



Great Western Operating Company, LLC

Schneider HD 11-059HN

API # 05-123-46415

Surface

September 02, 2019

Quote #: QUO-35935-B4G0F7

Execution #: EXC-20930-B4P0X302



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 | Hector Montoya | RIG | Ikona 12 |
| DISTRICT | Cheyenne, WY | COUNTY | WELD |
| 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 | 1,584.00 | 1,584.00 | | J-55 | LTC |
| Open Hole | 13.50 | 0.00 | 0.00 | 1,584.00 | 1,584.00 | 30.00 | | |

HARDWARE

| | | | |
|-----------------------|--------|--------------------------------------|----------|
| Bottom Plug Used? | No | Landing Collar Depth (ft) | 1,537.26 |
| Top Plug Used? | Yes | Max Casing Pressure - Rated (psi) | 3520.00 |
| Top Plug Provided By | Non BJ | Max Casing Pressure - Operated (psi) | 2860.00 |
| Top Plug Size | 9.625 | Job Pumped Through | Manifold |
| Centralizers Used | Yes | Top Connection Thread | LTC |
| Centralizers Quantity | 16.00 | Top Connection Size | 9.625 |
| Centralizers Type | Bow | | |

CIRCULATION PRIOR TO JOB

| | | | |
|--------------------------------------|--------|--|----|
| Well Circulated By | Rig | PV Mud Out | 1 |
| Circulation Prior to Job | Yes | YP Mud In | 1 |
| Circulation Time (min) | 30.00 | YP Mud Out | 1 |
| Circulation Rate (bpm) | 6.00 | Solids Present at End of Circulation | No |
| Circulation Volume (bbls) | 180.00 | 10 sec SGS | 1 |
| Lost Circulation Prior to Cement Job | No | 10 min SGS | 1 |
| Mud Density In (ppg) | 8.50 | 30 min SGS | 1 |
| Mud Density Out (ppg) | 8.50 | Flare Prior to / during the Cement Job | No |
| PV Mud In | 1 | Gas Present | No |

Client: Great Western
Operating Company, LLC

Well: SCHNEIDER HD 11-059HN

Well API: 05-123-46415

Start Date: 9/2/2019

End Date: 9/2/2019

Field Ticket #:



TEMPERATURE

| | | | |
|----------------------------|-------|--------------------------------|-------|
| Ambient Temperature (°F) | 95.00 | Slurry Cement Temperature (°F) | 65.00 |
| Mix Water Temperature (°F) | 60.00 | Flow Line Temperature (°F) | 90.00 |

FLUID DETAILS

| FLUID TYPE | FLUID NAME | DENSITY (ppg) | YIELD (Cu Ft/sk) | H ₂ O REQ (gals/sk) | LENGTH (ft) | VOL (sk) | VOL (Cu Ft) | VOL (bbls) |
|----------------------------|-----------------|---------------|------------------|--------------------------------|-------------|----------|-------------|------------|
| Spacer / Pre Flush / Flush | Water | 8.3300 | | | | | | 20.0000 |
| Tail Slurry | BJCem S100.3.XC | 14.5000 | 1.3902 | 6.81 | 1,550.00 | 720 | 1001.0000 | 178.3000 |
| Displacement 1 | Water | 8.3300 | | | | | 0.0000 | 117.0000 |

| 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 | 32.00 |
| Calculated Displacement Vol (bbls) | 117.00 | Method Used to Verify Returns | Visual |
| Actual Displacement Vol (bbls) | 117.00 | 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 | 0.50 |
| Bump Plug Pressure (psi) | 1240.00 | Total Volume Pumped (bbls) | 315.00 |
| 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 - Cheyenne, WY - Hector Montoya

