

# HALLIBURTON

iCem<sup>®</sup> Service

## **TERRA ENERGY PARTNERS**

**For: TERRA**

Date: Friday, February 09, 2018

**PA 524-24 Surface PJR**

API #: 05-045-23660

Sincerely,

**Grand Junction Cement Engineering**

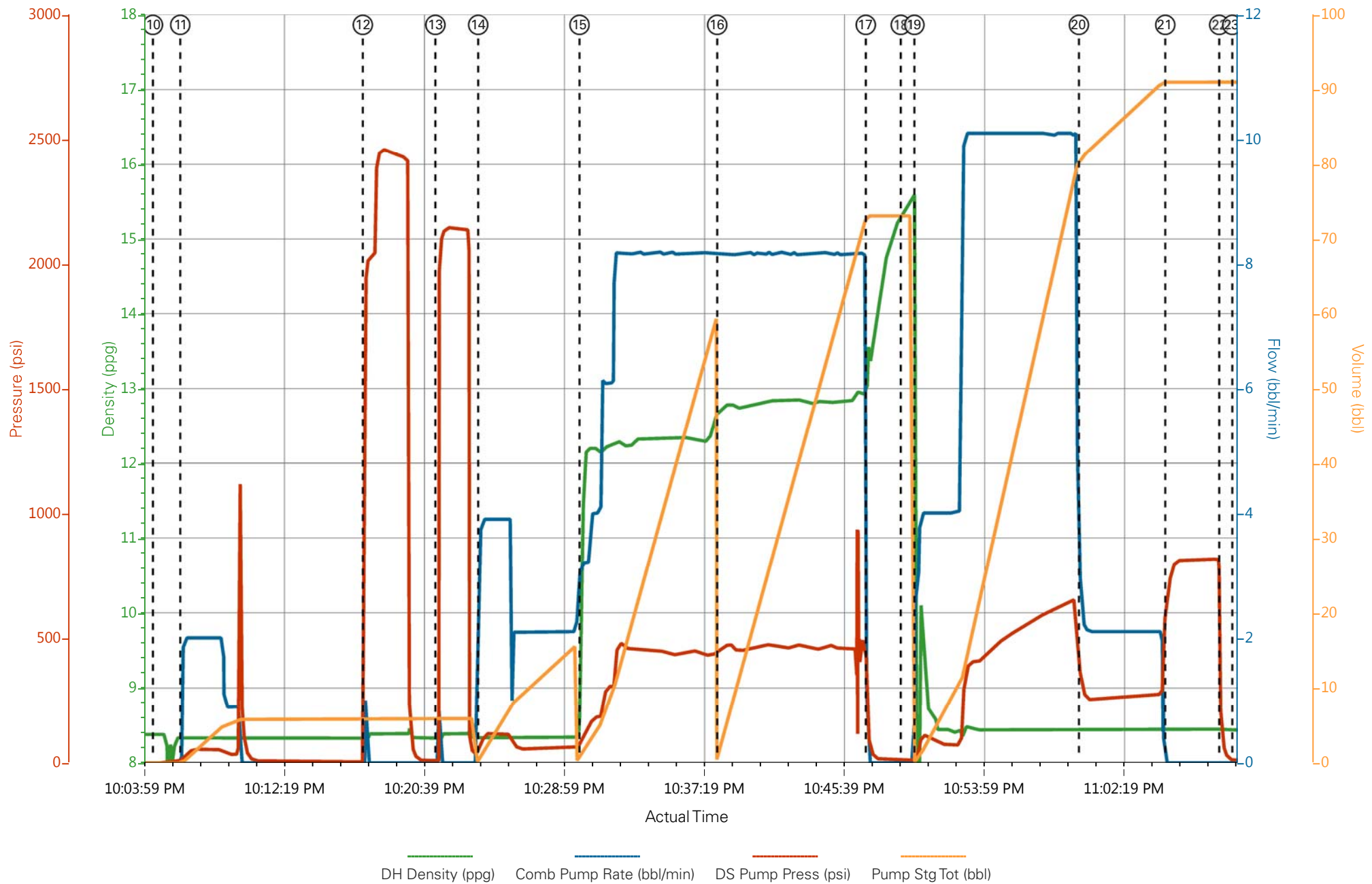
## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Driv-Side Pump Pressure (psi)	Pump Stage Total (bbl)	Comments
Event	1	Call Out	2/8/2018	14:00:00						Requested on Location @ 20:30
Event	2	Pre-Convoy Safety Meeting	2/8/2018	16:00:00						
Event	3	Crew Leave Yard	2/8/2018	16:15:00						1 Elite, 1 660, 1 pickup
Event	4	Arrive At Loc	2/8/2018	20:30:00						Rig running casing
Event	5	Assessment Of Location Safety Meeting	2/8/2018	20:35:00						JSA completed - Customer offered/received SDS - water test pH 7.0, Cl <200, temp 50 degrees
Event	6	Pre-Rig Up Safety Meeting	2/8/2018	20:40:00						
Event	7	Rig-Up Equipment	2/8/2018	20:50:00						1 hardline to standpipe, water hoses to upright, bulk hose to 660.
Event	8	Other	2/8/2018	20:51:00						Rig Circulated 30 mins prior to cement job at 450 gpm 300 psi
Event	9	Pre-Job Safety Meeting	2/8/2018	21:00:00						All HES personnel, rig crew, and company rep
Event	10	Start Job	2/8/2018	22:04:42						TD 1147, 13 1/2" OH, TP 1141.17, CSG 9 5/8" 32.3#, SJ 29.73, MUD# 9.5
Event	11	Fill Lines	2/8/2018	22:06:20		8.33	2	53	5	Fresh Water
Event	12	Test Lines	2/8/2018	22:17:11		8.33		2640		had a loose connection release pressure and retest

