

HALLIBURTON

iCem® Service

MALLARD EXPLORATION LLC

United States of America, COLORADO

For: Larry Siegel

Date: Friday, December 04, 2020

Mallard Surface Blue Teal Fed 15-3-9HN

Sincerely,

Thomas Haas and Crew

Legal Notice

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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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Well Name and Number** cement **Job Type** 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.

Approximately XX bbls of cement were returned to surface.

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

HALIBURTON

Customer: MALLARD EXPLORATION LLC
 Job: Mallard Surface Blue Teal Fed 15-3-9HN
 Case: Mallard Surface Blue Teal Fed 15-3-9HN | SO#: 906838781

2.0 Real-Time Job Summary

2.1 Job Event Log

| Type | Seq. No. | Activity | Graph Label | Date | Time | Source | DS Pump Press (psi) | DH Density (ppg) | Comb Pump Rate (bbt/mh) | Pump Stg Tot (bbt) | Comments |
|-------|----------|---------------------------|---------------------------|-----------|----------|--------|---------------------|------------------|-------------------------|--------------------|---|
| Event | 1 | Call Out | Call Out | 12/3/2020 | 13:00:00 | USER | | | | | CREW CALLED OUT AT 13:00 12/3/2020 REQUESTED ON LOCATION 19:00 12/3/2020. CREW PICKED UP CEMENT, 100 LBS SUGAR, AND PLUG CONTAINER FROM FORT LUPTON, CO. BULK 660: 11562546/11566182 PUMP ELITE: 12644845/11645460. |
| Event | 2 | Pre-Convoy Safety Meeting | Pre-Convoy Safety Meeting | 12/3/2020 | 16:15:00 | USER | | | | | DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW |
| Event | 3 | Crew Leave Yard | Crew Leave Yard | 12/3/2020 | 16:30:00 | USER | | | | | STARTED JOURNEY MANAGEMENT. |
| Event | 4 | Arrive At Loc | Arrive At Loc | 12/3/2020 | 18:00:00 | USER | | | | | END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 36# 9.625" 1-55 @ 1978', 42' SHOE JOINT, 13.5" OPEN HOLE, 8.5 PPG WELL FLUID, FRESH WATER DISPLACEMENT. |
| Event | 5 | Pre-Rig Up Safety Meeting | Pre-Rig Up Safety Meeting | 12/3/2020 | 18:10:00 | USER | | | | | HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER. |

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(v. 4.5.139)

Created: Friday, December 04, 2020

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Customer: MALLARD EXPLORATION LLC
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| Event | Description | Date | Time | Code | Value 1 | Value 2 | Value 3 | Value 4 | Value 5 | Value 6 | Value 7 | Value 8 |
|---|------------------------|-----------|----------|------|---------|---------|---------|---------|---------|---------|---------|---------|
| Event 6 | Rig-Up Equipment | 12/3/2020 | 18:20:00 | USER | | | | | | | | |
| CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB. | | | | | | | | | | | | |
| Event 7 | Pre-Job Safety Meeting | 12/4/2020 | 03:00:00 | USER | 3.00 | 0.00 | 0.00 | 0.00 | | | | |
| MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS. | | | | | | | | | | | | |
| Event 8 | Start Job | 12/4/2020 | 03:29:40 | COM8 | -6.00 | 0.00 | 0.00 | 0.00 | | | | |
| START JOB DATA RECORDING. | | | | | | | | | | | | |
| Event 9 | Test Lines | 12/4/2020 | 03:33:05 | COM8 | 71.00 | 0.00 | 0.00 | 3.50 | | | | |
| PRESSURE TESTED IRON TO 3000 PSI, KICKOUTS SET @ 500 PSI, KICKED OUT @ 1600 PSI, 5TH GEAR STALL OUT @ 1800 PSI. | | | | | | | | | | | | |
| Event 10 | Pump Spacer 1 | 12/4/2020 | 03:38:23 | COM8 | 47.00 | 0.00 | 0.00 | 0.00 | | | | |
| PUMP 10 BBL FRESH WATER WITH RED DYE. | | | | | | | | | | | | |
| Event 11 | Pump Cement | 12/4/2020 | 03:42:53 | COM8 | 298.00 | 8.54 | 5.60 | 0.00 | | | | |
| PUMP 650 SKS OF SWIFCEM @ 13.5 LB/GAL, 1.74 YIELD, 9.17 GAL/SK, 201.4 BBL'S, TOC @ SURFACE, DENSITY VERIFIED BY PRESSURIZED MUD SCALES. | | | | | | | | | | | | |
| Event 12 | Shutdown | 12/4/2020 | 04:13:16 | COM8 | 31.00 | 13.87 | 0.00 | 243.90 | | | | |
| SHUT DOWN TO DROP TOP PLUG. | | | | | | | | | | | | |
| Event 13 | Drop Top Plug | 12/4/2020 | 04:14:25 | COM8 | -19.00 | -0.12 | 0.00 | 243.90 | | | | |
| PLUG LEFT PLUG CONTAINER, VERIFIED BY COMPANY MAN. | | | | | | | | | | | | |



