

## Cementing Job Summary

The Road to Excellence Starts with Safety

|   |                    |                                    |                  |                                  |                            |                           |                        |               |               |               |                     |
|---|--------------------|------------------------------------|------------------|----------------------------------|----------------------------|---------------------------|------------------------|---------------|---------------|---------------|---------------------|
| Sold To #: 345242                         |                    | Ship To #: 3968362                 |                  | Quote #:                         |                            | Sales Order #: 0906082728 |                        |               |               |               |                     |
| Customer: NOBLE ENERGY INC-EBUS           |                    |                                    |                  | Customer Rep: John Drahota       |                            |                           |                        |               |               |               |                     |
| Well Name: WELLS RANCH STATE              |                    |                                    | Well #: AA32-789 |                                  | API/UWI #: 05-123-50175-00 |                           |                        |               |               |               |                     |
| Field: WATTENBERG                         |                    | City (SAP): GILL                   |                  | County/Parish: WELD              |                            | State: COLORADO           |                        |               |               |               |                     |
| Legal Description: 5-5N-63W-300FNL-663FWL |                    |                                    |                  |                                  |                            |                           |                        |               |               |               |                     |
| Contractor: H & P DRLG                    |                    |                                    |                  | Rig/Platform Name/Num: H & P 517 |                            |                           |                        |               |               |               |                     |
| Job BOM: 7523 7523                        |                    |                                    |                  |                                  |                            |                           |                        |               |               |               |                     |
| Well Type: HORIZONTAL OIL                 |                    |                                    |                  |                                  |                            |                           |                        |               |               |               |                     |
| Sales Person: HALAMERICA\HB31357          |                    |                                    |                  | Srv Supervisor: Thomas Haas      |                            |                           |                        |               |               |               |                     |
| Job                                       |                    |                                    |                  |                                  |                            |                           |                        |               |               |               |                     |
|   |                    |                                    |                  |                                  |                            |                           |                        |               |               |               |                     |
| Formation Name                            |                    |                                    |                  |                                  |                            |                           |                        |               |               |               |                     |
| Formation Depth (MD)                      |                    | Top                                |                  | Bottom                           |                            |                           |                        |               |               |               |                     |
| Form Type                                 |                    |                                    |                  | BHST                             |                            | 230 degF                  |                        |               |               |               |                     |
| Job depth MD                              |                    | 16924ft                            |                  | Job Depth TVD                    |                            | 6980                      |                        |               |               |               |                     |
| Water Depth                               |                    |                                    |                  | Wk Ht Above Floor                |                            | 5                         |                        |               |               |               |                     |
| 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                  | 9.625                              | 8.921            | 36                               |                            |                           | 0                      | 1934          | 0             | 1934          |                     |
| Casing                                    | 0                  | 5.5                                | 4.892            | 17                               |                            |                           | 0                      | 16924         | 0             | 6980          |                     |
| Open Hole Section                         |                    |                                    | 8.5              |                                  |                            |                           | 1934                   | 16938         | 1934          | 6980          |                     |
|   |                    |                                    |                  |                                  |                            |                           |                        |               |               |               |                     |
| Tools and Accessories                     |                    |                                    |                  |                                  |                            |                           |                        |               |               |               |                     |
| Type                                      | Size in            | Qty                                | Make             | Depth ft                         |                            | Type                      | Size in                | Qty           | Make          |               |                     |
|   |                    |                                    |                  |                                  |                            | Top Plug                  | 5.5                    | 1             | HES           |               |                     |
| Float Shoe                                | 5.5                | 1                                  | HES              | 16924                            |                            | Bottom Plug               | 5.5                    | 2             | HES           |               |                     |
| Float Collar                              | 5.5                | 1                                  | HES              | 16875                            |                            | Plug Container            | 5.5                    | 1             | HES           |               |                     |
|   |                    |                                    |                  |                                  |                            |                           |                        |               |               |               |                     |
|   |                    |                                    |                  |                                  |                            |                           |                        |               |               |               |                     |
| Fluid Data                                |                    |                                    |                  |                                  |                            |                           |                        |               |               |               |                     |
| Stage/Plug #: 1                           |                    |                                    |                  |                                  |                            |                           |                        |               |               |               |                     |
| Fluid #                                   | Stage Type         | Fluid Name                         |                  |                                  | Qty                        | Qty UoM                   | Mixing Density lbm/gal | Yield ft/sack | Mix Fluid Gal | Rate bbl/min  | Total Mix Fluid Gal |
| 1   | Tuned Prime Spacer | SBM FDP-C1337-18 CEMENT SPACER SYS |                  |                                  | 120                        | bbl                       | 11.5                   | 3.87          | 24.5          | 8             | 4265                |
| 3.50 lbm/bbl                              |                    | SEM-93P, 35 LB SACK - (1023977)    |                  |                                  |                            |                           |                        |               |               |               |                     |
| 3.50 lbm/bbl                              |                    | SEM-94P, 35 LB SACK - (1023987)    |                  |                                  |                            |                           |                        |               |               |               |                     |
| 1 lbm/bbl                                 |                    | FE-2, 2000 LB BAG - (1005549)      |                  |                                  |                            |                           |                        |               |               |               |                     |
| 145.09 lbm/bbl                            |                    | BARITE, BULK (100003681)           |                  |                                  |                            |                           |                        |               |               |               |                     |

