

# HALLIBURTON

iCem<sup>®</sup> Service

## **WPX ENERGY LLC-EBUS**

**For: Mark Mewshaw**

Date: Monday, July 04, 2016

**GM 432-9 Production**

**API # 05-045-22535-00**

Sincerely,

**Grand Junction Cement Engineering**

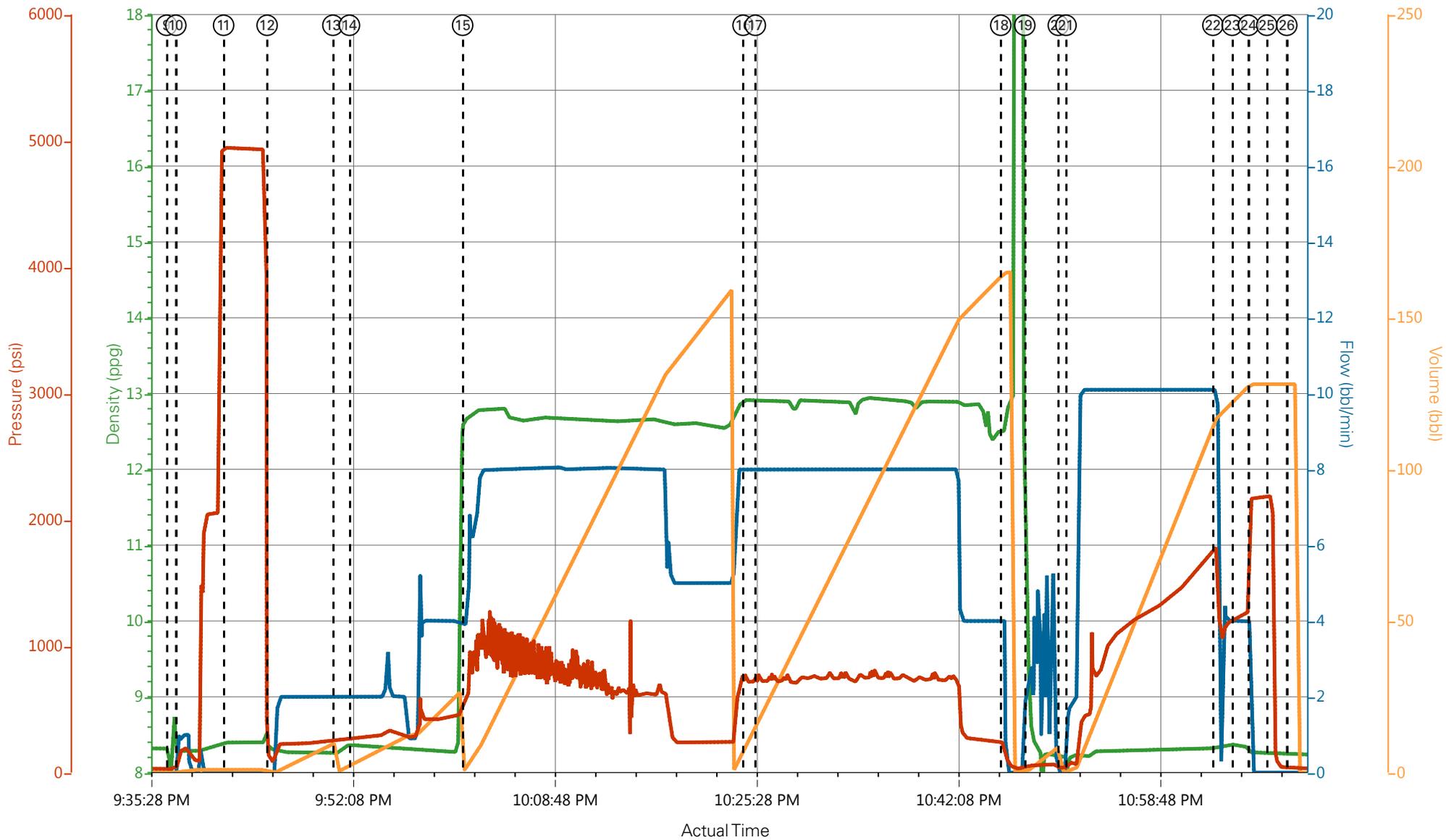
## 1.0 Real-Time Job Summary

### 1.1 Job Event Log

| Type  | Seq. No. | Graph Label                           | Date     | Time     | Source | Pass-Side Pump Pressure<br>(psi) | Downhole Density<br>(ppg) | Combined Pump Rate<br>(bbl/min) | Pump Stage Total<br>(bbl) | Comments  |
|-------|----------|---------------------------------------|----------|----------|--------|----------------------------------|---------------------------|---------------------------------|---------------------------|---|
| Event | 1        | Call Out                              | 7/4/2016 | 13:00:00 | USER   |                                  |                           |                                 |                           | REQUESTED ON LOCATION @ 1930  |
| Event | 2        | Pre-Convoy Safety Meeting             | 7/4/2016 | 15:30:00 | USER   |                                  |                           |                                 |                           | ALL HES PRESENT   |
| Event | 3        | Crew Leave Yard                       | 7/4/2016 | 15:45:00 | USER   |                                  |                           |                                 |                           | 1 F550 & 2 660 BULK TURCKS, 1 PUMP TRUCK  |
| Event | 4        | Arrive At Loc                         | 7/4/2016 | 17:00:00 | USER   |                                  |                           |                                 |                           | RIG RUNNING CASING  |
| Event | 5        | Assessment Of Location Safety Meeting | 7/4/2016 | 17:30:00 | USER   |                                  |                           |                                 |                           | MET WITH COMP REP, B.OAKS, AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7, CHLORIDES- 0, TEMP- 55F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES. |
| Event | 6        | Pre-Rig Up Safety Meeting             | 7/4/2016 | 20:00:00 | USER   |                                  |                           |                                 |                           | ALL HES PRESENT   |
| Event | 7        | Rig-Up Equipment                      | 7/4/2016 | 20:15:00 | USER   |                                  |                           |                                 |                           | HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.  |
| Event | 8        | Pre-Job Safety Meeting                | 7/4/2016 | 21:15:00 | USER   |                                  |                           |                                 |                           | ALL HES AND RIG CREW PRESENT  |
| Event | 9        | Start Job                             | 7/4/2016 | 21:37:00 | USER   |                                  |                           |                                 |                           | TD 7921', TP 7914.45', SJ 28.85', OH 8.75", CSG 4.5" 11.6#, MUD 9.8 PPG. RIG CIRCULATED WELL @ APPROX. 16 BPM FOR APPROX 1.5 HRS.   |
| Event | 10       | Fill Lines                            | 7/4/2016 | 21:37:45 | USER   | 102.00                           | 8.28                      | 0.90                            | 0.1                       | 8.33 PPG FRESH WATER  |
| Event | 11       | Test Lines                            | 7/4/2016 | 21:41:42 | COM6   | 4946.00                          | 8.40                      | 0.00                            | 0.9                       | ALL LINES HELD PRESSURE AT 5000 PSI   |
| Event | 12       | Pump Spacer 1                         | 7/4/2016 | 21:45:17 | COM6   | 84.00                            | 8.31                      | 0.00                            | 0.0                       | 8.33 PPG FRESH WATER (10BBL)  |
| Event | 13       | Pump Spacer 2                         | 7/4/2016 | 21:50:43 | COM6   | 251.00                           | 8.26                      | 2.00                            | 0.0                       | 8.4 PPG MUDFLUSH III (20BBL)  |
| Event | 14       | Check weight                          | 7/4/2016 | 21:52:05 | COM6   |                                  |                           |                                 |                           | WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES   |
| Event | 15       | Pump Lead Cement                      | 7/4/2016 | 22:01:26 | COM6   | 561.00                           | 12.66                     | 3.90                            | 1.4                       | NEOCEM CEMENT 430 SKS (150 BBLS), 12.5 PPG, 1.96 FT3/SK, 9.34 GAL/SK, WITH TUFF FIBER   |

