



Caerus

Well Name: NPR 21C-3-596

API #: 05-045-24015

Job Type: Surface

Date Job Completed: 12/12/2018

Quote #: QUO-23721

Execution #: EXC-13879



Caerus

Attention: Mr. Steve Schmitz | (720) 880-6412 | sschmitz@caerusoilandgas.com

Caerus | 1001 17th Street, Suite 1600 | Denver, CO 80202

Dear Mr. Schmitz,

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 | Francisco Castillo | FORMATION | |
| CLIENT FIELD REPRESENTATIVE | George Urban | RIG | H&P 330 |
| DISTRICT | Rifle, CO | COUNTY | GARFIELD |
| SERVICE | Cementing | STATE / PROVINCE | CO |

| TYPE | OD (in) | ID (in) | WEIGHT (lb/ft) | MD (ft) | EXCESS (%) | GRADE | THREAD |
|-----------------|---------|---------|----------------|----------|------------|-------|--------|
| Previous Casing | 20.00 | 19.50 | 52.73 | 130.00 | | | |
| Open Hole | 0.00 | 14.75 | 0.00 | 3,010.00 | | | |
| Casing | 9.63 | 8.92 | 36.00 | 2,956.68 | | J-55 | LTC |

HARDWARE

| | | | |
|----------------------------------|--------|---|--------------|
| Bottom Plug Used? | No | Tool Type | Float Collar |
| Top Plug Used? | Yes | Tool Depth (ft) | 2,914.01 |
| Top Plug Provided By | Non BJ | Max Casing Pressure - Rated (psi) | 3,520.00 |
| Top Plug Size | 9.625 | Max Casing Pressure - Operated (psi) | 2,816.00 |
| Centralizers Used | Yes | Pipe Movement | None |
| Centralizers Type | Bow | Job Pumped Through | Manifold |
| Landing Collar Depth (ft) | 2,914 | Top Connection Thread | 8RD |
| | | Top Connection Size | 9.625 |



CIRCULATION PRIOR TO JOB

| | | | |
|--------------------------------------|--------|--|----|
| Well Circulated By | Rig | YP Mud In | 9 |
| Circulation Prior to Job | Yes | Solids Present at End of Circulation | No |
| Circulation Time (min) | 30.00 | 10 sec SGS | 8 |
| Circulation Rate (bpm) | 8.00 | 10 min SGS | 12 |
| Circulation Volume (bbls) | 240.00 | 30 min SGS | 16 |
| Lost Circulation Prior to Cement Job | Yes | Flare Prior to / during the Cement Job | No |
| Mud Density In (ppg) | 8.60 | Gas Present | No |
| PV Mud In | 10 | | |

TEMPERATURE

| | | | |
|----------------------------|-------|--------------------------------|-------|
| Ambient Temperature (°F) | 19.00 | Slurry Cement Temperature (°F) | 64.00 |
| Mix Water Temperature (°F) | 54.00 | | |

FLUID DETAILS

| FLUID TYPE | FLUID NAME | DENSITY (ppg) | YIELD (Cu Ft/sk) | H ₂ O REQ (gals/sk) | VOL (sk) | VOL (Cu Ft) | VOL (bbls) |
|----------------------------|------------------|---------------|------------------|--------------------------------|----------|-------------|------------|
| Spacer / Pre Flush / Flush | Water 1 | 8.3300 | | | | | 20.0000 |
| Spacer / Pre Flush / Flush | Sodium Silicate | 10.0000 | | | | | 20.0000 |
| Spacer / Pre Flush / Flush | Water 2 | 8.3300 | | | | | 20.0000 |
| Lead Slurry | BJCem S100.3.01D | 12.0000 | 2.5298 | 14.86 | 719 | 1818.0000 | 323.7000 |
| Tail Slurry | BJCem S100.3.01D | 12.5000 | 2.2256 | 12.59 | 161 | 358.0000 | 63.7000 |
| Displacement Final | Displacement | 8.3300 | | | | 0.0000 | 225.0000 |
| Top Out Slurry | BJCem S100.3.01D | 12.5000 | 2.2256 | 12.59 | 140 | 311.000 | 55.0000 |

