

# BJ Cementing Treatment Report

|                             |              |                  |         |
|-----------------------------|--------------|------------------|---------|
| SERVICE SUPERVISOR          | Zachary Hyde | RIG              | True 38 |
| CLIENT FIELD REPRESENTATIVE | Trevor       | COUNTY           | WELD    |
| DISTRICT                    | Cheyenne, WY | STATE / PROVINCE | CO      |
| SERVICE                     | Cementing    |                  |         |

## WELL GEOMETRY

| TYPE            | ID (in) | OD (in) | WEIGHT (lb/ft) | MD (ft)   | TVD (ft) | EXCESS (%) |
|-----------------|---------|---------|----------------|-----------|----------|------------|
| Open Hole       | 8.50    | 0.00    | 0.00           | 18,725.00 | 7,000.00 | 5.00       |
| Casing          | 4.78    | 5.50    | 20.00          | 18,715.00 | 7,000.00 |            |
| Previous Casing | 8.92    | 9.63    | 36.00          | 1,553.00  | 1,553.00 |            |

## HARDWARE

|                       |        |                           |             |
|-----------------------|--------|---------------------------|-------------|
| Bottom Plug Used?     | No     | Centralizers Type         | Rigid       |
| Top Plug Used?        | Yes    | Landing Collar Depth (ft) | 18,688      |
| Top Plug Provided By  | Non BJ | Pipe Movement             | None        |
| Top Plug Size         | 5.500  | Job Pumped Through        | No Manifold |
| Centralizers Used     | Yes    | Top Connection Thread     | BTC         |
| Centralizers Quantity | 160.00 | Top Connection Size       | 5.5         |

## CIRCULATION PRIOR TO JOB

|                                      |         |  |    |
|--------------------------------------|---------|--|----|
| Well Circulated By                   | Rig     | PV Mud Out                             | 17 |
| Circulation Prior to Job             | Yes     | YP Mud In                              | 8  |
| Circulation Time (min)               | 240.00  | YP Mud Out                             | 8  |
| Circulation Rate (bpm)               | 8.00    | Solids Present at End of Circulation   | No |
| Circulation Volume (bbls)            | 1920.00 | 10 sec SGS                             | 9  |
| Lost Circulation Prior to Cement Job | No      | 10 min SGS                             | 19 |
| Mud Density In (ppg)                 | 10.00   | 30 min SGS                             | 21 |
| Mud Density Out (ppg)                | 10.00   | Flare Prior to / during the Cement Job | No |
| PV Mud In                            | 17      | Gas Present                            | No |

## TEMPERATURE

|                            |       |                                |        |
|----------------------------|-------|--------------------------------|--------|
| Ambient Temperature (°F)   | 70.00 | Slurry Cement Temperature (°F) | 70.00  |
| Mix Water Temperature (°F) | 70.00 | Flow Line Temperature (°F)     | 136.00 |

