

**HALLIBURTON**

*Cementing Job Summary*

*The Road to Excellence Starts with Safety*

|                                                   |                              |                                                  |                  |                                |                                   |                            |                        |                             |               |               |                     |
|---------------------------------------------------|------------------------------|--------------------------------------------------|------------------|--------------------------------|-----------------------------------|----------------------------|------------------------|-----------------------------|---------------|---------------|---------------------|
| Sold To #: 345242                                 |                              | Ship To #: 3730124                               |                  | Quote #:                       |                                   | Sales Order #: 0904115368  |                        |                             |               |               |                     |
| Customer: NOBLE ENERGY INC - EBUS                 |                              |                                                  |                  | Customer Rep: Dave Nielsen     |                                   |                            |                        |                             |               |               |                     |
| Well Name: DIAMONDBACK FEDERAL                    |                              |                                                  | Well #: LC22-770 |                                |                                   | API/UWI #: 05-123-42970-00 |                        |                             |               |               |                     |
| Field: WILDCAT                                    |                              | City (SAP): RAYMER                               |                  | County/Parish: WELD            |                                   |                            | State: COLORADO        |                             |               |               |                     |
| Legal Description: NE NW-22-9N-59W-400FNL-1349FWL |                              |                                                  |                  |                                |                                   |                            |                        |                             |               |               |                     |
| Contractor: Noble                                 |                              |                                                  |                  | Rig/Platform Name/Num: H&P 524 |                                   |                            |                        |                             |               |               |                     |
| Job BOM: 7523 7523                                |                              |                                                  |                  |                                |                                   |                            |                        |                             |               |               |                     |
| Well Type: HORIZONTAL OIL                         |                              |                                                  |                  |                                |                                   |                            |                        |                             |               |               |                     |
| Sales Person: HALAMERICA\HB70026                  |                              |                                                  |                  |                                | Srcv Supervisor: Steven Markovich |                            |                        |                             |               |               |                     |
| <b>Job</b>                                        |                              |                                                  |                  |                                |                                   |                            |                        |                             |               |               |                     |
| Formation Name                                    |                              |                                                  |                  |                                |                                   |                            |                        |                             |               |               |                     |
| Formation Depth (MD)                              |                              | Top                                              |                  |                                | Bottom                            |                            |                        |                             |               |               |                     |
| Form Type                                         |                              |                                                  |                  |                                | BHST                              |                            | 215 degF               |                             |               |               |                     |
| Job depth MD                                      |                              | 10928ft                                          |                  |                                | Job Depth TVD                     |                            |                        |                             |               |               |                     |
| Water Depth                                       |                              |                                                  |                  |                                | Wk Ht Above Floor                 |                            |                        |                             |               |               |                     |
| Perforation Depth (MD)                            |                              | From                                             |                  |                                | To                                |                            |                        |                             |               |               |                     |
| <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                      | 1948                        | 0             | 0             |                     |
| Casing                                            |                              | 5.5                                              | 4.778            | 20                             |                                   | P-110                      | 0                      | 10928                       | 0             | 0             |                     |
| Open Hole Section                                 |                              |                                                  | 8.5              |                                |                                   |                            | 1948                   | 8051                        | 0             | 0             |                     |
| <b>Fluid Data</b>                                 |                              |                                                  |                  |                                |                                   |                            |                        |                             |               |               |                     |
| Stage/Plug #: 1                                   |                              |                                                  |                  |                                |                                   |                            |                        |                             |               |               |                     |
| 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                                                 | 11.5 lb/gal Tuned Spacer III | Tuned Spacer III                                 |                  |                                | 80                                | bbl                        | 11.5                   | 3.84                        |               | 5             |                     |
| 34.60 gal/bbl                                     |                              | FRESH WATER                                      |                  |                                |                                   |                            |                        |                             |               |               |                     |
| 0.60 gal/bbl                                      |                              | DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665) |                  |                                |                                   |                            |                        |                             |               |               |                     |
| 0.60 gal/bbl                                      |                              | MUSOL A, 330 GAL TOTE - (790828)                 |                  |                                |                                   |                            |                        |                             |               |               |                     |
| 145.18 lbm/bbl                                    |                              | BARITE, BULK (100003681)                         |                  |                                |                                   |                            |                        |                             |               |               |                     |
| <b>Fluid Data</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 |
| 2                                                 | ElastiCem                    | ELASTICEM (TM) SYSTEM                            |                  |                                | 150                               | sack                       | 13.2                   | 1.57                        |               | 6             | 7.54                |
| 7.54 Gal                                          |                              | FRESH WATER                                      |                  |                                |                                   |                            |                        |                             |               |               |                     |
| 0.25 %                                            |                              | SCR-100 (100003749)                              |                  |                                |                                   |                            |                        |                             |               |               |                     |

