

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

Date: 1/14/18

Trott 8E-10-9N Production

Job Date: 1/7/18

Sincerely,

Justin Lansdale

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Trott 8E-10-9N** cement **Production** casing job. A pre-job safety meeting was held before the job where details of the job were discussed, potential safety hazards were reviewed, and environmental compliance procedures were outlined.

Halliburton maintains a continuous quality improvement process and appreciates any comments or suggestions that you may have. Halliburton again thanks you for the opportunity to perform service work on this well. We hope to be your solutions provider for future projects.

Respectfully,

Halliburton [Fort Lupton]

The Road to Excellence Starts with Safety

| | | | | | | | | | | | |
|---|------------------------------|--|------------------|--------------------------------------|----------------------------|---------------------------|------------------------|---------------|---------------|---------------|---------------------|
| Sold To #: 369404 | | Ship To #: 3833932 | | Quote #: | | Sales Order #: 0904553497 | | | | | |
| Customer: EXTRACTION OIL & GAS | | | | Customer Rep: . | | | | | | | |
| Well Name: TROTT | | | Well #: 8E-10-9N | | API/UWI #: 05-123-45723-00 | | | | | | |
| Field: WATTENBERG | | City (SAP): MEAD | | County/Parish: WELD | | State: COLORADO | | | | | |
| Legal Description: NE SE-7-4N-68W-1552FSL-1182FEL | | | | | | | | | | | |
| Contractor: PATTERSON-UTI ENERGY | | | | Rig/Platform Name/Num: PATTERSON 346 | | | | | | | |
| Job BOM: 7523 7523 | | | | | | | | | | | |
| Well Type: HORIZONTAL OIL | | | | | | | | | | | |
| Sales Person: HALAMERICA\HX38199 | | | | Srv Supervisor: Jordan Larue | | | | | | | |
| Job | | | | | | | | | | | |
| | | | | | | | | | | | |
| Formation Name | | | | | | | | | | | |
| Formation Depth (MD) | | Top | | Bottom | | | | | | | |
| Form Type | | | | BHST | | | | | | | |
| Job depth MD | | 10518ft | | Job Depth TVD | | 6155 | | | | | |
| Water Depth | | | | Wk Ht Above Floor | | 4 | | | | | |
| 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 | | J-55 | 0 | 1565 | 0 | 1565 | |
| Casing | 0 | 5.5 | 4.778 | 20 | | P-110 | 0 | 10518 | 0 | 6124 | |
| Open Hole Section | | | 8.5 | | | | 1565 | 10525 | 1565 | 6124 | |
| | | | | | | | | | | | |
| Tools and Accessories | | | | | | | | | | | |
| Type | Size in | Qty | Make | Depth ft | | Type | Size in | Qty | Make | | |
| Guide Shoe | 5.5 | 1 | WF | 10518 | | Top Plug | 5.5 | 1 | TLX | | |
| 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 | 1 | HES | | |
| Stage Tool | 5.5 | 1 | TLX | 10516 | | Centralizers | 5.5 | | 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 | 11.5 lb/gal Tuned Spacer III | Tuned Spacer III | | | 50 | bbl | 11.5 | 3.73 | 23.4 | 6 | |
| 149.34 lbm/bbl | | BARITE, BULK (100003681) | | | | | | | | | |
| 35 gal/bbl | | FRESH WATER | | | | | | | | | |
| 0.50 gal/bbl | | MUSOL A, 330 GAL TOTE - (790828) | | | | | | | | | |
| 0.50 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 | 1751 | sack | 13.2 | 1.57 | 7.53 | 8 | 7.53 |
| 0.45 % | | 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 |
| 3 | Displacement | Displacement | 233 | bbl | 8.34 | | | 10 | |
| | | | | | | | | | |
| Cement Left In Pipe | | Amount | 0 ft | | Reason | | | WET Shoe Joint | |
| Mix Water: | pH 7 | Mix Water Chloride: | 00 ppm | | | Mix Water Temperature: | 67 °F | | |
| Cement Temperature: | NA | Plug Displaced by: | 8.33# H2O | | | Disp. Temperature: | 67 °F | | |
| Plug Bumped? | Yes | Bump Pressure: | 2750 psi | | | Floats Held? | Yes 1.5 BBLS BACK | | |
| Cement Returns: | 50 bbl | Returns Density: | 13.2 lb/gal | | | Returns Temperature: | NA | | |
| Comment : TOP CMT TO SURFACE 50BBLS CMT 50BBLS SPACER BUMPED ON CALC 233BBLS... FINAL LIFT PSI 5BPM 2150PSI... BUMP TO 2750PSI... 2BPM TO RUPTURE PLUG @ 3580 PSI... PUMPED 5BBL WET SHOE SUB... | | | | | | | | | |

