
ANTERO RESOURCES

**CSF 21C-07-07-91
MAMM CREEK
Garfield County , Colorado**

**Squeeze Perfs
21-Feb-2011**

Post Job Report

The Road to Excellence Starts with Safety

Sold To #: 337854	Ship To #: 2696160	Quote #:	Sales Order #: 7981457
Customer: ANTERO RESOURCES		Customer Rep:	
Well Name: CSF		Well #: 21C-07-07-91	API/UWI #: 05-045-17084
Field:	City (SAP): SILT	County/Parish: Garfield	State: Colorado
Lat: N 39.463 deg. OR N 39 deg. 27 min. 47.855 secs.		Long: W 107.599 deg. OR W -108 deg. 24 min. 4.036 secs.	
Contractor: WORKOVER		Rig/Platform Name/Num: WORK OVER	
Job Purpose: Squeeze Perfs			
Well Type: Development Well		Job Type: Squeeze Perfs	
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 #
CHASTAIN, DERICK Allan	5	455848	HAMMOND, DENNIS C	5	287025	KUKUS, CRAIG A	5	369124
LOPEZ, GERALD Wayne	5	479828	WYCKOFF, RYAN Scott	5	476117			

Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10248065	75 mile	10551730C	75 mile	10722398	75 mile	10829469	75 mile
10973571	75 mile	11139330	75 mile				

Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
2/21/11	5	2						

TOTAL Total is the sum of each column separately

Job

Job Times

Formation Name	Top	Bottom	Called Out	Date	Time	Time Zone	
				21 - Feb - 2011	02:00	MST	
Form Type	BHST		On Location	21 - Feb - 2011	09:00	MST	
Job depth MD	5366. ft	Job Depth TVD	5366. ft	Job Started	21 - Feb - 2011	12:05	MST
Water Depth		Wk Ht Above Floor	4. ft	Job Completed	21 - Feb - 2011	14:08	MST
Perforation Depth (MD)	<i>From</i>	<i>To</i>	Departed Loc	21 - Feb - 2011	15:30	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

Sales/Rental/3rd Party (HES)

Description	Qty	Qty uom	Depth	Supplier
R/A DENSOMETER W/CHART RECORDER,/JOB,ZI	1	JOB		
ADC (AUTO DENSITY CTRL) SYS, /JOB,ZI	1	JOB		
PORT. DATA ACQUIS. W/OPTICEM RT W/HES	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 ft ³ /sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	Injection Test		22.00	bbl	.	.0	.0	.0	
2	HalCem Tail Cement	HALCEM (TM) SYSTEM (452986)	200.0	sacks	15.8	1.15	5.0		5.0
	5 Gal	FRESH WATER							
3	Displacement		21.00	bbl	.	.0	.0	.0	
Calculated Values		Pressures		Volumes					
Displacement	20.3	Shut In: Instant		Lost Returns		Cement Slurry	40.1	Pad	
Top Of Cement		5 Min		Cement Returns		Actual Displacement	20.3	Treatment	
Frac Gradient		15 Min		Spacers	22	Load and Breakdown		Total Job	124.5
Rates									
Circulating		Mixing	2	Displacement	2	Avg. Job			2
Cement Left In Pipe	Amount	57 ft	Reason	PREFS					
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					

