

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS-EBUS

For: Terra

Date: Tuesday, December 12, 2017

SR 413-12 Production PJR

API# 05-045-23443-00

Sincerely,

Grand Junction Cement Engineering

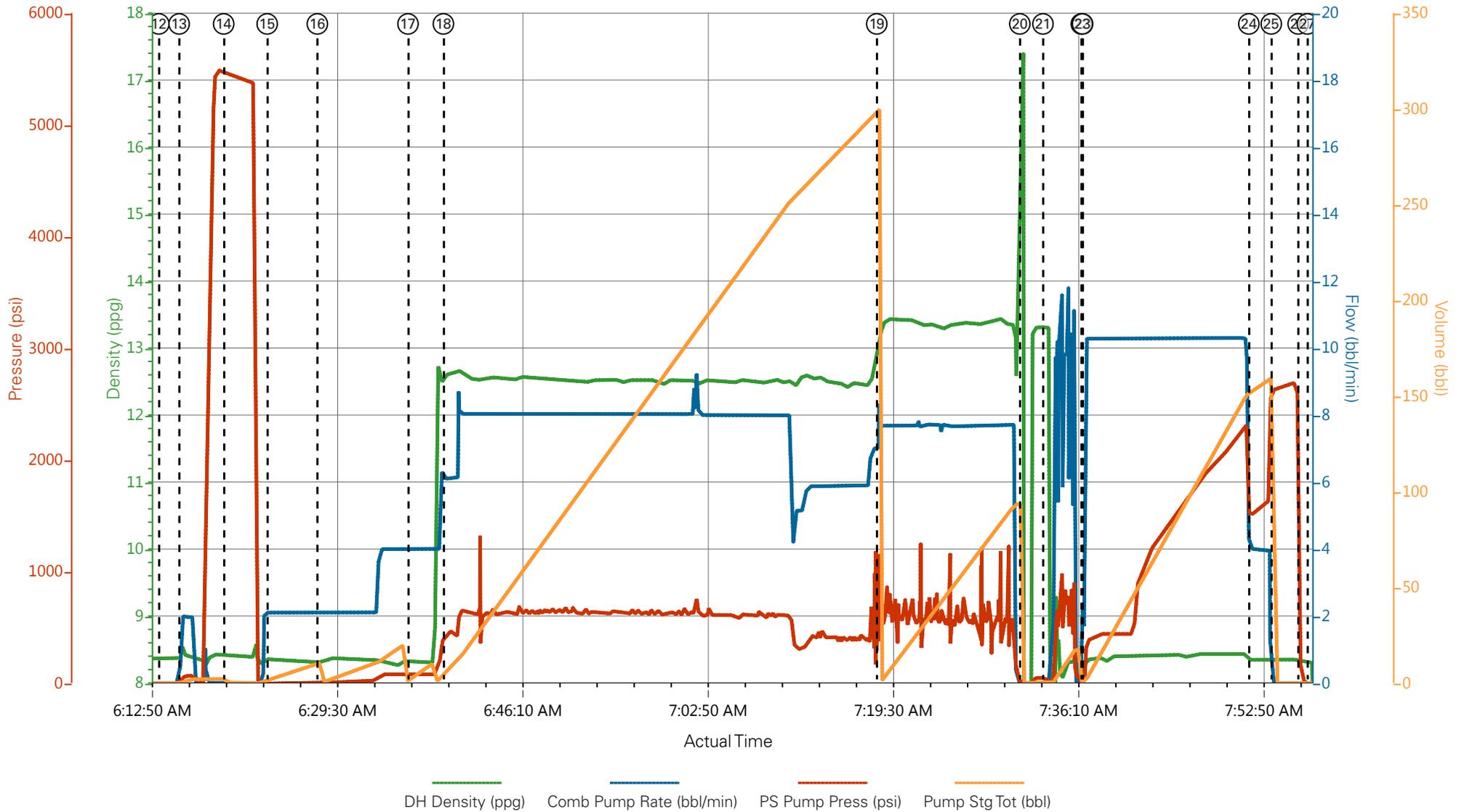
2.0 Real-Time Job Summary

2.1 Job Event Log

| Type | Seq. No. | Graph Label | Date | Time | Source | DH Density <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 | 12/11/2017 | 20:30:00 | USER | | | | | |
| Event | 2 | Pre-Convoy Safety Meeting | 12/11/2017 | 23:00:00 | USER | | | | | |
| Event | 3 | Crew Leave Yard | 12/11/2017 | 23:10:00 | USER | | | | | ELITE 4, 10713212 660, 10951250 PICKUP |
| Event | 4 | Arrive At Loc | 12/12/2017 | 01:00:00 | USER | | | | | RIG RUNNING CASING |
| Event | 5 | Assessment Of Location Safety Meeting | 12/12/2017 | 01:20:00 | USER | | | | | JSA COMPLETED OSR SIGNED WOC |
| Event | 6 | Other | 12/12/2017 | 01:30:00 | USER | | | | | WATER TEST PH-7, CH-0, TEMP-65 |
| Event | 7 | Pre-Rig Up Safety Meeting | 12/12/2017 | 01:45:00 | USER | | | | | JSA COMPLETED |
