

1) PROPERTY NAME AND NUMBER: Cowan occurrence DATE(S) VISITED:
July 31, 1990

42D/14NE-03

MDI#: TB1005

2) ALTERNATE NAME(S): McMillan and Kydd option
Empire Explorations
Martin-Hunt property
Jackfish-Pritchard property (?) ←
Trout Pond

3) COMMODITY: MAIN: Cu, Mo SECONDARY: py, po,
mag, Au

DEPOSIT TYPE: polymetallic vein?
calc-alkalic porphyry Cu-Mo-(Au-W)

4) DEVELOPMENT HISTORY AND OWNERSHIP:

PAST: 1956-1957 The occurrence was staked by D. Rainville as claims TB 81071, 81074.

1959 Claims TB 96393 and 96187 were staked by A.S. McMillan and G.F. Kydd respectively.

1960 All interest was transferred to R.M. Butler (Empire Explorations).
Geophysical (magnetometer, self-potential) surveys were conducted.
Geological mapping was undertaken, and trenching and packsack diamond drilling carried out.

1963 The claims lapsed and the area restaked by J.J. Sax.

1965 All interest was transferred to H. Shleisinger (Martin-Hunt Mining Limited) as part of a 9-claim group.
A horizontal-loop EM survey conducted.
A total of three diamond drill holes, totalling 106.7 m, was drilled on TB 109491.
S. Cowan staked claim TB 123880.

1966 J.F. Morton staked TB 128156 and all interest was transferred to R.S. Hunt (Martin-Hunt Mining Limited).

1967	The showings were restaked by S. Cowan as TB 133191 and 133835.
1968-1969	Manual and mechanical stripping, trenching and Cobra drilling were carried out.
1973	The claims lapsed.
1982	The showings were restaked by C.M. Schulze as part of a larger claim group, and all interest was transferred to Noranda Exploration Company Limited.
1983	An airborne geophysical (magnetometer, EM) survey was conducted.
1984	The claims lapsed.
1990	Reconnaissance prospecting and sampling was carried out by D. Christianson and E. Christianson.

CURRENT:

5) LOCATION AND ACCESS:

N.T.S.	42D/14NE	Northing:	5426800N
Latitude:	48°59'46"	Easting:	498380E
Longitude:	87°01'20"		

GENERAL LOCATION:

The showings are located approximately 0.4 km west of the central western shore of Owl Lake at a point about 26 km northeast of Schreiber (claim map G-599, Lower Aguasabon Lake).

ACCESS:

The occurrence is located about 5 km east of the Kimberly-Clark access road which extends north of Terrace Bay. A bush road heads east to the Aguasabon River, which may be crossed by boat. An old trail leads several km to Owl Lake. As well, access may be gained by aircraft to Owl Lake.

MAP REFERENCES:

2232, Nipigon-Schreiber Sheet (Carter et al. 1973)
 2112, Cairngorm Lake Area (Walker 1967)
 P.2557, Terrace Bay Area, Northeast Sheet (Carter 1982)

REFERENCES:

Assessment Files, Thunder Bay

Carter (1982)

*Elliott (1965, 1966)

*Morse (1984)

Resident Geologist's Files, Schreiber-Hemlo District, Thunder Bay

6) GENERAL GEOLOGY AND STRUCTURE:

*Elliott (1966) described the local geology:

The consolidated rocks of the area are Pre-Cambrian in age and consist of a narrow band of Keewatin-type lavas and pyroclastics bordered by a narrow fringe of sediments and which are intruded by granite, porphyry and diorite. The greenstone belt is almost enclosed by extensive intrusions of granite and syenite.

The principal feature of the property is a molybdenite zone on claim TB 109491 which has been exposed in a series of trenches on the west side of a hill for approximately 100 feet. The molybdenite mineralization is within a quartz-rich zone of a granite dyke. Both the mineralized zone and the granite dyke strike in an east-west direction, the width of the molybdenite mineralization varying from one foot to approximately three feet.

The granite is enclosed by intermediate tuffaceous sediments which contain an appreciable amount of disseminated pyrite, and massive pyrite and pyrrhotite occur in the granite adjacent to the molybdenite mineralization. It was therefore considered that utilization of geophysics to outline the conductive zone would be of assistance in tracing the zone where covered by overburden.

