

# HALLIBURTON

iCem<sup>®</sup> Service

**TERRA ENERGY LTD.**

**For: Terra**

Date: Sunday, June 04, 2017

**TR 323-23-597 Surface**

API# 05-045-23466-00

Sincerely,

Grand Junction Cement Engineering

## 1.0 Real-Time Job Summary

## 1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	Pass-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Pump Stage Total (bbl)	Comments
Event	1	Call Out	6/3/2017	18:30:00	USER					REQUESTED ON LOCATION @ 0030
Event	2	Pre-Convoy Safety Meeting	6/3/2017	20:30:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	6/3/2017	20:40:00	USER					1 F550, 1 PUMP TRUCK, 1 660 BULK TURCK & A SUPER FLUSH TRANSPORT
Event	4	Arrive At Loc	6/4/2017	00:30:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	6/4/2017	00:45:00	USER					MET WITH COMP REP, CURT, AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7, CHLORIDES- 0, TEMP- 59F). COMP REP WAS OFFERED SDS FOR ALL CHEMICALS USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	6/4/2017	01:00:00	USER					ALL HES PRESENT
Event	7	Rig-Up Equipment	6/4/2017	01:10:00	USER					HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.
Event	8	Pre-Job Safety Meeting	6/4/2017	03:35:00	USER					ALL HES AND RIG CREW PRESENT
Event	9	Start Job	6/4/2017	04:01:11	USER					TD 3000', TP 3000', SJ 29.73" OH 14.75", CSG 9.625" 40#, MUD 9.2 PPG. RIG CLEARED CASING CAPACITY (225 BBL) AND TURNED OVER TO HES.
Event	10	Prime Pumps	6/4/2017	04:02:28	COM6	29.00	8.28	1.80	0.6	8.33 PPG FRESH WATER
Event	11	Test Lines	6/4/2017	04:06:57	COM6	2646.00	8.32	0.00	2.1	ALL LINES HELD PRESSURE AT 2646 PSI
Event	12	Pump Spacer 1	6/4/2017	04:11:48	COM6	26.00	8.30	0.00	2.1	8.33 PPG FRESH WATER (5BBL)
Event	13	Pump Spacer 2	6/4/2017	04:13:34	COM6	76.00	8.29	4.00	0.0	11.7 PPG SUPER FLUSH 100 (10BBL)
Event	14	Pump Spacer 1	6/4/2017	04:16:07	COM6	169.00	11.73	4.00	0.0	8.33 PPG FRESH WATER (5BBL)

