

# HALLIBURTON

iCem<sup>®</sup> Service

## **TEP ROCKY MOUNTAIN LLC**

**For: Terra**

Date: Monday, May 22, 2017

**Chevron TR 512-24-597 Surface**

API #05-045-23467-00

Sincerely,

**Grand Junction Cement Engineering**

## 1.0 Real-Time Job Summary

### 1.1 Job Event Log

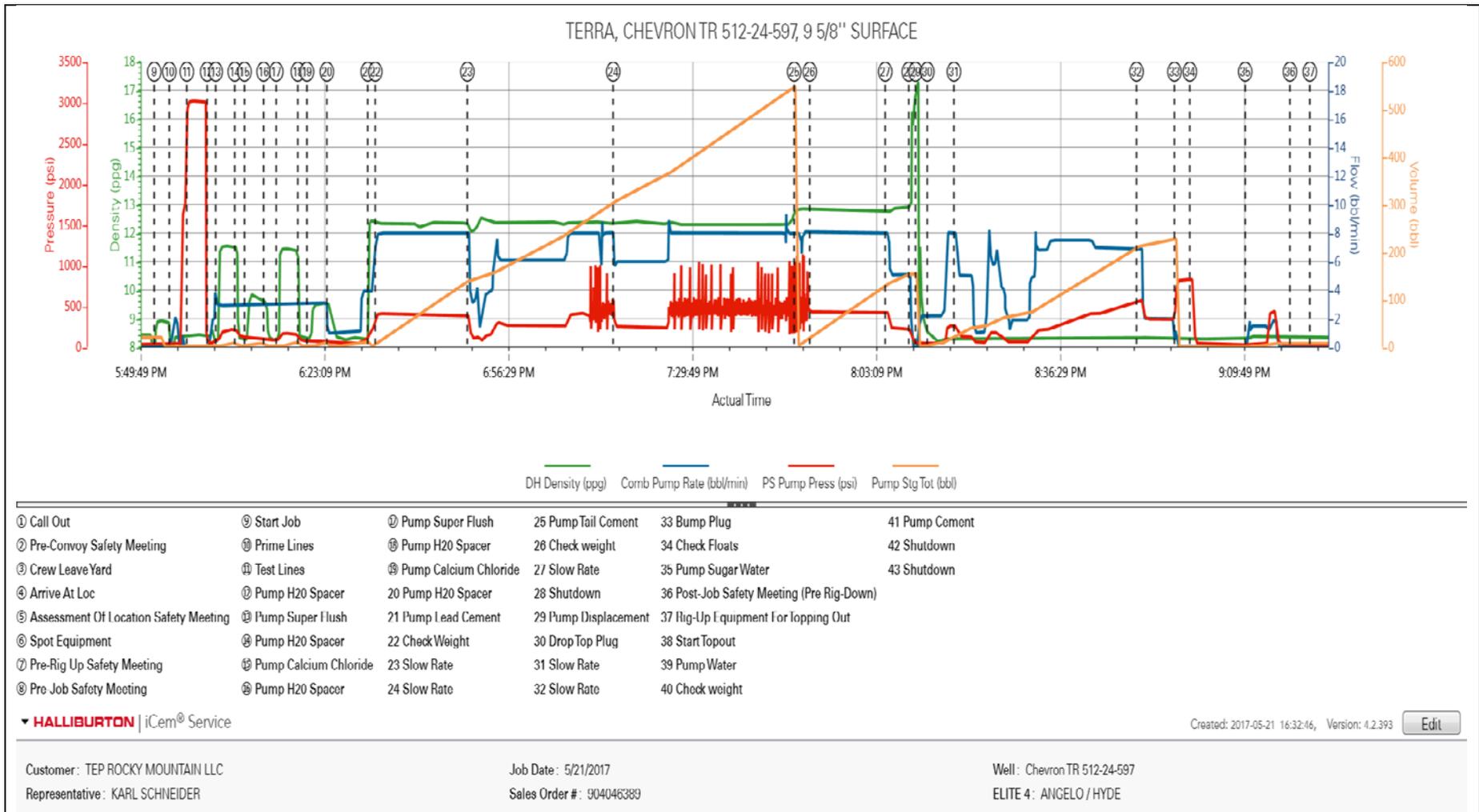
Type	Seq. No.	Graph Label	Date	Time	Source	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	PS Pump Press <i>(psi)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Call Out	5/21/2017	10:00:00	USER					REQUESTED ON LOCATION @ 16:00
Event	2	Pre-Convoy Safety Meeting	5/21/2017	11:45:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	5/21/2017	12:00:00	USER					1 HT 400 PUMP TRUCK E4, 1 SUPERFLUSH TRANSPORT, 1 660 BULK TRUCK, 1 450 SERVICE PICKUP
Event	4	Arrive At Loc	5/21/2017	15:00:00	USER					RIG RUNNING CASING UPON HES ARRIVAL
