

HALLIBURTON

## Cementing Job Summary

The Road to Excellence Starts with Safety

|   |                              |  |                           |               |                        |                             |               |              |                     |               |
|---|------------------------------|--|---------------------------|---------------|------------------------|-----------------------------|---------------|--------------|---------------------|---------------|
| Sold To #: 345242                                 | Ship To #: 3633323           | Quote #:   | Sales Order #: 0902999040 |               |                        |                             |               |              |                     |               |
| Customer: NOBLE ENERGY INC E-BUSINESS             |                              | Customer Rep: DEVIN                              |                           |               |                        |                             |               |              |                     |               |
| Well Name: MOSER                                  | Well #: H34-735              | API/UWI #: 05-123-40860-00                       |                           |               |                        |                             |               |              |                     |               |
| Field: WATTENBERG                                 | City (SAP): HUDSON           | County/Parish: WELD                              | State: COLORADO           |               |                        |                             |               |              |                     |               |
| Legal Description: NW NE-27-3N-65W-345FNL-1891FEL |                              |  |                           |               |                        |                             |               |              |                     |               |
| Contractor: H & P DRLG                            |                              | Rig/Platform Name/Num: H & P 321                 |                           |               |                        |                             |               |              |                     |               |
| Job BOM: 392189                                   |                              |  |                           |               |                        |                             |               |              |                     |               |
| Well Type: HORIZONTAL OIL                         |                              |  |                           |               |                        |                             |               |              |                     |               |
| Sales Person: HALAMERICA/HX38199                  |                              | Srvc Supervisor: Joseph Scileppi                 |                           |               |                        |                             |               |              |                     |               |
| Job   |                              |  |                           |               |                        |                             |               |              |                     |               |
| Formation Name                                    |                              |  |                           |               |                        |                             |               |              |                     |               |
| Formation Depth (MD)                              | Top                          | 0  | Bottom 16441              |               |                        |                             |               |              |                     |               |
| Form Type   | BHST 225 degF                |  |                           |               |                        |                             |               |              |                     |               |
| Job depth MD                                      | 7268ft                       | Job Depth TVD                                    | 6944                      |               |                        |                             |               |              |                     |               |
| Water Depth                                       | Wk Ht Above Floor            |  |                           |               |                        |                             |               |              |                     |               |
| Perforation Depth (MD)                            | From                         | To   |                           |               |                        |                             |               |              |                     |               |
| Well Data   |                              |  |                           |               |                        |                             |               |              |                     |               |
| 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  | 0                            | 9.825  | 8.921                     | 36            | BTC                    | J-55                        | 0             | 1848         | 0                   | 1848          |
| Casing  | 0                            | 5.5  | 4.778                     | 20            | BTC                    | P-110                       | 0             | 16439        | 0                   | 6944          |
| Open Hole Section                                 |                              |  | 8.5                       |               |                        |                             | 1848          | 16441        | 1848                | 6944          |
| Tools and Accessories                             |                              |  |                           |               |                        |                             |               |              |                     |               |
| Type  | Size in                      | Qty  | Make                      | Depth ft      | Type                   | Size in                     | Qty           | Make         |                     |               |
| Guide Shoe  | 5.5                          |  |                           | 16439         | Top Plug               | 5.5                         |               |              |                     |               |
| Float Shoe  | 5.5                          |  |                           |               | Bottom Plug            | 5.5                         |               |              |                     |               |
| Float Collar                                      | 5.5                          |  |                           |               | SSR plug set           | 5.5                         |               |              |                     |               |
| Insert Float                                      | 5.5                          |  |                           |               | Plug Container         | 5.5                         |               |              |                     |               |
| Stage Tool  | 5.5                          |  |                           | 7268          | Centralizers           | 5.5                         |               |              |                     |               |
| Fluid Data  |                              |  |                           |               |                        |                             |               |              |                     |               |
| 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   | 12.5 lb/gal Tuned Spacer III | Tuned Spacer III                                 | 40                        | bbl           | 12.5                   | 2.75                        |               | 6            |                     |               |
| 0.30 gal/bbl                                      |                              | MUSOL A, 330 GAL TOTE - (790828)                 |                           |               |                        |                             |               |              |                     |               |
| 0.30 gal/bbl                                      |                              | DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665) |                           |               |                        |                             |               |              |                     |               |
| 203.65 lbm/bbl                                    |                              | BARITE, BULK (100003681)                         |                           |               |                        |                             |               |              |                     |               |
| 34.60 gal/bbl                                     |                              | FRESH WATER                                      |                           |               |                        |                             |               |              |                     |               |

last updated on 12/24/2015 9:19:40 PM

Page 1 of 2

iCem® Service

(v. 4.2.393)

