

The Road to Excellence Starts with Safety

| | | | | | | | | | | |
|--|------------------------------|---|------------------------|---|-----------------------------------|----------------------------------|----------------------|---------------------|----------------------------|----------------------|
| Sold To #: 345242 | | Ship To #: 3919203 | | Quote #: | | Sales Order #: 0905553376 | | | | |
| Customer: NOBLE ENERGY INC-EBUS | | | | Customer Rep: TOMMY | | | | | | |
| Well Name: VOGLER STATE | | | Well #: D21-770 | | API/UWI #: 05-123-48577-00 | | | | | |
| Field: WATTENBERG | | City (SAP): KEENESBURG | | County/Parish: WELD | | State: COLORADO | | | | |
| Legal Description: SW SW-21-3N-64W-915FSL-1010FWL | | | | | | | | | | |
| Contractor: H & P DRLG | | | | Rig/Platform Name/Num: H & P 517 | | | | | | |
| Job BOM: 7523 7523 | | | | | | | | | | |
| Well Type: HORIZONTAL OIL | | | | | | | | | | |
| Sales Person: HALAMERICA\HB70026 | | | | Srv Supervisor: Lance Carpenter | | | | | | |
| Job | | | | | | | | | | |
| | | | | | | | | | | |
| Formation Name | | | | | | | | | | |
| Formation Depth (MD) | | Top | | Bottom | | | | | | |
| Form Type | | | | BHST | | | | | | |
| Job depth MD | | 17612.3ft | | Job Depth TVD | | 6838 | | | | |
| Water Depth | | | | Wk Ht Above Floor | | 5ft | | | | |
| 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 | 1947 | 0 | 1947 |
| Casing | | 5.5 | 4.892 | 17 | | | 0 | 17613 | 0 | 6838 |
| Open Hole Section | | | 8.5 | | | | 1948 | 17628 | | 6838 |
| | | | | | | | | | | |
| Tools and Accessories | | | | | | | | | | |
| Type | Size in | Qty | Make | Depth ft | | Type | Size in | Qty | Make | |
| Guide Shoe | 5.5 | 1 | | 17613 | | Top Plug | 5.5 | 1 | HES | |
| Float Shoe | | | | | | Bottom Plug | 5.5 | 2 | HES | |
| Float Collar | | | | | | SSR plug set | | | | |
| Insert Float | | | | | | Plug Container | | | | |
| Stage Tool | | | | | | Centralizers | | | | |
| | | | | | | | | | | |
| 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 | 11.5 lb/gal Tuned Spacer III | Tuned Spacer III | 120 | bbl | 11.5 | 3.78 | 23.5 | | | |
| 34.70 gal/bbl | | FRESH WATER | | | | | | | | |
| 0.60 gal/bbl | | MUSOL(R) A, 5 GAL PAIL (100064220) | | | | | | | | |

| | | | | | | | | | |
|---------------------|-------------------|--|---------------------|---------|------------------------|----------------|------------------------|--------------|---------------------|
| 147.42 lbm/bbl | | BARITE, BULK (100003681) | | | | | | | |
| 0.60 gal/bbl | | DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665) | | | | | | | |
| | | | | | | | | | |
| 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 | 1.68 | 8.04 | 6 | 8.04 |
| 8.04 Gal | | FRESH WATER | | | | | | | |
| 0.95 % | | SCR-100 (100003749) | | | | | | | |
| | | | | | | | | | |
| 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 | 430 | sack | 13.2 | 1.68 | 8.06 | 6 | 8.06 |
| 0.45 % | | SCR-100 (100003749) | | | | | | | |
| 8.06 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 | 448 | bbl | 13.2 | 2.04 | 9.75 | 6 | 9.75 |
| 9.75 Gal | | FRESH WATER | | | | | | | |
| 0.08 % | | SCR-100 (100003749) | | | | | | | |
| | | | | | | | | | |
| 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 | 0 | bbl | 8.33 | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Cement Left In Pipe | | Amount | 47.5ft | | Reason | | | Shoe Joint | |
| Mix Water: | | pH 7 | Mix Water Chloride: | | 100 ppm | | Mix Water Temperature: | | 61 °F |
| Cement Temperature: | | ## °F °C | Plug Displaced by: | | 8.4lb/gal | | Disp. Temperature: | | ## °F °C |
| Plug Bumped? | | Yes | Bump Pressure: | | 1650psi | | Floats Held? | | Yes |
| Cement Returns: | | ## bbl m3 | Returns Density: | | ## lb/gal kg/m3 | | Returns Temperature: | | ## °F °C |

