

14612
A.R. 85-1101-

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

14,612

**REPORT OF WORK
GEOLOGICAL SURVEY
ON THE
MABEL LAKE PROPERTY
N.T.S. 82L/10
Latitude 50°38' Longitude 118°35'
Sherpa (1,2)
Rebar (1-4, 200-500)
VERNON MINING DIVISION**

FILMED

Owner : John Leask
Operator: Noranda Exploration Company, Limited (no personal liability)
Author : B.K. Bowen, P.Eng.
Geologist
Vancouver, B.C.
Date : January 16, 1986

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INTRODUCTION

Location and Access

The Mabel Lake property is located 115 kilometres due east of Kamloops, B.C. Specifically the claims are located on the east shore of Mabel Lake and north of Tsuius Creek on N.T.S. Mapsheet 82L/10. Access to the claims is from Lumby via the Mabel Lake logging road, a distance of approximately 50 kilometres (see Figure 1).

Claims

The Rebar-Sherpa group consists of the following claims:

Name of Claim	No of Units	Record No.	Month of Record
Sherpa 1	20	1304	November
Sherpa 2	20	1305	November
Rebar 1	20	1528	June
Rebar 2	20	1529	June
Rebar 3	12	1576	August
Rebar 4	4	1619	December
Rebar 200	1	1654	December
Rebar 300	1	1655	December
Rebar 400	1	1656	December
Rebar 500	1	1657	December

Together these claims cover an area of 2,500 hectares or about 6,150 acres (see Figure 2)

