

# HALLIBURTON

iCem<sup>®</sup> Service

## **TEP ROCKY MOUNTAIN LLC**

**For: Terra**

Date: Thursday, September 14, 2017

**GM 532-5 Surface**

API # 05-045-23505-00

Sincerely,

**Grand Junction Cement Engineering**

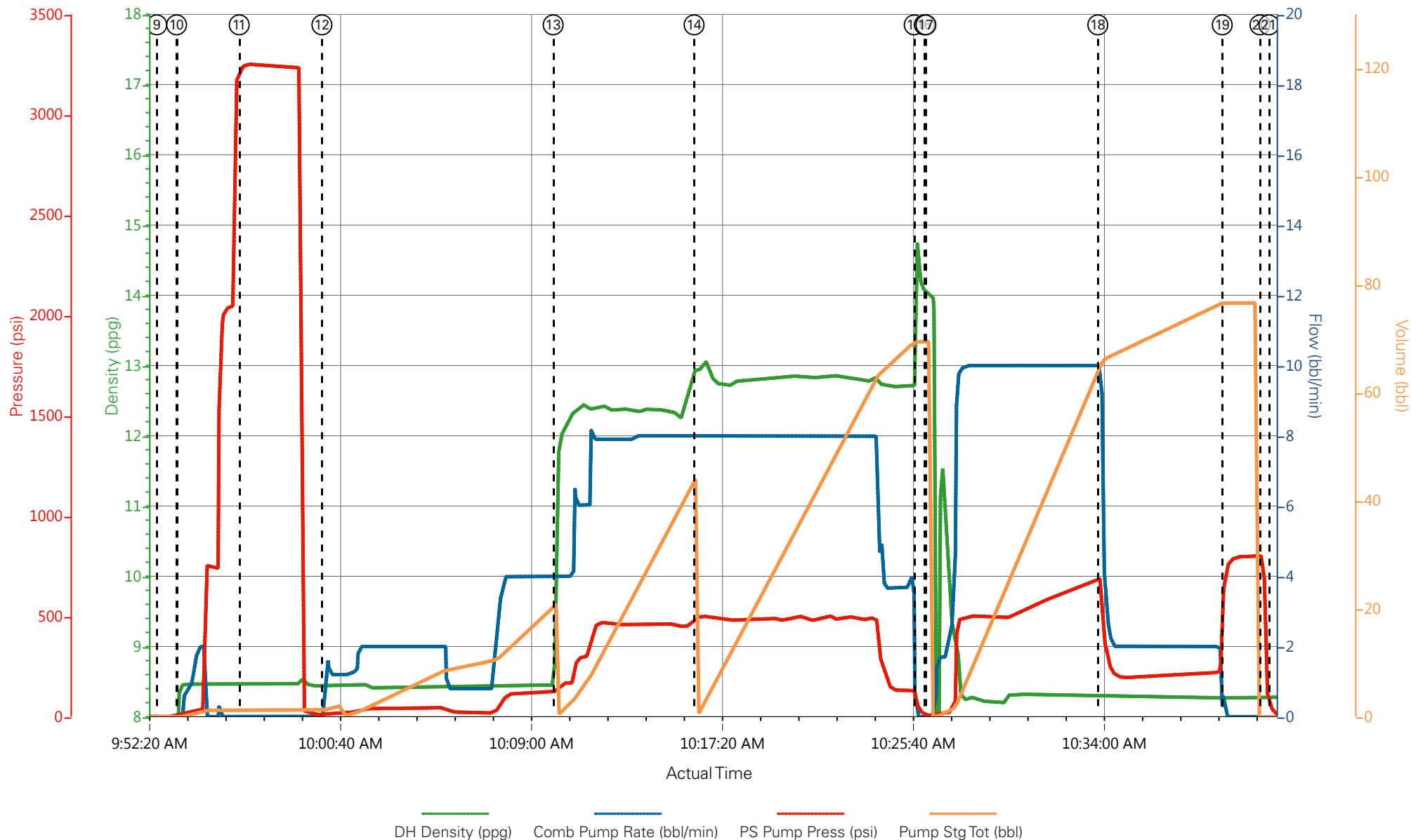
## 1.0 Real-Time Job Summary

## 1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	9/14/2017	02:30:00	USER					REQUESTED ON LOCATION @ 7:30
Event	2	Pre-Convoy Safety Meeting	9/14/2017	04:45:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	9/14/2017	05:00:00	USER					1 HT 400 PUMP TRUCK E6, 1 660 BULK TRUCKS, 1 550 SERVICE PICKUP
Event	4	Arrive At Loc	9/14/2017	07:00:00	USER					RIG RUNNING CASING UPON HES ARRIVAL
Event	5	Assessment Of Location Safety Meeting	9/14/2017	07:15:00	USER					MET WITH COMP REP, AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7.0, CHLORIDES- 0, TEMP- 60F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Spot Equipment	9/14/2017	07:30:00	USER					1 HT 400 PUMP TRUCK E6, 1 660 BULK TRUCKS, 1 550 SERVICE PICKUP
Event	7	Pre-Rig Up Safety Meeting	9/14/2017	08:00:00	USER					ALL HES PRESENT
Event	8	Pre-Job Safety Meeting	9/14/2017	09:20:00	USER					ALL HES EMPLOYEES AND RIG CREW PRESENT, RIG CIRCULATED FOR 1 HR @ 7.5 BPM PRIOR TO JOB WITH 100 PSI
Event	9	Start Job	9/14/2017	09:52:48	COM5					TD 1073', TP 1028.34' OF 9 5/8" 32.3# SURFACE CSG, FC @ 978.70', OH 13.5", MUD 9.3 PPG
Event	10	Prime Pumps	9/14/2017	09:53:39	COM5	8.33	2.0	40	2	FRESH WATER
Event	11	Test Lines	9/14/2017	09:56:23	COM5			3250		PRESSURE HELD
Event	12	Pump H2O Spacer	9/14/2017	10:00:00	COM5	8.33	4.0	170	20	FRESH WATER
Event	13	Pump Lead Cement	9/14/2017	10:10:05	COM5	12.3	8.0	465	42.4	100 SKS VARICEM CMT 12.3 PPG, 2.38 FT3/SK, 13.77

										GAL/SK
Event	14	Pump Tail Cement	9/14/2017	10:16:14	COM5	12.8	8.0	490	65.8	175 SKS VARICEM CMT 12.8 PPG, 2.11 FT3/SK, 11.78 GAL/SK
