

GOLDSTREAM MASSIVE SULPHIDE DEPOSIT82M/9WLOCATION:

The Goldstream property is located 70Km north of Revelstoke, on the south side of Goldstream River.

OWNERSHIP:

Noranda Mines Limited (65%)

GEOLOGY:

The geology of the area consists of intensely deformed Late Proterozoic/Early Paleozoic metasedimentary and metavolcanic rocks, which have been intruded by a number of granitic plutons. The metasedimentary and metavolcanic rocks comprise a heterogeneous package of quartzites, schists, phyllites, calc-schists, and carbonates, interlayered with greenstone and chlorite phyllite. The greenstones and chloritic phyllites are metamorphosed equivalents of tholeiitic flows and basic tuffs. Derivatives of more acid volcanic rocks may now be preserved as quartz-sericite phyllite, quartz-augen phyllite, quartz-feldspar-sericite-chlorite phyllite.

Goldstream is a sheet of massive sulphides (dominated by Po, Sph and Cp) 3 to 4 metres thick, 500 metres wide and at least 1200 metres long. It occurs within a quartz-rich phyllite that is structurally overlain by a spessartine (garnet)-chlorite phyllite and chert unit which in turn is overlain by 220 metres of dark calcareous phyllite. The massive sulphide layer and quartz-rich phyllite are underlain by a grey limestone.

RESERVES:

3.4MT 4.49% Cu, 3.24% Zn, 0.55oz/T Ag.

HISTORY:

Mineral exploration in the Goldstream area dates back to 1865 with the discovery of placer gold on Carnes and French Creeks. In 1866 the town of Kirbyville was founded near the mouth of the Goldstream River and by the end of that season it is estimated that there were between 8000 and 10000 people in the region (Gunning, 1928). Interest in lode mining increased in the late 1800's resulting in renewed exploration in the Goldstream area and discovery in 1895 of the Montgomery, Keystone, and Standard deposits. Development of the Standard property in the early 1900's included numerous open cuts and extensive underground workings.

The Goldstream deposit was located in 1973 by Gordon and Bruce Bried and Frank E. King. Noranda Exploration Company, Limited

optioned the property in December 1974 and in 1975 drilled 50 holes outlining a deposit with reserves of 3.175 million tonnes grading 4.49 per cent copper, 3.123 per cent zinc, and 20 grams per tonne silver. News of this discovery renewed interest and activity in the Goldstream area, and by the end of 1976 more than 120 new claim units had been located in the area.

REFERENCES:

- B.C. Min. En. Mines & Res. Bulletin 71, 1979  
Geology of the Goldstream Area.
- Can. Mining Journal April 1978, pg. 39-42  
Goldstream massive sulphide deposit.
- Expl. in B.C., 1976, Pg. E11, 12
- Geol. Field Work Pg. 23-29