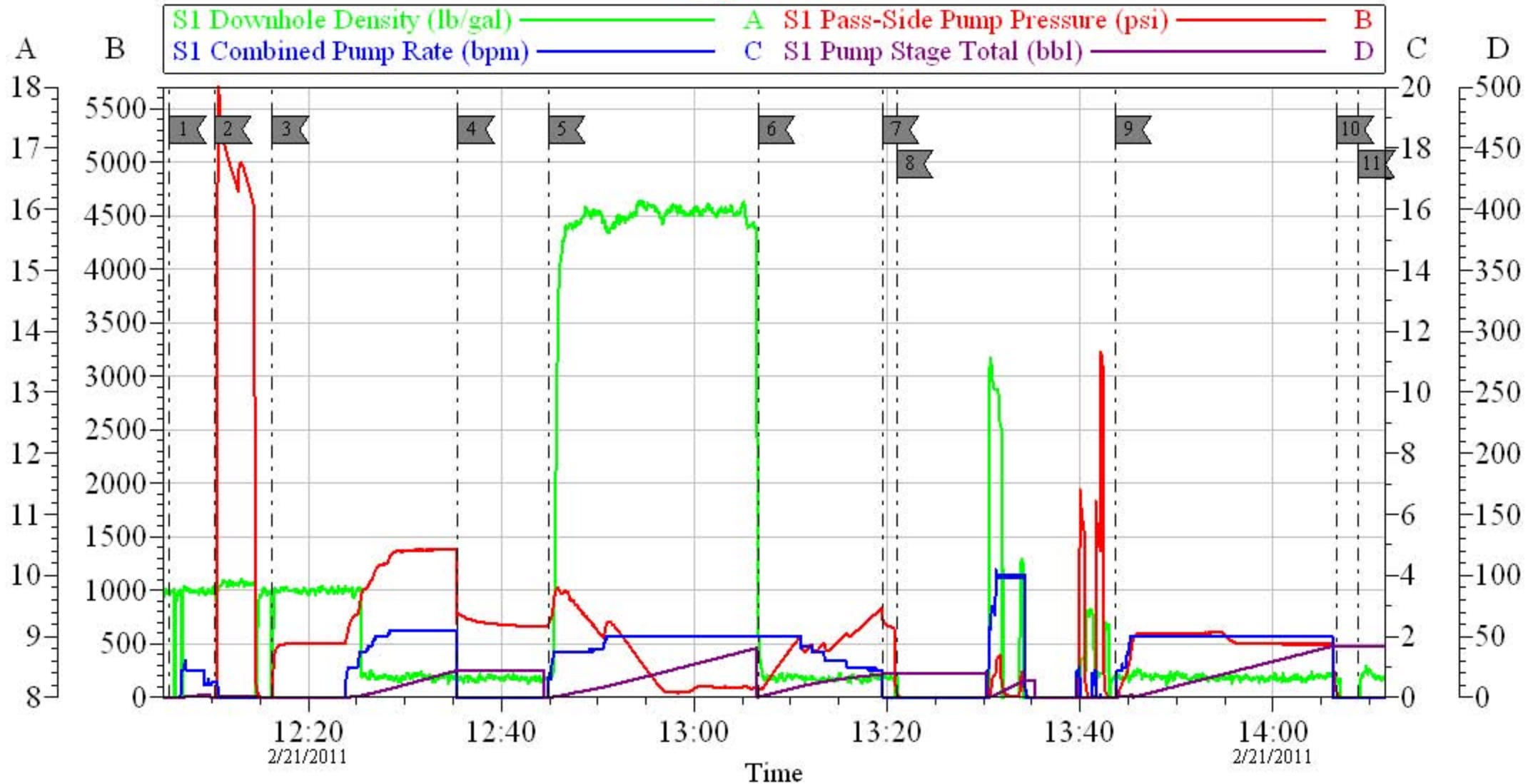
The Road to Excellence Starts with Safety

