

# HALLIBURTON

iCem® Service

**MALLARD EXPLORATION LLC**

Ft. Lupton District, CO

**For: HANS CARY**

Date: Saturday, January 16, 2021

**BLUE TEAL FED 15-3-3HN**

WELD, BLUE TEAL FED 15-3-3HN

MALLARD BLUE TEAL FED 15-3-3HN PRODUCTION

Job Date: Saturday, January 16, 2021

Sincerely,  
KYLE BATH

## Legal Notice

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### Disclaimer:

All information in this report is provided subject to the terms and conditions which govern the services provided by Halliburton. Halliburton personnel use their best efforts in gathering information and their best judgment in interpreting it, but any interpretation, research, analysis or recommendation furnished by Halliburton are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and empirical relationships and assumptions are not infallible, and with respect to which professionals in the industry may differ. iCem 3D Displacement results are used to understand how fluids intermix during a cement job. Simulation and 3D displacement results are not intended as and should not be used as a replacement for bond logs in determining top of cement. Current 3D model calculations are known to model more volume than the input volume for standard cases due to known calculation improvements required. For rotational cases, the modeled volume will be impacted by the same calculations impacting the standard cases, as well as additional constraints imposed to make the calculation time required operationally feasible. Therefore, until further notice, 3D displacement results should not be used for replacement of a bond log, or used as an identifier of top of cement. **HALLIBURTON IS UNABLE TO GUARANTEE THE ACCURACY OF ANY CHART INTERPRETATION, RESEARCH ANALYSIS, OR JOB RECOMMENDATION** and any interpretation or recommendation is not for use of or reliance upon by any third party. The customer has full responsibility for any of its decisions which are based on the information provided in this report.

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Customer: MALLARD EXPLORATION LLC  
 Job: MALLARD BLUE TEAL FED 15-3-3HN PRODUCTION 906915514  
 Case: MALLARD BLUE TEAL FED 15-3-3HN PRODUCTION | SO#: 906915514

## 1.0 Real-Time Job Summary

### 1.1 Job Event Log

| Type  | Seq No. | Activity                              | Graph Label                           | Date    | Time     | Source | Comb Pump Rate<br>(bbl/mi <sup>n</sup> ) | DH Density<br>(ppg) | DS Pump Press<br>(psi) | Pump Stg Tot<br>(bbl) | Comments   |
|-------|---------|---------------------------------------|---------------------------------------|---------|----------|--------|--|---------------------|------------------------|-----------------------|--|
| Event | 1       | Call Out                              | Call Out                              | 1/15/20 | 15:00:00 | USER   |  |                     |                        |                       | CREW CALLED OUT, REQUESTED ON LOCATION 2100  |
| Event | 2       | Depart Yard Safety Meeting            | Depart Yard Safety Meeting            | 1/15/20 | 17:45:00 | USER   |  |                     |                        |                       | DEPART LOCATION SAFETY MEETING WITH ALL HES EE   |
| Event | 3       | Crew Leave Yard                       | Crew Leave Yard                       | 1/15/20 | 18:00:00 | USER   |  |                     |                        |                       | DEPART YARD  |
| Event | 4       | Arrive At Loc                         | Arrive At Loc                         | 1/15/20 | 19:50:00 | USER   |  |                     |                        |                       | ARRIVE ON LOCATION, RECEIVE NUMBERS FROM CO REP TD<br>18758, TP 18754, CSG 5.5 20#, PREV CSG 9<br>5/8 36# @ 1950, HOLE 8.5, MUD 10.2, TVD 6318, WATER TEST, TEMP 70, PH 7, CHLORIDES 0 |
| Event | 5       | Assessment Of Location Safety Meeting | Assessment Of Location Safety Meeting | 1/15/20 | 20:05:00 | USER   |  |                     |                        |                       | HAZARD ASSESSMENT SAFETY MEETING WITH ALL HES EE   |
| Event | 6       | Safety Meeting -                      | Safety Meeting - Pre                  | 1/15/20 | 20:20:00 | USER   |  |                     |                        |                       | PRE RIG UP SAFETY  |



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|          |                                   |                                   |               |              |      |      |       |         |        |  |
|----------|-----------------------------------|-----------------------------------|---------------|--------------|------|------|-------|---------|--------|--|
| Event 16 | Shutdown                          | Shutdown                          | 1/16/20<br>21 | 02:32:2<br>2 | COM6 | 0.00 | 14.18 | 104.00  | 900.30 | SHUTDOWN, WASH<br>PUMPS AND LINES TO<br>PIT  |
| Event 17 | Drop Top Plug                     | Drop Top Plug                     | 1/16/20<br>21 | 02:39:1<br>8 | COM6 | 0.00 | 8.03  | 16.00   | 915.30 | DROP TOP PLUG, CO<br>REP WITNESSED   |
| Event 18 | Pump Displacement                 | Pump Displacement                 | 1/16/20<br>21 | 02:39:3<br>9 | COM6 | 0.00 | 7.87  | 26.00   | 915.30 | PUMP 416 BBLs<br>FRESH WATER<br>DISPLACEMENT 10<br>BPM 2800 PSI,<br>RECEIVED 50 BBLs<br>TUNED PRIME SPACER<br>AND 16 BBLs CEMENT<br>TO SURFACE |
| Event 19 | Bump Plug                         | Bump Plug                         | 1/16/20<br>21 | 03:30:0<br>9 | COM6 | 0.00 | 8.20  | 2793.00 | 421.40 | BUMP PLUG AT 2440<br>PSI TOOK TO 2820 PSI  |
| Event 20 | Other                             | Other                             | 1/16/20<br>21 | 03:31:0<br>0 | USER | 0.00 | 8.18  | 2872.00 | 421.40 | RUPTURE PLUG AT<br>3600 PSI, PUMP 5 BBL<br>WET SHOE, CHECK<br>FLOATS, FLOATS HELD<br>TOOK 3 BBLs BACK TO<br>TRUCK                              |
| Event 21 | End Job                           | End Job                           | 1/16/20<br>21 | 03:34:1<br>1 | COM6 | 0.00 | 8.03  | 6.00    | 0.00   | STOP RECORDING<br>DATA   |
| Event 22 | Safety Meeting -<br>Pre Rig-Down  | Safety Meeting - Pre<br>Rig-Down  | 1/16/20<br>21 | 03:40:0<br>0 | USER |      |       |         |        | PRE RIG DOWN<br>SAFETY MEETING<br>WITH ALL HES EE  |
| Event 23 | Depart Location<br>Safety Meeting | Depart Location<br>Safety Meeting | 1/16/20<br>21 | 04:30:0<br>0 | USER |      |       |         |        | PRE DEPARTURE<br>SAFETY MEETING<br>WITH ALL HES EE   |

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|       |    |                     |  |                     |         |          |      |
|-------|----|---------------------|--|---------------------|---------|----------|------|
| Event | 24 | Crew Leave Location |  | Crew Leave Location | 1/16/20 | 05:00:00 | USER |
|       |    |                     |  |                     | 21      | 0        |      |

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THANK YOU FOR  
USING HALLIBURTON,  
KYLE BATH AND CREW

2.0 Attachments

2.1 JOB CHART .png

