

# HALLIBURTON

iCem<sup>®</sup> Service

## **TERRA ENERGY PARTNERS**

**For: Mark Mewshaw and Lynn Cass**

Date: Friday, September 16, 2016

**RU 411-7 Surface**

**API# 05-045-23234-00**

Sincerely,

**Grand Junction Cement Engineering**

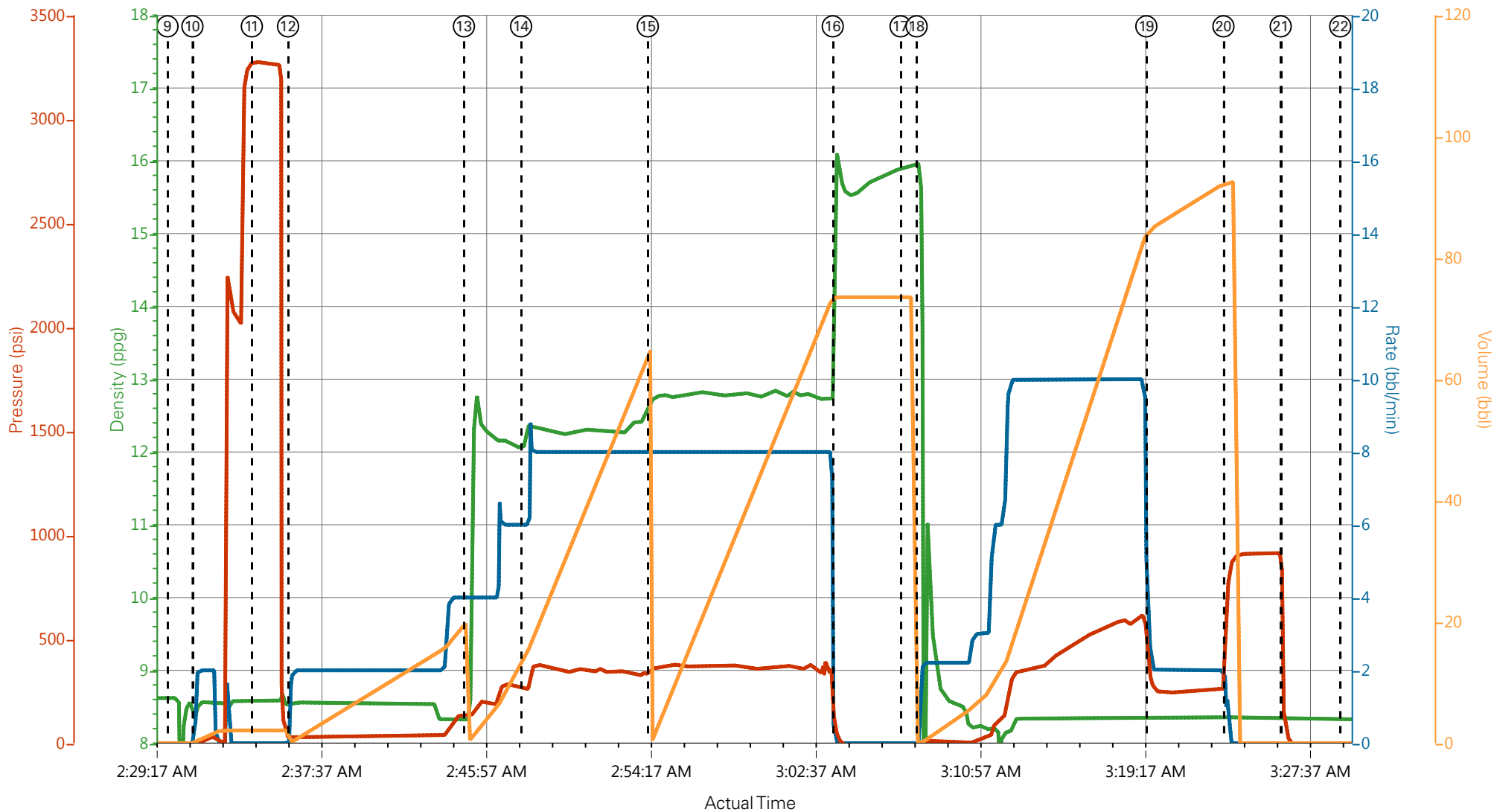
## 1.0 Real-Time Job Summary

### 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	9/15/2016	17:30:00	USER					O/L time 2330
Event	2	Pre-Convoy Safety Meeting	9/15/2016	19:15:00	USER					
Event	3	Crew Leave Yard	9/15/2016	19:30:00	USER					1 Elite, 1 660, 1 pickup
Event	4	Arrive at Location	9/15/2016	21:30:00	USER					Rig still pulling drill pipe
Event	5	Assessment Of Location Safety Meeting	9/15/2016	21:45:00	USER					JSA completed- customer offered/received SDS - water test pH 6.5, Cl <500, temp 64 degrees
Event	6	Pre-Rig Up Safety Meeting	9/15/2016	22:15:00	USER					
Event	7	Rig-Up Equipment	9/15/2016	22:30:00	USER					Hard line to standpipe, water hose to upright, bulk hose to 660
Event	8	Pre-Job Safety Meeting	9/16/2016	02:15:00	USER					All HES personnel, rig crew, and company rep
Event	9	Start Job	9/16/2016	02:30:00	USER					TD 1181', TP 1174.86', SJ 43.20', Mud 9.2#, PV 13, YP 11, 13 1/2" OH, 9 5/8" 32.3# H40 casing
Event	10	Prime Lines	9/16/2016	02:31:15	COM5	8.33	2.0	60	2.0	Fresh water
Event	11	Test Lines	9/16/2016	02:34:16	COM5			3290		Pressure held well
Event	12	Pump H2O Spacer	9/16/2016	02:36:05	COM5	8.33	4.0	146	20.0	Fresh water - returns established
Event	13	Pump Lead Cement	9/16/2016	02:44:59	COM5	12.3	8.0	385	57.2	135 sks VariCem, 12.3 ppg, 2.38 yield, 13.77 gal/sk
Event	14	Check weight	9/16/2016	02:47:53	COM5	12.3				Weight verified with pressurized mud scales
Event	15	Pump Tail Cement	9/16/2016	02:54:17	COM5	12.8	8.0	390	65.8	175 sks VariCem, 12.8 ppg, 2.11 yield, 11.78 gal/sk
Event	16	Shutdown	9/16/2016	03:03:38	USER					Wash up on top of plug
Event	17	Drop Top Plug	9/16/2016	03:07:04	COM5					Plug launched
Event	18	Pump Displacement	9/16/2016	03:07:53	COM5	8.33	10.0	630	89.0	Fresh water

