HALLIBURTON

ANTERO RESOURCES

McLin C18
KOKOPELLI
Garfield County , Colorado

Cement Surface Casing

30-Oct-2011

Post Job Summary

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 337854	**Ship To #:** 337854	**Quote #:**	**Sales Order #:** 8493126
Customer: ANTERO RESOURCES		**Customer Rep:** Oaks, Bowdie	
Well Name: McLin	**Well #:** C18		**API/UWI #:** 05-045-20140
Field: KOKOPELLI	**City (SAP):** DENVER	**County/Parish:** Garfield	**State:** Colorado
Lat: N 39.525 deg. OR N 39 deg. 31 min. 30.313 secs.		**Long:** W 107.607 deg. OR W -108 deg. 23 min. 34.296 secs.	
Contractor: CRAIGS #2	**Rig/Platform Name/Num:** CRAIGS #2		
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	4	487782	KUKUS, CRAIG A	4	369124	SMITH, DUSTIN Michael	4	418015
WYCKOFF, RYAN Scott	4	476117						

Equipment

HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*
10297346	60 mile	10871245	60 mile	11021972	60 mile	11027039	60 mile
11071559	60 mile	11259883	60 mile	11360881	60 mile		

Job Hours

Date	*On Location Hours*	Operating Hours	Date	*On Location Hours*	Operating Hours	Date	*On Location Hours*	Operating Hours
10/30/11	4	4						
TOTAL			*Total is the sum of each column separately*					

Job

Formation Name			
Formation Depth (MD)	**Top**		**Bottom**
Form Type		**BHST**	
Job depth MD	800. ft	**Job Depth TVD**	800. ft
Water Depth		**Wk Ht Above Floor**	4. ft
Perforation Depth (MD)	*From*		**To**

Job Times

	Date	Time	Time Zone
Called Out	30 - Oct - 2011	11:00	MST
On Location	30 - Oct - 2011	14:30	MST
Job Started	30 - Oct - 2011	15:51	MST
Job Completed	30 - Oct - 2011	17:05	MST
Departed Loc	30 - Oct - 2011	18:15	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,8 5/8,HWE,7.20 MIN/8.09 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**	8 5/8	1	HES
Float Shoe					**Bridge Plug**					**Bottom Plug**			
Float Collar					**Retainer**					**SSR plug set**			
Insert Float										**SWAGE**	8 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

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

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	**Water Spacer**		**20.00**	**bbl**	**8.34**	**.0**	**.0**	**4**	
2	**VersaCem**	**VERSACEM (TM) SYSTEM (452010)**	**160.0**	**sacks**	**12.3**	**2.38**	**13.77**	**4**	**13.77**
	13.77 Gal	FRESH WATER							
3	**SwiftCem**	**SWIFTCEM (TM) SYSTEM (452990)**	**205.0**	**sacks**	**14.2**	**1.43**	**6.85**	**5**	**6.85**
	6.85 Gal	FRESH WATER							
4	**Fresh Water Displacement**		**60.00**	**bbl**	**.**	**.0**	**.0**	**6**	

Calculated Values		Pressures		Volumes					
Displacement	60	**Shut In: Instant**		**Lost Returns**	0	*Cement Slurry*	120	**Pad**	
Top Of Cement	SURFACE	**5 Min**		**Cement Returns**	20	**Actual Displacement**	60	**Treatment**	
Frac Gradient		**15 Min**		**Spacers**	20	**Load and Breakdown**		**Total Job**	**201**

Rates							
Circulating	*NONE*	*Mixing*	5	*Displacement*	6	**Avg. Job**	5.5

Cement Left In Pipe	**Amount**	***40.2 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