| Event | 8 | RIG UP EQUIPMENT | 12/12/2017 | 01:45:01 | USER | | | | | 1 ELITE, 1 660, 1 SILO, MANIFOLD ON GROUND BY PUMP, IRON TRAILER IRON RAN TO PIT, ELITE IRON RAN TO RIGS STAND PIPE |
| Event | 9 | Other | 12/12/2017 | 01:50:00 | USER | | | | | YP- 11, PV-10 @ 92, 7 FT. RAT HOLE, RIG CIRCULATED FOR 1:20 WITH 1153 PSI WITH 1000 CFM AIR @ 450 ST/MIN, GOOD RETURNS THROUGHOUT JOB, PIPE RECIPERCATED 5 FEET+/- DURING CEMENT |
| Event | 10 | Pre-Job Safety Meeting | 12/12/2017 | 05:30:00 | USER | | | | | JSA COMPLETED |
| Event | 11 | Other | 12/12/2017 | 05:35:00 | USER | | | | | 4.5 11.6# TP- 9837, TD-9844, S.J.- 31.95, HOLE- 8 3/4, MUD#- 9.3, 9 5/8 SET @ 1134 |
| Event | 12 | Start Job | 12/12/2017 | 06:13:44 | COM5 | | | | | |
| Event | 13 | Prime Pumps | 12/12/2017 | 06:15:34 | COM5 | | | | | |
| Event | 14 | Test Lines | 12/12/2017 | 06:19:34 | COM5 | | | | | 5493 PSI TEST GOOD |
| Event | 15 | Pump Spacer 1 | 12/12/2017 | 06:23:29 | COM5 | 8.33 | 2.10 | 65.0 | 10 | FRESH WATER |

