
ANTERO RESOURCES

**McLin C22
KOKPELLI
Garfield County , Colorado**

Cement Surface Casing **07-Apr-2012**

Post Job Report

The Road to Excellence Starts with Safety

Sold To #: 337854	Ship To #: 2919485	Quote #:	Sales Order #: 9414887
Customer: ANTERO RESOURCES		Customer Rep: Oaks, Beade	
Well Name: McLin		Well #: C22	API/UWI #: 05-045-20141
Field: KOKPELLI	City (SAP): SILT	County/Parish: Garfield	State: Colorado
Lat: N 39.525 deg. OR N 39 deg. 31 min. 30.652 secs.		Long: W 107.607 deg. OR W -108 deg. 23 min. 34.494 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: 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	3	439784	BRENNECKE, ANDREW Bailey	3	486345	JENSEN, JESSE Robert	3	478774
SPARKS, CLIFFORD Paul	3	502476						

Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10248065	120 mile	10616651C	120 mile	10867423	120 mile	10897887	120 mile
11259882	120 mile	11808827	120 mile				

Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
4-7-2012	3	1.5						

TOTAL	Total is the sum of each column separately							
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Job

Job Times

Formation Name					Date	Time	Time Zone
Formation Depth (MD)	Top	Bottom			Called Out	07 - Apr - 2012	04:45 MST
Form Type	BHST				On Location	07 - Apr - 2012	09:00 MST
Job depth MD	1070. ft		Job Depth TVD	1070. ft	Job Started	07 - Apr - 2012	10:03 MST
Water Depth			Wk. Ht Above Floor	. ft	Job Completed	07 - Apr - 2012	11:15 MST
Perforation Depth (MD)	From	To			Departed Loc	07 - Apr - 2012	12:00 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
Open Hole				12.25				.	1070.		
Surface Casing	Unknown		8.625	7.921	32.		J-55	.	1054.9		

Sales/Rental/3rd Party (HES)

Description	Qty	Qty uom	Depth	Supplier
ADC (AUTO DENSITY CTRL) SYS, /JOB,ZI	1	JOB		
PORT. DATA ACQUIS. W/OPTICEM RT W/HES	1	EA		
R/A DENSOMETER W/CHART RECORDER,/JOB,ZI	1	JOB		
PLUG,CMTG,TOP,9 5/8,HWE,8.16 MIN/9.06 MA	0	EA		

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	4		
2	VersaCem Lead Cement	VERSACEM (TM) SYSTEM (452010)	160.0	sacks	12.3	2.38	13.77	6	13.77	
13.77 Gal		WATER - FRESH - GAL (24047)								
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	Fresh Water Displacement			bbl	8.33	.0	.0	3		
Calculated Values		Pressures		Volumes						
Displacement	61.6	Shut In: Instant		Lost Returns	0	Cement Slurry	120	Pad		
Top Of Cement	SURFACE	5 Min		Cement Returns	17	Actual Displacement	61.6	Treatment		
Frac Gradient		15 Min		Spacers	20	Load and Breakdown		Total Job	201.6	
Rates										
Circulating		Mixing	6	Displacement	3	Avg. Job	4.5			
Cement Left In Pipe	Amount	44 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

