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GEOLOGICAL AND GEOCHEMICAL
REPORT ON THE
GIO 6 MINERAL CLAIM

for

Catoosea Resources Ltd.

Owner and Operator

NTS 93L/10E

Omineca Mining Division

Latitude $54^{\circ}34'N$

Longitude $126^{\circ}42'W$

August 20, 1984

Robert Holland, B.Sc.
Holland Geoservices Ltd.

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

13,720

TABLE OF CONTENTS

	<u>Page</u>
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	1
LOCATION AND ACCESS	2
INTRODUCTION	3
GEOLOGY	4
MINERALIZATION	7
GEOCHEMISTRY	8
Silver	8
Copper	8
Arsenic	11
Zinc	11
Lead	11
REFERENCES	16
STATEMENT OF COSTS	17
CERTIFICATE	18

LIST OF FIGURES

FIGURE 1 - LOCATION MAP	frontispiece
FIGURE 2 - GEOLOGY	5
FIGURE 3 - SOIL GEOCHEMISTRY - Silver	9
FIGURE 4 - SOIL GEOCHEMISTRY - Copper	10
FIGURE 5 - SOIL GEOCHEMISTRY - Arsenic	12
FIGURE 6 - SOIL GEOCHEMISTRY - Zinc	13
FIGURE 7 - SOIL GEOCHEMISTRY - Lead	14

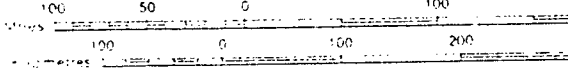


LOCATION MAP

fig. 1

BRITISH COLUMBIA

SCALE 1:6,336,000 or 1 inch equals 100 miles



SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The Gio 6 mineral claim, owned by Catoosea Resources Ltd., lies east of and adjoining the Copperhill copper-zinc-silver property currently being developed by Ramm Ventures Ltd. and Teck Corp. Mineral reserves of 1,080,000 tonnes have been outlined thus far on the Copperhill prospect and a good potential exists to substantially increase these tonnages. Electromagnetic conductors, which appear to be related to sulfide mineralization, have been outlined extending east northeast from the main Ruby zone towards the Gio 6 property.

A program of reconnaissance geological mapping and soil geochemistry was undertaken in July 1984 on the Gio 6 claim. No mineralization was reported on the claim, however it appears that the area is favorably located with respect to extensions of the Copperhill mineralization. Mineral occurrences just west of the claims may be associated with these extensions. The presence of numerous dykes in the western part of the claim is also encouraging as these dykes appear to be related to the mineralizing event. The strong hornfelsing in the southwest also appears likely to be related to mineral deposition and it is possible that the small stock, just southwest of the claim, may represent the top of the intrusive heat source for the major hydrothermal activity in the Grouse Mountain area.

A number of scattered soil geochemistry anomalies were outlined on the Gio 6 claim, at least two areas of which appear to be coincidental for most or all metals analysed (Ag, Cu, Pb, An, As). Many of the better values

are concentrated in the northwest part of the claim near two known mineral occurrences and several large dykes. The second zone is smaller and occurs in the central part of the claim.

Further work is warranted on the Gio 6 claim, particularly if favorable indicators continue to come out of the adjoining properties. This work should include:

a) establishment of a flagged line grid, over the whole claim, for control

b) more detailed geological and soil geochemistry surveys over the grid area

c) a detailed VLF electromagnetic survey, particularly in the western part of the claims, to pick up extensions of the Copperhill conductors.

LOCATION AND ACCESS

The Gio 6 claim is situated on the northeast flank of Grouse Mountain, with the peak of the mountain in the southwest corner, and McQuarrie Lake in the northeast corner. The towns of Smithers and Houston, B.C. lie 34 kilometers to the northwest and 18 kilometers to the south southeast respectively. Elevations on the property range from 3450 feet at the lake to 5372 feet at the summit. The terrain is mainly moderately to steeply sloping northeast with numerous rock outcroppings and cliffs in the central and southeastern regions.

The area is serviced by an excellent private gravel road which provides access to B.C. Hydro microwave installations on the peak of Grouse Mountain. This road passes through private farmland and permission of both

B.C. Hydro and the land owners is required. Access to the more northerly reaches can be gained via a four wheel drive road up the western flank of Grouse Mountain to the west side of North Lake, and then by foot for 1 kilometer. Both the above roads access to Highway 16, a major arterial route connecting Smithers and Houston with major points east, west and south. Daily air services are also available to Smithers from Prince George and Vancouver, and helicopter and railway facilities are located in both Houston and Smithers.

