PRELIMINARY EXPLORATION REPORT

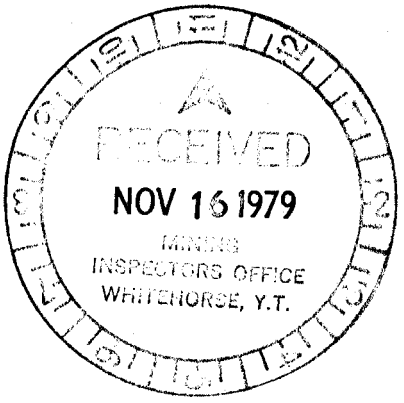
MARN 1 - 8 CLAIMS

GRANT NUMBER YA 31491 - YA 31498

NTS 116B7

64°29'N 138°48'W

DAWSON MINING DISTRICT



Author: J. Biczok

Owner: Noranda Mines Limited
Mattagami Lake Exploration Limited

Supervisor: W. Mercer

Date: August 1979

Work Dates: 12th to 18th June 1979

090522

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

$ 5,280.75

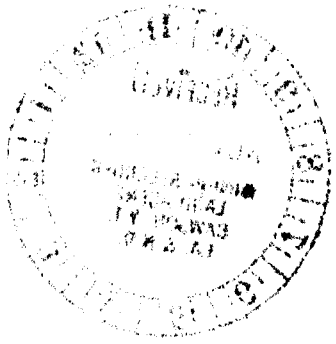
J A Morin

Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

B. R. BAXTER
Supervising Mining Recorder

for Commissioner of Yukon Territory



CONTENTS

SUMMARY

The MARN Claims were staked to cover the contact between Tahkandit limestone and the Mount Brenner stock. Only minor skarnification is present, however, local concentrations of chalcopyrite and scheelite were observed.

LOCATION AND ACCESS (Figure 1)

The MARN claims are located 60 km north of Dawson City. Access is by helicopter only.

Terrain is rugged as the area is part of the Ogilvie Mountains. The area is entirely above treeline, being around 6000 ft. above sea level.

