

ANTERO RESOURCES  
1625 17TH STREET THIRD FLOOR  
DENVER, Colorado

BAT  
BAT 13D-17-07-95

**WORKOVER/WORK OVER**

## **Post Job Summary** **Recement Service**

Prepared for:  
Date Prepared:  
Version: 1

Service Supervisor: ROSS, CHARLES

Submitted by:

**HALLIBURTON**

The Road to Excellence Starts with Safety

Sold To #: 337854	Ship To #: 2783097	Quote #:	Sales Order #: 7958953
Customer: ANTERO RESOURCES		Customer Rep: Poole, Keith	
Well Name: BAT	Well #: 13D-17-07-95	API/UWI #: 05-045-19098	
Field: PARACHUTE	City (SAP): PARACHUTE	County/Parish: Garfield	State: Colorado
<b>Legal Description:</b>			
Lat: N 39.433 deg. OR N 39 deg. 25 min. 59.146 secs.		Long: W 108.025 deg. OR W -109 deg. 58 min. 29.107 secs.	
Contractor: WORKOVER		Rig/Platform Name/Num: WORK OVER	
Job Purpose: Recement Service			Ticket Amount:
Well Type: Development Well		Job Type: Recement Service	
Sales Person: METLI, MARSHALL		Srv Supervisor: ROSS, CHARLES	MBU ID Emp #: 453128

Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Pre-Convoy Safety Meeting	02/10/2011 05:20							WITH ALL HES EE'S
Depart from Service Center or Other Site	02/10/2011 05:30							
Arrive at Location from Service Center	02/10/2011 07:00							
Assessment Of Location Safety Meeting	02/10/2011 07:50							WITH ALL HES EE'S
Pre-Rig Up Safety Meeting	02/10/2011 08:30							WITH ALL HES EE'S
Rig-Up Equipment	02/10/2011 08:40							1-F550 PICKUP, 1-ELITE PUMP TRUCK, 1-660 CEMENT BULK TRUCKS, 1-SUPER FLUSH TRANSPORT, 1-HARD LINE TO RIG AND WASH UP OUT TO THE PIT FROM AND BACKSIDE FROM SQUEEZE MANIFOLD.
Pre-Job Safety Meeting	02/10/2011 11:20							WITH ALL HES EE'S AND RIG CREW
Start Job	02/10/2011 11:34							TD TO PLUG 4113, TP TUBE4020, RETAINER @ 4020, CASING PATCH @ 4070, MW# 8.4, SURFACE CASING 8.625 SET @ 2000, PRODUCTION CASING 4.5 11.6# N-80
Pump Water	02/10/2011 11:35		2	2				FILL LINES, FRESH WATER
Test Lines	02/10/2011 11:38							TEST TO 6000 PSI
Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
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Load Backside	02/10/2011 11:41							Load Backside Pressure to 500 for test and then release back to 350 psi
Injection Test	02/10/2011 11:46		3	20			1940.0	SLOWED RATE ONCE SO RIG HANDS COULD OPEN THE VALVE ON THE TANK FOR THE WELL FLUID.
Pump Spacer 1	02/10/2011 11:55		3	20			1490.0	SUPER FLUSH
Pump Spacer 2	02/10/2011 12:03		3	10			1708.0	FRESH WATER
Pump Tail Cement	02/10/2011 12:06		3	85.5			2460.0	320 SKS OF VERSACEM PUMPED @ 138 PPG, YIELD 1.5, WATER 7.25
Pump Displacement	02/10/2011 12:39		3	14.6			1524.0	FRESH WATER
Clean Lines	02/10/2011 12:48							
Reverse Circ Well	02/10/2011 12:51		3	30			800.0	
Shutdown	02/10/2011 13:11						800.0	
End Job	02/10/2011 13:11							GOOD RETURNS THROUGHOUT JOB UNTIL ALMOST 60 BBL INTO THE CEMENT, NO MOVEMENT OF PIPE THROUGHOUT JOB, 1BBL OF CEMENT CIRCULATED TO THE PIT. 310 SKS OF CEMENT PLACED THROUGH THE CASING PATCH.
Post-Job Safety Meeting (Pre Rig-Down)	02/10/2011 13:25							
Rig-Down Equipment	02/10/2011 13:35							
Pre-Convoy Safety Meeting	02/10/2011 14:35							
Depart Location for Service Center or Other Site	02/10/2011 14:45							THANKS FOR USING GRAND JUNCTION HALLIBURTON CEMENT DEPARTMENT, CHUCK ROSS AND CREW

