
ANTERO RESOURCES

**Mclin C19
KOKOPELLI
Garfield County , Colorado**

Cement Surface Casing
01-Nov-2011

Post Job Summary

The Road to Excellence Starts with Safety

| | | | |
|--|--|----------------------------|------------------------|
| Sold To #: 337854 | Ship To #: 2887683 | Quote #: | Sales Order #: 8474690 |
| Customer: ANTERO RESOURCES | | Customer Rep: Oaks, Bowdie | |
| Well Name: Mclin | Well #: C19 | API/UWI #: 05-045-20139 | |
| Field: KOKOPELLI | City (SAP): SILT | County/Parish: Garfield | State: Colorado |
| Lat: N 39.525 deg. OR N 39 deg. 31 min. 30.202 secs. | Long: W 107.607 deg. OR W -108 deg. 23 min. 34.231 secs. | | |
| Contractor: Craigs Roustabout Service, Inc. | Rig/Platform Name/Num: Craigs #2 | | |

Job Purpose: Cement Surface Casing

Well Type: Development Well

Job Type: Cement Surface Casing

Sales Person: METLI, MARSHALL

Srv Supervisor: CHASTAIN, DERICK

MBU ID Emp #: 455848

Job Personnel

| HES Emp Name | Exp Hrs | Emp # | HES Emp Name | Exp Hrs | Emp # | HES Emp Name | Exp Hrs | Emp # |
|--------------------------|---------|--------|------------------------|---------|--------|----------------------|---------|--------|
| BROWN, TRAVIS A | 4 | 396848 | CHASTAIN, DERICK Allan | 4 | 455848 | LESTER, LEVI William | 4 | 474117 |
| MUHLESTEIN, RYAN Herrick | 4 | 453609 | | | | | | |

Equipment

| HES Unit # | Distance-1 way | HES Unit # | Distance-1 way | HES Unit # | Distance-1 way | HES Unit # | Distance-1 way |
|------------|----------------|------------|----------------|------------|----------------|------------|----------------|
| 10551730C | 120 mile | 10784064 | 120 mile | 10856958 | 120 mile | 10867322 | 120 mile |
| 10897891 | 120 mile | 10973571 | 120 mile | 11259884 | 120 mile | | |

Job Hours

| Date | On Location Hours | Operating Hours | Date | On Location Hours | Operating Hours | Date | On Location Hours | Operating Hours |
|-----------|-------------------|-----------------|------|-------------------|-----------------|------|-------------------|-----------------|
| 11/1/2011 | 4 | 2 | | | | | | |

TOTAL Total is the sum of each column separately

| Job | | | | Job Times | | | |
|------------------------|----------|-------------------|----------|---------------|-----------------|-----------|-----|
| Formation Name | | | | Date | Time | Time Zone | |
| Formation Depth (MD) | Top | Bottom | | Called Out | 01 - Nov - 2011 | 05:00 | MST |
| Form Type | BHST | | | On Location | 01 - Nov - 2011 | 10:00 | MST |
| Job depth MD | 1060. ft | Job Depth TVD | 1060. ft | Job Started | 01 - Nov - 2011 | 12:06 | MST |
| Water Depth | | Wk Ht Above Floor | 2. ft | Job Completed | 01 - Nov - 2011 | 13:16 | MST |
| Perforation Depth (MD) | From | To | | Departed Loc | 01 - Nov - 2011 | 14:00 | 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 |
|-----------------------|------------|-------------------|---------|-------|---------------|--------|-------|-----------|--------------|------------|---------------|
| 12 1/4" Open Hole | | | | 12.25 | | | | . | 1060. | | |
| 8 5/8" Surface Casing | New | | 8.625 | 7.825 | 36. | | J-55 | . | 1043.7 | | |