Client: Bayswater Exploration & Production, LLC

Well: LEFFLER #K-26-28HC

Well API: 05-123-50040

Start Date: 7/27/2019

End Date: 7/28/2019



## FLUID DETAILS

| FLUID TYPE                 | FLUID NAME                                  | DENSITY (ppg) | YIELD (Cu Ft/sk) | H <sub>2</sub> O REQ (gals/sk) | PLN TOP FLD (ft) | LENGTH (ft) | VOL (sk) | VOL (Cu Ft) | VOL (bbls) |
|----------------------------|---|---------------|------------------|--------------------------------|------------------|-------------|----------|-------------|------------|
| Spacer / Pre Flush / Flush | IntegraGuard EZ Spacer II                   | 12.0000       |                  |                                | 0.00             |             |          |             | 28.0000    |
| Spacer / Pre Flush / Flush | IntegraGuard EZ Spacer II                   | 11.5000       |                  |                                | 0.00             |             |          |             | 26.0000    |
| Spacer / Pre Flush / Flush | IntegraGuard EZ Spacer II                   | 11.0000       |                  |                                | 0.00             |             |          |             | 26.0000    |
| Lead Slurry                | BJCem P100.3.01C                            | 13.2000       | 1.8295           | 9.87                           | 0.00             | 7,172.00    | 970      | 1775.0000   | 316.1000   |
| Tail Slurry                | BJCem P50.6.02C                             | 13.5000       | 1.4772           | 7.45                           | 7,172.00         | 11,931.00   | 1955     | 2888.0000   | 514.3000   |
| Displacement 2             | Retarded Water w/ Clay Protection & Biocide | 8.3331        |                  |                                |                  | 0.00        | 0        | 0.0000      | 10.0000    |
| Displacement Final         | Water w/ Clay Protection & Biocide          | 8.3331        |                  |                                | 0.00             |             |          | 0.0000      | 412.8000   |

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| FLUID TYPE                 | FLUID NAME                                  | COMPONENT                 | CONCENTRATION | UOM  |
|----------------------------|---|---------------------------|---------------|------|
| Spacer / Pre Flush / Flush | IntegraGuard EZ Spacer II                   | RETARDER, R-31            | 0.5000        | PPB  |
| Spacer / Pre Flush / Flush | IntegraGuard EZ Spacer II                   | SPACER SURFACTANT, SS-267 | 1.0000        | GPB  |
| Spacer / Pre Flush / Flush | IntegraGuard EZ Spacer II                   | WEIGHTING ADDITIVE, W-11  | 243.3100      | PPB  |
| Spacer / Pre Flush / Flush | IntegraGuard EZ Spacer II                   | IntegraGuard GW-86        | 1.2000        | PPB  |
| Spacer / Pre Flush / Flush | IntegraGuard EZ Spacer II                   | RETARDER, R-7C            | 2.0000        | PPB  |
| Spacer / Pre Flush / Flush | IntegraGuard EZ Spacer II                   | RETARDER, R-7C            | 2.0000        | PPB  |
| Spacer / Pre Flush / Flush | IntegraGuard EZ Spacer II                   | WEIGHTING ADDITIVE, W-11  | 243.3100      | PPB  |