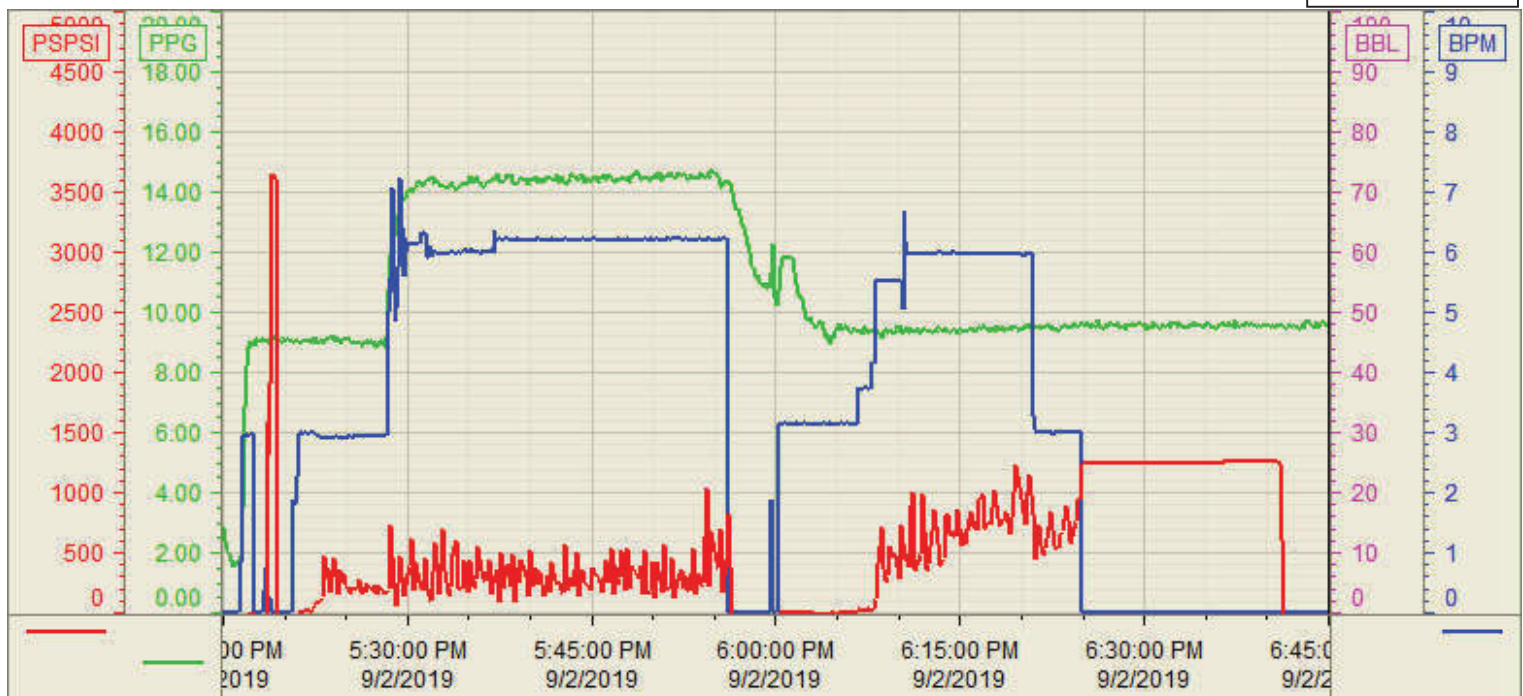
| SEQ | START DATE / TIME | EVENT | DENSITY (ppg) | PUMP RATE (bpm) | PUMP VOL (bbls) | PIPE PRESSURE (psi) | COMMENTS |
|-----|-------------------|---------------------|---------------|-----------------|-----------------|---------------------|--|
| 1 | 09/02/2019 10:00 | Callout | | | | | BJ Crew gets called out |
| 2 | 09/02/2019 12:00 | STEACS Briefing | | | | | Talk about the hazards of driving to location |
| 3 | 09/02/2019 12:30 | Arrive on Location | | | | | BJ arrives on location |
| 4 | 09/02/2019 14:30 | STEACS Briefing | | | | | Discuss hazards of rigging up |
| 5 | 09/02/2019 15:00 | Rig Up | | | | | Rig Up |
| 6 | 09/02/2019 16:45 | STEACS Briefing | | | | | BJ Crew and rig Crew discuss hazards of pumping the job |
| 7 | 09/02/2019 17:10 | Prime Up | | | | | Fill Lines |
| 8 | 09/02/2019 17:14 | Pressure Test | | | | | Pressure Test to 3500psi |
| 9 | 09/02/2019 17:19 | Pump Spacer | 8.3300 | 3.00 | 20.00 | 160.00 | Pump 20bbl Red Dye |
| 10 | 09/02/2019 17:27 | Pump Tail Cement | 14.5000 | 6.00 | 178.00 | 410.00 | Primary 178bbl at 14.5ppg, γ-1.39, gpc-6.81, mix water-116bbl |
| 11 | 09/02/2019 17:55 | Drop Top Plug | | | | | Customer witnesses Top Plug leave |
| 12 | 09/02/2019 18:00 | Pump Displacement | 8.3300 | 6.00 | 97.00 | 500.00 | Total Displacement 117. 32bbl cement to surface |
| 13 | 09/02/2019 18:24 | Pump Displacement | 8.3300 | 3.00 | 20.00 | 800.00 | Slow rate to 3bpm |
| 14 | 09/02/2019 18:25 | Land Plug | | | | 1240.00 | Land Plug, Final Circulating pressure was 800psi took to 1240psi |
| 15 | 09/02/2019 18:40 | Other (See comment) | | | | | 15min Csg test: start 1240psi, end 1259psi |
| 16 | 09/02/2019 19:00 | Check Floats | | | | | Floats Held. .5bbl back |
| 17 | 09/02/2019 19:05 | Rig Down | | | | | Rig Down |
| 18 | 09/02/2019 20:00 | Leave Location | | | | | Depart location |

Customer: GREAT WESTERN
Well Number: 11-059HN
Lease Info: SCHNEIDER HD



Print Date/Time

9/2/2019 6:58:38 PM



| | Name | Y value | X value/time stamp | Tag name Y |
|---|-----------------------------|----------|------------------------|-------------------------------|
| 1 | PPSI | -39.1 i. | 9/2/2019 6:45:00 PM i. | CementPS_DISCHARGE_PRESS_DIAL |
| 2 | BPM | 0.00 | 9/2/2019 6:45:00 PM | CementFlow_Combined |
| 3 | Den2 - Discharge Density (F | 9.54 | 9/2/2019 6:45:00 PM | CementDENSITY2_ACTUAL_RATE |
| 4 | | | | |
| 5 | | | | |

Source: Control1 6:57:52 PM