Comment

Job went good, volumes and density verified. Caught cement at 60 bbls away, 40 bbls of spacer returned to surface, bumped plug at 3 bpm at 1650 psi took to 2200psi held 5 mins bled pressure off 4.5 bbls back and floats held. Full returns during job. Top of cement at 2540

2.0 Real-Time Job Summary

2.1 Job Event Log

| Type | Seq. No. | Activity | Graph Label | Date | Time | Source | DH Density (ppg) | DS Pump Press (psi) | Comb Pump Rate (bbl/min) | Pump Stg Tot (bbl) | Comments |
|-------|----------|--------------------------|--------------------------|-----------|----------|--------|---------------------|------------------------|-----------------------------|-----------------------|---|
| Event | 1 | Call Out | Call Out | 3/17/2019 | 09:00:00 | USER | | | | | CREW CALLED OUT. ON LOCATION AT 1300. |
| Event | 2 | Comment | Comment | 3/17/2019 | 12:18:51 | USER | | | | | CREW READY TO DEPART, EQUIPMENT CHECKED AND MATERIALS VERIFIED. JOURNEY MANAGEMENT SAFETY MEETING DISCUSSING ROUTE, WEATHER CONDITIONS, WINTER DRIVING, FOLLOWING DISTANCE, CONVOY ORDER, HAZARDS. DEPARTED FOR LOCATION. |
| Event | 3 | Arrive At Loc | Arrive At Loc | 3/17/2019 | 13:00:06 | USER | | | | | CREW ARRIVES TO LOCATION. RUNNING CSG. FINISHED AROUND 1630. CIRCULATED UNTIL 1730. |
| Event | 4 | Safety Meeting - Pre Job | Safety Meeting - Pre Job | 3/17/2019 | 17:00:35 | USER | | | | | CREW IS READY TO BEGIN. CREW, RIG CREW AND CUSTOMER REP HAVE PRE JOB SAFETY MEETING DISCUSSING HAZARDS, ICY CONDITIONS, ROLES, RED ZONES, MUSTER AREAS, CONTINGENCIES AND THE JOB PROCEEDURE |
| Event | 5 | Start Job | Start Job | 3/17/2019 | 17:34:12 | COM8 | 8.33 | 0.00 | 5.10 | 75.90 | START JOB. |
| Event | 6 | Test Lines | Test Lines | 3/17/2019 | 17:45:09 | COM8 | 8.48 | 4323.00 | 0.00 | 83.00 | FILL LINES WITH 3 BBL WATER. PRESSURE TEST HES LINES TO 4500 PSI. HELD FOR A FEW MINUTES TO |

