



	Thickness Feet.	Total Feet.
Gray sandstone, very hard (Big Injun).....	60	1835
Black slate.....	15	1850
Dark sandstone.....	10	1860
Black shale.....	10	1870
White sand.....	30	1900
Shale.....	8	1908
Sand and shells.....	27	1935
Black sandstone.....	10	1945
Gray sandstone.....	18	1963
Black slate.....	10	1973
Blue sandstone.....	25	1998
Red sandstone.....	102	2100
<b>Catskill and Chemung (1100')</b>		
Unrecorded to bottom, about.....	1100	3200
8 1/4" casing, 759'.		

The record reveals a marked increase in the thickness of the Mauch Chunk over that in the Rowlesburg section, page 97. It does not look hopeful for oil or gas, to say the least, in the Mt. Carmel Basin portion of Portland district.

**Prospective Oil and Gas Areas, Portland District.**—The chances of finding either oil or gas in paying quantities in the latter area are very remote. The intense folding associated with the formation of the Briery Mountain arch has very probably permitted the escape into the air through resulting cracks and fissures long ago of any oil or gas the strata to attainable depth might have contained. Should a gas field be developed along the crest of the Preston anticline northward from Howesville, then that portion of Portland lying down in the Kingwood Basin is favorable for oil, if the gas horizon be non-water bearing.

#### *Union District.*

Union district occupies the southeastern corner of Preston county; hence, its area is traversed in a northeast-southwest direction by two great anticlines; viz, the Briery Mountain and Deer Park, as well as a local arch terminating to the northeast near Eglon; by three synclinal basins; viz, the Mt. Carmel and two local folds passing through Hardesty and Horseshoe run.

Only two wells have been drilled in the district, both of which were dry holes.

The **Nathan Tanner No. 1 well (102A)**, located on the south side of Saltlick creek, 1 mile southeast of Amblersburg.

was drilled by R. B. Frazier of Terra Alta, who gives the following data concerning the same:

"I drilled the N. Tanner well at Amblersburg in 1880 and 1881. We cased off fresh water at 90 feet and drilled 1500 feet; found no coal or lime, nothing but hard shell rock and slate; no salt water, hole perfectly dry all the 1500 feet, no oil or water."

The above boring starts several hundred feet below the base of the Catskill and below the known productive zones of the State, and probably penetrated the Portage beds.

The following is the log of the other well, located 0.6 mile northeastward:

Thomas Beatty No. 1 Well Record (102B).

Union district, 1.4 miles east of Amblersburg. Authority, George Reed. Completed, 1879.

	Thickness Total	
	Feet.	Feet.
Conductor .....	12	12
Sandstone, fossiliferous .....	113	125
Slate to bottom.....	875	1000

This boring starts several hundred feet below the base of the Catskill series and below the usual productive sands.

Slight showings of oil have been encountered in the black slates immediately above the Rowlesburg sandstone at the quarry in Rowlesburg, in the western edge of the district, but it is very doubtful if either oil or gas in paying quantities will ever be found within the latter area, since the same intense folding as in Portland district has brought about like conditions and unfavorable structure.

Total Feet. 1835 1850 1860 1870 1900 1908 1935 1945 1963 1973 1998 2100 3200

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District.—The quantities in the ng associated as very prob- sulting cracks t to attainable , be developed thward from g down in the orizon be non-

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located on the Amblersburg.