MONTHLY PROGRESS REPORT

JULY, 1969

HESS OEX AND LAD GROUP

M. E. COATES

013595

xCA

TELEPHONE 685-4331

ATLAS EXPLORATIONS LIMITED
(N.P.L.)
330 MARINE BUILDING
355 BURRARD STREET
VANCOUVER 1, B.C.

PROGRESS REPORT - HESS OEX

PERIOD: July, 1969.

This report constitutes a summary of outside exploration work done in the Hess River Project Area during the month of July, 1969. Areas outlined on the accompanying maps are those investigated since July 25th.

TECHNICAL REPORT

Geology

During the month of July, regional mapping was done in the vicinity of Kalzas Lake at a scale of 1"= 1 mile. Spot-check work and information gleaned from samples collected during the execution of stream sediment surveys has been compiled in addition to the regular traverse material. Geology after Bostock, Lighological and Structural - where not re-examined and re-interpreted - will also be shown. Mapping has been done in the vicinity of previously known granitic rocks to delineate contacts, establish actual areal extent, to check for zones of pervasive alteration and possible associated economic mineralization.

Sufficient geological work has been done to provide a reliable base for geochemical surveys being conducted at present.

Geochemistry

Reconnaissance silt-sampling has been initiated in the Big Kalzas Lake Area and almost all of the southern quadrants of 105-M have been completed. In all geochemical samples have been collected, but unfortunately no anomalous zones have been discovered.

In the Stokes Lake area (105-K-NW) four silt samples on one drainage assayed between 200 ppm and 850 ppm Pb. These samples were collected by Brodell and assistant while in the process of following up a hot zone discovered by Coates and Godwin in their rapid fixed-wing recce of June, 1969. Further work should be done in the vicinity of these anomalous values at some

later date. In the interum, work will be pursued in such a way that other good bets in the adjoining areas will be checked out. (See "Escalation: Earn-Stokes Lakes Program).

In the Bob Group - Mount Aho area exceptionally high results for lead content of silts in several drainages sparked an immediate follow-up program and subsequently staking of the ten claims Greg Group. Mineralization found within the anomalous watersheds included the following:

(1) Galena, with minor amounts of sphalerite vein-type; four showings

(2) Bornite and chalcocite, quartz gangue vein-type; one showing in quartzite.

Assays currently being performed may well determine the future appeal of these occurrences.

Prospecting

Areas prospected during the month of July are shown on the accompanying sheet, N.T.S. 105-M. Robert Etzel and assistant spent one week with Gerry Sanford doing an examination of the area hosting the Greg Group geochemical anomaly; this work constitutes the only prospecting done outside the Mayo map sheet.

On the recommendation of A. E. Aho, Hugo Brodell initiated his investigations in the environs of Two Buttes, where he spent approximately 15 days looking at several alteration zones and the contact zone of a syenitic intrusion at Two Buttes. One very small shear zone with minor amounts of chalcopyrite. Hugo found one narrow zone containing appreciable amounts of a brilliant green micaceous mineral (possibly fuchite; assay specimen submitted). In the main the gossan areas proved to be limonitic zones in the Proterozoic quartzites (Yukon Group) probably after pyrite.

On July 15, following a suggestion of A. E. Aho, Hugo Brodell moved camp to the McArthur Mtns. and began a search for the old Jim MacDonald Cu showing reputed to lie on the northeastern flank of the range. To date he has not discovered it, but is still looking.

Robert Etzel has prospected the northern shore of the south arm of Mayo Lake, Edmonton Creek in the vicinity of the Arivaca copper showing, and a third area of gossan north of the Stewart River. He has not encountered any mineralization of note to date.

Prospect Examinations

Gerry Sanford has examined several geochemical anomalies in the past few weeks. These include:

(1) #94, #95, #96 - these copper anomalies appear to be associated with a very small quartzose intrusive. Brief report to be prepared by Sanford.

(2) #102 and #114 - appear to be anomalies emanating from small sillform bodies of quartz-muscovite porphyry "Aplite". In the case of anomaly #114, proximity to an open fault may be a contributing factor.

(3) Canyon Creek with its associated low magnitude Pb anomaly was examined by Sanford and the remainder of the watershed sampled for heavy minerals and stream sediments.

(4) #107 - This gossan, examined in the 1968 season, yielded zinc values of 60,000 ppm. In a one-day visit to the site Sanford collected a line of soil samples from the slope below the gossan.

(5) Sanford finished off the month doing recce geology and geochem near Ethyl Lake.

Proposed Program

Work in the vicinity of Big Kalzas Lake and surrounding territory will be completed on or before August 15. At that time a serious re-evaluation of anomalous zones discovered, areas re-visited and occurrences found, will be necessary.

August will be spent completing fill-in coverage on the Mayo sheet for geology and geochem, prospecting of several gossan zones and pursuing the Earn-Stokes Lakes Program; a canoe supported geological and geochemical endeavour designed to test a large area of gossans and rust seepages near the boundary of the agreement area.

The program for the latter part of the month remains tentative.

Respectfully submitted,

M.E. (Tim) Coates

EXPENDITURES

Wages (519 man days)	$ 10,910.44
*Helicopter (149 hrs)	24,138.00
Camp Costs ($10/man day)	5,190.00
Assays	100.00
Geochemical Lab (2,781 samples)	5,562.00
*Fixed-Wing	2,972.05
Total	$ 48,872.49
Plus 10% Overhead	$ 4,887.25
GRAND TOTAL	$ 53,759.74

* Fuel hauls done by fixed-wing are included in cost of operation of helicopter

MINERAL CLAIMS STAKED

Greg Group #1-#10 - Staked on July 24, staked by G.R. Sanford.

- Transferred to A.E. Aho, 330-355 Burrard Street, Vancouver, B.C.
- Claims staked on the basis of high geochem anomalies and discovery of interesting lead and copper mineralization.
- Located approximately at 63°31'N,135°03'W. which is approximately three miles east of Mount Aho (Peak 6866).

Greg Group #9-#10 - Staked on July 24, staked by Robert Etzel.

- Transferred to the same as above.
- Staked and located same as above.

Hess OEX

Whitehorse Assay Office,
July 10, 1969
File #5464-1

Description

Sample No.

4009 - Lim9nite cemented breccia.
- Cu .02%

Whitehorse Assay Office
July 23, 1969
File #5486-19

Description

Sample No.

4010 - Qtz. vein, photo A-12174-194, Gossan present, pyrite probable reason in vein.
- Au Trace.

4011 - Tetrahedrite bearing float from Ross River area from Peter Ladue.
- Ag 30.5 oz/ton, Cu 5.6%.

4012 - No ticket
Au trace, Cu .01%.

ASSESSMENT REPORT ON MERRY MOUNTAIN AREA

MAY - BOX CLAIM GROUPS

May 30 to June 13, 1969

Introduction

Interest in the Merry Mountain Area (Peak 5267) began in 1968 with the discovery of a lead-zinc showing and a copper showing by Hugo Brodell and Robert Etzel. In the period May 30 to June 13 of this year these two showings were staked and then soil sample and magnetometer surveys were run on them. In addition, the entire area west of Merry Mountain was prospected and geologically mapped on a quarter mile scale. Myself, an assistant, two prospectors, and two samplers were employed in this operation.

General Geology

The area consists of a sequence of sedimentary rocks, ranging from Precambrian to Lower Mississippian in age, cut by numerous Mesozoic to Tertiary acidic intrusive bodies.

The Precambrian members of this sequence consist of friable green to purple-red slates and argillites overlying a light grey, poorly bedded quartzite probably belonging to the Yukon Group. Unconformably above the Precambrian is a sequence of argillaceous cherty rocks which eventually go to massive fragmental cherts, bedded cherts, and finally to chert pebble conglomerates of the Crystal Peak Formation (Lower Mississippian). Above these black cherts is a black micritic limestone, often recrystallized, which belongs to the Kalsas Formation (Lower Mississippian). This limestone is devoid of fossils.

Several quartz-monzonite to quartz diorite dykes cut the above rocks. These dykes average about 100 ft. in width and have a uniform north-northeast trend. The attitude of two major faults in the area suggest that these dykes represent tensional fractures parallel to the axis of maximum stress in the area. In addition, there are three coarse grained granodiorite stock-like bodies, the largest of which forms the northeast slope of Merry Mountain.

Apart from the two staked showings, numerous small showings were found on the western border of the large granodiorite plug in a banded cherty zone and also in the quartzite further west. These showings consist of appreciable arsenopyrite, some pyrite and pyrrhotite, plus occasionally some minor chalcopyrite. Actinolite and gypsum are usually associated with these showings. A few minor lead-zinc showings were found around the intrusive dyke shown in outcrop #127.

