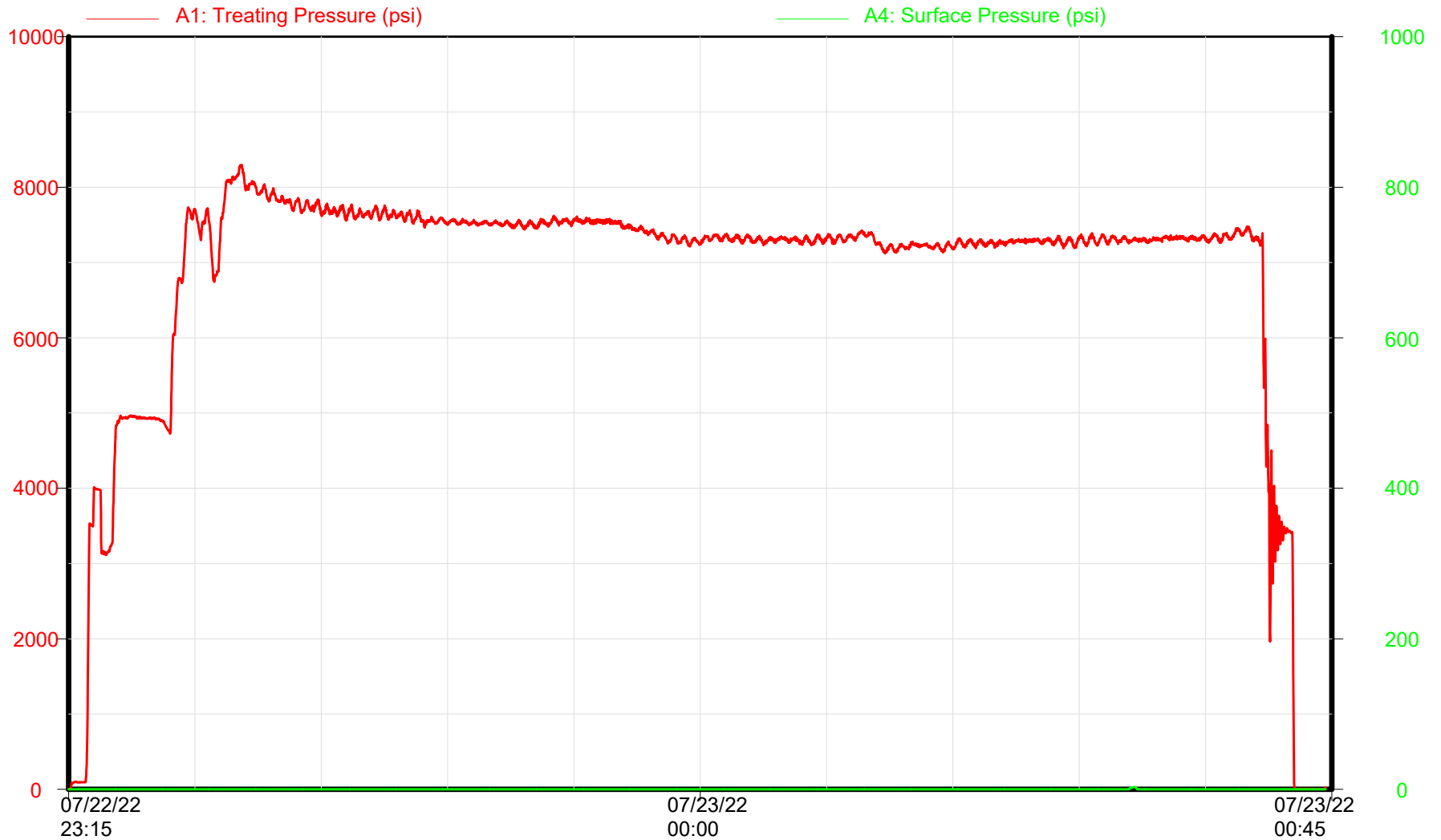
Republic Crew

Cystal 6-65 22-10 10HN Stage 37



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 37 of 58



Surface/Treating Pressures

Time

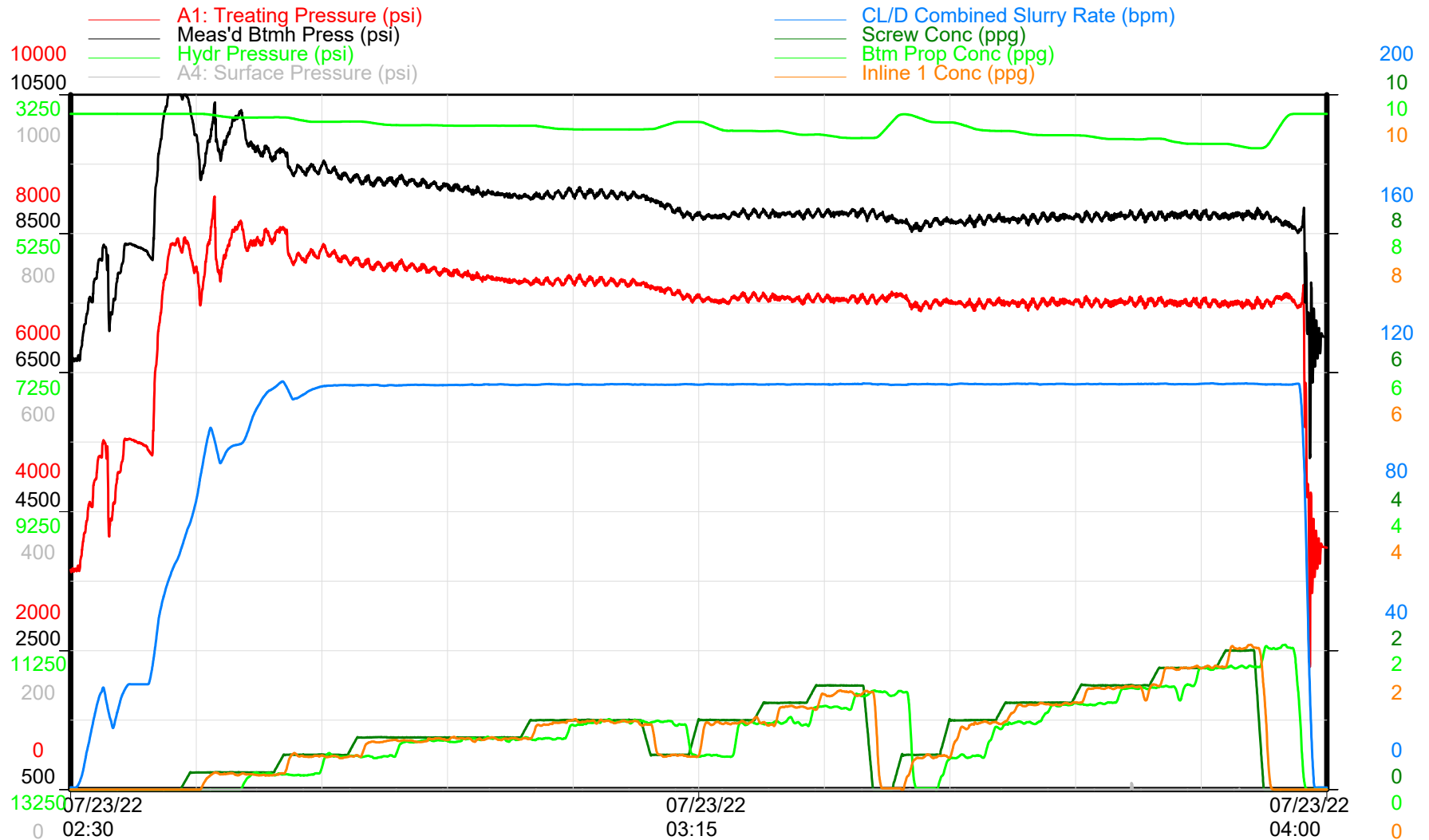
Republic Crew

Cystal 6-65 22-10 10HN Stage 38



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 38 of 58



Treatment Plot

Time

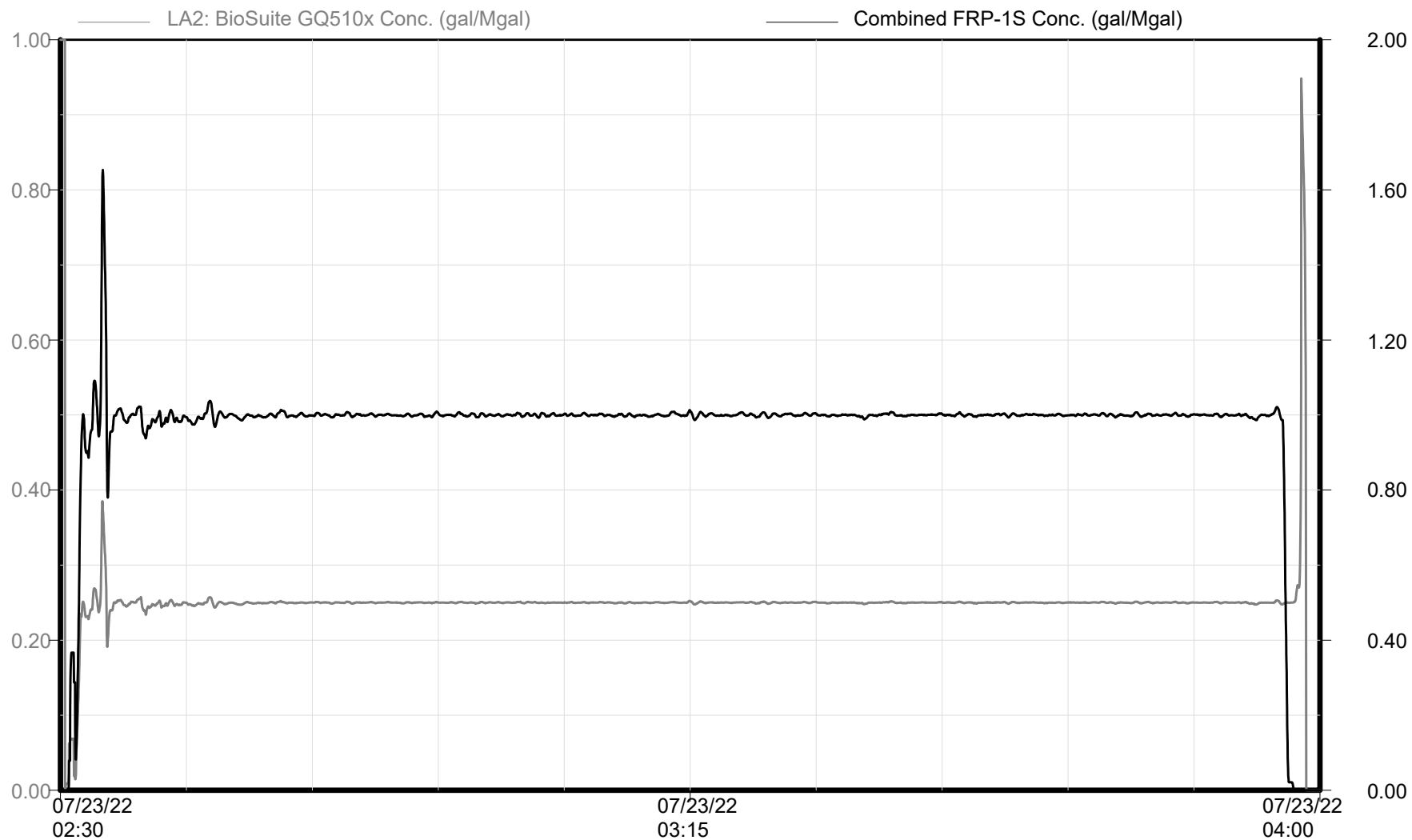
Republic Crew

Cystal 6-65 22-10 10HN Stage 38



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 38 of 58



Chemical Additives

Time

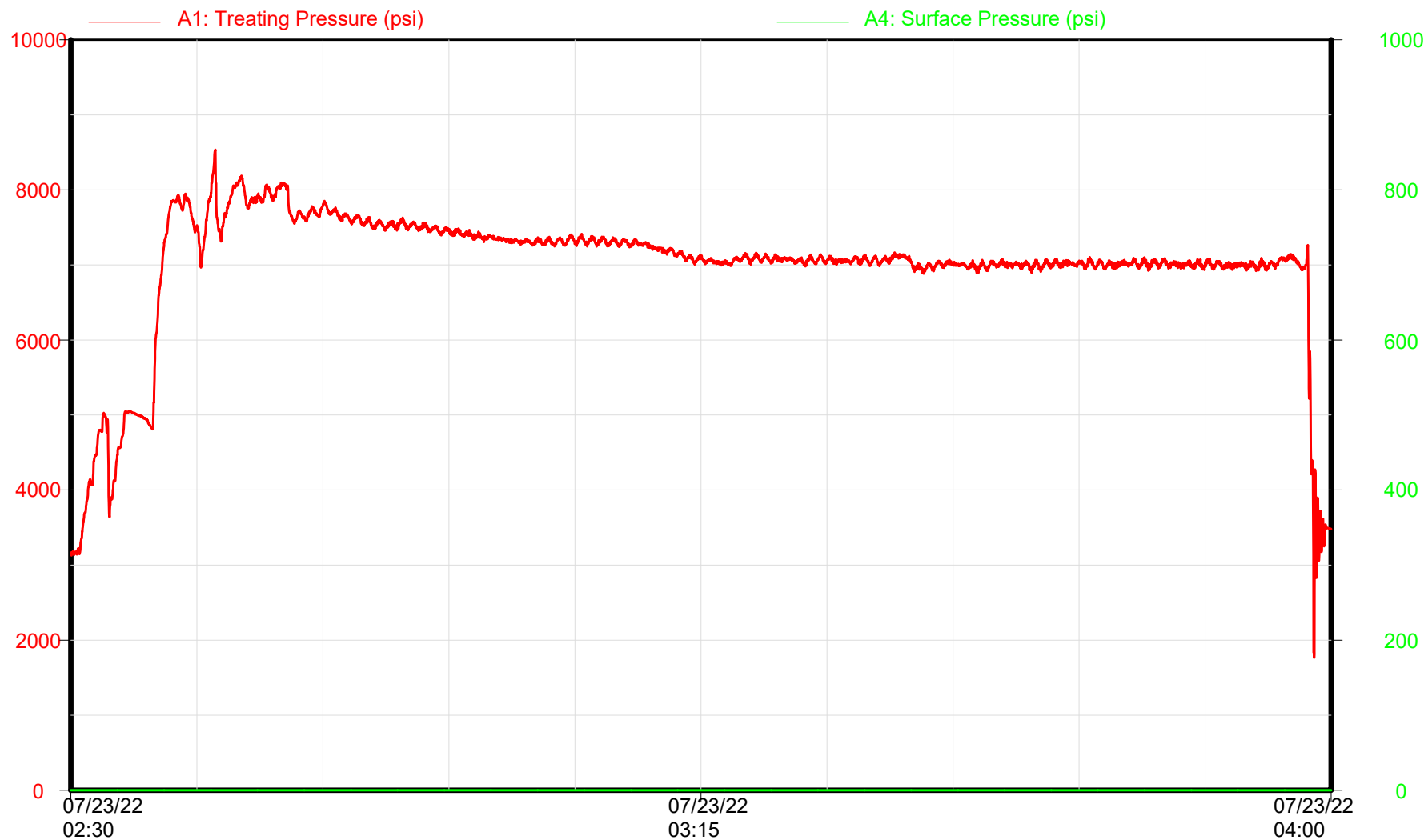
Republic Crew



Cystal 6-65 22-10 10HN Stage 38

GMT - Crystal 6-65 22-10 10HN

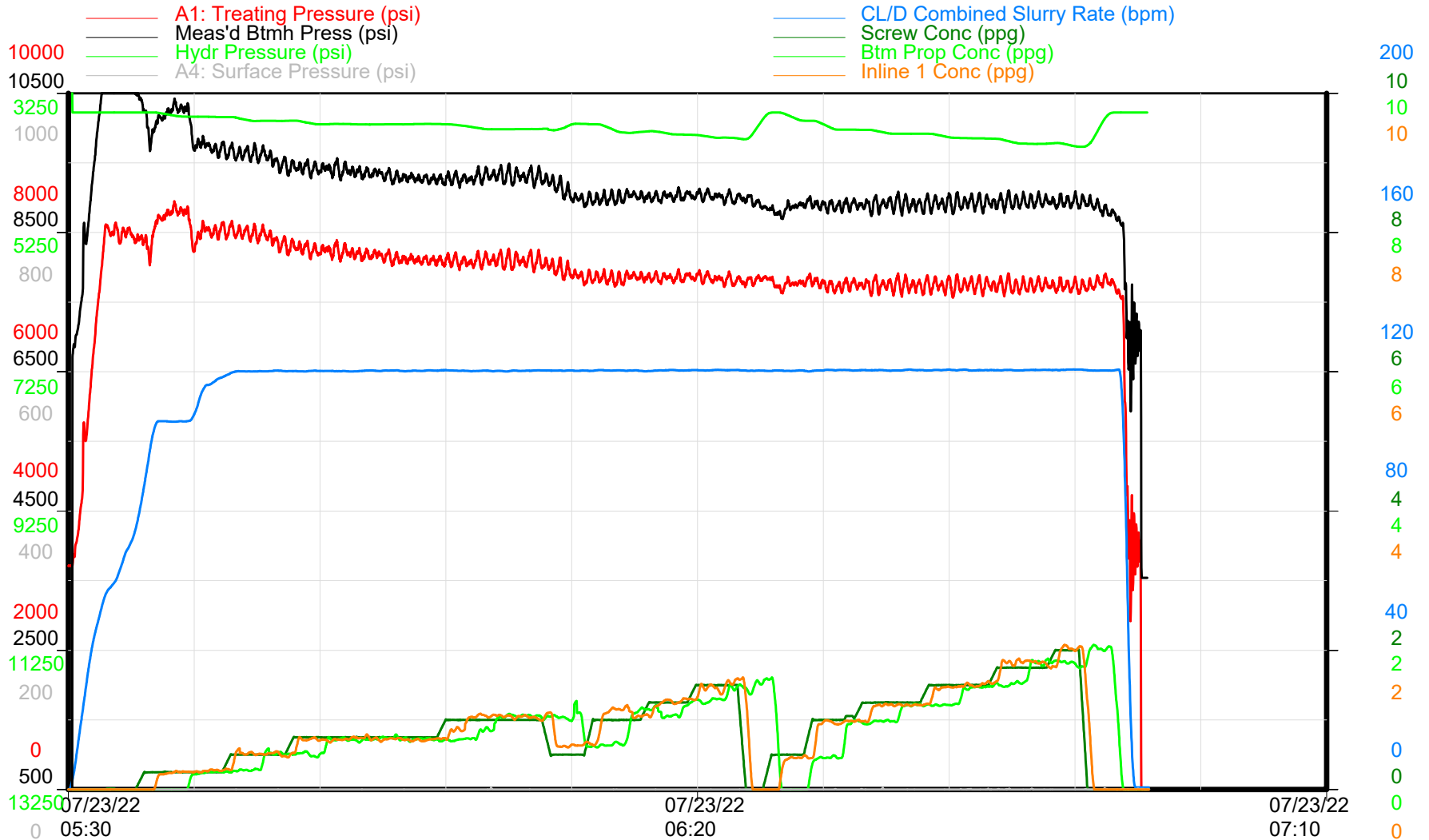
Niobrara - Stage 38 of 58



Surface/Treating Pressures

Time

Republic Crew



Treatment Plot

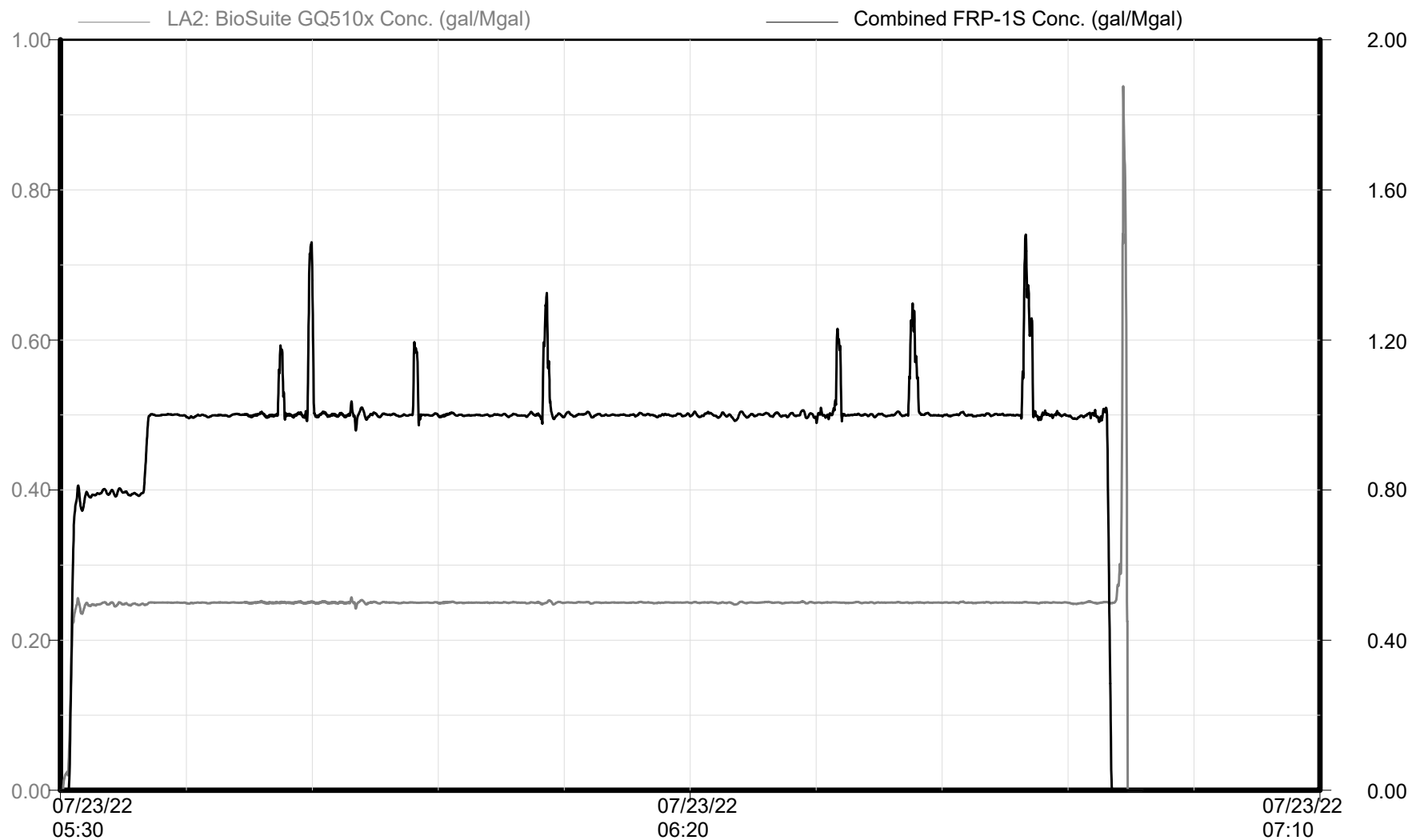
Time

Republic Crew



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 39 of 58



Chemical Additives

Time

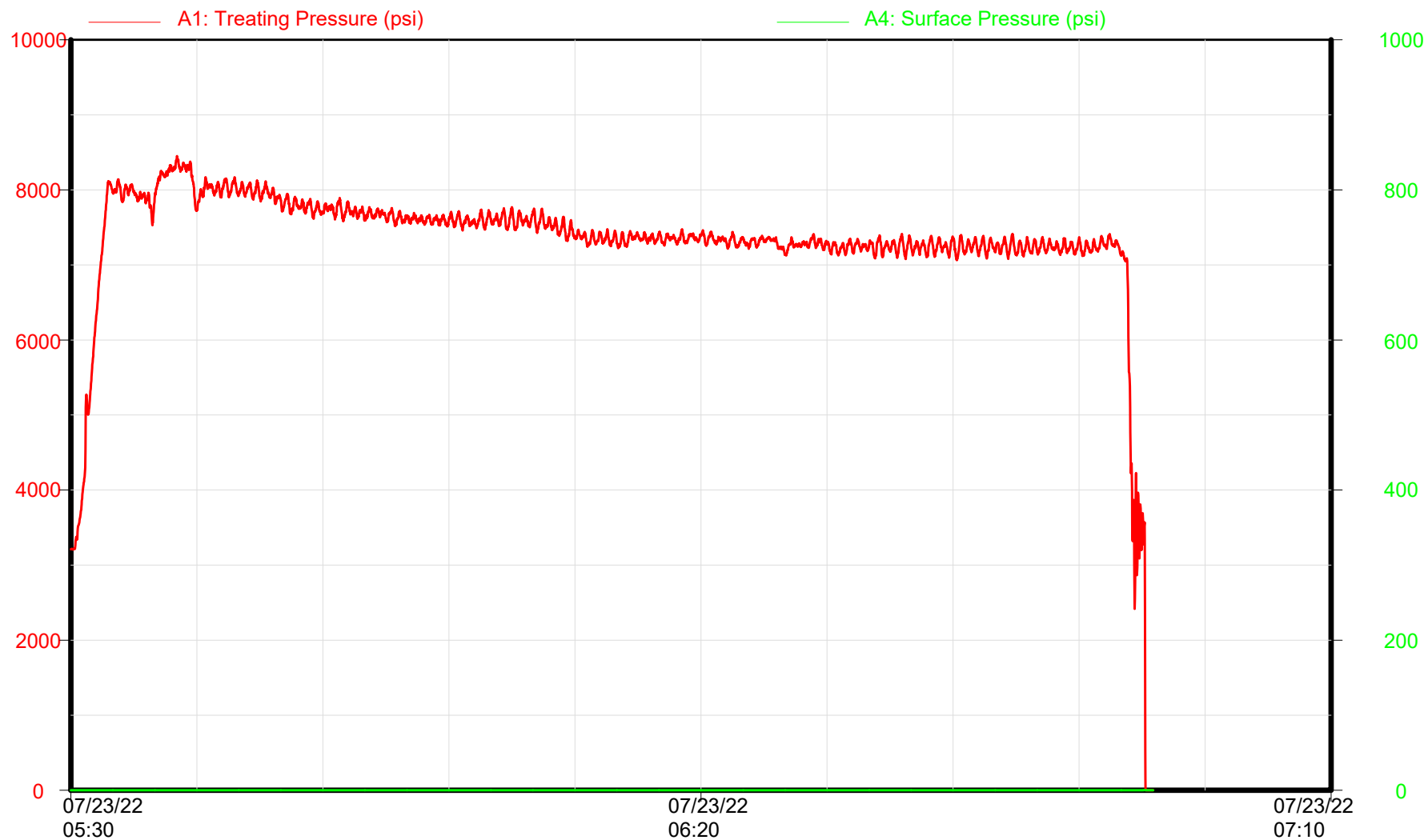
Republic Crew

Cystal 6-65 22-10 10HN Stage 39



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 39 of 58



Surface/Treating Pressures

Time

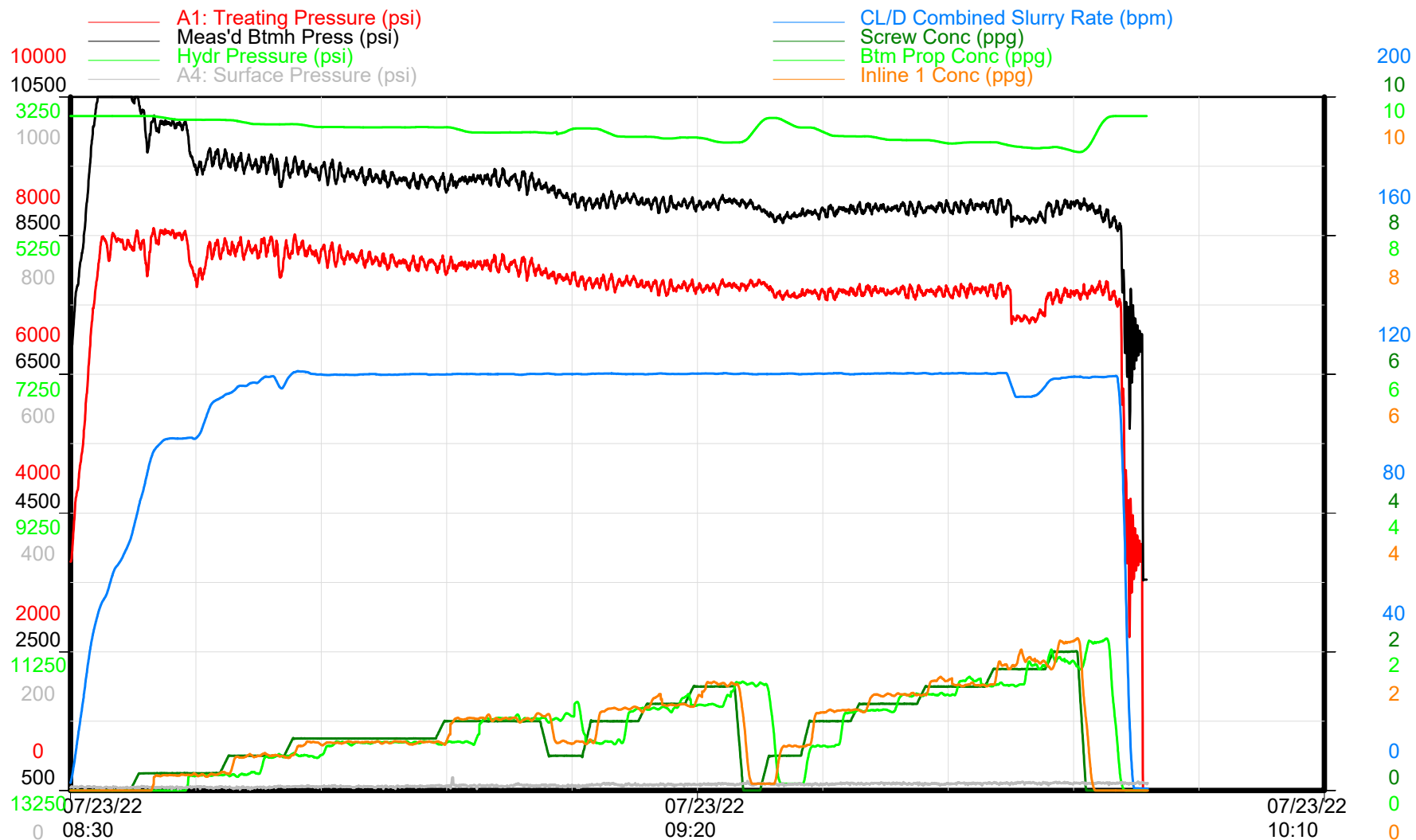
Republic Crew

Cystal 6-65 22-10 10HN Stage 40



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 40 of 58



Treatment Plot

Time

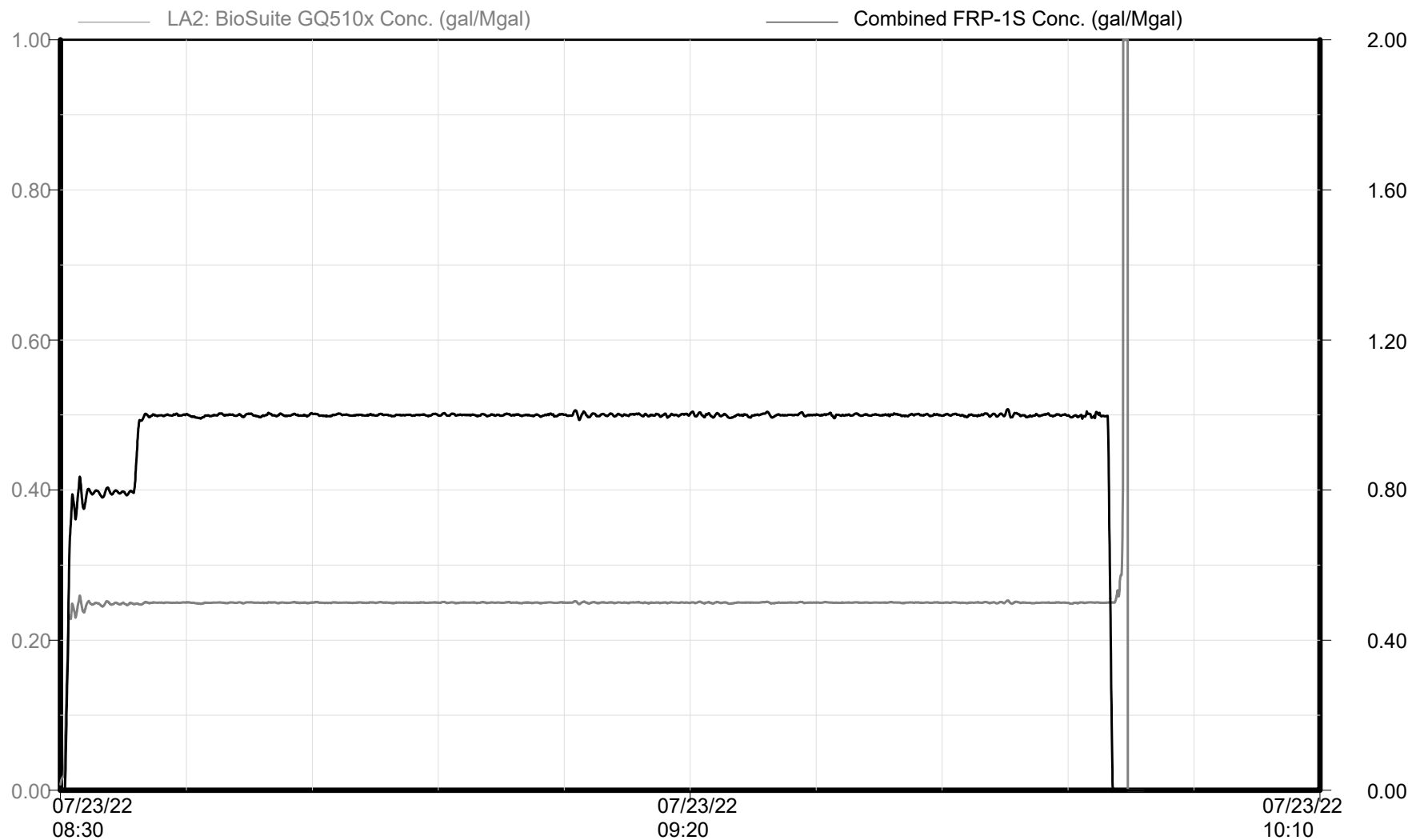
Republic Crew

Cystal 6-65 22-10 10HN Stage 40



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 40 of 58



Chemical Additives

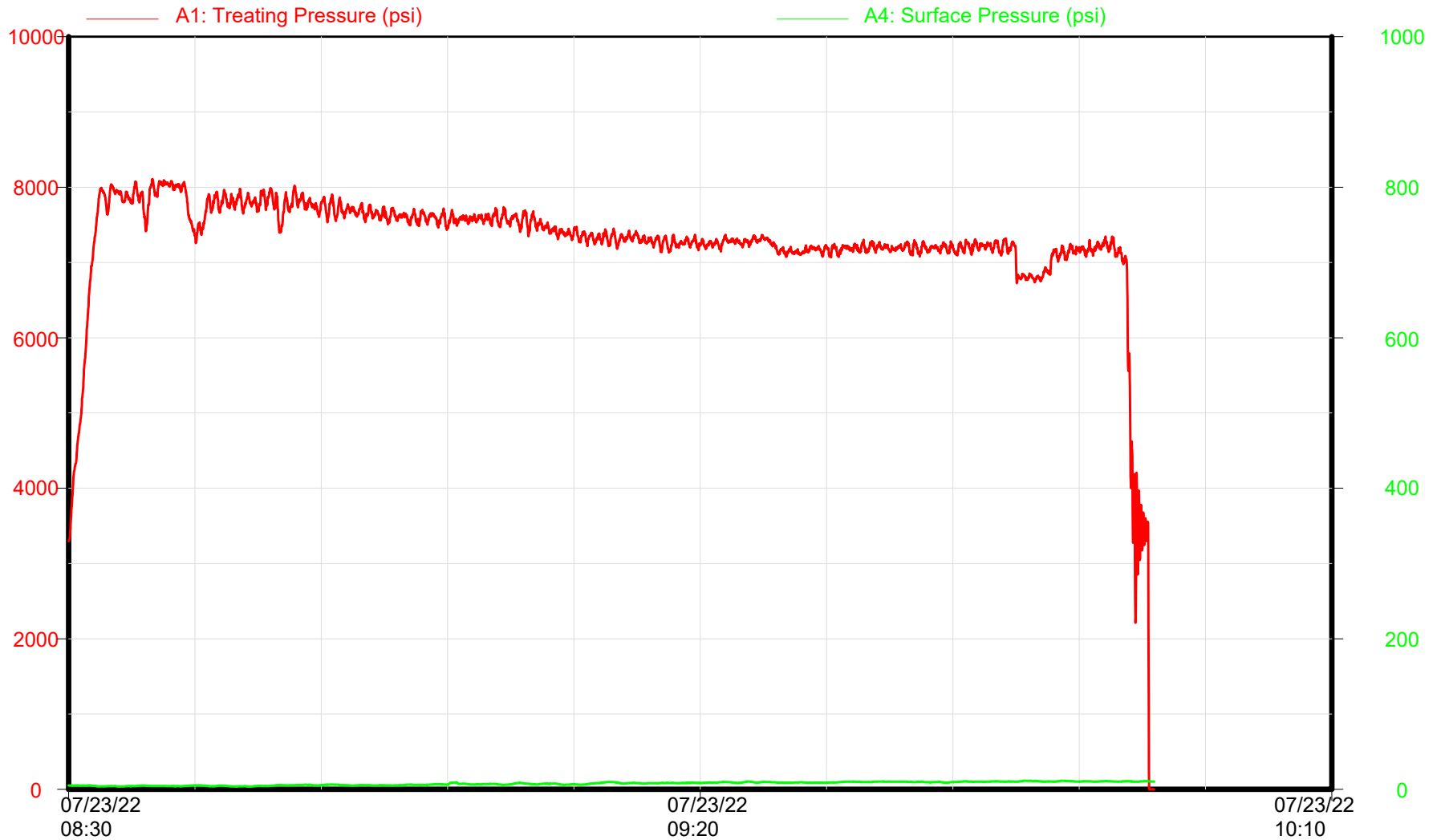
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 40