|       |    |  |          |          |      |         |       |       |       |   |
|-------|----|--|----------|----------|------|---------|-------|-------|-------|---|
| Event | 16 | Pump Tail Cement                       | 7/4/2016 | 22:24:36 | COM6 | 733.00  | 12.92 | 8.00  | 8.7   | NEOCEM CEMENT 435 SKS (145 BBLs), 12.8 PPG, 1.87 FT3/SK, 8.7 GAL/SK.                          |
| Event | 17 | Check weight                           | 7/4/2016 | 22:25:37 | COM6 |         |       |       |       | WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES   |
| Event | 18 | Shutdown                               | 7/4/2016 | 22:45:53 | USER |         |       |       |       | END OF CEMENT   |
| Event | 19 | Clean Lines                            | 7/4/2016 | 22:47:52 | USER |         |       |       |       | WASH UP PUMPS AND LINES ON TOP OF PLUG  |
| Event | 20 | Drop Top Plug                          | 7/4/2016 | 22:50:38 | USER |         |       |       |       | PLUG WENT, VERIFIED BY CO REP   |
| Event | 21 | Pump Displacement                      | 7/4/2016 | 22:51:16 | COM6 | 88.00   | 8.21  | 1.70  | 0.4   | 8.34 PPG FRESH WATER (122 BBLs) 3 BAGS BE6, 1 GAL MMCR & 14 SKS KCL                           |
| Event | 22 | Slow Rate                              | 7/4/2016 | 23:03:24 | USER | 1789.00 | 8.32  | 10.10 | 116.7 | SLOW RATE TO 4 BPM PER CO REP TO LAND PLUG  |
| Event | 23 | Post-Job Safety Meeting (Pre Rig-Down) | 7/4/2016 | 23:05:00 | USER |         |       |       |       | ALL HES PRESENT   |
| Event | 24 | Bump Plug                              | 7/4/2016 | 23:06:21 | COM6 | 2177.00 | 8.27  | 0.00  | 128.1 | LAND PLUG AT 1270 PSI, BROUGHT UP TO 2178 PSI   |
| Event | 25 | Check Floats                           | 7/4/2016 | 23:07:51 | COM6 | 2188.00 | 8.28  | 0.00  | 128.1 | FLOATS HELD   |
| Event | 26 | End Job                                | 7/4/2016 | 23:09:30 | USER |         |       |       |       | RETURNS THROUGHOUT JOB, PIPE WAS RECIPROCATED DURING THE JOB, 0 BBL OF CEMENT BACK TO SURFACE |
| Event | 27 | Rig Down Lines                         | 7/4/2016 | 23:15:00 | USER |         |       |       |       | ALL HES PRESENT   |
| Event | 28 | Pre-Convoy Safety Meeting              | 7/4/2016 | 23:59:00 | USER |         |       |       |       | ALL HES PRESENT   |
| Event | 29 | Crew Leave Location                    | 7/5/2016 | 00:30:00 | USER |         |       |       |       | THANK YOU FOR CHOOSING HALLIBURTON CEMENT, CHRIS SMITH AND CREW                               |

