

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: 12-18-2013  
API #: 47-009-00118

Farm name: Edward Zatta BRK 10H Operator Well No.: 834339

LOCATION: Elevation: 1220' Quadrangle: Tiltonsville

District: Buffalo County: Brooke  
Latitude: 2120' Feet South of 40 Deg. 15 Min. 00 Sec.  
Longitude 1300' Feet West of 80 Deg. 37 Min. 30 Sec.

Company: Chesapeake Appalachia, L.L.C.

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
P.O. Box 18496 Oklahoma City, OK 73154-0496	26"	42'	42'	701 Cu. Ft.
Agent: Eric Gillespie	20"	304'	304'	550 Cu. Ft.
Inspector: Bill Hendershot	13 3/8"	650'	650'	701 Cu. Ft.
Date Permit Issued: 1-18-2012	9 5/8"	1708'	1708'	712 Cu. Ft.
Date Well Work Commenced: 3-14-2012	5 1/2"	10826'	10826'	2357 Cu. Ft.
Date Well Work Completed: 6-29-2012				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 5795'				
Total Measured Depth (ft): 10829'				
Fresh Water Depth (ft.): 70', 250'				
Salt Water Depth (ft.): 1350'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 261'				
Void(s) encountered (N/Y) Depth(s) Y 261'				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 8,130'-10,691'  
Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow 1,218\* MCF/d Final open flow 257 Bbl/d  
Time of open flow between initial and final tests 120 Hours  
Static rock Pressure 3,743\* psig (surface pressure) after 120 Hours \*Calculated

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.

Marlene Williams  
Signature

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Were core samples taken? Yes \_\_\_\_\_ No \_\_\_\_\_

Were cuttings caught during drilling? Yes \_\_\_\_\_ No \_\_\_\_\_

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list \_\_\_\_\_

**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:

See attachment

Plug Back Details Including Plug Type and Depth(s):

Formations Encountered: Surface:	Top Depth	/	Bottom Depth
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See attachment

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**PERFORATION RECORD ATTACHMENT**

Well Number and Name: 834339 Edward Zatta BRK 10H

PERFORATION RECORD			STIMULATION RECORD							
Date	Interval Perforated		Date	Interval Treated		Fluid		Propping Agent		Average Injection
	From	To		Type	Amount	Type	Amount			
5/3/2012	10,120	10,691	5/23/2012	10,120	10,691	Sik wtr	7,466	Sand	668,260	78
5/23/2012	9,455	10,026	5/24/2012	9,455	10,026	Sik wtr	10,566	Sand	666,060	80
5/24/2012	8,790	9,361	5/24/2012	8,790	9,361	Sik wtr	10,948	Sand	666,060	80
5/24/2012	8,125	8,696	5/24/2012	8,125	8,696	Sik wtr	10,735	Sand	662,440	80
5/25/2012	7,460	8,031	5/29/2012	7,460	8,031	Sik wtr	10,497	Sand	663,620	80
5/29/2012	6,797	7,366	5/29/2012	6,797	7,366	Sik wtr	13,316	Sand	669,760	80
5/29/2012	6,130	6,701	5/30/2012	6,130	6,701	Sik wtr	10,140	Sand	666,400	80

**LATERAL SIDETRACK WELLBORE (no vertical pilot hole associated with this well)**

**Maximum TVD of wellbore: 5754 ft TVD @ 10829 ft MD**

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
LS/SS	0	0	252	252
PITTSBURG COAL	252	252	260	260
SS/LS	260	260	1000	1000
SS	1000	1000	1100	1100
BIG LIME (LS)	1100	1100	1306	1306
BIG INJUN (SS)	1306	1306	1509	1509
SHALE	1509	1509	5749	5544
GENESEO (SH)	5749	5544	5767	5556
TULLY (LS)	5767	5556	5832	5600
HAMILTON (SH)	5832	5600	5988	5687
MARCELLUS (SH)	5988	5687		
TD OF LATERAL			10829	5754

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# Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	5/23/2012
State:	WEST VIRGINIA
County:	BROOKE
API Number:	4700900118
Operator Name:	CHESAPEAKE APPALACHIA LLC
Well Name and Number:	EDWARD ZATTA BRK 10H
Longitude:	-80.632697
Latitude:	40.246379
Long/Lat Projection:	NAD27
Production Type:	GAS
True Vertical Depth (TVD):	5,759
Total Water Volume (gal)*:	3,288,558

## Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by Mass)**	Maximum Ingredient Concentration in HF Fluid (% by Mass)**	Comments
Fresh Water		Carrier/Base Fluid				77.22903%	
Recycled Produced Water		Carrier/Base Fluid				7.80292%	
Ottawa Sand		Proppant	Crystalline Silica (Quartz Sand, Silicon Dioxide)	014808-60-7	100.00%	10.04822%	
100 Mesh Sand		Proppant	Crystalline Silica (Quartz Sand, Silicon Dioxide)	014808-60-7	100.00%	4.27236%	
Acid, Hydrochloric 15pct A264	SCHLUMBE RGER	Acid	Water	007732-18-5	85.00%	0.47149%	
	RGER	Corrosion Inhibitor	Hydrogen Chloride	007647-01-0	15.00%	0.08320%	
	SCHLUMBE RGER		Methanol (Methyl Alcohol)	000067-56-1	40.00%	0.00044%	
	RGER		Aliphatic acid	N/A	30.00%	0.00033%	
			Aliphatic alcohols, ethoxylated # 1	N/A	30.00%	0.00033%	
			Propargyl Alcohol (2-Propynol)	000107-19-7	10.00%	0.00011%	
L058	SCHLUMBE RGER	Iron Control Agent	Sodium Erythorbate	006381-77-7	100.00%	0.00033%	
EC6110A	NALCO	Anti-Bacterial Agent	Glutaraldehyde	000111-30-8	60.00%	0.01616%	
			Quaternary Ammonium Compounds	N/A	10.00%	0.00269%	
			Ethanol	000064-17-5	5.00%	0.00135%	

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EC6629A	NALCO	Scale Inhibitor	No Hazardous Components	NONE			0.00000%	
J580	SCHLUMBE RGER	Gelling Agent	Carbohydrate polymer	N/A	100.00%		0.01551%	
B315	SCHLUMBE RGER	Friction Reducer	Petroleum Distillate Hydrotreated Light	064742-47-8	30.00%		0.01296%	
J218	SCHLUMBE RGER	Breaker	Aliphatic alcohol polyglycol ether Ammonium Persulfate	N/A	1.50%		0.00065%	
				007727-54-0	100.00%		0.00057%	

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\* Total Water Volume sources may include fresh water, produced water, and/or recycled water

\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

"Additional Ingredients Not Listed on MSDS" component information were obtained directly from the supplier. As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of this information should be directed to the supplier who provided it.