HALLIBURTON

iCem® Service

# Post Job Report

## ANADARKO PETROLEUM CORP - EBUS

**For: ALLEN SEACREST**
Date: Friday, June 13, 2014

**Benson Farms 14C-19HZ Surface**
BENSON FARMS
Case 1

Sincerely,
**Derek Trier**

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## 1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Benson Farms 14C-19HZ** cement **Surface** 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 [Brighton]**

**Job Times**

| | Date | Time | Time Zone |
|---|---|---|---|
| **Called Out** | 06/12 | 1930 | |
| **On Location** | 06/13 | 0001 | |
| **Job Started** | | 0335 | |
| **Job Completed** | | 0508 | |
| **Departed Location** | | 0530 | |

## 1.2 Cementing Job Summary

| | | | |
|---|---|---|---|
| **Sold To #:** 300466 | **Ship To #:** 3472983 | **Quote #:** | **Sales Order #:** 0901417929 |
| **Customer:** ANADARKO PETROLEUM CORP - EBUS | | **Customer Rep:** ALLEN SEACREST | |
| **Well Name:** BENSON FARMS | **Well #:** 14C-19HZ | | **API/UWI #:** 05-123-39337-00 |
| **Field:** WATTENBERG | **City (SAP):** LONGMONT | **County/Parish:** WELD | **State:** COLORADO |
| **Legal Description:** SE SE-23-3N-68W-677FSL-72FEL | | | |
| **Contractor:** | | **Rig/Platform Name/Num:** Majors 42 | |
| **Job BOM:** 7521 | | | |
| **Well Type:** HORIZONTAL GAS | | | |
| **Sales Person:** HALAMERICA\HB47901 | | **Srvc Supervisor:** Aaron Smith | |

### Job

| | | | | |
|---|---|---|---|---|
| **Formation Name** | | | | |
| **Formation Depth (MD)** | **Top** | | **Bottom** | |
| **Form Type** | | | **BHST** | |
| **Job depth MD** | 1234ft | | **Job Depth TVD** | 1234 |
| **Water Depth** | | | **Wk Ht Above Floor** | 6 |
| **Perforation Depth (MD)** | | | **To** | |

### Well Data

| | 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 | 1223 | | 0 |
| Open Hole Section | | | 13.5 | | | | 0 | 1234 | | 0 |

### Tools and Accessories

| Type | Size in | Qty | Make | Depth ft | | Type | Size in | Qty | Make |
|---|---|---|---|---|---|---|---|---|---|
| **Guide Shoe** | 9.625 | | | | | **Top Plug** | 9.625 | 1 | HES |
| **Float Shoe** | 9.625 | 1 | SSII | 1223 | | **Bottom Plug** | 9.625 | | HES |
| **Float Collar** | 9.625 | 1 | SSII | 1182 | | **SSR plug set** | 9.625 | | HES |
| **Insert Float** | 9.625 | | | | | **Plug Container** | 9.625 | 1 | HES |
| | 9.625 | | | | | **Centralizers** | 9.625 | 10 | 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 | Mud Flush III (Powder) | Mud Flush III | 10 | bbl | 8.4 | | | | |
| 42 gal/bbl | | | | | | | | | |

| 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 | Lead Cement | SWIFTCEM (TM) SYSTEM | 462 | sack | 14.2 | 1.54 | | 6 | 7.64 |

| 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 | 92 | bbl | 8.33 | | | | |

| | Amount | 42 ft | | |
|---|---|---|---|---|

**Comment**

## 1.3 Job Overview

| | | Units | Description |
|---|---|---|---|
| **1** | Surface temperature at time of job | $^{o}F$ | |
| **2** | Mud type (OBM, WBM, SBM, Water, Brine) | - | WBM |
| **3** | Actual mud density | lb/gal | |
| **4** | Actual mud Plastic Viscosity (PV) | cP | |
| **5** | Actual mud Yield Point (YP) | $lb_f/100ft^2$ | |
| **6** | Actual mud 30 min Gel Strength | $lb_f/100ft^2$ | |
| **7** | Time circulated before job | HH:MM | |
| **8** | Mud volume circulated | Bbls | |
| **9** | Rate at which well was circulated | Bpm | |
| **10** | Pipe movement during hole circulation | Y/N | N |
| **11** | Rig pressure while circulating | Psi | |
| **12** | Time from end mud circulation to start of job | HH:MM | |
| **13** | Pipe movement during cementing | Y/N | N |
| **14** | Calculated displacement | Bbls | 92 |
| **15** | Job displaced by | Rig/HES | HES |
| **16** | Annular flow before job | Y/N | N |
| **17** | Annular flow after job | Y/N | N |
| **18** | Length of rat hole | Ft | |
| **19** | Units of gas detected while circulating | Units | |
| **20** | Was lost circulation experienced at any time? | Y/N | N |