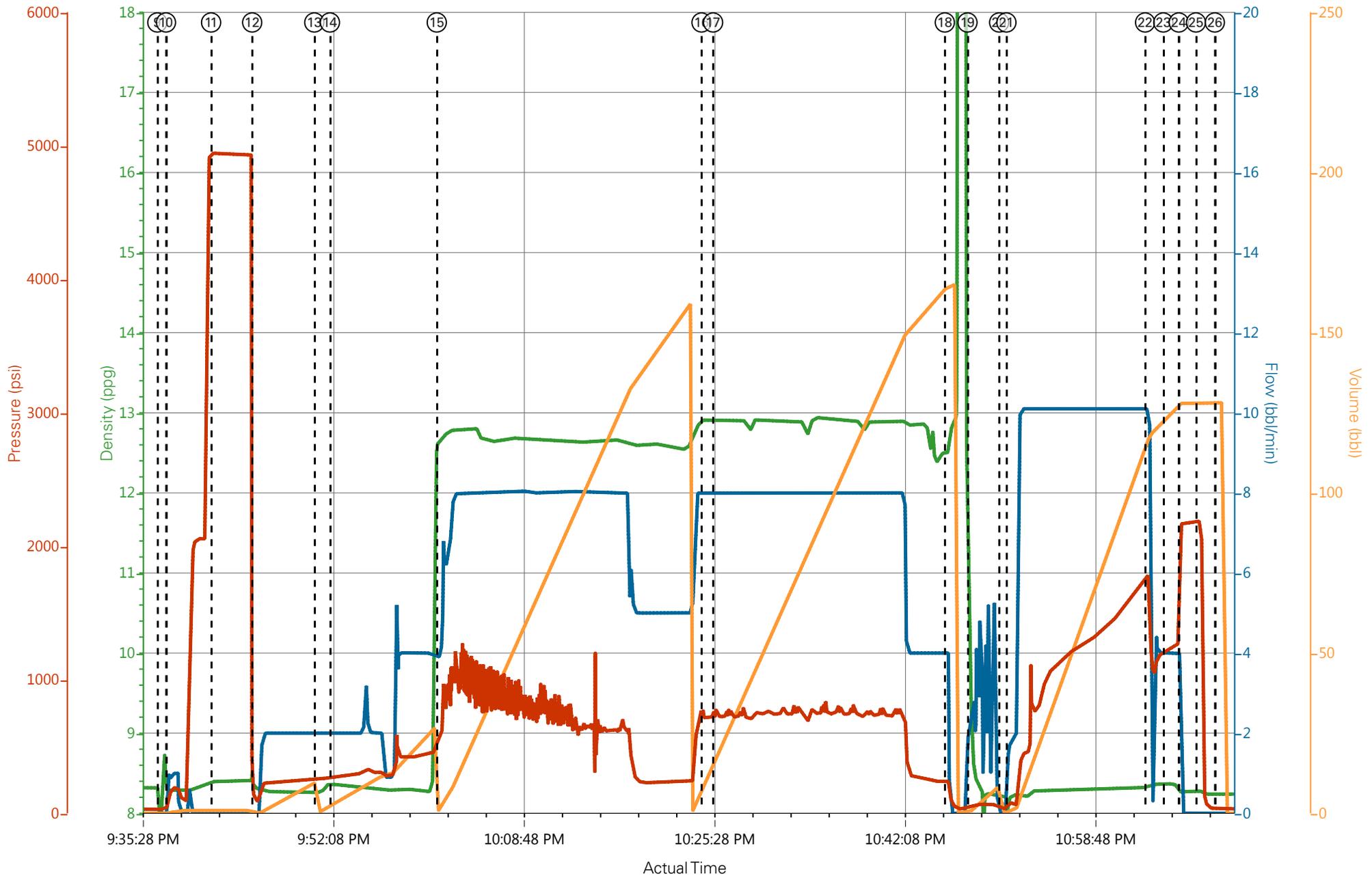
# TERRA, FED GM 432-9, 4.5" PRODUCTION



DH Density (ppg) 8.24    Comb Pump Rate (bbl/min) 0    PS Pump Press (psi) 33    Pump Stg Tot (bbl) 0

- ① Call Out                      ③ Crew Leave Yard                      ⑤ Assessment Of Location Safety Meeting                      ⑦ Rig-Up Equipment                      ⑨ Start Job                      ⑪ Test Lines                      ⑬ Pump Spacer 2                      ⑮ Pump Lead Cemen
- ② Pre-Convoy Safety Meeting                      ④ Arrive At Loc                      ⑥ Pre-Rig Up Safety Meeting                      ⑧ Pre-Job Safety Meeting                      ⑩ Fill Lines                      ⑫ Pump Spacer 1                      ⑭ Check weight                      ⑯ Pump Tail Cement

# TERRA, FED GM 432-9, 4.5" PRODUCTION



DH Density (ppg) 8.24    Comb Pump Rate (bbl/min) 0    PS Pump Press (psi) 33    Pump Stg Tot (bbl) 0

### Job Information

|                       |                  |                 |                   |                   |                |
|-----------------------|------------------|-----------------|-------------------|-------------------|----------------|
| <b>Request/Slurry</b> | 2327243/1        | <b>Rig Name</b> | H&P 318           | <b>Date</b>       | 29/JUN/2016    |
| <b>Submitted By</b>   | Aaron Katz       | <b>Job Type</b> | Production Casing | <b>Bulk Plant</b> | Grand Junction |
| <b>Customer</b>       | WPX Energy, Inc. | <b>Location</b> | Garfield          | <b>Well</b>       | GM 432-9       |

### Well Information

|                          |          |                  |         |             |              |
|--------------------------|----------|------------------|---------|-------------|--------------|
| <b>Casing/Liner Size</b> | 4.5 in   | <b>Depth MD</b>  | 7920 ft | <b>BHST</b> | 89°C / 193°F |
| <b>Hole Size</b>         | 8.75 in  | <b>Depth TVD</b> | 6621 ft | <b>BHCT</b> | 53°C / 128°F |
| <b>Pressure</b>          | 3930 psi |                  |         |             |              |

### Drilling Fluid Information

|                          |        |                       |            |                |             |
|--------------------------|--------|-----------------------|------------|----------------|-------------|
