

# HALLIBURTON

iCem<sup>®</sup> Service

## **TERRA ENERGY PARTNERS**

**For: Terra Energy**

### **Ware SR 523-12**

API # 05-045-23442-00  
Ware SR 523-12 Surface  
Job Date: Friday, December 29, 2017

Sincerely,

**Grand Junction Cement Engineering**

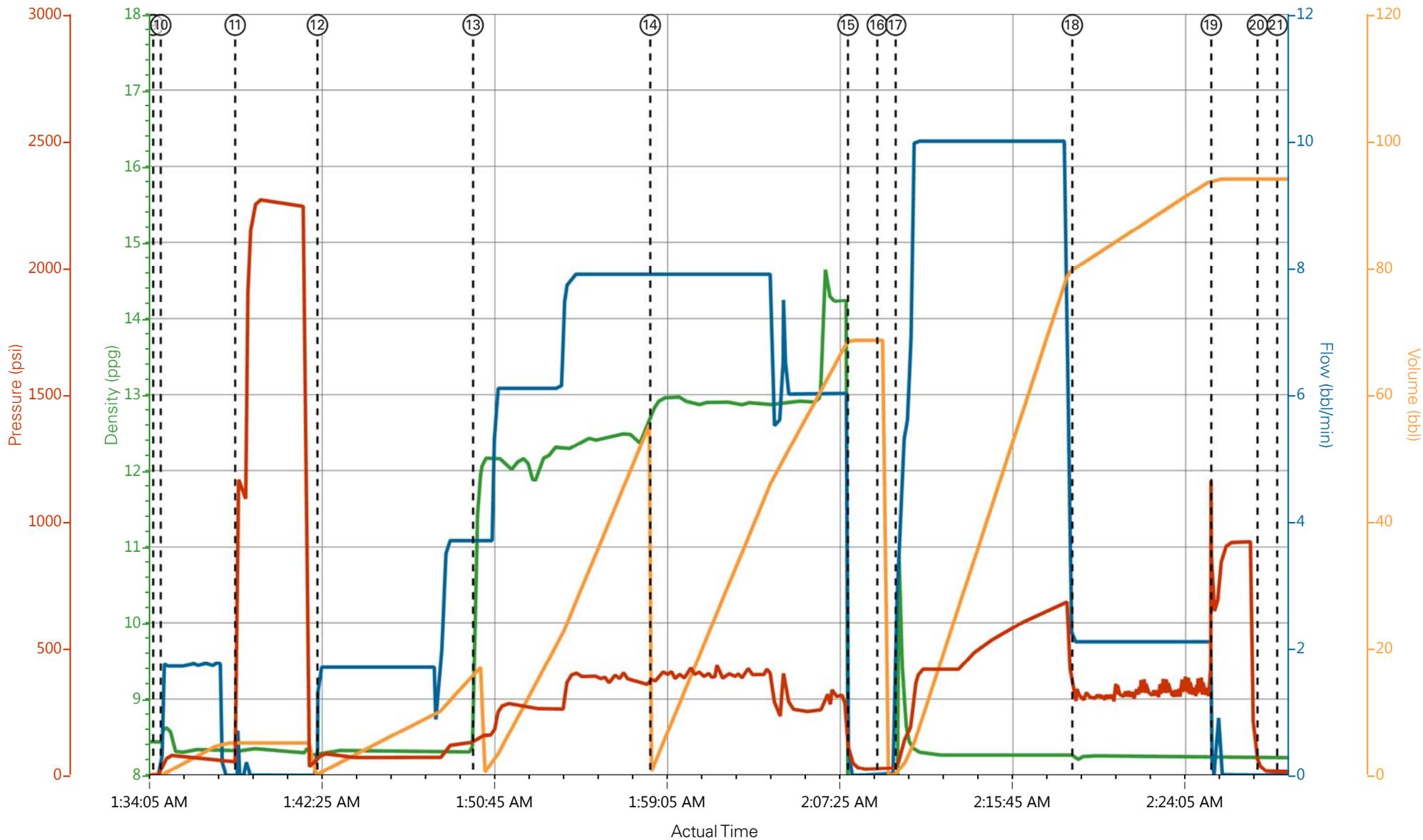
## 1.0 Real-Time Job Summary

### 1.1 Job Event Log

| Type  | Seq. No. | Graph Label                               | Date       | Time     | Source | Downhole Density<br><i>(ppg)</i> | Combined Pump Rate<br><i>(bbl/min)</i> | Pump Stage Total<br><i>(bbl)</i> | Driv-Side Pump Pressure<br><i>(psi)</i> | Comments  |
|-------|----------|---|------------|----------|--------|----------------------------------|--|----------------------------------|---|---|
| Event | 1        | Call Out                                  | 12/28/2017 | 19:30:00 |        |                                  |  |                                  |   | Requested on Location @ 23:30   |
| Event | 2        | Pre-Convoy Safety Meeting                 | 12/28/2017 | 20:00:00 |        |                                  |  |                                  |   |   |
| Event | 3        | Arrive at Location from Other Job or Site | 12/28/2017 | 23:30:00 |        |                                  |  |                                  |   | Rig running casing  |
| Event | 4        | Assessment Of Location Safety Meeting     | 12/28/2017 | 23:35:00 |        |                                  |  |                                  |   | JSA completed - Customer offered/received SDS - water test pH 7.0, Cl <200, temp 50 degrees |
| Event | 5        | Pre-Rig Up Safety Meeting                 | 12/28/2017 | 23:44:00 |        |                                  |  |                                  |   |   |
| Event | 6        | Rig-Up Equipment                          | 12/28/2017 | 23:55:00 |        |                                  |  |                                  |   | 1 hardline to standpipe, water hoses to uprights, bulk hoses to 660.                        |
| Event | 7        | Other                                     | 12/29/2017 | 00:09:30 |        |                                  |  |                                  |   | Rig Circulated 30 mins prior to cement job at 450 gpm 300 psi                               |
| Event | 8        | Pre-Job Safety Meeting                    | 12/29/2017 | 01:30:00 |        |                                  |  |                                  |   | All HES personnel, rig crew, and company rep  |
| Event | 9        | Start Job                                 | 12/29/2017 | 01:34:26 |        |                                  |  |                                  |   | TD 1141', TP 1135', SJ 37.74', MUD 9.0 ppg, OH 13.5", CSG 9 5/8" 32.3 #                     |