Tools and Accessories

| Type | Size | Qty | Make | Depth | Type | Size | Qty | Make | Depth | Type | Size | Qty | Make |
|--------------|------|-----|------|-------|-------------|------|-----|------|-------|----------------|-------|-----|------|
| Guide Shoe | | | | | Packer | | | | | Top Plug | 8.625 | 1 | HES |
| Float Shoe | | | | | Bridge Plug | | | | | Bottom Plug | | | |
| Float Collar | | | | | Retainer | | | | | SSR plug set | | | |
| Insert Float | | | | | | | | | | Plug Container | | | |
| 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 /sk | Mix Fluid Gal/sk | Rate bbl/min | Total Mix Fluid Gal/sk |
| 1 | Water Spacer | | 20.00 | bbl | 8.33 | .0 | .0 | 3.5 | |
| 2 | VersaCem Lead Cement | VERSACEM (TM) SYSTEM (452010) | 160.0 | sacks | 12.3 | 2.38 | 13.77 | 5.5 | 13.77 |
| | 13.77 Gal | FRESH WATER | | | | | | | |
| 3 | SwiftCem Tail Cement | SWIFTCES (TM) SYSTEM (452990) | 205.0 | sacks | 14.2 | 1.43 | 6.85 | 5 | 6.85 |
| | 6.85 Gal | FRESH WATER | | | | | | | |
| 4 | Displacement | | 61.00 | bbl | 8.33 | .0 | .0 | 5 | |
| Calculated Values | | Pressures | | Volumes | | | | | |
| Displacement | 61 | Shut In: Instant | | Lost Returns | 0 | Cement Slurry | 120 | Pad | |
| Top Of Cement | SURFACE | 5 Min | | Cement Returns | 29 | Actual Displacement | 61 | Treatment | |
| Frac Gradient | | 15 Min | | Spacers | 20 | Load and Breakdown | | Total Job | 201 |
| Rates | | | | | | | | | |
| Circulating | 0 | Mixing | 5.5 | Displacement | 5 | Avg. Job | 4.5 | | |
| Cement Left In Pipe | Amount | 41.5 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 | | | | | |

