

1972

Report on the
TAN GROUP OF MINERAL CLAIMS
Chilliwack Area

N.T.S. 92-H-4

Vancouver, B.C.
February 1973

S. H. Pilcher

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- B. Second Option Agreement
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SUMMARY AND CONCLUSIONS

During a 60-day free option on this property geologic mapping was carried out, some geochemical sampling was done, and the surrounding area was prospected. This was a newly-discovered property and nothing had ever been done on it except prospecting and a small amount of trenching by the vendors.

The rocks, all Paleozoic in age, consist of limestone and various volcanic flows, breccia, pyroclastics, and tuffs. Mineralization is confined to a particular horizon or horizons within an altered pyroclastic unit near its contact with basic volcanic flows. Most of the exposed mineralization is relatively thin and consists almost entirely of pyrite. One zone in the main showing area, however, contains significant but scattered values in zinc and copper. The overall assays however are quite low.

Structurally the area is extremely complex, it being part of a large nappe with numerous recumbent folds, infolds, and flat-lying thrusts. The structure was never completely solved during the course of the mapping.

The significant features of the mineralization are that it is newly discovered in an area of no previously reported mineral occurrences, that it is definitely volcanogenic in origin (a rarity in B.C.), and that it occurs in Permian rocks similar to those at the Buttle Lake property of Western Mines.

Even though the exposed mineralization is of too low a grade to be of economic interest, the above features are significant enough (in the writer's opinion) to have warranted a full season's work on the property and surrounding area, especially in view of the structural and geologic uncertainties which remained after the initial phase of mapping and evaluation. Also the down-dip extension of the best mineralized section presented a drill target worth consideration.

In addition the geochemical results indicated the presence of other mineralized zones which were not examined. However, at the end of the 60-day period the vendors signed a long-term option agreement with Cominco, an agreement much more favorable to the vendors than that which Falconbridge was prepared to offer.

INTRODUCTION

This property was brought to the writer's attention by Mr. M. McClaren, a geologist who has worked as the writer's assistant during the past three field seasons. The property, located 12 miles south-east of Chilliwack (Figure 1), consists of the Tan group of 46 claims held jointly by Messrs. M. McClaren, G. Staply, and W. Bell, all of the Chilliwack area.

Access is via paved road south of Chilliwack through Vedder Crossing and east along Chilliwack River Road to Tamihi Creek. A series of logging roads branch from this point southward along Tamihi Creek and southwest onto the flanks of Church and Liumchen Mountains.

The area is one of steep, rugged topography and dense vegetation. Because of these factors geological mapping is an extremely difficult and slow process except in those places which have been logged off.

During May several examinations were made of the area by Mr. Dave Brown and the writer and a decision was made to option the property. The initial option drawn up (Appendix A) consisted essentially of a work commitment by Falconbridge of \$10,000 and a cash payment of \$3,000 by December 1972. If the option continued until 1975 the vendors would receive a total of \$75,000 and a 5% interest in a new company if formed.

This option was presented to the vendors who immediately rejected the offer on two main points. They wanted the first payment of \$3,000 immediately and a guarantee that any company formed would be public, as they were worried about the value and marketability of their shares in said company. Since we could not immediately agree to their wishes nothing was signed at this point. During the next week, while the option was being debated between Vancouver and Toronto, the vendors approached Western Mines and Cominco who immediately showed interest.



Figure 1

LOCATION MAP SHOWING AREA OF INVESTIGATION

A new option (Appendix B) was presented in which the vendors were to receive the \$3,000 by August, and in which they also had the right to surrender their shares for 5% of the annual net return from production on the claims. Initially they would probably have accepted this option but by this time they were interested in what other companies would offer. Rather than giving up entirely or waiting for a month while others examined the property, we agreed on a 60-day free option (Appendix C), at the end of which Falconbridge would have the right to match any offer more favorable than theirs and said offer if made would have to be accepted by the vendors.

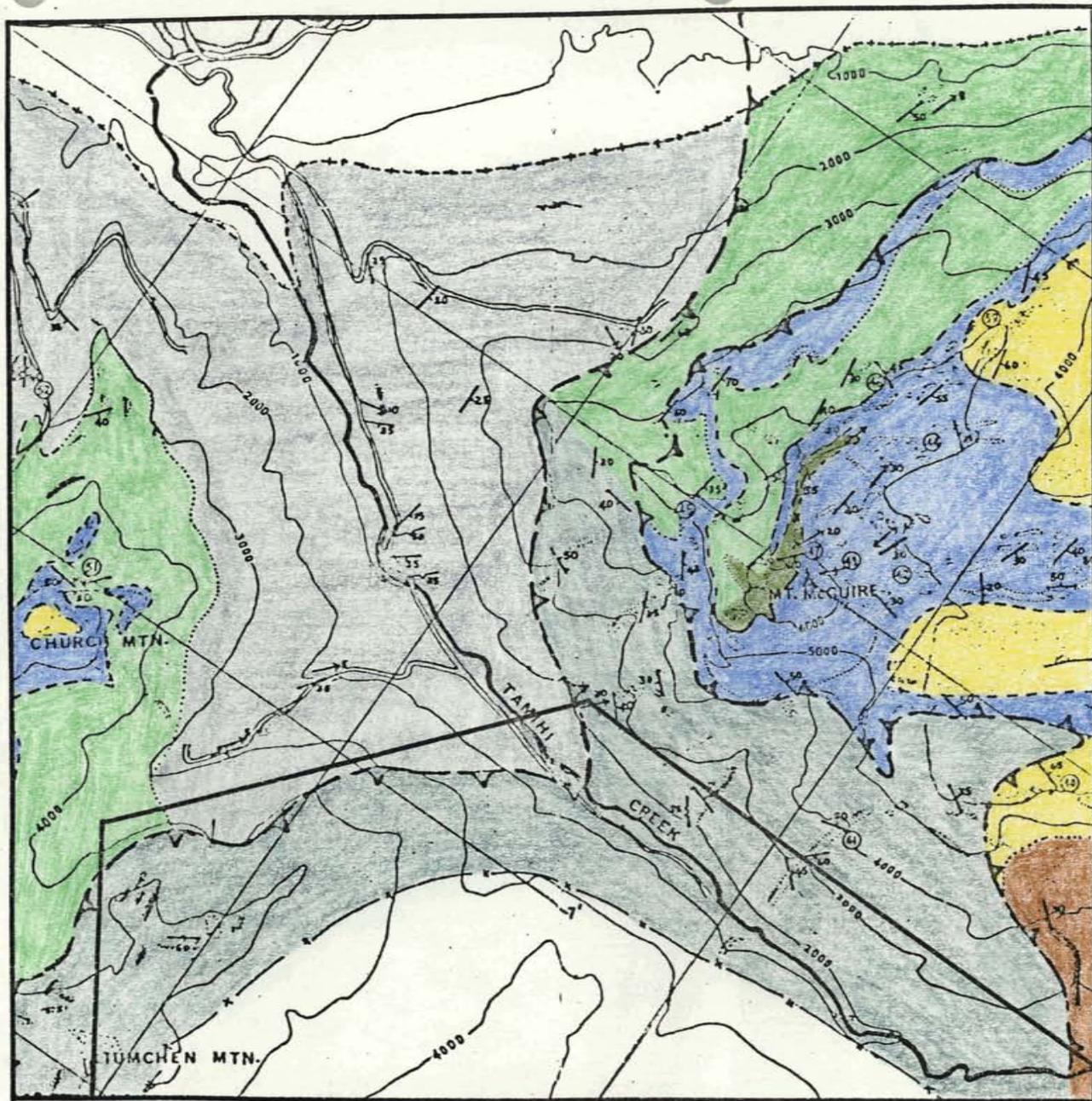
Western Mines made an offer similar to that of Falconbridge. Cominco, however, agreed to a \$4,500 down payment, a work commitment of \$25,000 by December 1972, and a 25% vendors interest in a public company, said company being formed by December 1973 if the option was still in effect by that date. Needless to say the vendors signed the Cominco offer. To date Cominco has done mapping and geophysics only, and it is unlikely that they have lived up to their \$25,000 commitment.

REGIONAL GEOLOGY

The latest geological mapping in the area was done as a Ph.D. thesis by Monger in 1966. His mapping indicates a series of sedimentary and volcanic rocks in a north-northwest trending belt flanking the Chilliwack Batholith on its west side. Within this belt Permian clastic rocks, limestone, and volcanic rocks disconformably overlie similar Pennsylvanian rocks, all of which belong to the Chilliwack Group. These are in turn overlain by the Cultus Formation, the oldest part of which is Triassic in age (Figure 2).

The area has been affected by two phases of deformation, one during the Cretaceous and one during the Eocene. The earlier phase was the most intense, producing thrusts and major northeast-trending recumbent folds. Monger shows 3 major tectonic units or nappes separated by flat-lying thrust faults, all resulting from this deformation (Figures 3 and 4). The rocks were subsequently gently folded and faulted along northwest trends during the Eocene.

The rocks on this particular property all belong to the Permian volcanic sequence as described by Monger. He interprets this sequence as beginning with quiet extrusion and consolidation of basic lavas around the vents of a volcanic centre. Some of these lavas were deposited subaerially and some on the sea floor. At the same time limestone was being deposited peripheral to the volcanic rocks. Later volcanism was of a more siliceous nature, resulting in a more violent volcanic activity. During this time siliceous flows, tuffs, and pyroclastics were deposited, some of which were deposited in a subaqueous environment.



Triassic
Jurassic

Cultus Formation

Volc. Arenites & Argillites

Chilliwack Group

Permian Volc. Sequence

Altered basic to Intermediate Flow Rocks

Tuffs

Cherts & Argillites

Permian Limestone

Limestone

Upper Clastic Sequence

Volc. Arenite & Argillite (coarse to medium grained)

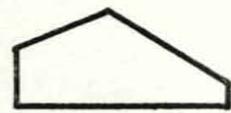
Lower Clastic Sequence

Volc. Arenites & Argillites (fine grained)

