

83-#252 - #11367
6

GEOLOGICAL REPORT

ON THE

G. M. PROPERTY

Kamloops Mining Division, B. C.

Claims: G. M. (2631 [6])
G. M. Fractional (3380 [4])
G. M.-2 (2708 [6])
G. M.-3 (4192 [9])

Latitude: $50^{\circ}37'$ N. Longitude: $120^{\circ}30'$ W.
N.T.S.: 92I/9W and 10E

Owner(s): Mr. J. A. Hilton and Mrs. A. Karrer
Suite 34 - 750 Fortune Drive
Kamloops, B. C. V2B 2L2

Operator: Patrick Resources Corporation
Suite 3710 - 95 Thorncliffe Park Drive
Toronto, Ontario M4H 1L7

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

11,367

July 6, 1983

J. D. Blanchflower, F.G.A.C.
Geologist

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INTRODUCTION

Mr. J. A. Hilton and Mrs. A. Karrer of Suite 34 - 750 Fortune Drive, Kamloops, B. C. own four contiguous mineral claims, totalling 35 units, in the Kamloops Mining Division, southcentral British Columbia. This report, prepared at the request of the directors of Patrick Resources Corporation, describes the establishment of a grid and subsequent geological survey of the subject claims.

The purpose of the exploration programme was to examine the local geologic setting of the property. This assessment work was carried out between June 23 and July 4, 1983.

