

Cementing Treatment



| | | | |
|--------------------|---|----------------|----------------|
| Start Date | 11-13-2017 | Well | Ward T-20-19HC |
| End Date | 11-13-2017 | County | WELD |
| Client | BAYSWATER EXPLORATION & PRODUCTION, LLC | State/Province | CO |
| Service Supervisor | Andrew Hyde | API | 05-123-43656 |
| District | Cheyenne, WY | Type of Job | Long String |

WELL GEOMETRY

| Type | ID (in) | OD (in) | Wt. (lb/ft) | MD (ft) | TVD (ft) | Excess(%) |
|-----------------|---------|---------|-------------|-----------|----------|-----------|
| Previous Casing | 8.92 | 9.63 | 36.00 | 1,549.00 | 1,549.00 | |
| Open Hole | 8.50 | | | 17,838.00 | 7,092.00 | 5.00 |
| Casing | 4.78 | 5.50 | 20.00 | 10,205.00 | 7,092.00 | |

Shoe Length (ft): 29

HARDWARE

| | | | |
|---------------------------|----------|-----------------------------------|-----------------|
| Bottom Plug Used? | No | Max Casing Pressure - Rated (psi) | 8440 psi |
| Bottom Plug Size | 5.5 | Pipe Movement | No |
| Top Plug Used? | yes | Job Pumped Through | 5.5 cement head |
| Top Plug Provided By | Customer | Top Connection Thread | BTC |
| Top Plug Size | 5.5 | Top Connection Size | 5.5 |
| Centralizers Used | No | | |
| Landing Collar Depth (ft) | 10,207 | | |

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CIRCULATION PRIOR TO JOB

| | | | |
|--------------------------------------|------|--------------------------------------|----|
| Well Circulated By | rig | Solids Present at End of Circulation | No |
| Circulation Prior to Job | No | 10 sec SGS | 13 |
| Circulation Time (min) | 120 | 10 min SGS | 17 |
| Circulation Rate (bpm) | 8 | 30 min SGS | 22 |
| Lost Circulation Prior to Cement Job | No | Flare Prior to/during the Cement Job | No |
| Mud Density In (ppg) | 11.9 | Gas Present | No |
| Mud Density Out (ppg) | 11.9 | | |
| PV Mud In | 32 | | |
| PV Mud Out | 32 | | |
| YP Mud In | 14 | | |
| YP Mud Out | 14 | | |

TEMPERATURE

| | | | |
|----------------------------|----|--------------------------------|-----|
| Ambient Temperature (°F) | 30 | Slurry Cement Temperature (°F) | 60 |
| Mix Water Temperature (°F) | 60 | Flow Line Temperature (°F) | 135 |

BJ FLUID DETAILS

| Fluid Type | Fluid Name | Density (ppg) | Yield (Cu Ft/sk) | H2O Req. (gals/sk) | Vol (sk) | Vol (Cu Ft) | Vol (bbls) |
|----------------------------|------------------------------------|---------------|------------------|--------------------|----------|-------------|------------|
| Spacer / Pre Flush / Flush | CD Spacer | 12.0000 | | | | | 40.0000 |
| Lead Slurry | P100-X2 (Lead) | 13.2000 | 1.8257 | 9.88 | 890 | 1,612.0000 | 287.0000 |
| Tail Slurry | P50-X1 (Tail) | 13.5000 | 1.4777 | 7.45 | 1,850 | 2,725.0000 | 175.000 |
| Displacement Final | Water w/ Clay Protection & Biocide | 8.3331 | | | | 0.0000 | 226.000 |

