

# HALLIBURTON

iCem® Service

## **CRESTONE PEAK RESOURCES-EBUS**

Ft. Lupton District, CO

**Warner 2A-10H-E165 Surface**

Job Date: Saturday, January 22, 2022

Sincerely,

**Meghan Van Zyl**

## 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 **Warner 2A-10H-E165** cement **Surface** casing job. 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 18 bbls 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**

|                                                          |                   |                           |                            |                                          |                |                                   |                                  |                      |                     |                            |
|----------------------------------------------------------|-------------------|---------------------------|----------------------------|------------------------------------------|----------------|-----------------------------------|----------------------------------|----------------------|---------------------|----------------------------|
| <b>Sold To #:</b> 377645                                 |                   | <b>Ship To #:</b> 9025628 |                            | <b>Quote #:</b>                          |                | <b>Sales Order #:</b> 0907636066  |                                  |                      |                     |                            |
| <b>Customer:</b> CRESTONE PEAK RESOURCES-EBUS            |                   |                           |                            | <b>Customer Rep:</b> Josh Kliesen        |                |                                   |                                  |                      |                     |                            |
| <b>Well Name:</b> WARNER                                 |                   |                           | <b>Well #:</b> 2A-10H-E165 |                                          |                | <b>API/UWI #:</b> 05-123-50737-00 |                                  |                      |                     |                            |
| <b>Field:</b> WATTENBERG                                 |                   | <b>City (SAP):</b> HUDSON |                            | <b>County/Parish:</b> WELD               |                |                                   | <b>State:</b> COLORADO           |                      |                     |                            |
| <b>Legal Description:</b> SW NW-10-1N-65W-2203FNL-303FWL |                   |                           |                            |                                          |                |                                   |                                  |                      |                     |                            |
| <b>Contractor:</b> ENSIGN DRLG                           |                   |                           |                            | <b>Rig/Platform Name/Num:</b> ENSIGN 122 |                |                                   |                                  |                      |                     |                            |
| <b>Job BOM:</b> 7521 7521                                |                   |                           |                            |                                          |                |                                   |                                  |                      |                     |                            |
| <b>Well Type:</b> HORIZONTAL OIL                         |                   |                           |                            |                                          |                |                                   |                                  |                      |                     |                            |
| <b>Sales Person:</b> HALAMERICA\HX41066                  |                   |                           |                            | <b>Srvc Supervisor:</b> Michael Loughran |                |                                   |                                  |                      |                     |                            |
| <b>Job</b>                                               |                   |                           |                            |                                          |                |                                   |                                  |                      |                     |                            |
| <b>Formation Name</b>                                    |                   |                           |                            |                                          |                |                                   |                                  |                      |                     |                            |
| <b>Formation Depth (MD)</b>                              |                   | <b>Top</b>                |                            |                                          |                | <b>Bottom</b>                     |                                  |                      |                     |                            |
| <b>Form Type</b>                                         |                   |                           |                            | <b>BHST</b>                              |                |                                   |                                  |                      |                     |                            |
| <b>Job depth MD</b>                                      |                   | 2538ft                    |                            | <b>Job Depth TVD</b>                     |                |                                   |                                  |                      |                     |                            |
| <b>Water Depth</b>                                       |                   |                           |                            | <b>Wk Ht Above Floor</b>                 |                |                                   |                                  |                      |                     |                            |
| <b>Perforation Depth (MD)</b>                            |                   | <b>From</b>               |                            | <b>To</b>                                |                |                                   |                                  |                      |                     |                            |
| <b>Well Data</b>                                         |                   |                           |                            |                                          |                |                                   |                                  |                      |                     |                            |
| <b>Description</b>                                       | <b>New / Used</b> | <b>Size in</b>            | <b>ID in</b>               | <b>Weight lbm/ft</b>                     | <b>Thread</b>  | <b>Grade</b>                      | <b>Top MD ft</b>                 | <b>Bottom MD ft</b>  | <b>Top TVD ft</b>   | <b>Bottom TVD ft</b>       |
| Open Hole Section                                        |                   |                           | 13.5                       |                                          |                |                                   | 0                                | 2538                 |                     |                            |
| Casing                                                   |                   | 9.625                     |                            | 36                                       |                |                                   | 0                                | 2538                 |                     |                            |
| <b>Tools and Accessories</b>                             |                   |                           |                            |                                          |                |                                   |                                  |                      |                     |                            |
| <b>Type</b>                                              | <b>Size in</b>    | <b>Qty</b>                | <b>Make</b>                | <b>Depth ft</b>                          |                | <b>Type</b>                       | <b>Size in</b>                   | <b>Qty</b>           | <b>Make</b>         |                            |
| Guide Shoe                                               | 9.625             |                           |                            |                                          |                | Top Plug                          | 9.625                            | 1                    | HES                 |                            |
| Float Shoe                                               | 9.625             |                           |                            | 2538                                     |                | Bottom Plug                       | 9.625                            | 1                    | HES                 |                            |
| Float Collar                                             | 9.625             |                           |                            | 2498                                     |                | SSR plug set                      | 9.625                            |                      | HES                 |                            |
| Insert Float                                             | 9.625             |                           |                            |                                          |                | Plug Container                    | 9.625                            | 1                    | HES                 |                            |
| Stage Tool                                               | 9.625             |                           |                            |                                          |                | Centralizers                      | 9.625                            |                      | HES                 |                            |
| <b>Fluid Data</b>                                        |                   |                           |                            |                                          |                |                                   |                                  |                      |                     |                            |
| <b>Stage/Plug #: 1</b>                                   |                   |                           |                            |                                          |                |                                   |                                  |                      |                     |                            |
| <b>Fluid #</b>                                           | <b>Stage Type</b> | <b>Fluid Name</b>         |                            | <b>Qty</b>                               | <b>Qty UoM</b> | <b>Mixing Density lbm/gal</b>     | <b>Yield ft<sup>3</sup>/sack</b> | <b>Mix Fluid Gal</b> | <b>Rate bbl/min</b> | <b>Total Mix Fluid Gal</b> |
| 1                                                        | Water with dye    | Water with dye            |                            | 20                                       | bbl            | 8.34                              |                                  |                      | 5                   |                            |