Created: Tuesday, December 29, 2015

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| 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/mi<br>n | Total Mix<br>Fluid<br>Gal |
|---|------------------------------------|---|-------|---------|---------------------------------|--------------------------------|------------------|---------------------|---------------------------|
| 2   | 12.5 lb/gal<br>Tuned Spacer<br>III | Tuned Spacer III                        | 40    | bbl     | 12.5                            | 2.75                           |                  | 6                   |                           |
| 34.60 gal/bbl                                 |                                    | FRESH WATER                             |       |         |                                 |                                |                  |                     |                           |
| 203.65 lbm/bbl                                |                                    | BARITE, BULK (100003681)                |       |         |                                 |                                |                  |                     |                           |
|   |                                    |   |       |         |                                 |                                |                  |                     |                           |
| 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/mi<br>n | Total Mix<br>Fluid<br>Gal |
| 3   | ElastiCem                          | ELASTICEM (TM) SYSTEM                   | 665   | sack    | 13.6                            | 1.88                           |                  | 6                   | 8.57                      |
| 0.50 %  |                                    | HR-5, 50 LB SK (100005050)              |       |         |                                 |                                |                  |                     |                           |
| 8.57 Gal                                      |                                    | FRESH WATER                             |       |         |                                 |                                |                  |                     |                           |
|   |                                    |   |       |         |                                 |                                |                  |                     |                           |
| 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/mi<br>n | Total Mix<br>Fluid<br>Gal |
| 4   | Displacement                       | Displacement                            | 160.6 | bbl     | 8.33                            |                                |                  |                     |                           |
|   |                                    |   |       |         |                                 |                                |                  |                     |                           |
| Cement Left In Pipe                           |                                    | Amount                                  | 45 ft |         |                                 | Reason                         |                  | Shoe Joint          |                           |
| Mix Water: pH ##                              |                                    | Mix Water Chloride: ## ppm              |       |         | Mix Water Temperature: ## °F °C |                                |                  |                     |                           |
| Cement Temperature: ## °F °C                  |                                    | Plug Displaced by: ## lb/gal kg/m3 XXXX |       |         | Disp. Temperature: ## °F °C     |                                |                  |                     |                           |
| Plug Bumped? Yes/No                           |                                    | Bump Pressure: #### psi MPa             |       |         | Floats Held? Yes/No             |                                |                  |                     |                           |
| Cement Returns: ## bbl m3                     |                                    | Returns Density: ## lb/gal kg/m3        |       |         | Returns Temperature: ## °F °C   |                                |                  |                     |                           |
| Comment GOT 15 BBLs OF SPACER BACK TO SURFACE |                                    |   |       |         |                                 |                                |                  |                     |                           |

