

# HALLIBURTON

iCem<sup>®</sup> Service

## EXTRACTION OIL & GAS-EBUS

### **Northwest B S20-25-18N**

Surface Casing

Job Date: Wednesday, September 01, 2021

Sincerely,

**Nick Roles and Crew**

## Legal Notice

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### Disclaimer:

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## 1.0 Cementing Job Summary

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### 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the Northwest B S20-25-18N surface casing. A pre-job safety meeting was held before the job where details of the job were discussed, potential safety hazards were reviewed, and environmental compliance procedures were outlined.

Approximately 35 bbl. of cement were returned to surface.

Halliburton maintains a continuous quality improvement process and appreciates any comments or suggestions that you may have. Halliburton again thanks you for the opportunity to perform service work on this well. We hope to be your solutions provider for future projects.

Respectfully,

**Halliburton Fort Lupton**

*The Road to Excellence Starts with Safety*

| <b>Sold To #:</b> 369404                                 |              | <b>Ship To #:</b> 9008034     |                           | <b>Quote #:</b>                       |   | <b>Sales Order #:</b> 0907356031  |                                     |              |                     |               |
|--|--------------|-------------------------------|---------------------------|---------------------------------------|---|-----------------------------------|-------------------------------------|--------------|---------------------|---------------|
| <b>Customer:</b> EXTRACTION OIL & GAS-EBUS               |              |                               |                           |                                       | <b>Customer Rep:</b> Larry Siegel       |                                   |                                     |              |                     |               |
| <b>Well Name:</b> NORTHWEST B                            |              |                               | <b>Well #:</b> S20-25-18N |                                       |   | <b>API/UWI #:</b> 05-014-20854-00 |                                     |              |                     |               |
| <b>Field:</b> WATTENBERG                                 |              | <b>City (SAP):</b> BROOMFIELD |                           | <b>County/Parish:</b> BROOMFIELD      |   | <b>State:</b> COLORADO            |                                     |              |                     |               |
| <b>Legal Description:</b> NE NW-9-1S-68W-1149FNL-1629FWL |              |                               |                           |                                       |   |                                   |                                     |              |                     |               |
| <b>Contractor:</b>                                       |              |                               |                           |                                       | <b>Rig/Platform Name/Num:</b> CARTEL 15 |                                   |                                     |              |                     |               |
| <b>Job BOM:</b> 7521                                     |              |                               |                           |                                       |   |                                   |                                     |              |                     |               |
| <b>Well Type:</b> HORIZONTAL OIL                         |              |                               |                           |                                       |   |                                   |                                     |              |                     |               |
| <b>Sales Person:</b> HALAMERICA\HX41066                  |              |                               |                           |                                       | <b>Srvc Supervisor:</b> Nicholas Roles  |                                   |                                     |              |                     |               |
| <b>Job</b>   |              |                               |                           |                                       |   |                                   |                                     |              |                     |               |
| <b>Job depth MD</b>                                      |              | 1620ft                        |                           |                                       | <b>Job Depth TVD</b>                    |                                   |                                     |              |                     |               |
| <b>Well Data</b>   |              |                               |                           |                                       |   |                                   |                                     |              |                     |               |
| Description  | New / Used   | Size in                       | ID in                     | Weight lbm/ft                         | Thread                                  | Grade                             | Top MD ft                           | Bottom MD ft | Top TVD ft          | Bottom TVD ft |
| Open Hole Section  |              |                               | 13.5                      |                                       |   |                                   | 0                                   | 1620         |                     | 1620          |
| Casing   |              | 9.625                         | 8.921                     | 36                                    |   |                                   | 0                                   | 1620         |                     | 1620          |
| <b>Tools and Accessories</b>                             |              |                               |                           |                                       |   |                                   |                                     |              |                     |               |
| Type   | Size in      | Qty                           | Make                      | Depth ft                              |   | Type                              | Size in                             | Qty          | Make                |               |
| Float Shoe   | 9.625        |                               |                           | 1620                                  |   | Top Plug                          | 9.625                               | 1            | HES                 |               |
| Float Collar   | 9.625        |                               |                           | 1580                                  |   | Plug Container                    | 9.625                               | 1            | HES                 |               |
| <b>Fluid Data</b>  |              |                               |                           |                                       |   |                                   |                                     |              |                     |               |
| <b>Stage #: 1</b>  |              |                               |                           |                                       |   |                                   |                                     |              |                     |               |
| Fluid #  | Stage Type   | Fluid Name                    | Qty                       | Qty UoM                               | Mixing Density lbm/gal                  | Yield ft <sup>3</sup> /sack       | Mix Fluid Gal                       | Rate bbl/min | Total Mix Fluid Gal |               |
| 1  | Spacer       | Fresh Water with Dye          | 10                        | bbl                                   | 8.34                                    |                                   |                                     | 6            | 420                 |               |
| Fluid #  | Stage Type   | Fluid Name                    | Qty                       | Qty UoM                               | Mixing Density lbm/gal                  | Yield ft <sup>3</sup> /sack       | Mix Fluid Gal                       | Rate bbl/min | Total Mix Fluid Gal |               |
| 2  | Cement       | SwiftCem™ Cement              | 575                       | sack                                  | 13.5                                    | 1.74                              | 9.17                                | 9            | 5273                |               |
| Fluid #  | Stage Type   | Fluid Name                    | Qty                       | Qty UoM                               | Mixing Density lbm/gal                  | Yield ft <sup>3</sup> /sack       | Mix Fluid Gal                       | Rate bbl/min | Total Mix Fluid Gal |               |
| 3  | Displacement | Fresh Water                   | 122                       | bbl                                   | 8.34                                    |                                   |                                     | 10           | 5124                |               |
| <b>Cement Left In Pipe</b>                               |              |                               |                           |                                       |   |                                   |                                     |              |                     |               |
| <b>Cement Left In Pipe</b>                               |              | <b>Amount</b>                 |                           | 40 ft                                 |   |                                   | <b>Reason</b>                       |              | Shoe Joint          |               |
| <b>Mix Water:</b>  |              | pH 7                          |                           | <b>Mix Water Chloride:</b> 0 ppm      |   |                                   | <b>Mix Water Temperature:</b> 65 °F |              |                     |               |
| <b>Plug Bumped?</b>                                      |              | Yes                           |                           | <b>Plug Displaced by:</b> 8.33 lb/gal |   |                                   | <b>Disp. Temperature:</b> 65 °F     |              |                     |               |
| <b>Cement Returns:</b>                                   |              | 35 bbl.                       |                           | <b>Bump Pressure:</b> 1050 psi        |   |                                   | <b>Floats Held?</b>                 |              | Yes                 |               |
| <b>Comment:</b> Got 35bbls cement to surface.            |              |                               |                           |                                       |   |                                   |                                     |              |                     |               |