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 40 of 58



Surface/Treating Pressures

Time

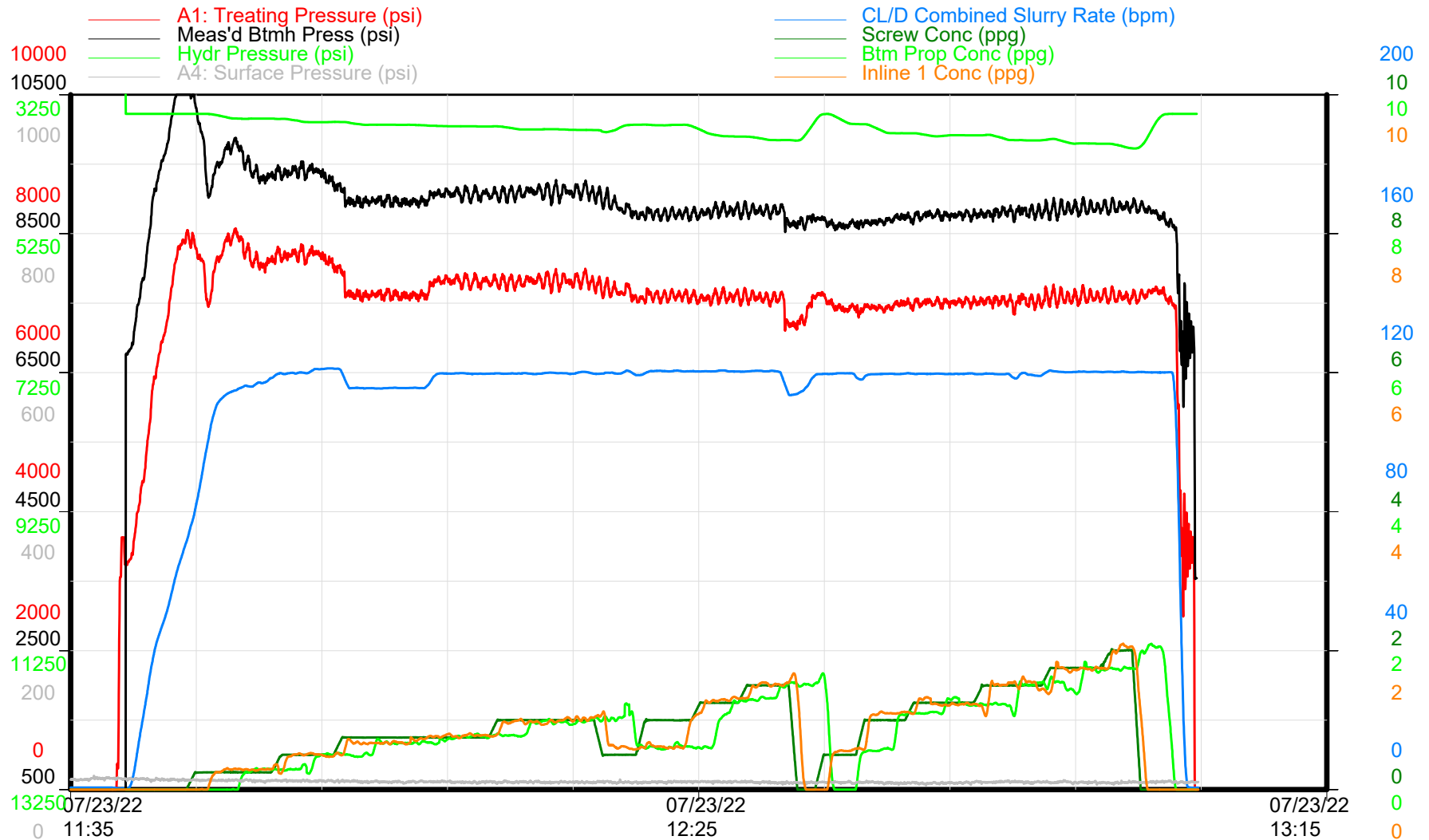
Republic Crew

Cystal 6-65 22-10 10HN Stage 41



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 41 of 58



Treatment Plot

Time

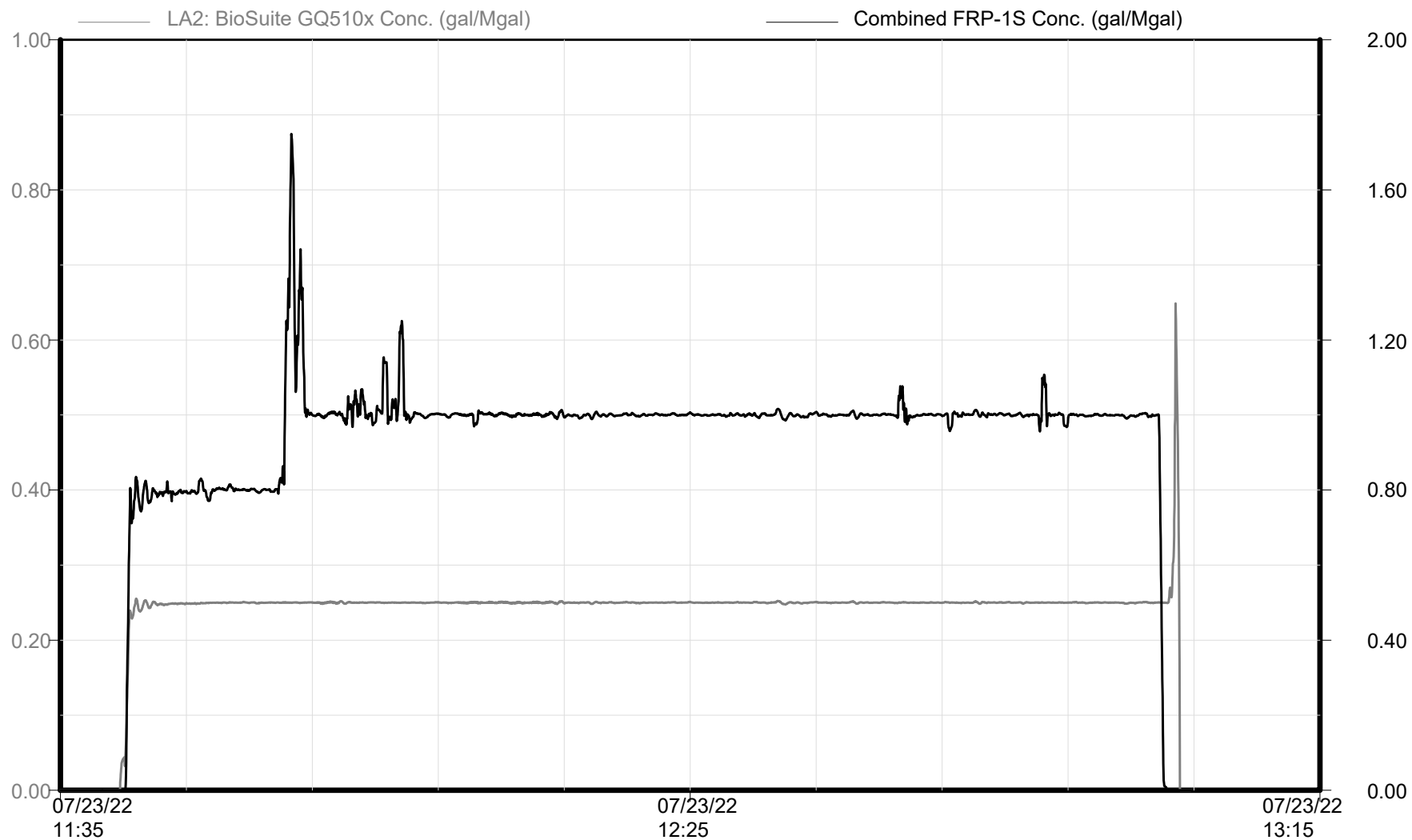
Republic Crew





GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 41 of 58



Chemical Additives

Time

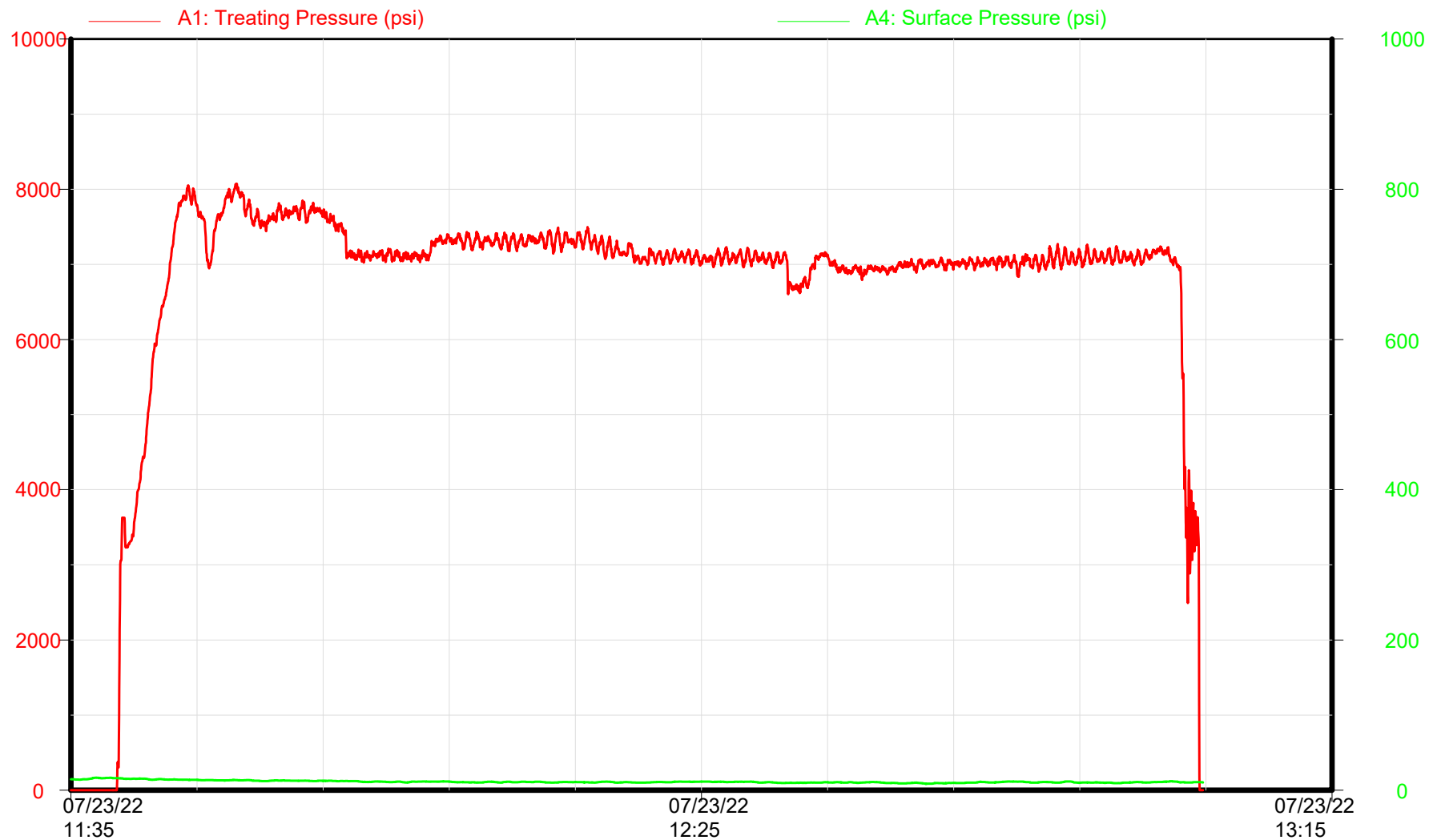
Republic Crew

Cystal 6-65 22-10 10HN Stage 41



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 41 of 58



Surface/Treating Pressures

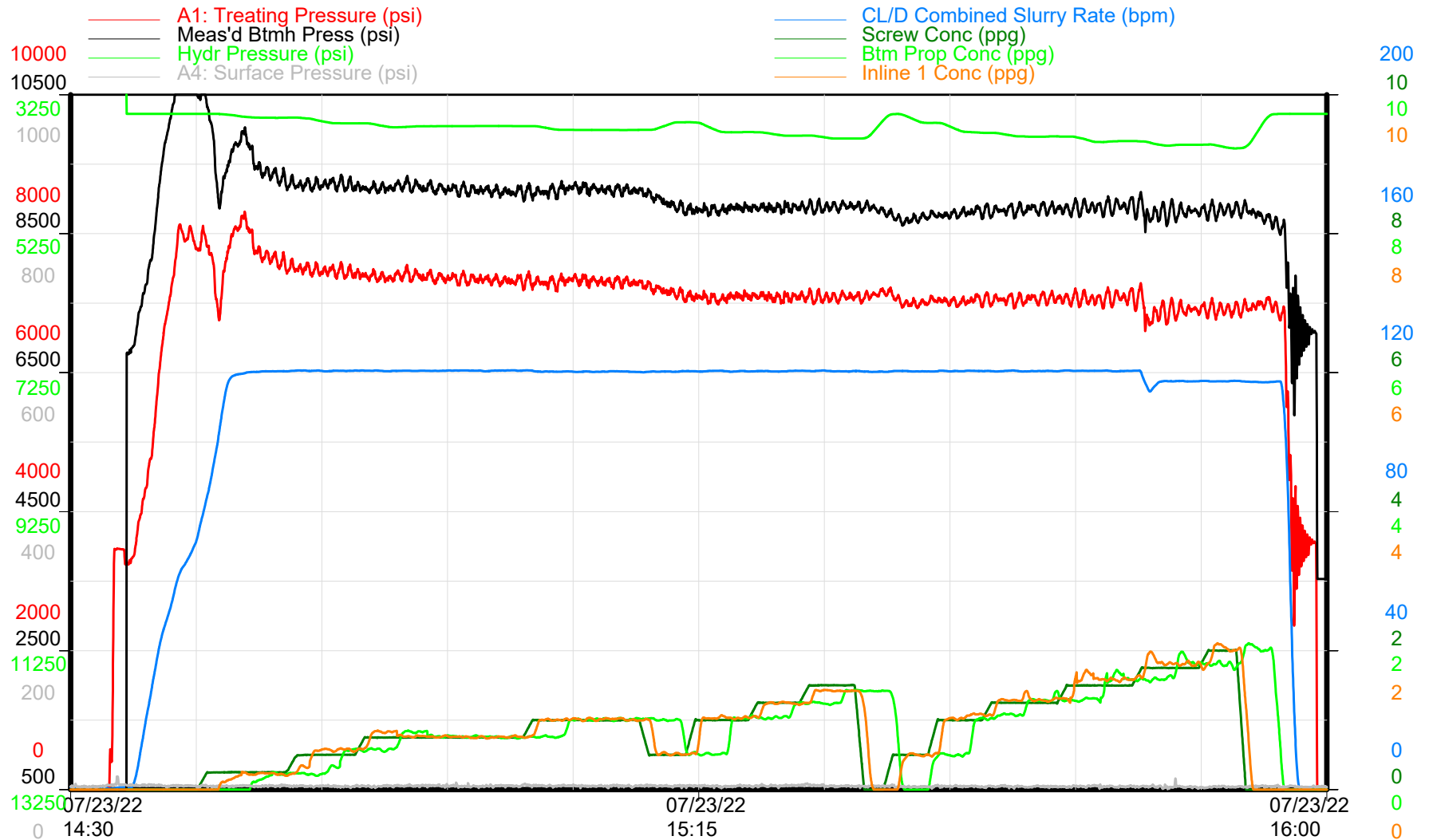
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 42

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 42 of 58



Treatment Plot

Time

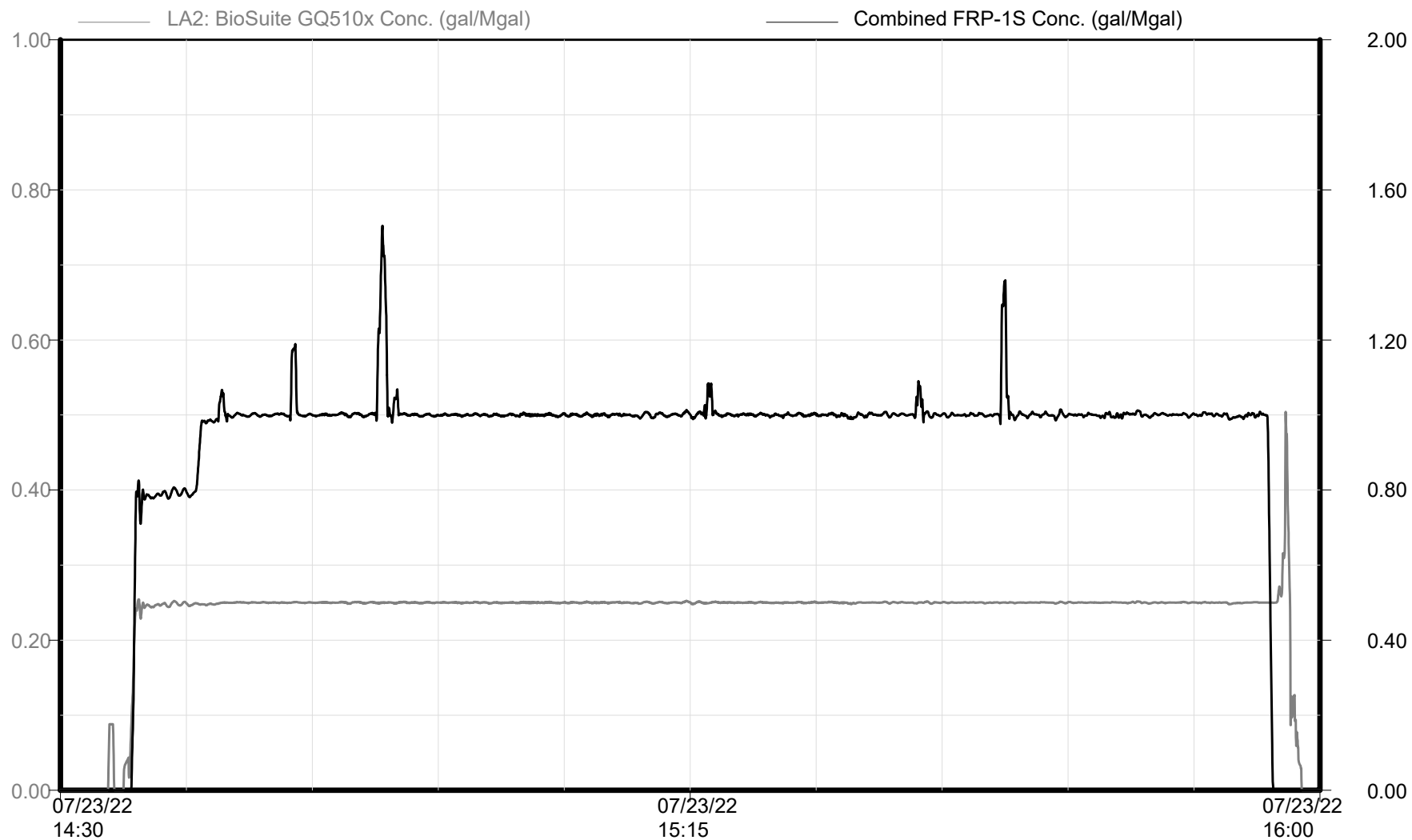
Republic Crew

Cystal 6-65 22-10 10HN Stage 42



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 42 of 58



Chemical Additives

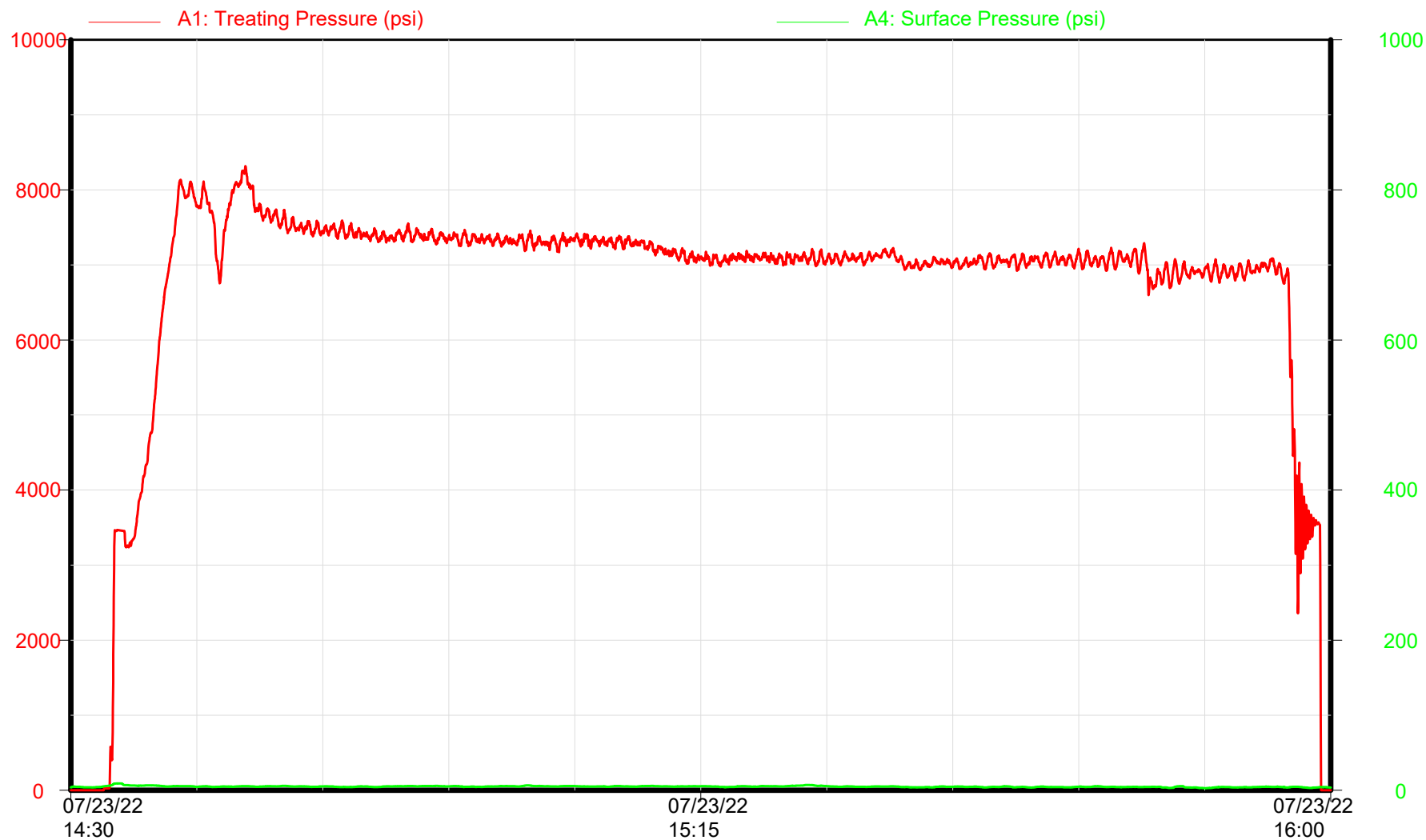
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 42

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 42 of 58



Surface/Treating Pressures

Time

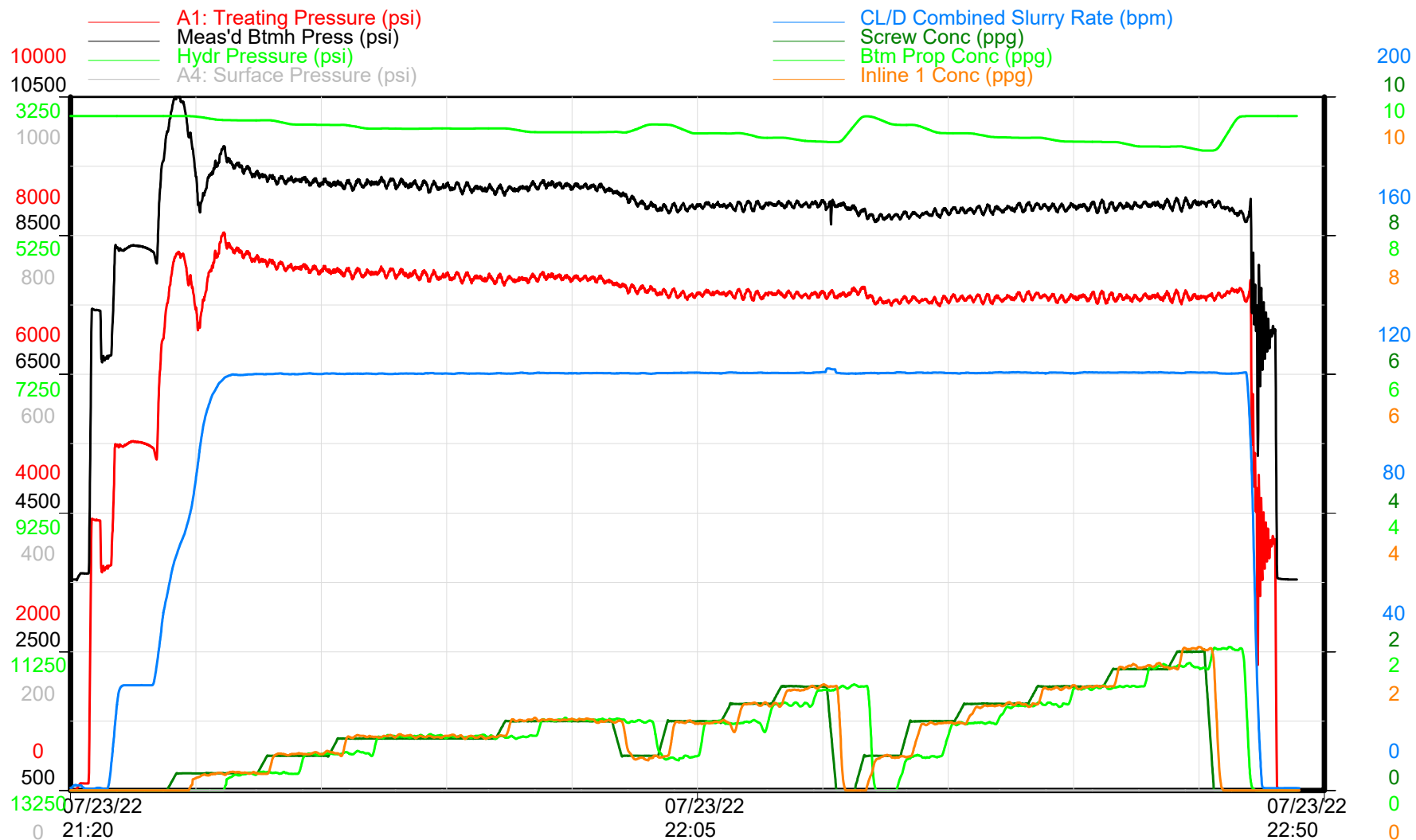
Republic Crew

Cystal 6-65 22-10 10HN Stage 43



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 43 of 58



Treatment Plot

Time

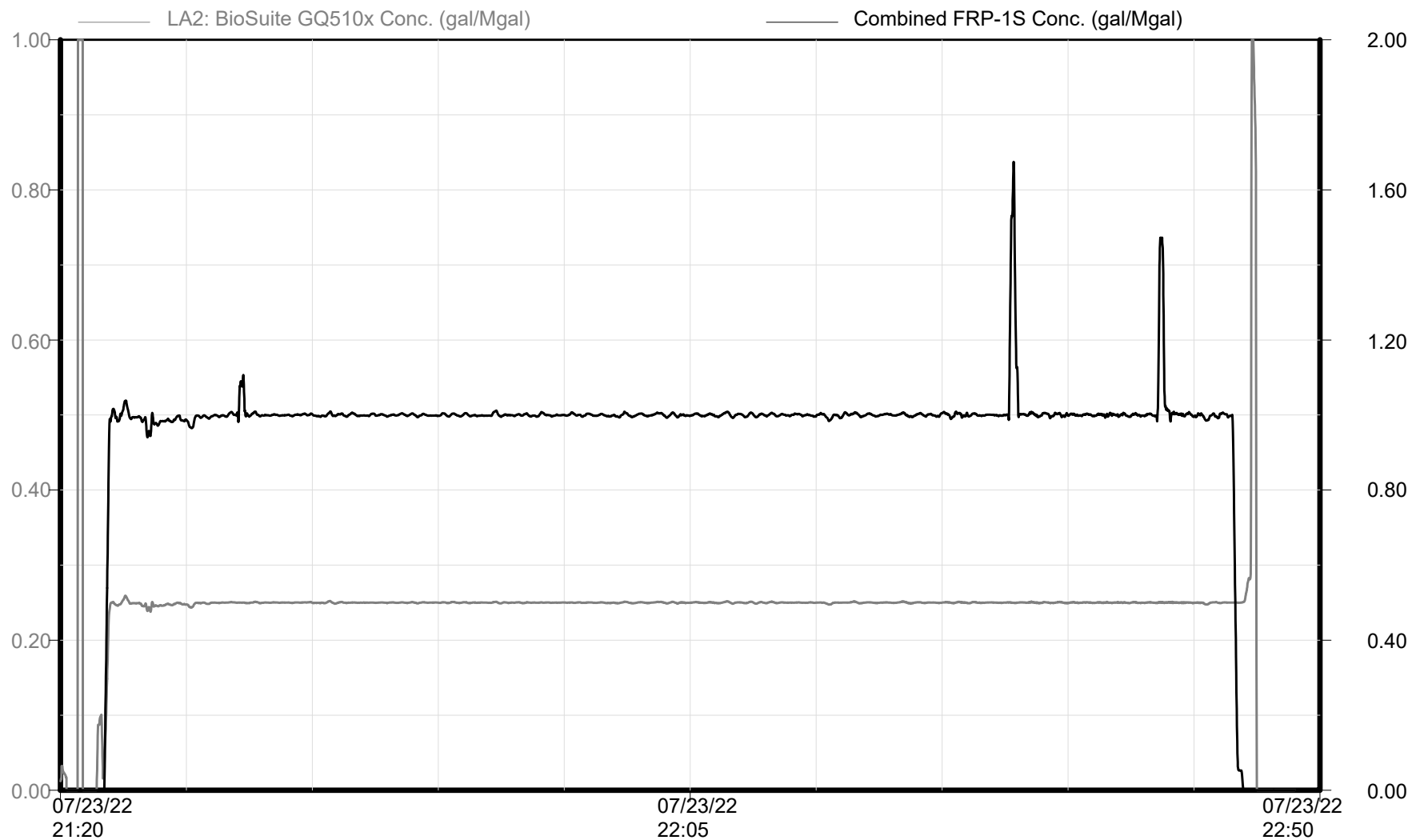
Republic Crew

Cystal 6-65 22-10 10HN Stage 43



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 43 of 58



Chemical Additives

Time

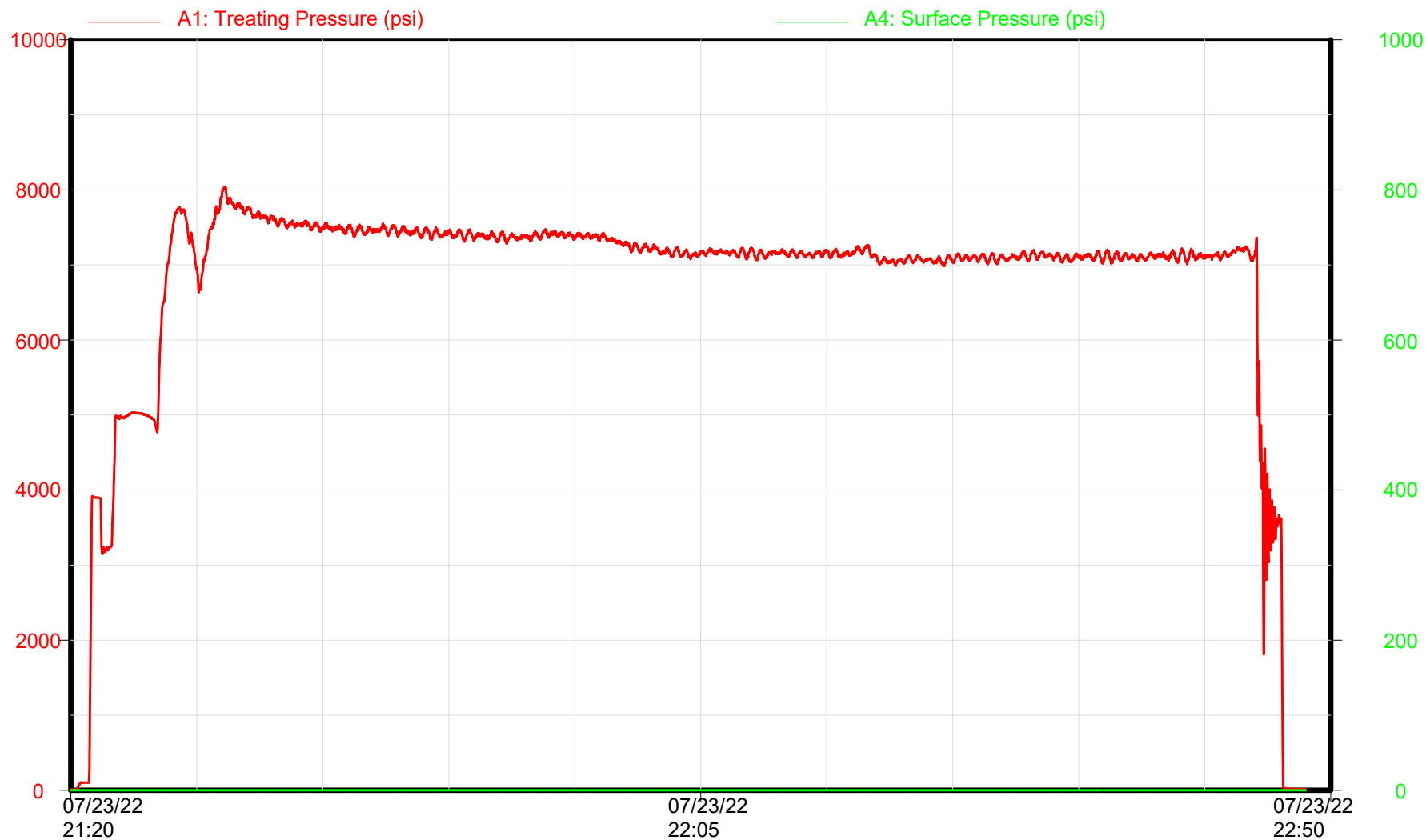
Republic Crew

Cystal 6-65 22-10 10HN Stage 43



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 43 of 58



Surface/Treating Pressures

Time

Republic Crew

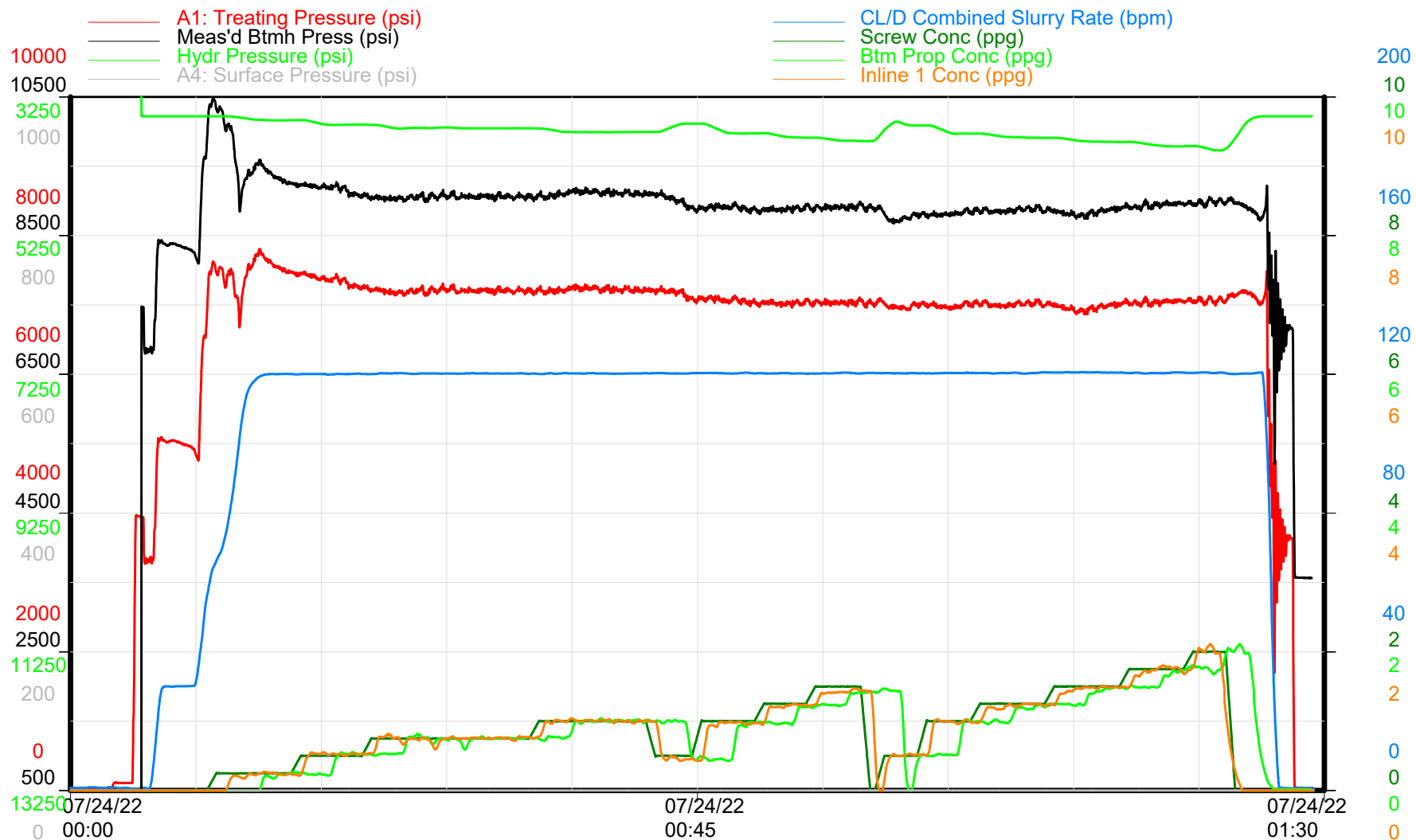


Cystal 6-65 22-10 10HN Stage 44



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 44 of 58



Treatment Plot

Time

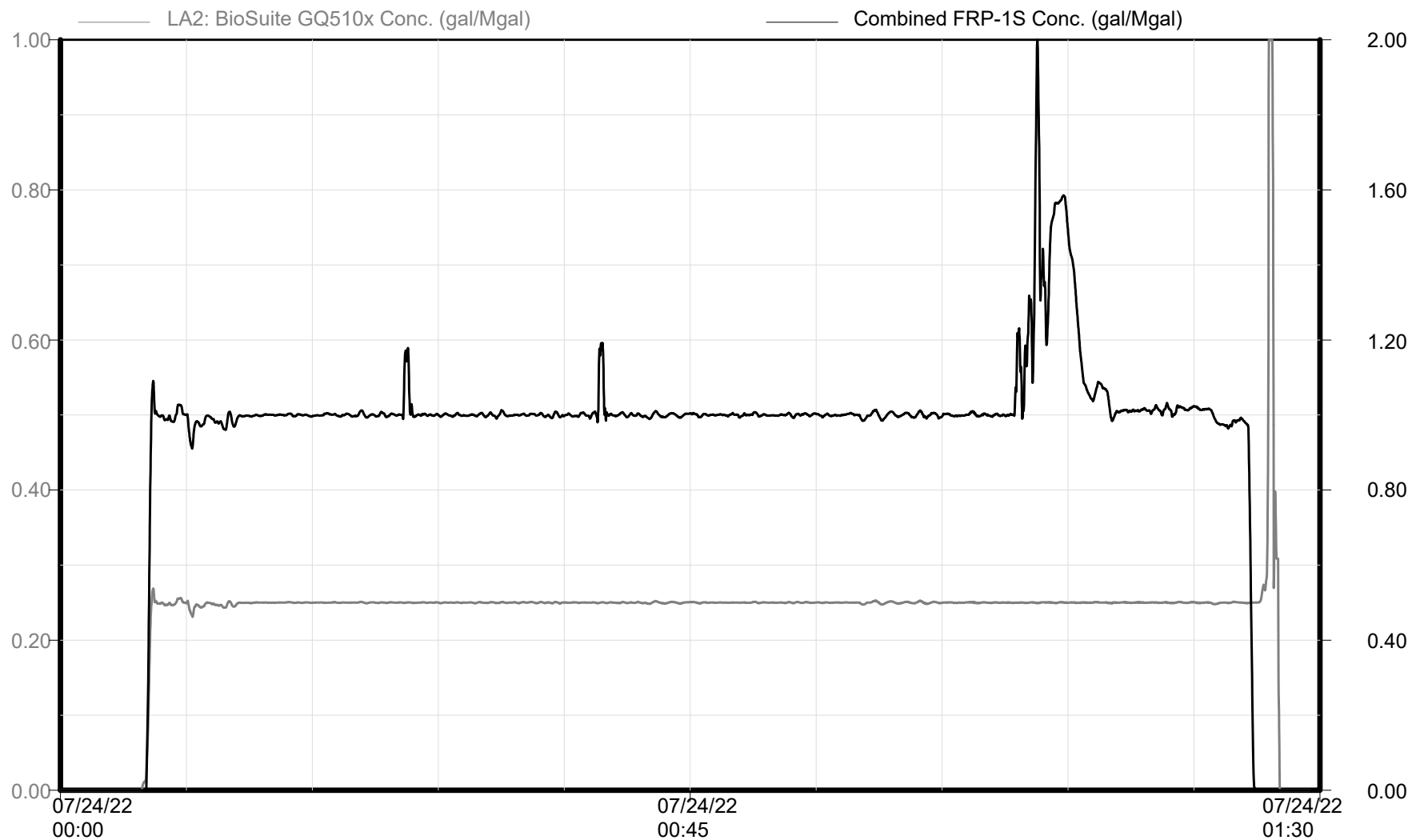
Republic Crew

Cystal 6-65 22-10 10HN Stage 44



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 44 of 58



Chemical Additives

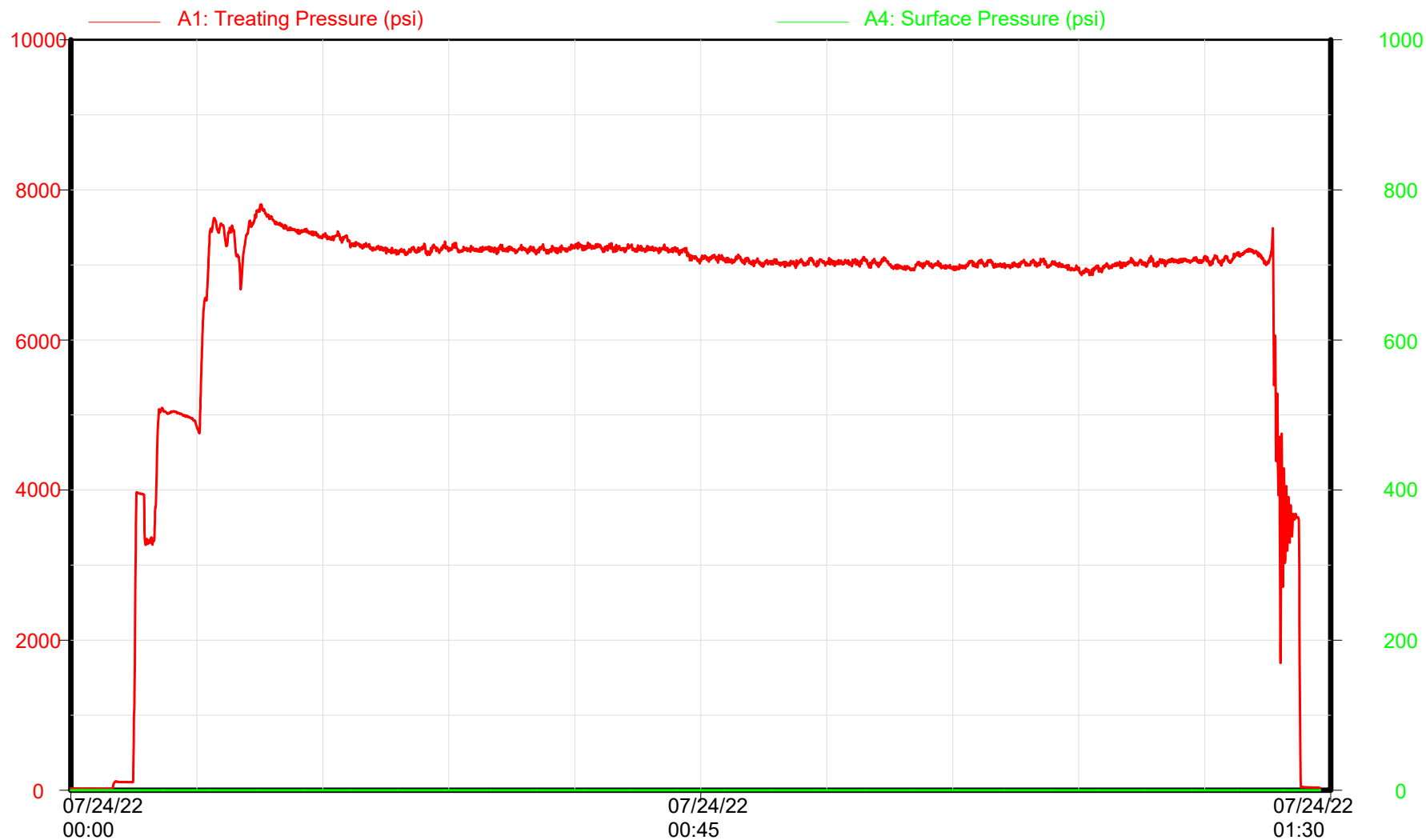
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 44

