

The Road to Excellence Starts with Safety

| | | | | | | | | | | | |
|---|--------------------|-------------------------------------|-------------------------|--|--------------------------|-----------------------------------|-------------------------------|-----------------------|----------------------|----------------------|----------------------------|
| Sold To #: 345242 | | Ship To #: 3919020 | | Quote #: | | Sales Order #: 0906609771 | | | | | |
| Customer: NOBLE ENERGY INC-EBUS | | | | Customer Rep: Jim Turner | | | | | | | |
| Well Name: GUTTERSEN | | | Well #: YY06-766 | | | API/UWI #: 05-123-48643-00 | | | | | |
| Field: WATTENBERG | | City (SAP): ROGGEN | | County/Parish: WELD | | | State: COLORADO | | | | |
| Legal Description: SESW-30-3N-63W-600FSL-2577FWL | | | | | | | | | | | |
| Contractor: H & P DRLG | | | | Rig/Platform Name/Num: H & P 517 | | | | | | | |
| Job BOM: 7523 7523 | | | | | | | | | | | |
| Well Type: HORIZONTAL OIL | | | | | | | | | | | |
| Sales Person: HALAMERICA\HX41066 | | | | Srvc Supervisor: Michael Loughran | | | | | | | |
| Job | | | | | | | | | | | |
| Formation Name | | | | | | | | | | | |
| Formation Depth (MD) | | Top | | | Bottom | | | | | | |
| Form Type | | | | | BHST | | 220 degF | | | | |
| Job depth MD | | 17342.7ft | | | Job Depth TVD | | 6718 | | | | |
| 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 | | 9.625 | 8.921 | 36 | | | 0 | 1933 | 0 | 1933 | |
| Casing | | 5.5 | 4.892 | 17 | | | 0 | 17342.7 | 0 | 6718 | |
| Open Hole Section | | | 8.5 | | | | 1933 | 17354 | 1933 | 6718 | |
| Tools and Accessories | | | | | | | | | | | |
| Type | Size in | Qty | Make | Depth ft | | Type | Size in | Qty | Make | | |
| Float Shoe | 5.5 | | | 17342.7 | | Top Plug | 5.5 | 1 | HES | | |
| Float Collar | 5.5 | | | 17294.7 | | Bottom Plug | 5.5 | 2 | HES | | |
| Fluid Data | | | | | | | | | | | |
| Stage/Plug #: 1 | | | | | | | | | | | |
| Fluid # | Stage Type | Fluid Name | | | Qty | Qty UoM | Mixing Density lbm/gal | Yield ft3/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 | | 8 | |
| | 1 lbm/bbl | FE-2, 2000 LB BAG - (1005549) | | | | | | | | | |
| | 4 lbm/bbl | SEM-94P, 35 LB SACK - (1023987) | | | | | | | | | |
| | 4 lbm/bbl | SEM-93P, 35 LB SACK - (1023977) | | | | | | | | | |
| | 145.0780 lbm/bbl | BARITE, BULK (100003681) | | | | | | | | | |
| | 0.333330 gal/bbl | D-AIR 3000L, 5 GAL PAIL (101007444) | | | | | | | | | |

| Fluid # | Stage Type | Fluid Name | Qty | Qty UoM | Mixing Density lbm/gal | Yield ft3/sack | Mix Fluid Gal | Rate bbl/min | Total Mix Fluid Gal | |
|---|----------------------|----------------------------------|----------------------------|---------|---------------------------|-------------------|-------------------------------|-------------------|------------------------|-------|
| 2 | ElastiCem | ELASTICEM (TM) SYSTEM | 140 | sack | 13.2 | 1.65 | | 8 | 8.4 | |
| 0.38 % | | SCR-100, 1200 LB BAG - (1126328) | | | | | | | | |
| 8.40 Gal | | FRESH WATER | | | | | | | | |
| Fluid # | Stage Type | Fluid Name | Qty | Qty UoM | Mixing Density lbm/gal | Yield ft3/sack | Mix Fluid Gal | Rate bbl/min | Total Mix Fluid Gal | |
| 3 | ElastiCem w/ SCBL | ELASTICEM (TM) SYSTEM | 480 | sack | 13.2 | 1.67 | | 8 | 8.03 | |
| 0.30 % | | SCR-100, 1200 LB BAG - (1126328) | | | | | | | | |
| 8.03 Gal | | FRESH WATER | | | | | | | | |
| Fluid # | Stage Type | Fluid Name | Qty | Qty UoM | Mixing Density lbm/gal | Yield ft3/sack | Mix Fluid Gal | Rate bbl/min | Total Mix Fluid Gal | |
| 4 | NeoCem NT1 | NeoCem TM | 1164 | sack | 13.2 | 2.04 | | 8 | 9.79 | |
| 0.07 % | | SCR-100, 1200 LB BAG - (1126328) | | | | | | | | |
| 0.07 % | | FE-2, 2000 LB BAG - (1005549) | | | | | | | | |
| 9.79 Gal | | FRESH WATER | | | | | | | | |
| Fluid # | Stage Type | Fluid Name | Qty | Qty UoM | Mixing Density lbm/gal | Yield ft3/sack | Mix Fluid Gal | Rate bbl/min | Total Mix Fluid Gal | |
| 5 | Displacement | Displacement | 421 | bbl | 8.33 | | | 10 | | |
| | | | | | | | | | | |
| Cement Left In Pipe | | Amount | 48 ft | | Reason | | | Shoe Joint | | |
| Mix Water: | | pH 7 | Mix Water Chloride: | | Less 200 ppm | | Mix Water Temperature: | | | 75 °F |
| Cement Temperature: | | | Plug Displaced by: | | 8.33 lb/gal | | Disp. Temperature: | | | |
| Plug Bumped? | | Yes | Bump Pressure: | | 2080 psi | | Floats Held? | | | Yes |
| Cement Returns: | | | Returns Density: | | | | Returns Temperature: | | | |
| Comment Spacer/OBM interface to surface. 5 bbls back to pump truck | | | | | | | | | | |