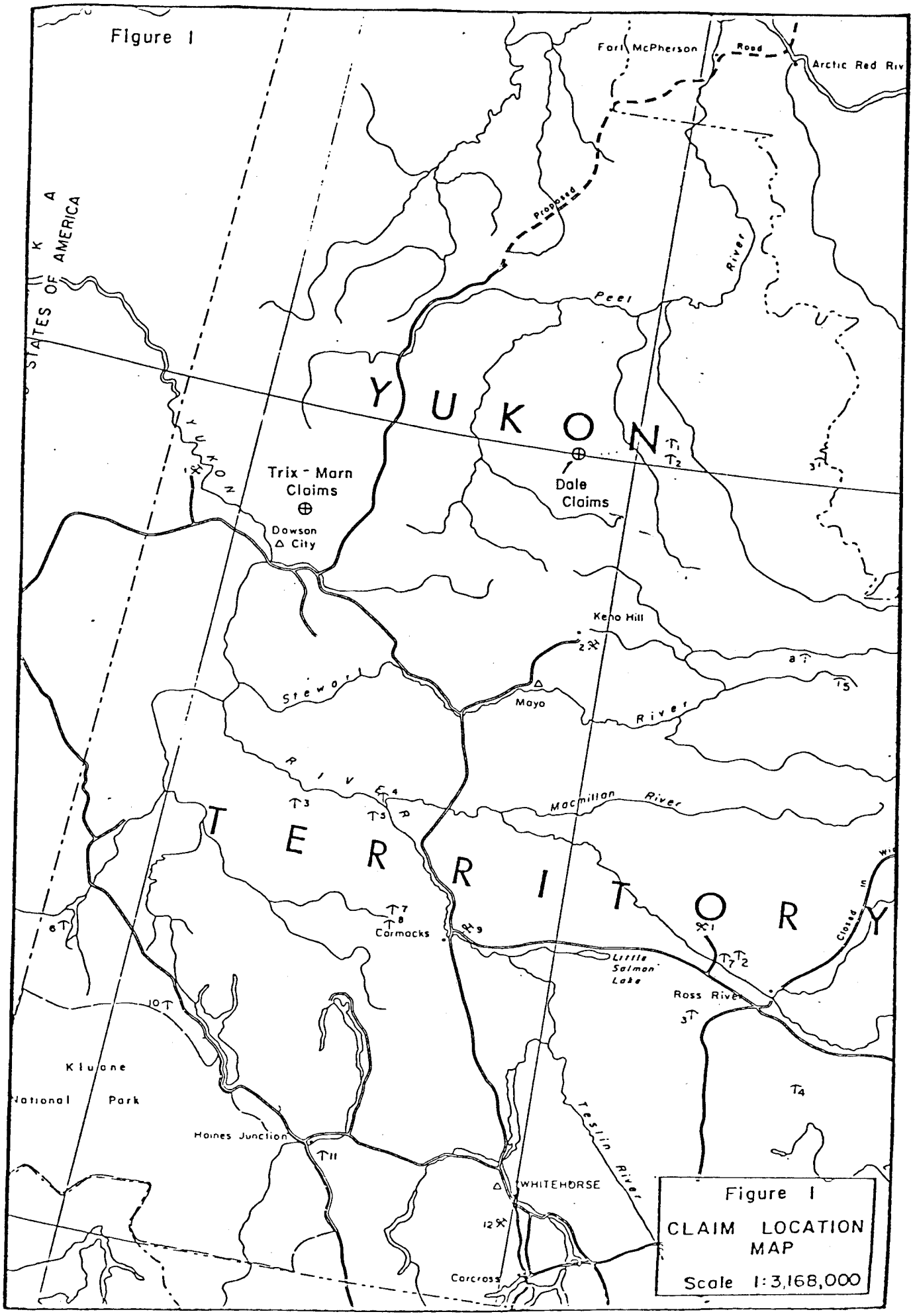
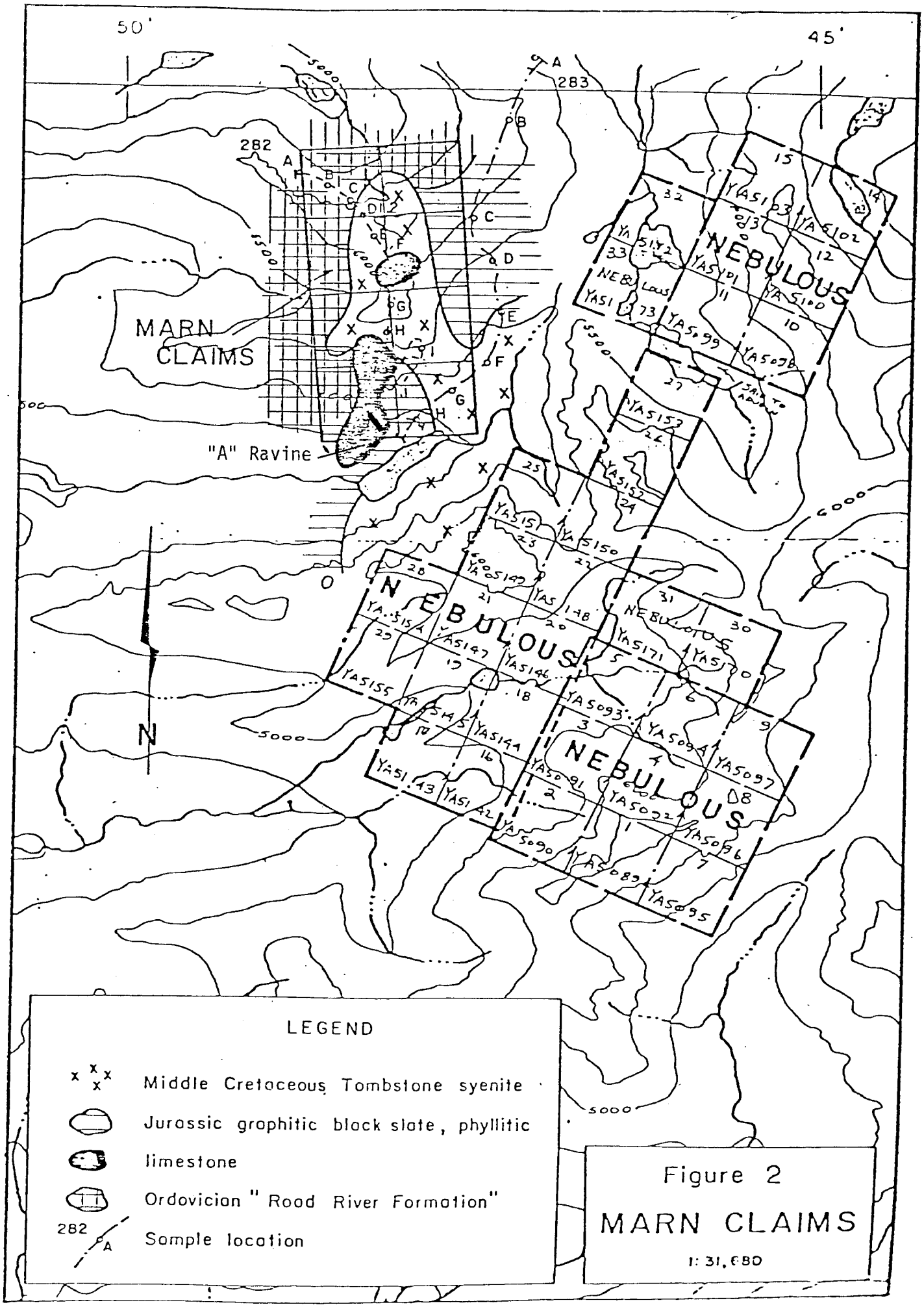


