

	Crude oil per ton.
Union oil-coal of West Virginia affords.....	32 gals.
Elk River " " " " "	54 "
Kanawha " " " " "	88 "
Leshmahagow cannel, Scotland "	40 "
Albertite, New Brunswick,	92 to 100 "
Torbunite, Scotland,	116 to 125 "
Stellarite,	53 "
" No. 2 (shale)	50, 60½, 63, 65, 74 "
" No. 1,	123 to 126 "
" picked samples gave in Boston.....	199 "

In practical working at the Frazer mine the result was about 60 gallons of crude, and from 30 to 35 gallons of fine clarified oil to the ton.

It will be noted that the three oil-coals, or bitumens, known as torbanite, albertite, and stellarite, in the list just given, appear to afford the best results in oil-manufacture. It will, therefore, be of interest to compare full analyses of these three, forming a class by themselves, and again to compare this class with other mineral combustibles from which they differ to a greater or less extent. This subject has been thoroughly investigated by Prof. How, and the following tabulation of analyses, and conclusions drawn therefrom, are taken from his late work. Although most appropriately introduced here, many of the facts will be found useful for comparison with coals of other seams, and the remarks on the theoretical value of fuels is also of general interest.

" Having, on account of my former connection with the British Admiralty Coal Enquiry, been one of those engaged to furnish chemical evidence in the famous first trial in Edinburgh of the question whether the mineral known as "Boghead coal," found at Torbane Hill, Linlithgowshire, should properly be called a coal, I was naturally much interested on the discovery of the stellar oil-coal, and got ultimate analyses made of it and of the "Albert coal," also the subject of a trial on the ground that it had been improperly called coal. These analyses were very kindly made for me through Prof. Anderson of Glasgow, who generously met my deficiency in the necessary apparatus, which I had not brought out with me. The results were most interesting, especially when compared with those obtained from bituminous and cannel coals. As to the former, I selected from those I had made in the Admiralty Enquiry, analyses of English, Scotch, and Welsh bituminous coals, and as to the latter, analyses of English and Scotch cannels made by other chemists. The following table shews the differences which obtain between these minerals in proximate and ultimate analysis, and in specific gravity, and the ratio existing between the two most important constituent elements:—

Dr. How's
remarks on oil-
coals.