| Event | 10       | Fill Lines                                | 12/29/2017 | 01:34:48 |        | 8.33                             | 2                                      | 5                                | 50                                      | Fresh Water   |
| Event | 11       | Test Lines                                | 12/29/2017 | 01:38:23 |        |                                  |  |                                  | 2248                                    | Held pressure 2 minutes no leaks  |
| Event | 12       | Pump Spacer                               | 12/29/2017 | 01:42:22 |        | 8.33                             | 4                                      | 15                               | 120                                     | Fresh Water   |
| Event | 13       | Pump Lead Cement                          | 12/29/2017 | 01:49:52 |        | 12.3                             | 8                                      | 53                               | 400                                     | 125 sks, 12.3 ppg, 2.38 yield, 13.77 gal-sk   |

|       |    |                             |            |          |      |    |      |     |  |
|-------|----|-----------------------------|------------|----------|------|----|------|-----|--|
| Event | 14 | Pump Tail Cement            | 12/29/2017 | 01:58:25 | 12.8 | 8  | 65.8 | 430 | 175 sks, 12.8 ppg, 2.11 yield, 11.78 gal-sk                  |
| Event | 15 | Shutdown                    | 12/29/2017 | 02:07:58 |      |    |      |     | Wash up on top of plug                                       |
| Event | 16 | Drop Top Plug               | 12/29/2017 | 02:09:22 |      |    |      |     | Co-Rep Verified  |
| Event | 17 | Pump Displacement           | 12/29/2017 | 02:10:16 | 8.33 | 10 |      | 630 | Fresh Water  |
| Event | 18 | Slow Rate                   | 12/29/2017 | 02:18:47 | 8.33 | 2  | 76   | 325 | Slow Rate 10 bbls to calculated displacement                 |
| Event | 19 | Bump Plug                   | 12/29/2017 | 02:25:29 | 8.33 | 2  | 86.4 | 915 | Plug Bumped at 300 psi, Brought up to 915 psi                |
| Event | 20 | Check Floats                | 12/29/2017 | 02:27:43 |      |    |      |     | Floats Held, 1/2 bbl Back To Truck                           |
| Event | 21 | End Job                     | 12/29/2017 | 02:28:40 |      |    |      |     | good returns throughout job, 26 bbls of cement to surface.   |
| Event | 22 | Pre-Rig Down Safety Meeting | 12/29/2017 | 02:35:28 |      |    |      |     | 20 lbs sugar, No add hours                                   |
| Event | 23 | Rig-Down Equipment          | 12/29/2017 | 02:37:40 |      |    |      |     |  |
| Event | 24 | Pre-Convoy Safety Meeting   | 12/29/2017 | 02:54:11 |      |    |      |     |  |
| Event | 25 | Crew Leave Location         | 12/29/2017 | 02:55:53 |      |    |      |     | Thanks For Using Halliburton Cement. Chris Martinez And Crew |