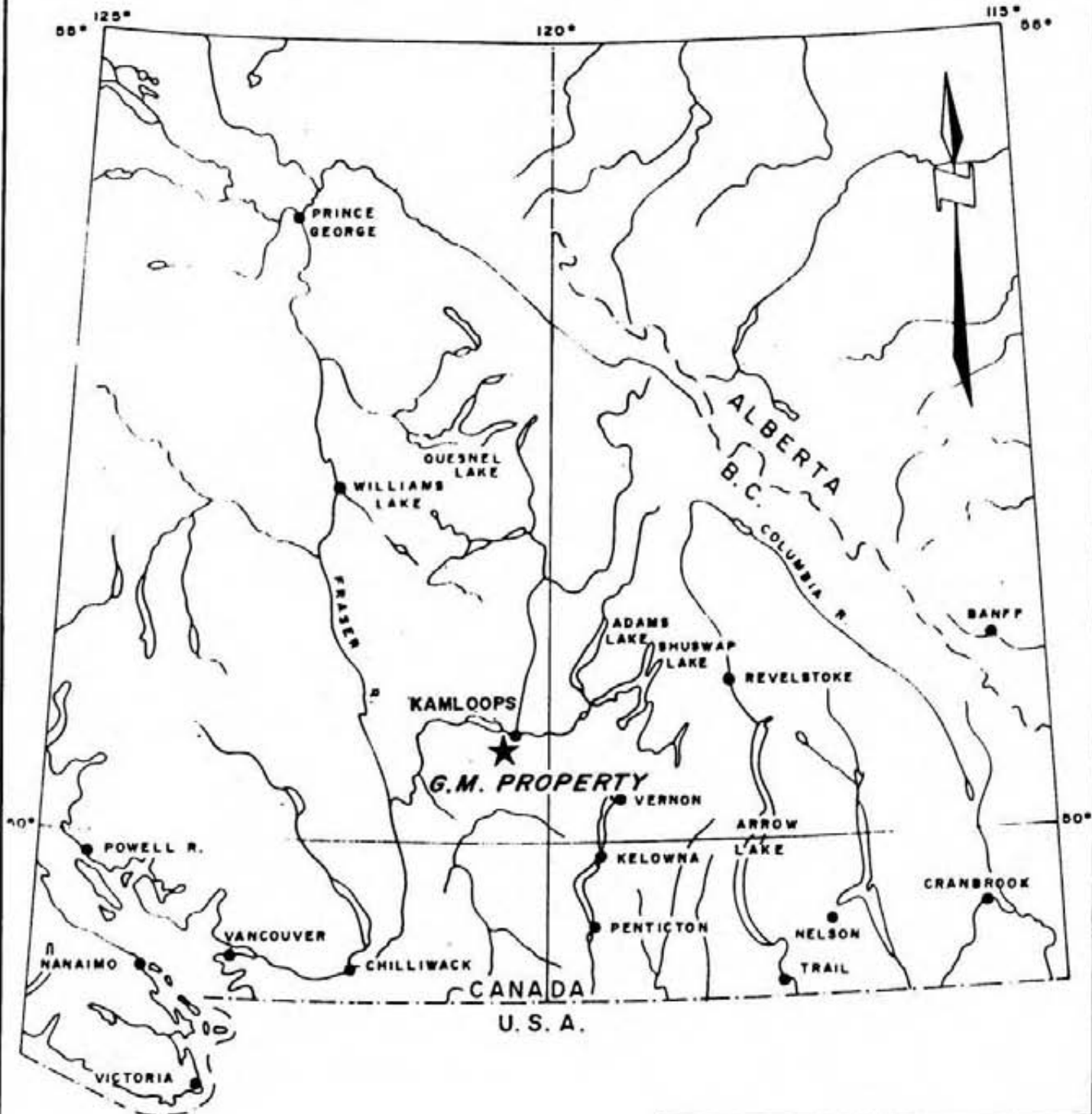
SUMMARY

The G. M. property comprises four located mineral claims, totalling 35 units, situated in the Kamloops Mining Division, approximately 13 km. southwest of Kamloops, B. C. The claims are owned by Mr. J. A. Hilton and Mrs. A. Karrer, both of Kamloops, B. C. The property is readily accessible via Highway 1 and the Lac Le Jeune road from Kamloops; thence by numerous gravel logging roads.

Although the area covered by the claim group has received exploration attention during the late 1960's and early 1970's there is little reported data documenting the results of past work.

The property is situated regionally along the southwestern contact of the Upper Triassic Nicola Group with the Iron Mask batholith. Several major northwesterly trending fault structures have displaced both major rock units and the overlying Eocene Kamloops Group. These faults and their subsidiary faults have, in turn, provided structural control for the numerous copper-gold-silver showings within and near the Iron Mask batholith.

The subject claims are underlain, at least, in part by metavolcanic and sedimentary rocks of the Nicola Group. These strata have been intruded by a dacite porphyry stock of the Kamloops Group. However, because the property is so poorly exposed considerable more exploration is required to fully define the geologic setting.



J.A. HILTON and A. KARRER	
LOCATION MAP	
G.M. PROPERTY	
KAMLOOPS MINING DIVISION, B. C.	
Date: July, 1983	Scale: 1" = 64 Miles
Dwn by: J. D. B.	Dwg no. 1

The cost of the geological survey with grid establishment was \$ 4,472.73 . Of this total \$4,400.00 is to be credited to the assessment of the G. M. group as detailed in the report.

PROPERTY AND OWNERSHIP

The G. M. property comprises four contiguous and grouped mineral claims: G. M., G. M. Fractional, G. M.-2 and G. M.-3 claims. The following table gives all pertinent claim data.

<u>Claim Name</u>	<u>Record No.</u>	<u>Units</u>	<u>Record Date</u>	<u>Registered Owner</u>
G. M.	2631	2	June 4/80	J. A. Hilton
G. M. Fractional	3380	1	April 3/81	J. A. Hilton
G. M.-2	2708	20	June 27/80	J. A. Hilton
G. M.-3	4192	12	Sept. 24/82	A. Karrer

The abovementioned claims were grouped on June 2, 1983. The location and configuration of the claims are shown in Figures 2 and 4 accompanying this report.

