HALLIBURTON

# WPX ENERGY ROCKY MOUNTAIN LLC-EBUS

**SG 442-23**
**GRAND VALLEY PICEANCE**
**Garfield County , Colorado**

# Cement Surface Casing

**23-Nov-2012**

# Post Job Report

HALLIBURTON

# Cementing Job Summary

*The Road to Excellence Starts with Safety*

| | | | |
|---|---|---|---|
| **Sold To #:** 300721 | **Ship To #:** 2959558 | **Quote #:** | **Sales Order #:** 9912539 |
| **Customer:** WPX ENERGY ROCKY MOUNTAIN LLC-EBUS | | **Customer Rep:** Hudson, Matt | |
| **Well Name:** SG | **Well #:** 442-23 | | **API/UWI #:** |
| **Field:** GRAND VALLEY PICEANCE | **City (SAP):** PARACHUTE | **County/Parish:** Garfield | **State:** Colorado |
| **Contractor:** NABORS 574 | **Rig/Platform Name/Num:** NABORS 574 | | |
| **Job Purpose:** Cement Surface Casing | | | |
| **Well Type:** Development Well | **Job Type:** Cement Surface Casing | | |
| **Sales Person:** MAYO, MARK | **Srvc Supervisor:** ARNOLD, EDWARD | **MBU ID Emp #:** 439784 | |

## Job Personnel

| HES Emp Name | Exp Hrs | Emp # | HES Emp Name | Exp Hrs | Emp # | HES Emp Name | Exp Hrs | Emp # |
|---|---|---|---|---|---|---|---|---|
| ARNOLD, EDWARD John | 7.5 | 439784 | DOUT, JACOB J | 7.5 | 430298 | SINCLAIR, DAN J | 7.5 | 338784 |

## Equipment

| HES Unit # | *Distance-1 way* | HES Unit # | *Distance-1 way* | HES Unit # | *Distance-1 way* | HES Unit # | *Distance-1 way* |
|---|---|---|---|---|---|---|---|
| 10867425 | 60 mile | 10871245 | 60 mile | 10897891 | 60 mile | 11259882 | 60 mile |
| 11808831 | 60 mile | | | | | | |

## Job Hours

| Date | *On Location Hours* | Operating Hours | Date | *On Location Hours* | Operating Hours | Date | *On Location Hours* | Operating Hours |
|---|---|---|---|---|---|---|---|---|
| 11-22-2012 | 1.5 | 0 | 11-23-2012 | 6 | 3 | | | |
| **TOTAL** | | | | *Total is the sum of each column separately* | | | | |

## Job

| | | | |
|---|---|---|---|
| **Formation Name** | | | |
| **Formation Depth (MD)** | **Top** | **Bottom** | |
| **Form Type** | | **BHST** | |
| **Job depth MD** | 1262. ft. | **Job Depth TVD** | 1262. ft. |
| **Water Depth** | | **Wk. Ht Above Floor** | |
| **Perforation Depth (MD)** | *From* | **To** | |

## Job Times

| | Date | Time | Time Zone |
|---|---|---|---|
| **Called Out** | 22 - Nov - 2012 | 19:00 | MST |
| **On Location** | 22 - Nov - 2012 | 22:30 | MST |
| **Job Started** | 23 - Nov - 2012 | 03:32 | MST |
| **Job Completed** | 23 - Nov - 2012 | 04:33 | MST |
| **Departed Loc** | 23 - Nov - 2012 | 06:00 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|

## 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** | 9.625 | 1 | HES |
| **Float Shoe** | | | | | **Bridge Plug** | | | | | **Bottom Plug** | | | |
| **Float Collar** | | | | | **Retainer** | | | | | **SSR plug set** | | | |
| **Insert Float** | | | | | | | | | | **Plug Container** | 9.625 | 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 ft3/sk | Mix Fluid Gal/sk | Rate bbl/min | Total Mix Fluid Gal/sk |
|---|---|---|---|---|---|---|---|---|---|