The structure of the area trends west-northwest and consists of an en echelon syncline-anticline couple. The syncline has a definite west-northwest plunge. Both folds are of a broad open nature.

May Claim Group

Eight claims were staked to cover the two lead-zinc showings. One showing consists of up to 35% combined galena and sphalerite as stringers and blebs in a very fine grained dark green calcareous, crystalline rock. This showing was blasted to bedrock. However, the bedrock is a black, friable and rotten, carbonaceous slate devoid of mineralization.

The second showing, 500 ft. north of the first, consists of minor galena and sphalerite in quartz-calcite veins in a highly altered diorite. This dyke runs within 50 ft. of the first showing.

A 3200 ft. baseline was cut with 1500 ft. crosslines having a 400 ft. separation. This grid was sampled at 100 ft. intervals and tested for copper, lead, zinc, and manganese. The manganese contours outlined the swampy areas. Some good zinc values were obtained, but they seem to follow the manganese values. The copper and lead values are negligible One or two pin-point values of lead seem to be related to isolated float locations found by the prospectors.

Magnetometer readings were recorded at 50 ft. intervals on this grid. The dyke failed to show in the results. A 1400 gamma anomaly is found at the western end of the grid and probably corresponds to the aeromagnetic anomaly in the area. There is a correlation between a high zinc anomaly with a peak of 840 ppm and the magnetic anomaly. As yet no geological explanation for this anomaly has been found.

Box Claim Group

The Box Claim Group comprises four claims staked over a chalcopyrite showing. This showing consists of up to 20% disseminated, fine grained sulphides in siliceous lenses in a finely laminated black, argillaceous chert. Chalcopyrite makes up to 5% of the sulphides with the remainder being chiefly pyrite. The showing is 50 ft. south of a contact to a dark grey, friable slate. A 30 to 40 ft. monzonite to granodiorite-dyke running north-northeast cuts the sediments 50 ft. to the east of the showing. The laminations in the chert are perpendicular to the dyke. Despite the abundance of outcrop, no mineralization, besides a little pyrite, was found in the surrounding area.

A small grid was set over this showing. Of the geochemical sample results, lead and zinc gave negligible readings while copper values produced a small localized anomaly.

The magnetometer survey failed to detect the intrusive dyke, but an unexplained 300 gamma anomaly was revealed.

Conclusions

On the whole, results from the Box and May Claim Groups are discouraging. The lack of additional mineralization and significant geochemical and geophysical anomalies can not be ignored. In addition, several of the geochemical anomalies, as well as the main showing of the May Claim Group, result from float and are not related to any of the bedrock in the area. It would seem, in my opinion, that the two weeks of work in this area has not improved the prospects of these two claim groups sufficiently to warrant their further investigation.

Recommendations

The northwest flank of Merry Mountain is of some interest due to the numerous chalcopyrite and galena showings near the granodiorite stock and dyke margins. Although the showings themselves are not economically significant, they do indicate an introduction of mineralization over an extensive area. A two-man, 3-day reconnaissance soil sampling camp might be beneficial. This would involve five mile-long east-west chain and compass lines with 1000 ft. separation and a 200 ft. sample interval.

Costs: (Assuming Laforce Lake or the Lad Group as base)

3 hrs. helicopter support at $130/hr.	$390.00
- 6 man-days support at $10/man-day	60.00
- 6 man-days wages at $20/man-day	120.00
- testing 125 samples at $2/sample	250.00
Total	$720.00

The float that originally caused interest in the May Claim Group is of definite economic interest. The general direction of glacial transport is from the southeast. Three to four geological-geochemical (soil sample) north-south traverses to the east of Merry Mountain would be advantageous. These lines would be spaced every mile and would begin one mile east of the mountain. The purpose would be to discover the source rock of the mineralization. Due to the wide spacing of the lines and to the desire to make the lines as long as possible this operation should be run on a daily helicopter put-out basis.

Costs: (Assuming Laforce Lake or the Lad Group as a base)

- 12 hrs. helicopter support at $130/hr.	$1,560.00
- 4 man-days support at $10/man-day	40.00
- 4 man-days wages at $30/man-day	120.00
Total	$1,720.00

Total cost of the proposed follow-up work	720.00
	1,720.00
	$2,440.00

Total man-days involved in the proposed follow-up work	10

Respectfully submitted,

Donald Francis

Work Report and Cost Breakdown

1. Wages

Don Francis - 15 days geological mapping	$ 431.25
Bill Thomas - 10 days assisting - 3 days linecutting - 2 days magnetometer survey	258.75
Hugo Brodell - 12 days prospecting	260.00
Robert Etzel - 15 days prospecting	300.00
John Aklack - 2 days linecutting - 10 days prospecting	240.00
Greg Haineault - 12 days soil sampling - 2 days linecutting	214.67
TOTAL	$1,704.67

2. Helicopter Support

6.1 hours for a total of	$1,085.40

3. Camp Support

83 man-days at $10/man-day for total of	$ 830.00
GRAND TOTAL	$3,620.07

ASSESSMENT REPORT ON THE MT. AHO AREA

June 21 to June 30, 1969

Conclusions and Recommendations

High silt sample zinc values in the west and high lead values from gossans in the eastern portion of the map induced follow-up work in this area. Nine days of work has failed to disclose any mineralization or to improve the existing geochemical anomalies. The source of the original anomalies has not been determined. The only method of attack which could discover this source would be a massive detailed geochemical soil sample survey of the entire area. Because of the total absence of mineralization and the frequency of spurious zinc anomalies in the region the employment of this expensive follow-up does not seem warranted at the present time.

When follow-up work is carried out on the Greg Group, one day of prospecting might be warranted on the gossan mountain just east of the high copper silt value.

Introduction

The period June 21 to June 30 was spent doing follow-up work on two geochemically anomalous lead and zinc drainages west of the Greg Group (long. 132°15', lat. 63°32'). Four men were employed in geological mapping, prospecting, and detailed geochemical sampling. Two successive fly camps were involved in this operation.

General Geology

Three basic rock types make up the Greg Group area.

The most abundant lithological type is a phyllitic slate which varies from a highly friable slate to a poorly friable slatey argillite. In many locations the slate is black and carbonaceous, though a non-carbonaceous, green grey variety is very common also. The carbonaceous slates are usually the most friable of the slates and often give a rusty appearance on the weathered surface. Minor accessory pyrite is common to all the varieties of slate. In camp #1 these slates contain frequent narrow beds of chert pebble conglomerate. No attempt was made to differentiate the carbonaceous and non-carbonaceous slates into separate units on the geological map, though the character of each argillaceous outcrop has been noted.

The chert pebble conglomerates of the area are largely restricted to the eastern portion of the map. This rock type varies from the extremes of a coarse grained chert breccia to a fine grained chert sandstone. In some locals the conglomerate contains fragments of phyllitic green slate as well as an argillaceous matrix. The conglomerate is usually an intermediate to dark grey in colour, but occasionally is very black and contains carbonaceous argillaceous material. Narrow beds and partings of slate are commonly found in the conglomerate layers.

In the western portion of the map area chert is present in the form of a black, probably carbonaceous, massive to thinly bedded rock. These bedded cherts have no suggestion of a fragmental nature.

Several lenses of a dark to light brownish grey, fine grained quartzite are found in this area. These lenses usually occur within the slate or at the boundaries between the slates and the cherts.

Throughout the area, strikes trend southeast to east-west and dips are moderate to steep to the south. The general picture of one of alternating sequences of chert and slate. Two resultant interpretations of the structure can be postulated. One being that the uniformly dipping, undeformed beds of chert and slate representing a major geologic cyclothem. Alternately, though there is little evidence of folding, one may imagine a series of tight folds overturned to the north. Thus the wide band of bedded chert in the west central portion of the map forms the axis of a major syncline plunging slightly to the west. Despite the lack of evidence for folding, I favour the latter interpretation.

Camp No. 1

Two years ago anomalous lead values were obtained from both silt and soil samples from several stream-side gossans. The highest value obtained was 720 ppm lead. These gossans are pools of rusty seepage usually found at toes of stream banks. No outcrop or untransported float were found in the vicinity of any of these gossans.

In addition to re-sampling the stream and a few of the gossans, four contour soil sample lines were run on the valley slopes above the gossans. Despite extensive mapping and prospecting, no mineralization, except some minute disseminated pyrite in the slates, was found.

Camp No. 2

This area contains three streams which were found to contain anomalous zinc values during last year's program. The highest value yielded was 3300 ppm zinc. In addition to being mapped and prospected, a cross-strike soil sample traverse was undertaken to try to discover a correlation between geochemical soil values and underlying rock type. Also, a three mile contour soil sample traverse was run above the three anomalous streams.