| | | | | | | | | | | |
|-------|----|---|------------|----------|------|-------|-------|--------|-------|--|
| Event | 16 | Pump Spacer 2 | 12/12/2017 | 06:28:00 | COM5 | 8.33 | 2.10 | 86.0 | 20 | MUD FLUSH |
| Event | 17 | Pump Spacer 1 | 12/12/2017 | 06:36:09 | COM5 | 8.33 | 4.00 | 71.00 | 10 | FRESH WATER |
| Event | 18 | Pump Lead Cement | 12/12/2017 | 06:39:20 | COM5 | 12.50 | 8.00 | 630 | 279.8 | 810 SKS, 12.5 PPG, 1.94 FT3/SK, 9.6 GAL/SK |
| Event | 19 | Pump Tail Cement | 12/12/2017 | 07:18:19 | COM5 | 13.30 | 8.00 | 675 | 81.9 | 265 SKS, 13.3 PPG, 1.73 FT3/SK, 7.81 GAL/SK |
| Event | 20 | Shutdown | 12/12/2017 | 07:31:11 | COM5 | | | | | TO DROP TOP PLUG AND WASH LINES |
| Event | 21 | Clean Lines | 12/12/2017 | 07:33:16 | COM5 | | | | | WASH UP PUMPS AND LINES TO PIT, BLEW DOWN STAND PIPE IRON TO PIT FROM FLOOR |
| Event | 22 | Drop Top Plug | 12/12/2017 | 07:36:43 | COM5 | | | | | AWAY |
| Event | 23 | Pump Displacement | 12/12/2017 | 07:36:50 | USER | 8.33 | 10.00 | 2300 | 151.9 | KCL WATER WITH 3 BAGS BE-6, 1 GAL MMCR |
| Event | 24 | Slow Rate | 12/12/2017 | 07:51:47 | USER | 8.33 | 4.00 | 1550.0 | 141 | TO BUMP PLUG |
| Event | 25 | Bump Plug | 12/12/2017 | 07:53:48 | COM5 | 8.33 | 4.0 | 1630 | 151.9 | PLUG BUMPED |
| Event | 26 | Check Floats | 12/12/2017 | 07:56:13 | USER | | | 2650 | | FLOATS HELD, 1.5 BBLS BACK TO PUMP |
| Event | 27 | End Job | 12/12/2017 | 07:57:03 | COM5 | | | | | |
| Event | 28 | Post-Job Safety Meeting (Pre Rig-Down) | 12/12/2017 | 08:10:00 | USER | | | | | JSA COMPLETED |
| Event | 29 | Rig Down Lines | 12/12/2017 | 09:00:00 | USER | | | | | |
| Event | 30 | Pre-Convoy Safety Meeting | 12/12/2017 | 09:30:00 | USER | | | | | |
| Event | 31 | Crew Leave Location | 12/12/2017 | 09:45:00 | USER | | | | | THANK YOU FOR USING HALLIBURTON CEMENT, JAMES LEIST AND CREW |

TEP SR 413-12 4.5 PRODUCTION CASING



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

- | | | | | |
|---|--------------------------|--------------------|---|------------------------------|
| ① Call Out | ⑧ RIG UP EQUIPMENT | ⑮ Pump Spacer 1 | 22 Drop Top Plug | 29 Rig Down Lines |
| ② Pre-Convoy Safety Meeting | ⑨ Other | ⑯ Pump Spacer 2 | 23 Pump Displacement | 30 Pre-Convoy Safety Meeting |
| ③ Crew Leave Yard | ⑩ Pre-Job Safety Meeting | ⑰ Pump Spacer 1 | 24 Slow Rate | 31 Crew Leave Location |
| ④ Arrive At Loc | ⑪ Other | ⑱ Pump Lead Cement | 25 Bump Plug | |
| ⑤ Assessment Of Location Safety Meeting | ⑫ Start Job | ⑲ Pump Tail Cement | 26 Check Floats | |
| ⑥ Other | ⑬ Prime Pumps | 20 Shutdown | 27 End Job | |
| ⑦ Pre-Rig Up Safety Meeting | ⑭ Test Lines | 21 Clean Lines | 28 Post-Job Safety Meeting (Pre Rig-Down) | |