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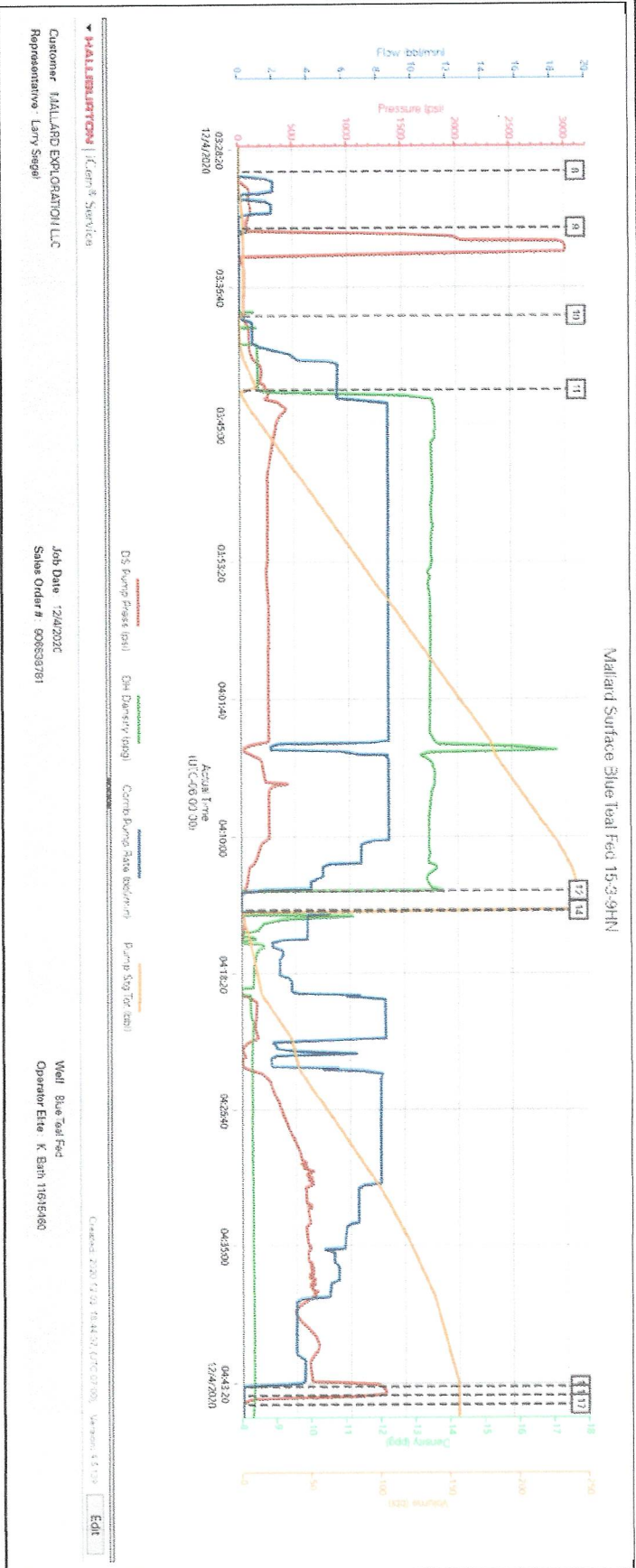
| | | | | | | | | | | |
|----------|-----------------------------|-----------------------------|-----------|----------|------|---------|-------|-------|--------|---|
| Event 14 | Pump Displacement | Pump Displacement | 12/4/2020 | 04:14:28 | COM8 | -19.00 | -0.12 | 0.00 | 0.00 | BEGIN PUMPING CALCULATED DISPLACEMENT OF 150 BBL FRESH WATER. 26 BBL OF CEMENT TO SURFACE. |
| Event 15 | Bump Plug | Bump Plug | 12/4/2020 | 04:43:30 | COM8 | 1282.00 | 8.35 | 0.00 | 155.80 | PLUG BUMPED AT CALCULATED DISPLACEMENT, FINAL CIRCULATING PRESSURE OF 650 PSI. BUMPED TO 1200 PSI. |
| Event 16 | Check Floats | Check Floats | 12/4/2020 | 04:44:02 | USER | 1326.00 | 8.34 | 0.00 | 155.80 | RELEASED PRESSURE BACK TO SURFACE; FLOATS HELD, 1 BBL BACK. |
| Event 17 | End Job | End Job | 12/4/2020 | 04:44:35 | COM8 | -13.00 | 8.30 | 0.00 | 155.80 | END JOB DATA RECORDING. |
| Event 18 | Pre-Rig Down Safety Meeting | Pre-Rig Down Safety Meeting | 12/4/2020 | 04:50:00 | USER | 166.00 | 8.28 | 10.00 | 181.00 | DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES. |
| Event 19 | Rig-Down Completed | Rig-Down Completed | 12/4/2020 | 05:10:10 | USER | | | | | ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL. |
| Event 20 | Pre-Convoy Safety Meeting | Pre-Convoy Safety Meeting | 12/4/2020 | 05:20:00 | USER | | | | | DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW. |
| Event 21 | Crew Leave Location | Crew Leave Location | 12/4/2020 | 05:30:00 | USER | | | | | THANK YOU FOR USING HALLIBURTON - THOMAS HAAS AND CREW. |