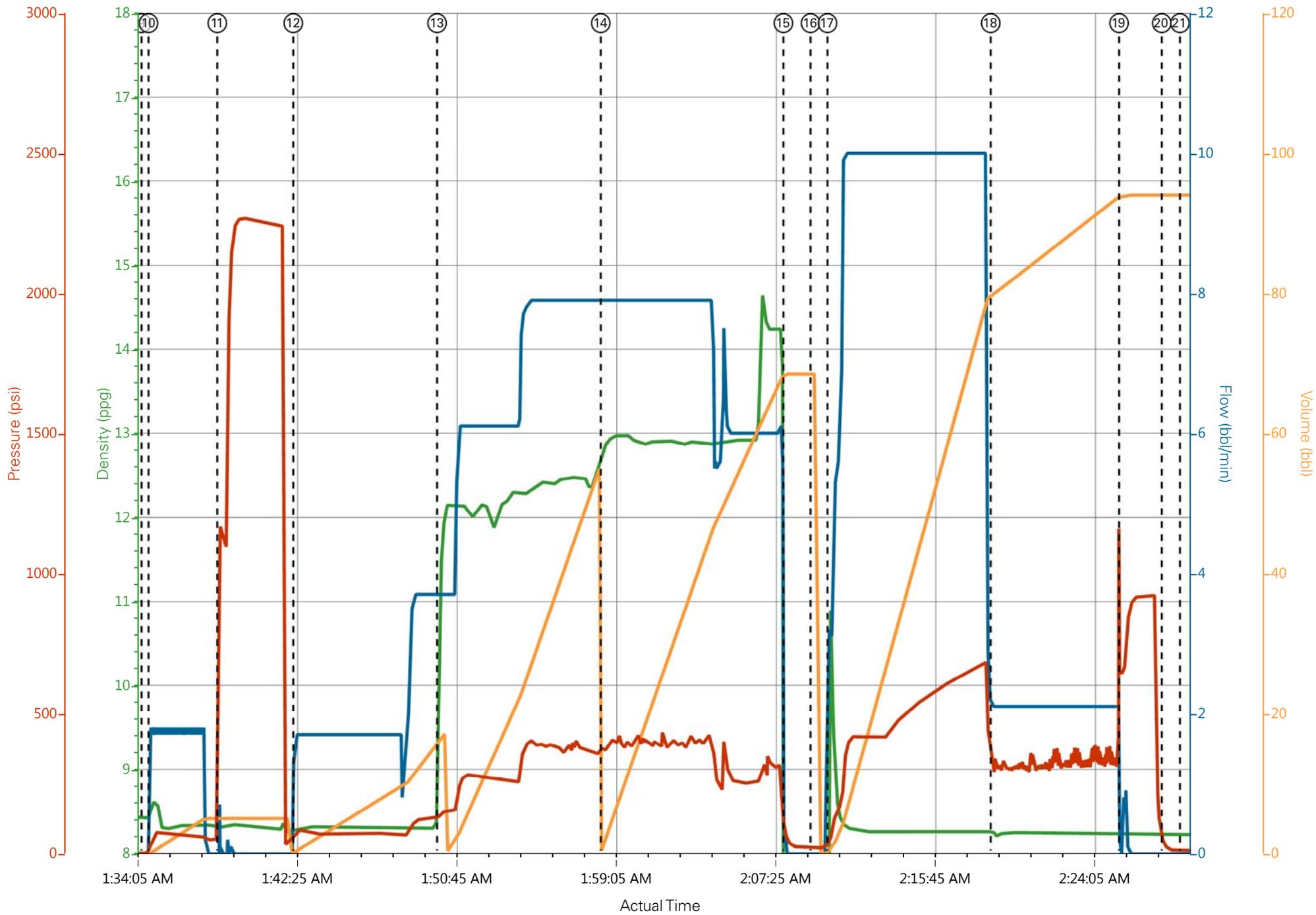
# SR 523-12 Surface



DH Density (ppg) -0.16    Comb Pump Rate (bbl/min) 0    DS Pump Press (psi) 40    Pump Stg Tot (bbl) 0

- |   |   |                               |                                       |  |
|---|---|-------------------------------|---------------------------------------|--|
| ① Call Out n/a;n/a;n/a;n/a                                  | ⑤ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a | ⑨ Start Job 8.43;0;1;0        | ⑬ Pump Lead Cement 11.17;3.7;136;16.3 | ⑰ Pump Displacement 11.17;3.7;136;16.3 |
| ② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a                 | ⑥ Rig-Up Equipment n/a;n/a;n/a;n/a          | ⑩ Fill Lines 8.65;1.7;40;0.2  | ⑭ Pump Tail Cement 12.81;7.9;371;1.5  | ⑱ Slow Rate 8.26;2.1;290;0.2           |
| ③ Arrive at Location from Other Job or Site n/a;n/a;n/a;n/a | ⑦ Other n/a;n/a;n/a;n/a                     | ⑪ Test Lines 8.29;0;1162;5    | ⑮ Shutdown 0.19;0;57;68.5             | ⑲ Bump Plug 8.25;0;647;0.2             |
| ④ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a     | ⑧ Pre-Job Safety Meeting 8.46;0;0;0         | ⑫ Pump Spacer 8.28;1.7;79;0.3 | ⑯ Drop Top Plug -0.06;0;21;68.5       | ⑳ Check Floats 8.23;0;290;0.2          |

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DH Density (ppg) -0.16 Comb Pump Rate (bbl/min) 0 DS Pump Press (psi) 40 Pump Stg Tot (bbl) 0