Permian

Pennsylvanian

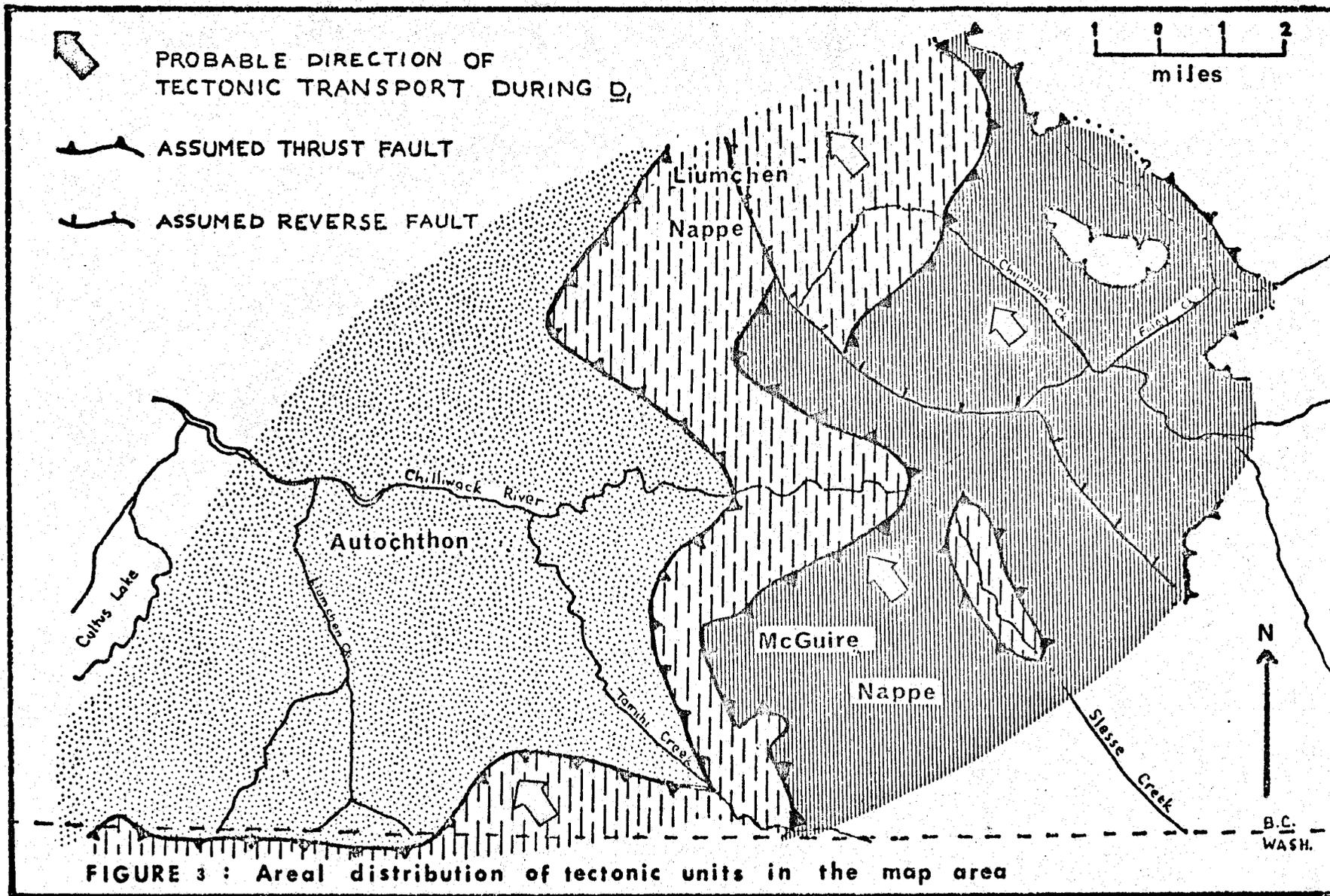
Limit of mapping by Monger.

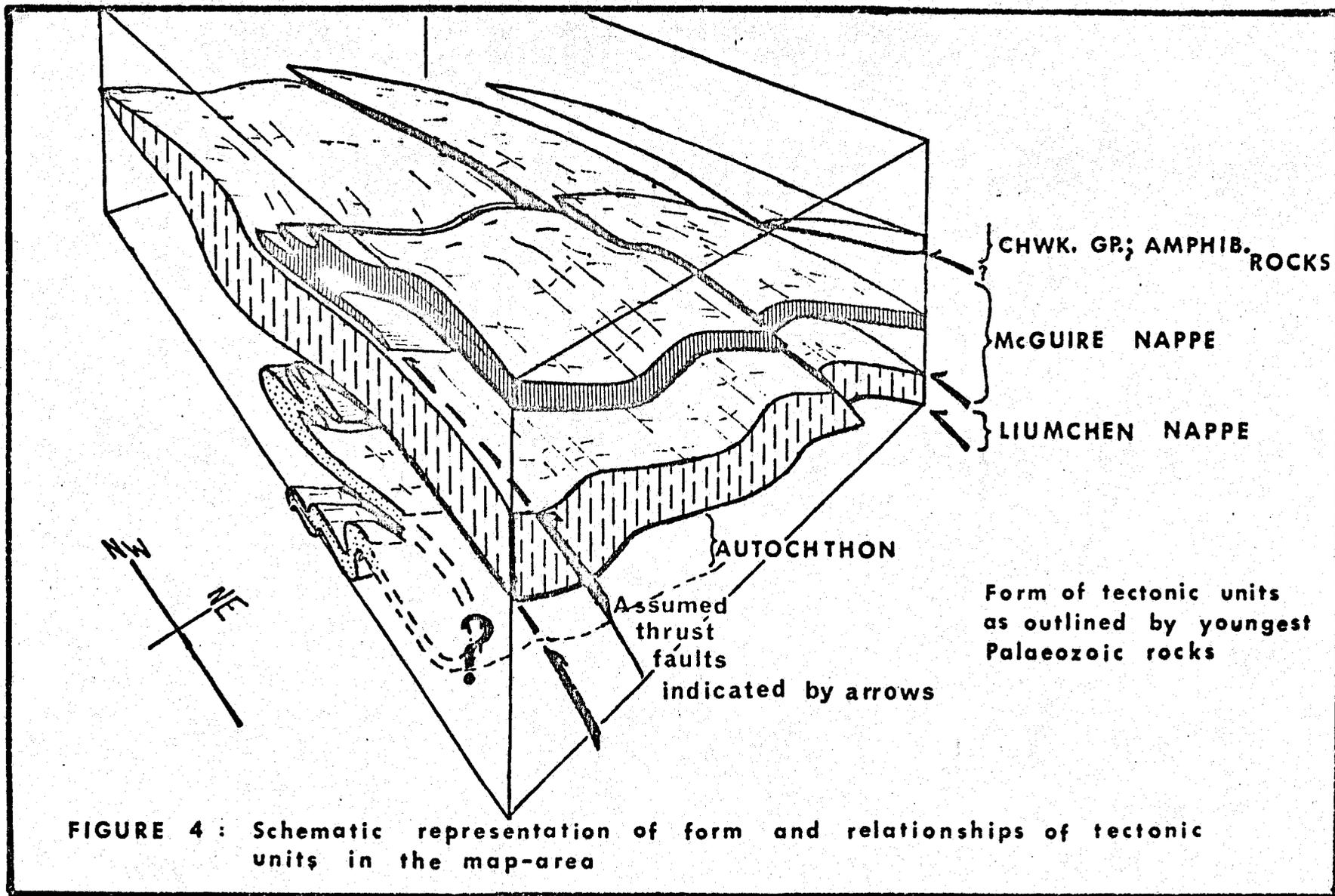


Area of Present Investigation

Scale: 1" = 4000' (approx.)

Figure 2: Geological Map of Tamihi Creek Area
(From Monger)





GEOLOGY OF TAN CLAIMS

Introduction

The rocks exposed on the Tan Group belong to the Permian volcanic sequence as described by Monger. They consist essentially of limestone, pyroclastics, flows, and breccias. This rock sequence makes up the Liumchen Nappe and in the area mapped it occurs immediately above a thrust zone which separates it from the Mesozoic Cultus Formation (Figure 5).

The area exhibits extreme structural complexity. A lack of distinctive marker horizons in critical areas, a lack of distinctive bedding planes or primary flow structures, difficulties in determining mappable units, complex folding, and probable but undetected flat-lying thrusts all contribute to the problem and as a result only a partial understanding of the structure and stratigraphy was gained. Considerably more time would be necessary to solve these problems. Deep snow in the higher areas also hampered the mapping.

Lithology

Cultus Lake Formation

The rocks immediately underlying the thrust zone consist of fine-grained, thinly-bedded argillites. These are dark gray to black on fresh surfaces but weather to a rusty brown.

Chilliwack Group

Limestone - The limestone varies in character from sandy and thinly bedded to relatively pure, massive, and coarsely crystalline. Color ranges from black to white. This rock occurs as a continuous unit between acidic and basic volcanic sequences and appears to inter-finger with a pyroclastic rock (1) towards the south.

Pyroclastic (1) - This is a grayish-green, strongly-foliated, and poorly-sorted rock. Generally the clasts range in size from ¼" to 6", however some zones within the unit are finer grained. The clasts include intrusive as well as cherty and tuffaceous fragments which are

white, green, and red in color. A few thin and discontinuous red siliceous flows occur as interbeds. This pyroclastic unit is spatially associated with a thick siliceous flow sequence and may interfinger with it.

Pyroclastic (2) - This rock is grayish-green and unfoliated, with clasts generally ranging in size from $\frac{1}{4}$ " to 2". The clasts consist of green to white cherty tuff and white ashy tuff.

Mineralization occurs in this unit generally at its contact with a basic volcanic rock. The pyroclastic becomes progressively altered in proximity to the mineralization. This alteration is discussed in a later section.

Siliceous Volcanic Unit

Both flows and tuffs which are of a siliceous nature are included in this unit, and with more detailed mapping there is a possibility that the two could be mapped separately.

The flows vary in color from black and gray to pale green. Some form distinctive white-weathering bluffs. These commonly contain a multitude of randomly oriented quartz veinlets, some of which contain biotite. The rock is fine grained and dense and contains tiny, clear phenocrysts of plagioclase and in some areas clear, rounded quartz eyes as well.

The tuffs are thinly bedded and extremely hard and fine grained. They are pale to dark green in color. Quartz eyes are abundant in some of these rocks and lacking in others. Thin interbeds of jasperoid are present but are not common.

Siliceous Breccia

This unit is a mixture of red siliceous flows and flow breccia and is probably related to the siliceous rocks described above. These rocks differ, however, in their color and strongly porphyritic texture. Relatively coarse phenocrysts of quartz and plagioclase are fairly abundant. A few outcrops contain grid patterns of closely-spaced quartz veinlets.

Basic Volcanic Unit

This unit contains both flows and flow breccias of probable andesitic composition. The flows are even-textured, fine grained, and vary in color from green to brownish-red to maroon. The green varieties contain oblong clots of mafic material. The rock is generally vesicular and contains calcite-filled amygdules accompanied by calcite veinlets as well.

The breccia consists of blocks of reddish flow material in a green chloritic matrix. In some areas the rock becomes very schistose. Here the flow fragments form flattened lenses whose long dimensions parallel the schistosity. Where deformation is most intense the rock is a chlorite schist containing patchy seams of hematite.

Structure

As mentioned previously the structure of the area mapped is only partially understood.

In the main showing area (see Figure 6 for location), one section of the mineralized horizon forms the nose of a syncline whose axis strikes north-northeast and plunges in that direction. Its axial plane is nearly vertical. More mineralization, most likely a part of the same horizon, crops out below this nose; however, the structural relationships between the two sections of mineralization are not known. Most of the bedding and primary flow structures here trend northeast. The entire mineralized area is interpreted as being located on a graben or large slump block bounded by northerly trending faults.

Farther to the east and extending down into the Tamihi Creek valley the outcrop patterns suggest the presence of several large overturned folds, however the exact configuration of these folds is not known. Fold axes measured on small folds exposed in this area generally trend northeast to east-west and plunge gently eastward. Bedding and primary flow structures range in strike from east-west to north-south. Stereographic plots of these attitudes indicate no obvious relationship between the most widely-divergent trends,

suggesting that the present structures are the result of two distinct periods of deformation.

