

Farm name: Ray Baker 6H Operator Well No.: 831605

LOCATION: Elevation: 1310' Quadrangle: Glen Easton 7.5

District: Liberty County: Marshall
Latitude: 7070' Feet South of 39 Deg. 47 Min. 30 Sec.
Longitude 14120' 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"	1169'	1169'	1212 Cu. Ft.
Agent: Eric Gillespie	9 5/8"	2676'	2676'	1143 Cu. Ft.
Inspector: Bill Hendershot	5 1/2"	11830'	11830'	2975 Cu. Ft.
Date Permit Issued: 11-24-2009				
Date Well Work Commenced: 10-17-2010				
Date Well Work Completed: 5-11-2014				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 7065'				
Total Measured Depth (ft): 11830'				
Fresh Water Depth (ft.): 395'				
Salt Water Depth (ft.): N/A				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 375', 1029'				
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) 7,548-11,600
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow 5,849* MCF/d Final open flow 40 Bbl/d
Time of open flow between initial and final tests 72 Hours *Calculated
Static rock Pressure 4,592* psig (surface pressure) after 72 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.

Marlene Williams
Signature

2/26/15
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 6700' - 11830'

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:	Top Depth	/	Bottom Depth
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Surface:

See attached

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PERFORATION RECORD ATTACHMENT

Well Name and Number: Ray Baker 6H

Stage	PERFORATION RECORD				STIMULATION RECORD							
	Date	Interval Perforated		Total Number Of Shots	Date	Interval Treated		Fluid		Propping Agent Type	Propping Agent Amount	Average Injection Rate
		From	To			Type	Amount					
1	3/30/2014	11249	11600	35	3/30/2014	11249	11600	SLK Wtr	5986	Sand	353460	76.9
2	3/31/2014	11130	11220	35	3/31/2014	11130	11220	SLK Wtr	6575	Sand	356160	80.4
3	3/31/2014	10981	11101	35	3/31/2014	10981	11101	SLK Wtr	5146	Sand	354300	80
4	3/31/2014	10831	10951	35	3/31/2014	10831	10951	SLK Wtr	5137	Sand	351940	80
5	4/1/2014	10682	10802	35	4/1/2014	10682	10802	SLK Wtr	5137	Sand	354501	79.8
6	4/1/2014	10533	10653	35	4/1/2014	10533	10653	SLK Wtr	5189	Sand	353440	80
7	4/1/2014	10384	10504	35	4/1/2014	10384	10504	SLK Wtr	5725	Sand	351960	80
8	4/2/2014	10234	10355	35	4/2/2014	10234	10355	SLK Wtr	6329	Sand	295920	80.1
9	4/2/2014	10085	10205	35	4/2/2014	10085	10205	SLK Wtr	4812	Sand	462180	72.6
10	4/2/2014	9936	10056	35	4/2/2014	9936	10056	SLK Wtr	5139	Sand	353600	80.1
11	4/3/2014	9786	9907	35	4/3/2014	9786	9907	SLK Wtr	5651	Sand	353580	79.9
12	4/3/2014	9637	9758	35	4/3/2014	9637	9758	SLK Wtr	5293	Sand	353220	80.1
13	4/3/2014	9488	9608	35	4/3/2014	9488	9608	SLK Wtr	5113	Sand	352720	79.4
14	4/4/2014	9339	9459	35	4/4/2014	9339	9459	SLK Wtr	6273	Sand	352440	79.9
15	4/4/2014	9189	9310	35	4/4/2014	9189	9310	SLK Wtr	5273	Sand	353480	80
16	4/5/2014	9040	9161	35	4/5/2014	9040	9161	SLK Wtr	7510	Sand	355300	79.9
17	4/5/2014	8891	9011	35	4/5/2014	8891	9011	SLK Wtr	5219	Sand	352900	79.7
18	4/6/2014	8742	8862	35	4/6/2014	8742	8862	SLK Wtr	7023	Sand	309645	77.1
19	4/9/2014	8592	8713	35	4/9/2014	8592	8713	SLK Wtr	6240	Sand	353940	79.3
20	4/9/2014	8443	8564	35	4/9/2014	8443	8564	SLK Wtr	4942	Sand	353620	78.7
21	4/9/2014	8294	8414	35	4/9/2014	8294	8414	SLK Wtr	5216	Sand	353280	79.9
22	4/9/2014	8145	8265	35	4/9/2014	8145	8265	SLK Wtr	5139	Sand	353680	80
23	4/10/2014	7995	8116	35	4/10/2014	7995	8116	SLK Wtr	5090	Sand	246260	79
24	4/10/2014	7846	7967	35	4/10/2014	7846	7967	SLK Wtr	5111	Sand	351480	80
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LATERAL SIDETRACK WELLBORE (no vertical pilot hole associated with this well)

