



Great Western Operating Company, LLC

Seltzer LD 09-378HN

API # 05-001-10196

Surface

April 03, 2020

Quote #: QUO-43970-W8Y2F9

Execution #: EXC-25635-P1J8J102



Great Western Operating Company, LLC

Great Western Operating Company, LLC | 1801 Broadway, Suite 500 | Denver, CO 80202

Dear Great Western Operating Company, LLC,

Thank you for the opportunity to provide cementing services on this well. BJ Services strives to achieve complete customer satisfaction. If you have any questions regarding the services or data provided, please contact BJ Services at any time.

Sincerely,
Jason Creel
Field Engineer I | (307) 256-0306 | Jason.Creel@BJServices.com

Field Office
1716 East Allison Rd., Cheyenne WY. 82007 | (307) 638-5585

Sales Office
999 18th St. Suite 1200, Denver, CO. 80202 | (281) 408-2361

BJ Cementing Treatment Report

| | | | |
|--------------------|--------------|------------------|---------|
| SERVICE SUPERVISOR | Chad Johnson | RIG | Ikon 12 |
| DISTRICT | Cheyenne, WY | COUNTY | ADAMS |
| SERVICE | Cementing | STATE / PROVINCE | 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 | 2,024.00 | 2,024.00 | 30.00 | | |
| Casing | 8.92 | 9.63 | 36.00 | 2,024.00 | 2,024.00 | | J-55 | LTC |

HARDWARE

| | | | |
|-----------------------|--------|---------------------------|----------|
| Bottom Plug Used? | No | Centralizers Type | Bow |
| Top Plug Used? | Yes | Landing Collar Depth (ft) | 1,978.77 |
| Top Plug Provided By | Non BJ | Pipe Movement | None |
| Top Plug Size | 9.630 | Job Pumped Through | Manifold |
| Centralizers Used | Yes | Top Connection Thread | LTC |
| Centralizers Quantity | 19.00 | Top Connection Size | 9.63 |

CIRCULATION PRIOR TO JOB

| | | | |
|--------------------------------------|--------|--|------|
| Well Circulated By | Rig | Mud Density In (ppg) | 8.40 |
| Circulation Prior to Job | Yes | Mud Density Out (ppg) | 8.40 |
| Circulation Time (min) | 30.00 | Solids Present at End of Circulation | No |
| Circulation Rate (bpm) | 8.00 | Flare Prior to / during the Cement Job | No |
| Circulation Volume (bbls) | 240.00 | Gas Present | No |
| Lost Circulation Prior to Cement Job | No | | |

TEMPERATURE

| | | | |
|--------------------------|-------|----------------------------|-------|
| Ambient Temperature (°F) | 15.00 | Mix Water Temperature (°F) | 60.00 |
|--------------------------|-------|----------------------------|-------|

FLUID DETAILS

| FLUID TYPE | FLUID NAME | DENSITY (ppg) | YIELD (Cu Ft/sk) | H ₂ O REQ (gals/sk) | PLN TOP FLD (ft) | LENGTH (ft) | VOL (sk) | VOL (Cu Ft) | VOL (bbls) |
|----------------------------|-----------------|---------------|------------------|--------------------------------|------------------|-------------|----------|-------------|------------|
| Spacer / Pre Flush / Flush | Water | 8.3300 | | | 0.00 | | | | 20.0000 |
| Tail Slurry | BJCem S100.3.XC | 14.5000 | 1.3902 | 6.81 | 0.00 | 2,000.00 | 930 | 1293.0000 | 230.3000 |
| Displacement Final | Water | 8.3300 | | | 0.00 | | | 0.0000 | 151.4000 |

| FLUID TYPE | FLUID NAME | COMPONENT | CONCENTRATION | UOM |
|-------------|-----------------|-----------------------|---------------|-----|
| Tail Slurry | BJCem S100.3.XC | CEMENT, ASTM TYPE III | 100.0000 | PCT |