The Road to Excellence Starts with Safety

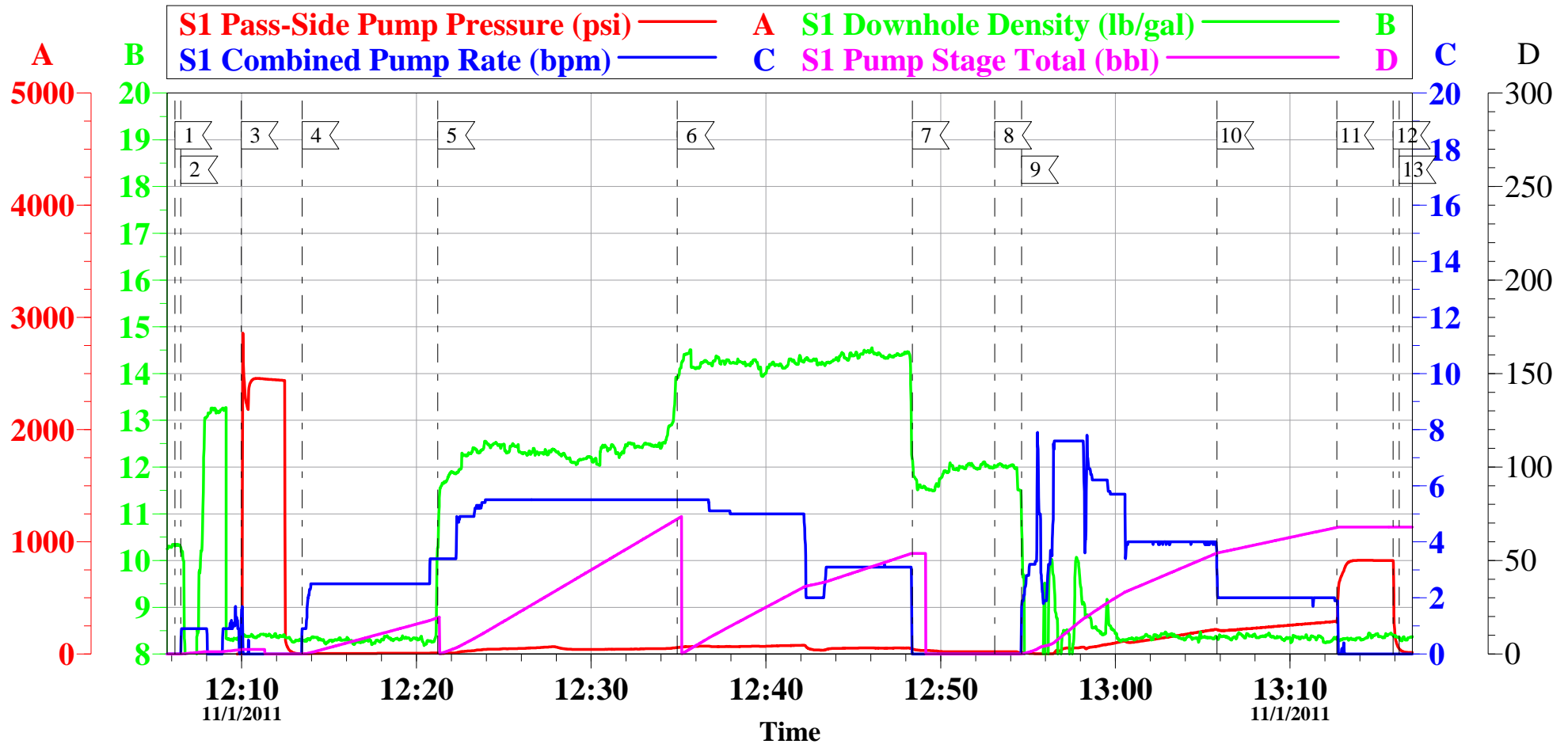
| | | | |
|---|---------------------------|---|-------------------------------|
| Sold To #: 337854 | Ship To #: 2887683 | Quote #: | Sales Order #: 8474690 |
| Customer: ANTERO RESOURCES | | Customer Rep: Oaks, Bowdie | |
| Well Name: Mclin | Well #: C19 | API/UWI #: 05-045-20139 | |
| Field: KOKOPELLI | City (SAP): SILT | County/Parish: Garfield | State: Colorado |
| Legal Description: | | | |
| Lat: N 39.525 deg. OR N 39 deg. 31 min. 30.202 secs. | | Long: W 107.607 deg. OR W -108 deg. 23 min. 34.231 secs. | |
| Contractor: Craigs Roustabout Service, Inc. | | Rig/Platform Name/Num: Craigs #2 | |
| Job Purpose: Cement Surface Casing | | | Ticket Amount: |
| Well Type: Development Well | | Job Type: Cement Surface Casing | |
| Sales Person: METLI, MARSHALL | | Srv Supervisor: CHASTAIN, DERICK | MBU ID Emp #: 455848 |

| Activity Description | Date/Time | Cht # | Rate bbl/min | Volume bbl | | Pressure psig | | Comments |
|--|------------------|-------|--------------|------------|-------|---------------|--------|--|
| | | | | Stage | Total | Tubing | Casing | |
| Call Out | 11/01/2011 05:00 | | | | | | | |
| Pre-Convoy Safety Meeting | 11/01/2011 08:00 | | | | | | | WITH ALL HES PERSONNEL SAFE DRIVING PRACTICES AND TRAVEL ROUTE REVIEWED |
| Arrive at Location from Service Center | 11/01/2011 10:00 | | | | | | | RIG RUNNING CASING |
| Assessment Of Location Safety Meeting | 11/01/2011 10:10 | | | | | | | WITH ALL HES PERSONNEL |
| Pre-Rig Up Safety Meeting | 11/01/2011 11:15 | | | | | | | WITH ALL HES PERSONNEL |
| Rig-Up Equipment | 11/01/2011 11:30 | | | | | | | 1 ELITE HT 400 PUMP, 2 660 BULK TRUCKS, 1 F-450 PICK-UP, 1 HES CIRCULATING SWAGE, 2" IRON TO WELL HEAD |
| Pre-Job Safety Meeting | 11/01/2011 11:55 | | | | | | | WITH ALL HES PERSONNEL, RIG CREW AND CO REP |
| Start Job | 11/01/2011 12:06 | | | | | | | TD 1060', TP 11043.7061', FC 1002.2' SJ 41.5', OH 12.25", SURFACE CASING 8.625" 32# J-55. |
| Pump Water | 11/01/2011 12:06 | | 1 | 1 | | | 11.0 | FRESH H2O, TO PRIME LINES |
| Test Lines | 11/01/2011 12:09 | | | | | | | HELD 2471 PSI 2 MIN NO LEAKS |
| Pump Spacer 1 | 11/01/2011 12:13 | | 3.5 | 20 | | | 21.0 | FRESH H2O |