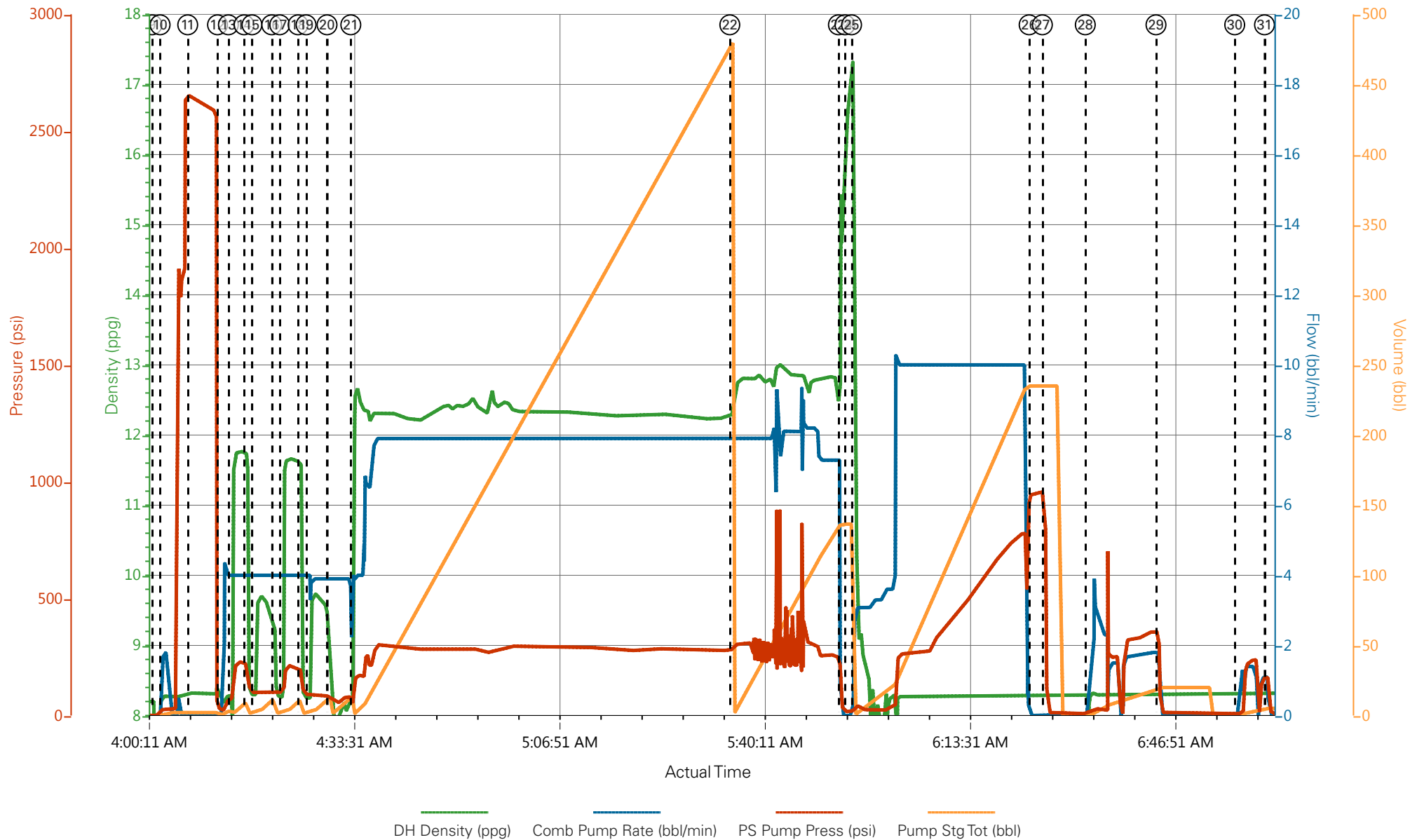
Event	15	Pump Spacer 3	6/4/2017	04:17:24	COM6	97.00	8.29	4.00	5.2	9 PPG CALCIUM CHLORIDE WATER (10BBL)
Event	16	Pump Spacer 1	6/4/2017	04:20:36	COM6	101.00	9.20	4.00	12.8	8.33 PPG FRESH WATER (5BBL)
Event	17	Pump Spacer 2	6/4/2017	04:21:54	COM6	100.00	8.26	4.00	0.0	11.7 PPG SUPER FLUSH 100 (10BBL)
Event	18	Pump Spacer 1	6/4/2017	04:24:53	COM6	137.00	11.39	4.00	0.0	8.33 PPG FRESH WATER (5BBL)
Event	19	Pump Spacer 3	6/4/2017	04:26:11	COM6	89.00	8.24	4.00	0.0	9 PPG CALCIUM CHLORIDE WATER (10BBL)
Event	20	Pump Spacer 1	6/4/2017	04:29:35	COM6	70.00	8.42	3.90	0.0	8.33 PPG FRESH WATER (10BBL)
Event	21	Pump Lead Cement	6/4/2017	04:33:26	COM6	102.00	11.27	3.90	1.1	VARICEM CEMENT 1040 SKS (441 BBLs), 12.3 PPG, 2.38 FT3/SK, 13.77 GAL/SK
Event	22	Pump Tail Cement	6/4/2017	05:34:59	COM6	286.00	12.37	7.90	0.1	VARICEM CEMENT 340 SKS (128 BBLs), 12.8 PPG, 2.11 FT3/SK, 11.78 GAL/SK.
Event	23	Shutdown	6/4/2017	05:52:37	COM6					END OF CEMENT
Event	24	Drop Plug	6/4/2017	05:53:41	COM6					WASH UP PUMPS AND LINES ON TOP OF PLUG
Event	25	Pump Displacement	6/4/2017	05:54:45	COM6	50.00	12.36	3.00	0.4	8.34 PPG FRESH WATER (225.2 BBLs), BBL COUNTER AND TANKS WERE OFF AND THE FLOW METER WAS USED TO CALCULATE VOLUME.
Event	26	Bump Plug	6/4/2017	06:23:35	COM6	953.00	8.30	0.00	235.0	LAND PLUG AT 330 PSI, BROUGHT UP TO 953 PSI
Event	27	Check Floats	6/4/2017	06:25:44	COM6	451.00	8.31	0.00	235.0	FLOATS HELD, .75 BBL BACK TO TRUCK
Event	28	Circulate Well	6/4/2017	06:32:42	COM6	15.00	7.85	1.10	0.1	8.33 PPG, SUGAR H2O (20 BBL), CLEAR PARASITE. CO REP CONCERNED ABOUT PARASITE STING BEING SEPERATED. PUPED AN EXTRA 10 BBL.
Event	29	Shutdown	6/4/2017	06:44:11	COM6					END PUMPING THROUGH PARASITE
Event	30	Circulate Well	6/4/2017	06:56:58	COM6	7.00	8.31	0.90	0.0	8.33 PPG, SUGAR H2O (20 BBL), CLEAR PARASITE. CO REP CONCERNED ABOUT PARASITE STING BEING SEPERATED. HES FILLS LINES AND PUMPS 1 BBL IN AND 1 BBL IS RECIEVED AT RIG FLOOR.
Event	31	Shutdown	6/4/2017	07:01:48	USER					END PUMPING THROUGH PARASITE
Event	32	Pump Spacer 1	6/4/2017	08:39:25	COM6	14.00	7.84	0.90	0.5	11.7 PPG SUPER FLUSH 100 (10BBL)
Event	33	Pump Cement	6/4/2017	08:49:48	COM6	67.00	15.68	2.50	0.6	TOP OUT CEMENT 200 SKS (41 BBLs), 15.6 PPG, 1.19 FT3/SK, 5.24 GAL/SK

