especially in our own province, as exemplified by the distribution of Hydro-Electric Power.

However, the coal problem is still the vital question, for even if there appears to be no immediate shortage in sight, the high grade coals, and the easily mined coals are more rapidly diminishing, which means increased cost for less efficient fuel. Added to this the cost of transportation, duties, etc., we find that the coal bill amounts to quite a formidable affair. When we stop to consider that in our district here, the cost of transportation and duty amounts to about twice the cost of the coal at the mines, and the fact that the transportation rate on inferior coals is as much as on the higher grades, we have a question that both the engineering and purchasing departments may well spend some time on, and be amply repaid for their time and energy in results obtained.

In this work the services of the laboratory for the testing of various coals is a very important item, not alone in the selection of coal, but in the maintainance of the quality of different shipments, and the regulation of prices on the basis of quality, once the contracts have been let. In the testing of coals for steaming purposes, what is known as a proximate analysis is usually made. Now this does not mean that the analysis is approximately correct, but rather it is an analysis that approximates to the treatment which the coal will receive in firing.

First, the moisture is determined by careful weighing of the sample before and after drying. Next, the volatile matter is determined by the ignition of a weighed portion of the dry pulverized coal in a closely covered crucible at a temperature of about 950 degrees centigrade for a period of seven minutes. The volatile matter consists of carbon, hydrogen, oxygen, and nitrogen, which are readily converted into gases at a low heat, and represents the portion of the coal that is burned during the early stages of combustion in the furnace. As some of these gases are inert, and as some are of exceeding high heating value, the volatile matter represents quite a variable factor which cannot be relied upon in judging the heating value of a coal.

The fixed carbon is determined by the continued ignition of the coal, the loss in weight representing the fixed carbon. This does not mean the total carbon in the coal, but rather that portion present in stable form, or that portion that would remain in the coal if it were coked. The fixed carbon is the chief source of energy in all grades of coal.

The ash is determined by the weighing of the mineral residue after all the combustible matter has been driven off.

Sulphur is determined on a separate portion of the coal, one of the simplest methods being the fusion of the coal in a metallic bomb with a mixture of sodium peroxide and potassium