Some small cascade-type folds suggest secondary gravitational tectonics, a feature common to nappe-type structures. In any case a very detailed structural study would be necessary to solve these problems and such a study was not feasible at that time.

Alteration

The pyroclastic (2) unit becomes increasingly altered in proximity to the mineralization. In the beginning stages individual clasts become indistinct and the rock becomes lighter in color. As the alteration increases in intensity this bleaching is accompanied by the development of a blotchy to interfingering black coloration. Eventually the greenish areas become bleached to white and the black alteration becomes more strongly developed, resulting in a rock that has the appearance of a breccia consisting of small angular areas of white surrounded by a black matrix. Where alteration becomes more intense the white areas in this pseudo-breccia become hard and cherty. In some places, where the black alteration is strongest, the white "fragments" disappear completely and the entire rock is black. This type of alteration generally occurs where copper-zinc mineralization is best developed.

The chert "breccia" and associated black altered rock grade into a massive chert which is generally in contact with the basic volcanic unit. The relationship between the altered pyroclastic and the massive chert is not known. The chert may represent a distinct stratigraphic unit or may represent the extreme end phase of alteration of the pyroclastic.

Mineralization

Mineralization occurs in distinct horizons which are conformable with the surrounding rocks. The various horizons mapped all occur in the pyroclastic (2) unit near its contact with the basic volcanic unit. These are probably all part of the same horizon which, since its deposition, has been so intensely deformed that its original continuity has been destroyed.

Mineralization and the alteration described above are directly related. The entire sequence is best displayed in the main showing area. Pyrite first appears with the beginning stages of alteration. It occurs both as coarse clots and as fine disseminations throughout the entire section of altered pyroclastic. Sphalerite and chalcopyrite, however, occur only where the black alteration is present and appear to be directly related to it. These minerals are present along the narrow seams and fingers of black alteration where it surrounds the white pseudo-breccia "fragments." In some cases they completely enclose the "fragments." The best copper and zinc mineralization coincide with those places in which the black alteration has completely permeated the rock. The massive chert which generally occurs between the zone of black alteration and the contact with the basic volcanic rocks contains only minor amounts of pyrite.

The lowermost (topographically) mineralized horizon in the main showing area is the only zone found which contains other than trace amounts of zinc and copper. These occur here in a seemingly sporadic distribution within a horizon of altered pyroclastic which grades upward into a more massive barren chert. The chert in turn contacts the basic volcanic rocks. The mineralized pyroclastic horizon crops out for about 1200 feet along strike, averages about 40 feet in thickness, and dips south at 45° . The zone is bounded by faults at both ends.

Eight chip samples collected across the mineralization assayed as follows:

<u>Sample No.</u>	<u>Width (ft.)</u>	<u>Cu%</u>	<u>Zn%</u>	<u>Ag(oz.)</u>
1	12	.03	.02	tr.
2	10	.02	.01	tr.
3	6	.04	.43	.03
4	8	.03	.03	tr.
5	12	.03	.04	tr.
6	5	.05	.41	.04
7	30	.02	.02	tr.
8	20	.01	.01	tr.

Relatively small higher grade sections are present throughout the mineralized horizon. Selected grab samples of these assayed up to 1.63% Cu, 3.7% Zn, and contained 5000 ppb Hg.

A folded mineralized bed or horizon crops out above the one just described. It forms an eroded remnant of a syncline with only a portion of the nose remaining. Though the alteration is essentially the same the mineralization here consists only of pyrite, some of which is nearly massive.

For several miles to the east and south of the main showing area numerous outcrops of mineralized pyroclastic and associated chert were found (Figs. 5 and 6). These range from 4 to 35 feet in thickness and all consist essentially of pyrite with only minor to trace amounts of sphalerite and chalcopyrite. In some sections the pyrite is massive and in others it occurs as heavy disseminations. The presence of the same rock units and of mineralized float on the U.S. side of the border indicate a continuation of the mineralization south of the present area of investigation. None of these mineralized outcrops nor any of the float located contained sufficient zinc or copper to be of interest.

Geochemistry

Sediment samples were collected in streams draining known mineralized areas in order to determine the effectiveness of geochemistry here for indicating mineralization (Fig. 6). Additional sampling was done in other streams in an attempt to locate other zones or extensions of the mineralization. Unfortunately, most of the geochemical results were not available until after the initial mapping and evaluation phase was completed and the crew moved elsewhere.

A rough estimate of threshold values for copper and zinc in the sediments are 30 ppm and 100 ppm respectively. Silver values are all relatively constant. Interpretation of results is necessarily very qualitative because of probable large pH variations due to the presence of limestone.

Stream sediment samples collected in grid S12 give very little indication of the main showing. Some of the copper values are slightly anomalous but the zinc values are all low. It is probable that the metals become relatively immobile in the vicinity of the limestone outcrops located below the main showing.

The stream sediments sampled in grids S3 and S4 contain slightly anomalous copper values and anomalous zinc values throughout the stream length sampled. These values are in part indicative of the border showing. Anomalous values in the southernmost samples collected probably indicate that the mineralized horizon crosses the creek south of the border. Towards the north end of the drainage the very high zinc values, beginning at about the 2500' contour, occur approximately on line with the southern projection of a band of known mineralization, though a series of soil samples collected just east of this section of stream give no indication of mineralization there.

In grid S2 the northerly-flowing stream sampled contains a copper and zinc anomaly at approximately the 2000' contour. These

values are related to the falls showing. Very slightly anomalous values throughout most of the remainder of the stream may indicate additional mineralization at higher elevations.

Samples collected in grids S1 and S2 from streams draining from the north into Tamihi Creek indicate mineralization crossing these streams at higher elevations. A narrow band of pyrite with minor chalcopyrite, sphalerite, and galena was found crossing the stream in grid S2 near the 2000' contour. This horizon or others must extend to the southeast beyond the map sheet.

A soil traverse in the southeast part of grid S2 shows anomalous values in the vicinity of a known band of pyrite containing minor chalcopyrite and sphalerite.

Fairly detailed soil sampling was carried out in the vicinity of the main showing. Some sampling was also done around the border and falls showings. The soils were analysed for copper, zinc, silver, and mercury.

At the main showing (Figures 7-10) all these metals exhibit patterns which correspond quite well to the outcrops of mineralization, and there is very little downslope dispersion of the higher values. Silver seems to be a bit more definitive than the others. Rough estimates of threshold values are as follows: copper - 30 ppm, zinc - 100 ppm, silver - 1.0 ppm, mercury - 150 ppb.

Around the border showing (Figures 11-14) all the metal patterns show a rough correlation to the known mineralization. Downslope dispersion of metal values is more pronounced here, probably because no limestone is present below the mineralization as is the case at the main showing area. Rough estimates of threshold values are as follows: copper - 20 ppm, zinc - 40 ppm, silver - 1.0 ppm, mercury - 150 ppb. The showings here consist essentially of pyrite only and it is interesting to note that threshold values of silver and mercury are the same as at the main showing. Copper and especially zinc values are lower here however.

Very little is known about the mineralization designated as the falls showing. Most of this area contains thick vegetation and very few outcrops are present. The vendors have exposed a small amount of scattered mineralization (pyrite, chalcopyrite, and sphalerite) in a few bulldozer cuts located just upstream from point 0+00 (Figures 15-18). A limited E.M.-16 survey done by the vendors indicates several conductors trending north-south to northwest in the area sampled. The metal patterns obtained on two short traverses confirm the existence of mineralization north of the creek but the relatively low values suggest it to be mostly pyrite.

Based on the limited amount of sampling done on the property geochemical prospecting appears to be a fairly reliable method of locating mineralization, whether it be relatively barren pyrite or pyrite accompanied by sphalerite and chalcopyrite. Zinc content is probably the best indication in sediments. Sampling of stream sediments is effective provided the particular stream somewhere cuts the mineralization. Sediment samples are probably not reliable if mineralization crops out only on hillsides above the drainage, especially if limestone is present below the mineralization. Soil sampling appears to be very reliable for tracing out mineralization in covered areas, though closely-spaced samples may be necessary in areas containing limestone. It is not possible at this point to say which if any of the metals analysed for are most effective in soils.

S. H. Pilcher
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Vancouver, B.C.
February 1973

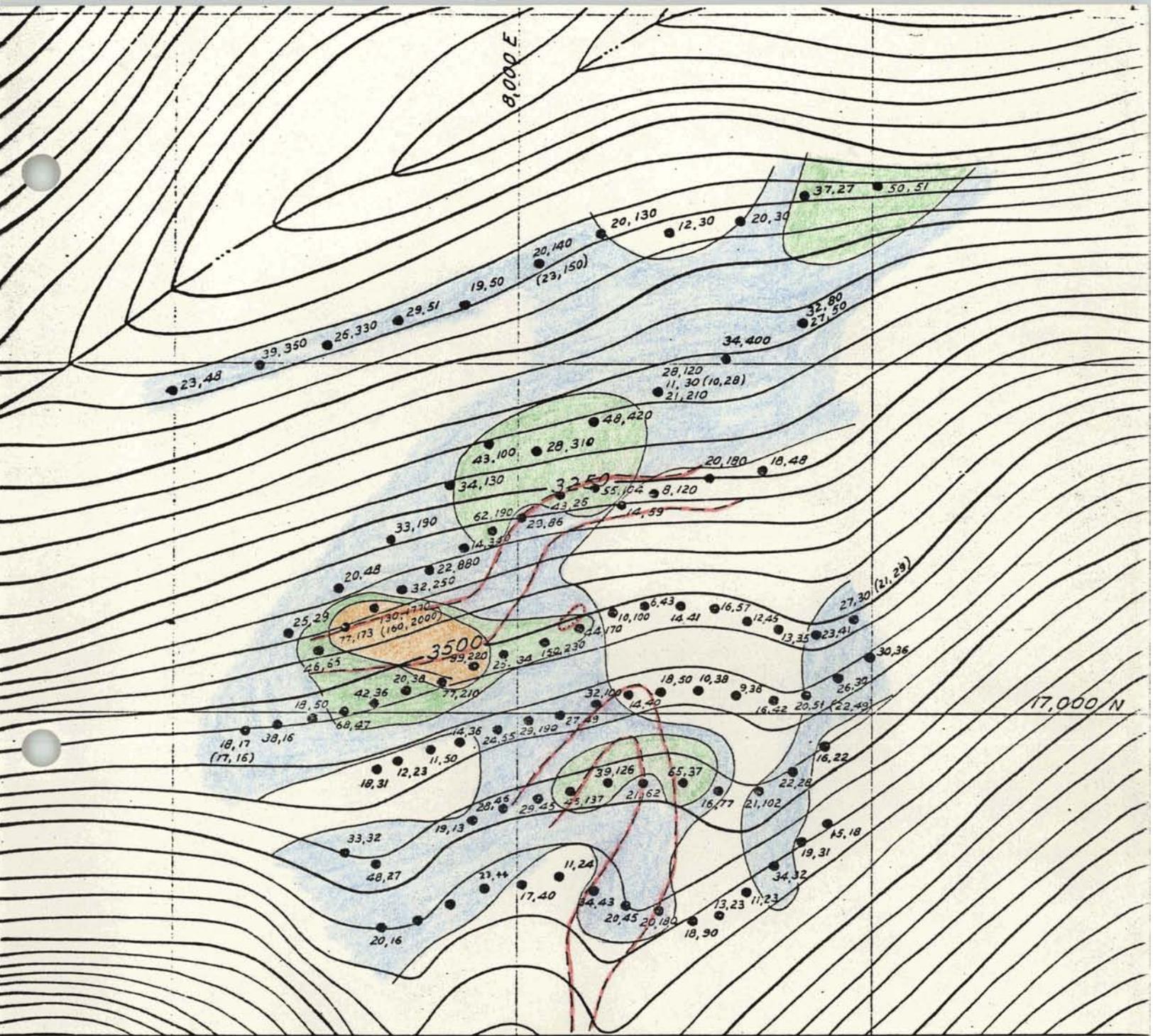


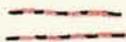
Figure 7

COPPER IN SOILS

MAIN SHOWING

Scale: 1" = 400'