| FLUID TYPE | FLUID NAME | COMPONENT | CONCENTRATION | UOM |
|----------------------------|------------------|---|---------------|--------|
| Spacer / Pre Flush / Flush | Sodium Silicate | SILICATE, SODIUM, A-3L | 21.0000 | GPB |
| Lead Slurry | BJCem S100.3.01D | ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS | 2.0000 | LBS/SK |
| Lead Slurry | BJCem S100.3.01D | CEMENT, ASTM TYPE III | 100.0000 | PCT |
| Lead Slurry | BJCem S100.3.01D | CEMENT EXTENDER, GYPSUM, A-10 | 5.0000 | BWOB |
| Lead Slurry | BJCem S100.3.01D | Cement Additive, Sodium Metasilicate A-2 | 2.0000 | LBS/SK |
| Lead Slurry | BJCem S100.3.01D | IntegraSeal CELLO | 0.1300 | LBS/SK |
| Lead Slurry | BJCem S100.3.01D | FOAM PREVENTER, FP-25 | 0.3000 | BWOB |
| Tail Slurry | BJCem S100.3.01D | CEMENT, ASTM TYPE III | 100.0000 | PCT |
| Tail Slurry | BJCem S100.3.01D | ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS | 2.0000 | LBS/SK |
| Tail Slurry | BJCem S100.3.01D | IntegraSeal CELLO | 0.1300 | LBS/SK |
| Tail Slurry | BJCem S100.3.01D | Cement Additive, Sodium Metasilicate A-2 | 2.0000 | LBS/SK |
| Tail Slurry | BJCem S100.3.01D | CEMENT EXTENDER, GYPSUM, A-10 | 5.0000 | BWOB |
| Tail Slurry | BJCem S100.3.01D | FOAM PREVENTER, FP-25 | 0.3000 | BWOB |
| Top-out Slurry | BJCem S100.3.01D | CEMENT, ASTM TYPE III | 100.0000 | PCT |
| Top-out Slurry | BJCem S100.3.01D | ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS | 2.0000 | LBS/SK |
| Top-out Slurry | BJCem S100.3.01D | IntegraSeal CELLO | 0.1300 | LBS/SK |
| Top-out Slurry | BJCem S100.3.01D | Cement Additive, Sodium Metasilicate A-2 | 2.0000 | LBS/SK |
| Top-out Slurry | BJCem S100.3.01D | CEMENT EXTENDER, GYPSUM, A-10 | 5.0000 | BWOB |
| Top-out Slurry | BJCem S100.3.01D | FOAM PREVENTER, FP-25 | 0.3000 | BWOB |

| TIME | FLUID | RATE (bpm) | FLUID VOL (bbls) | PIPE PRESSURE (psi) |
|------------------------|------------------|------------|------------------|---------------------|
| 12/12/2018 2:10:00 PM | Water 1 | 5.50 | 20.00 | 365.00 |
| 12/12/2018 2:13:00 PM | Sodium Silicate | 5.50 | 20.00 | 367.00 |
| 12/12/2018 2:16:00 PM | Water 2 | 5.50 | 20.00 | 359.00 |
| 12/12/2018 2:20:00 PM | BJCem S100.3.01D | 5.80 | 323.70 | 447.00 |
| 12/12/2018 3:32:00 PM | BJCem S100.3.01D | 5.00 | 63.70 | 385.00 |
| 12/12/2018 3:52:00 PM | Displacement | 5.80 | 225.00 | 539.00 |
| 12/12/2018 08:55:00 PM | BJCem S100.3.01D | 2.50 | 55.00 | 205.00 |



