

The Road to Excellence Starts with Safety

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|---|--------------------|--------------------------------------|----------------------------|
| Sold To #: 300466 | Ship To #: 3798737 | Quote #: 0022352592 | Sales Order #: 0904310884 |
| Customer: ANADARKO PETROLEUM CORP-EBUS | | Customer Rep: Josh Johnson | |
| Well Name: RW | | Well #: 37N-32HZ | API/UWI #: 05-123-44748-00 |
| Field: WATTENBERG | City (SAP): HUDSON | County/Parish: WELD | State: COLORADO |
| Legal Description: SW SE-29-3N-65W-372FSL-1561FEL | | | |
| Contractor: Precision | | Rig/Platform Name/Num: Precision 464 | |
| Job BOM: 7523 7523 | | | |
| Well Type: HORIZONTAL GAS | | | |
| Sales Person: HALAMERICA\HX41066 | | Srvc Supervisor: Nicholas Roles | |

Job

| | |
|------------------------|-----------------------|
| Formation Name | |
| Formation Depth (MD) | Top Bottom |
| Form Type | BHST |
| Job depth MD | 13281ft 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 | 1862 | 0 | 1862 |
| Casing | | 5.5 | 4.778 | 20 | LTC | HCP110 | 0 | 13281 | 0 | 7098 |
| Open Hole Section | | | 7.875 | | | | 1862 | 13292 | 1862 | 7098 |

Tools and Accessories

| Type | Size in | Qty | Make | Depth ft | Type | Size in | Qty | Make |
|--------------|---------|-----|------|----------|----------------|---------|-----|--------|
| Guide Shoe | 5.5 | | | | Top Plug | 5.5 | 1 | Wthfrd |
| Float Shoe | 5.5 | | | 13281 | Bottom Plug | 5.5 | 1 | Wthfrd |
| Float Collar | 5.5 | | | | SSR plug set | 5.5 | | HES |
| Insert Float | 5.5 | | | | Plug Container | 5.5 | 1 | 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 | 60 | bbl | 10.5 | 6.25 | | 5 | | |
| | 88.91 lbm/bbl | BARITE, BULK (100003681) | | | | | | | | |
| | 0.70 gal/bbl | MUSOL(R) A, BULK (100003696) | | | | | | | | |
| | 37.58 gal/bbl | FRESH WATER | | | | | | | | |

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|--|------------------------|---|------------|----------------|-------------------------------|-----------------------|----------------------|---------------------|----------------------------|--|--|
| 0.70 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 - Cap Cement | ELASTICEM (TM) SYSTEM | 150 | sack | 13.2 | 1.57 | | 6 | 7.52 | | |
| 7.52 Gal | | FRESH WATER | | | | | | | | | |
| 0.80 % | | 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 | ELASTICEM (TM) SYSTEM | 390 | sack | 13.2 | 1.57 | | 8 | 7.53 | | |
| 0.10 % | | SUPER CBL, 50 LB PAIL (100003668) | | | | | | | | | |
| 0.35 % | | SCR-100 (100003749) | | | | | | | | | |
| 7.53 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 | EconoCem | ECONOCEM (TM) SYSTEM | 810 | sack | 13.5 | 1.68 | | 8 | 7.98 | | |
| 7.98 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 | | |
| 5 | Biocide Water and MMCR | Biocide Water and MMCR | 20 | bbl | 8.34 | | | 9 | | | |
| 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 | | |
| 6 | Biocide Water | Biocide Water | 273 | bbl | 8.34 | | | 9 | | | |
| Cement Left In Pipe | | Amount | 89 ft | | Reason | | | Shoe Joint | | | |
| Comment Got 30bbbls spacer back to pits. Estimated TOT-4976', TOL#2-1452', TOL#1-548' | | | | | | | | | | | |

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 | 9/21/2017 | 21:00:00 | USER | Called out by Service Coordinator for O/L at 0400 |
| Event | 2 | Depart Yard Safety Meeting | Depart Yard Safety Meeting | 9/22/2017 | 02:45:00 | USER | Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive. |
| Event | 3 | Depart from Service Center or Other Site | Depart from Service Center or Other Site | 9/22/2017 | 03:00:00 | USER | Journey Management prior to departure |
| Event | 4 | Arrive at Location from Service Center | Arrive at Location from Service Center | 9/22/2017 | 03:30:00 | USER | Upon arrival met with company man to discuss job details and calculations, performed hazard hunt and site assessment. |
| Event | 5 | Pre-Rig Up Safety Meeting | Pre-Rig Up Safety Meeting | 9/22/2017 | 03:45:00 | USER | Discussed rigging up hazards and procedure according to HMS. |
| Event | 6 | Other | Other | 9/22/2017 | 04:00:00 | USER | Water test- PH-6, Chlor-0, Temp-65. Cement temp-70. |
| Event | 7 | Pre-Job Safety Meeting | Pre-Job Safety Meeting | 9/22/2017 | 05:45:00 | USER | Held safety meeting with all job associated personnel to discuss job procedure, hazards and stop work authority. |
| Event | 8 | Start Job | Start Job | 9/22/2017 | 06:24:54 | COM4 | TD-13292', TP-13281' 5.5" 20#, FC-13193', TVD-7098', OH-7.875", SURF-1862' 9.625" 36#, MUD-9.6# |
| Event | 9 | Test Lines | Test Lines | 9/22/2017 | 06:28:02 | COM4 | Pumped 5bbbls fresh water to fill lines, shutdown, closed manifold, performed 500psi k/o function test, continued with 5th gear stall at 1178psi, proceeded to bring pressure to 4500psi. Held for 5min well, no leaks. |
| Event | 10 | Pump Spacer 1 | Pump Spacer 1 | 9/22/2017 | 06:43:35 | COM4 | Pumped 60bbbls of 10.5# 6.43Y 41.3g/s Tuned Spacer III with 40g Musol A, 40g Dual Spacer B, 20g D-Air at 5bpm 240psi. Driver side pump was not reading BPM on Flecs |