LOCATION AND ACCESS

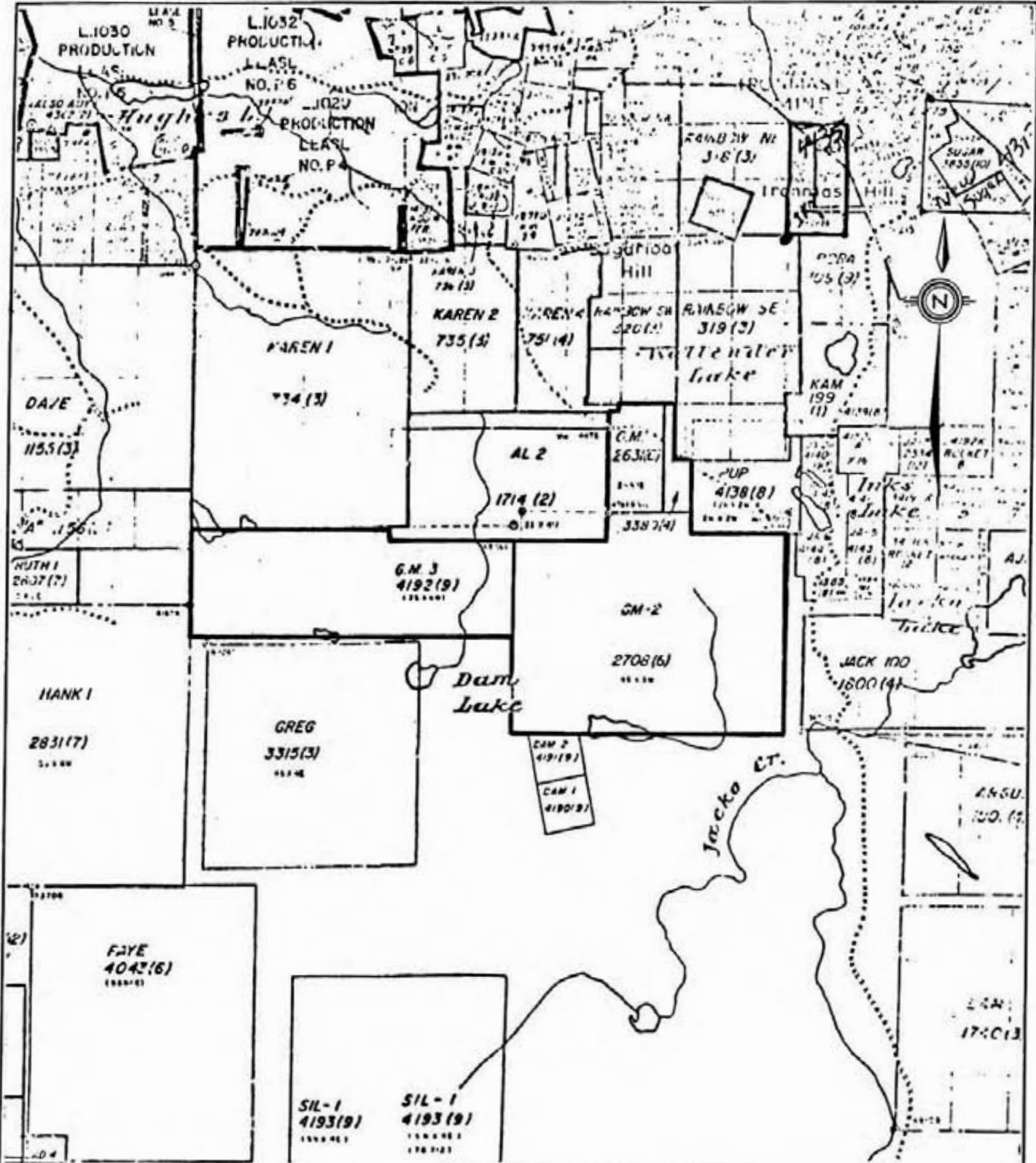
The subject claims are located immediately southwest of Inks Lake, approximately 13 km. southwest of the city of Kamloops, B. C. They are situated within the Kamloops Mining Division at geographic coordinates 50°37' N. latitude by 120°30' W. longitude (N.T.S. 92I/9W and 10E). See Figures 1 and 2 for claim location and access.

Access to the claims is readily possible via Highway 1 west to the paved Lac Le Jeune road within the Kamloops city limits; thence south to the Inks Lake turnoff, a distance of approximately 25 km. Numerous gravel logging roads provide facile access to most of the property.

PHYSIOGRAPHY

The claims cover an area of low rolling hills, south of Sugarloaf Hill, between elevations 2,700 and 3,300 feet A.M.S.L.

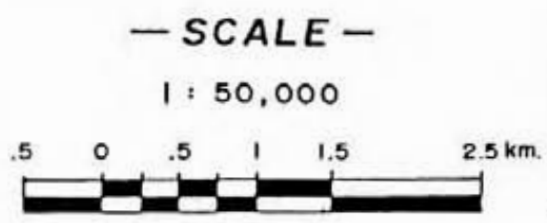
The climate is typical of the central Interior with temperatures ranging between -20° C. and +35° C.



After B.C. Ministry of Mines claim maps 921/9E and 10W

J.A. HILTON and A. KARRER
KAMLOOPS, BRITISH COLUMBIA

CLAIM MAP
G. M. PROPERTY
KAMLOOPS MINING DIVISION, B. C.



