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# **ANTERO RESOURCES**

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**McLin C13  
KOKOPELLI  
Garfield County , Colorado**

## **Cement Surface Casing** **06-Apr-2012**

### **Post Job Summary**

## The Road to Excellence Starts with Safety

<b>Sold To #:</b> 337854		<b>Ship To #:</b> 2919347		<b>Quote #:</b>		<b>Sales Order #:</b> 9414868	
<b>Customer:</b> ANTERO RESOURCES				<b>Customer Rep:</b> Oaks, Beaude			
<b>Well Name:</b> McLin			<b>Well #:</b> C13		<b>API/UWI #:</b> 05-045-20131		
<b>Field:</b> KOKOPELLI		<b>City (SAP):</b> SILT		<b>County/Parish:</b> Garfield		<b>State:</b> Colorado	
<b>Lat:</b> N 39.525 deg. OR N 39 deg. 31 min. 30.54 secs.				<b>Long:</b> W 107.607 deg. OR W -108 deg. 23 min. 34.429 secs.			
<b>Contractor:</b> CRAIGS #2			<b>Rig/Platform Name/Num:</b> CRAIGS #2				
<b>Job Purpose:</b> Cement Surface Casing							
<b>Well Type:</b> Development Well			<b>Job Type:</b> Cement Surface Casing				
<b>Sales Person:</b> METLI, MARSHALL			<b>Srvc Supervisor:</b> TRIPLETT, MICHEAL			<b>MBU ID Emp #:</b> 447908	

### Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
HARDRICK, RAYMOND Frank	0.0	391324	KEANE, JOHN Donovan	0.0	486519	TRIPLETT, MICHEAL Anthony	0.0	447908
WEAVER, CARLTON Russell	0.0	457698						

### Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10248065	120 mile	10867423	120 mile	10871245	120 mile	10897887	120 mile
10951245	120 mile	11808835	120 mile				

### Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours

<b>TOTAL</b>	Total is the sum of each column separately							
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### Job

Formation Name	Top	Bottom	Called Out	Date	Time	Time Zone
Formation Depth (MD)			On Location	06 - Apr - 2012	11:00	MST
Form Type		BHST	Job Started	06 - Apr - 2012	15:30	MST
Job depth MD	1070. ft	Job Depth TVD	Job Completed	06 - Apr - 2012	16:37	MST
Water Depth		Wk Ht Above Floor	Departed Loc	06 - Apr - 2012	17:48	MST
Perforation Depth (MD)	From	To		06 - Apr - 2012	18:30	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
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### Sales/Rental/3<sup>rd</sup> 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			
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 ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk

Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk	
1	Water Spacer		20.00	bbl	8.33	.0	.0	.0		
2	VersaCem Lead Cement	VERSACEM (TM) SYSTEM (452010)	160.0	sacks	12.3	2.38	13.77	.0	13.77	
	13.77 Gal	FRESH WATER								
3	SwiftCem Tail Cement	SWIFTCEM (TM) SYSTEM (452990)	205.0	sacks	14.2	1.43	6.85	.0	6.85	
	6.85 Gal	FRESH WATER								
4	Fresh Water Displacement		61.00	bbl	8.33	.0	.0	.0		
Calculated Values		Pressures		Volumes						
Displacement		Shut In: Instant		Lost Returns		Cement Slurry		Pad		
Top Of Cement		5 Min		Cement Returns		Actual Displacement		Treatment		
Frac Gradient		15 Min		Spacers		Load and Breakdown		Total Job		
Rates										
Circulating		Mixing		Displacement		Avg. Job				
Cement Left In Pipe	Amount	0 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*