No mineralization was discovered in the area.

Results

In the western portion of the map area (Camp No. 2) the high zinc values in stream silt samples, which initiated the follow-up, were reproduced. However, soil samples taken in proximity to the high zinc valued silts yielded only background readings for copper, lead and zinc.

Interesting correlations between base metal concentrations in the soils and the underlying rock type were revealed by the soil sample traverse run perpendicularly to the regional strike. The most pronounced effect can be observed in the copper values. There is a definite association between high copper values and the bedded cherts. In turn the slates and argillites are associated with low copper values in their overlying soils. Zinc values show this property also, though to a lesser extent. Lead value associations seem to lack continuity. A notable phenomena occurs over the carbonaceous slates towards the northern end of the section. Here all three metal values take on oscillatory curves of magnitude.. The lead and zinc values follow each other, while copper values are exactly 180° out of phase with the first two metal values.

In the eastern portion of the map area (Camp No. 1) the silt and soil sample results were uninteresting, with only a few anomalous zinc values to 390 ppm. One stream below a gossan in the southeast corner of the map gave a significant copper reading of 420 ppm. No anomalous lead values were obtained from any of the samples in the area.

Respectfully submitted,

Donald Francis

Work and Cost Report

1. Wages

Don Francis	- 9 days mapping	$258.75
Robert Etzel	- 9 days prospecting	180.00
Mile Shorty	- 7 days sampling 2 days prospecting	140.00
Bill Thomas	- 9 days mapping	153.25
	Total	$772.00

2. Camp Support

36 man-days at $10/man-day	360.00

3. Helicopter Support

12 hrs. at $130/hr.	$1,560.00
GRAND TOTAL	$2,692.00

REPORT ON GREG CLAIM GROUP

105-N-9

July 20 - 25, 1969

Introduction

The Greg Group of ten claims was staked in mid-July 1969 to cover four galena showings uncovered by prospecting during follow-up of several high lead geochemical anomalies (up to 1330 ppm). These anomalies were in silts collected in late June as part of a regional geochemical program in the Hess Area.

A four man party examined the area for five days in mid-July. Several unsampled creeks were silt sampled and soil samples collected along 3 different lines. The area was prospected and regionally mapped. As a result of the prospecting ten claims were staked.

Location and Access

The claim group lies in the Hess Mountains, between the Rogue and Hess Rivers, 24 miles east of Swan Lake. The claims are found on the eastern flank of a mountain four miles due east of Mt. Aho, Peak 6866. This claim group is in a remote area and is virtually inaccessible except by helicopter. The nearest lake suitable for float equipped aircraft - West Lake - is twelve miles to the northwest. All but four of the claims lie above tree line.

General Geology

The rocks in the area are of the Devonian-Mississippian sequence and include carbonaceous and calcareous units as well as a quartzite and a red slate unit. Bedding is generally east-west or slightly northwesterly-southeasterly and dips are usually moderate (45-70^{o}) to the south. A buff weathering limey unit in the northwest corner of the map area dips to the north. Graded bedding in two areas indicates that none of the beds have been overturned.

Outcrop is plentiful as most of the area is abcve tree line. However, there is much talus on the side hills and in the vicinity of the showings most outcrops are deeply buried.

The dominant carbonaceous rocks in the area are black slates. These slates weather from grey to black and contain some cherty bands. In several places small lenses (up to 3 ft.) of black fine grained crystalline limestone can be found. Grey weathering black cherts and argillites form the remaining portions of the carbonaceous unit. These cherts and argillites are found in three major bands passing through the map area.

Buff weathering limestones and limey quartzites are found in the northwest corner of the map area. Quartz grains up to 3 mm. diameter are found in the limey quartzites, some of which are graded. These rocks dip oppositely to all other rocks in the map area.

One fine grained black crystalline limestone band is found in the central portion of the map area. This band appears to pinchout and may be related to one of the galena showings. Another similar limestone band is found at the south end of the map area. The extent of this band is not known. Portions of this band are and graded limey quartzites form part of this band.

The most prominent map unit is the red slate unit which is found in the central part of the map area. This unit may cut across the entire map area, but continuous exposure could not be found. Bands of green slate are present in the red slates and these bands may represent original colour banding. Numerous small and large lenses of light reddish grey fine grained quartzites are found in the red slates. The slates are usually contorted around these lenses which range in size from inches to several hundred feet in length. They are generally fairly narrow.

Grey and buff weathering fine grained quartzites form mappable units in two areas.

Structural Geology

When viewed on cliff faces, the bedding is somewhat undulatory. No large scale folding could be seen on these faces but on the ridge just east of showing #4 the black slates have been tightly folded and faulted over a distance of about 500 ft. It appears that the slates have been squeezed together by directed forces from either the south or the north. On the ridge one-half mile north of showing #1, the black cherts outcropping on the ridge top have been folded in various directions but this does not appear to be of any extent. In the vicinity of showing #2, the black cherts and argillites appear to be in fault contact with the red and green slates. The extent of this fault is not known. The black cherts and argillites in the northeast are unconformably in contact with the buff weathering limestones and limey quartzites.

Description of Showings

Showing #1

Discovered by R. Etzel while prospecting a creek containing galena float. Massive galena and minor sphalerite was found in a dark, dirty and deeply weathered rock containing much limonite. No mineralized rock could be

found in place but the talus overlay a finely crystalline limestone bed about 30 ft. thick and was in turn overlain by the red slates. The showing was about 30 ft. long and 10-15 ft. wide. An assay indicated 9.45% lead and 8.76 oz/ton Ag.

Showing #2

Discovered by M. Ladue while soil sampling and prospecting. The host rock is similar to showing #1 with minor galena and sphalerite. The showing again overlies a limestone bed which appears to be in fault contact with the red and green slates. Black cherts overlie the showing. This showing is somewhat larger than showing #1. An assay indicated 0.01% lead and 0.05% zinc with a trace of silver. This showing was not adequately studied or prospected.

Showing #3

Discovered by R. Etzel while prospecting along the main anomalous creek. He found several fist sized pieces of pure galena in the creek before uncovering a vein of massive galena and minor sphalerite. The vein is at least three ft. long and from four to twelve inches thick. Any further extensions of the vein are buried in talus. The vein lies in a shear zone at the edge of a light reddish weathering quartz lens (200 ft. by 50 ft.) in the red slates. The vein itself has been sheared as the galena is banded. Minor quartzite and malachite stain can be found around the vein. An assay indicated 87.15% lead, 0.41% zinc, 0.18% copper and 90.2 oz/ton Ag.

Showing #4

Discovered by R. Etzel while prospecting. This is the only showing below tree line and has the greatest exposure of any. The showing lies in a slump area about 300 ft. in diameter. The rock here is well broken and little if any bedrock was seen. Approximately one-third of all rock in the area contains some galena but it is mostly concentrated as disseminations and veins in a large quartz vein at the west end of the slump area. The exposed dimensions are 50 by 5 ft. Etzel reports a gossan containing massive galena several hundred feet south. An assay of the vein galena indicated 0.21% lead and 4.4 oz/ton Ag.

Showing #5

Discovered by G. Sanford while geological mapping. The showing consists of bornite, tetrahedrite, covellite and malachite in quartz veins in a quartzite lens within the

red slates. This showing has no economic significance. An assay showed 28.5% copper and 4.26 oz/ton Ag.

Galena in vein quartz float was found on the side-hill two miles north of showing #1 and also on the side-hill 1½ miles northeast of the same showing. No prospecting was done in these areas.

Recommendations

At the time of writing, geochemical results are not available. However, if further work is deemed advisable, it is recommended that hand trenching and blasting be done to determine the extent of each of the anomalies. A packsack drill might prove useful. Prospecting should be done in the vicinity of the copper showing and in the areas to the north where galena float was found. As most of the claim group area is well above tree line, additional work should not be planned for too early in the season.

Assay Results

Assay Tag No.	Showing	Ag/ton	Pb	Zn	Cu
4013	#3	90.2	87.15	0.41	0.18
4014	#4	0.44	0.21	-	-
4015	#1	8.76	9.45	-	-
4016	#2	Tr	0.01	0.05	-
4017	#5	4.26	-	-	28.5

Illustrations: Geochemistry - Greg Group
Geology - Grey Group
Showings and claim locations - Greg Group

Respectfully submitted,

G. R. Sanford

REPORT ON SPEARHEAD MTN. AEROMAG ANOMALY

105-J-13

May 28 - 30, 1969

On the 29th and 30th of May, 1969, the bullseye aeromagnetic anomaly six miles north of Spearhead Mountain, Peak 6923 (see aeromagnetic map #4391 G) was examined. On the day previous, an attempt was made to determine the exact position of the anomaly by using a Jalander magnetometer while traversing in a helicopter. This proved unsuccessful as there appeared to be too much local interference from the helicopter. A lake suitable for float-equipped aircraft lies less than one mile south of the area.