HALLIBURTON

Customer: MALLARD EXPLORATION LLC
Job: Mallard Surface Blue Teal Fed 15-3-9HN
Case: Mallard Surface Blue Teal Fed 15-3-9HN | SO#: 906838781

3.0 Attachments

3.1 Mallard Surface Blue Teal Fed 15-3-9HN-Custom Results.png



3.2 Mallard Surface Blue Teal Fed 15-3-9HN-Custom Results (1).png

Mallard Surface Blue Teal Fed 15-3-9HN

| Description | Actual Time (UTC-06:00:00) | DS Pump Press (psi) | DH Density (ppg) | Comb Pump Rate (bbl/min) | Pump Stg Tot (ubb) |
|----------------------|-------------------------------|---------------------|------------------|--------------------------|--------------------|
| 8 Start Job | 03:29:40 | 4.00 | 0.00 | 0.00 | 0.00 |
| 9 Test Lines | 03:33:05 | 71.00 | 0.00 | 0.00 | 3.50 |
| 10 Pump Spacer 1 | 03:38:23 | 47.00 | 0.00 | 0.00 | 0.00 |
| 11 Pump Cement | 03:42:53 | 288.00 | 5.34 | 5.00 | 0.00 |
| 12 Shutdown | 04:13:16 | 31.00 | 12.87 | 0.00 | 241.90 |
| 13 Drop Top Plug | 04:14:25 | -19.00 | -0.72 | 0.00 | 241.90 |
| 14 Pump Displacement | 04:14:28 | -19.00 | -0.72 | 0.00 | 0.00 |
| 15 Bump Plug | 04:43:30 | 1282.00 | 0.35 | 0.00 | 155.80 |
| 16 Check Floats | 04:44:02 | 1326.00 | 0.34 | 0.00 | 155.80 |
| 17 End Job | 04:44:35 | -13.00 | 0.00 | 0.00 | 155.80 |

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Customer: MALLARD EXPLORATION LLC
 Representative: Larry Siegel