| | | | | | | | |
|-------|----|------------------|------------------|-----------|----------|------|--|
| | | | | | | | Screen, matched rpm to pump 2bpm + Pass. Side Rate on chart. |
| Event | 11 | Check Weight | Check weight | 9/22/2017 | 06:48:35 | COM4 | Weight verified with pressurized mud scales. |
| Event | 12 | Pump Lead Cement | Pump Lead Cement | 9/22/2017 | 06:59:55 | COM4 | Pumped 150sks or 41.9bbbls of 13.2# 1.57y 7.52g/s Elasticem w/o CBL at 6bpm 440psi. Driver side pump was not reading BPM on Flecs Screen, matched rpm to pump 2bpm + Pass. Side Rate on chart. |
| Event | 13 | Drop Bottom Plug | Drop Bottom Plug | 9/22/2017 | 07:00:04 | COM4 | Dropped by HES supervisor, witnessed by company man. |
| Event | 14 | Check Weight | Check weight | 9/22/2017 | 07:02:30 | COM4 | Weight verified with pressurized mud scales. |
| Event | 15 | Pump Lead Cement | Pump Lead Cement | 9/22/2017 | 07:08:51 | COM4 | Pumped 390sks or 109bbbls of 13.2# 1.57y 7.53g/s Elasticem w/ CBL at 8bpm 465psi. Driver side pump was not reading BPM on Flecs Screen, matched rpm to pump 2bpm + Pass. Side Rate on chart. |
| Event | 16 | Pump Tail Cement | Pump Tail Cement | 9/22/2017 | 07:24:46 | COM4 | Pumped 810sks or 242bbbls of 13.5# 1.68Y 7.98G/S Econocem at 8bpm 505psi. Driver side pump was not reading BPM on Flecs Screen, matched rpm to pump 2bpm + Pass. Side Rate on chart. |
| Event | 17 | Check Weight | Check weight | 9/22/2017 | 07:27:30 | COM4 | Weight verified with pressurized mud scales. |
| Event | 18 | Check Weight | Check weight | 9/22/2017 | 07:47:28 | COM4 | Weight verified with pressurized mud scales. |
| Event | 19 | Drop Top Plug | Drop Top Plug | 9/22/2017 | 08:09:24 | COM4 | Dropped by HES supervisor, witnessed by company man. |

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|-------|----|--|--|-----------|----------|------|---|
| Event | 20 | Pump Displacement | Pump Displacement | 9/22/2017 | 08:09:30 | COM4 | Pumped 293bbls fresh water with 10g MMCR in first 20bbls, followed with 5g biocide throughout at 9bpm. |
| Event | 21 | Bump Plug | Bump Plug | 9/22/2017 | 08:50:28 | COM4 | Slowed down at 280bbls away to 2bpm, Final Circulating Pressure-2184psi, Bump Pressure-2588psi. Held for a min then pressured up well to 3000psi for 15min casing test. |
| Event | 22 | Check Floats | Check Floats | 9/22/2017 | 09:00:26 | USER | Released pressure and got 3bbls back to truck. |
| Event | 23 | End Job | End Job | 9/22/2017 | 09:02:39 | COM4 | Got 1bbls spacer back to pits. Estimated TOT-4976', TOL#2-1452', TOL#1-548' |
| Event | 24 | Pre-Rig Down Safety Meeting | Pre-Rig Down Safety Meeting | 9/22/2017 | 09:15:00 | USER | Discussed rigging down hazards and procedure according to HMS. |
| Event | 25 | Depart Location for Service Center or Other Site | Depart Location for Service Center or Other Site | 9/22/2017 | 10:45:00 | USER | Pre journey management prior to departure. |
| Event | 26 | Depart Yard Safety Meeting | Depart Yard Safety Meeting | 9/22/2017 | 11:00:00 | USER | Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive. |

3.0 Attachments

3.1 Job Chart