Event	5	Assessment Of Location Safety Meeting	5/21/2017	15:30:00	USER					MET WITH COMP REP, AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7, CHLORIDES- 0, TEMP- 55F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Spot Equipment	5/21/2017	15:45:00	USER					1 HT 400 PUMP TRUCK E4, 1 SUPERFLUSH TRANSPORT, 1 660 BULK TRUCK, 1 450 SERVICE PICKUP
Event	7	Pre-Rig Up Safety Meeting	5/21/2017	16:45:00	USER					ALL HES PRESENT
Event	8	Pre-Job Safety Meeting	5/21/2017	17:45:00	USER					ALL HES EMPLOYEES AND RIG CREW PRESENT, RIG CIRCULATED @ 10.7 BPM WITH 190 PSI
Event	9	Start Job	5/21/2017	17:52:38	USER					TD 3030', TP 3030' OF 9 5/8" (36#- 1,246', 40#-1757') J-55 SURFACE CSG, SJ 32", OH 14 3/4", MUD 9.2 PPG
Event	10	Prime Lines	5/21/2017	17:55:22	USER	8.33	2.0	55	2	FRESH WATER
Event	11	Test Lines	5/21/2017	17:58:32	COM5			3015		PRESSURE HELD
Event	12	Pump H2O Spacer	5/21/2017	18:02:14	USER	8.33	3.0	190	5	5 BBLS FRESH WATER
Event	13	Pump Super Flush	5/21/2017	18:03:47	COM5	11.6	3.0	217	10	10 BBLS SUPER FLUSH
Event	14	Pump H2O Spacer	5/21/2017	18:07:14	COM5	8.33	3.0	122	5	5 BBLS FRESH WATER