**Stage/Plug #: 1**

HALLIBURTON

# Cementing Job Summary

| Stage/Plug #: 1 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **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** | **Fresh Water** | | **20.00** | **bbl** | **.** | **.0** | **.0** | **4** | |
| **2** | **LEAD CEMENT** | **VERSACEM (TM) SYSTEM (452010)** | **160.0** | **sacks** | **12.3** | **2.38** | **13.75** | **6** | **13.75** |
| | 13.75 Gal | FRESH WATER | | | | | | | |
| **3** | **TAIL CEMENT** | **VERSACEM (TM) SYSTEM (452010)** | **160.0** | **sacks** | **12.8** | **2.11** | **11.75** | **6** | **11.75** |
| | 11.75 Gal | FRESH WATER | | | | | | | |
| **4** | **Fresh Water Displacement** | | **96.00** | **bbl** | **.** | **.0** | **.0** | **10** | |

| Calculated Values | | Pressures | | Volumes | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *Displacement* | 95.6 | **Shut In: Instant** | | **Lost Returns** | | *Cement Slurry* | 127.9 | **Pad** | |
| **Top Of Cement** | SURFACE | **5 Min** | | **Cement Returns** | 10 | **Actual Displacement** | 95.9 | **Treatment** | |
| **Frac Gradient** | | **15 Min** | | **Spacers** | 20 | **Load and Breakdown** | | **Total Job** | **243.8** |

| *Rates* | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Circulating* | *RIG* | *Mixing* | 6 | *Displacement* | 10 | **Avg. Job** | 8 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Cement Left In Pipe* | **Amount** | ***47.35FT*** | *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*** |

HALLIBURTON

# *Cementing Job Log*

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

| | | | |
|---|---|---|---|
| **Sold To #:** 300721 | **Ship To #:** 2959558 | **Quote #:** | **Sales Order #:** 9912539 |
| **Customer:** WPX ENERGY ROCKY MOUNTAIN LLC-EBUS | | **Customer Rep:** Hudson, Matt | |
| **Well Name:** SG | **Well #:** 442-23 | | **API/UWI #:** |
| **Field:** GRAND VALLEY PICEANCE | **City (SAP):** PARACHUTE | **County/Parish:** Garfield | **State:** Colorado |
| **Legal Description:** | | | |
| **Lat:** | | **Long:** | |
| **Contractor:** NABORS 574 | **Rig/Platform Name/Num:** NABORS 574 | | |
| **Job Purpose:** Cement Surface Casing | | | **Ticket Amount:** |
| **Well Type:** Development Well | **Job Type:** Cement Surface Casing | | |
| **Sales Person:** MAYO, MARK | **Srvc Supervisor:** ARNOLD, EDWARD | | **MBU ID Emp #:** 439784 |

| Activity Description | Date/Time | Cht # | Rate bbl/min | Volume bbl Stage | Volume bbl Total | Pressure psig Tubing | Pressure psig Casing | Comments |
|---|---|---|---|---|---|---|---|---|
| Call Out | 11/22/2012 19:00 | | | | | | | Crew called out. |
| Pre-Convoy Safety Meeting | 11/22/2012 21:15 | | | | | | | Including entire cement crew, discuss hazards, route, and safety. |
| Crew Leave Yard | 11/22/2012 21:30 | | | | | | | Leave yard for location. |
| Arrive At Loc | 11/22/2012 22:30 | | | | | | | Rig still running casing. Water Test: Ph. 7; KCL 250; SO4 <200; Chlorides 0; Fe 0; Calcium 120; Temp 78; 230 TDS. |
| Assessment Of Location Safety Meeting | 11/23/2012 02:00 | | | | | | | Including entire cement crew, discussed hazards, and rig up. |
| Pre-Rig Up Safety Meeting | 11/23/2012 02:10 | | | | | | | Water Test; PH 7; KCL 250; SO4 <200; Fe 0; Calcium 120; Chlorides 0; Temp 78; TDS 230. |
| Rig-Up Equipment | 11/23/2012 02:15 | | | | | | | 1 Elite # 8; 1 660 Bulk Truck; 1 hard line to rig floor; 1 line to rig tank; 1 line to upright; 1 9 5/8" compact head. |
| Rig-Up Completed | 11/23/2012 03:00 | | | | | | | |
| Pre-Job Safety Meeting | 11/23/2012 03:15 | | | | | | | Including everyone on location. Discussed hazards, emergency situations, and job procedure. |
| **Activity Description** | **Date/Time** | **Cht #** | **Rate bbl/min** | **Volume bbl Stage** | **Volume bbl Total** | **Pressure psig Tubing** | **Pressure psig Casing** | **Comments** |