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 44 of 58



Surface/Treating Pressures

Time

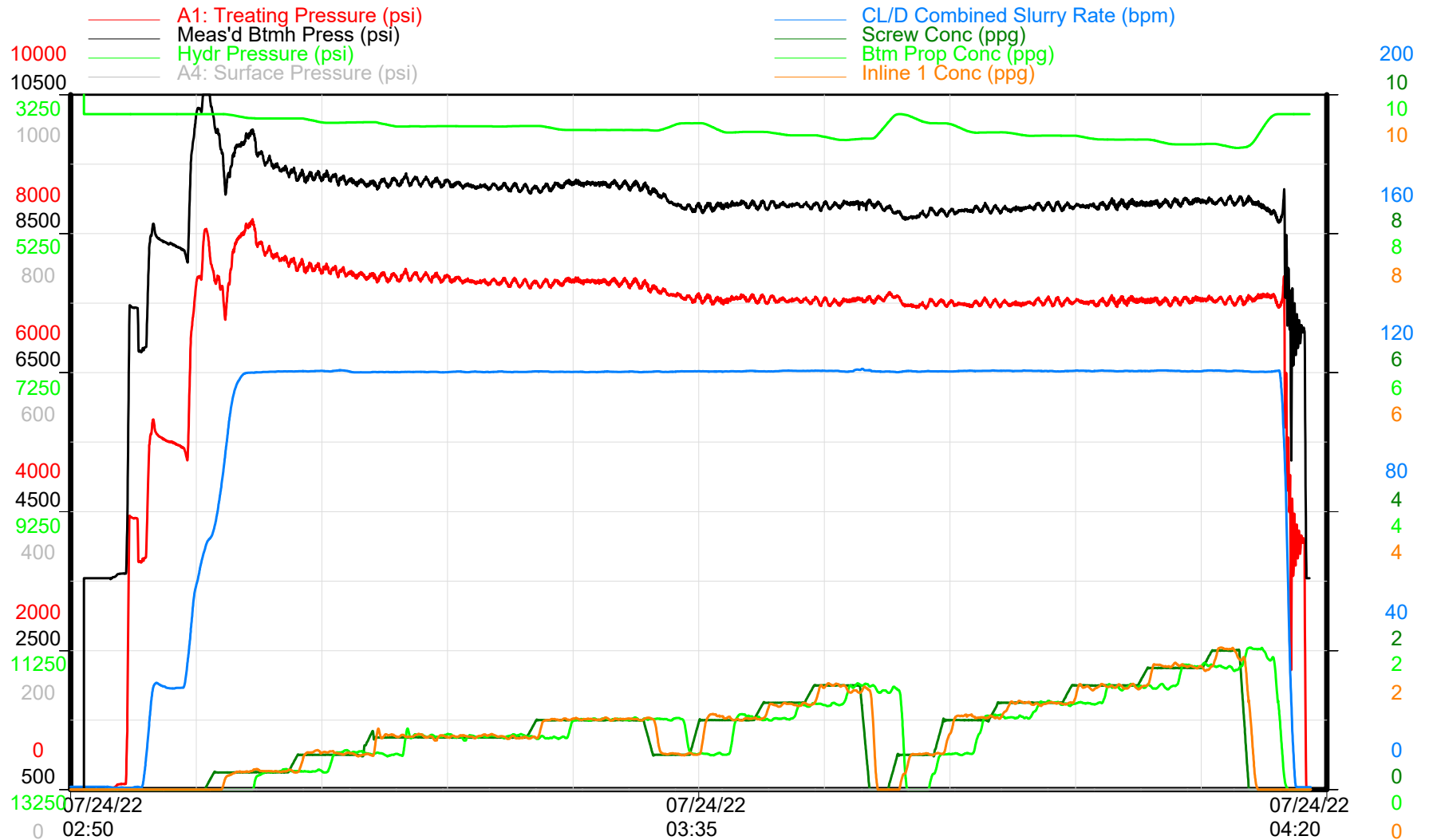
Republic Crew

Cystal 6-65 22-10 10HN Stage 45



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 45 of 58



Treatment Plot

Time

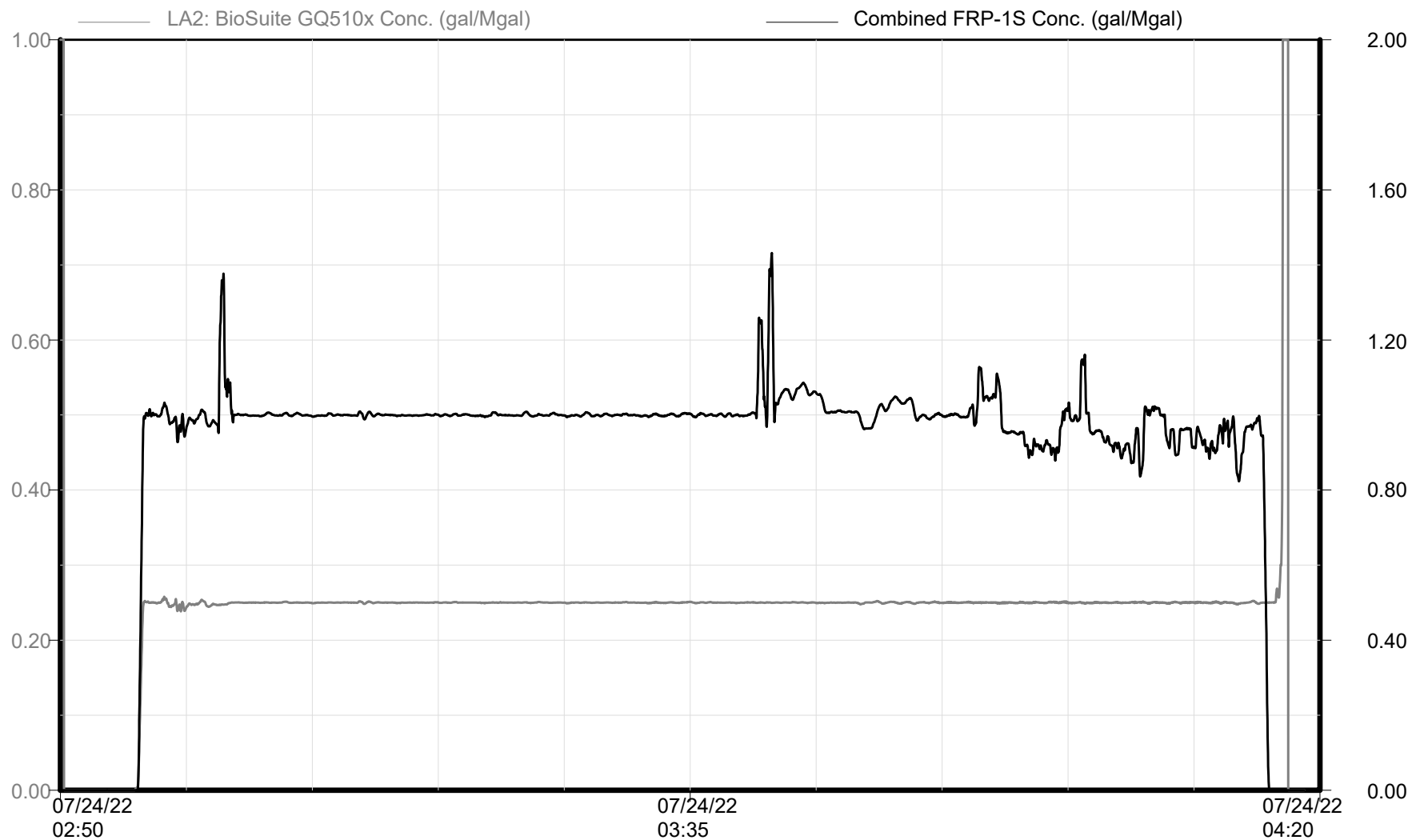
Republic Crew

Cystal 6-65 22-10 10HN Stage 45



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 45 of 58



Chemical Additives

Time

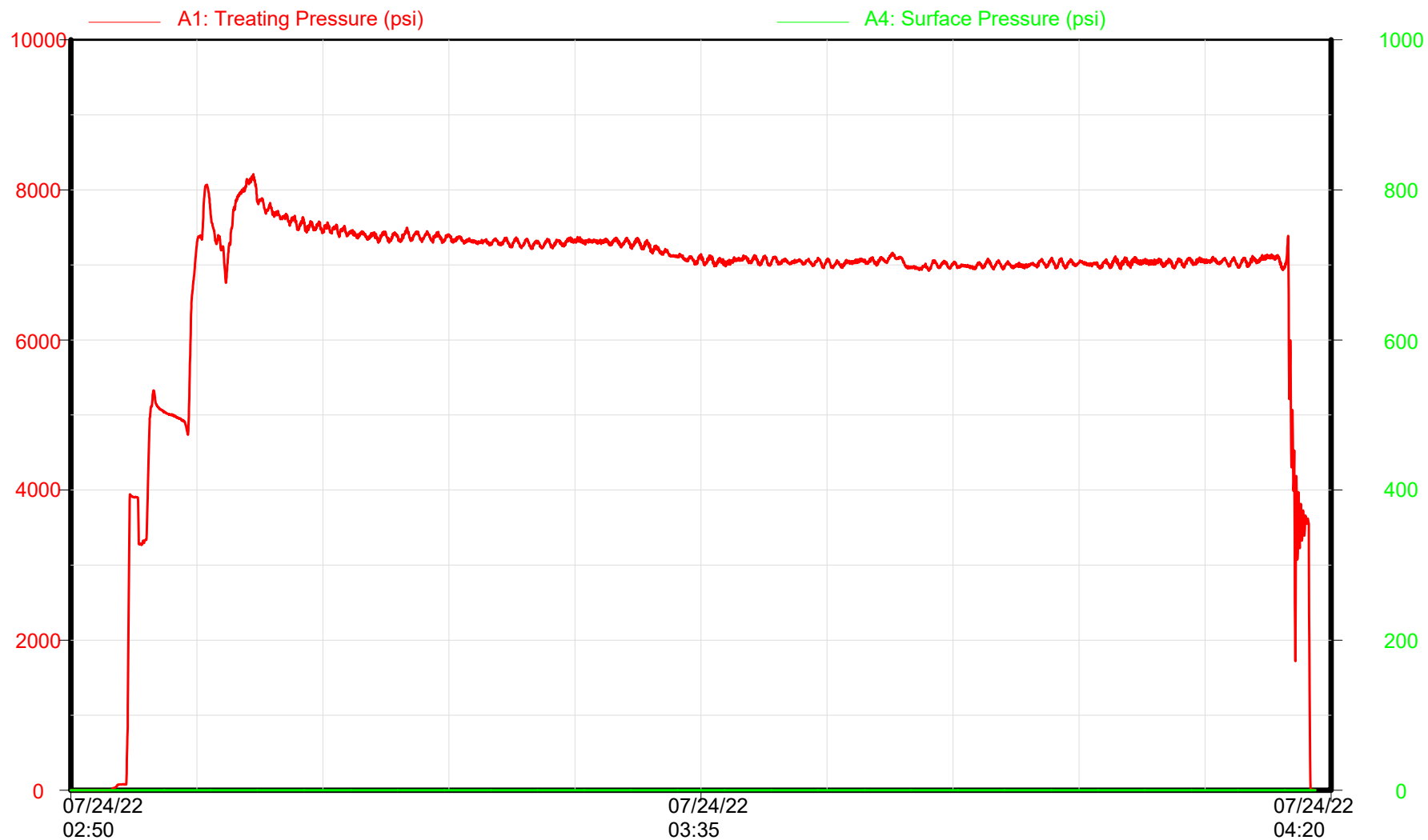
Republic Crew

Cystal 6-65 22-10 10HN Stage 45



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 45 of 58



Surface/Treating Pressures

Time

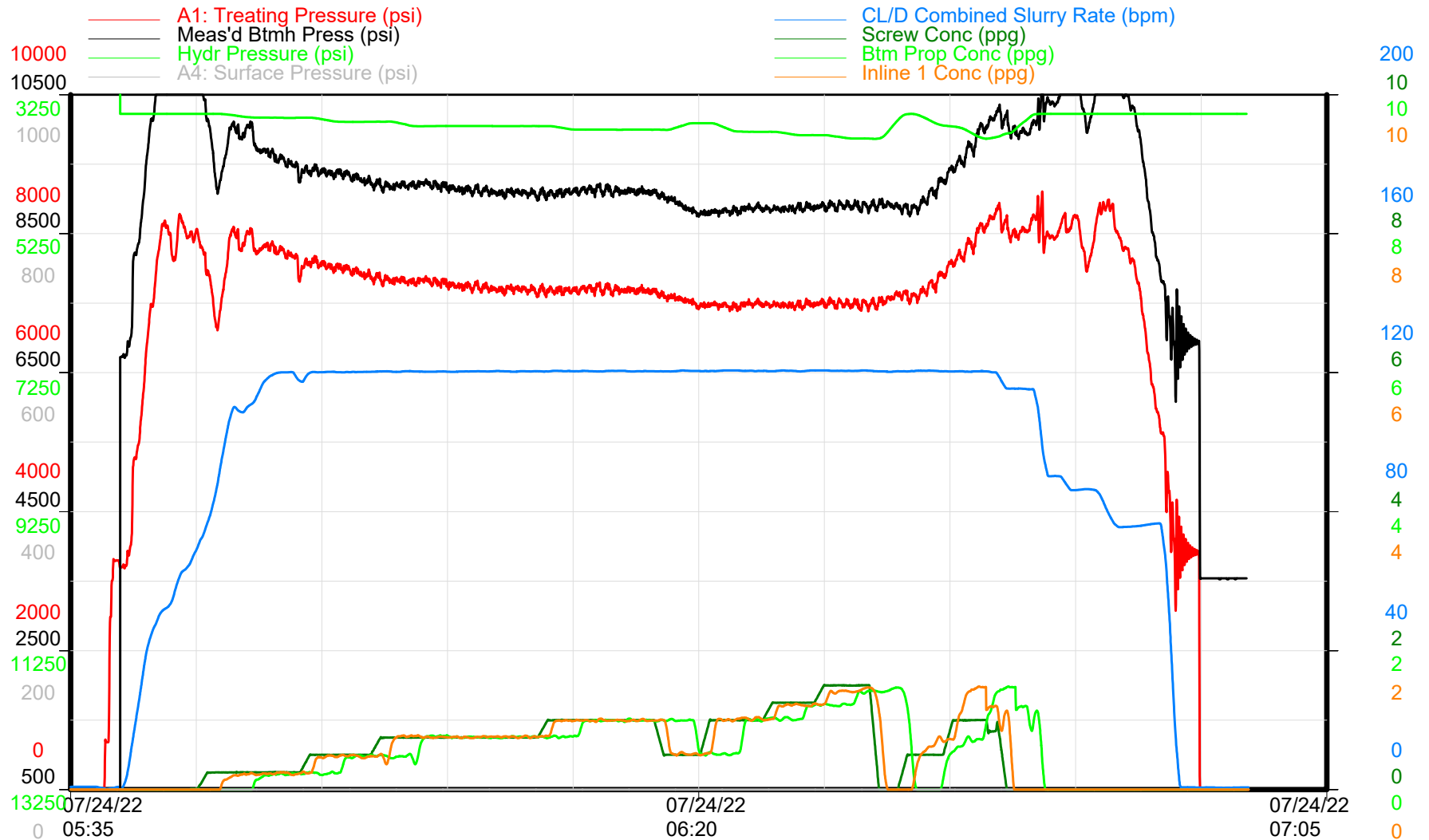
Republic Crew

Cystal 6-65 22-10 10HN Stage 46



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 46 of 58



Treatment Plot

Time

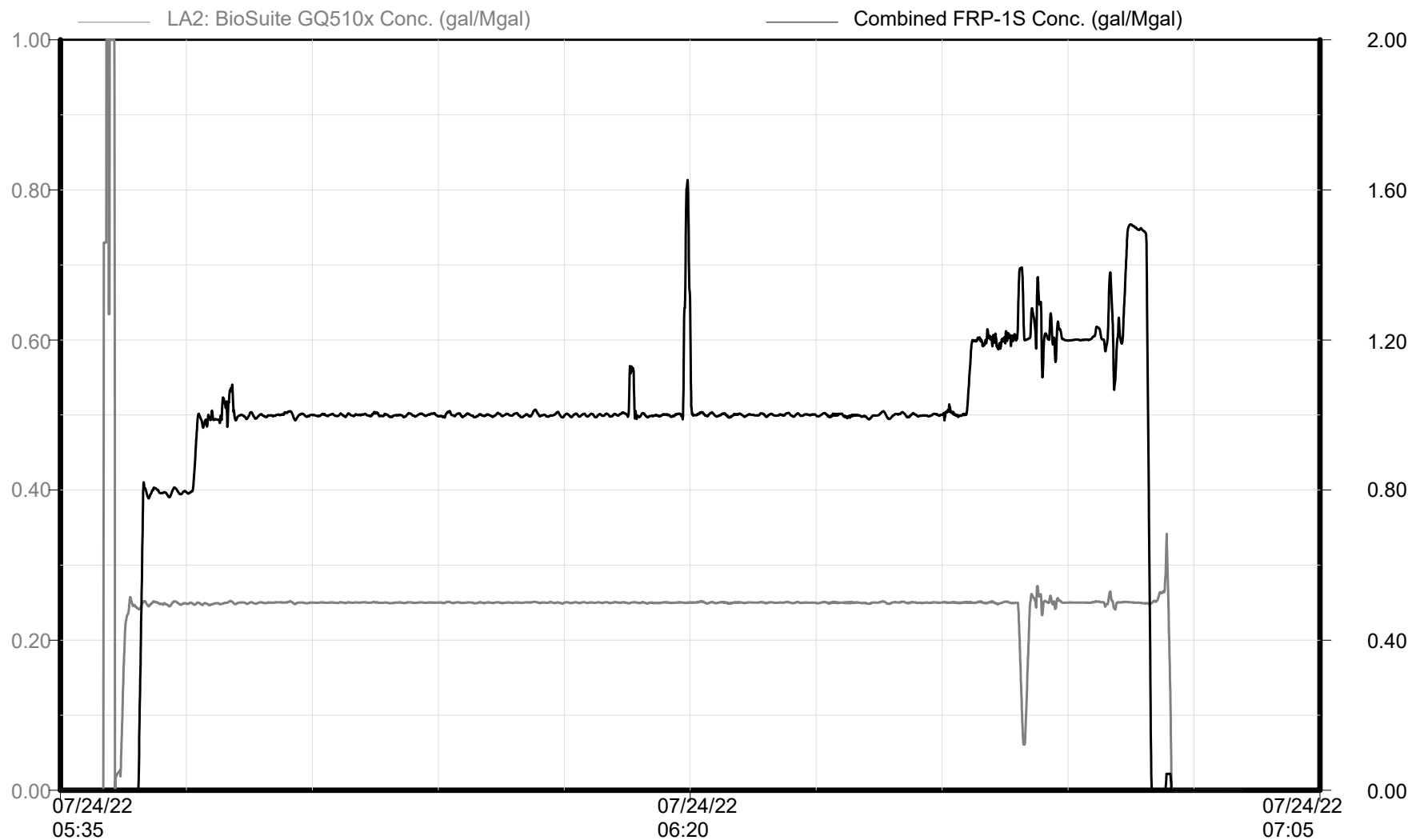
Republic Crew

Cystal 6-65 22-10 10HN Stage 46



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 46 of 58



Chemical Additives

Time

Republic Crew

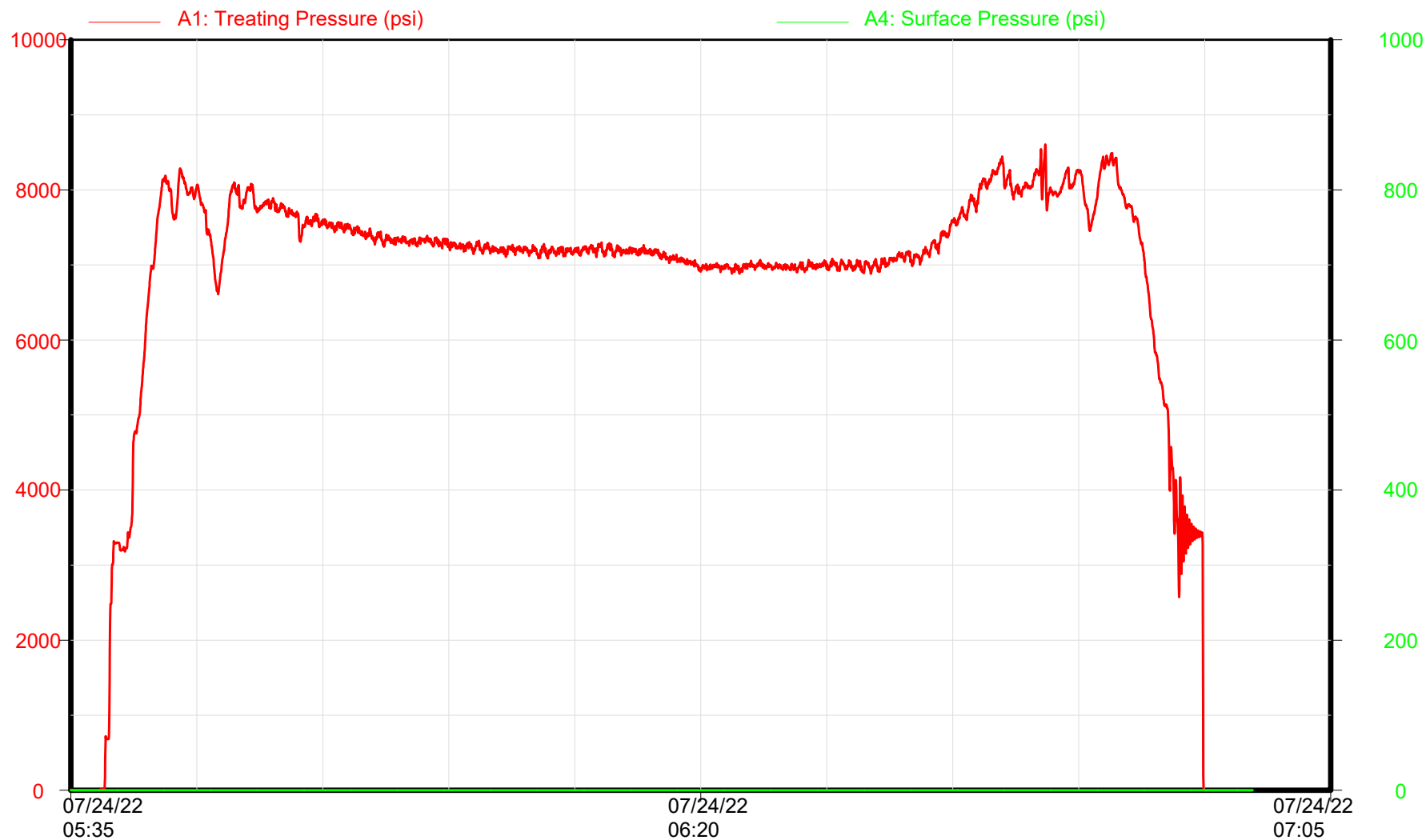


Cystal 6-65 22-10 10HN Stage 46



GMT - Crystal 6-65 22-10 10HN

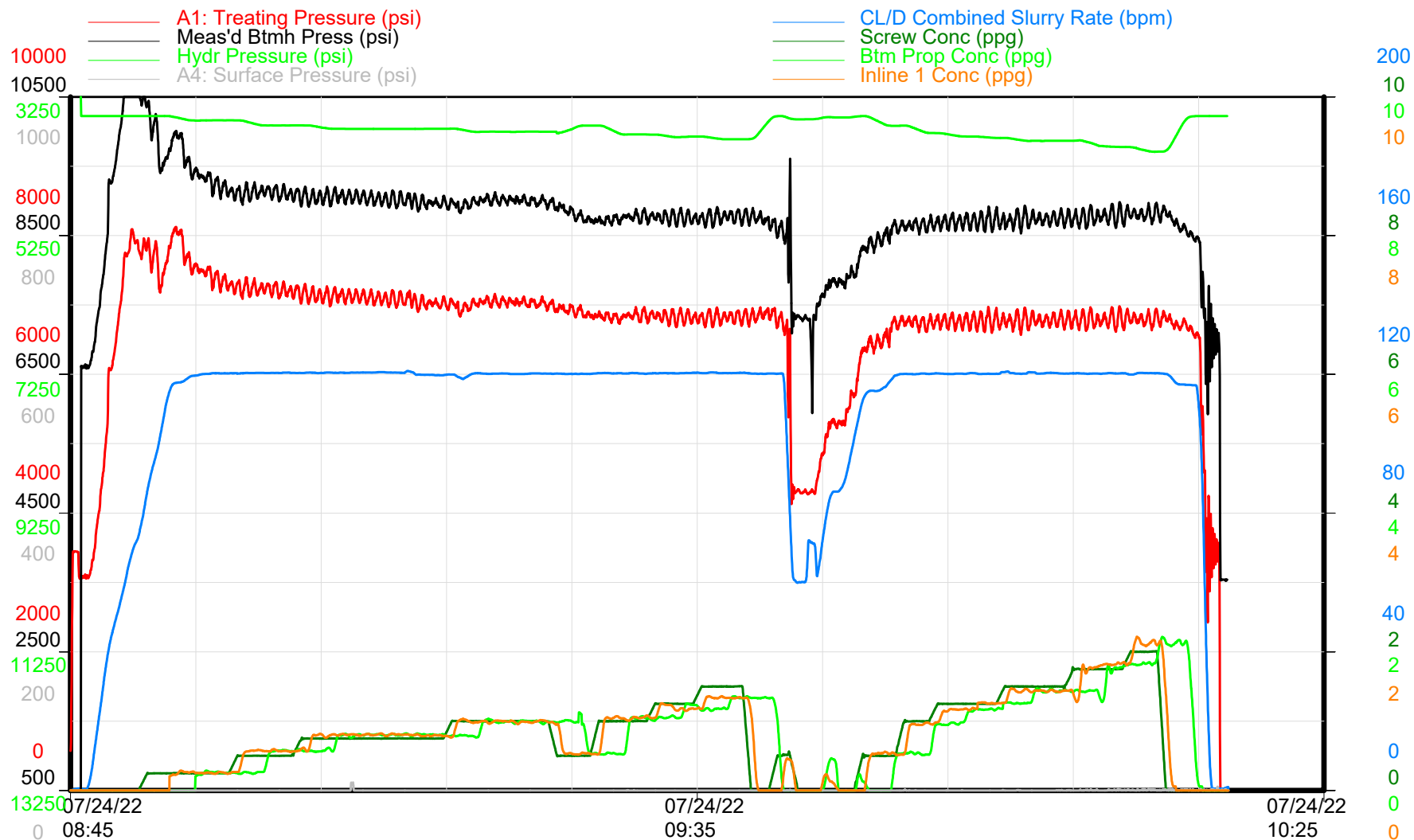
Niobrara - Stage 46 of 58



Surface/Treating Pressures

Time

Republic Crew



Treatment Plot

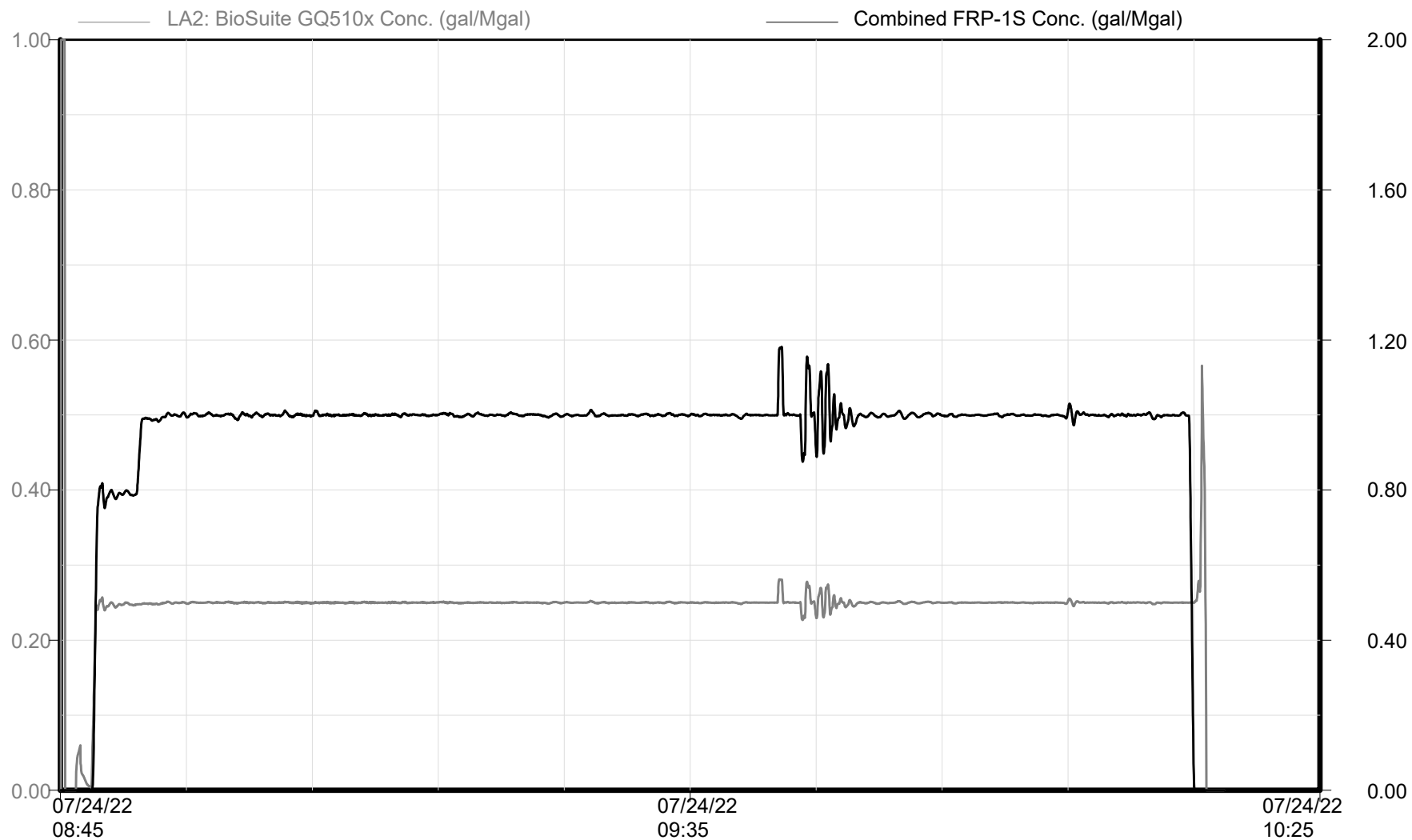
Time

Republic Crew



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 47 of 58



Chemical Additives

Time

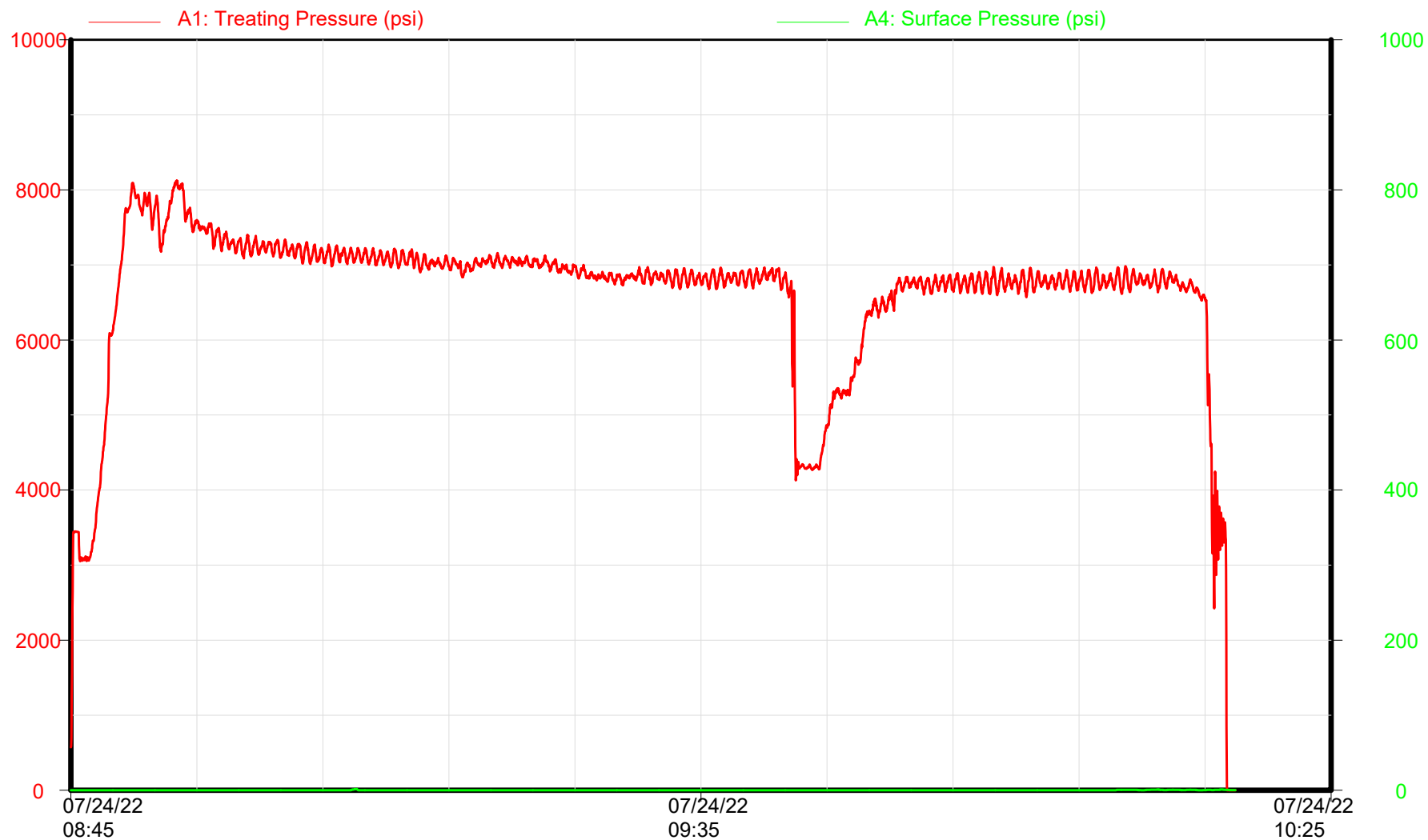
Republic Crew

Cystal 6-65 22-10 10HN Stage 47



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 47 of 58



Surface/Treating Pressures

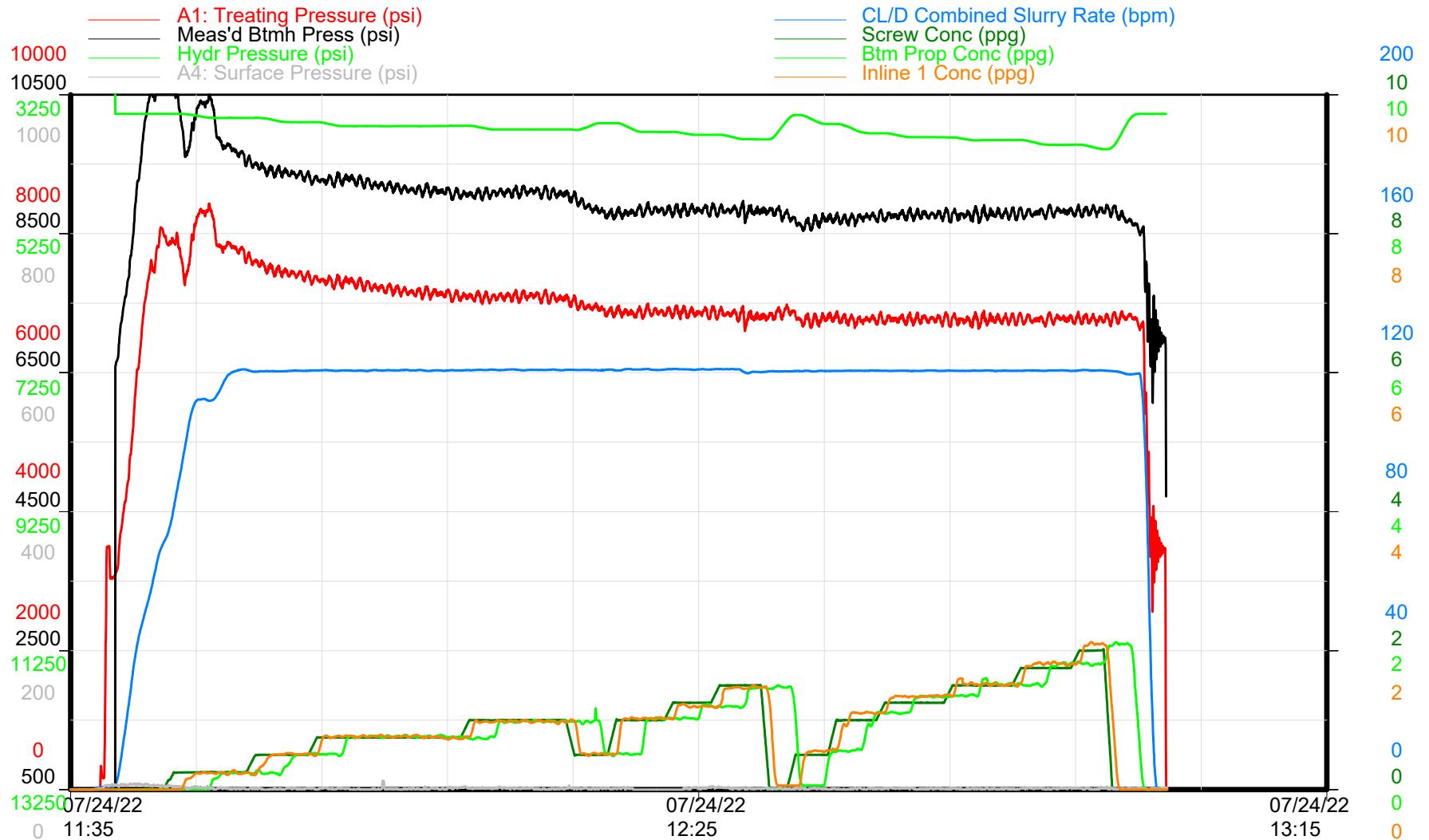
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 48

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 48 of 58



Treatment Plot

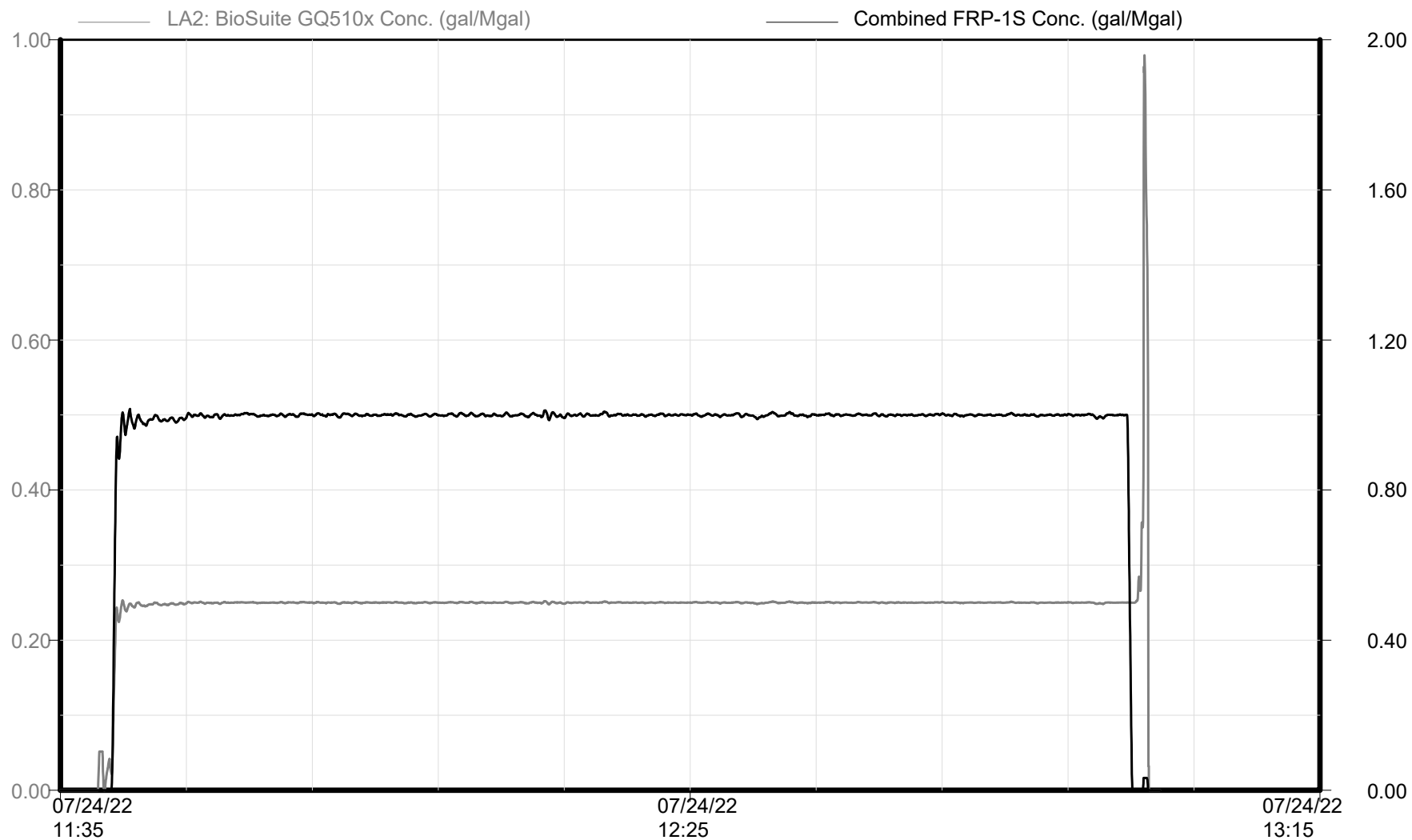
Time

Republic Crew



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 48 of 58



Chemical Additives

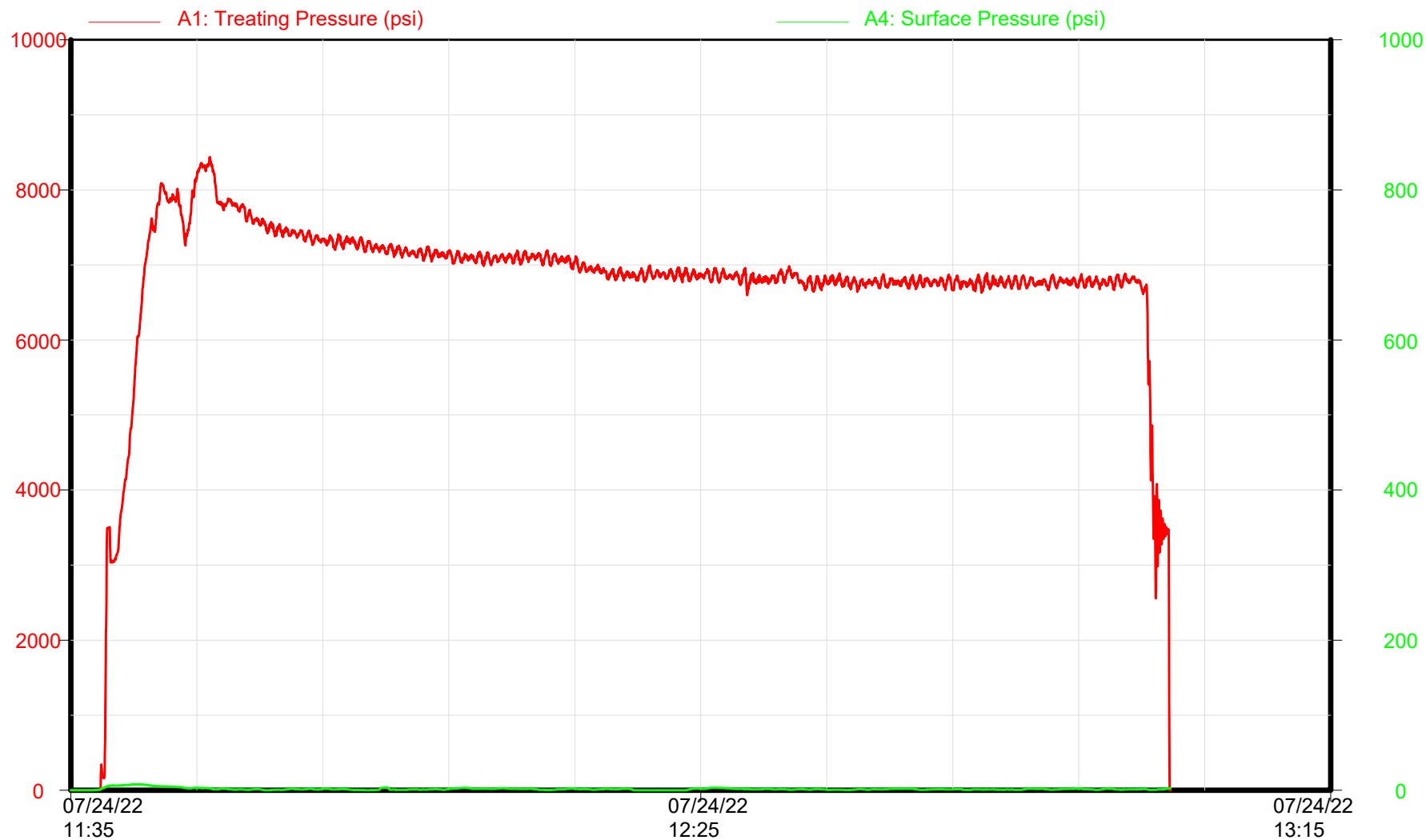
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 48