MIN / MAX / AVG PRESSURE AND RATES

| | MIN | MAX | AVG |
|----------------|--------|--------|--------|
| Pressure (psi) | 359.00 | 539.00 | 410.33 |
| Rate (bpm) | 5.00 | 5.80 | 5.52 |

DISPLACEMENT AND END OF JOB SUMMARY

| | | | |
|------------------------------------|--------|------------------------------------|--------|
| Displaced By | BJ | Amt of Cement Returned / Reversed | 0.00 |
| Calculated Displacement Vol (bbls) | 225.00 | Method Used to Verify Returns | Visual |
| Actual Displacement Vol (bbls) | 225.00 | Amt of Spacer to Surface | 0.00 |
| 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) | 900.00 | Total Volume Pumped (bbls) | 682.00 |
| Were Returns Planned at Surface | No | Top Out Cement Spotted | Yes |
| Cement Returns During Job | None | Lost Circulation During Cement Job | Yes |



BJ Cementing Event Log

Surface - Rifle, CO - Francisco Castillo

| SEQ | START DATE / TIME | EVENT | DENSITY (ppg) | PUMP RATE (bpm) | PUMP VOL (bbls) | PIPE PRESSURE (psi) | COMMENTS |
|-----|-------------------|---------------------|---------------|-----------------|-----------------|---------------------|--|
| 1 | 12/12/2018 09:15 | Depart for Location | | | | | LEAVE THE YARD |
| 2 | 12/12/2018 10:30 | Arrive on Location | | | | | ARRIVE ON LOCATION RIG RUNNING CASING |
| 3 | 12/12/2018 12:00 | STEACS Briefing | | | | | RIG UP MEETING |
| 4 | 12/12/2018 12:05 | Rig Up | | | | | RIG UP EQUIPMENT |
| 5 | 12/12/2018 13:30 | STEACS Briefing | | | | | PRE-JOB SAFETY MEETING WITH RIG CREW |
| 6 | 12/12/2018 14:08 | Pressure Test | | | | 3300.00 | PRESSURE TEST LINES |
| 7 | 12/12/2018 14:10 | Pump Spacer | 8.3400 | 5.50 | 20.00 | 365.00 | WATER SPACER |
| 8 | 12/12/2018 14:13 | Pump Spacer | 11.0000 | 5.50 | 20.00 | 367.00 | SODIUM SILICATE SPACER |
| 9 | 12/12/2018 14:16 | Pump Spacer | 8.3400 | 5.50 | 20.00 | 359.00 | WATER SPACER |
| 10 | 12/12/2018 14:20 | Pump Lead Cement | 12.0000 | | | | LEAD 719SKS/324BBLS, AT 12PPG, 2.53YLD, 14.86GPS |
| 11 | 12/12/2018 14:29 | Pump Lead Cement | 12.0000 | 5.50 | 50.00 | 431.00 | 50 BBLS LEAD CEMENT PUMPED |
| 12 | 12/12/2018 14:38 | Pump Lead Cement | 12.0000 | 5.50 | 50.00 | 447.00 | 100 BBLS LEAD CEMENT PUMPED |
| 13 | 12/12/2018 14:46 | Pump Lead Cement | 12.0000 | 6.50 | 50.00 | 615.00 | 150 BBLS LEAD CEMENT PUMPED |
| 14 | 12/12/2018 14:56 | Pump Lead Cement | 12.0000 | 5.00 | 50.00 | 353.00 | 200 BBLS LEAD CEMENT PUMPED |
| 15 | 12/12/2018 15:05 | Pump Lead Cement | 12.0000 | 5.00 | 50.00 | 411.00 | 250 BBLS LEAD CEMENT PUMPED |
| 16 | 12/12/2018 15:14 | Pump Lead Cement | 12.0000 | 5.00 | 74.00 | 409.00 | 324 BBLS LEAD CEMENT PUMPED |
| 17 | 12/12/2018 15:32 | Pump Tail Cement | 12.5000 | 5.00 | 63.00 | 385.00 | TAIL 161SKS/63BBLS, AT 12.5PPG, 2.22YLD, 12.59GPS, CALCULATED TOP OF TAIL 2,462' |

