HALLIBURTON

# BILL BARRETT CORPORATION

**KAUFMAN 12B-30-691**
**MAMM CREEK**
**Garfield County , Colorado**

# Cement Surface Casing

**09-Sep-2011**

# Post Job Report

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# *Cementing Job Summary*

***The Road to Excellence Starts with Safety***

| | | | |
|---|---|---|---|
| **Sold To #:** 343492 | **Ship To #:** 2874910 | **Quote #:** | **Sales Order #:** 8428208 |
| **Customer:** BILL BARRETT CORPORATION E-BILL | | **Customer Rep:** Henderson, Josh | |
| **Well Name:** KAUFMAN | **Well #:** 12B-30-691 | | **API/UWI #:** 05-045-20741 |
| **Field:** MAMM CREEK | **City (SAP):** SILT | **County/Parish:** Garfield | **State:** Colorado |
| **Lat:** N 39.501 deg. OR N 39 deg. 30 min. 4.162 secs. | | **Long:** W 107.603 deg. OR W -108 deg. 23 min. 50.773 secs. | |
| **Contractor:** ProPetro Services Inc. | **Rig/Platform Name/Num:** ProPetro | | |
| **Job Purpose:** Cement Surface Casing | | | |
| **Well Type:** Development Well | **Job Type:** Cement Surface Casing | | |
| **Sales Person:** METLI, MARSHALL | **Srvc Supervisor:** KUKUS, CRAIG | **MBU ID Emp #:** 369124 | |

## Job Personnel

| HES Emp Name | Exp Hrs | Emp # | HES Emp Name | Exp Hrs | Emp # | HES Emp Name | Exp Hrs | Emp # |
|---|---|---|---|---|---|---|---|---|
| BURKE, BRENDAN Patrick | 12.5 | 487782 | KUKUS, CRAIG A | 12.5 | 369124 | SMITH, DUSTIN Michael | 12.5 | 418015 |
| WYCKOFF, RYAN Scott | 12.5 | 476117 | | | | | | |

## Equipment

| HES Unit # | *Distance-1 way* | HES Unit # | *Distance-1 way* | HES Unit # | *Distance-1 way* | HES Unit # | *Distance-1 way* |
|---|---|---|---|---|---|---|---|
| 10829469 | 120 mile | 10867322 | 120 mile | 10872429 | 120 mile | 10897891 | 120 mile |
| 11360883 | 120 mile | | | | | | |

## Job Hours

| Date | *On Location Hours* | Operating Hours | Date | *On Location Hours* | Operating Hours | Date | *On Location Hours* | Operating Hours |
|---|---|---|---|---|---|---|---|---|
| 9/8/11 | 6 | 0 | 9/9/11 | 6.5 | 2.5 | | | |
| **TOTAL** | | | *Total is the sum of each column separately* | | | | | |

## Job

| | | | |
|---|---|---|---|
| **Formation Name** | | | |
| **Formation Depth (MD)** | **Top** | | **Bottom** |
| **Form Type** | | **BHST** | |
| **Job depth MD** | 795. ft | **Job Depth TVD** | 795. ft |
| **Water Depth** | | **Wk Ht Above Floor** | 4. ft |
| **Perforation Depth (MD)** | *From* | | **To** |

## Job Times

| | Date | Time | Time Zone |
|---|---|---|---|
| **Called Out** | 08 - Sep - 2011 | 18:01 | MST |
| **On Location** | 08 - Sep - 2011 | 18:01 | MST |
| **Job Started** | 09 - Sep - 2011 | 04:42 | MST |
| **Job Completed** | 09 - Sep - 2011 | 05:38 | MST |
| **Departed Loc** | 09 - Sep - 2011 | 06:45 | MST |

## Well Data

| *Description* | New / Used | Max pressure psig | Size in | ID in | Weight lbm/ft | Thread | Grade | Top MD ft | Bottom MD ft | Top TVD ft | Bottom TVD ft |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 1/4" Open Hole | | | | 12.25 | | | | . | 800. | | |
| 9 5/8" Surface Casing | New | | 9.625 | 8.921 | 36. | | J-55 | . | 800. | | |

## Sales/Rental/3rd Party (HES)

| Description | Qty | Qty uom | Depth | Supplier |
|---|---|---|---|---|
| PLUG,CMTG,TOP,9 5/8,HWE,8.16 MIN/9.06 MA | 1 | EA | | |