DISPLACEMENT AND END OF JOB SUMMARY

| | | | |
|------------------------------------|--------|------------------------------------|--------|
| Displaced By | BJ | Amt of Cement Returned / Reversed | 43.00 |
| Calculated Displacement Vol (bbls) | 153.00 | Method Used to Verify Returns | Visual |
| Actual Displacement Vol (bbls) | 153.00 | Amt of Spacer to Surface | 20.00 |
| Did Float Hold? | Yes | Pressure Left on Casing (psi) | 0.00 |
| Bump Plug | Yes | Amt Bled Back After Job | 1.00 |
| Bump Plug Pressure (psi) | 700.00 | Total Volume Pumped (bbls) | 407.00 |
| Were Returns Planned at Surface | Yes | Top Out Cement Spotted | No |
| Cement Returns During Job | Yes | Lost Circulation During Cement Job | No |

BJ Cementing Event Log

Surface - Cheyenne, WY - Chad Johnson

| SEQ | START DATE / TIME | EVENT | DENSITY (ppg) | PUMP RATE (bpm) | PUMP VOL (bbls) | PIPE PRESSURE (psi) | COMMENTS |
|-----|-------------------|------------------------|---------------|-----------------|-----------------|---------------------|--|
| 1 | 04/02/2020 18:00 | Callout | | | | | Crew called out requested on location for 0000 |
| 2 | 04/02/2020 23:00 | Arrive on Location | | | | | Crew arrived on location |
| 3 | 04/02/2020 23:05 | STEACS Briefing | | | | | Safety meeting |
| 4 | 04/02/2020 23:20 | Spot Units | | | | | Spotted all units |
| 5 | 04/02/2020 23:30 | Rig Up | | | | | Rigged up all equipment |
| 6 | 04/03/2020 00:30 | Client | | | | | Waiting on rig to finish running casing and circulate the well |
| 7 | 04/03/2020 02:15 | STEACS Briefing | | | | | Safety meeting |
| 8 | 04/03/2020 02:55 | Prime Up | 8.3400 | 3.00 | 5.00 | 100.00 | Fill lines |
| 9 | 04/03/2020 02:58 | Pressure Test | | | | | Pressure test lines to 2500 psi |
| 10 | 04/03/2020 03:00 | Pump Spacer | 8.3400 | 6.00 | 20.00 | 200.00 | Pump water spacer |
| 11 | 04/03/2020 03:04 | Pump Tail Cement | 14.5000 | 6.00 | 230.00 | 250.00 | Pump cement (930 sks, 1.39 Y, 6.81 gal/sk) (CTF-013, pods 2&1, CTF-338, Pods 1&2) (Slow rate on pod swaps, shutdown to batch up) |
| 12 | 04/03/2020 04:07 | Other (See comment) | | | | | Shutdown |
| 13 | 04/03/2020 04:10 | Drop Top Plug | | | | | Drop top plug |
| 14 | 04/03/2020 04:11 | Pump Displacement | 8.3400 | 8.00 | 140.00 | 800.00 | Pump displacement |
| 15 | 04/03/2020 04:27 | Cement Back-to-Surface | | | | | Cement back to surface, 43bbls cement to surface |
| 16 | 04/03/2020 04:30 | Other (See comment) | 8.3400 | 3.00 | 13.00 | 700.00 | Slow rate |
| 17 | 04/03/2020 04:40 | Land Plug | | | | | Land plug at 700 psi, took to 1500 psi. 30 min csg test: start 1520 psi, end 1520 psi. |
| 18 | 04/03/2020 05:10 | Check Floats | | | | | Check floats, floats holding, 1 bbls back |
| 19 | 04/03/2020 05:15 | STEACS Briefing | | | | | Safety meeting |
| 20 | 04/03/2020 05:30 | Rig Down | | | | | Rigged down all equipment |
| 21 | 04/03/2020 06:30 | Leave Location | | | | | Crew departed location |

Client: Great Western Operating Company, LLC

Well Name / API: SELTZER LD 09-378HN / 05-001-10196

Well MD: 2024



Quote #: QUO-43970-W8Y2F9

Plan #: ORD-25635-P1J8J1

Execution #: EXC-25635-P1J8J102



JobMaster Program Version 5.00C1

Job Number:

Customer: Great Western

Well Name: Seltzer LD 09-378HN