INTRODUCTION

Interest in the Grouse Mountain area began in 1914 with the discovery of copper-zinc-silver mineralization at Coppermine Lake near the summit of Grouse Mountain. Since that time, the area has been worked intermittently, with the main focus being on and around the Ruby zone, about 500 meters southwest of Coppermine Lake. This property, referred to as the Copperhill prospect, has seen extensive development work with over 1100 meters of drifting and crosscutting and over 8400 meters of diamond drilling. Published mineral reserves from the Ruby zone are 360,000 tonnes of 0.38% copper, 4.23% zinc and 0.88 oz/ton silver, with an additional 720,000 tonnes of lower grade material in extensions to this zone. Current work is being carried out by Teck Corp. under option agreement with Ramm Ventures Ltd. and recent reports suggest a good potential to substantially increase these reserves.

Work is also being conducted by Adriatic Resources Corp. on its Chance 1 high grade silver-copper prospect

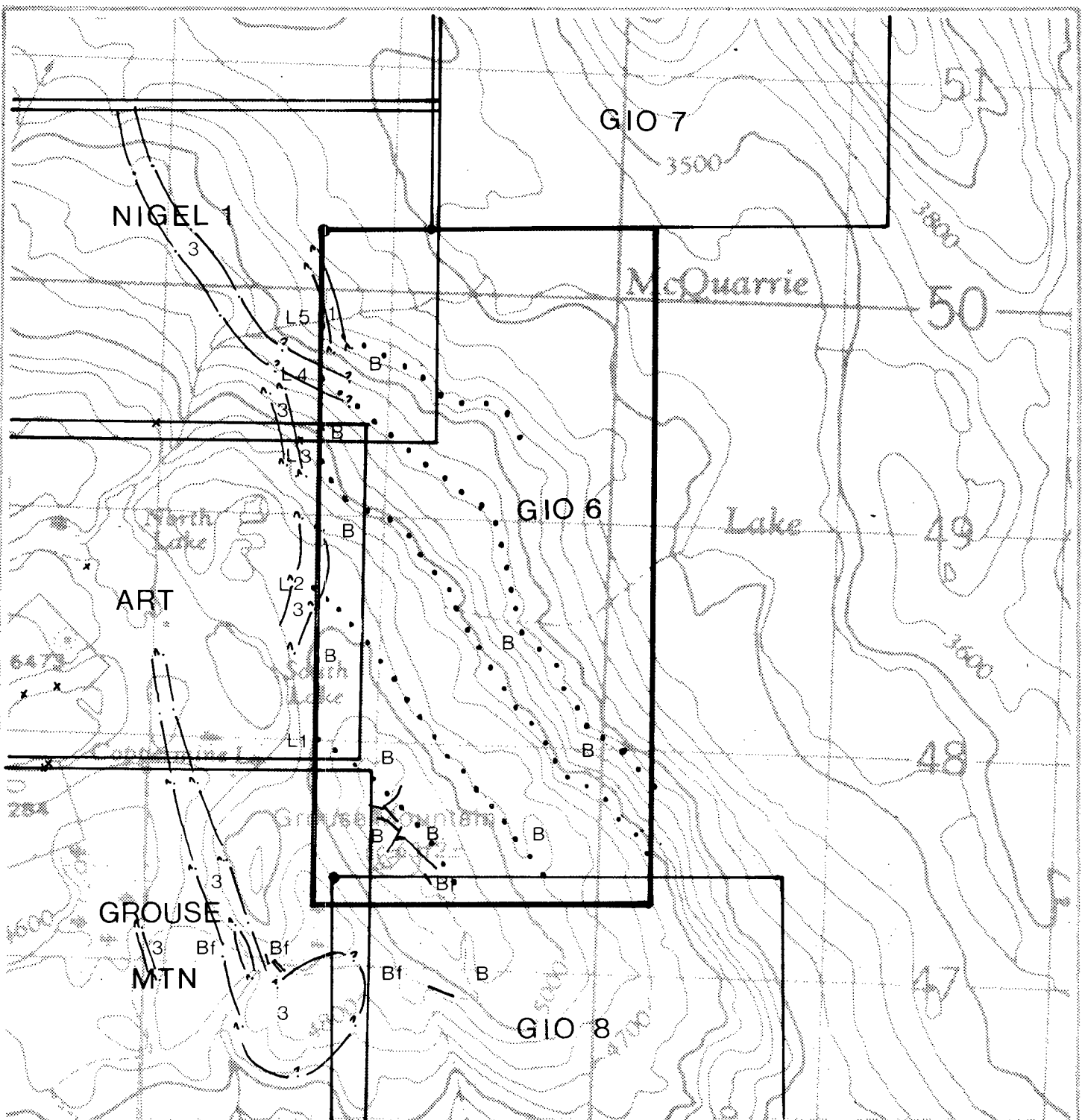
which adjoins the Copperhill prospect to the north. In addition, Noranda Exploration has carried out extensive investigations on its Mineral Hill property to the south, where significant silver-copper-lead-zinc-gold mineralization has been reported.

The Gio 6 claim was acquired by staking on behalf of Catoosea Resources Ltd. in June 1984. A program of reconnaissance geological mapping and soil geochemistry was completed in July 1984 by Holland Geoservices Ltd. under contract to Catoosea Resources Ltd. A total of 89 soil samples were collected and the claim was mapped on a scale of 1:25,000.

