

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

Well Operator's Report of Well Work

Farm name: Elizabeth Ann Jones Irrevocable Special Needs Trust Operator Well No.: HR 427

LOCATION: Elevation: 965' Quadrangle: Liverpool, WV 7.5'

District: Ravenswood County: Jackson
Latitude: 4778 Feet South of 38 Deg. 55 Min. 00 Sec.
Longitude 5352 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: <u>2034 Martins Branch Road</u> <u>Charleston WV, 25312</u>				
Agent: <u>Marc Scholl</u>	<u>13 3/8"</u>	<u>42'</u>	<u>42'</u>	<u>N/A</u>
Inspector: <u>Jamie Stevens</u>	<u>9 5/8"</u>	<u>925'</u>	<u>925'</u>	<u>420 cf</u>
Date Permit Issued: <u>9/13/2010</u>	<u>7"</u>	<u>2645'</u>	<u>2645'</u>	<u>569 cf</u>
Date Well Work Commenced: <u>3/30/11</u>	<u>4.5"</u>	<u>6483'</u>	<u>6483'</u>	<u>130 cf</u>
Date Well Work Completed: <u>4/21/11</u>				
Verbal Plugging:				
Date Permission granted on:				
Rotary x Cable Rig				
Total Depth (feet): <u>6850' MD , 4530' TVD</u>				
Fresh Water Depth (ft.): <u>717'</u>				
Salt Water Depth (ft.): <u>1450', 1960'</u>				
Is coal being mined in area (N/Y)? <u>N</u>				
Coal Depths (ft.): <u>N/A</u>				

OPEN FLOW DATA

Producing formation Lower Huron Shale Pay zone depth (ft) 3955' - 6850' MD
3945' - 4530' TVD

Gas: Initial open flow 60 MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow 1600 MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests 72 Hours
Static rock Pressure 1250 psig (surface pressure) after 24 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:

By: James Stephens, President

Date: May 3, 2011

Formation:	Top:	Bottom:
Soil/Sand/Shale	0	267
Red Rock	267	270
Sand/Shale	270	1902
Salt Sand	1902	2130
Big Lime	2130	2185
Injun	2185	2220
Shale	2220	2599
Berea Sand	2599	2601
Devonian Shale	2601	4530
Upper Huron	3860	4380
Huron Section	4380	4530

4/15/11 Run total of 145jts at 6483' set at 6493' KB.

	Packers	Sleeves	Sleeve Size	Ball Size
Stage 1	6392.58	6493.42	Full	N/A
Stage 2	6163.10	6258.85	2.25	2.375
Stage 3	5933.57	6029.32	2.375	2.5
Stage 4	5704.04	5799.84	2.5	2.625
Stage 5	5474.61	5570.31	2.625	2.75
Stage 6	5245.18	5340.88	2.75	2.875
Stage 7	5015.75	5111.45	2.875	3
Stage 8	4786.27	4925.72	3	3.125
Stage 9	4600.49	4696.19	3.125	3.25
Stage 10	4371.06	4466.76	3.25	3.375
Stage 11	4141.53	4237.23	3.375	3.5
Stage 12	3955.80	4051.50	3.5	3.625

04/16/11 Start pumping 5 bbl water, drop ball for shoe, and follow with 5 bbl water and N2 at 3300scf/min. Land ball and up rate--pressure up to approx 1500psi and set packers. Continue to increase pressure to 2800psi and hold for 30 min to ensure packer set. Continue to increase pressure to approx 3850psi and open shoe. Shut down and RD N2 equipment. Total N2 pumped 125kscf. RU cmt pump and start cmt at 1:45pm. Pump total of 100sx at 15.6 ppg on 4.5" X7" followed with 4 bbls freshwater.

04/21/11 Start pumping on Stg 1 at 10:15am. Increase rate as pressure allows and pump total of 1MMscf N2. Shut down and drop 2.375" ball for Stg 2 and wait 10 min for ball to drop. Start pumping N2 at 15kscf/min to land ball on sleeve. Land at 35kscf. Bring rate up to 30kscf/min and open sleeve at 3577psi. Up rate as pressure allows and continue pumping for total of 1MMscf N2. Drop ball for stage 3 and repeat process on stgs 3-12.

	Stg 1	Stg 2	Stg 3	Stg 4	Stg 5	Stg 6	Stg 7	Stg 8	Stg 9	Stg 10	Stg 11	Stg 12
Max P	5864	6044	5946	5920	5980	5594	5920	5525	5638	5898	4754	4681
Avg P	5761	5852	5848	5774	5850	5386	5657	5334	5419	5746	4569	4328
Max R	104.6	98.9	80.6	85.1	88.9	106.8	109.5	109.2	110.5	101.6	113	115
Avg R	97.8	69.1	75.7	81.5	83.3	103.5	106	106.6	107.1	95.4	109.9	106.4
5 min	2098	2198	N/A	2422	2534	N/A	2206	2185	N/A	1907	2098	2100