

HALLIBURTON

iCem[®] Service

LARAMIE ENERGY LLC

For: Chuck Mallary

Date: Thursday, July 13, 2017

Gunderson BCU 20-07E Surface PJR

API # 05-077-10357-00

Sincerely,

Grand Junction Cement Engineering

1.0 Real-Time Job Summary

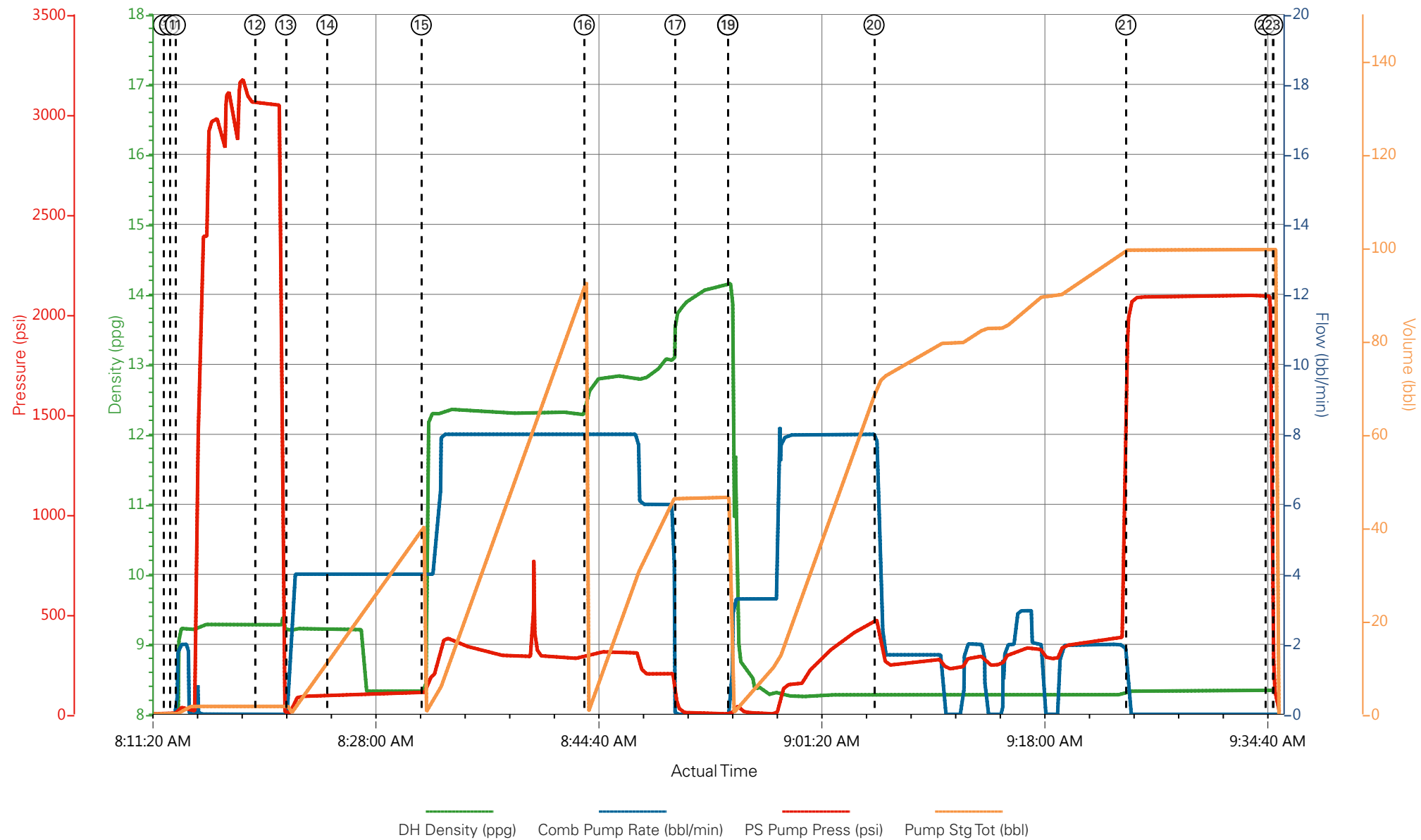
1.1 Job Event Log

| 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 | 7/13/2017 | 01:00:00 | USER | | | | | REQUESTED ON LOCATION @ 7:00 |
| Event | 2 | Pre-Convoy Safety Meeting | 7/13/2017 | 03:45:00 | USER | | | | | ALL HES PRESENT |
| Event | 3 | Crew Leave Yard | 7/13/2017 | 04:00:00 | USER | | | | | 1 HT 400 PUMP TRUCK E8, 1 660 BULK TRUCKS, 1 450 SERVICE PICKUP |
| Event | 4 | Arrive At Loc | 7/13/2017 | 06:00:00 | USER | | | | | HES SHOWED UP TO LOCATION ONE HOUR EARLY TO LOCATION. RIG RUNNING CASING |
| Event | 5 | Assessment Of Location Safety Meeting | 7/13/2017 | 06:05:00 | USER | | | | | MET WITH COMP REP, AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7, CHLORIDES- 0, TEMP- 65F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES. |
| Event | 6 | Spot Equipment | 7/13/2017 | 06:15:00 | USER | | | | | 1 HT 400 PUMP TRUCK E8, 1 660 BULK TRUCKS, 1 450 SERVICE PICKUP |
| | | | | | | | | | | ALL HES PRESENT |
| Event | 7 | Pre-Rig Up Safety Meeting | 7/13/2017 | 06:30:00 | USER | | | | | |
| Event | 8 | Pre-Job Safety Meeting | 7/13/2017 | 07:45:00 | USER | | | | | ALL HES EMPLOYEES AND RIG CREW PRESENT, RIG CIRCULATED @ 9.5 BPM PRIOR TO JOB, |

