PRODUCT MERCURY	PROVINCE OR TERRITORY British Columbia	N.T.S. AREA 93 K/9	REF. HG 1

NAME OF PROPERTY PINCHI LAKE

OBJECT LOCATED - Pinchi No. 1 claim (Lot 5211).

UNCERTAINTY IN METRES 300. Lat. 54°37'55" Long. 124°26'00"

Mining Division Omineca District

County Township or Parish

Lot Concession or Range

Sec Tp. R.

OWNER OR OPERATOR AND ADDRESS

Cominco Ltd.

DESCRIPTION OF DEPOSIT

In central British Columbia, the 450-km long Pinchi Fault separates the upper Paleozoic Cache Creek Group to the west from the lower Mesozoic Takla Group and Mesozoic intrusions to the east. Northwest of the fault system is the lower Mesozoic Takla Group composed of greywacke, siltstone, and minor conglomerate and limestone. To the southwest is the Pennsylvanian Permiam Cache Creek Group made up of limestone, chert, argillite, and greenstone. Between these regions a complex northwesterly trending fault system involves a series of elongate fault-bounded blocks of contrasting lithology and metamorphic grade. In the vicinity of the mine the Cache Creek group is cut by several small bodies of altered serpentine, the largest about 600 feet in diameter.

The folded Cache Creek strata have a general northwest strike and dip steeply northeast. They are cut by a number of westerly trending faults, the most important of which is called the "south fault". It strikes north 60 degrees west and dips 50 to 70 degrees southwest. It has been traced from the glory hole 1,600 feet southeast and 900 feet northwest to where it appears to divide into an intricate group of closely spaced faults. Along it the rocks are brecciated and silicified across a zone 4 to 30 feet wide. A second fault, known as the "center fault", strikes approximately east and dips 50 degrees to the south. A third main fault, called the "north fault" trends northwesterly and is marked by a brecciated zone 50 feet or more wide. These faults all form part of the Pinchi fault zone.

p.t.o. ....

Associated minerals or products of value

HISTORY OF EXPLORATION AND DEVELOPMENT

The property is located on the northeast shore of Pinchi Lake some 85 miles northwest of Prince George.

The discovery was made by J.G. Gray of the Geological Survey of Canada in the summer of 1937. In May 1938 the Mercury No. 1-Mercury No. 3 claims were staked by A.J. Ostrem and G. Nielson and the Dug Out Nos. 1-8 and Chief No. 1 and No. 2 claims by D. and M. Rottacker. Later in 1938 the above claims were optioned by The Consolidated Mining and Smelting Company of Canada Limited. The company staked the adjoining Pinchi No. 1-No. 9 claims. The above 22 claims were subsequently Crown-granted (Lots 5211-5232).

Exploration and development work was carried out through 1939 and the mine and mill were put into production in June 1940. Exploration and development work to the end of 1943 included some 26,395 feet of trenching, 83,978 feet of diamond drilling, 14,737 feet of drifting, 319 feet of crosscutting, 11,506 feet of raising, and 252 feet of sinking. Underground development was carried out on 6 levels. Operations were suspended in July 1944.

In about 1965 the property was expanded to a total of 169 claims. During 1965 a geochemical survey was carried out over the property and some rehabilitation work was done in the old main haulage adit. The company name was changed in 1966 to Cominco Ltd.

Work began in 1967 to re-open the mine. A new trackless main haulage decline was collared 25 feet above lake level and driven 1,318 feet to the ore zone. A new 800 ton per day concentrator-roaster plant was completed and milling began in August 1968. During the initial production about 22% of the ore was mined underground and 78% from the West Zone open pit. During 1971 some open pit mining was done on the Main Zone. Underground development work during the period 1968-1974 inclusive totalled some 14,559 feet of drifts, crosscuts, and raises. The mine closed in July 1975. Measured and indicated reserves as of Dec. 31, 1975 were reported at 1,200,000 tons containing 98,000 flasks of mercury (Cominco Ltd., Prospectus, April 1976).

HISTORY OF PRODUCTION

From 1940 to 1944 inclusive, 691,624 tons of ore were milled. From this ore 4,018,804 pounds of mercury were recovered.

During 1969-1970 a total of 761,000 tons of ore were milled; the amount of mercury recovered is not listed. From 1971 to 1975 inclusive 912,000 tons of ore were milled. From this ore 71,600 flasks of mercury were recovered (Ref. Cominco Ltd. Annual Reports).

MAP REFERENCES

Map 630 A, Fort Fraser, (Geol.), Sc. 1":4 miles.
Map 907 A, Fort St. James, (Geol.), Sc. 1":6 miles - accomp. Memoir 252.
Geological Map of the Pinchi Lake area, Sc. 1":3 miles, Fig. 2, Report by Paterson.
Map 1582 G, Pinchi Lake, (Aeromag.), Sc. 1":1 mile.
#Map 93 K/9, Pinchi Lake, (Topo.), Sc. 1:50,000.

DESCRIPTION OF DEPOSIT (continued)

The cinnabar is concentrated in breccia zones along the faults as well as in strata cut by the faults. The ore occurs mainly in dolomitized limestone beneath bands of impervious schist, but some ore is found in the quartz-carbonate-mica schists. The limestone contains solution cavities that range in size from mere pits to openings several feet across. Most of the cinnabar occurs as veinlets and blebs filling pre-existing openings such as fissures, solution cavities, and interstices between grains and breccia fragments. The known orebodies roughly parallel the bedding and are terminated down dip by the northwest trending, southwest dipping faults. Their hanging-walls generally lie along a limestone—schist contact, the orebody being in the limestone and the schist acting as an impervious cap. The cinnabar is mostly the massive red variety. A little stibnite and scattered grains of pyrite have been found throughout the mine.

Comp./Rev. By	DMacR						
Date	4-78						

REFERENCES

+Armstrong, J.B.; Fort St. James Map-Area, British Columbia; Memoir 252, pp. 166-171, Geol. Surv. of Canada, 1949.

++Stevenson, J.S.; Mercury Deposits of B.C.; Bulletin No. 5, pp. 18-33, British Columbia Dept. of Mines, 1940.

Gray, J.G.; East Half Fort Fraser Map-Area; Paper 38-14, p. 9, Geol. Surv. of Canada.

Reports of Minister of Mines, British Columbia: 1939, p. 99; 1940, p. 85; 1941, p. 79; 1942, p. 75; 1943, p. 76; 1944, p. 75; 1965, p. 112; 1967, p. 117; 1968, pp. 145-147.

Geology, Exploration, and Mining; British Columbia Dept. of Mines: 1969, p. 156; 1970, p. 117; 1971, p. 167; 1972, p. 364; 1973, p. 333; 1974, p. 254.

Mineral Policy Sector; Corporation Files: "Cominco Ltd.".

Bainbridge, R.; Pinchi Lake Mercury Reduction Plant; Canadian Institute of Mining and Metallurgy, Transactions, Vol. 48, 1945, pp. 13-26.

Bracken, F.J.; Why Cominco is Reopening; Western Miner, Vol. 40, December 1967, pp. 48-50.

Armstrong, J.E.; Geology of the Pinchi Lake Mercury Belt, British Columbia; Transactions of the Canadian Institute of Mining and Metallurgy, 1942, pp. 311-323.

Paterson, I.A.; The Geology and Evolution of the Pinchi Fault Zone at Pinchi Lake, Central B.C.; Canadian Journal of Earth Sciences, Vol. 14, No. 6, June 1977, pp. 1324-1342.