

Present Drilling.—Owing to the high cost of operating and to several other conditions, most of the drilling is now being done by several large companies and by municipalities, the latter for advertising and local promotion purposes. The wild-cattling to date has failed to discover any extensive fields besides those mentioned. These are, however, believed to be capable of great extension.

SOUTHWESTERN ALBERTA AND SOUTHEASTERN BRITISH COLUMBIA.

(Pincher Creek District.)

Status of Development.—The operations which were commenced in the Pincher Creek and South Kootenay Pass district in 1902, have resulted in the drilling of 17 or 18 wells up to the present time, ranging in depth from 200 to 1,900 feet. While two of these gave evidence of possibly proving small oil producers if they had been properly handled, the remaining wells never produced more than about a barrel a day at their best. In the summer of 1912, two companies were deepening old wells in a more or less desultory way, but no additional production had been encountered. Some wells are still rigged for pumping, however.

Productive Formations.—The seepages which occur in this district, and which led to the drilling and to the usual accompanying boom and stock-selling period, exude from what Dr. Dawson describes as a "somewhat anomalous occurrence of petroleum" in rocks of Cambrian age. It remains an occurrence of scientific interest only, since, even if oil had ever been found in quantity in rocks of this age, the greatly disturbed and faulted condition of the Pincher Creek and South Kootenay rocks must have precluded the possible existence of an oil reservoir of any importance.

Quality of Oil.—The small quantities of petroleum produced were of high grade, being about 42 degrees Baume, and contained a large percentage of light oils, but no sulphur. It is an interesting scientific fact that this and other "freak" fields commonly yield high grade oil.

NORTHERN ALBERTA.

Status of Oil Developments.—The immense seepages of tar and petroleum residue known as the "tar sands," which occur along the banks of Athabaska river and between that river and the Peace River country, have proved an alluring basis for oil prospecting, notwithstanding the belief of geologists who have visited the region, that oil would not be encountered near the outcrop of these sands, and furthermore notwithstanding the fact that no petroleum in commercial quantities has ever been found in rocks of similar age to those which occur below the Devonian limestone in this region; nevertheless drilling has been active in the vicinity of Fort McMurray and Fort McKay and in the intervening territory along the Athabaska river. Several of the wells, which have been sunk from near the top of the Devonian limestone and at the base of the Dakota or "tar sand," have encountered small pockets of thick tarry oil in the limestone; but up to the present time no oil has been recorded in commercial quantity in this north country. As an example of the futility of some of the efforts, it may be said that in June, 1912, one well at Fort McMurray was drilling in the Laurentian formation underlying the Devonian limestone.

Not all of the wells in the far north are so situated as to be absolutely futile. For example, a well drilling 80 feet west of the old Geological Survey well¹ at Pelican, on the Athabaska river, struck several good flows of gas; but of less volume

¹ Geol. Survey, Can., Vol. V, p. 1445. 1890-91

Geol. Survey, Can., Vol. X, p. 19 A.