| Spacer / Pre Flush / Flush | IntegraGuard EZ Spacer II                   | RETARDER, R-31            | 0.5000        | PPB  |
| Spacer / Pre Flush / Flush | IntegraGuard EZ Spacer II                   | IntegraGuard GW-86        | 1.2000        | PPB  |
| Spacer / Pre Flush / Flush | IntegraGuard EZ Spacer II                   | SPACER SURFACTANT, SS-267 | 1.0000        | GPB  |
| Spacer / Pre Flush / Flush | IntegraGuard EZ Spacer II                   | RETARDER, R-31            | 0.5000        | PPB  |
| Spacer / Pre Flush / Flush | IntegraGuard EZ Spacer II                   | RETARDER, R-7C            | 2.0000        | PPB  |
| Spacer / Pre Flush / Flush | IntegraGuard EZ Spacer II                   | SPACER SURFACTANT, SS-267 | 1.0000        | GPB  |
| Spacer / Pre Flush / Flush | IntegraGuard EZ Spacer II                   | IntegraGuard GW-86        | 1.2000        | PPB  |
| Spacer / Pre Flush / Flush | IntegraGuard EZ Spacer II                   | WEIGHTING ADDITIVE, W-11  | 243.3100      | PPB  |
| Lead Slurry                | BJCem P100.3.01C                            | IntegraGuard GW-86        | 0.1000        | BWOB |
| Lead Slurry                | BJCem P100.3.01C                            | IntegraCare EC-2          | 3.0000        | BWOB |
| Lead Slurry                | BJCem P100.3.01C                            | RETARDER, SR-20           | 0.7000        | BWOB |
| Lead Slurry                | BJCem P100.3.01C                            | FOAM PREVENTER, FP-25     | 0.3000        | BWOB |
| Lead Slurry                | BJCem P100.3.01C                            | CEMENT, ASTM TYPE III     | 100.0000      | PCT  |
| Lead Slurry                | BJCem P100.3.01C                            | FLUID LOSS, FL-66         | 0.5000        | BWOB |
| Tail Slurry                | BJCem P50.6.02C                             | FLUID LOSS, FL-66         | 0.2000        | BWOB |
| Tail Slurry                | BJCem P50.6.02C                             | FOAM PREVENTER, FP-25     | 0.3000        | BWOB |
| Tail Slurry                | BJCem P50.6.02C                             | IntegraGuard GW-86        | 0.1000        | BWOB |
| Tail Slurry                | BJCem P50.6.02C                             | CEMENT, CLASS G           | 50.0000       | PCT  |
| Tail Slurry                | BJCem P50.6.02C                             | Flyash (Rockies)          | 50.0000       | PCT  |
| Tail Slurry                | BJCem P50.6.02C                             | RETARDER, SR-20           | 0.0700        | BWOB |
| Tail Slurry                | BJCem P50.6.02C                             | EXTENDER, BENTONITE       | 2.0000        | BWOB |
| Displacement 2             | Retarded Water w/ Clay Protection & Biocide | ResCare CS-2              | 0.0800        | GPB  |
| Displacement 2             | Retarded Water w/ Clay Protection & Biocide | RETARDER, SR-61L          | 0.1000        | GPB  |
| Displacement 2             | Retarded Water w/ Clay Protection & Biocide | BIOCIDE, BIOC11139W       | 0.0100        | GPB  |
| Displacement Final         | Water w/ Clay Protection & Biocide          | BIOCIDE, BIOC11139W       | 0.0100        | GPB  |
| Displacement Final         | Water w/ Clay Protection & Biocide          | ResCare CS-2              | 0.0800        | GPB  |

