

## HALLIBURTON

## Cementing Job Summary

The Road to Excellence Starts with Safety

|  |                    |                                  |                           |
|--|--------------------|----------------------------------|---------------------------|
| Sold To #: 300466                                  | Ship To #: 3743927 | Quote #: 0022415622              | Sales Order #: 0904699804 |
| Customer: ANADARKO PETROLEUM CORP-EBUS             |                    | Customer Rep: Keith K.           |                           |
| Well Name: MARRS                                   | Well #: 29N-10HZ   | API/UWI #: 05-123-43271-00       |                           |
| Field: WATTENBERG                                  | City (SAP): IONE   | County/Parish: WELD              | State: COLORADO           |
| Legal Description: SE NW-22-1N-67W-2120FNL-2011FWL |                    |                                  |                           |
| Contractor:  |                    | Rig/Platform Name/Num: Xtreme 24 |                           |
| Job BOM: 7523 7523                                 |                    |                                  |                           |
| Well Type: HORIZONTAL GAS                          |                    |                                  |                           |
| Sales Person: HALAMERICA\HX41066                   |                    | Srvc Supervisor: Ryan Stevens    |                           |
| Job  |                    |                                  |                           |

|                        |         |  |                   |
|------------------------|---------|--|-------------------|
| Formation Name         |         |  |                   |
| Formation Depth (MD)   | Top     |  | Bottom            |
| Form Type              |         |  | BHST              |
| Job depth MD           | 15681ft |  | 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         | 1886         | 0          | 1886          |
| Casing            |            | 5.5     | 4.892 | 17            | LTC    | HCP110 | 0         | 15681        | 0          | 7434          |
| Open Hole Section |            |         | 8.5   |               |        |        | 1886      | 15699        | 0          | 7534          |

### Tools and Accessories

| Type         | Size in | Qty | Make  | Depth ft | Type           | Size in | Qty | Make  |
|--------------|---------|-----|-------|----------|----------------|---------|-----|-------|
| Guide Shoe   | 5.5     |     |       |          | Top Plug       | 5.5     | 1   | Weath |
| Float Shoe   | 5.5     | 1   | Weath | 15681    | Bottom Plug    | 5.5     | 1   | Weath |
| Float Collar | 5.5     | 1   | Weath | 15678    | SSR plug set   | 5.5     |     |       |
| Insert Float | 5.5     |     |       |          | Plug Container | 5.5     | 5.5 | HES   |
| Stage Tool   | 5.5     |     |       |          | Centralizers   | 5.5     |     |       |

### Fluid Data

| Stage/Plug #: 1 |                  |  |     |         |                        |                             |               |              |                     |  |
|-----------------|------------------|--|-----|---------|------------------------|-----------------------------|---------------|--------------|---------------------|--|
| Fluid #         | Stage Type       | Fluid Name                                       | Qty | Qty UoM | Mixing Density lbm/gal | Yield ft <sup>3</sup> /sack | Mix Fluid Gal | Rate bbl/min | Total Mix Fluid Gal |  |
| 1               | Tuned Spacer III | Tuned Spacer III                                 | 80  | bbl     | 10.5                   | 6.43                        | 41.3          | 4            | 2,856               |  |
|                 | 37.58 gal/bbl    | FRESH WATER                                      |     |         |                        |                             |               |              |                     |  |
|                 | 0.70 gal/bbl     | DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665) |     |         |                        |                             |               |              |                     |  |
|                 | 0.25 gal/bbl     | D-AIR 3000L, 5 GAL PAIL (101007444)              |     |         |                        |                             |               |              |                     |  |
|                 | 0.70 gal/bbl     | MUSOL A, 330 GAL TOTE - (790828)                 |     |         |                        |                             |               |              |                     |  |
|                 | 86.45 lbm/bbl    | BARITE, BULK (100003681)                         |     |         |                        |                             |               |              |                     |  |

