



September 27, 1979

Property File

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092B 85

Regal

Mr. T.D. McEwan
211 - 1001 Cloverdale Ave.,
Victoria, B.C.
V8X 4C9

Dear Mr. McEwan:

At your request, following my visit of the deposit of expanding shale at Chemainus River on September 5, 1979 and having examined your test results, this is my evaluation of the property.

The shale deposit is situated approximately 14 km west-northwest of Duncan, on the northern bank of Chemainus River. The shale is of dark grey colour and is exposed in steep cliffs up to approximately 70 m high for about 1 km length along the Chemainus River. The shale beds strike generally east-west, with an average dip of 30°-40° to the north. In the western end of the exposure, otherwise monotonous, massive looking shale extending over the entire height of the cliff is interrupted in the upper and lower third by two 5 m thick layers of banded quartzite. To the east, the upper layer is branching and pinching out and disappears about half-way to the east end of the exposure. Several samples have been taken to test bloating properties of the shale. Besides the 16 m of total length of channel sampling in the uppermost part of the exposure, 12 other samples were taken at random in various parts of the shale outcroppings. All samples, fired in an electric kiln to 1090°-1100°C, produced uniformly looking round-shaped porous particles of coated nature, with volume expansion by estimate of more than 100%. The bloated particles float nicely in water, without soaking and sinking after some time.

Very little overburden has been observed up to the elevation of approximately 550-650 m above sea level, where only colluvial soils and slope debris with ~~only~~ thin local patchy pockets of till occur. The overall average thickness of overburden should not exceed a few metres in this area. Above ^{the} elevation, however, a continuous till cover should be expected. With a very conservative estimate, there should be no problem of having available between 2.5 and 5 million cubic metres of shale accessible for an easy open pit operation.

There are all indications that good quality lightweight aggregate can be produced from this shale deposit. Since the plant on Saturna Island was shut down in 1974, no lightweight aggregate has been produced in B.C. Before any attempt for development of this deposit is to be made, a careful economic study and market analysis should be prepared. Moreover, in the area of a proposed quarry, about 10 years supply reserve of shale should be outlined, at best with bulldozed trenches and tested on a semi-industrial scale.

Yours very truly,

Z.D. Hora, P.Geol.,
Industrial Minerals Specialist,
Mineral Resources Branch

ZDH/dlb