2.0 Real-Time Job Summary

2.1 Job Event Log

| Type | Seq. No. | Activity | Graph Label | Date | Time | Source | DH Density (ppg) | Comb Pump Rate (bbl/min) | DS Pump Press (psi) | Pump Stg Tot (bbl) | Comments |
|-------|----------|---------------------------|---------------------------|-----------|----------|--------|---------------------|-----------------------------|------------------------|-----------------------|---|
| Event | 1 | Call Out | Call Out | 7/20/2020 | 06:30:00 | USER | | | | | CREW CALLED OUT AT 0630, REQUESTED ON LOCATION 1230. |
| Event | 2 | Crew Leave Yard | Crew Leave Yard | 7/20/2020 | 10:00:00 | USER | | | | | CREW LEAVES YARD |
| Event | 3 | Arrive At Loc | Arrive At Loc | 7/20/2020 | 11:30:00 | USER | | | | | MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9.625" 36 LB/FT @ 1933', 5.5" CASING: 17 LB/FT TOTAL 17,342.7', 8.5" HOLE, TD 17,354', 48' SHOE TRAC, TVD- 6,718'. PUMP TREATED WATER DISPLACEMENT WITH MMCR FIRST 20 BBLS. |
| Event | 4 | Pre-Rig Up Safety Meeting | Pre-Rig Up Safety Meeting | 7/20/2020 | 12:00:00 | USER | | | | | HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP, AND WEATHER. |
| Event | 5 | Pre-Job Safety Meeting | Pre-Job Safety Meeting | 7/20/2020 | 15:36:00 | USER | 8.35 | 0.00 | 19.00 | 0.00 | SAFETY MEETING WITH HALLIBURTON, AND RIG PERSONNEL. CREW COMMUNICATED POTENTIAL SAFETY HAZARDS, AND JOB DETAILS. |
| Event | 6 | Start Job | Start Job | 7/20/2020 | 15:47:53 | COM6 | 8.35 | 0.00 | 18.00 | 0.00 | BEGIN RECORDING DATA |

| | | | | | | | | | | | |
|-------|----|-----------------|-----------------|-----------|----------|------|-------|------|--------|--------|--|
| Event | 7 | Test Lines | Test Lines | 7/20/2020 | 15:50:15 | COM6 | 7.91 | 0.00 | 74.00 | 2.50 | TEST LINES TO 4500 PSI/TEST IBOP TO 1500 PSI |
| Event | 8 | Drop Plug | Drop Plug | 7/20/2020 | 15:56:50 | COM6 | 8.01 | 0.00 | 47.00 | 3.40 | BOTTOM PLUG VERIFIED BY DAVE |
| Event | 9 | Pump Spacer 1 | Pump Spacer 1 | 7/20/2020 | 15:57:19 | COM6 | 7.98 | 0.90 | 53.00 | 3.60 | PUMP 120 BBLS OF TUNED SPACER @ 11.5 LB/GAL, 3.87 FT3/SK, 24.42 GAL/SK. USED 40 GALLONS D-AIR. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBL |
| Event | 10 | Shutdown | Shutdown | 7/20/2020 | 16:12:39 | COM6 | 11.81 | 0.00 | 117.00 | 123.30 | SHUTDOWN TO DROP 2ND BOTTOM PLUG |
| Event | 11 | Drop Plug | Drop Plug | 7/20/2020 | 16:15:57 | COM6 | 11.83 | 0.00 | 59.00 | 123.30 | BOTTOM PLUG VERIFIED BY DAVE |
| Event | 12 | Pump Cap Cement | Pump Cap Cement | 7/20/2020 | 16:16:18 | COM6 | 11.83 | 0.00 | 60.00 | 123.30 | PUMPED CAP 140 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.65 FT3/SK, 8.38 GAL/SK. 41.14 BBLS, HOCAP CALCULATED @ 1,008.33', TOCAP CALCULATED @ 2,496.41. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8.5 BBLS/MIN |