Event    34    End Job                    6/4/2017    09:14:39    COM6

---

NO RETURNS DURING THE JOB, PIPE WAS NOT  
RECIPROCATED , 0 BBL OF SPACER OR CEMENT BACK TO  
SURFACE.

# TEP - TR 323-23-597 - 9.625" SURFACE



- |   |   |                               |                                 |                                 |
|---|---|-------------------------------|---------------------------------|---------------------------------|
| ① Call Out n/a;n/a;n/a;n/a                  | ⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a | ⑨ Start Job 1.8;0;-1;0        | ⑬ Pump Spacer 2 8.29;4;72;0.1   | ⑰ Pump Spacer 2 8.26;4;101;0.1  |
| ② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a | ⑥ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a             | ⑩ Prime Pumps 8.28;1.8;29;0.6 | ⑭ Pump Spacer 1 11.65;4;174;0.1 | ⑱ Pump Spacer 1 11.35;4;138;0.1 |
| ③ Crew Leave Yard n/a;n/a;n/a;n/a           | ⑦ Rig-Up Equipment n/a;n/a;n/a;n/a                      | ⑪ Test Lines 8.32;0;2645;2.1  | ⑮ Pump Spacer 3 8.29;4;95;0.1   | ⑲ Pump Spacer 3 8.24;4;89;0.1   |
| ④ Arrive At Loc n/a;n/a;n/a;n/a             | ⑧ Pre-Job Safety Meeting 8.2;0;-1;0                     | ⑫ Pump Spacer 1 8.3;0;26;0    | ⑯ Pump Spacer 1 9.17;4;101;0.1  | ⑳ Pump Spacer 1 8.4;3.9;71;0.1  |

▼ **HALLIBURTON** | iCem® Service

Created: 2017-06-04 03:04:43, Version: 4.2.393

Edit

Customer : TERRA ENERGY LTD.