Sold To #: 337854	Ship To #: 2696160	Quote #:	Sales Order #: 7981457
Customer: ANTERO RESOURCES		Customer Rep:	
Well Name: CSF	Well #: 21C-07-07-91	API/UWI #: 05-045-17084	
Field:	City (SAP): SILT	County/Parish: Garfield	State: Colorado
Legal Description:			
Lat: N 39.463 deg. OR N 39 deg. 27 min. 47.855 secs.		Long: W 107.599 deg. OR W -108 deg. 24 min. 4.036 secs.	
Contractor: WORKOVER		Rig/Platform Name/Num: WORK OVER	
Job Purpose: Squeeze Perfs			Ticket Amount:
Well Type: Development Well		Job Type: Squeeze Perfs	
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	02/21/2011 02:00							
Depart from Service Center or Other Site	02/21/2011 06:00							ALL HES CREW MEMBERS FOR JOB PRESENT/AND DISCUSSED SAFTEY MEETING PRE-DRIVE
Arrive at Location from Service Center	02/21/2011 09:30							ARRIVED ON LOC / RIG GETTING READY TO DO THE JOB
Assessment Of Location Safety Meeting	02/21/2011 09:45							SNOW PACKED AND ICEY SPOTS/MUDDY
Pre-Rig Up Safety Meeting	02/21/2011 09:50							ALL HES PRESENT/DISSCUSSE D JSA
Rig-Up Equipment	02/21/2011 10:00							RIG UP IRON TO MANIFOLD AND RIG FLOOR
Safety Meeting	02/21/2011 11:35							ALL RIG CREW AND HES PRESENT
Prime Pumps	02/21/2011 11:35							PRIME UP PUMP
Start Job	02/21/2011 12:05							RETAINER SET AT 5366 FT PREFS AT 5423 FT 2 3/8 IN PIPE 4.7# N-80 CSG 5.5 23# OH 7 7/8
Pressure Test	02/21/2011 12:10		0.5			5000.0		PRESSURE TEST GOOD
Injection Test	02/21/2011 12:16		2.2	22		1410.0		PUMP INJECTION RATE FRESH WATER
ISIP	02/21/2011 12:35					1410.0		
Pump Cement	02/21/2011 12:44		2	40.1		1030.0		PUMP TAIL CEMENT AT 15.8 PPG 1.15 Y 5.0 GAL/SK

Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Start Squeeze	02/21/2011 13:06		2	20.3			758.0	PUMP FRESH WATER DISPLACEMENT
Shutdown	02/21/2011 13:19							WASH UP TUB WHILE RIG STUNG OUT
Other	02/21/2011 13:19							STING OUT OF TOOL
Reverse Circ Well	02/21/2011 13:42		2	42			615.0	REVERSE OUT / GOT CEMENT BACK TO FLOW TANK AT 18 BBLS GONE
Shutdown	02/21/2011 14:06							BLEED PRESSURE OFF VALVES AND RIG HANDS BREAK IRON OFF RIG FLOOR
End Job	02/21/2011 14:08							420 SKS CEMENT WAS ORDERED FOR THE JOB/ PER-C/O USED 200 SKS/REMAINDER WILL GO BACK TO YARD AND WEIGHED IN AND LOADED INTO ONE TRUCK AND HELD ONTO FOR FUTURE USE/ TICKET WAS NOT SIGNED PENDING WEIGH BACK .
Safety Meeting - Pre Rig-Down	02/21/2011 14:10							
Rig-Down Equipment	02/21/2011 14:20							RIG DOWN GROUND IRON/AND MANIFOLD
Safety Meeting - Departing Location	02/21/2011 15:25							ALL HES PRESENT
Depart Location for Service Center or Other Site	02/21/2011 15:30							WEATHER GOOD/MUDDY ROADS
Other	02/21/2011 15:30							THANK YOU FOR USING HALLIBURTON SERVICES AND THE CREW OF CRAIG KUKUS

ANTERO SQUEEZE



Local Event Log								
1	START JOB	12:05:38	2	PRESSURE TEST	12:10:20	3	PUMP INJECTION RATE	12:16:17
4	SHUT DOWN	12:35:32	5	PUMP TAIL CEMENT	12:44:55	6	PUMP H2O DISPLACEMENT	13:06:39
7	SHUT /STING OUT/UNSET PAC	13:19:29	8	WASH UP TUB TO PIT	13:20:59	9	REVERSE OUT	13:43:37
10	SHUT DOWN	14:06:38	11	END JOB	14:08:52			

Customer: ANTERO	Job Date: 21-Feb-2011	Sales Order #: 7981457
Well Description: CSF 21C-07-07-91	Job Type: SQUEEZE	ADC Used: YES
Company Rep: GEORGE	Cement Supervisor: CRAIG KUKUS	Elite #/Operator: ELITE 2 RYAN WYCKOFF