

HALLIBURTON

iCem[®] Service

Terra Energy Partners

For: Lynn Cass & Abe Alexander

Date: Thursday, January 19, 2017

TR 13-21-597 Surface PJR

API# 05-045-23347-00

Sincerely,

Grand Junction Cement Engineering

1.0 Real-Time Job Summary

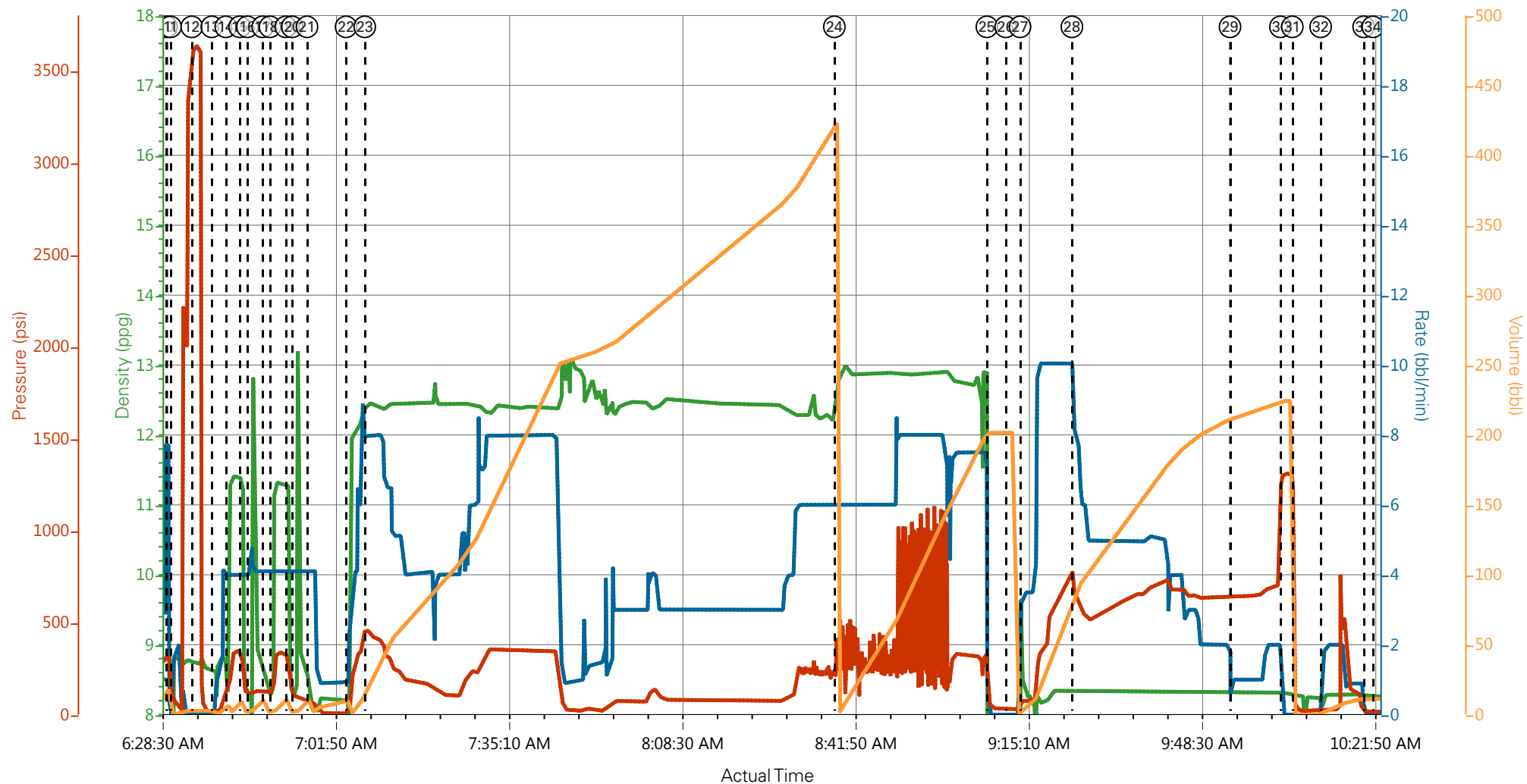
1.1 Job Event Log

| 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 | 1/18/2017 | 10:00:00 | USER | | | | | O/L time 2100 - crew already in field |
| Event | 2 | Pre-Convoy Safety Meeting | 1/18/2017 | 13:45:00 | USER | | | | | |
| Event | 3 | Crew Leave Yard | 1/18/2017 | 14:00:00 | USER | | | | | 1 Elite, 1 Transport, Pickup w/ compressor trailer, Pickup w/ heater trailer |
| Event | 4 | Arrive At Location | 1/18/2017 | 18:30:00 | USER | | | | | Rig just starting to run casing |
| Event | 5 | Assessment Of Location Safety Meeting | 1/18/2017 | 19:00:00 | USER | | | | | JSA completed - customer offered/received SDS - water test pH 7.0, Cl 0, temp 77 degrees |
| Event | 6 | Pre-Rig Up Safety Meeting | 1/18/2017 | 21:45:00 | USER | | | | | |
| Event | 7 | Rig-Up Equipment | 1/18/2017 | 22:00:00 | USER | | | | | Hard line to standpipe, bulk hose to silos, water hoses to uprights |
| Event | 8 | Other | 1/19/2017 | 05:00:00 | USER | | | | | Start add hours |
| Event | 9 | Pre-Job Safety Meeting | 1/19/2017 | 06:15:00 | USER | | | | | All HES personnel, rig crew, and company rep |
| Event | 10 | Start Job | 1/19/2017 | 06:29:52 | COM5 | | | | | TD 2837', TP 2842.21', SJ 28', Mud 9.2 ppg, 14 3/4" OH, 9 5/8" 36# J55 casing up to 1837.45', 1004.96' 40# casing to surface |
| Event | 11 | Prime Pumps | 1/19/2017 | 06:30:39 | COM5 | 8.33 | 2.0 | 115 | 3.0 | Fresh water |
| Event | 12 | Test Lines | 1/19/2017 | 06:34:44 | COM5 | | | 3635 | | Pressure held well |
| Event | 13 | Pump H2O Spacer | 1/19/2017 | 06:38:35 | COM5 | 8.33 | 4.0 | 130 | 5.0 | Fresh water |

| | | | | | | | | | | |
|-------|----|---------------------------|-----------|----------|------|------|------|------|---------|---|
| Event | 14 | Pump SuperFlush | 1/19/2017 | 06:41:16 | COM5 | 10.0 | 4.0 | 385 | 10.0 | 42 gal/bbl Injectrol |
| Event | 15 | Pump H2O Spacer | 1/19/2017 | 06:43:56 | COM5 | 8.33 | 4.0 | 130 | 5.0 | Fresh water |
