PRODUCT	COPPER	PROVINCE OR TERRITORY	British Columbia	N.T.S. AREA 93 L/6	REF. CU 8

NAME OF PROPERTY FOG, S.L. (HIGHGRADE) (SUNRISE) (MORNING)

OBJECT LOCATED - west zone trenches.

UNCERTAINTY IN METRES 300. Lat. 54°29'05" Long. 127°10'25"

Mining Division Omineca District Range 5 Coast

County Township or Parish

Lot Concession or Range

Sec Tp. R.

OWNER OR OPERATOR AND ADDRESS

DESCRIPTION OF DEPOSIT

The Telkwa Range is underlain principally by pyroclastic rocks of the Hazelton Group, probably the upper volcanic division. These consist of a well-stratified sequence of intermediate pyroclastic and flow rocks, many of which are maroon coloured. There are also minor patches of sedimentary rocks of the Bowser Group and several small plutons. The Sunsets Creek body, which is the most important pluton, occurs in the centre of the range. It has domed the surrounding pyroclastic sequence, which dips away from the pluton in all directions. The relation of this doming to the regional northerly to northwesterly broad folding is not known.

The Hazelton rocks are predominantly pyroclastic rocks in the range of lapilli to fine tuffs. Locally most are dark greenish-grey but grade laterally into maroon rocks well outside the limits of hornfelsing. Many have foliated flow textures, and some accretionary lapilli tuffs are present. In close proximity to the pluton, some of these rocks have been changed to mosaics of new plagioclase, actinolite, quartz, opaque

see Card 2 ....

Associated minerals or products of value - Molybdenum, silver.

HISTORY OF EXPLORATION AND DEVELOPMENT

The property is located between elevations of 5,000 and 7,000 feet at the head of Sunsets Creek, 21 miles south of Smithers.

The Morning claim was staked on the showings by F.M. Dockerill in 1905. Other showings, at higher elevations (about 6,500 feet) were staked in 1905 by Wm. McCullough as the Sunset claim. Near the summit of the mountain, at about 7,000 feet, P.R. White located the Sunrise claim. Assessment work on the above claims was limited to open cutting. The claims subsequently lapsed and the showings were in part restaked as the Highgrade claim in about 1912 by Joe Cochrane and Charles Seeber. Work to 1914 included a 15 foot drift adit and a few open cuts.

The Fog and Fly groups, totalling 72 claims, were staked by Noranda Exploration Company, Limited, in 1966 as a result of a reconnaissance geochemical survey carried out in 1965. Work during the period 1966-1968 included geological mapping, geochemical and geophysical surveys, trenching, and 550 feet of diamond drilling in 2 holes. The Fly claim group was restaked as the S.L. group.

Whitesail Mines Ltd. by a January 1969 agreement acquired the Fog group from Noranda Exploration and John K. Campbell; the S.L. group was purchased as part of the same agreement. Additional staking was done by Whitesail in the Sherry and CE groups. Work during 1969 apparently included geochemical, electromagnetic, and magnetometer surveys, and diamond drilling in 5 short holes. In December 1972 Whitesail Mines amalgamated with Twin Peak Mines Ltd. under the name Twin Peak Resources Ltd.

Under an agreement of August 1970 Ducanex Resources Limited optioned an 80% interest in the property. Work during the year included induced polarization, magnetometer, and electromagnetic surveys over 5 line-miles covering S.L. 1-24, and Fog 33-37 and 53-56; geochemical rock sample survey of 500 samples covering all S.L. claims and Fog 33-37 and 53-56; 1,566 feet of diamond drilling in 3 holes.

HISTORY OF PRODUCTION

MAP REFERENCES

Sketch Map of the Telkwa River and Vicinity, Sc. 1": 2 miles - accomp. Report No. 988, Geol. Surv. of Canada, 1908.

Map 44-23, Smithers, (Geol.), Sc. 1":2 miles, Paper 44-23, Geol. Surv. of Canada.

Map 69-1, Smithers, Hazelton, and Terrace Areas, (Geological compilation), Sc. 1":4 miles, British Columbia Dept. of Mines.

Map 5309 G, Thautil River, (Aeromag.), Sc. 1":1 mile.