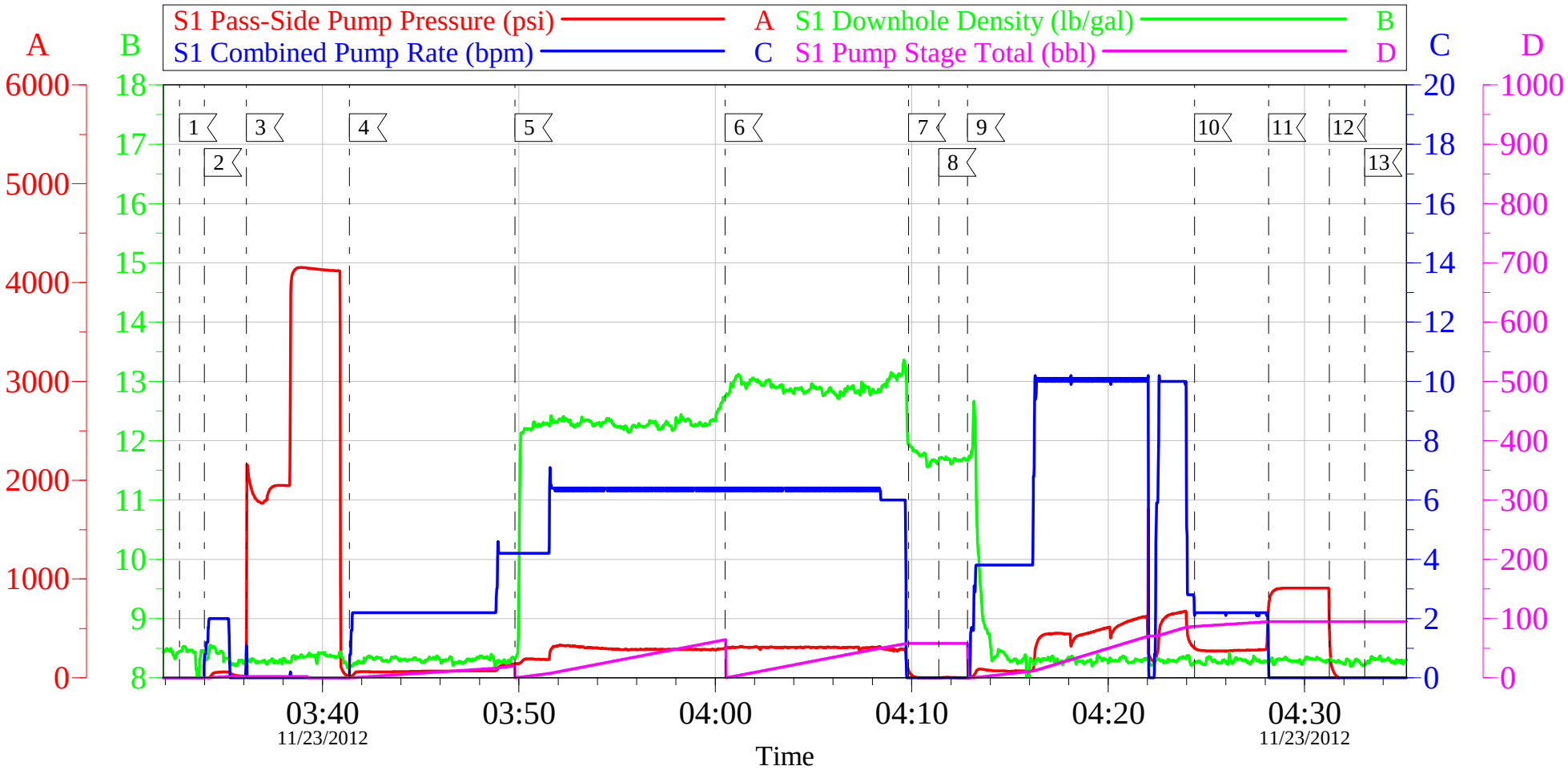
HALLIBURTON

# *Cementing Job Log*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Start Job | 11/23/2012 03:32 | | | | | | | TD 1280; TP 1266; SJ 47.35; OH 13 1/2"; CASING 9 5/8"m, 32.3# H-40; MUD 10 PPG. |
| Pump Water | 11/23/2012 03:33 | | 2 | 2 | | | 52.0 | Fresh water ahead to fill lines. |
| Test Lines | 11/23/2012 03:36 | | | | | 4151.0 | | Test lines to 4151 psi, Found no leaks, good test. |
| Pump Spacer 1 | 11/23/2012 03:41 | | 4 | 20 | | | 140.0 | 20 BBL's fresh water. |
| Pump Lead Cement | 11/23/2012 03:49 | | 6 | 67.8 | | | 300.0 | 169 sks Lead cement, 12.3 ppg, 2.38 cf3, 13.75 gal/sk. |
| Pump Tail Cement | 11/23/2012 04:00 | | 6 | 60.1 | | | 310.0 | 160 sks Tail cement, 12.8 ppg, 2.11 cf3, 11.75 gal/sk. |
| Shutdown | 11/23/2012 04:09 | | | | | | | |
| Drop Plug | 11/23/2012 04:11 | | | | | | | Plug left Container. |
| Pump Displacement | 11/23/2012 04:12 | | 10 | 85.9 | | | 685.0 | Fresh water displacement. |
| Slow Rate | 11/23/2012 04:24 | | 2 | 10 | | | 268.0 | Slow rate last 10 BBL's of displacement prior to bumping the plug. |
| Bump Plug | 11/23/2012 04:28 | | | | 95.9 | | 908.0 | Plug landed. Took to 908 psi. |
| Check Floats | 11/23/2012 04:31 | | | | | | | Floats Held. 3/4 BBL's back. 10 BBL's of good cement to surface. |
| End Job | 11/23/2012 04:33 | | | | | | | |
| Pre-Rig Down Safety Meeting | 11/23/2012 04:35 | | | | | | | Including entire cement crew, discussed hazards and safety. |
| Rig-Down Equipment | 11/23/2012 04:40 | | | | | | | |
| Pre-Convoy Safety Meeting | 11/23/2012 05:45 | | | | | | | Including entire cement crew, discussed hazards, route, and safety. |
| Crew Leave Location | 11/23/2012 06:00 | | | | | | | |
| Other | 11/23/2012 06:00 | | | | | | | Thank You for using Halliburton, Ed Arnold and Crew. |