Figure 1
Fort McPherson
Road
Arctic Red Riv
Proposed
River
Peel
STATES OF AMERICA
YUKON
Trix - Marn Claims
Dawson City
Dale Claims
Keno Hill
Mayo
Stewart
River
MacMillan River
TERRITORY
Carmacks
Little Salmon Lake
Ross River
Closed in
Klyane National Park
Haines Junction
WHITEHORSE
Teslin River
Carcross
Figure 1
CLAIM LOCATION MAP
Scale 1:3,168,000

HISTORY OF STAKING

The claims were staked on July 29, 1978 by Neil Ball. They were recorded in Dawson City on August 4th, 1978. Figure 2 shows claim location details and the regional geology. The claims were staked to cover an area of Tahkandit limestone, that it was thought may be skarnified.


50'
45'
5000
6000
5500
283
282
A
B
C
D
E
F
G
H
MARN CLAIMS
"A" Ravine
NEBULOUS
N
LEGEND
Middle Cretaceous Tombstone syenite
Jurassic grophitic black slate, phyllitic
limestone
Ordovician " Rood River Formation"
Sample location
Figure 2
MARN CLAIMS
1: 31,680

GENERAL GEOLOGY

The MARN claims are located in the Tombstone Range 60 km. northeast of Dawson City. They cover the contact between the Cretaceous Mt. Brenner stock and a series of metasediments consisting of the Ordovician-Silurian Road River formation, the Permian Tahkandit limestone and a series of lower Jurassic "schists". (Table 1, Map 1).

The Mt. Brenner stock has been mapped in some detail by M.B. Lambert (M.Sc. thesis, U.B.C., 1966). The outer margin of the stock - which the MARN claims cover - consists of garnetiferous, biotite, quartz diorite, which grades inwards to fine grained, augite-biotite monzonite. In the area of the claims the stock, as mapped by this crew, consists of biotite diorite to quartz diorite, locally garnetiferous, which is cut by rare dikes of radioactive porphyritic syenite, pyroxenite and biotite lamprophyre. Diorite dikes several meters wide are common, intruding the metasediments NW of Lake Scoville. The major extension of diorite from the NW corner of the stock through the center of the claims, is thought by the author to be a large sill, perhaps up to 200 m thick, which subconcordantly intrudes the Lower Jurassic schists. (Figure 3).

The lowermost unit in the area is the Ordovician-Silurian Road River formation, which consists of a variety of clean and argillaceous quartzites, frequently pyritiferous, argillites and a limestone pebble breccia with a shaley matrix. This formation is overlain conformably by the Permian Tahkandit limestone which is approximately 20 m thick, well bedded and recrystallized. Fine grained actinolite (?) has developed in numerous beds adjacent to the diorite dikes and sill due to contact metamorphism.