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| Fluid #                                                                                                                                                   | Stage Type           | Fluid Name                                           | Qty | Qty UoM | Mixing Density<br>lbm/gal | Yield<br>ft3/sack | Mix Fluid<br>Gal | Rate<br>bbl/mi<br>n | Total Mix<br>Fluid<br>Gal |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------------------------------------------|-----|---------|---------------------------|-------------------|------------------|---------------------|---------------------------|
| 3                                                                                                                                                         | ElastiCem w/<br>SCBL | ELASTICEM (TM) SYSTEM                                | 457 | sack    | 13.2                      | 1.6               |                  | 6                   | 7.68                      |
| 0.20 %                                                                                                                                                    |                      | SCR-100 (100003749)                                  |     |         |                           |                   |                  |                     |                           |
| 7.68 Gal                                                                                                                                                  |                      | FRESH WATER                                          |     |         |                           |                   |                  |                     |                           |
| Fluid #                                                                                                                                                   | Stage Type           | Fluid Name                                           | Qty | Qty UoM | Mixing Density<br>lbm/gal | Yield<br>ft3/sack | Mix Fluid<br>Gal | Rate<br>bbl/mi<br>n | Total Mix<br>Fluid<br>Gal |
| 4                                                                                                                                                         | NeoCem NT1           | NeoCem TM                                            | 549 | sack    | 13.2                      | 2.04              |                  | 5                   | 9.75                      |
| 9.71 Gal                                                                                                                                                  |                      | FRESH WATER                                          |     |         |                           |                   |                  |                     |                           |
| 0.05 %                                                                                                                                                    |                      | SCR-100 (100003749)                                  |     |         |                           |                   |                  |                     |                           |
| Fluid #                                                                                                                                                   | Stage Type           | Fluid Name                                           | Qty | Qty UoM | Mixing Density<br>lbm/gal | Yield<br>ft3/sack | Mix Fluid<br>Gal | Rate<br>bbl/mi<br>n | Total Mix<br>Fluid<br>Gal |
| 5                                                                                                                                                         | MMCR<br>Displacement | MMCR Displacement                                    | 20  | bbl     | 8.33                      |                   |                  |                     |                           |
| 0.50 gal/bbl                                                                                                                                              |                      | MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781) |     |         |                           |                   |                  |                     |                           |
| Fluid #                                                                                                                                                   | Stage Type           | Fluid Name                                           | Qty | Qty UoM | Mixing Density<br>lbm/gal | Yield<br>ft3/sack | Mix Fluid<br>Gal | Rate<br>bbl/mi<br>n | Total Mix<br>Fluid<br>Gal |
| 6                                                                                                                                                         | Displacement         | Displacement                                         | 220 | bbl     | 8.33                      |                   |                  |                     |                           |
| <b>Comment</b> Estimated Top of Tail Cement 6067' Estimated Top of Lead 2 Cement 2876' Estimated Top of Lead Cement 1818'<br>Estimated top of Spacer 147' |                      |                                                      |     |         |                           |                   |                  |                     |                           |