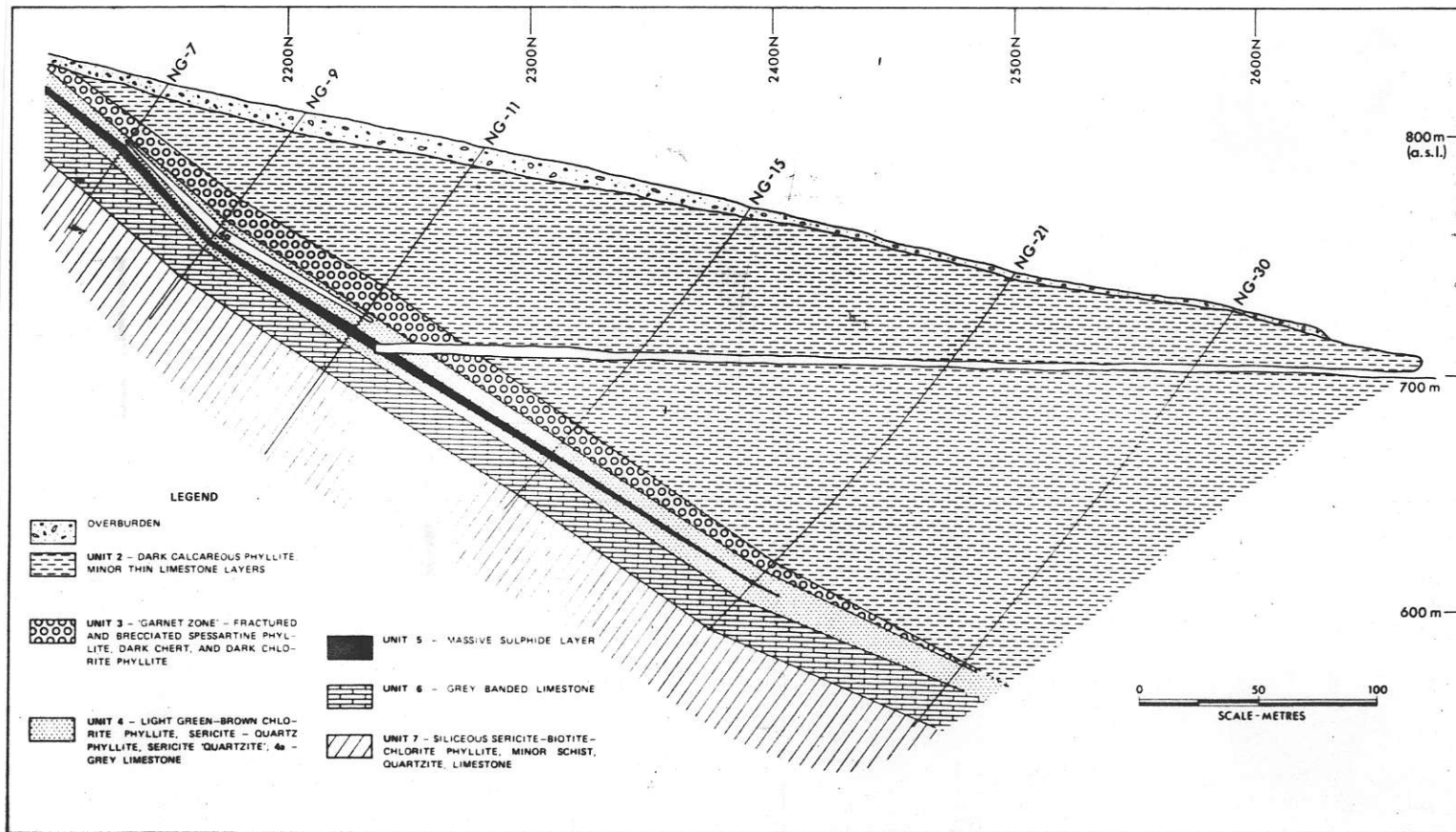


Figure North/south vertical section (5300 E) through Goldstream deposit.

VALUATION: Goldstream Cu - Zn Mine

Assumptions: 3,400,000 Tons 4.49% Cu, 3.24% Zn, 0.55oz/T Ag, 0.01oz/T Au.

Dilution = 40%\*

4,500,000 Tons (Dil.) 3.21% Cu, 2.31% Zn, 0.39oz/T Ag, 0.007oz/T Au.

Recovery 92% Cu\*, 50% Ag\*\*, 40% Zn\* (metallurgical problems), 50% Au

Production 500,000 Tons per year.

Productive Life 9 years

Capital Costs \$70,000,000

Cu = \$0.80/lb. CAN

Zn = \$0.45/lb. CAN

Ag = \$12.00/oz CAN

Au = \$450.00/oz CAN

Operating Costs: \$50.00/Ton \*\*\*

Annual Revenue	\$29,700,000
Operating Cost	\$25,000,000
Taxes @ 55%	
Payback Period 14 years	
NPV (15%)	-\$40,000,000

\* person. comm. with Norm Berg, Mine Geologist

\*\* is this assumption too low?

\*\*\* perhaps this is too high?

Revenue contributions Cu: \$23,600,000/Yr.

Zn: \$ 4,100,000/Yr.

Ag: \$ 1,200,000/Yr.

Au: \$ 800,000/Yr.

ESTIMATED CASH FLOW - GOLDSTREAM Cu-Zn MINE (\$000,000)

	1	2	3	4	5	6	7	8	9	10	11
REVENUE			29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7
OPERATING COSTS			25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
NET INCOME BEFORE ALLOWANCES			4.7								4.7
DEPRECIATION ALLOWANCE			4.7								4.7
TAXABLE INCOME			-								-
TAX (55%)			-								-
TAX CREDIT			-								-
TAX PAYABLE			-								-
NET INCOME AFTER TAXES			4.7								4.7
CAPITAL COSTS	35.0	35.0	-								-
AFTER TAX CASH FLOW	-35.0	-35.0	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7

0 ————— 1 ————— 2 ————— 3 ————— 4 ————— 5 ————— 6 ————— 7 ————— 8 ————— 9 ————— 10

Net Present Value (1982)

$$\begin{aligned}
 NPV &= 4.7 (CPVF_9^{15}) (PVF_2^{15}) - 35.0 (CPVF_2^{15}) \\
 &= 4.7 (4.772) (0.7561) - 35.0 (1.626) \\
 &= 16.9 - 56.9 \\
 &= -40.0
 \end{aligned}$$

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