| Activity Description | Date/Time | Cht # | Rate bbl/min | Volume bbl | | Pressure psig | | Comments |
|-----------------------------|------------------|-------|--------------|------------|-------|---------------|--------|---|
| | | | | Stage | Total | Tubing | Casing | |
| Pump Lead Cement | 11/01/2011 12:21 | | 5.5 | 67.8 | | | 80.0 | 160 SKS 12.3 PPG 2.38 FT3/SK 13.77 GAL/SK WEIGHED VERIFIED VIA MUD SCALES WET AND DRY SAMPLES SUBMITTED |
| Pump Tail Cement | 11/01/2011 12:34 | | 5 | 52.2 | | | 80.0 | 205 SKS 14.2 PPG 1.43 FT3/SK 6.85 GAL/SK WEIGHED VERIFIED VIA MUD SCALES WET AND DRY SAMPLES SUBMITTED |
| Shutdown | 11/01/2011 12:48 | | | | | | | WASH UP ON TOP OF PLUG |
| Drop Top Plug | 11/01/2011 12:53 | | | | | | | VERIFY PLUG LAUNCHED |
| Pump Displacement | 11/01/2011 12:54 | | 5 | 61 | | | 235.0 | CMT RETURNS 32 BBLS INTO DIS, 29 BBLS TO SURFACE |
| Slow Rate | 11/01/2011 13:05 | | 2 | 51 | | | 316.0 | SLOW RATE 10 BBLS PRIOR TO CALCULATED DISPLACEMENT |
| Bump Plug | 11/01/2011 13:12 | | 2 | 61 | | | 820.0 | BUMP PLUG HOLD 2 MINS |
| Check Floats | 11/01/2011 13:15 | | | | | | | FLOATS HOLDING, GOOD RETURNS THROUGHOUT JOB |
| End Job | 11/01/2011 13:16 | | | | | | | NO ADD HOURS OR DERRICK CHARGE. 80 LBS SUGAR USED |
| Pre-Rig Down Safety Meeting | 11/01/2011 13:20 | | | | | | | WITH ALL HES PERSONNEL |
| Rig-Down Equipment | 11/01/2011 13:30 | | | | | | | AREA FREE FROM DEBRIS |
| Pre-Convoy Safety Meeting | 11/01/2011 13:50 | | | | | | | WITH ALL HES PERSONNEL |
| Crew Leave Location | 11/01/2011 14:00 | | | | | | | THANK YOU FOR USING HALLIBURTON CEMENT DEPARTMENT. DERICK CHASTAIN AND CREW |