# WPX - SG 442-23

9 5/8" SURFACE




Local Event Log

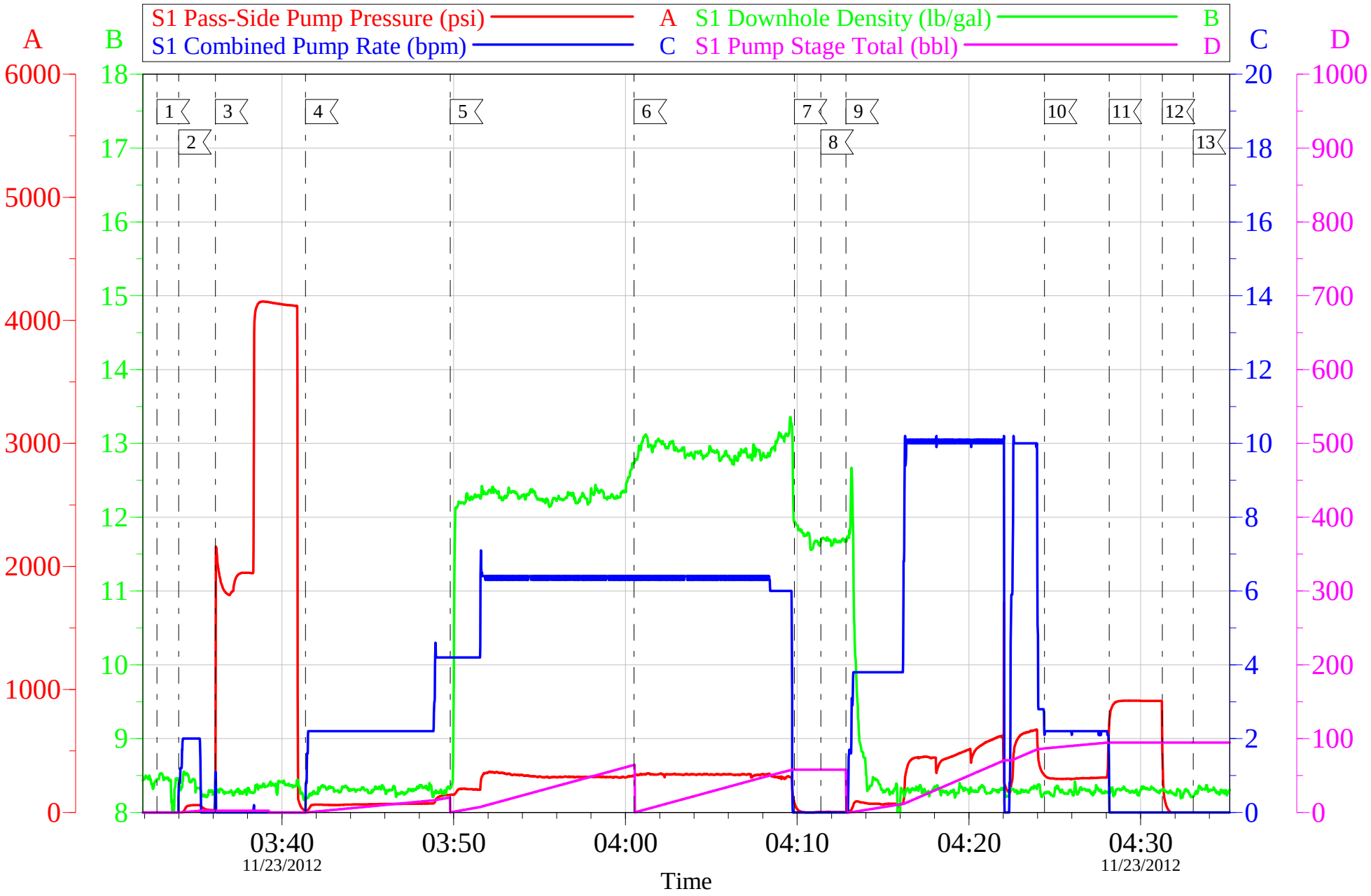
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | START JOB | 03:32:43 | 2 | FILL LINES | 03:33:59 | 3 | TEST LINES | 03:36:08 |
| 4 | H2O SPACER | 03:41:23 | 5 | LEAD CEMENT | 03:49:48 | 6 | TAIL CEMENT | 04:00:30 |
| 7 | SHUT DOWN | 04:09:50 | 8 | DROP PLUG | 04:11:23 | 9 | H2O DISPLACEMENT | 04:12:50 |
| 10 | SLOWRATE | 04:24:24 | 11 | BUMP PLUG | 04:28:10 | 12 | CHECK FLOATS | 04:31:15 |
| 13 | END JOB | 04:33:03 | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Customer: | WPX | Job Date: | 23-Nov-2012 | Sales Order #: | 9912539 |
| Well Description: | SG 442-23 | Job Type: | SURFACE | ADC Used: | YES |
| Company Rep: | MATT HUDSON | Cement Supervisor: | ED ARNOLD | Elite #8: | DAN SINCLAIR |

OptiCem v6.4.10
23-Nov-12 05:10

# WPX - SG 442-23

9 5/8" SURFACE




| | | | | | |
|---|---|---|---|---|---|
| Customer: | WPX | Job Date: | 23-Nov-2012 | Sales Order #: | 9912539 |
| Well Description: | SG 442-23 | Job Type: | SURFACE | ADC Used: | YES |