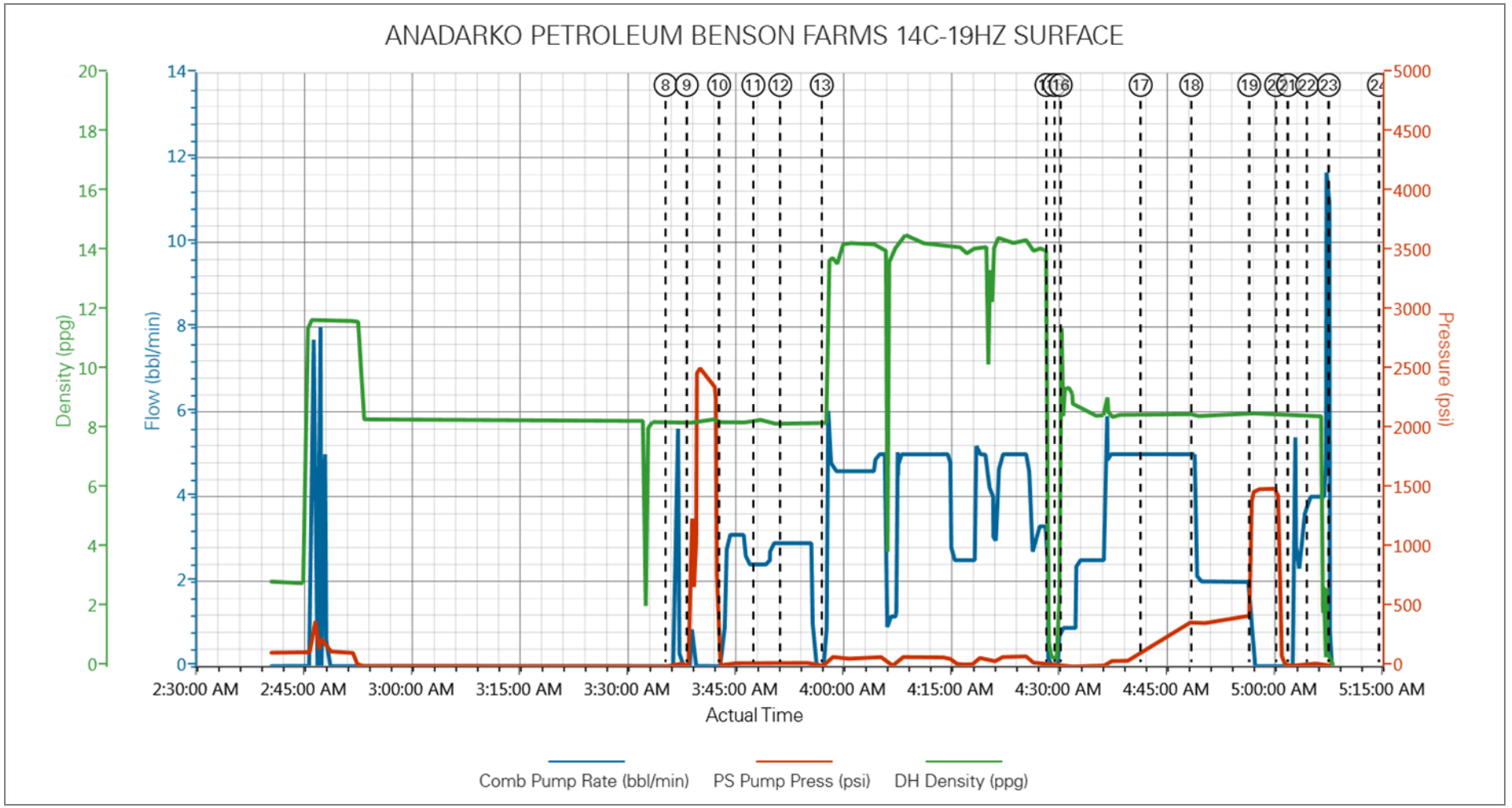
## 1.4 Job Event Log

| Type | Seq. No. | Activity | Graph Label | Date | Time | Source | Comb Pump Rate *(bbl/min)* | PS Pump Press *(psi)* | DH Density *(ppg)* | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| Event | 1 | Call Out | Call Out | 6/12/2014 | 19:30:00 | USER | | | | CALLED OUT BY COORDINATORS FOR O/L @ 000 |
| Event | 2 | Depart Yard Safety Meeting | Depart Yard Safety Meeting | 6/12/2014 | 23:00:00 | USER | | | | JOURNEY MANAGEMENT MEETING PRIOR TO DEPARTURE |
| Event | 3 | Depart from Service Center or Other Site | Depart from Service Center or Other Site | 6/12/2014 | 23:15:00 | USER | | | | |
| Event | 4 | Arrive at Location from Service Center | Arrive at Location from Service Center | 6/13/2014 | 00:00:01 | USER | | | | WITH ALL EQUIPMENT AND MATERIALS, RIG STILL RUNNING CASING |
| Event | 5 | Assessment Of Location Safety Meeting | Assessment Of Location Safety Meeting | 6/13/2014 | 00:15:00 | USER | | | | |
| Event | 6 | Pre-Job Safety Meeting | Pre-Job Safety Meeting | 6/13/2014 | 01:45:00 | USER | | | | WITH CUSTOMER REP AND RIG CREW |
| Event | 7 | Pre-Rig Up Safety Meeting | Pre-Rig Up Safety Meeting | 6/13/2014 | 02:00:00 | USER | | | | |
| Event | 8 | Start Job | Start Job | 6/13/2014 | 03:35:46 | COM7 | 0.00 | -2.00 | 8.17 | |
| Event | 9 | Test Lines | Test Lines | 6/13/2014 | 03:38:43 | COM7 | 0.00 | 2.00 | 8.18 | @ 2500 PSI |
| Event | 10 | Pump Spacer 1 | Pump Spacer 1 | 6/13/2014 | 03:43:13 | COM7 | 0.00 | 0.00 | 8.29 | 10 BBLS FRESH WATER |
| Event | 11 | Pump Spacer 2 | Pump Spacer 2 | 6/13/2014 | 03:47:59 | COM7 | 2.40 | 18.00 | 8.34 | 12 BBLS MUD FLUSH |
| Event | 12 | Pump Spacer 1 | Pump Spacer 1 | 6/13/2014 | 03:51:43 | COM7 | 2.90 | 23.00 | 8.18 | 10 BBLS FRESH WATER |
| Event | 13 | Pump Cement | Pump Cement | 6/13/2014 | 03:57:30 | COM7 | 0.00 | 3.00 | 8.17 | 126 BBLS, 462 SKS @ 14.2 PPG, 1.54 YIELD, 7.64 GAL/SK |