| PRESSURE @95 PSI | | | | | | | | | |
|------------------|----|--|-----------|----------|------|------|-----|------|---|
| Event | 9 | Start Job | 7/13/2017 | 08:12:22 | USER | | | | TD-1561', TP-1551', SJ-44.43', CSG-8.625" 24# J55, OH-11", MUD-9.3PPG |
| Event | 10 | Drop Bottom Plug | 7/13/2017 | 08:12:50 | USER | | | | VERIFIED BY FLAG INDICATOR |
| Event | 11 | Prime Lines | 7/13/2017 | 08:13:16 | COM5 | 8.33 | 2.0 | 40 | 2 FRESH WATER |
| Event | 12 | Test Lines | 7/13/2017 | 08:19:12 | COM5 | | | 3060 | PRESSURE HELD |
| Event | 13 | Pump H2O Spacer | 7/13/2017 | 08:21:31 | COM5 | 8.33 | 4.0 | 110 | 40 FRESH WATER |
| Event | 14 | Check weight | 7/13/2017 | 08:24:36 | COM5 | | | | WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES |
| Event | 15 | Pump Lead Cement | 7/13/2017 | 08:31:39 | COM5 | 12.3 | 8.0 | 400 | 86.3 197 SKS VARICEM GJ5 CMT 12.3 PPG, 2.46 FT3/SK, 14.17 GAL/SK |
| Event | 16 | Pump Tail Cement | 7/13/2017 | 08:43:50 | COM5 | 12.8 | 8.0 | 310 | 42.3 109 SKS VARICEM GJ5 CMT 12.8 PPG, 2.18 FT3/SK, 12.11 GAL/SK |
| Event | 17 | Shutdown | 7/13/2017 | 08:50:37 | USER | | | | END OF CMT |
| Event | 18 | Drop Top Plug | 7/13/2017 | 08:54:33 | COM5 | | | | VERIFIED BY FLAG INDICATOR |
| Event | 19 | Pump Displacement | 7/13/2017 | 08:54:34 | COM5 | 8.33 | 8.0 | 430 | 60 FRESH WATER |
| Event | 20 | Slow Rate | 7/13/2017 | 09:05:30 | USER | 8.33 | 2.0 | 360 | 36 HAD TO SLOW RATE AND SHUTDOWN DURING DISPLACEMENT FOR CELLUR PUMP ISSUES |
| Event | 21 | Bump Plug | 7/13/2017 | 09:24:19 | COM5 | 8.33 | 2.0 | 380 | 96 PLUG BUMPED BROUGHT PRESSURE UP FOR A 10 MIN CASING TEST |
| Event | 22 | Check Floats | 7/13/2017 | 09:34:43 | COM5 | | | 2095 | FLOATS HELD 1 BBL FLOW BACK TO TRUCK |
| Event | 23 | End Job | 7/13/2017 | 09:35:17 | COM5 | | | | 33 BBL OF CMT TO SURFACE, RIG USED 30 LBS OF SUGAR |
| Event | 24 | Post-Job Safety Meeting (Pre Rig-Down) | 7/13/2017 | 09:45:00 | USER | | | | ALL HES PRESENT |

| | | | | | | |
|-------|----|---------------------------|-----------|----------|------|---|
| Event | 25 | Pre-Convoy Safety Meeting | 7/13/2017 | 10:45:00 | USER | ALL HES PRESENT |
| Event | 26 | Crew Leave Location | 7/13/2017 | 11:00:00 | USER | THANK YOU FOR CHOOSING HALLIBURTON CEMENT, DUSTIN HYDE AND CREW |