GEOLOGY

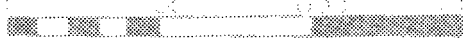
The Grouse Mountain area is underlain mainly by tuffaceous sediments, argillites, pyroclastics and flows of the lower Jurassic-aged Hazelton Group. These rocks are cut by numerous, generally north to northwest trending dykes ranging from a few meters to in excess of 200 meters wide. The dykes belong to four lithological types: a) trachytoid feldspar porphyry, b) crowded feldspar porphyry, c) biotite-feldspar porphyry, and d) lamprophyre. These dykes appear to be related genetically and may stem from the same magma source. In addition to these dykes, two very small stocks, compositionally similar to but coarser grained than the biotite-feldspar porphyry, have also been observed. Hornfelsing is common but extremely variable within the Hazelton Group adjacent to the dykes and stocks.

The geology of the Gio 6 claim is shown in figure 2. The claim is largely underlain by massive but strongly



• sample location

- 3 Biotite-feldspar porphyry
- 1 Trachytoid feldspar porphyry
- B Tuffaceous sediments, argillite, volcanics, minor hornfels
- Bf Weak to strong hornfels
- Dyke (3)
- x Mineral showing
- - - Contact defined / assumed



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GIO 6 CLAIM

GEOLOGY

Fig. 2

Date: August 1984

R. Holland

fractured grey to green tuffaceous greywackes with lesser argillites and locally abundant feldspar porphyry flows and breccias (mainly to the south). These rocks are highly variable compositionally and texturally.

Biotite-feldspar porphyry dykes are very common particularly around the peak area and along the western claim boundary. These are generally fine grained, sandy textured with strongly poikilitic biotite plates to 1cm and occasional fine plagioclase laths in a matrix of alkali feldspar, plagioclase and biotite (Church 1972). In the southwest part of the claim, these dykes are generally small, 1 to 3 meters wide, recessive weathering and poorly exposed forming numerous linear depressions. The areal extent of these dyke swarms is uncertain due to poor rock exposure to the northeast. To the north and west of the peak area, the dykes are generally much larger, 50 to 150 meters wide, and are traceable for hundreds of meters.

A large trachytoid feldspar porphyry dyke of unknown width is exposed along the creek in the northwest corner of the claim, and appears to trend northerly. This rock consists of bladed andesine phenocrysts up to 4cm wide by .5cm thick in a near aphanitic matrix of mainly plagioclase, alkali feldspar, clinopyroxene and chlorite (Church 1972). A similar dyke is found associated with the Ruby zone 2500 meters to the southwest.

Several small lamprophyre dykes are exposed in road cuts just south and west of the claim area (not shown in figure 2). These are light grey in color, granular, fine grained and consist of about 75% fine randomly oriented plagioclase laths with interstitial pyroxene, biotite and magnetite (Church 1972).

Just southwest of the claim is a small intrusive stock of similar composition to the biotite-feldspar porphyry but coarser grained with 5 to 10% feldspar phenocrysts. Chloritic alteration of biotite is locally common as are epidote coated fractures and secondary K-feldspar veinlets and alteration envelopes.

Hornfelsing of the Hazelton rocks is strong and extensive adjacent to the stock and locally strong in the peak area. Elsewhere hornfelsing does not appear to be significant.

MINERALIZATION

Mineralization is widespread in the relatively flat summit area of Grouse Mountain, west and northwest of the Gio 6 claims. These showings form a 2 kilometer wide, northwest trending belt, parallel to and including most of the dykes in the area. Included in this belt are the important Copperhill and Chance 1 mineral occurrences. This mineralization appears to be a result of a large scale hydrothermal system, likely related to a large buried intrusive from which the dykes have originated.

No mineral showings have as yet been found on the Gio 6 claim, however the presence of numerous dykes in the area, as well as the proximity to the Copperhill mineralization is encouraging. The mineralized trend also appears to extend onto the claim and hornfelsing in the southwestern part of the claim appears to be related to the mineralizing event.

Two mineral occurrences were noted just west of the northwestern part of the claims. Here copper-silver-zinc mineralization has been exposed in several old

trenches, a selected sample of which assayed 14.68% copper, 7.69 oz/ton silver and 0.13% zinc. This mineralization is similar to that found at the Ruby zone 2000 meters southwest and is roughly on strike with it. In addition, a number of VLF electromagnetic conductors on the Copperhill property, which are thought to be associated with mineralization, appear to extend onto the Gio 6 claim.