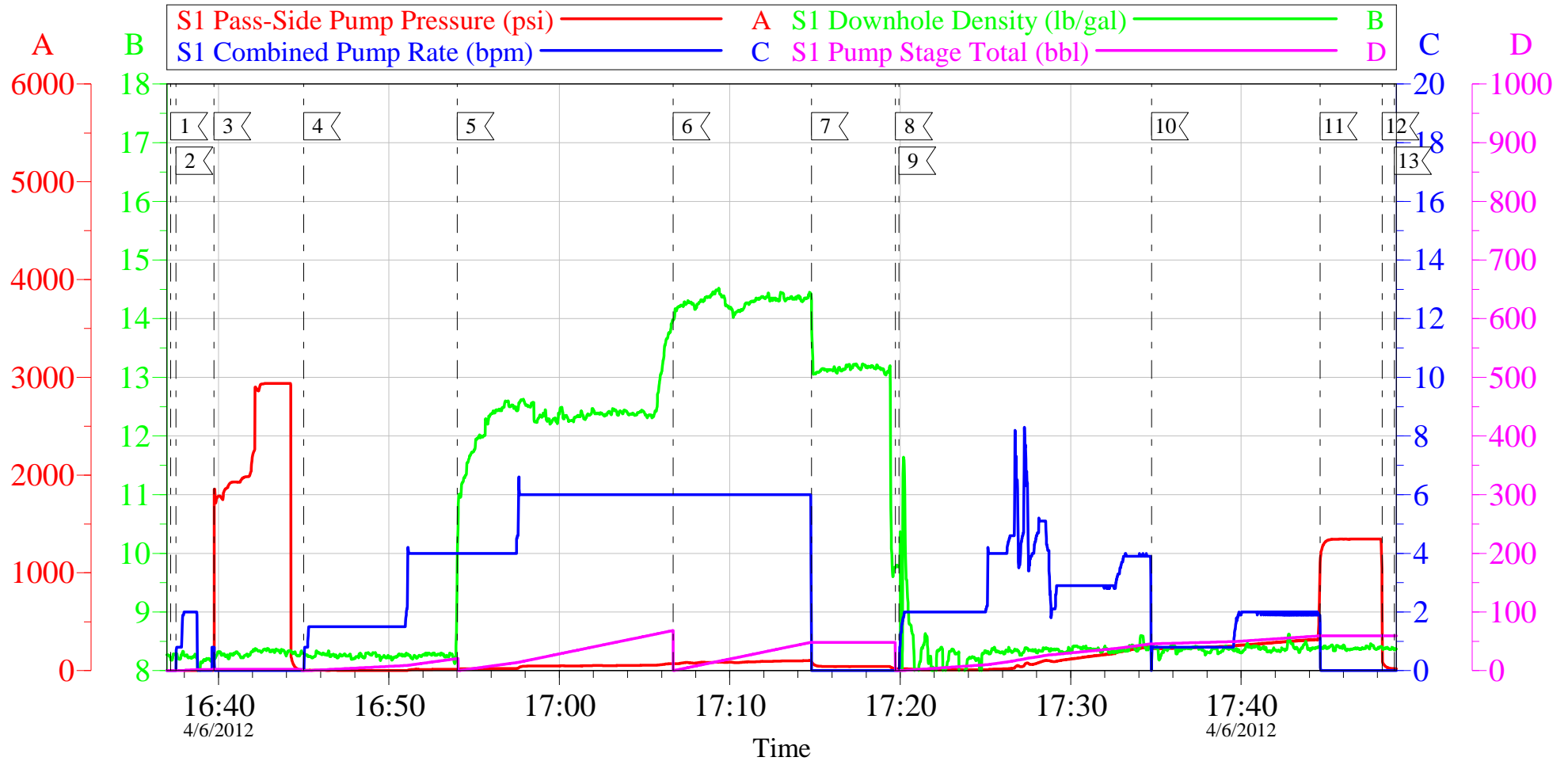
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<b>Well Name:</b> McLin	<b>Well #:</b> C13	<b>API/UWI #:</b> 05-045-20131	
<b>Field:</b> KOKOPELLI	<b>City (SAP):</b> SILT	<b>County/Parish:</b> Garfield	<b>State:</b> Colorado
<b>Legal Description:</b>			
<b>Lat:</b> N 39.525 deg. OR N 39 deg. 31 min. 30.54 secs.		<b>Long:</b> W 107.607 deg. OR W -108 deg. 23 min. 34.429 secs.	
<b>Contractor:</b> CRAIGS #2		<b>Rig/Platform Name/Num:</b> CRAIGS #2	
<b>Job Purpose:</b> Cement Surface Casing			<b>Ticket Amount:</b>
<b>Well Type:</b> Development Well		<b>Job Type:</b> Cement Surface Casing	
<b>Sales Person:</b> METLI, MARSHALL		<b>Srvc Supervisor:</b> TRIPLETT, MICHEAL	<b>MBU ID Emp #:</b> 447908

Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Call Out	04/06/2012 11:00							ANTERO MCLIN C-13 SURFACE.
Pre-Convoy Safety Meeting	04/06/2012 12:55							ENTIRE CREW
Arrive At Loc	04/06/2012 15:30							ON TIME
Assessment Of Location Safety Meeting	04/06/2012 15:35							RIG RUNNING CASING
Pre-Rig Up Safety Meeting	04/06/2012 15:40							ENTIRE CREW
Rig-Up Equipment	04/06/2012 15:45							1 PICK UP, 1 RCM PUMP TRUCK, 1 660, 1 BODY LOAD
Pre-Job Safety Meeting	04/06/2012 16:20							ENTIRE CREW AND RIG CREW
Start Job	04/06/2012 16:37							TD 1070', TP: 1055.15', SJ: 43.5', 8 5/8" CASING INSIDE 12.25" AIR DRILLED HOLE.
Pump Water	04/06/2012 16:38		2	2			.0	FILL LINES BEFORE TESTING
Pressure Test	04/06/2012 16:39						3000.0	PRESSURE HELD NO LEAKS
Pump Spacer 1	04/06/2012 16:45		4	20			60.0	FRESH WATER
Pump Lead Cement	04/06/2012 16:54		6	67.8			120.0	160 SACKS OF VERSACEM MIXED @ 12.3 PPG, 2.38 YIELD, 13.77 GALS/SAK
Pump Tail Cement	04/06/2012 17:06		6	52.2			180.0	205 SACKS OF SWIFTCHEM MIXED @ 14.2 PPG, 1.43 YIELD, 6.85 GALS/SAK
Shutdown	04/06/2012 17:14							

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Drop Top Plug	04/06/2012 17:19							REMOVE SWAGE AND DROP PLUG.
Pump Displacement	04/06/2012 17:20		6	61.6			240.0	FRESH WATER, GOT RETURNS WITH 30 BBLs GONE ON TAIL CEMENT.
Slow Rate	04/06/2012 17:34		2	51.6			275.0	SLOW RATE TO BUMP PLUG
Bump Plug	04/06/2012 17:44						290.0	PLUG LANDED HELD FOR 3 MINUTES.
Check Floats	04/06/2012 17:48							FLOATS HELD
End Job	04/06/2012 17:49							GOOD RETURNS WHEN ESTABLISHED. GOT CEMENT BACK WITH 40BBLs GONE ON DISPLACEMENT, GOT 20 BBLs BACK TO SURFACE. NO ADDITIONAL HOURS, NO DERRICK CHARGE, NO SUGAR USED.
Post-Job Safety Meeting (Pre Rig-Down)	04/06/2012 17:50							ENTIRE CREW
Rig-Down Equipment	04/06/2012 18:00							
Pre-Convoy Safety Meeting	04/06/2012 18:25							ENTIRE CREW
Crew Leave Location	04/06/2012 18:30							THANK YOU FOR USING HALLIBURTON MIKE TRIPLETT AND CREW