Contours at 20, 35, 75 ppm



Outline of Known Mineralization



Figure 8

ZINC IN SOILS

MAIN SHOWING

Scale: 1" = 400'

Contours at 100, 200 ppm

— — — Outline of Known Mineralization

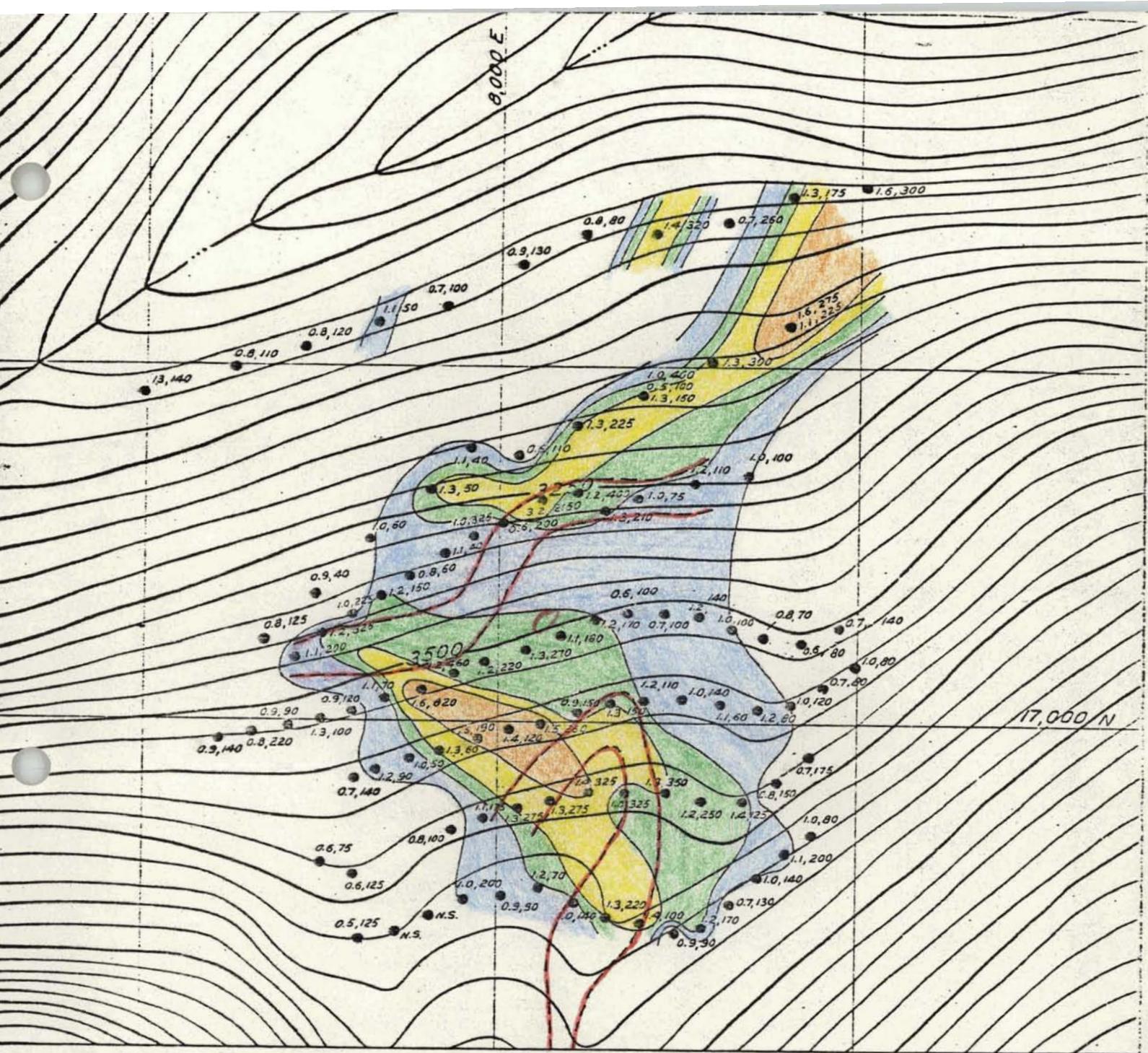


Figure 9

SILVER IN SOILS

MAIN SHOWING

Scale: 1" = 400'

Contours at 1.0, 1.2, 1.3, 1.4 ppm

 Outline of Known Mineralization

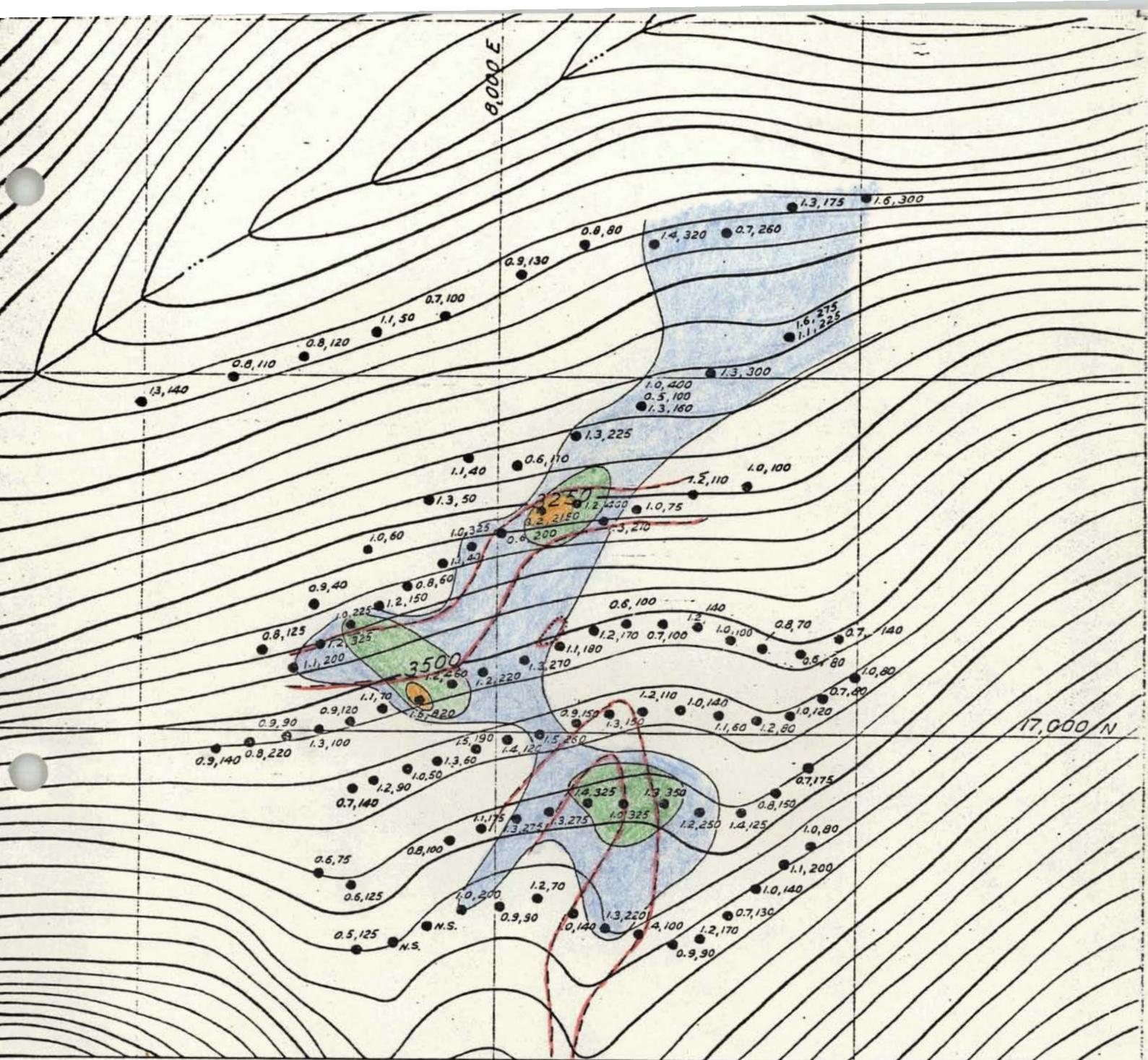


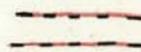
Figure 10

MERCURY IN SOILS

MAIN SHOWING

Scale: 1" = 400'

