

# HALLIBURTON

iCem<sup>®</sup> Service

## **Terra Energy Partners**

**For: Terra**

Date: Thursday, November 23, 2017

**SR 512-12 Surface PJR**

API# 05-045-23444-00

Sincerely,

**Grand Junction Cement Engineering**

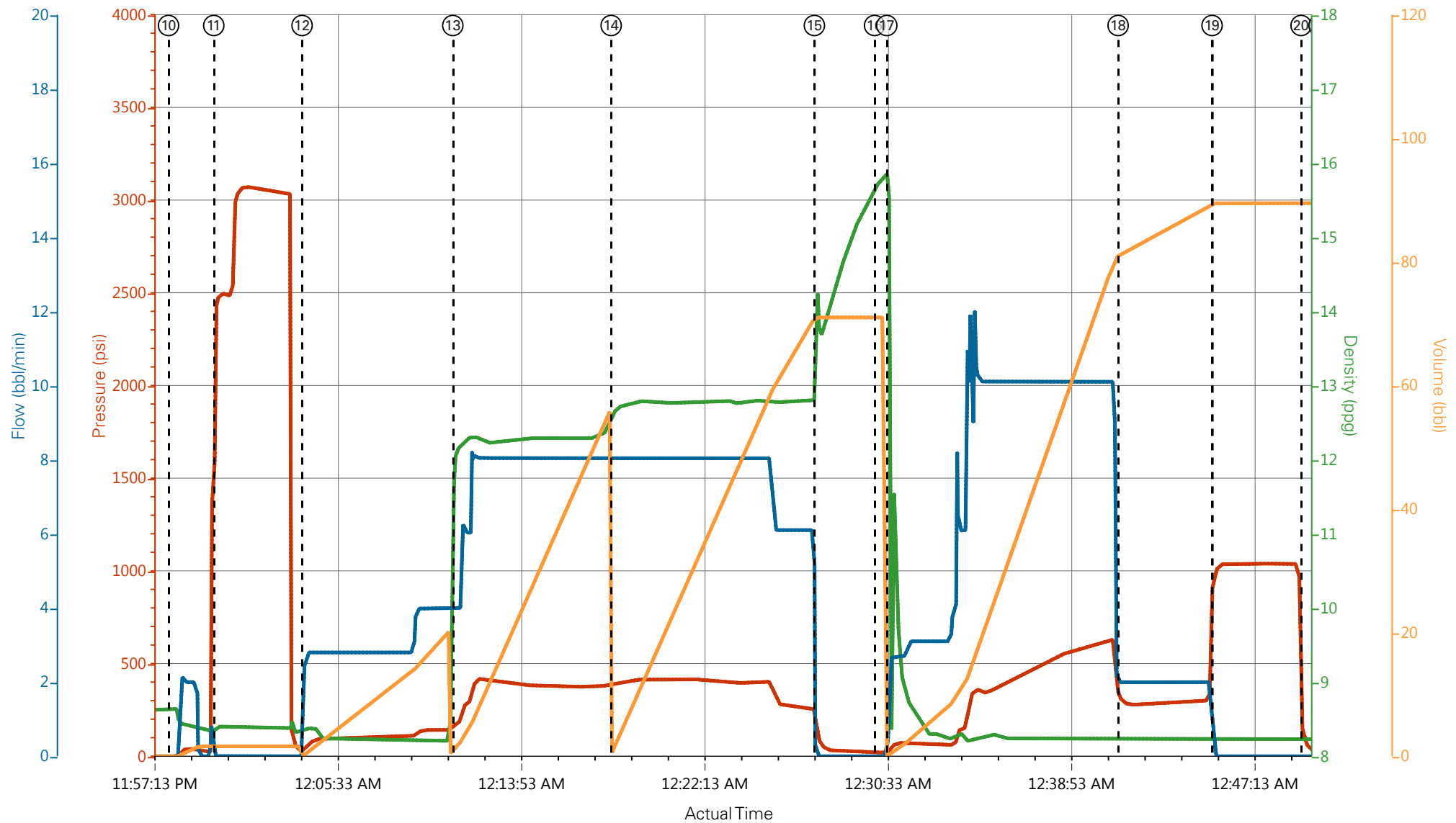
## 2.0 Real-Time Job Summary

## 2.1 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	11/22/2017	11:00:00	USER					
Event	2	Pre-Convoy Safety Meeting	11/22/2017	14:55:00	USER					
Event	3	Crew Leave Location	11/22/2017	15:00:00	USER					
Event	4	Arrive at Location from Other Job or Site	11/22/2017	16:30:00	USER					
Event	5	Assessment Of Location Safety Meeting	11/22/2017	16:40:00	USER					
Event	6	Spot Equipment	11/22/2017	16:50:00	USER					
Event	7	Pre-Rig Up Safety Meeting	11/22/2017	16:55:00	USER					
Event	8	Rig-Up Equipment	11/22/2017	17:00:00	USER					
Event	9	Pre-Job Safety Meeting	11/22/2017	23:30:00	USER					
Event	10	Start Job	11/22/2017	23:58:00	COM5					TD: 1143 TP: 1133 SJ: 44.6 MW: 9.1 9 5/8" 32.3#/FT CSG IN 13 1/2" OH WATER TEST: PH: 6.5 POTASSIUM: 450 CHLORIDES: 0 SULFATES: <200 TEMP: 56 DEGREES
Event	11	Test Lines	11/23/2017	00:00:03	COM5	8.33	0.00	3000.00	2.0	3000 PSI TEST
Event	12	Pump Spacer 1	11/23/2017	00:04:04	COM5	8.33	2.80	110.00	20.0	FRESH H2O SPACER

