

1.0 Real-Time Job Summary

1.1 Job Event Log

| Type | Seq. No. | Activity | Graph Label | Date | Time | Source | DH Density (ppg) | PS Pump Press (psi) | Pump Stg Tot (bbt) | Comb Pump Rate (bbt/min) | Comments |
|-------|----------|---------------------------------------|---------------------------------------|-----------|----------|--------|------------------|---------------------|--------------------|--------------------------|---|
| Event | 1 | Call Out | Call Out | 3/31/2015 | 07:00:00 | USER | | | | | ALL HES |
| Event | 2 | Pre-Convoy Safety Meeting | Pre-Convoy Safety Meeting | 3/31/2015 | 14:33:56 | USER | | | | | ATTENDED BY ALL HES CREW |
| Event | 3 | Crew Leave Yard | Crew Leave Yard | 3/31/2015 | 14:33:59 | USER | | | | | |
| Event | 4 | Arrive At Loc | Arrive At Loc | 3/31/2015 | 14:34:04 | USER | | | | | RIG RUNNING CASING UPON HES ARRIVAL |
| Event | 5 | Assessment Of Location Safety Meeting | Assessment Of Location Safety Meeting | 3/31/2015 | 14:34:08 | USER | | | | | ATTENDED BY ALL HES CREW |
| Event | 6 | Pre-Rig Up Safety Meeting | Pre-Rig Up Safety Meeting | 3/31/2015 | 14:34:12 | USER | | | | | ATTENDED BY ALL HES CREW |
| Event | 7 | Rig-Up Equipment | Rig-Up Equipment | 3/31/2015 | 14:34:18 | USER | | | | | RIG UP IRON TO FLOOR, RIG UP WATER TO UPRIGHT, RIGUP BULK EQUIPMENT TO PUMPTRUCK. |
| Event | 8 | Rig-Up Completed | Rig-Up Completed | 3/31/2015 | 14:34:26 | USER | | | | | |
| Event | 9 | Pre-Job Safety Meeting | Pre-Job Safety Meeting | 3/31/2015 | 14:34:31 | USER | | | | | ATTENDED BY ALL HES CREW, RIG CREW, AND COMPANY REP |
| Event | 10 | Start Job | Start Job | 3/31/2015 | 16:42:20 | USER | | | | | TD 1030 FT, TP 1030 FT, HU 41 FT, OPEN HOLE 14.75", CASING 10.75", 40.5#, J 55, MW 9#, VISC 47. |
| Event | 11 | Prime Pumps | Fill Lines | 3/31/2015 | 16:44:04 | USER | 8.33 | 248 | 2 | 2 | FILL LINES TO PRESSURE TEST |
| Event | 12 | Test Lines | Test Lines | 3/31/2015 | 16:47:42 | COM5 | 8.32 | 3130 | | | PRESSURE TESTED TO 3000 PSI, PRESSURE HELD |

| | | | | | | | | | | |
|----------|--|--|-----------|----------|------|------|-----|-------|-----|--|
| Event 13 | Pump Spacer | Pump Spacer | 3/31/2015 | 16:49:43 | USER | 8.34 | 288 | 20 | 4 | FRESH WATER |
| Event 14 | Pump Lead Cement | Pump Lead Cement | 3/31/2015 | 16:59:01 | COM5 | 12.3 | 180 | 84.77 | 6.5 | 200 SKS, MIXED AT 12.3 PPG, 2.38 YIELD, 13.77 GAL/SK, WEIGHT OF CEMENT VARIED VIA MUD SCALES THROUGHOUT JOB, 30 LBS OF TUFF FIBER RAN THROUGHOUT BOTH LEAD AND TAIL CEMENT |
| Event 15 | Pump Tail Cement | Pump Tail Cement | 3/31/2015 | 17:15:31 | COM5 | 12.8 | 350 | 93.94 | 8 | 250 SKS, MIXED AT 12.8, 2.11 YIELD, 11.78 GAL/SK |
| Event 16 | Shutdown | Shutdown | 3/31/2015 | 17:28:57 | USER | | | | | |
| Event 17 | Drop Top Plug | Drop Top Plug | 3/31/2015 | 17:30:11 | USER | | | | | PLUG LAUNCHED |
| Event 18 | Pump Displacement | Pump Displacement | 3/31/2015 | 17:32:06 | COM5 | 8.34 | 360 | 87.13 | 8 | FRESH WATER |
| Event 19 | Slow Rate | Slow Rate | 3/31/2015 | 17:45:40 | USER | 8.34 | 340 | 10 | 2 | SLOW RATE TO BUMP PLUG |
| Event 20 | Bump Plug | Bump Plug | 3/31/2015 | 17:50:08 | COM5 | | | 97.1 | | BUMP PLUG AT 258 PSI, PRESSURED UP TO 760 PSI |
| Event 21 | Check Floats | Check Floats | 3/31/2015 | 17:52:12 | USER | | | | | FLOATS HELD, RECEIVED 1/2 BBL BACK TO TRUCK, RECEIVED 50 BBLs OF CEMENT TO SURFACE |
| Event 22 | End Job | End Job | 3/31/2015 | 17:54:29 | COM5 | | | | | THANK YOU FOR USING HALLIBURTON CEMENT, CARL KUKUS AND CREW. |
| Event 23 | Post-Job Safety Meeting (Pre Rig-Down) | Post-Job Safety Meeting (Pre Rig-Down) | 3/31/2015 | 18:39:19 | USER | | | | | ATTENDED BY ALL HES CREW |
| Event 24 | Rig-Down Equipment | Rig-Down Equipment | 3/31/2015 | 18:39:27 | USER | | | | | |
| Event 25 | Rig-Down Completed | Rig-Down Completed | 3/31/2015 | 18:40:29 | USER | | | | | |
| Event 26 | Pre-Convoy Safety Meeting | Pre-Convoy Safety Meeting | 3/31/2015 | 18:40:45 | USER | | | | | ATTENDED BY ALL HES CREW |
| Event 27 | Crew Leave Location | Crew Leave Location | 3/31/2015 | 18:41:01 | USER | | | | | 1 F550, 1 ELITE PUMP, 2 660s |

