

# HALLIBURTON

iCem<sup>®</sup> Service

**TERRA ENERGY LTD.**

**For: Terra**

Date: Sunday, March 11, 2018

**RU 23-17 Surface**

API#05-045-23739

Sincerely,

**Grand Junction Cement Engineering**

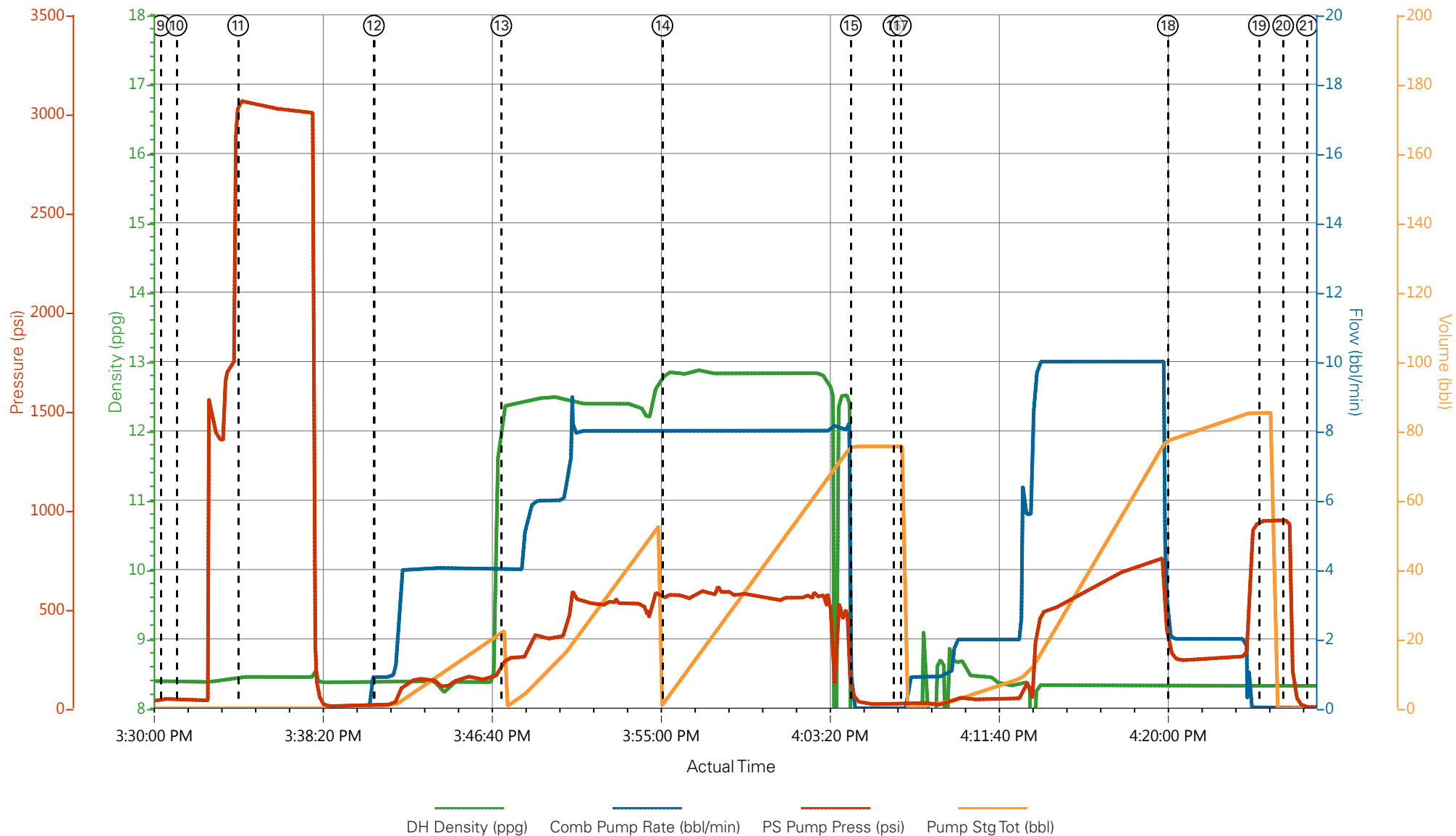
## 1.0 Real-Time Job Summary

## 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	3/11/2018	07:30:00	USER					REQUESTED ON LOCATION @ 1400
Event	2	Pre-Convoy Safety Meeting	3/11/2018	10:00:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	3/11/2018	10:05:00	USER					1 F550, 1 PUMP TRUCK & 1 660 BULK TURCK
Event	4	Arrive At Loc	3/11/2018	12:00:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	3/11/2018	12:20:00	USER					MET WITH COMP REP AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7, CHLORIDES- 100, TEMP- 61F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	3/11/2018	12:30:00	USER					ALL HES AND RIG CREW PRESENT
Event	7	Rig-Up Equipment	3/11/2018	12:35:00	USER					ALL HES PRESENT
Event	8	Pre-Job Safety Meeting	3/11/2018	14:57:26	USER					HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.
Event	9	Start Job	3/11/2018	15:30:30	COM3					TD 1102', TP 1105', SJ 46.1', OH 13.5", CSG 9.625" 32.3#, MUD 9.4 PPG. RIG CIRCULATED WELL AT 400 GPM, 250 PSI.
Event	10	Prime Pumps	3/11/2018	15:31:16	COM3	44.00	8.38	1.00	2.0	8.33 PPG FRESH WATER
Event	11	Test Lines	3/11/2018	15:34:19	COM3	3068.00	8.36	0.50	0.5	ALL LINES HELD PRESSURE AT 3068 PSI
Event	12	Pump Spacer 1	3/11/2018	15:41:00	COM3	217.00	8.38	4.00	20.3	8.33 PPG FRESH WATER (20 BBL)
Event	13	Pump Lead Cement	3/11/2018	15:47:17	COM3	539.00	12.35	8.00	53.0	VARICEM CEMENT 125 SKS (53 BBLS), 12.3 PPG, 2.38 FT3/SK, 13.77 GAL/SK
Event	14	Pump Tail Cement	3/11/2018	15:55:14	COM3	550.00	12.82	8.00	66.3	VARICEM CEMENT 175 SKS (66 BBLS), 12.8 PPG, 2.11 FT3/SK, 11.78 GAL/SK.

Event	15	Shutdown	3/11/2018	16:04:31	USER					END OF CEMENT
Event	16	Drop Top Plug	3/11/2018	16:06:37	USER					PLUG WENT, VERIFIED BY CO REP
Event	17	Pump Displacement	3/11/2018	16:06:59	COM3	760.00	8.33	10.00	73.4	8.34 PPG FRESH WATER (83.4 BBLs)
Event	18	Slow Rate	3/11/2018	16:20:09	USER	350.00	8.33	2.00	10.0	SLOW RATE TO 2 BPM PER CO REP TO LAND PLUG
Event	19	Bump Plug	3/11/2018	16:24:39	COM3	945.00	8.34	2.00	83.4	LAND PLUG AT 350 PSI, BROUGHT UP TO 948 PSI