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| Fluid #  | Stage Type             | Fluid Name   | Qty                          | Qty UoM | Mixing Density<br>lbm/gal | Yield<br>ft <sup>3</sup> /sack | Mix Fluid<br>Gal | Rate<br>bbl/min | Total Mix<br>Fluid<br>Gal |
|--|------------------------|--|------------------------------|---------|---------------------------|--------------------------------|------------------|-----------------|---------------------------|
| 2  | ElastiCem              | ELASTICEM (TM) SYSTEM                                | 700                          | sack    | 13.2                      | 1.57                           | 7.53             | 8               | 5,271                     |
|  |                        | FRESH WATER  |                              |         |                           |                                |                  |                 |                           |
|  |                        | SUPER CBL, 50 LB PAIL (100003668)                    |                              |         |                           |                                |                  |                 |                           |
|  |                        | SCR-100 (100003749)                                  |                              |         |                           |                                |                  |                 |                           |
|  |                        | 7.53 Gal   |                              |         |                           |                                |                  |                 |                           |
|  |                        | 0.10 %   |                              |         |                           |                                |                  |                 |                           |
|  |                        | 0.45 %   |                              |         |                           |                                |                  |                 |                           |
| Fluid #  | Stage Type             | Fluid Name   | Qty                          | Qty UoM | Mixing Density<br>lbm/gal | Yield<br>ft <sup>3</sup> /sack | Mix Fluid<br>Gal | Rate<br>bbl/min | Total Mix<br>Fluid<br>Gal |
| 3  | EconoCem               | ECONOCEM (TM) SYSTEM                                 | 1390                         | sack    | 13.5                      | 1.68                           | 7.99             | 8               | 11,088                    |
|  |                        | FRESH WATER  |                              |         |                           |                                |                  |                 |                           |
|  |                        | HR-5, 50 LB SK (100005050)                           |                              |         |                           |                                |                  |                 |                           |
|  |                        | 8 Gal  |                              |         |                           |                                |                  |                 |                           |
|  |                        | 0.38 %   |                              |         |                           |                                |                  |                 |                           |
| Fluid #  | Stage Type             | Fluid Name   | Qty                          | Qty UoM | Mixing Density<br>lbm/gal | Yield<br>ft <sup>3</sup> /sack | Mix Fluid<br>Gal | Rate<br>bbl/min | Total Mix<br>Fluid<br>Gal |
| 4  | Biocide Water and MMCR | Biocide Water and MMCR                               | 20                           | bbl     | 8.34                      |                                |                  |                 | 840                       |
|  |                        | MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781) |                              |         |                           |                                |                  |                 |                           |
|  |                        | 0.50 gal/bbl   |                              |         |                           |                                |                  |                 |                           |
| Fluid #  | Stage Type             | Fluid Name   | Qty                          | Qty UoM | Mixing Density<br>lbm/gal | Yield<br>ft <sup>3</sup> /sack | Mix Fluid<br>Gal | Rate<br>bbl/min | Total Mix<br>Fluid<br>Gal |
| 5  | Biocide Water          | Biocide Water  | 343                          | bbl     | 8.34                      |                                |                  |                 | 14,406                    |
| <b>Cement Left In Pipe</b>                                       |                        | <b>Amount</b>  | <b>Reason</b>                |         | <b>Wet Shoe Joint</b>     |                                |                  |                 |                           |
| Mix Water: pH 7  |                        | Mix Water Chloride: 0 ppm                            | Mix Water Temperature: 62 °F |         |                           |                                |                  |                 |                           |
| Cement Temperature:  |                        | Plug Displaced by: 8.34 lb/gal                       | Disp. Temperature: 62 °F     |         |                           |                                |                  |                 |                           |
| Plug Bumped? Yes   |                        | Bump Pressure: 3181 psi                              | Floats Held? Yes             |         |                           |                                |                  |                 |                           |
| Cement Returns: 0 bbls   |                        | Returns Density: 10.5 lb/gal                         | Returns Temperature:         |         |                           |                                |                  |                 |                           |
| <b>Comment 45 BBLS OF SPACER BACK. NO CEMENT BACK TO SURFACE</b> |                        |  |                              |         |                           |                                |                  |                 |                           |