Carter (1982) noted that in the Owl Lake area:

Molybdenite mineralization occurs in granitic rocks (massive leucocratic, medium to coarse-grained biotite granite, aplite and pegmatite dykes) and quartz veins of variable size...near the contact with mafic rocks (volcanics and intrusives).

7) MINERALOGY:

*Elliott (1965) stated that:

A number of quartz veins are noted to occur on the property, some of which carry low gold values, and one in particular contains an appreciable amount of molybdenite. This vein is located on claim No. 109491, and has been exposed by a series of trenches on the west side of a hill for approximately 100 feet. The vein varies in width from one to three feet and for most of its length it is enclosed by a granite dyke. Both the quartz vein and the granite dyke have an irregular strike, but in general trend in an easterly direction. The granite is pegmatitic in character, consisting principally of quartz and feldspar with a predominance of quartz. The vein consists of glassy quartz and is well mineralized with pyrite and molybdenite. The molybdenite forming high-grade sections within the vein. Flakes of molybdenite were also observed to occur within the granite, but the mineralization is widely scattered.

Where the quartz vein enters the volcanics to the east, considerable gossan has been formed, in some places a few inches thick, which prevented taking fresh samples. The volcanics to the south of the granite dyke have also been heavily sheared in an east-west direction, and contain a small amount of pyrite which have also produced patches of gossan within the volcanics.

A self-potential survey of a portion of the property has revealed anomalous conditions for a length of 400 feet in an east-west direction, coinciding with the sulphide mineralization exposed in the pits. At the eastern end of the anomaly, there is an abrupt swing to the south of the higher readings.

*Elliott (1966) later stated that:

Three holes were drilled totalling 353 feet at the western extremity of the zone, and confirmed the presence of both massive and disseminated pyrite and pyrrhotite. However, molybdenite mineralization exposed on surface was not encountered in the drilling.

Drill logs also noted that pyrite and pyrrhotite commonly comprised between 25% and 75% of the drill core section and were usually oriented parallel to schistosity.

8) ECONOMIC FEATURES:

TONNAGE AND GRADE ESTIMATES:

Although no specific grade values have been noted, it is indicated that no economic molybdenum copper mineralization has been discovered.

(Resident Geologist's Files, Schreiber-Hemlo District, Thunder Bay.)

*Elliott (1965) noted that one (packsack) diamond drill hole section assayed by Empire Explorations in 1960 returned 1.52 m assaying \$6.30 (0.186 ounce) in gold.

PAST PRODUCTION:

9) CHEMICAL ANALYSES:

Grab sampling of the occurrence by Resident Geologist staff returned the following assays:

Sample Number (ounce/ton)	Gold (%)	Copper (%)	Zinc (%)	Molybdenum
90 BTP -01	0.016	0.006	0.017	n.a.
-02	0.008	0.022	0.054	n.a.
-03	nil	0.006	0.041	n.a.
-04	0.010	0.005	0.016	n.a.
-05	trace	0.004	0.005	n.a.
-06	trace	0.003	n.a.	0.388
-07	0.004	0.010	n.a.	0.281
-08	0.012	0.011	0.026	n.a.

n.b. all silver assays either nil or trace

(n.a. = not assayed)

Sample Descriptions:

- 90 BTP -01: massive, medium- to coarse-grained pyrite with lenses of quartz and gangue.
- 02: medium- to coarse-grained pyrite in dark green amphibolitic matrix.
- 03: dark grey, fissile, thinly laminated to schistose, sericitic; fine-grained, siliceous matrix mineralized with fine-grained, disseminated pyrite.
- 04: dark grey-green amphibolite with thin (<2 mm) feldspathic seams; fine-grained pyrite euhedra throughout.
- 05: massive, medium- to fine-grained pyrite with quartz pods.
- 06: medium-grained, white to grey, non-foliated, biotite granodiorite; books and flakes of molybdenite ≤ 5 mm, $\leq 5\%$ locally and fine-grained, disseminated pyrite.
- 07: dark grey, granular, coarse-grained quartz, mineralized with fine-grained, disseminated to coarse-grained (veinlet/stockwork) pyrite + molybdenite $\leq 20\%$.
- 08: massive, fine-grained pyrite + pyrrhotite, locally coarse-grained; may be banded with some sericite; piece of old diamond drill core.

(Resident Geologist's Files, Schreiber-Hemlo District, Thunder Bay)