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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/min        | Total Mix Fluid<br>Gal |       |
|--|-------------------|----------------------------------|---------------------|---------|---------------------------|-------------------|------------------|------------------------|------------------------|-------|
| 2  | ElastiCem         | ELASTICEM (TM) SYSTEM            | 140                 | sack    | 13.2                      | 1.67              | 8.04             | 8                      | 1126                   |       |
| 0.40 %   |                   | SCR-100, 2000 LB BAG - (1005967) |                     |         |                           |                   |                  |                        |                        |       |
| 8.03 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/min        | Total Mix Fluid<br>Gal |       |
| 3  | ElastiCem w/ SCBL | ELASTICEM (TM) SYSTEM            | 475                 | sack    | 13.2                      | 1.67              | 8.04             | 8                      | 3819                   |       |
| 0.27 %   |                   | SCR-100, 2000 LB BAG - (1005967) |                     |         |                           |                   |                  |                        |                        |       |
| 8.04 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/min        | Total Mix Fluid<br>Gal |       |
| 4  | NeoCem NT1        | NeoCem TM                        | 1126                | sack    | 13.2                      | 2.04              | 9.79             | 8                      | 11024                  |       |
| 0.08 %   |                   | FE-2, 2000 LB BAG - (1005549)    |                     |         |                           |                   |                  |                        |                        |       |
| 9.79 Gal   |                   | FRESH WATER                      |                     |         |                           |                   |                  |                        |                        |       |
| 0.08 %   |                   | SCR-100, 2000 LB BAG - (1005967) |                     |         |                           |                   |                  |                        |                        |       |
|  |                   |                                  |                     |         |                           |                   |                  |                        |                        |       |
| 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                     | 392                 | bbl     | 8.33                      |                   |                  | 8                      |                        |       |
|  |                   |                                  |                     |         |                           |                   |                  |                        |                        |       |
| Cement Left In Pipe  |                   | Amount                           | 49 ft               |         | Reason                    |                   |                  | Shoe Joint             |                        |       |
| Mix Water:   |                   | pH 7                             | Mix Water Chloride: |         |                           | <300 ppm          |                  | Mix Water Temperature: |                        | 76 °F |
| Cement Temperature:  |                   | N/A                              | Plug Displaced by:  |         |                           | 8.33 lb/gal F.W.  |                  | Disp. Temperature:     |                        | 68 °F |
| Plug Bumped?   |                   | Yes                              | Bump Pressure:      |         |                           | 1870 psi          |                  | Floats Held?           |                        | Yes   |
| Cement Returns:  |                   | N/A                              | Returns Density:    |         |                           | N/A               |                  | Returns Temperature:   |                        | N/A   |
| Comment PLUG BUMPED AT CALCULATED DISPLACEMENT, FINAL CIRCULATING PRESSURE OF 1870 PSI, 5 MIN CASING TEST AT 2300 PSI, FLOATS HELD, 4 BBL BACK. INTERFACE RETURNED TO SURFACE. |                   |                                  |                     |         |                           |                   |                  |                        |                        |       |

