

The Road to Excellence Starts with Safety

| | | | | | | | | | | |
|--|-------------------|---|-----------------------|--|-----------------------------------|----------------------------------|----------------------|---------------------|----------------------------|----------------------|
| Sold To #: 300466 | | Ship To #: 3819652 | | Quote #: 0022364800 | | Sales Order #: 0904379377 | | | | |
| Customer: ANADARKO PETROLEUM CORP-EBUS | | | | Customer Rep: Carlton Cooley | | | | | | |
| Well Name: ROBIN | | | Well #: 9-18HZ | | API/UWI #: 05-123-45246-00 | | | | | |
| Field: WATTENBERG | | City (SAP): HUDSON | | County/Parish: WELD | | State: COLORADO | | | | |
| Legal Description: SE SE-9-1N-65W-317FSL-814FEL | | | | | | | | | | |
| Contractor: NABORS DRLG | | | | Rig/Platform Name/Num: NABORS X22 | | | | | | |
| Job BOM: 7523 7523 | | | | | | | | | | |
| Well Type: HORIZONTAL GAS | | | | | | | | | | |
| Sales Person: HALAMERICA\HX41066 | | | | Srv Supervisor: Steven Markovich | | | | | | |
| Job | | | | | | | | | | |
| | | | | | | | | | | |
| Formation Name | | | | | | | | | | |
| Formation Depth (MD) | | Top | | Bottom | | | | | | |
| Form Type | | | | BHST | | | | | | |
| Job depth MD | | 18267ft | | Job Depth TVD | | | | | | |
| 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 | | J-55 | 0 | 1863 | 0 | 1863 |
| Casing | | 5.5 | 4.892 | 17 | LTC | HCP110 | 0 | 18267 | 0 | 0 |
| Open Hole Section | | | 7.875 | | | | 1863 | 18279 | 0 | 18279 |
| | | | | | | | | | | |
| Tools and Accessories | | | | | | | | | | |
| Type | Size in | Qty | Make | Depth ft | | Type | Size in | Qty | Make | |
| Guide Shoe | 5.5 | | | 18267 | | Top Plug | 5.5 | | HES | |
| Float Shoe | 5.5 | | | | | Bottom Plug | 5.5 | | HES | |
| Float Collar | 5.5 | | | | | SSR plug set | 5.5 | | HES | |
| Insert Float | 5.5 | | | | | Plug Container | 5.5 | | HES | |
| Stage Tool | 5.5 | | | | | Centralizers | 5.5 | | 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 Spacer III | Tuned Spacer III | 50 | bbl | 10.5 | 6.25 | | | | |
| 0.70 gal/bbl | | MUSOL A, 330 GAL TOTE - (790828) | | | | | | | | |
| 88.91 lbm/bbl | | BARITE, BULK (100003681) | | | | | | | | |
| 37.58 gal/bbl | | FRESH WATER | | | | | | | | |

| | | | | | | | | | |
|---|------------------------|--|------|---------|---------------------------|-------------------|------------------|-----------------|------------------------|
| 0.70 gal/bbl | | DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665) | | | | | | | |
| 0.25 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 | 625 | sack | 13.2 | 1.57 | | 6 | 7.54 |
| 0.10 % | | SUPER CBL, 50 LB PAIL (100003668) | | | | | | | |
| 0.30 % | | SCR-100 (100003749) | | | | | | | |
| 7.54 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 | EconoCem | ECONOCEM (TM) SYSTEM | 1330 | sack | 13.5 | 1.68 | | 6 | 7.98 |
| 8 Gal | | FRESH WATER | | | | | | | |
| 0.40 % | | HR-5, 50 LB SK (100005050) | | | | | | | |
| | | | | | | | | | |
| 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 | Biocide Water and MMCR | Biocide Water and MMCR | 20 | bbl | 8.34 | | | | |
| 0.50 gal/bbl | | MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781) | | | | | | | |
| | | | | | | | | | |
| 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 | Biocide Water | Biocide Water | 403 | bbl | 8.34 | | | | |
| | | | | | | | | | |
| Comment Spacer to surface at 370bbbls away bringing 53bbbls to surface. Estimated Top of Tail Cement 5391' Estimated Top of Lead Cement 1597' | | | | | | | | | |