Event	13	Pump Lead Cement	11/23/2017	00:10:55	COM5	12.30	8.00	430.00	53.0	125 SKS @ 12.3 PPG 2.38 YLD 13.77 GAL/SK H2O
Event	14	Pump Tail Cement	11/23/2017	00:18:07	COM5	12.80	8.00	380.00	65.8	175 SKS @ 12.8 PPG 2.11 YLD 11.78 GAL/SK H2O
Event	15	Shutdown	11/23/2017	00:27:21	USER					
Event	16	Drop Top Plug	11/23/2017	00:30:05	COM5					PLUG AWAY
Event	17	Pump Displacement	11/23/2017	00:30:38	COM5	8.33	10.00	630.00	86.0	FRESH H2O DISPLACEMENT
Event	18	Slow Rate	11/23/2017	00:41:09	USER	8.33	2.00	280.00	76	PRESSURE WAS 630 PSI WHEN WE SLOWED, PRESSURE AT 2 BPM 280 PSI.
Event	19	Bump Plug	11/23/2017	00:45:25	COM5	8.33	2.00	1035.00	86.0	PLUG BUMPED AT CALCULATED DISPLACEMENT
Event	20	Check Floats	11/23/2017	00:49:28	COM5					FLOATS HELD, GAINED 1/2 BBL BACK TO PUMP
Event	21	End Job	11/23/2017	00:50:17	COM5					
Event	22	Post-Job Safety Meeting (Pre Rig-Down)	11/23/2017	00:55:00	USER					GOOD CIRCULATION THROUGHOUT JOB. PIPE WAS LEFT STATIC. CIRCULATED 20 BBL CEMENT TO SURFACE. 20# SUGAR USED, NO ADD HOURS CHARGED.
Event	23	Rig-Down Equipment	11/23/2017	01:00:00	USER					
Event	24	Pre-Convoy Safety Meeting	11/23/2017	01:55:00	USER					
Event	25	Crew Leave Location	11/23/2017	02:30:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENTING OF GRAND JUNCTION, CO ANTHONY ANDREWS AND CREW

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|--|--|---|--|
| ① Call Out <span>n/a;n/a;n/a;n/a</span>                                  | ⑧ Rig-Up Equipment <span>n/a;n/a;n/a;n/a</span>    | ⑮ Shutdown <span>109;14.23;0;71</span>            | 22 Post-Job Safety Meeting (Pre Rig-Down) <span>n/a;n/a;n/a;n/a</span> |
| ② Pre-Convoy Safety Meeting <span>n/a;n/a;n/a;n/a</span>                 | ⑨ Pre-Job Safety Meeting <span>2;8.36;0;9.2</span> | ⑯ Drop Top Plug <span>21;15.72;0;71</span>        | 23 Rig-Down Equipment <span>n/a;n/a;n/a;n/a</span>                     |
| ③ Crew Leave Location <span>n/a;n/a;n/a;n/a</span>                       | ⑩ Start Job <span>-3;8.64;0;0</span>               | ⑰ Pump Displacement <span>34;12.91;2.7;0.3</span> | 24 Pre-Convoy Safety Meeting <span>n/a;n/a;n/a;n/a</span>              |
| ④ Arrive at Location from Other Job or Site <span>n/a;n/a;n/a;n/a</span> | ⑪ Test Lines <span>2454;8.4;0;1.6</span>           | ⑱ Slow Rate <span>298;8.23;2;81.3</span>          | 25 Crew Leave Location <span>n/a;n/a;n/a;n/a</span>                    |
| ⑤ Assessment Of Location Safety Meeting <span>n/a;n/a;n/a;n/a</span>     | ⑫ Pump Spacer 1 <span>33;8.35;2.8;0.3</span>       | ⑲ Bump Plug <span>998;8.25;0;89.5</span>          |  |
| ⑥ Spot Equipment <span>n/a;n/a;n/a;n/a</span>                            | ⑬ Pump Lead Cement <span>174;12.11;4;1.5</span>    | 20 Check Floats <span>96;8.23;0;89.5</span>       |  |
| ⑦ Pre-Rig Up Safety Meeting <span>n/a;n/a;n/a;n/a</span>                 | ⑭ Pump Tail Cement <span>399;12.65;8;1.6</span>    | 21 End Job <span>24;8.23;0;0</span>               |  |

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