

# HALLIBURTON

iCem<sup>®</sup> Service

**NOBLE ENERGY INC**

**RAMPART A32-730**

Production Casing

Job Date: Monday, September 06, 2021

Sincerely,

**KYLE BATH**

*The Road to Excellence Starts with Safety*

| <b>Sold To #:</b> 345242                                 |            | <b>Ship To #:</b> 9037086      |                        | <b>Quote #:</b> 0022870127 |   | <b>Sales Order #:</b> 0907365340  |                        |              |            |               |
|--|------------|--------------------------------|------------------------|----------------------------|---|-----------------------------------|------------------------|--------------|------------|---------------|
| <b>Customer:</b> NOBLE ENERGY INC-EBUS                   |            |                                |                        |                            | <b>Customer Rep:</b> Dave Nielsen       |                                   |                        |              |            |               |
| <b>Well Name:</b> RAMPART                                |            |                                | <b>Well #:</b> A32-730 |                            |   | <b>API/UWI #:</b> 05-123-50929-00 |                        |              |            |               |
| <b>Field:</b> WATTENBERG                                 |            | <b>City (SAP):</b> GARDEN CITY |                        | <b>County/Parish:</b> WELD |   |                                   | <b>State:</b> COLORADO |              |            |               |
| <b>Legal Description:</b> SW SE-20-6N-64W-380FSL-1414FEL |            |                                |                        |                            |   |                                   |                        |              |            |               |
| <b>Contractor:</b> H & P DRLG                            |            |                                |                        |                            | <b>Rig/Platform Name/Num:</b> H & P 517 |                                   |                        |              |            |               |
| <b>Job BOM:</b> 7523                                     |            |                                |                        |                            |   |                                   |                        |              |            |               |
| <b>Well Type:</b> HORIZONTAL OIL                         |            |                                |                        |                            |   |                                   |                        |              |            |               |
| <b>Sales Person:</b> HALAMERICA\HX41066                  |            |                                |                        |                            | <b>Srvc Supervisor:</b> Kyle Bath       |                                   |                        |              |            |               |
| <b>Job</b>   |            |                                |                        |                            |   |                                   |                        |              |            |               |
|  |            |                                |                        |                            |   |                                   |                        |              |            |               |
| <b>Job depth MD</b>                                      |            | 16863ft                        |                        |                            | <b>Job Depth TVD</b>                    |                                   | 6863ft                 |              |            |               |
| <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 |
| Casing   |            | 9.625                          | 8.921                  | 36                         |   |                                   | 0                      | 1960         | 0          | 1960          |
| Casing   |            | 5.5                            | 4.892                  | 17                         |   |                                   | 0                      | 16863        | 0          | 6826          |
| Open Hole Section  |            |                                | 8.5                    |                            |   |                                   | 1960                   | 16872        | 1959       | 6826          |
| <b>Tools and Accessories</b>                             |            |                                |                        |                            |   |                                   |                        |              |            |               |
| Type   | Size in    | Qty                            | Make                   | Depth ft                   |   | Type                              | Size in                | Qty          | Make       |               |
| Float Shoe   | 5.5        | 1                              | HES                    | 16863                      |   | Top Plug                          | 5.5                    | 1            | HES        |               |
| Float Collar   | 5.5        | 1                              | HES                    | 16817                      |   | Bottom Plug                       | 5.5                    | 2            | HES        |               |
|  |            |                                |                        |                            |   | Centralizers                      | 5.5                    | 204          | Summit     |               |