Event	19	Slow Rate	9/16/2016	03:19:30	USER	8.33	2.0	256	@ 80	Good returns throughout job
Event	20	Bump Plug	9/16/2016	03:23:24	COM5			274		Approx 20 bbls cement to surfae
Event	21	Check Floats	9/16/2016	03:26:18	USER			920		Floats held – ½ bbl flowback
Event	22	End Job	9/16/2016	03:29:18	COM5					40 lbs sugar used
Event	23	Pre-Rig Down Safety Meeting	9/16/2016	03:40:00	USER					
Event	24	Rig-Down Equipment	9/16/2016	03:50:00	USER					
Event	25	Pre-Convoy Safety Meeting	9/16/2016	04:15:00	USER					
Event	26	Crew Leave Location	9/16/2016	04:30:00	USER					Thank you for using Halliburton - Ed Deussen and crew

# TERRA ENERGY - RU 411-7 - 9 5/8" Surface



— DH Density (ppg)    
 — Comb Pump Rate (bbl/min)    
 — PS Pump Press (psi)    
 — Pump Stg Tot (bbl)

- |   |                             |                    |                     |                               |                       |
|---|-----------------------------|--------------------|---------------------|-------------------------------|-----------------------|
| ① Call Out                              | ⑥ Pre-Rig Up Safety Meeting | ⑪ Test Lines       | ⑯ Shutdown          | ⑳ Check Floats                | ⑳ Crew Leave Location |
| ② Pre-Convoy Safety Meeting             | ⑦ Rig-Up Equipment          | ⑫ Pump H2O Spacer  | ⑰ DropTop Plug      | ㉑ End Job                     |                       |
| ③ Crew Leave Yard                       | ⑧ Pre-Job Safety Meeting    | ⑬ Pump Lead Cement | ⑱ Pump Displacement | ㉒ Pre-Rig Down Safety Meeting |                       |
| ④ Arrive at Location                    | ⑨ Start Job                 | ⑭ Check weight     | ⑲ Slow Rate         | ㉓ Rig-Down Equipment          |                       |
| ⑤ Assessment Of Location Safety Meeting | ⑩ Prime Lines               | ⑮ Pump Tail Cement | ㉔ Bump Plug         | ㉕ Pre-Convoy Safety Meeting   |                       |

# TERRA ENERGY - RU 411-7 - 9 5/8" Surface