MT. BRENNER STOCK
Diorite, Qtz. Diorite, monzonite.
Sill approximately 200 m thick.

LOWER JURASSIC SCHIST
Quartzites minor shale and graphitic schist.

PERMIAN TAHKANDIT FORMATION
Limestone and chert. Approx. 20 m thick.

Ord.-Sil. ROAD RIVER FORMATION
Quartzite shale, argillite.

Figure 3 Generalized Cross Section Through Southern Portion of MARI Claims

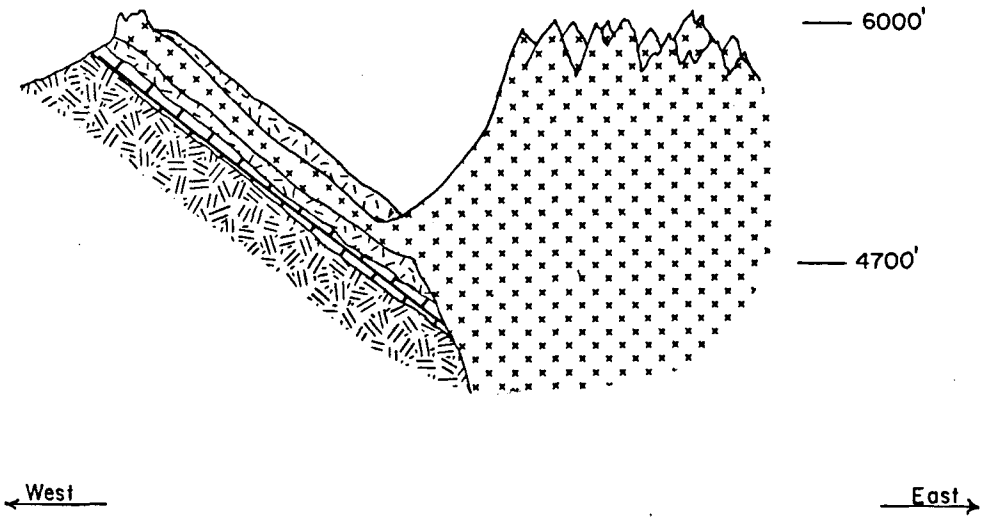


TABLE 1

TABLE OF FORMATIONS

ERA	PERIOD	FORMATION	LITHOLOGY
	Mid Cretaceous	Tombstone and Brenner Batholiths	Diorite, Syenite and Monzonite
MESOZOIC	Lower Cretaceous	Keno Hill Quartzite	Orthoquartzite
	Jurassic	"Lower Jurassic Schist"	Black graphitic slates
PALEOZOIC	Permian	Tahkandit Formation	Limestone
	Ordovician and Silurian	Road River Formation	Chert and argillite

For a more complete description of the Road River and Tahkandit formations see the following report by P. Wagner (Appendix 1).

Overlying the Tahkandit formation is the "Lower Jurassic Schist", consisting predominantly of thinly bedded pyritiferous quartzites with minor thinly bedded chert, graphitic schist and shale. It should be noted that very few of the rocks mapped fit the descriptions of their alleged formations by either Green and Roddick or Templeman-Kluit, therefore some revision may be required.

MINERALIZATION

In 1978, no appreciable skarnification of the limestone was found, and only small veins of pyrite observed. Within this unit, however, one bed up to 10 m thick, which is thought to have been pelitic, have been converted to a fine grained, granular, green mineralogy, possibly actinolite and diopside. This bed contained locally appreciably amounts of chalcopyrite in patches up to 1 cm across. Unless this unit contains finer grained disseminated chalcopyrite elsewhere it is thought to have little potential.

Chalcopyrite was also observed within the syenite itself, in some restricted areas. Malachite staining is fairly common even where no visible chalcopyrite was observed, suggesting the possibility of low grade mineralization, perhaps of a porphyry copper type.

Encouraging mineralization was found in two new locations in 1979 as well as the site where Cu mineralization was found in 1978. (See Map 1 and 2, and Appendix II).

Actinolitic (?) boulders containing chalcopyrite were found 800 m north of the site where similar rocks were previously found in situ. Although no outcrops of the unit were found in this new location, the boulders are almost certainly locally derived, suggesting a strike length for this mineralized bed of over 800 m. The thickness of the unit remains uncertain. It is felt that this unit is a calcareous member of the Tahkandit formation, which has been skarnified due to the intrusion of the diorite sill. This suggests the possibility of further mineralization at depth where the unit is in contact with the stock itself.