## Tools and Accessories

| Type | Size | Qty | Make | Depth | Type | Size | Qty | Make | Depth | Type | Size | Qty | Make |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Guide Shoe** | | | | | **Packer** | | | | | **Top Plug** | 9 5/8 | 1 | HES |
| **Float Shoe** | | | | | **Bridge Plug** | | | | | **Bottom Plug** | | | |
| **Float Collar** | | | | | **Retainer** | | | | | **SSR plug set** | | | |
| **Insert Float** | | | | | | | | | | **Plug Container** | 9 5/8 | 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**

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# *Cementing Job Summary*

| Fluid # | Stage Type | Fluid Name | Qty | Qty uom | Mixing Density lbm/gal | Yield ft3/sk | Mix Fluid Gal/sk | Rate bbl/min | Total Mix Fluid Gal/sk |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Water Spacer | | 20.00 | bbl | 8.34 | .0 | .0 | 4 | |
| 2 | VersaCem Lead Cement | VERSACEM (TM) SYSTEM (452010) | 120.0 | sacks | 12.3 | 2.38 | 13.77 | 4 | 13.77 |
| | 13.77 Gal | FRESH WATER | | | | | | | |
| 3 | SwiftCem Tail Cement | SWIFTCEM (TM) SYSTEM (452990) | 120.0 | sacks | 14.2 | 1.43 | 6.85 | 4 | 6.85 |
| | 6.85 Gal | FRESH WATER | | | | | | | |
| 4 | Displacement | | 56.00 | bbl | 8.34 | | | 6 | |

| Calculated Values | | Pressures | | Volumes | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *Displacement* | 56 | Shut In: Instant | | Lost Returns | 0 | *Cement Slurry* | 81 | Pad | |
| Top Of Cement | SURFACE | 5 Min | | Cement Returns | 23 | Actual Displacement | | Treatment | |
| Frac Gradient | | 15 Min | | Spacers | 20 | Load and Breakdown | | Total Job | 158 |

*Rates*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Circulating* | *NONE* | *Mixing* | 4 | *Displacement* | 6 | Avg. Job | 5 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Cement Left In Pipe* | Amount | ***44.30 ft*** | *Reason* | ***Shoe Joint*** | | | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Frac Ring # 1 @* | | *ID* | | *Frac ring # 2 @* | | *ID* | | *Frac Ring # 3 @* | | *ID* | | *Frac Ring # 4 @* | | *ID* | |

| | |
|---|---|
| *The Information Stated Herein Is Correct* | ***Customer Representative Signature*** |

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# *Cementing Job Log*

***The Road to Excellence Starts with Safety***

| | | | |
|---|---|---|---|
| **Sold To #:** 343492 | **Ship To #:** 2874910 | **Quote #:** | **Sales Order #:** 8428208 |
| **Customer:** BILL BARRETT CORPORATION E-BILL | | **Customer Rep:** Henderson, Josh | |
| **Well Name:** KAUFMAN | **Well #:** 12B-30-691 | | **API/UWI #:** 05-045-20741 |
| **Field:** MAMM CREEK | **City (SAP):** SILT | **County/Parish:** Garfield | **State:** Colorado |
| **Legal Description:** | | | |
| **Lat:** N 39.501 deg. OR N 39 deg. 30 min. 4.162 secs. | | **Long:** W 107.603 deg. OR W -108 deg. 23 min. 50.773 secs. | |
| **Contractor:** ProPetro Services Inc. | **Rig/Platform Name/Num:** ProPetro | | |
| **Job Purpose:** Cement Surface Casing | | | **Ticket Amount:** |
| **Well Type:** Development Well | **Job Type:** Cement Surface Casing | | |
| **Sales Person:** METLI, MARSHALL | **Srvc Supervisor:** KUKUS, CRAIG | | **MBU ID Emp #:** 369124 |

