



Great Western Operating Company, LLC

Tollway LC 24-376HN

API # 05-001-10424

Surface Cement

August 14, 2019

Quote #: QUO-35180

Execution #: EXC-20345



Great Western Operating Company, LLC

Attention: Mr. Matt Mount | (720) 595-2173 | mmount@gwogco.com

Great Western | 1001 17th Street, Suite 2000 | Denver, CO 80202

Dear Mr. Mount,

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,

Zen Keith
Field Engineer III | (307) 757-7178 | Zen.Keith@BJServices.com

Field Office 28730 US-6, Rifle, CO 81650
Phone: (970) 632-2412

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

BJ Cementing Treatment Report

| | | | |
|------------------------------------|---------------|-------------------------|---------|
| SERVICE SUPERVISOR | Paul Linn III | FORMATION | |
| CLIENT FIELD REPRESENTATIVE | Jw Cooper | RIG | Ikon 12 |
| DISTRICT | Rifle, CO | COUNTY | ADAMS |
| SERVICE | Cementing | STATE / PROVINCE | CO |

WELL GEOMETRY

| TYPE | ID (in) | OD (in) | WEIGHT (lb/ft) | MD (ft) | TVD (ft) | EXCESS (%) | GRADE | THREAD |
|-----------|---------|---------|----------------|----------|----------|------------|-------|--------|
| Casing | 8.92 | 9.63 | 36.00 | 1,797.00 | 1,797.00 | | J-55 | LTC |
| Open Hole | 13.50 | 0.00 | 0.00 | 1,797.00 | 1,797.00 | 30.00 | | |

HARDWARE

| | | | |
|----------------------------------|----------|------------------------------|--------------|
| Bottom Plug Used? | No | Tool Type | Float Collar |
| Top Plug Used? | Yes | Tool Depth (ft) | 1,750.89 |
| Top Plug Provided By | Non BJ | Pipe Movement | None |
| Top Plug Size | 9.625 | Job Pumped Through | Manifold |
| Centralizers Used | Yes | Top Connection Thread | 8 RND |
| Centralizers Quantity | 17.00 | Top Connection Size | 9.625 |
| Centralizers Type | Bow | | |
| Landing Collar Depth (ft) | 1,750.89 | | |

Client: Great Western Operating Company, LLC

Well: TOLLWAY LC #24-376HN

Well API: 05-001-10424

Start Date: 8/13/2019

End Date: 8/14/2019

Field Ticket #: FT-20345-N1V4X10202-97532



CIRCULATION PRIOR TO JOB

| | | | |
|--------------------------------------|--------|--|----|
| Well Circulated By | Rig | Solids Present at End of Circulation | No |
| Circulation Prior to Job | Yes | Flare Prior to / during the Cement Job | No |
| Circulation Time (min) | 30.00 | Gas Present | No |
| Circulation Rate (bpm) | 4.75 | | |
| Circulation Volume (bbls) | 142.50 | | |
| Lost Circulation Prior to Cement Job | No | | |
| Mud Density In (ppg) | 8.40 | | |
| Mud Density Out (ppg) | 8.40 | | |

TEMPERATURE

| | | | |
|----------------------------|-------|--------------------------------|-------|
| Ambient Temperature (°F) | 63.00 | Slurry Cement Temperature (°F) | 79.40 |
| Mix Water Temperature (°F) | 66.80 | Flow Line Temperature (°F) | |

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 | 1,750.00 | 815 | 1134.0000 | 201.8000 |
| Displacement 1 | Water | 8.3300 | | | 0.00 | | | 0.0000 | 114.7000 |

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

| TIME | FLUID | RATE (bpm) | FLUID VOL (bbls) | PIPE PRESS (psi) |
|----------------------|-----------------|------------|------------------|------------------|
| 8/14/2019 2:21:00 AM | Water | 4.00 | 20.00 | 86.00 |
| 8/14/2019 2:34:00 AM | BJCem S100.3.XC | 5.00 | 201.80 | 203.00 |
| 8/14/2019 3:19:00 AM | Water | 8.50 | 135.43 | 211.00 |

MIN / MAX / AVG PRESSURE AND RATES

| | MIN | MAX | AVG |
|----------------|-------|--------|--------|
| Pressure (psi) | 27.00 | 998.00 | 211.00 |
| Rate (bpm) | 2.00 | 8.50 | 5.00 |

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DISPLACEMENT AND END OF JOB SUMMARY

| | | | |
|------------------------------------|--------|------------------------------------|--------|
| Displaced By | BJ | Amt of Cement Returned / Reversed | 35.00 |
| Calculated Displacement Vol (bbls) | 135.43 | Method Used to Verify Returns | Visual |
| Actual Displacement Vol (bbls) | 135.00 | 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) | 682.00 | Total Volume Pumped (bbls) | 358.00 |
| Were Returns Planned at Surface | Yes | Top Out Cement Spotted | No |
| Cement Returns During Job | Yes | Lost Circulation During Cement Job | No |