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

| Type  | Seq. No. | Activity         | Graph Label      | Date      | Time     | Source | DH Density<br>(ppg) | DS Pump Press<br>(psi) | Comb Pump Rate<br>(bbl/min) | Comments                                                                                                                                                                                                                                                                                 |
|-------|----------|------------------|------------------|-----------|----------|--------|---------------------|------------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Event | 1        | Start Job        | Start Job        | 6/26/2017 | 14:55:00 | USER   |                     |                        |                             | TD 10938' TP 10928' FC 10878' 5 1/2 20# CSG 8 1/2 OPH 9 5/8 36# Surf CSG 1948'. Estimated Top of Tail Cement 6067' Estimated Top of Lead 2 Cement 2876' Estimated top of Lead Cement 1818' Estimated top of Saper 147'. Water test PH 7 Chlorides >200 Hardness >80 Sulfates >200 Iron 0 |
| Event | 2        | Test Lines       | Test Lines       | 6/26/2017 | 14:59:31 | COM4   | 8.23                | 3998.00                |                             | Perform 500psi kick out test. Kickouts worked. Re set kick outs to 4000 psi and brought the pressure up and held for 3 mins.                                                                                                                                                             |
| Event | 3        | Drop Bottom Plug | Drop Bottom Plug | 6/26/2017 | 15:08:23 | USER   |                     |                        |                             | Plug loaded into the casing by company rep and pushed down with the CRT.                                                                                                                                                                                                                 |
| Event | 4        | Check Weight     | Check Weight     | 6/26/2017 | 15:10:36 | COM4   | 8.29                | 29.00                  | 0.00                        | Weight for spacer verified by pressurized scales.                                                                                                                                                                                                                                        |
| Event | 5        | Pump Spacer 1    | Pump Spacer 1    | 6/26/2017 | 15:12:54 | COM4   | 11.40               | 174.00                 | 2.70                        | Pump 80bbbls of 11.5ppg 3.84 yield Spacer. Added 50 gallons of both Musol A, and Dual spacer surf B on the fly. Pumped at 5bbl/min 166psi.                                                                                                                                               |
| Event | 6        | Check Weight     | Check Weight     | 6/26/2017 | 15:18:34 | COM4   | 11.44               | 157.00                 | 4.20                        | Weight verified by pressurized scales.                                                                                                                                                                                                                                                   |
| Event | 7        | Drop Bottom Plug | Drop Bottom Plug | 6/26/2017 | 15:31:31 | USER   |                     |                        |                             | Plug loaded into casing by company rep and pushed down by the CRT                                                                                                                                                                                                                        |
| Event | 8        | Check Weight     | Check Weight     | 6/26/2017 | 15:34:00 | COM4   |                     |                        |                             | Weight for Lead cement was verified by pressurized scales.                                                                                                                                                                                                                               |
| Event | 9        | Pump Lead Cement | Pump Lead Cement | 6/26/2017 | 15:36:56 | COM4   | 13.30               | 451.00                 | 6.40                        | Pump 41.94bbbls (150sks) 13.2ppg 1.57yield Lead Cement. Pumped at 8bbl/min 400psi                                                                                                                                                                                                        |
| Event | 10       | Check Weight     | Check Weight     | 6/26/2017 | 15:40:37 | COM4   | 13.18               | 566.00                 | 8.00                        | Weight verified by pressurized scales.                                                                                                                                                                                                                                                   |
| Event | 11       | Pump Cement      | Pump Cement      | 6/26/2017 | 15:43:15 | COM4   | 13.35               | 584.00                 | 8.00                        | Pump 130.2bbbls (457sks) 13.2ppg 1.6yield Lead Cement2. Pumped at 8bbl/min 560psi                                                                                                                                                                                                        |
| Event | 12       | Pump Tail Cement | Pump Tail Cement | 6/26/2017 | 15:59:37 | COM4   | 13.18               | 686.00                 | 8.00                        | Pump 199.4bbbls (549sks) 13.2ppg 2.04yield Tail Cement. Pumped at 8bbl/min 686psi                                                                                                                                                                                                        |
| Event | 13       | Check Weight     | Check Weight     | 6/26/2017 | 16:00:01 | COM4   | 13.03               | 710.00                 | 8.00                        | Weight verified by pressurized scales.                                                                                                                                                                                                                                                   |

|       |    |                   |                   |           |          |      |       |         |       |                                                                                                                                    |
|-------|----|-------------------|-------------------|-----------|----------|------|-------|---------|-------|------------------------------------------------------------------------------------------------------------------------------------|
| Event | 14 | Check Weight      | Check Weight      | 6/26/2017 | 16:13:30 | COM4 | 13.31 | 750.00  | 8.00  | Weight verified by pressurized scales.                                                                                             |
| Event | 15 | Shutdown          | Shutdown          | 6/26/2017 | 16:25:22 | COM4 |       |         |       | Shutdown. Rig up to blow down lines and clean pumps and lines.                                                                     |
| Event | 16 | Drop Top Plug     | Drop Top Plug     | 6/26/2017 | 16:39:26 | COM4 |       |         |       | Plug dropped by company rep and pushed down with CRT                                                                               |
| Event | 17 | Pump Displacement | Pump Displacement | 6/26/2017 | 16:39:38 | COM4 | 8.30  | 431.00  | 10.00 | Pump 240bbls. First 20bbls with MMCR then 220 with Biocide water. Pumped at 10bbl/min 429psi and lowered rate as pressure climbed. |
| Event | 18 | Bump Plug         | Bump Plug         | 6/26/2017 | 17:10:23 | COM4 | 8.35  | 1545.00 | 2.80  | Final lift pressure was 1517psi took 500psi over and held for 5 mins.                                                              |
| Event | 19 | Check Floats      | Check Floats      | 6/26/2017 | 17:15:12 | USER |       |         |       | After 5 mins pressure was 2169psi. Opened up release line to check floats. After 3bbls back floats held.                           |
| Event | 20 | End Job           | End Job           | 6/26/2017 | 17:22:50 | COM4 |       |         |       | Thank you Steve Markovich and Crew.                                                                                                |