| <b>Mud Supplier Name</b> | Baroid | <b>Mud Trade Name</b> | BARADRIL-N | <b>Density</b> | 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>            | <u>Cement Properties</u> |             |                       |
|-------------|------------|---|--------------------|--------------------|---------------------------|--------------------------|-------------|-----------------------|
|             |            | NeoCem GJ1  |                    |                    |                           | Slurry Density           | 12.5        | lbm/gal               |
|             |            | Fresh Water   | Lab                | 12.03.13           |                           | Slurry Yield             | 1.96        | ft <sup>3</sup> /sack |
|             |            | Bentonite Wyoming - PB                                | Bulk Blend         | 29.06.16           | tank 17 &24               | Water Requirement        | 9.406       | gal/sack              |
|             |            | Econolite (Powder - PB)                               | Bulk Blend         | 29.06.16           | U070415                   | Total Mix Fluid          | 9.406       | gal/sack              |
|             |            | Na <sub>2</sub> SO <sub>4</sub> (Sodium Sulfate) Salt | Bulk Blend         | 29.06.16           | 02-05-16                  |                          |             |                       |
|             |            | HALAD-344 (PB)  | Bulk Blend         | 29.06.16           | 16022940                  | Water Source             | Fresh Water |                       |
|             |            | NaCl (Sodium Chloride) Salt                           | Bulk Blend         | 29.06.16           | tank<br>14/32615ADC<br>AA | Water Chloride           |             |                       |
|             |            | HALAD-567   | Bulk Blend         | 29.06.16           | 08115-139                 |                          |             |                       |
|             |            | Fe-2 (citric acid)                                    | Bulk Blend         | 29.06.16           | GA5LZ7BK5E                |                          |             |                       |
|             |            | Pol-E-Flake   | Bulk Blend         | 29.06.16           |                           |                          |             |                       |

