

into coal, we may assume that originally a larger percentage of water-growing plants or bog had accumulated. Naturally, it results from this mode of deposition that basins of cannel coal are found to be very irregular in area and thickness, and also as frequently occurs, they are overlaid by bituminous coal of a more regular thickness.

In Great Britain, two official reports of committees appointed to deal with the question of home sources of fuel oil have recently been issued. These were (1) that of the committee appointed by the Ministry of Munitions of War on the "Production of Oil from Home Resources," and (2) that of the "Interim Report of the Committee on the Production of Oil from Cannel Coal and Allied Minerals," appointed by the Council of the Institution of Petroleum Technologists.

The summary of the conclusions of the first of the above committees was as follows:—

"(1) That the scheme for the carbonization of cannel coal and kindred substances recommended in the Petroleum Research Department's report was not a practicable one, and that the Ministry of Munitions were justified in declining to embark on it. (2) That the alternative policy of developing the production of fuel oil from cannel coal and kindred substances in existing vertical retorts at gas-works should be developed within the limits indicated in this report. (3) That the decision of the Ministry of Munitions to erect a battery of the Chiswick form of retorts was the right course to adopt in the circumstances."

The possibility of obtaining oil in quantity from the low temperature distillation of cannel coal and its cognates was considered by the second of the above-named committees under the following heads: (1) As an immediate war measure, having in view the production of motor spirit and fuel oil for the services; (2) As a permanent commercial undertaking and a measure of reconstruction.

They now strongly urge the adoption of the following recommendations:—

"(1) That the War Cabinet should be invited to lay down a definite policy for the guidance of the Departments as to the relative national value and importance at the present time of oil and coal, the provision of the necessary labor, raw materials and transport. (2) That the Government should afford all necessary facilities to those who are prepared to find the capital and take the risk for the erection at suitable centres of plant for the treatment on a commercial basis of the material known to exist. (3) That an experimental station be established forthwith, so that retorts of any design provisionally approved by the Institution of Petroleum Technologists can be erected and tried out, and material tested with a view to ascertaining its character, oil yield and residual values. (4) That such experimental station shall be maintained by and at the expense of the Government. Or, alternatively, (5) That the Government shall afford all necessary and reasonable facilities to the Institution of Petroleum Technologists for the erection of a testing station of their own."

In reviewing the above-named reports, the Iron and Coal Trades Review, of London, England, August 9th, 1918 says:—

"From the point of view of the coalowner and the miner, the statements contained in Clause 7 are of considerable interest. Various estimates have been made from time to time as to the additional amount of material which could be brought up by the utiliza-

tion of the shovel, instead of the fork, and perhaps to say 15 per cent. would not be too high. If, therefore, the nation could be provided with a sure supply of oil by bringing up this material, the miner be paid for filling, and the colliery owner obtain a remunerative price for such material for the production of oil, it is quite obvious that the consent of the Government to the recommendations of the Committee would be of the greatest national importance, not only to the consumer, but to those directly and indirectly associated with the mining industry of the country. The question of the utilization of colliery waste is one which has for long been under consideration, and this solution, advocated by some of the highest technical authorities in the country, is one which should receive the general support, not only of those responsible for the provision of oil, but of the colliery owner and the miner.

Now that we have the two reports side by side, one more or less of a political character and the other signed by a committee of experts, it is interesting to recall that the Fuel Research Board (Sir George Beilby, director), which issued its report on September 10th, 1917, finds that "no new carbonization scheme can be justified economically, if it can only live by poaching on the preserves of the existing industries."

The stress of war conditions is now being brought to the attention of the general public, through the shortness of gasoline, and fuel oil, and the consequent closure of garages and stoppage of their use on Sundays. It is also evident in the replacement of fuel oil by coal and coal dust, both ashore and at sea. These indications of "want" cannot be lost sight of, but they do not appear to have received any practical attention from the Scientific and Industrial Research Board. This Board does, however, appear to have taken a distinct interest in the production of an anthracitic briquette, from the lignite coals of Saskatchewan, and in this way some of the residuals may do something to relieve the urgent demand for oil. There is, however, the possibility that this proposal will not come into practical effect until the war is over, and the urgent demand for mineral oils and spirit has become a thing of the past. If the expensive experimental plant to be erected by the Provinces of Saskatchewan and Manitoba, does not prove successful, in competition with the real anthracitic coals of Alberta, then it may prove to be useful and profitable as a means of treating oil shales, if these can be discovered within a reasonable distance of the works.

Canada has become used to a "bonus" system to encourage the introduction of new industries, and the present seems to be a suitable time to further extend this system to encourage the production of oil and other by-products from coal and oil shales, as has already been recently done by the Province of British Columbia as regards iron and steel.

The discovery of manganese ore in the Cowichan district, Vancouver Island, promises to prove of considerable importance to this section of British Columbia and, more important, to provide quantities of that essential mineral for munition manufacture in Canada. Samples treated by the Provincial Mineralogist are said to indicate the presence of ore of just the character that is so much required. A Vancouver, B.C., firm's certificate shows 46.20 manganese, 26.92 silica, and 0.064 phosphorus, while a Seattle assay reads: Manganese 54 per cent., and silica 18.4 per cent.