

NAME OF PROPERTY

NORTH STAR

LOCATION—center of North Star claim (Lot 657).

Radius of uncertainty - 100 metres. Lot. 49°40'53" Long. 116°01'30"

Mining Division Fort Steele District Kootenay

County Township or Parish

Lot Concession or Range

Sec. Tp. R.

OWNER OR OPERATOR AND ADDRESS

Cominco Ltd.

DESCRIPTION OF DEPOSIT

The country rocks are argillaceous quartzites of the Aldridge formation of late Precambrian age, forming part of the eastern limb of the Kimberley anticline. In the vicinity of the mine, small anticlines and synclines modify this general structure. The general strike of the quartzites is north and the dip is to the east at various angles. In the immediate vicinities of the ore-bodies, the quartzites are bleached to a greyish white colour. There were two main ore-bodies apparently lying in synclinal basins formed of argillaceous quartzites and separated by an anticline. The longer axes of these ore-bodies are parallel, both striking a little east of north. The western had a length of 400 feet, a width of 70 feet, and a depth of 50 feet; the eastern had a length of 180 feet and a depth of 40 feet. The ore was primarily a very clean, solid, argentiferous galena, rather fine-grained and with only a small amount of sphalerite. The upper part of the orebody was composed of a reddish brown, black, and yellow mixture of oxides and carbonates of iron and lead, with specimens of wire silver, crystals of cerussite, and sulphides of iron. Most of this secondary material carried a higher silver value than the crude galena.

The original ore-body was a replacement deposit, similar to the Sullivan, occupying a definite zone in the Aldridge quartzites.

see Card 2

Associated minerals or products of value - Silver, zinc, pyrites.

HISTORY OF EXPLORATION AND DEVELOPMENT

The property is located at about the 5,200 foot elevation on the northeast slope of North Star Hill, $1\frac{3}{4}$ miles west of Kimberley.

The showings were discovered and staked in June 1892 by Messrs. Bourgeois and Langill, who bonded the claims to the Woods Brothers, of Quebec; the latter sold $\frac{4}{5}$ of their interest to D.D. Mann & associates, of Montreal, in 1893. The initial development work, in a shaft and crosscut adit, exposed a large body of high-grade ore. In 1894, four claims, the North Star, O.K., Buckhorn, and Dreadnaught (Lots 657-660, respectively), were Crown-granted to the North Star Mining Company, Limited Liability, which was incorporated that same year. The initial production from the mine was hauled by wagon 20 miles to the Kootenay River for transport by boat to Jennings, Montana, and then by rail to the smelter at Great Falls. Shipments ceased in 1897 to await the construction of the railway and mine operations were confined to development work. In April 1899 a new company, The North Star Mining Company, Limited, was incorporated with D.D. Mann as president; the former company was dissolved in 1900. The property at that time included, in addition to the Crown-grants, 13 claims held by location, including the Stenwinder (see 82 F/9, Zn 1). The C.P.R. railway was complete to Cranbrook in 1899 and a branch line was completed to Kimberley in 1900. During 1903 the limits of the orebody were reached and efforts were directed towards further exploration by means of numerous shallow workings and a shaft. The orebody had been mined from surface workings and from an adit driven in the foot wall 60 feet below the surface outcrop.

In 1904 the company accountant, Mr. N. Curran, was appointed manager of the property to salvage the few tons of known ore left and to wind up the operation. This "clean up" project revealed a surprising amount of ore at the edges of old stopes and also the existence of considerable carbonate ore underlying surface gravels and soils. Mining operations continued into 1910 when the mine finally closed.

The Federal Mining and Smelting Company, a subsidiary of the American Smelting and Refining Company, optioned the property in 1917 and for 2 or 3 months during 1918 carried out limited diamond drilling. Later that same year O.C. Thompson & associates leased the North Star and began shipping ore sorted from the old dumps.

see Card 2

Mineral Resources Branch, Department of Energy, Mines and Resources, Ottawa.

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NAME OF PROPERTY

NORTH STAR

LOCATION

Lot.	Long.
Mining Division	District
County	Township or Parish
Lot	Concession or Range
Sec.	Tp. R.

DESCRIPTION OF DEPOSIT(continued)

During subsequent erosion, most of the ore zone was removed, leaving only the lower portions in the two synclines. The exposure to surface agencies altered the original ore, forming carbonates and removing the zinc.

Regarding future possibilities, Langley states: "Conditions would seem to warrant further exploratory work by diamond drilling at some distance down the mountain side. Besides a large tonnage of low-grade carbonate ore being available, there is also a considerable tonnage of sulphide ore similar in character to that of the Stemwinder. A sample taken of this ore ran: silver, 9 ounces a ton; lead, 12.1%; zinc, 17.9%. On the northerly end of the property, a good deal of exploratory work has been done on strong showings of iron sulphides, but it is understood the values were too low to constitute ore. One shaft, named the 'Kellogg', is down 200 feet."

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)

In June 1924 Thompson and associates gave a 3-year sub-lease and option on the property to the Porcupine Goldfields Development and Finance Company, Limited, of London, England. Work on the property during 1924 and 1925 included 2,046 feet of diamond drilling in a few shallow holes, and electrical prospecting. The lease and option expired in 1927. The North Star Mining Company charter was surrendered in 1931.

The Consolidated Mining and Smelting Company of Canada Limited acquired the property prior to 1937.

HISTORY OF PRODUCTION

From 1895 to 1929, 67,531 tons of ore were shipped from this property. From this ore 1,338,431 ounces of silver, 17,938,812 pounds of lead, and 13,899 pounds of zinc were recovered.

MAP REFERENCES

Map 936 A, Cranbrook, (Geol.), Sc. 1":1 mile - accomp. Memoir 207.

Map 15-1957, St. Mary Lake, (Geol.), Sc. 1":1 mile.

Map 297 A, Cranbrook Sheet, (Topo.), Sc. 1":1 mile. (1934).

*Map 82 F/9 E, St. Mary Lake, (Topo.), Sc. 1:50,000.

REMARKS

REFERENCES

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Mineral Resources Branch; Corporation Files: "The North Star Mining Company, Limited"; "Porcupine Goldfields Development and Finance Company, Limited"; "Federal Mining and Smelting Company".

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