During the period of examination, all major drainages in the vicinity of the anomaly were sampled. This proved difficult as most of the creeks were still snow-covered and frozen, especially in the valley to the north of the anomaly. Soil samples were taken along lines at the base of the slope below the anomaly and through the centre of the suspected anomaly. In most cases the ground was still frozen. The soil profile consisted of 2 inches of moss, 2 inches of dark organic material, 2 inches of volcanic ash and then brown soil filled with 1 cm. diameter argillaceous fragments. An attempt was made to run a magnetometer survey over the suspected anomaly but the magnetometer was not functioning correctly.

Outcrop was not found in the suspected anomalous area. Creek float consisted almost entirely of a blue-grey chert with scattered cobbles of chert pebble conglomerate. Outcrop on the ridge tops above the anomaly is almost entirely a massive grey weathering blue-grey chert.

No anomalous values were detected in the samples collected. Several high zinc values could be attributed to the blue-grey cherts. Several high manganese values were recorded. A magnetic anomaly could exist at this position, but the soil samples indicate that it is probably not a copper anomaly.

Illustrations: Geochemistry

Respectfully submitted,

G. R. Sanford

GEOCHEMISTRY
AEROMAG ANOMALY
NTS 105-J-13
Cu, Pb, Zn, Mn in ppm.
1/2
0
1/2
1 mi
N

REPORT ON ANOMALIES #3 AND #4

105-N-2

June 14-16, 1969

Anomalies #3 and #4 are relatively small lead and copper geochemical soil anomalies in the vicinity of Peak 4512, ten miles east of the junction of the North and South Macmillan Rivers. A float-equipped aircraft could possibly land 8 miles west of this area but the anomalies are essentially inaccessible except by helicopter.

The anomalies, discovered in the 1967 season, consist of a lead anomaly of two adjacent samples with 67 and 650 ppm lead and a copper anomaly of one value of 3700 ppm copper. Zinc values of 100-300 ppm are common throughout the area.

Three days were spent in the area and all drainges in the vicinity of the anomalies were sampled and prospected. Portions of the higher areas are underlain by a roughly circular stock and the contacts were more accurately mapped.

The rocks in the area are Mississippian-Devonian black bedded cherts and argillites with interbeds of light greenish white fine grained quartzites. In general, the beds strike northwest-southeast and dip moderately to the south. These rocks have been intruded by a medium grained biotite quartz monzonite stock of Cretaceous age (Sanford stock). The stock is roughly circular and one-half to three-quarters of a mile in diameter. Near the stock, the intruded rocks are quite hornfelsic and some rocks have been altered for up to one-half mile from the stock.

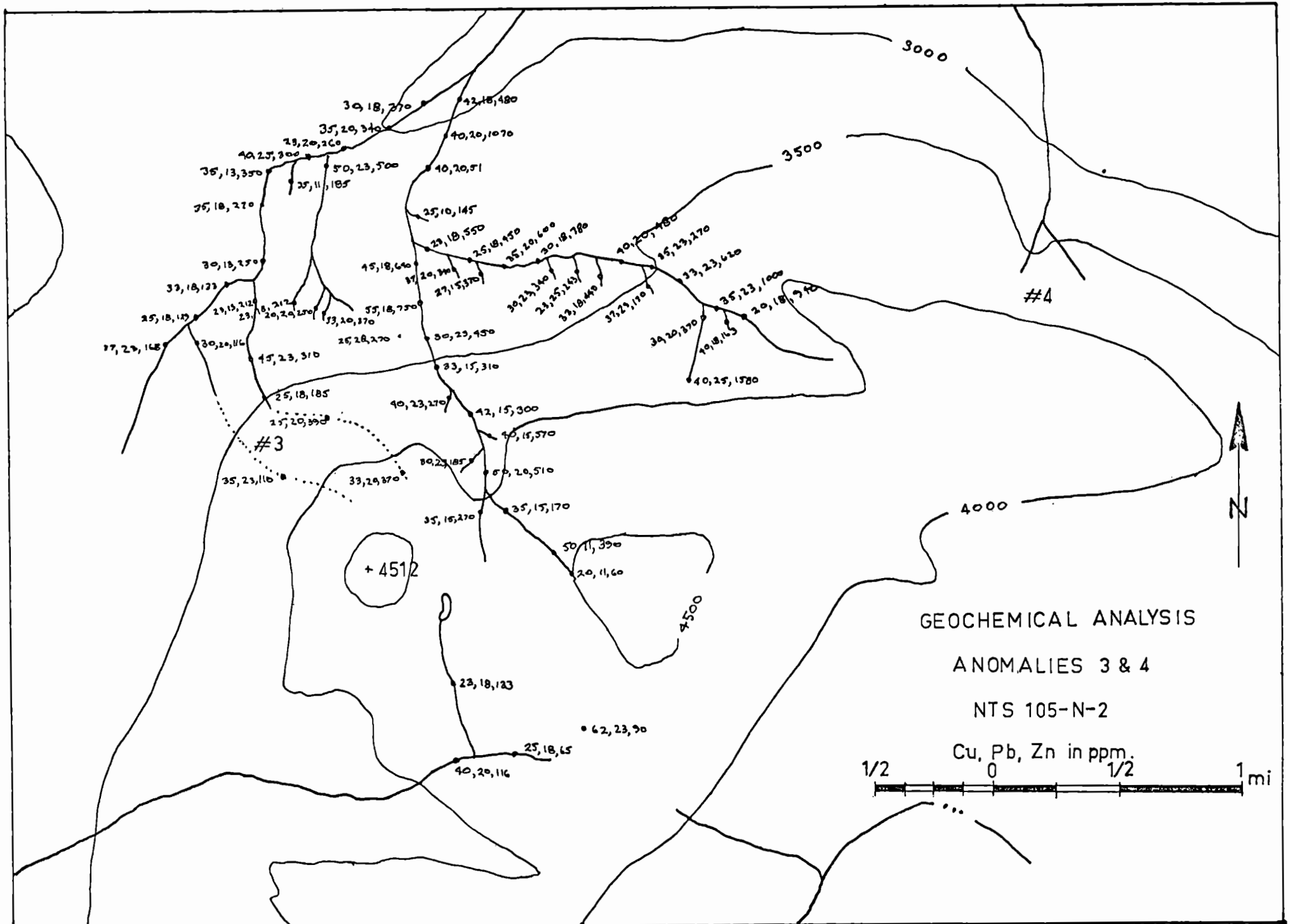
Silts taken in the vicinity of the lead anomaly gave no anomalous results, the highest value being 20 ppm. The position of the copper anomaly was misjudged and no samples were taken within one-half mile. No outcrop could be found within one-quarter to one-half mile of either anomaly and both were in fairly swampy areas. The only mineralization encountered was pyrite in the black argillites and occasionally in the cherts.