# ANTERO - MCLIN C-13

8 5/8" SURFACE

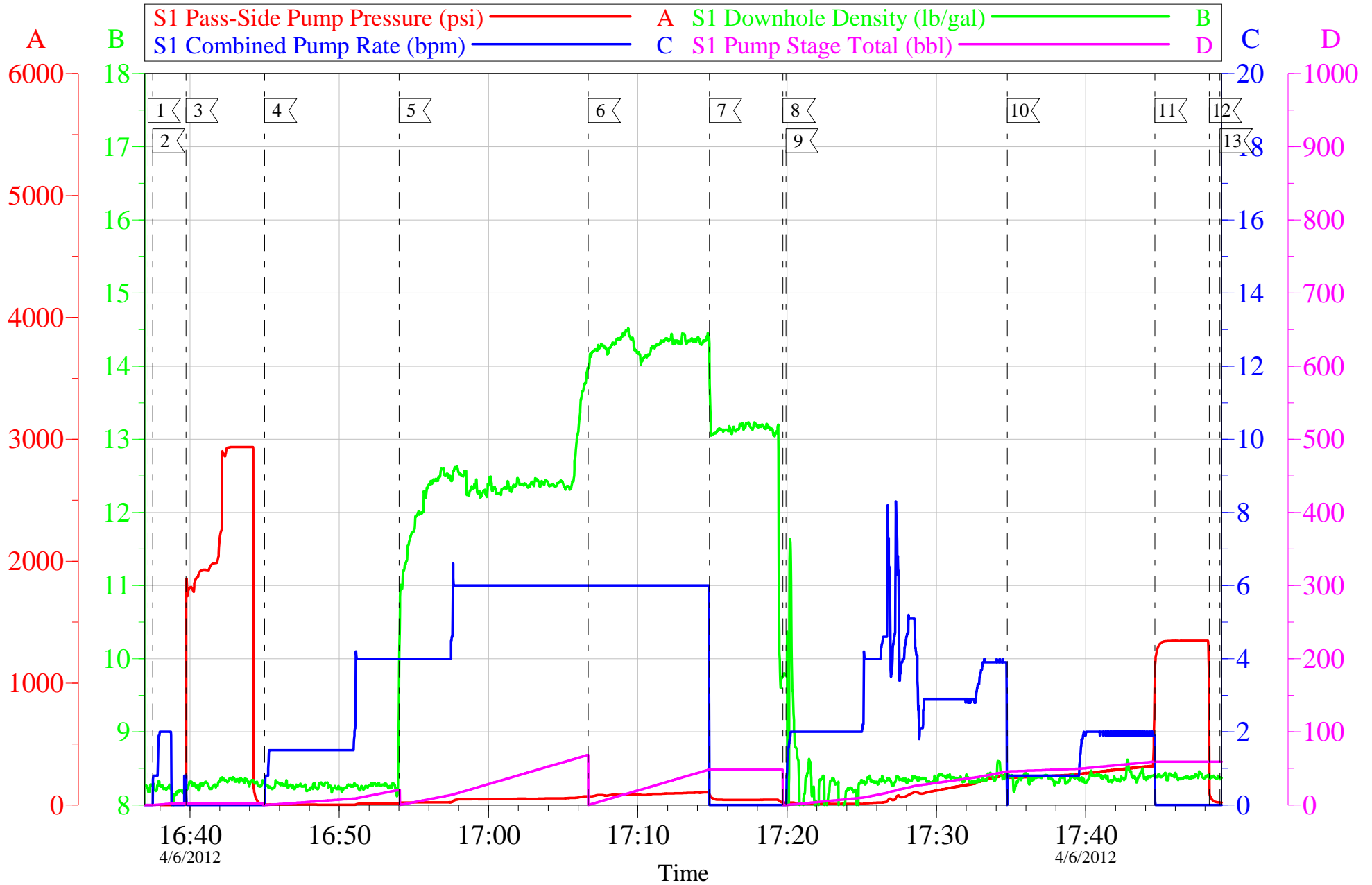


Customer:	ANTERO	Job Date:	06-Apr-2012	Sales Order #:	9414868
Well Description:	MCLIN C-13	Job Type:	SURFACE	ADC Used:	YES
Company Rep:	BEAUDE OAKS	Cement Supervisor:	MIKE TRIPLET	Elite #1:	RAY HARDRICK

OptiCem v6.4.9  
06-Apr-12 17:49

# ANTERO - MCLIN C-13

8 5/8" SURFACE



Customer: ANTERO  
Well Description: MCLIN C-13  
Company Rep: BEAUDE OAKS

Job Date: 06-Apr-2012  
Job Type: SURFACE  
Cement Supervisor: MIKE TRIPLETT

Sales Order #: 9414868  
ADC Used: YES  
Elite #1: RAY HARDRICK

OptiCem v6.4.9  
06-Apr-12 17:49

# HALLIBURTON

## Water Analysis Report

Company: ANTERO  
Submitted by: MIKE TRIPLETT  
Attention: LAB  
Lease: MCLIN  
Well #: C13