Page 1

Client: Caerus Operating LLC

Well: NPR 21C-3-596

Well API:05-045-24015

Plan #: ORD-13879-D9R3T4

Execution #: EXC-13879-D9R3T402

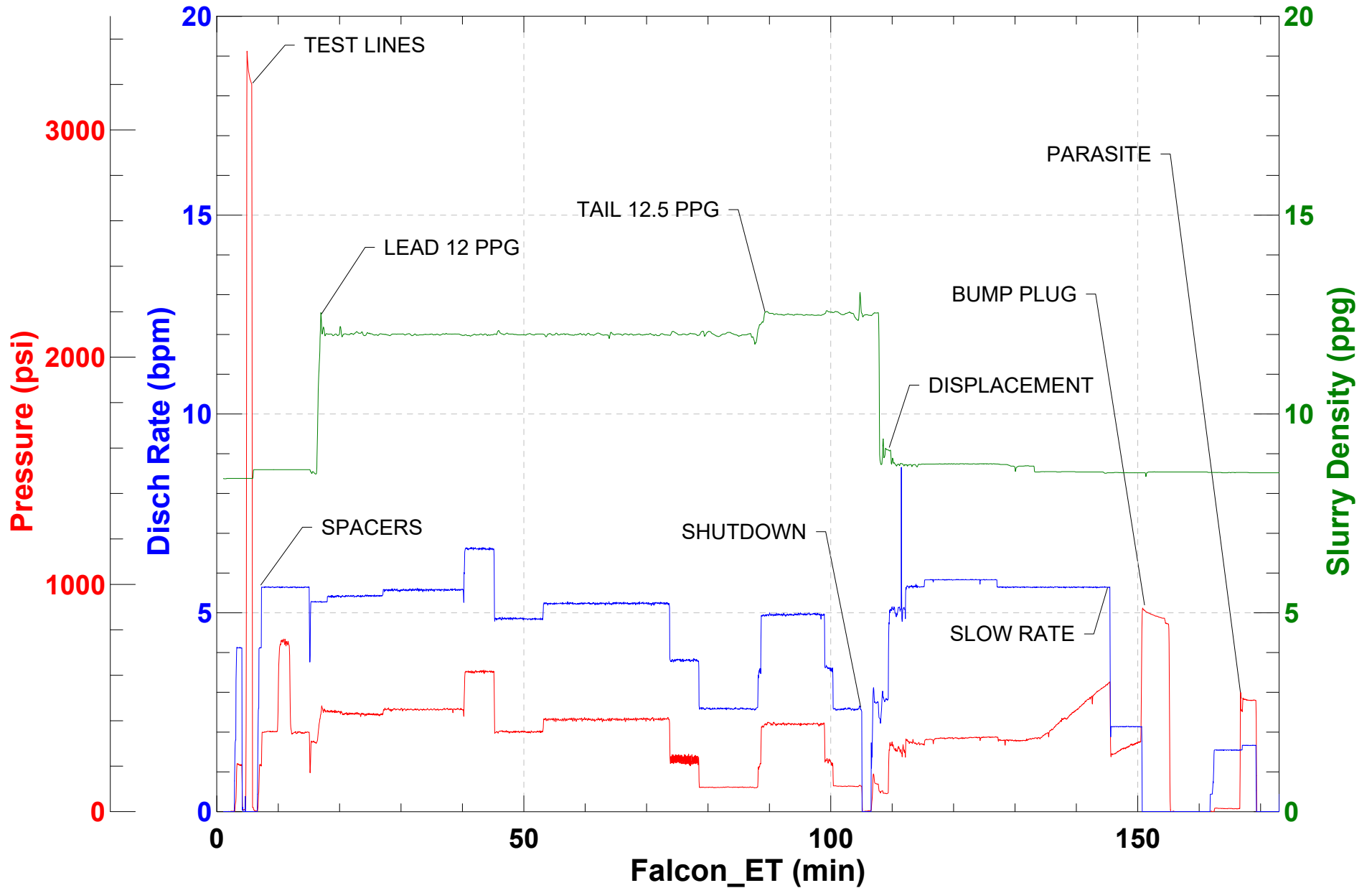
Quote #: QUO-23721-Y3D3J1



| SEQ | START DATE / TIME | EVENT | DENSITY (ppg) | PUMP RATE (bpm) | PUMP VOL (bbls) | PIPE PRESSURE (psi) | COMMENTS |
|-----|-------------------|---------------------|---------------|-----------------|-----------------|---------------------|---|
| 18 | 12/12/2018 15:50 | End Pumping | | | | | SHUTDOWN, DROP TOP PLUG |
| 19 | 12/12/2018 15:52 | Pump Displacement | 8.3400 | | | | DISPLACEMENT FRESH WATER |
| 20 | 12/12/2018 16:01 | Pump Displacement | 8.3400 | 5.80 | 50.00 | 323.00 | 50 BBLS DISPLACEMENT PUMPED |
| 21 | 12/12/2018 16:10 | Pump Displacement | 8.3400 | 5.80 | 50.00 | 327.00 | 100 BBLS DISPLACEMENT PUMPED |
| 22 | 12/12/2018 16:18 | Pump Displacement | 8.3400 | 5.50 | 50.00 | 329.00 | 150 BBLS DISPLACEMENT PUMPED |
| 23 | 12/12/2018 16:27 | Pump Displacement | 8.3400 | 5.50 | 65.00 | 539.00 | 215 BBLS DISPLACEMENT PUMPED |
| 24 | 12/12/2018 16:29 | Pump Displacement | 8.3400 | 2.00 | 10.00 | 309.00 | SLOW DOWN LAST 10 BBLS |