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| Fluid Type | Fluid Name | Component | Concentration | UOM |
|----------------------------|------------------------------------|--------------------------------------|---------------|------|
| Spacer / Pre Flush / Flush | CD Spacer | SAND, S-8, Silica Flour, 200 Mesh | 247.52 | PPB |
| Spacer / Pre Flush / Flush | CD Spacer | ASF-80 | 0.50 | PPB |
| Spacer / Pre Flush / Flush | CD Spacer | AVS-10 | 1.00 | PPB |
| Spacer / Pre Flush / Flush | CD Spacer | ASF-20 | 0.50 | PPB |
| Lead Slurry | P100-X2 (Lead) | SPECIAL ADDITIVE, MPA-300 | 0.10 | BWOB |
| Lead Slurry | P100-X2 (Lead) | BONDING AGENT, EC-2 | 3.00 | BWOB |
| Lead Slurry | P100-X2 (Lead) | CEMENT, ASTM TYPE III | 100.00 | PCT |
| Lead Slurry | P100-X2 (Lead) | FLUID LOSS, FL-66 | 0.50 | BWOB |
| Lead Slurry | P100-X2 (Lead) | FP-25, Dry Foam Preventer (BJS Only) | 0.30 | BWOB |
| Lead Slurry | P100-X2 (Lead) | RETARDER, HIGH TEMP, R-31 (BJS Only) | 0.17 | BWOB |
| Tail Slurry | P50-X1 (Tail) | AFA-10 | 50.00 | PCT |
| Tail Slurry | P50-X1 (Tail) | FP-25, Dry Foam Preventer (BJS Only) | 0.30 | BWOB |
| Tail Slurry | P50-X1 (Tail) | FLUID LOSS, FL-66 | 0.20 | BWOB |
| Tail Slurry | P50-X1 (Tail) | CEMENT, CLASS G | 50.00 | PCT |
| Tail Slurry | P50-X1 (Tail) | EXTENDER, BENTONITE | 2.00 | BWOB |
| Tail Slurry | P50-X1 (Tail) | GELLANT WATER, GW-86 | 0.10 | BWOB |
| Tail Slurry | P50-X1 (Tail) | AR-20 | 0.15 | BWOB |
| Displacement Final | Water w/ Clay Protection & Biocide | ASF-50 | 0.08 | GPB |
| Displacement Final | Water w/ Clay Protection & Biocide | BIOCIDE, ALPHA 1427 | 0.01 | GPB |

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TREATMENT SUMMARY

| Fluid | Rate (bpm) | Fluid Vol. (bbls) |
|------------------------------------|------------|-------------------|
| CD Spacer | 5.00 | 40.00 |
| P100-X2 (Lead) | 6.00 | 287.00 |
| P50-X1 (Tail) | 6.00 | 175.20 |
| Water w/ Clay Protection & Biocide | 8.00 | 226.00 |

DISPLACEMENT AND END OF JOB SUMMARY

| | | | |
|---------------------------------------|-----|------------------------------------|-----|
| Calculated Displacement Volume (bbls) | 226 | Pressure Left on Casing (psi) | 0 |
| Did Float Hold? | Yes | Total Volume Pumped (bbls) | 734 |
| Bump Plug | No | Top Out Cement Spotted | No |
| Were Returned Planned at Surface | No | Lost Circulation During Cement Job | No |

CEMENT PLUG

| | | | |
|------------------------|----|-------------------|----|
| Bottom of Cement Plug? | No | Wiper Balls Used? | No |
| | | Plug Catcher | No |