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 48 of 58



Surface/Treating Pressures

Time

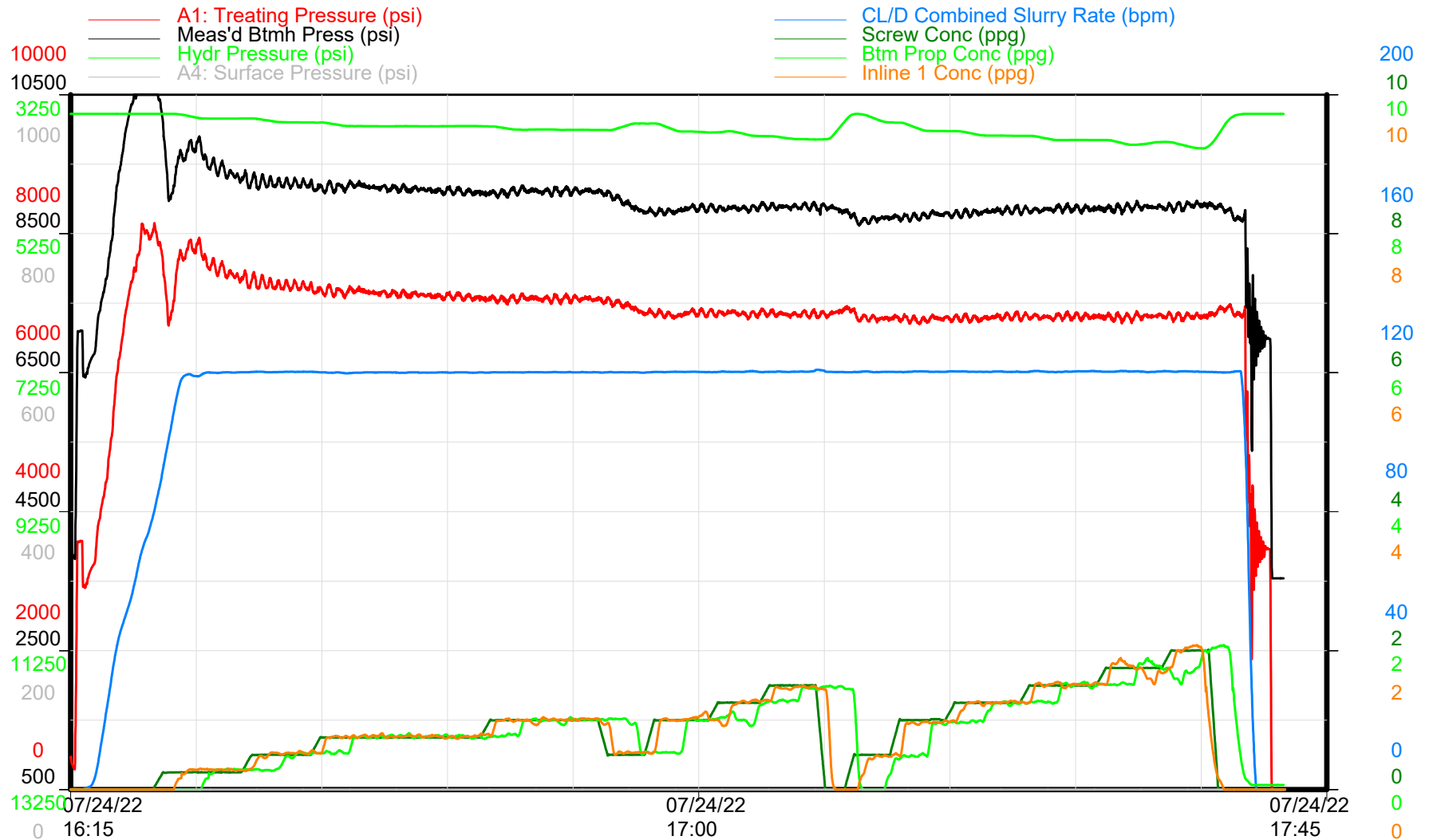
Republic Crew

Cystal 6-65 22-10 10HN Stage 49



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 49 of 58



Treatment Plot

Time

Republic Crew

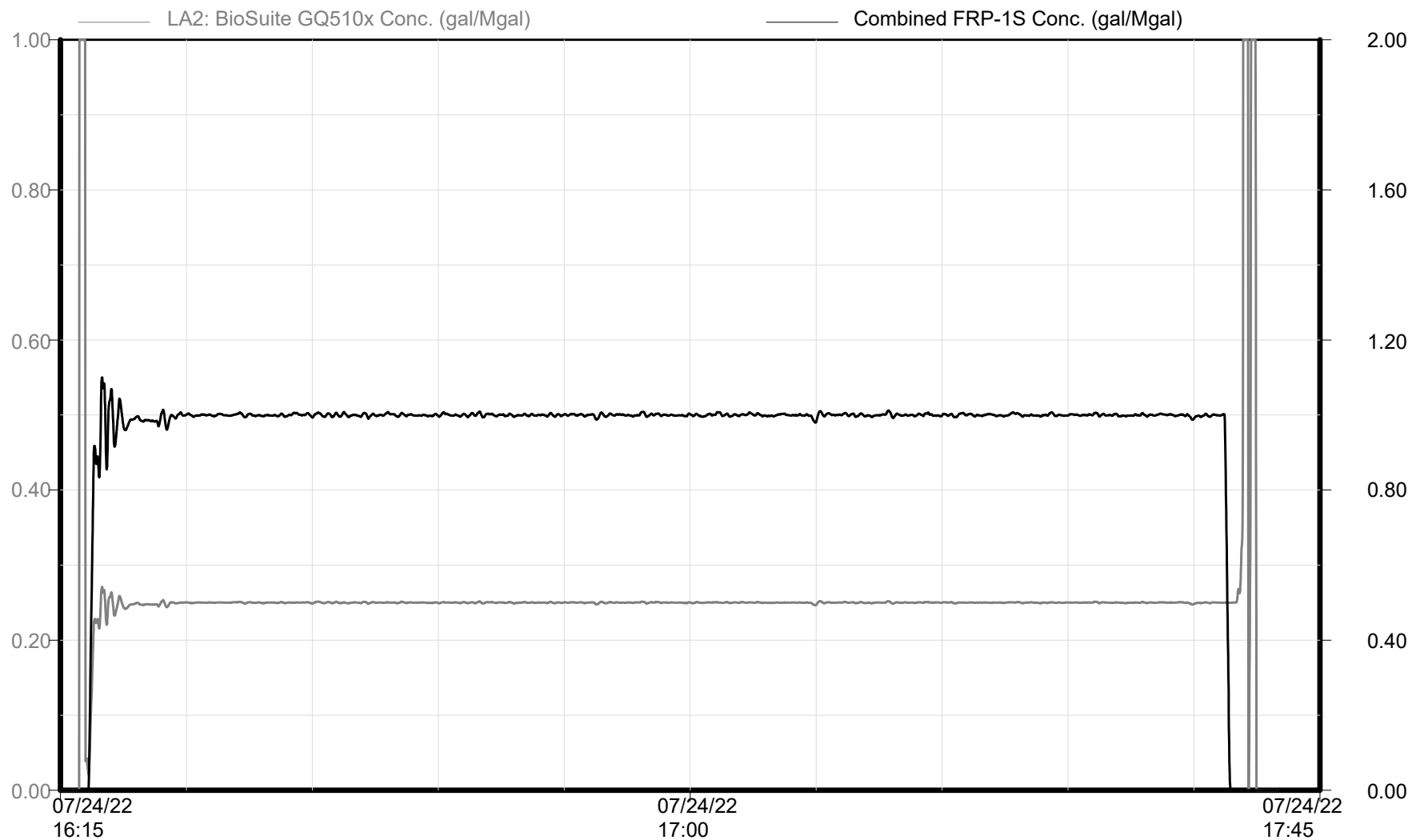


Cystal 6-65 22-10 10HN Stage 49



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 49 of 58



Chemical Additives

Time

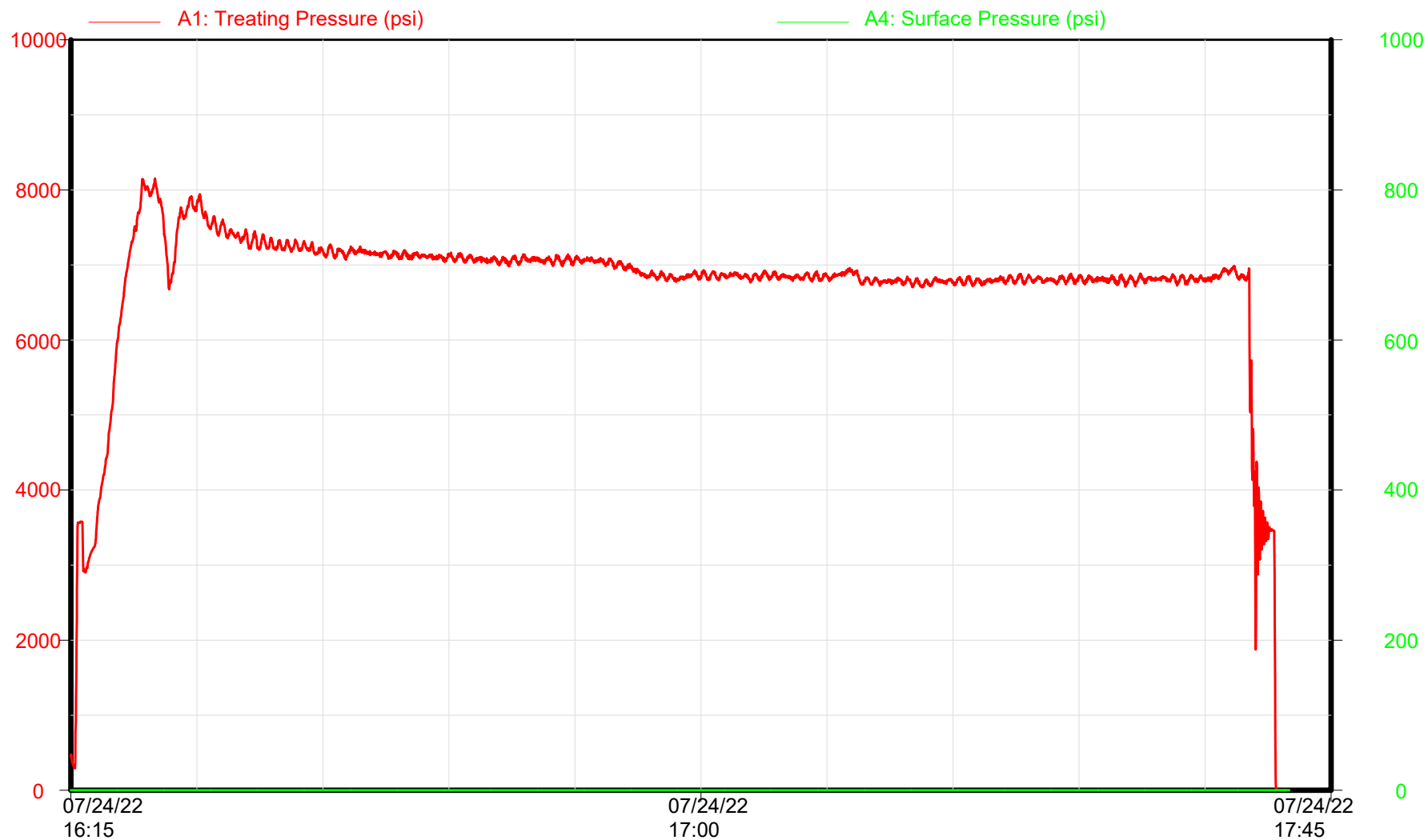
Republic Crew

Cystal 6-65 22-10 10HN Stage 49



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 49 of 58



Surface/Treating Pressures

Time

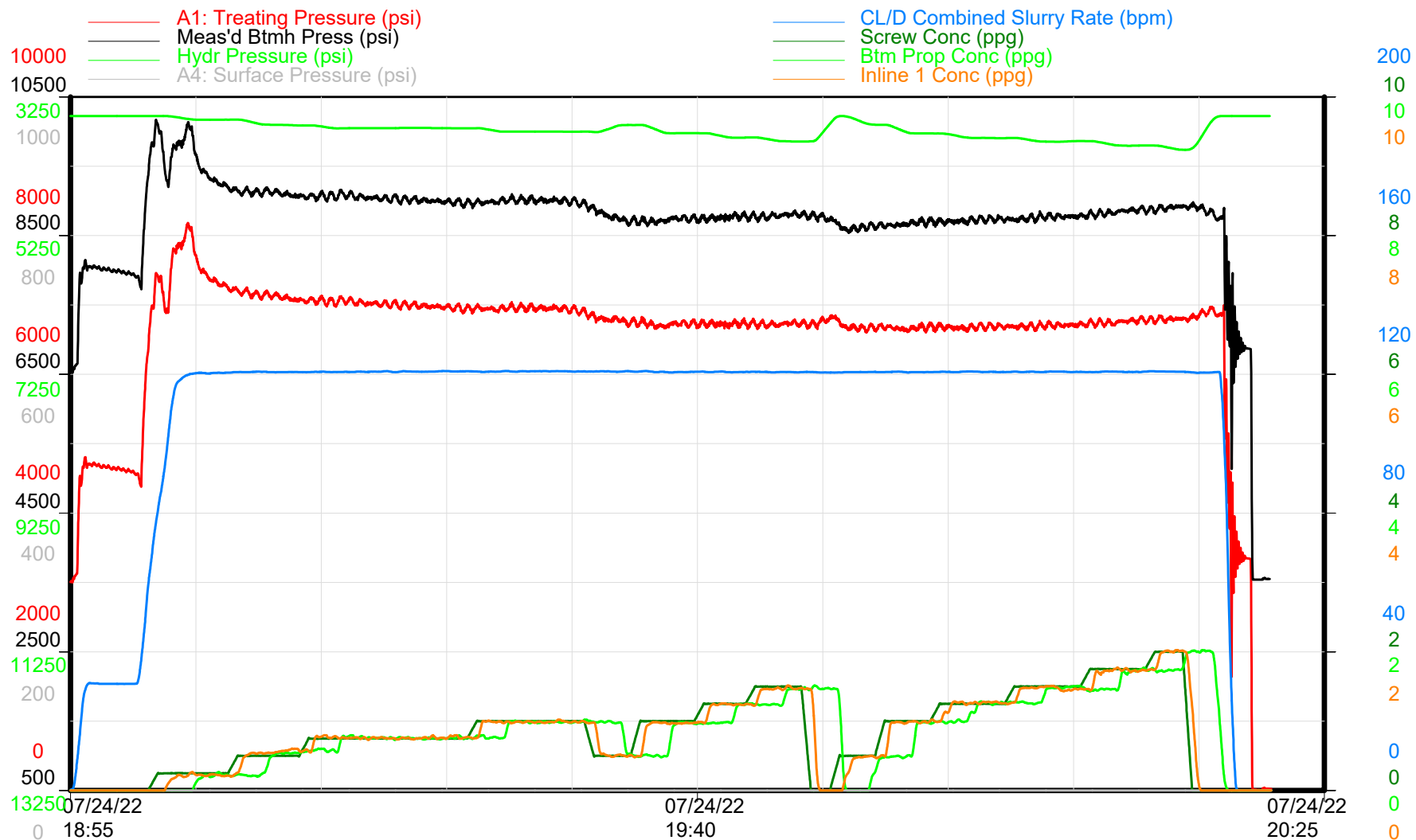
Republic Crew

Cystal 6-65 22-10 10HN Stage 50



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 50 of 58



Treatment Plot

Time

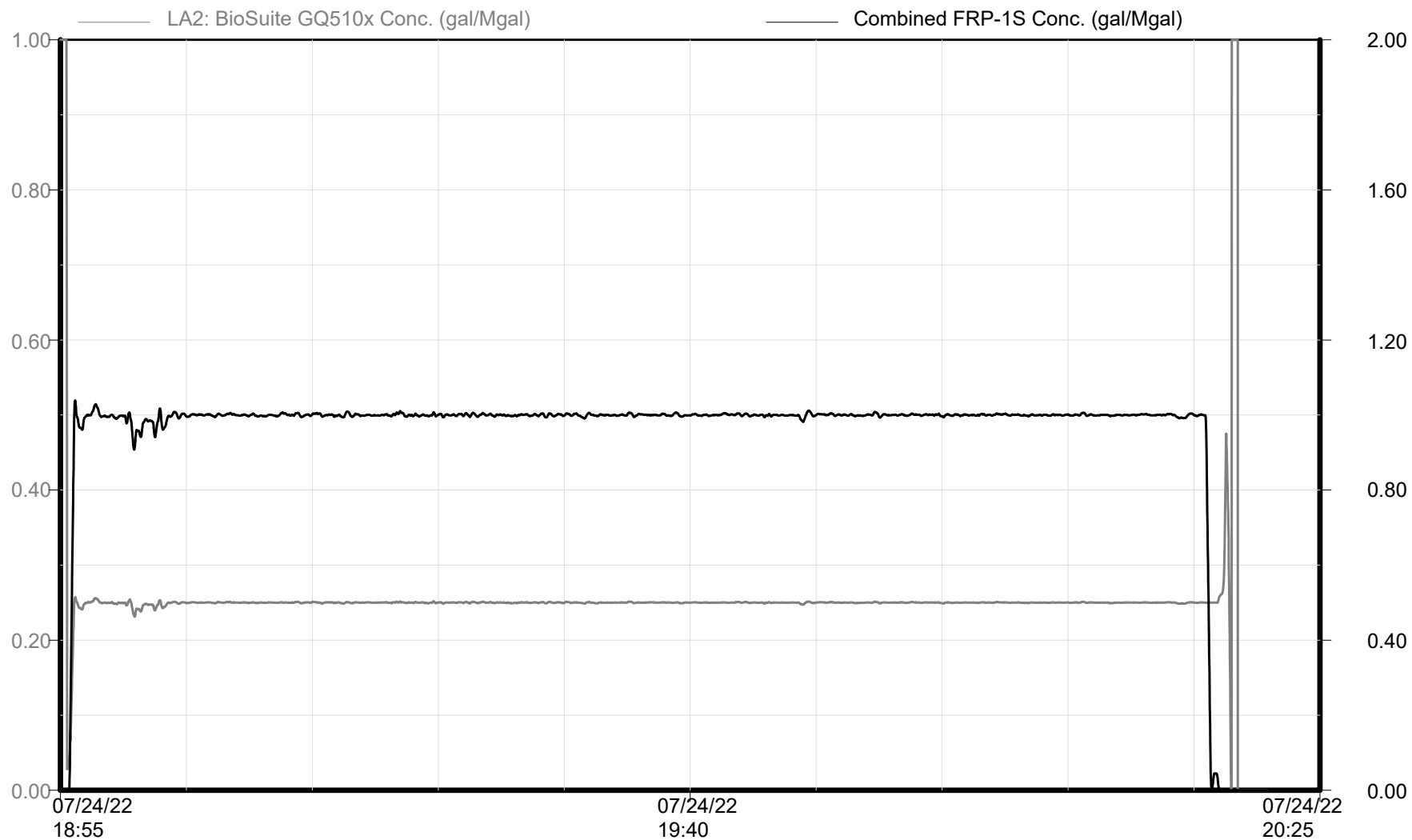
Republic Crew

Cystal 6-65 22-10 10HN Stage 50



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 50 of 58



Chemical Additives

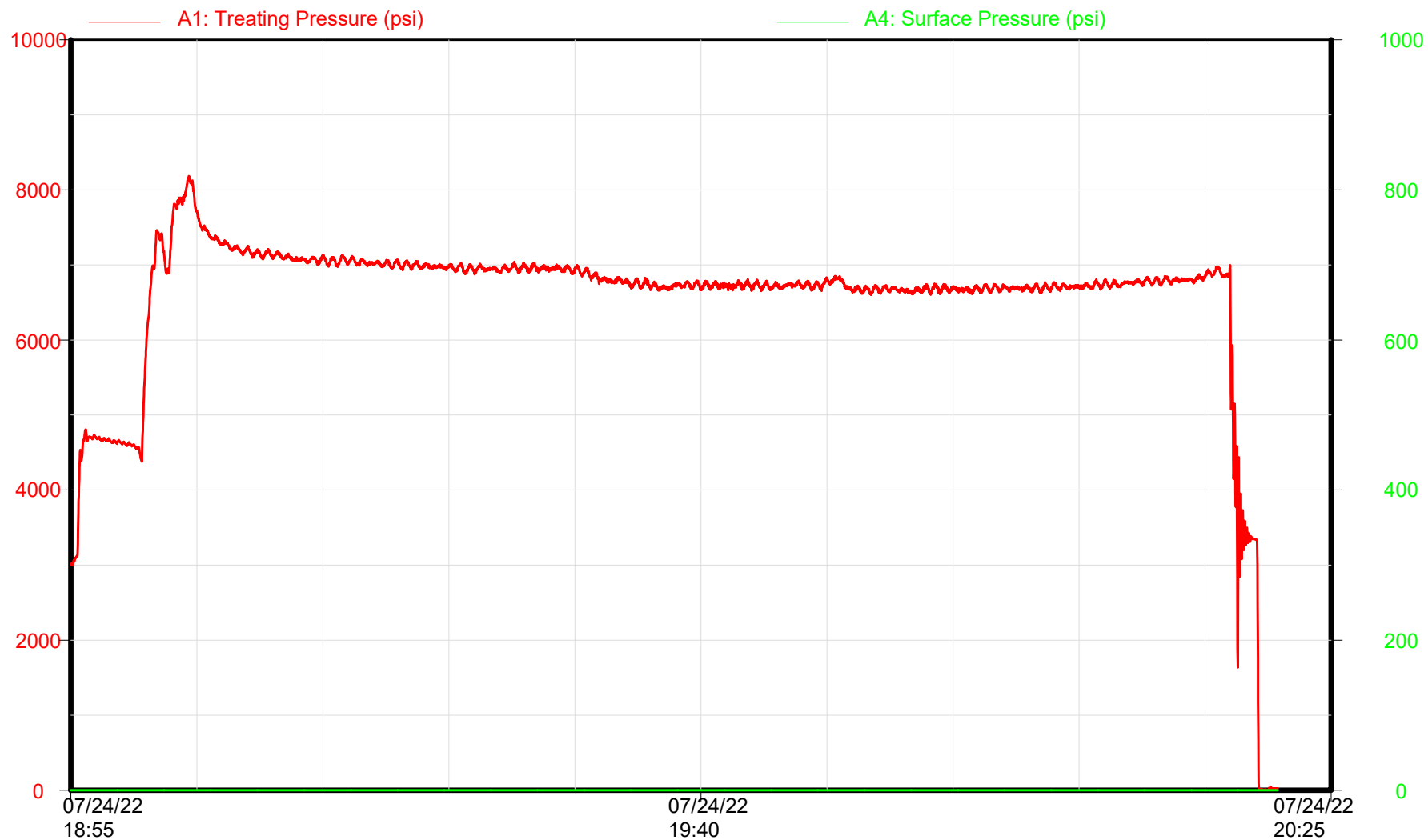
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 50

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 50 of 58



Surface/Treating Pressures

Time

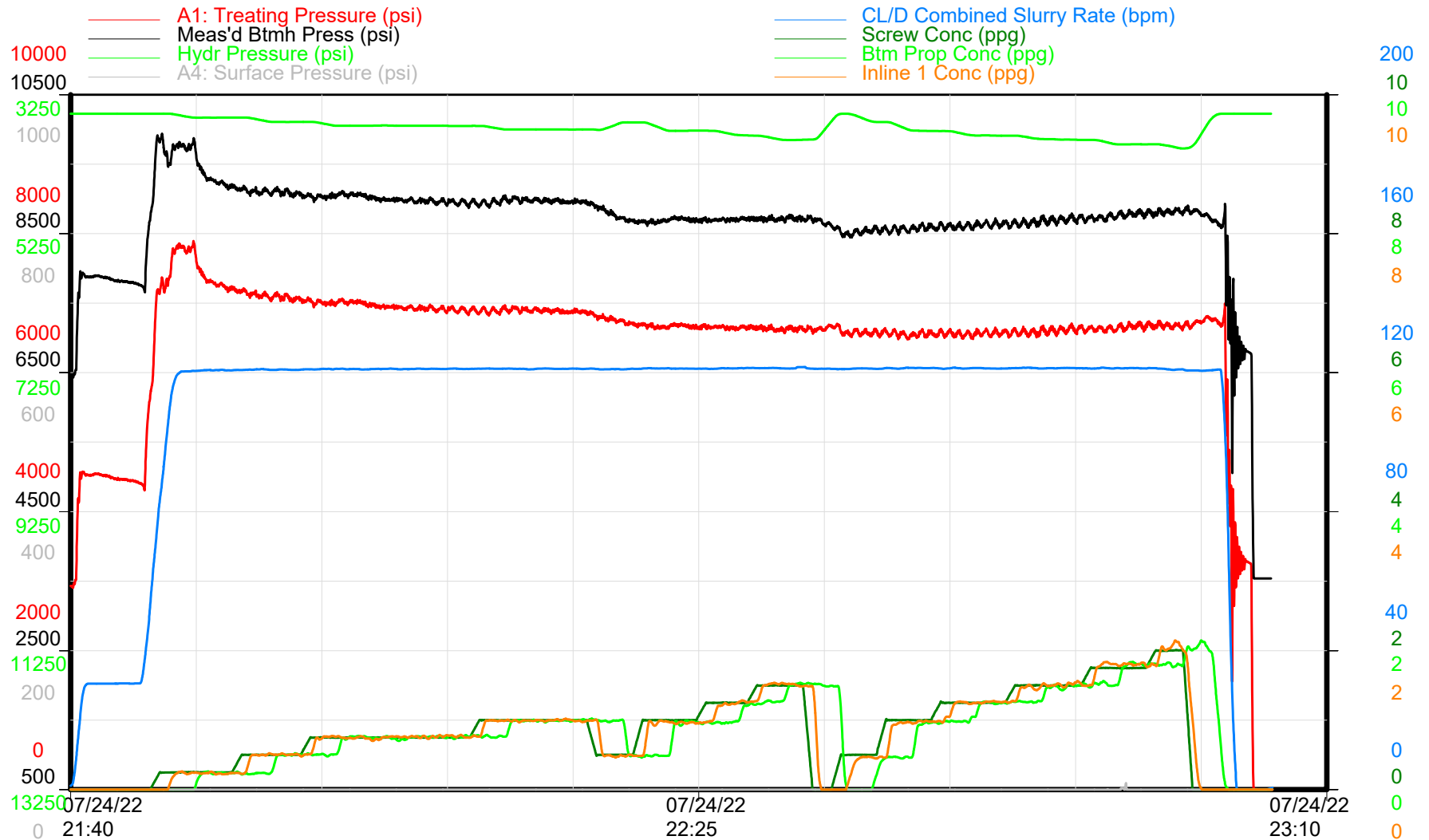
Republic Crew

Cystal 6-65 22-10 10HN Stage 51



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 51 of 58



Treatment Plot

Time

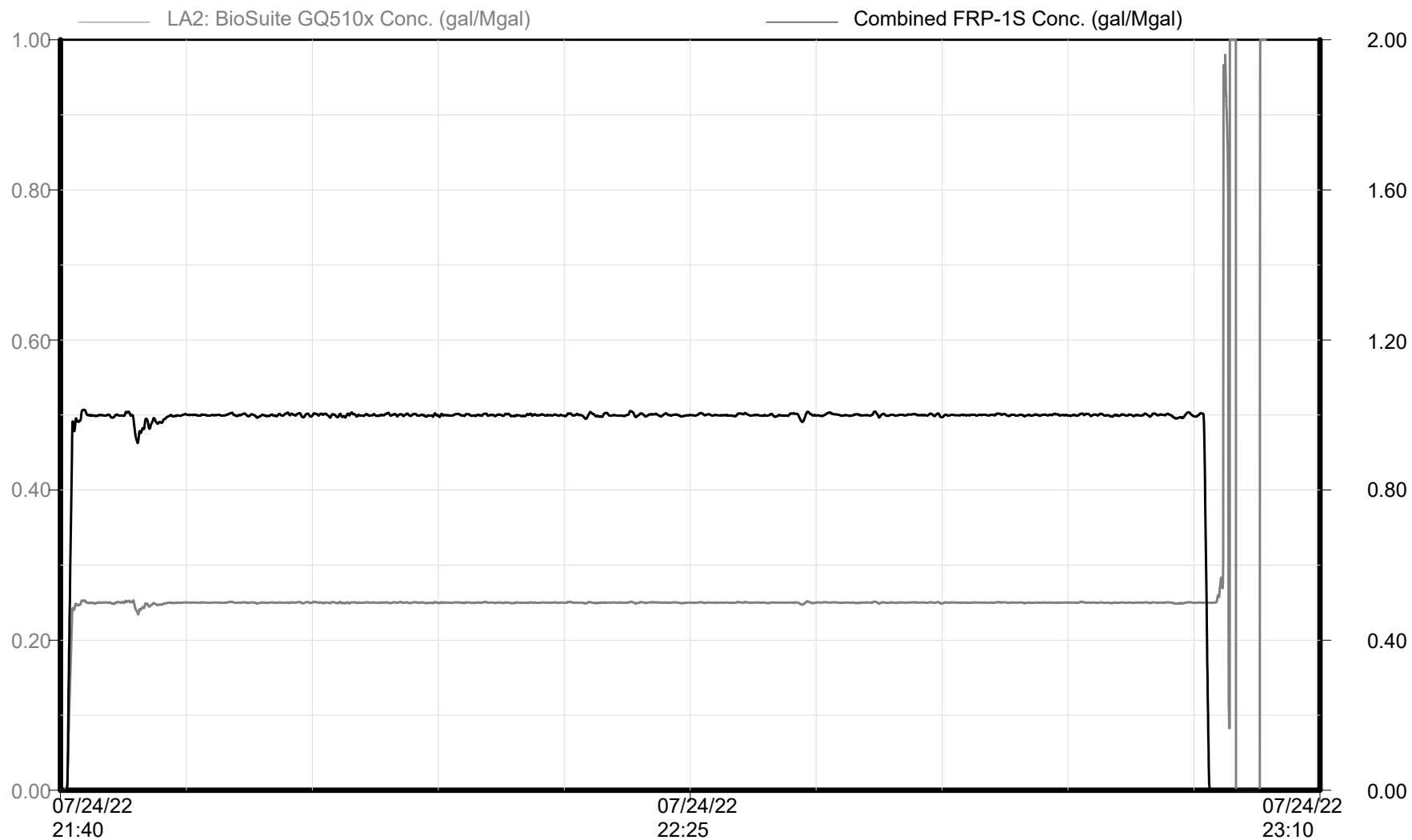
Republic Crew

Cystal 6-65 22-10 10HN Stage 51



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 51 of 58



Chemical Additives

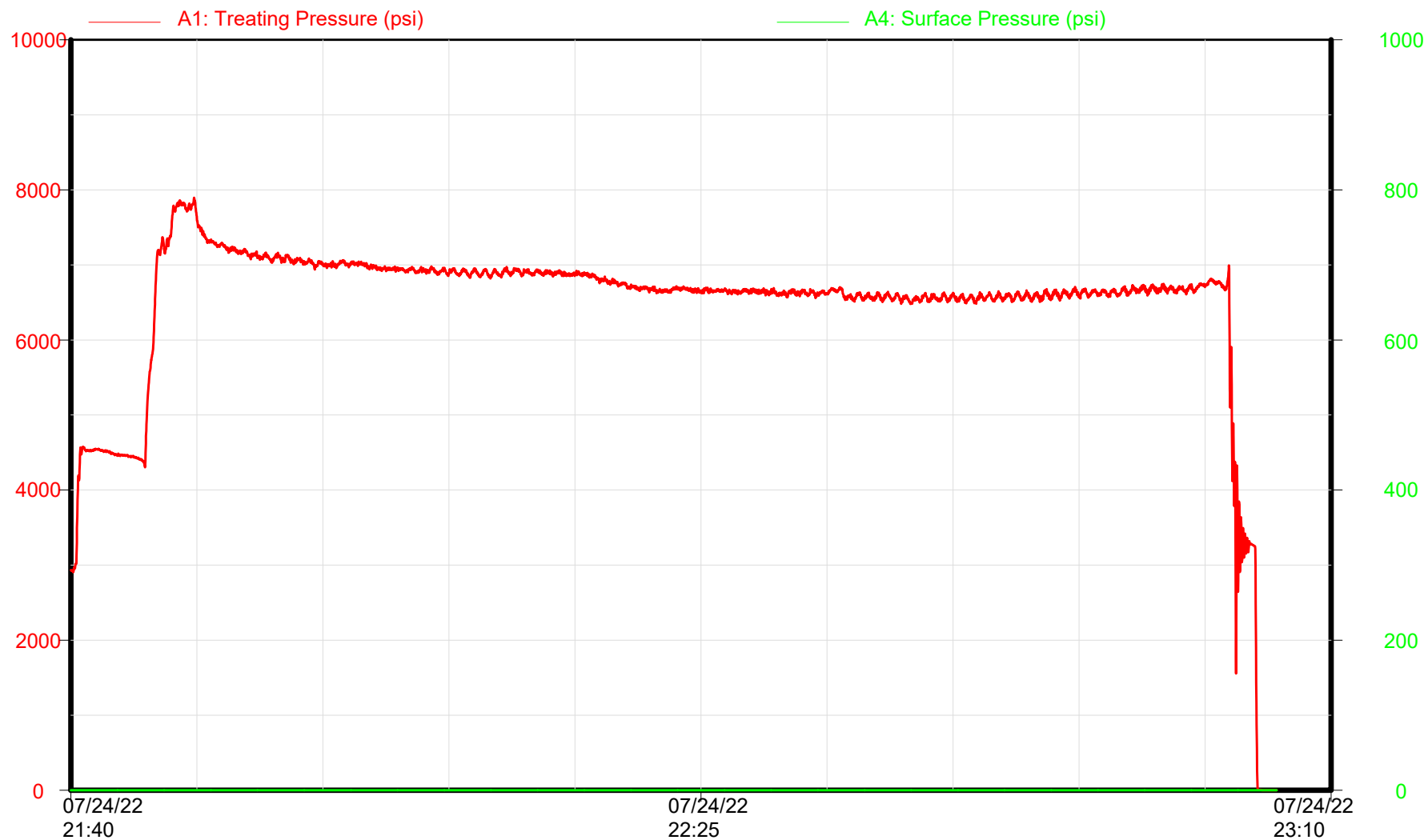
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 51

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 51 of 58



Surface/Treating Pressures

Time

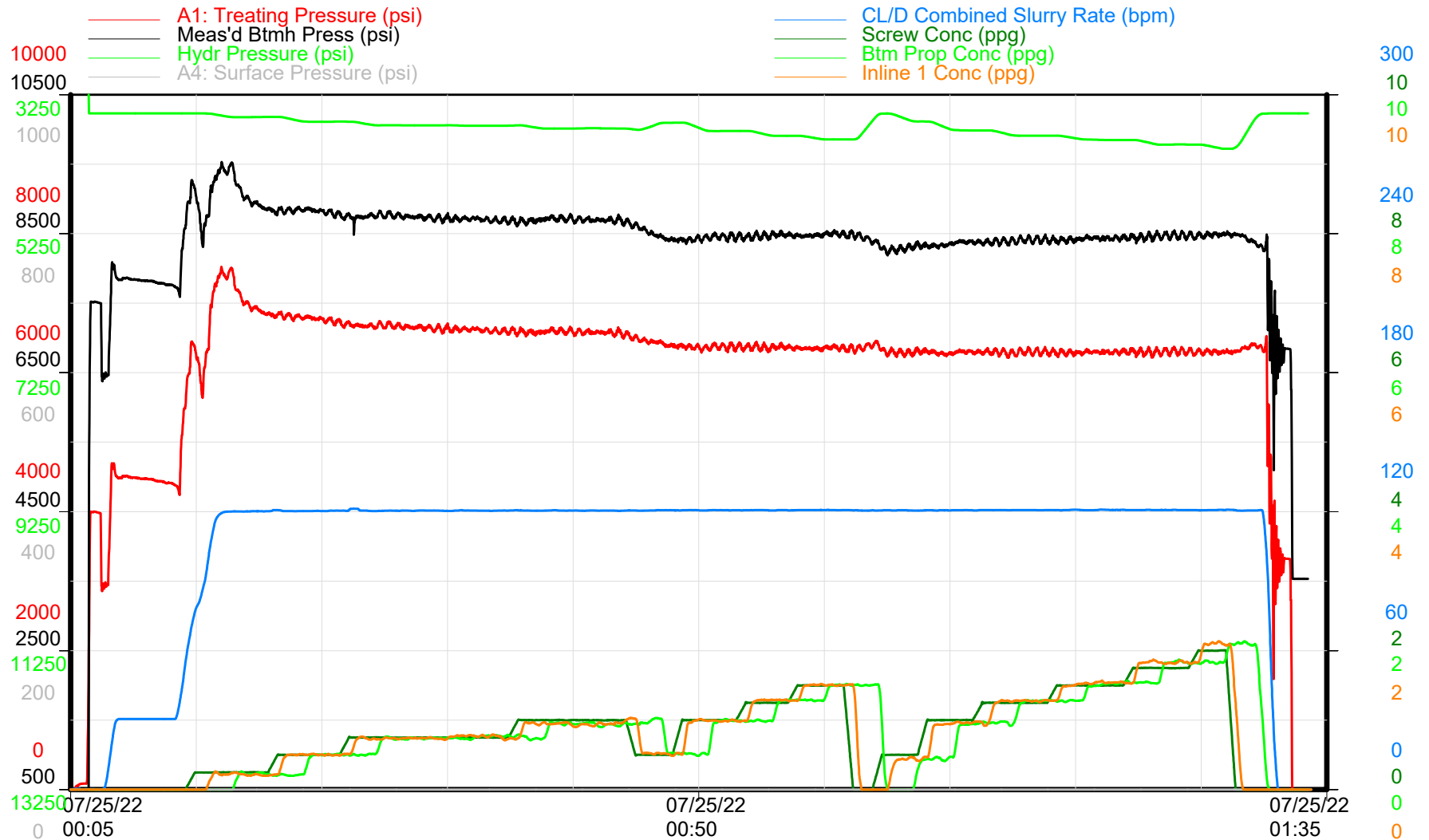
Republic Crew



Cystal 6-65 22-10 10HN Stage 52

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 52 of 58



Treatment Plot

Time

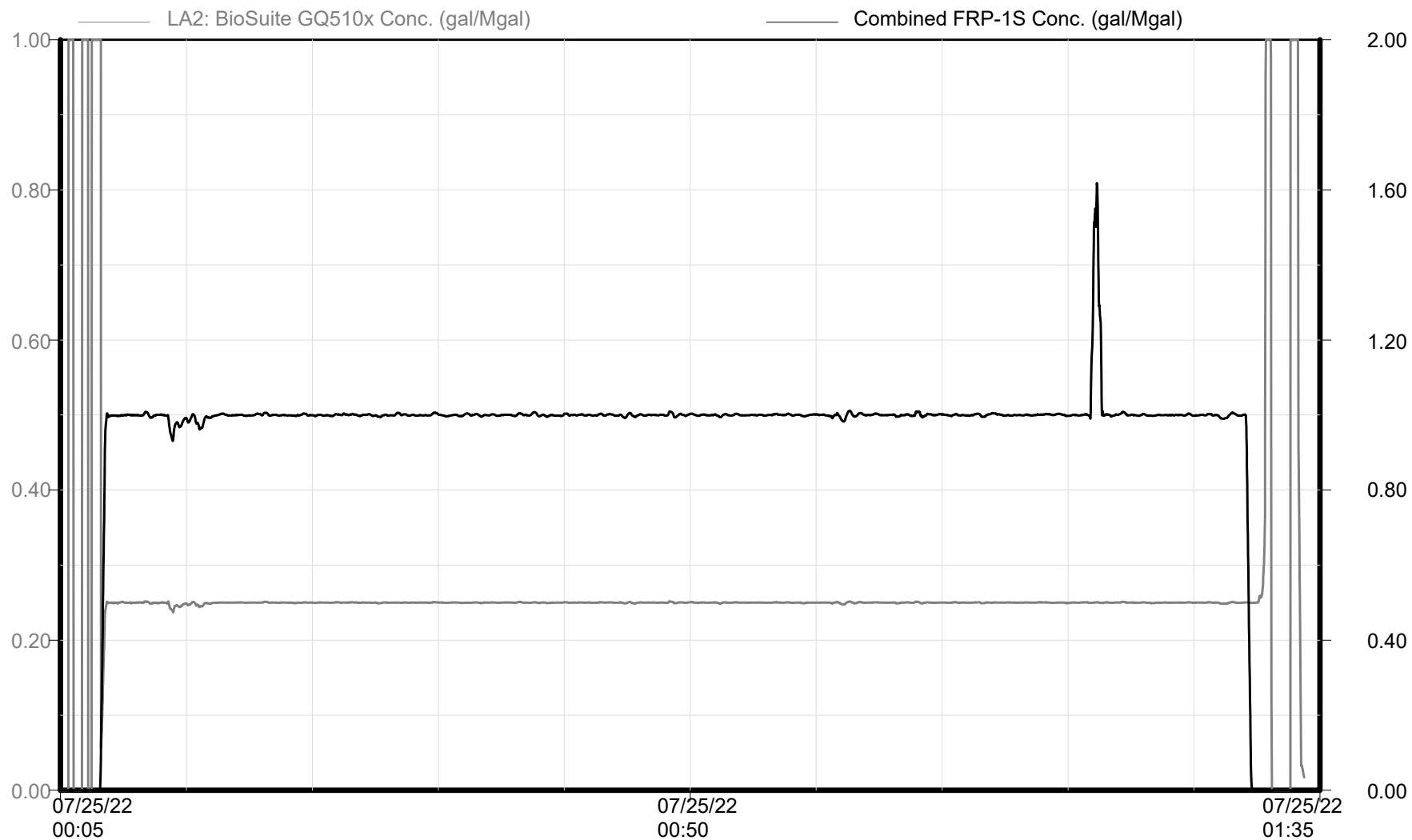
Republic Crew

Cystal 6-65 22-10 10HN Stage 52



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 52 of 58



Chemical Additives

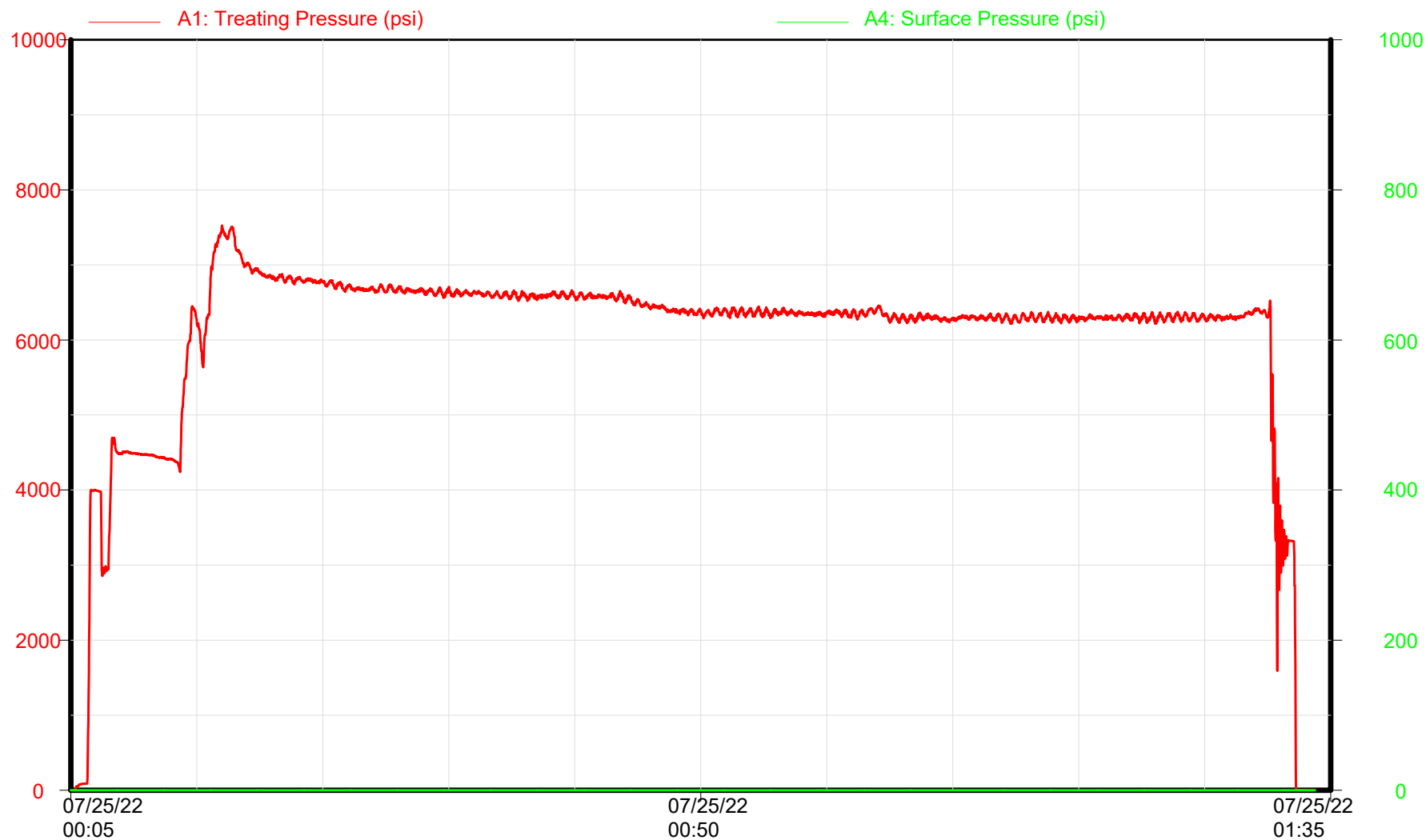
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 52

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 52 of 58



Surface/Treating Pressures

Time

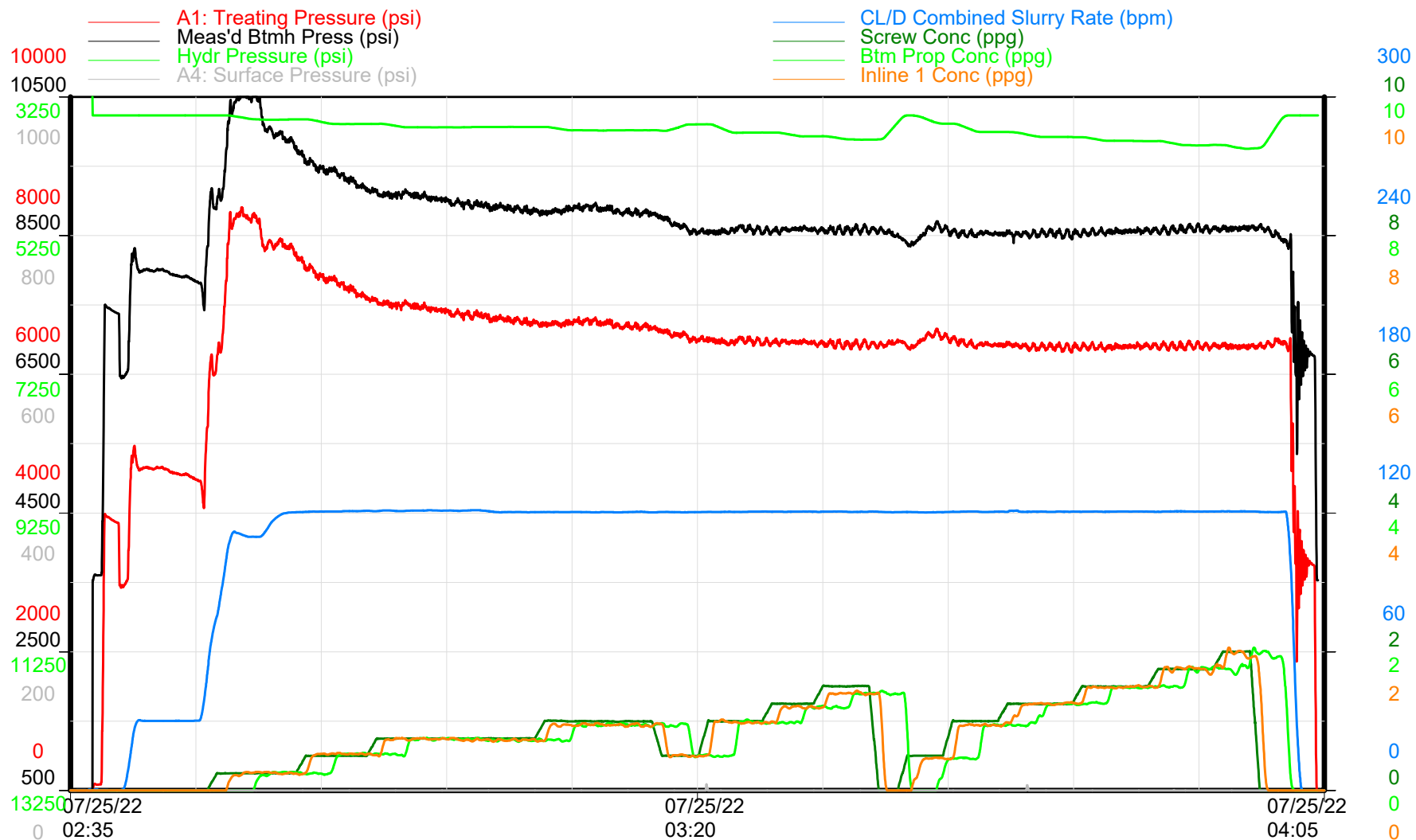
Republic Crew

Cystal 6-65 22-10 10HN Stage 53



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 53 of 58



Treatment Plot

Time

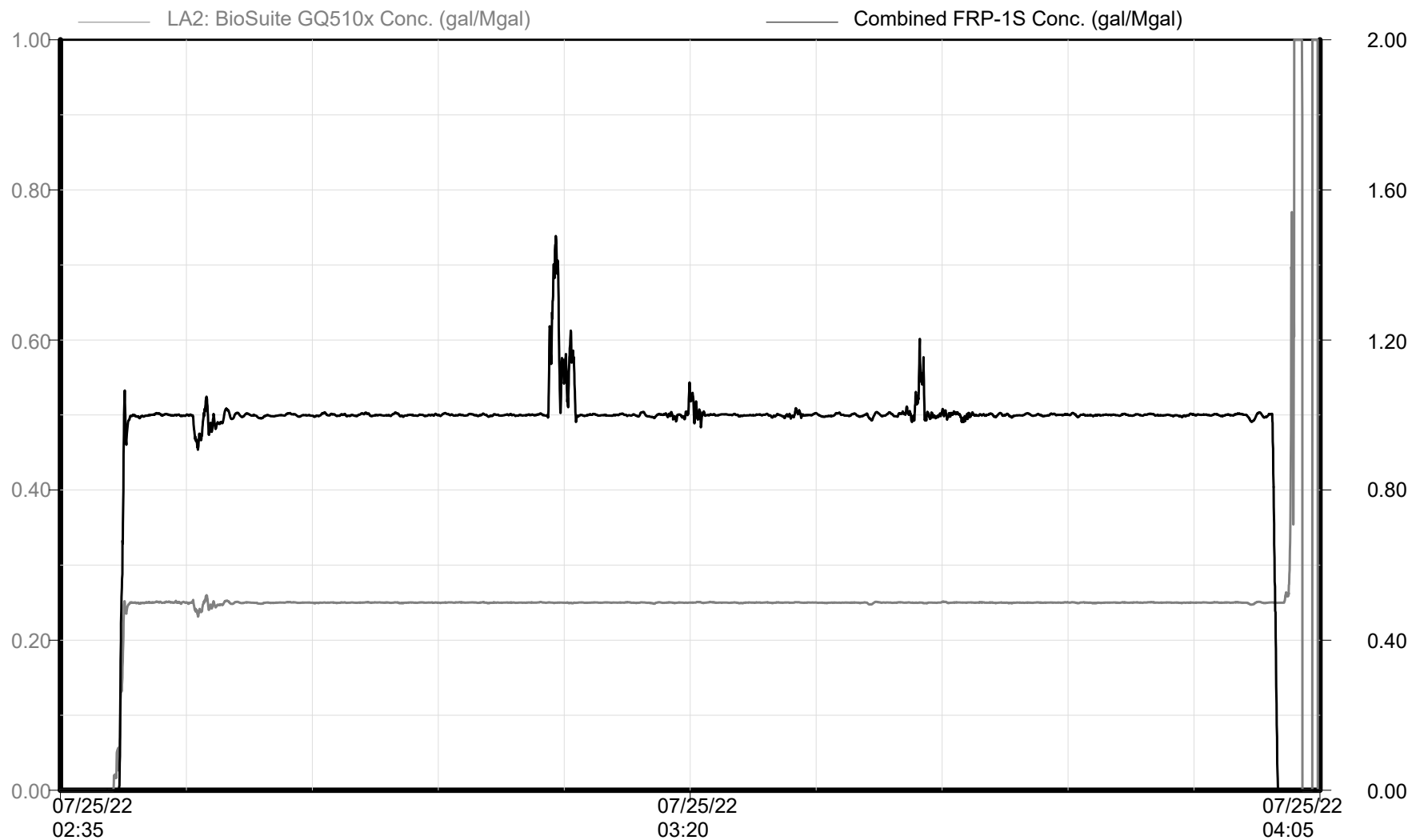
Republic Crew

Cystal 6-65 22-10 10HN Stage 53



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 53 of 58



Chemical Additives

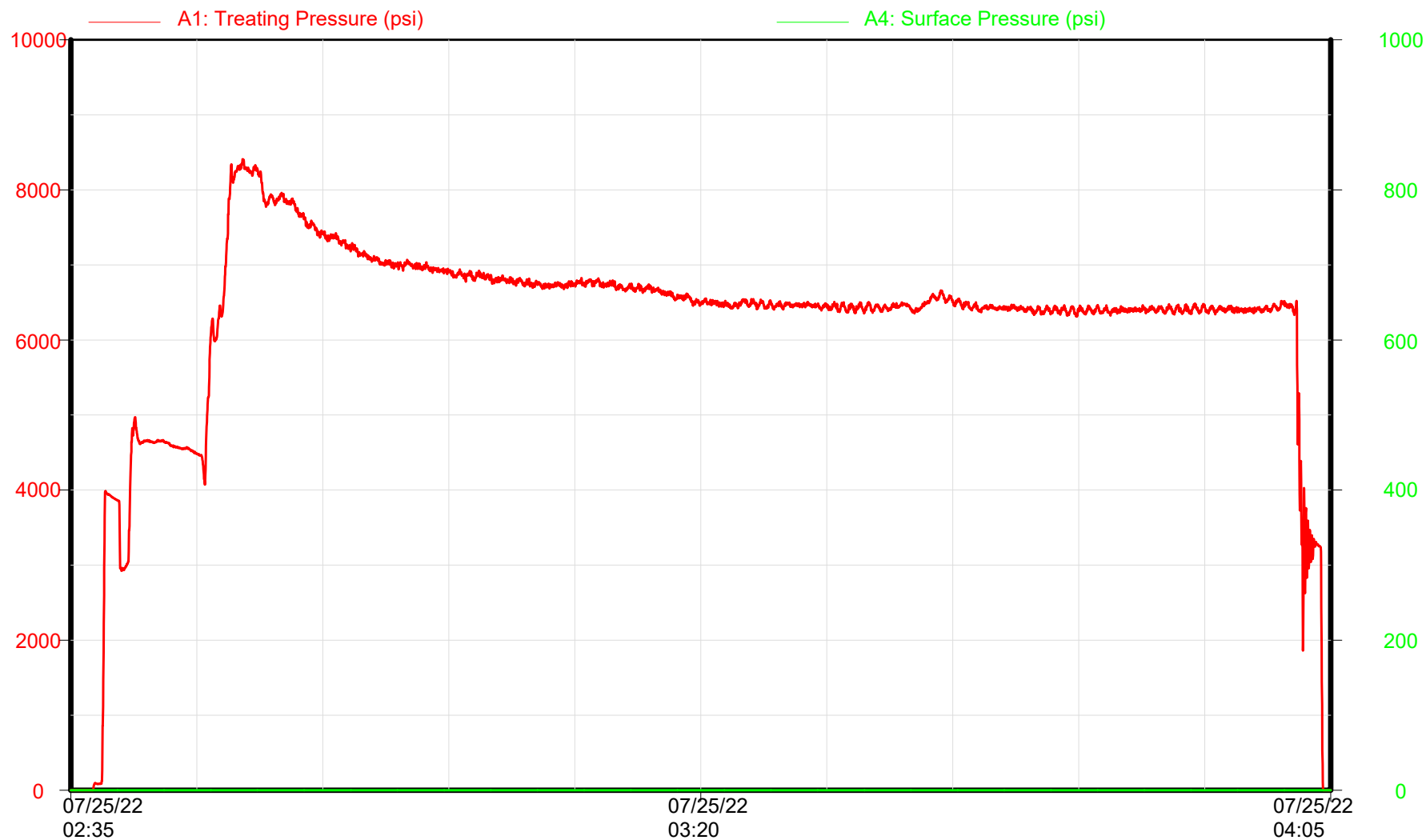
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 53