Event	15	Pump Calcium Chloride	5/21/2017	18:09:00	COM5	9.6	3.0	115	10	FRESH WATER WITH 500 LBS (10 SKS) CALCIUM CHLORIDE
Event	16	Pump H2O Spacer	5/21/2017	18:12:28	COM5	8.33	3.0	88	5	5 BBLS FRESH WATER
Event	17	Pump Super Flush	5/21/2017	18:14:45	COM5	11.6	3.0	168	10	10 BBLS SUPER FLUSH
Event	18	Pump H2O Spacer	5/21/2017	18:18:40	COM5	8.33	3.0	90	5	5 BBLS FRESH WATER
Event	19	Pump Calcium Chloride	5/21/2017	18:20:19	COM5	9.6	3.0	80	10	FRESH WATER WITH 500 LBS (10 SKS) CALCIUM CHLORIDE
Event	20	Pump H2O Spacer	5/21/2017	18:23:56	COM5	8.33	4.0	99	10	10 BBLS FRESH WATER
Event	21	Pump Lead Cement	5/21/2017	18:31:20	COM5	12.3	8.0	500	498	1175 SKS VARICEM CMT 12.3 PPG, 2.38 FT3/SK, 13.76 GAL/SK WITH 4 BOXES TUFFIBER
Event	22	Check Weight	5/21/2017	18:32:42	USER					WEIGHT VERIFIED VIA PRISSEREIZED MUD SCALES
Event	23	Slow Rate	5/21/2017	18:49:23	USER					SLOWED DUE TO POOR BULK DELIVERY
Event	24	Slow Rate	5/21/2017	19:15:49	USER					SLOWED TO END SILO
Event	25	Pump Tail Cement	5/21/2017	19:48:37	COM5	12.8	8.0	450	130	345 SKS VARICEM CMT 12.8 PPG, 2.11 FT3/SK, 11.78 GAL/SK
Event	26	Check weight	5/21/2017	19:51:26	COM5					WEIGHT VERIFIED VIA PRISSEREIZED MUD SCALES
Event	27	Slow Rate	5/21/2017	20:05:07	USER					SLOWED TO END SILO
Event	28	Shutdown	5/21/2017	20:09:23	COM5					END OF CMT
Event	29	Pump Displacement	5/21/2017	20:10:36	COM5	8.33	7.5	420	220	FRESH WATER
Event	30	Drop Top Plug	5/21/2017	20:12:44	USER					VERIFIED BY FLAG INDICATOR
Event	31	Slow Rate	5/21/2017	20:17:34	USER					SLOWED DUE TO WATER DELIVERY ISSUES
Event	32	Slow Rate	5/21/2017	20:50:40	USER	8.33	2.0	350	10	SLOWED TO BUMP PLUG
Event	33	Bump Plug	5/21/2017	20:57:32	COM5	8.33	2.0	350	230	PLUG BUMPED
Event	34	Check Floats	5/21/2017	21:00:19	USER			820		FLOATS HELD 1 BBL FLOWBACK
Event	35	Pump Sugar Water	5/21/2017	21:10:22	COM5	8.33	1.5	420	10	PUMPED 10 BBLS FRESH WATERWITH 10 LBS SUGAR

