

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas

Well Operator's Report of Well Work

Farm name: Virginia & Delmar Eagle Operator Well No.: HR 426

LOCATION: Elevation: 734' Quadrangle: Gay, WV 7.5'

District: Reedy County: Roane
Latitude: 6880 Feet South of 38 Deg. 52 Min. 30 Sec.
Longitude 5913 Feet West of 81 Deg. 30 Min. 00 Sec.

Company: Hard Rock Exploration

	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: 2034 Martins Branch Road				
Charleston WV, 25312	20"	16'	16'	N/A
Agent: Marc Scholl	13 3/8"	84'	84'	105Cuft
Inspector: Ed Gainer	9 5/8"	670'	670'	336 CuFt
Date Permit Issued: 6/13/11	7"	2200'	2200'	470 CuFt
Date Well Work Commenced: 12/9/11	4.5"	6786'	6786'	130 CuFt
Date Well Work Completed: 12/28/11				
Verbal Plugging:	Ran Gamma Log from KOP(3670' - 4611'MD)			
Date Permission granted on:				
Rotary x Cable Rig				
Total Depth (feet): 6853'TMD, 4276'TVD				
Fresh Water Depth (ft.): 60', 512'				
Salt Water Depth (ft.): 1736', 1996'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): N/A				

OPEN FLOW DATA

Producing formation Lower Huron Shale Pay zone depth (ft) 4179'MD- 6853'MD
4134'TVD - 4276' TVD

Gas: Initial open flow Odor MCF/d Oil: Initial open flow Bbl/d
Final open flow 1200 MCF/d Final open flow Bbl/d
Time of open flow between initial and final tests 72 Hours
Static rock Pressure 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

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NOTE: ON BACK OF THIS FORM 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 ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

Signed:

By: President
Date: 3/2/12

Formation:	Top:	Bottom:
Soil, Sand, and Shale	0	415
Sand	415	495
Sand	590	610
Salt Sand	1700	1830
Lime	1830	1910
Injun Sand/Squaw	1910	2040
Coffee Shale	2340	2355
Devonian Shale	2355	4276
Lower Huron Section	4135	4276

Formation depths are TVD

12/18/11 Run 159 jts of R-3 4.5" 11.6ppf N-80 casing with 12-stage Team downhole mechanical packer system to depth of 6786' GL. Land casing through BOP and ND BOP. RU DSA and 10k frac valve. Drop balls for toe sub and follow with low rate N2. Land balls and pressure up on casing to set packers and open Stage sleeve. Open at 3687psi and pumped total of 136k scf N2. RU to perform annular squeeze. Pump total of 100sx type 1 3% mixed at 15ppg.

	Sleeve	Sleeve Size	Ball	Packers
Stage 1	6697.3	HP	N/A	6603.8
Stage 2	6477.0	1.594	1.719	6383.5
Stage 3	6256.7	1.750	1.875	6163.2
Stage 4	6036.4	1.906	2.031	5942.9
Stage 5	5816.1	2.063	2.188	5722.6
Stage 6	5595.5	2.219	2.344	5501.9
Stage 7	5374.9	2.375	2.500	5281.3
Stage 8	5154.4	2.531	2.656	5060.9
Stage 9	4934.1	2.688	2.813	4840.6
Stage 10	4713.6	2.844	2.969	4620
Stage 11	4493.0	3.036	3.250	4399.4
Stage 12	4272.5	3.286	3.500	4179
				2543

12/27/12-12/28/12 MIRU Baker Stim Crew. Start pumping N2 on Stg1 and increase rate as pressure allows. Design rate 100kscf/min. Pump total of 1MMscf N2. Drop ball for Stg 2 and pump ball down with low rate N2. Open sleeve and increase rate to 100kscf/min. Pump total of 1MMscf N2. Drop ball for Stg 3. Repeat process for Stgs 3-12.

	Stg 1	Stg 2	Stg 3	Stg 4	Stg 5	Stg 6
Max P	5655	5931	5854	5427	5411	5376
Avg P	5440	5714	5701	5313	5360	5319
Max R	107.0	100.0	105.0	112.0	103.0	106.0
Avg R	105.0	95.7	101.0	103.0	101.0	100.0
5 min	2060	2195	2306	2312	2226	2427
	Stg 7	Stg 8	Stg 9	Stg 10	Stg 11	Stg 12
Max P	6019	5965	5686	5423	5154	4615
Avg P	5739	5825	5303	5243	5020	4259
Max R	101.0	103.0	104.0	108.0	105.0	104.0
Avg R	91.0	100.0	102	104.0	103.0	101.0
5 min	2471	2516	N/A	2463	2297	1842

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