LARAMIE, GUNERSON 20-07E, 8 5/8" SURFACE



① Call Out

② Pre-Convoy Safety Meeting

③ Crew Leave Yard

④ Arrive At Loc

⑤ Assessment Of Location Safety Meeting

⑥ Spot Equipment

⑦ Pre-Rig Up Safety Meeting

⑧ Pre-Job Safety Meeting

⑨ Start Job

⑩ Drop Bottom Plug

⑪ Prime Lines

⑫ Test Lines

⑬ Pump H2O Spacer

⑭ Check weight

⑮ Pump Lead Cement

⑯ Pump Tail Cement

⑰ Shutdown

⑱ Drop Top Plug

⑲ Pump Displacement

20 Slow Rate

21 Bump Plug

22 Check Floats

23 End Job

24 Post-Job Safety Meeting (Pre Rig-Down)

25 Pre-Convoy Safety Meeting

26 Crew Leave Location

iCem® Service

Created: 2017-07-13 06:33:13, Version: 4.2.393

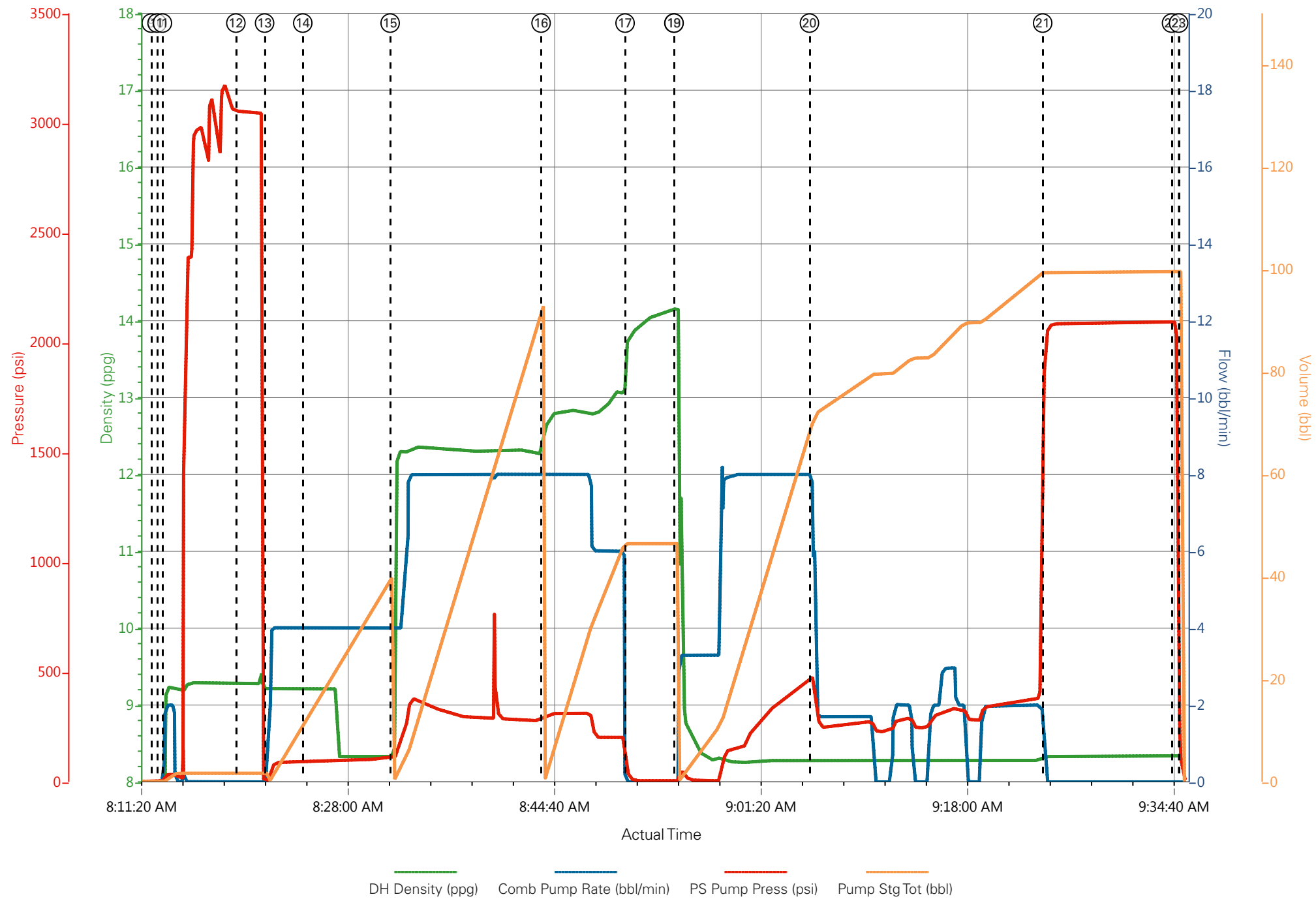
Edit

Customer : LARAMIE ENERGY II LLC
Representative : SHANE HEARD

Job Date : 7/13/2017
Sales Order # : 904161074

Well : GUNDERSON 20-07E
E8 : R. MARTIN / HYDE

LARAMIE, GUNERSON 20-07E, 8 5/8" SURFACE



HALLIBURTON

iCem[®] Service

LARAMIE ENERGY LLC

For: Chuck Mallary

Date: Sunday, July 16, 2017

Gunderson BCU 20-07E Production PJR

API# 05-077-10357-00

Sincerely,

Grand Junction Cement Engineering

2.0 Real-Time Job Summary

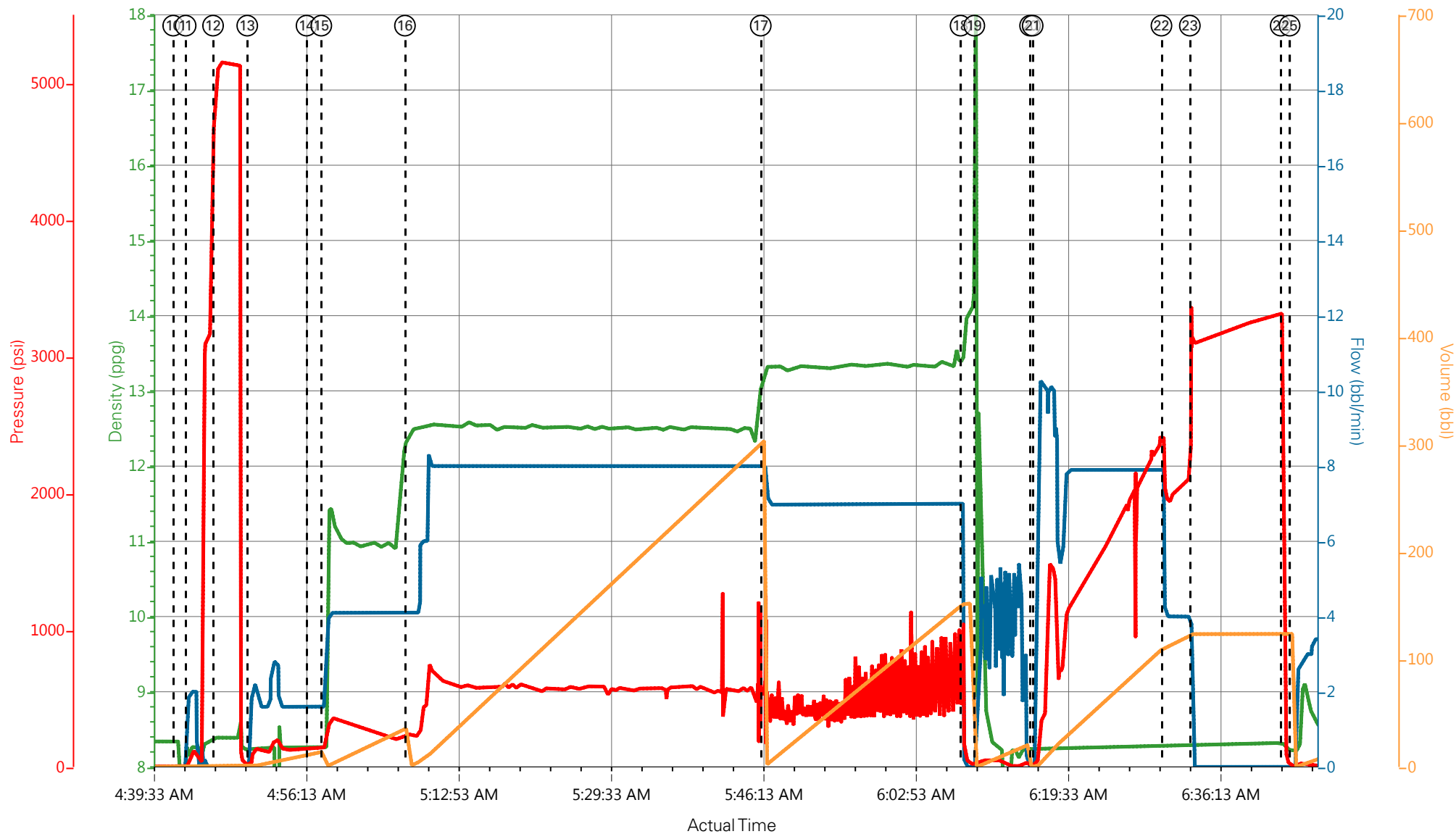
2.1 Job Event Log

| Type | Seq. No. | Graph Label | Date | Time | Source | Downhole Density (ppg) | Combined Pump Rate (bbl/min) | Pass-Side Pump Pressure (psi) | Pump Stage Total (bbl) | Comments |
|-------|----------|---------------------------------------|-----------|----------|--------|---------------------------|---------------------------------|----------------------------------|---------------------------|--|