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 53 of 58



Surface/Treating Pressures

Time

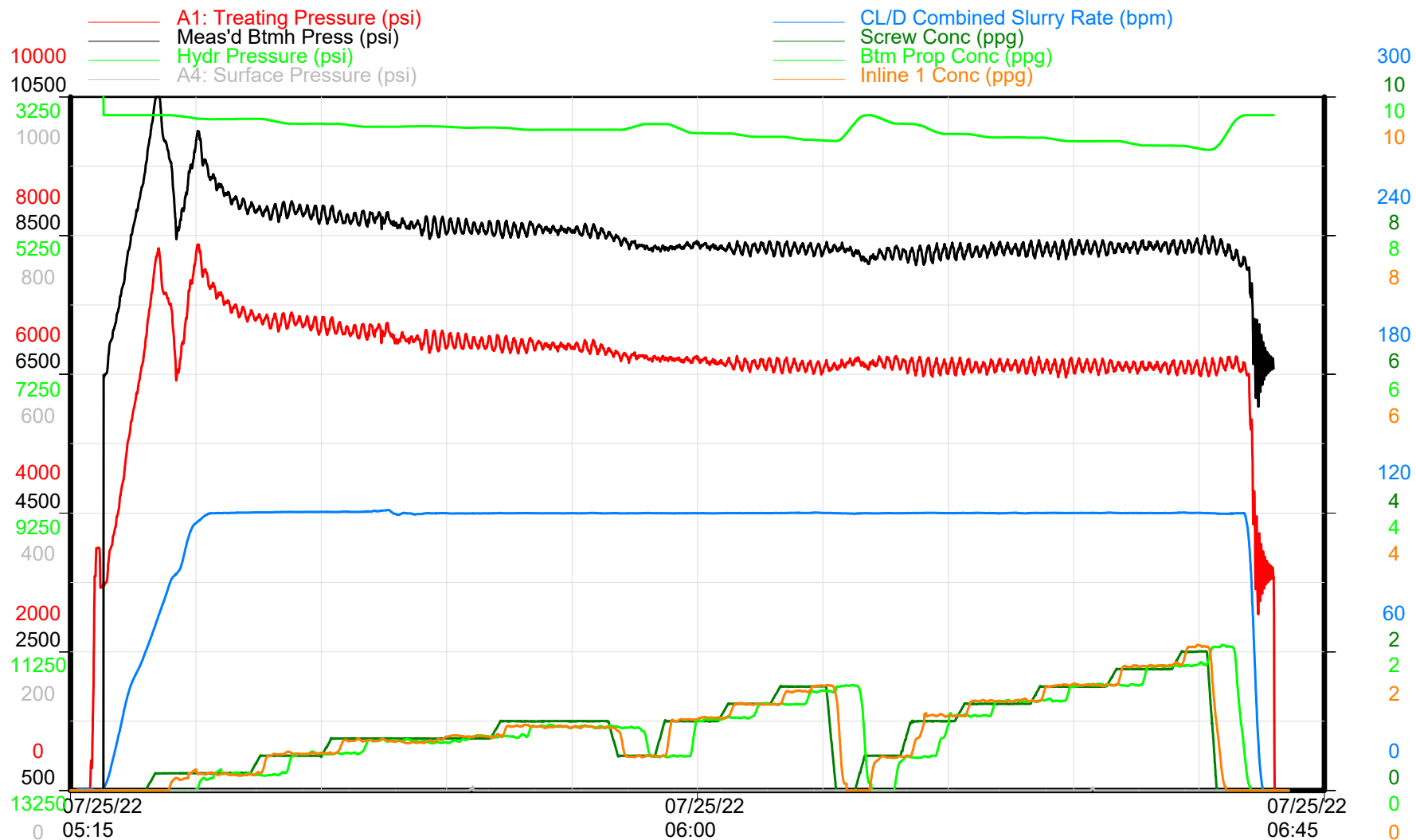
Republic Crew

Cystal 6-65 22-10 10HN Stage 54



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 54 of 58



Treatment Plot

Time

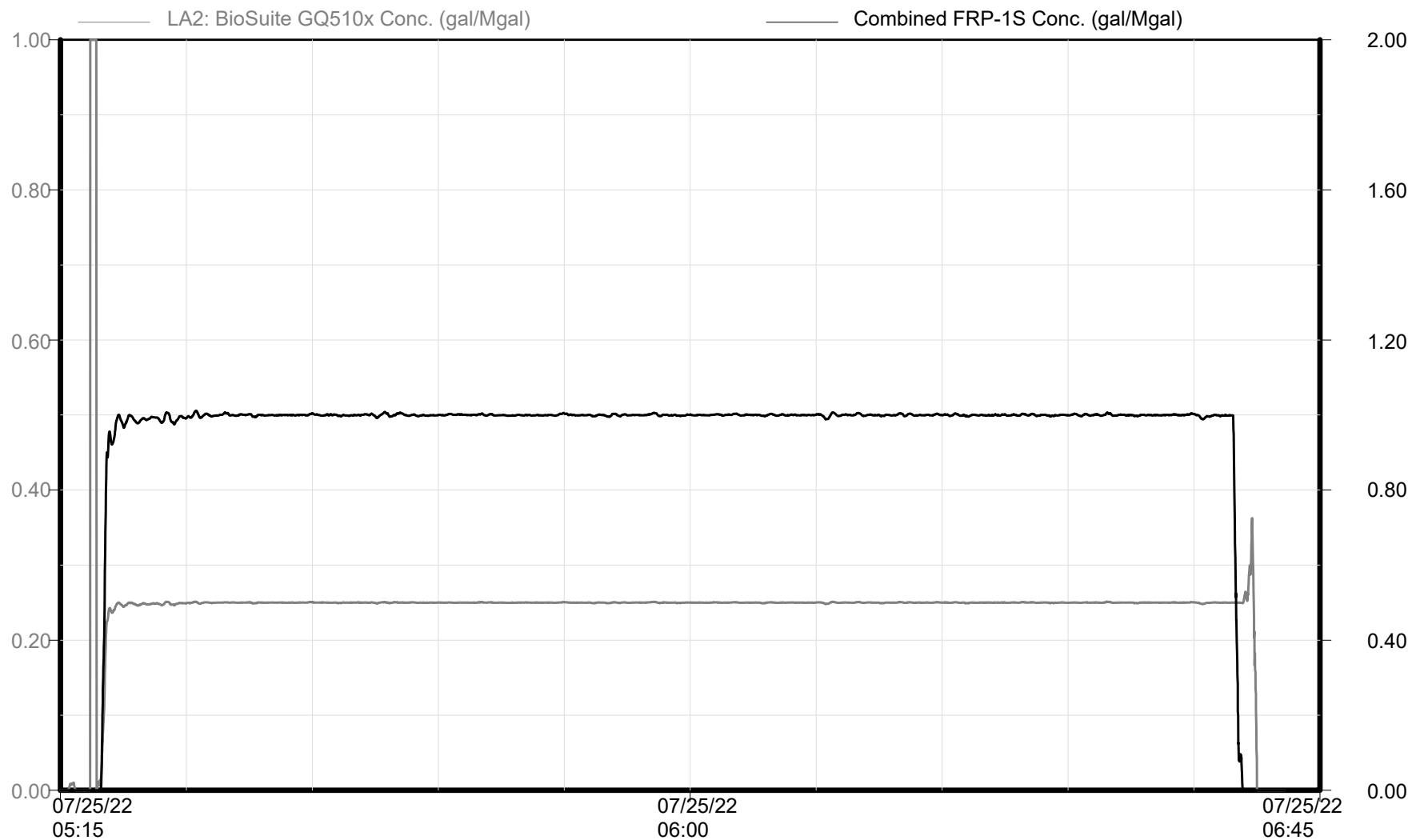
Republic Crew

Cystal 6-65 22-10 10HN Stage 54



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 54 of 58



Chemical Additives

Time

Republic Crew

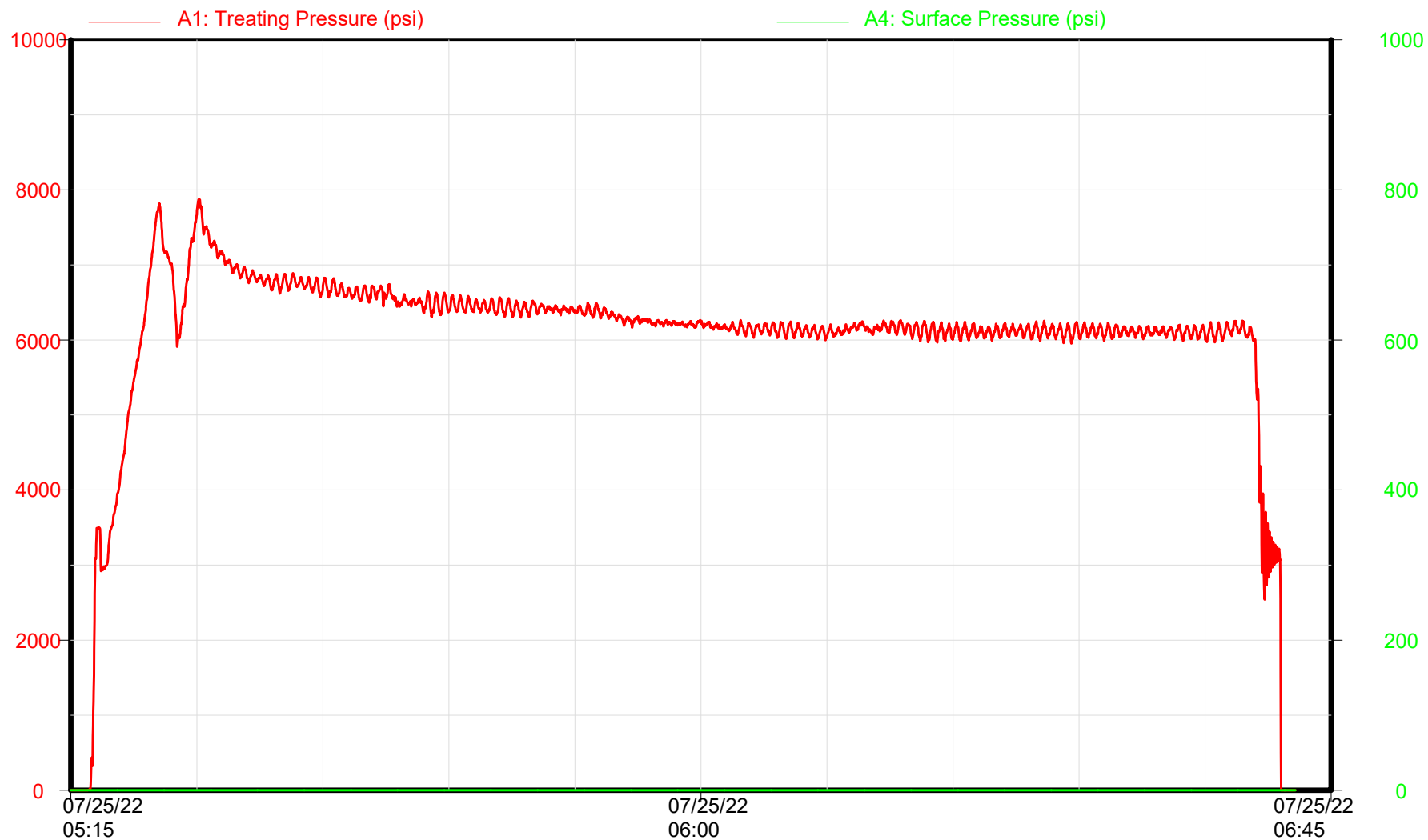


Cystal 6-65 22-10 10HN Stage 54



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 54 of 58



Surface/Treating Pressures

Time

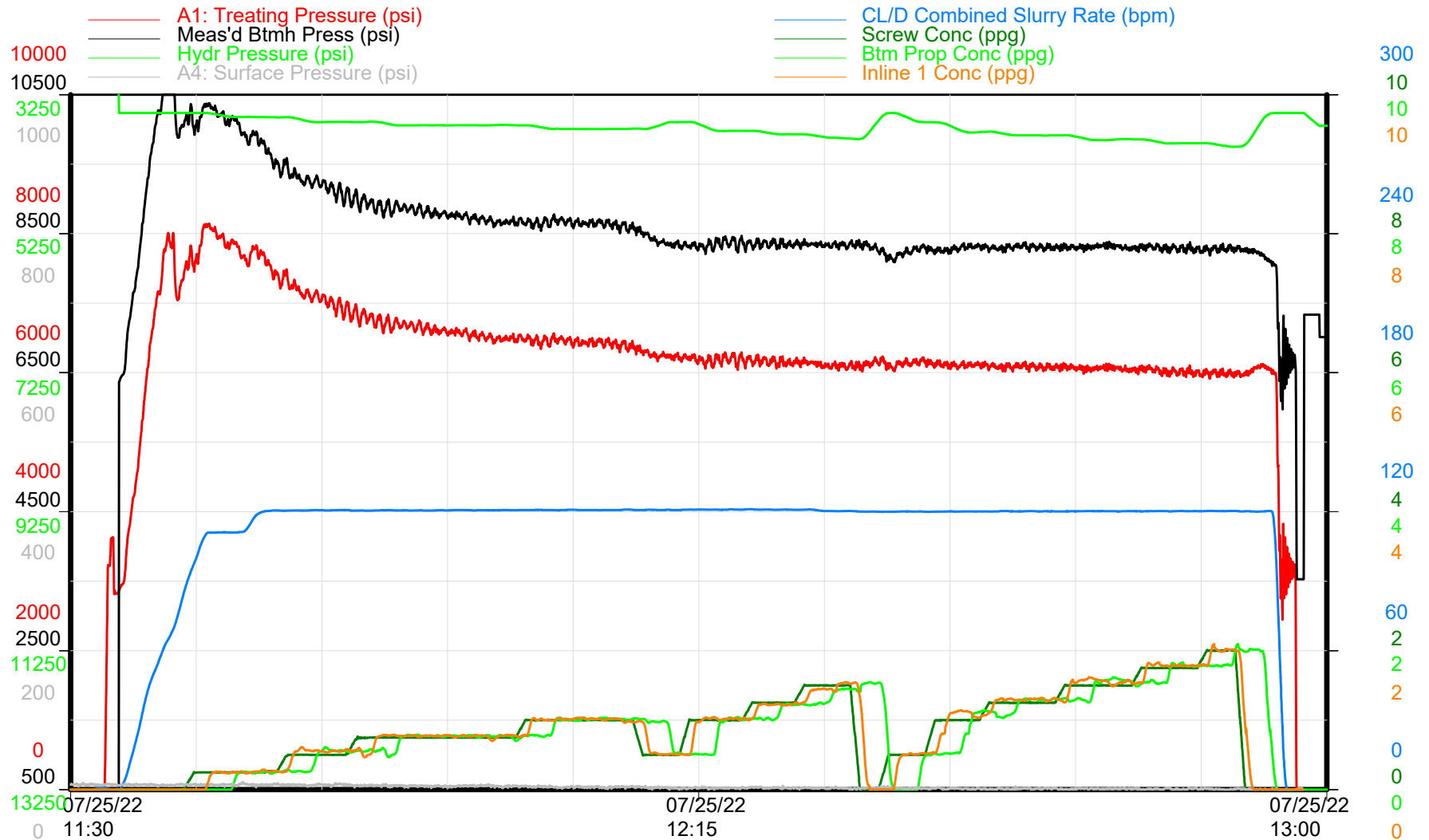
Republic Crew

Cystal 6-65 22-10 10HN Stage 55



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 55 of 58



Treatment Plot

Time

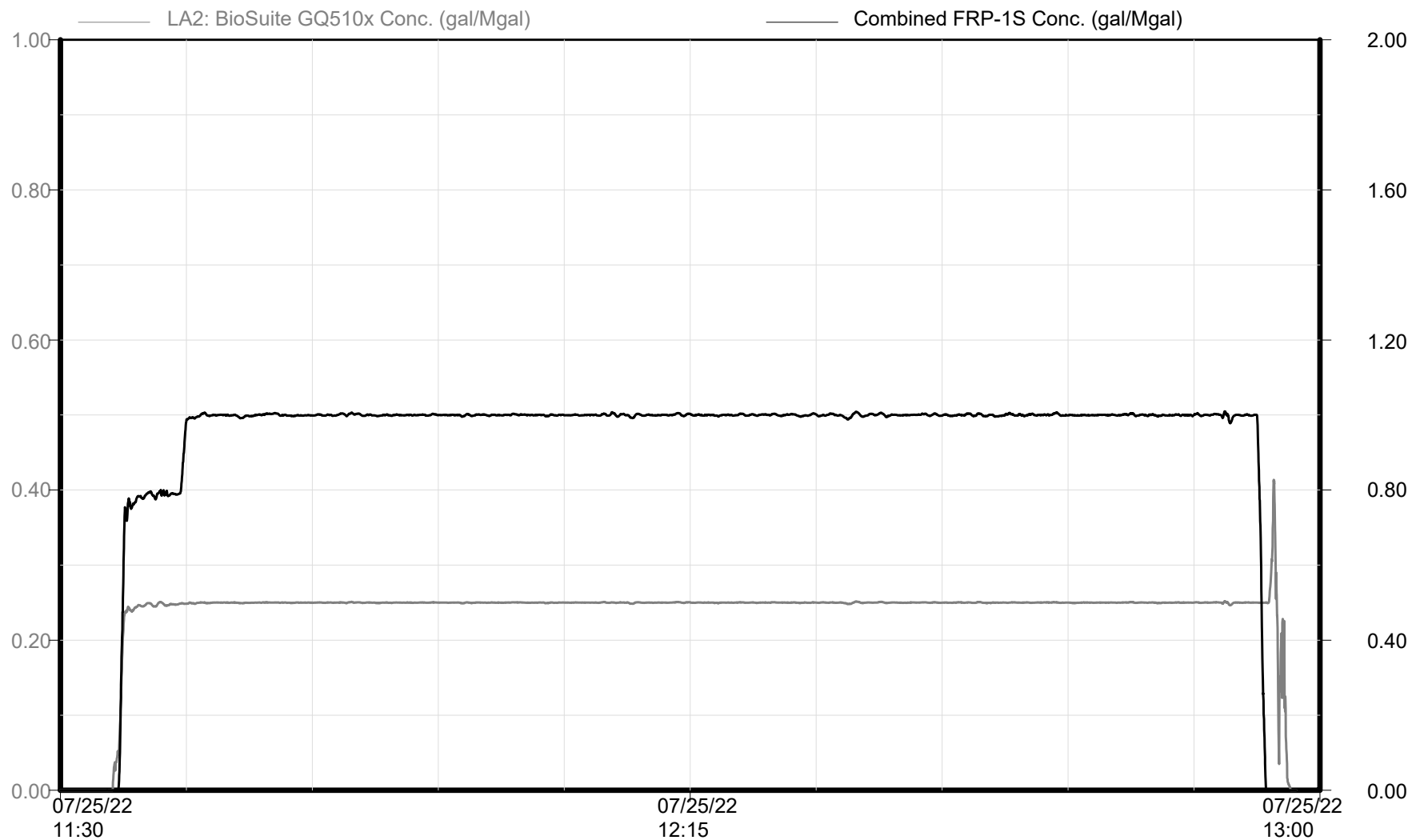
Republic Crew

Cystal 6-65 22-10 10HN Stage 55



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 55 of 58



Chemical Additives

Time

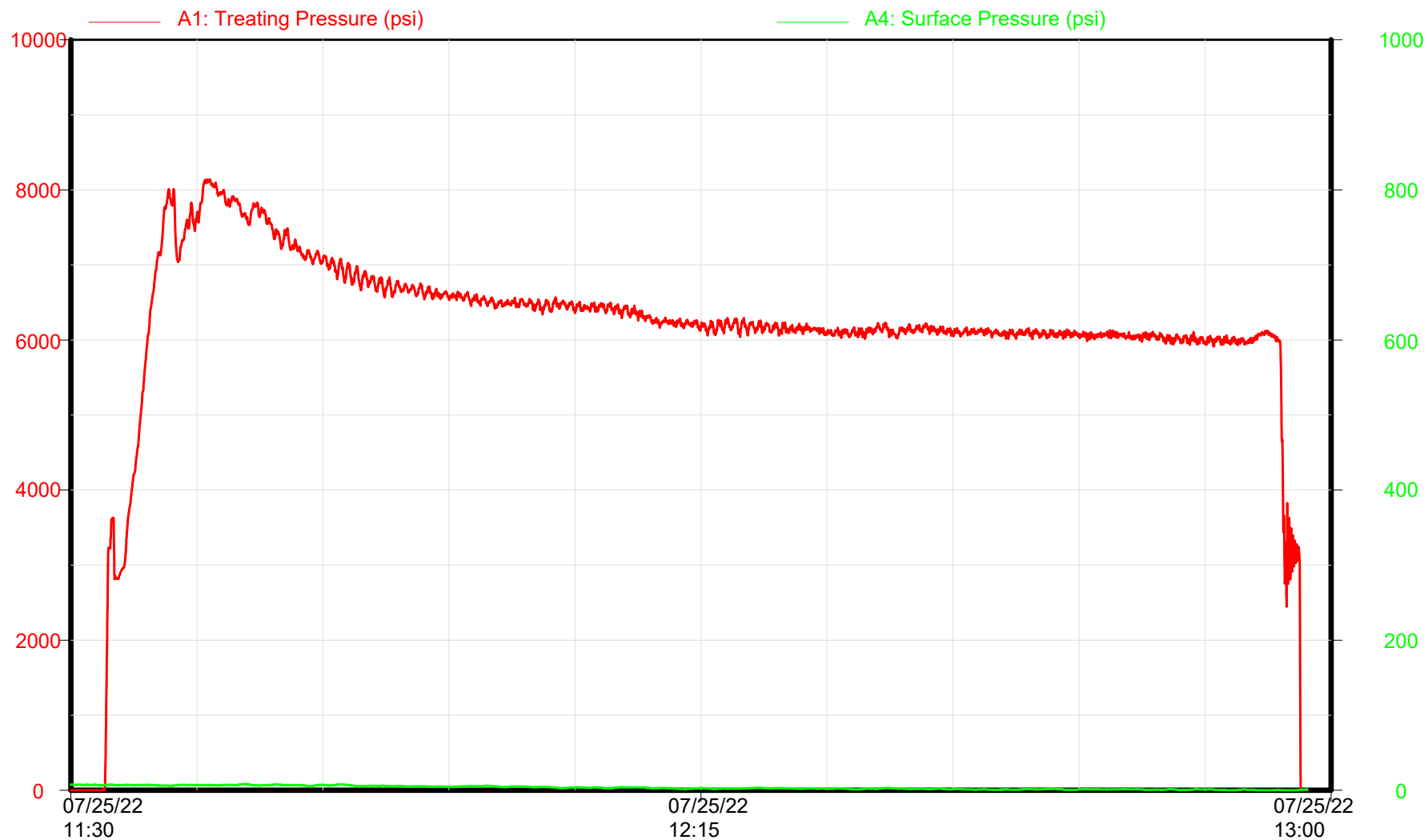
Republic Crew

Cystal 6-65 22-10 10HN Stage 55



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 55 of 58



Surface/Treating Pressures

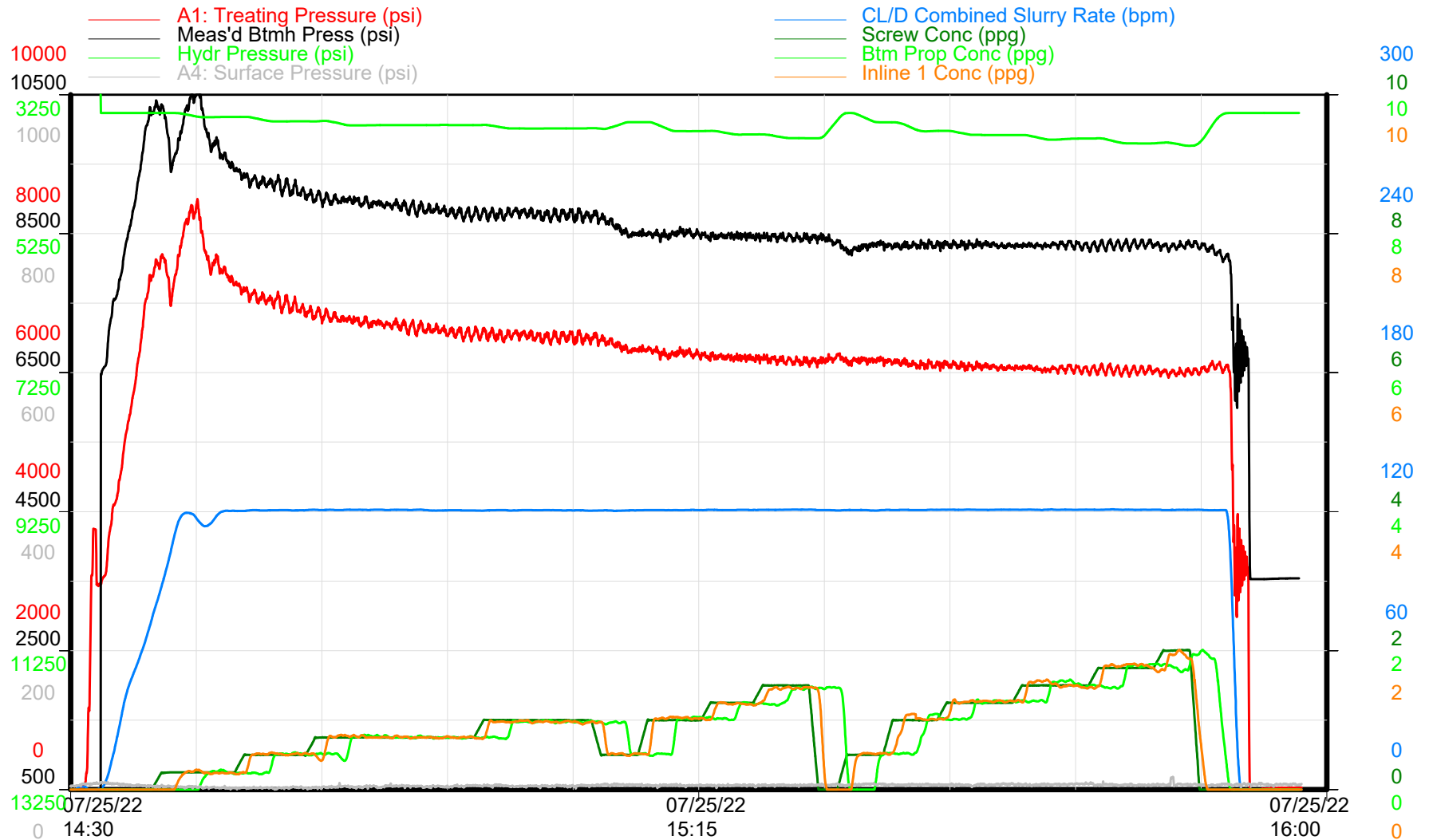
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 56

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 56 of 58



Treatment Plot

Time

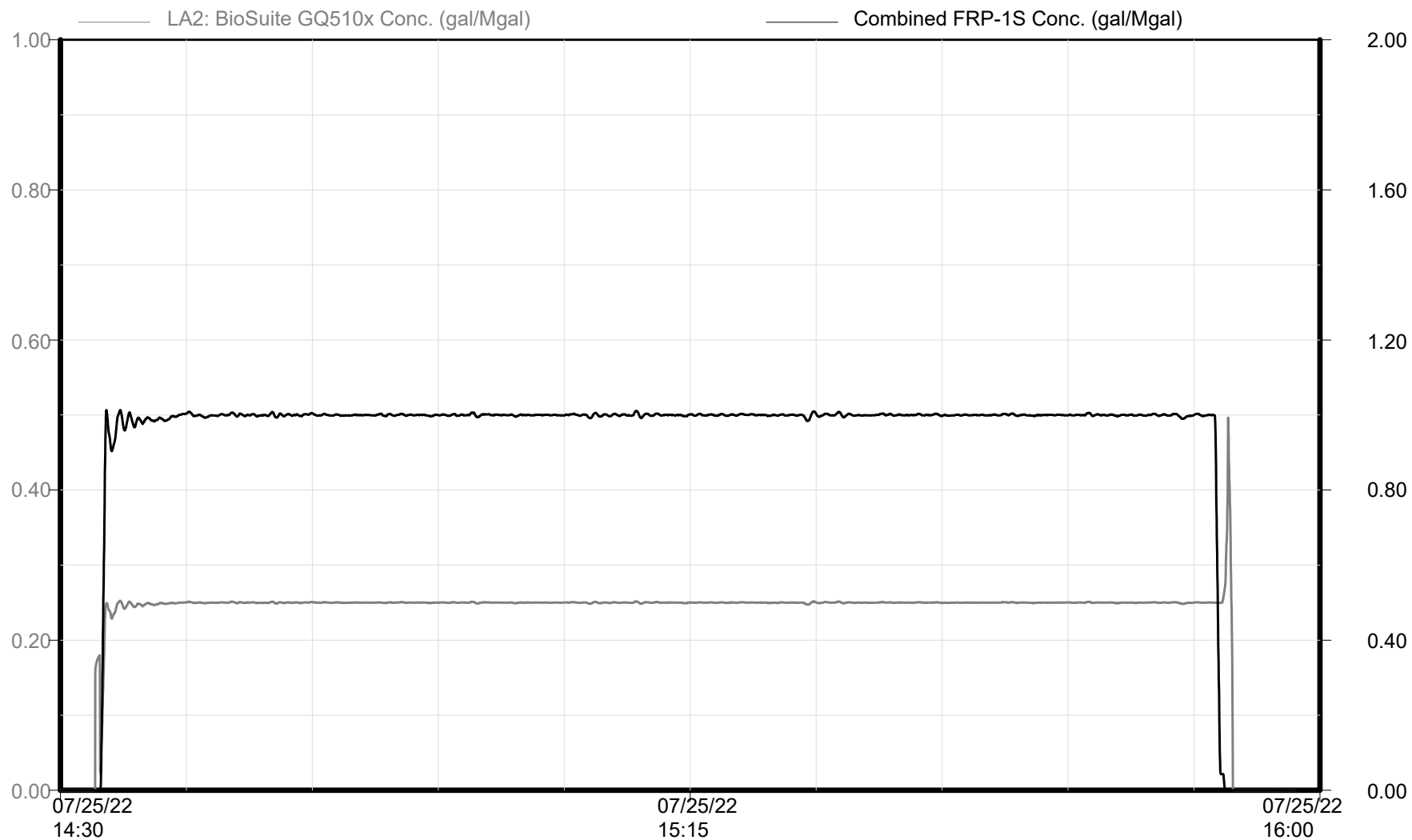
Republic Crew

Cystal 6-65 22-10 10HN Stage 56



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 56 of 58



Chemical Additives

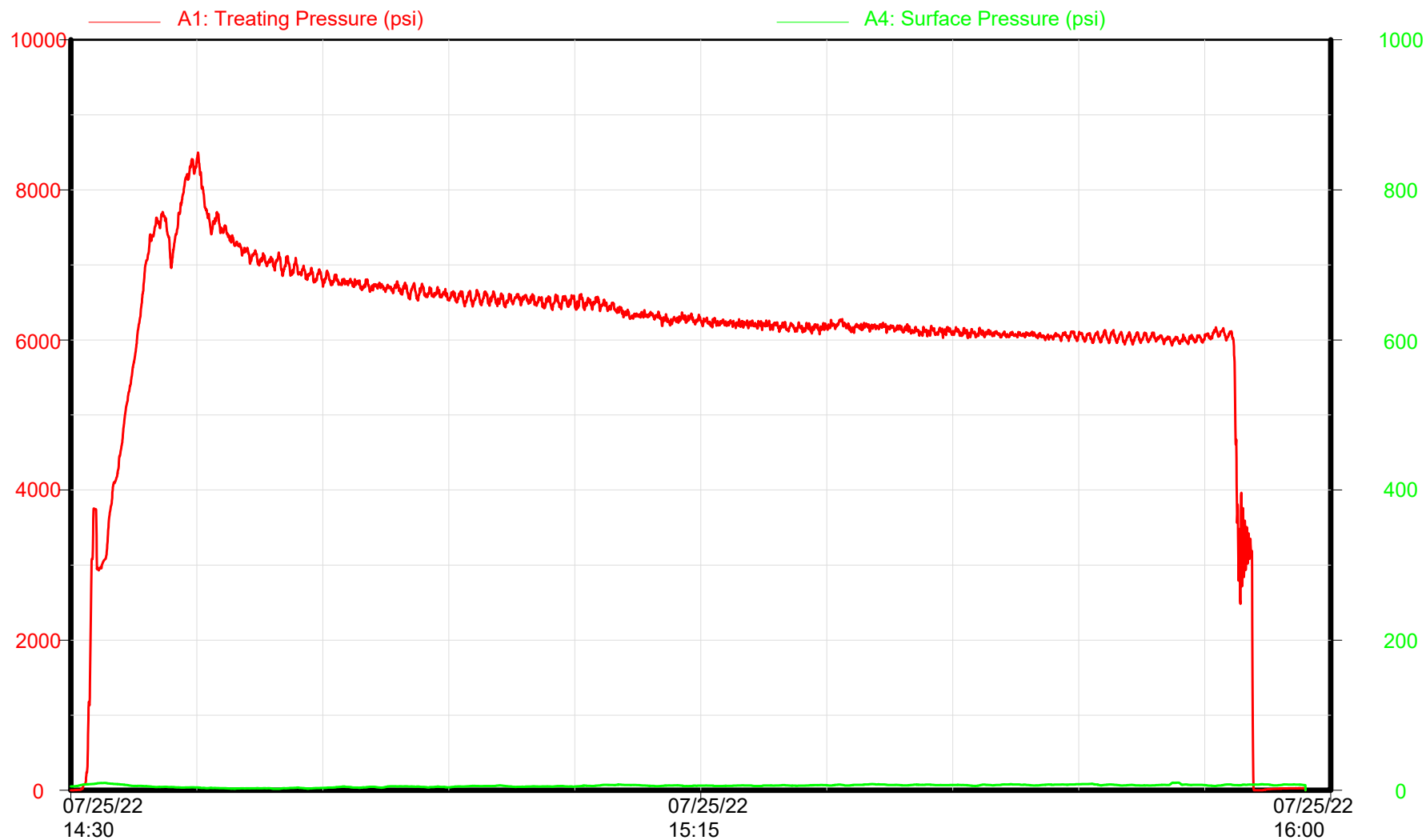
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 56