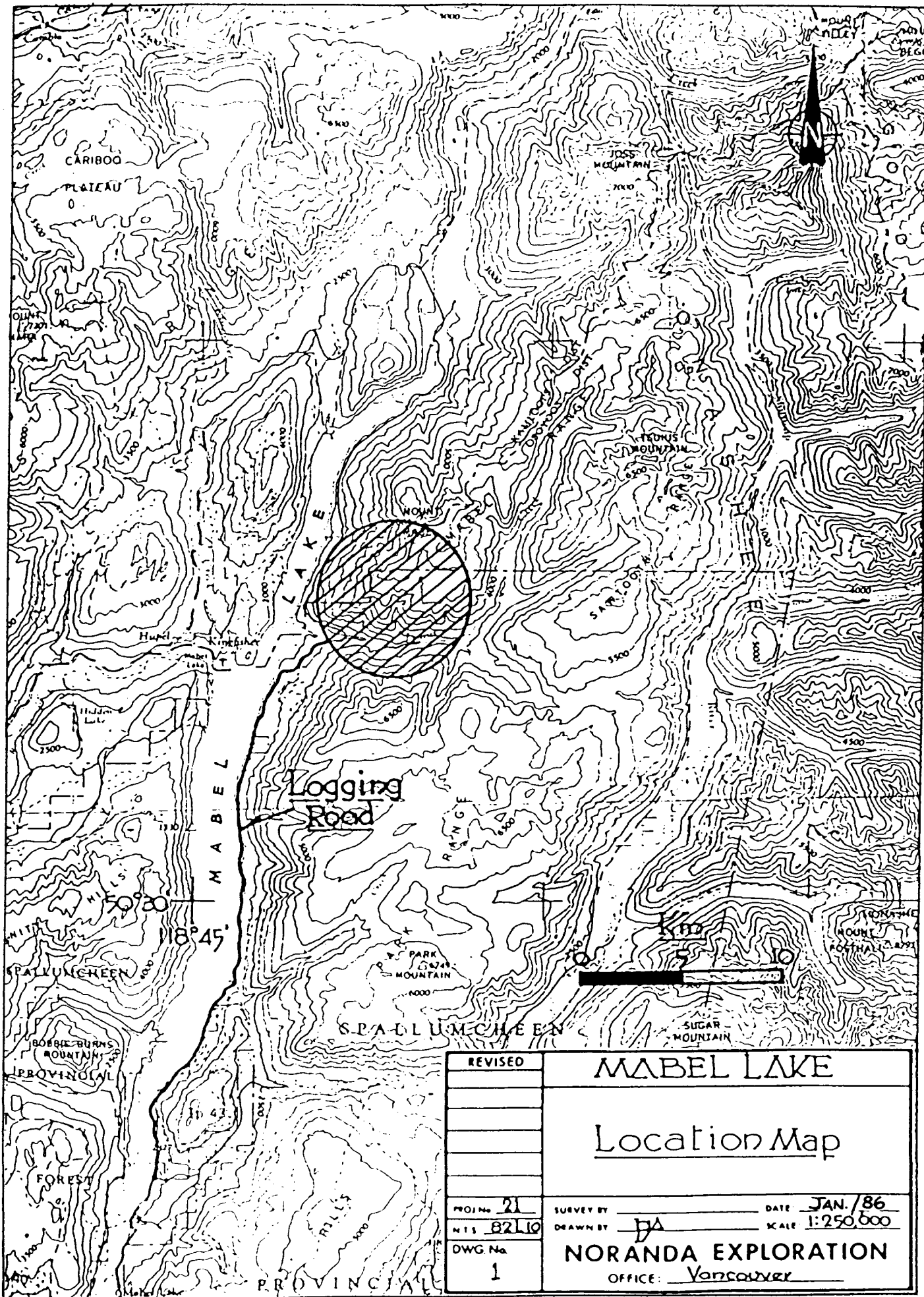
History and Development

The Mabel Lake prospect was discovered and staked in 1982 by John Leask, a local prospector, who had located a number of mineralized boulders (quartzite carrying sulphides sphalerite, pyrrhotite, pyrite and minor chalcopyrite) near the base of the hill on which the claims lie.

Noranda Exploration optioned the property in the fall of 1983 and during 1983-84 carried out a detailed exploration programme consisting of airborne E.M., grid establishment, geochemical and geophysical surveys, preliminary geological mapping and diamond drilling. This work was unsuccessful in locating the bedrock source of the mineralized float in the immediate area of the original discovery.

Summary of 1985 Work

During the period September 20 to October 28, 1985, Noranda Exploration conducted a programme of detailed geological mapping and prospecting in the immediate area of the original discovery. The claims upon which work was actually done include the Rebar 1 and 2 and Rebar 200 to 400 claims. About 4.5 square kilometres was covered, using the existing grid and a 1:5,000 scale pencil manuscript for control. The work was carried out by B. Bowen, geologist, and D. Shevchenko, field assistant.



REVISED	MABEL LAKE	
	Location Map	
PROJ. No. 21	SURVEY BY	DATE JAN./86
NIS 82110	DRAWN BY <i>JA</i>	SCALE 1:250,000
DWG. No. 1	NORANDA EXPLORATION	
	OFFICE: Vancouver	

Purpose of the current work was to accurately map the stratigraphy of the metamorphosed rocks and to locate, in outcrop, occurrences of mineralized quartzite.

GEOLOGY

Lithology

The Mabel Lake property is underlain by metamorphic rocks belonging to the Monashee Group of the Archean or later Shuswap Series. Monashee Group rocks within the 1985 map area consist of biotite-quartz-feldspar gneiss, quartzite, marble, calc-silicate gneiss and pegmatite. The metamorphic rocks are cut by later dacite and diorite dikes (See Figure 3).

The southern portion of the map area is underlain by biotite-quartz-feldspar gneiss which is light to dark grey in colour, relatively massive and contains minor accessory garnet. Within the gneiss unit, pegmatite is abundant as lenses, discontinuous layers, sills, dikes and irregular masses. Also present are rusty graphitic chert horizons up to 10 m thick, narrow siliceous graphitic layers and minor interbeds of marble. Exposed thickness of the gneiss unit is approximately 300 metres.

Quartzite is coarsely crystalline, smokey grey in colour and commonly graphitic. Impure varieties have a distinctly gritty texture. Although present in the biotite-quartz-feldspar gneiss unit, quartzite is most commonly found in association with a thick marble unit which overlies the gneiss. Here quartzite occurs as discontinuous layers or lenses varying in thickness from a few centimetres up to 20 metres.

The marble unit is generally massive, coarsely crystalline and commonly graphitic. Micaceous varieties impart a weak foliation to the rock. Within the unit is a 60 metre thick biotite-quartz-feldspar gneiss horizon which can be traced from Central Creek to L.154+00E, west of Danno Creek. Also present are minor interlayers of quartz-feldspar-biotite gneiss (schistose in part), pegmatite and calc-silicate gneiss. The marble unit is approximately 200 metres thick and appears to be gradually thickening to the southwest.

The marble unit is overlain by a calc-silicate gneiss unit which is characterized by narrow alternating diopside and quartz rich layers. Within the unit, biotite-quartz-feldspar gneiss layers are abundant and generally quite fissile due to their high biotite content. Graphite is commonly present in these gneissic rocks and is abundant at some localities. Minor pegmatite and marble are also present. Exposed thickness of the unit is approximately 300 metres.

