

State of West Virginia  
Division of Environmental Protection  
Section of Oil and Gas  
Well Operator's Report of Well Work

Farm Name: Pocahontas Land Corp. Operator Well No.: Pocahontas Land H-49

LOCATION: Elevation: 1699' Quadrangle: Pineville  
District: Center County: Wyoming  
Latitude: 11575' feet South of 37° DEG. 37' MIN. 30" SEC.  
Longitude: 4230' feet West of 81° DEG. 30' MIN. 00" SEC.

Company: Cabot Oil & Gas Corporation  
900 Lee Street East, Suite 500  
Charleston, WV 25301

Agent: Thomas S. Liberatore  
Inspector: Barry Stollings  
Permit Issued: 2/19/2008  
Well Work Commenced: May 5, 2008  
Well Work Completed: June 20, 2008  
Verbal Plugging: \_\_\_\_\_  
Permission granted on:  
Rotary X Cable \_\_\_\_\_  
Total Depth (feet) 3905'  
Fresh Water Depths (ft) 570'  
Salt Water Depths (ft) 3373'  
Is coal being mined in area (Y / N) ? NO

Casing & Tubing Size	Used in Drilling	Left In Well	Cement Fill Up Cu. Ft.
13-3/8"	20'	20'	
9-5/8"	310'	310'	162
7"	1329'	1329'	285
4-1/2"		3887'	265
Squeeze Cement @ 2080'			72

Coal Depths (ft) 85'-86', 120'-122', 215'-217', 355'-356', 660'-662', 720'-722'

**OPEN FLOW DATA**

**Producing Formation** GORDON 3791'-3828'  
POCONO 3162'-3172'  
LOWER BIG LIME 2862-2884'  
Pay Zone \_\_\_\_\_  
Depth (ft) \_\_\_\_\_

Gas: Initial Open Flow TSTM MCF/d Oil: Initial Open Flow 0 Bbl/d  
Final Open Flow 312 (COMMINGLED) MCF/d Final Open Flow 0 Bbl/d  
Time of open flow between initial and final tests 4 Hours  
Static rock pressure 320 psig surface pressure after 16 Hours

**Second Producing Formation** UPPER BIG LIME 2594'-2630'  
MIDDLE MAXTON 2143'-2212'  
Pay Zone \_\_\_\_\_  
Depth (ft) \_\_\_\_\_

Gas: Initial Open Flow TSTM MCF/d Oil: Initial Open Flow 0 Bbl/d  
Final Open Flow 312 (COMMINGLED) MCF/d Final Open Flow 0 Bbl/d  
Time of open flow between initial and final tests 4 Hours  
Static rock pressure 320 psig surface pressure after 16 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 SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE

For: **CABOT OIL & GAS CORPORATION**

By: [Signature] **Drilling Superintendent**  
Date: 8/4/09 **Office of Oil & Gas**

AUG - 5 2009

STAGE	PERFS	ACID 15% HCl	FOAM	SAND (lbs)	NITROGEN (scf)	BDP	ATP	MTP	ISIP
1-Gordon	3791-3828 (40)	350	75Q	60,872	577,900	3632	1571	1639	1424
2-Pocono	3162-3172 (40)	250	75Q	36,096	280,000	1836	1253	1877	1075
3-Lower Big Lime	2862-2884 (56)	250	75Q	30,298	356,200	1930	2513	2027	2276
4-Upper Big Lime	2594-2630 (40)	250	75Q	14,651	252,500	1977	2440	3975	3202
5-Middle Maxton	2143-2212 (40)	350	75Q	79,997	841,300	1674	2280	2733	2512

