

# BJ Cementing Treatment Report

|                                    |              |                         |         |
|------------------------------------|--------------|-------------------------|---------|
| <b>SERVICE SUPERVISOR</b>          | Brian Boyd   | <b>FORMATION</b>        |         |
| <b>CLIENT FIELD REPRESENTATIVE</b> | Tim          | <b>RIG</b>              | True 38 |
| <b>DISTRICT</b>                    | Cheyenne, WY | <b>COUNTY</b>           | WELD    |
| <b>SERVICE</b>                     | Cementing    | <b>STATE / PROVINCE</b> | CO      |

## WELL GEOMETRY

| TYPE      | ID (in) | OD (in) | WEIGHT (lb/ft) | MD (ft)  | TVD (ft) | EXCESS (%) | GRADE | THREAD |
|-----------|---------|---------|----------------|----------|----------|------------|-------|--------|
| Open Hole | 13.50   | 0.00    | 0.00           | 1,560.00 | 1,560.00 | 25.00      |       |        |
| Casing    | 8.92    | 9.63    | 36.00          | 1,550.00 | 1,550.00 |            |       |        |

## HARDWARE

|                                  |        |   |              |
|----------------------------------|--------|---|--------------|
| <b>Bottom Plug Used?</b>         | No     | <b>Tool Type</b>                            | Float Collar |
| <b>Bottom Plug Provided By</b>   |        | <b>Tool Depth (ft)</b>                      | 1,506.00     |
| <b>Bottom Plug Size</b>          |        | <b>Max Tubing Pressure - Rated (psi)</b>    |              |
| <b>Top Plug Used?</b>            | Yes    | <b>Max Tubing Pressure - Operated (psi)</b> |              |
| <b>Top Plug Provided By</b>      | Non BJ | <b>Max Casing Pressure - Rated (psi)</b>    | 3512.00      |
| <b>Top Plug Size</b>             | 9.625  | <b>Max Casing Pressure - Operated (psi)</b> | 2012.00      |
| <b>Centralizers Used</b>         | Yes    | <b>Pipe Movement</b>                        | None         |
| <b>Centralizers Quantity</b>     | 17.00  | <b>Job Pumped Through</b>                   | Manifold     |
| <b>Centralizers Type</b>         | Bow    | <b>Top Connection Thread</b>                | LTC          |
| <b>Landing Collar Depth (ft)</b> | 1,506  | <b>Top Connection Size</b>                  | 9.626        |



## CIRCULATION PRIOR TO JOB

|                                      |        |  |    |
|--------------------------------------|--------|--|----|
| Well Circulated By                   | Rig    | YP Mud In                              | 1  |
| Circulation Prior to Job             | Yes    | YP Mud Out                             |    |
| Circulation Time (min)               | 45.00  | Solids Present at End of Circulation   | No |
| Circulation Rate (bpm)               | 6.00   | 10 sec SGS                             | 1  |
| Circulation Volume (bbls)            | 150.00 | 10 min SGS                             | 1  |
| Lost Circulation Prior to Cement Job | No     | 30 min SGS                             |    |
| Mud Density In (ppg)                 | 8.40   | Flare Prior to / during the Cement Job | No |
| Mud Density Out (ppg)                |        | Gas Present                            | No |
| PV Mud In                            | 2      | Gas Units                              |    |
| PV Mud Out                           |        |  |    |

## TEMPERATURE

|                            |       |                                |       |
|----------------------------|-------|--------------------------------|-------|
| Ambient Temperature (°F)   | 46.00 | Slurry Cement Temperature (°F) | 68.00 |
| Mix Water Temperature (°F) | 57.00 | Flow Line Temperature (°F)     | 80.00 |

## 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 | Water            | 8.3337        |                  |                                | 0.00             |             |          |             | 20.0000    |
| Lead Slurry                | BJCem S100.03.1C | 12.0000       | 2.5298           | 14.86                          | 0.00             | 1,050.00    | 255      | 641.0000    | 114.1000   |
| Tail Slurry                | BJCem S100.03.1C | 12.5000       | 2.2255           | 12.59                          | 926.00           | 500.00      | 145      | 324.0000    | 57.6000    |
| Displacement Final         | Water            | 8.3337        |                  |                                | 0.00             |             |          | 0.0000      | 116.6000   |