Contours at 200, 300, 400 ppb



Outline of Known Mineralization

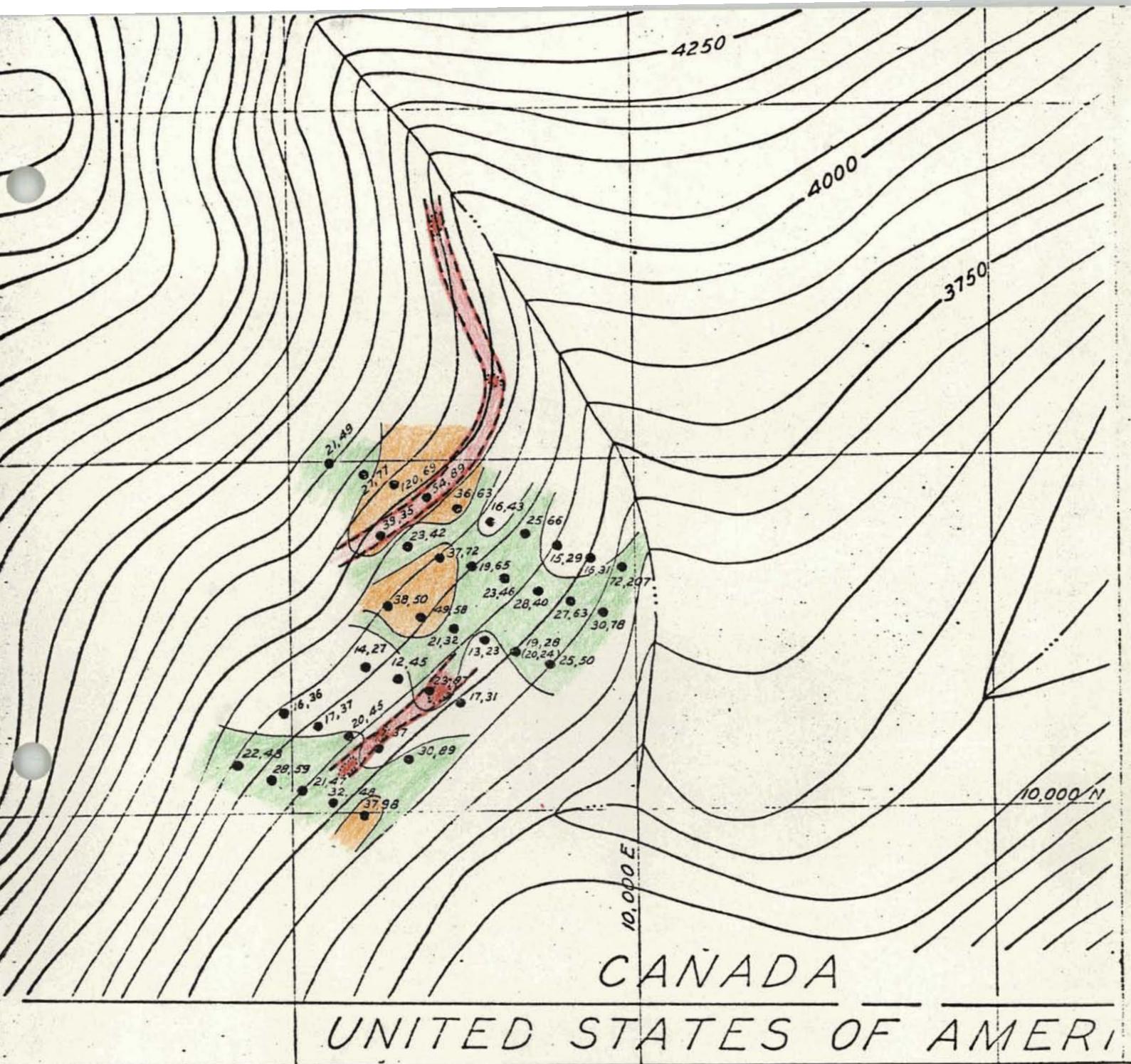


Figure 11

COPPER IN SOILS

BORDER SHOWING

Scale: 1" = 400'

Contours at 20, 35 ppm

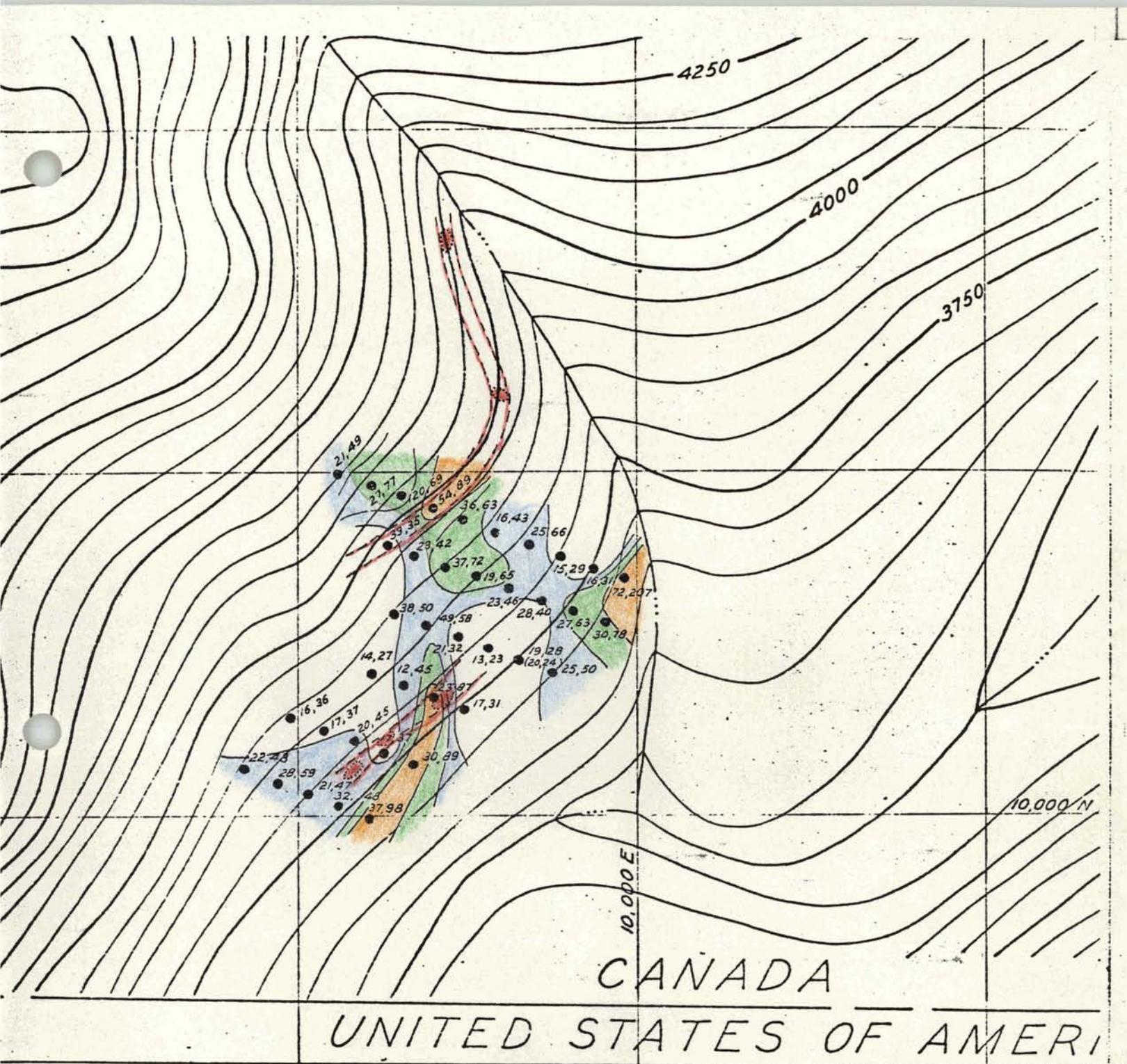
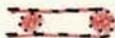


Figure 12

ZINC IN SOILS

BORDER SHOWING

Contours at 40, 60, 80 ppm



Outline of Known Mineralization

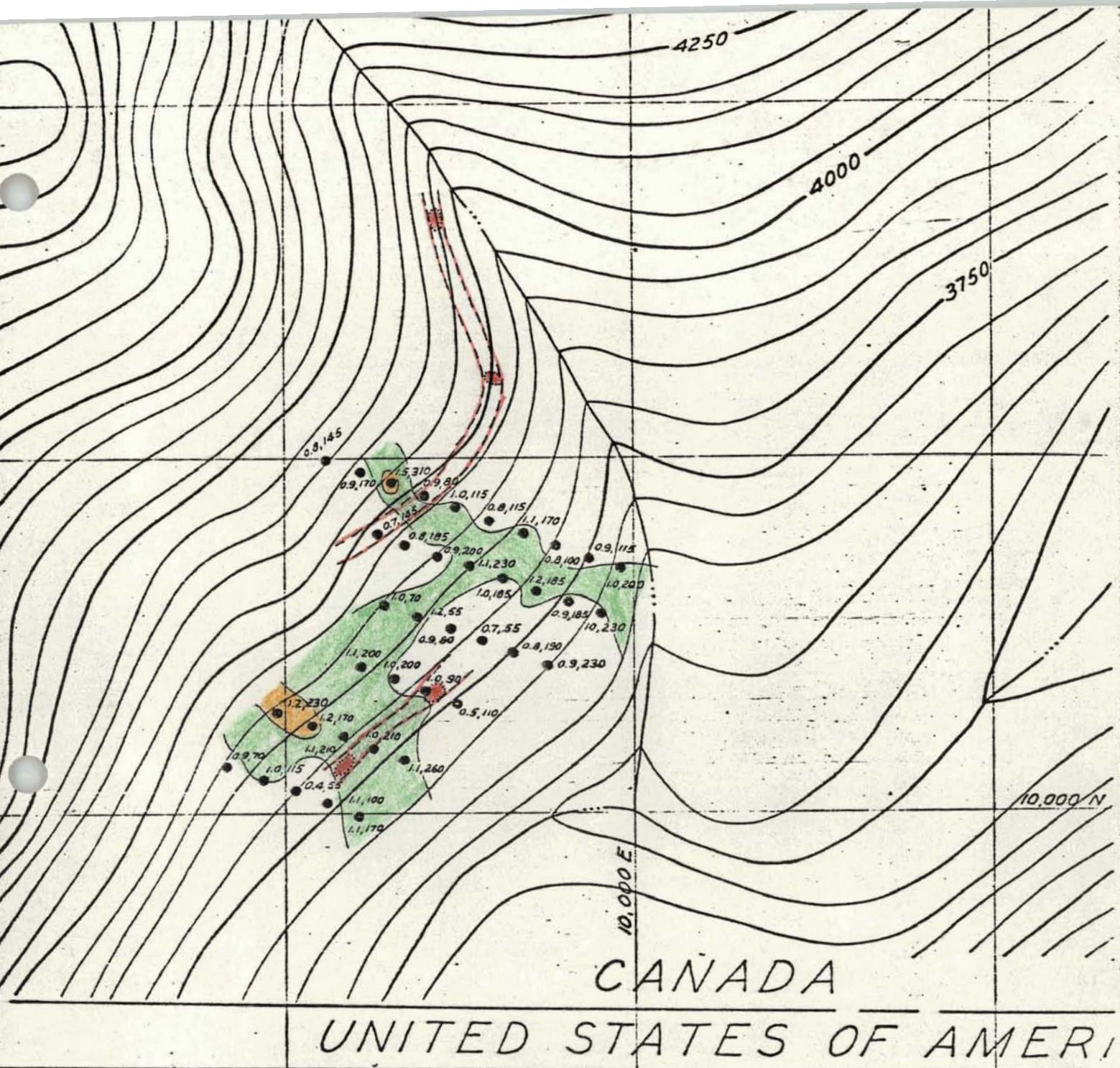


Figure 13

SILVER IN SOILS

BORDER SHOWING

Scale: 1" = 400'