The Road to Excellence Starts with Safety

| | | | |
|---|-----------------------|-----------------------------------|----------------------------|
| Sold To #: 306454 | Ship To #: 3533898 | Quote #: 0022026315 | Sales Order #: 0902275291 |
| Customer: BLACK HILLS EXPLORATION & PROD-EBIZ | | Customer Rep: DAN FRIEND | |
| Well Name: HOMER DEEP UNIT | | Well #: 7-23AH | API/UWI #: 05-045-22423-00 |
| Field: SOUTH SHALE RIDGE | City (SAP): PARACHUTE | County/Parish: GARFIELD | State: COLORADO |
| Legal Description: NE SW-7-8S-98W-1835FSL-2399FWL | | | |
| Contractor: ENSIGN DRLG | | Rig/Platform Name/Num: ENSIGN 161 | |
| Job BOM: 7521 | | | |
| Well Type: HORIZONTAL GAS | | | |
| Sales Person: HALAMERICA/HAM2616 | | Srcv Supervisor: Carlton Kukus | |

Job

| | | | |
|------------------------|--------|--|------------------------|
| Formation Name | | | |
| Formation Depth (MD) | Top | | Bottom |
| Form Type | | | BHST |
| Job depth MD | 1030ft | | Job Depth TVD |
| Water Depth | | | Wk Ht Above Floor 4 FT |
| 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 | | 20 | 19.124 | 94 | | | 0 | 145 | 0 | 145 |
| Casing | 3 | 10.75 | 10.05 | 40.5 | STC | J-55 | 0 | 1030 | 0 | 1030 |
| Open Hole Section | | | 14.75 | | | | 145 | 1030 | 145 | 1030 |

Tools and Accessories

| Type | Size in | Qty | Make | Depth ft | Type | Size in | Qty | Make |
|--------------|---------|-----|------|----------|----------------|---------|-----|------|
| Guide Shoe | 10.75 | 1 | | 1030 | Top Plug | | | |
| Float Shoe | | | | | Bottom Plug | | | |
| Float Collar | 10.75 | 1 | | 990 | SSR plug set | | | |
| Insert Float | | | | | Plug Container | 10.75 | 1 | HES |
| Stage Tool | | | | | Centralizers | | | |