| Event | 1 | Call Out | 7/15/2017 | 21:00:00 | USER | | | | | ALL HES CALLED OUT |
| Event | 2 | Pre-Convoy Safety Meeting | 7/15/2017 | 23:00:00 | USER | | | | | JOURNEY CREATED, ALL HES INVOLVED IN SAFETY MEETING |
| Event | 3 | Crew Leave Yard | 7/15/2017 | 23:30:00 | USER | | | | | 1-F-550 PICKUP, 1-ELITE PUMP TRUCK, 1-660 BULK TRUCK, 2-CEMENT STORAGE SILOS ON LOCATION |
| Event | 4 | Arrive At Loc | 7/16/2017 | 01:00:00 | USER | | | | | HES CREW ARRIVED 2 HOURS EARLY |
| Event | 5 | Assessment Of Location Safety Meeting | 7/16/2017 | 01:15:00 | USER | | | | | RIG WAS RUNNING CASING, HES REP SPOKE WITH COMPANY REP PRIOR TO SPOTTING EQUIPMENT |
| Event | 6 | Pre-Rig Up Safety Meeting | 7/16/2017 | 02:30:00 | USER | | | | | JSA FILLED OUT AND REVIEWED BY ALL HES CREW |
| Event | 7 | Rig-Up Equipment | 7/16/2017 | 02:45:00 | USER | | | | | RIG-UP IRON TO THE STAND PIPE AND WASH UP LINE TO RIG CELLAR, WATER HOSES TO BOTH THE RIG TANK AND FRESH WATER UPRIGHT, BULK HOSES AND EQUIPMENT TO PUMP TRUCK |
| Event | 8 | Rig-Up Completed | 7/16/2017 | 03:30:00 | USER | | | | | RIG-UP COMPLETED SAFELY |
| Event | 9 | Pre-Job Safety Meeting | 7/16/2017 | 04:15:00 | USER | | | | | ALL HES, RIG CREW AND COMPANY REP IN ATTENDANCE TO DISCUSS JOB AND PROCEDURES |
| Event | 10 | Start Job | 7/16/2017 | 04:42:00 | COM5 | | | | | TD: 8009FT TP: 7999FT OH: 7 7/8 CSG: 4.5 11.6# I-80 SRF CSG: 8.625 24# SET AT 1561FT MUD WT: 9.5 VISC: 41 WTR TEST: TEMP-60 CHLOR-0 PH-7 |
| Event | 11 | Prime Lines | 7/16/2017 | 04:43:21 | USER | 8.34 | 2 | 138 | 2 | FILL LINES WITH 2BBLs OF WATER AHEAD TO PRESSURE TEST |