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BJ Cementing Event Log

Surface - Rifle, CO - Paul Linn III

| SEQ | START DATE / TIME | EVENT | DENSITY (ppg) | PUMP RATE (bpm) | PUMP VOL (bbls) | PIPE PRESSURE (psi) | COMMENTS |
|-----|-------------------|--------------------|---------------|-----------------|-----------------|---------------------|---|
| 1 | 08/13/2019 19:00 | Callout | | | | | Call out. On location time of 01:00 8/14/19 |
| 2 | 08/13/2019 20:30 | Arrive on Location | | | | | Arrive on location. Rig was still drilling |
| 3 | 08/13/2019 20:41 | STEACS Briefing | | | | | Pre-Rig Up STEACS Briefing with all BJ Services cement crew |
| 4 | 08/13/2019 20:56 | Rig Up | | | | | Rig up all equipment |
| 5 | 08/13/2019 21:14 | Client | | | | | Wait on rig to pull drill pipe, run casing, and circulate |
| 6 | 08/14/2019 01:52 | STEACS Briefing | | | | | Pre-Job STEACS Briefing with rig crew, company man, and all BJ Services cement crew |
| 7 | 08/14/2019 02:05 | Rig Up | | | | | Load plug in plug container, stab plug container, and hook up lines |
| 8 | 08/14/2019 02:15 | Prime Up | 8.4000 | 2.00 | 5.00 | 27.00 | Fill lines with 5 bbls of fresh water |
| 9 | 08/14/2019 02:17 | Pressure Test | | | | 3106.00 | Pressure test to 3106 psi |
| 10 | 08/14/2019 02:21 | Pump Spacer | 8.4000 | 4.00 | 20.00 | 86.00 | Pump 20 bbls of Dye spacer |
| 11 | 08/14/2019 02:32 | Pump Tail Cement | 14.5000 | 5.00 | 5.00 | 203.00 | Pump Tail Cement 14.5 ppg 815 sks 1.39 cuft/sk 6.81 gals/sk for a total of 201.76 bbls of Tail cement requiring 132.15 bbls of mix water. Weight verified with mud scales |
| 12 | 08/14/2019 02:43 | Pump Tail Cement | 14.5000 | 5.00 | 50.00 | 161.00 | Pump Tail Cement |
| 13 | 08/14/2019 02:53 | Pump Tail Cement | 14.5000 | 5.00 | 100.00 | 166.00 | Pump Tail Cement |
| 14 | 08/14/2019 03:05 | Pump Tail Cement | 14.5000 | 5.00 | 150.00 | 172.00 | Pump Tail Cement |
| 15 | 08/14/2019 03:15 | Pump Tail Cement | 14.5000 | 5.00 | 203.00 | 183.00 | Finished pumping Tail Cement with 203 bbls away |



| SEQ | START DATE / TIME | EVENT | DENSITY (ppg) | PUMP RATE (bpm) | PUMP VOL (bbls) | PIPE PRESSURE (psi) | COMMENTS |
|-----|-------------------|------------------------|---------------|-----------------|-----------------|---------------------|--|
| 16 | 08/14/2019 03:17 | Drop Top Plug | | | | | Drop plug, verified by company man |
| 17 | 08/14/2019 03:19 | Pump Displacement | 8.4000 | 8.50 | 10.00 | 211.00 | Pump Fresh water displacement |
| 18 | 08/14/2019 03:24 | Pump Displacement | 8.4000 | 8.50 | 50.00 | 636.00 | Pump Fresh water displacement |
| 19 | 08/14/2019 03:33 | Cement Back-to-Surface | | | | | 35 bbls of cement to surface |
| 20 | 08/14/2019 03:33 | Pump Displacement | 8.4000 | 8.50 | 115.00 | 998.00 | Pump Fresh water displacement |
| 21 | 08/14/2019 03:34 | Pump Displacement | 8.4000 | 3.00 | 135.00 | 682.00 | Pump Fresh water displacement |
| 22 | 08/14/2019 03:39 | Land Plug | | | | 1286.00 | Landed the plug at 682 psi took to 1286 psi |
| 23 | 08/14/2019 03:40 | Other (See comment) | | | | 1552.00 | 15 min casing test: start 1554 psi, end 1581 psi |
| 24 | 08/14/2019 03:55 | Check Floats | | | | | Check floats. Floats held 1 bbl back |
| 25 | 08/14/2019 03:58 | Wash Pumps and Lines | | | | | Wash pumps and lines to cellar |
| 26 | 08/14/2019 04:10 | STEACS Briefing | | | | | Pre-Rig Down STEACS Briefing with all BJ Services cement crew |
| 27 | 08/14/2019 04:22 | Rig Down | | | | | Rig down equipment and move bulk truck out of the way |
| 28 | 08/14/2019 05:00 | Leave Location | | | | | Leave location. Thank you for using BJ Services, Andrew Linn, and crew |