ANTERO - MCLIN C19

SURFACE CASING



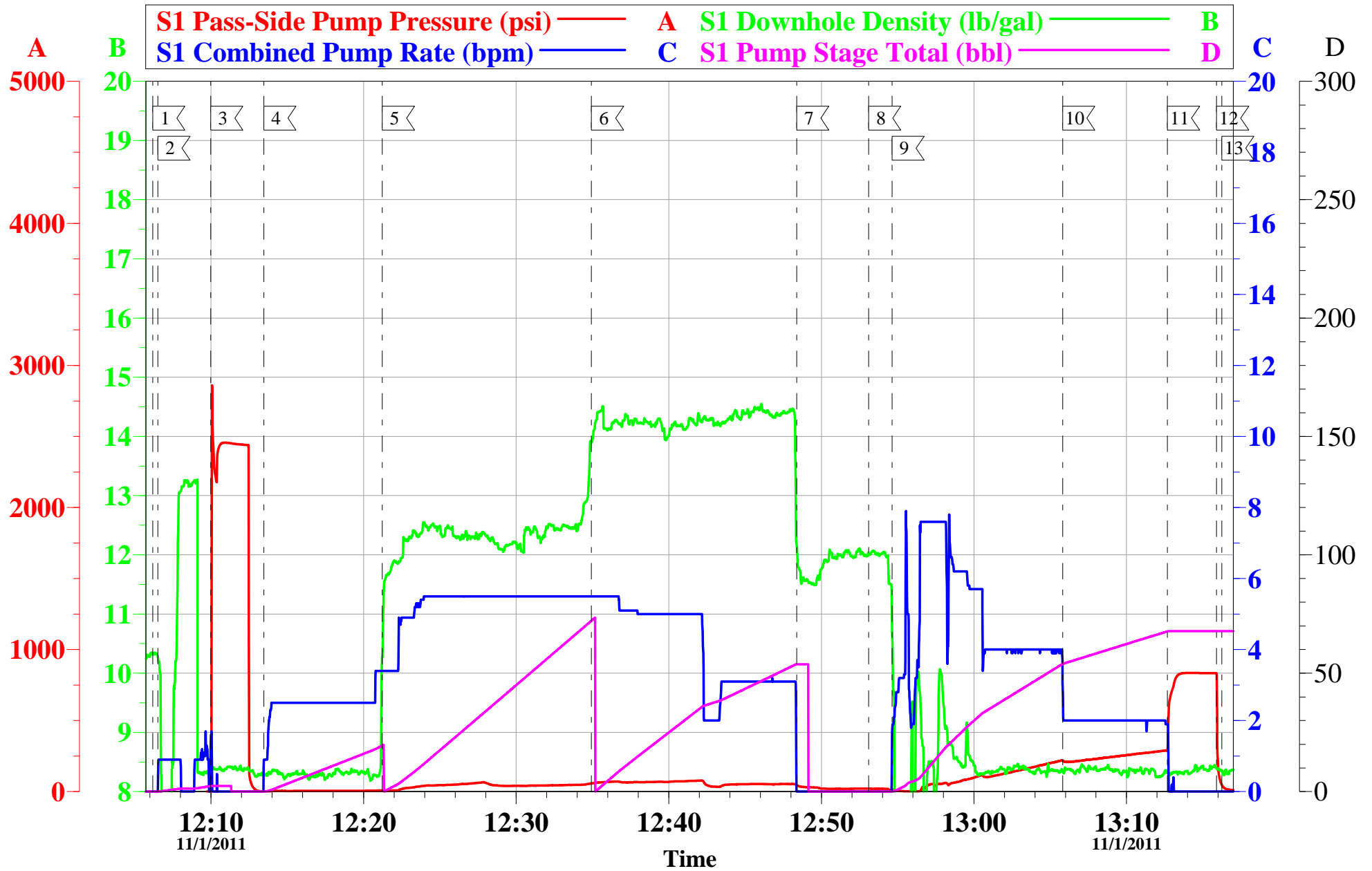
| Local Event Log | | | | | | | | |
|-----------------|-----------------|----------|----|------------------|----------|----|-------------------|----------|
| 1 | START JOB | 12:06:11 | 2 | FILL LINES | 12:06:31 | 3 | TEST LINES | 12:09:58 |
| 4 | PUMP H2O SPACER | 12:13:27 | 5 | PUMP LEAD CEMENT | 12:21:13 | 6 | PUMP TAIL CEMENT | 12:34:56 |
| 7 | SHUTDOWN | 12:48:23 | 8 | DROP PLUG | 12:53:05 | 9 | PUMP DISPLACEMENT | 12:54:38 |
| 10 | SLOW RATE | 13:05:49 | 11 | BUMP PLUG | 13:12:41 | 12 | CHECK FLOATS | 13:15:54 |
| 13 | END JOB | 13:16:14 | | | | | | |

| | | | | | |
|-------------------|-------------|---------------------|-----------------|--------------------|-----------------|
| Customer: | ANTERO | Job Date: | 01-Nov-2011 | Sales Order #: | 8474690 |
| Well Description: | MC LIN C19 | Job type: | SURFACE | ADC Used: | YES |
| Customer Rep: | BOWDIE OAKS | Service Supervisor: | DERICK CHASTAIN | Operator/ Pump #2: | RYAN MUHLESTEIN |

