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**PRESS BULLETIN**  
(For immediate release)

GEOLOGY AND OIL AND GAS POSSIBILITIES IN THE  
VICINITY OF WATERLOO, MONROE COUNTY,  
ILLINOIS *by H.E. Culver*

Recent work by members of the Illinois State Geological Survey in the neighborhood of Waterloo, Monroe County, has brought to light the presence of geologic conditions in that area which are favorable to the accumulation of oil and gas. The following statement on the geology of this region has been prepared in accordance with the policy of the Survey to make public all data as rapidly as they become available, for the purpose of assisting those interested in the development of the area.

Detailed studies of the surface geology show that the rocks in this vicinity have been thrown into a series of low folds trending somewhat west of north and east of south. Perhaps the most fully developed of these folds is an anticline extending from near Columbia to a little south of Waterloo, as shown on the accompanying map. From the structure symbols it is readily seen that this fold is of the asymmetrical type, with a very gentle eastward slope and a steeply inclined west limb; the fold being comparable in form, though not in magnitude, to the La Salle anticline along certain portions of its axis. Indications point to the existence of a fault bounding the upfold on the west, the fault extending south from Columbia to sec. 23, T.2 S., R. 10 W., and following roughly the M. and O. Railroad.

On account of these structural features of the Waterloo fold, it is recommended that drilling tests be restricted for the present to a belt lying along and just east of the axis. By this restriction the Survey does not mean to imply that oil is certainly present within this zone or that oil may not be found outside it. In the present state of knowledge, however, this belt appears the most favorable for careful testing.

The strata involved in the anticline are indicated in the graphic section presented with the map. A description of these formations is presented in tabulated form on the following page.

Approximate geologic column for the Waterloo district<sup>1</sup>

Name	Thickness Feet	Description
St. Louis	200±	Limestone, dense, compact, hard, and brittle, splintery fracture. Contains little chert. Is not readily distinguishable from the underlying Salem formation.
Salem	100±	Limestone, gray to white, with a yellow tint in places. Notable for the absence of chert. Oolitic texture in part; partly made up of massed fragmentary fossils. May include some buff or drab dolomitic beds.
Warsaw	75±	Limestones and shales intercalated. Outcrops usually show mainly limestone phase, the softer shale being concealed beneath talus or wash. <i>Spirifer</i> abundant in one stratum near top of formation.
Keokuk— Burlington	125±	Limestone, white and pure, but with abundant chert bands irregularly sandwiched between the limestone strata. Commonly represented in outcrops by a cherty red clay which remains after the solution of the limestone. Lowest formation exposed in this locality.
Fern Glen Devonian	40± 40±	Limestone, prominently red and cherty.
Maquoketa	100±	Limestone, gray; drill cuttings often cream-colored.
Kimmswick	50±	Shale, dark gray, slightly calcareous.
Plattin	200±	Limestone, like the Devonian in color, but usually granular. May show oil.
Plattin	200±	Limestone, brownish-gray, granular. Most likely oil horizon.

<sup>1</sup>In using the above table it should be borne in mind that the thicknesses given are merely the closest approximations now available, and that variations of considerable importance may be revealed as development proceeds.

The Kimmswick-Plattin, which is the equivalent of the so-called "Trenton" of Clark County, is the only horizon in this vicinity as yet proven to contain oil. The "Hoing" sand horizon of northwestern Illinois, which lies at the top of the Maquoketa, may or may not be represented here. It might be noted that the limestones above the Fern Glen include the horizons of the "Westfield" and "Mississippi" limes of eastern Illinois; however, lack of cover for these formations on the structure minimizes the chance of their producing oil.