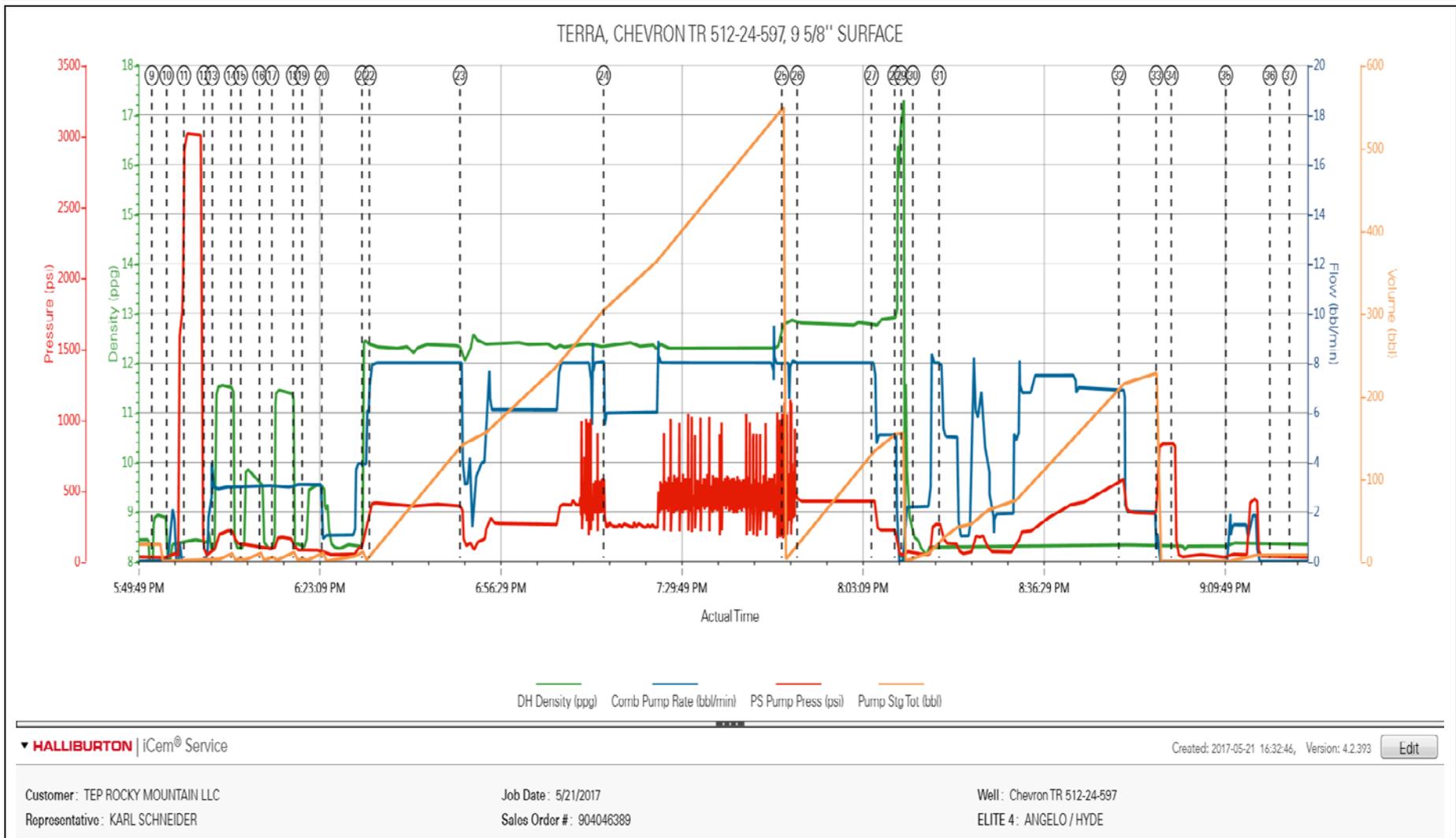
THROUGH PARASITE LINE										
Event	36	Post-Job Safety Meeting (Pre Rig-Down)	5/21/2017	21:18:28	USER					HES CREW RIGGING DOWN IRON AND FLOOR
Event	37	Rig-Up Equipment For Topping Out	5/21/2017	21:22:05	USER					HES CREW RIGGED UP INTO CELLUR FOR TOPOUT
Event	38	Start Topout	5/21/2017	22:32:29	USER					
Event	39	Pump Water	5/21/2017	22:33:39	USER					PUMPED 1 BBL TO CHECK FLOW
WEIGHT VERIFIED VIA PRISSEREIZED MUD SCALES										
Event	40	Check weight	5/21/2017	22:47:25	COM5					
Event	41	Pump Cement	5/21/2017	22:49:07	COM5	15.6	2.0	0	69	15.6 PPG, 1.19 YIELD, 5.24 GAL/SK. USED 326 SKS, 5 BAGS CALCIUM CHLORIDE, 10 BBL SUPERFLUSH
Event	42	Shutdown	5/21/2017	22:59:55	USER					CEMENT KEPT FALLING. SHUTING DOWN AND RESUMED PUMPING
Event	43	Shutdown	5/21/2017	23:48:51	USER					WAIT FOR CEMENT TO FINISH FALLING. THEN WILL RESUME PUMPING
Event	44	Start Topout #2	5/22/2017	01:19:58	USER					
Event	45	Pump Cement	5/22/2017	01:20:12	COM5	9.11	2.00	33.00	0.5	15.6 PPG, 1.19 YIELD, 5.24 GAL/SK. USED 57 SKS, 3 BBL SUPERFLUSH
Event	46	Check weight	5/22/2017	01:20:28	COM5					WEIGHT VERIFIED VIA PRISSEREIZED MUD SCALES
Event	47	Shutdown	5/22/2017	01:33:50	USER					
Event	48	End Job	5/22/2017	01:33:58	USER	2.35	0.00	31.00	3.8	TOPOUT #1 326 SKS, 10 BBL SUPERFLUSH, 5 BAGS CALCIUM CHLORIDE TOPOUT #2 3 BBL SUPERFLUSH, 57 SKS. USED 40 LBS SUGAR TOTAL
Event	49	Pre-Rig Down Safety Meeting	5/22/2017	01:45:00	USER					ALL HES PRESENT
Event	50	Pre-Convoy Safety Meeting	5/22/2017	03:45:00	USER					ALL HES PRESENT
Event	51	Crew Leave Location	5/22/2017	04:00:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, DUSTIN HYDE AND CREW

