

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas
Well Operator's Report of Well Work

Farm name: Harron, Ray A. Operator Well No.: Harron 2

LOCATION: Elevation: 1249' GL Quadrangle: Clarksburg 7.5

District: Simpson County: Harrison
Latitude: 8,490 Feet South of 39 Deg. 17 Min. 30 Sec.
Longitude: 1,890 Feet West of 80 Deg. 15 Min. 00 Sec.

Company: Petroleum Development Corporation

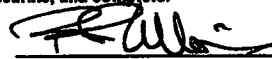
Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
<u>120 Genesis Boulevard</u> <u>Bridgeport, WV 26330</u>	<u>11 3/4"</u>	<u>15'</u>	<u>15'</u>	<u>Cement to Surface</u>
Agent: <u>Bob Williamson</u>	<u>8 5/8"</u>	<u>1063'</u>	<u>1063'</u>	<u>371</u>
Inspector: <u>Tim Bennett</u>	<u>4 1/2"</u>	<u>4593'</u>	<u>4593'</u>	<u>880</u>
Date Permit Issued: <u>04/30/2009</u>				
Date Well Work Commenced: <u>6/17/2009</u>				
Date Well Work Completed: <u>6/18/2009</u>				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input type="checkbox"/> Cable <input type="checkbox"/> Rig <input checked="" type="checkbox"/>				
Total Vertical Depth (ft): <u>4634'</u>				
Total Measured Depth (ft): <u>4634'</u>				
Fresh Water Depth (ft.): <u>20', 208', 365'</u>				
Salt Water Depth (ft.): <u>936'</u>				
Is coal being mined in area (N/Y)? <u>N</u>				
Coal Depths (ft.): <u>196', 540'</u>				
Void(s) encountered (N/Y) Depth(s) <u>N</u>				

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

Producing formation 5th Sand Pay zone depth (ft) 2404
Gas: Initial open flow 50.4 MCF/d Oil: Initial open flow --- Bbl/d
Final open flow 60 MCF/d Final open flow --- Bbl/d
Time of open flow between initial and final tests 24 Hours
Static rock Pressure 120 psig (surface pressure) after 24 Hours

Second producing formation Gordon (perf only) Pay zone depth (ft) 2036
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.


Signature

10/18/2012
Date

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.
Perforated the Benson with 13 shots (4457'-67'). Treated the well using a gelled water frac w/N2 assist using 603 bbl of sand laden fluid (15,000# of 80/100 sand and 50,000# of 20/40 sand). Also used 71,000 scf of N2.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
KB - GL			0	10	
sand, shale, redrock			10	1371	1½" stream H2O @ 20'; ½" stream H2O @ 208'; ½" stream H2O @ 365'; 1" stream H2O @ 936'
big lime			1371	1448	
sand, shale			1448	1460	
big injun			1460	1526	coal @ 196'; 540'
sand, shale			1526	1868	gas @ 1577'; 10/10= 1"w/H2O
gantz			1868	1877	
sand, shale			1877	1884	
50 foot			1884	1930	
sand, shale			1930	1937	
30 foot			1937	1944	
sand, shale			1944	2024	gas @ 1983'; 6/10= 1"w/H2O
gordon stray			2024	2045	
sand, shale			2045	2047	
gordon			2047	2067	
sand, shale			2067	2126	
3rd sand			2126	2146	
sand, shale			2146	2197	gas @ 2170'; 4/10= 1"w/H2O
4th sand			2197	2217	
sand, shale			2217	2254	gas @ 2233'; 4/10= 1"w/H2O
4th 'A'			2254	2289	
sand, shale			2289	2395	gas @ 2326'; 12/10= 1"w/H2O
5th sand			2395	2425	gas @ 2420'; 14/10= 1"w/H2O
sand, shale			2425	2995	
speechley			2995	3103	
sand, shale			3103	3229	gas @ 3196'; 10/10= 1"w/H2O
balltown			3229	3312	
sand, shale			3312	4248	gas @ 3414'; 8/10=1" w/H2O
riley			4248	4311	gas @ 4194'; 8/10=1" w/H2O
sand, shale			4311	4437	gas @ 4413'; 18/10= 1"w/H2O
benson			4437	4470	
sand, shale			4470	4634	TD logger
				4662	TD driller
					gas @ 4507'; 100/10= 1"w/H2O
					gas @ TD; 6/10= 2"w/H2O

(Attach separate sheets as necessary)

PETROLEUM DEVELOPMENT CORPORATION

Well Operator

By: 

Date: 4/22/85

Note: Regulation 2.02(i) provides as follows:
"The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including sand, encountered in the drilling of a well."

10/19/2012