GEOCHEMISTRY

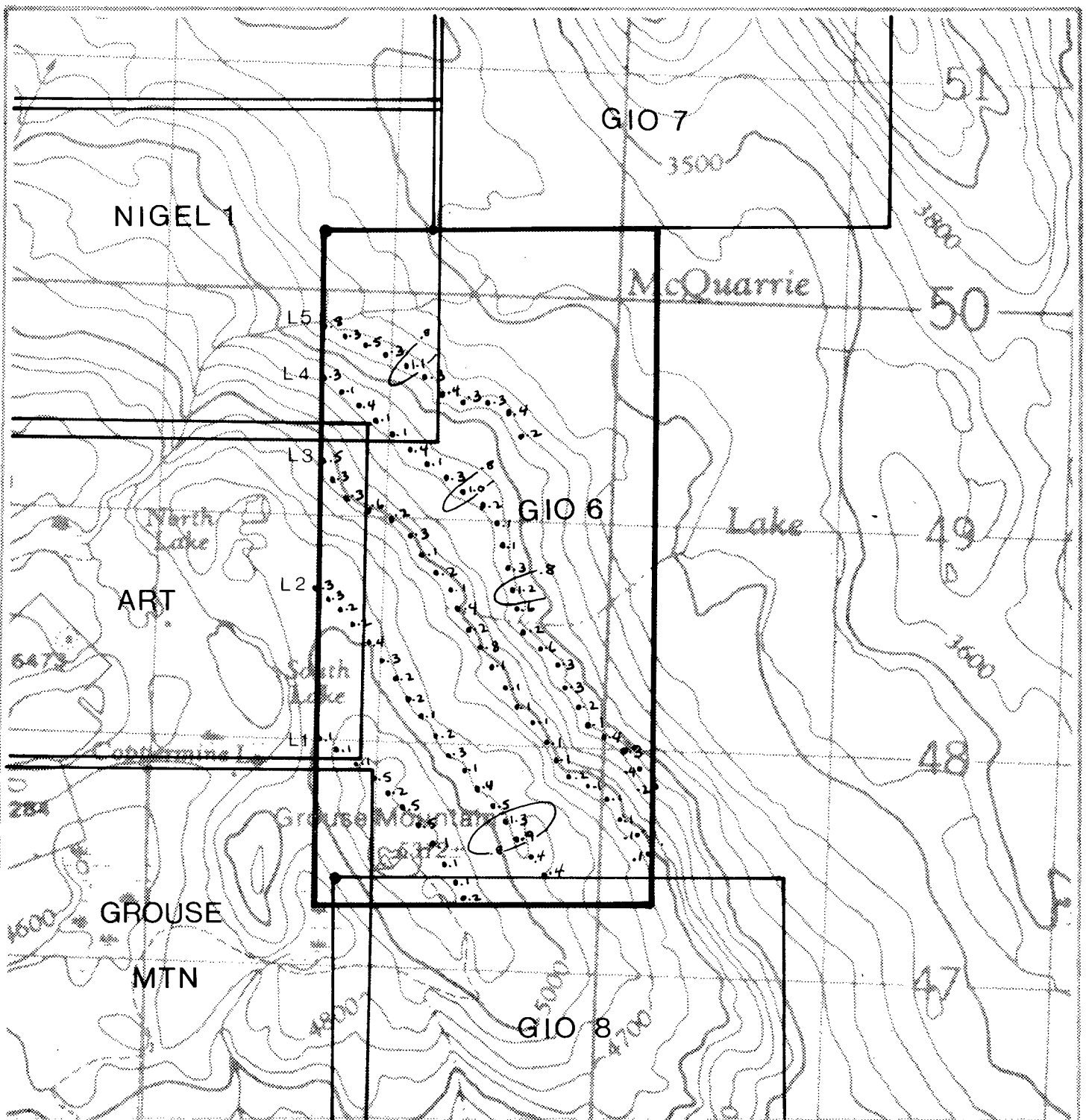
A program of reconnaissance soil geochemistry was completed over most of the Gio 6 claim. A total of 89 samples were taken at a spacing of 100 meters along 5 lines run contouring the topography. Samples were collected, using a prospector's 'grub hoe', as nearly as possible from the 'B' soil horizon (15 to 25cm depth) with an effort to avoid organic rich or leached material. Each sample was stored in a labelled kraft soil bag and shipped to Acme Analytical Labs in Vancouver, B.C. for analysis for copper, silver, lead, zinc and arsenic. Standard aqua regia digestion and ICP analysis methods were used on a -80 mesh size fraction. All results are reported in parts per million (ppm) and are tabulated by element in figures 3 to 7.

Silver

Previous work in the region has indicated a background limit of 0.8 ppm with values greater than 2.0 ppm considered highly anomalous. Four small, scattered weak anomalies were outlined with values to 1.3 ppm.