| Event | 14 | Drop Top Plug | Drop Top Plug | 6/13/2014 | 04:28:45 | COM7 | 0.00 | 5.00 | 0.29 | PRE-LOADED HWE TOP PLUG IN PLUG CONTAINER VERIFIED BY CUSTOMER REP |
| Event | 15 | Shutdown | Shutdown | 6/13/2014 | 04:29:52 | COM7 | 0.00 | 0.00 | 0.21 | |
| Event | 16 | Pump Displacement | Pump Displacement | 6/13/2014 | 04:30:43 | COM7 | 0.90 | -3.00 | 9.39 | 92 BBLS FRESH WATER |
| Event | 17 | Other | Spacer Returns to Surface | 6/13/2014 | 04:41:51 | COM7 | | | | @45 BBLS DISPLACEMENT 32 BBLS TO SURFACE |
| Event | 18 | Other | Cement Returns to Surface | 6/13/2014 | 04:48:53 | COM7 | 5.00 | 393.00 | 8.49 | @77 BBLS DISPLACEMENT 15 BBLS TO SURFACE |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Event | 19 | Bump Plug | Bump Plug | 6/13/2014 | 04:56:57 | COM7 | 0.00 | 1464.00 | 8.58 | @1000 PSI OVER, FINAL CIRCULATING PRESSURE 386, FINAL BUMP 1465 PSI |
| Event | 20 | Check Floats | Check Floats | 6/13/2014 | 05:00:42 | USER | 0.00 | 796.00 | 8.49 | FLOATS GOOD, 2 BBLS BACK |
| Event | 21 | Pre-Rig Down Safety Meeting | Pre-Rig Down Safety Meeting | 6/13/2014 | 05:02:20 | USER | 0.00 | 2.00 | 8.47 | |
| Event | 22 | Rig-Down Equipment | Rig-Down Equipment | 6/13/2014 | 05:05:00 | USER | 4.00 | 21.00 | 8.41 | |
| Event | 23 | End Job | End Job | 6/13/2014 | 05:08:01 | COM7 | | | | THANKS AARON SMITH AND CREW |
| Event | 24 | Rig-Down Completed | Rig-Down Completed | 6/13/2014 | 05:15:00 | USER | | | | |
| Event | 25 | Depart Location Safety Meeting | Depart Location Safety Meeting | 6/13/2014 | 05:20:00 | USER | | | | JOURNEY MANAGEMENT MEETING PRIOR TO DEPARTURE |
| Event | 26 | Depart Location for Service Center or Other Site | Depart Location for Service Center or Other Site | 6/13/2014 | 05:30:00 | USER | | | | |

## 2.0 Custom Graphs

### 2.1 Custom Graph



## 3.0 Appendix

Insert Planned Pump Schedule from Proposal or actual Job Procedure built for job