would benefit directly by the use of the most modern appliances, both in the matter of retorts and of the plants necessary for subsequent distillation of the crude into high grade oils and various by-products, and in the manufacture of sulphate of ammonia, in which at present a large percentage of the profits of the industry lies. The importance of this experience of the Scottish refiners as regards the commencement of a new industry in Canada can scarcely be overestimated.

It is to be regretted that although the presence of high grade oil-shales was known, both in Nova Scotia and New Brunswick, half a century ago, but small attempts to ascertain the actual values of these shales, either as regards the contents in crude oil or other substances, have as yet been made. The value of the stellarite of Pictou county as regards its oil-contents was ascertained by numerous analyses more than forty years ago, and the results can be seen by reference to How's *Mineralogy of Nova Scotia, 1862,* and the *Report of the Geological Survey for 1866-9,* by Edward Hartley, but as yet nothing definite has been learned as to its value for sulphate of ammonia or for paraffin, two very important by-products, while of the actual value of the great deposits which occur in Antigonish, in Cape Breton, at Cheverie and Hantsport, and near Truro, as well as at other points, nothing in the way of analyses seems to have been attempted, and beyond the fact that many of these shales are rich in hydrocarbons, a point brought out by Mr. John Campbell in How's *Mineralogy,* and that they closely resemble the shales of other places whose value has already been ascertained, but little can be said in the present state of our knowledge. Of these deposits which occur near Big Marsh in Antigonish, Mr. Campbell remarks that 'the so-called bituminous shales appear to be divided into two groups, the lower of which is from 70 to 80 feet in thickness, 20 feet of which may be regarded as good oil-shale, including five feet of curly cannel, rich in oil. The upper band which lies in immediate contact with the limestone, cannot be much short of 150 feet in vertical thickness of strata, containing a large percentage of oil. Of this great bed of oil-batt about 30 feet will in all probability yield from 20 to 25 gallons of crude oil to the ton. The five-foot seam of curly cannel will yield at least 40 gallons crude to the ton, and fifteen feet of the best section of the oil-batt will yield at least 20 gallons to the ton,' so that on the assumption that these figures are reasonably correct, the amount of oil obtainable from this great body of shale, to say nothing of the great possibilities pertaining to valuable by-products, is of very great importance, and the area is well worthy of very careful testing. This basin should contain some fifty feet of strata rich in oil, and in view of the great importance now being attached to oil-shale deposits, careful examination should be carried out in the field and analyses should be made to ascertain definitely the actual values in crude oil, in sulphate of ammonia and in paraffin wax.

The outcrops of the Pictou oil-shale, better known as stellarite, are comparatively numerous in the Pictou coal-basin. They are indicated on the recent map of the Pictou coal-field by Dr. H. S. Poole, 1904, and can be seen at several points in Stellarton on the property of the Acadia Coal Company, on McLennan's brook below the old fulling-mill bridge, formerly opened by Andrew Patrick; on Marsh brook, opened by Haliburton's pit; on Shale brook, on Steep brook, and elsewhere, the large body of black bituminous shale forming a conspicuous feature at several places. These black shales of Pictou, however, apparently belong to a higher geological horizon than the black shales of Antigonish, the Avon river, Cheverie and Walton, but the high percentage of hydrocarbons and their apparent high values in crude oil certainly entitle them to very careful examination and analyses to ascertain their actual values in sulphate of ammonia and other by-products.

In Newfoundland, the presence of black bituminous and carbonaceous shales, apparently rich in oil, has been known for many years. They have been referred to in several of the annual reports of the Geological Survey of that country by Mr. Howley, the director. Several samples of such shales received last autumn by Mr.