Copper

The threshold value for copper for the area is 50 ppm with values greater than 100 ppm considered highly



• sample location

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SOIL GEOCHEMISTRY

SILVER

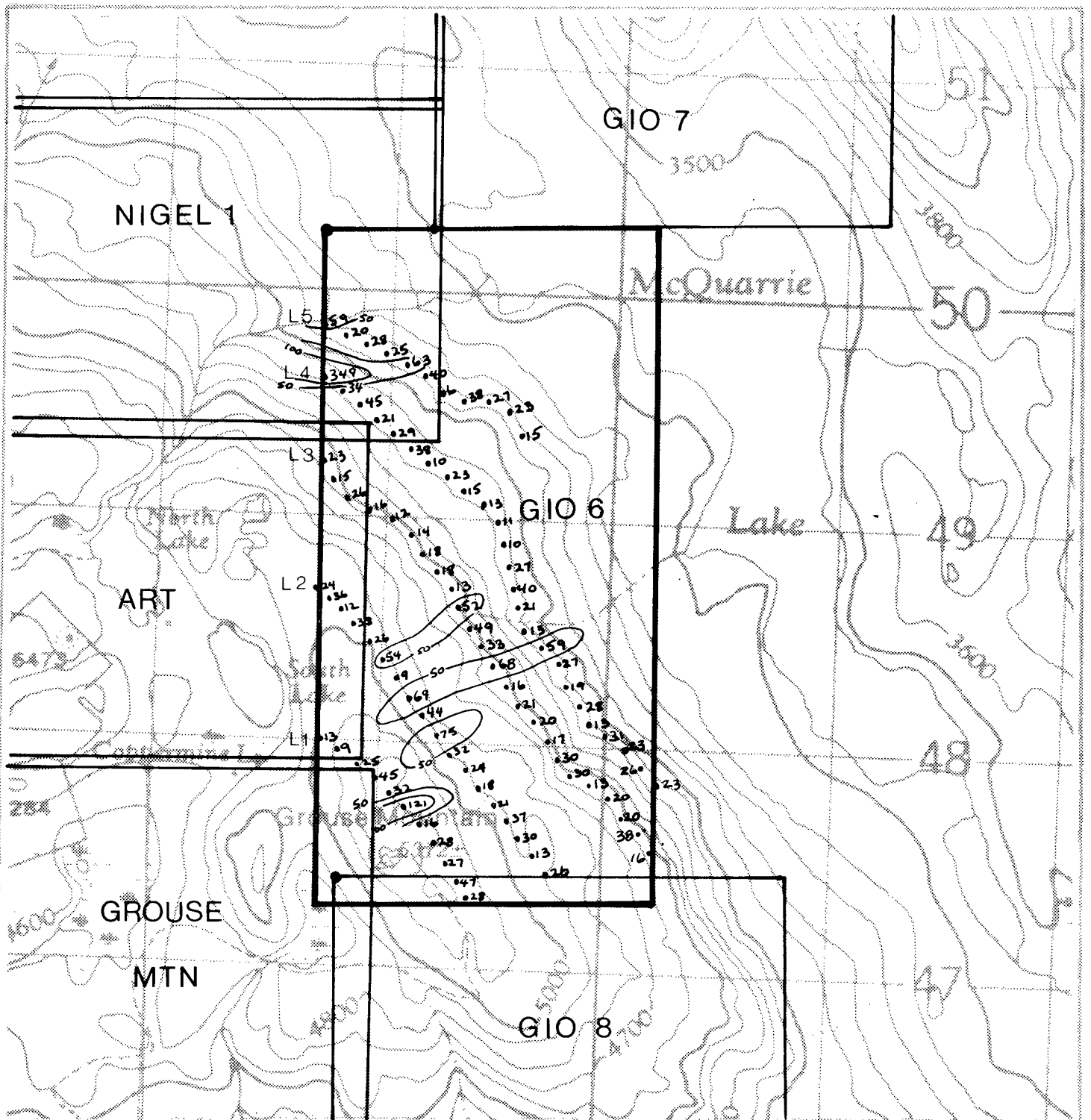
Fig. 3

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1:25000

1:15,000



• sample location

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GIO 6 CLAIM

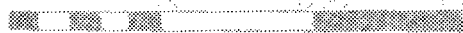
SOIL GEOCHEMISTRY

COPPER

Fig. 4

Date: August 1984

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anomalous. In the south and central part of the claim, four relatively weak but clustered anomalies were outlined with values to 121 ppm. A stronger anomalous zone occurs in the northwest part of the claim, where it overlaps and is predated by the Nigel 1 claim. Here values up to 349 ppm copper were obtained. This anomaly lies just a few hundred meters north of the two showings reported in this area.