## 2.0 Real-Time Job Summary

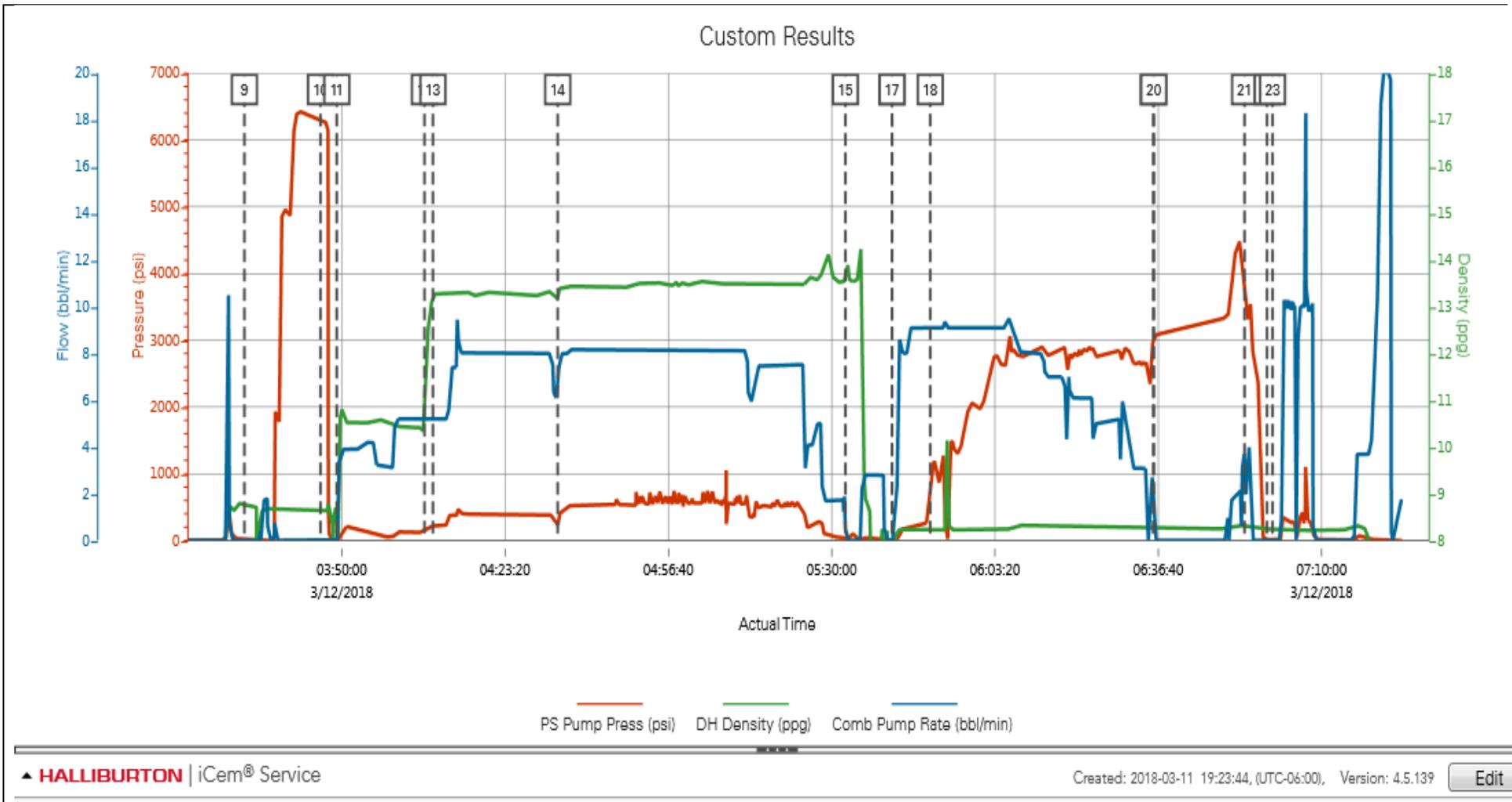
### 2.1 Job Event Log

| Type  | Seq. No. | Activity                  | Graph Label               | Date      | Time     | Source | Comments  |
|-------|----------|---------------------------|---------------------------|-----------|----------|--------|---|
| Event | 1        | Pre-Convoy Safety Meeting | Pre-Convoy Safety Meeting | 3/11/2018 | 07:45:00 | USER   | DISSCUS HAZARDS ALONG ROUTE   |
| Event | 2        | Call Out                  | Call Out                  | 3/11/2018 | 17:30:00 | USER   | CREW CALLED OUT FOR JOB. CREW PICKED UP PIMP11645460, BUK TRUCKS, PLUG CONTAINER AND CHEMICALS FROM THE FORT LUPTON YARD.                                       |
| Event | 3        | Pre-Convoy Safety Meeting | Pre-Convoy Safety Meeting | 3/11/2018 | 22:00:00 | USER   | DISCUSSED HAZARDS ALONG ROUTE OF TRAVEL TO LOCATION   |
| Event | 4        | Crew Leave Yard           | Crew Leave Yard           | 3/11/2018 | 22:25:00 | USER   | START JOURNEY MANAGEMENT  |
| Event | 5        | Arrive At Loc             | Arrive At Loc             | 3/11/2018 | 22:45:00 | USER   | CREW ARRIVED ON LOCATION. MEET WIT COMPANY REP AND DISCUSS JOB PROCEDURES   |
| Event | 6        | Pre-Rig Up Safety Meeting | Pre-Rig Up Safety Meeting | 3/11/2018 | 23:00:00 | USER   | DISCUSS HAZARDS ASSOCIATED WITH RIG UP.   |
| Event | 7        | Rig-Up Equipment          | Rig-Up Equipment          | 3/11/2018 | 23:30:00 | USER   | CREW RIGGED UP PUMP, AND BULK TRUCKS TO PERFORM JOBS.   |
| Event | 8        | Pre-Job Safety Meeting    | Pre-Job Safety Meeting    | 3/12/2018 | 02:35:00 | USER   | MEET WITH COMPANY MAN, RIG CREW AND HALLIBURTON PERSONEL TO DISCUSS JOB PROCEDURES AND JOB HAZARDS. TD 15,699' TP 15,681 FC 15,678 PC 1,886. CSG 5.5 17# OH 8.5 |
| Event | 9        | Start Job                 | Start Job                 | 3/12/2018 | 03:30:07 | COM4   | START RECORDING JOB DATA  |
| Event | 10       | Test Lines                | Test Lines                | 3/12/2018 | 03:45:39 | COM4   | PRESSURE TEST PUMPS AND LINES. SET KO @ 500 KICKED OUT @ 1900 PSI, 5TH GEAR STALL @ 2975, FINAL PRESSURE TEST @ 6,181 PSI                                       |
| Event | 11       | Pump Spacer 1             | Pump Spacer 1             | 3/12/2018 | 03:48:59 | COM4   | PUMP 80 BBLs OF TUNED SPACER @ 10.5   |