| | | | | | | | | | | | |
|-------|----|------------------------------|---------------------------|-----------|----------|------|-------|---------|------|--------|---|
| | | | | | | | | | | | ENSURE A GOOD TEST. BLEED OFF TO TEST RIG VAVLE |
| Event | 7 | Other | Other | 3/17/2019 | 17:50:38 | USER | 8.43 | 2287.00 | 0.00 | 84.50 | TEST RIG VALVE TO 2500 FOR A FEW SECONDS. GOOD TEST |
| Event | 8 | Drop Bottom Plug | Drop Bottom Plug | 3/17/2019 | 17:54:59 | USER | 8.37 | 13.00 | 0.00 | 84.50 | DROP BOTTOM PLUG |
| Event | 9 | Pump Spacer 1 | Pump Spacer 1 | 3/17/2019 | 17:59:51 | COM8 | 8.35 | 12.00 | 0.00 | 0.00 | PUMP 120 BBL TUNED SPACER 11.5# 3.78 YIELD 23.5 GAL |
| Event | 10 | Shutdown | Shutdown | 3/17/2019 | 18:28:41 | USER | 11.39 | 233.00 | 5.50 | 149.80 | SHUTDOWN |
| Event | 11 | Drop Bottom Plug | Drop Bottom Plug | 3/17/2019 | 18:31:26 | USER | 11.38 | 60.00 | 0.00 | 152.60 | DROP BOTTOM PLUG |
| Event | 12 | Pump Cement | Pump Cement | 3/17/2019 | 18:35:48 | COM8 | 11.37 | 56.00 | 0.00 | 0.00 | PUMP 41 BBL ELASTICEM CAP 13.2# 1.68 YIELD 8.04 GAL 140 SACKS |
| Event | 13 | Pump Lead Cement | Pump Lead Cement | 3/17/2019 | 18:47:39 | COM8 | 13.08 | 305.00 | 6.00 | 0.10 | PUMP 128.6 BBL ELASTICEM LEAD 13.2# 1.68 YIELD 8.04 GAL 430 SACKS |
| Event | 14 | Pump Tail Cement | Pump Tail Cement | 3/17/2019 | 19:12:09 | COM8 | 13.13 | 363.00 | 6.00 | 150.30 | PUMP 448 BBL NEOCEM TAIL 13.2# 2.04 YIELD 9.75 GAL 1233 SACKS |
| Event | 15 | Shutdown | Shutdown | 3/17/2019 | 20:23:14 | USER | 13.72 | 107.00 | 0.00 | 500.00 | SHUTDOWN. BLOW DOWN LINES TO THE PIT. WASH PUMP TO THE PIT |
| Event | 16 | Drop Top Plug | Drop Top Plug | 3/17/2019 | 20:27:56 | COM8 | 15.24 | 16.00 | 0.80 | 500.20 | DROP TOP PLUG |
| Event | 17 | Pump Displacement | Pump Displacement | 3/17/2019 | 20:37:54 | COM8 | 8.93 | 396.00 | 9.00 | 0.10 | PUMP 408 BBL DISPLACEMENT. MMCR IN THE FIRST 20 BBL AND BIOCID E IN THE NEXT 350 |
| Event | 18 | Spacer Returns to Surface | Spacer Returns to Surface | 3/17/2019 | 21:17:13 | USER | 8.59 | 1696.00 | 4.00 | 380.80 | 370BBL S GONE, SPACER TO SURFACE. TOTAL OF 60BBL S OF SPACER RETURNED TO SURFACE |

| | | | | | | | | | | | |
|-------|----|-----------------------------|-----------------------------|-----------|----------|------|------|---------|------|--------|--|
| Event | 19 | Bump Plug | Bump Plug | 3/17/2019 | 21:45:15 | COM8 | 8.71 | 2239.00 | 0.00 | 410.50 | BUMP PLUG. FINAL CIRCULATING PRESSURE 1750 PSI AT 3 BPM. TOOK TO 2300 PSI AND HELD FOR 5 MINUTES |
| Event | 20 | Check Floats | Check Floats | 3/17/2019 | 21:51:19 | USER | 8.64 | 105.00 | 0.00 | 410.50 | CHECK FLOATS. 4.5 BBL BACK. FLOATS HELD |
| Event | 21 | Pre-Rig Down Safety Meeting | Pre-Rig Down Safety Meeting | 3/17/2019 | 21:54:39 | USER | 8.60 | 38.00 | 0.00 | 410.50 | CREW HAS PRE RIG DOWN SAFETY MEETING DISCUSSING RIG OPERATIONS, HAZARDS, PINCH POINTS, ROLES, LINE OF FIRE, PROPER LIFTING AND BEGIN RIGGING DOWN LINES AND EQUIPMENT |
| Event | 22 | Depart Location | Depart Location | 3/17/2019 | 22:54:43 | USER | | | | | CREW IS RIGGED DOWN AND READY TO DEPART. CREW HAS JOURNEY MANAGEMENT SAFETY MEETING DISCUSSING ROUTE, FOLLOWING DISTANCE, CONVOY ORDER, HOURS OF SERVICE, FIT FOR DUTY AND DEPARTS FROM LOCATION |

3.0 Attachments

3.1 Noble Vogler State D21-770 Production Job Chart

