

Farm name: Ray Baker 1H Operator Well No.: 832774

LOCATION: Elevation: 1310' Quadrangle: Glen Easton

District: Liberty County: Marshall
Latitude: 7060' Feet South of 39 Deg. 47 Min. 30 Sec.
Longitude 14140' 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	13 3/8"	1213'	1213'	1240 Cu. Ft.
Agent: Eric Gillespie	9 5/8"	2644'	2644'	1201 Cu. Ft.
Inspector: Bill Hendershot	5 1/2"	13352'	13352'	2924 Cu. Ft.
Date Permit Issued: 12-15-2010				
Date Well Work Commenced: 12-24-2010				
Date Well Work Completed: 4-23-2014				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 6982'				
Total Measured Depth (ft): 13354'				
Fresh Water Depth (ft.): 395'				
Salt Water Depth (ft.): N/A				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 375'				
Void(s) encountered (N/Y) Depth(s) N				

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

Producing formation Marcellus Pay zone depth (ft) ^(7,533-13,200)
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow 6,260* MCF/d Final open flow 34 Bbl/d
Time of open flow between initial and final tests 96 Hours
Static rock Pressure 4,538* psig (surface pressure) after 96 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.

Marlowe Williams
Signature

2/25/15
Date

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Were core samples taken? Yes _____ No N

Were cuttings caught during drilling? Yes Y No _____

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list GR MWD from 6600' - 13354'

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 attached

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

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

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

Maximum TVD of wellbore: 6982 ft TVD @ 13354 ft MD

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
SS/LS	0	0	375	375
PITTSBURG COAL	375	375	385	385
SILTSTONE/SHALE	385	385	2200	2200
BIG LIME	2200	2200	2481	2481
BIG INJUN (SS)	2481	2481	2580	2580
SHALE	2580	2580	2820	2820
SHALE/SS	2820	2820	3100	3100
SHALE W/ MINOR SS	3100	3100	7078	6927
GENESE0 (SH)	7078	6927	7108	6947
TULLY (LS)	7108	6947	7139	6980
HAMILTON (SH)	7139	6980	7362	7062
MARCELLUS (SH)	7362	7062		
TD OF LATERAL			13354	6982

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Marlene Willigen
Signature

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	3/8/2014
State:	WEST VIRGINIA
County:	MARSHALL
API Number:	4705101408
Operator Name:	CHESAPEAKE APPALACHIA LLC
Well Name and Number:	RAY BAKER 1H
Longitude:	-80.65011
Latitude:	39.752878
Long/Lat Projection:	NAD27
Production Type:	GAS
True Vertical Depth (TVD):	7,074
Total Water Volume (gal)**:	7,522,217

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	CHESAPEAKE ENERGY	Carrier/Base Fluid	Water	007732-18-5	100.00%	87.66218%	
EC6110A	NALCO	Anti-Bacterial Agent	Ethanol	000064-17-5	5.00%	0.00123%	
			Glutaraldehyde (Pentanediol)	000111-30-8	60.00%	0.01474%	
			Quaternary Ammonium Compounds	NA	10.00%	0.00246%	
EC6629A	NALCO	Scale Inhibitor	No Hazardous Components	NA		0.00000%	
A264, J218, J580, J609, L058, Acid, Hydrochloric 15pct, Northern White Sand, 100 Mesh Sand	SCHLUMBERGER	Breaker, Corrosion Inhibitor, Friction Reducer, Gelling Agent, Iron Control Agent, Acid, Proppant - Natural	Crystalline silica	14808-60-7	97.58335%	11.03381%	
			Hydrogen chloride	7647-01-0	1.42258%	0.16085%	
			Guar gum	9000-30-0	0.42058%	0.04755%	
			Calcium chloride	10043-52-4	0.21231%	0.02401%	
			Acrylamide, 2-acrylamido-2-methylpropanesulfonic acid, sodium salt polymer	38193-60-1	0.12854%	0.01453%	
			Ammonium sulfate	7783-20-2	0.12149%	0.01374%	
			Sodium sulfate	7757-82-6	0.05251%	0.00594%	
			Diammonium peroxodisulphate	7727-54-0	0.02180%	0.00246%	

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			Polymer of 2-acrylamido-2-methylpropanesulfonic acid sodium salt and methyl acrylate	136793-29-8	0.01377%	0.00156%	
			Urea	57-13-6	0.00846%	0.00096%	
			Potassium chloride (impurity)	7447-40-7	0.00594%	0.00067%	
			Sodium erythorbate	6381-77-7	0.00540%	0.00061%	
			Sodium chloride (impurity)	7647-14-5	0.00318%	0.00036%	
			Methanol	67-56-1	0.00245%	0.00028%	
			Non-crystalline silica	7631-86-9	0.00237%	0.00027%	
			Fatty acids, tall-oil	61790-12-3	0.00180%	0.00020%	
			Thiourea, polymer with formaldehyde and 1-phenylethanone	68527-49-1	0.00148%	0.00017%	
			Alcohols, C14-15, ethoxylated (TEO)	68951-67-7	0.00069%	0.00008%	
			Prop-2-yn-1-ol	107-19-7	0.00046%	0.00005%	
			Alkenes, C>10 a-	64743-02-8	0.00031%	0.00003%	
			Tetrasodium ethylenediaminetetraacetate	64-02-8	0.00027%	0.00003%	
			Dimethyl siloxanes and siloxanes	63148-62-9	0.00012%	0.00001%	
			Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7	0.00002%	< 0.00001%	
			Octamethylcyclotetrasiloxane	556-67-2	0.00001%	< 0.00001%	
			Sodium hydroxide	1310-73-2	0.00001%	< 0.00001%	
			Decamethyl cyclopentasiloxane	541-02-6	0.00001%	< 0.00001%	
			Dodecamethylcyclohexasiloxane	540-97-6	0.00001%	< 0.00001%	

Additional Ingredients Not Listed on MSDS

EC6110A, EC6629A	NALCO	Anti-Bacterial Agent, Scale Inhibitor	Methanol (Methyl Alcohol)	000067-56-1		0.00639%	
			Proprietary Acrylate Polymer	TRADE SECRET		0.00639%	
			Proprietary Quaternary Ammonium Salt	TRADE SECRET		0.00639%	
			Water	007732-18-5		0.02411%	

* 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.

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