| Company Rep: | MATT HUDSON | Cement Supervisor: | ED ARNOLD | Elite #8: | DAN SINCLAIR |

OptiCem v6.4.10
23-Nov-12 05:11

HALLIBURTON

# Water Analysis Report

| | | | |
|---|---|---|---|
| **Company:** | WPX | **Date:** | 11/23/2012 |
| **Submitted by:** | ED ARNOLD | **Date Rec.:** | 11/23/2012 |
| **Attention:** | J.TROUT | **S.O.#** | 9912539 |
| **Lease** | SG | **Job Type:** | SURFACE |
| **Well #** | 442-23 | | |

| | | | |
|---|---|---|---|
| **Specific Gravity** | *MAX* | 1 | |
| **pH** | *8* | 7 | |
| **Potassium (K)** | *5000* | 250 | Mg / L |
| **Calcium (Ca)** | *500* | 120 | Mg / L |
| **Iron (FE2)** | *300* | 0 | Mg / L |
| **Chlorides (Cl)** | *3000* | 0 | Mg / L |
| **Sulfates ($SO_4$)** | *1500* | <200 | Mg / L |
| **Chlorine ($Cl_2$)** | | 0 | Mg / L |
| **Temp** | *40-80* | 78 | Deg |
| **Total Dissolved Solids** | | 230 | Mg / L |

**Respectfully:** ED ARNOLD

**Title:** CEMENTING SUPERVISOR

**Location:** Grand Junction, CO

NOTICE: This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage whether due to act or omission resulting from such report or its use