HALLIBURTON | iCem® Service

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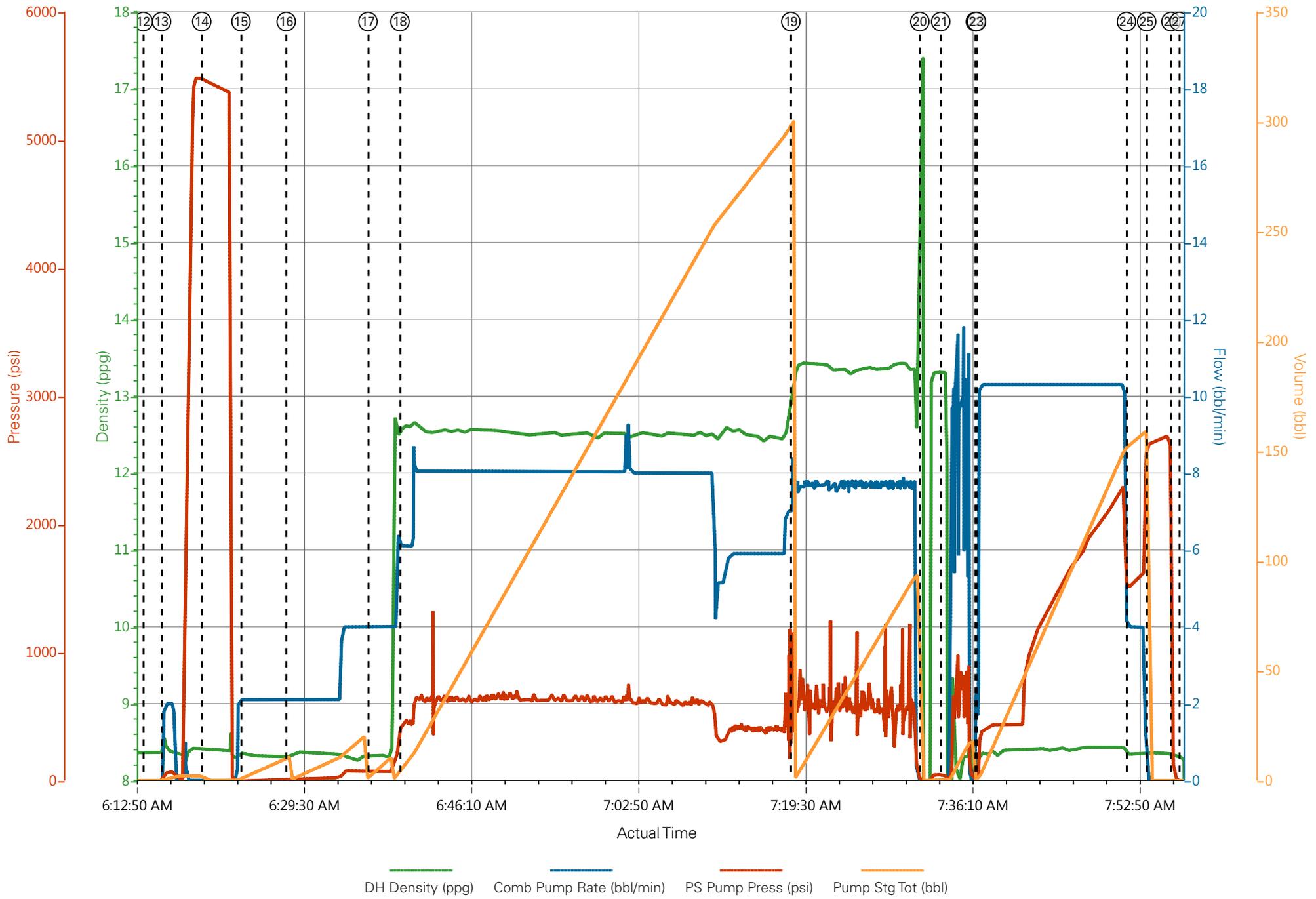
[Edit](#)

Customer : TERRA ENERGY PARTNERS-EBUS
 Representative : NATHAN BARR

Job Date : 12/12/2017 2:26:13 AM
 Sales Order # : 904496001

Well : SR 413-12
 ELITE 4 : WES GOWEN

TEP SR 413-12 4.5 PRODUCTION CASING



Job Information

| | | | | | |
|-----------------------|-----------------------|-----------------|-------------------|-------------------|----------------|
| Request/Slurry | 2437010/1 | Rig Name | H&P 318 | Date | 07/DEC/2017 |
| Submitted By | Derek James | Job Type | Production Casing | Bulk Plant | Grand Junction |
| Customer | Terra Energy Partners | Location | Garfield | Well | SR 413-12 |

Well Information

| | | | | | |
|--------------------------|----------|------------------|---------|-------------|---------------|
| Casing/Liner Size | 4.5 in | Depth MD | 9830 ft | BHST | 116°C / 241°F |
| Hole Size | 8.75 in | Depth TVD | 9470 ft | BHCT | 77°C / 171°F |
| Pressure | 5929 psi | | | | |