| Activity Description | Date/Time | Cht # | Rate bbl/ min | Volume bbl | | Pressure psig | | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | Stage | Total | Tubing | Casing | |
| Arrive At Loc | 09/08/2011 18:01 | | | | | | | CREW ON LOCATION |
| Call Out | 09/08/2011 18:01 | | | | | | | CREW ON LOCATION |
| Assessment Of Location Safety Meeting | 09/09/2011 03:00 | | | | | | | ASSESSMENT OF LOCATION INVOLVING THE ENTIRE CMT CREW |
| Pre-Rig Up Safety Meeting | 09/09/2011 03:15 | | | | | | | SAFETY MEETING INVOLVING THE ENTIRE CMT CREW |
| Rig-Up Equipment | 09/09/2011 03:30 | | | | | | | RIG UP IRON TO OFF LINE WELL |
| Circulate Well | 09/09/2011 03:30 | | | | | | | RIG DONE WITH CSG/NO CIRCULATION |
| Pre-Job Safety Meeting | 09/09/2011 04:30 | | | | | | | SAFETY MEETING INVOLVING EVERYONE ON LOCATION |
| Start Job | 09/09/2011 04:42 | | | | | | | TD 795 FT TP 775.59 FT SJ 44.30 FT OH 12 1/4 IN MUD WT 8.3# PIPE 9 5/8 IN J-55 36# |
| Other | 09/09/2011 04:43 | | 2 | 2 | | | 7.0 | FILL LINES WITH FRESH WATER |
| Pressure Test | 09/09/2011 04:44 | | 0.5 | | | 3500.0 | | PRESSURE TEST GOOD |
| Pump Spacer 1 | 09/09/2011 04:48 | | 4 | 20 | | | 35.0 | FRESH WATER SPACER |
| **Activity Description** | **Date/Time** | **Cht #** | **Rate bbl/ min** | **Volume bbl** | | **Pressure psig** | | **Comments** |
| | | | | **Stage** | **Total** | **Tubing** | **Casing** | |