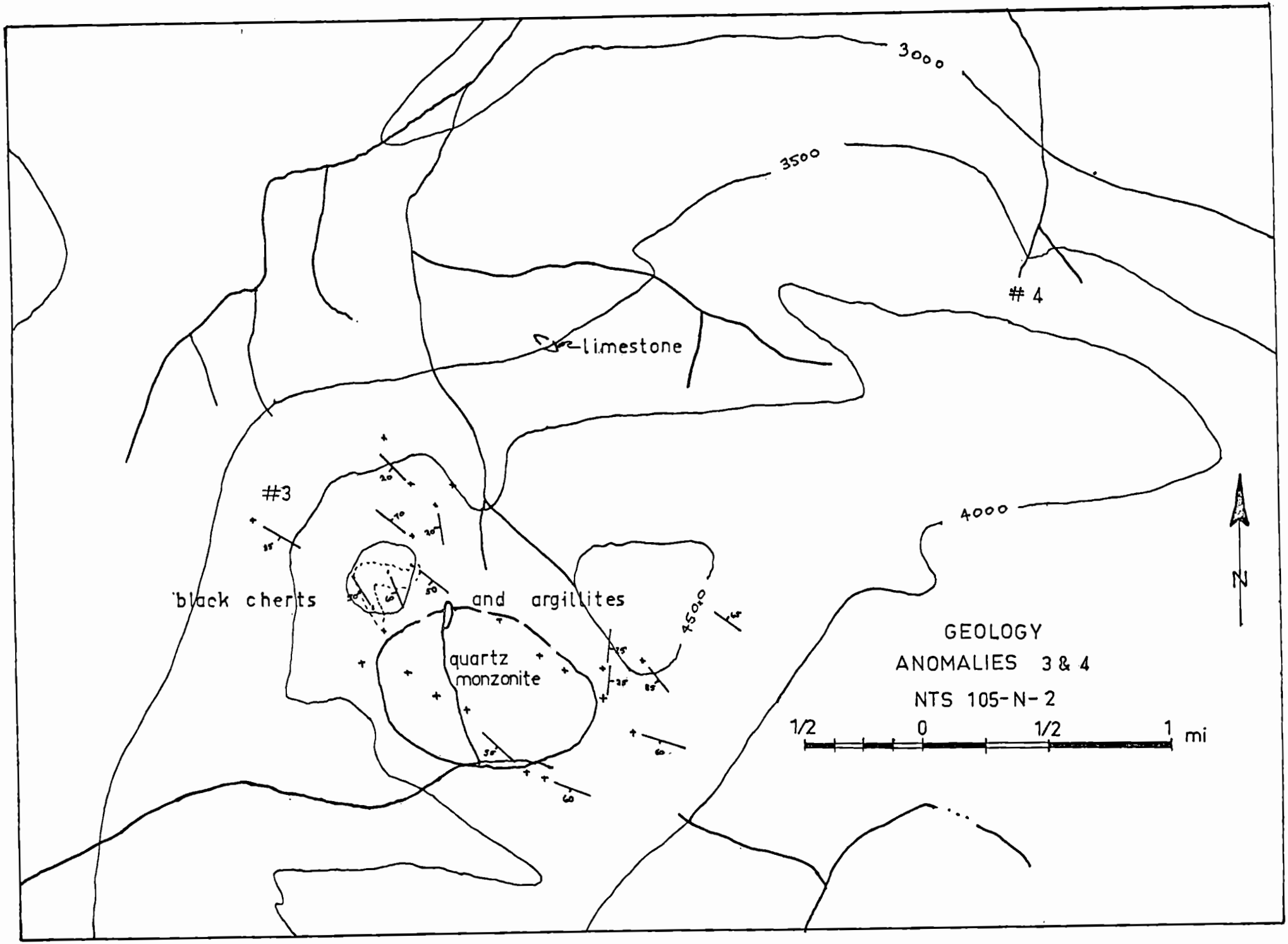
Considering that the soil anomalies were of little extent and that no outcrop could be found, it is suggested that further work is not required in this area.

Illustrations: Geochemistry
Geolgoy

Respectfully submitted,

G. R. Sanford


3000
3500
4000
4500
#3
#4
+4512
30, 18, 370
42, 18, 480
35, 20, 340
40, 20, 1070
28, 20, 260
40, 25, 300
35, 13, 350
50, 23, 500
40, 20, 51
35, 11, 185
35, 18, 270
25, 10, 145
23, 18, 550
25, 18, 450
35, 20, 600
30, 18, 780
40, 20, 480
35, 23, 270
30, 18, 250
45, 18, 640
33, 23, 620
33, 18, 123
27, 15, 370
30, 23, 340
23, 35, 245
33, 18, 440
35, 23, 1000
25, 18, 123
55, 18, 750
37, 23, 170
20, 18, 940
30, 20, 370
70, 18, 145
25, 28, 270
30, 23, 450
37, 23, 168
30, 20, 116
45, 23, 310
33, 15, 310
40, 25, 1580
25, 18, 185
40, 23, 270
42, 15, 300
25, 20, 395
40, 15, 570
80, 23, 185
50, 20, 510
35, 23, 110
33, 20, 370
35, 15, 170
35, 15, 270
50, 11, 390
20, 11, 60
23, 18, 123
62, 23, 90
25, 18, 65
40, 20, 116
N
GEOCHEMICAL ANALYSIS
ANOMALIES 3 & 4
NTS 105-N-2
Cu, Pb, Zn in ppm.
1/2
0
1/2
1 mi


3000
3500
#4
limestone
#3
4000
4500
black cherts
and argillites
quartz
monzonite
N
GEOLOGY
ANOMALIES 3 & 4
NTS 105-N-2
1/2
0
1/2
1 mi

REPORT ON ANOMALY #107

VOLE CREEK GOSSAN

105-N-11
July 14, 1969

The Vole Creek gossan is a limonite cemented gossan about 60 ft. in diameter located approximately 22 miles west of Swan Lake and 7 miles southwest of Four Moose Lake. The gossan itself is found roughly two miles west of and on the side hill above Vole Creek. Several small lakes on Vole Creek, less than a mile north of the gossan, are possibly suitable for float-equipped aircraft.

Samples taken in the 1968 season indicated insignificant copper and lead but zinc values in five samples ranged from 100-550 ppm and a sixth sample contained 60,000 ppm zinc. On the basis of this single large value, it was decided that the gossan should be re-visited.

One day was spent at the gossan, prospecting and checking geology. A line of soil samples was taken along the side-hill above the gossan and another line passed through the base of the gossan. Three gossan samples were taken at a depth of 12-18 inches. One sample of gossan material was sent for assay.

The gossan material is fairly open and is of a bedded nature although it was too broken to obtain an attitude. Leaf, pine cone and pine neddle impressions are common. There are occasional small rock fragments in the gossan. The nearest noted outcrop was several hundred feet north of the gossan. This was a grey weathering dark bedded crystalline Proterozoic limestone. Yukon Group quartzites were noted near the valley bottom and also one-half mile south of the gossan. There is a second gossan in a creek one-quarter mile west. No mineralization was encountered.

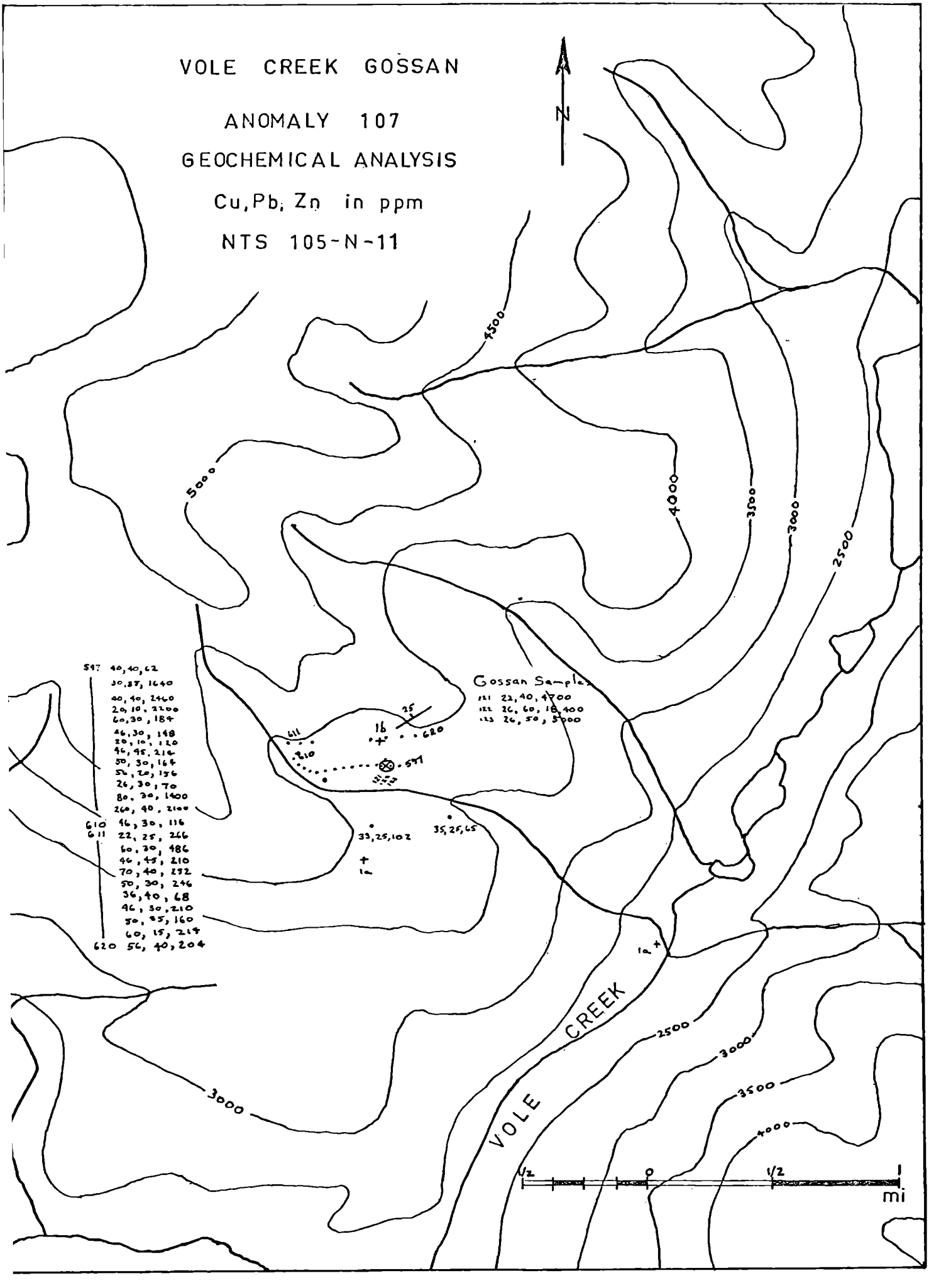
Assay and geochemical results were not available at the time of writing.

