FREDUCT	STIMO		TERRITORY	N.I.J. AKEA OZ KJO KEF. ZN 1
NAME OF PROPER OBJECT LOCATED_S: UNCERTAINTY IN ME Mining Division County	TY MINER. ilver King claim (L ETERS-100. Lat. 50 Golden Township	AL KING Lot 12866). 0°20'45" L District E	.ong. 116°25'35" Kootenay	HISTORY OF EXPLORATION AND DEVELOPMENT The property is located at elevations of 4,400 to 6,000 feet on a steep ridge between the junction of Toby and Jumbo Creeks, about 20 miles southwest of Invermere. Owned in 1898 by Ben Abell and E. Stoddart, of Winder- mere, the property was under development by Messrs. Collett and Starbud of Fort Steele. An adit was reportedly driven 50 feet but failed to intersect the mineralized zone and the option was given up. The owners carried out intermittent
Lot Sec	Concession Tp.	or Range R.		exploration and development work in open cuts and a 140 foot long crosscut adit until 1905.
OWNER OR OPERA	TOR AND ADDRESS	-		the owners drove a new crosscut adit which intersected the mineralized zone. The Maple Leaf and Silver King claims were optioned to Toby Creek Mining Company, Limited, which was

given up.

1967.

granting has been found.

DESCRIPTION OF DEPOSIT

The country rocks are Proterozoic sediments of the Dutch Creek Formation and the overlying Mt. Nelson Formation. The orebodies are replacements of the Mt. Nelson dolomite, called the mine dolomite.

The mine dolomite in general is synclinal with axis plunging north 35 degrees west at 30 to 35 degrees and axial plane dipping steeply to the west. The syncline is almost isoclinal. Conglomerate and dark-grey argillite form the trough lying above the dolomite; rocks of various kinds occur beneath the dolomite on the limbs of the syncline. Slate and argillite of the Dutch Creek Formation occur on the east on what is known as the footwall side of the syncline and are in fault contact with the dolomite. Rocks to the west, known as the hangingwall sequence, are calcareous phyllites, greenish sericitic and chloritic phyllites, and argillites. At the hangingwall contact of the see Card 2

Associated minerals or products of value-Lead, silver, copper, cadmium, barite.

The mine operated continuously until its closure in December

incorporated in May 1920. A few tons of ore were high-graded from surface showings during the period 1920-1922 but no development work was reported; the option was subsequently

The Silver King claim (Lot 12866) was Crown-granted in

The property was examined in 1925 by W.M. Crawford and

Sheep Creek Gold Mines, Limited, acquired the property

associates who in August of that year incorporated Winder-

mere Mining Company, Limited, to acquire the property. The

in 1950 and during 1950-1952 carried out diamond drilling.

During 1953 the decision was reached to bring the property

driven. A 500 ton per day concentrator was put into opera-

to Sheep Creek Mines Limited, and in 1965 to Aetna Investment

Corporation Limited. The production of barite began in 1959.

tion in March 1954. The company name was changed in 1956

into production, and the No. 3 (5,440') level adit was

No. 2 or 5,600' level was begun in 1928 and intermittent

small scale operations continued into 1930.

1922 to J.E. Stoddart and the Estates of W.B. Abell and George Geary. Other claims, to a total of 23, including Lots 11256-11258, 15686-15693, 15967, 15968, and 15969-15976, have been Crown-granted but no record of the Crown-

> see Card 2 Mineral Resources Branch. Department of Energy, Mines and Resources, Ottawa. 509834

HISTORY OF PRODUCTION

Production for the year 1928 and the period 1954-1967 totals 2,313,067 tons of ore. From this ore 1,832,416 ounces of silver, 1,439,884 pounds of copper, 81,672,177 pounds of lead, 190,827,473 pounds of zinc, and 660,064 pounds of cadmium were recovered. Included in the above figures are several thousand tons of ore shipped from the Paradise mine during the years 1955, 1960, and 1964. Barite production for the period 1959-1967 totalled 25,114 tons of crude barite. Barite production in 1970-1971 totalled 14,268 tons of concentrate. During the period 1970-1973, inclusive, 42,794 tons of barite concentrate were shipped from this property.

In 1974, 5,200 tons of ore were milled. From this ore an <u>estimated</u> 11,680 ounces of silver, 319,574 pounds of lead, 401,418 pounds of zinc, and 920 pounds of cadmium were recovered.

MAP REFERENCES

- #Geological Map of the Mineral King Area, Sc. 1":3,000', Fig. 9, Report of Minister of Mines, British Columbia, 1959.
- Map 1326 A, Lardeau, (Geol.), Sc. 1:250,000 accomp. Memoir 362, Geol. Surv. of Canada, 1973.

Map 82 K/8 W, Toby Creek, (Topo.), Sc. 1:50,000.