Maximum TVD of wellbore: 7065 ft TVD @ 11830 ft MD

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
SILTSTONE/LS	0	0	375	375
PITTSBURG COAL	375	375	385	385
SILTSTONE/SHALE	385	385	1029	1029
COAL	1029	1029	1039	1039
SHALE W/ LS	1039	1039	1560	1560
SHALE W/ COAL	1560	1560	1590	1590
SHALE W/ SS	1590	1590	2200	2200
BIG LIME	2200	2200	2300	2300
BIG INJUN (SS)	2300	2300	2480	2480
SHALE	2480	2480	5100	5100
SHALE/SS	5100	5100	5430	5430
SHALE W/ LS	5430	5430	7139	6919
GENESEO (SH)	7139	6919	7172	6940
TULLY (LS)	7172	6940	7215	6968
HAMILTON (SH)	7215	6968	7392	7055
MARCELLUS (SH)	7392	7055		
TD OF LATERAL			11830	7065

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TD OF LATERAL			11830	7065

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MORGANTOWN, WV

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	3/30/2014
State:	WEST VIRGINIA
County:	MARSHALL
API Number:	4705101328
Operator Name:	CHESAPEAKE APPALACHIA LLC
Well Name and Number:	RAY BAKER 6H
Longitude:	-80.650132
Latitude:	39.752931
Long/Lat Projection:	NAD27
Production Type:	GAS
True Vertical Depth (TVD):	7,102
Total Water Volume (gal)**:	8,165,783

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%	89.97964%	
EC6110A	NALCO	Anti-Bacterial Agent	Ethanol Glutaraldehyde (Pentanediol) Quaternary Ammonium Compounds	000064-17-5 000111-30-8 NA	5.00% 60.00% 10.00%	0.00122% 0.01469% 0.00245%	
EC6629A	NALCO	Scale Inhibitor	No Hazardous Components	NONE		0.00000%	
AZ64, 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 Hydrogen chloride Guar gum Ammonium sulfate Acrylamide, 2-acrylamido-2-methylpropanesulfonic acid, sodium salt polymer Diammonium peroxodisulphate Calcium chloride	14808-60-7 7647-01-0 9000-30-0 7783-20-2 38193-60-1	97.81040% 1.36643% 0.47342% 0.14498% 0.11462%	9.80095% 0.13692% 0.04744% 0.01453% 0.01149%	
				7727-54-0	0.02481%	0.00249%	
				10043-52-4	0.01231%	0.00123%	

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			Polymer of 2-acrylamido-2-methylpropanesulfonic acid sodium salt and methyl acrylate	136793-29-8	0.01228%	0.00123%	
			Sodium sulfate	7757-82-6	0.01166%	0.00117%	
			Urea	57-13-6	0.00754%	0.00076%	
			Sodium erythorbate	6381-77-7	0.00503%	0.00050%	
			Methanol	67-56-1	0.00416%	0.00042%	
			Fatty acids, tall-oil	61790-12-3	0.00306%	0.00031%	
			Non-crystalline silica	7631-86-9	0.00275%	0.00028%	
			Thiourea, polymer with formaldehyde and 1-phenylethanone	68527-49-1	0.00251%	0.00025%	
			Alcohols, C14-15, ethoxylated (ZEO)	68951-67-7	0.00117%	0.00012%	
			Prop-2-yn-1-ol	107-19-7	0.00078%	0.00008%	
			Alkenes, C>10 a-	64743-02-8	0.00052%	0.00005%	
			Potassium chloride (impurity)	7447-40-7	0.00034%	0.00003%	
			2-propenamide	79-06-1	0.00029%	0.00003%	
			Tetrasodium ethylenediaminetetracetate	64-02-8	0.00020%	0.00002%	
			Sodium chloride (impurity)	7647-14-5	0.00018%	0.00002%	
			Dimethyl siloxanes and silicones	63148-62-9	0.00011%	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%	
			Decamethyl cyclopentasiloxane	541-02-6	0.00001%	< 0.00001%	
			Dodecamethylcyclohexasiloxane	540-97-6	< 0.00001%	< 0.00001%	
			Copper(II) sulfate	7758-98-7	< 0.00001%	< 0.00001%	
			Sodium hydroxide	1310-73-2	< 0.00001%	< 0.00001%	

Additional Ingredients Not Listed on MSDS

EC6110A, EC6629A	NALCO	Anti-Bacterial Agent, Scale Inhibitor	Methanol (Methyl Alcohol)	000067-56-1		0.00641%	
			Proprietary Acrylate Polymer	TRADE SECRET		0.00641%	
			Proprietary Quaternary Ammonium Salt	TRADE SECRET		0.00641%	
			Water	007732-18-5		0.02414%	

* 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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