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 | 1/7/2018 | 08:20:00 | USER | ON LOCATION TIME 1420 |
| Event | 2 | Arrive At Loc | Arrive at location | 1/7/2018 | 14:00:00 | USER | RIG RUNNING CASING |
| Event | 3 | Assessment Of Location Safety Meeting | Assessment Of Location Safety Meeting | 1/7/2018 | 14:05:00 | USER | TALK TO TOOL HAND AND CO REP |
| Event | 4 | Other | Well Info | 1/7/2018 | 14:07:00 | USER | TD 10525, TVD 6155, TP 5.5" 20# P110 10518', WET SHOE SUB 10516 |
| Event | 5 | Other | Water Test | 1/7/2018 | 14:08:00 | USER | ph 7, cl <400, temp 68°F, TANN PASS... |
| Event | 6 | Pre-Rig Up Safety Meeting | PRE RIG UP SAFETY MEETING | 1/7/2018 | 14:10:00 | USER | JSA COMPLETED... HANDS SIGN JSA ON CEMENTING PROGRAM |
| Event | 7 | Rig-Up Equipment | RIG UP EQUIPMENT | 1/7/2018 | 14:15:00 | USER | NO ACCIDENTS OR INJURIES |
| Event | 8 | Pre-Job Safety Meeting | Pre-Job Safety Meeting | 1/7/2018 | 16:25:00 | USER | JSA COMPLETED: ALL PERSONNEL SIGNED SIGN UP SHEET. REVIEW PUMP SCHEDULE AND WASH UP. |
| Event | 9 | Test Lines | Test Lines | 1/7/2018 | 16:33:24 | COM10 | 4600 PSI TEST GOOD |
| Event | 10 | Pump Spacer 1 | Pump Spacer 1 | 1/7/2018 | 16:34:46 | COM10 | 50 BBLS TUNED SPACER SCALED @ 11.5# |
| Event | 11 | Pump Cement | Pump Cement | 1/7/2018 | 16:48:54 | COM10 | 489 BBLS/1751 SKS SCALED @ 13.2# |
| Event | 12 | Clean Lines | Clean Lines | 1/8/2018 | 18:00:02 | COM10 | WASH LINES BLOW DOWN IRON |
| Event | 13 | Drop Top Plug | Drop Top Plug | 1/8/2018 | 18:11:20 | COM10 | DROP PLUG |
| Event | 14 | Pump Displacement | Pump Displacement | 1/8/2018 | 18:11:23 | COM10 | 233 BBLS H2O 11BPM AVG... FINAL LIFT 2150PSI... 50BBLS TUNED SPACER AND 50BBLS CMT BACK TO SURFACE |
| Event | 15 | Bump Plug | Bump Plug | 1/8/2018 | 18:35:55 | COM10 | FINAL BUMP 5BPM 2750 PSI |
| Event | 16 | Other | Other | 1/8/2018 | 18:37:57 | COM10 | 2BPM TO RUPTURE PLUG 3580PSI... PUMPED 5BBLS WET SHOE 5BPM |

| | | | | | | | |
|-------|----|-----------------------------|-----------------------------|----------|----------|-------|--|
| Event | 17 | Other | Other | 1/8/2018 | 18:38:56 | COM10 | CHECK FLOATS FLOATS HELD 1.5BBLS BACK |
| Event | 18 | End Job | End Job | 1/8/2018 | 18:39:02 | COM10 | |
| Event | 19 | Pre-Rig Down Safety Meeting | Pre-Rig Down Safety Meeting | 1/8/2018 | 18:45:00 | USER | DISCUSS HAZARDS |
| Event | 20 | Rig-Down Equipment | Rig-Down Equipment | 1/8/2018 | 18:50:00 | USER | NO ACCIDENTS OR INJURIES |
| Event | 21 | Pre-Convoy Safety Meeting | Pre-Convoy Safety Meeting | 1/8/2018 | 21:30:00 | USER | REVIEW DIRECTIONS |
| Event | 22 | Crew Leave Location | Crew Leave Location | 1/8/2018 | 22:00:00 | USER | BULK HEADING BACK TO YARD AND PUMP CREW SLEEPING ON LOC |

3.0 Attachments

3.1 Job Chart



