WR-35
Rev (9-11)

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas
Well Operator's Report of Well Work

DATE: 11/20/2012
API #: 47-033-05588

Farm name: Williams, Betty Ann Operator Well No.: Charles Unit 1H

LOCATION: Elevation: 1215' Quadrangle: Wolf Summit

District: Tenmile County: Harrison
Latitude: 3,404 Feet South of 39 Deg. 17 Min. 30 Sec.
Longitude 8,862 Feet West of 80 Deg. 27 Min. 30 Sec.

Company: Antero Resources Appalachian Corp

Address: 1625 17th Street	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft Class A
Agent: CT Corporation System	13-3/8" 54.5#	511'	511'	710 Cu. Ft. Class A
Inspector: Tristan Jenkins	9-5/8" 36#	2578'	2578'	1050 Cu. Ft. Class A
Date Permit Issued: 1/23/2012	5-1/2" 20#	14,940'	14,940'	3686 Cu. Ft. Class H
Date Well Work Commenced: 3/4/2012				
Date Well Work Completed: 8/30/2012	2-3/8" 4.7#	7448'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary ☑ Cable ☐ Rig ☐				
Total Vertical Depth (ft): 7,091' TVD				
Total Measured Depth (ft): 14,940' MD, 6,997' TVD (BHL)				
Fresh Water Depth (ft.): 20', 23', 40', 45', 50'				
Salt Water Depth (ft.): 1,510'				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): 116', 196', 221'				
Void(s) encountered (N/Y) Depth(s) No, N/A				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)
Producing formation Marcellus Pay zone depth (ft) 7,016' TVD (Top)
Gas: Initial open flow ----- MCF/d Oil: Initial open flow N/A Bbl/d
Final open flow 12,754 MCF/d Final open flow N/A Bbl/d
Time of open flow between initial and final tests N/A Hours
Static rock Pressure 3600 psig (surface pressure) after ----- Hours

Second producing formation _____ Pay zone depth (ft) _____
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure _____ psig (surface pressure) after _____ Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Lisa Bottinelli
Signature

11/20/12
Date

Were core samples taken? Yes_____ No X Were cuttings caught during drilling? Yes_____ No X

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Yes – CBL.

This is a subsequent well. Antero only runs wireline logs on the first well on a multi-pad (Post East Unit 5H API# 47-033-05580). Please reference wireline logs submitted with Form WR-35 for Post East Unit 5H.

NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

Perforated Intervals, Fracturing, or Stimulating:

Perforations: 8127'-14,874' MD (1416 holes)

Frac'd w/ 10,584 gals 15% HCL Acid, 142,023 bbls Slick Water carrying 779,481# 100 mesh,

2,699,465# 40/70 and 1,672,304# 20/40 sand.

Plug Back Details Including Plug Type and Depth(s): N/A

Formations Encountered: Surface:	Top Depth	/	Bottom Depth
Big Lime (est.)	1,586'		2,120'
Fifty Foot Sand (est.)	2,121'		2,247'
Gordon (est.)	2,248'		2,532'
Fifth Sandstone (est.)	2,533'		2,583'
Bayard (est.)	2,584'		3,239'
Speechley (est.)	3,240'		3,467'
Balltown (est.)	3,468'		4,001'
Bradford (est.)	4,002'		4,578'
Benson (est.)	4,579'		4,871'
Alexander (est.)	4,872'		5,100'
Elk (est.)	5,101'		5,628'
Rhinestreet (est.)	5,629'		6,297'
Sycamore (est.)	6,298'		6,536'
Middlesex	6,537'		6,606'
West River Shale	6,607'		6,666'
Genundewa	6,667'		6,696'
Burket	6,697'		6,735'
Tully	6,736'		7,015'
Marcellus	7,016'		7,091' TVD

WELL NAME: Charles Unit 1H
API #: 47-033-05588

Antero Resources Appalachian Corporation
Addendum to Form WR-35 - List of Additives Actually Used for Fracturing Or Stimulating Well

ADDITIVES	CHEMICAL ABSTRACT SERVICE NUMBER (CAS #)
WFRA-405	Mixture
Sodium Chloride	7647-14-5
Ammonium Chloride	12125-02-9
Petroleum Distillate Hydrotreated	64742-47-8
Alcohols, C12-16, Ethoxylated	68551-12-2
SI-1000	Mixture
Ethylene Glycol	107-21-1
Sodium Polyacrylate Copolymer	25987-30-8
Bioclear 2000 (2,2-Dibromo-3-Nitriloropionamide)	10222-01-2
LGC-15	Unknown/Unavailable
API-1 (Ammonium Persulfate)	7727-54-0
Hydrochloric Acid	7647-01-0
Water	7732-18-5
AI-300	Mixture
Ethylene Glycol	107-21-1
Ethoxylated Nonylphenol	68412-54-4
Isopropanol (Isopropyl Alcohol)	67-63-0
1-Decanol	112-30-1
1-Octanol	111-87-5
2-Butoxyethanol	111-76-2
Triethyl Phosphate	78-40-0
Cinnamaldehyde	104-55-2
N,N-Dimethylformamide	68-12-2
Tar Bases, Quinoline Derivs, benzyl chloride-quaternized	72480-70-7