Arsenic

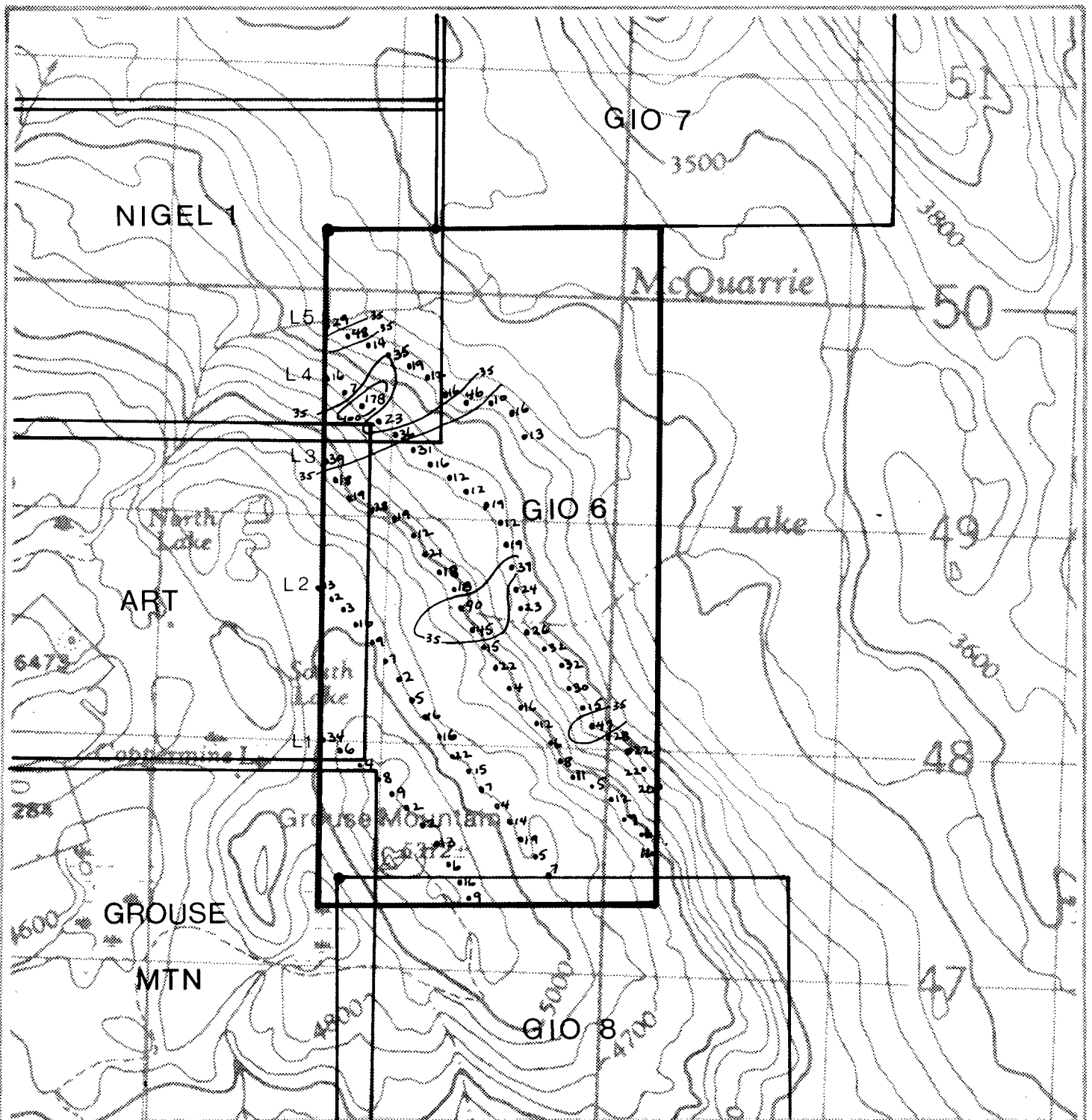
Values greater than 35 ppm are considered anomalous and those greater than 100 ppm, highly anomalous. Within the Gio 6 claim several anomalous zones were revealed. The largest and strongest, with values to 178 ppm, occurs in the northwest, partially coincidental with the copper anomaly and near the mineral showings. A second anomaly occurs in the central part of the claim, coincidental with silver, zinc and lead, and partially with copper.

Zinc

The zinc background has been determined to be 250 ppm, and values above 500 ppm are considered highly anomalous. A number of anomalies were outlined, clustered mainly in the northwest corner where values to 750 ppm are common. One highly anomalous value of 2482 was also obtained and is coincidental with the highly anomalous copper result in this region. Further south, in the central part of the claim, three small zinc anomalies, with values to 726 ppm, were outlined coincidental with two silver highs as well as lead, arsenic and copper responses.