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<b>Job Purpose:</b> Recement Service			
<b>Well Type:</b> Development Well		<b>Job Type:</b> Recement Service	
<b>Sales Person:</b> METLI, MARSHALL		<b>Srvc Supervisor:</b> ROSS, CHARLES	<b>MBU ID Emp #:</b> 453128

**Job Personnel**

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
HONE, AARON D		381285	KUKUS, CHRISTOPHER A		413952	NICKLE, RYON		454759
REEVES, BRANDON W		287883	ROSS, CHARLES Raymond		453128	WINKER, STEVEN		478776

**Equipment**

HES Unit #	Distance-1 way						
10297346	100 mile	10744648C	100 mile	10804467	100 mile	10829463	100 mile
10998508	100 mile	11071559	100 mile	11164591	100 mile		

**Job Hours**

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

**TOTAL** *Total is the sum of each column separately*

**Job**

**Job Times**

Formation Name	Formation Depth (MD)	Top	Bottom	Called Out	Date	Time	Time Zone
					10 - Feb - 2011	01:00	MST
					10 - Feb - 2011	07:00	MST
	4080. ft		4080. ft		10 - Feb - 2011	11:34	MST
					10 - Feb - 2011	13:11	MST
					10 - Feb - 2011	14:45	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
7.875 OPEN HOLE				7.875				2000.	4113.	2000.	4113.
4.5 PRODUCTION CASING	New		4.5	4.	11.6		N-80	.	4113.	.	4113.
8.625 SURFACE CASING	Unknown		8.625	8.017			N-80	.	2000.	.	2000.
2.375 TUBING	Unknown		2.375	1.995	4.7			.	4020.	.	4020.

**Tools and Accessories**

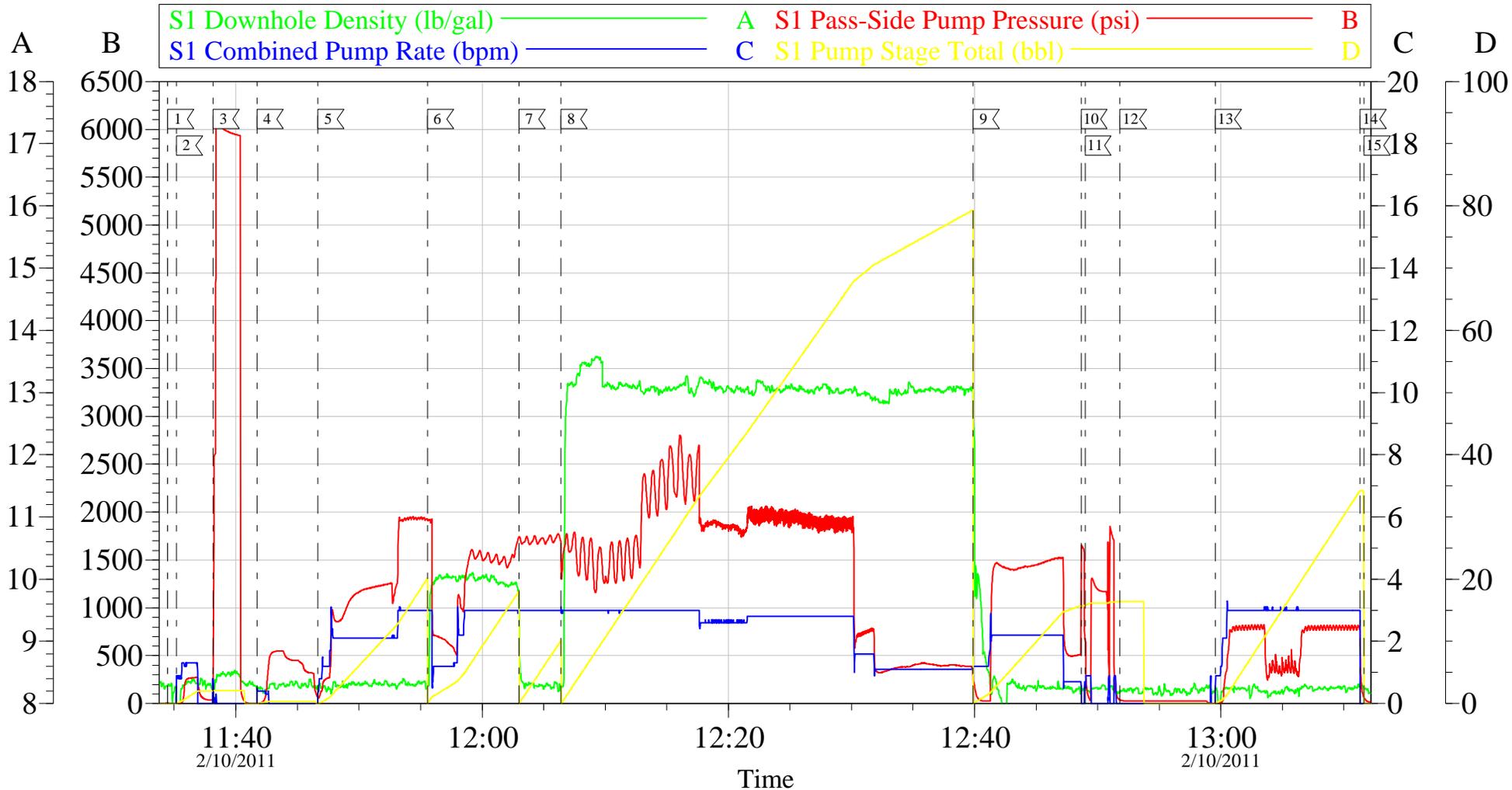
Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					Packer					Top Plug			
Float Shoe					Bridge Plug					Bottom Plug			
Float Collar					Retainer					SSR plug set			
Insert Float										Plug Container			
Stage Tool										Centralizers			