Contours at 1.0, 1.2 ppm



Outline of Known Mineralization

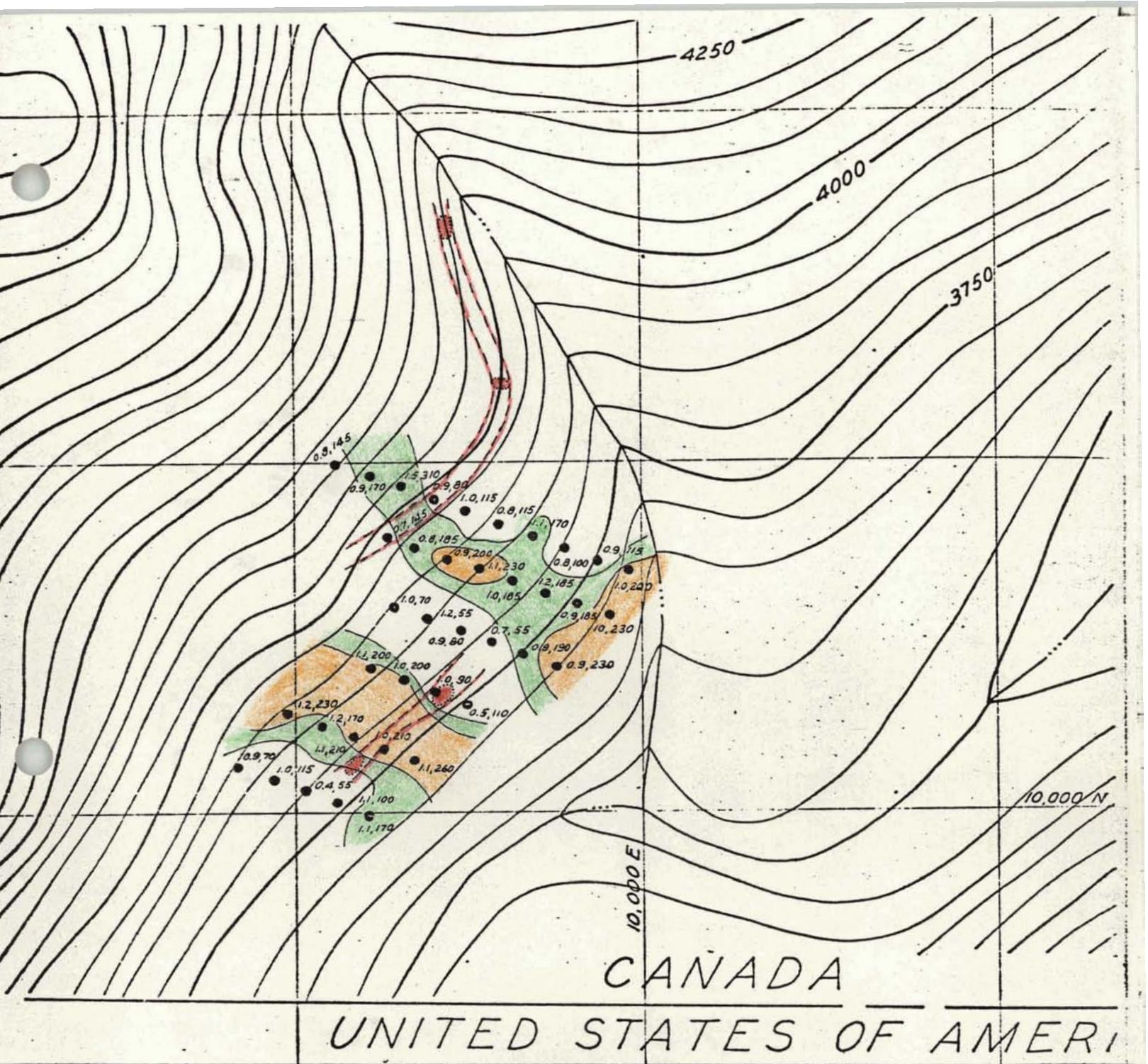


Figure 14

MERCURY IN SOILS

BORDER SHOWING

Scale: 1" = 400'

Contours at 150, 200 ppb



Outline of Known Mineralization

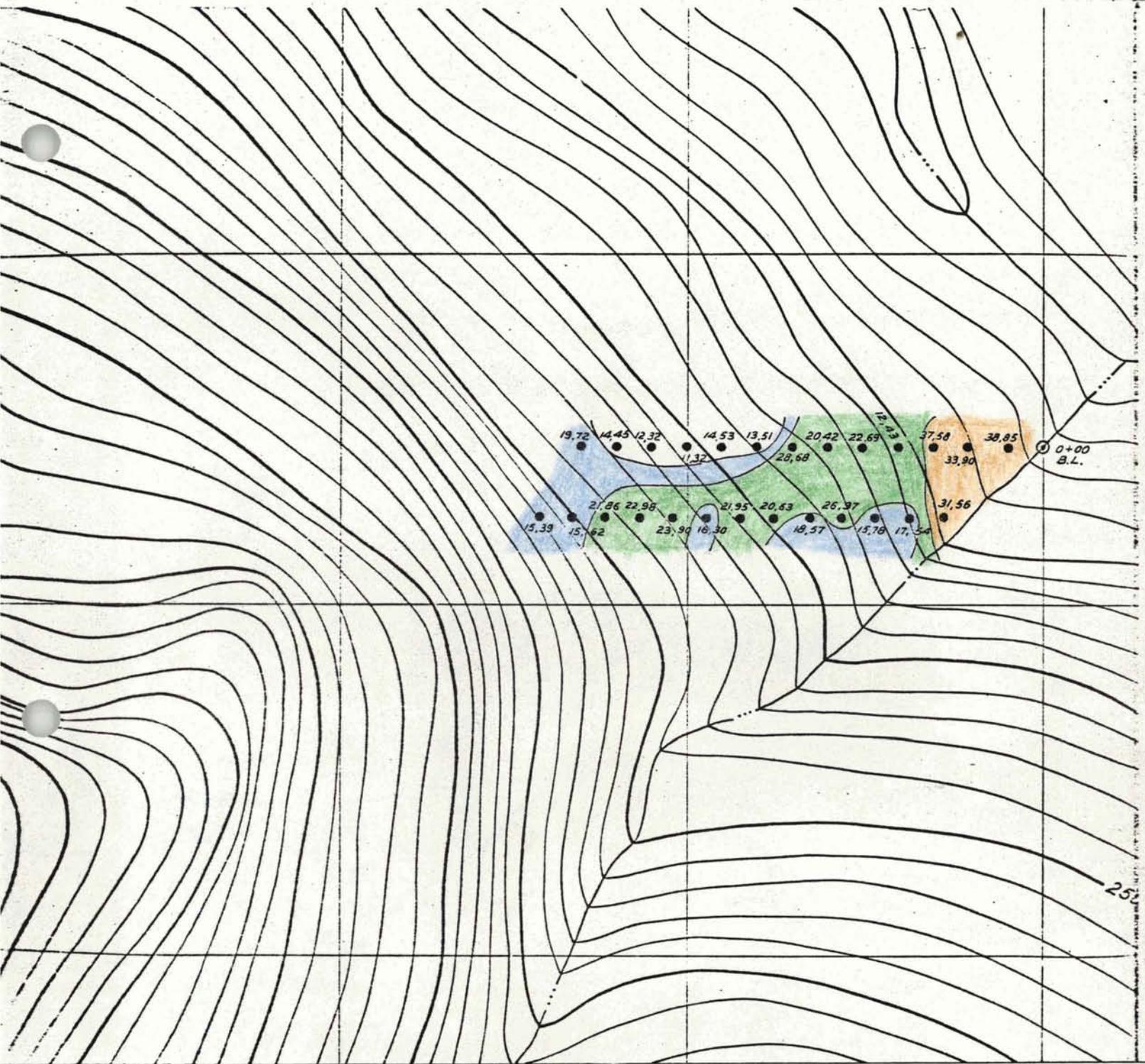


Figure 15

COPPER IN SOILS

FALLS SHOWING

Scale: 1" = 400'

Contours at 15, 20, 30 ppm

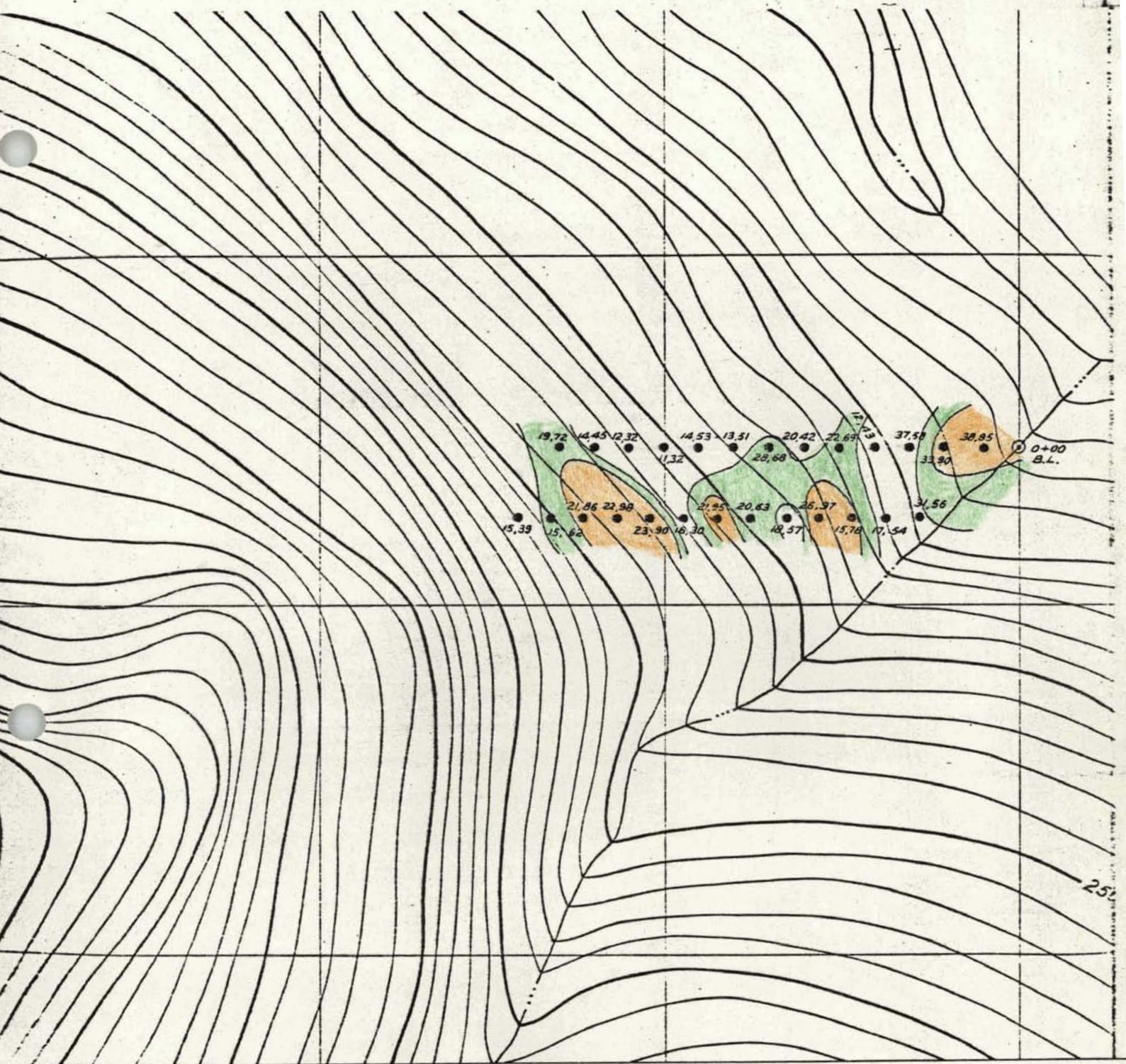


Figure 16

ZINC IN SOILS

FALLS SHOWING

Scale: 1" = 400'