| | | | | | | | | | | |
|-------|----|-------------------|-----------|----------|------|------|---|------|-------|---|
| Event | 12 | Test Lines | 7/16/2017 | 04:46:21 | COM5 | | | 5155 | | PRESSURE TEST LINES TO 5155PSI, PRESSURE TEST OK |
| Event | 13 | Water Spacer | 7/16/2017 | 04:50:05 | COM5 | 8.34 | 2 | 138 | 15 | 15BBLS OF WATER PUMPED AHEAD TO VERIFY CIRCULATION AND TO BUILD A TUB OF TUNED SPACER |
| Event | 14 | Check weight | 7/16/2017 | 04:56:34 | COM5 | 11 | | | | VERIFIED WEIGHT OF FIRST TUB OF TUNED SPACER |
| Event | 15 | Tuned Spacer | 7/16/2017 | 04:58:11 | COM5 | 11 | 4 | 320 | 40 | 40BBLS OF TUNED SPACER 11PPG 4.86YIELD 31.9GAL/SK WEIGHT OF TUNED SPACER VERIFIED VIA MUD SCALES THROUGHOUT TUNED SPACER |
| Event | 16 | Pump Lead Cement | 7/16/2017 | 05:07:21 | COM5 | 12.5 | 8 | 605 | 292.9 | 848SKS OF NEOCEM CEMENT (292.9BBLS) 12.5PPG 1.94YIELD 9.6GAL/SK WEIGHT OF CEMENT VERIFIED VIA MUD SCALES THROUGHOUT LEAD CEMENT |
| Event | 17 | Pump Tail Cement | 7/16/2017 | 05:46:16 | COM5 | 13.3 | 7 | 460 | 135.6 | 440SKS OF THERMACEM CEMENT (135.6BBLS) 13.3PPG 1.73YIELD 7.81GAL/SK WEIGHT OF CEMENT VERIFIED VIA MUD SCALES THROUGHOUT TAIL CEMENT |
| Event | 18 | Shutdown | 7/16/2017 | 06:08:07 | USER | | | | | SHUTDOWN END OF CEMENT |
| Event | 19 | Clean Lines | 7/16/2017 | 06:09:37 | USER | | | | | CLEAN LINES TO RIG CELLAR, READY TANKS FOR DISPLACEMENT |
| Event | 20 | Drop Top Plug | 7/16/2017 | 06:15:43 | USER | | | | | TOP PLUG AWAY NO PROBLEMS |
| Event | 21 | Pump Displacement | 7/16/2017 | 06:16:00 | COM5 | 8.34 | 8 | 2440 | 112.6 | FRESH WATER DISPLACEMENT WITH 1-GAL MMCR AND 5-GALS OF CLA-WEB ADDED THROUGHOUT DISPLACEMENT |
| Event | 22 | Slow Rate | 7/16/2017 | 06:30:06 | USER | 8.34 | 4 | 2060 | 10 | SLOW RATE TO BUMP THE PLUG, PRESSURE PRIOR TO SLOWING RATE WAS 2440PSI, PRESSURE AFTER SLOWING RATE WAS 2060PSI |
| Event | 23 | Bump Plug | 7/16/2017 | 06:33:12 | COM5 | 8.34 | 4 | 2130 | 122.6 | PLUG BUMPED AT CALCULATED DISPLACEMENT, PLUG BUMPED AT 2130PSI TOOK TO 3100PSI FOR 10MIN CASING TEST, 25BBLS OF TUNED SPACER TO |

| | | | | | | | | SURFACE |
|-------|----|-----------------------------|-----------|----------|------|------|-----|---|
| Event | 24 | Check Floats | 7/16/2017 | 06:43:08 | USER | 3316 | 1.5 | FLOATS HELD 1.5BBLS BACK TO TRUCK, 25BBLS OF TUNED SPACER TO SURFACE, RIG USED 20 POUNDS OF SUGAR |
| Event | 25 | End Job | 7/16/2017 | 06:44:07 | COM5 | | | THANK YOU FOR CHOOSING HALLIBURTON CEMENT CARL KUKUS AND CREW |
| Event | 26 | Pre-Rig Down Safety Meeting | 7/16/2017 | 06:50:00 | USER | | | JSA REVIEWED, ALL HES INVOLVED IN SAFETY MEETING |
| Event | 27 | Rig-Down Equipment | 7/16/2017 | 07:00:00 | USER | | | WASH UP AND BLOW DOWN PUMP TRUCK, RIG DOWN ALL LINES AND EQUIPMENT |
| Event | 28 | Rig-Down Completed | 7/16/2017 | 08:00:00 | USER | | | RIG-DOWN COMPLETED SAFELY |
| Event | 29 | Pre-Convoy Safety Meeting | 7/16/2017 | 08:10:00 | USER | | | JOURNEY CREATED ALL HES INVOLVED IN SAFETY MEETING |
| Event | 30 | Crew Leave Location | 7/16/2017 | 08:20:20 | USER | | | 1-F-550 PICKUP, 1-ELITE PUMP TRUCK, 1-660 BULK TRUCK |

LARAMIE - GUNDERSON 20-07E - 90416554 - PRODUCTION



DH Density (ppg) 8.46 Comb Pump Rate (bbl/min) 3.8 PS Pump Press (psi) 2 Pump Stg Tot (bbl) 10.6

on Safety Meeting ⑦ Rig-Up Equipment ⑨ Pre-Job Safety Meeting ⑪ Prime Lines ⑬ Water Spacer ⑮ Tuned Spacer ⑰ Pump Tail Cement ⑲ Clean Lines 21 Pump Displacement 23
 ⑧ Rig-Up Completed ⑩ Start Job ⑫ Test Lines ⑭ Check weight ⑯ Pump Lead Cement ⑱ Shutdown 20 Drop Top Plug 22 Slow Rate 24