Date: 4/6/2012  
Date Rec.: 4/6/2012  
S.O.#: 9414868  
Job Type: SURFACE

Specific Gravity	<i>MAX</i>	<b>1</b>
pH	<i>8</i>	<b>7</b>
Potassium (K)	<i>5000</i>	<b>250</b> Mg / L
Calcium (Ca)	<i>500</i>	<b>0</b> Mg / L
Iron (FE2)	<i>300</i>	<b>0</b> Mg / L
Chlorides (Cl)	<i>3000</i>	<b>0</b> Mg / L
Sulfates (SO <sub>4</sub> )	<i>1500</i>	<b>&lt;200</b> Mg / L
Chlorine (Cl <sub>2</sub> )		<b>0</b> Mg / L
Temp	<i>40-80</i>	<b>60</b> Deg
Total Dissolved Solids		<b>200</b> Mg / L

Respectfully: MIKE TRIPLETT

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



<b>Sales Order #:</b> 9414868	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 4/6/2012
<b>Customer:</b> ANTERO RESOURCES		<b>Job Type (BOM):</b> CMT SURFACE CASING BOM
<b>Customer Representative:</b> BEAUDE OAKS		<b>API / UWI: (leave blank if unknown)</b> 05-045-20131
<b>Well Name:</b> McLin		<b>Well Number:</b> C13
<b>Well Type:</b> Development Well	<b>Well Country:</b> United States of America	
<b>H2S Present:</b> No	<b>Well State:</b> Colorado	<b>Well County:</b> 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	4/6/2012
Survey Interviewer	The survey interviewer is the person who initiated the survey.	MICHEAL TRIPLETT (HB15721)
Customer Participation	Did the customer participate in this survey? (Y/N)	Yes
Customer Representative	Enter the Customer representative name	BEAUDE 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

<b>Sales Order #:</b> 9414868	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 4/6/2012
<b>Customer:</b> ANTERO RESOURCES		<b>Job Type (BOM):</b> CMT SURFACE CASING BOM
<b>Customer Representative:</b> BEAUDE OAKS		<b>API / UWI: (leave blank if unknown)</b> 05-045-20131
<b>Well Name:</b> McLin		<b>Well Number:</b> C13
<b>Well Type:</b> Development Well	<b>Well Country:</b> United States of America	
<b>H2S Present:</b> No	<b>Well State:</b> Colorado	<b>Well County:</b> Garfield

### KEY PERFORMANCE INDICATORS

General	
<b>Survey Conducted Date</b> The date the survey was conducted	4/6/2012

Cementing KPI Survey	
<b>Type of Job</b> Select the type of job. (Cementing or Non-Cementing)	0
<b>Select the Maximum Deviation range for this Job</b> What is the highest deviation for the job you just completed? This may not be the maximum well deviation.	Vertical
<b>Total Operating Time (hours)</b> Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format.	2
<b>HSE Incident, Accident, Injury</b> HSE Incident, Accident, Injury. This should be recordable incidents only.	No
<b>Was the job purpose achieved?</b> Was the job delivered correctly as per customer agreed design?	Yes
<b>Operating Hours (Pumping Hours)</b> Total number of hours pumping fluid on this job. Enter in decimal format.	1
<b>Customer Non-Productive Rig Time (hrs)</b> 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
<b>Type of Rig Classification Job Was Performed</b> Type Of Rig (classification) Job Was Performed On	Drilling Rig (Portable)
<b>Number Of JSAs Performed</b> Number Of Jsas Performed	7
<b>Number of Unplanned Shutdowns</b> Unplanned shutdown is when injection stops for any period of time.	0
<b>Was this a Primary Cement Job (Yes / No)</b>	Yes

<b>Sales Order #:</b> 9414868	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 4/6/2012
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<b>Customer Representative:</b> BEAUDE OAKS		<b>API / UWI: (leave blank if unknown)</b> 05-045-20131
<b>Well Name:</b> McLin		<b>Well Number:</b> C13
<b>Well Type:</b> Development Well	<b>Well Country:</b> United States of America	
<b>H2S Present:</b> No	<b>Well State:</b> Colorado	<b>Well County:</b> Garfield

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