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REVIEW OF OIL OPERATIONS IN THE LARAMIE BASIN.

Many of the oil prospects described in Press Bulletin No. 4, entitled, "Some Oil Prospects in the Laramie Basin and Present Development," are now things of the past and others are still being drilled, so that it seems advisable at this time to review these operations with a short statement as to the failures and a discussion of the chances for obtaining oil remaining in the unfinished operations.

Rock Creek.

In the Rock Creek field several companies have abandoned their wells located outside of the structure; namely, the Associated Oil Company, the Inland Oil Company, and the Blackstone Salt Creek Oil Company. It is also reported that the Laramie-Red Desert Oil Company is pulling the casing in its well in Section 18, T. 20 N., R. 77 W., with a view of abandonment. These failures, together with that of the Producers and Refiners in Section 36, T. 20 N., R. 78 W., indicate the producing limits of the Rock Creek field. It is a long and narrow structure and, owing to the very sharp dip of the formations, especially on the east side, it will not extend more than a quarter of a mile east of the axis and not much more than a half mile west of it, although it has been proved to be about $3\frac{1}{2}$ miles long. A careful examination of the structural contours indicate that about 1100 acres will be productive. This office has made an investigation of the production from the NE $\frac{1}{4}$ of Section 34, T. 20 N., R. 78 W., which is State land,

and decline and future production curves have been constructed. From This curve it was estimated that the lease would produce, in the future, about 23,000 barrels of oil per acre. Assuming for purposes of comparison that the entire field would run the same amount of oil, the total future production would be slightly over 25 million barrels. However, it is thought that this is rather a large estimate for the reason that all the field is not as good as the NE $\frac{1}{4}$ of Section 34 and that it would be much safer to estimate the future production of the Rock Creek field at 20 million barrels. The Ohio Oil Company is the only producer in the field, as it holds under leases all of the possible acreage. The daily production is about 6000 barrels, which is about 80 per cent of the capacity of the wells. There are 7 new wells being drilled in this field at the present time and one rigged up ready to be spudded in. The average production of the flowing wells is about 400 barrels per day. There is a gasoline absorption plant in the field operated by the Armstrong Company, which is producing about 2000 gallons per day.

Cooper Cove.

Five attempts have been made to put down a well in Cooper Basin by the Utah Oil and Refining Company. Three of the wells went to considerable depths and the last one reached a depth of 4570 feet when the hole was lost by collapsing the casing with the tools in the hole. At the time drilling had ceased there were good indications of reaching the Muddy sand within a short distance, probably 200 feet. Gas was found in the Sherman sand and gas and oil showings were found in the Wall Creek sand. It is very unfortunate indeed that the well could not have been deepened to the producing sand of the Rock Creek field. Although nothing definite is known, it is predicted that the Company will start another well in this structure in the hope of getting a shallower location. Those interested in this operation have had no reason to change their minds in regard to the structure containing oil, although they were disappointed on account of the great depth of

the sand. It is very possible that a new location one-quarter of a mile west of the present location will offer an opportunity for much shallower drilling.

Quealy, James Lake, Two Rivers, Sodergreen.

The Quealy dome, which was tested by the Matador Petroleum Company, proved to be a failure. A few barrels production was found in the Mowry shale at a depth of 3400 feet, but the Muddy sand was found to be water-bearing and likewise the Dakota. This very small production in the Mowry shale was not considered sufficient to justify making a well out of it.

The James Lake structure has been abandoned, the test of the Cactus Petroleum Company in Section 32, T. 18 N., R. 75 W., having shown water in the Wall Creek and Muddy sands.

For the same reason the Ohio Oil Company abandoned its test well in Section 33, T. 18 N., R. 74 W., in the Two Rivers structure.

West of James Lake the Western Petroleum Company has suspended operations indefinitely at about 3000 feet.

The Sodergreen anticline also proved to be a failure and has been definitely abandoned.

Big Hollow.

In the Big Hollow region some tests are still being drilled. In the so-called Spindle Top dome the Briggs Oil Syndicate is making its second attempt to reach the Muddy sand in Section 32, T. 16 N., T. 74 W. This outfit has taken over the old Wyoming-Spindle Top Company and intends to go through with the test. The well is now down 535 feet. It is reported that a fine showing of oil was struck in the top of the Muddy sand in the first well which was lost through the carelessness of the driller without penetrating the cap rock. In Section 18, T. 15 N., R. 75 W., the Big Hollow Drilling Syndicate is about ready to resume operations and complete its well which is now at a depth of about 1500 feet.

To the north of the Big Hollow in what was called the Mandel structure, the Associated Oil Company abandoned the hole in Section 11, T. 16 N., R. 76 W., after finding the Muddy sand to contain water.

Lake Hattie.

West of the Big Hollow in the Lake Hattie structure, the Centennial Valley Oil Company has resumed operations after a winter shut-down. The well is 3100 feet deep and is believed to be in the cap rock of the Dakota sand. There is a strong showing of oil in this well, but the amount cannot be determined until the water is shut off and a test made, which will be done in the very near future.

Rex Lake.

The only remaining known structure in the basin is the so-called Rex Lake dome, which has not as yet been drilled. It is located in T. 16 N., R. 77 W. It is believed that this structure is as good as any in the basin and, although it will be rather deep drilling, it is the opinion of many geologists that it deserves a test and no doubt will be drilled sometime.

Conclusion.

Summarizing the above, there were ten wildcat structures in the west Laramie Basin, which are named as follows: Cooper Cove, Quealy, James Lake, Two Rivers, Rex Lake, Mandel, Spindle Top, Big Hollow, Lake Hattie, and Sodergreen. Of these the following have been tested and found wanting: Quealy, James Lake, Two Rivers, Mandel, and possibly Big Hollow. Those in which tests have not been completed are Lake Hattie, Spindle Top, Cooper Cove and possibly Big Hollow. The chances for obtaining oil in these four structures are still good, as likewise are the possibilities in the Rex Lake structure, which has not been tested. Therefore, there being four or five chances still left in the west Laramie Basin district, all of which are located on well-defined structures, it behooves us not to become discouraged and give up hope of ever obtaining another Rock Creek field in the Laramie Basin.