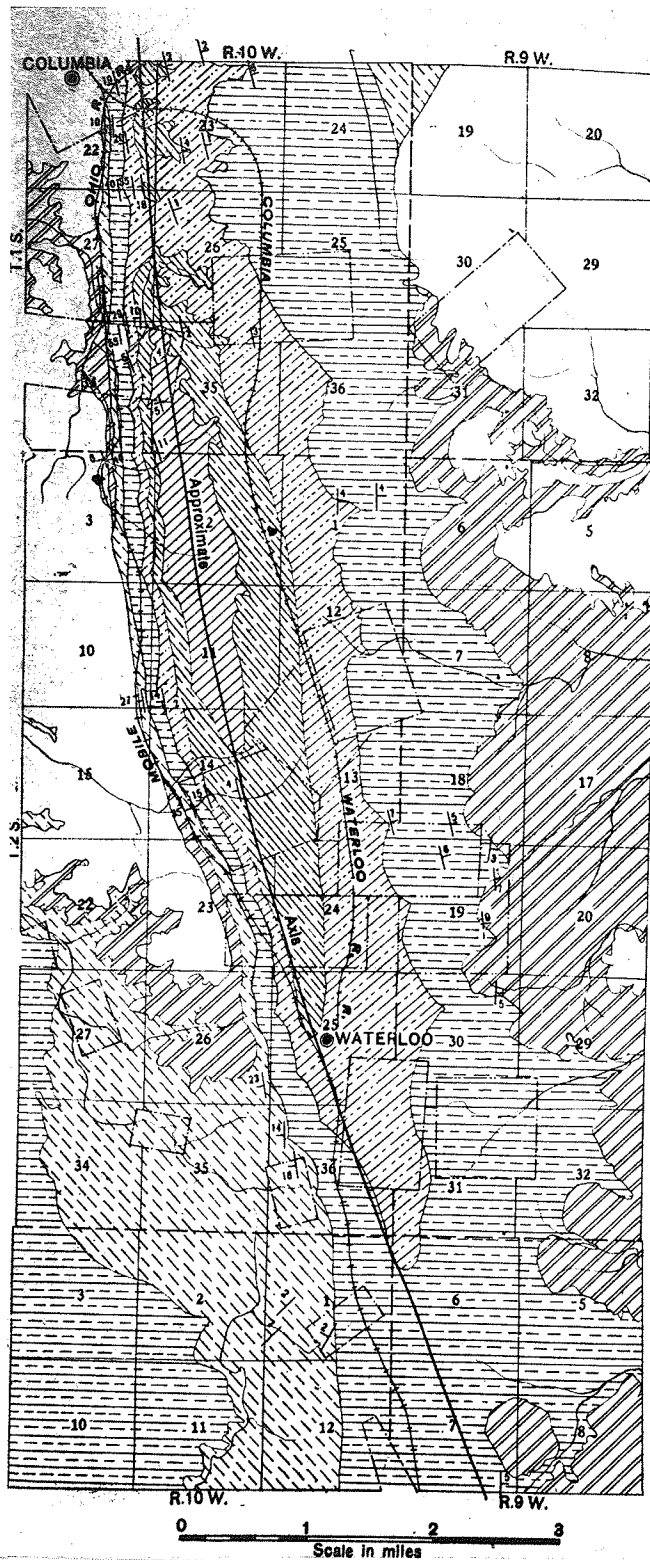
By reference to the sketch map it will be seen that three formations outcrop in roughly concentric belts along the axis of the anticline. Obviously the location of a drill hole will determine in which of these formations the well will start. Thus a drill placed along the axis and south of Waterloo will begin in the Salem, pass through the Warsaw, and then into the lower formations. If placed farther north and still along the axis of the fold.

it will miss the Salem and begin in the Warsaw; still farther to the north, entering the Keokuk-Burlington immediately, it will miss both Salem and Warsaw, and therefore have a corresponding lesser thickness of strata before penetrating the Plattin. The depth to be drilled is thus seen to be dependent upon two variable factors—the thickness of the strata, and the location of the drill with reference to the structure and to the topography. The distinguishing marks of the various formations are as follows: the Salem limestone shows practically no chert; the Warsaw may have shaly bands all through the formation; the Keokuk-Burlington limestone has abundant cherty bands; the Fern Glen, marking the base of the Mississippian strata, is easily recognized by its red color; the Maquoketa is a dark-gray shale which may be as much as 100 feet thick; the Kimmswick is generally light gray; and the Plattin is brownish gray.

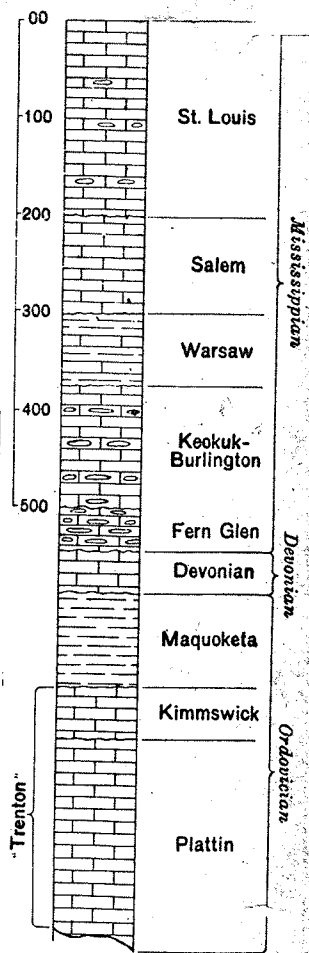
The finding of oil in a water well in the SE.  $\frac{1}{4}$  NW.  $\frac{1}{4}$  sec. 25, T. 2 S., R. 10 W. bears out the conclusions previously reached by geologists of the Survey that this is an area worthy of scientific testing.

One of the three wells in this vicinity, of depth sufficient to reach the Plattin has failed to show the presence of oil. This is the water well drilled at the brewery in Waterloo, but in this case the absence of any log for the hole, together with its location somewhat off the structure, renders its negative evidence inconclusive. In this connection it is of interest to note that a show of oil was found in the Hergenroeder well about two miles east of Waterloo, in what is probably the Kimmswick formation.

The Survey is ready to cooperate with those doing development work in the area, and it will be to the advantage of all concerned to have logs of all holes drilled sent in to the Illinois State Geological Survey, Urbana. Logs are especially valuable if they are accompanied by detailed samples, and sample sacks will be sent to those signifying their willingness to cooperate to this extent.



**GENERALIZED SECTION**



**LEGEND**

- Section line
- - - Township line
- Railroad
- Electric railroad
- 15° Strike and degree of dip