Contours at 60, 75 ppm

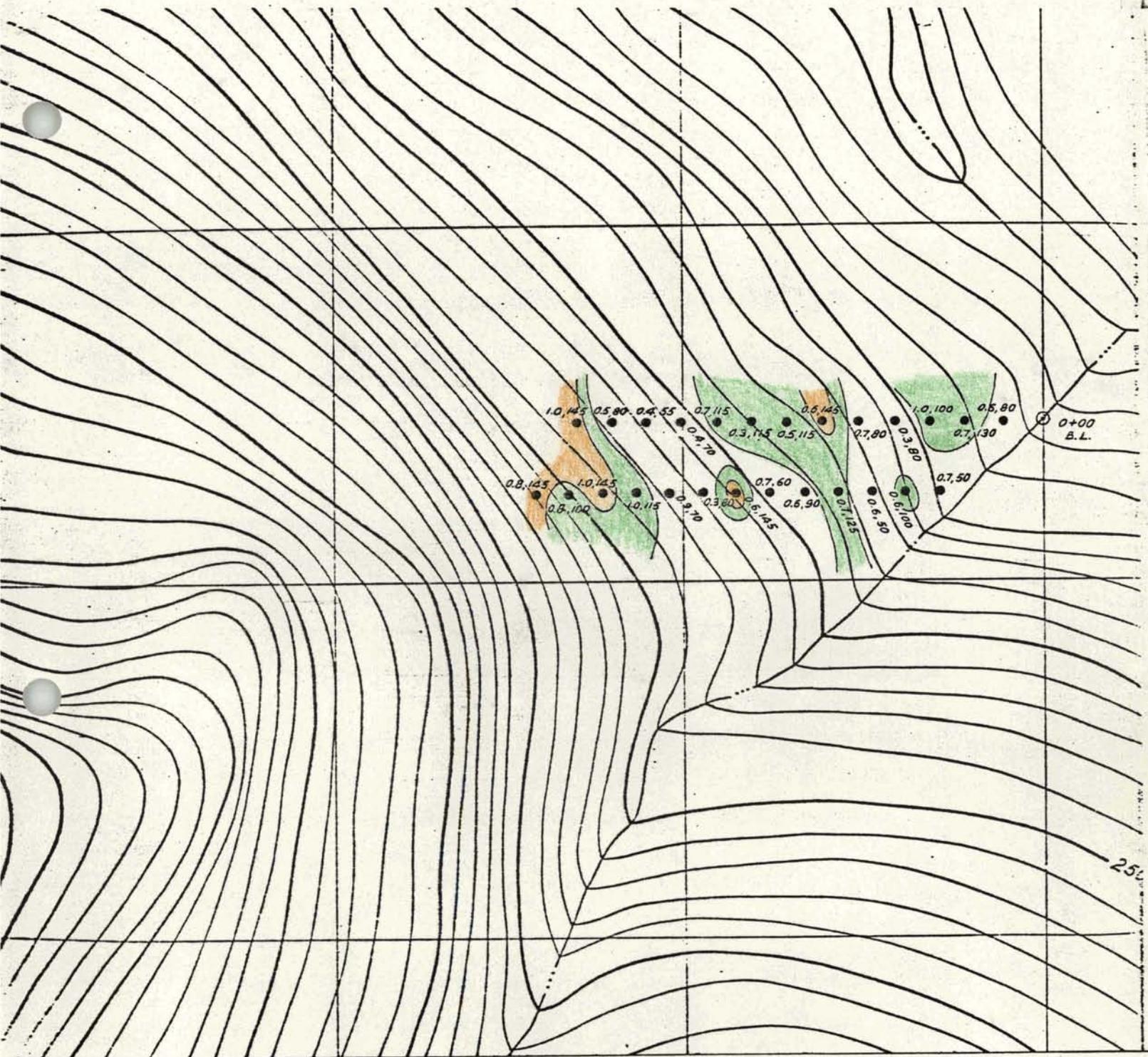


Figure 18

MERCURY IN SOILS

FALLS SHOWING

Scale: 1" = 400'

Contours at 100, 140 ppb

FALCONBRIDGE NICKEL MINES LIMITED

Dear Sir(s),

We have examined and relied upon the information supplied by you regarding your property located South of Chilliwack, B.C., in the New Westminster M.D., and wish to enter into an option agreement to acquire the following claim groups (the "Claims"):

TAN 1-14 inclusive

TAN 17-44 inclusive

TAN 45-48 inclusive

If an agreement can be successfully negotiated Falconbridge agrees to do \$10,000 worth of work on the above claims before December 31, 1972.

Assessment commitment: one year's work following anniversary date following date of abandonment on existing claims listed above.

Any fractional claims found within block are to be included in agreement.

It is to be understood that you have full title to the Claims and that they are free and clear of all encumbrances. By making the following cheque payments to you, we shall have the continuing exclusive exploration right and option to explore and examine the Claims and take reasonable samples for testing:-

- (a) A payment of One Dollar\$, receipt of which is acknowledged by signing this letter agreement.
- (b) A payment of \$3,000.00 on or before December 31, 1972.
- (c) A payment of \$6,000.00 on or before December 31, 1973.
- (d) A payment of \$11,000.00 on or before December 31, 1974.
- (e) A payment of \$55,000.00 on or before December 31, 1975.

We will maintain the Claims in good standing during the period the exploration option remains in force; provided that if our exploration work, in our opinion, does not justify further work on the Claims we may withdraw from this Agreement by failing to make any of the payments listed above. While exploration is in progress, we will permit you and your duly authorized agent to have access to the Claims at all reasonable times.

While the exploration option is in force, we shall have the right and option at any time after making the payments in b,c,d and e above to form a new 3,000,000 share company on or before December 31, 1975, which shall purchase the claims for the issue to you of 150,000 fully paid and non-assessable shares and we shall have the right of first refusal for ten years to purchase your shares. We shall have the right to purchase shares in the new company at the price of one cent per share for a number of shares equal to 10 times the number of dollars we have spent in exploration on the claims

up to the date of organization of the new company. For 5 years after such organization we shall have the right to purchase further shares of the new company at the price of fifty cents per share payable either by cheque or by spending money in exploration or development work on the Claims. If the option to incorporate the new company is not exercised, we will deliver to you, on demand, copies of all maps and reports with supporting data of the work we have completed on the Claims, and any Bills of Sale or Transfers placed in escrow will be returned to you.

If Falconbridge exercises the incorporation option, the Optionors at any time within a period of ten years from the date of incorporation of the new company shall have the option of surrendering to the new Company all of the said 150,000 Vendor's shares in consideration for a royalty equal to Five (5%) percent of the net proceeds of production derived from the mining claims.

If these terms are acceptable to you, would you please sign below. A more detailed agreement, incorporating all these terms and including clauses satisfactory to our solicitors, will be submitted to you as soon as reasonably possible. At this time Bills of Sale or Transfers of the Claims will be delivered to us and held in escrow.

Yours very truly,

FALCONBRIDGE NICKEL MINES LIMITED

ACCEPTED:

Gordon Staply

Walter Bell

Murray McPhail

WITNESS:

DATE:

AT:

Vancouver, B.C.

FALCONBRIDGE NICKEL MINES LIMITED
40TH FLOOR
COMMERCE COURT WEST

TELEX
02-2720

TELEPHONE
416-863-7000

June 9th, 1972.

Messrs. Gordon Staply,
Walter Bell,
Murray McClaren,

VANCOUVER, B.C.

Dear Sirs:

We have examined and relied upon the information supplied by you regarding your property located south of Chilliwack, B.C., in the New Westminster M.D., and wish to acquire the following mining claims: -

TAN 1-14 inclusive,
TAN 17-44 inclusive,
TAN 45-48 inclusive and
any fractional mining claims found
within or adjoining the above claims;

(hereinafter called the "Claims"), all upon the following terms and conditions: -

1. We shall do \$10,000 worth of work on all or part(s) of the Claims before December 31, 1972.
2. You must now have full title to the Claims free and clear of all encumbrances and the right to deal with them as herein provided.
3. Provided we make the following cheque payments to you, we shall until December 31, 1975, have the continuing exclusive exploration right and option to explore and examine the Claims and take reasonable samples for testing: -
 - (a) A payment of One Dollar, receipt of which is acknowledged by your signing this letter agreement.

. . . continued

- (b) A payment of \$3,000.00 on or before August 9, 1972.
 - (c) A payment of \$6,000.00 on or before December 31, 1973.
 - (d) A payment of \$11,000.00 on or before December 31, 1974.
4. (a) We will maintain the Claims in good standing during the period the exploration option remains in force; provided that if our exploration work, in our opinion, does not justify further work on the Claims we may withdraw from this Agreement by failing to make any of the payments listed above. While exploration is in progress, we will permit you and your duly authorized agent to have access to the Claims at all reasonable times.
- (b) At the date of abandonment of a Claim by us hereunder, sufficient assessment work shall have been done thereon to cover one year following the first anniversary date of such claim following the date of such abandonment.
5. While the exploration option is in force we shall have the right and option at any time, after making the payments in 3. (b), (c), and (d) above, and making a further payment of \$55,000.00 on or before December 31, 1975 to apply for the incorporation of a new 3,000,000 share company which, if incorporated, shall purchase the Claims in consideration for the issue to you of an aggregate of 150,000 fully paid and non-assessable vendor's shares in its capital. We shall have the right of first refusal for ten years, from the date of issuance of such shares to you, to purchase your shares. We shall also have the right to purchase shares in the new company at the price of one cent per share for a number of shares equal to 10 times the number of dollars we have spent in exploration on the Claims up to the date of incorporation of the new company. For 5 years after such incorporation we shall have the right to purchase further shares of the new company at the price of fifty cents per share, payable either by cheque or by spending money in exploration or development work on the Claims. If the option to incorporate the new company is not exercised, we will deliver to you, on demand, copies of all maps and reports with supporting data of the work we have completed on the Claims, and any Bills of Sale or Transfers placed in escrow will be returned to you or the Claims retransferred to you.

6. If we exercise the incorporation option, you will, at any time within a period of ten years from the date of incorporation of the new company, have the option of surrendering to the new company all of the said 150,000 vendor's shares in consideration for the right to receive, on an accumulated running basis, five (5%) percent of the annual net return from production from the Claims. The words "net return" shall mean the excess of accumulated gross income (from time to time) from the said production over accumulated expenses (from time to time) properly incurred in producing the said income, determined in accordance with generally accepted accounting principles applied on a consistent basis; the said expenses shall, however, not include any income taxes paid or payable on or with respect to the said income, but shall, without limitation, include: -
- (i) (A) all expenditures on mining operations;
(B) all working expenses; and
(C) such administration and overhead expenses as are reasonable and necessary;
 - (ii) all taxes and royalties imposed, charged or levied upon the Claims and the minerals, metals, concentrates and materials mined therefrom, by any government, whether Federal, Provincial or otherwise;
 - (iii) all plant, equipment and development expenditures; and
 - (iv) interest charge(s) on all moneys borrowed with respect to all of the foregoing.

Any payments of net return shall be considered as provisional payments and shall be deducted from the accumulated amount payable (on an accumulated running basis) in determining the amount to be paid each year. The payments due to you shall be as certified by the auditors of the new company from time to time and such certification shall be final and binding and not subject to arbitration.