Drawn by : J. D. B.	N.T.S. 921/9W and 10E
Date : July 4, 1983	Figure No. : 2

The area is lightly to moderately-well forested with a variety of coniferous trees, including: jackpine, lodgepole pine, fir and spruce.

The claims are very poorly exposed. There is less than 1% bedrock exposure and these outcrops dominantly occur in the south-central portions of the property.

HISTORY

The Iron Mask batholith and its surrounding area have been explored for copper-gold mineralization since the late 1890's. Numerous copper-gold-silver prospects have been discovered in the intervening years, the most notable being the Afton deposit currently being mined by Teck Corporation Limited. The Afton deposit has reported reserves of 30.8 million tonnes of 1.0% copper, 0.58 g./T gold and 4.19 g./T at a cut-off of 0.25% copper.

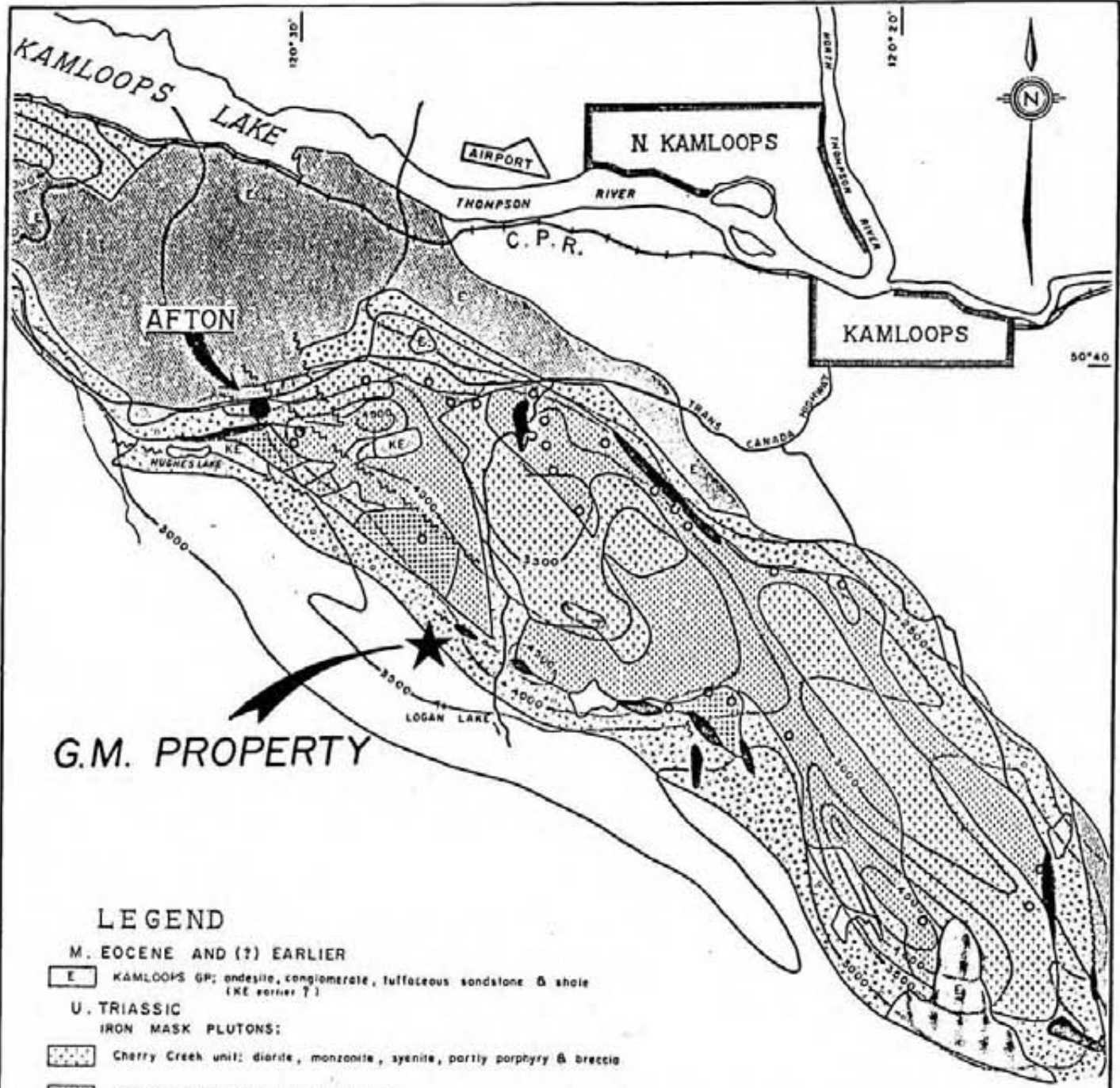
During the late 1960's a number of operators staked and explored the area of subject claims while the Afton deposit was being developed. Unfortunately the results of this exploration work were poorly documented and little is known of the earlier exploration programmes.