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# Operation Test Results Request ID 2327243/1

## Thickening Time

30/JUN/2016

| Temp (°F) | Pressure (psi) | Reached in (min) | Start Bc | 30 Bc (hh:mm) | 40 Bc (hh:mm) | 50 Bc (hh:mm) | 70 Bc (hh:mm) | 100 Bc (hh:mm) |
|-----------|----------------|------------------|----------|---------------|---------------|---------------|---------------|----------------|
| 128       | 3930           | 35               | 10       | 4:22          | 4:32          | 4:57          | 7:51          | 8:52           |

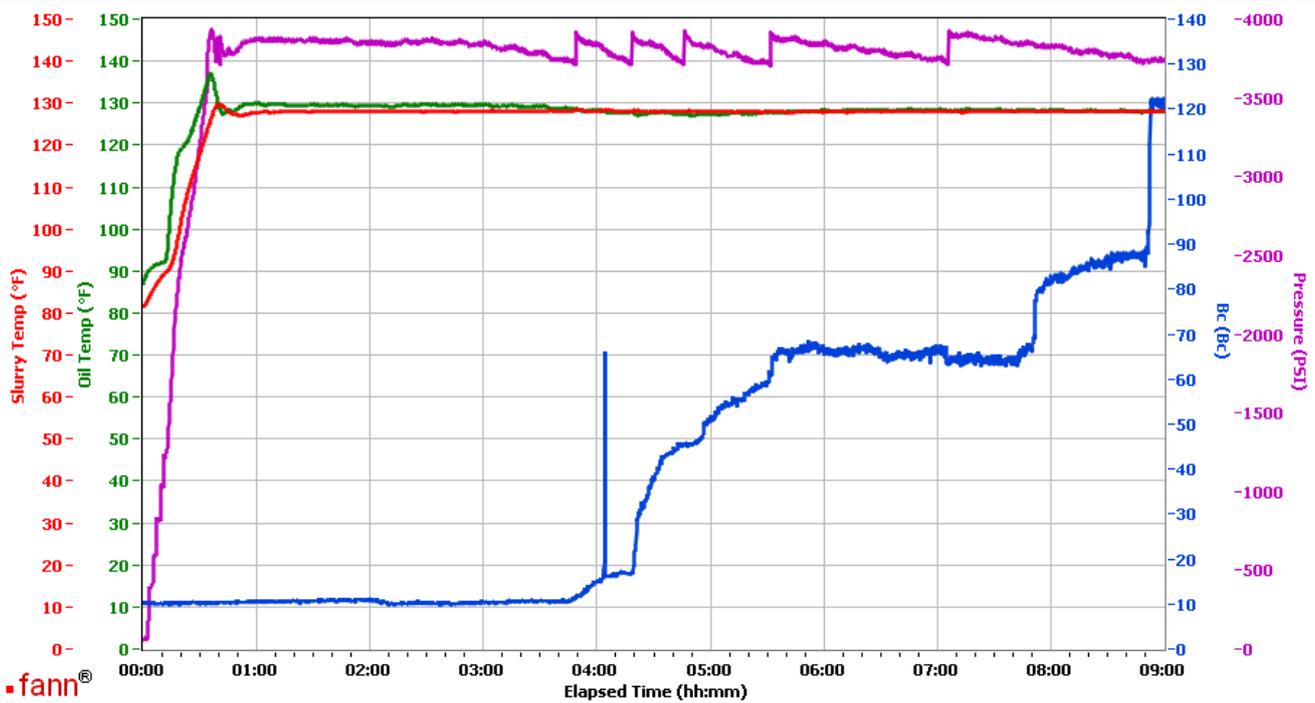
430 Total Sacks

CS0581 TR#8658 430 SKS

Results taken from graph for 30, 40 and 50 Bc.