Lead

Normal background for lead is 35 ppm, and the highly



• sample location

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GIO 6 CLAIM

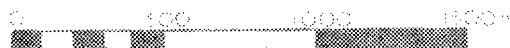
SOIL GEOCHEMISTRY

ARSENIC

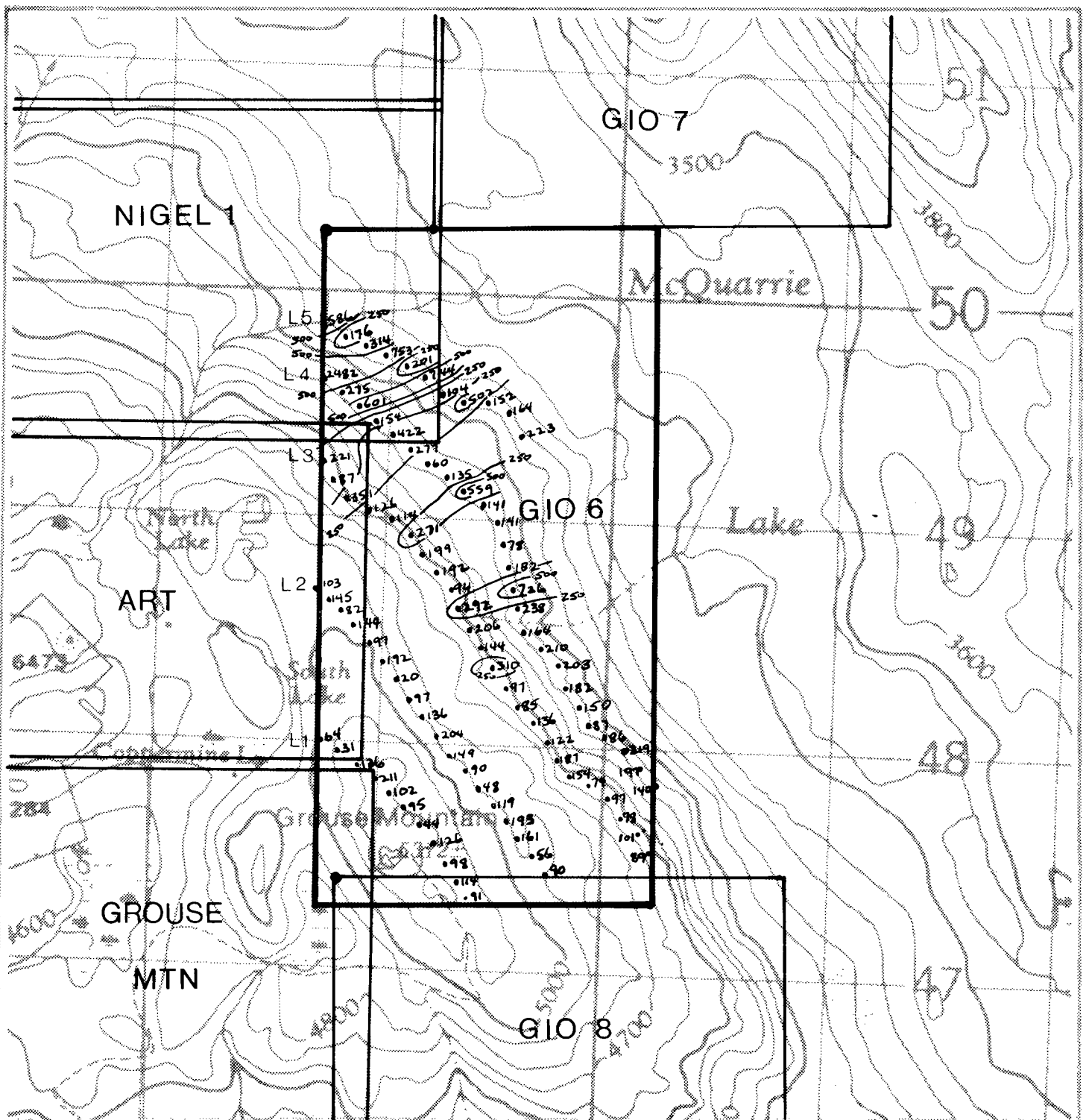
Fig. 5

Date: August 1984

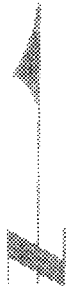
R. Holland



Scale 1:25000



• sample location



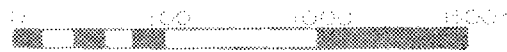
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GIO 6 CLAIM