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 | 10/27/2017 | 21:00:00 | USER | Job called out at 21:00 with an on location time of 01:00 |
| Event | 2 | Depart Yard Safety Meeting | Depart Yard Safety Meeting | 10/28/2017 | 00:00:00 | USER | JSA with HES crew on driving safety and route to location. |
| Event | 3 | Arrive at Location from Service Center | Arrive at Location from Service Center | 10/28/2017 | 00:30:00 | USER | Arrived on location, rig still running casing. approx 2500' |
| Event | 4 | Assessment Of Location Safety Meeting | Assessment Of Location Safety Meeting | 10/28/2017 | 01:00:00 | USER | JSA and hazrd hunt with HES crew. |
| Event | 5 | Rig-Up Equipment | Rig-Up Equipment | 10/28/2017 | 01:15:00 | USER | Rigged up HES lines and equipment. |
| Event | 6 | Safety Meeting - Pre Job | Safety Meeting - Pre Job | 10/28/2017 | 05:30:00 | USER | JSA with HES and rig crew on job procedure. |
| Event | 7 | Start Job | Start Job | 10/28/2017 | 05:47:30 | COM4 | TD 18279' TP 18267" WSS 18263' 5 1/2" 17# production casing, 1863' 9 5/8" 36# surface casing, 7 7/8" open hole. |
| Event | 8 | Test Lines | Test Lines | 10/28/2017 | 05:50:59 | COM4 | 500psi kick out test then bring pressure up to 4500psi and hold. |
| Event | 9 | Pump Spacer 1 | Pump Spacer 1 | 10/28/2017 | 05:55:35 | COM4 | Pump 80bbls of 10.5ppg 6.25yield Tuned Spacer. Added 56 gallons of Dual spacer B and Musol A on the fly. Pumped at 5bbl/min 500psi. |
| Event | 10 | Drop Bottom Plug | Drop Bottom Plug | 10/28/2017 | 06:10:58 | USER | Plugs pre loaded into HES head. Plug dropped verified by company rep. |
| Event | 11 | Pump Lead Cement | Pump Lead Cement | 10/28/2017 | 06:13:17 | COM4 | Pump 174.76bbls (625sks) of 13.2ppg 1.57yield Lead Cement. Pumped at 6.5bbl/min 420psi |

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|-------|----|-------------------|-------------------|------------|----------|------|--|
| Event | 12 | Check Weight | Check weight | 10/28/2017 | 06:19:49 | COM4 | Weight verified with pressurized scales. |
| Event | 13 | Pump Tail Cement | Pump Tail Cement | 10/28/2017 | 06:53:24 | COM4 | Pump 397.95bbls (1330sks) of 13.5ppg 1.68yield Tail Cement. Pumped at 7bbl/min 680psi. |
| Event | 14 | Check Weight | Check weight | 10/28/2017 | 06:58:14 | COM4 | Weight verified with pressurized scales. |
| Event | 15 | Check Weight | Check weight | 10/28/2017 | 07:24:57 | COM4 | Weight verified with pressurized scales. |
| Event | 16 | Shutdown | Shutdown | 10/28/2017 | 07:53:23 | COM4 | Shutdown and clean pumps and lines. |
| Event | 17 | Drop Top Plug | Drop Top Plug | 10/28/2017 | 08:04:09 | COM4 | Plugs pre loaded into HES head. Plug dropped verified by company rep. |
| Event | 18 | Pump Displacement | Pump Displacement | 10/28/2017 | 08:04:13 | COM4 | Pump 423bbls of H2O. First 20bbls with MMCR then the final 403 with Biocide. Pumped at 8bbl/min and slowed down with pressure increase. |
| Event | 19 | Bump Plug | Bump Plug | 10/28/2017 | 09:22:04 | COM4 | Bumped plug at 423bbls away, Final lifting pressure was 2493psi. Brought pressure up to 3000psi |
| Event | 20 | Test Lines | Test Lines | 10/28/2017 | 09:23:30 | COM4 | 15min 3000psi casing test. |
| Event | 21 | Pressure Up Well | Pressure Up Well | 10/28/2017 | 09:40:04 | USER | Kick pumps in to burst WSS. WSS didnt burst at 4500psi so we shut down, company rep made a phone call to get the ok to pump to a higher psi. Released pressure to do a higher pressure test. |
| Event | 22 | Test Lines | Test Lines | 10/28/2017 | 10:02:28 | COM4 | Campany rep requested us to test our lines to 7500psi so we were able to shift sleeve. |
| Event | 23 | Other | Other | 10/28/2017 | 10:11:32 | COM4 | Kicked pumps in to shift sleeve, sleeve shifted at 4866psi brought rate up to 5bbl/min and pumped 3 bbl wet shoe. |
| Event | 24 | End Job | End Job | 10/28/2017 | 10:28:58 | COM4 | Thank you Steve Markovich and Crew. |

3.0 Attachments

3.1 Job Chart