Miscellaneous Materials

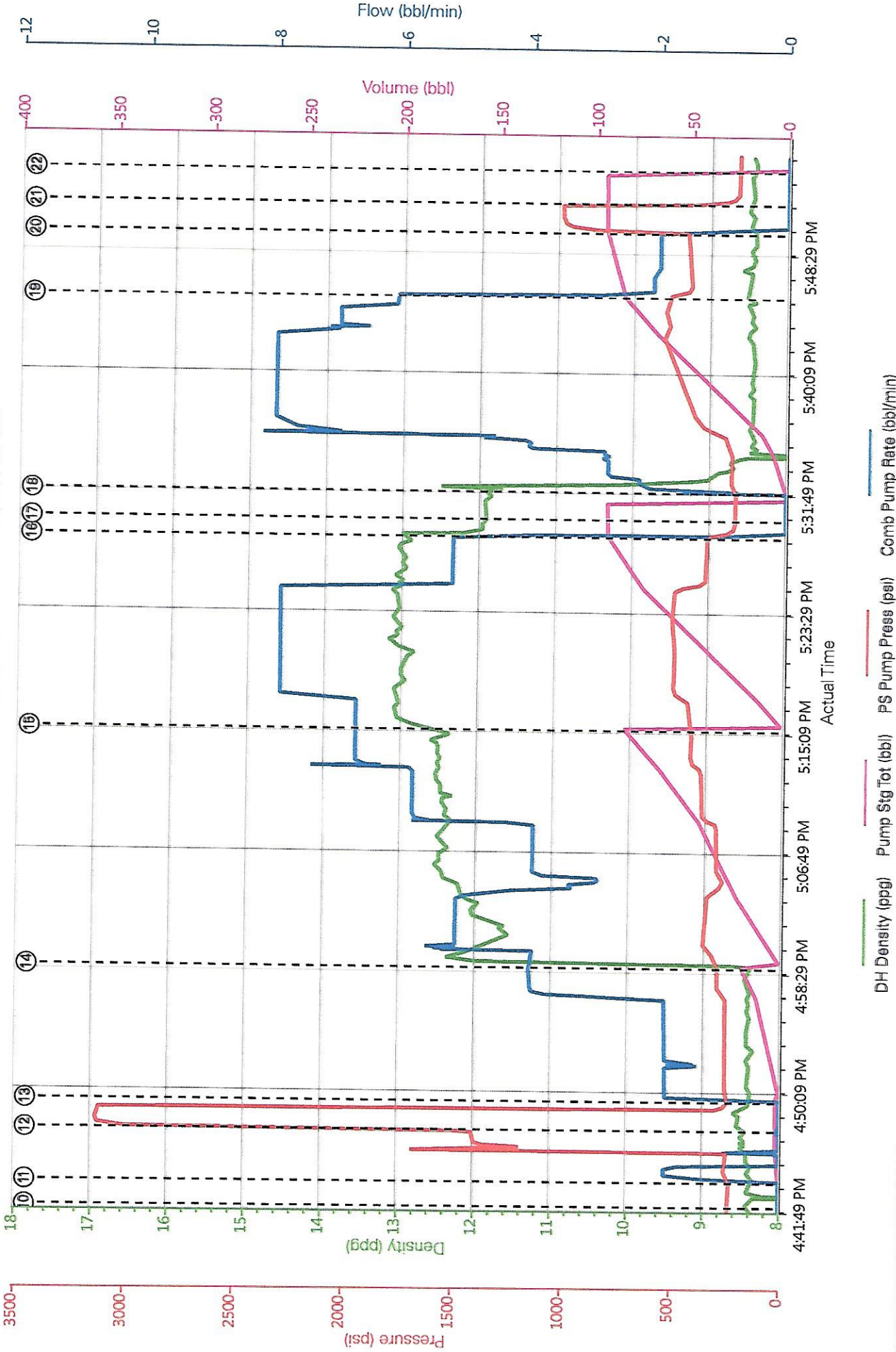
| | | | | | | |
|---------------|------|------------|------|-----------|------|------|
| Gelling Agt | Conc | Surfactant | Conc | Acid Type | Qty | Conc |
| Treatment Fld | Conc | Inhibitor | Conc | Sand Type | Size | Qty |

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 | 12.3 VariCem | VARICEM (TM) CEMENT | 200 | sack | 12.3 | 2.38 | 13.77 | 6.5 | |

| 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 | |
|---------------------|-----------------------|---------------------|-------|---------|---------------------------|--------------------------------|------------------|---------------------|---------------------------|--|
| 2 | 12.8 VariCem | VARICEM (TM) CEMENT | 250 | sack | 12.8 | 2.11 | 11.78 | 8 | | |
| 3 | Displacement Fluid | Displacement Fluid | 97 | bbl | 8.34 | | | 8 | | |
| Cement Left In Pipe | | Amount | 41 ft | | Reason | | | Shoe Joint | | |
| Comment | | | | | | | | | | |

BLACK HILLS/HOMER DEEP UNIT 7-23AH/SURFACE



HALLIBURTON | iCem® Service

Edit

Created: 2015-03-31 14:19:16, Version: 4.1.107

Customer: BLACK HILLS EXPLORATION & PROD-EBIZ

Job Date: 3/31/2015 3:16:54 PM

Well: Homer Deep Unit 7-23AH

Representative: Dan Friend

Sales Order #: 902275291

Supervisor/Operator: Carlton Kukus/Taylor Moreland E-3