SOIL GEOCHEMISTRY

ZINC

Fig. 6

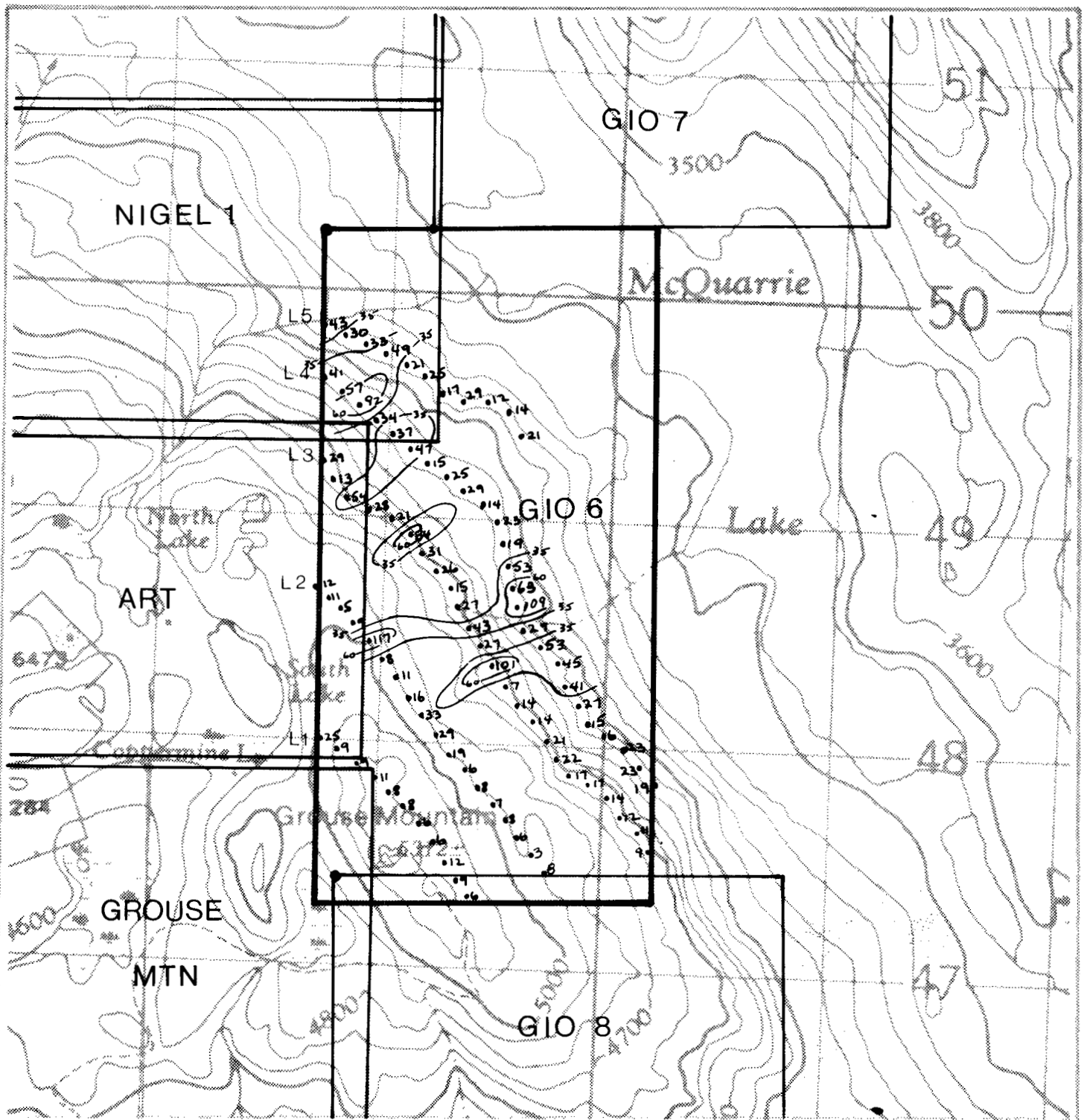


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NPS 107710



• sample location

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GIO 6 CLAIM

SOIL GEOCHEMISTRY

LEAD

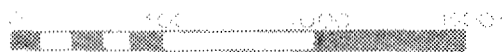
Fig. 7

Date: August 1984

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2488 125100

NIG 100700



anomalous limit is 60 ppm. Several anomalies were outlined, particularly in the central and northwest parts of the claim, with values to 117 ppm. These are for the most part coincidental with zinc and to lesser extents with arsenic, silver and copper.

REFERENCES

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STATEMENT OF COSTS

The following costs were incurred by Holland Geoservices Ltd. on behalf of Catoosea Resources Ltd. for work conducted on their Gio 6 mineral claim on Grouse Mountain near Smithers, B.C.

Camp Costs (food)	
5 man days @ \$15.00/day	\$75.00
Equipment and Supplies	130.34
Geochemistry	
89 samples @ \$4.60/sample	409.40
Office Costs	
clerical - 5 hours @ \$10.00/hr	50.00
Salary and Wages	
R. Holland, geologist	
4.5 days @ \$250.00/day	1125.00
July 30, Aug. 1, 14, 18, 19	
R. Wahl, field assistant	
3 days @ \$150.00/day	450.00
July 30, 31, Aug. 1	
Transportation	
(gas, freight, etc.)	78.93
Truck Rental	
3 days @ \$50.00/day	150.00
	<hr/>
Total	\$2468.67

ML

CERTIFICATE

I, Robert Holland, do state that the following information is true and correct:

1. I am a geologist with offices at 13451 - 112A Avenue, Surrey, B.C. V3R 2G7.
2. I am a graduate of the University of British Columbia with a Bachelor of Science degree, 1976.
3. I have practised my profession as an exploration geologist in British Columbia and the Yukon Territory for the past eight years.
4. Neither I nor Holland Geoservices Ltd. have any interest directly or indirectly in the Gio 6 mineral claim, Catoosea Resources Ltd. or its shares.
5. This report entitled Geological and Geochemical Report on the Gio 6 Mineral Claim is based on field work conducted in the area by Holland Geoservices Ltd. under my supervision during the period June 15 to August 2, 1984. Reference has also been made to private company reports and records and government reports published on the area.



Robert Holland, B.Sc.
consulting geologist