



# Great Western Operating Company, LLC

OTTESEN LE 06-050HN

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API # 05-123-48286

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Surface

January 05, 2020

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Quote #: QUO-40834-V9K2T7

Execution #: EXC-23670-R5P7R102



# Great Western Operating Company, LLC

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

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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](mailto: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

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# BJ Cementing Treatment Report

|                    |              |                  |         |
|--------------------|--------------|------------------|---------|
| SERVICE SUPERVISOR | Eric Dewit   | RIG              | Ikon 12 |
| DISTRICT           | Cheyenne, WY | COUNTY           | WELD    |
| SERVICE            | Cementing    | STATE / PROVINCE | CO      |

## WELL GEOMETRY

| TYPE      | ID (in) | OD (in) | WEIGHT (lbs/ft) | MD (ft)  | TVD (ft) | EXCESS (%) | GRADE | THREAD |
|-----------|---------|---------|-----------------|----------|----------|------------|-------|--------|
| Open Hole | 13.50   |         |                 | 1,770.00 | 1,761.00 | 30.00      |       |        |
| Casing    | 8.92    | 9.63    | 36.00           | 1,770.00 | 1,761.00 |            | J-55  | LTC    |

## HARDWARE

|                           |          |                                      |              |
|---------------------------|----------|--------------------------------------|--------------|
| Bottom Plug Used?         | No       | Tool Type                            | Float Collar |
| Top Plug Used?            | Yes      | Tool Depth (ft)                      | 1,725.20     |
| Top Plug Provided By      | Non BJ   | Max Casing Pressure - Rated (psi)    | 2,720.00     |
| Top Plug Size             | 9.625    | Max Casing Pressure - Operated (psi) | 1,800.00     |
| Centralizers Used         | Yes      | Pipe Movement                        | None         |
| Centralizers Quantity     | 17.00    | Job Pumped Through                   | Manifold     |
| Centralizers Type         | Bow      | Top Connection Thread                | LTC          |
| Landing Collar Depth (ft) | 1,725.20 | Top Connection Size                  | 9.625        |

## CIRCULATION PRIOR TO JOB

|                                      |      |                                        |      |
|--------------------------------------|------|----------------------------------------|------|
| Well Circulated By                   | Rig  | Mud Density Out (ppg)                  | 8.50 |
| Circulation Prior to Job             | Yes  | Solids Present at End of Circulation   | No   |
| Lost Circulation Prior to Cement Job | No   | Flare Prior to / during the Cement Job | No   |
| Mud Density In (ppg)                 | 8.50 | Gas Present                            | No   |

## TEMPERATURE

|                            |       |                                |       |
|----------------------------|-------|--------------------------------|-------|
| Ambient Temperature (°F)   | 41.00 | Slurry Cement Temperature (°F) | 51.00 |
| Mix Water Temperature (°F) | 50.00 |                                |       |

## FLUID DETAILS

| FLUID TYPE                 | FLUID NAME      | DENSITY (ppg) | YIELD (Cu Ft/sk) | H <sub>2</sub> 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             | 1,725.00    | 800      | 1,113.0000  | 198.1000   |
| Displacement Final         | Water           | 8.3300        |                  |                                 | 0.00             |             |          | 0.0000      | 130.1000   |

| 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  | 35.00  |
| Calculated Displacement Vol (bbls) | 133.00   | Method Used to Verify Returns      | Visual |
| Actual Displacement Vol (bbls)     | 133.00   | 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)           | 1,580.00 | Total Volume Pumped (bbls)         | 353.00 |
| Were Returns Planned at Surface    | Yes      | Top Out Cement Spotted             | No     |
| Cement Returns During Job          | Yes      | Lost Circulation During Cement Job | No     |

Client: Great Western Operating Company, LLC

Well: OTTESSEN LE #06-050HN

Well API: 05-123-48286

Start Date: 1/5/2020

End Date: 1/5/2020

Field Ticket #: FT-23670-R5P7R10201-605981442



# BJ Cementing Event Log

Surface - Cheyenne, WY - Eric Dewit

| SEQ | START DATE / TIME | EVENT                  | DENSITY (ppg) | PUMP RATE (bpm) | PUMP VOL (bbls) | PIPE PRESSURE (psi) | COMMENTS                                                       |
|-----|-------------------|------------------------|---------------|-----------------|-----------------|---------------------|----------------------------------------------------------------|
| 1   | 01/05/2020 08:00  | Callout                |               |                 |                 |                     | Customer calls with an RTS of 14:00 on 1/5/1/20                |
| 2   | 01/05/2020 08:00  | Other (See comment)    |               |                 |                 |                     | Crew gets equipment and materials ready to travel to location  |
| 3   | 01/05/2020 11:00  | Depart for Location    |               |                 |                 |                     |                                                                |
| 4   | 01/05/2020 14:00  | Spot Units             |               |                 |                 |                     |                                                                |
| 5   | 01/05/2020 14:30  | Rig Up                 |               |                 |                 |                     | Rig everything up                                              |
| 6   | 01/05/2020 15:00  | STEACS Briefing        |               |                 |                 |                     | Pre-job safety meeting with BJ crew, Rig crew, and company man |
| 7   | 01/05/2020 15:12  | Other (See comment)    | 8.3400        | 5.00            | 2.00            | 86.00               | Load pumps and lines                                           |
| 8   | 01/05/2020 15:13  | Pressure Test          | 8.3400        | 0.00            | 0.00            | 3812.00             |                                                                |
| 9   | 01/05/2020 15:17  | Pump Spacer            | 8.3400        | 5.00            | 20.00           | 213.00              | Pump 20 bbls of fresh water + Dye                              |
| 10  | 01/05/2020 15:21  | Drop Top Plug          |               |                 |                 |                     |                                                                |
| 11  | 01/05/2020 16:21  | Pump Displacement      | 8.3400        | 7.00            | 0.00            | 148.00              |                                                                |
| 12  | 01/05/2020 16:24  | Spacer Back-to-Surface | 8.3400        | 7.00            | 75.00           | 666.00              |                                                                |
| 13  | 01/05/2020 16:36  | Cement Back-to-Surface | 8.3400        | 7.00            | 98.00           | 827.00              | 35 bbls of cement to surface                                   |
| 14  | 01/05/2020 16:39  | Other (See comment)    | 8.3400        | 2.80            | 110.00          | 622.00              | Drop rate to land the plug                                     |
| 15  | 01/05/2020 16:41  | Land Plug              | 8.3400        | 2.80            | 133.00          | 1580.00             | 30 min csg test: start 1577 psi end 1602 psi                   |
| 16  | 01/05/2020 16:48  | Check Floats           | 8.3400        | 0.00            | 0.00            | 0.00                | Floats held (.5 bbls back)                                     |



JobMaster Program Version 4.02C1

Job Number:

Customer: Great Western

Well Name: Ottesen LE 06-050HN