Event	20	Check Floats	3/11/2018	16:25:50	USER	948.00	8.34	0.00	83.4	FLOATS HELD, 1 BBL BACK TO TRUCK
Event	21	End Job	3/11/2018	16:27:01	COM3	5.00	8.32	0.00	0.0	RETURNS THROUGHOUT JOB, 15 BBL OF CEMENT BACK TO SURFACE
Event	22	Bump Plug	3/11/2018	16:33:00	USER	4.00	7.66	0.00	0.0	LAND PLUG AT 225 PSI, BROUGHT UP TO 878 PSI
Event	23	Post-Job Safety Meeting (Pre Rig-Down)	3/11/2018	16:55:00	USER					ALL HES PRESENT
Event	24	Rig-Down Equipment	3/11/2018	17:00:00	USER					ALL HES PRESENT
Event	25	Pre-Convoy Safety Meeting	3/11/2018	17:30:00	USER					ALL HES PRESENT
Event	26	Crew Leave Location	3/11/2018	17:40:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, CHRIS SMITH AND CREW

# TEP - RU 23-17 - 9.625" SURFACE



- |   |                          |                     |   |                              |
|---|--------------------------|---------------------|---|------------------------------|
| ① Call Out                              | ⑦ Rig-Up Equipment       | ⑬ Pump Lead Cement  | ⑰ Bump Plug                               | 25 Pre-Convoy Safety Meeting |
| ② Pre-Convoy Safety Meeting             | ⑧ Pre-Job Safety Meeting | ⑭ Pump Tail Cement  | 20 Check Floats                           | 26 Crew Leave Location       |
| ③ Crew Leave Yard                       | ⑨ Start Job              | ⑮ Shutdown          | 21 End Job                                |                              |
| ④ Arrive At Loc                         | ⑩ Prime Pumps            | ⑯ Drop Top Plug     | 22 Bump Plug                              |                              |
| ⑤ Assessment Of Location Safety Meeting | ⑪ Test Lines             | ⑰ Pump Displacement | 23 Post-Job Safety Meeting (Pre Rig-Down) |                              |
| ⑥ Pre-Rig Up Safety Meeting             | ⑫ Pump Spacer 1          | ⑱ Slow Rate         | 24 Rig-Down Equipment                     |                              |

▼ **HALLIBURTON** | iCem® Service

Created: 2018-03-11 13:55:21, Version: 4.2.393

Edit

Customer : TERRA ENERGY LTD.  
Representative : DARELLE

Job Date : 3/11/2018  
Sales Order # : 904692586

Well : RU 23-17  
ELITE 4 : C.SMITH/S.LEWIS

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