| Fluid Data             |              |                           |   |         |                                     |                   |                  |                 |                        |  |
|------------------------|--------------|---------------------------|---|---------|-------------------------------------|-------------------|------------------|-----------------|------------------------|--|
| <b>Stage #: 1</b>      |              |                           |   |         |                                     |                   |                  |                 |                        |  |
| Fluid #                | Stage Type   | Fluid Name                | Qty   | Qty UoM | Mixing Density<br>lbm/gal           | Yield<br>ft3/sack | Mix Fluid<br>Gal | Rate<br>bbl/min | Total Mix Fluid<br>Gal |  |
| 1                      | Spacer       | Tuned Prime Cement Spacer | 120   | bbl     | 11.5                                | 3.7               |                  |                 | 4234                   |  |
| Fluid #                | Stage Type   | Fluid Name                | Qty   | Qty UoM | Mixing Density<br>lbm/gal           | Yield<br>ft3/sack | Mix Fluid<br>Gal | Rate<br>bbl/min | Total Mix Fluid<br>Gal |  |
| 2                      | Cap Cement   | ElastiCem™ Cement         | 140   | sack    | 13.2                                | 1.6               | 7.63             | 8               | 1068                   |  |
| Fluid #                | Stage Type   | Fluid Name                | Qty   | Qty UoM | Mixing Density<br>lbm/gal           | Yield<br>ft3/sack | Mix Fluid<br>Gal | Rate<br>bbl/min | Total Mix Fluid<br>Gal |  |
| 3                      | Lead Cement  | ElastiCem™ Cement         | 719   | sack    | 13.2                                | 1.67              | 8.03             | 8               | 5774                   |  |
| Fluid #                | Stage Type   | Fluid Name                | Qty   | Qty UoM | Mixing Density<br>lbm/gal           | Yield<br>ft3/sack | Mix Fluid<br>Gal | Rate<br>bbl/min | Total Mix Fluid<br>Gal |  |
| 4                      | Tail Cement  | NeoCem™ Cement            | 1102  | sack    | 13.2                                | 2.04              | 9.79             | 8               | 10789                  |  |
| Fluid #                | Stage Type   | Fluid Name                | Qty   | Qty UoM | Mixing Density<br>lbm/gal           | Yield<br>ft3/sack | Mix Fluid<br>Gal | Rate<br>bbl/min | Total Mix Fluid<br>Gal |  |
| 5                      | Displacement | Displacement              | 0   | bbl     | 8.33                                |                   |                  |                 | 16380                  |  |
| Cement Left In Pipe    |              | Amount                    | 46 ft   |         | Reason                              |                   |                  | Shoe Joint      |                        |  |
| <b>Mix Water:</b>      |              | pH 7                      | <b>Mix Water Chloride:</b> 0 ppm                    |         | <b>Mix Water Temperature:</b> 72 °F |                   |                  |                 |                        |  |
| <b>Plug Bumped?</b>    |              | Yes                       | <b>Plug Displaced by:</b> 8.33 lb/gal Treated Water |         | <b>Disp. Temperature:</b> 72 °F     |                   |                  |                 |                        |  |
| <b>Cement Returns:</b> |              | 0 bbl.                    | <b>Bump Pressure:</b> 2332 psi                      |         | <b>Floats Held?</b> Yes             |                   |                  |                 |                        |  |

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

| Seq. No. | Activity                              | Date     | Time     | Cmb Pump Rate<br>(bbl/min) | Cmb Stg Total<br>(bbl) | Dwnhole Density<br>(ppg) | Pump A Pressure<br>(psi) | Comments   |
|----------|---------------------------------------|----------|----------|----------------------------|------------------------|--------------------------|--------------------------|--|
| 1        | Call Out                              | 9/6/2021 | 07:30:00 |                            |                        |                          |                          | CREW CALLED OUT, REQUESTED ON LOCATION 13:30   |
| 2        | Depart Yard Safety Meeting            | 9/6/2021 | 10:45:00 |                            |                        |                          |                          | PRE CONVOY SAFETY MEETING WITH ALL HES EE  |
| 3        | Crew Leave Yard                       | 9/6/2021 | 11:00:00 |                            |                        |                          |                          | CREW DEPART YARD FOR LOCATION  |
| 4        | Arrive At Loc                         | 9/6/2021 | 12:00:00 |                            |                        |                          |                          | ARRIVE ON LOCATION, RECIEVED NUMBERS FROM CO REP, TD 16872, TP 16862.6, SJ 45.9, CSG 5.5 17#, PREV CSG 9 5/8 36# @ 1959.6, HOLE 8.5, MUD 10.1, TVD 6826, 204 CENTALIZERS, WATER TEST, TEMP 72, CHLORIDES 0, PH 7 |
| 5        | Assessment Of Location Safety Meeting | 9/6/2021 | 12:15:00 |                            |                        |                          |                          | SAFETY MEETING WITH ALL HES EE TO ASSESS ALL HAZARDS   |
| 6        | Safety Meeting - Pre Rig-Up           | 9/6/2021 | 12:30:00 |                            |                        |                          |                          | PRE RIG UP SAFETY MEETING WITH ALL HES EE  |
| 7        | Safety Meeting - Pre Job              | 9/6/2021 | 16:00:00 | 0.00                       | 0.00                   | 9.01                     | -9.92                    | PRE JOB SAFETY MEETING WITH RIG CREW AND CO REP  |
| 8        | Start Job                             | 9/6/2021 | 16:39:58 | 0.00                       | 0.00                   | 8.75                     | -0.66                    | START RECORDING DATA   |
| 9        | Drop Bottom Plug                      | 9/6/2021 | 16:40:07 | 0.00                       | 0.00                   | 7.93                     | 9.28                     | LAUNCH BOTTOM PLUG   |
| 10       | Test Lines                            | 9/6/2021 | 16:43:00 | 0.00                       | 5.04                   | 8.40                     | 31.87                    | TEST LINES TO 5000 PSI   |
| 11       | Pump Spacer 1                         | 9/6/2021 | 16:49:18 | 0.00                       | 0.00                   | 8.50                     | 1.71                     | PUMP 120 BBLS TUNED PRIME SPACER 11.5 PPG 7 BPM 250 PSI  |
| 12       | Check Weight                          | 9/6/2021 | 16:54:44 | 7.52                       | 29.17                  | 11.48                    | 559.63                   | VERIFY WEIGHT ON PRESSURIZED MUD SCALES  |
| 13       | Drop Bottom Plug                      | 9/6/2021 | 17:09:52 | 0.00                       | 114.16                 | 11.82                    | 28.95                    | LAUNCH BOTTOM PLUG   |