Assay Tag No.	Cu	Pb	Zn	Remarks
4024	0.03	0.12	0.48	

(This portion not enclosed with report)

Respectfully submitted

G. R. Sanford


VOLE CREEK GOSSAN
ANOMALY 107
GEOCHEMICAL ANALYSIS
Cu, Pb, Zn in ppm
NTS 105-N-11
N
5000
4500
4000
3500
3000
2500
3000
2500
3000
3500
4000
VOLE CREEK
Gossan Samples
121 22, 40, 4700
122 26, 60, 18,400
123 26, 50, 5000
597 40, 40, 62
30, 87, 1640
40, 40, 2460
20, 10, 2200
60, 30, 184
46, 30, 148
20, 10, 120
46, 95, 218
50, 30, 164
56, 20, 136
26, 30, 70
80, 30, 1400
260, 40, 2100
610 46, 30, 116
611 22, 25, 246
60, 30, 486
46, 45, 210
70, 40, 292
50, 30, 246
36, 40, 68
46, 30, 210
30, 85, 160
60, 15, 214
620 56, 40, 204
611
610
597
620
680
25
1b
33, 25, 102
35, 25, 65
1a
1a
1/2
0
1/2
mi

REPORT ON ANOMALY #114

N.T.S 105-N-11

July 6-8, 1969

Anomaly #114, discovered during the 1968 season, is lead-zinc anomaly in a small cirque 20 miles northwest of Swan Lake. Four Moose Lake, 2½ miles to the northeast, is easily accessible by float-equipped aircraft. Lead values ranged from 10-80 ppm and zinc values from 50-1500 ppm. The largest values were found near the headwaters of the creek which flows to the southeast. The upper edges of the cirque are just above tree line and the anomalous areas lie below tree line in dense undergrowth.

Three complete days were spent checking the anomaly: two days were used to obtain areal geology and one day was devoted to prospecting. Two lines of soil samples were taken around the cirque, one at tree line and the other about 600 vertical feet below the first. Anomalous tributaries to the creek were more completely sampled than had previously been done. The geology had been done on a regional scale only.

The rock in the area is nearly all of the carbonaceous unit of the Devonian-Mississippian sequence, either black cherts and argillites or a quartzite chert argillite breccia with interbedded black slates. The fine grained portions of this breccia are a grey weathering quartzite. A branching and steeply eastward dipping dyke of Cretaceous (?) "aplite" cuts the cherts and argillites along the upper northwestern edge of the cirque. This "aplite" is a light coloured aphanitic rock with scattered 1 mm. diameter quartz phenocrysts In places, portions of the wall rock have been included in the dyke material. At most this dyke is 50 ft. wide.

An east-west fault, separating the breccias from the cherts-argillites, is seen as a topographic low. The cherts and argillites are contorted near this fault and the dyke terminates against it. The areal attitude of the rocks north of the fault is northwesterly-southeasterly and this changes to northeasterly-southwesterly south of the fault. The direction and amount of fault movement is unknown.

A rust seepage lies at the base of the cirque, near the inferred continuation of the fault. The rust seepage is quite swampy and can be followed for some 150 ft. in a southerly direction. Very minor limonite cemented quartzite breccia talus can be found on the side hill well above the seepage. The quartzite fragments are similar to the inplace fine grained quartzites. No mineralization was detected in the area.

From soil and silt samples obtained during the examination very high zinc values (up to 6700 ppm) were found in the vicinity of the gossan but no anomalous leads were detected. Some moderately high zinc values (up to 700 ppm) were found near the "aplite" dyke but these were also accompanied by non-anomalous leads. Limonite cemented quartzite breccia when analyzed gave 45 ppm copper, 20 ppm lead and 1020 ppm zinc.

As black cherts and argillites in several areas of the Hess Region are known to have high background zinc without accompanying economic mineralization, further investigations are not recommended in the area at present.

Illustration: Geochemistry
Geology

Respectfully submitted,

G. R. Sanford

ATLAS EXPLORATIONS LIMITED

ROSS RIVER Y.T.

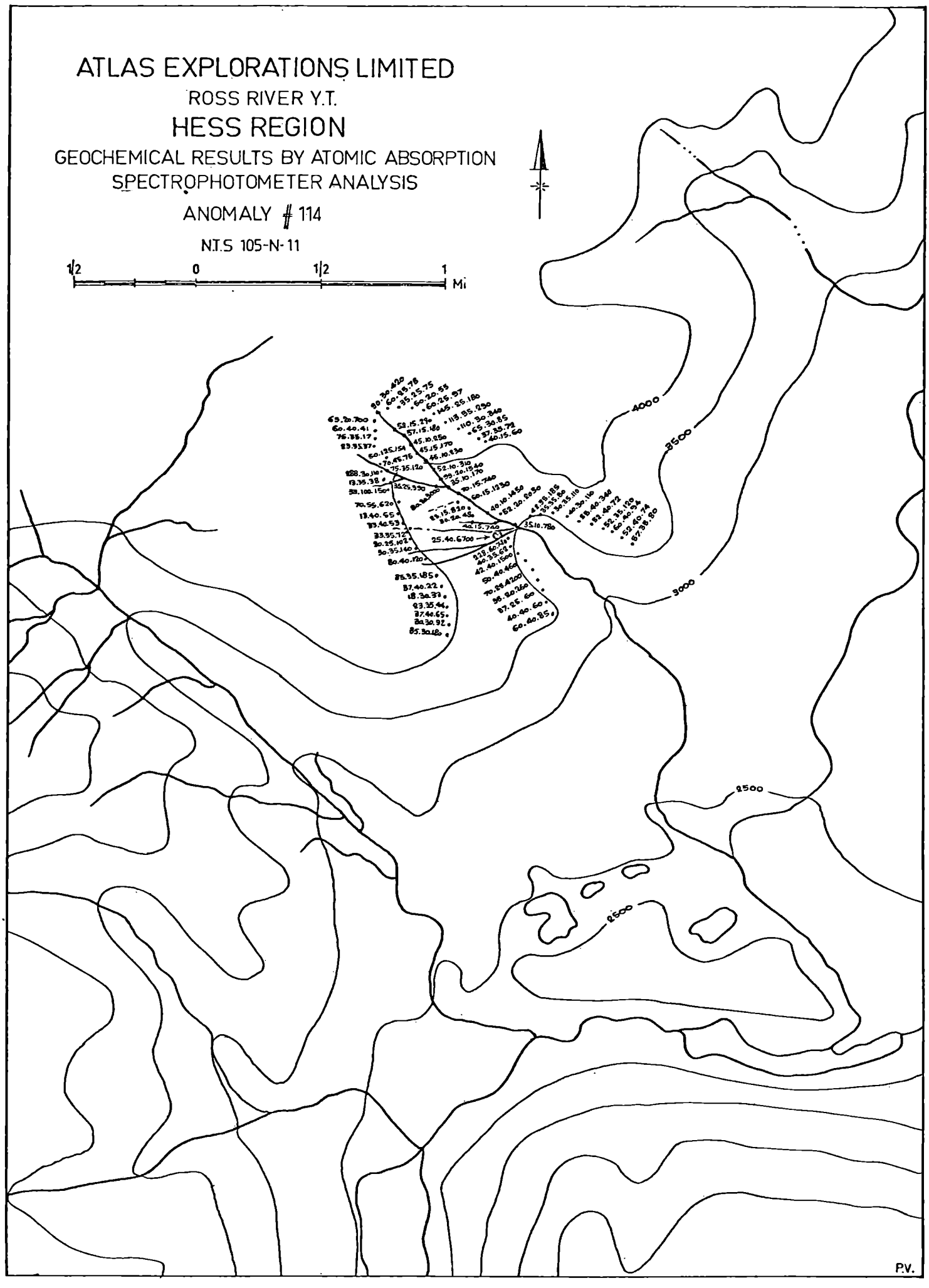
HESS REGION

GEOCHEMICAL RESULTS BY ATOMIC ABSORPTION SPECTROPHOTOMETER ANALYSIS

ANOMALY # 114

N.T.S 105-N-11

1/2 0 1/2 1 Mi



ATLAS EXPLORATIONS LIMITED

ROSS RIVER (Y.T.)