Event	15	Shutdown	9/14/2017	10:25:51	COM5					END OF CEMENT
Event	16	Drop Top Plug	9/14/2017	10:26:17	COM5					VERIFIED BY FLAG INDICATOR
Event	17	Pump Displacement	9/14/2017	10:26:21	COM5	8.33	10.0	690	67	FRESH WATER
Event	18	Slow Rate	9/14/2017	10:33:52	USER	8.33	2.0	202	10	SLOWED TO BUMP PLUG
Event	19	Bump Plug	9/14/2017	10:39:17	COM5	8.33	2.0	220	77	PLUG BUMPED
Event	20	Check Floats	9/14/2017	10:40:56	USER			800		FLOATS HELD .5 BBL FLOW BACK TO TANK
Event	21	End Job	9/14/2017	10:41:20	COM5					4 BBL CMT TO SURFACE USED 40 LBS SUGAR
Event	22	Post-Job Safety Meeting (Pre Rig-Down)	9/14/2017	10:55:00	USER					ALL HES PRESENT
Event	23	Pre-Convoy Safety Meeting	9/14/2017	12:45:00	USER					IRON LEFT RIGGED UP
Event	24	Crew Leave Location	9/14/2017	13:00:00	USER					THANK YOU DUSTIN AND CREW

# TERRA, GM 532-5, 9 5/8" SURFACE



- |                             |   |                   |                    |                     |   |
|-----------------------------|---|-------------------|--------------------|---------------------|---|
| ① Call Out                  | ⑤ Assessment Of Location Safety Meeting | ⑨ Start Job       | ⑬ Pump Lead Cement | ⑰ Pump Displacement | 21 End Job                                |
| ② Pre-Convoy Safety Meeting | ⑥ Spot Equipment                        | ⑩ Prime Pumps     | ⑭ Pump Tail Cement | ⑱ Slow Rate         | 22 Post-Job Safety Meeting (Pre Rig-Down) |
| ③ Crew Leave Yard           | ⑦ Pre-Rig Up Safety Meeting             | ⑪ Test Lines      | ⑮ Shutdown         | ⑲ Bump Plug         | 23 Pre-Convoy Safety Meeting              |
| ④ Arrive At Loc             | ⑧ Pre-Job Safety Meeting                | ⑫ Pump H2O Spacer | ⑯ Drop Top Plug    | 20 Check Floats     | 24 Crew Leave Location                    |

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