|    |                                |          |          |      |        |       |         |   |
|----|--------------------------------|----------|----------|------|--------|-------|---------|---|
| 14 | Pump Cap Cement                | 9/6/2021 | 17:10:04 | 1.66 | 0.03   | 11.80 | 40.74   | MIX AND PUMP 140 SKS 39.9 BBLS CAP CEMENT 13.2 PPG, 1.6 FT3/SK, 7.63 GAL/SK 7.5 BPM 615 PSI, CALCULATED TOCC 995                          |
| 15 | Pump Lead Cement               | 9/6/2021 | 17:16:41 | 5.50 | 0.09   | 13.07 | 385.09  | MIX AND PUMP 719 SKS 213.9 BBLS LEAD CEMENT 13.2 PPG, 1.67 FT3/SK, 8.03 GAL/SK 8.5 BPM 690 PSI, CALCULATED TOLC 1828                      |
| 16 | Pump Tail Cement               | 9/6/2021 | 17:45:23 | 8.39 | 0.07   | 13.28 | 629.40  | MIX AND PUMP 1102 SKS 400.4 BBLS TAIL CEMENT 13.2 PPG, 2.04 FT3/SK, 9.79 GAL/SK 8.5 BPM 1090 PSI, CALCULATED TOTC 7048                    |
| 17 | Shutdown                       | 9/6/2021 | 18:38:17 | 0.00 | 410.65 | 12.93 | 40.72   | SHUTDOWN, WASH PUMPS AND LINES TO TANK  |
| 18 | Drop Top Plug                  | 9/6/2021 | 18:47:56 | 0.00 | 426.91 | 8.01  | 16.92   | LAUNCH TOP PLUG   |
| 19 | Pump Displacement              | 9/6/2021 | 18:47:59 | 0.00 | 0.00   | 8.01  | 15.73   | PUMP 390 BBLS TREATED FRESH WATER DISPLACEMENT, FIRST 20 BBLS WITH MMCR, 10 BPM, 2900 PSI, RECIEVED 70 BBLS TUNED PRIME SPACER TO SURFACE |
| 20 | Other                          | 9/6/2021 | 19:02:06 | 0.00 | 130.19 | 8.04  | 1293.75 | SHUTDOWN, RIG CRT LEAKING, RIG CHANGE CUP AND CONTINUE DISPLACEMENT   |
| 21 | Bump Plug                      | 9/6/2021 | 19:44:46 | 0.00 | 385.94 | 8.15  | 2702.08 | BUMP PLUG AT 2332 PSI TOOK TO 2865 PSI  |
| 22 | Check Floats                   | 9/6/2021 | 19:50:20 | 0.00 | 0.00   | 8.17  | 2865.38 | FLOATS HELD TOOK 5 BBLS BACK  |
| 23 | End Job                        | 9/6/2021 | 19:52:36 | 0.00 | 0.00   | 8.02  | -20.14  | STOP RECORDING DATA   |
| 24 | Safety Meeting - Pre Rig-Down  | 9/6/2021 | 19:56:09 |      |        |       |         | PRE RIG DOWN SAFETY MEETING WITH ALL HES EE   |
| 25 | Depart Location Safety Meeting | 9/6/2021 | 21:00:00 |      |        |       |         | PRE DEPARTURE SAFETY MEETING WITH ALL HES EE  |
| 26 | Crew Leave Location            | 9/6/2021 | 21:30:00 |      |        |       |         | THANK YOU FOR USING HALLIBURTON, KYLE BATH AND CREW   |

3.0 Attachments

3.1 Job Chart