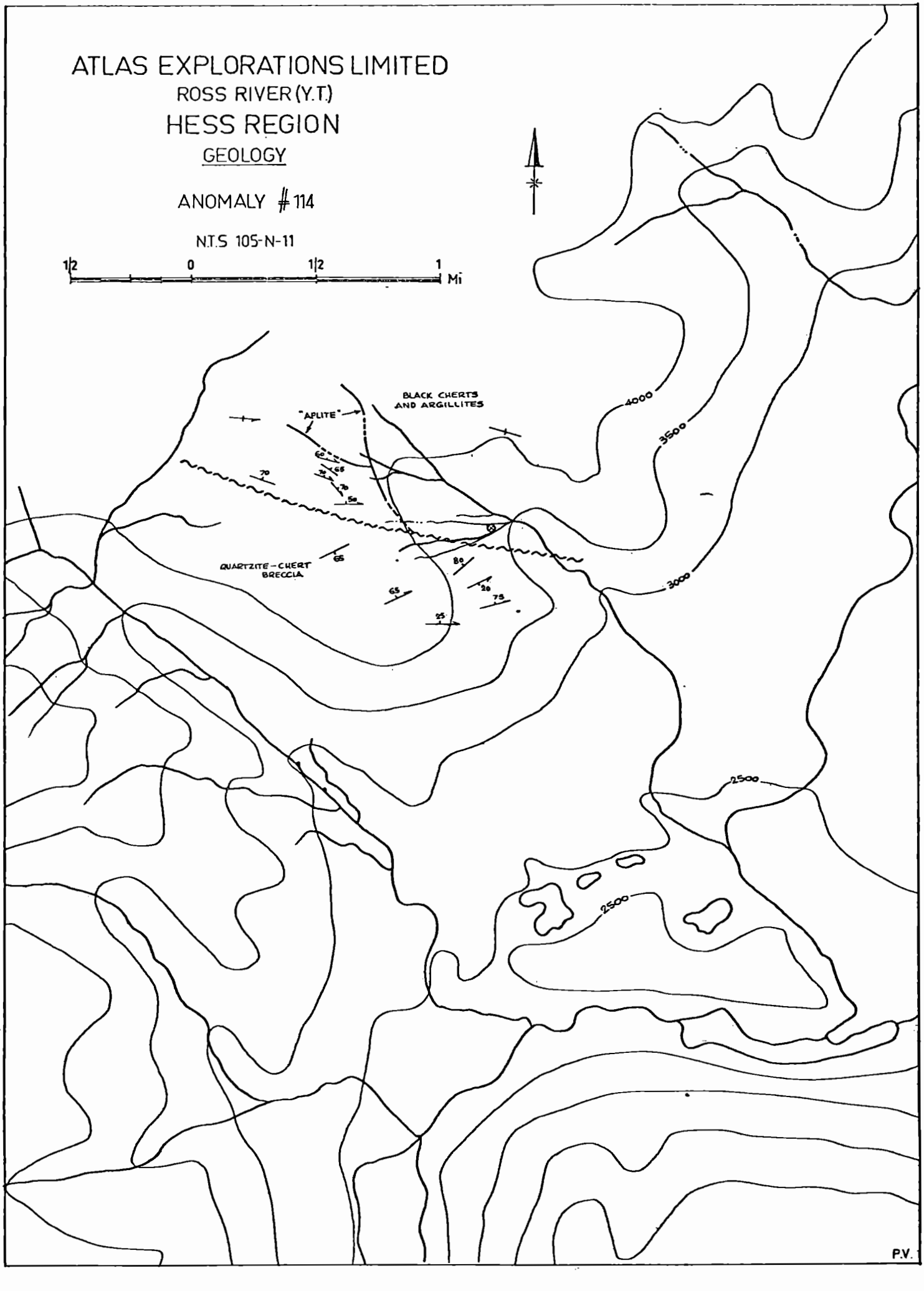
HESS REGION

GEOLOGY

ANOMALY # 114

N.T.S 105-N-11

1/2 0 1/2 1 Mi



REPORT ON ANOMALY #102

N.T.S. 105-N-10 and 11

July 2-5, 1969

Anomaly #102 is a zinc, lead and minor copper anomaly approximately 6 miles NNW of Pleasant Lake, and is accessible easily only by helicopter. The anomaly lies near the headwaters of a northerly flowing creek and has values ranging from 30-100 ppm copper, 10-85 ppm lead and 200-800 ppm zinc. This creek is one of two northward flowing creeks which trisect a 4 mile long northwest-southeast trending range of rolling hills which are just above tree line.

Three complete days were spent in the area; two days were used in mapping and areal geology and one day used in prospecting the anomalous creek. A one mile line of soil samples was taken near the headwaters of the anomalous creek and one previously unsampled creek was silt sampled. Little geology had been done in the area but geochemical coverage from the previous year was almost complete.

There is little outcrop in this area except on cliff faces or steep hillsides. There are however numerous piles of cobble sized talus fragments scattered along the ridges. The rock is of three dominant types: black slates, black cherts and argillites, both of Devonian-Mississippian age and "aplite" dyke rocks of Cretaceous (?) age. The cherts and argillites intergrade and are bedded in an east-west direction and dip moderately to the north (tops unknown). They conformably overlie the black slates found in the eastern portions of the area. Both carbonaceous rock types have been cut by a 200-500 ft. wide, generally east-west trending sill(?) of "aplite" - a light coloured, aphanitic rock with scattered 1 mm. diameter quartz phenocrysts and the very occasional feldspar phenocryst of the same dimensions. Subsequent to intrusion, northeast-southwest faulting has offset the sill one-half mile to the north in the west. This fault can be seen as the topographic low followed by the northerly trending non-anomalous creek. The dyke cuts the black cherts and argillites near the head of the anomalous creek.

Samples collected while visiting the area indicate that high zinc values (up to 1900 ppm but averaging 300 ppm) are accompanied by non-anomalous leads (maximum value of 35 ppm). A crushed and analyzed sample of the dyke rock contained 55 ppm copper, 75 ppm lead and 35 ppm zinc, indicating that the lead anomalies from the previous year could have been associated with the dyke material. Chert and argillite samples from close to the dyke contained 80 ppm copper, 15 ppm lead and 41 ppm zinc. Two other samples of the same rock, only taken at a greater distance from the tyke, averaged 45 ppm copper, 15 ppm lead and 25 ppm zinc, suggesting that high copper values are associated with thermal

alterations close to the dyke. No mineralization was encountered except for minor pyrite in the "aplite" dyke.

The black cherts and argillites underlying the area are known to have high background zinc in several other areas of the Hess region and it is suggested that this anomaly has no economic significance and warrants no further attention at the present time.

Illustrations: Geochemistry
Geology

Respectfully submitted,

G. R. Sanford

ATLAS EXPLORATIONS LIMITED

ROSS RIVER Y.T.