| Event | 16 | Pump CaCl Spacer | 1/19/2017 | 06:45:26 | COM5 | 8.33 | 4.0 | 155 | 10.0 | 50 lb/bl Calcium Chloride |
| Event | 17 | Pump H2O Spacer | 1/19/2017 | 06:48:22 | COM5 | 8.33 | 4.0 | 150 | 5.0 | Fresh water |
| Event | 18 | Pump SuperFlush Spacer | 1/19/2017 | 06:49:47 | COM5 | 10.0 | 4.0 | 350 | 10.0 | 42 gal/bbl Injectrol |
| Event | 19 | Pump H2O Spacer | 1/19/2017 | 06:52:48 | COM5 | 8.33 | 4.0 | 115 | 5.0 | Fresh water |
| Event | 20 | Pump CaCl Spacer | 1/19/2017 | 06:54:03 | COM5 | 8.33 | 4.0 | 120 | 10.0 | 50 lb/bl Calcium Chloride |
| Event | 21 | Pump H2O Spacer | 1/19/2017 | 06:56:54 | COM5 | 8.33 | 4.0 | 105 | 10.0 | Fresh water - Mix up cement |
| Event | 22 | Pump Lead Cement | 1/19/2017 | 07:04:25 | COM5 | 12.3 | 8.0 | 440 | 404.8 | 955 sks, 12.3 ppg, 2.38 yield, 13.76 gal/sk – Rig had issues with cellar pump not being able to keep up – had to slow rate to accommodate cellar pump – lost returns at 90 bbls pumped, regained returns at 240 bbls pumped |
| Event | 23 | Check weight | 1/19/2017 | 07:08:01 | COM5 | 12.3 | | | | Recirc matched mud scales |
| Event | 24 | Pump Tail Cement | 1/19/2017 | 08:38:22 | COM5 | 12.8 | 8.0 | 355 | 129.6 | 345 sks, 12.8 ppg, 2.11 yield, 11.78gal/sk – lost returns at 40 bbls pumped |
| Event | 25 | Shutdown | 1/19/2017 | 09:07:43 | USER | | | | | Wash up on top of plug |
| Event | 26 | Drop Top Plug | 1/19/2017 | 09:11:21 | COM5 | | | | | Plug launched |
| Event | 27 | Pump Displacement | 1/19/2017 | 09:14:06 | COM5 | 8.33 | 10.0 | 770 | 216.1 | Fresh water |
| Event | 28 | Slow Rate | 1/19/2017 | 09:24:06 | USER | 8.33 | 5.0 | 530 | @ 90.0 | Had to slow rate again to accommodate cellar pump – returns re-established at 60 bbls pumped – cement returns at 106 bbls pumped |
| Event | 29 | Slow Rate | 1/19/2017 | 09:54:31 | USER | 8.33 | 1.0 | 650 | @ 205.0 | 110 bbls cement to surface |
| Event | 30 | Bump Plug | 1/19/2017 | 10:04:13 | USER | | | 724 | | |
| Event | 31 | Check Floats | 1/19/2017 | 10:06:30 | USER | | | 1321 | | Floats held – 1 bbl flowback |
| Event | 32 | Pump Sugar Water | 1/19/2017 | 10:11:57 | COM5 | 8.33 | 2.0 | 30 | 10.0 | Clear parasite string |