▼ **HALLIBURTON** | iCem® Service

Created: 2017-07-16 00:38:15, Version: 4.2.393

Edit

Customer : LARAMIE ENERGY II LLC

Job Date : 7/16/2017 3:44:25 AM

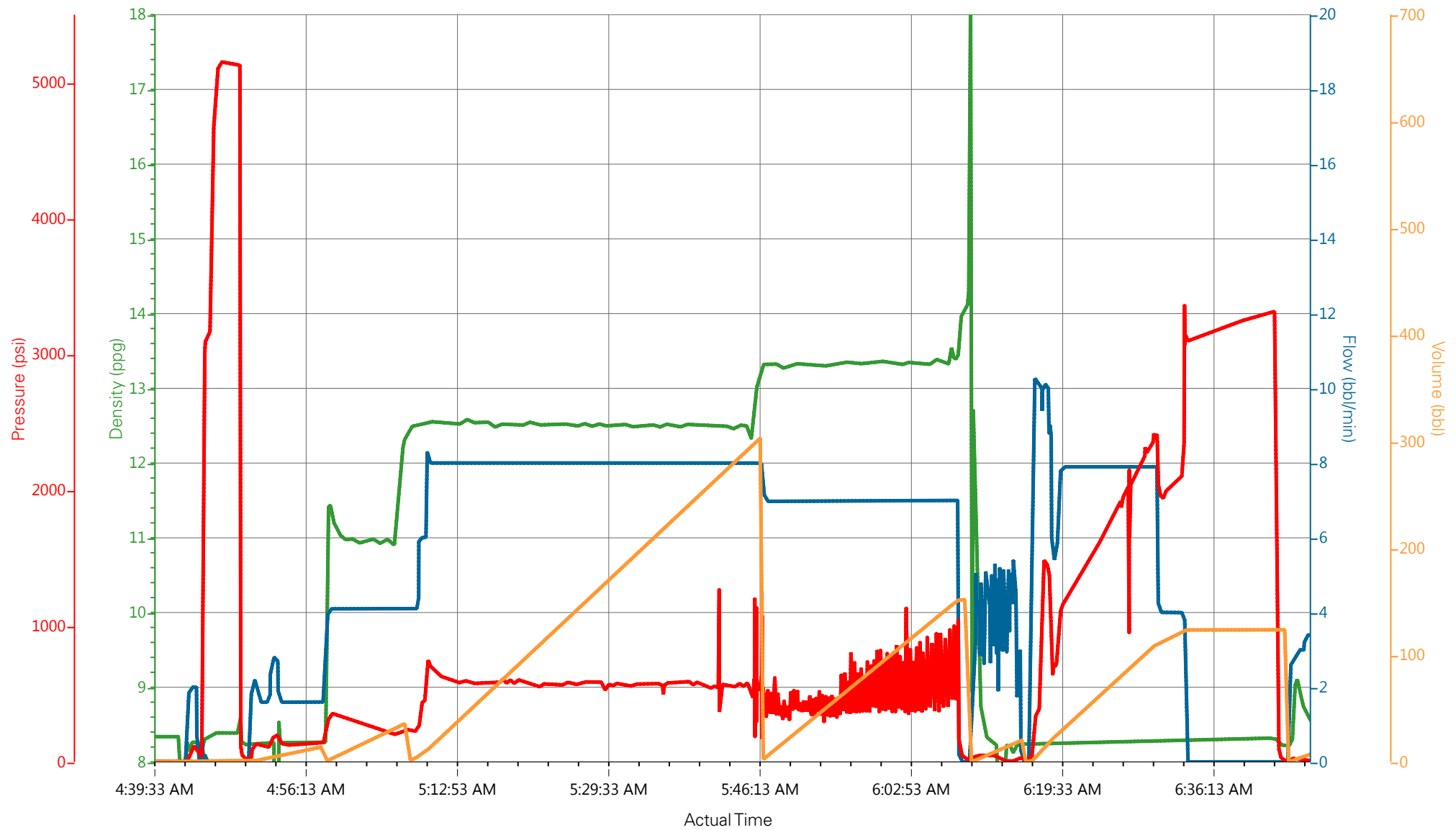
Well : GUNDERSON 20-07E

Representative : Shane Heard

Sales Order # : 90416554

Elite 1 : Dillon Martin/Carlton Kukus

LARAMIE - GUNDERSON 20-07E - 90416554 - PRODUCTION



DH Density (ppg) 8.46 Comb Pump Rate (bbl/min) 3.8 PS Pump Press (psi) 2 Pump Stg Tot (bbl) 10.6

Job Information

| | | | | | |
|-----------------------|----------------|-----------------|-------------------|-------------------|----------------------|
| Request/Slurry | 2400994/1 | Rig Name | H&P 522 | Date | 13/JUL/2017 |
| Submitted By | Patrick Ealey | Job Type | Production Casing | Bulk Plant | Grand Junction |
| Customer | Laramie Energy | Location | Garfield | Well | Gunderson BCU 20-07E |

Well Information

| | | | | | |
|--------------------------|----------|------------------|---------|-------------|---------------|
| Casing/Liner Size | 4.5 in | Depth MD | 8011 ft | BHST | 113°C / 235°F |
| Hole Size | 7.875 in | Depth TVD | 7551 ft | BHCT | 76°C / 168°F |
| Pressure | 4590 psi | | | | |

Drilling Fluid Information

| | | | | | |
|--------------------------|--------|-----------------------|------------|----------------|-------------|
| Mud Supplier Name | Baroid | Mud Trade Name | BARADRIL-N | Density | 9.9 lbm/gal |
|--------------------------|--------|-----------------------|------------|----------------|-------------|