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Well Name: McLin	**Well #:** C18		**API/UWI #:** 05-045-20140
Field: KOKOPELLI	**City (SAP):** DENVER	**County/Parish:** Garfield	**State:** Colorado
Legal Description:			
Lat: N 39.525 deg. OR N 39 deg. 31 min. 30.313 secs.		**Long:** W 107.607 deg. OR W -108 deg. 23 min. 34.296 secs.	
Contractor: CRAIGS #2	**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	**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	
Call Out	10/30/2011 11:00							
Depart Yard Safety Meeting	10/30/2011 12:30							SAFETY MEETING INVOLVING THE ENTIRE CMT CREW
Arrive At Loc	10/30/2011 14:30							RIG DRILLING ON NEXT WELL
Assessment Of Location Safety Meeting	10/30/2011 14:35							ASSESSMENT OF LOCATION INVOLVING THE ENTIRE CMT CREW
Pre-Rig Up Safety Meeting	10/30/2011 14:40							SAFETY MEETING INVOLVING THE ENTIRE CMT CREW
Rig-Up Equipment	10/30/2011 14:45							RIG UP IRON TO OFF LINE WELL
Circulate Well	10/30/2011 14:45							NONE
Pre-Job Safety Meeting	10/30/2011 15:40							SAFETY MEETING INVOLVING EVERYONE ON LOCATION
Start Job	10/30/2011 15:51							TD 1060 FT TP 1037.3 FT SJ 40.2 FT OH 12 1/4 IN MUD WT 8.3 # PIPE 8 5/5 IN 32#
Other	10/30/2011 15:51		2	2			6.0	FILL LINES WITH FRESH WATER
Pressure Test	10/30/2011 15:53		0.5			35.0		PRESSURE TEST GOOD
Pump Spacer 1	10/30/2011 15:56		4	20			20.0	FRESH WATER SPACER
Activity Description	**Date/Time**	**Cht #**	**Rate bbl/ min**	**Volume bbl**		**Pressure psig**		**Comments**
				Stage	**Total**	**Tubing**	**Casing**	