ANALYSES

Geochemical analyses of stream sediments and soils are presented in Appendix II.

Analyses of stream sediments show significant values for copper and tungsten, suggesting the applicability of this technique in the area. Soils were collected from talus slopes and sieved to 80 mesh. These also show significant anomalies.

Further work should include detailed rock, silt and soil sampling.

CERTIFICATE

I, John Biczok, of Edmonton, Province of Alberta, do hereby certify that:

1. I am a geologist residing at #5, 10556 - 80 Avenue, Edmonton, Province of Alberta.
2. I am a graduate of Lakehead University, Ontario with a H. B.Sc. (1976) in geology and am presently completing an M.Sc. at the University of Manitoba, Winnipeg.
3. I have been practising my profession since 1973 and am at present Exploration Geologist with Mattagami Lake Exploration Limited in Edmonton.
4. I was party chief for the crew that conducted the work in this report and the report is correct to the best of my knowledge and ability.

Dated: Nov. 12, 1979

John Biczok

John Biczok, H. B.Sc.

CERTIFICATE

I, William Mercer, of the City of Edmonton, Province of Alberta, do hereby certify that:

1. I am a geologist residing at 6814 - 110 Street, Edmonton.
2. I am a graduate of Edinburgh University, Scotland, with a B.Sc. Hons (1968) in geology and McMaster University, Ontario, with a Ph.D. (1975) in geology.
3. I have been practicing my profession since 1974 and am at present District Geologist for Mattagami Lake Exploration Limited in Edmonton.
4. I am a fellow of the Geological Association of Canada and a member of the Society of Economic Geologists and the Canadian Institute of Mining and Metallurgy.
5. I supervised the work that is described in this report.

Dated: 12 November 1979

W. Mercer, Ph.D.

APPENDIX I

GEOLOGY OF THE 'A' RAVINE

MARN CLAIM

Author: Paul Wagner

APPENDIX I

GEOLOGY OF THE 'A' RAVINE

MARN CLAIM

(Section through the Tahkandit and Road River fm.)

The geology of the ravine shows three distinct lithologic units separated by chronologic unconformities. Stratigraphically highest in the ravine are found two phases of the Upper Tahkandit (?) Formation of the Upper Permian. The uppermost is composed of highly recrystallized limestone, intruded by a diorite sill. Several bedding planes are visible, though not distinct, striking 94°, dipping 71°S. The sill is roughly concordant to the bedding of the uppermost limestone and is approximately 70 cm wide.

Near the base of the uppermost limestone unit, the texture changes, becoming fine grained and less friable than the upper beds. Here the rock consists of alternating beds of fine grained, pale green bands of actinolite (?) limestone up to 30 cm thick, and flaky textured, creamy white limestone beds up to 10 cm.

Lower in the unit, the beds are well bedded averaging 20-30 cm in thickness with varying amounts of argillaceous material. Some beds were found to contain brachiopod and crinoid stem (?) fragments, while most appeared to be non-fossiliferous. These beds strike 64°and dip 62°S. The total thickness of the unit was measured as approximately 20 m, but since the upper limit has been eroded, the total thickness of the unit could be greater. At the base of the unit is an approximately 13 m thick biotite-monzonite-diorite dike, trending 186°.

Stratigraphically below the limestones are found the meta-argillites and metaquartzites of the Road River Formation. The majority of the

rocks are very silicic and locally contain thin (1 mm) pyrite stringers. Near the intrusives, biotite of the argillites becomes coarser grained, some recrystallization of the biotite in the argillites has occurred. In the lower part of the sequence, the rocks become more argillaceous in nature. Distinguishable bedding is relatively scarce but strikes 138°, this, however, may have recrystallized nearly parallel to the dike.