11/3/2017

Customer Name Bayswater
 Well Name Ward 1-20-19hc
 Job Type Long String

District Cheyenne
 Supervisor Andrew Hyde
 Engineer _____



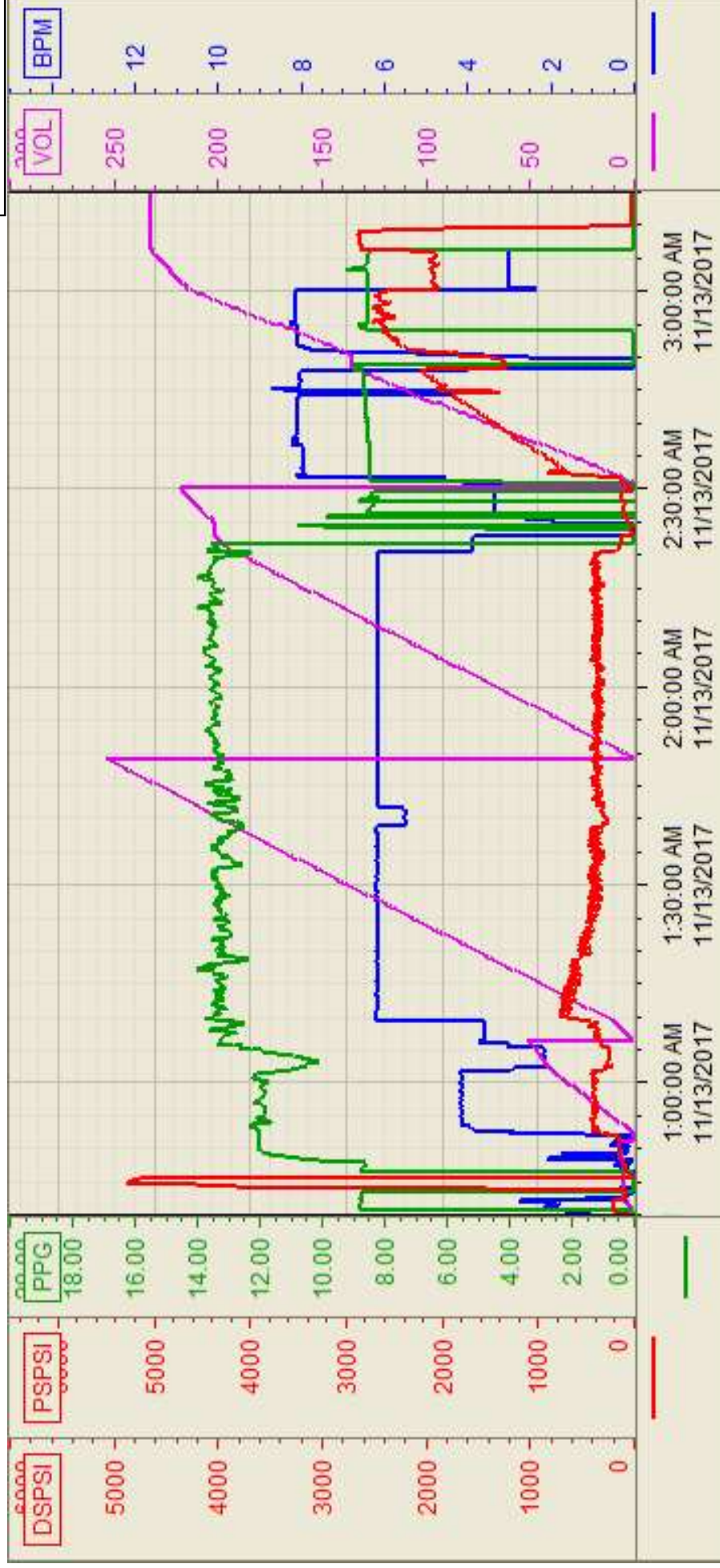
| Seq No. | Start Date/Time | Category | Event | Equipment | Event ID | Density (lb/gal) | Pump Rate (bpm) | Pump Vol (bbls) | Pipe Pressure (psi) | Comments |
|---------|-----------------|--------------|----------------------|-----------|----------|------------------|-----------------|-----------------|---------------------|---|
| 1 | | Mobilization | Call out for job | | | | | | | BJ crew gets called out and requested on location at 22:00 |
| 2 | | Mobilization | Steacs journey | | | | | | | Discuss journey to location |
| 3 | | Mobilization | Depart to location | | | | | | | all follow in convoy |
| 4 | | Mobilization | arrive at location | | | | | | | Arrive on location |
| 5 | | Operational | Steacs briefing | | | | | | | BJ crew talks about the hazards of spotting in equipment and rigging up |
| 6 | | Operational | rig up | | | | | | | Rig up |
| 7 | | Operational | Steacs briefing | | | | | | | BJ and rig crew talk about the hazards of pumping the job |
| 8 | 11/13/2017 0:48 | Operational | fill lines | | | 8.33 | 2 | 3 | 200 | Pump 3 bbls of water to fill lines |
| 9 | 11/13/2017 0:52 | Operational | Test iron | | | 8.33 | | | | Pressure test pumps and lines to 5000 psi |
| 10 | 11/13/2017 1:00 | Operational | Pump Cd Spacer | | | 12 | 4 | 40 | 500 | Pump cd spacer at 12# with chemicals |
| 11 | 11/13/2017 1:15 | Operational | Pump lead Cement | | 58 | 13.2 | 6 | 289 | 750 | Mix and pump 890 sks of p100x2 at 13.2 with 1.82 yield and 9.89 water requirement |
| 12 | 11/13/2017 1:59 | Operational | Pump Tail cement | | 60 | 13.5 | 6 | 176 | 400 | mix and pump 1850 sks of p50-x1 at 1.5# with 1.47 yield 7.43 water requirement |
| 13 | 11/13/2017 2:28 | Operational | wash pumps and lines | | | 8.33 | 4 | 10 | | wash lines to the pit |