| | | | | | | |
|-------|----|-----------------------------|-----------|----------|------|---|
| Event | 33 | Shutdown | 1/19/2017 | 10:20:14 | USER | |
| Event | 34 | End Job | 1/19/2017 | 10:22:00 | USER | 100 lbs sugar used – 6 add hours – no topout needed |
| Event | 35 | Pre-Rig Down Safety Meeting | 1/19/2017 | 10:30:00 | USER | |
| Event | 36 | Rig-Down Equipment | 1/19/2017 | 10:45:00 | USER | |
| Event | 37 | Pre-Convoy Safety Meeting | 1/19/2017 | 11:15:00 | USER | |
| Event | 38 | Crew Leave Location | 1/19/2017 | 11:30:00 | USER | Thank you for using Halliburton - Ed Deussen and crew |

TERRA ENERGY - TR 13-21-597 - 9 5/8" Surface



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

- | | | | | | |
|---|--------------------------|--------------------------|----------------------|--------------------------------|------------------------------|
| ① Call Out | ⑧ Other | ⑮ Pump H2O Spacer | 22 Pump Lead Cement | 29 Slow Rate | 36 Rig-Down Equipment |
| ② Pre-Convoy Safety Meeting | ⑨ Pre-Job Safety Meeting | ⑯ Pump CaCl Spacer | 23 Check weight | 30 Bump Plug | 37 Pre-Convoy Safety Meeting |
| ③ Crew Leave Yard | ⑩ Start Job | ⑰ Pump H2O Spacer | 24 Pump Tail Cement | 31 Check Floats | 38 Crew Leave Location |
| ④ Arrive At Location | ⑪ Prime Pumps | ⑱ Pump SuperFlush Spacer | 25 Shutdown | 32 Pump Sugar Water | |
| ⑤ Assessment Of Location Safety Meeting | ⑫ Test Lines | ⑲ Pump H2O Spacer | 26 Drop Top Plug | 33 Shutdown | |
| ⑥ Pre-Rig Up Safety Meeting | ⑬ Pump H2O Spacer | 20 Pump CaCl Spacer | 27 Pump Displacement | 34 End Job | |
| ⑦ Rig-Up Equipment | ⑭ Pump SuperFlush | 21 Pump H2O Spacer | 28 Slow Rate | 35 Pre-Rig Down Safety Meeting | |

▼ **HALLIBURTON** | iCem® Service

Created: 2017-01-18 20:29:23, Version: 4.2.393

Edit

Customer: TEP ROCKY MOUNTAIN LLC

Job Date: 1/19/2017 5:00:37 AM

Well: TR 13-21-597

Representative:

Sales Order #: 903785159

TERRA ENERGY - TR 13-21-597 - 9 5/8" Surface