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 56 of 58



Surface/Treating Pressures

Time

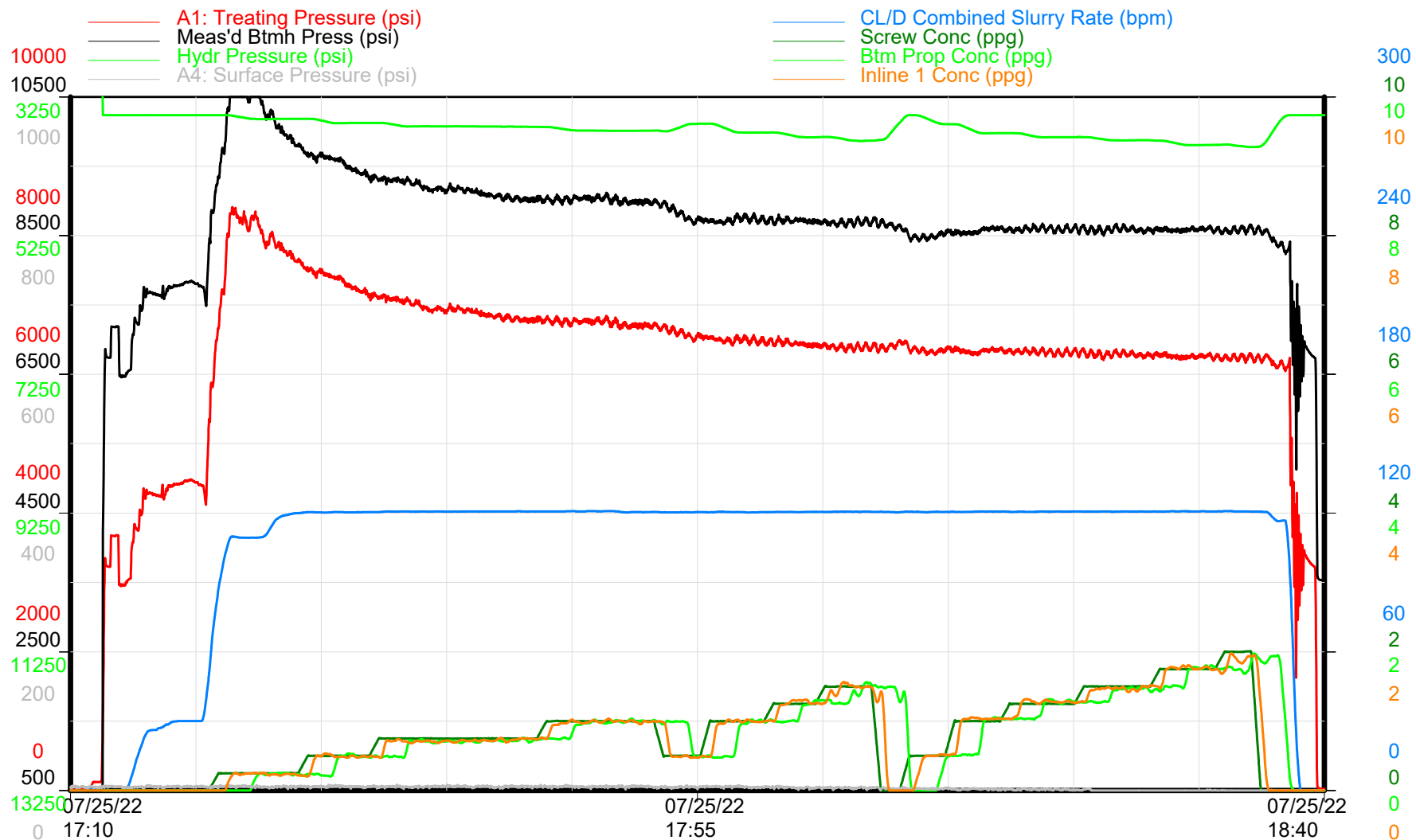
Republic Crew

Cystal 6-65 22-10 10HN Stage 57



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 57 of 58



Treatment Plot

Time

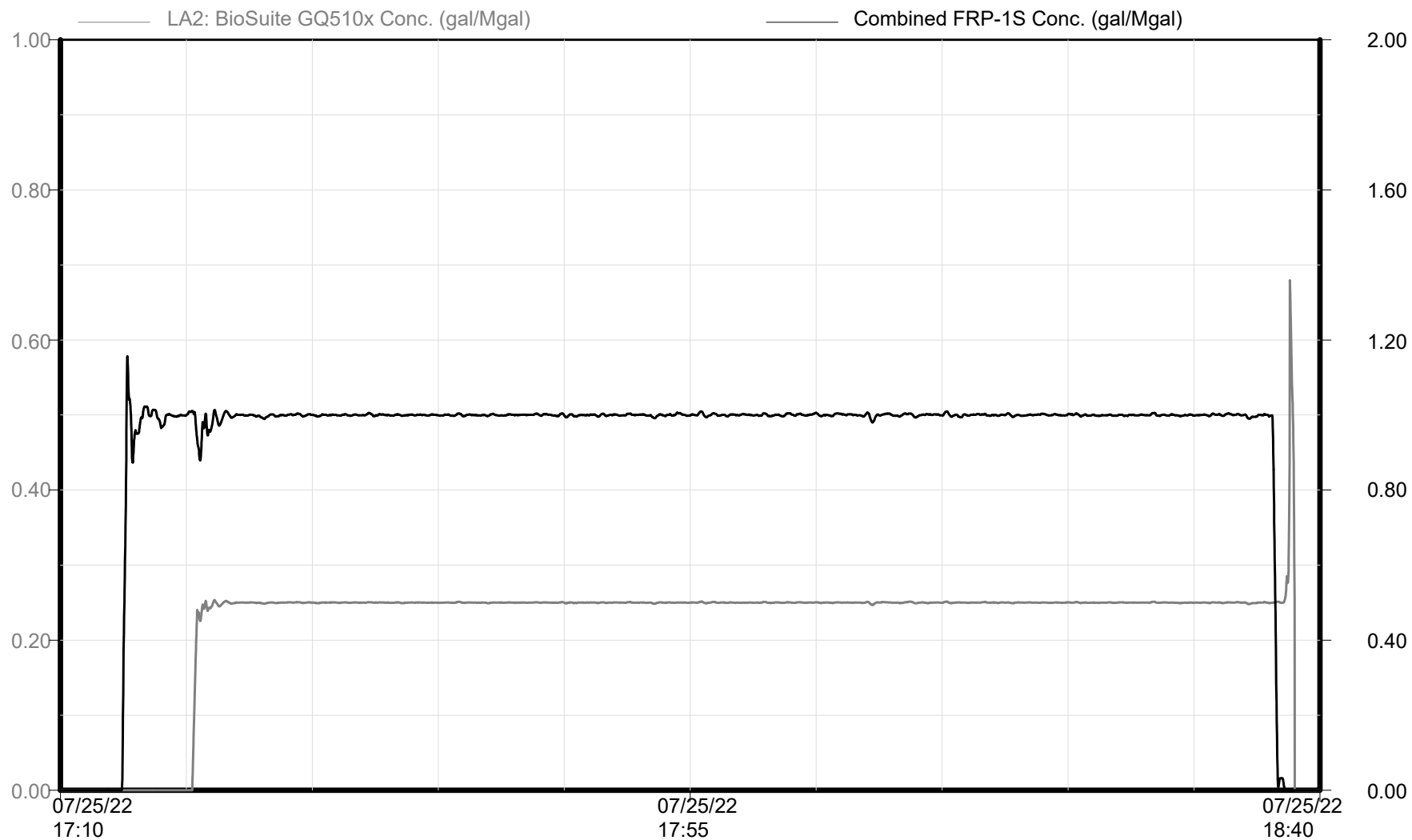
Republic Crew





GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 57 of 58



Chemical Additives

Time

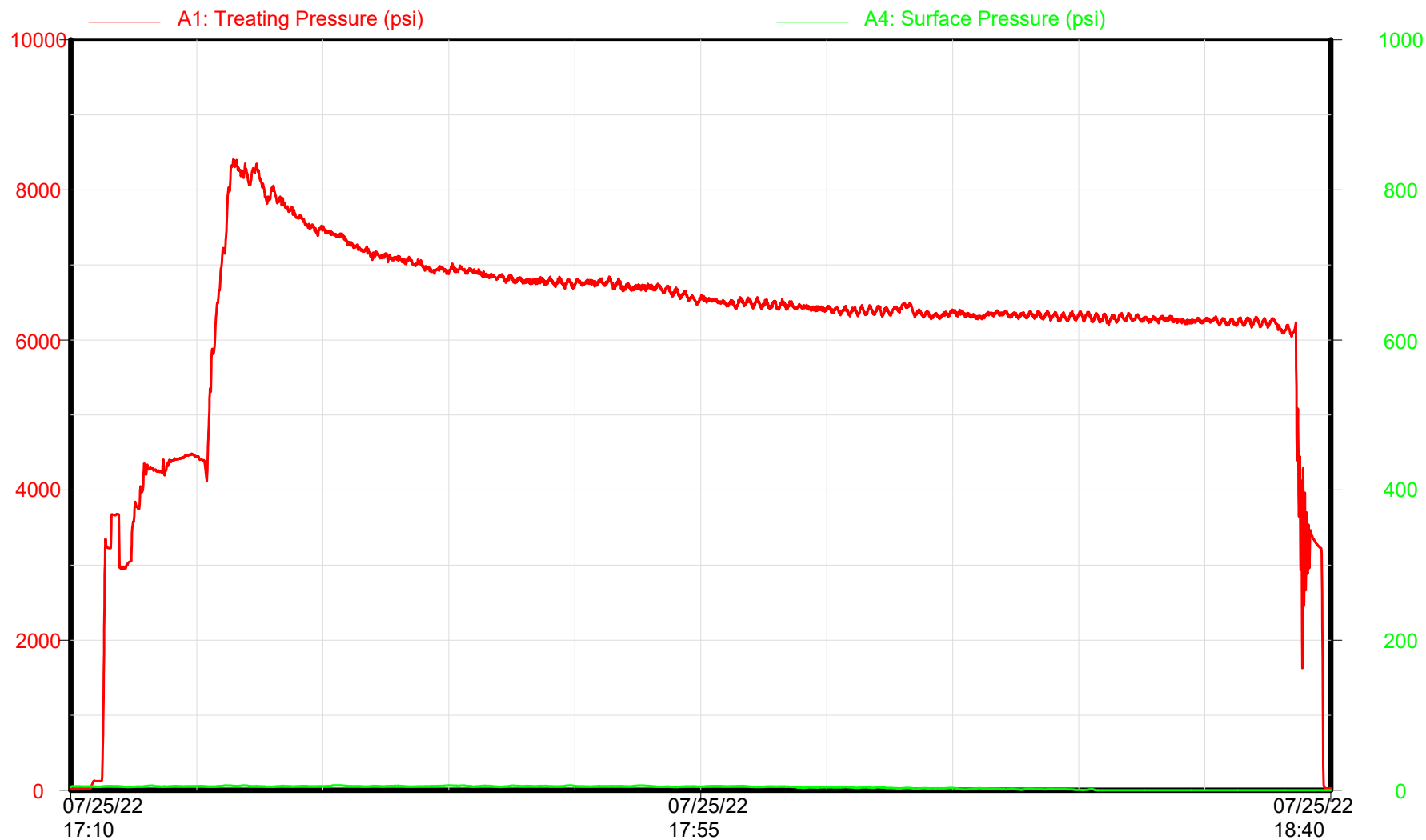
Republic Crew

Cystal 6-65 22-10 10HN Stage 57



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 57 of 58



Surface/Treating Pressures

Time

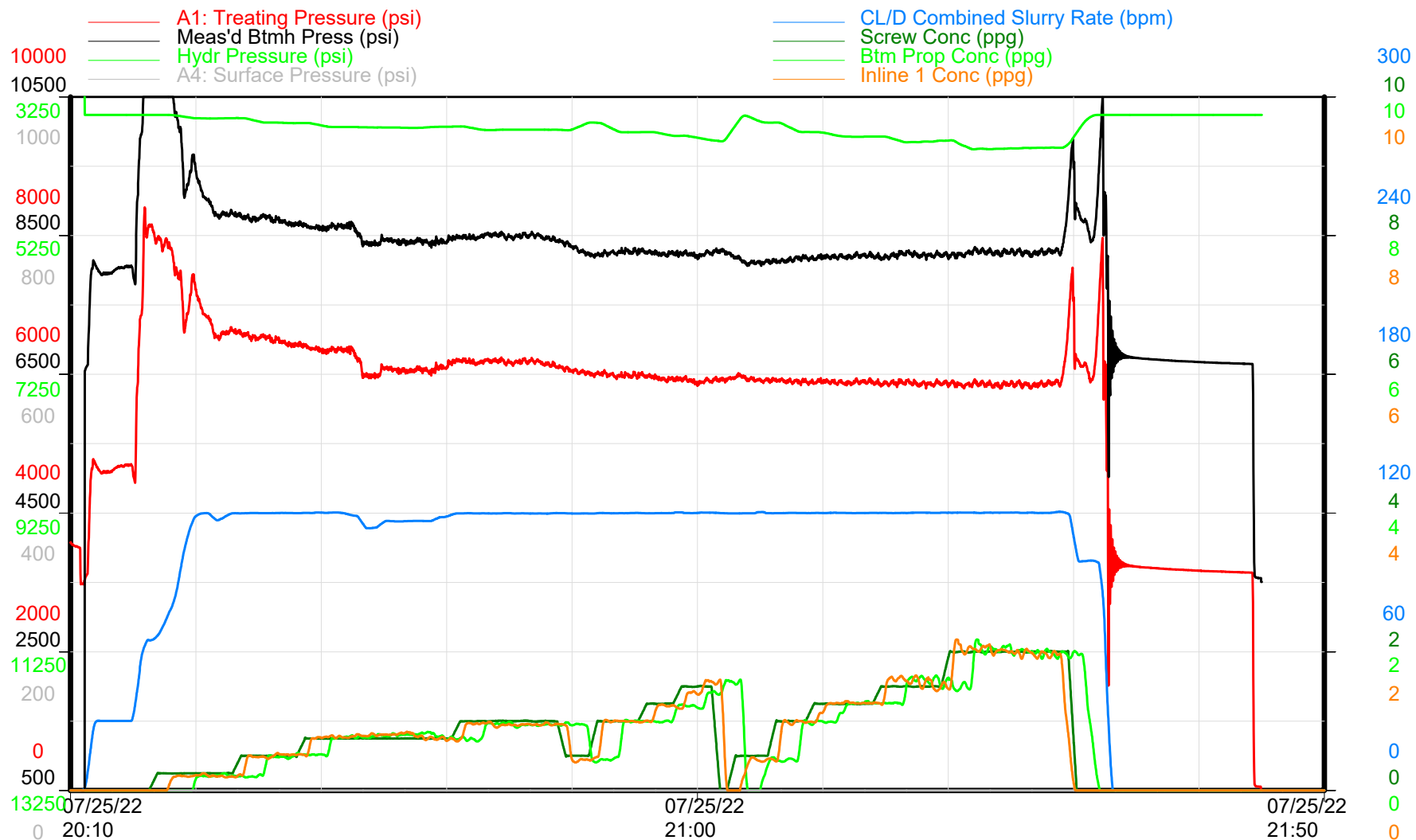
Republic Crew

Cystal 6-65 22-10 10HN Stage 58



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 58 of 58



Treatment Plot

Time

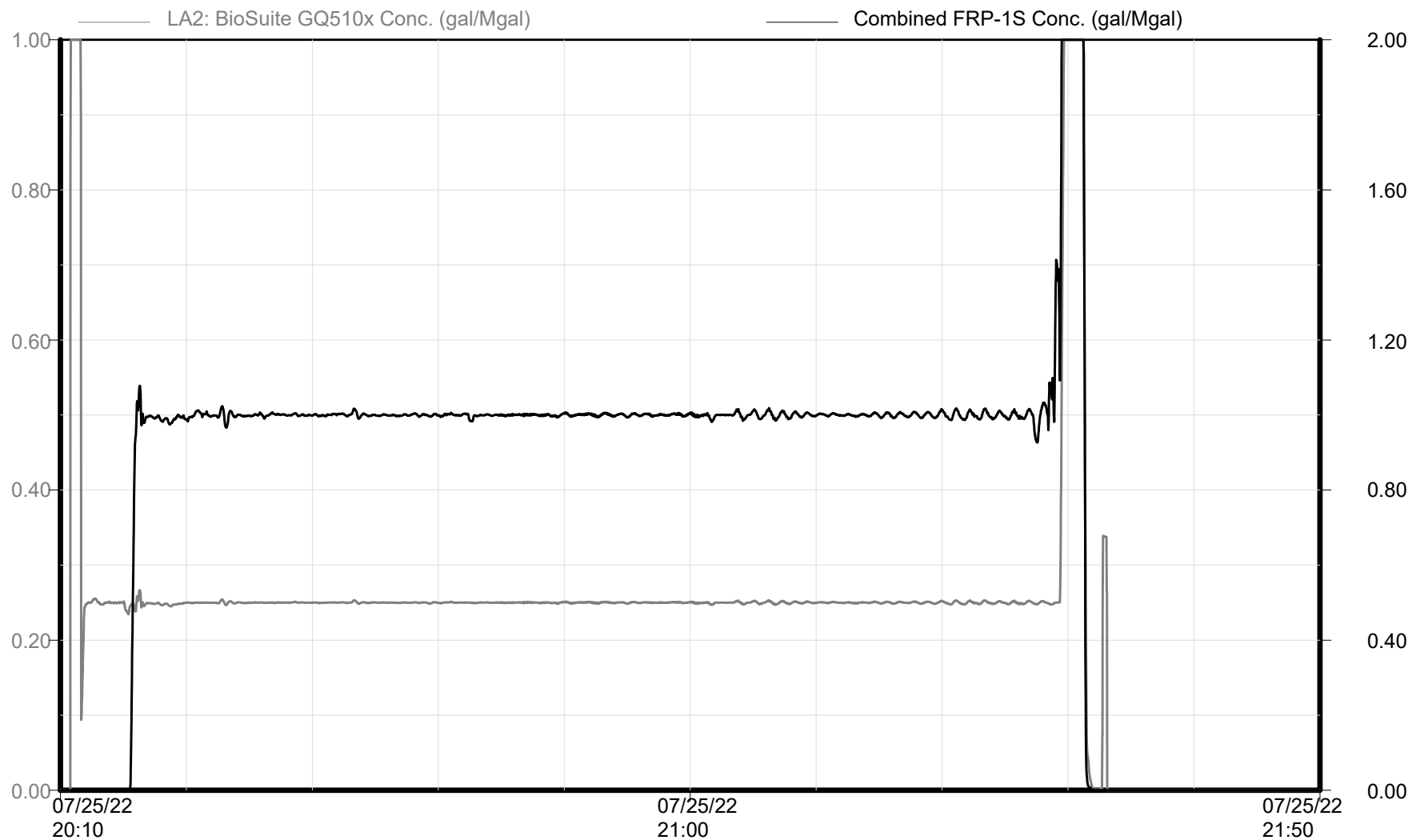
Republic Crew

Cystal 6-65 22-10 10HN Stage 58



GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 58 of 58



Chemical Additives

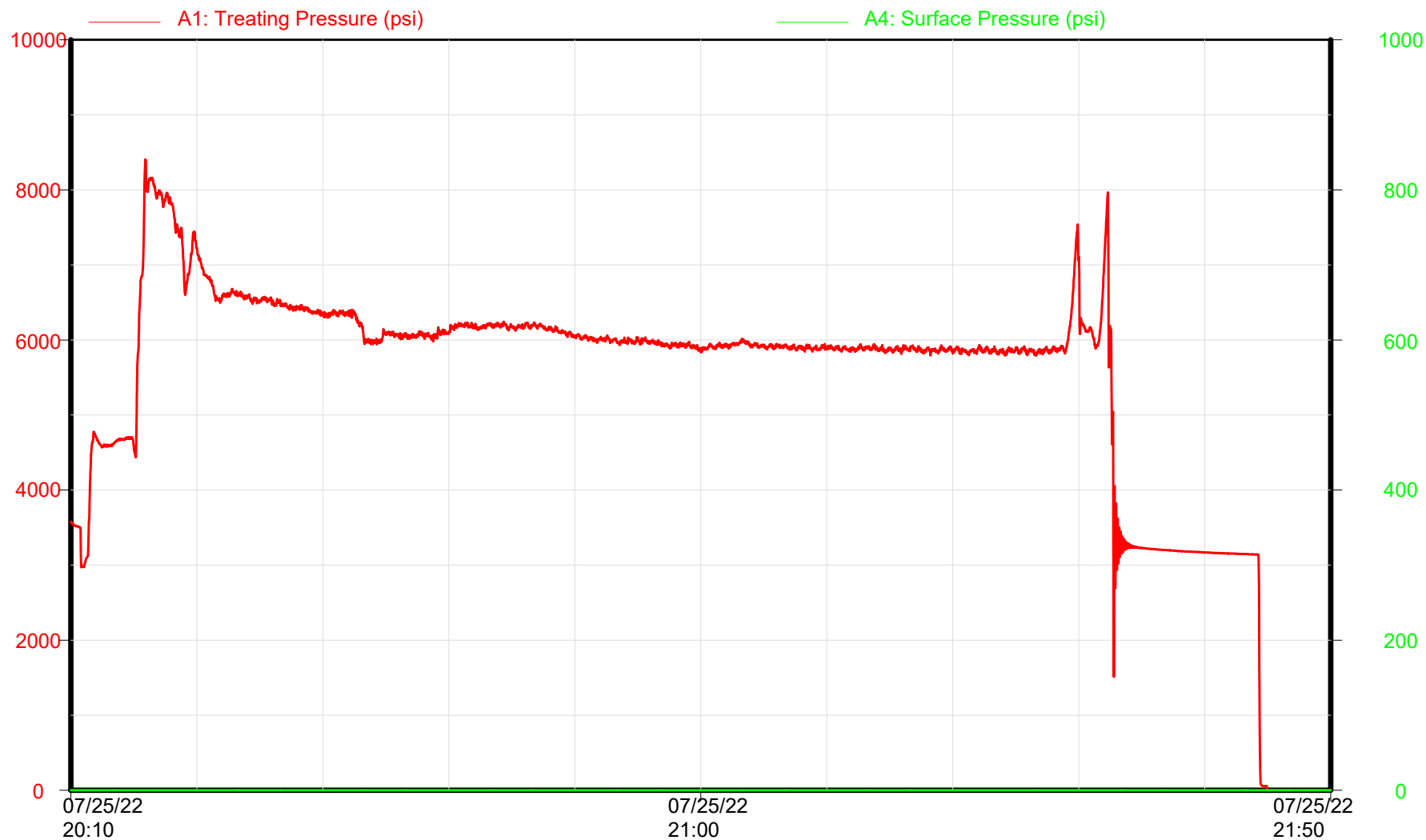
Time

Republic Crew

Cystal 6-65 22-10 10HN Stage 58

GMT - Crystal 6-65 22-10 10HN

Niobrara - Stage 58 of 58



Surface/Treating Pressures

Time

Republic Crew

## **GMT EXPLORATION**

**CRYSTAL 6-65 22-10 10HN**

**Dennis Snow**

**1560 BROADWAY  
DENVER, Colorado**

**Proposal Number: 146590**

**Version Number: 1**


LOS District	DJ / Henderson
LOS Sales Contact	Tony Losacano
Proposal Generated By	Edwin Lynch
LOS Operations Contact	Jeff Brady

Field	WILDCAT
Well	CRYSTAL 6-65 22-10 10HN
API	0503906742
Well Location	06S 65W 22 NESE
Well Coordinates	39.512206, -104.645398
County, State	Elbert, Colorado

Completion Type	Plug and Perf Single
Formation	NIOBRARA
Number of Stages	60
Main Fluid Type	HCFR





		Formation: Niohrraga		Customer: GMT EXPLORATION		Casing: 5.5" 20#		Depth: 0-20690		Capacity: 0.0222											
		LIBERTY		Well Name: Cystal 6-65 22-10 10HN		Max Pressure		Max HHP													
		Intervals: 6U		API: 05-039-06742		9,500 psi		27,941 hhp													
INTERVAL #	STAGE #	CMTV STAGE #	STAGE TYPE	FLUID TYPE	PROPPANT TYPE	PPA	DESIGN SLURRY RATE (BPM)	DESIGN CLEAN VOLUME (GAL)	CLEAN VOLUME		LURRY VOLUM	DESIGN (CALC'D)	STAGE DESIGN	PROPPANT		HCL-28	ADDITIVE CONCENTRATIONS				
									DESIGN (BBL)	DESIGN CUMULATIVE (BBL)				CUMULATIVE STAGE DESIGN (LBS)	CUMULATIVE JOB DESIGN (LBS)		Gal	GPT	GPT	GPT	FRP-1S
4	1	65	Pump Down	Treated Water				14,830	353.1	353.1	353.1										
	2	66	Shut Down																		
	3	67	Establish Rate	LibertyFR			10	5,000	119.0	472.1	119.0							0.25	0.80		
	4	68	Acid	HCL-7.5			10	1,000	23.8	496.0	23.8				252.00	2.00	2.00				
	5	69	Pad	LibertyFR			120	24,000	571.4	1,067.4	571.4							0.25	0.80		
	6	70	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,662.6	602.0	6,250	6,250	1,053,400				0.25	0.80		
	7	71	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,257.9	608.7	12,500	18,750	1,065,900				0.25	0.80		
	8	72	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,686.4	1,477.1	45,000	63,750	1,110,900				0.25	0.80		
	9	73	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,662.6	1,020.4	41,000	104,750	1,151,900				0.25	0.80		
	10	74	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	5,057.9	404.2	8,300	113,050	1,160,200				0.25	0.80		
	11	75	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,581.7	547.5	22,000	135,050	1,182,200				0.25	0.80		
	12	76	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	6,010.2	452.8	22,500	157,550	1,204,700				0.25	2.00		
	13	77	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,462.6	483.1	28,500	186,050	1,233,200				0.25	2.00		
	14	78	Sweep	LibertyFR			120	10,000	238.1	6,700.7	238.1							0.25	0.80		
	15	79	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,096.0	404.2	8,300	194,350	1,241,500				0.25	0.80		
	16	80	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,548.3	472.8	19,000	213,350	1,260,500				0.25	0.80		
	17	81	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,167.4	654.1	32,500	245,850	1,293,000				0.25	2.00		
	18	82	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,786.4	661.1	39,000	284,850	1,332,000				0.25	2.00		
	19	83	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,310.2	565.3	38,500	323,350	1,370,500				0.25	2.00		
	20	84	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,616.2	333.6	25,700	349,050	1,396,200				0.25	2.00		
	21	85	Flush	LibertyFR			120	18,538	441.4	10,057.6	441.4							0.25	0.80		
	22	86	Shut Down																		
5	1	87	Pump Down	Treated Water				14,681	349.5	349.5	349.5										
	2	88	Shut Down																		
	3	89	Establish Rate	LibertyFR			10	5,000	119.0	468.6	119.0							0.25	0.80		
	4	90	Acid	HCL-7.5			10	1,000	23.8	492.4	23.8				252.00	2.00	2.00				
	5	91	Pad	LibertyFR			120	24,000	571.4	1,063.8	571.4							0.25	0.80		
	6	92	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,659.1	602.0	6,250	6,250	1,402,450				0.25	0.80		
	7	93	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,254.3	608.7	12,500	18,750	1,414,950				0.25	0.80		
	8	94	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,682.9	1,477.1	45,000	63,750	1,459,950				0.25	0.80		
	9	95	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,659.1	1,020.4	41,000	104,750	1,500,950				0.25	0.80		
	10	96	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	5,054.3	404.2	8,300	113,050	1,509,250				0.25	0.80		
	11	97	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,578.1	547.5	22,000	135,050	1,531,250				0.25	0.80		
	12	98	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	6,006.7	452.8	22,500	157,550	1,553,750				0.25	2.00		
	13	99	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,459.1	483.1	28,500	186,050	1,582,250				0.25	2.00		
	14	100	Sweep	LibertyFR			120	10,000	238.1	6,697.2	238.1							0.25	0.80		
	15	101	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,092.4	404.2	8,300	194,350	1,590,550				0.25	0.80		
	16	102	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,544.8	472.8	19,000	213,350	1,609,550				0.25	0.80		
	17	103	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,163.8	654.1	32,500	245,850	1,642,050				0.25	2.00		
	18	104	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,782.9	661.1	39,000	284,850	1,681,050				0.25	2.00		
	19	105	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,306.7	565.3	38,500	323,350	1,719,550				0.25	2.00		
	20	106	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,612.6	333.6	25,700	349,050	1,745,250				0.25	2.00		
	21	107	Flush	LibertyFR			120	18,351	436.9	10,049.6	436.9							0.25	0.80		
	22	108	Shut Down																		
6	1	109	Pump Down	Treated Water				14,532	346.0	346.0	346.0										
	2	110	Shut Down																		
	3	111	Establish Rate	LibertyFR			10	5,000	119.0	465.0	119.0							0.25	0.80		
	4	112	Acid	HCL-7.5			10	1,000	23.8	488.9	23.8				252.00	2.00	2.00				
	5	113	Pad	LibertyFR			120	24,000	571.4	1,060.3	571.4							0.25	0.80		
	6	114	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,655.5	602.0	6,250	6,250	1,751,500				0.25	0.80		
	7	115	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,250.8	608.7	12,500	18,750	1,764,000				0.25	0.80		
	8	116	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,679.3	1,477.1	45,000	63,750	1,809,000				0.25	0.80		
	9	117	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,655.5	1,020.4	41,000	104,750	1,850,000				0.25	0.80		
	10	118	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	5,050.8	404.2	8,300	113,050	1,858,300				0.25	0.80		
	11	119	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,574.6	547.5	22,000	135,050	1,880,300				0.25	0.80		
	12	120	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	6,003.1	452.8	22,500	157,550	1,902,800				0.25	2.00		
	13	121	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,455.5	483.1	28,500	186,050	1,931,300				0.25	2.00		
	14	122	Sweep	LibertyFR			120	10,000	238.1	6,693.6	238.1							0.25	0.80		
	15	123	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,088.9	404.2	8,300	194,350	1,939,600				0.25	0.80		
	16	124	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,541.2	472.8	19,000	213,350	1,958,600				0.25	0.80		
	17	125	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,160.3	654.1	32,500	245,850	1,991,100				0.25	2.00		
	18	126	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,779.3	661.1	39,000	284,850	2,030,100				0.25	2.00		
	19	127	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,303.1	565.3	38,50									

**Formation:** Niobrara

intervals: bu

Customer: GMT EXPLORATION

Well Name: Cystal 6-65 22-10 10HN

API: 05-039-06742

Casing: 5.5" 20#

Depth: 0-20690

Capacity: 0.0222

Max Pressure

Max HHP

9.500 psi

27.941 hhp

Interval #	Stage #	CMTV Stage #	Stage Type	Fluid Type	Proppant Type	PPA	Design Slurry Rate (BPM)	Design Clean Volume (GAL)	Clean Volume			Lurry Volum (BBL)	Proppant			Additive Concentrations					
									Design (BBL)	Design Cumulative (BBL)	Design (CALCD)		Stage Design (LBS)	Cumulative Stage Design (LBS)	Cumulative Job Design (LBS)	HCL-28 Gal	ACI-97 GPT	ASF-67 GPT	BioSuite GQ510x GPT	FRP-1S GPT	SpearPoint - WL Gal
7	1	131	Pump Down	Treated Water				14,383	342.5	342.5	342.5										
	2	132	Shut Down																		
	3	133	Establish Rate	LibertyFR			10	5,000	119.0	461.5	119.0								0.25	0.80	
	4	134	Acid	HCL-7.5			10	1,000	23.8	485.3	23.8					252.00	2.00	2.00			
	5	135	Pad	LibertyFR			120	24,000	571.4	1,056.7	571.4								0.25	0.80	
	6	136	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,652.0	602.0	6,250	6,250	2,100,550					0.25	0.80	
	7	137	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,247.2	608.7	12,500	18,750	2,113,050					0.25	0.80	
	8	138	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,675.8	1,477.1	45,000	63,750	2,158,050					0.25	0.80	
	9	139	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,652.0	1,020.4	41,000	104,750	2,199,050					0.25	0.80	
	10	140	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	5,047.2	404.2	8,300	113,050	2,207,350					0.25	0.80	
	11	141	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,571.0	547.5	22,000	135,050	2,229,350					0.25	0.80	
	12	142	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,999.6	452.8	22,500	157,550	2,251,850					0.25	2.00	
	13	143	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,452.0	483.1	28,500	186,050	2,280,350					0.25	2.00	
	14	144	Sweep	LibertyFR			120	10,000	238.1	6,690.1	238.1								0.25	0.80	
	15	145	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,085.3	404.2	8,300	194,350	2,288,650					0.25	0.80	
	16	146	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,537.7	472.8	19,000	213,350	2,307,650					0.25	0.80	
	17	147	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,156.7	654.1	32,500	245,850	2,340,150					0.25	2.00	
	18	148	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,775.8	661.1	39,000	284,850	2,379,150					0.25	2.00	
	19	149	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,299.6	565.3	38,500	323,350	2,417,650					0.25	2.00	
	20	150	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,605.5	333.6	25,700	349,050	2,443,350					0.25	2.00	
	21	151	Flush	LibertyFR			120	17,979	428.1	10,033.6	428.1								0.25	0.80	
	22	152	Shut Down																		
8	1	153	Pump Down	Treated Water				14,234	338.9	338.9	338.9										
	2	154	Shut Down																		
	3	155	Establish Rate	LibertyFR			10	5,000	119.0	458.0	119.0								0.25	0.80	
	4	156	Acid	HCL-7.5			10	1,000	23.8	481.8	23.8					252.00	2.00	2.00			
	5	157	Pad	LibertyFR			120	24,000	571.4	1,053.2	571.4								0.25	0.80	
	6	158	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,648.4	602.0	6,250	6,250	2,449,600					0.25	0.80	
	7	159	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,243.7	608.7	12,500	18,750	2,462,100					0.25	0.80	
	8	160	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,672.2	1,477.1	45,000	63,750	2,507,100					0.25	0.80	
	9	161	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,648.4	1,020.4	41,000	104,750	2,548,100					0.25	0.80	
	10	162	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	5,043.7	404.2	8,300	113,050	2,556,400					0.25	0.80	
	11	163	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,567.5	547.5	22,000	135,050	2,578,400					0.25	0.80	
	12	164	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,996.0	452.8	22,500	157,550	2,600,900					0.25	2.00	
	13	165	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,448.4	483.1	28,500	186,050	2,629,400					0.25	2.00	
	14	166	Sweep	LibertyFR			120	10,000	238.1	6,686.5	238.1								0.25	0.80	
	15	167	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,081.8	404.2	8,300	194,350	2,637,700					0.25	0.80	
	16	168	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,534.1	472.8	19,000	213,350	2,656,700					0.25	0.80	
	17	169	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,153.2	654.1	32,500	245,850	2,689,200					0.25	2.00	
	18	170	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,772.2	661.1	39,000	284,850	2,728,200					0.25	2.00	
	19	171	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,296.0	565.3	38,500	323,350	2,766,700					0.25	2.00	
	20	172	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,602.0	333.6	25,700	349,050	2,792,400					0.25	2.00	
	21	173	Flush	LibertyFR			120	17,793	423.6	10,025.6	423.6								0.25	0.80	
	22	174	Shut Down																		
9	1	175	Pump Down	Treated Water				14,085	335.4	335.4	335.4										
	2	176	Shut Down																		
	3	177	Establish Rate	LibertyFR			10	5,000	119.0	454.4	119.0								0.25	0.80	
	4	178	Acid	HCL-7.5			10	1,000	23.8	478.2	23.8					252.00	2.00	2.00			
	5	179	Pad	LibertyFR			120	24,000	571.4	1,049.6	571.4								0.25	0.80	
	6	180	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,644.9	602.0	6,250	6,250	2,798,650					0.25	0.80	
	7	181	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,240.1	608.7	12,500	18,750	2,811,150					0.25	0.80	
	8	182	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,668.7	1,477.1	45,000	63,750	2,856,150					0.25	0.80	
	9	183	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,644.9	1,020.4	41,000	104,750	2,897,150					0.25	0.80	
	10	184	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	5,040.1	404.2	8,300	113,050	2,905,450					0.25	0.80	
	11	185	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,563.9	547.5	22,000	135,050	2,927,450					0.25	0.80	
	12	186	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,992.5	452.8	22,500	157,550	2,949,950					0.25	2.00	
	13	187	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,444.9	483.1	28,500	186,050	2,978,450					0.25	2.00	
	14	188	Sweep	LibertyFR			120	10,000	238.1	6,683.0	238.1								0.25	0.80	
	15	189	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,078.2	404.2	8,300	194,350	2,986,750					0.25	0.80	
	16	190	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,530.6	472.8	19,000	213,350	3,005,750					0.25	0.80	
	17	191	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,149.6	654.1	32,500	245,850	3,038,250					0.25	2.00	
	18	192	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,768.7	661.1	39,000	284,850	3,077,250					0.25	2.00	
	19	193	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,292.5	565.3	38,500	323,350	3,115,750					0.25	2.00	
	20	194	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,598.5	333.6	25,700	349,050	3,141,450					0.25	2.00	
	21	195	Flush	LibertyFR			120	17,606	419.2	10,017.6	419.2								0.25	0.80	
	22	196	Shut Down																		

Formation: Niobrara

Customer: GMT EXPLORATION

Well Name: Cystal 6-65 22-10 10HN

API: 05-039-06742

Max Pressure  
9.500 psi

Max HHP  
27.941 hhp

Casing: 5.5" 20#

Depth: 0-20690

Capacity: 0.0222

Interval #	Stage #	CMTV Stage #	Stage Type	Fluid Type	Proppant Type	PPA	Design Slurry Rate (BPM)	Design Clean Volume (GAL)	Clean Volume			Lurry Volum	Proppant			Additive Concentrations					
									Design (BBL)	Design Cumulative (BBL)	Design (CALC'D) (BBL)	Stage Design (LBS)	Cumulative Stage Design (LBS)	Cumulative Job Design (LBS)	HCL-28 Gal	ACI-97 GPT	ASF-67 GPT	BioSuite GQ510x GPT	FRP-1S GPT	SpearPoint - WL Gal	
10	1	197	Pump Down	Treated Water				13,936	331.8	331.8	331.8					Gal					
	2	198	Shut Down																		
	3	199	Establish Rate	LibertyFR			10	5,000	119.0	450.9	119.0								0.25	0.80	
	4	200	Acid	HCL-7.5			10	1,000	23.8	474.7	23.8					252.00	2.00	2.00			
	5	201	Pad	LibertyFR			120	24,000	571.4	1,046.1	571.4								0.25	0.80	
	6	202	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,641.3	602.0	6,250	6,250	3,147,700					0.25	0.80	
	7	203	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,236.6	608.7	12,500	18,750	3,160,200					0.25	0.80	
	8	204	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,665.1	1,477.1	45,000	63,750	3,205,200					0.25	0.80	
	9	205	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,641.3	1,020.4	41,000	104,750	3,246,200					0.25	0.80	
	10	206	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	5,036.6	404.2	8,300	113,050	3,254,500					0.25	0.80	
	11	207	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,560.4	547.5	22,000	135,050	3,276,500					0.25	0.80	
	12	208	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,989.0	452.8	22,500	157,550	3,299,000					0.25	2.00	
	13	209	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,441.3	483.1	28,500	186,050	3,327,500					0.25	2.00	
	14	210	Sweep	LibertyFR			120	10,000	238.1	6,679.4	238.1								0.25	0.80	
	15	211	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,074.7	404.2	8,300	194,350	3,335,800					0.25	0.80	
	16	212	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,527.0	472.8	19,000	213,350	3,354,800					0.25	0.80	
	17	213	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,146.1	654.1	32,500	245,850	3,387,300					0.25	2.00	
	18	214	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,765.1	661.1	39,000	284,850	3,426,300					0.25	2.00	
	19	215	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,289.0	565.3	38,500	323,350	3,464,800					0.25	2.00	
	20	216	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,594.9	333.6	25,700	349,050	3,490,500					0.25	2.00	
	21	217	Flush	LibertyFR			120	17,420	414.8	10,009.7	414.8								0.25	0.80	
22	218	Shut Down																			
11	1	219	Pump Down	Treated Water				13,787	328.3	328.3	328.3										
	2	220	Shut Down																		
	3	221	Establish Rate	LibertyFR			10	5,000	119.0	447.3	119.0								0.25	0.80	
	4	222	Acid	HCL-7.5			10	1,000	23.8	471.1	23.8					252.00	2.00	2.00			
	5	223	Pad	LibertyFR			120	24,000	571.4	1,042.5	571.4								0.25	0.80	
	6	224	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,637.8	602.0	6,250	6,250	3,496,750					0.25	0.80	
	7	225	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,233.0	608.7	12,500	18,750	3,509,250					0.25	0.80	
	8	226	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,661.6	1,477.1	45,000	63,750	3,554,250					0.25	0.80	
	9	227	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,637.8	1,020.4	41,000	104,750	3,595,250					0.25	0.80	
	10	228	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	5,033.0	404.2	8,300	113,050	3,603,550					0.25	0.80	
	11	229	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,556.8	547.5	22,000	135,050	3,625,550					0.25	0.80	
	12	230	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,985.4	452.8	22,500	157,550	3,648,050					0.25	2.00	
	13	231	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,437.8	483.1	28,500	186,050	3,676,550					0.25	2.00	
	14	232	Sweep	LibertyFR			120	10,000	238.1	6,675.9	238.1								0.25	0.80	
	15	233	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,071.1	404.2	8,300	194,350	3,684,850					0.25	0.80	
	16	234	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,523.5	472.8	19,000	213,350	3,703,850					0.25	0.80	
	17	235	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,142.5	654.1	32,500	245,850	3,736,350					0.25	2.00	
	18	236	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,761.6	661.1	39,000	284,850	3,775,350					0.25	2.00	
	19	237	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,285.4	565.3	38,500	323,350	3,813,850					0.25	2.00	
	20	238	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,591.4	333.6	25,700	349,050	3,839,550					0.25	2.00	
	21	239	Flush	LibertyFR			120	17,234	410.3	10,001.7	410.3								0.25	0.80	
22	240	Shut Down																			
12	1	241	Pump Down	Treated Water				13,638	324.7	324.7	324.7										
	2	242	Shut Down																		
	3	243	Establish Rate	LibertyFR			10	5,000	119.0	443.8	119.0								0.25	0.80	
	4	244	Acid	HCL-7.5			10	1,000	23.8	467.6	23.8					252.00	2.00	2.00			
	5	245	Pad	LibertyFR			120	24,000	571.4	1,039.0	571.4								0.25	0.80	
	6	246	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,634.2	602.0	6,250	6,250	3,845,800					0.25	0.80	
	7	247	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,229.5	608.7	12,500	18,750	3,858,300					0.25	0.80	
	8	248	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,658.0	1,477.1	45,000	63,750	3,903,300					0.25	0.80	
	9	249	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,634.2	1,020.4	41,000	104,750	3,944,300					0.25	0.80	
	10	250	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	5,029.5	404.2	8,300	113,050	3,952,600					0.25	0.80	
	11	251	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,553.3	547.5	22,000	135,050	3,974,600					0.25	0.80	
	12	252	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,981.9	452.8	22,500	157,550	3,997,100					0.25	2.00	
	13	253	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,434.2	483.1	28,500	186,050	4,025,600					0.25	2.00	
	14	254	Sweep	LibertyFR			120	10,000	238.1	6,672.3	238.1								0.25	0.80	
	15	255	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,067.6	404.2	8,300	194,350	4,033,900					0.25	0.80	
	16	256	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,520.0	472.8	19,000	213,350	4,052,900					0.25	0.80	
	17	257	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,139.0	654.1	32,500	245,850	4,085,400					0.25	2.00	
	18	258	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,758.0	661.1	39,000	284,850	4,124,400					0.25	2.00	
	19	259	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,281.9	565.3	38,500	323,350	4,162,900					0.25	2.00	
	20	260	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,587.8	333.6	25,700	349,050	4,188,600					0.25	2.00	
	21	261	Flush	LibertyFR			120	17,047	405.9	9,993.7	405.9								0.25	0.80	
22	262	Shut Down																			

**Formation:** Niobrara

Customer: GMT EXPLORATION

Well Name: Cystal 6-65 22-10 10HN

API: 05-039-06742

Max Pressure  
9,500 psi


Max HHP  
27.941 hhp


Casing: 5.5" 20#


Depth: 0-20690

Capacity: 0.0222

Interval #	Stage #	CMTV Stage #	Stage Type	Fluid Type	Proppant Type	PPA	Design Slurry Rate (BPM)	Design Clean Volume (GAL)	Clean Volume			Lurry Volum	Proppant			Additive Concentrations					
									Design (BBL)	Design Cumulative (BBL)	Design (CALC'D) (BBL)		Stage Design (LBS)	Cumulative Stage Design (LBS)	Cumulative Job Design (LBS)	HCL-28 Gal	ACI-97 GPT	ASF-67 GPT	BioSuite GQ510x GPT	FRP-15 GPT	SpearPoint - WL Gal
13	1	263	Pump Down	Treated Water				13,489	321.2	321.2	321.2										
	2	264	Shut Down																		
	3	265	Establish Rate	LibertyFR			10	5,000	119.0	440.2	119.0								0.25	0.80	
	4	266	Acid	HCL-7.5			10	1,000	23.8	464.0	23.8				252.00	2.00	2.00				
	5	267	Pad	LibertyFR			120	24,000	571.4	1,035.5	571.4								0.25	0.80	
	6	268	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,630.7	602.0	6,250	6,250	4,194,850					0.25	0.80	
	7	269	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,225.9	608.7	12,500	18,750	4,207,350					0.25	0.80	
	8	270	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,654.5	1,477.1	45,000	63,750	4,252,350					0.25	0.80	
	9	271	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,630.7	1,020.4	41,000	104,750	4,293,350					0.25	0.80	
	10	272	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	5,025.9	404.2	8,300	113,050	4,301,650					0.25	0.80	
	11	273	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,549.7	547.5	22,000	135,050	4,323,650					0.25	0.80	
	12	274	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,978.3	452.8	22,500	157,550	4,346,150					0.25	2.00	
	13	275	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,430.7	483.1	28,500	186,050	4,374,650					0.25	2.00	
	14	276	Sweep	LibertyFR			120	10,000	238.1	6,668.8	238.1								0.25	0.80	
	15	277	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,064.0	404.2	8,300	194,350	4,382,950					0.25	0.80	
	16	278	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,516.4	472.8	19,000	213,350	4,401,950					0.25	0.80	
	17	279	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,135.5	654.1	32,500	245,850	4,434,450					0.25	2.00	
	18	280	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,754.5	661.1	39,000	284,850	4,473,450					0.25	2.00	
	19	281	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,278.3	565.3	38,500	323,350	4,511,950					0.25	2.00	
	20	282	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,584.3	333.6	25,700	349,050	4,537,650					0.25	2.00	
	21	283	Flush	LibertyFR			120	16,861	401.5	9,985.7	401.5								0.25	0.80	
	22	284	Shut Down																		
14	1	285	Pump Down	Treated Water				13,340	317.6	317.6	317.6										
	2	286	Shut Down																		
	3	287	Establish Rate	LibertyFR			10	5,000	119.0	436.7	119.0								0.25	0.80	
	4	288	Acid	HCL-7.5			10	1,000	23.8	460.5	23.8				252.00	2.00	2.00				
	5	289	Pad	LibertyFR			120	24,000	571.4	1,031.9	571.4								0.25	0.80	
	6	290	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,627.1	602.0	6,250	6,250	4,543,900					0.25	0.80	
	7	291	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,222.4	608.7	12,500	18,750	4,556,400					0.25	0.80	
	8	292	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,650.9	1,477.1	45,000	63,750	4,601,400					0.25	0.80	
	9	293	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,627.1	1,020.4	41,000	104,750	4,642,400					0.25	0.80	
	10	294	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	5,022.4	404.2	8,300	113,050	4,650,700					0.25	0.80	
	11	295	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,546.2	547.5	22,000	135,050	4,672,700					0.25	0.80	
	12	296	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,974.8	452.8	22,500	157,550	4,695,200					0.25	2.00	
	13	297	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,427.1	483.1	28,500	186,050	4,723,700					0.25	2.00	
	14	298	Sweep	LibertyFR			120	10,000	238.1	6,665.2	238.1								0.25	0.80	
	15	299	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,060.5	404.2	8,300	194,350	4,732,000					0.25	0.80	
	16	300	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,512.9	472.8	19,000	213,350	4,751,000					0.25	0.80	
	17	301	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,131.9	654.1	32,500	245,850	4,783,500					0.25	2.00	
	18	302	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,750.9	661.1	39,000	284,850	4,822,500					0.25	2.00	
	19	303	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,274.8	565.3	38,500	323,350	4,861,000					0.25	2.00	
	20	304	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,580.7	333.6	25,700	349,050	4,886,700					0.25	2.00	
	21	305	Flush	LibertyFR			120	16,675	397.0	9,977.7	397.0								0.25	0.80	
	22	306	Shut Down																		
15	1	307	Pump Down	Treated Water				13,191	314.1	314.1	314.1										
	2	308	Shut Down																		
	3	309	Establish Rate	LibertyFR			10	5,000	119.0	433.1	119.0								0.25	0.80	
	4	310	Acid	HCL-7.5			10	1,000	23.8	456.9	23.8				252.00	2.00	2.00				
	5	311	Pad	LibertyFR			120	24,000	571.4	1,028.4	571.4								0.25	0.80	
	6	312	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,623.6	602.0	6,250	6,250	4,892,950					0.25	0.80	
	7	313	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,218.8	608.7	12,500	18,750	4,905,450					0.25	0.80	
	8	314	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,647.4	1,477.1	45,000	63,750	4,950,450					0.25	0.80	
	9	315	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,623.6	1,020.4	41,000	104,750	4,991,450					0.25	0.80	
	10	316	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	5,018.8	404.2	8,300	113,050	4,999,750					0.25	0.80	
	11	317	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,542.6	547.5	22,000	135,050	5,021,750					0.25	0.80	
	12	318	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,971.2	452.8	22,500	157,550	5,044,250					0.25	2.00	
	13	319	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,423.6	483.1	28,500	186,050	5,072,750					0.25	2.00	
	14	320	Sweep	LibertyFR			120	10,000	238.1	6,661.7	238.1								0.25	0.80	
	15	321	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,056.9	404.2	8,300	194,350	5,081,050					0.25	0.80	
	16	322	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,509.3	472.8	19,000	213,350	5,100,050					0.25	0.80	
	17	323	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,128.4	654.1	32,500	245,850	5,132,550					0.25	2.00	
	18	324	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,747.4	661.1	39,000	284,850	5,171,550					0.25	2.00	
	19	325	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,271.2	565.3	38,500	323,350	5,210,050					0.25	2.00	
	20	326	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,577.2	333.6	25,700	349,050	5,235,750					0.25	2.00	
	21	327	Flush	LibertyFR			120	16,489	392.6	9,969.7	392.6								0.25	0.80	
	22	328	Shut Down																		

		Formation: Niohrraga		Customer: GMT EXPLORATION		Casing: 5.5" 20#		Depth: 0-20690		Capacity: 0.0222											
		LIBERTY		Well Name: Cystal 6-65 22-10 10HN		Max Pressure 9,500 psi		Max HHP 27,941 hhp													
		intervals: 00		API: 05-039-06742																	
INTERVAL #	STAGE #	CMTV STAGE #	STAGE TYPE	FLUID TYPE	PROPPANT TYPE	PPA	DESIGN SLURRY RATE (BPM)	DESIGN CLEAN VOLUME (GAL)	CLEAN VOLUME		LURRY VOLUM	PROPPANT			ADDITIVE CONCENTRATIONS						
									DESIGN (BBL)	DESIGN CUMULATIVE (BBL)		DESIGN (CALC'D) (BBL)	STAGE DESIGN (LBS)	CUMULATIVE STAGE DESIGN (LBS)	CUMULATIVE JOB DESIGN (LBS)	HCL-28 Gal	ACI-97 GPT	ASF-67 GPT	BioSuite GQ510x GPT	FRP-1S GPT	SpearPoint - WL Gal
16	1	329	Pump Down	Treated Water				13,042	310.5	310.5	310.5										
	2	330	Shut Down																		
	3	331	Establish Rate	LibertyFR			10	5,000	119.0	429.6	119.0							0.25	0.80		
	4	332	Acid	HCL-7.5			10	1,000	23.8	453.4	23.8				252.00	2.00	2.00				
	5	333	Pad	LibertyFR			120	24,000	571.4	1,024.8	571.4							0.25	0.80		
	6	334	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,620.0	602.0	6,250	6,250	5,242,000				0.25	0.80		
	7	335	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,215.3	608.7	12,500	18,750	5,254,500				0.25	0.80		
	8	336	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,643.9	1,477.1	45,000	63,750	5,299,500				0.25	0.80		
	9	337	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,620.0	1,020.4	41,000	104,750	5,340,500				0.25	0.80		
	10	338	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	5,015.3	404.2	8,300	113,050	5,348,800				0.25	0.80		
	11	339	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,539.1	547.5	22,000	135,050	5,370,800				0.25	0.80		
	12	340	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,967.7	452.8	22,500	157,550	5,393,300				0.25	2.00		
	13	341	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,420.0	483.1	28,500	186,050	5,421,800				0.25	2.00		
	14	342	Sweep	LibertyFR			120	10,000	238.1	6,658.1	238.1							0.25	0.80		
	15	343	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,053.4	404.2	8,300	194,350	5,430,100				0.25	0.80		
	16	344	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,505.8	472.8	19,000	213,350	5,449,100				0.25	0.80		
	17	345	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,124.8	654.1	32,500	245,850	5,481,600				0.25	2.00		
	18	346	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,743.9	661.1	39,000	284,850	5,520,600				0.25	2.00		
	19	347	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,267.7	565.3	38,500	323,350	5,559,100				0.25	2.00		
	20	348	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,573.6	333.6	25,700	349,050	5,584,800				0.25	2.00		
	21	349	Flush	LibertyFR			120	16,302	388.1	9,961.8	388.1							0.25	0.80		
	22	350	Shut Down																		
17	1	351	Pump Down	Treated Water				12,893	307.0	307.0	307.0										
	2	352	Shut Down																		
	3	353	Establish Rate	LibertyFR			10	5,000	119.0	426.0	119.0							0.25	0.80		
	4	354	Acid	HCL-7.5			10	1,000	23.8	449.8	23.8				252.00	2.00	2.00				
	5	355	Pad	LibertyFR			120	24,000	571.4	1,021.3	571.4							0.25	0.80		
	6	356	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,616.5	602.0	6,250	6,250	5,591,050				0.25	0.80		
	7	357	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,211.7	608.7	12,500	18,750	5,603,550				0.25	0.80		
	8	358	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,640.3	1,477.1	45,000	63,750	5,648,550				0.25	0.80		
	9	359	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,616.5	1,020.4	41,000	104,750	5,689,550				0.25	0.80		
	10	360	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	5,011.7	404.2	8,300	113,050	5,697,850				0.25	0.80		
	11	361	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,535.5	547.5	22,000	135,050	5,719,850				0.25	0.80		
	12	362	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,964.1	452.8	22,500	157,550	5,742,350				0.25	2.00		
	13	363	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,416.5	483.1	28,500	186,050	5,770,850				0.25	2.00		
	14	364	Sweep	LibertyFR			120	10,000	238.1	6,654.6	238.1							0.25	0.80		
	15	365	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,049.8	404.2	8,300	194,350	5,779,150				0.25	0.80		
	16	366	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,502.2	472.8	19,000	213,350	5,798,150				0.25	0.80		
	17	367	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,121.3	654.1	32,500	245,850	5,830,650				0.25	2.00		
	18	368	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,740.3	661.1	39,000	284,850	5,869,650				0.25	2.00		
	19	369	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,264.1	565.3	38,500	323,350	5,908,150				0.25	2.00		
	20	370	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,570.1	333.6	25,700	349,050	5,933,850				0.25	2.00		
	21	371	Flush	LibertyFR			120	16,116	383.7	9,953.8	383.7							0.25	0.80		
	22	372	Shut Down																		
18	1	373	Pump Down	Treated Water				12,744	303.4	303.4	303.4										
	2	374	Shut Down																		
	3	375	Establish Rate	LibertyFR			10	5,000	119.0	422.5	119.0							0.25	0.80		
	4	376	Acid	HCL-7.5			10	1,000	23.8	446.3	23.8				252.00	2.00	2.00				
	5	377	Pad	LibertyFR			120	24,000	571.4	1,017.7	571.4							0.25	0.80		
	6	378	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,612.9	602.0	6,250	6,250	5,940,100				0.25	0.80		
	7	379	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,208.2	608.7	12,500	18,750	5,952,600				0.25	0.80		
	8	380	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,636.8	1,477.1	45,000	63,750	5,997,600				0.25	0.80		
	9	381	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,612.9	1,020.4	41,000	104,750	6,038,600				0.25	0.80		
	10	382	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	5,008.2	404.2	8,300	113,050	6,046,900				0.25	0.80		
	11	383	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,532.0	547.5	22,000	135,050	6,068,900				0.25	0.80		
	12	384	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,960.6	452.8	22,500	157,550	6,091,400				0.25	2.00		
	13	385	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,412.9	483.1	28,500	186,050	6,119,900				0.25	2.00		
	14	386	Sweep	LibertyFR			120	10,000	238.1	6,651.0	238.1							0.25	0.80		
	15	387	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,046.3	404.2	8,300	194,350	6,128,200				0.25	0.80		
	16	388	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,498.7	472.8	19,000	213,350	6,147,200				0.25	0.80		
	17	389	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,117.7	654.1	32,500	245,850	6,179,700				0.25	2.00		
	18	390	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,736.8	661.1	39,000	284,850	6,218,700				0.25	2.00		
	19	391	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,260.6	565.3	38,500	323,350	6,257,200				0.25	2.00		
	20	392																			