Job Date : 6/4/2017 3:05:34 AM

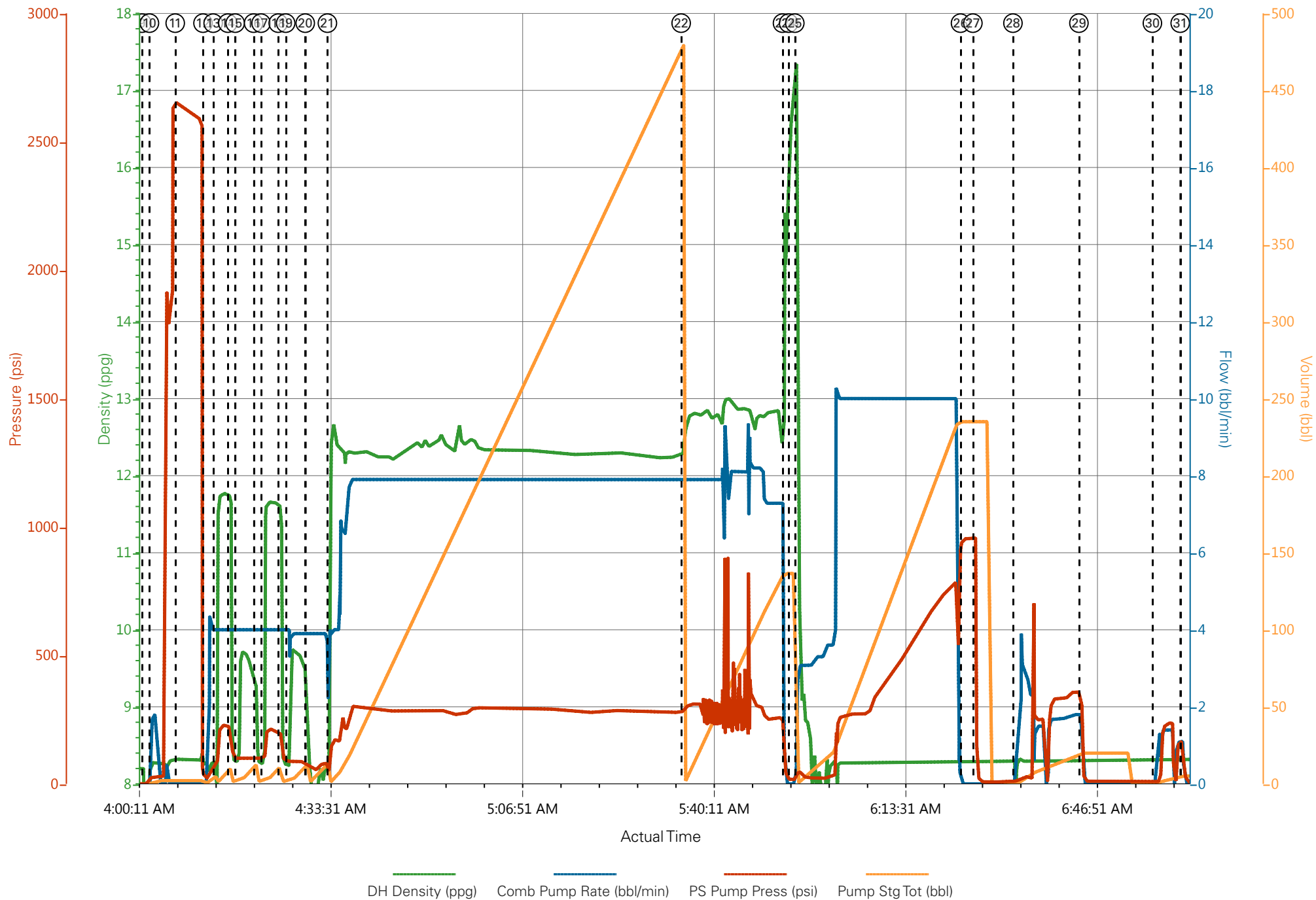
Well : TR 323-23-597

Representative : CURT

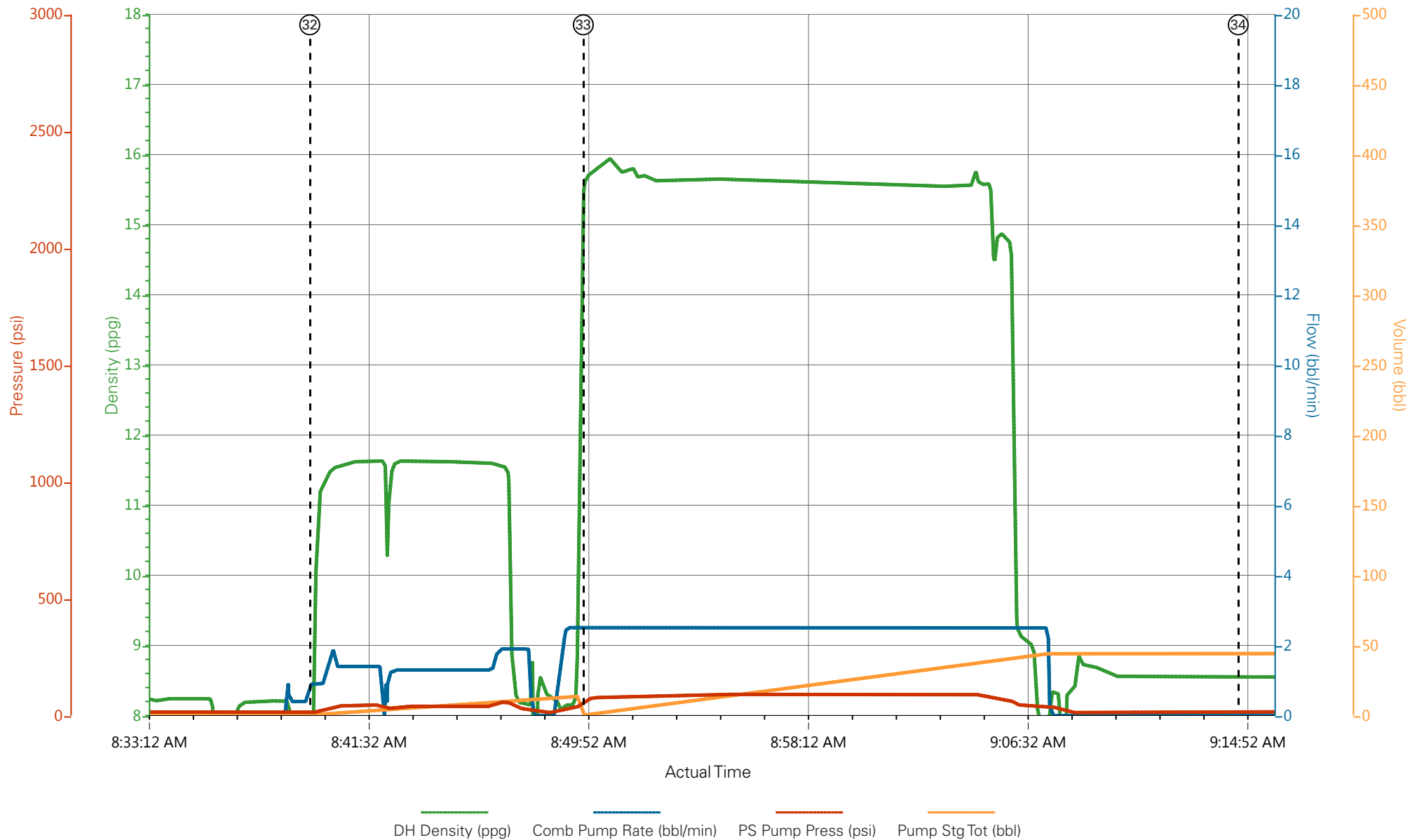
Sales Order # : 904079533

ELITE 4 : C.SMITH/A.ANDREWS

# TEP - TR 323-23-597 - 9.625" SURFACE



# TEP - TR 323-23-597 - 9.625" SURFACE



① Call Out n/a;n/a;n/a;n/a	⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a	⑨ Start Job 1.8;0;-1;0	⑬ Pump Spacer 2 8.29;4;72;0.1	⑰ Pump Spacer 2 8.26;4;101;0.1
② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a	⑥ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a	⑩ Prime Pumps 8.28;1.8;29;0.6	⑭ Pump Spacer 1 11.65;4;174;0.1	⑱ Pump Spacer 1 11.35;4;138;0.1
③ Crew Leave Yard n/a;n/a;n/a;n/a	⑦ Rig-Up Equipment n/a;n/a;n/a;n/a	⑪ Test Lines 8.32;0;2645;2.1	⑮ Pump Spacer 3 8.29;4;95;0.1	⑲ Pump Spacer 3 8.24;4;89;0.1
④ Arrive At Loc n/a;n/a;n/a;n/a	⑧ Pre-Job Safety Meeting 8.2;0;-1;0	⑫ Pump Spacer 1 8.3;0;26;0	⑯ Pump Spacer 1 9.17;4;101;0.1	⑳ Pump Spacer 1 8.4;3.9;71;0.1

▼ HALLIBURTON | iCem® Service

Created: 2017-06-04 03:04:43, Version: 4.2.393

Edit

Customer : TERRA ENERGY LTD.  
Representative : CURT

Job Date : 6/4/2017 3:05:34 AM  
Sales Order # : 904079533

Well : TR 323-23-597  
ELITE 4 : C.SMITH/A.ANDREWS

# TEP - TR 323-23-597 - 9.625" SURFACE