HALLIBURTON

# CUSTOMER SURVEY

| | | |
|---|---|---|
| **Sales Order #:** | **Line Item:** | **Survey Conducted Date:** |
| 9912539 | 10 | 11/23/2012 |
| **Customer:** | | **Job Type (BOM):** |
| WPX ENERGY ROCKY MOUNTAIN LLC-EBUS | | CMT SURFACE CASING BOM |
| **Customer Representative:** | | **API / UWI: (leave blank if unknown)** |
| MATT HUDSON | | AFEYSFDNCBKN34QRAAA |
| **Well Name:** | | **Well Number:** |
| SG | | 442-23 |
| **Well Type:** | **Well Country:** | |
| Development Well | United States of America | |
| **H2S Present:** | **Well State:** | **Well County:** |
| | 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** | **11/23/2012** |
| **Survey Interviewer** | **The survey interviewer is the person who initiated the survey.** | **EDWARD ARNOLD (HX46731)** |
| **Customer Participation** | **Did the customer partipcipate in this survey? (Y/N)** | **Yes** |
| **Customer Representative** | **Enter the Customer representative name** | **MATT HUDSON** |
| **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** | |

**CUSTOMER SIGNATURE**

HALLIBURTON

# CUSTOMER SURVEY

| | | |
|---|---|---|
| **Sales Order #:** | **Line Item:** | **Survey Conducted Date:** |
| 9912539 | 10 | 11/23/2012 |
| **Customer:** | | **Job Type (BOM):** |
| WPX ENERGY ROCKY MOUNTAIN LLC-EBUS | | CMT SURFACE CASING BOM |
| **Customer Representative:** | | **API / UWI: (leave blank if unknown)** |
| MATT HUDSON | | AFEYSFDNCBKN34QRAAA |
| **Well Name:** | | **Well Number:** |
| SG | | 442-23 |
| **Well Type:** | **Well Country:** | |
| Development Well | United States of America | |
| **H2S Present:** | **Well State:** | **Well County:** |
| | Colorado | Garfield |

## *KEY PERFORMANCE INDICATORS*

| General | |
|---|---|
| **Survey Conducted Date**<br>The date the survey was conducted | 11/23/2012 |

| 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. | 3 |
| **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. | 1.5 |
| **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 | 5 |
| **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 |

HALLIBURTON

# CUSTOMER SURVEY

| | | |
|---|---|---|
| **Sales Order #:** | **Line Item:** | **Survey Conducted Date:** |
| 9912539 | 10 | 11/23/2012 |
| **Customer:** | | **Job Type (BOM):** |
| WPX ENERGY ROCKY MOUNTAIN LLC-EBUS | | CMT SURFACE CASING BOM |
| **Customer Representative:** | | **API / UWI: (leave blank if unknown)** |
| MATT HUDSON | | AFEYSFDNCBKN34QRAAA |
| **Well Name:** | | **Well Number:** |
| SG | | 442-23 |
| **Well Type:** | **Well Country:** | |
| Development Well | United States of America | |
| **H2S Present:** | **Well State:** | **Well County:** |
| | Colorado | Garfield |

| | |
|---|---|
| Primary Cement Job= Casing job, Liner job, or Tie-back job. | |
| **Did We Run Wiper Plugs?**<br><br>Did We Run Top And Bottom Casing Wiper Plugs? | Top |
| **Mixing Density of Job Stayed in Designed Density Range (0-100%)**<br><br>Density Range defined as +/- .20 ppg. Calculation: Total BBLs cment mixed at designed density divided by total BBLs of cement multiplied by 100 | 5 |
| **Was Automated Density Control Used?**<br><br>Was Automated Density Control (ADC) Used ? | Yes |
| **Pump Rate (percent) of Job Stayed At Designed Pump Rate**<br><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 | 99 |
| **Nbr of Remedial Sqz Jobs Rqd - Competition**<br><br>Number Of Remedial Squeeze Jobs Required After Primary Job Performed By Competition | 0 |
| **Nbr of Remedial Plug Jobs Rqd - HES**<br><br>Number Of Remedial Plug Jobs Needed After Primary Plug Pumped By HES | 0 |
| **Nbr of Remedial Sqz Jobs Rqd - HES**<br><br>Number Of Remedial Squeeze Jobs Required After Primary Job Performed By HES | 0 |