OptiCem v6.4.10
01-Nov-11 13:24

ANTERO - MCLIN C19

SURFACE CASING



| | | |
|------------------------------|-------------------------------------|------------------------------------|
| Customer: ANTERO | Job Date: 01-Nov-2011 | Sales Order #: 8474690 |
| Well Description: MC LIN C19 | Job type: SURFACE | ADC Used: YES |
| Customer Rep: BOWDIE OAKS | Service Supervisor: DERICK CHASTAIN | Operator/ Pump #2: RYAN MUHLESTEIN |

OptiCem v6.4.10
01-Nov-11 13:25

| | | |
|--|--|--|
| Sales Order #: 8474690 | Line Item: 10 | Survey Conducted Date: 11/1/2011 |
| Customer: ANTERO RESOURCES | | Job Type (BOM): CMT SURFACE CASING BOM |
| Customer Representative: BOWDIE OAKS | | API / UWI: (leave blank if unknown) 05-045-20139 |
| Well Name: Mclin | | Well Number: C19 |
| Well Type: Development Well | Well Country: United States of America | |
| H2S Present: No | Well State: Colorado | Well County: 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 | 11/1/2011 |
| Survey Interviewer | The survey interviewer is the person who initiated the survey. | DERICK CHASTAIN (HB23225) |
| Customer Participation | Did the customer participate in this survey? (Y/N) | Yes |
| Customer Representative | Enter the Customer representative name | BOWDIE OAKS |
| 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 | NONE |

CUSTOMER SIGNATURE

| | | |
|--|--|--|
| Sales Order #: 8474690 | Line Item: 10 | Survey Conducted Date: 11/1/2011 |
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| Well Name: Mclin | | Well Number: C19 |
| Well Type: Development Well | Well Country: United States of America | |
| H2S Present: No | Well State: Colorado | Well County: Garfield |

KEY PERFORMANCE INDICATORS

| General | |
|---|-----------|
| Survey Conducted Date The date the survey was conducted | 11/1/2011 |

| Cementing KPI Survey | |
|--|-------------------------|
| Type of Job Select the type of job. (Cementing or Non-Cementing) | 0 |
| Select the Maximum Deviation range for this Job What is the highest deviation for the job you just completed? This may not be the maximum well deviation. | Vertical |
| Total Operating Time (hours) Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format. | 3 |
| HSE Incident, Accident, Injury HSE Incident, Accident, Injury. This should be recordable incidents only. | No |
| Was the job purpose achieved? Was the job delivered correctly as per customer agreed design? | Yes |
| Operating Hours (Pumping Hours) Total number of hours pumping fluid on this job. Enter in decimal format. | 2 |
| Customer Non-Productive Rig Time (hrs) 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 Type Of Rig (classification) Job Was Performed On | Drilling Rig (Portable) |
| Number Of JSAs Performed Number Of Jsas Performed | 6 |
| Number of Unplanned Shutdowns 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 Representative: BOWDIE OAKS | | API / UWI: (leave blank if unknown) 05-045-20139 |
| Well Name: Mclin | | Well Number: C19 |
| Well Type: Development Well | Well Country: United States of America | |
| H2S Present: No | Well State: Colorado | Well County: Garfield |

| | |
|--|-----|
| Primary Cement Job= Casing job, Liner job, or Tie-back job. | |
| Did We Run Wiper Plugs? Did We Run Top And Bottom Casing Wiper Plugs? | Top |
| Mixing Density of Job Stayed in Designed Density Range (0-100%) Density Range defined as +/- .20 ppg. Calculation: Total BBLs cement mixed at designed density divided by total BBLs of cement multiplied by 100 | 95 |
| Was Automated Density Control Used? Was Automated Density Control (ADC) Used ? | Yes |
| Pump Rate (percent) of Job Stayed At Designed Pump Rate 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 Number Of Remedial Squeeze Jobs Required After Primary Job Performed By Competition | 0 |
| Nbr of Remedial Plug Jobs Rqd - HES Number Of Remedial Plug Jobs Needed After Primary Plug Pumped By HES | 0 |
| Nbr of Remedial Sqz Jobs Rqd - HES Number Of Remedial Squeeze Jobs Required After Primary Job Performed By HES | 0 |