| Fluid #             | Stage Type   | Fluid Name                       | Qty          | Qty UoM | Mixing Density<br>lbm/gal | Yield<br>ft <sup>3</sup> /sack | Mix Fluid<br>Gal | Rate<br>bbl/min | Total Mix Fluid<br>Gal |
|---------------------|--------------|----------------------------------|--------------|---------|---------------------------|--------------------------------|------------------|-----------------|------------------------|
| 2                   | SwiftCem     | SBM SWIFTCM CEMENT<br>SYSTEM CEM | 877          | sack    | 13.5                      | 1.75                           |                  | 8               | 9.23                   |
| 9.23 Gal            |              | <b>FRESH WATER</b>               |              |         |                           |                                |                  |                 |                        |
| 0.1250 lbm          |              | <b>POLY-E-FLAKE (101216940)</b>  |              |         |                           |                                |                  |                 |                        |
|                     |              |                                  |              |         |                           |                                |                  |                 |                        |
| Fluid #             | Stage Type   | Fluid Name                       | Qty          | Qty UoM | Mixing Density<br>lbm/gal | Yield<br>ft <sup>3</sup> /sack | Mix Fluid<br>Gal | Rate<br>bbl/min | Total Mix Fluid<br>Gal |
| 3                   | Displacement | Displacement                     | 193.1        | bbl     | 8.34                      |                                |                  | 9               |                        |
|                     |              |                                  |              |         |                           |                                |                  |                 |                        |
| Cement Left In Pipe | Amount       | 42 ft                            |              |         | Reason                    |                                |                  | Shoe Joint      |                        |
| Mix Water:          | pH 6         | Mix Water Chloride:              | LESS 200 ppm |         |                           | Mix Water Temperature:         |                  |                 | °F                     |
| Cement Temperature: |              | Plug Displaced by:               | 8.33 lb/gal  |         |                           | Disp. Temperature:             |                  |                 |                        |
| Plug Bumped?        | Yes          | Bump Pressure:                   | 1550 psi     |         |                           | Floats Held?                   |                  |                 | Yes                    |
| Cement Returns:     | 18 bbls      | Returns Density:                 | 13.5 lb/gal  |         |                           | Returns Temperature:           |                  |                 |                        |
| <b>Comment</b>      |              |                                  |              |         |                           |                                |                  |                 |                        |