Client: Bayswater Exploration & Production, LLC

Well: LEFFLER #K-26-28HC

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## DISPLACEMENT AND END OF JOB SUMMARY

|                                    |         |                                    |         |
|------------------------------------|---------|------------------------------------|---------|
| Displaced By                       | BJ      | Amt of Cement Returned / Reversed  | 42.00   |
| Calculated Displacement Vol (bbls) | 414.00  | Method Used to Verify Returns      | Visual  |
| Actual Displacement Vol (bbls)     | 414.00  | Amt of Spacer to Surface           | 80.00   |
| Did Float Hold?                    | Yes     | Pressure Left on Casing (psi)      | 0.00    |
| Bump Plug                          | Yes     | Amt Bled Back After Job            | 5.00    |
| Bump Plug Pressure (psi)           | 2200.00 | Total Volume Pumped (bbls)         | 1860.00 |
| Were Returns Planned at Surface    | Yes     | Top Out Cement Spotted             | No      |
| Cement Returns During Job          | Full    | Lost Circulation During Cement Job | No      |

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Production, LLC

Well: LEFFLER #K-26-28HC

Well  
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Start  
Date: 7/27/2019

End  
Date: 7/28/2019



# BJ Cementing Event Log

Long String - Cheyenne, WY

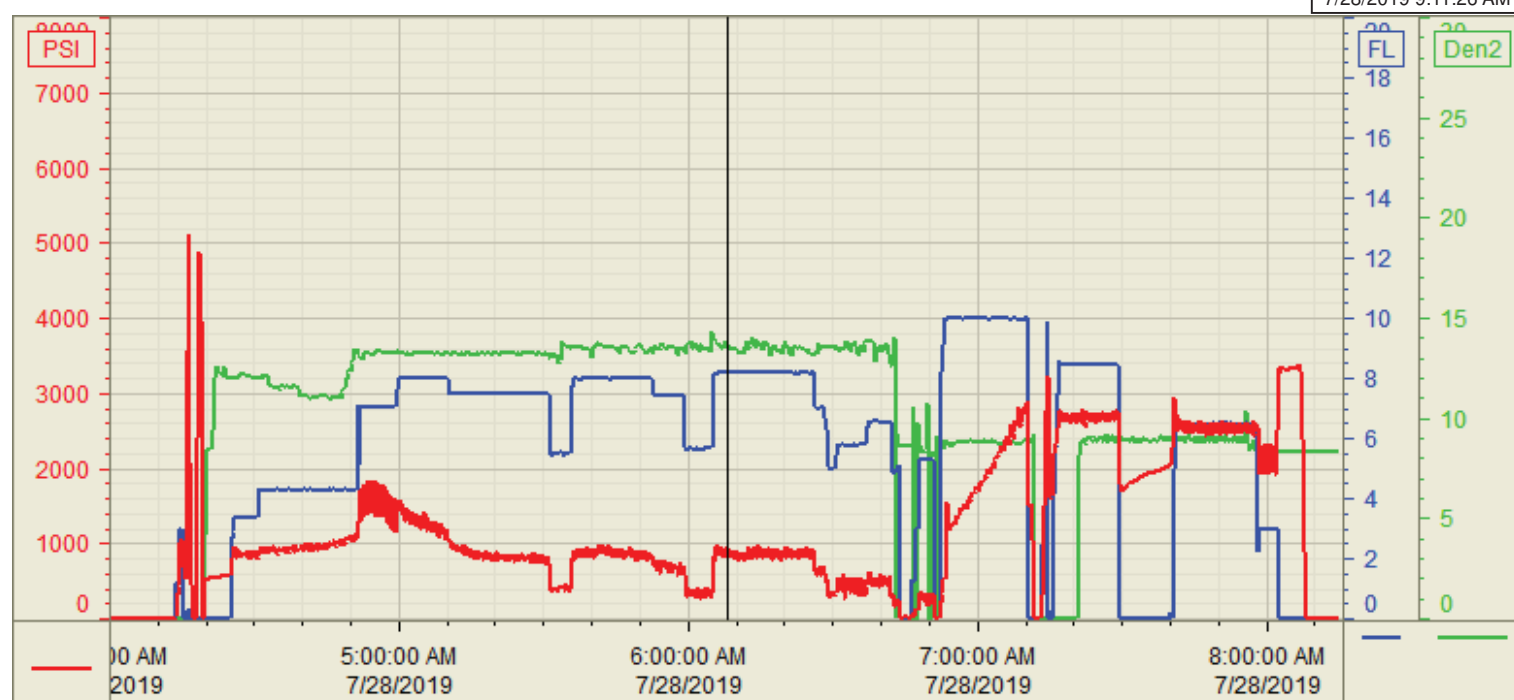
| SEQ | START DATE / TIME | EVENT                  | DENSITY (ppg) | PUMP RATE (bpm) | PUMP VOL (bbls) | PIPE PRESSURE (psi) | COMMENTS   |
|-----|-------------------|------------------------|---------------|-----------------|-----------------|---------------------|--|
| 1   | 07/27/2019 19:48  | Callout                |               |                 |                 |                     | Crew gets called out Requested time 0000 7/28/19                               |
| 2   | 07/27/2019 20:00  | Depart for Location    |               |                 |                 |                     | Crew departs for location  |
| 3   | 07/27/2019 22:00  | Arrive on Location     |               |                 |                 |                     | Crew arrives on location   |
| 4   | 07/27/2019 22:00  | Rig Up                 |               |                 |                 |                     | Crew rigs up iron and hoses needed for job                                     |
| 5   | 07/27/2019 23:50  | Rig                    |               |                 |                 |                     | Crew waits for rig to finish circulating                                       |
| 6   | 07/28/2019 04:00  | STEACS Briefing        |               |                 |                 |                     | Crew has briefing with company man and rig crew                                |
| 7   | 07/28/2019 04:13  | Prime Up               | 8.3300        | 3.00            | 3.00            | 800.00              | Filled lines 3 bbls  |
| 8   | 07/28/2019 04:15  | Pressure Test          |               |                 |                 |                     | Pressure tested to 5500 psi  |
| 9   | 07/28/2019 04:24  | Pump Spacer            | 12.0000       | 4.00            | 28.00           | 1000.00             | Pumped 28 bbls of Spacer at 12ppg with surfactant                              |
| 10  | 07/28/2019 04:33  | Pump Spacer            | 11.5000       | 4.00            | 26.00           | 1000.00             | Pumped 26 bbls of Spacer at 11.5 ppg with surfactant                           |