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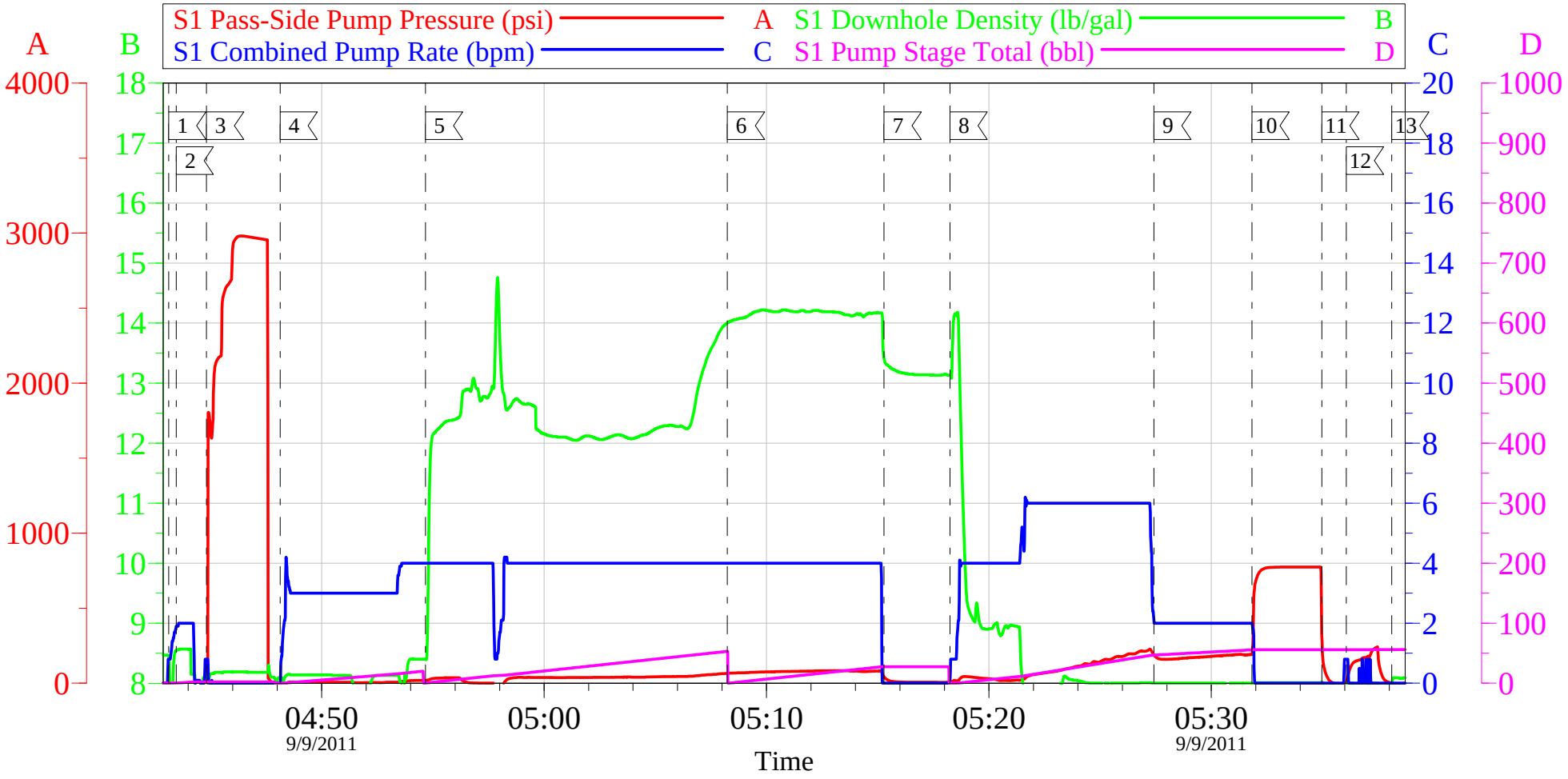
# *Cementing Job Log*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pump Lead Cement | 09/09/2011 04:54 | | 4 | 50.8 | | | 72.0 | PUMP 120 SKS LEAD CEMENT AT 12.3 PPG 2.38 Y 13.77 GAL/SK / DURING PUMPING LEAD CEMENT RELEASE LINE 1 IN VALVE FELL OPEN CAUSING SPIKE IN DENSITY READING ON DOWN HOLE /SLOWED AND FIXED PROBLEM |
| Pump Tail Cement | 09/09/2011 05:08 | | 4 | 30.5 | | | 98.0 | PUMP 120 SKS TAIL CEMENT AT 14.2 PPG 1.43 Y 6.85 GAL/SK |
| Shutdown | 09/09/2011 05:15 | | | | | | | |
| Drop Top Plug | 09/09/2011 05:15 | | | | | | | PLUG LEFT THE PLUG CONTAINER |
| Pump Displacement | 09/09/2011 05:18 | | 6 | 56.5 | | | 235.0 | PUMP H20 DISPLACEMENT / WASHED ON TOP OF PLUG |
| Slow Rate | 09/09/2011 05:27 | | 2 | 46 | | | 180.0 | SLOWED RATE LAST 10 BBLS |
| Bump Plug | 09/09/2011 05:31 | | 2 | 56 | | | 787.0 | PLUG LANDED AT 210 PSI |
| Check Floats | 09/09/2011 05:34 | | | | | | | FLOATS HELD / GOT 1/2 BBL BACK TO TANKS / GOT RETURNS 15 BBLS INTO TAIL CEMENT AND GOT CEMENT TO SURFACE TOTAL 23 BBLS |
| Other | 09/09/2011 05:36 | | | | | | 220.0 | PRESSURE CSG UP / SHUT IN 2 IN ON WELL |
| End Job | 09/09/2011 05:38 | | | | | | | RIG DOWN AND WASH TO PIT |
| Pre-Rig Down Safety Meeting | 09/09/2011 05:40 | | | | | | | SAFETY MEETING INVOVLING THE ENTIRE CMT CREW |
| Rig-Down Equipment | 09/09/2011 05:45 | | | | | | | |
| Safety Meeting - Departing Location | 09/09/2011 06:30 | | | | | | | SAFETY MEETING INVOLVING THE ENTIRE CMT CREW |
| Comment | 09/09/2011 06:45 | | | | | | | THANK YOU FOR USING HALLIBURTON, CRAIG KUKUS AND CREW |