7. Bills of Sale or Transfers of the Claims in our favour must be delivered to us upon the acceptance by you of this letter to be held in trust by us or may be registered.

If these terms are acceptable to you, would you please sign below. A detailed agreement, incorporating all these terms and including

clauses satisfactory to our solicitors, will be submitted to you as soon as reasonably possible. In view of the possible effects (which have yet to be fully determined) on both parties, of recent changes to tax legislation, the contents of such form of detailed agreement may be not only more detailed but also different from this letter. It is intended, however, that no differences, changes or additions presented will be less advantageous to you than the terms contained herein and you hereby agree thereto.

Yours very truly,

FALCONBRIDGE NICKEL MINES LIMITED,

/keb

G. T. N. Woodrooffe - Vice-President

ACCEPTED:

Gordon Staply

Walter Bell

Murray McClaren

WITNESS:

DATE:

AT: Vancouver, British Columbia.

FALCONBRIDGE NICKEL MINES LIMITED

Dear Sirs:

This agreement is to confirm our discussions concerning the Tan Group of Mineral Claims located south of Chilliwack, B.C. in the New Westminster M.D.

It is understood that Falconbridge shall have the right during a period of sixty (60) days, beginning June 10, 1972, to enter upon these claims and carry out an exploration program exclusively for their own information. This work may include any or all of the following: geological and topographic mapping, geochemical sampling and geophysical surveys.

During this 60-day period you may show the property to other interested parties, but you may not accept or sign any agreements concerning this property until Falconbridge has had the opportunity of making an offer no less favourable to you than the best firm offer made by a third party.

Yours very truly,

FALCONBRIDGE NICKEL MINES LIMITED

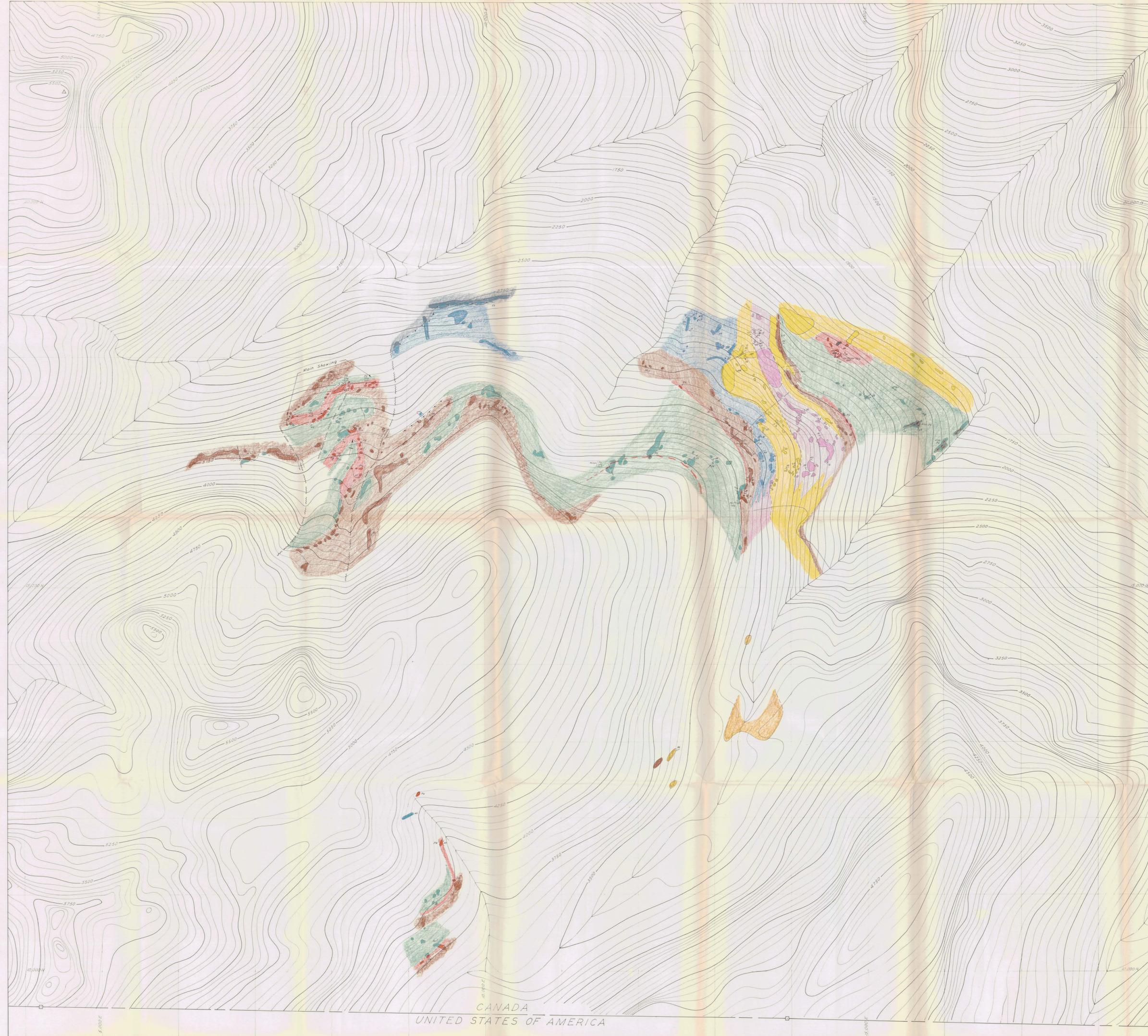
ACCEPTED:

Gordon Staply

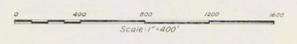
Walter Bell

Murray McClaren

DATED: _____



- LEGEND**
- Cultus Formation
 - Argillite
 - Chilliwack Group
 - Limestone
 - Pyroclastic - 1
 - Pyroclastic - 2
 - Siliceous volcanic unit
 - Siliceous breccia
 - Basic volcanic unit
 - Mineralized horizon
 - Bedding or Primary Flow Structure
 - Fold axis

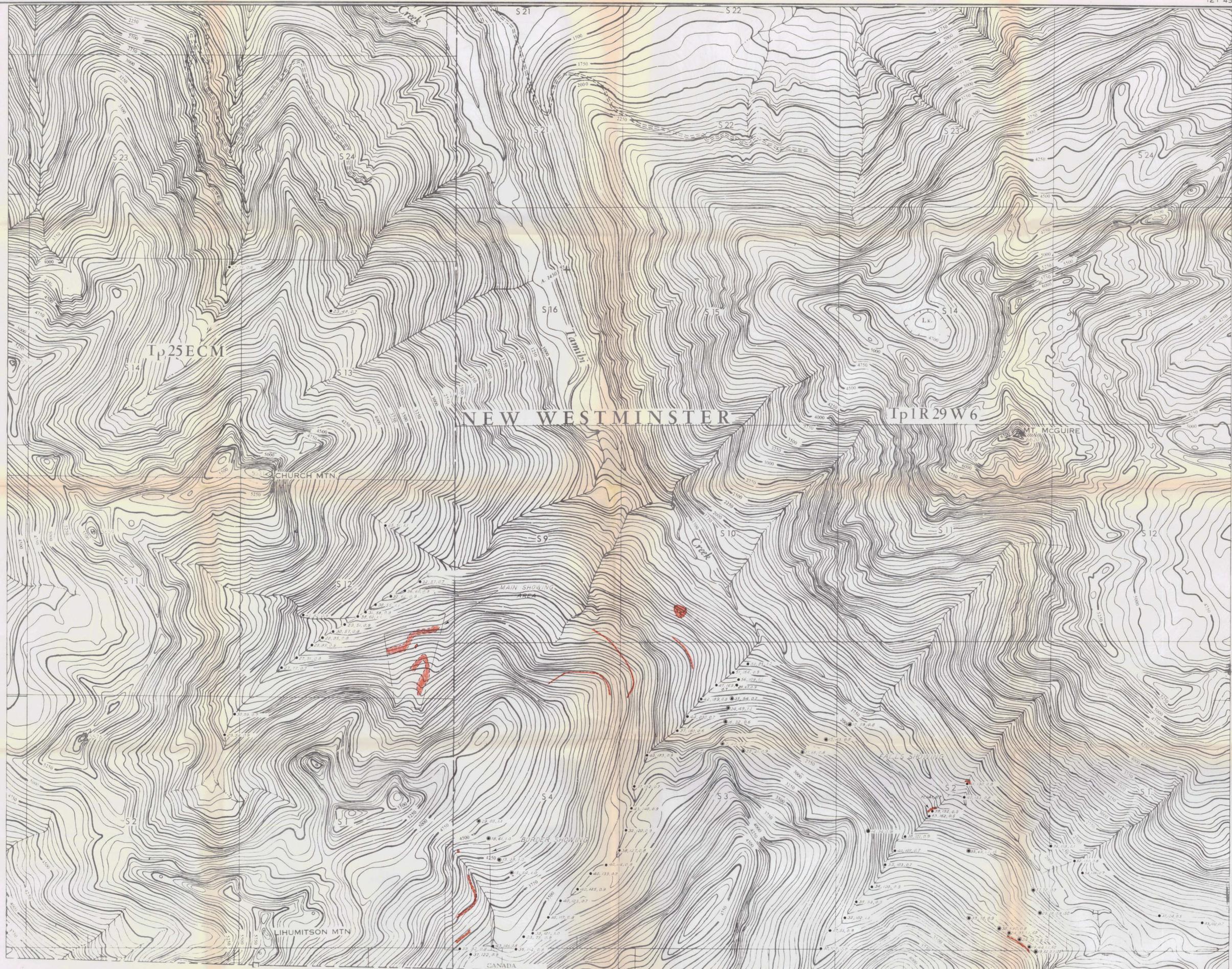


FALCONBRIDGE NICKEL MINES LIMITED		
PROPERTY: TAN CLAIMS - CHURCH MOUNTAIN PROPERTY		
LOCATION: Chilliwack Area, B.C.		
TYPE OF MAP: GEOLOGY		
WORKING PLACE: Lumsden Mountain		
BASED ON: Field mapping		
DATE OF WORK: June 1972	MAP REF. NO.: 123-72-5	FIG. NO.: 5
DRAWN BY: HGT, after S.H.P.		
DATE: Feb 1973	N.T.S. NO.: 92 H-4 W	

CANADA
UNITED STATES OF AMERICA

121 52 30
49 03 45

121 45 00
49 03 45



LEGEND
 ● 10.00.10 - Cu, Zn, Ag (in p.p.m.) sediment sample
 ● 10.00.10.40 - Cu, Zn, Ag (in p.p.m.), Hg (in p.p.b.) soil sample
 = Known mineralization



FALCONBRIDGE NICKEL MINES LIMITED		
Property: Tan Claims - Church Mtn. Property		
Location: CHILLIWACK AREA, B.C.		
Title of Map: GEOCHEMISTRY OF STREAM SEDIMENTS PLUS A FEW SOILS		
Working Place: Lihumitson Mountain		
Based on:	Map Ref. No.:	Fig. No.:
Date of Work: June 1972	123-72-6	6
Drawn by:	N.T.S. NO. 92M 4/W	
Date:		

49 00 00
121 52 30

CANADA
UNITED STATES OF AMERICA