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

| Type  | Seq. No. | Activity               | Graph Label            | Date       | Time     | Source | Comb Pump Rate<br>(bbl/min) | DH Density<br>(ppg) | PS Pump Press<br>(psi) | Comments  |
|-------|----------|------------------------|------------------------|------------|----------|--------|-----------------------------|---------------------|------------------------|---|
| Event | 1        | Call Out               | Call Out               | 12/24/2015 | 06:30:00 | USER   |                             |                     |                        | CALLOUT FOR ON LOCATION AT 10:30  |
| Event | 2        | Crew Leave Yard        | Crew Leave Yard        | 12/24/2015 | 09:45:00 | USER   |                             |                     |                        | PRE JOURNEY JSA W/ CREW   |
| Event | 3        | Arrive At Loc          | Arrive At Loc          | 12/24/2015 | 10:20:00 | USER   |                             |                     |                        | UPON ARRIVAL RIG WAS DONE RUNNING CASING AND WAS PUMPING BALL DOWN, MET W/ COMPANY REP TO DISCUSS JOB PROCEDURE |
| Event | 4        | Rig-Up Equipment       | Rig-Up Equipment       | 12/24/2015 | 11:00:00 | USER   |                             |                     |                        | HAZARD HUNT JSA W/ CREW   |
| Event | 5        | Other                  | Other                  | 12/24/2015 | 11:05:00 | USER   |                             |                     |                        | FIELD MIX WATER ANALYSIS: TEMP 58, PH-7, CHLORIDES-0, SULFATE- <200   |
| Event | 6        | Pre-Job Safety Meeting | Pre-Job Safety Meeting | 12/24/2015 | 13:58:20 | USER   |                             |                     |                        | JSA W/ ALL INVOLVED PERSONNEL   |
| Event | 7        | Start Job              | Start Job              | 12/24/2015 | 18:19:46 | COM5   |                             |                     |                        |   |
| Event | 8        | Test Lines             | Test Lines             | 12/24/2015 | 18:21:45 | COM5   |                             |                     | 4500.00                | TESTED LINES TO 4500 PSI FOR 5 MIN, NO VISIBLE LEAKS  |
| Event | 9        | Pump Spacer 1          | Pump Spacer 1          | 12/24/2015 | 18:28:53 | COM5   | 7.00                        | 12.5                | 604.00                 | PUMPED 40 BBLS OF 12.5 SPACER W/ 12 GAL MUSOL A AND 12 GAL SURFACTANT B AT 7 BPM AND 604 PSI                    |
| Event | 10       | Pump Spacer 2          | Pump Spacer 2          | 12/24/2015 | 18:37:07 | COM5   | 7.00                        | 12.5                | 587.00                 | PUMPED 40 BBLS OF 12.5 SPACER AT 7 BPM AND 587 PSI  |
| Event | 11       | Pump Cement            | Pump Cement            | 12/24/2015 | 18:45:36 | COM5   | 8.00                        | 13.6                | 600.00                 | PUMPED 665 SKS OR 222.6 BBLS 13.6 CMT AT 8 BPM AND 600 PSI  |
| Event | 12       | Check Weight           | Check weight           | 12/24/2015 | 18:51:56 | COM5   |                             |                     |                        | WEIGHT VERIFIED W/ MUD SCALES   |
| Event | 13       | Check Weight           | Check weight           | 12/24/2015 | 18:56:27 | COM5   |                             |                     |                        | WEIGHT VERIFIED W/ MUD SCALES   |
| Event | 14       | Check Weight           | Check weight           | 12/24/2015 | 19:10:02 | COM5   |                             |                     |                        | WEIGHT VERIFIED W/ MUD SCALES   |
| Event | 15       | Shutdown               | Shutdown               | 12/24/2015 | 19:26:28 | COM5   |                             |                     |                        | SHUTDOWN AND WASHED PUMPS AND LINES   |
| Event | 16       | Drop Top Plug          | Drop Top Plug          | 12/24/2015 | 19:30:13 | COM5   |                             |                     |                        | PLUG PRE LOADED AND WITNESSED BY COMPANY REP  |
| Event | 17       | Pump Displacement      | Pump Displacement      | 12/24/2015 | 19:30:17 | COM5   | 9.00                        | 8.33                | 1689.00                | PUMPED 160.6 BBLS OF FRESH WATER AT 9 BPM AND   |

1689 PSI, GOT 15 BBLS OF SPACER BACK TO SURFACE

|       |    |                  |                  |            |          |      |      |      |         |   |
|-------|----|------------------|------------------|------------|----------|------|------|------|---------|---|
| Event | 18 | Bump Plug        | Bump Plug        | 12/24/2015 | 19:56:02 | COM5 | 0.00 | 8.33 | 2180.00 | PLUG LANDED AT 2180 PSI AND WENT TO UP TO 4035 PSI  |
| Event | 19 | Pressure Up Well | Pressure Up Well | 12/24/2015 | 20:01:03 | COM5 | 0.00 | 8.41 | 3041.00 | HELD PRESSURE AT 4000 PSI FOR 5 MIN AND CHECKED FLOATS GOT 2 BBLS BACK TO TRUCK, THEN PRESSURED UP TO 3000 PSI FOR 5 MIN AND CHECKED FLOATS AND GOT .5 BBL BACK |
| Event | 20 | End Job          | End Job          | 12/24/2015 | 20:21:21 | COM5 |      |      |         |   |