#Geology in the vicinity of the Sunsets Creek pluton, Sc. 1": 2,500 ft., Fig. 11, Report of Minister of Mines, British Columbia, 1967, p. 98.

*Map 93 L/6, Thautil River, (Topo.), Sc. 1:50,000.

REMARKS

Comp./Rev. By	DMacR						
Date	12-75						

REFERENCES

Brown, A. Sutherland; Fog, Fly; Report of Minister of Mines, British Columbia, 1967, pp. 97-100.

Reports of Minister of Mines, British Columbia: 1905, pp. 128, 129; 1914, p. 222; 1968, p. 128.

Geology, Exploration, and Mining; British Columbia Dept. of Mines: 1970, p. 151.

Mineral Policy Sector; Corporation Files: "Whitesail Mines Ltd.".

BCDM Bull 64, P. 115

BCI 93 L-45, 46

PRODUCT	COPPER	PROVINCE OR TERRITORY	British Columbia	N.T.S. AREA 93 L/6	Card 2 - REF. CU 8

NAME OF PROPERTY FOG, S.L. (HIGHGRADE) (SUNRISE) (MORNING)

DESCRIPTION OF DEPOSIT (continued)

minerals, and garnet. The hornfels grades outward in a concentric pattern through a biotite zone to a chlorite zone.

Intruding the Hazelton rocks are a group of dykes, sills, and some larger irregular bodies of porphyritic pyroxene andesite to diabase. These are most abundant on the ridge northwest of the pluton, where they are dominant, but are present everywhere.

The Sunsets pluton appears to be a steep-sided plug of subcircular section with some evidence that an irregular domal roof existed not far above the present peaks. Dykes of similar composition occur in the walls but are rare and are hornfelsed during the final emplacement of the plug. The pluton is a homogeneous body composed entirely of quartz monzonite of nearly constant composition and texture.

Surrounding the stock is a gossan zone that roughly corresponds with intense hornfelsing. In this zone opaque iron minerals appear more abundant than in the original rocks but occur as magnetite in contrast to hematite. In general, pyrite is sparse and yet the rocks weather an intense rusty colour. The periphery of the stock contains minor sulphide mineralization in many places. Within the porphyry this occurs as a widely spaced set of quartz veins an inch or so wide, banded, and drusy. The veins contain pyrite, chalcopyrite, and minor molybdenite. This type of mineralization is not intense any place observed but is probably most strongly developed along the southwestern contact. In the hornfels in the same general area and close to the contact there are some garnet-epidote skarn bands, mostly parallel with bedding, and in some there are isolated blobs of chalcopyrite, pyrite, and specular hematite.

In the interior of the stock there are two altered zones that are associated with sulphide mineralization. The larger one in the west consists of a broad crescentic area about 2,000 by 3,000 feet in which all rocks are abnormally pyritic. This mineral is disseminated and occurs as coatings on joints and irregular fractures. Associated with this pyritization is a chloritization of biotite and, to a lesser extent, hornblende and a sericitization of feldspars. In the core of the crescent is a zone of much more intense alteration of similar type, with some rocks locally converted to aggregates of quartz, muscovite, and pyrite. Molybdenum mineralization occurs in part of the southern arm of the

continued above . . .

DESCRIPTION OF DEPOSIT (continued)

crescentic area. Here small faults and well-defined joints are common. Quartz veinlets in the joints are common and might be considered a wide-spaced stockwork. Veinlets and small faults and also dry fractures contain abundant pyrite and molybdenite. Many of the better-mineralized joints are fairly flat and gently dipping. The host rocks here are granitoid and show some evidence of recrystallization and later biotite and muscovite alteration of feldspars. Relatively little evidence of the molybdenum mineralization occurs on natural exposures, but only in blasted pits adjacent to the tributary creek where it debouches into the valley bottom.

Another smaller area of similar quartz-sericite-pyrite alteration occurs at the eastern head of the Sunsets Creek cirque. Associated with it is minor disseminated chalcopyrite.

Work to 1914 on the Highgrade claim was done on a quartz vein from 4 to 12 inches wide, striking N35°E, dipping 60°SE, and traceable for a few hundred feet. The vein is mineralized in places with tetrahedrite and some native silver. A sample across 4 inches of vein exposed in the adit assayed: gold, 0.02 ounce and silver 13.6 ounces per ton; copper, 8.5 per cent.