Drilling Fluid Information

| | | | | | |
|--------------------------|--|-----------------------|--|----------------|--|
| Mud Supplier Name | | Mud Trade Name | | Density | |
|--------------------------|--|-----------------------|--|----------------|--|

Cement Information - Lead Design

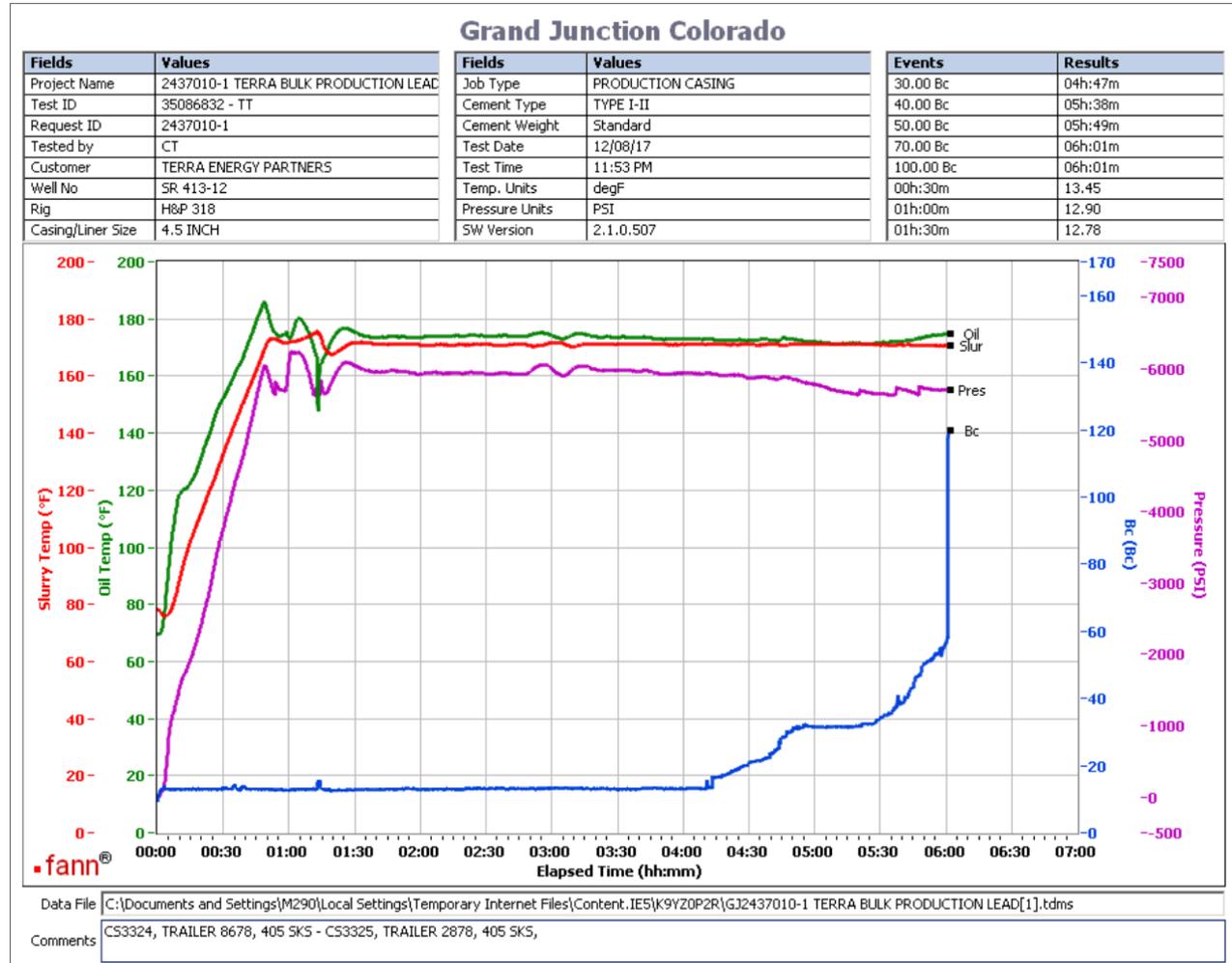
| <u>Conc</u> | <u>UOM</u> | <u>Cement/Additive</u> | <u>Sample Type</u> | <u>Sample Date</u> | <u>Lot No.</u> | Cement Properties | | |
|-------------|------------|------------------------|--------------------|--------------------|----------------|--------------------------|-------------|----------|
| | | NeoCem Lead | | | | Slurry Density | 12.5 | lbm/gal |
| | | | | | | Slurry Yield | 1.941 | ft3/sack |
| | | | | | | Water Requirement | 9.623 | gal/sack |
| | | | | | | Total Mix Fluid | 9.623 | gal/sack |
| | | | | | | Water Source | Fresh Water | |
| | | | | | | Water Chloride | | |