# BILL BARRETT GGU KAUFMAN 12B-30-691

## SURFACE




Local Event Log

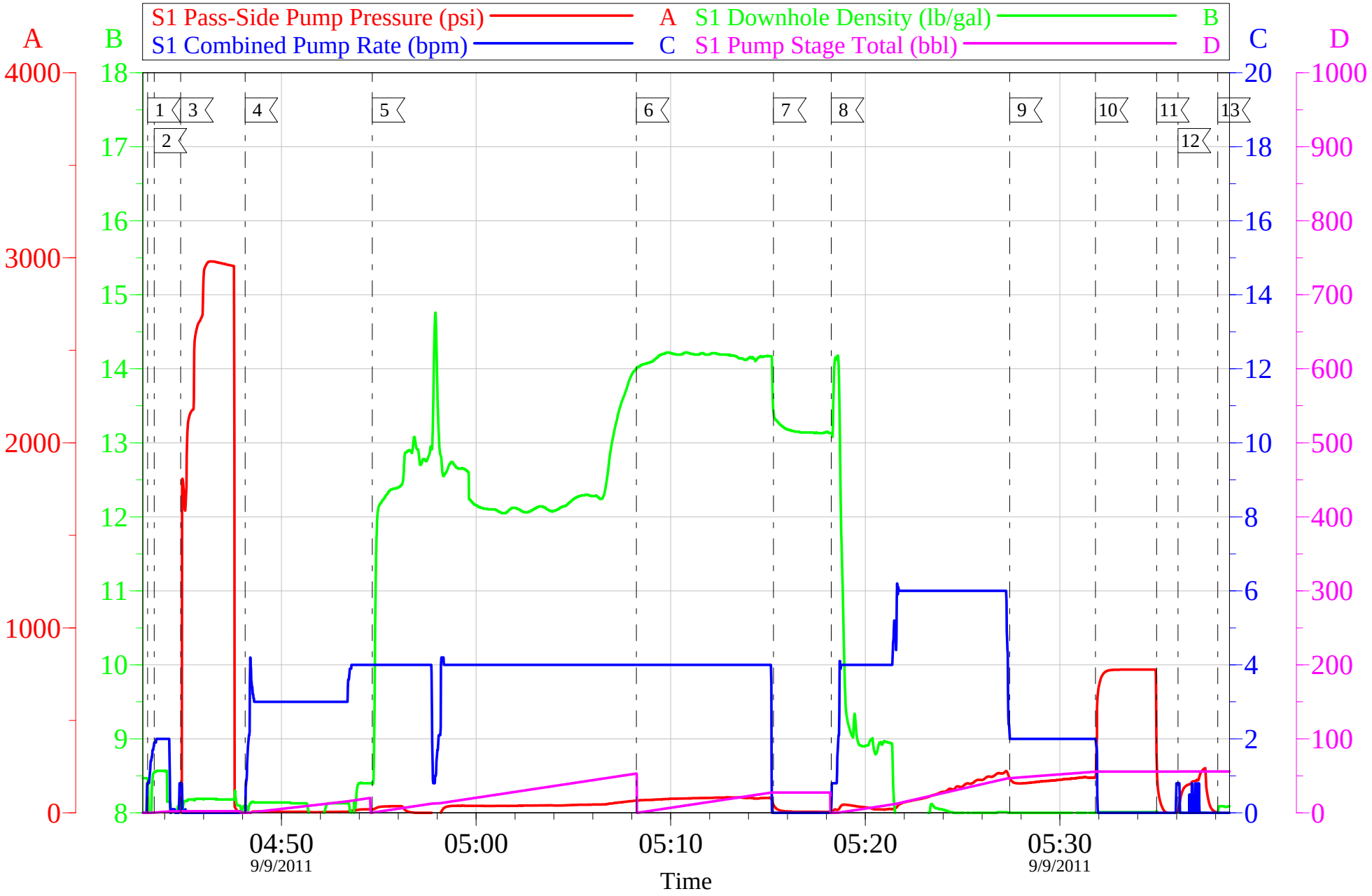
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | START JOB | 04:43:07 | 2 | PRIME LINES | 04:43:28 | 3 | PRESSURE TEST | 04:44:49 |
| 4 | PUMP SPACER | 04:48:08 | 5 | PUMP LEAD CEMENT | 04:54:40 | 6 | PUMP TAIL CEMENT | 05:08:14 |
| 7 | SHUT DOWN/DROP PLUG | 05:15:17 | 8 | PUMP H20 DISPLACEMENT | 05:18:15 | 9 | SLOW RATE | 05:27:25 |
| 10 | BUMP PLUG | 05:31:50 | 11 | CHECK FLOATS | 05:34:58 | 12 | PRESSURE CSG/SHUT IN | 05:36:04 |
| 13 | END JOB | 05:38:07 | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Customer: | BILL BARRETT | Job Date: | 09-Sep-2011 | Sales Order #: | 8428208 |
| Well Description: | GGU KAUFMAN 12B-30-691 | Job Type: | SURFACE | ADC Used: | YES |
| Company Rep: | JOSH HENDERSON | Cement Supervisor: | CRAIG KUKUS | ELITE 7 | RYAN WYCKOFF |