A semi-conformable pegmatite sill extends for about 1 kilometre from L.150E/88+50N to L.160+50E/92+00N. The pegmatite consists mainly of coarse grained quartz and feldspar with minor amounts of biotite, muscovite and garnet and is about 20 metres thick.

Dacite and diorite dikes and sills cut the metamorphic rocks at a few localities within the map area. The dikes are light to dark green in colour and fine to medium grained.

Structure

Foliation attitudes within the map area mainly have an east-northeast to northeast strike and a northerly dip which ranges from 5° to 50° , but is commonly in the 15° to 30° range. The foliation readings were usually taken on aligned platy minerals (micas, graphite). Since these minerals usually parallel the contacts of layers that contrast in appearance and composition, the foliation readings are thought to represent, in most cases, the bedding of the metamorphosed sediments.

Variations in the dip and strike are common and are related to either gentle flexuring of the layers or local steepening near the hinges of small scale folds.

No major fold closures were observed within the map area. Small scale fold structures (a few metres in amplitude) are present and occur, for the most part, in a linear belt which trends northwesterly across the map area from the lower reaches of Central Creek. Hinge attitudes plunge northwesterly $20-30^{\circ}$.

No major zones of faulting or shearing were observed in the map area.

Mineralization

Sphalerite bearing float is dispersed over an area of about 2 kilometres in an east-west direction by 250 to 300 metres north-south. The majority of float occurrences are located west of Central Creek. Their general trend parallels the surface trace of the rock units, suggesting a conformable or stratabound source of mineralization.

The mineralized float is quartzite which contains disseminated to massive, locally banded pyrrhotite and sphalerite with lesser pyrite and rare chalcopyrite. Occasionally, the quartzite exhibits a brecciated texture with strong interstitial sulphides. At one locality, marble float containing semi-massive pyrrhotite and sphalerite was observed.

The float is generally sub-angular, sub-rounded to rounded in shape and ranges in size from cobbles (.1 metre diameter) to large boulders (up to 1.5 metres in diameter). Boulders carrying abundant sulphides tend to be more rounded, whereas quartzite with banded sulphides tends to be more angular.

A second type of mineralized float is quartzite which contains banded pyrrhotite and pyrite with minor chalcopyrite and rare graphite. This type of occurrence was much less frequently observed than the sphalerite bearing variety. Its distribution is more narrowly confined to a linear east-west trend within the broader sphalerite bearing float trend and may be the expression of a specific mineralized horizon. Neither of the above two mineralized float types was located in outcrop.

Siliceous layers within the calc-silicate gneiss unit commonly contain disseminated pyrrhotite and pyrite. A 0.3 m wide quartzite layer within the marble unit, which outcrops in Central Creek at approximately 1225 metres elevation, contains 3 to 5% disseminated pyrrhotite. A 10 metre thick quartzite layer, also outcropping in Central Creek at approximately 1025

metres elevation, carries a trace of disseminated pyrrhotite.

CONCLUSIONS AND RECOMMENDATIONS

The stratiform texture of the mineralized quartzite boulders and their general trend which parallels the surface trace of the rock units suggests a conformable or stratabound source of mineralization.

Within the area of mineralized float, a number of reasonably thick (10 to 20 metres) layers or lenses of quartzite are present. The potential for locating mineralized quartzite, either along strike or down dip from exposed quartzite outcrops is considered excellent. Diamond drilling is recommended.

*B. K. Bowen
Jan. 21 / 86.*

REFERENCES

- A.G. Jones Geology and Mineral Deposits of the Vernon Map Area,
British Columbia, G.S.C. Memoir 296, 1959.
- D. Bryan Assessment Report: Geochemical Survey on the Sherpa 1
and 2 Mineral Claims, Vernon Mining Division, British
Columbia, Noranda Exploration Company, Limited, 1983
- L. Bradish Assessment Report: Geophysical Surveys on the Mabel
Lake Property, Vernon Mining Division, British Columbia,
Noranda Exploration Company, Limited, 1984.