FORMATION	TOP	BOTTOM	REMARKS
SILT / SHALE	SURFACE	85	
COAL	85	86	
SILT / SHALE	86	120	
COAL	120	122	
SILT / SHALE	122	215	
COAL	215	217	
SILT / SHALE	217	355	
COAL	355	356	
SILT / SHALE	356	660	
COAL	660	662	
SILT / SHALE	662	720	
COAL	720	722	
SILT / SHALE	722	1387	
RV / SANDSTONE	1387	1431	
SILT / SHALE	1431	1460	
AVIS / LIMESTONE	1460	1501	
SILT / SHALE	1501	1989	
MAXTON	1989	2219	
SILT / SHALE	2219	2354	
LITTLE LIME	2354	2451	
PENCIL CAVE	2451	2482	
BIG LIME	2482	2927	
POCONO	2927	3309	
SILT / SHALE	3309	3657	
BEREA	3657	3670	
SHALE	3670	3781	
GORDON	3781	3829	
SILT / SHALE	3829	3905	TD



---

**west virginia** department of environmental protection

---

Office of Oil and Gas  
601 57th Street SE  
Charleston, WV 25304  
(304) 926-0450  
(304) 926-0452 fax

Joe Manchin III, Governor  
Stephanie R. Timmermeyer, Cabinet Secretary  
[www.wvdep.org](http://www.wvdep.org)

February 19, 2008

**WELL WORK PERMIT**

**New Well**

This permit, API Well Number: 47-10902976, issued to CABOT OIL & GAS CORPORATION, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, well operators report of well work, is to be submitted to this office within 90 days of completion of drilling, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.

James Martin  
Chief

Operator's Well No: POCA LAND H-49  
Farm Name: POCAHONTAS LAND CORP  
**API Well Number: 47-10902976**  
**Permit Type: New Well**  
Date Issued: 02/19/2008

**Promoting a healthy environment.**

109-02976

Form: WW - 2B

STATE OF WEST VIRGINIA  
DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

1) Well Operator Cabot Oil & Gas Corporation      08145      109      Center      Pineville  
Operator ID      County      District      Quadrangle

2) Operators Well Number: POCAHONTAS LAND H-49      3) Elevation: 1698.66'

4) Well Type: (a) Oil \_\_\_\_\_ Or Gas X  
(b) If Gas: Production X / Underground Storage \_\_\_\_\_  
Deep \_\_\_\_\_ / Shallow X

5) Proposed Target Formation(s): DEVONIAN LOWER HURON, DEVONIAN RHINESTREET, AND DEVONIAN MARCELLUS

6) Proposed Total Depth: 6519 Feet

7) Approximate fresh water strata depths: 66'

8) Approximate salt water depths: NONE REPORTED IN OFFSETS

9) Approximate coal seam depths: 169', 282', AND 829'

10) Does land contain coal seams tributary to active mine? NO

11) Describe proposed well work DRILL AND COMPLETE A COMMINGLED DEVONIAN LOWER HURON, DEVONIAN RHINESTREET, AND DEVONIAN MARCELLUS GAS WELL.

*Revised  
Offsets  
see next  
page.*

12) Based upon COGC GEOLOGY and COGC/Coal Company maps.

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	
Conductor	13-3/8"	LS	37	40'	40'	GFS
Fresh Water	9-5/8"	LS	26	320'	320'	153 ft <sup>3</sup> (CTS)
Coal	7"	LS	17	1290'	1290'	273 ft <sup>3</sup> (CTS)
Intermediate						
Production	4-1/2"	N-80	11.6		6514'	255 ft <sup>3</sup>
Tubing						
Liners						

Cement volumes are: 9-5/8" = 1.13 ft<sup>3</sup>, 7" = 1.24 ft<sup>3</sup>, and 4-1/2" = 1.35 ft<sup>3</sup> Lead (562') & 1.95 ft<sup>3</sup> Tail

Cement on the 9-5/8" Casing is Schlumberger's BlueSURF approved for use by Order 2004-02.

**The 4-1/2" x 7 annulus will be sealed by incorporating a gravity squeeze to prevent the build up of gas and/or pressure on the annulus.**

Packers: Kind  
Sizes  
Depths Set

*CK 14005 743  
650' cu*

*CS  
7-19-08*

RECEIVED

Office of Oil & Gas

FEB 11 2008

WV Department of  
Environmental Protection