In one location, the unit is a pebble breccia with 10-20% carbonate clasts up to 2 cm rimmed by minor pyrite in a shale matrix. Lower in the section more beds are observed striking 60°, dipping 55°SE, there the beds are thin and characterized by three prominent joint sets. One is parallel to the bedding (060, 55 SE) one trends 152°, dipping 65°N while the last set trends 065, dipping 35° NW. The top of the ridge, stratigraphically below the argillites, is also of argillaceous quartzite nature, in contact with a large intrusive body to the north. No thickness was measured through the Road River Formation, but in this location it is estimated to be several hundred metres thick.

The intrusive unit atop the ridge is the youngest of the lithologies present, being dated as mid-Cretaceous. One major dike and one smaller sill are found lower in the valley intruding both the Road River and Tahkandit formations.

It is possible that the ravine itself is the trace of a small fault offsetting the units by no more than several metres. Limestones on either side of the ravine indicate shallow depth of deposition, possibly in association with a reefal structure. In this area, the limestones are possibly gently folded, but no string evidence exists to support this hypothesis.

From the structural and stratigraphic relations which exist between the three units, it is apparent that the Road River Formation is the oldest unit in the area, overlain disconformably by the Tahkandit limestones, subsequently intruded and tilted by the mid-Cretaceous event.

APPENDIX II

GEOCHEMICAL ANALYSES

SOIL ANALYSES IN PPM

SAMPLE NUMBER	Cu	Zn	Pb	Mo	W	U
12901P501	163	68	15	8	7	10.0
502	85	104	24	4	6	10.0
503	227	60	16	4	4	3.3
504	1600	108	38	3	43	3.6
1000	905	153	20	10	82	9.0
1001	765	126	22	12	72	4.7
1002	97	125	14	12	60	1.5
1003	117	143	14	14	6	2.5
1004	117	140	17	19	6	3.2
1005	103	135	13	17	4	2.1
1006	113	130	15	16	4	4.5
1007	110	128	15	16	4	2.9
1008	88	50	24	8	5	8.6
1009	130	42	12	3	L2	0.9
1010	325	20	8	3	2	3.9
1011	120	81	13	29	16	10.0

STREAM SEDIMENT ANALYSES IN PPM

SAMPLE NUMBER	Cu	Zn	Pb	Mo	W	U
12901S1000	267	55	17	4	21	3.5
1001	-- INSUFFICENT SAMPLE -----				80	3.5
1002	140	140	15	16	6	2.2
1003	117	146	15	18	4	2.4
1004	393	153	17	8	38	6.2
1005	127	128	20	73	16	52.0
1006	50	38	10	2	4	7.1
1007	65	160	9	4	3	8.0

Map I
PRELIMINARY GEOLOGICAL MAP
MARN CLAIMS

MARN CLAIMS

NEBULOUS CLAIMS

FIREWEED CREEK

SCOVILLE LAKE

4 MOUNT BRENNER STOCK
- 4a) Biotite monzonite - diorite
- 4b) Porphyritic syenite (dykes)

3 JURASSIC METASEDIMENTS
- 3a) Pyritiferous quartzite
- 3b) Graphitic schist
- 3c) Thinly bedded quartzite (chert)

2 TAHKANDIT FORMATION
- 2a) Grey - white fossiliferous limestone
- 2b) Actinolite skarn
- 2c) Chalcopyrite rich actinolitic skarn

1 ROAD RIVER FORMATION
- 1a) White - grey, biotite porphyroblasts,
- 1b) argillaceous quartzite
- 1c) Grey - black argillite
- 1d) Limestone pebble breccia with shaley matrix

MINERAL OCCURRENCES

Cu copper
sh scheelite

x stop location
⊕ float stop

geological contact (approximate)

64 bedding

ridge

64°28'

138°50'

Scale: 1:10,400

100 0 100 200 metres

from airphoto

Oct./79 K.B.

Map 2

SAMPLE LOCATIONS AND TRAVERSES - SOILS AND SEDIMENTS

MARN CLAIMS

MARN CLAIMS

P501
P502
P503
P504

S1003
P1005
P1004
S1002
P1003
P1002
P1006
S1001
P1001
P1007
S1000
P1008
P1009
P1010
P1010
S1006

S1007

FIREWEED CREEK

SCOVILLE LAKE

NEBULOUS CLAIMS

o P502, S1007 soil, sediment samples

Ridge

Traverse

64°28'

138°50'

Scale: 1:10,400

100 0 100 200 metres

from airphoto

Oct./79 K.B.