

## THE OIL-SHALES OF THE MARITIME PROVINCES

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*Read March 3, 1909.*

With the exception of an occasional brief reference to the Scotch oil-shales in some one of the many scientific journals, it must be said that but a very limited amount of knowledge of this great industry is possessed by Canadians, a lack of knowledge much to be regretted when we consider that in the maritime provinces of the Dominion especially there are large deposits of very rich and valuable shales, which by actual test on the large scale, far surpass those of Scotland, deposits easy of access by rail or water, and seemingly requiring but the proper organization of capital and energy to establish an industry which, under proper management, should be one of the most profitable of the mineral industries of Canada.

The Scotch shale industry was first started nearly 60 years ago in the district a few miles west of Edinburgh. About 1850 the discovery of a small spring of rock-oil in connection with a coal bed led to attempts to manufacture burning oils by refining, and the presence of this oil with coal led further to the inference that in some way oil and coal beds were associated; so that after the exhaustion of the small quantity of native oil attention was directed to the distillation of crude oil from coal itself, with a fair amount of success. The discovery of the peculiar mineral at Torbane hill, which on examination was found to be very rich in hydrocarbons, and to yield from 120 to 130 gallons crude oil a ton, gave a fresh impetus to the industry. The bed of Torbane hill mineral lasted about twelve years, or to 1862, when it became exhausted, having been worked down to a thickness of about three inches. Attention was thereupon directed to the shales themselves, of which a number of oil-bearing bands or strata were found interstratified with grey, black, red or brown sediments, comprising marls, thin limestones, sandstones, &c. In all some 10 to 12 beds of oil-shales were found in a thickness of rather more than 3,000 feet. The process of retorting and distilling these shales commenced with the exhaustion of the Torbane hill mineral, and from a small industry at first, has, with many ups and downs, continued to the present day, until now the manufacture of crude oil and sulphate of ammonia, with their subsequent refining into the various by-products, is one of the leading industries of Scotland. The production of crude oil in Scotland yearly is now more than 62,000,000 gallons from shale alone, and of sulphate of ammonia over 50,000 tons, with more than 22,000 tons of paraffin wax, the amount of shale mined annually for some years being more than 2½ million tons. It will be readily seen, therefore, that this enterprise, starting in a comparatively insignificant manner, has through the enterprise, thrift, perseverance and intelligent management of a few Scotch capitalists reached very large proportions.

The industry, as may well be imagined, has passed through many stages, some of failure and others of success. Competition from foreign countries has been sharp, not only from the United States, but from the Russian and other fields, where crude oils obtained by boring were produced more easily and cheaply than would seem possible by the manipulation of oil-shales obtained by mining; yet with the continued improvements made in the process of retorting and the subsequent treatment of crude oils, and by the utilization of the various by-products, success has eventually crowned their work, and the shale-oil industry of Scotland has been for some years on a thoroughly satisfactory basis and giving good returns on capital invested. It may be