### Grand Junction Colorado

| Fields            | Values                    | Fields         | Values    | Events    | Results |
|-------------------|---------------------------|----------------|-----------|-----------|---------|
| Project Name      | GJ2327243-1               | Job Type       |           | 30.00 Bc  | 04h:22m |
| Test ID           | GJ2327243-1 WPX BULK LEAD | Cement Type    |           | 40.00 Bc  | 04h:32m |
| Request ID        |                           | Cement Weight  | Standard  | 50.00 Bc  | 04h:57m |
| Tested by         | DEBA                      | Test Date      | 06/29/16  | 70.00 Bc  | 07h:51m |
| Customer          | WPX                       | Test Time      | 06:08 PM  | 100.00 Bc | 08h:52m |
| Well No           | HM 432-9                  | Temp. Units    | degF      | 00h:30m   | 9.98    |
| Rig               |                           | Pressure Units | PSI       | 01h:00m   | 10.50   |
| Casing/Liner Size |                           | SW Version     | 2.1.0.507 | 01h:30m   | 10.58   |



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\CDER4HUW\GJ2327243-1 WPX BULK LEAD[1].tdms

Comments CS0581 TR#8658 430 SKS

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# HALLIBURTON

## Rockies, Grand Junction

Lab Results- Tail

### Job Information

|                       |                  |                 |                   |                   |                |
|-----------------------|------------------|-----------------|-------------------|-------------------|----------------|
| <b>Request/Slurry</b> | 2327244/2        | <b>Rig Name</b> | H&P 318           | <b>Date</b>       | 29/JUN/2016    |
| <b>Submitted By</b>   | Aaron Katz       | <b>Job Type</b> | Production Casing | <b>Bulk Plant</b> | Grand Junction |
| <b>Customer</b>       | WPX Energy, Inc. | <b>Location</b> | Garfield          | <b>Well</b>       | GM 432-9       |

### Well Information

|                          |          |                  |         |             |              |
|--------------------------|----------|------------------|---------|-------------|--------------|
| <b>Casing/Liner Size</b> | 4.5 in   | <b>Depth MD</b>  | 7920 ft | <b>BHST</b> | 89°C / 193°F |
| <b>Hole Size</b>         | 8.75 in  | <b>Depth TVD</b> | 6621 ft | <b>BHCT</b> | 53°C / 128°F |
| <b>Pressure</b>          | 3930 psi |                  |         |             |              |

### Drilling Fluid Information

|                          |        |                       |            |                |             |
|--------------------------|--------|-----------------------|------------|----------------|-------------|
| <b>Mud Supplier Name</b> | Baroid | <b>Mud Trade Name</b> | BARADRIL-N | <b>Density</b> | 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> | <u>Cement Properties</u> |                             |
|-------------|------------|------------------------------|--------------------|--------------------|----------------|--------------------------|-----------------------------|
|             |            | NeoCem GJ1                   |                    |                    |                | Slurry Density           | 12.7 lbm/gal                |
|             |            | Fresh Water                  | Lab                | 12.03.13           |                | Slurry Yield             | 1.869 ft <sup>3</sup> /sack |
|             |            | Bentonite Wyoming - PB       | Bulk Blend         | 01.07.16           | Tank 17        | Water Requirement        | 8.744 gal/sack              |
|             |            | Econolite (Powder - PB)      | Bulk Blend         | 01.07.16           | U070415        | Total Mix Fluid          | 8.744 gal/sack              |
|             |            | Na2SO4 (Sodium Sulfate) Salt | Bulk Blend         | 01.07.16           | 02-05-16       |                          |                             |
|             |            | HALAD-344 (PB)               | Bulk Blend         | 01.07.16           | 16022940       | Water Source             | Fresh Water                 |
|             |            | NaCl (Sodium Chloride) Salt  | Bulk Blend         | 01.07.16           | 32615ADCAA     | Water Chloride           |                             |
|             |            | HALAD-567                    | Bulk Blend         | 01.07.16           | 08115-139      |                          |                             |
|             |            | Fe-2 (citric acid)           | Bulk Blend         | 01.07.16           | GA5LZ7BK5E     |                          |                             |

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**Operation Test Results Request ID 2327244/2**

**Thickening Time**

**02/JUL/2016**

| Temp (°F) | Pressure (psi) | Reached in (min) | Start BC | 30 Bc (hh:mm) | 40 Bc (hh:mm) | 50 Bc (hh:mm) | 70 Bc (hh:mm) | 100 Bc (hh:mm) |
|-----------|----------------|------------------|----------|---------------|---------------|---------------|---------------|----------------|
| 128       | 3930           | 35               | 8        | 3:51          | 4:19          | 4:28          | 4:35          | 4:45           |

