

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

DATE: 10/16/2012
API #: 47-033-03480 F

Farm name: Larosa, James Operator Well No.: Yates 1

LOCATION: Elevation: 1147' GL Quadrangle: Clarksburg 7.5

District: Simpson County: Harrison
Latitude: 5,780 Feet South of 38 Deg. 17 Min. 30 Sec.
Longitude 4,180 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.
120 Genesis Boulevard Bridgeport, WV 26330	11 3/4"	32'	---	---
Agent: <u>Bob Williamson</u>	8 5/8"	921'	921'	295
Inspector: <u>Tim Bennett</u>	4 1/2"	4634'	4634'	653
Date Permit Issued: <u>02/19/2010</u>				
Date Well Work Commenced: <u>03/09/2010</u>				
Date Well Work Completed: <u>03/10/2010</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>4663'</u>				
Total Measured Depth (ft): <u>4663'</u>				
Fresh Water Depth (ft.): <u>155', 446'</u>				
Salt Water Depth (ft.): <u>None Recorded</u>				
Is coal being mined in area (N/Y)? <u>N</u>				
Coal Depths (ft.): <u>349-51, 445-47, 543-48'</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 Riley Pay zone depth (ft) _____
Gas: Initial open flow 84 MCF/d Oil: Initial open flow 3 Bbl/d
Final open flow 146 MCF/d Final open flow 1/2 Bbl/d
Time of open flow between initial and final tests 12 Hours
Static rock Pressure NT psig (surface pressure) after --- Hours

Second producing formation Fifth Sand (commingled) 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.


Signature

10/16/2012
Date

Were core samples taken? Yes _____ No XX

Were cuttings caught during drilling? Yes _____ No XX

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list _____

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:

3/6/2010: MRU JW Wireline and Halliburton JW ran a gamma/cel log to correlate. Ran in hole with 4-1/2" composite bridgeplug. Set plug @ 4230' Halliburton bullheaded 15% HCl acid into well and filled hole with water to pressure test. Pressure tested casing to 3500 psi. Well held pressure. JW shot the RILEY formation with the following shots(HSC): 10 (4189-93') & 6 (4182-85'). Halliburton completed the RILEY formation. The formation was really tight, pumped near max casing pressure and job without losses. Job could not be pumped according to schedule. The job was a N2 ASSIST, X-LINK (with 500 sds) with 2b sds of 100 mesh and 7b sds of 20/40 mesh white sands. The breakdown pressure was 3268 psi. The well treated at an average foam rate of 14.7 bpm with an average treating pressure of 3266 psi. The final pressures were as follows: ISIP: 2319 psi, 2 min shut-in: 2079 psi, 5 min shut-in: 1865 psi, 10 min shut-in: 1837 psi, 15 min shut-in: 1908 psi. Spotted acid and flushed for second stage. JW set a 4-1/2" composite flow-through fracplug. Set plug @ 2410'. Chased the frac ball to plug and shot The 5TH SAND formation with the following shots(HSC): 18 (2374-80'). **Plug Back Details Including Plug Type and Depth(s):** Halliburton completed the 5TH SAND formation. Pumped more sand than original design due to the way zone was treating. The job was a N2 ASSIST, X-LINK with 330 sds of 20/40 mesh white sand. The breakdown pressure was 1746 psi. The well treated ***

Formations Encountered: _____ **Top Depth** _____ / _____ **Bottom Depth**
Surface: _____

See Attached WR-35 & "Well Log" from original completion of this well (47-033-03480).

***at an average foam rate of 21.4 bpm with an average treating pressure of 2232 psi. The final pressures were as follows:
ISIP: 2000 psi, 2 min shut-in: 1865 psi, 5 min shut-in: 1782 psi, 10 min shut-in: 1708 psi, 15 min shut-in: 1642 psi.

DETAILS OF PERFORATED INTER. L.S., FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

Yates #1

STAGE	FORMATION	PERFS	80/100 SKS	20/40 SKS	ACID GAL	N2 (MCF)
1ST	Benson	11(4522-4524)	100	500	500	67

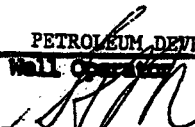
WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
KB - GL				10	
sand, shale, RR			10	1260	
Little Lime			1260	1275	3/4" stream H2O @ 155'
sand, shale			1275	1308	Coal 349-351; 445-447
Big Lime			1308	1372	3/4" stream H2O @ 446'
Keener			1372	1418	Coal 543-546
Big Injun			1418	1468	gas chk @ 1406' 6/10-7" H2O
sand, shale			1468	1804	gas chk @ 1466' 8/10-7" H2O
Gantz			1804	1818	gas chk @ 1776' 6/10-7" H2O
sand, shale			1818	1832	
50 ft			1832	1880	
sand, shale			1880	1889	
30 ft			1889	1912	gas chk @ 1901' 4/10-7" H2O
sand, shale			1912	1990	
Gordon Stray			1990	2003	
sand, shale			2003	2013	
Gordon			2013	2043	gas chk @ 2024' 4/10-7" H2O
sand, shale			2043	2154	
3rd			2154	2190	gas chk @ 2179' 24/10-2" Hg
sand, shale			2190	2213	
4th			2213	2245	
sand, shale			2245	2347	
5th			2347	2380	gas chk @ 2364' 22/10-2" Hg
sand, shale			2380	2798	
Speechley			2798	3123	gas chk @ 2895' 20/10-2" Hg
sand, shale			3123	3135	gas chk @ 3049' 20/10-2" Hg
Balltown			3135	3454	gas chk @ 3360' 12/10-2" Hg
sand, shale			3454	3632	
Bradford			3632	3719	
sand, shale			3719	4173	
Riley			4173	4372	gas chk @ 4261' 15/10-2" Hg
sand, shale			4372	4512	gas chk @ 4415' 14/10-2" Hg
Benson			4512	4570	gas chk @ 4569' 14/10-2" Hg
sand, shale			4570	4662	
			4662	4662	Driller TD 14/10-2" Hg Collars 14/10-2" Hg Logger TD

(Attach separate sheets as necessary)

PETROLEUM DEVELOPMENT CORPORATION

Well Operator

By: 
Date: April 18, 1989

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
coal, encountered in the drilling of a well."

10/19/2012