OptiCem v6.4.9
28-Feb-12 16:09

# BILL BARRETT GGU KAUFMAN 12B-30-691

SURFACE




| | | | | | |
|---|---|---|---|---|---|
| Customer: | BILL BARRETT | Job Date: | 09-Sep-2011 | Sales Order #: | 8428208 |
| Well Description: | GGU KAUFMAN 12B-30-691 | Job Type: | SURFACE | ADC Used: | YES |
| Company Rep: | JOSH HENDERSON | Cement Supervisor: | CRAIG KUKUS | ELITE 7 | RYAN WYCKOFF |

OptiCem v6.4.9
28-Feb-12 16:11

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# Water Analysis Report

| | | | |
|---|---|---|---|
| **Company:** | BARRETT | **Date:** | 9/9/2011 |
| **Submitted by:** | CRAIGKUKUS | **Date Rec.:** | 9/9/2011 |
| **Attention:** | | **S.O.#** | 8428208 |
| **Lease** | KAUFMAN | **Job Type:** | SURFACE |
| **Well #** | 12B-30-691 | | |

| | | | |
|---|---|---|---|
| **Specific Gravity** | *MAX* | | |
| **pH** | *8* | **8** | |
| **Potassium (K)** | *5000* | **200** | **Mg / L** |
| **Calcium (Ca)** | *500* | **0** | **Mg / L** |
| **Iron (FE2)** | *300* | **0** | **Mg / L** |
| **Chlorides (Cl)** | *3000* | **0** | **Mg / L** |
| **Sulfates ($SO_4$)** | *1500* | **below200** | **Mg / L** |
| **Chlorine ($Cl_2$)** | | **250** | **Mg / L** |
| **Temp** | *40-80* | **59** | **Deg** |
| **Total Dissolved Solids** | | **350** | **Mg / L** |

**Respectfully:** CRAIGKUKUS

**Title:** CEMENTING SUPERVISOR

**Location:** GRANDJUNCTION CO

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# CUSTOMER SURVEY

| | | |
|---|---|---|
| **Sales Order #:** | **Line Item:** | **Survey Conducted Date:** |
| 8428208 | 10 | 9/9/2011 |
| **Customer:** | | **Job Type (BOM):** |
| BILL BARRETT CORPORATION E-BILL | | CMT SURFACE CASING BOM |
| **Customer Representative:** | | **API / UWI: (leave blank if unknown)** |
| JOSH HENDERSON | | 05-045-20741 |
| **Well Name:** | | **Well Number:** |
| KAUFMAN | | 32D-30-691 |
| **Well Type:** | **Well Country:** | |
| Development Well | United States of America | |
| **H2S Present:** | **Well State:** | **Well County:** |
| No | Colorado | Garfield |

Dear Customer,

We hope that you were satisfied with the service quality of this job performed by Halliburton. It is the aim of our management and service personnel to deliver equipment and service of a standard unmatched in the service sector of the energy industry.

Please take the time to let us know if our performance met with your satisfaction. Please be as critical as possible to ensure we constantly improve our service. Your comments are of great value to us and are intended for the exclusive use of Halliburton.

CUSTOMER SATISFACTION SURVEY

| CATEGORY | CUSTOMER SATISFACTION RESPONSE | |
|---|---|---|
| **Survey Conducted Date** | **The date the survey was conducted** | **9/9/2011** |
| **Survey Interviewer** | **The survey interviewer is the person who initiated the survey.** | **CRAIG KUKUS (HX19742)** |
| **Customer Participation** | **Did the customer partipcipate in this survey? (Y/N)** | **Yes** |
| **Customer Representative** | **Enter the Customer representative name** | **JOSH HENDERSON** |
| **HSE** | **Was our HSE performance satisfactory? Circle Y or N** | **Yes** |
| **Equipment** | **Were you satisfied with our Equipment? Circle Y or N** | **Yes** |
| **Personnel** | **Were you satisfied with our people? Circle Y or N** | **Yes** |
| **Customer Comment** | **Customer's Comment** | |
| **Job DVA** | **Did we provide job DVA above our normal service today? Circle Y or N** | **No** |
| **Time** | **Please enter hours in decimal format to nearest quarter hour.** | |
| **Other** | **Enter short text for other efficiencies gained.** | |
| **Customer Initials** | **Customer's Initials** | |
| **Please provide details** | **Please describe how the job efficiencies were gained.** | |