APPENDIX I
STATEMENT OF COSTS

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

PROJECT - MABEL LAKE
TYPE OF REPORT - GEOLOGICAL

DATE - January 1986

- a) Wages:
No. of Days * 47
Rate per Day \$ 147.86
Dates From: September 20 - October 28, 1985
Total Wages 47 x \$ 147.86 \$ 6,949.42
- b) Food and Accomodation:
No of days * 47
Rate per day \$ 37.15
Dates From: September 20 - Ocotber 28, 1985
Total Cost 47 x \$ 37.15 \$ 1,746.05
- c) Transportation:
No of days 25
Rate per day \$ 61.09
Dates From: September 20 - October 28, 1985
Total Cost 25 X \$ 61.09 \$ 1,527.25
- d) Instrument Rental:
Type of Instrument
No of days
Rate per day \$ N/C **
Dates From:
Total Cost X \$
- Type of Instrument
No of days
Rate per day \$ N/C
Dates From:
Total Cost X \$

* man-day

** N/C = no cost

f) Analysis (See attached schedule)		N/C
g) Cost of preparation of Report		
Author	\$	910.00
Drafting	\$	200.00
Typing	\$	100.00
h) Other:		
Field Equipment and Supplies	\$	685.00

Total Cost

\$ 12,117.72

B. K. Bower
JAN 21 / 86.


APPENDIX II
STATEMENT OF QUALIFICATIONS

APPENDIX II

STATEMENT OF QUALIFICATIONS

I Brian K. Bowen, do hereby certify that:

1. I graduated from the University of British Columbia in 1970 as a Bachelor of Applied Science in Geological Engineering.
2. Since that time I have been employed as both a mine and exploration geologist in British Columbia and elsewhere.
3. I am presently employed by Noranda Exploration Company, Limited, Vancouver, B.C.
4. I am a member in good standing of the Association of Professional Engineers of the Province of British Columbia.
5. The work described in this report was done under my direct supervision.



B.K. Bowen, P.Eng.

LEGEND



LITHOLOGY

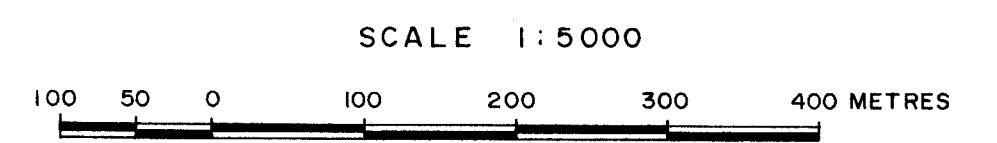
- 6 Dacite, diorite
- 5 Pegmatite
- 4 Calc-silicate gneiss and biotite - quartz - feldspar gneiss (schistose in part). Minor pegmatite and marble.
- 3 Marble, locally graphitic. Includes minor interlayers of graphitic quartzite, quartz - feldspar - biotite gneiss (schistose in part), pegmatite and calc-silicate gneiss.
- 2 Quartzite, locally graphitic
- 1 Biotite - quartz - feldspar gneiss. Includes minor interlayers of graphitic quartzite, marble and pegmatite.

SYMBOLS (Geology)