| 11  | 07/28/2019 04:44  | Pump Spacer            | 11.0000       | 4.00            | 26.00           | 1000.00             | Pumped 26 bbls of Spacer at 11 ppg with surfactant                             |
| 12  | 07/28/2019 04:52  | Pump Lead Cement       | 13.2000       | 8.00            | 316.00          | 1500.00             | Pumped 316 bbls of lead at 13.2 ppg(970sks,1.82yld,9.87gal/sk)                 |
| 13  | 07/28/2019 05:35  | Pump Tail Cement       | 13.5000       | 7.00            | 514.00          | 1000.00             | Pumped 514 bbls of Tail at 13.5 ppg(1955sks,1.47yld,7.45gal/sk)                |
| 14  | 07/28/2019 06:44  | End Pumping            |               |                 |                 |                     | Shutdown   |
| 15  | 07/28/2019 06:44  | Wash Pumps and Lines   |               |                 |                 |                     | Washed pump and lines to the pit   |
| 16  | 07/28/2019 06:52  | Drop Top Plug          |               |                 |                 |                     | Drop top plug  |
| 17  | 07/28/2019 06:52  | Pump Displacement      | 8.3300        | 10.00           | 20.00           | 2500.00             | Pumped the first 20 bbls of Displacement with fresh water and retarder         |
| 18  | 07/28/2019 06:55  | Pump Displacement      | 8.3300        | 10.00           | 374.00          | 2800.00             | Pumped 374 bbls of displacement at 10 bpm                                      |
| 19  | 07/28/2019 07:58  | Spacer Back-to-Surface |               |                 |                 |                     | At 290 bbls away got spacer to surface   |
| 20  | 07/28/2019 07:58  | Cement Back-to-Surface |               |                 |                 |                     | At 372 away got cement to surface had a total of 42 bbls                       |
| 21  | 07/28/2019 07:58  | Pump Displacement      | 8.3300        | 5.00            | 20.00           | 2400.00             | Slowed rate the last 20 bbls to 5 bpm to land plug                             |
| 22  | 07/28/2019 08:02  | Land Plug              |               |                 |                 |                     | Landed plug went 1000 psi over FCP. FCP was 2200 psi brought it up to 3200 psi |
| 23  | 07/28/2019 08:05  | Check Floats           |               |                 |                 |                     | Checked floats got 5 bbls back   |
| 24  | 07/28/2019 08:05  | Rig Down               |               |                 |                 |                     | Crew rigs down   |

Customer: Bayswater  
Well Number: K-26-28HC  
Lease Info: Leffer



Print Date/Time

7/28/2019 9:11:26 AM



|   | Name               | Y value  | X value/time stamp      | Tag name Y                       |
|---|--------------------|----------|-------------------------|----------------------------------|
| 1 | PS - Press (PSI)   | 861.6 i. | 7/28/2019 6:08:03 AM i. | Cementer\PS_DISCHARGE_PRESS_DIAL |
| 2 | Combined pump rate | 8.21     | 7/28/2019 6:08:06 AM    | Cementer\Flow_Combined           |
| 3 | re circdensity     | 13.51    | 7/28/2019 6:08:06 AM    | Cementer\DENSITY_ACTUAL_RATE     |
| 4 |                    |          |                         |                                  |
| 5 |                    |          |                         |                                  |

Source: Control1 9:11:26 AM