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Thickening Time - ON-OFF-ON

08/DEC/2017

| Test Temp (degF) | Pressure (psi) | Reached in (min) | 30 Bc (hh:min) | 50 Bc (hh:min) | 70 Bc (hh:min) | 100 Bc (hh:min) | Start Bc | Stirring before stop (mins) | Static Period (min) | Peak reading (BC) |
|------------------|----------------|------------------|----------------|----------------|----------------|-----------------|----------|-----------------------------|---------------------|-------------------|
| 171 | 5929 | 48 | 4:47 | 5:49 | 6:01 | 6:01 | 9 | 58 | 15 | 16 |



Total sks=810
 CS3324, Trailer 8678, 405 sks
 CS3325, Trailer 2878, 405 sks
 Deflected 14- > 16

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Job Information

| | | | | | |
|-----------------------|-----------------------|-----------------|-------------------|-------------------|----------------|
| Request/Slurry | 2437011/1 | Rig Name | H&P 318 | Date | 07/DEC/2017 |
| Submitted By | Derek James | Job Type | Production Casing | Bulk Plant | Grand Junction |
| Customer | Terra Energy Partners | Location | Garfield | Well | SR 413-12 |

Well Information

| | | | | | |
|--------------------------|----------|------------------|---------|-------------|---------------|
| Casing/Liner Size | 4.5 in | Depth MD | 9830 ft | BHST | 116°C / 241°F |
| Hole Size | 8.75 in | Depth TVD | 9470 ft | BHCT | 77°C / 171°F |
| Pressure | 5929 psi | | | | |

Drilling Fluid Information

| | | | | | |
|--------------------------|--|-----------------------|--|----------------|--|
| Mud Supplier Name | | Mud Trade Name | | Density | |
|--------------------------|--|-----------------------|--|----------------|--|