2.0 Attachments

2.1 JOB CHART WITH EVENTS.png

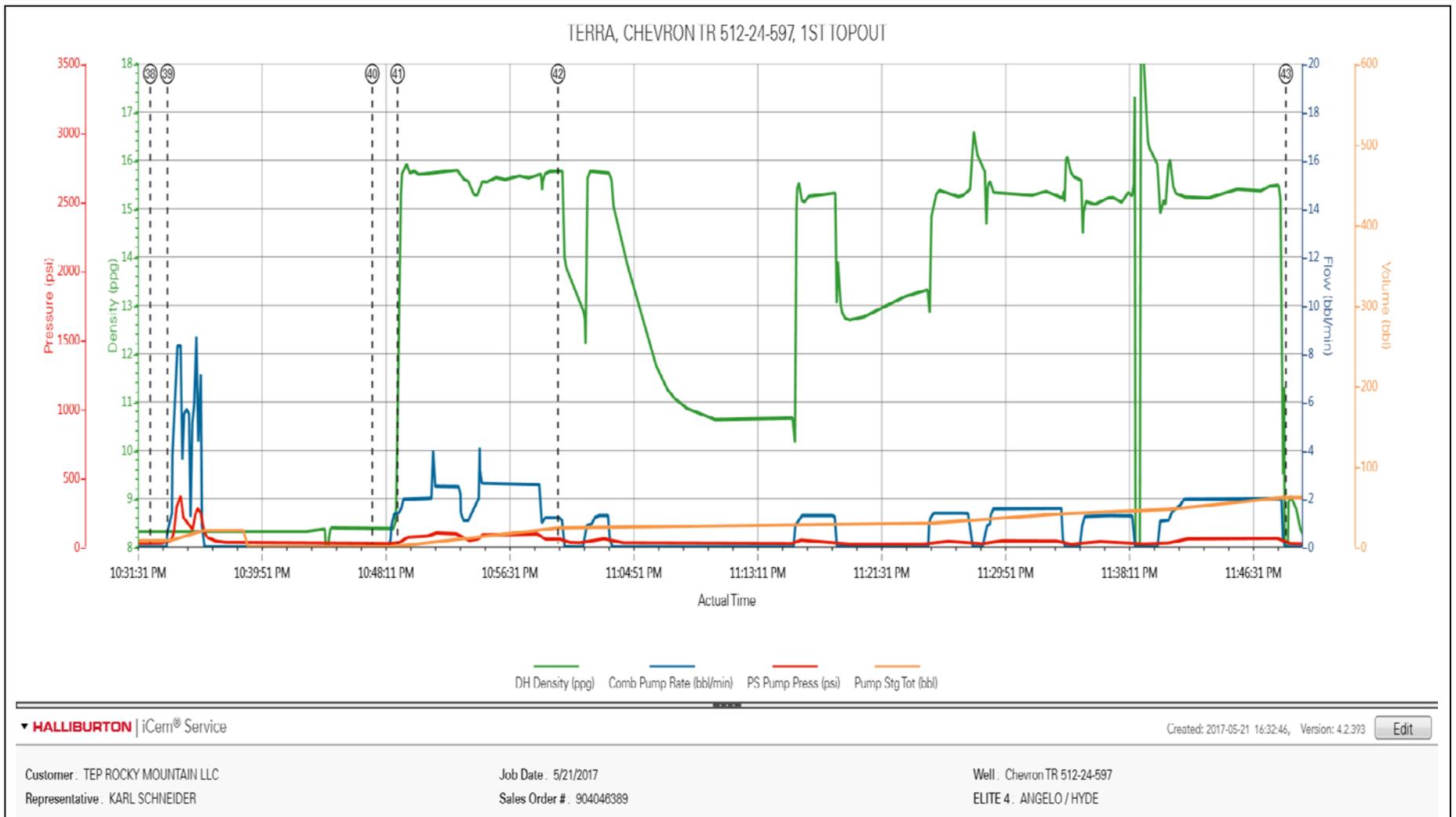


2.2 JOB CHART WITHOUT EVENTS.png