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

| Seq<br>No. | Activity                     | Graph Label                  | Date      | Time     | Dwnhole<br>Density<br>(ppg) | Cmb<br>Pump<br>Rate<br>(bbl/min) | Pump A<br>Pressure<br>(psi) | Cmb<br>Stg<br>Total<br>(bbl) | Comments                                                                                                                                        |
|------------|------------------------------|------------------------------|-----------|----------|-----------------------------|----------------------------------|-----------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 1          | Crew Leave<br>Yard           | Crew Leave Yard              | 1/21/2022 | 12:45:00 |                             |                                  |                             |                              | CREW ON LOCATION                                                                                                                                |
| 2          | Arrive At Loc                | Arrive At Loc                | 1/21/2022 | 13:10:00 |                             |                                  |                             |                              | ARRIVE AT LOCATION, TD 2538', 9.625" CASING 2538',<br>13.5" HOLE, F/C 2498' WATER 60 DEGREES, PH 7,<br>CHLORIDES AND SULFATES LESS THAN 200 PPM |
| 3          | Call Out                     | Call Out                     | 1/21/2022 | 23:00:00 |                             |                                  |                             |                              | CREW CALLED OUT WHILE ON LOCATION AT 2300<br>HRS.                                                                                               |
| 4          | Pre-Rig Up<br>Safety Meeting | Pre-Rig Up Safety<br>Meeting | 1/22/2022 | 00:01:00 |                             |                                  |                             |                              | PRE RIG UP SAFETY MEETING                                                                                                                       |
| 5          | Rig-Up<br>Equipment          | Rig-Up Equipment             | 1/22/2022 | 00:05:00 |                             |                                  |                             |                              | RIG UP ALL IRON AND HOSES TO BUFFER ZONE                                                                                                        |
| 6          | Pre-Job Safety<br>Meeting    | Pre-Job Safety<br>Meeting    | 1/22/2022 | 02:05:20 | -1.00                       | 0.00                             | 0.66                        | 1.25                         | DISCUSS JOB HAZARDS AND HAZARDS WITH<br>HALLIBURTON EQUIPMENT. RIG CIRCULATES 8<br>BPM/100 PSI                                                  |
| 7          | Start Job                    | Start Job                    | 1/22/2022 | 02:19:04 | 8.41                        | 0.00                             | -0.97                       | 0.00                         | BEGIN RECORDING DATA                                                                                                                            |
| 8          | Drop Bottom<br>Plug          | Drop Bottom Plug             | 1/22/2022 | 02:20:20 | 8.73                        | 0.00                             | 75.01                       | 2.10                         | BOTTOM PLUG VERIFIED AND SUPPLIED BY JOSH                                                                                                       |
| 9          | Test Lines                   | Test Lines                   | 1/22/2022 | 02:20:57 | 8.38                        | 0.00                             | 50.41                       | 2.10                         | TEST HES LINES TO 3500 PSI                                                                                                                      |
| 10         | Pump Spacer 1                | Pump Spacer 1                | 1/22/2022 | 02:23:12 | 8.32                        | 0.00                             | 43.94                       | 0.00                         | 20 BBLS FRESH WATER SPACER W/1 LBS. GREEN DYE                                                                                                   |

|    |                             |                             |           |          |       |      |         |        |                                                                                                                  |
|----|-----------------------------|-----------------------------|-----------|----------|-------|------|---------|--------|------------------------------------------------------------------------------------------------------------------|
| 11 | Pump Cement                 | Pump Cement                 | 1/22/2022 | 02:32:08 | 8.50  | 3.42 | 109.15  | 0.06   | 877 SACKS SWIFTCM CEMENT. 273.34 BBLS. 13.5 PPG, 1.75 YIELD, 9.23 GAL/SACK. USED 10 GALLONS WINTER D-AIR. TOC=O' |
| 12 | Shutdown                    | Shutdown                    | 1/22/2022 | 03:08:23 | 16.42 | 0.00 | 83.88   | 274.40 | SHUTDOWN                                                                                                         |
| 13 | Drop Top Plug               | Drop Top Plug               | 1/22/2022 | 03:11:54 | 40.45 | 0.00 | 40.80   | 0.00   | TOP PLUG VERIFIED BY JOSH                                                                                        |
| 14 | Pump Displacement           | Pump Displacement           | 1/22/2022 | 03:11:57 | 40.42 | 0.00 | 41.02   | 0.00   | 193.1 BBLS. FRESH WATER DISPLACEMENT                                                                             |
| 15 | Bump Plug                   | Bump Plug                   | 1/22/2022 | 03:45:04 | 8.44  | 0.00 | 1433.05 | 190.84 | FCP 950 PSI/4 BPM, BUMP PRESSURE 1550 PSI                                                                        |
| 16 | Check Floats                | Check Floats                | 1/22/2022 | 03:46:17 | 8.42  | 0.00 | 1522.27 | 190.84 | FLOATS HOLD, 1.5 BBLS. BACK TO PUMP TRUCK                                                                        |
| 17 | End Job                     | End Job                     | 1/22/2022 | 03:47:16 | 8.30  | 0.00 | 60.80   | 0.00   | STOP RECORDING DATA                                                                                              |
| 18 | Pre-Rig Down Safety Meeting | Pre-Rig Down Safety Meeting | 1/22/2022 | 04:00:00 |       |      |         |        | JSA SAFE RIG DOWN                                                                                                |
| 19 | Rig-Down Equipment          | Rig-Down Equipment          | 1/22/2022 | 04:05:00 |       |      |         |        | RIG DOWN EQUIPMENT                                                                                               |
| 20 | Crew Leave Location         | Crew Leave Location         | 1/22/2022 | 05:00:00 |       |      |         |        | THANKS FOR CHOOSING HALLIBURTON!                                                                                 |



3.0 Attachments

3.1 Real Time iCem Job Chart