| 14 | 11/13/2017 2:38 | Operational | drop plug | | | | | | | Company man witness plug leave manifold |
| 15 | 11/13/2017 2:39 | Operational | Displace | | | 8.33 | 8 | 206 | 2400 | Pump 226 bbls of displacement, chemicals |
| 16 | 11/13/2017 3:08 | Operational | slow rate | | | 8.33 | 3 | 20 | 2100 | Slow rate the last 20 bbls to 3 bpm |
| 17 | 11/13/2017 3:14 | Operational | Land the plug | | | | | | | Bump plug at 2200 psi, took it up to 3000 psi |
| 18 | 11/13/2017 3:17 | Operational | Check the float | | | | | | | Got 1.5 bbls back to the truck |
| 19 | 11/13/2017 3:30 | Operational | Steacs briefing | | | | | | | BJ crew talked about the hazards of rigging down |
| 20 | 11/13/2017 3:50 | Operational | rig down | | 73 | | | | | Rig down |
| 21 | 11/13/2017 5:00 | Mobilization | Move off Location | | | | | | | Move off location |
| 22 | 11/13/2017 5:15 | Mobilization | After action review | | | | | | | |
| 23 | 11/13/2017 5:20 | Mobilization | Steacs journey | | | | | | | BJ crew talks about the hazards driving to the yard |
| 24 | 11/13/2017 5:30 | Mobilization | Depart loaction | | | | | | | Depart location |
| 32 | 11/13/2017 5:30 | | Other | | | | | | | Estimated top of tail at 5894 ft, got 45 bbls of cement to surface |



Customer: BAYSWATER
Well Number: T-20-19HC
Lease Info: WARD

Print Date/Time

11/13/2017 3:59:04 AM



| Name | Y value | X value/time stamp | Tag name Y |
|--------------------------|---------|--------------------------|---------------------------------|
| 1 DS - Press (PSI) | | 11/13/2017 3:15:00 AM i. | CementedDS_DISCHARGE_PRESS_DIAL |
| 2 Recirc - Density (PPG) | 0.01 | 11/13/2017 3:15:03 AM | CementedDENSITY_ACTUAL_RATE |
| 3 Down Hole Total (BBLs) | 232.5 | 11/13/2017 3:15:03 AM | CementedDOWNHOLE_FLOW_TOTAL |
| 4 Combined rate (BPM) | 0.00 | 11/13/2017 3:15:03 AM | CementedFlow_Combined |
| 5 | | | |

Source: Control1 3:58:58 AM