| | | | | | | | | | | | |
|-------|----|-------------------|-------------------|-----------|----------|------|-------|------|--------|--------|--|
| Event | 13 | Pump Lead Cement | Pump Lead Cement | 7/20/2020 | 16:22:00 | COM6 | 13.22 | 8.70 | 660.00 | 46.30 | PUMPED 480 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.67 FT3/SK, 8.03 GAL/SK. 142.76 BBLs, HOL CALCULATED @ 3,499.02', TOL CALCULATED @ 3,504.44'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8.5 BBLs/MIN |
| Event | 14 | Pump Tail Cement | Pump Tail Cement | 7/20/2020 | 16:40:22 | COM6 | 13.13 | 8.70 | 562.00 | 0.10 | PUMP 1164 SKS OF NEOCEM @ 13.2 LB/GAL, 2.04 FT3/SK, 9.79 GAL/SK, 422.91 BBLs. HOT CALCULATED @ 10,338.24', TOT CALCULATED @ 7004.46'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLs/MIN |
| Event | 15 | Shutdown | Shutdown | 7/20/2020 | 17:35:45 | COM6 | 12.83 | 0.00 | 217.00 | 450.70 | SHUTDOWN TO WASH PUMPS AND LINES WITH FRESH WATER |
| Event | 16 | Drop Top Plug | Drop Top Plug | 7/20/2020 | 17:46:47 | COM6 | 8.34 | 6.10 | 191.00 | 16.50 | TOP PLUG VERIFIED BY DAVE |
| Event | 17 | Pump Displacement | Pump Displacement | 7/20/2020 | 17:50:01 | COM6 | 8.40 | 0.00 | 46.00 | 0.00 | 401.2 BBL CHEMICAL TREATED DISPLACEMENT. 10 GALLONS MICRO MATRIX RETARDER IN FIRST 20 BBLs |

| | | | | | | | | | | | |
|-------|----|-----------------------------|-----------------------------|-----------|----------|------|------|------|---------|--------|--|
| Event | 18 | Bump Plug | Bump Plug | 7/20/2020 | 18:34:46 | COM6 | 8.57 | 0.00 | 2661.00 | 405.10 | FINAL CIRCULATING PRESSURE 2080 PSI@4BPM. BUMP PRESSURE 2670 PSI. SPACER / OBM INTERFACE TO SURFACE. |
| Event | 19 | Other | Other | 7/20/2020 | 18:39:31 | COM6 | 8.59 | 0.00 | 2757.00 | 405.10 | RELEASE PRESSURE TO CHECK FLOATS, FLOATS HOLD. 5 BBL BACK TO PUMP TRUCK |
| Event | 20 | End Job | End Job | 7/20/2020 | 18:42:35 | COM6 | 8.56 | 0.00 | 21.00 | 0.00 | STOP RECORDING DATA |
| Event | 21 | Pre-Rig Down Safety Meeting | Pre-Rig Down Safety Meeting | 7/20/2020 | 18:45:00 | USER | | | | | DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES. |
| Event | 22 | Rig-Down Equipment | Rig-Down Equipment | 7/20/2020 | 18:50:00 | USER | | | | | RIG DOWN BULK AND MIXING EQUIPMENT |
| Event | 23 | Rig-Up Equipment | Rig-Up Equipment | 7/20/2020 | 21:00:00 | USER | | | | | CREW STAGED EQUIPMENT, RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB. |
| Event | 24 | Rig-Down Completed | Rig-Down Completed | 7/20/2020 | 21:57:00 | USER | | | | | ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN. |
| Event | 25 | Crew Leave Location | Crew Leave Location | 7/20/2020 | 22:00:00 | USER | | | | | THANK YOU FOR USING HALLIBURTON – MIKE LOUGHRAN AND CREW. |

3.0 Attachments

3.1 Job Chart