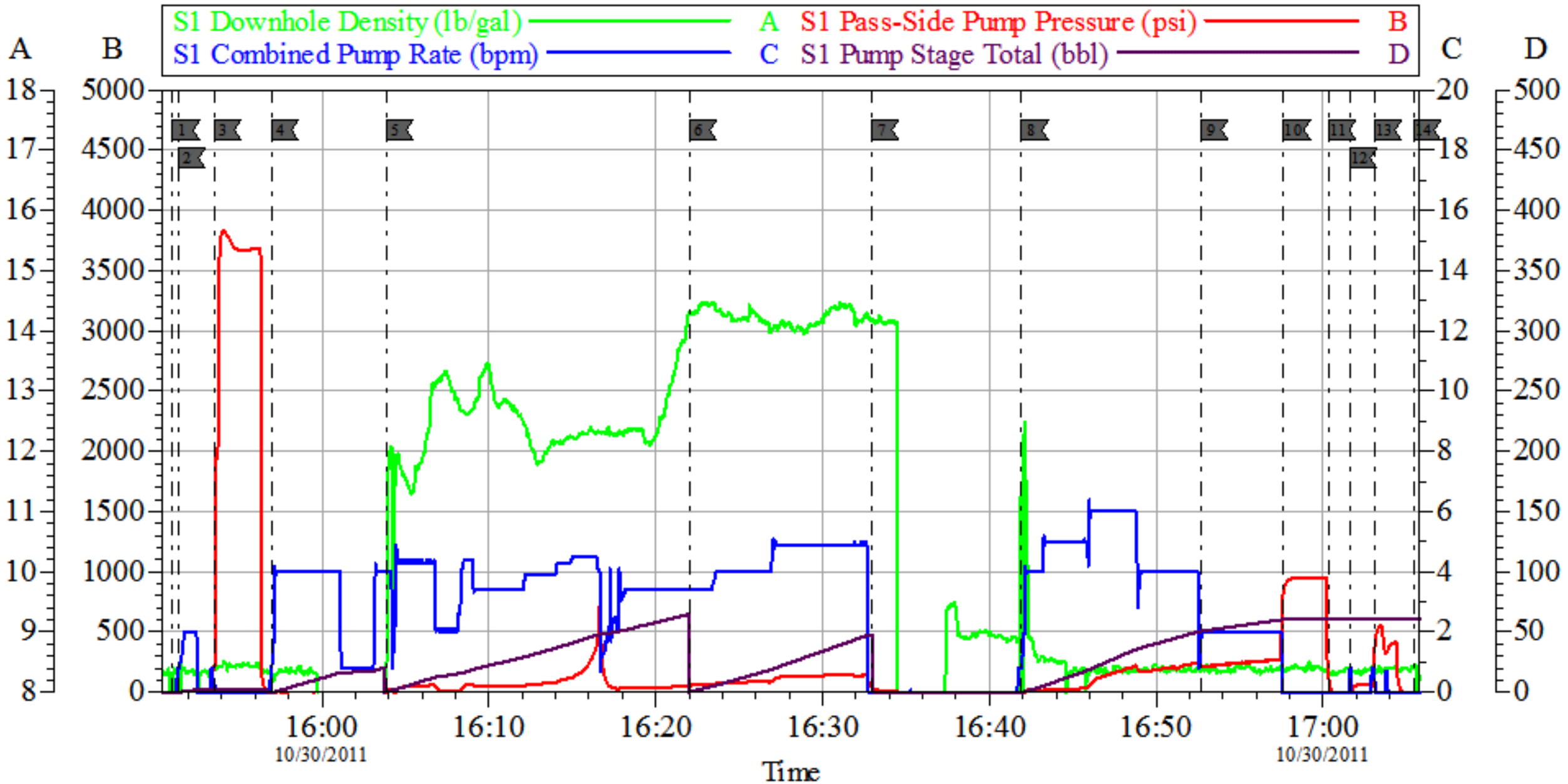
HALLIBURTON

Cementing Job Log

Pump Lead Cement	10/30/2011 16:03		4	67.8			800.0	PUMP 160 SKS LEAD CEMENT AT 12.3 PPG 2.38 Y 13.77 GAL/SK / PRSSURE SPIKED UP AND LOWWERED RATE AND THEN RETURNED TO 4 BBL MIN
Pump Tail Cement	10/30/2011 16:22		5	52.2			156.0	PUMP 205 SKS TAIL CEMENT AT 14.2 PPG 1.43 Y 6.85 GAL/SK
Shutdown	10/30/2011 16:32							REMOVE SWAG / DROP PLUG
Drop Top Plug	10/30/2011 16:41							PLUG LEFT
Pump Displacement	10/30/2011 16:41		6	60.7			250.0	PUMP H20 DISPLACEMENT / GOT RETURNS AGAIN AT 9 BBLS GONE
Slow Rate	10/30/2011 16:52		2	50			230.0	SLOW RATE LAST 10 BBLS TO 2 BBLS MIN
Bump Plug	10/30/2011 16:57		2	60.7			960.0	PLUG LANDED AT 280 PSI
Check Floats	10/30/2011 17:00							FLOATS HELD / GOT 1/2 BBL BACK TO TANKS
Pressure Up Tubing	10/30/2011 17:01		0.5				430.0	PRESSURE CSG UP
Shutdown	10/30/2011 17:03							SHUT IN 2 IN WITH 430 PSI
End Job	10/30/2011 17:05							GOT RETURNS WITH 36 BBLS TAIL CEMENT DOWN HOLE AND HAD RETURNS THRU OUT REMAINDER OF THE JOB / GOT CEMENT TO SURFACE TOTAL BBLS BACK 20 CEMENT
Pre-Rig Down Safety Meeting	10/30/2011 17:10							SAFETY MEETING INVOVLING THE ENTIRE CMT CREW
Rig-Down Equipment	10/30/2011 17:15							RIG IRON DOWN FROM OFF LINE AND CLEAN UP
Safety Meeting - Departing Location	10/30/2011 18:10							SAFETY MEETING INVOLVING THE ENTIRE CMT CREW
Comment	10/30/2011 18:15							THANK YOU FOR USING HALLIBURTON, CRAIG KUKUS AND CREW