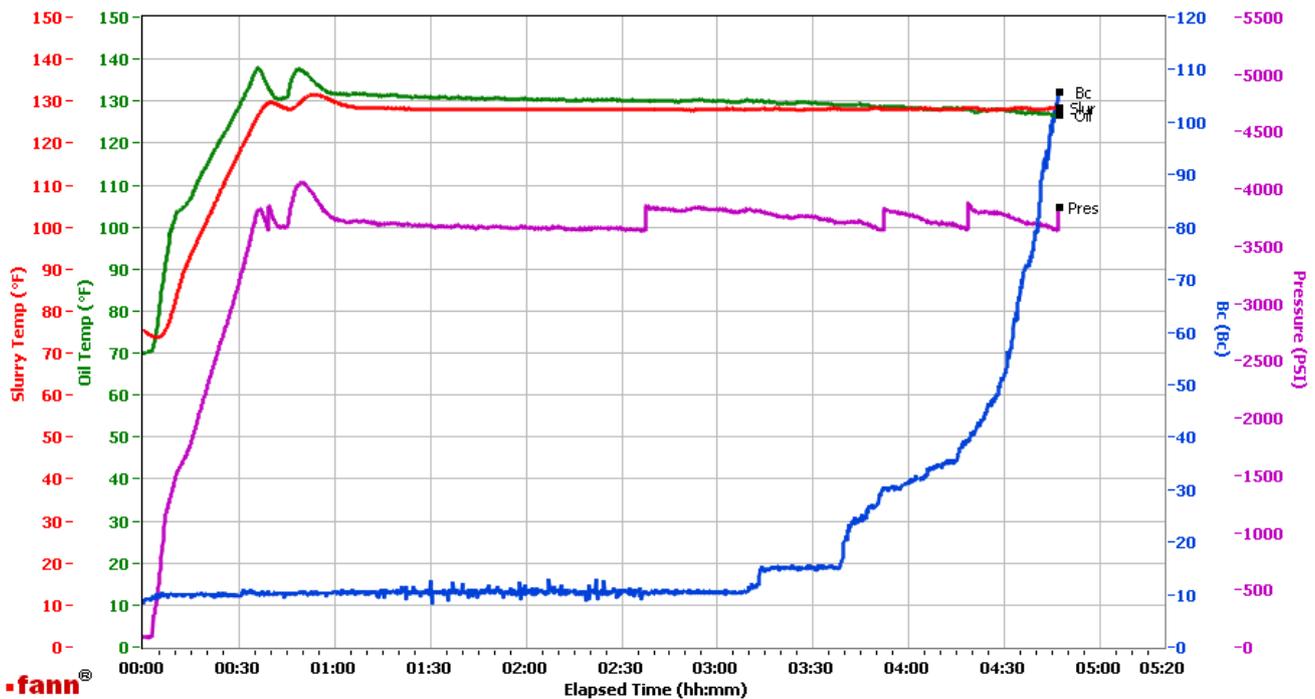
435 Total Skis  
CS0590 TR 5839 217.5 SKS

**Grand Junction Colorado**

| Fields            | Values                               |
|-------------------|--------------------------------------|
| Project Name      | GJ2327244-2 TERRA PRODUCTION BULK TA |
| Test ID           | GJ2327244-2 TERRA                    |
| Request ID        |                                      |
| Tested by         | JASON                                |
| Customer          | TERRA                                |
| Well No           | GM 432-9                             |
| Rig               | H&P 318                              |
| Casing/Liner Size | 4.5                                  |

| Fields         | Values       |
|----------------|--------------|
| Job Type       | PRODUCTION   |
| Cement Type    | NEOCEM       |
| Cement Weight  | Light Weight |
| Test Date      | 07/01/16     |
| Test Time      | 10:21 PM     |
| Temp. Units    | degF         |
| Pressure Units | PSI          |
| SW Version     | 2.1.0.507    |

| Events    | Results |
|-----------|---------|
| 30.00 Bc  | 03h:51m |
| 40.00 Bc  | 04h:19m |
| 50.00 Bc  | 04h:28m |
| 70.00 Bc  | 04h:35m |
| 100.00 Bc | 04h:45m |
| 00h:30m   | 9.66    |
| 01h:00m   | 10.31   |
| 01h:30m   | 12.56   |



Data File C:\Documents and Settings\Administrator\Desktop\Test Data\GJ2327244-2 TERRA BULK TAIL.tdms  
 Comments CS0590 TR 5839 217.5 SKS

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Thickening Time

30/JUN/2016

| Temp (°F) | Pressure (psi) | Reached in (min) | Start BC | 30 Bc (hh:mm) | 40 Bc (hh:mm) | 50 Bc (hh:mm) | 70 Bc (hh:mm) | 100 Bc (hh:mm) |
|-----------|----------------|------------------|----------|---------------|---------------|---------------|---------------|----------------|
| 128       | 3930           | 35               | 12       | 3:58          | 3:58          | 4:03          | 4:20          | 4:44           |

