# Cementing Treatment

| | | | |
|---|---|---|---|
| **Start Date** | 10/31/2018 | **Field Ticket#** | FT-12594-D0Q2H30202-96528 |
| **End Date** | 10/31/2018 | **Well** | TRUE RANCH FEE 202-2326H |
| **Client** | CCRP Operating Inc | **API#** | 05-123-47411 |
| **Client Field Rep.** | | **Well Classification** | |
| **Service Sup.** | Andrew Hyde | **County** | WELD |
| **District** | Cheyenne, WY | **State/Province** | CO |
| **Type of Job** | Surface | **Formation** | |
| **Execution ID** | EXC-12594-D0Q2H302 | **Rig** | |
| **Project ID** | PRJ1012219 | | |

## WELL GEOMETRY

| Type | ID (in) | OD (in) | Wt. (lb/ft) | MD (ft) | TVD (ft) | Excess(%) | Grade | Thread |
|---|---|---|---|---|---|---|---|---|
| Open Hole | 13.50 | 0.00 | 0.00 | 2,138.00 | 2,120.00 | 50.00 | | |
| Casing | 8.92 | 9.63 | 36.00 | 2,128.00 | 2,120.00 | | | |

**Shoe Length (ft):** 46.00

## HARDWARE

| | | | |
|---|---|---|---|
| **Bottom Plug Used?** | No | **Tool Type** | Float Collar |
| **Bottom Plug Provided By** | | **Tool Depth (ft)** | 2,082.72 |
| **Bottom Plug Size** | | **Max Tubing Pressure - Rated (psi)** | |
| **Top Plug Used?** | Yes | **Max Tubing Pressure - Operated (psi)** | |
| **Top Plug Provided By** | Non BJ | **Max Casing Pressure - Rated (psi)** | |
| **Top Plug Size** | 9.625 | **Max Casing Pressure - Operated (psi)** | |
| **Centralizers Used** | Yes | **Pipe Movement** | None |
| **Centralizers Quantity** | 24.00 | **Job Pumped Through** | |
| **Centralizers Type** | Bow | **Top Connection Thread** | LTC |
| **Landing Collar Depth (ft)** | 2,083 | **Top Connection Size** | 9.625 |

## CIRCULATION PRIOR TO JOB

| | | | |
|---|---|---|---|
| **Well Circulated By** | Rig | **Solids Present at End of Circulation** | No |
| **Circulation Prior to Job** | Yes | **10 sec SGS** | 5.00 |
| **Circulation Time (min)** | 60.00 | **10 min SGS** | 7.00 |
| **Circulation Rate (bpm)** | 4.00 | **30 min SGS** | 10.00 |

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| | | | |
|---|---|---|---|
| **Circulation Volume (bbls)** | 240.00 | **Flare Prior to/during the Cement Job** | No |
| **Lost Circulation Prior to Cement Job** | No | **Gas Present** | No |
| **Mud Density In (ppg)** | 9.10 | **Gas Units** | |
| **Mud Density Out (ppg)** | 9.10 | | |
| **PV Mud In** | 12 | | |
| **PV Mud Out** | 12 | | |
| **YP Mud In** | 8 | | |
| **YP Mud Out** | 8 | | |

## TEMPERATURE

| | | | |
|---|---|---|---|
| **Ambient Temperature (°F)** | 39.00 | **Slurry Cement Temperature (°F)** | |
| **Mix Water Temperature (°F)** | 60.00 | **Flow Line Temperature (°F)** | 120.00 |

## BJ FLUID DETAILS

| Fluid Type | Fluid Name | Density (ppg) | Yield (Cu Ft/sk) | H2O Req. (gals/sk) | Planned Top of Fluid (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 | 1570 | 460 | 1,150.0000 | 204.8000 |
| Lead Slurry | BJCem S100.03.1C | 13.0000 | 1.9869 | 10.80 | 1,570.00 | 550 | 215 | 421.0000 | 75.0000 |
| Displacement Final | Water | 8.3300 | | | 0.00 | | | 0.0000 | 160.7000 |

| Fluid Type | Fluid Name | Component | Concentration | UOM |
|---|---|---|---|---|
| Spacer / Pre Flush / Flush | Water | Fresh Water | 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, ASTM TYPE III | 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 | FOAM PREVENTER, FP-25 | 0.3000 | BWOB |
| Lead Slurry | BJCem S100.03.1C | IntegraSeal POLI | 0.1300 | LBS/SK |
| Lead Slurry | BJCem S100.03.1C | CEMENT EXTENDER, GYPSUM, A-10 | 5.0000 | BWOB |
| Lead Slurry | BJCem S100.03.1C | FOAM PREVENTER, FP-25 | 0.3000 | BWOB |

| | | | | |
|---|---|---|---|---|
| Lead Slurry | BJCem S100.03.1C | IntegraSeal POLI | 0.1300 | 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 | Cement Additive, Sodium Metasilicate A-2 | 2.0000 | LBS/SK |
| Displacement Final | Water | Fresh Water | 100.0000 | PCT |

## TREATMENT SUMMARY

| Time | Fluid | Rate (bpm) | Fluid Vol. (bbls) | Pipe Pressure (psi) | Annulus Pressure (psi) | Comments |
|---|---|---|---|---|---|---|

| | Min | Max | Avg |
|---|---|---|---|
| **Pressure (psi)** | 0.00 | 550.00 | 250.00 |
| **Rate (bpm)** | | | |

## DISPLACEMENT AND END OF JOB SUMMARY

| | | | |
|---|---|---|---|
| **Displaced By** | BJ | **Amount of Cement Returned/Reversed** | 70.00 |
| **Calculated Displacement Volume (bbls)** | 160.90 | **Method Used to Verify Returns** | Visual |
| **Actual Displacement Volume (bbls)** | 162.00 | **Amount of Spacer to Surface** | 60.00 |
| **Did Float Hold?** | Yes | **Pressure Left on Casing (psi)** | 0.00 |
| **Bump Plug** | No | **Amount Bled Back After Job** | 0.50 |
| **Bump Plug Pressure (psi)** | | **Total Volume Pumped (bbls)** | 512.00 |
| **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**