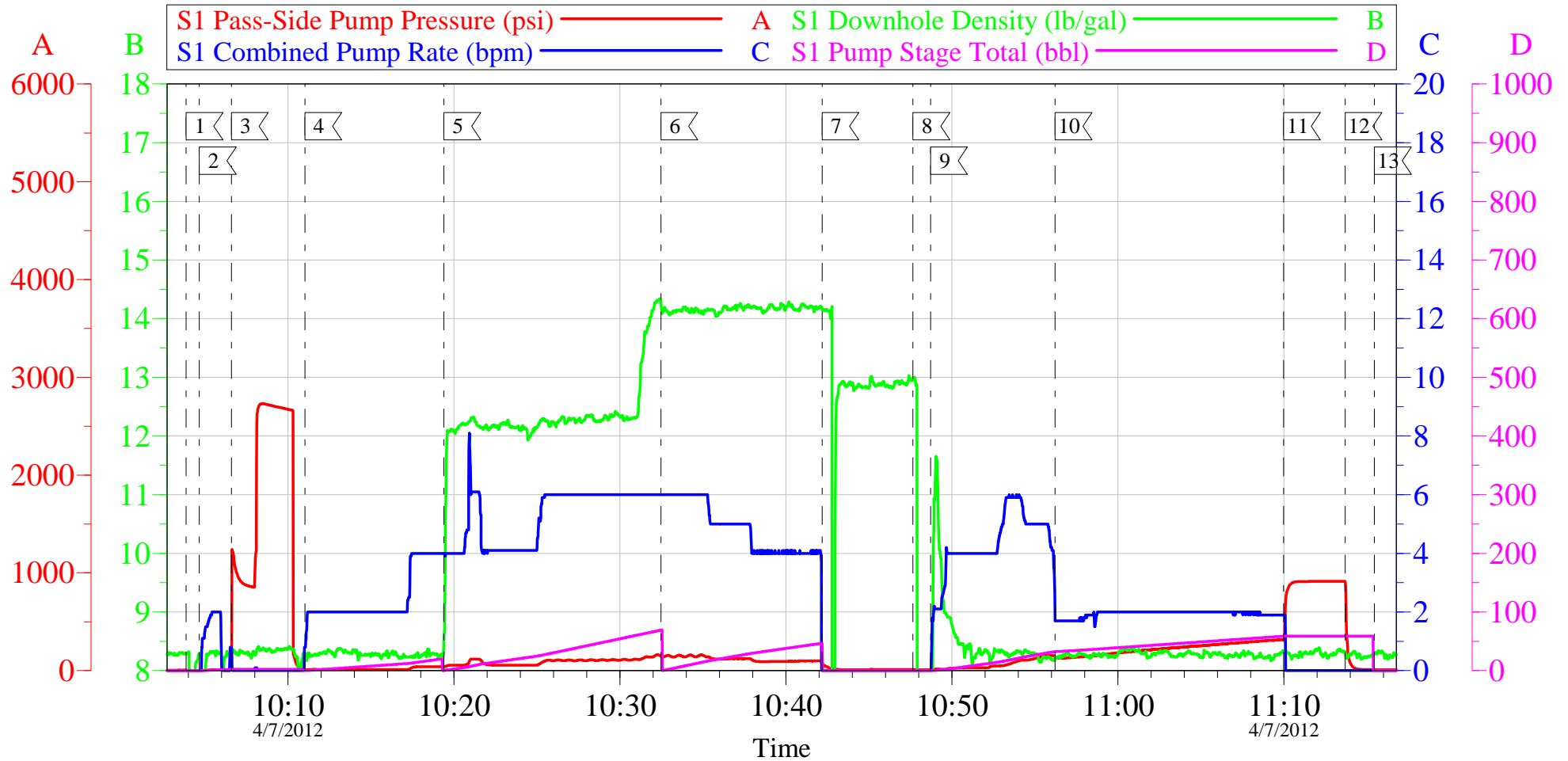
Sold To #: 337854	Ship To #: 2919485	Quote #:	Sales Order #: 9414887
Customer: ANTERO RESOURCES		Customer Rep: Oaks, Beaudé	
Well Name: McLin	Well #: C22	API/UWI #: 05-045-20141	
Field: KOKPELLI	City (SAP): SILT	County/Parish: Garfield	State: Colorado
Legal Description:			
Lat: N 39.525 deg. OR N 39 deg. 31 min. 30.652 secs.		Long: W 107.607 deg. OR W -108 deg. 23 min. 34.494 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		Srv Supervisor: ARNOLD, EDWARD	MBU ID Emp #: 439784

Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Call Out	04/07/2012 04:45							
Pre-Convoy Safety Meeting	04/07/2012 06:45							Including entire cement crew.
Crew Leave Yard	04/07/2012 07:00							
Arrive At Loc	04/07/2012 09:00							Rig drilling next hole.
Assessment Of Location Safety Meeting	04/07/2012 09:05							Water; PH 7; KCL 250; So4 <200; Fe 0; Calcium 50; Chlorides 0; Temp 52; TDS 180.
Pre-Rig Up Safety Meeting	04/07/2012 09:10							Including entire cement crew.
Rig-Up Equipment	04/07/2012 09:15							1 Elite #4 ; 1 660 bulk truck; 1 Body load bulk truck; 1 hard line to well; 1 line to upright. 8.625" sedge.
Rig-Up Completed	04/07/2012 09:30							
Pre-Job Safety Meeting	04/07/2012 09:45							Including everyone on location.
Start Job	04/07/2012 10:03							TD 1070; TP 1054.92; SJ 44; OH 12.25; Casing 8.625" 32# J-55, Air drilled hole.
Pump Water	04/07/2012 10:04		2	2			8.0	Fill lines with fresh water.
Test Lines	04/07/2012 10:06					2720.0		Good pressure test, no leaks.
Pump Spacer 1	04/07/2012 10:11		4	20			40.0	20 BBL fresh water spacer.
Pump Lead Cement	04/07/2012 10:19		6	67.8			143.0	160 sks Lead Cement, 12.3 ppg, 2.38 cf3, 13.77 gal/sk.

Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Pump Tail Cement	04/07/2012 10:32		5	52.2			90.0	205 sks Tail Cement, 14.2 ppg, 1.43 cf3, 6.85 gal/sk.
Shutdown	04/07/2012 10:42							
Drop Plug	04/07/2012 10:47							Placed plug in pipe.
Pump Displacement	04/07/2012 10:48		5	51.6			180.0	Fresh water displacement.
Slow Rate	04/07/2012 10:56		2	10			250.0	Slow rate 10 BBL's prior to bumping the plug.
Bump Plug	04/07/2012 11:09				61.6		912	Bumped plug, took 500 PSI over.
Check Floats	04/07/2012 11:13							Floats held, .5 BBL back. 17 BBLs of good cement to surface.
End Job	04/07/2012 11:15							
Pre-Rig Down Safety Meeting	04/07/2012 11:20							Including entire cement crew.
Rig-Down Equipment	04/07/2012 11:25							
Rig-Down Completed	04/07/2012 11:45							
Pre-Convoy Safety Meeting	04/07/2012 11:50							Including entire cement crew.
Crew Leave Location	04/07/2012 12:00							Crew leave location for Service Center or another location.
Other	04/07/2012 12:00							Thank You for using Halliburton. Ed Arnold and Crew.

ANTERO - MCLIN C-22

8 5/8" SURFACE



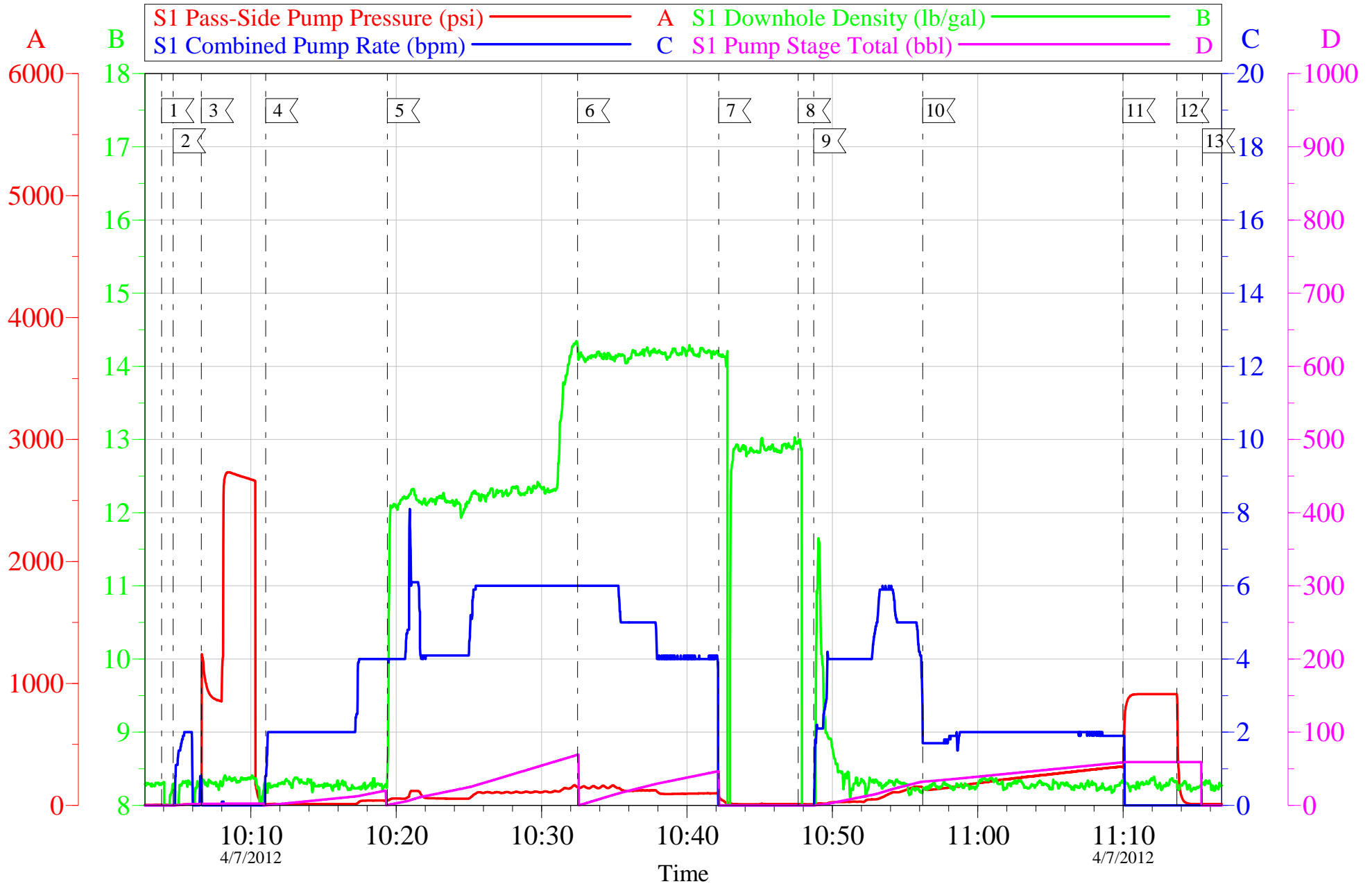
Local Event Log					
1	START JOB	10:03:52	2	FILL LINES	10:04:39
3	TEST LINES	10:06:36	4	H2O SPACER	10:11:01
5	LEAD CEMENT	10:19:24	6	TAIL CEMENT	10:32:28
7	SHUT DOWN	10:42:10	8	DROP PLUG	10:47:39
9	H2O DISPLACEMENT	10:48:43	10	SLOW RATE	10:56:13
11	BUMP PLUG	11:09:59	12	CHECK FLOATS	11:13:41
13	END JOB	11:15:27			