**Miscellaneous Materials**

Gelling Agt	Conc	Surfactant	Conc	Acid Type	Qty	Conc	%

Treatment Fld	Conc	Inhibitor	Conc	Sand Type	Size	Qty			
<b>Fluid Data</b>									
<b>Stage/Plug #: 1</b>									
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	Injection Test		20.00	bbl	8.4	.0	.0	.0	
2	SUPER FLUSH 101	SUPER FLUSH 101 - SBM (12199)	20.00	bbl	10.	.0	.0	.0	
3	Fresh Water Spacer		10.00	bbl	.	.0	.0	.0	
4	13.0 ppg Squeeze Cement	VERSACEM (TM) SYSTEM (452010)	320.0	sacks	13.	1.5	7.25		7.25
	7.25 Gal	FRESH WATER							
5	Displacement		14.00	bbl	8.4	.0	.0	.0	
<b>Calculated Values</b>		<b>Pressures</b>			<b>Volumes</b>				
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	
<b>Rates</b>									
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		
<b>The Information Stated Herein Is Correct</b>				Customer Representative Signature					

# Antero Re-Cement



Local Event Log								
1	START JOB	11:34:27	2	FILL LINES	11:35:10	3	TEST LINES	11:38:10
4	LOAD BACKSIDE	11:41:43	5	INJECTION TEST	11:46:39	6	SUPERFLUSH	11:55:33
7	WATER SPACER	12:03:00	8	CEMENT	12:06:25	9	DISPLACEMENT	12:39:54
10	SHUT DOWN	12:48:39	11	CLEAN LINES	12:48:58	12	PULLED STANDS	12:51:49
13	REVERSE CIRCULATE	12:59:32	14	SHUT DOWN	13:11:18	15	END JOB	13:11:37

Customer: Antero	Job Date: 10-Feb-2011	Sales Order #: 7958953
Well Description: Bat 13D-17-07-95	Job Type: Re-cement	ADC Used: Yes
Company Rep: Keith Poole	Cement Supervisor: Chuck Ross	Elite # / Operator: 6/ Chris Kukus