2.0 Real-Time Job Summary

2.1 Job Event Log

| Seq. No. | Activity                                 | Date      | Time     | DH Density (ppg) | Comb Pump Rate (bbl/min) | DS Pump Press (psi) | Pump Stg Tot (bbl) | Comments   |
|----------|--|-----------|----------|------------------|--------------------------|---------------------|--------------------|--|
| 1        | Pre-Rig Up Safety Meeting                | 8/31/2021 | 11:15:00 |                  |                          |                     |                    | Held pre rig up JSA for hazards, hazard hunt with crew, and discussed plan for spotting equipment and rigging up lines for job. Discussed muster points and closest emergency location as well as coordinates. |
| 2        | Rig-Up Equipment                         | 8/31/2021 | 11:30:00 |                  |                          |                     |                    | Begin rig up with crew.  |
| 3        | Call Out                                 | 8/31/2021 | 13:00:00 |                  |                          |                     |                    | Called out by service coordinator for OL time of 1900.   |
| 4        | Pre-Convoy Safety Meeting                | 8/31/2021 | 13:45:00 |                  |                          |                     |                    | Discuss all hazards associated with journey, directions to destination, complete journey management if needed, and ensure all convoy is fit for duty.  |
| 5        | Depart from Service Center or Other Site | 8/31/2021 | 14:00:00 |                  |                          |                     |                    | Depart from service center or other job site.  |
| 6        | Arrive at Location from Service Center   | 8/31/2021 | 15:00:00 |                  |                          |                     |                    | Upon arrival to location, signed in with onsite safety personnel. Met with company man and discussed job specific requirements and specifications.   |
| 7        | Rig-Up Completed                         | 9/1/2021  | 00:15:00 | 7.98             | 0.00                     | 53.00               | 10.50              | Complete rig up for job to nearest point before red zone.  |
| 8        | Other                                    | 9/1/2021  | 00:15:00 | 7.98             | 0.00                     | 53.00               | 10.50              | Mix water test results- PH-7, Chlo-0, Temp-65F.  |
| 9        | Safety Meeting - Pre Job                 | 9/1/2021  | 01:00:00 | 7.99             | 0.00                     | 39.00               | 10.50              | Held job specific hazards as well as confirming job procedure with co man and rest of crew associated with job.  |