lines									
Event	13	Test Lines	2/8/2018	22:21:30			2450		Held pressure 2 minutes no leaks
Event	14	Pump Spacer	2/8/2018	22:24:03	8.33	4	120	15	Fresh Water
Event	15	Pump Lead Cement	2/8/2018	22:30:05	12.3	8	495	53	125 sks, 12.3 ppg 2.38 yield, 13.77 gal/sk
Event	16	Pump Tail Cement	2/8/2018	22:38:17	12.8	8	500	65.8	175 sks, 12.8 ppg, 2.11 yield, 11.78 gal/sk
Event	17	Shutdown	2/8/2018	22:47:07					Wash Up On Plug
Event	18	Drop Top Plug	2/8/2018	22:49:12					
Event	19	Pump Displacement	2/8/2018	22:50:01	8.33	10	690	87.5	Fresh Water
Event	20	Slow Rate	2/8/2018	22:59:48	8.33	2	250	77	Slow Rate 10 bbls to calculated displacement
Event	21	Bump Plug	2/8/2018	23:04:57	8.33		815	87.5	Plug Bumped at 250 psi, Brought up to 815 psi
Event	22	Check Floats	2/8/2018	23:08:09					Floats held 1/2 bbl back to truck
Event	23	End Job	2/8/2018	23:08:56					good returns throughout job, 25 bbls of cement to surface.
Event	24	Pre-Rig Down Safety Meeting	2/8/2018	23:19:32					40 lbs sugar, No add hours
Event	25	Rig-Down Equipment	2/8/2018	23:23:21					
Event	26	Pre-Convoy Safety Meeting	2/8/2018	23:37:38					
Event	27	Crew Leave Location	2/8/2018	23:39:30					Thanks For Using Halliburton Cement. Chris Martinez And Crew

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|---|---|--|--------------------------------------|-----------------|
| ① Call Out n/a;n/a;n/a;n/a                  | ⑤ Assessment Of Location Safety Meeting -0.01;0;115;0.2 | ⑨ Pre-Job Safety Meeting -0.01;0;113;0.2 | ⑬ Test Lines 8.33;0.9;9;5.8          | ⑰ Shutdown 13   |
| ② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a | ⑥ Pre-Rig Up Safety Meeting -0.01;0;114;0.2             | ⑩ Start Job 8.38;0;0;0                   | ⑭ Pump Spacer 8.34;3.9;82;0.9        | ⑱ Drop Top Plug |
| ③ Crew Leave Yard n/a;n/a;n/a;n/a           | ⑦ Rig-Up Equipment -0.01;0;114;0.2                      | ⑪ Fill Lines 8.34;2;16;0.2               | ⑮ Pump Lead Cement 11.26;3.2;95;1.3  | ⑲ Pump Displace |
| ④ Arrive At Loc -0.01;0;115;0.2             | ⑧ Other -0.01;0;114;0.2                                 | ⑫ Test Lines 8.26;0;1958;5.8             | ⑯ Pump Tail Cement 12.71;8.1;454;2.3 | ⑳ Slow Rate 8.4 |

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