

WR-35  
Rev (5-01)

DATE: 12/30/11  
API #: 47-035-02991

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

Well Operator's Report of Well Work

Farm name: Natural Steam Energy Operator Well No.: HR 422

LOCATION: Elevation: 923' Quadrangle: Gay WV 7.5'

District: Washington County: Jackson  
Latitude: 9458 Feet South of 38 Deg. 52 Min. 30 Sec.  
Longitude 1766 Feet West of 81 Deg. 32 Min. 30 Sec.

Company: Hard Rock Exploration

	Casing-& Tubing	Used-in drilling	Left in well	Cement-fill up Cu. Ft.
Address: 1244 Martins Branch Road Charleston WV, 25312				
Agent: Marc Scholl	13 3/8"	33'	33'	N/A
Inspector: Jamie Stevens	9 5/8"	868'	868'	420 f3 CTS
Date Permit Issued: 11/3/10	7"	2368'	2368'	483 f3 CTS
Date Well Work Commenced: 10/11/11	4.5"	7115'	7115'	130 CuFt
Date Well Work Completed: 11/8/11				
Verbal Plugging:	Ran Gamma Log from KOP(3843' - 4771'MD)			
Date Permission granted on:				
Rotary x Cable Rig				
Total Depth (feet): 7158'TMD, 4472'TVD				
Fresh Water Depth (ft.): 590'				
Salt Water Depth (ft.): 1483',1990'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): N/A				

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OPEN FLOW DATA

Producing formation Lower Huron Shale Pay zone depth (ft) 4306'MD- 7158 'MD  
4265'TVD - 4472' TVD

Gas: Initial open flow odor MCF/d Oil: Initial open flow          Bbl/d

Final open flow 1500 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

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: [Signature]  
By: Priscilla  
Date: 1/2/2012

05/25/2012

<u>Formation:</u>	<u>Top:</u>	<u>Bottom:</u>
<u>Soil/Sand/Shale</u>	0	1910
<u>Salt Sand</u>	1910	2070
<u>Big Lime</u>	2070	2150
<u>Injun Sand/Squaw</u>	2150	2330
<u>Shale</u>	2330	2580
<u>Coffee Shale</u>	2580	2595
<u>Devonian Shale</u>	2595	4472
Upper Huron Section	4230	4300
<b><u>Lower Huron Section</u></b>	<b><u>4360</u></b>	<b><u>4472</u></b>

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10/20/11 Run total of 167 jts of R-3 4.5" 11.6ppf casing to depth of 7115' set at 7120' KB. Run 13 stg Team downhole inflatable packer and frac sleeve system.

10/21/11 Flange up DSA and 10k 4.5" frac valve. start pumping N2 at 5k scf/min--pumped approx. 100k scf N2. Balls did not go through top valve. Drop balls and continue to pump at 5000 scf/min and land balls. Pressure up to 3600psi and set packers. Pump total of approx. 140k-150k scf N2. RD N2 equipment and RU to perform annular squeeze. Dump squeeze with 100sx type 1 3% CaCl mixed at 15ppg.

	<b>Sleeves</b>	<b>Sleeve Size</b>	<b>Ball Size</b>	<b>Packers</b>
<b>Stage 1</b>	7025.02	HP	N/A	6933.06
<b>Stage 2</b>	6847.9	1.438	1.563	6714.21
<b>Stage 3</b>	6629.05	1.594	1.719	6495.36
<b>Stage 4</b>	6410.2	1.75	1.875	6276.51
<b>Stage 5</b>	6191.35	1.906	2.031	6057.66
<b>Stage 6</b>	5930.77	2.063	2.188	5838.81
<b>Stage 7</b>	5753.65	2.219	2.344	5619.96
<b>Stage 8</b>	5493.07	2.375	2.508	5401.11
<b>Stage 9</b>	5273.92	2.531	2.656	5181.96
<b>Stage 10</b>	5055.07	2.688	2.813	4963.11
<b>Stage 11</b>	4877.65	2.844	2.969	4743.96
<b>Stage 12</b>	4617.07	3.036	3.25	4525.11
<b>Stage 13</b>	4398.22	3.286	3.5	4306.26
				2670.29

11/7/11 MIRU frac crew. Start pumping on Stg 1 at 10:30am (truck broke down on lease rd caused delay). Pump total of 1MMscf N2 at 100k scf/min rate. SD. Drop 1.56" ball for Stg 2. Wait 10min for ball to drop. Start pumping at 17k scf/min to land ball. Land ball at 70-75k scf. Up rate to 30k scf/min and open sleeve at 3981 psi. Continue to up rate and pump total of 1MMscf N2. SD. Drop 1.7" ball for Stg 3 and wait 10min. Start pumping N2 at 17k scf/min. Land ball at 55k scf. Up rate to 42k scf/min and open sleeve at 4266 psi. Continue to increase rate and pump total of 1MMscf. Repeat Process for Stgs 4-13.

	<b>Stg 1</b>	<b>Stg 2</b>	<b>Stg 3</b>	<b>Stg 4</b>	<b>Stg 5</b>	<b>Stg 6</b>	<b>Stg 7</b>
<b>Max P</b>	5970	5984	5834	5769	5620	5565	5373
<b>Avg P</b>	5865	5922	5742	5670	5504	5452	5325
<b>Max R</b>	106.0	101.0	106.0	109.0	109.0	109.0	106.0
<b>Avg R</b>	99.4	94.2	105.0	107.0	108.0	106.0	105.0
<b>5 min</b>	1804	2212	N/A	2191	2161	2206	2126
	<b>Stg 8</b>	<b>Stg 9</b>	<b>Stg 10</b>	<b>Stg 11</b>	<b>Stg 12</b>	<b>Stg 13</b>	
<b>Max P</b>	5159	5243	5201	5431	4617	4103	
<b>Avg P</b>	5059	5152	5162	5390	4586	4031	
<b>Max R</b>	107.0	109.0	105.0	106.0	106.0	110.0	
<b>Avg R</b>	104.0	107.0	102.0	105.0	105.0	106.0	
<b>5 min</b>	2320	2308	2213	2278	1920	1721	

05/25/2012