		Formation: Niohrra		Customer: GMT EXPLORATION		Casing: 5.5" 20#		Depth: 0-20690		Capacity: 0.0222												
		LIBERTY		Well Name: Cystal 6-65 22-10 10HN		Max Pressure		Max HHP														
		intervals: 6U		API: 05-039-06742		9,500 psi		27,941 hhp														
INTERVAL #	STAGE #	CMTV STAGE #	STAGE TYPE	FLUID TYPE	PROPPANT TYPE	PPA	DESIGN SLURRY RATE (BPM)	DESIGN CLEAN VOLUME (GAL)	CLEAN VOLUME		LURRY VOLUM	DESIGN (CALC'D)	STAGE DESIGN	PROPPANT			ADDITIVE CONCENTRATIONS					
									DESIGN (BBL)	DESIGN CUMULATIVE (BBL)				CUMULATIVE STAGE DESIGN (LBS)	CUMULATIVE JOB DESIGN (LBS)	HCL-28 Gal	ACI-97 GPT	ASF-67 GPT	BioSuite GQ510x GPT	FRP-1S GPT	SpearPoint - WL Gal	
19	1	395	Pump Down	Treated Water				12,595	299.9	299.9	299.9											
	2	396	Shut Down																			
	3	397	Establish Rate	LibertyFR			10	5,000	119.0	418.9	119.0								0.25	0.80		
	4	398	Acid	HCL-7.5			10	1,000	23.8	442.7	23.8				252.00	2.00	2.00					
	5	399	Pad	LibertyFR			120	24,000	571.4	1,014.2	571.4							0.25	0.80			
	6	400	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,609.4	602.0	6,250	6,250	6,289,150				0.25	0.80			
	7	401	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,204.6	608.7	12,500	18,750	6,301,650				0.25	0.80			
	8	402	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,633.2	1,477.1	45,000	63,750	6,346,650				0.25	0.80			
	9	403	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,609.4	1,020.4	41,000	104,750	6,387,650				0.25	0.80			
	10	404	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	5,004.6	404.2	8,300	113,050	6,395,950				0.25	0.80			
	11	405	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,528.4	547.5	22,000	135,050	6,417,950				0.25	0.80			
	12	406	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,957.0	452.8	22,500	157,550	6,440,450				0.25	2.00			
	13	407	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,409.4	483.1	28,500	186,050	6,468,950				0.25	2.00			
	14	408	Sweep	LibertyFR			120	10,000	238.1	6,647.5	238.1							0.25	0.80			
	15	409	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,042.7	404.2	8,300	194,350	6,477,250				0.25	0.80			
	16	410	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,495.1	472.8	19,000	213,350	6,496,250				0.25	0.80			
	17	411	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,114.2	654.1	32,500	245,850	6,528,750				0.25	2.00			
	18	412	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,733.2	661.1	39,000	284,850	6,567,750				0.25	2.00			
	19	413	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,257.0	565.3	38,500	323,350	6,606,250				0.25	2.00			
	20	414	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,563.0	333.6	25,700	349,050	6,631,950				0.25	2.00			
	21	415	Flush	LibertyFR			120	15,743	374.8	9,937.8	374.8							0.25	0.80			
	22	416	Shut Down																			
20	1	417	Pump Down	Treated Water				12,446	296.3	296.3	296.3											
	2	418	Shut Down																			
	3	419	Establish Rate	LibertyFR			10	5,000	119.0	415.4	119.0							0.25	0.80			
	4	420	Acid	HCL-7.5			10	1,000	23.8	439.2	23.8				252.00	2.00	2.00					
	5	421	Pad	LibertyFR			120	24,000	571.4	1,010.6	571.4							0.25	0.80			
	6	422	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,605.9	602.0	6,250	6,250	6,638,200				0.25	0.80			
	7	423	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,201.1	608.7	12,500	18,750	6,650,700				0.25	0.80			
	8	424	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,629.7	1,477.1	45,000	63,750	6,695,700				0.25	0.80			
	9	425	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,605.9	1,020.4	41,000	104,750	6,736,700				0.25	0.80			
	10	426	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	5,001.1	404.2	8,300	113,050	6,745,000				0.25	0.80			
	11	427	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,524.9	547.5	22,000	135,050	6,767,000				0.25	0.80			
	12	428	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,953.5	452.8	22,500	157,550	6,789,500				0.25	2.00			
	13	429	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,405.9	483.1	28,500	186,050	6,818,000				0.25	2.00			
	14	430	Sweep	LibertyFR			120	10,000	238.1	6,643.9	238.1							0.25	0.80			
	15	431	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,039.2	404.2	8,300	194,350	6,826,300				0.25	0.80			
	16	432	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,491.6	472.8	19,000	213,350	6,845,300				0.25	0.80			
	17	433	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,110.6	654.1	32,500	245,850	6,877,800				0.25	2.00			
	18	434	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,729.7	661.1	39,000	284,850	6,916,800				0.25	2.00			
	19	435	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,253.5	565.3	38,500	323,350	6,955,300				0.25	2.00			
	20	436	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,559.4	333.6	25,700	349,050	6,981,000				0.25	2.00			
	21	437	Flush	LibertyFR			120	15,557	370.4	9,929.8	370.4							0.25	0.80			
	22	438	Shut Down																			
21	1	439	Pump Down	Treated Water				12,297	292.8	292.8	292.8											
	2	440	Shut Down																			
	3	441	Establish Rate	LibertyFR			10	5,000	119.0	411.8	119.0							0.25	0.80			
	4	442	Acid	HCL-7.5			10	1,000	23.8	435.6	23.8				252.00	2.00	2.00					
	5	443	Pad	LibertyFR			120	24,000	571.4	1,007.1	571.4							0.25	0.80			
	6	444	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,602.3	602.0	6,250	6,250	6,987,250				0.25	0.80			
	7	445	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,197.5	608.7	12,500	18,750	6,999,750				0.25	0.80			
	8	446	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,626.1	1,477.1	45,000	63,750	7,044,750				0.25	0.80			
	9	447	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,602.3	1,020.4	41,000	104,750	7,085,750				0.25	0.80			
	10	448	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,997.5	404.2	8,300	113,050	7,094,050				0.25	0.80			
	11	449	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,521.4	547.5	22,000	135,050	7,116,050				0.25	0.80			
	12	450	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,949.9	452.8	22,500	157,550	7,138,550				0.25	2.00			
	13	451	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,402.3	483.1	28,500	186,050	7,167,050				0.25	2.00			
	14	452	Sweep	LibertyFR			120	10,000	238.1	6,640.4	238.1							0.25	0.80			
	15	453	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,035.6	404.2	8,300	194,350	7,175,350				0.25	0.80			
	16	454	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,488.0	472.8	19,000	213,350	7,194,350				0.25	0.80			
	17	455	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,107.1	654.1	32,500	245,850	7,226,850				0.25	2.00			
	18	456	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,726.1	661.1	39,000	284,850	7,265,850				0.25	2.00			
	19	457	PLF	LibertyFR	40/70 White	1.75	120	22,000	523													

		Formation: Niohrraga		Customer: GMT EXPLORATION		Casing: 5.5" 20#		Depth: 0-20690		Capacity: 0.0222													
		LIBERTY		Well Name: Cystal 6-65 22-10 10HN		Max Pressure		Max HHP															
		Intervals: 6U		API: 05-039-06742		9,500 psi		27,941 hhp															
INTERVAL #	STAGE #	CMTV STAGE #	STAGE TYPE	FLUID TYPE	PROPPANT TYPE	PPA	DESIGN SLURRY RATE (BPM)	DESIGN CLEAN VOLUME (GAL)	CLEAN VOLUME		LURRY VOLUM	PROPPANT			ADDITIVE CONCENTRATIONS								
									DESIGN (BBL)	DESIGN CUMULATIVE (BBL)		DESIGN (CALC'D) (BBL)	STAGE DESIGN (LBS)	CUMULATIVE STAGE DESIGN (LBS)	CUMULATIVE JOB DESIGN (LBS)	HCL-28 Gal	ACI-97 GPT	ASF-67 GPT	BioSuite GQ510x GPT	FRP-1S GPT	SpearPoint - WL Gal		
22	1	461	Pump Down	Treated Water				12,148	289.2	289.2	289.2												
	2	462	Shut Down																				
	3	463	Establish Rate	LibertyFR			10	5,000	119.0	408.3	119.0								0.25	0.80			
	4	464	Acid	HCL-7.5			10	1,000	23.8	432.1	23.8				252.00	2.00	2.00						
	5	465	Pad	LibertyFR			120	24,000	571.4	1,003.5	571.4								0.25	0.80			
	6	466	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,598.8	602.0	6,250	6,250	7,336,300					0.25	0.80			
	7	467	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,194.0	608.7	12,500	18,750	7,348,800					0.25	0.80			
	8	468	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,622.6	1,477.1	45,000	63,750	7,393,800					0.25	0.80			
	9	469	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,598.8	1,020.4	41,000	104,750	7,434,800					0.25	0.80			
	10	470	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,994.0	404.2	8,300	113,050	7,443,100					0.25	0.80			
	11	471	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,517.8	547.5	22,000	135,050	7,465,100					0.25	0.80			
	12	472	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,946.4	452.8	22,500	157,550	7,487,600					0.25	2.00			
	13	473	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,398.8	483.1	28,500	186,050	7,516,100					0.25	2.00			
	14	474	Sweep	LibertyFR			120	10,000	238.1	6,636.8	238.1								0.25	0.80			
	15	475	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,032.1	404.2	8,300	194,350	7,524,400					0.25	0.80			
	16	476	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,484.5	472.8	19,000	213,350	7,543,400					0.25	0.80			
	17	477	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,103.5	654.1	32,500	245,850	7,575,900					0.25	2.00			
	18	478	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,722.6	661.1	39,000	284,850	7,614,900					0.25	2.00			
	19	479	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,246.4	565.3	38,500	323,350	7,653,400					0.25	2.00			
	20	480	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,552.3	333.6	25,700	349,050	7,679,100					0.25	2.00			
	21	481	Flush	LibertyFR			120	15,185	361.5	9,913.9	361.5								0.25	0.80			
	22	482	Shut Down																				
23	1	483	Pump Down	Treated Water				11,999	285.7	285.7	285.7												
	2	484	Shut Down																				
	3	485	Establish Rate	LibertyFR			10	5,000	119.0	404.7	119.0								0.25	0.80			
	4	486	Acid	HCL-7.5			10	1,000	23.8	428.5	23.8				252.00	2.00	2.00						
	5	487	Pad	LibertyFR			120	24,000	571.4	1,000.0	571.4								0.25	0.80			
	6	488	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,595.2	602.0	6,250	6,250	7,685,350					0.25	0.80			
	7	489	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,190.4	608.7	12,500	18,750	7,697,850					0.25	0.80			
	8	490	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,619.0	1,477.1	45,000	63,750	7,742,850					0.25	0.80			
	9	491	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,595.2	1,020.4	41,000	104,750	7,783,850					0.25	0.80			
	10	492	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,990.4	404.2	8,300	113,050	7,792,150					0.25	0.80			
	11	493	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,514.3	547.5	22,000	135,050	7,814,150					0.25	0.80			
	12	494	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,942.8	452.8	22,500	157,550	7,836,650					0.25	2.00			
	13	495	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,395.2	483.1	28,500	186,050	7,865,150					0.25	2.00			
	14	496	Sweep	LibertyFR			120	10,000	238.1	6,633.3	238.1								0.25	0.80			
	15	497	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,028.5	404.2	8,300	194,350	7,873,450					0.25	0.80			
	16	498	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,480.9	472.8	19,000	213,350	7,892,450					0.25	0.80			
	17	499	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,100.0	654.1	32,500	245,850	7,924,950					0.25	2.00			
	18	500	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,719.0	661.1	39,000	284,850	7,963,950					0.25	2.00			
	19	501	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,242.8	565.3	38,500	323,350	8,002,450					0.25	2.00			
	20	502	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,548.8	333.6	25,700	349,050	8,028,150					0.25	2.00			
	21	503	Flush	LibertyFR			120	14,998	357.1	9,905.9	357.1								0.25	0.80			
	22	504	Shut Down																				
24	1	505	Pump Down	Treated Water				11,850	282.1	282.1	282.1												
	2	506	Shut Down																				
	3	507	Establish Rate	LibertyFR			10	5,000	119.0	401.2	119.0								0.25	0.80			
	4	508	Acid	HCL-7.5			10	1,000	23.8	425.0	23.8				252.00	2.00	2.00						
	5	509	Pad	LibertyFR			120	24,000	571.4	996.4	571.4								0.25	0.80			
	6	510	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,591.7	602.0	6,250	6,250	8,034,400					0.25	0.80			
	7	511	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,186.9	608.7	12,500	18,750	8,046,900					0.25	0.80			
	8	512	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,615.5	1,477.1	45,000	63,750	8,091,900					0.25	0.80			
	9	513	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,591.7	1,020.4	41,000	104,750	8,132,900					0.25	0.80			
	10	514	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,986.9	404.2	8,300	113,050	8,141,200					0.25	0.80			
	11	515	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,510.7	547.5	22,000	135,050	8,163,200					0.25	0.80			
	12	516	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,939.3	452.8	22,500	157,550	8,185,700					0.25	2.00			
	13	517	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,391.7	483.1	28,500	186,050	8,214,200					0.25	2.00			
	14	518	Sweep	LibertyFR			120	10,000	238.1	6,629.8	238.1								0.25	0.80			
	15	519	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,025.0	404.2	8,300	194,350	8,222,500					0.25	0.80			
	16	520	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,477.4	472.8	19,000	213,350</										

## Formation: Niobrara

Customer: GMT EXPLORATION

Well Name: Cystal 6-65 22-10 10HN

API: 05-039-06742

Casing: 5.5" 20#

Depth: 0-20690

Capacity: 0.0222

Max Pressure  
9.500 psi

Max HHP  
27.941 hhp

Interval #	Stage #	CMTV Stage #	Stage Type	Fluid Type	Proppant Type	PPA	Design Slurry Rate (BPM)	Design Clean Volume (GAL)	Clean Volume			Lurry Volun	Proppant			Additive Concentrations					
									Design (BBL)	Design Cumulative (BBL)	Design (CALC'D) (BBL)		Stage Design (LBS)	Cumulative Stage Design (LBS)	Cumulative Job Design (LBS)	HCL-28 Gal	ACI-97 GPT	ASF-67 GPT	BioSuite GQ510x GPT	FRP-1S GPT	SpearPoint - WL Gal
25	1	527	Pump Down	Treated Water				11,701	278.6	278.6	278.6										
	2	528	Shut Down																		
	3	529	Establish Rate	LibertyFR			10	5,000	119.0	397.6	119.0								0.25	0.80	
	4	530	Acid	HCL-7.5			10	1,000	23.8	421.4	23.8					252.00	2.00	2.00			
	5	531	Pad	LibertyFR			120	24,000	571.4	992.9	571.4								0.25	0.80	
	6	532	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,588.1	602.0	6,250	6,250	8,383,450					0.25	0.80	
	7	533	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,183.3	608.7	12,500	18,750	8,395,950					0.25	0.80	
	8	534	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,611.9	1,477.1	45,000	63,750	8,440,950					0.25	0.80	
	9	535	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,588.1	1,020.4	41,000	104,750	8,481,950					0.25	0.80	
	10	536	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,983.3	404.2	8,300	113,050	8,490,250					0.25	0.80	
	11	537	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,507.2	547.5	22,000	135,050	8,512,250					0.25	0.80	
	12	538	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,935.7	452.8	22,500	157,550	8,534,750					0.25	2.00	
	13	539	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,388.1	483.1	28,500	186,050	8,563,250					0.25	2.00	
	14	540	Sweep	LibertyFR			120	10,000	238.1	6,626.2	238.1								0.25	0.80	
	15	541	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,021.4	404.2	8,300	194,350	8,571,550					0.25	0.80	
	16	542	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,473.8	472.8	19,000	213,350	8,590,550					0.25	0.80	
	17	543	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,092.9	654.1	32,500	245,850	8,623,050					0.25	2.00	
	18	544	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,711.9	661.1	39,000	284,850	8,662,050					0.25	2.00	
	19	545	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,235.7	565.3	38,500	323,350	8,700,550					0.25	2.00	
	20	546	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,541.7	333.6	25,700	349,050	8,726,250					0.25	2.00	
	21	547	Flush	LibertyFR			120	14,626	348.2	9,889.9	348.2								0.25	0.80	
22	548	Shut Down																			
26	1	549	Pump Down	Treated Water				11,552	275.0	275.0	275.0										
	2	550	Shut Down																		
	3	551	Establish Rate	LibertyFR			10	5,000	119.0	394.1	119.0								0.25	0.80	
	4	552	Acid	HCL-7.5			10	1,000	23.8	417.9	23.8					252.00	2.00	2.00			
	5	553	Pad	LibertyFR			120	24,000	571.4	989.3	571.4								0.25	0.80	
	6	554	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,584.6	602.0	6,250	6,250	8,732,500					0.25	0.80	
	7	555	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,179.8	608.7	12,500	18,750	8,745,000					0.25	0.80	
	8	556	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,608.4	1,477.1	45,000	63,750	8,790,000					0.25	0.80	
	9	557	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,584.6	1,020.4	41,000	104,750	8,831,000					0.25	0.80	
	10	558	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,979.8	404.2	8,300	113,050	8,839,300					0.25	0.80	
	11	559	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,503.6	547.5	22,000	135,050	8,861,300					0.25	0.80	
	12	560	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,932.2	452.8	22,500	157,550	8,883,800					0.25	2.00	
	13	561	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,384.6	483.1	28,500	186,050	8,912,300					0.25	2.00	
	14	562	Sweep	LibertyFR			120	10,000	238.1	6,622.7	238.1								0.25	0.80	
	15	563	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,017.9	404.2	8,300	194,350	8,920,600					0.25	0.80	
	16	564	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,470.3	472.8	19,000	213,350	8,939,600					0.25	0.80	
	17	565	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,089.3	654.1	32,500	245,850	8,972,100					0.25	2.00	
	18	566	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,708.4	661.1	39,000	284,850	9,011,100					0.25	2.00	
	19	567	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,232.2	565.3	38,500	323,350	9,049,600					0.25	2.00	
	20	568	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,538.1	333.6	25,700	349,050	9,075,300					0.25	2.00	
	21	569	Flush	LibertyFR			120	14,439	343.8	9,881.9	343.8								0.25	0.80	
22	570	Shut Down																			
27	1	571	Pump Down	Treated Water				11,403	271.5	271.5	271.5										
	2	572	Shut Down																		
	3	573	Establish Rate	LibertyFR			10	5,000	119.0	390.5	119.0								0.25	0.80	
	4	574	Acid	HCL-7.5			10	1,000	23.8	414.3	23.8					252.00	2.00	2.00			
	5	575	Pad	LibertyFR			120	24,000	571.4	985.8	571.4								0.25	0.80	
	6	576	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,581.0	602.0	6,250	6,250	9,081,550					0.25	0.80	
	7	577	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,176.3	608.7	12,500	18,750	9,094,050					0.25	0.80	
	8	578	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,604.8	1,477.1	45,000	63,750	9,139,050					0.25	0.80	
	9	579	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,581.0	1,020.4	41,000	104,750	9,180,050					0.25	0.80	
	10	580	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,976.3	404.2	8,300	113,050	9,188,350					0.25	0.80	
	11	581	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,500.1	547.5	22,000	135,050	9,210,350					0.25	0.80	
	12	582	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,928.6	452.8	22,500	157,550	9,232,850					0.25	2.00	
	13	583	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,381.0	483.1	28,500	186,050	9,261,350					0.25	2.00	
	14	584	Sweep	LibertyFR			120	10,000	238.1	6,619.1	238.1								0.25	0.80	
	15	585	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,014.3	404.2	8,300	194,350	9,269,650					0.25	0.80	
	16	586	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,466.7	472.8	19,000	213,350	9,288,650					0.25	0.80	
	17	587	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,085.8	654.1	32,500	245,850	9,321,150					0.25	2.00	
	18	588	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,704.8	661.1	39,000	284,850	9,360,150					0.25	2.00	
	19	589	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,228.6	565.3	38,500	323,350	9,398,650					0.25	2.00	
	20	590	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,534.6	333.6	25,700	349,050	9,424,350					0.25	2.00	
	21	591	Flush	LibertyFR			120	14,253	339.4	9,873.9	339.4								0.25	0.80	
22	592	Shut Down																			



**Formation:** Niobrara

Customer: GMT EXPLORATION

Well Name: Cystal 6-65 22-10 10HN

API: 05-039-06742


Max Pressure  
9,500 psi

Max HHP  
27.941 hhp

Casing: 5.5" 20#

Depth: 0-20690

Capacity: 0.0222

		Formation: Niohrraga		Customer: GMT EXPLORATION		Casing: 5.5" 20#		Depth: 0-20690		Capacity: 0.0222												
		LIBERTY		Well Name: Cystal 6-65 22-10 10HN		Max Pressure 9,500 psi		Max HHP 27,941 hhp														
		intervals: 60		API: 05-039-06742																		
INTERVAL #	STAGE #	CMTV STAGE #	STAGE TYPE	FLUID TYPE	PROPPANT TYPE	PPA	DESIGN SLURRY RATE (BPM)	DESIGN CLEAN VOLUME (GAL)	CLEAN VOLUME		LURRY VOLUM	DESIGN (CALC'D)	STAGE DESIGN	PROPPANT		CUMULATIVE JOB DESIGN	ADDITIVE CONCENTRATIONS					
									DESIGN (BBL)	DESIGN CUMULATIVE (BBL)				CUMULATIVE STAGE DESIGN	HCL-28		ACI-97	ASF-67	BioSuite GQ510x	FRP-1S	SpearPoint - WL	
													(LBS)	(LBS)	(LBS)	Gal	GPT	GPT	GPT	GPT	Gal	
31	1	659	Pump Down	Treated Water				10,806	257.3	257.3	257.3											
	2	660	Shut Down																			
	3	661	Establish Rate	LibertyFR			10	5,000	119.0	376.3	119.0								0.25	0.80		
	4	662	Acid	HCL-7.5			10	1,000	23.8	400.2	23.8					252.00	2.00	2.00				
	5	663	Pad	LibertyFR			120	24,000	571.4	971.6	571.4								0.25	0.80		
	6	664	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,566.8	602.0	6,250	6,250	10,477,750					0.25	0.80		
	7	665	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,162.1	608.7	12,500	18,750	10,490,250					0.25	0.80		
	8	666	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,590.6	1,477.1	45,000	63,750	10,535,250					0.25	0.80		
	9	667	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,566.8	1,020.4	41,000	104,750	10,576,250					0.25	0.80		
	10	668	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,962.1	404.2	8,300	113,050	10,584,550					0.25	0.80		
	11	669	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,485.9	547.5	22,000	135,050	10,606,550					0.25	0.80		
	12	670	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,914.4	452.8	22,500	157,550	10,629,050					0.25	2.00		
	13	671	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,366.8	483.1	28,500	186,050	10,657,550					0.25	2.00		
	14	672	Sweep	LibertyFR			120	10,000	238.1	6,604.9	238.1									0.25	0.80	
	15	673	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	7,000.2	404.2	8,300	194,350	10,665,850					0.25	0.80		
	16	674	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,452.5	472.8	19,000	213,350	10,684,850					0.25	0.80		
	17	675	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,071.6	654.1	32,500	245,850	10,717,350					0.25	2.00		
	18	676	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,690.6	661.1	39,000	284,850	10,756,350					0.25	2.00		
	19	677	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,214.4	565.3	38,500	323,350	10,794,850					0.25	2.00		
	20	678	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,520.4	333.6	25,700	349,050	10,820,550					0.25	2.00		
	21	679	Flush	LibertyFR			120	13,508	321.6	9,842.0	321.6									0.25	0.80	
	22	680	Shut Down																			
32	1	681	Pump Down	Treated Water				10,657	253.7	253.7	253.7											
	2	682	Shut Down																			
	3	683	Establish Rate	LibertyFR			10	5,000	119.0	372.8	119.0								0.25	0.80		
	4	684	Acid	HCL-7.5			10	1,000	23.8	396.6	23.8					252.00	2.00	2.00				
	5	685	Pad	LibertyFR			120	24,000	571.4	968.0	571.4								0.25	0.80		
	6	686	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,563.3	602.0	6,250	6,250	10,826,800					0.25	0.80		
	7	687	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,158.5	608.7	12,500	18,750	10,839,300					0.25	0.80		
	8	688	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,587.1	1,477.1	45,000	63,750	10,884,300					0.25	0.80		
	9	689	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,563.3	1,020.4	41,000	104,750	10,925,300					0.25	0.80		
	10	690	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,958.5	404.2	8,300	113,050	10,933,600					0.25	0.80		
	11	691	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,482.3	547.5	22,000	135,050	10,955,600					0.25	0.80		
	12	692	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,910.9	452.8	22,500	157,550	10,978,100					0.25	2.00		
	13	693	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,363.3	483.1	28,500	186,050	11,006,600					0.25	2.00		
	14	694	Sweep	LibertyFR			120	10,000	238.1	6,601.4	238.1									0.25	0.80	
	15	695	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	6,996.6	404.2	8,300	194,350	11,014,900					0.25	0.80		
	16	696	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,449.0	472.8	19,000	213,350	11,033,900					0.25	0.80		
	17	697	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,068.0	654.1	32,500	245,850	11,066,400					0.25	2.00		
	18	698	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,687.1	661.1	39,000	284,850	11,105,400					0.25	2.00		
	19	699	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,210.9	565.3	38,500	323,350	11,143,900					0.25	2.00		
	20	700	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,516.8	333.6	25,700	349,050	11,169,600					0.25	2.00		
	21	701	Flush	LibertyFR			120	13,322	317.2	9,834.0	317.2									0.25	0.80	
	22	702	Shut Down																			
33	1	703	Pump Down	Treated Water				10,508	250.2	250.2	250.2											
	2	704	Shut Down																			
	3	705	Establish Rate	LibertyFR			10	5,000	119.0	369.2	119.0								0.25	0.80		
	4	706	Acid	HCL-7.5			10	1,000	23.8	393.1	23.8					252.00	2.00	2.00				
	5	707	Pad	LibertyFR			120	24,000	571.4	964.5	571.4								0.25	0.80		
	6	708	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,559.7	602.0	6,250	6,250	11,175,850					0.25	0.80		
	7	709	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,155.0	608.7	12,500	18,750	11,188,350					0.25	0.80		
	8	710	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,583.5	1,477.1	45,000	63,750	11,233,350					0.25	0.80		
	9	711	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,559.7	1,020.4	41,000	104,750	11,274,350					0.25	0.80		
	10	712	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,955.0	404.2	8,300	113,050	11,282,650					0.25	0.80		
	11	713	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,478.8	547.5	22,000	135,050	11,304,650					0.25	0.80		
	12	714	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,907.3	452.8	22,500	157,550	11,327,150					0.25	2.00		
	13	715	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,359.7	483.1	28,500	186,050	11,355,650					0.25	2.00		
	14	716	Sweep	LibertyFR			120	10,000	238.1	6,597.8	238.1									0.25	0.80	
	15	717	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	6,993.1	404.2	8,300	194,350	11,363,950					0.25	0.80		
	16	718	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,445.4	472.8	19,000	213,350	11,382,950					0.25	0.80		
	17	719	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,064.5	654.1	32,500	245,850	11,415,450					0.25	2.00		

<div><div><div></div><div></div></div><div>LIBERTY</div></div>				Formation: Niohrraga				Customer: GMT EXPLORATION				Casing: 5.5" 20#				Depth: 0-20690				Capacity: 0.0222			
				Well Name: Cystal 6-65 22-10 10HN				Max Pressure 9,500 psi				Max HHP 27,941 hhp											
				API: 05-039-06742																			
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Formation: Niobrara

intervals: bu

Customer: GMT EXPLORATION

Well Name: Cystal 6-65 22-10 10HN

API: 05-039-06742

Casing: 5.5" 20#

Depth: 0-20690

Capacity: 0.0222

Max Pressure

Max HHP

9,500 psi

27.941 hhp

[illegible]

**Formation:** Niobrara

Customer: GMT EXPLORATION

Well Name: Cystal 6-65 22-10 10HN

API: 05-039-06742

Max Pressure  
9,500 psi

Max HHP  
27.941 hhp

Casing: 5.5" 20#

Depth: 0-20690

Capacity: 0.0222

Interval #	Stage #	CMTV Stage #	Stage Type	Fluid Type	Proppant Type	PPA	Design Slurry Rate (BPM)	Design Clean Volume (GAL)	Clean Volume			Lurry Volum	Proppant			Additive Concentrations					
									Design (BBL)	Design Cumulative (BBL)	Design (CALC'D) (BBL)		Stage Design (LBS)	Cumulative Stage Design (LBS)	Cumulative Job Design (LBS)	HCL-28 Gal	ACI-97 GPT	ASF-67 GPT	BioSuite GQ510x GPT	FRP-15 GPT	SpearPoint - WL Gal
40	1	857	Pump Down	Treated Water				9,465	225.4	225.4	225.4										
	2	858	Shut Down																		
	3	859	Establish Rate	LibertyFR			10	5,000	119.0	344.4	119.0								0.25	0.80	
	4	860	Acid	HCL-7.5			10	1,000	23.8	368.2	23.8					252.00	2.00	2.00			
	5	861	Pad	LibertyFR			120	24,000	571.4	939.6	571.4								0.25	0.80	
	6	862	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,534.9	602.0	6,250	6,250	13,619,200					0.25	0.80	
	7	863	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,130.1	608.7	12,500	18,750	13,631,700					0.25	0.80	
	8	864	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,558.7	1,477.1	45,000	63,750	13,676,700					0.25	0.80	
	9	865	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,534.9	1,020.4	41,000	104,750	13,717,700					0.25	0.80	
	10	866	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,930.1	404.2	8,300	113,050	13,726,000					0.25	0.80	
	11	867	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,453.9	547.5	22,000	135,050	13,748,000					0.25	0.80	
	12	868	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,882.5	452.8	22,500	157,550	13,770,500					0.25	2.00	
	13	869	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,334.9	483.1	28,500	186,050	13,799,000					0.25	2.00	
	14	870	Sweep	LibertyFR			120	10,000	238.1	6,573.0	238.1								0.25	0.80	
	15	871	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	6,968.2	404.2	8,300	194,350	13,807,300					0.25	0.80	
	16	872	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,420.6	472.8	19,000	213,350	13,826,300					0.25	0.80	
	17	873	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,039.6	654.1	32,500	245,850	13,858,800					0.25	2.00	
	18	874	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,658.7	661.1	39,000	284,850	13,897,800					0.25	2.00	
	19	875	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,182.5	565.3	38,500	323,350	13,936,300					0.25	2.00	
	20	876	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,488.5	333.6	25,700	349,050	13,962,000					0.25	2.00	
	21	877	Flush	LibertyFR			120	11,832	281.7	9,770.2	281.7								0.25	0.80	
	22	878	Shut Down																		
41	1	879	Pump Down	Treated Water				9,316	221.8	221.8	221.8										
	2	880	Shut Down																		
	3	881	Establish Rate	LibertyFR			10	5,000	119.0	340.9	119.0								0.25	0.80	
	4	882	Acid	HCL-7.5			10	1,000	23.8	364.7	23.8					252.00	2.00	2.00			
	5	883	Pad	LibertyFR			120	24,000	571.4	936.1	571.4								0.25	0.80	
	6	884	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,531.3	602.0	6,250	6,250	13,968,250					0.25	0.80	
	7	885	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,126.6	608.7	12,500	18,750	13,980,750					0.25	0.80	
	8	886	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,555.1	1,477.1	45,000	63,750	14,025,750					0.25	0.80	
	9	887	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,531.3	1,020.4	41,000	104,750	14,066,750					0.25	0.80	
	10	888	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,926.6	404.2	8,300	113,050	14,075,050					0.25	0.80	
	11	889	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,450.4	547.5	22,000	135,050	14,097,050					0.25	0.80	
	12	890	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,879.0	452.8	22,500	157,550	14,119,550					0.25	2.00	
	13	891	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,331.3	483.1	28,500	186,050	14,148,050					0.25	2.00	
	14	892	Sweep	LibertyFR			120	10,000	238.1	6,569.4	238.1								0.25	0.80	
	15	893	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	6,964.7	404.2	8,300	194,350	14,156,350					0.25	0.80	
	16	894	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,417.1	472.8	19,000	213,350	14,175,350					0.25	0.80	
	17	895	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,036.1	654.1	32,500	245,850	14,207,850					0.25	2.00	
	18	896	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,655.1	661.1	39,000	284,850	14,246,850					0.25	2.00	
	19	897	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,179.0	565.3	38,500	323,350	14,285,350					0.25	2.00	
	20	898	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,484.9	333.6	25,700	349,050	14,311,050					0.25	2.00	
	21	899	Flush	LibertyFR			120	11,645	277.3	9,762.2	277.3								0.25	0.80	
	22	900	Shut Down																		
42	1	901	Pump Down	Treated Water				9,167	218.3	218.3	218.3										
	2	902	Shut Down																		
	3	903	Establish Rate	LibertyFR			10	5,000	119.0	337.3	119.0								0.25	0.80	
	4	904	Acid	HCL-7.5			10	1,000	23.8	361.1	23.8					252.00	2.00	2.00			
	5	905	Pad	LibertyFR			120	24,000	571.4	932.6	571.4								0.25	0.80	
	6	906	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,527.8	602.0	6,250	6,250	14,317,300					0.25	0.80	
	7	907	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,123.0	608.7	12,500	18,750	14,329,800					0.25	0.80	
	8	908	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,551.6	1,477.1	45,000	63,750	14,374,800					0.25	0.80	
	9	909	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,527.8	1,020.4	41,000	104,750	14,415,800					0.25	0.80	
	10	910	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,923.0	404.2	8,300	113,050	14,424,100					0.25	0.80	
	11	911	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,446.8	547.5	22,000	135,050	14,446,100					0.25	0.80	
	12	912	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,875.4	452.8	22,500	157,550	14,468,600					0.25	2.00	
	13	913	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,327.8	483.1	28,500	186,050	14,497,100					0.25	2.00	
	14	914	Sweep	LibertyFR			120	10,000	238.1	6,565.9	238.1								0.25	0.80	
	15	915	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	6,961.1	404.2	8,300	194,350	14,505,400					0.25	0.80	
	16	916	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,413.5	472.8	19,000	213,350	14,524,400					0.25	0.80	
	17	917	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,032.6	654.1	32,500	245,850	14,556,900					0.25	2.00	
	18	918	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,651.6	661.1	39,000	284,850	14,595,900					0.25	2.00	
	19	919	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,175.4	565.3	38,500	323,350	14,634,400					0.25	2.00	
	20	920	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,481.4	333.6	25,700	349,050	14,660,100					0.25	2.00	
	21	921	Flush	LibertyFR			120	11,459	272.8	9,754.2	272.8								0.25	0.80	
	22	922	Shut Down																		

**Formation:** Niobrara

Customer: GMT EXPLORATION

Well Name: Cystal 6-65 22-10 10HN

API: 05-039-06742

Max Pressure  
9,500 psi


Max HHP  
27.941 hhp

Casing: 5.5" 20#

Depth: 0-20690

Capacity: 0.0222

Interval #	Stage #	CMTV Stage #	Stage Type	Fluid Type	Proppant Type	PPA	Design Slurry Rate (BPM)	Design Clean Volume (GAL)	Clean Volume			Lurry Volum	Proppant			Additive Concentrations					
									Design (BBL)	Design Cumulative (BBL)	Design (CALC'D) (BBL)		Stage Design (LBS)	Cumulative Stage Design (LBS)	Cumulative Job Design (LBS)	HCL-28 Gal	ACI-97 GPT	ASF-67 GPT	BioSuite GQ510x GPT	FRP-15 GPT	SpearPoint - WL Gal
43	1	923	Pump Down	Treated Water				9,018	214.7	214.7	214.7										
	2	924	Shut Down																		
	3	925	Establish Rate	LibertyFR			10	5,000	119.0	333.8	119.0								0.25	0.80	
	4	926	Acid	HCL-7.5			10	1,000	23.8	357.6	23.8				252.00	2.00	2.00		0.25	0.80	
	5	927	Pad	LibertyFR			120	24,000	571.4	929.0	571.4								0.25	0.80	
	6	928	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,524.2	602.0	6,250	6,250	14,666,350					0.25	0.80	
	7	929	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,119.5	608.7	12,500	18,750	14,678,850					0.25	0.80	
	8	930	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,548.1	1,477.1	45,000	63,750	14,723,850					0.25	0.80	
	9	931	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,524.2	1,020.4	41,000	104,750	14,764,850					0.25	0.80	
	10	932	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,919.5	404.2	8,300	113,050	14,773,150					0.25	0.80	
	11	933	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,443.3	547.5	22,000	135,050	14,795,150					0.25	0.80	
	12	934	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,871.9	452.8	22,500	157,550	14,817,650					0.25	2.00	
	13	935	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,324.2	483.1	28,500	186,050	14,846,150					0.25	2.00	
	14	936	Sweep	LibertyFR			120	10,000	238.1	6,562.3	238.1								0.25	0.80	
	15	937	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	6,957.6	404.2	8,300	194,350	14,854,450					0.25	0.80	
	16	938	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,410.0	472.8	19,000	213,350	14,873,450					0.25	0.80	
	17	939	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,029.0	654.1	32,500	245,850	14,905,950					0.25	2.00	
	18	940	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,648.1	661.1	39,000	284,850	14,944,950					0.25	2.00	
	19	941	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,171.9	565.3	38,500	323,350	14,983,450					0.25	2.00	
	20	942	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,477.8	333.6	25,700	349,050	15,009,150					0.25	2.00	
	21	943	Flush	LibertyFR			120	11,273	268.4	9,746.2	268.4								0.25	0.80	
	22	944	Shut Down																		
44	1	945	Pump Down	Treated Water				8,869	211.2	211.2	211.2										
	2	946	Shut Down																		
	3	947	Establish Rate	LibertyFR			10	5,000	119.0	330.2	119.0								0.25	0.80	
	4	948	Acid	HCL-7.5			10	1,000	23.8	354.0	23.8				252.00	2.00	2.00		0.25	0.80	
	5	949	Pad	LibertyFR			120	24,000	571.4	925.5	571.4								0.25	0.80	
	6	950	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,520.7	602.0	6,250	6,250	15,015,400					0.25	0.80	
	7	951	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,115.9	608.7	12,500	18,750	15,027,900					0.25	0.80	
	8	952	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,544.5	1,477.1	45,000	63,750	15,072,900					0.25	0.80	
	9	953	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,520.7	1,020.4	41,000	104,750	15,113,900					0.25	0.80	
	10	954	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,915.9	404.2	8,300	113,050	15,122,200					0.25	0.80	
	11	955	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,439.7	547.5	22,000	135,050	15,144,200					0.25	0.80	
	12	956	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,868.3	452.8	22,500	157,550	15,166,700					0.25	2.00	
	13	957	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,320.7	483.1	28,500	186,050	15,195,200					0.25	2.00	
	14	958	Sweep	LibertyFR			120	10,000	238.1	6,558.8	238.1								0.25	0.80	
	15	959	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	6,954.0	404.2	8,300	194,350	15,203,500					0.25	0.80	
	16	960	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,406.4	472.8	19,000	213,350	15,222,500					0.25	0.80	
	17	961	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,025.5	654.1	32,500	245,850	15,255,000					0.25	2.00	
	18	962	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,644.5	661.1	39,000	284,850	15,294,000					0.25	2.00	
	19	963	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,168.3	565.3	38,500	323,350	15,332,500					0.25	2.00	
	20	964	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,474.3	333.6	25,700	349,050	15,358,200					0.25	2.00	
	21	965	Flush	LibertyFR			120	11,086	264.0	9,738.2	264.0								0.25	0.80	
	22	966	Shut Down																		
45	1	967	Pump Down	Treated Water				8,720	207.6	207.6	207.6										
	2	968	Shut Down																		
	3	969	Establish Rate	LibertyFR			10	5,000	119.0	326.7	119.0								0.25	0.80	
	4	970	Acid	HCL-7.5			10	1,000	23.8	350.5	23.8				252.00	2.00	2.00		0.25	0.80	
	5	971	Pad	LibertyFR			120	24,000	571.4	921.9	571.4								0.25	0.80	
	6	972	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,517.1	602.0	6,250	6,250	15,364,450					0.25	0.80	
	7	973	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,112.4	608.7	12,500	18,750	15,376,950					0.25	0.80	
	8	974	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,541.0	1,477.1	45,000	63,750	15,421,950					0.25	0.80	
	9	975	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,517.1	1,020.4	41,000	104,750	15,462,950					0.25	0.80	
	10	976	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,912.4	404.2	8,300	113,050	15,471,250					0.25	0.80	
	11	977	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,436.2	547.5	22,000	135,050	15,493,250					0.25	0.80	
	12	978	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,864.8	452.8	22,500	157,550	15,515,750					0.25	2.00	
	13	979	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,317.1	483.1	28,500	186,050	15,544,250					0.25	2.00	
	14	980	Sweep	LibertyFR			120	10,000	238.1	6,555.2	238.1								0.25	0.80	
	15	981	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	6,950.5	404.2	8,300	194,350	15,552,550					0.25	0.80	
	16	982	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,402.9	472.8	19,000	213,350	15,571,550					0.25	0.80	
	17	983	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,021.9	654.1	32,500	245,850	15,604,050					0.25	2.00	
	18	984	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,641.0	661.1	39,000	284,850	15,643,050					0.25	2.00	
	19	985	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,164.8	565.3	38,500	323,350	15,681,550					0.25	2.00	
	20	986	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,470.7	333.6	25,700	349,050	15,707,250					0.25	2.00	
	21	987	Flush	LibertyFR			120	10,900	259.5	9,730.2	259.5								0.25	0.80	
	22	988	Shut Down																		