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 | Field (Fresh) Water | |
| | | | | | | Water Chloride | | |

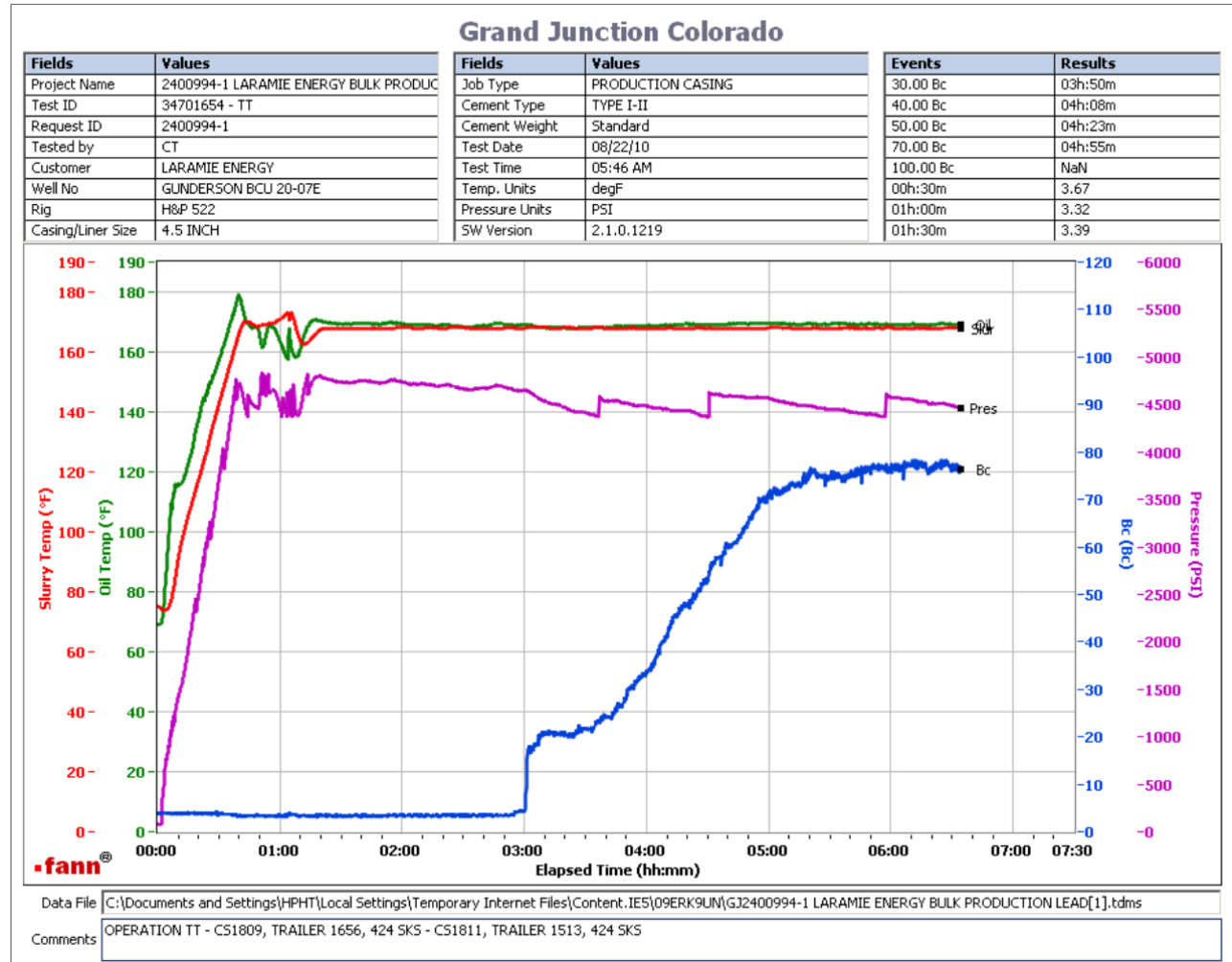
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Operation Test Results Request ID 2400994/1

Thickening Time - ON-OFF-ON

15/JUL/2017

| Test Temp (°F) | Pressure (psi) | Reached in (min) | 30 Bc (hh:mm) | 50 Bc (hh:mm) | 70 Bc (hh:mm) | Start Bc | Stirring before stop (mins) | Static Period (min) | Peak reading (BC) | Termination time (hh:mm) | Termination Bc |
|-------------------|-------------------|---------------------|------------------|------------------|------------------|----------|-----------------------------------|---------------------------|-------------------------|--------------------------------|-------------------|
| 168 | 4590 | 39 | 3:50 | 4:23 | 4:55 | 4 | 49 | 15 | 4 | 6:34 | 75 |



Total sks = 848

Composite:

CS1809 TR 1656 424 SKS

CS1811 TR 1513 424 SKS

Deflection: 4 - 4

This test was terminated at 6:34, 75 Bc's as per the engineers instructions.