| 25 | 12/12/2018 16:34 | Land Plug | | | | 900.00 | LAND TOP PLUG, NO CIRCULATION THROUGH OUT JOB |
| 26 | 12/12/2018 16:39 | Check Floats | | | | | FLOATS HELD, 0.5 BBL FLOW BACK |
| 27 | 12/12/2018 16:45 | Other (See comment) | 8.5000 | 1.50 | 10.00 | 568.00 | PUMP SUGAR WATER THROUGH PARASITE, BROKE AT 568 PSI |
| 28 | 12/12/2018 16:53 | End Pumping | | | | | SHUTDOWN, GET READY FOR TOPOUT |
| 29 | 12/12/2018 20:52 | Pump Spacer | 8.3400 | 2.00 | 2.00 | 76.00 | CALCIUM CHLORIDE SPACER |
| 30 | 12/12/2018 20:53 | Pump Spacer | 8.3400 | 2.00 | 2.00 | 62.00 | WATER SPACER |
| 31 | 12/12/2018 20:55 | Run Top Out | 12.5000 | 2.50 | 55.00 | 205.00 | TOPOUT 140SKS/55BBLS AT 12.5PPG |
| 32 | 12/12/2018 21:25 | End Pumping | | | | | SHUTDOWN, GOT CEMENT TO SURFACE |
| 33 | 12/12/2018 21:30 | STEACS Briefing | | | | | RIG DOWN MEETING |
| 34 | 12/12/2018 21:35 | Rig Down | | | | | RIG DOWN EQUIPMENT |
| 35 | 12/12/2018 23:15 | STEACS Briefing | | | | | AAR JM MEETING |
| 36 | 12/12/2018 23:30 | Leave Location | | | | | LEAVE LOCATION |
| 37 | 12/12/2018 23:31 | Other (See comment) | | | | | THANK YOU FOR YOUR BUSINESS FROM JAVIER AND CREW |



CAERUS 9 5/8 SURFACE





CAERUS TOPOUT