GENERAL GEOLOGY

The regional geology of the area has been well documented by a variety of government workers, including: Cockfield (1947), Carr (1956) and more recently, Northcote (1977).

The subject claims are situated regionally within the Quesnel Trough, a 30-60 km.-wide belt of Lower Mesozoic volcanic strata extending north from the International Boundary to, at least, Prince George, B. C. The Quesnel Trough is bounded by older strata and intruded by a variety of batholiths.

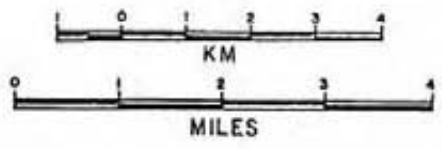
The oldest rocks in the vicinity are andesitic and basaltic flows, breccias, tuffs and minor sedimentary units of the Upper Triassic Nicola Group. These strata strike northwesterly and possess moderate dips except near major fault structures. They have undergone



G.M. PROPERTY

LEGEND

- M. EOCENE AND (?) EARLIER
- E KAMLOOPS GP: andesite, conglomerate, tuffaceous sandstone & shale (KE earlier ?)
- U. TRIASSIC
- IRON MASK PLUTONS:
- Cherry Creek unit: diorite, monzonite, syenite, partly porphyry & breccia
- Sugarloaf unit: diorite, diorite porphyry
- Picrite basalt, partly serpentine
- Iron Mask & Patook units: diorite, gabbro
- NICOLA GP: andesite, basalt, limestone, argillite, etc.
- PERMO - PENNSYLVANIAN
- CACHE CREEK GP: argillite, greenstone, etc.
- 3000 Aeromagnetic contour (500' interval)
- Cu prospect
- Fe prospect



J.A. HILTON and A. KARRER KAMLOOPS, BRITISH COLUMBIA	
REGIONAL GEOLOGY MAP G. M. PROPERTY KAMLOOPS MINING DIVISION, B. C.	
Drawn by : J. D. B.	N.T.S. 921/9W and 10E
Date : July 4, 1983	Figure No. : 3

After Carr and Reed, 1975

regional metamorphism, away from intrusive contacts, not exceeding the greenschist facies.

Immediately north of the claims the Upper Triassic Iron Mask batholith has intruded the Nicola Group. The batholith comprises units of gabbroic, dioritic and syenitic composition, including a unit of picritic basalt. Northcote (1977) considers the Iron Mask batholith a coeval intrusion genetically and spatially related to the overlying Nicola Group strata.

The youngest strata of the district include Tertiary sedimentary and volcanic rocks of the Eocene Kamloops Group. These strata, and their related intrusions, cover and intrude all the older rocks.

The most important structural features of the region are a series of northwesterly trending, steeply dipping faults that have displaced all Mesozoic and most Tertiary strata. These faults regionally bound the Iron Mask batholith and locally provided the structural controls for the known copper-bearing mineralization.

1983 EXPLORATION PROGRAMME

The intent of the 1983 exploration programme was to define the local geologic setting and evaluate its potential for hosting copper-gold mineralization. In preparation for the geological survey a flagged and blazed grid was to be established over the entire property. Thus, the 1983 exploration work consisted of the following.

Survey Grid

From the corner post of the G. M.-3 mineral claim a 090° - 270° baseline was established along the southern boundary of the G. M.-2 claim. Grid lines orientated 000° - 180° were blazed and flagged at 400 m. intervals along the length of the baseline. Flagged and labelled stations were spaced 100 m. apart along the grid lines. Tyvek labels, plasticized and tear-proof, were used to mark stations.

In total 28,575 m. of lines were established over the claims, including 26,275 m. of baseline and grid lines and a 2,300 metre tie line along the southern boundary of the G. M.-2 claim. See Figure 4 accompanying this report for a plan of the survey grid.

