LOCATION and OTHER NAME

The Redland field is located adjacent to the Redland schoolhouse in the townsite of Redland, which is 4 miles north of the city of Lufkin, county seat of Angelina County. It is one of several shallow fields which have produced small quantities of oil from the Kittrell formation. It is one of the northernmost or farthest updip fields to produce oil from the Kittrell formation.

This field has also been known as the Davisville field.

METHODS OF EXPLORATION LEADING TO DISCOVERY

Shows of oil in test wells in the immediate vicinity led to the drilling of the discovery well.

DISCOVERY

Kittrell sand: March 25, 1939; K. L. McHenry #1 Russell Estate. The initial daily production amounted to about 100 barrels, 2.5% of which was oil and 97.5% was water.

ELEVATION OF SURFACE

At well locations, the elevation of the surface is about 350 feet above sea-level. In the immediate vicinity, the range in elevation is from about 250 feet in the creek bottoms to about 375 feet on the hill crests.

SURFACE FORMATION

In the immediate vicinity of Redland, the surface rocks are composed of shales, greensands and limey marls of the upper Crockett formation, which represents the top part of the Cook Mountain portion of the Claiborne group. The base of Yegua (Cockfield) sands is exposed along the south bank of Mill Creek about 1 1/2 miles south of Redland and Yegua sands are exposed from there southward.

OLDEST STRATIGRAPHIC HORIZON PENETRATED

The oldest stratigraphic horizon penetrated within the field is about 1,000 feet below the top of the Wilcox group. The oldest horizon penetrated in the general area is 673 feet below the top of the Washita group. This penetration was in Union Producing Co. #2 E. R. Bolton located about 5 miles northeast of the Redland field on the Michelli prospect. The following stratigraphic tabulation is based on the log of a nearby well, K. L. McHenry #1 E. R. Bolton.

PRODUCTIVE AREA

Kittrell sand and Field: 40 acres.

NATURE OF TRAP

Kittrell sand: The Kittrell sand is faulted against the basal Reklaw formation by a normal down-to-the-north fault having a demonstrable throw of 20 feet at the producing level (displacement is based on correlation of electric logs of wells located about 800 feet apart and in which one log has 20 feet of the Weches section cut out by the fault.)

THICKNESS and LITHOLOGY OF RESERVOIR ROCK

Kittrell sand: The productive section consists of about 10 feet of fine-grained, ashy, uncemented sand containing considerable amounts of micaceous material and glauconite, topped in the discovery well at a depth of 1,010 feet. The Kittrell sands in the immediate area of the field consist of 50 to 75 feet of fine-grained, ashy, uncemented, micaceous and glauconitic sands irregularly bedded in brown and green shales and marls. The individual sand streaks range in thickness from thin partings up to 20 feet. These sands are completely free of cementing material and pose a bad problem in producing fluid from the reservoir.

CONTINUITY OF RESERVOIR ROCK

Kittrell sand: There appears to be a zone of continuous porosity about 10 feet below the top of the Kittrell formation varying in thickness from 5 to 20 feet with the sand streaks lower in the section being irregularly bedded but nevertheless interconnected to form a reasonably permeable reservoir. The interconnection of the irregularly bedded sands in this zone is postulated from the behavior of numerous test wells in the immediate area.

ELEVATION AND RELIEF OF PRODUCTIVE ZONE

<table>
<thead>
<tr>
<th>Kittrell sand:</th>
<th>Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevation of top of oil</td>
<td>-656</td>
</tr>
<tr>
<td>Elevation of bottom of oil</td>
<td>-666</td>
</tr>
<tr>
<td>Relief</td>
<td>10</td>
</tr>
</tbody>
</table>

CHARACTER OF OIL

Kittrell sand: Dark green oil which turns black after settling. Gravity, A.P.I., 25°.

WATER PRODUCTION

Kittrell sand: The water production of the two wells after pumping 48 hours remained constant at 98% and 97%, respectively. The water contained 1,500 parts per million total solids (principally bicarbonates).