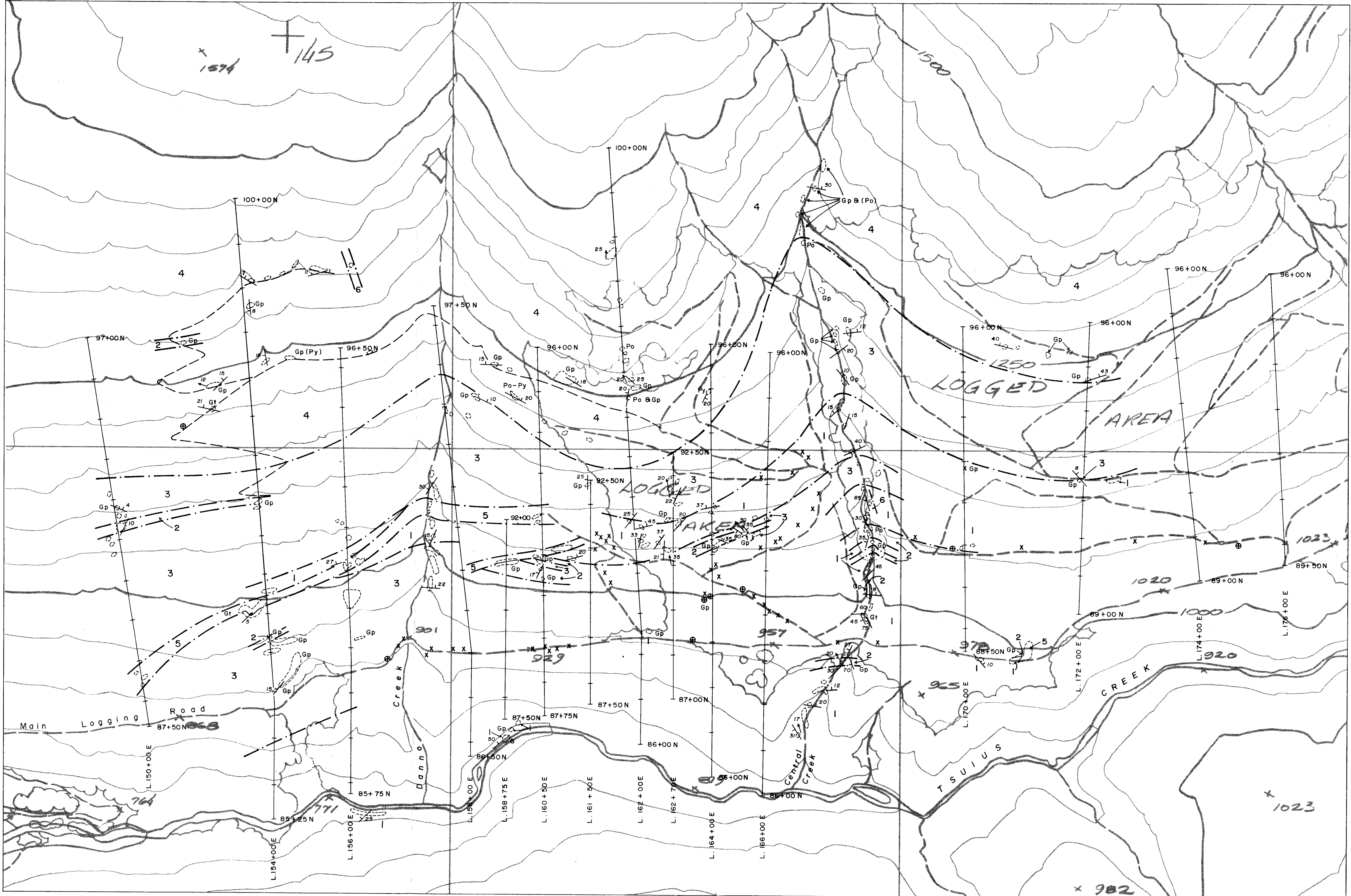
- Outline of outcrop
- Geological contact; observed, inferred
- Hinge attitude of minor folds
- Strike and dip of foliation
- Mineralized float: quartzite with disseminated to massive, locally banded pyrrhotite and sphalerite. Lesser pyrite, rare chalcopyrite.
- Mineralized float: quartzite with banded pyrrhotite and pyrite. Minor chalcopyrite, rare graphite.
- Gp - Graphite
- Po - Pyrrhotite
- Gt - Garnet
- Py - Pyrite

SYMBOLS (Topographical)

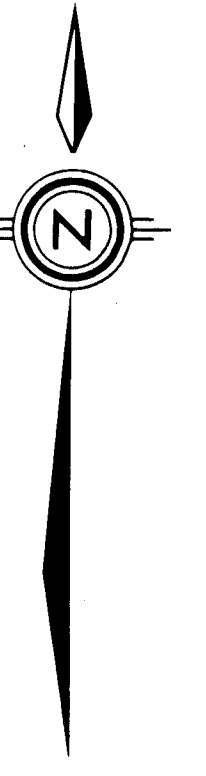
- Compass and flag crossline with station interval of 100m. shown
- Logging and skidder roads
- Drill access roads
- Topographic contour: 50m contour interval.
- Spot elevation in metres
- Limit of logged area



*B. K. Bowen
JAN 21/86.*



REVISED	MABEL LAKE PROPERTY	
	GEOLOGY	
PROJ. No. 21	SURVEY BY: B. Bowen	DATE: January 1986
N.T.S. 82 L 10	DRAWN BY: J. Serwin	SCALE: 1:5000
DWG. No. 3	NORANDA EXPLORATION	
	OFFICE: VANCOUVER	



GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,612

D.S. Showing

INSET - See Figure 3
(GEOLOGY MAP)

*B.K. Bowen
Jan 21/86*

REVISED	MABEL LAKE	
	CLAIM MAP	
PROJ. No. 21	SURVEY BY: sks Lillis & P.J.A.	DATE: January/86
N.T.S. - 82 L10	DRAWN BY: sks Lillis & P.J.A.	SCALE: 1:10,000 (approximate)
DWG. No. 2	NORANDA EXPLORATION	
	OFFICE: Vancouver	