Geological Survey

The entire grid was geologically surveyed during the programme. Unfortunately, it was found that there is a less than 1% exposure of bedrock and these exposures occur along the southern portions of the G. M.-2 and -3 claims.

a) Lithology

Two dominant lithologies were mapped during the geological survey. They include andesitic volcanics and limestone of the Upper Triassic Nicola Group, and a dacite porphyry intrusive of the Eocene Kamloops Group. See Figure 4 accompanying this report for locations of the mapped outcrops.

A metavolcanic unit of the Nicola Group was mapped at grid coordinates 100 N. by 8480 E. The outcrop consists of light brown, well-laminated tuff with moderate epidote, chlorite and calcite alteration. Structural measurements indicate the laminae strike 060° and dip -68° northwesterly. This unit has been fractured, possibly displaced, and infilled with calcite. Dominant fracturing strikes 158° and dips -90° .

At grid coordinates 99 N. by 104 E. metavolcanic and sedimentary units of the Nicola Group were mapped. Although there is only very local exposure the outcrop consists of a fine-grained tuffaceous unit of andesitic to dacitic composition in stratigraphic contact with a limestone breccia. The limestone unit appears medium grey to black in colour and brecciated with recrystallized calcite veining. There is no well defined contact between the two lithologies and bedding was not apparent. Minor malachite and azurite mineralization was discovered locally within the calcareous breccia associated with minor shearing and vein infillings.

In the southwestern portion of the G. M.-2 claim a distinct unit of the Eocene Kamloops Group occurs. Most of the immediate area from 95 N. by 100 E. to 95 N. by 104 E. is underlain by a medium grained dacite porphyry intrusion. This rock type appears light grey in colour, massive and banded. It is composed of medium-to coarse-grained, porphyritic feldspar phenocrysts, fine-grained euhedral quartz crystals and fine-grained biotite crystals within a closed interstitial, fine-grained groundmass. It has a prominent foliation (shown in Figure 4) due to a trachytic alignment of the porphyritic

feldspar phenocrysts. Banding appears to occur vertically with the abundance of feldspar phenocrysts. The rock is quite fresh with no obvious alteration.

b) Structure

The most dominant fracturing strikes 128° and dips vertically. This fracturing probably reflects regional structural features in juxtaposition with major faulting along and through the Iron Mask batholith.

Bedding attitudes of Nicola Group and Kamloops Group units probably reflect shear and fault displacements rather than any significant folding.

c) Alteration

As discussed only the Nicola Group metavolcanic units appear significantly altered and these units appear to be only regionally metamorphosed to greenschist facies.

d) Mineralization

Minor and local malachite and azurite mineralization were observed at grid coordinates 99 N. by 104 E. These copper alteration products appeared to be spatially associated with $128^{\circ}/-90^{\circ}$ and $030^{\circ}/-82^{\circ}$ N.W. shearing and vein infilling. The fine vein infillings appear to consist of quartz and calcite with minute black sulphide disseminations, possibly chalcocite.

Although the mineralization was very local any future exploration should more fully assess this showing.

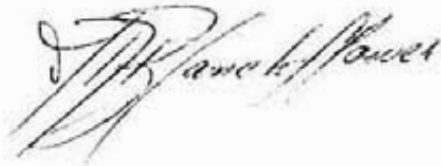
CONCLUSIONS

Despite the property being so poorly exposed it is apparent that, at least, part of it is underlain by Upper Triassic Nicola Group metavolcanics and limestone. These strata have been locally intruded by a dacitic porphyry intrusive of the Eocene Kamloops Group.

Minor copper mineralization appears to be associated, in part, with tuffaceous breccias and limestone of the Nicola Group. Further exploration work should entail geochemical and geophysical surveying to test the entire property, particularly the poorly exposed portions.

Pending the results of that work percussion drilling would be recommended to evaluate any possible exploration targets.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "J.D. Blanchflower".

July 6, 1983

J.D. Blanchflower, F.G.A.C.
Geologist

CERTIFICATE

I, J. DOUGLAS BLANCHFLOWER, DO HEREBY CERTIFY THAT:

- (1) I am a consulting geologist with business office at 2391 Bossert Avenue, Kamloops, B. C. V2B 4V6
- (2) I am a graduate of the University of British Columbia with a degree of B.Sc. (Honours Geology, 1971).
- (3) I am a Fellow of the Geological Association of Canada (#F0046).
- (4) I have practised my profession as a geologist for the past twelve years.
- (5) I own no direct, indirect or contingent interest in any of the subject claims, nor shares in or securities of PATRICK RESOURCES CORPORATION, nor do I expect to receive any interest.
- (6) This report is based on a geological survey of the property between June 23 and July 4, 1983; and on available reports and maps, and published geological reports for the area.
- (7) I have undertaken extensive geological mapping of the Iron Mask area while employed by Canadian Superior Exploration Limited between April, 1976 and May, 1978.