		Formation: Niohrraga		Customer: GMT EXPLORATION		Casing: 5.5" 20#		Depth: 0-20690		Capacity: 0.0222											
		LIBERTY		Well Name: Cystal 6-65 22-10 10HN		Max Pressure 9,500 psi		Max HHP 27,941 hhp													
		intervals: 00		API: 05-039-06742																	
INTERVAL #	STAGE #	CMTV STAGE #	STAGE TYPE	FLUID TYPE	PROPPANT TYPE	PPA	DESIGN SLURRY RATE (BPM)	DESIGN CLEAN VOLUME (GAL)	CLEAN VOLUME		LURRY VOLUM	PROPPANT			ADDITIVE CONCENTRATIONS						
									DESIGN (BBL)	DESIGN CUMULATIVE (BBL)		DESIGN (CALC'D) (BBL)	STAGE DESIGN (LBS)	CUMULATIVE STAGE DESIGN (LBS)	CUMULATIVE JOB DESIGN (LBS)	HCL-28 Gal	ACI-97 GPT	ASF-67 GPT	BioSuite GQ510x GPT	FRP-1S GPT	SpearPoint - WL Gal
46	1	989	Pump Down	Treated Water				8,571	204.1	204.1	204.1										
	2	990	Shut Down																		
	3	991	Establish Rate	LibertyFR			10	5,000	119.0	323.1	119.0								0.25	0.80	
	4	992	Acid	HCL-7.5			10	1,000	23.8	346.9	23.8				252.00	2.00	2.00				
	5	993	Pad	LibertyFR			120	24,000	571.4	918.4	571.4							0.25	0.80		
	6	994	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,513.6	602.0	6,250	6,250	15,713,500				0.25	0.80		
	7	995	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,108.8	608.7	12,500	18,750	15,726,000				0.25	0.80		
	8	996	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,537.4	1,477.1	45,000	63,750	15,771,000				0.25	0.80		
	9	997	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,513.6	1,020.4	41,000	104,750	15,812,000				0.25	0.80		
	10	998	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,908.8	404.2	8,300	113,050	15,820,300				0.25	0.80		
	11	999	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,432.6	547.5	22,000	135,050	15,842,300				0.25	0.80		
	12	1000	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,861.2	452.8	22,500	157,550	15,864,800				0.25	2.00		
	13	1001	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,313.6	483.1	28,500	186,050	15,893,300				0.25	2.00		
	14	1002	Sweep	LibertyFR			120	10,000	238.1	6,551.7	238.1							0.25	0.80		
	15	1003	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	6,946.9	404.2	8,300	194,350	15,901,600				0.25	0.80		
	16	1004	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,399.3	472.8	19,000	213,350	15,920,600				0.25	0.80		
	17	1005	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,018.4	654.1	32,500	245,850	15,953,100				0.25	2.00		
	18	1006	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,637.4	661.1	39,000	284,850	15,992,100				0.25	2.00		
	19	1007	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,161.2	565.3	38,500	323,350	16,030,600				0.25	2.00		
	20	1008	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,467.2	333.6	25,700	349,050	16,056,300				0.25	2.00		
	21	1009	Flush	LibertyFR			120	10,714	255.1	9,722.3	255.1							0.25	0.80		
	22	1010	Shut Down																		
47	1	1011	Pump Down	Treated Water				8,422	200.5	200.5	200.5										
	2	1012	Shut Down																		
	3	1013	Establish Rate	LibertyFR			10	5,000	119.0	319.6	119.0							0.25	0.80		
	4	1014	Acid	HCL-7.5			10	1,000	23.8	343.4	23.8				252.00	2.00	2.00				
	5	1015	Pad	LibertyFR			120	24,000	571.4	914.8	571.4							0.25	0.80		
	6	1016	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,510.0	602.0	6,250	6,250	16,062,550				0.25	0.80		
	7	1017	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,105.3	608.7	12,500	18,750	16,075,050				0.25	0.80		
	8	1018	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,533.9	1,477.1	45,000	63,750	16,120,050				0.25	0.80		
	9	1019	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,510.0	1,020.4	41,000	104,750	16,161,050				0.25	0.80		
	10	1020	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,905.3	404.2	8,300	113,050	16,169,350				0.25	0.80		
	11	1021	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,429.1	547.5	22,000	135,050	16,191,350				0.25	0.80		
	12	1022	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,857.7	452.8	22,500	157,550	16,213,850				0.25	2.00		
	13	1023	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,310.0	483.1	28,500	186,050	16,242,350				0.25	2.00		
	14	1024	Sweep	LibertyFR			120	10,000	238.1	6,548.1	238.1							0.25	0.80		
	15	1025	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	6,943.4	404.2	8,300	194,350	16,250,650				0.25	0.80		
	16	1026	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,395.8	472.8	19,000	213,350	16,269,650				0.25	0.80		
	17	1027	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,014.8	654.1	32,500	245,850	16,302,150				0.25	2.00		
	18	1028	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,633.9	661.1	39,000	284,850	16,341,150				0.25	2.00		
	19	1029	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,157.7	565.3	38,500	323,350	16,379,650				0.25	2.00		
	20	1030	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,463.6	333.6	25,700	349,050	16,405,350				0.25	2.00		
	21	1031	Flush	LibertyFR			120	10,528	250.7	9,714.3	250.7							0.25	0.80		
	22	1032	Shut Down																		
48	1	1033	Pump Down	Treated Water				8,273	197.0	197.0	197.0										
	2	1034	Shut Down																		
	3	1035	Establish Rate	LibertyFR			10	5,000	119.0	316.0	119.0							0.25	0.80		
	4	1036	Acid	HCL-7.5			10	1,000	23.8	339.8	23.8				252.00	2.00	2.00				
	5	1037	Pad	LibertyFR			120	24,000	571.4	911.3	571.4							0.25	0.80		
	6	1038	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,506.5	602.0	6,250	6,250	16,411,600				0.25	0.80		
	7	1039	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,101.7	608.7	12,500	18,750	16,424,100				0.25	0.80		
	8	1040	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,530.3	1,477.1	45,000	63,750	16,469,100				0.25	0.80		
	9	1041	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,506.5	1,020.4	41,000	104,750	16,510,100				0.25	0.80		
	10	1042	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,901.7	404.2	8,300	113,050	16,518,400				0.25	0.80		
	11	1043	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,425.5	547.5	22,000	135,050	16,540,400				0.25	0.80		
	12	1044	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,854.1	452.8	22,500	157,550	16,562,900				0.25	2.00		
	13	1045	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,306.5	483.1	28,500	186,050	16,591,400				0.25	2.00		
	14	1046	Sweep	LibertyFR			120	10,000	238.1	6,544.6	238.1							0.25	0.80		
	15	1047	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	6,939.8	404.2	8,300	194,350	16,599,700				0.25	0.80		
	16	1048	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,392.2	472.8	19,000	213,350	16,618,700				0.25	0.80		
	17	1049	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	8,011.3	654.1	32,500	245,850	16,651,200				0.25	2.00		
	18	1050	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,630.3	661.1	39,000	284,850	16,690,200				0.25	2.00		
	19	1051	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,154.1	565.3	38,3									

**Formation:** Niobrara

Customer: GMT EXPLORATION

Well Name: Cystal 6-65 22-10 10HN

API: 05-039-06742

Max Pressure  
9,500 psi

Max HHP  
27.941 hhp

Casing: 5.5" 20#

Depth: 0-20690

Capacity: 0.0222



**Formation:** Niobrara

Customer: GMT EXPLORATION

Well Name: Cystal 6-65 22-10 10HN

API: 05-039-06742

Casing: 5.5" 20#

Depth: 0-20690

Capacity: 0.0222


Max Pressure

Max HHP

9,500 psi

27.941 hhp

Interval #	Stage #	CMTV Stage #	Stage Type	Fluid Type	Proppant Type	PPA	Design Slurry Rate (BPM)	Design Clean Volume (GAL)	Clean Volume			Lurry Volun	Proppant			Additive Concentrations						
									Design	Design Cumulative	Design (CALC'D)		Stage Design	Cumulative Stage Design	Cumulative Job Design	HCL-28	ACI-97	ASF-67	BioSuite GQ510x	FRP-1S	SpearPoint - WL	
																						(BBL)
52	1	1121	Pump Down	Treated Water				7,677	182.8	182.8	182.8											
	2	1122	Shut Down																			
	3	1123	Establish Rate	LibertyFR			10	5,000	119.0	301.8	119.0								0.25	0.80		
	4	1124	Acid	HCL-7.5			10	1,000	23.8	325.6	23.8					252.00	2.00	2.00				
	5	1125	Pad	LibertyFR			120	24,000	571.4	897.1	571.4								0.25	0.80		
	6	1126	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,492.3	602.0	6,250	6,250	17,807,800					0.25	0.80		
	7	1127	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,087.5	608.7	12,500	18,750	17,820,300					0.25	0.80		
	8	1128	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,516.1	1,477.1	45,000	63,750	17,865,300					0.25	0.80		
	9	1129	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,492.3	1,020.4	41,000	104,750	17,906,300					0.25	0.80		
	10	1130	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,887.5	404.2	8,300	113,050	17,914,600					0.25	0.80		
	11	1131	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,411.4	547.5	22,000	135,050	17,936,600					0.25	0.80		
	12	1132	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,839.9	452.8	22,500	157,550	17,959,100					0.25	2.00		
	13	1133	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,292.3	483.1	28,500	186,050	17,987,600					0.25	2.00		
	14	1134	Sweep	LibertyFR			120	10,000	238.1	6,530.4	238.1									0.25	0.80	
	15	1135	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	6,925.6	404.2	8,300	194,350	17,995,900					0.25	0.80		
	16	1136	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,378.0	472.8	19,000	213,350	18,014,900					0.25	0.80		
	17	1137	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	7,997.1	654.1	32,500	245,850	18,047,400					0.25	2.00		
	18	1138	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,616.1	661.1	39,000	284,850	18,086,400					0.25	2.00		
	19	1139	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,139.9	565.3	38,500	323,350	18,124,900					0.25	2.00		
	20	1140	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,445.9	333.6	25,700	349,050	18,150,600					0.25	2.00		
	21	1141	Flush	LibertyFR			120	9,596	228.5	9,674.4	228.5									0.25	0.80	
	22	1142	Shut Down																			
53	1	1143	Pump Down	Treated Water				7,528	179.2	179.2	179.2											
	2	1144	Shut Down																			
	3	1145	Establish Rate	LibertyFR			10	5,000	119.0	298.3	119.0								0.25	0.80		
	4	1146	Acid	HCL-7.5			10	1,000	23.8	322.1	23.8					252.00	2.00	2.00				
	5	1147	Pad	LibertyFR			120	24,000	571.4	893.5	571.4								0.25	0.80		
	6	1148	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,488.8	602.0	6,250	6,250	18,156,850					0.25	0.80		
	7	1149	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,084.0	608.7	12,500	18,750	18,169,350					0.25	0.80		
	8	1150	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,512.6	1,477.1	45,000	63,750	18,214,350					0.25	0.80		
	9	1151	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,488.8	1,020.4	41,000	104,750	18,255,350					0.25	0.80		
	10	1152	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,884.0	404.2	8,300	113,050	18,263,650					0.25	0.80		
	11	1153	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,407.8	547.5	22,000	135,050	18,285,650					0.25	0.80		
	12	1154	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,836.4	452.8	22,500	157,550	18,308,150					0.25	2.00		
	13	1155	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,288.8	483.1	28,500	186,050	18,336,650					0.25	2.00		
	14	1156	Sweep	LibertyFR			120	10,000	238.1	6,526.9	238.1									0.25	0.80	
	15	1157	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	6,922.1	404.2	8,300	194,350	18,344,950					0.25	0.80		
	16	1158	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,374.5	472.8	19,000	213,350	18,363,950					0.25	0.80		
	17	1159	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	7,993.5	654.1	32,500	245,850	18,396,450					0.25	2.00		
	18	1160	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,612.6	661.1	39,000	284,850	18,435,450					0.25	2.00		
	19	1161	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,136.4	565.3	38,500	323,350	18,473,950					0.25	2.00		
	20	1162	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,442.3	333.6	25,700	349,050	18,499,650					0.25	2.00		
	21	1163	Flush	LibertyFR			120	9,410	224.0	9,666.4	224.0									0.25	0.80	
	22	1164	Shut Down																			
54	1	1165	Pump Down	Treated Water				7,379	175.7	175.7	175.7											
	2	1166	Shut Down																			
	3	1167	Establish Rate	LibertyFR			10	5,000	119.0	294.7	119.0								0.25	0.80		
	4	1168	Acid	HCL-7.5			10	1,000	23.8	318.5	23.8					252.00	2.00	2.00				
	5	1169	Pad	LibertyFR			120	24,000	571.4	890.0	571.4								0.25	0.80		
	6	1170	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,485.2	602.0	6,250	6,250	18,505,900					0.25	0.80		
	7	1171	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,080.5	608.7	12,500	18,750	18,518,400					0.25	0.80		
	8	1172	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,509.0	1,477.1	45,000	63,750	18,563,400					0.25	0.80		
	9	1173	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,485.2	1,020.4	41,000	104,750	18,604,400					0.25	0.80		
	10	1174	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,880.5	404.2	8,300	113,050	18,612,700					0.25	0.80		
	11	1175	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,404.3	547.5	22,000	135,050	18,634,700					0.25	0.80		
	12	1176	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,832.8	452.8	22,500	157,550	18,657,200					0.25	2.00		
	13	1177	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,285.2	483.1	28,500	186,050	18,685,700					0.25	2.00		
	14	1178	Sweep	LibertyFR			120	10,000	238.1	6,523.3	238.1									0.25	0.80	
	15	1179	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	6,918.5	404.2	8,300	194,350	18,694,000					0.25	0.80		
	16	1180	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,370.9	472.8	19,000	213,350	18,713,000					0.25	0.80		
	17	1181	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	7,990.0	654.1	32,500	245,850	18,745,500					0.25	2.00		
	18	1182	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,609.0	661.1	39,000	284,850	18,784,500					0.25	2.00		
	19	1183	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,132.8	565.3	38,500	323,350	18,823,000					0.25	2.00		
	20	1184	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,438.8	333.6	25,700	349,050	18,848,700					0.25	2.00		
	21	1185	Flush	LibertyFR			120	9,224	219.6	9,658.4	219.6									0.25	0.80	
	22	1186	Shut Down																			

			Formation: Niohrraga		Customer: GMT EXPLORATION				Casing: 5.5" 20#		Depth: 0-20690		Capacity: 0.0222							
			Well Name: Cystal 6-65 22-10 10HN		Max Pressure 9,500 psi				Max HHP 27,941 hhp											
			API: 05-039-06742																	
			Intervals: 60																	
INTERVAL #	STAGE #	CMTV STAGE #	STAGE TYPE	FLUID TYPE	PROPPANT TYPE	PPA	DESIGN SLURRY RATE (BPM)	DESIGN CLEAN VOLUME (GAL)	CLEAN VOLUME		LURRY VOLUM	STAGE DESIGN (LBS)	PROPPANT		HCL-28 Gal	ADDITIVE CONCENTRATIONS				
									DESIGN (BBL)	DESIGN CUMULATIVE (BBL)			DESIGN (CALC'D) (BBL)	CUMULATIVE STAGE DESIGN (LBS)		CUMULATIVE JOB DESIGN (LBS)	ACI-97 GPT	ASF-67 GPT	BioSuite GQ510x GPT	FRP-1S GPT
55	1	1187	Pump Down	Treated Water				7,230	172.1	172.1	172.1									
	2	1188	Shut Down																	
	3	1189	Establish Rate	LibertyFR			10	5,000	119.0	291.2	119.0							0.25	0.80	
	4	1190	Acid	HCL-7.5			10	1,000	23.8	315.0	23.8				252.00	2.00	2.00			
	5	1191	Pad	LibertyFR			120	24,000	571.4	886.4	571.4							0.25	0.80	
	6	1192	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,481.7	602.0	6,250	6,250	18,854,950				0.25	0.80	
	7	1193	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,076.9	608.7	12,500	18,750	18,867,450				0.25	0.80	
	8	1194	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,505.5	1,477.1	45,000	63,750	18,912,450				0.25	0.80	
	9	1195	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,481.7	1,020.4	41,000	104,750	18,953,450				0.25	0.80	
	10	1196	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,876.9	404.2	8,300	113,050	18,961,750				0.25	0.80	
	11	1197	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,400.7	547.5	22,000	135,050	18,983,750				0.25	0.80	
	12	1198	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,829.3	452.8	22,500	157,550	19,006,250				0.25	2.00	
	13	1199	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,281.7	483.1	28,500	186,050	19,034,750				0.25	2.00	
	14	1200	Sweep	LibertyFR			120	10,000	238.1	6,519.8	238.1							0.25	0.80	
	15	1201	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	6,915.0	404.2	8,300	194,350	19,043,050				0.25	0.80	
	16	1202	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,367.4	472.8	19,000	213,350	19,062,050				0.25	0.80	
	17	1203	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	7,986.4	654.1	32,500	245,850	19,094,550				0.25	2.00	
	18	1204	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,605.5	661.1	39,000	284,850	19,133,550				0.25	2.00	
	19	1205	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,129.3	565.3	38,500	323,350	19,172,050				0.25	2.00	
	20	1206	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,435.2	333.6	25,700	349,050	19,197,750				0.25	2.00	
	21	1207	Flush	LibertyFR			120	9,037	215.2	9,650.4	215.2							0.25	0.80	
	22	1208	Shut Down																	
56	1	1209	Pump Down	Treated Water				7,081	168.6	168.6	168.6									
	2	1210	Shut Down																	
	3	1211	Establish Rate	LibertyFR			10	5,000	119.0	287.6	119.0							0.25	0.80	
	4	1212	Acid	HCL-7.5			10	1,000	23.8	311.4	23.8				252.00	2.00	2.00			
	5	1213	Pad	LibertyFR			120	24,000	571.4	882.9	571.4							0.25	0.80	
	6	1214	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,478.1	602.0	6,250	6,250	19,204,000				0.25	0.80	
	7	1215	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,073.4	608.7	12,500	18,750	19,216,500				0.25	0.80	
	8	1216	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,501.9	1,477.1	45,000	63,750	19,261,500				0.25	0.80	
	9	1217	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,478.1	1,020.4	41,000	104,750	19,302,500				0.25	0.80	
	10	1218	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,873.4	404.2	8,300	113,050	19,310,800				0.25	0.80	
	11	1219	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,397.2	547.5	22,000	135,050	19,332,800				0.25	0.80	
	12	1220	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,825.7	452.8	22,500	157,550	19,355,300				0.25	2.00	
	13	1221	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,278.1	483.1	28,500	186,050	19,383,800				0.25	2.00	
	14	1222	Sweep	LibertyFR			120	10,000	238.1	6,516.2	238.1							0.25	0.80	
	15	1223	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	6,911.4	404.2	8,300	194,350	19,392,100				0.25	0.80	
	16	1224	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,363.8	472.8	19,000	213,350	19,411,100				0.25	0.80	
	17	1225	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	7,982.9	654.1	32,500	245,850	19,443,600				0.25	2.00	
	18	1226	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,601.9	661.1	39,000	284,850	19,482,600				0.25	2.00	
	19	1227	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,125.7	565.3	38,500	323,350	19,521,100				0.25	2.00	
	20	1228	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,431.7	333.6	25,700	349,050	19,546,800				0.25	2.00	
	21	1229	Flush	LibertyFR			120	8,851	210.7	9,642.4	210.7							0.25	0.80	
	22	1230	Shut Down																	
57	1	1231	Pump Down	Treated Water				6,932	165.0	165.0	165.0									
	2	1232	Shut Down																	
	3	1233	Establish Rate	LibertyFR			10	5,000	119.0	284.1	119.0							0.25	0.80	
	4	1234	Acid	HCL-7.5			10	1,000	23.8	307.9	23.8				252.00	2.00	2.00			
	5	1235	Pad	LibertyFR			120	24,000	571.4	879.3	571.4							0.25	0.80	
	6	1236	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,474.6	602.0	6,250	6,250	19,553,050				0.25	0.80	
	7	1237	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,069.8	608.7	12,500	18,750	19,565,550				0.25	0.80	
	8	1238	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,498.4	1,477.1	45,000	63,750	19,610,550				0.25	0.80	
	9	1239	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,474.6	1,020.4	41,000	104,750	19,651,550				0.25	0.80	
	10	1240	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,869.8	404.2	8,300	113,050	19,659,850				0.25	0.80	
	11	1241	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,393.6	547.5	22,000	135,050	19,681,850				0.25	0.80	
	12	1242	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,822.2	452.8	22,500	157,550	19,704,350				0.25	2.00	
	13	1243	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,274.6	483.1	28,500	186,050	19,732,850				0.25	2.00	
	14	1244	Sweep	LibertyFR			120	10,000	238.1	6,512.7	238.1							0.25	0.80	
	15	1245	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	6,907.9	404.2	8,300	194,350	19,741,150				0.25	0.80	
	16	1246	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,360.3	472.8	19,000	213,350	19,760,150				0.25	0.80	
	17	1247	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	7,979.3	654.1	32,500	245,850	19,792,650				0.25	2.00	
	18	1248	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,598.4	661.1	39,000	284,850	19,831,650				0.25	2.00	
	19	1249	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,122.2	565.3	38,500	323,350	19,870,150				0.25	2.00	
	20	1250	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,428.1	333.6	25,700	349,050	19,895,850				0.25	2.00	

### Formation: Niohrara

**LIBERTY**

intervals: bu

Customer: GMT EXPLORATION

Well Name: Cystal 6-65 22-10 10HN

API: 05-039-06742

Max Pressure  
9,500 psi


Max HHP  
27.941 hhp

Casing: 5.5" 20#

Depth: 0-20690

Capacity: 0.0222

[illegible]

			Formation: Niohrrara		Customer: GMT EXPLORATION			Casing: 5.5" 20#		Depth: 0-20690		Capacity: 0.0222									
			LIBERTY		Well Name: Cystal 6-65 22-10 10HN			Max Pressure		Max HHP											
			Intervals: 6U		API: 05-039-06742			9,500 psi		27,941 hhp											
INTERVAL #	STAGE #	CMTV STAGE #	STAGE TYPE	FLUID TYPE	PROPPANT TYPE	PPA	DESIGN SLURRY RATE (BPM)	DESIGN CLEAN VOLUME (GAL)	CLEAN VOLUME		LURRY VOLUM (BBL)	PROPPANT			ADDITIVE CONCENTRATIONS						
									DESIGN (BBL)	DESIGN CUMULATIVE (BBL)		DESIGN (CALC'D) (BBL)	STAGE DESIGN (LBS)	CUMULATIVE STAGE DESIGN (LBS)	CUMULATIVE JOB DESIGN (LBS)	HCL-28 Gal	ACI-97 GPT	ASF-67 GPT	BioSuite GQ510x GPT	FRP-1S GPT	SpearPoint - WL Gal
60	1	1297	Pump Down	Treated Water				6,503	154.8	154.8	154.8										
	2	1298	Shut Down																		
	3	1299	Establish Rate	LibertyFR			10	5,000	119.0	273.9	119.0							0.25	0.80		
	4	1300	Acid	HCL-7.5			10	1,000	23.8	297.7	23.8				252.00	2.00	2.00				
	5	1301	Pad	LibertyFR			120	24,000	571.4	869.1	571.4							0.25	0.80		
	6	1302	PLF	LibertyFR	100 Mesh	0.25	120	25,000	595.2	1,464.4	602.0	6,250	6,250	20,600,200				0.25	0.80		
	7	1303	PLF	LibertyFR	100 Mesh	0.5	120	25,000	595.2	2,059.6	608.7	12,500	18,750	20,612,700				0.25	0.80		
	8	1304	PLF	LibertyFR	100 Mesh	0.75	120	60,000	1,428.6	3,488.2	1,477.1	45,000	63,750	20,657,700				0.25	0.80		
	9	1305	PLF	LibertyFR	100 Mesh	1	120	41,000	976.2	4,464.4	1,020.4	41,000	104,750	20,698,700				0.25	0.80		
	10	1306	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	4,859.6	404.2	8,300	113,050	20,707,000				0.25	0.80		
	11	1307	PLF	LibertyFR	40/70 White	1	120	22,000	523.8	5,383.4	547.5	22,000	135,050	20,729,000				0.25	0.80		
	12	1308	PLF	LibertyFR	40/70 White	1.25	120	18,000	428.6	5,812.0	452.8	22,500	157,550	20,751,500				0.25	2.00		
	13	1309	PLF	LibertyFR	40/70 White	1.5	120	19,000	452.4	6,264.4	483.1	28,500	186,050	20,780,000				0.25	2.00		
	14	1310	Sweep	LibertyFR			120	10,000	238.1	6,502.5	238.1							0.25	0.80		
	15	1311	PLF	LibertyFR	40/70 White	0.5	120	16,600	395.2	6,897.7	404.2	8,300	194,350	20,788,300				0.25	0.80		
	16	1312	PLF	LibertyFR	40/70 White	1	120	19,000	452.4	7,350.1	472.8	19,000	213,350	20,807,300				0.25	0.80		
	17	1313	PLF	LibertyFR	40/70 White	1.25	120	26,000	619.0	7,969.1	654.1	32,500	245,850	20,839,800				0.25	2.00		
	18	1314	PLF	LibertyFR	40/70 White	1.5	120	26,000	619.0	8,588.2	661.1	39,000	284,850	20,878,800				0.25	2.00		
	19	1315	PLF	LibertyFR	40/70 White	1.75	120	22,000	523.8	9,112.0	565.3	38,500	323,350	20,917,300				0.25	2.00		
	20	1316	PLF	LibertyFR	40/70 White	2	120	12,850	306.0	9,417.9	333.6	25,700	349,050	20,943,000				0.25	2.00		
	21	1317	Flush	LibertyFR			120	8,129	193.6	9,611.5	193.6							0.25	0.80		
	22	1318	Shut Down																		
								Total Design Clean	Total Design Clean		Total Design Slurry	Total Design Proppant	Job Design Prop	Total	Total	Total	Total	Total	Total		
								(GAL)	(BBL)		(BBL)	(LBS)	(LBS)	(Gal)	(gal)	(gal)	(gal)	(gal)	(gal)	(Gal)	
Total Job								24,796,698	590,397.6		612,959.6	20,943,000	20,943,000	15,120	120	120	6,025	28,196	0		
Fluid Volume Summary				Design (BBL)				Pump Time				Proppant Type		Pounds		HCL-28	ACI-97	ASF-67	BioSuite GQ510x	FRP-1S	SpearPoint - WL
LibertyFR				573,788.0				96 hrs 7 min				100 Mesh		6,285,000		20%	20%	20%	20%	20%	0%
HCL-7.5				1,428.6								40/70 White		14,658,000		18,144	144	144	7,230	33,836	0
Treated Water				15,181.0												*Totals Required with % Excess					

# ***Laboratory Report***

***GMT Exploration - Marble-Redstone***

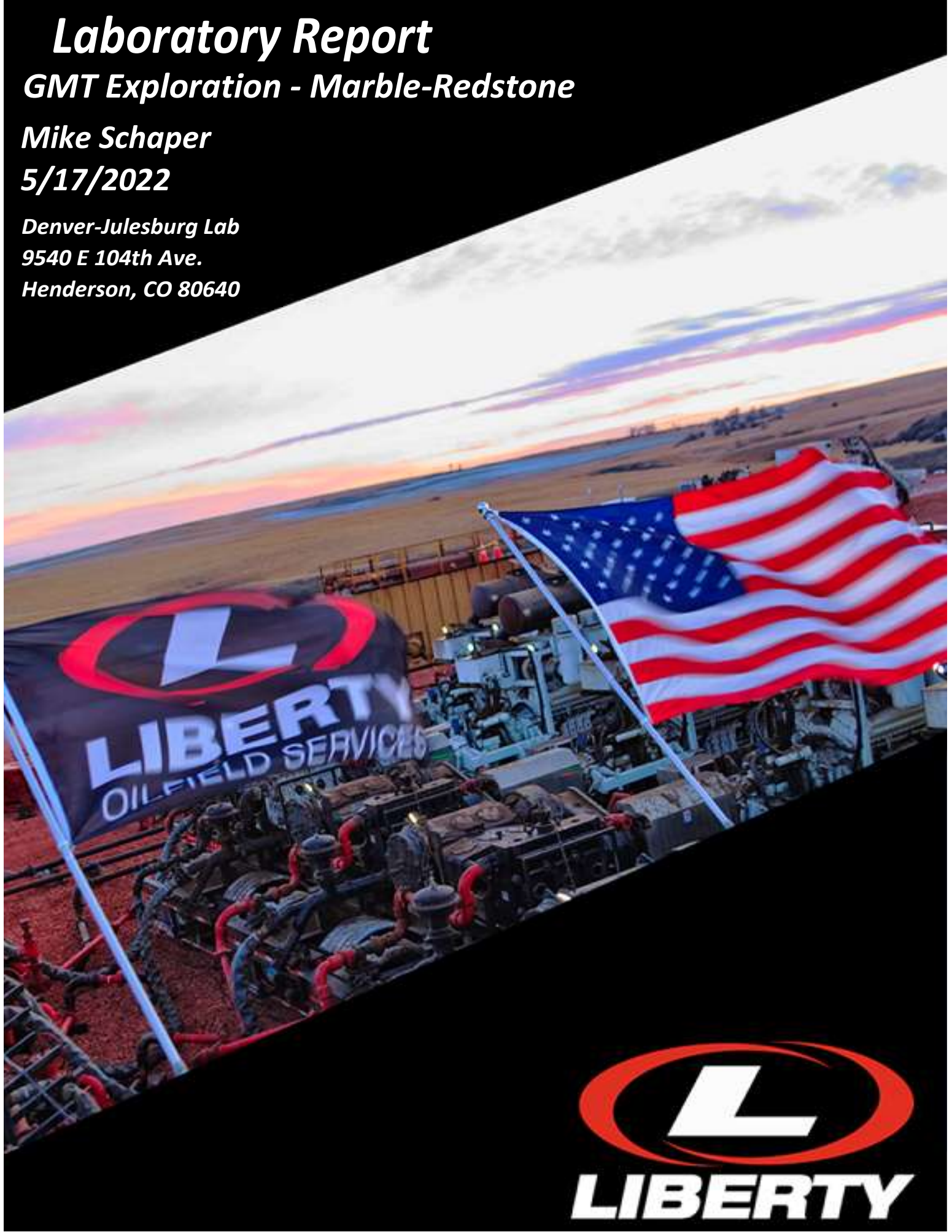
***Mike Schaper***

***5/17/2022***

***Denver-Julesburg Lab***

***9540 E 104th Ave.***

***Henderson, CO 80640***





# **GMT Exploration** **Marble-Redstone Pad** **Water Analysis**

<b>Test:</b>		<b>Untreated Source</b>
Temperature	(deg F)	68.8
Specific Gravity		1.001
pH		8.19
Sodium Na+	(mg/L)	127
Magnesium Mg 2+	(mg/L)	8
Iron Fe2+	(mg/L)	<LOD
Total Iron Fe2+ & Fe3+	(mg/L)	1
Calcium Ca 2+	(mg/L)	42
Total Hardness as CaCO3	(mg/L)	136
Chlorides CL-	(mg/L)	89
Hydroxide OH-	(mg/L)	<LOD
Carbonate CO3(2-)	(mg/L)	<LOD
Bicarbonates HCO3-	(mg/L)	268
Phosphates PO4(3-)	(mg/L)	4
Sulfates SO4(2-)	(mg/L)	60
ORP	mV	39
TDS	(mg/L)	598

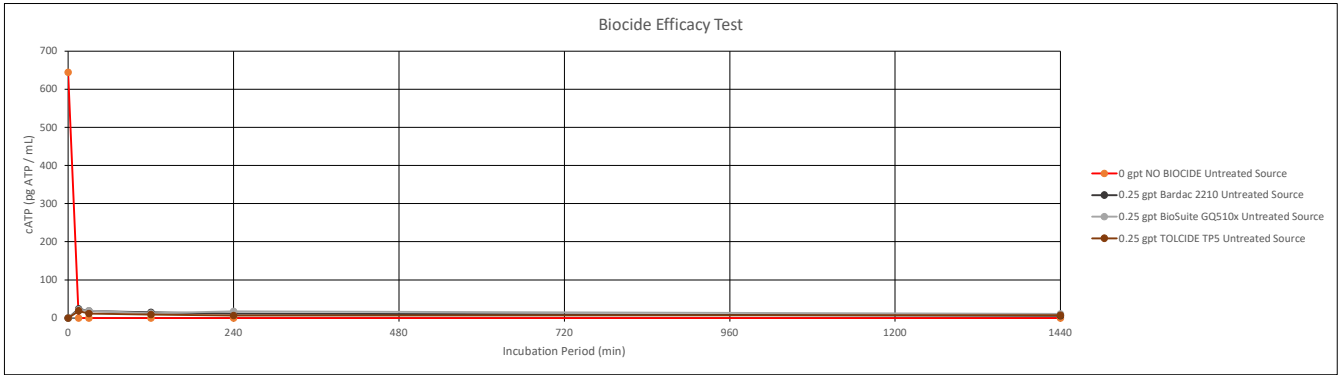
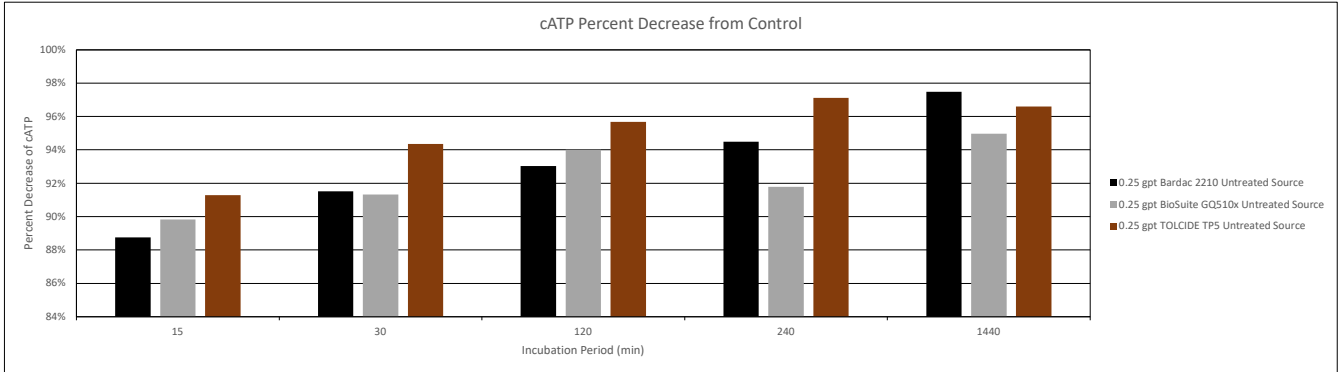
\*\*\* <LOD indicates a result less than limit of detection.





**GMT Exploration**  
**Marble-Redstone Pad**  
**Microbial Testing**

	Test Date & Time	Set Point 1	Biocide 1	Set Point 2	Biocide 2	WASampleLocation	Sample Volume	RLU <sub>UC1</sub>	RLU <sub>ATP</sub>	Incubation Period	C <sub>ATP</sub>	% CATP Decrease from Control
		gpt		gpt			mL	RLU	RLU	min	pg ATP/mL	
C Baselines: (No Biocide)	5/17/2022 7:00	0	NO BIOCIDES			Untreated Source	40	19,980	17,165	0	214.777	0.00%
										0		
										0		
										0		
										0		
										0		
1		0	NO BIOCIDES			Untreated Source	40	19980	17165	0	214.777	0.00%
		0.25	Bardac 2210			Untreated Source	40	19980	1931	15	24.162	88.75%
		0.25	Bardac 2210			Untreated Source	40	19980	1456	30	18.218	91.52%
		0.25	Bardac 2210			Untreated Source	40	19980	1197	120	14.977	93.03%
		0.25	Bardac 2210			Untreated Source	40	19980	947	240	11.849	94.48%
		0.25	Bardac 2210			Untreated Source	40	20340	441	1440	5.420	97.48%
2		0	NO BIOCIDES			Untreated Source	40	19980	17165	0	214.777	0.00%
		0.25	BioSuite GQ510x			Untreated Source	40	19980	1747	15	21.859	89.82%
		0.25	BioSuite GQ510x			Untreated Source	40	19980	1490	30	18.644	91.32%
		0.25	BioSuite GQ510x			Untreated Source	40	19980	1030	120	12.888	94.00%
		0.25	BioSuite GQ510x			Untreated Source	40	19980	1411	240	17.655	91.78%
		0.25	BioSuite GQ510x			Untreated Source	40	20340	879	1440	10.804	94.97%
3		0	NO BIOCIDES			Untreated Source	40	19980	17165	0	214.777	0.00%
		0.25	TOLCIDE TP5			Untreated Source	40	19980	1495	15	18.706	91.29%
		0.25	TOLCIDE TP5			Untreated Source	40	19980	967	30	12.100	94.37%
		0.25	TOLCIDE TP5			Untreated Source	40	19980	741	120	9.272	95.68%
		0.25	TOLCIDE TP5			Untreated Source	40	19980	494	240	6.181	97.12%
		0.25	TOLCIDE TP5			Untreated Source	40	20340	592	1440	7.276	96.61%







# GMT Exploration Marble-Redstone Pad Shear Rate Testing

## Test Specifications:

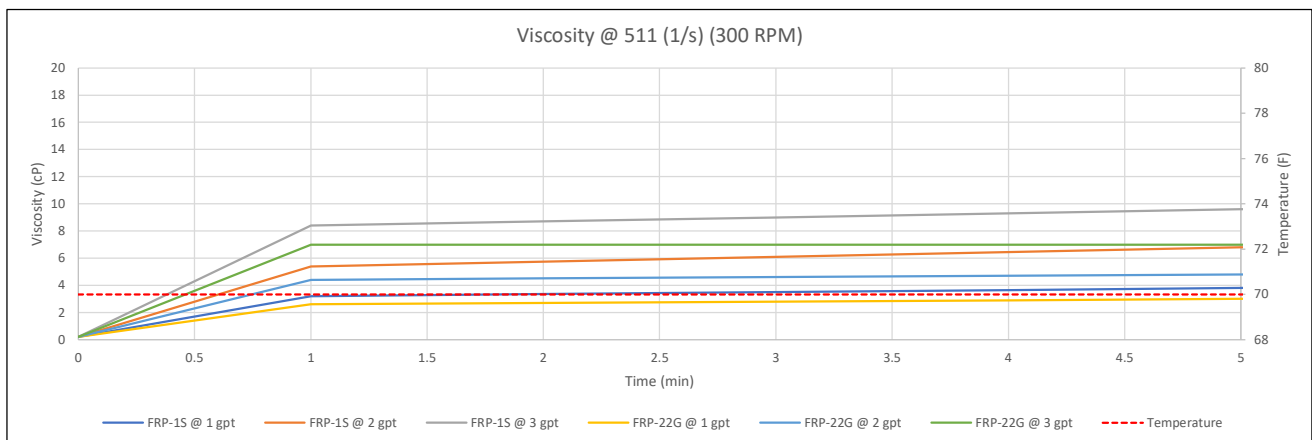
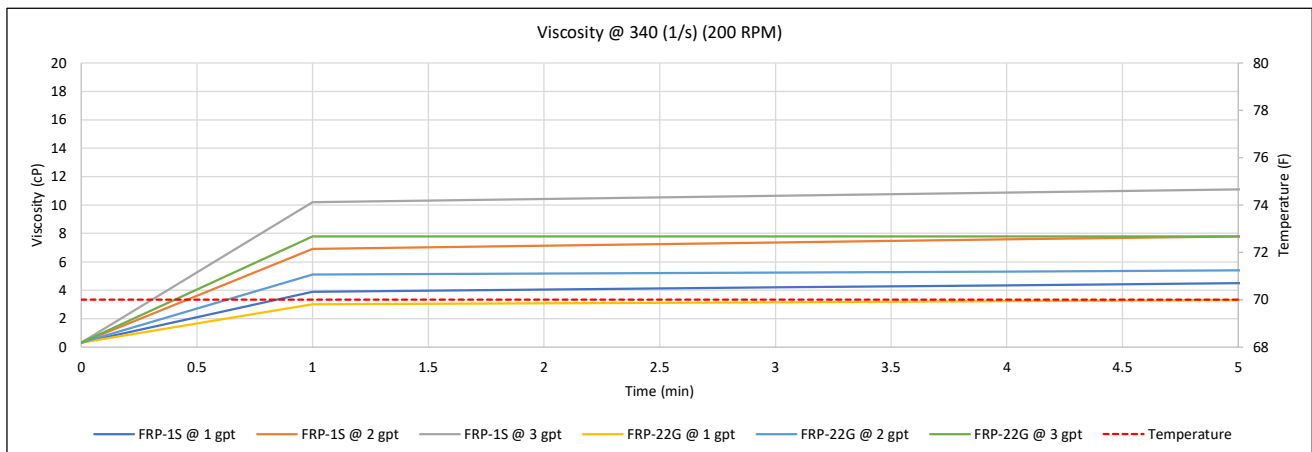
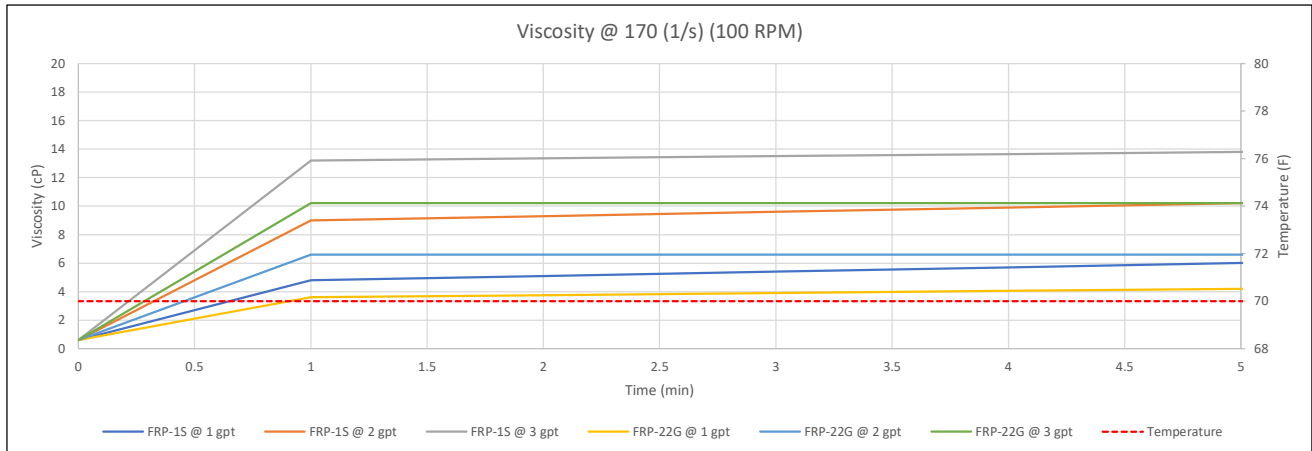
<b>Viscometer Model:</b>	Fann 35
<b>Rotor:</b>	R1
<b>Bob:</b>	B1
<b>Torsion Spring:</b>	F0.2
<b>Shear:</b>	170 s <sup>-1</sup> (100 RPM), 340 s <sup>-1</sup> (200RPM), 511 s <sup>-1</sup> (300 RPM)

Chemical	Water Source	Set Point	Temp.	Shear Rate	Viscosity: 0 Min	Viscosity: 1 Min	Viscosity: 3 Min	Viscosity: 5 Min
		GPT	(F)	(sec-1)/(RPM)	(cP)	(cP)	(cP)	(cP)
FRP-1S	Untreated Source	1.00	70.00	170s <sup>-1</sup> /100 RPM	0.6	4.8	6	6
				340s <sup>-1</sup> /200 RPM	0.3	3.9	4.5	4.5
				511s <sup>-1</sup> /300 RPM	0.2	3.2	3.8	3.8
FRP-1S	Untreated Source	2.00	70.00	170s <sup>-1</sup> /100 RPM	0.6	9	10.2	10.2
				340s <sup>-1</sup> /200 RPM	0.3	6.9	7.8	7.8
				511s <sup>-1</sup> /300 RPM	0.2	5.4	6.8	6.8
FRP-1S	Untreated Source	3.00	70.00	170s <sup>-1</sup> /100 RPM	0.6	13.2	13.8	13.8
				340s <sup>-1</sup> /200 RPM	0.3	10.2	11.1	11.1
				511s <sup>-1</sup> /300 RPM	0.2	8.4	9.6	9.6
FRP-22G	Untreated Source	1.00	70.00	170s <sup>-1</sup> /100 RPM	0.6	3.6	4.2	4.2
				340s <sup>-1</sup> /200 RPM	0.3	3	3.3	3.3
				511s <sup>-1</sup> /300 RPM	0.2	2.6	3	3
FRP-22G	Untreated Source	2.00	70.00	170s <sup>-1</sup> /100 RPM	0.6	6.6	6.6	6.6
				340s <sup>-1</sup> /200 RPM	0.3	5.1	5.4	5.4
				511s <sup>-1</sup> /300 RPM	0.2	4.4	4.8	4.8
FRP-22G	Untreated Source	3.00	70.00	170s <sup>-1</sup> /100 RPM	0.6	10.2	10.2	10.2
				340s <sup>-1</sup> /200 RPM	0.3	7.8	7.8	7.8
				511s <sup>-1</sup> /300 RPM	0.2	7	7	7
DFR-1S	Untreated Source	2.60	70.00	170s <sup>-1</sup> /100 RPM	0.6	4.8	6	6
				340s <sup>-1</sup> /200 RPM	0.3	3.9	4.5	4.5
				511s <sup>-1</sup> /300 RPM	0.2	3.2	3.8	3.8
DFR-1S	Untreated Source	5.20	70.00	170s <sup>-1</sup> /100 RPM	0.6	12	12	12
				340s <sup>-1</sup> /200 RPM	0.3	8.7	8.7	8.7
				511s <sup>-1</sup> /300 RPM	0.2	7	7	7
DFR-1S	Untreated Source	7.80	70.00	170s <sup>-1</sup> /100 RPM	0.6	14.4	15	15.6
				340s <sup>-1</sup> /200 RPM	0.3	10.5	11.7	11.7
				511s <sup>-1</sup> /300 RPM	0.2	8.6	8.6	9.2
DFR-HV8100	Untreated Source	2.60	70.00	170s <sup>-1</sup> /100 RPM	0.6	4.2	6	6
				340s <sup>-1</sup> /200 RPM	0.3	3.6	4.5	4.5
				511s <sup>-1</sup> /300 RPM	0.2	3.4	4	4
DFR-HV8100	Untreated Source	5.20	70.00	170s <sup>-1</sup> /100 RPM	0.6	5.4	10.8	10.8
				340s <sup>-1</sup> /200 RPM	0.3	4.5	8.1	8.1
				511s <sup>-1</sup> /300 RPM	0.2	4	6.8	6.8
DFR-HV8100	Untreated Source	7.80	70.00	170s <sup>-1</sup> /100 RPM	0.6	8.4	14.4	15.6
				340s <sup>-1</sup> /200 RPM	0.3	6	10.5	12
				511s <sup>-1</sup> /300 RPM	0.2	7.2	9	9.4



# GMT Exploration Marble-Redstone Pad FR Inversion Curves

## Viscosity by Shear Rate for Untreated Source: Liquid FR's





# GMT Exploration Marble-Redstone Pad FR Inversion Curves

## Viscosity by Shear Rate for Untreated Source: Dry FR's