|    |                             |          |          |       |      |         |        |   |
|----|-----------------------------|----------|----------|-------|------|---------|--------|---|
| 10 | Start Job                   | 9/1/2021 | 01:40:48 | 7.99  | 0.00 | 39.00   | 10.50  | TD-1620' OH-13.5", TP-1620' 9.625" 36#, FC-1580'  |
| 11 | Test Lines                  | 9/1/2021 | 01:44:28 | 8.01  | 0.00 | 190.00  | 2.10   | Pumped 3bbls to fill lines, established circulation, shutdown and closed manifold, performed 500psi k/o function test, continued with 5th gear stall at 1400psi proceeded to bring pressure to 3500psi. Pressure stabilized and held with no leaks. |
| 12 | Drop Bottom Plug            | 9/1/2021 | 01:47:08 | 8.00  | 0.00 | 24.00   | 2.10   | Dropped by HES supervisor, witnessed by company man.  |
| 13 | Pump Spacer 1               | 9/1/2021 | 01:47:26 | 8.00  | 0.00 | 23.00   | 2.10   | Pumped 8bbls fresh water to break circulation at 4bpm 170psi, broke over at 350psi 2bbls in.  |
| 14 | Pump Spacer 2               | 9/1/2021 | 01:49:52 | 8.31  | 4.10 | 155.00  | 0.00   | Pumped 10bbls fresh water with 1/3 bottle green dye at 6bpm 140psi.   |
| 15 | Pump Cement                 | 9/1/2021 | 01:53:44 | 8.30  | 0.00 | 46.00   | 10.10  | Pumped 575sks or 178bbls 13.5# 1.74y 9.2g/s SwiftCem at 9bpm 310psi.  |
| 16 | Check Weight                | 9/1/2021 | 02:04:12 | 13.38 | 9.30 | 309.00  | 82.40  | Weight verified with pressurized mud scales.  |
| 17 | Drop Top Plug               | 9/1/2021 | 02:17:37 | 1.54  | 0.00 | -2.00   | 195.30 | Dropped by HES supervisor, witnessed by company man.  |
| 18 | Pump Displacement           | 9/1/2021 | 02:17:43 | 1.50  | 0.00 | -2.00   | 195.30 | Pumped 122bbls of fresh water at 10bpm.   |
| 19 | Bump Plug                   | 9/1/2021 | 02:35:05 | 8.43  | 0.00 | 1065.00 | 123.70 | Slowed down to 3bpm at 110bbls away, final circulating pressure - 550psi, Bumped at 1050psi. Held   |
| 20 | Other                       | 9/1/2021 | 02:35:22 | 8.43  | 0.00 | 879.00  | 123.70 | Released pressure and got 0.5bbls back. Floats held.  |
| 21 | End Job                     | 9/1/2021 | 02:35:40 | 8.41  | 0.00 | 37.00   | 123.70 | Got 35bbls cement to surface.   |
| 22 | Pre-Rig Down Safety Meeting | 9/1/2021 | 02:40:00 | 8.41  | 0.00 | 1.00    | 0.00   | Held safety meeting with crew prior to rig down, discussed possibility of trapped pressure, swing radius, slips trips and falls, pinch points and risks associated with rig down.   |

|    |  |          |          |   |
|----|--|----------|----------|---|
| 23 | Rig Down Lines                                   | 9/1/2021 | 02:50:00 | Begin rig down  |
| 24 | Rig-Down Completed                               | 9/1/2021 | 03:20:00 | Rig down complete with no injuries, spills or damage to equipment.  |
| 25 | Pre-Convoy Safety Meeting                        | 9/1/2021 | 03:30:00 | Held safety meeting with convoy, discussed trip hazards, directions and all crew fit for duty prior to departure. |
| 26 | Depart Location for Service Center or Other Site | 9/1/2021 | 03:45:00 | Depart location, if applicable journey will be submitted.   |

## 3.0 Attachments

### 3.1 Job Chart