J. D. Blanchflower, F.G.A.C.

Dated at Kamloops, British Columbia, this 6th day of July, 1983.

STATEMENT OF COSTS

a) Survey Grid

Personnel: K. Brouwer and M. Goldback
Date: June 22 to 27, 1983
Total Grid: 28.575 km.
Total Cost: 11 man days @ \$250/day -
(including Accommodation & Board) \$2,750.00
Vehicle expenses -
531 km. @ \$0.27/km. 143.37
Materials -
flagging, topo thread, tyvek labels 105.12 \$2,998.49

b) Geological Survey Supervision and Report Preparation

Personnel: J. D. Blanchflower
Date: June 23 to July 4, 1983
Total Time: 5 days
Total Cost: 5 days @ \$250/day \$1,250.00
Vehicle expenses -
224 km. @ \$0.27/km. 60.48
Typing, printing and map
preparation, photocopies. 163.76 \$1,474.24

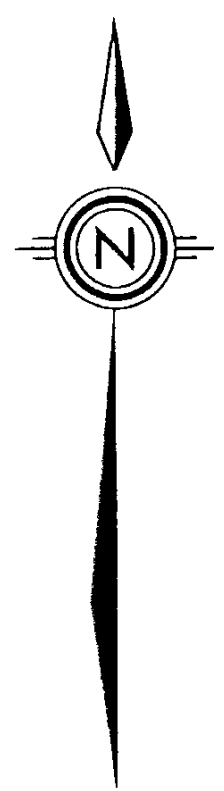
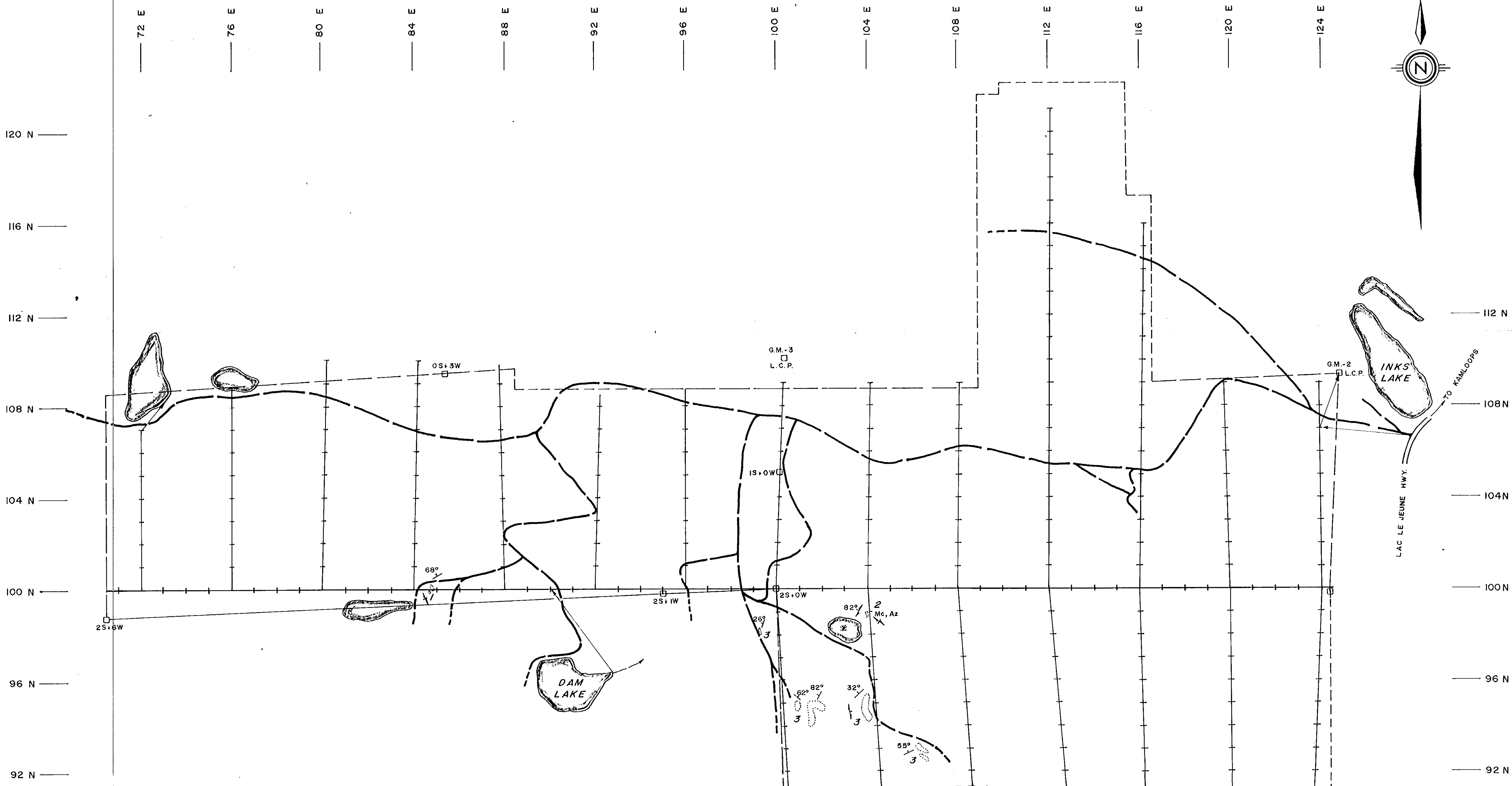
Total Assessment Cost \$4,472.73