REFERENCES

- Fyles, J.T.; Mineral King; Reports of Minister of Mines, British Columbia: 1959, pp. 74-89; 1962, p. 88; 1967, pp. 267-269.
- Reports of Minister of Mines, British Columbia: 1898, p. 1039; 1899, p. 666; 1900, p. 805; 1901, p. 1013; 1915, p. 90; 1919, p. 146; 1920, pp. 111, 139; 1921, pp. 124, 165; 1922, pp. 185, 354; 1925, p. 224; 1926, p. 241; 1929, p. 293; 1930, p. 237; 1950, p. 157; 1952, p. 203; 1953, pp. 151-154; 1954, p. 148; 1955, p. 70; 1956, p. 110; 1957, p. 64; 1958, p. 52; 1960, p. 83; 1961, p. 82; 1963, p. 84; 1964, p. 134; 1965, p. 202; 1966, p. 237.
- Geology, Exploration, and Mining; British Columbia Dept. of Mines: 1969, p. 383; 1970, p. 489; 1971, p. 454; 1972, p. 578; 1973, p. 537; 1974, p. 82. Walker, J.F.; Geology and Mineral Deposits of Windermere
- Walker, J.F.; Geology and Mineral Deposits of Windermere Map-Area, British Columbia; Memoir 148, p. 49, Geol. Surv. of Canada, 1926.
- Mineral Policy Sector; Corporation Files: "Aetna-Goldale Investments Limited"; "Purcell Development Co. Ltd.".
- Western Miner & Oil Review, Map 1954, pp. 40-43; March 1955, pp. 42-45.
- Magee, J.B., and Cummings, W.W.; The Mineral King Mine; The Canadian Institute of Mining and Metallurgy, Bulletin, Vol. 53, No. 578, June 1960, pp. 389-391.

REMARKS							
Comp./Rev. By	DMacR	DMacR	DMacR	DMacR		 DOT do K/	ר יידרי
Date	7-74	5-75	10-78	02-86		BUT 85 K	2F - T

PRODUCT

PROVINCE OR British Columbia TERRITORY

N.T.S. AREA 82 K/8

Card 2 -REF. ZN 1

NAME OF PROPERTY

MINERAL KING

DESCRIPTION OF DEPOSIT (continued)

ZINC

mine dolomite or at some place within the hangingwall sequence is another fault parallel to the formations. Thus the mine dolomite and conglomerate form a synclinal wedge between two faults. The orebodies have a wide variety of forms. The largest are pipelike and steeply plunging. Others are tabular and apparently follow steeply dipping shears or fractures. Some ore is found along cross joints more or less perpendicular to the plunge of the syncline, and in other places ore is in trough-like structures parallel to the fold.

The ore above 3 level (elevation 5,450 feet) occurred in four trough-like structures varying from a tight V-shape on the west to an open syncline on the east. These were called A, B, C, and D zones, and ore was mined between the zones in some areas. Only the A zone was exposed at surface, and the others were found as mining proceeded down the plunge. Banding in the ore indicates replacement of folded banded rocks, either a stratigraphic horizon or a folded shear zone.

Below 3 level the form of the orebodies changed. The A zone lost the V-shape and became a northerly trending tabular body with a steep dip, apparently controlled by replacement along a fault or fracture zone. Other orebodies were found down the projected plunge of the upper zones, which were called B, C, and D, although they were more or less isolated orebodies with no connection with the upper zones. Fractures, vertical fault zones, and incipient shattering of the dolomite controlled replacement. Orebodies below 3 level in general were higher in grade than those above, but some zones in the lowest levels were too low grade to mine.

The orebodies were replacements of dolomite by sphalerite, galena, pyrite, barite, and quartz. Bournonite (PbCuSbS₃), commonly associated with barite, was the source of most, if not all, the copper. Meneghinite (4PbS·Sb₂S₃), occurs rarely with siliceous ore.

Barite is scattered irregularly through most of the ore, and much of the barite contains sulphides. Zones of fairly pure barite found between the C and D zones have been mined for the barite alone. The barite is white, fine to medium grained, and has a sugary texture. Coarse-grained barite is found locally.

p.t.o.

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)

The orebodies were worked from 4 adit levels, three of which, numbered 2, 3, and 7, were driven from the Toby Creek side, and the other, No. 9 level, from the Jumbo Creek side. Levels above No. 7 level were serviced by No. 1 shaft and levels below No. 9 level were serviced by No. 2 shaft, which terminates at No. 12 level (elevation 4,000°). Ore was mined for almost 4,000 feet down the plunge of the structure and through a vertical interval of about 1,500 feet.

The property was sold in March 1968 to Mountain Minerals Co.Ltd., subject to a royalty of 50¢ per ton of barite produced. A plant was built to recover barite from the tailings pond on the Toby Princess claim (Lot 11257). The plant was put into operation in July 1970 and operated during the summer and fall of 1970 and 1971.

Purcell Development Co. Ltd. in January 1974 obtained a 5 year lease on the property, except for Lot 11257, subject to a rental payment of 5 per cent of net smelter returns. The No. 3 and No. 7 levels were rehabilitated from the portals to the points where these levels intercepted the No. 1 shaft in order to mine a pillar of ore extending from the No. 5 level down to the No. 4 level in the vicinity of the shaft pillar. Reserves were reported at 80,000 tons averaging 1.0 ounce silver per ton, 2.5% lead, and 4.5% zinc (George Cross News Letter, Nov. 6, 1974).

A 200 ton-per-day concentrator was built near the confluence of Jumbo and Toby Creeks. The initial operation was an attempt to treat old tailings from the Paradise property (82 K/8, PB 2), however, an unacceptable concentrate was produced and the project was abandoned. The concentrator began treating Mineral King ore late in October 1974. The company was placed in receivership in April 1975. The mine and mill equipment were offered for sale by the Receiver in July 1976.

Mountain Minerals Co. Ltd. continued producing barite from the tailings pond on a seasonal basis until 1982.

DESCRIPTION OF DEPOSIT (continued)

Masses of barite being mined, though very irregular, in general have a gentle plunge to the northwest. They are a few tons of feet thick in section and a few hundred feet long parallel to the plunge.