ANTERO

SURFACE MCLIN C18



Local Event Log

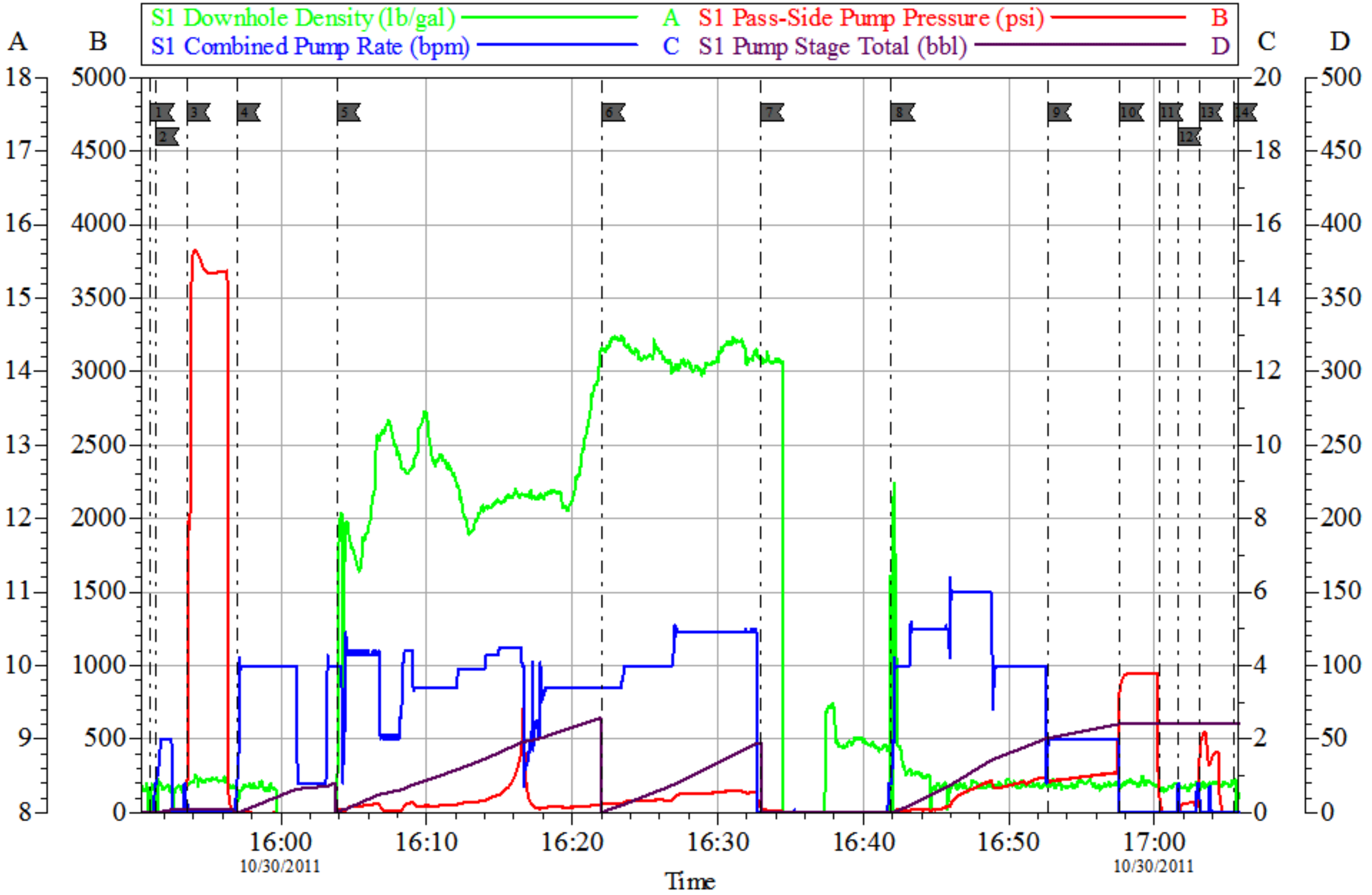
1	START JOB	15:51:04	2	PRIME LINES	15:51:23	3	PRESSURE TEST	15:53:31
4	PUMP H20 SPACER	15:56:57	5	PUMP LEAD CEMENT	16:03:50	6	PUMP TAIL CEMENT	16:22:02
7	SHUT DOWN/DROP PLUG	16:32:56	8	PUMP H20 DISPLACEMENT	16:41:56	9	SLOW RATE	16:52:41
10	BUMP PLUG	16:57:37	11	CHECK FLOATS	17:00:21	12	PRESSURE CSG UP	17:01:36
13	SHUT IN	17:03:04	14	END JOB	17:05:26			

Customer:	ANTERO	Job Date:	30-Oct-2011	Sales Order #:	8493126
Well Description:	MCLIN C18	Job Type:	SURFACE	ADC Used:	YES
Company Rep:	BOWDIE OAKS	Cement Supervisor:	CRAIG KUKUS	Elite #/Operator:	E 8 BRENDAN BURKE

OptiCem v6.4.8
30-Oct-11 17:22

ANTERO

SURFACE MCLIN C18



Customer:	ANTERO	Job Date:	30-Oct-2011	Sales Order #:	8493126
Well Description:	MCLIN C18	Job Type:	SURFACE	ADC Used:	YES
Company Rep:	BOWDIE OAKS	Cement Supervisor:	CRAIG KUKUS	Elite #/Operator:	E 8 BRENDAN BURKE

OptiCem v6.4.8
30-Oct-11 17:26

HALLIBURTON

CUSTOMER SURVEY

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
8493126	10	10/30/2011
Customer:		**Job Type (BOM):**
ANTERO RESOURCES		CMT SURFACE CASING BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
BOWDIE OAKS		05-045-20140
Well Name:		**Well Number:**
McLin		C18
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**	**10/30/2011**
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**	**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**	

CUSTOMER SIGNATURE

HALLIBURTON

CUSTOMER SURVEY

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
8493126	10	10/30/2011
Customer:		**Job Type (BOM):**
ANTERO RESOURCES		CMT SURFACE CASING BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
BOWDIE OAKS		05-045-20140
Well Name:		**Well Number:**
McLin		C18
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 The date the survey was conducted	10/30/2011

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.	4
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.	1
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

HALLIBURTON

CUSTOMER SURVEY

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
8493126	10	10/30/2011
Customer:		**Job Type (BOM):**
ANTERO RESOURCES		CMT SURFACE CASING BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
BOWDIE OAKS		05-045-20140
Well Name:		**Well Number:**
McLin		C18
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? 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 cment mixed at designed density divided by total BBLs of cement multiplied by 100	96
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	96
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