**CUSTOMER SIGNATURE**

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# CUSTOMER SURVEY

| | | |
|---|---|---|
| **Sales Order #:** | **Line Item:** | **Survey Conducted Date:** |
| 8428208 | 10 | 9/9/2011 |
| **Customer:** | | **Job Type (BOM):** |
| BILL BARRETT CORPORATION E-BILL | | CMT SURFACE CASING BOM |
| **Customer Representative:** | | **API / UWI: (leave blank if unknown)** |
| JOSH HENDERSON | | 05-045-20741 |
| **Well Name:** | | **Well Number:** |
| KAUFMAN | | 32D-30-691 |
| **Well Type:** | **Well Country:** | |
| Development Well | United States of America | |
| **H2S Present:** | **Well State:** | **Well County:** |
| No | Colorado | Garfield |

## *KEY PERFORMANCE INDICATORS*

| General | |
|---|---|
| **Survey Conducted Date**<br>The date the survey was conducted | 9/9/2011 |

| Cementing KPI Survey | |
|---|---|
| **Type of Job**<br>Select the type of job. (Cementing or Non-Cementing) | 0 |
| **Select the Maximum Deviation range for this Job**<br>What is the highest deviation for the job you just completed? This may not be the maximum well deviation. | Vertical |
| **Total Operating Time (hours)**<br>Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format. | 2.5 |
| **HSE Incident, Accident, Injury**<br>HSE Incident, Accident, Injury. This should be recordable incidents only. | No |
| **Was the job purpose achieved?**<br>Was the job delivered correctly as per customer agreed design? | Yes |
| **Operating Hours (Pumping Hours)**<br>Total number of hours pumping fluid on this job. Enter in decimal format. | 1 |
| **Customer Non-Productive Rig Time (hrs)**<br>Lost time due to Halliburton in the start, execution, or completion of an ordered service or product, or delays in a follow-on service. Enter in decimal format. 0 if none. | 0 |
| **Type of Rig Classification Job Was Performed**<br>Type Of Rig (classification) Job Was Performed On | Drilling Rig (Portable) |
| **Number Of JSAs Performed**<br>Number Of Jsas Performed | 6 |
| **Number of Unplanned Shutdowns**<br>Unplanned shutdown is when injection stops for any period of time. | 0 |
| **Was this a Primary Cement Job (Yes / No)** | Yes |

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# CUSTOMER SURVEY

| | | |
|---|---|---|
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| **Customer:** | | **Job Type (BOM):** |
| BILL BARRETT CORPORATION E-BILL | | CMT SURFACE CASING BOM |
| **Customer Representative:** | | **API / UWI: (leave blank if unknown)** |
| JOSH HENDERSON | | 05-045-20741 |
| **Well Name:** | | **Well Number:** |
| KAUFMAN | | 32D-30-691 |
| **Well Type:** | **Well Country:** | |
| Development Well | United States of America | |
| **H2S Present:** | **Well State:** | **Well County:** |
| No | Colorado | Garfield |

| | |
|---|---|
| Primary Cement Job= Casing job, Liner job, or Tie-back job. | |
| **Did We Run Wiper Plugs?**<br>Did We Run Top And Bottom Casing Wiper Plugs? | Top |
| **Mixing Density of Job Stayed in Designed Density Range (0-100%)**<br>Density Range defined as +/- .20 ppg. Calculation: Total BBLs cment mixed at designed density divided by total BBLs of cement multiplied by 100 | 97 |
| **Was Automated Density Control Used?**<br>Was Automated Density Control (ADC) Used ? | Yes |
| **Pump Rate (percent) of Job Stayed At Designed Pump Rate**<br>Pump Rate range defined as +/- 1bbl/min. Calculation: Total BBLs of fluid pumped at the designed rate divided by Total BBLs of fluid pumped, multiplied by 100 | 98 |
| **Nbr of Remedial Sqz Jobs Rqd - Competition**<br>Number Of Remedial Squeeze Jobs Required After Primary Job Performed By Competition | 0 |
| **Nbr of Remedial Plug Jobs Rqd - HES**<br>Number Of Remedial Plug Jobs Needed After Primary Plug Pumped By HES | 0 |
| **Nbr of Remedial Sqz Jobs Rqd - HES**<br>Number Of Remedial Squeeze Jobs Required After Primary Job Performed By HES | 0 |