

NAME OF PROPERTY **BRYNNOR**

LOCATION -Center of open pit.

Radius of uncertainty - 75^{Lat. 49°03'} metres. Long. 125°26'10"

Mining Division **Alberni** District **Clayoquot**

County _____ Township or Parish _____

Lot _____ Concession or Range _____

Sec. _____ Tp. _____ R. _____

OWNER OR OPERATOR AND ADDRESS

Noranda Mines Limited.

DESCRIPTION OF DEPOSIT

Briefly, the rocks in and around the open pit include limestone and tuff of the Quatsino Formation and successive intrusions of andesite, older porphyry, batholithic granodiorite and related rocks, and younger porphyry. The Quatsino Formation was folded into a broad anticline, which was then sharply downbuckled. In the open pit all of the rocks are seen to be extensively fractured and faulted. The open-pit magnetite orebody is an irregular body roughly following the tuff-limestone contact down around the downbuckle of the anticline. Adjacent tuff has been extensively altered to skarn.

In the southeast part of the open pit, the limestone and tuff are in fault contact with intrusive andesite. The fault strikes a few degrees east of north and dips 70 degrees west. From scattered exposures beyond the pit, and from diamond-drill cores, the andesite body appeared to be relatively extensive. Ore found by drilling east of the fault is some 200 feet deeper than the open-pit orebody, and constitutes in effect a separate orebody. The underground work is designed to prepare this deeper ore for mining.

Associated minerals or products of value

see Card 2

HISTORY OF EXPLORATION AND DEVELOPMENT 92 F/3 Fe 1

The property is located on Draw Creek about 2 miles north of Maggie Lake and 1½ miles southeast of Kennedy Lake.

A magnetic anomaly on Draw (Magnetic) Creek was investigated by Herbert Carmichael, Provincial Assayer, in 1902, and by Einar Lindeman of the Mines Branch, Ottawa, in 1908, but no magnetite was found. In January 1960 prospector Edwin Chase, using a dip-needle to check the reason for erratic compass behavior mentioned in early reports of the area, found a strong magnetic anomaly on Draw Creek and staked 9 claims. Western Ferric Ores Ltd. was incorporated in March 1960 to acquire the property. Diamond drilling by the company was done in 6 holes totalling 1,184 feet. The company then sold its interest in the property to Noranda Mines Limited in May 1960. Diamond drilling by Noranda during 1960 and 1961 totalled 42,762 feet in 114 holes. Open pit reserves were estimated at 5,000,000 tons grading 51% iron. An additional 5,000,000 tons was estimated in a deep orebody east of the fault and this will require an underground operation. A contract for the sale of magnetite concentrate was signed with Japanese interests early in 1961; stripping of the open pit orebody and the erection of a 3,000 tons per day concentrator was begun during the year. Milling began on April 25, 1962.

The operation was transferred to a wholly owned subsidiary, Brynnor Mines Limited, in May 1962. Shaft sinking to the south of the open pit began in 1962. Stations were cut at the 400, 600, and 750 levels. By July 1966 the shaft had been sunk to 1,234 feet and over 3,700 feet of crosscutting and drifting carried out in extensive stope development. The mine was close from July 1966 to March 1967 by a strike. Production resumed in the open pit on a reduced scale but all underground work was abandoned and the equipment removed. Production ceased in the open pit at the end of 1967 but milling of stockpile ore continued until April 1968; the mine was closed in June although shipments of stockpiled concentrates were made in 1969 and 1970

HISTORY OF PRODUCTION

From 1962-1968, inclusive, 4,308,959 tons of open pit ore were milled. From this ore 3,319,397 tons of iron concentrate were recovered.

REFERENCES

- Eastwood, G.E.P.; Geology of the Kennedy Lake Area; Bulletin No. 55, pp. 52-60, British Columbia Dept. of Mines, 1968.
- Reports of Minister of Mines, British Columbia: 1902, p. 210; 1960, pp. 108-110; 1961, pp. 104-110; 1962, pp. 122-124; 1963, pp. 117-121; 1964, p. 167; 1965, pp. 236-238; 1966, p. 75; 1967, p. 75; 1968, p. 103.
- Sangster, D.F.; The Contact Metasomatic Magnetite Deposits of Southwestern British Columbia; Bulletin 172, p. 68, Geol. Surv. of Canada, 1969.
- Brynnor Mines Limited; Western Miner & Oil Review, Vol. 35, June 1962, pp. 36-48.
- Mineral Resources Branch; Corporation Files: "Noranda Mines Limited"; "Brynnor Mines Limited".
- Lindeman, E.; Iron Ore Deposits of Vancouver and Texada Islands, British Columbia; Rept. No. 47, Mines Branch, Ottawa, 1909.

MAP REFERENCES

- Geological Map of the Kennedy Lake Area, Sc. 1":2,640 feet, Fig. 2 - accomp. Bulletin No. 55, B.C. Dept. of Mines.
- Geology of the Brynnor Deposit, Sc. 1":1,000 feet - accomp. Report by Sangster.
- Map 92 F/3 W, Effingham, (Topo.), Sc. 1:50,000.

REMARKS

BCI 92F-1

JULY 1973

NAME OF PROPERTY

BRYNNOR

DESCRIPTION OF DEPOSIT (continued)

On the two underground levels, 600 and 750 feet below the shaft collar, the principal rock is fine grained and light green in colour. The light-green rock is extensively replaced by garnet and magnetite near the orebody, and ore, skarn, and green rock are intruded by dykes of younger porphyry. On the lower level the green rock is intruded by granodiorite near the shaft. Possibly the green rock represents bleached andesite of the body indicated by drilling, and to a minor extent bleached older porphyry and diorite. The pyroxenite is thought to be pyroxene skarn, but it is not apparent which rock it replaces.

Magnetite occurs massive, interbanded with skarn, and as lenses, pockets, and disseminations in the skarn. On the upper level the massive magnetite appears to form a band 30 feet wide striking northeast. On the lower level it forms a body that is larger and more irregular, locally replacing tuff. The drilling indicates that this massive magnetite is continuous between levels.

The rocks have been intensively broken by fractures, slips, and gouge zones. Typical shear zones are uncommon. Most of the gouge zones are a few inches thick, but a few are as much as 3 feet thick.

The over-all control of the magnetite mineralization is not apparent on these levels. In detail, the boundaries of the massive magnetite appear to have been controlled to a considerable extent by slips and gouge zones.