Customer: ANTERO	Job Date: 07-Apr-2012	Sales Order #: 9414887
Well Description: MCLIN C-22	Job Type: SURFACE	ADC Used: YES
Company Rep: B. OAKS	Cement Supervisor: ED ARNOLD	Elite #4: JESSE JENSEN

OptiCem v6.4.10
07-Apr-12 11:40

ANTERO - MCLIN C-22

8 5/8" SURFACE



Customer: ANTERO	Job Date: 07-Apr-2012	Sales Order #: 9414887
Well Description: MCLIN C-22	Job Type: SURFACE	ADC Used: YES
Company Rep: B. OAKS	Cement Supervisor: ED ARNOLD	Elite #4: JESSE JENSEN

OptiCem v6.4.10
07-Apr-12 11:41



Water Analysis Report

Company:	ANTERO	Date:	4/7/2012
Submitted by:	ED ARNOLD	Date Rec.:	4/7/2012
Attention:	J.TROUT	S.O.#	9414887
Lease	MCLIN	Job Type:	SURFACE
Well #	C-22		

Specific Gravity	MAX	1
pH	8	7
Potassium (K)	5000	250 Mg / L
Calcium (Ca)	500	50 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	56 Deg
Total Dissolved Solids		180 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

Sales Order #: 9414887	Line Item: 10	Survey Conducted Date: 4/7/2012
Customer: ANTERO RESOURCES		Job Type (BOM): CMT SURFACE CASING BOM
Customer Representative: B. OAKS		API / UWI: (leave blank if unknown) 05-045-20141
Well Name: McLin		Well Number: C22
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	4/7/2012
Survey Interviewer	The survey interviewer is the person who initiated the survey.	EDWARD ARNOLD (HX46731)
Customer Participation	Did the customer participate in this survey? (Y/N)	Yes
Customer Representative	Enter the Customer representative name	B. 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

Sales Order #: 9414887	Line Item: 10	Survey Conducted Date: 4/7/2012
Customer: ANTERO RESOURCES		Job Type (BOM): CMT SURFACE CASING BOM
Customer Representative: B. OAKS		API / UWI: (leave blank if unknown) 05-045-20141
Well Name: McLin		Well Number: C22
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	4/7/2012

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.	2.5
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.	1.2
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	5
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

Sales Order #: 9414887	Line Item: 10	Survey Conducted Date: 4/7/2012
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Customer Representative: B. OAKS		API / UWI: (leave blank if unknown) 05-045-20141
Well Name: McLin		Well Number: C22
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	92
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