

MEMO TO: Mr. W. S. Row

FROM: Dr. A. M. Bell

SUBJECT: Magnetite Deposits on Queen Charlotte Islands.

825992
103B/06



I am not personally familiar with the Queen Charlotte properties mentioned but believe them to be essentially similar to those of similar type in Vancouver Island. I would make the following observations -

1. This class of deposit has so far always proved of small tonnage. Very few will exceed 750,000 tons. A minimum of 1,500,000 tons of concentrate adjacent to one centre and distributed in not more than 3 or 4 bodies is needed to be economical. An installation to cover open pit operations, roads, crushing, magnetic separators, and loading facilities will come to \$1,500,000 based on others' experience. It shouldn't exceed \$1.00 per ton of concentrate.
2. A concentrate should exceed 60% Fe and be free of copper. All these deposits are high in sulphur which means the Japs are the only buyers. They will take the sulphur but want low silica. It is necessary to crush and roll the ore to about 20 mesh and put it through magnetic separators for this market.
3. The market in Japan is likely limited to about 1965. At present they are meeting their requirements from Phillipines but anticipate existing sources there to be depleted in 1963. To protect themselves against a shortage over a period of a few years they are prepared to take up to 2,000,000 tons of Canadian ore from 1960 to 1963. Approximately 50% of this requirement is now contracted for and the balance is in part under developement. The Queen Charlottes are off the normal ore run and have bad weather conditions. It wouldn't be at all certain if any appreciable tonnage could be contracted from here at favourable prices. A 60% product should bring \$8.50 at the dock. I would say the deposits should be proven up by the end of this year in order to contract for productions and such contract would be good for only 2 or 3 years. Other sources of supply are likely to take over after 1965. A contract for at least 300,000

A	W.S.R.
	G.A.C.
	E.O.C.
	H.A.P.
	R.D.S.
	B.C.B.
	G.P.R.
	E.L.D.
	J.I.B.
	E.C.J.

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tons of concentrate a year is needed and I wouldn't be too sure if such a contract would be certain in six months from now.

4. The grade contemplated of 40 % iron is low. On Vancouver Island a profit could have been made on such an operation if reserves had been adequate. Costs on the Queen Charlottes should be higher. A profit of over \$1 per ton after write offs is feasible provided 1,500,000 tons minimum reserves are proven. The stakes aren't high here.



A. M. Bell

AMB:bh
April 15, 1959.