A total of \$4400.00 to be credited to the assessment of the G. M.
property as follows:

- 1 year assessment credit (\$2,000.) to G. M. -2 (2709[6])
- 2 year assessment credit (at \$1,200 per year) to G. M. -3 (4192[9])

BIBLIOGRAPHY

- Campbell, R. B. and
Tipper, H. W. , 1970: Geology and Mineral Exploration Potential of
the Quesnel Trough, British Columbia; C.I.M.
Trans. LXXIII, pp. 174-179.
- Carr, J. M., 1956: Annual Report, B.C. Minister of Mines and
Pet Res., 1957; pp. 47-69.
- Carr, J. M. and
Reed, A. J. , 1975: Afton, Geology of a Supergene Deposit;
C.I.M. Special Volume 15, pp. 376-381.
- Cochfield, W. E., 1947: Geology of the Nicola Map-Sheet; Geol. Surv.
Canada Map 886 A .
- Northcote, K. E., 1977: Geology of Iron Mask Batholith; Ministry of
Mines and Pet. Res. Preliminary Map No. 26.

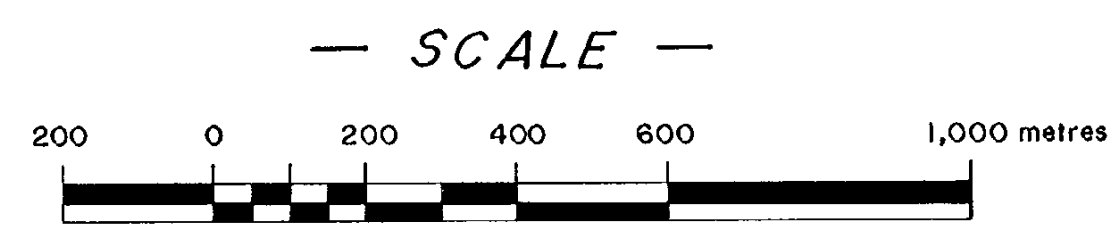


GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,367

— LEGEND —

- | | | |
|---------------------------|------------------------------------|-----------------------|
| EOCENE | Road | Claim post (surveyed) |
| Kamloops Group | Grid Line | Grid tie-in |
| Dacite porphyry intrusive | Base Line | Mc Malachite |
| UPPER TRIASSIC | Claim Boundary (defined, inferred) | Az Azurite |
| Nicola Group | Outcrop | |
| Limestone | Lake | |
| Andesitic tuff, flows | | |



To accompany report by J.D. Blanchflower

J.A. HILTON and A. KARRER KAMLOOPS, BRITISH COLUMBIA	
DETAILED GEOLOGICAL PLAN G.M. PROPERTY KAMLOOPS MINING DIVISION, B.C.	
Technical work by: J.D.B.	Scale: 1:10,000
Drawn by: J.D.B.	N.T.S.: 921/9W and 10E
Date: July 6, 1983	Figure No.: 4