

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

Date: 1/14/18

Trott 8E-10-9N Production

Job Date: 1/7/18

Sincerely,

Justin Lansdale

Legal Notice

Warning Disclaimer

Although the information contained in this report is based on sound engineering practices, the copyright owner(s) does (do) not accept any responsibility whatsoever, in negligence or otherwise, for any loss or damage arising from the possession or use of the report whether in terms of correctness or otherwise. The application, therefore, by the user of this report or any part thereof, is solely at the user's own risk.

Limitations of Liability

Except as expressly set forth herein, there are no representations or warranties by Halliburton, express or implied, including implied warranties of merchantability and/or fitness for a particular purpose. In no event will Halliburton or its suppliers be liable for consequential, incidental, special, punitive or exemplary damages (including, without limitation, loss of data, profits, use of hardware, or software). Customer accepts full responsibility for any investment made based on results from the Software. Any interpretations, analyses or modeling of any data, including, but not limited to Customer data, and any recommendation or decisions based upon such interpretations, analyses or modeling are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional may differ. Accordingly, Halliburton cannot and does not warrant the accuracy, correctness or completeness of any such interpretation, recommendation, modeling or other products of the Software Product. As such, any interpretation, recommendation or modeling resulting from the Software for the purpose of any drilling, well treatment, production or financial decision will be at the sole risk of Customer. Under no circumstances will Halliburton or its suppliers be liable for any damages.

Table of Contents

1.0 Cementing Job Summary 4

 1.1 Executive Summary4

2.0 Real-Time Job Summary 7

 2.1 Job Event Log7

3.0 Attachments..... 9

 3.1 Job Chart.....9

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 ft3/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 ft ³ /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 ft ³ /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