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HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

| | | | | | |
|-----------------------|----------------|-----------------|-------------------|-------------------|----------------------|
| Request/Slurry | 2400995/1 | Rig Name | H&P 522 | Date | 13/JUL/2017 |
| Submitted By | Patrick Ealey | Job Type | Production Casing | Bulk Plant | Grand Junction |
| Customer | Laramie Energy | Location | Garfield | Well | Gunderson BCU 20-07E |

Well Information

| | | | | | |
|--------------------------|----------|------------------|---------|-------------|---------------|
| Casing/Liner Size | 4.5 in | Depth MD | 8011 ft | BHST | 113°C / 235°F |
| Hole Size | 7.875 in | Depth TVD | 7551 ft | BHCT | 76°C / 168°F |
| Pressure | 4590 psi | | | | |

Drilling Fluid Information

| | | | | | |
|--------------------------|--------|-----------------------|------------|----------------|-------------|
| Mud Supplier Name | Baroid | Mud Trade Name | BARADRIL-N | Density | 9.9 lbm/gal |
|--------------------------|--------|-----------------------|------------|----------------|-------------|

Cement Information - Tail Design



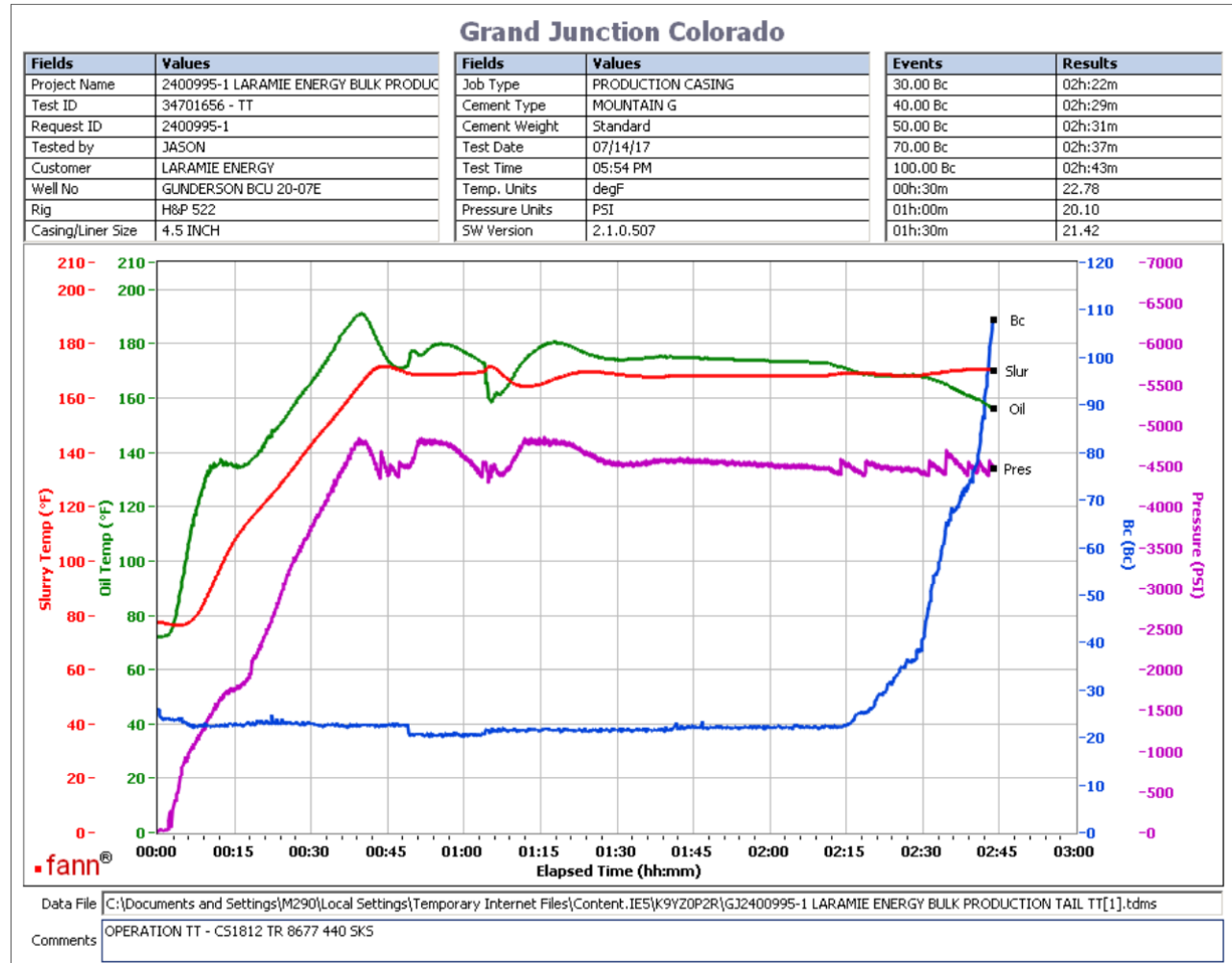
| <u>Conc</u> | <u>UOM</u> | <u>Cement/Additive</u> | <u>Sample Type</u> | <u>Sample Date</u> | <u>Lot No.</u> | Cement Properties | | |
|-------------|------------|------------------------|--------------------|--------------------|----------------|--------------------------|------------------------|----------|
| | | 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 | Field (Fresh) Water | |
| | | | | | | Water Chloride | | |

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Thickening Time - ON-OFF-ON

15/JUL/2017

| Test Temp (°F) | Pressure (psi) | Reached in (min) | 30 Bc (hh:mm) | 50 Bc (hh:mm) | 70 Bc (hh:mm) | 100 Bc (hh:mm) | Start Bc | Stirring before stop (mins) | Static Period (min) | Peak reading (BC) |
|-------------------|-------------------|---------------------|------------------|------------------|------------------|-------------------|----------|-----------------------------------|------------------------|-------------------------|
| 168 | 4590 | 39 | 2:22 | 2:31 | 2:37 | 2:43 | 26 | 49 | 15 | 21 |



Total sks = 440
 CS1812 TR 8677 440 SKS
 Deflection: 21 - 21

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