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

| Type  | Seq. No. | Activity                  | Graph Label               | Date       | Time     | Source | Comments  |
|-------|----------|---------------------------|---------------------------|------------|----------|--------|---|
| Event | 1        | Call Out                  | Call Out                  | 11/10/2019 | 20:00:00 | USER   | CREW CALLED OUT AT 20:00 11/10/2019, REQUESTED ON LOCATION 6:00 11/11/2019. CREW PICKED UP CEMENT, CHEMICALS (40 GAL D-AIR, 10 GAL MMCR, 3 LBS BE-3), 100 LBS SUGAR, PLUG CONTAINER AND MANIFOLD FROM FORT LUPTON, CO. BULK 660: 11764737/10867096, BULK 660: 12113644/10867521, PUMP ELITE: 11897034/11645460. |
| Event | 2        | Pre-Convoy Safety Meeting | Pre-Convoy Safety Meeting | 11/11/2019 | 00:00:00 | USER   | DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW  |
| Event | 3        | Crew Leave Yard           | Crew Leave Yard           | 11/11/2019 | 00:30:00 | USER   | STARTED JOURNEY MANAGEMENT.   |
| Event | 4        | Arrive At Loc             | Arrive At Loc             | 11/11/2019 | 02:00:00 | USER   | END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 9.625" 36# @ 1934', CASING: 5.5" 17# @ 16924', 49' SHOE JOINT, 8.5" OPEN HOLE, TVD @ 6980', 9.4 PPG WELL FLUID, FRESH WATER DISPLACEMENT.   |

|       |    |                           |                           |            |          |      |  |
|-------|----|---------------------------|---------------------------|------------|----------|------|--|
| Event | 5  | Pre-Rig Up Safety Meeting | Pre-Rig Up Safety Meeting | 11/11/2019 | 04:00:00 | USER | HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.                        |
| Event | 6  | Rig-Up Equipment          | Rig-Up Equipment          | 11/11/2019 | 04:10:00 | USER | CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB.                              |
| Event | 7  | Pre-Job Safety Meeting    | Pre-Job Safety Meeting    | 11/11/2019 | 09:00:00 | USER | MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.           |
| Event | 8  | Start Job                 | Start Job                 | 11/11/2019 | 09:36:16 | COM4 | START JOB DATA RECORDING.  |
| Event | 9  | Drop Bottom Plug          | Drop Bottom Plug          | 11/11/2019 | 09:36:53 | USER | PLUG WAS LOADED DIRECTLY INTO THE LANDING JOINT, VERIFIED BY COMPANY MAN.                                    |
| Event | 10 | Test Lines                | Test Lines                | 11/11/2019 | 09:39:21 | COM4 | KICKOUTS SET @ 500 PSI, KICKED OUT @ 850 PSI, 5TH GEAR STALL OUT @ 1750 PSI. PRESSURE TESTED IRON TO 4800.   |
| Event | 11 | Test Lines                | Test Lines                | 11/11/2019 | 09:41:56 | COM4 | PRESSURE TESTED I-BOP TO 2000 PSI.   |
| Event | 12 | Pump Spacer 1             | Pump Spacer 1             | 11/11/2019 | 09:49:18 | COM4 | PUMP 120 BBLS OF TUNED SPACER @ 11.5 LB/GAL, ADDED 30 GAL D-AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES. |
| Event | 13 | Shutdown                  | Shutdown                  | 11/11/2019 | 10:07:17 | COM4 | SHUTDOWN TO DROP 2ND BOTTOM PLUG.  |