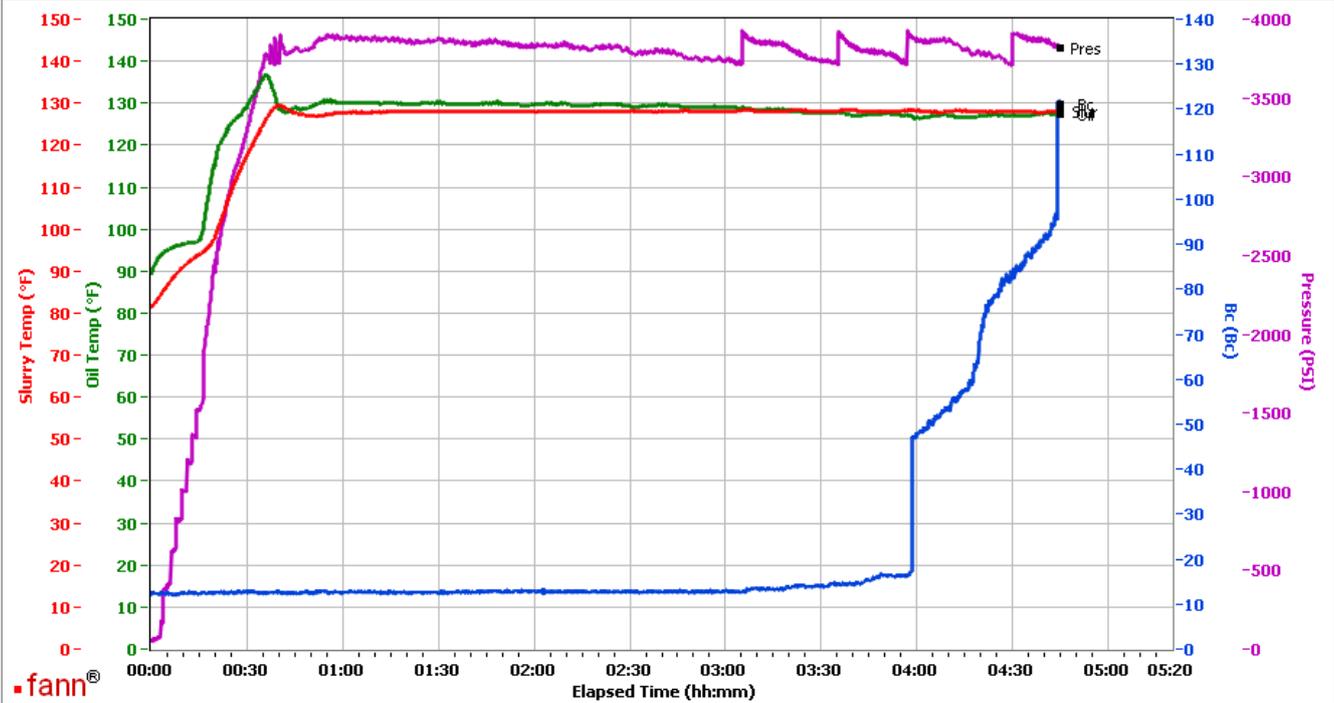
435 Total Sks  
CS0588 TR#5040 217.5 sks

Grand Junction Colorado

| Fields            | Values                         |
|-------------------|--------------------------------|
| Project Name      | GJ2327244-1                    |
| Test ID           | GJ2327244-1 WPX PROD BULK TAIL |
| Request ID        |                                |
| Tested by         | DEBA                           |
| Customer          |                                |
| Well No           | GM 432-9                       |
| Rig               |                                |
| Casing/Liner Size |                                |

| Fields         | Values    |
|----------------|-----------|
| Job Type       |           |
| Cement Type    |           |
| Cement Weight  | Standard  |
| Test Date      | 06/30/16  |
| Test Time      | 03:28 PM  |
| Temp. Units    | degF      |
| Pressure Units | PSI       |
| SW Version     | 2.1.0.507 |

| Events    | Results |
|-----------|---------|
| 30.00 Bc  | 03h:58m |
| 40.00 Bc  | 03h:58m |
| 50.00 Bc  | 04h:03m |
| 70.00 Bc  | 04h:20m |
| 100.00 Bc | 04h:44m |
| 00h:30m   | 12.64   |
| 01h:00m   | 12.86   |
| 01h:30m   | 12.38   |



Data File C:\Documents and Settings\M290\Desktop\Test Data\GJ2327244-1 WPX PROD BULK TAIL.tdms  
 Comments CS0588 tr#5040 217.5 SKS

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