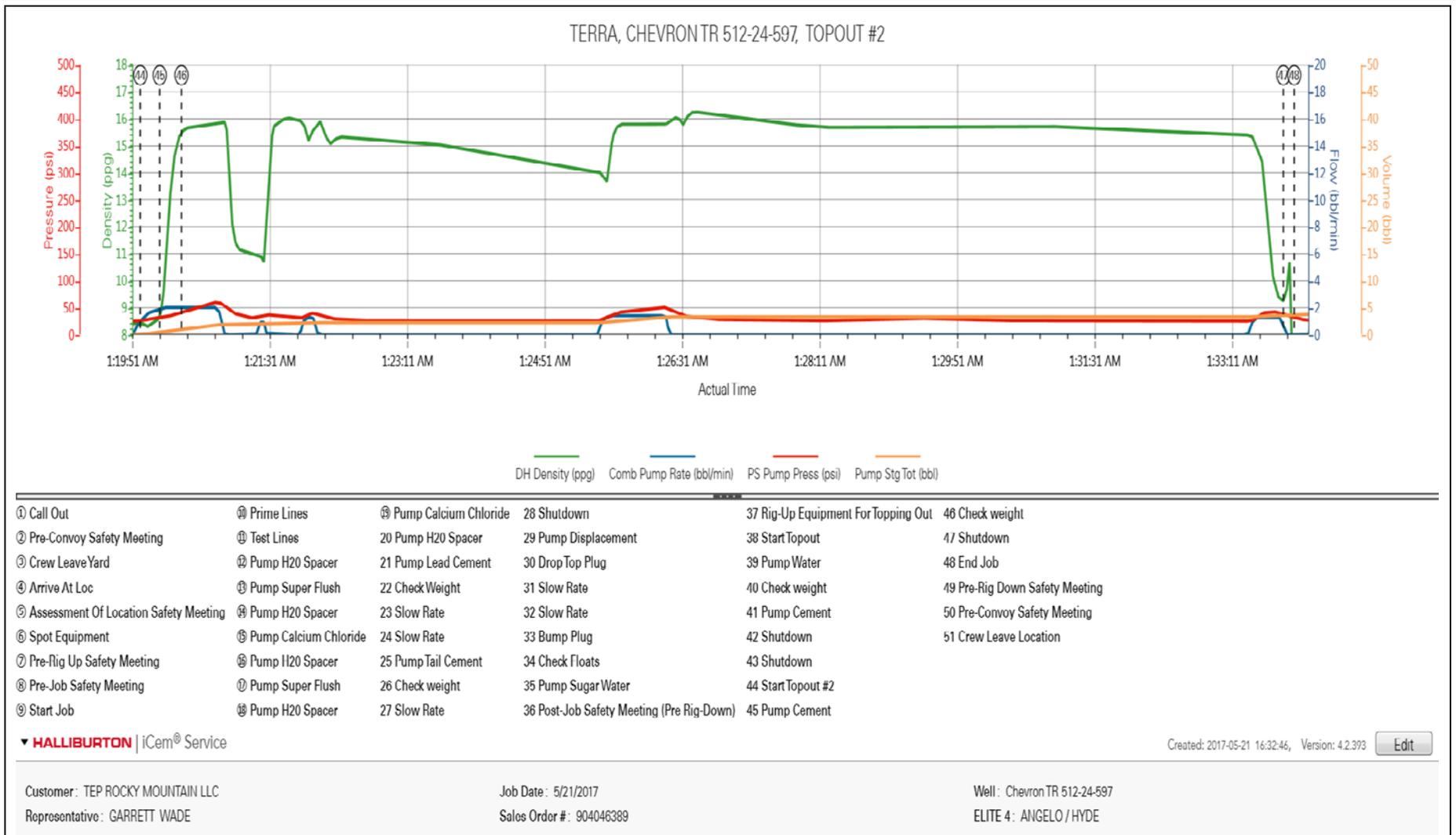




2.4 TOPOUT #1 CHART WITHOUT EVENTS.png



2.5 TOPOUT #2 CHART WITH EVENTS.png



2.6 TOPOUT #2 CHART WITH EVENTS.png