Cement Information - Tail Design 

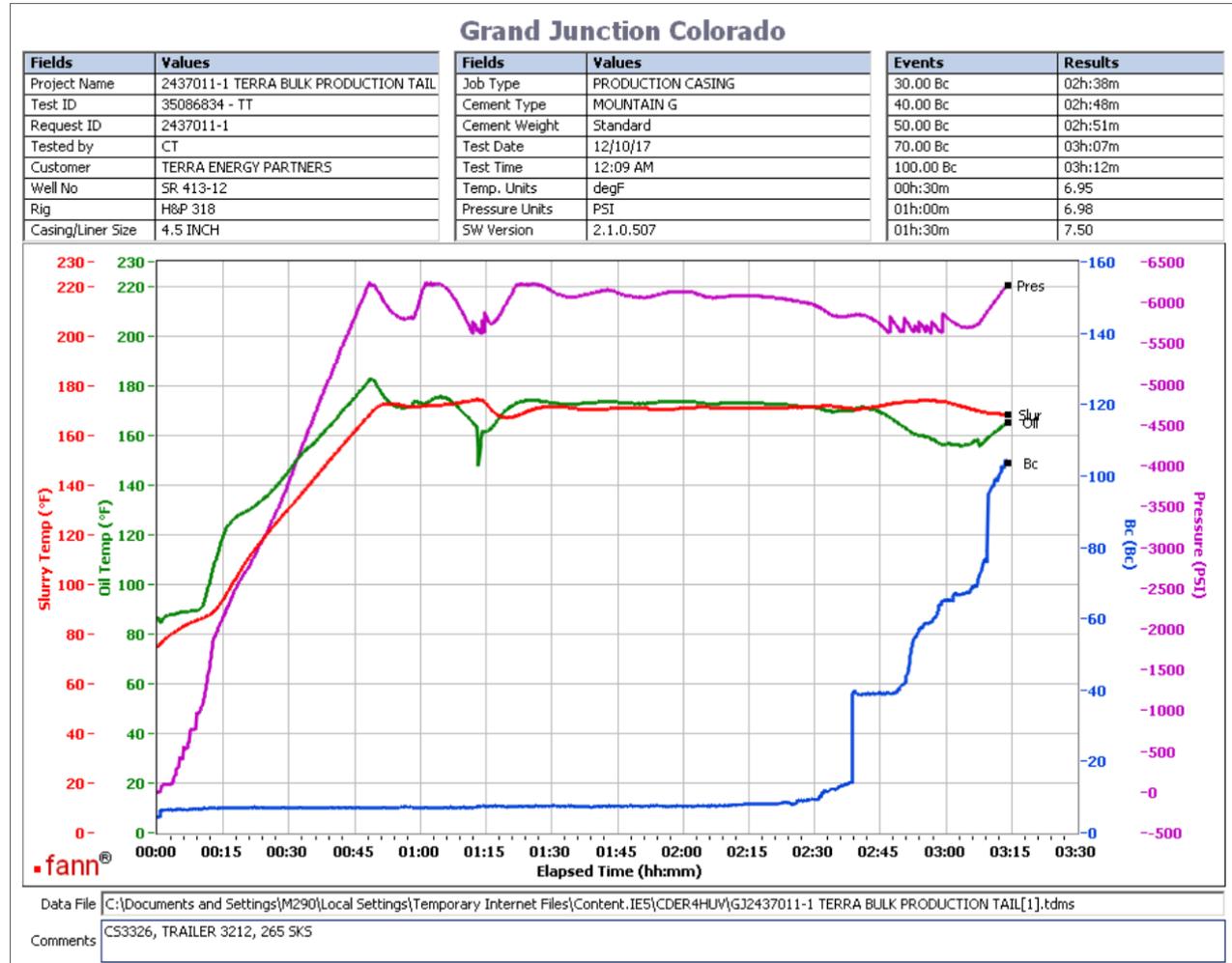
| <u>Conc</u> | <u>UOM</u> | <u>Cement/Additive</u> | <u>Sample Type</u> | <u>Sample Date</u> | <u>Lot No.</u> | Cement Properties | | |
|-------------|------------|------------------------|--------------------|--------------------|----------------|--------------------------|-------------|----------|
| | | ThermaCem Tail | | | | Slurry Density | 13.3 | lbm/gal |
| | | | | | | Slurry Yield | 1.733 | ft3/sack |
| | | | | | | Water Requirement | 7.799 | gal/sack |
| | | | | | | Total Mix Fluid | 7.799 | gal/sack |
| | | | | | | Water Source | Fresh Water | |
| | | | | | | Water Chloride | | |

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Thickening Time - ON-OFF-ON

09/DEC/2017

| Test Temp (degF) | Pressure (psi) | Reached in (min) | 30 Bc (hh:min) | 50 Bc (hh:min) | 70 Bc (hh:min) | 100 Bc (hh:min) | Start Bc | Stirring before stop (mins) | Static Period (min) | Peak reading (BC) |
|------------------|----------------|------------------|----------------|----------------|----------------|-----------------|----------|-----------------------------|---------------------|-------------------|
| 171 | 5929 | 48 | 2:38 | 2:51 | 3:07 | 3:12 | 4 | 58 | 15 | 7 |



265 sks tail
 CS3326, Trailer 3212, 265 sks
 Deflection: 7 - 7

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