| FLUID TYPE                 | FLUID NAME       | COMPONENT   | CONCENTRATION | UOM    |
|----------------------------|------------------|---|---------------|--------|
| Spacer / Pre Flush / Flush | Water            | Fresh Water   | 100.0000      | PCT    |
| Lead Slurry                | BJCem S100.03.1C | Cement Additive, Sodium Metasilicate A-2            | 2.0000        | LBS/SK |
| Lead Slurry                | BJCem S100.03.1C | CEMENT, ASTM TYPE III                               | 100.0000      | PCT    |
| Lead Slurry                | BJCem S100.03.1C | ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS | 2.0000        | LBS/SK |
| Lead Slurry                | BJCem S100.03.1C | CEMENT EXTENDER, GYPSUM, A-10                       | 5.0000        | BWOB   |
| Lead Slurry                | BJCem S100.03.1C | IntegraSeal POLI                                    | 0.1300        | LBS/SK |
| Lead Slurry                | BJCem S100.03.1C | FOAM PREVENTER, FP-25                               | 0.3000        | BWOB   |
| Tail Slurry                | BJCem S100.03.1C | CEMENT, ASTM TYPE III                               | 100.0000      | PCT    |
| Tail Slurry                | BJCem S100.03.1C | FOAM PREVENTER, FP-25                               | 0.3000        | BWOB   |
| Tail Slurry                | BJCem S100.03.1C | IntegraSeal POLI                                    | 0.1300        | LBS/SK |
| Tail Slurry                | BJCem S100.03.1C | ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS | 2.0000        | LBS/SK |
| Tail Slurry                | BJCem S100.03.1C | Cement Additive, Sodium Metasilicate A-             | 2.0000        | LBS/SK |

Client Name: Bayswater Exploration & Production, LLC

Well: G & D HANKS M-27-28HN

Well API: 05-123-46027

Start Date: 4/14/2019

End Date: 4/15/2019

Field Ticket #:



|                    |                  |                               |          |      |
|--------------------|------------------|-------------------------------|----------|------|
|                    |                  | 2                             |          |      |
| Tail Slurry        | BJCem S100.03.1C | CEMENT EXTENDER, GYPSUM, A-10 | 5.0000   | BWOB |
| Displacement Final | Water            | Fresh Water                   | 100.0000 | PCT  |

### TREATMENT SUMMARY

| TIME | FLUID | RATE (bpm) | FLUID VOL (bbls) | PIPE PRESS (psi) | ANNULUS PRESS (psi) | COMMENTS |
|------|-------|------------|------------------|------------------|---------------------|----------|
|------|-------|------------|------------------|------------------|---------------------|----------|

### MIN / MAX / AVG PRESSURE AND RATES

|                | MIN   | MAX     | AVG    |
|----------------|-------|---------|--------|
| Pressure (psi) | 70.00 | 3500.00 | 400.00 |
| Rate (bpm)     | 0.50  | 7.00    | 6.00   |



## DISPLACEMENT AND END OF JOB SUMMARY

|                                    |        |                                    |        |
|------------------------------------|--------|------------------------------------|--------|
| Displaced By                       | BJ     | Amt of Cement Returned / Reversed  | 6.00   |
| Calculated Displacement Vol (bbls) | 116.00 | Method Used to Verify Returns      | Visual |
| Actual Displacement Vol (bbls)     | 116.00 | Amt of Spacer to Surface           | 20.00  |
| Did Float Hold?                    | Yes    | Pressure Left on Casing (psi)      | 0.00   |
| Bump Plug                          | No     | Amt Bled Back After Job            | 0.50   |
| Bump Plug Pressure (psi)           | 280.00 | Total Volume Pumped (bbls)         | 307.00 |
| Were Returns Planned at Surface    | Yes    | Top Out Cement Spotted             | No     |
| Cement Returns During Job          | Full   | Lost Circulation During Cement Job | No     |

## CEMENT PLUG

|                        |    |                   |    |
|------------------------|----|-------------------|----|
| Bottom of Cement Plug? | No | Wiper Balls Used? | No |
| Wiper Ball Quantity    |    | Plug Catcher      | No |
| Number of Plugs        |    |                   |    |

## SQUEEZE

|                                 |  |                     |  |
|---------------------------------|--|---------------------|--|
| Injection Rate (bpm)            |  | Fluid Density (ppg) |  |
| Injection Pressure (psi)        |  | ISIP (psi)          |  |
| Type of Squeeze                 |  | FSIP (psi)          |  |
| Operators Max SQ Pressure (psi) |  |                     |  |

# Comments

## TREATMENT REPORT

## JOB SUMMARY

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# Bayswater