|       |    |                             |                             |           |          |      | PPG 36 BBLS CALCUALTED BACK TO SURFACE  |
|-------|----|-----------------------------|-----------------------------|-----------|----------|------|---|
| Event | 12 | Drop Bottom Plug            | Drop Bottom Plug            | 3/12/2018 | 04:06:53 | COM4 | DROP BOTTOM PLUG VERIFIED BY COMPANY MAN  |
| Event | 13 | Pump Lead Cement            | Pump Lead Cement            | 3/12/2018 | 04:08:36 | COM4 | PUMP 700 SXS OF ELASTICEM @ 13.2 PPG. YIELD 1.57 MIX WATER 7.53 TOP OF LEAD CALCULATED @ 980' |
| Event | 14 | Pump Tail Cement            | Pump Tail Cement            | 3/12/2018 | 04:34:05 | COM4 | PUMP 1,390 SXS OF ECONCEM @ 13.5 PPG YIELD 1.57MIX WATER 7.99 TOP OF TAIL CALCULATED @ 5,510' |
| Event | 15 | Shutdown                    | Shutdown                    | 3/12/2018 | 05:32:48 | COM4 | SHUT DOWN AND WASH PUMPS AND LINES  |
| Event | 16 | Drop Top Plug               | Drop Top Plug               | 3/12/2018 | 05:42:17 | COM4 | VERIFIED BY COMPANY REP.  |
| Event | 17 | Pump Displacement           | Pump Displacement           | 3/12/2018 | 05:42:20 | COM4 | PUMP CALCULATED DISPALCEMENT OF 364 BBLS FIRST 20 WITH MMCR AND BIOCIDIE WITH REST            |
| Event | 18 | Displ Reached Cement        | Displ Reached Cmnt          | 3/12/2018 | 05:50:06 | COM4 | CAUGHT CEMENT.  |
| Event | 19 | Bump Plug                   | Bump Plug                   | 3/12/2018 | 06:35:40 | COM4 | BUMP PLUG @364 BBLS. FINAL CIRCULATING PRESSURE @ 2,842 PSI                                   |
| Event | 20 | Other                       | Other                       | 3/12/2018 | 06:35:45 | COM4 | HOLD PRESSURE ON WELL FOR 1 MINS FOR A CSGTEST  |
| Event | 21 | Other                       | BRURST PLUG                 | 3/12/2018 | 06:54:16 | USER | BURST PLUG @ 4451 PSI, PUMP 3 BBLS WET SHOE   |
| Event | 22 | End Job                     | End Job                     | 3/12/2018 | 06:58:52 | COM4 | STOP RECORDING JOB DATA   |
| Event | 23 | Check Floats                | Check Floats                | 3/12/2018 | 07:00:00 | USER | CHECK FLOATS 2 BBLS BACK. FLOATS HELD   |
| Event | 24 | Pre-Rig Down Safety Meeting | Pre-Rig Down Safety Meeting | 3/12/2018 | 07:45:00 | USER | DISSCUSS HAZARDS ASSOCIATED WITH RIGGING DOWN EQUIPMENT                                       |
| Event | 25 | Crew Leave Location         | Crew Leave Location         | 3/12/2018 | 08:30:00 | USER | THANKS RYAN STEVENS AND CREW  |

3.0 Attachments

3.1 Job Chart



3.2 Plug Landing/Shifting Wet Shoe Sub

Custom Results