Job Date: 12/4/2020
 Sales Order #: 906838781

Well: Blue Teal Fed
 Operator: Elie K. Bain, 11085406

Created: 2020/12/04 09:44:07 UTC-06:00, Version: 1.0.0

Cementing Job Summary

The Road to Excellence Starts with Safety

| | | | |
|--|------------------------|----------------------------------|---------------------------|
| Sold To #: 380921 | Ship To #: 380921 | Quote #: | Sales Order #: 0906838781 |
| Customer: MALLARD EXPLORATION LLC-EBUS | | Customer Rep: Larry Siegel | |
| Well Name: Blue Teal Fed | Well #: 15-3-9HN | API/UWI #: | |
| Field: | City (SAP): Ft. Lupton | County/Parish: Weld | State: COLORADO |
| Legal Description: | | | |
| Contractor: | | Rig/Platform Name/Num: CARTEL 15 | |
| Job BOM: 7521 7521 | | | |
| Well Type: OIL & GAS WELL | | | |
| Sales Person: HALAMERICA\HB41307 | | Srvc Supervisor: Thomas Haas | |

Job

| | | | |
|------------------------|--------|--|-------------------|
| Formation Name | | | |
| Formation Depth (MD) | Top | | Bottom |
| Form Type | | | BHST |
| Job depth MD | 1978ft | | 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 |
|-------------------|------------|---------|-------|---------------|--------|-------|-----------|--------------|------------|---------------|
| Open Hole Section | | | 13.5 | | | | 0 | 1978 | 0 | 1978 |
| Casing | 0 | 9.625 | 8.921 | 36 | | | 0 | 1978 | 0 | 1978 |

Tools and Accessories

| Type | Size in | Qty | Make | Depth ft | Type | Size in | Qty | Make |
|------------|---------|-----|------|----------|----------------|---------|-----|------|
| Float Shoe | 9.625 | 1 | HES | 1978 | Top Plug | 9.625 | 1 | HES |
| | | | | | Plug Container | 9.625 | 1 | HES |

Fluid Data

| Stage/Plug #: 1 | | | | | | | | | | |
|-----------------|----------------|----------------------|-------------|---------|------------------------|-----------------------------|---------------|--------------|---------------------|--|
| 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 | |
| 1 | Water with dye | Water with dye | 20 | bbl | 8.34 | | | 5 | | |
| 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 | SwiftCem | SWIFTCEM (TM) SYSTEM | 650 | sack | 13.5 | 1.74 | 9.17 | 8 | 5961 | |
| 9.17 Gal | | | FRESH WATER | | | | | | | |

Cementing Job Summary

| Fluid # | Stage Type | Fluid Name | Qty | Qty UoM | Mixing Density lbm/gal | Yield ft ³ /sack | Mix Fluid Gal | Rate bbl/mi n | Total Mix Fluid Gal |
|---|--------------|--------------|-----|---------|-------------------------------|--------------------------------|------------------|---------------------|------------------------|
| 3 | Displacement | Displacement | 150 | bbl | 8.34 | | | | |
| Cement Left In Pipe | | | | | | | | | |
| Amount | | 42 ft | | | Reason | | | Shoe Joint | |
| Mix Water: | | pH 7 | | | Mix Water Chloride: | | | <300 ppm | |
| Mix Water Temperature: | | 61 °F | | | Mix Water Temperature: | | | 61 °F | |
| Cement Temperature: | | N/A | | | Plug Displaced by: | | | 8.3 lb/gal F.W. | |
| Disp. Temperature: | | 61 °F | | | Plug Bumped?: | | | Yes | |
| Bump Pressure: | | 650 psi | | | Floats Held?: | | | Yes | |
| Cement Returns: | | 26 bbl | | | Returns Density: | | | N/A | |
| Returns Temperature: | | N/A | | | | | | | |
| Comment Plug bumped at calculated displacement, final circulating pressure of 650 psi, floats held, 1 bbl back to truck. 26 bbl back to surface. | | | | | | | | | |

Summary Report

Crew: _____
Job Start Date: 12/03/2020 01:00 AM

Sales Order #: 0906838781
WO #: 0906838781
PO #: N/A
AFE #:

Customer: MALLARD EXPLORATION LLC-
EBUS
UWI / API Number:
Well Name: Blue Teal Fed
Well No: 15-3-9HN

Field:
County/Parish: Weld
State: COLORADO
Latitude:
Longitude:
Sect / Twn / Rng: //

Job Type: CMT SURFACE
CASING BOM
Service Supervisor: Thomas Haas

Cust Rep Name: Larry Siegel
Cust Rep Phone #:

| Remarks: | | |
|---|--------------------------------------|------|
| <i>The Information Stated Herein Is Correct</i> | Customer Representative Signature | Date |
| | Customer Representative Printed Name | |