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Occurrence of ilmenite — Great Fraser River drilling

by R. Jack

Ilmenite occurs throughout the bores in the Great Fraser River drilling, but only in bores Nos 18 and 22 is it present in greater than trace amounts.

Bore No. 18; traverse line Z; 650 feet east

Ilmenite occurs between 30 feet and 45 feet below the surface and it is estimated to be present at the rate of approximately 20 lb per cubic yard of alluvium between these footages. It occurs in a very stiff sandy to gravelly clay and copious washing is required to remove the ilmenite from the clay.

Bore No. 22; traverse line Z; 700 feet east

In this hole ilmenite occurs in a similar stiff sandy to gravelly clay from 45 to 95 feet below the surface. From 45 to 50 feet only a moderate amount is present but from 50 to 95 feet the sediment contains ilmenite at the rate of approximately 30 lb per cubic yard. Beyond 95 feet the drilling was in semi-weathered rock, a quartz dolerite dyke occurring within the granite. This rock also yielded a large amount of ilmenite. The drill hole was stopped at 106½ feet still in this dyke material containing ilmenite.

It is probable that a major part of the ilmenite has been shed from similar dykes occurring higher up the stream course, the material then being partly concentrated by stream action before being deposited.

In this line of drilling the ilmenite rich band of sediment is found to be approximately 100 feet wide and varies from 15 feet to 45 feet in depth.

Thin layers of basalt occur at the surface in the vicinity of the drill line, and further thin basalt flows were found at varying depths in the drill holes nearby. These may make the working of the underlying sediments more difficult. The flows appear to be only a few feet thick but do not appear to be deeply weathered.

The reserves of ilmenite are unknown. From drilling it is estimated that there is approximately one ton of ilmenite per horizontal foot along the old river channel. The extent of the ilmenite upstream or downstream of the drill line is unknown and can only be obtained by further drilling which would also give a more reliable estimate of the reserves available.

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