|       |    |                  |                  |            |          |      |   |
|-------|----|------------------|------------------|------------|----------|------|---|
| Event | 14 | Drop Bottom Plug | Drop Bottom Plug | 11/11/2019 | 10:09:59 | COM4 | PLUG WAS LOADED DIRECTLY INTO LANDING JOINT, VERIFIED BY COMPANY MAN.   |
| Event | 15 | Pump Cap Cement  | Pump Cap Cement  | 11/11/2019 | 10:12:25 | COM4 | PUMP 140 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.67 YIELD, 8.04 GAL/SK, 41.6 BBLS, CALCULATED TOC @ 2441', DENSITY VERIFIED BY PRESSURIZED MUD SCALES. ADDED 10 GAL OF D-AIR. |
| Event | 16 | Pump Lead Cement | Pump Lead Cement | 11/11/2019 | 10:17:03 | COM4 | PUMP 475 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.68 YIELD, 8.04 GAL/SK, 141.3 BBLS, CALCULATED TOL @ 3461', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.                       |
| Event | 17 | Pump Tail Cement | Pump Tail Cement | 11/11/2019 | 10:34:16 | COM4 | PUMP 1126 SKS OF NEOCEM @ 13.2 LB/GAL, 2.04 YIELD, 9.79 GAL/SK, 409.1 BBLS, CALCULATED TOT @ 6924, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.                          |
| Event | 18 | Shutdown         | Shutdown         | 11/11/2019 | 11:28:42 | COM4 | SHUTDOWN TO DROP TOP PLUG AND CLEAN PUMPS AND LINES. RIGS SWIVEL PACKING WAS LEAKING, THEY GREASED IT AND HAMMERED IT UP.   |
| Event | 19 | Drop Top Plug    | Drop Top Plug    | 11/11/2019 | 11:49:45 | COM4 | TOP PLUG WAS LOADED DIRECTLY INTO LANDING JOINT, VERIFIED BY COMPANY MAN.   |

|       |    |                             |                             |            |          |      |   |
|-------|----|-----------------------------|-----------------------------|------------|----------|------|---|
| Event | 20 | Pump Displacement           | Pump Displacement           | 11/11/2019 | 11:49:49 | COM4 | BEGIN CALCULATED DISPLACEMENT 392 BBL FRESH WATER. 10 GAL MMCR IN FIRST 20 BBL, 3 LBS OF BE-3 THROUGH OUT THE REST. |
| Event | 21 | Bump Plug                   | Bump Plug                   | 11/11/2019 | 12:46:34 | COM4 | PLUG BUMPED AT CALCULATED DISPLACEMENT, FINAL CIRCULATING PRESSURE OF 1870 PSI. INTERFACE RETURNED TO SURFACE.      |
| Event | 22 | Other                       | Casing Test                 | 11/11/2019 | 12:46:59 | USER | 5 MIN CASING TEST AT 2300 PSI.  |
| Event | 23 | Other                       | Check Floats                | 11/11/2019 | 12:51:12 | USER | RELEASED PRESSURE BACK TO THE TRUCK, FLOATS HELD, 4 BBL BACK.   |
| Event | 24 | End Job                     | End Job                     | 11/11/2019 | 12:53:07 | COM4 | END JOB DATA RECORDING.   |
| Event | 25 | Pre-Rig Down Safety Meeting | Pre-Rig Down Safety Meeting | 11/11/2019 | 17:00:00 | USER | DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.                       |
| Event | 26 | Rig-Down Completed          | Rig-Down Completed          | 11/11/2019 | 17:10:00 | USER | ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL.   |
| Event | 27 | Pre-Convoy Safety Meeting   | Pre-Convoy Safety Meeting   | 11/11/2019 | 17:20:00 | USER | DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.   |
| Event | 28 | Crew Leave Location         | Crew Leave Location         | 11/11/2019 | 17:30:00 | USER | THANK YOU FOR USING HALLIBURTON - THOMAS HAAS AND CREW.   |

## 3.0 Attachments

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### 3.1 Job Chart

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