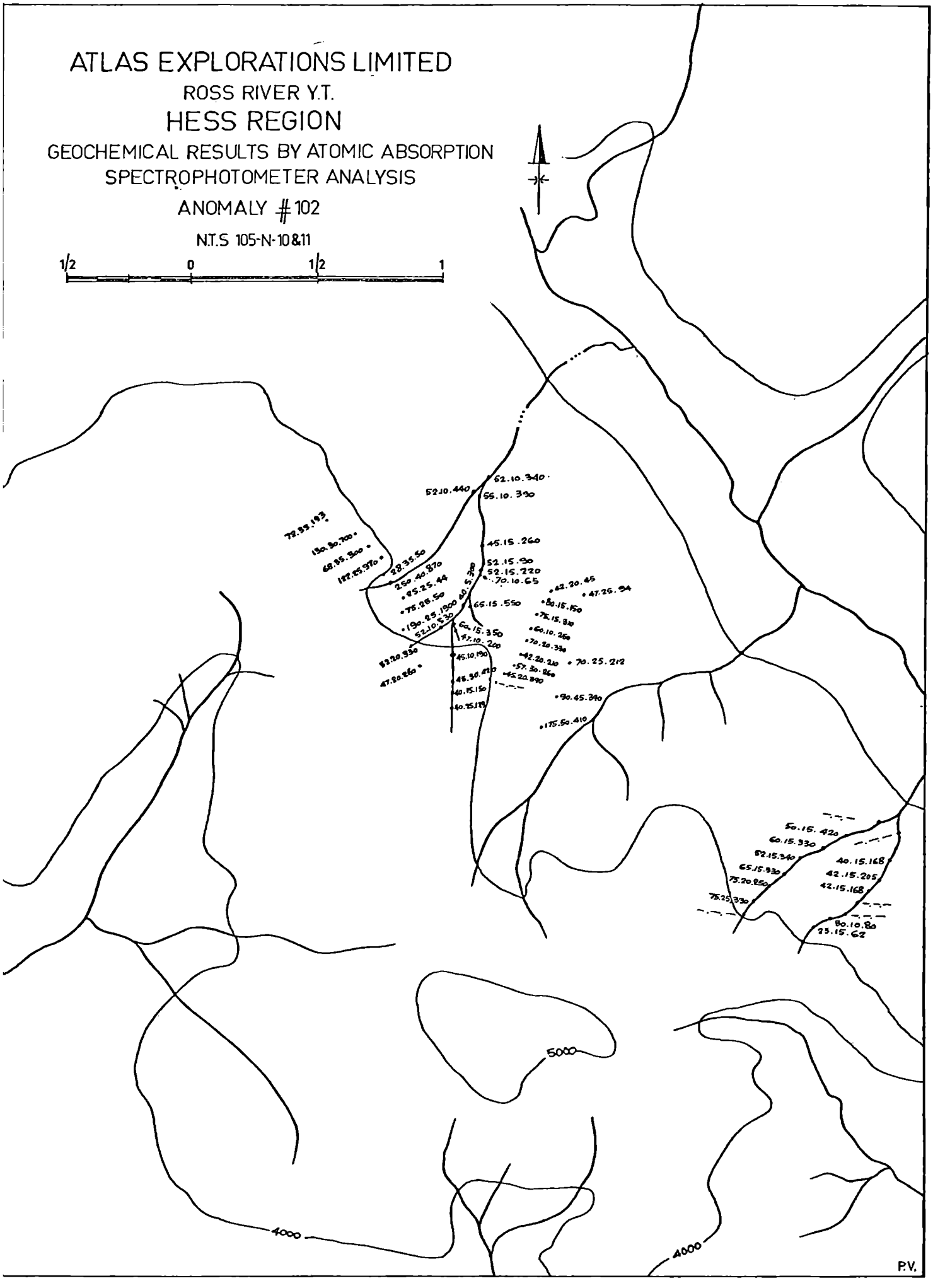
HESS REGION

GEOCHEMICAL RESULTS BY ATOMIC ABSORPTION SPECTROPHOTOMETER ANALYSIS

ANOMALY # 102

N.T.S 105-N-10&11

1/2 0 1/2 1



ATLAS EXPLORATIONS LIMITED

ROSS RIVER Y.T.

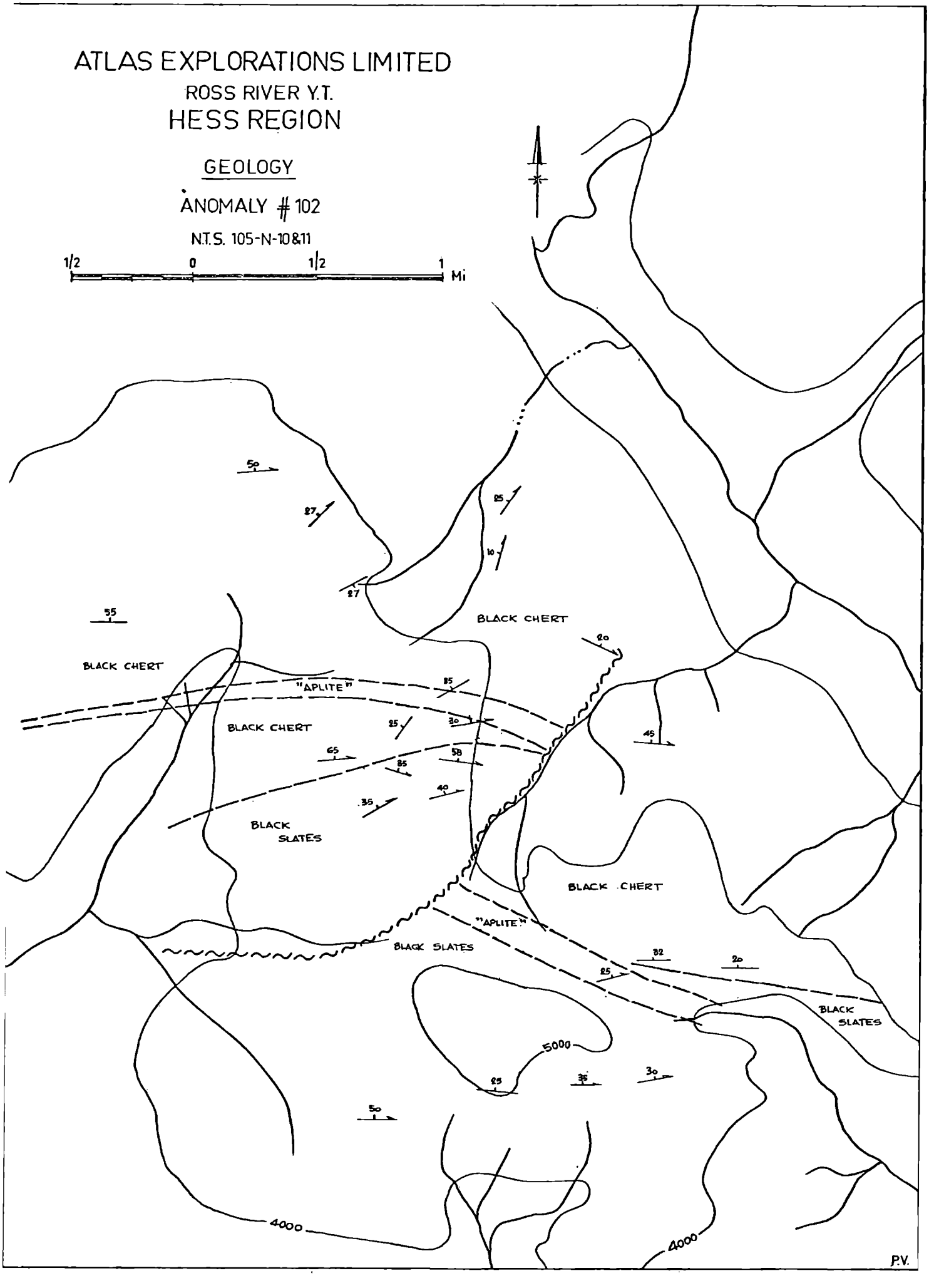
HESS REGION

GEOLOGY

ANOMALY # 102

N.T.S. 105-N-10&11

1/2 0 1/2 1 Mi



REPORT ON ANOMALIES #94, #95, #96

105-N-10

June 28-30, 1969

Anomalies #94, #95, #96 are found near the middle of a small mountain range eight miles south of the Lansing Range and eight miles northwest of Swan Lake. This area is accessible by helicopter only. Anomaly #94 is on a northward flowing creek about one and a half miles east of anomalies #95 and #96, which are two closely associated southerly flowing creeks.

These creeks were sampled in the 1968 season and copper values near the headwaters of #95 and #96 creeks ranged from 50-150 ppm, lead values from 40-60 ppm and zinc values from 50-360 ppm. Anomaly #94 had copper values from 50-150 ppm, lead values of 35-40 ppm and zinc values of 150-850 ppm.

Three days were spent examining these anomalies. A line of soil samples was taken around the eastern end of the mountain range at approximately tree line. Two previously unsampled creeks were silt sampled and portions of the anomalous creeks re-sampled. Prospecting and mapping was done.

The rocks in the area are of Mississippian-Devonian sequence, mostly grey to green slates with some interbedded black cherts and argillites. Slaty clevages are generally east-west but vary up to 25° in either direction and dips are slight to moderate to the north. Few bedding surfaces were seen but attitudes generally conformed to the slaty clevages.

Anomalies #94 and #96 appeared to be associated with an altered, highly siliceous intrusive (?) rock which outcropped in a small saddle separating the two anomalous creeks. This rock intruded the green slates and is about 200 ft. wide and appears to have little lateral extent. A sample of this rock will be thin sectioned. A crushed rock chip sample contained 18 ppm copper, 133 ppm lead and 45 ppm zinc. Green slates near this intrusive (?) averaged 35 ppm copper, 10 ppm lead and 80 ppm zinc. Talus from a barite vein was found in the green slates 1000 ft. to the south of this position. The green slates in this area contain fair amounts of pyrite and this was the only mineralization seen.

Silt samples from creek #96 indicated greater copper values than were obtained the year previously. Copper values ranged up to 750 ppm. The maximum lead value obtained was 15 ppm.

The anomaly on creek #95 did not check out. No anomalous values were found. This might possibly suggest that the intrusive (?) rock is not the source of the anomalous values.

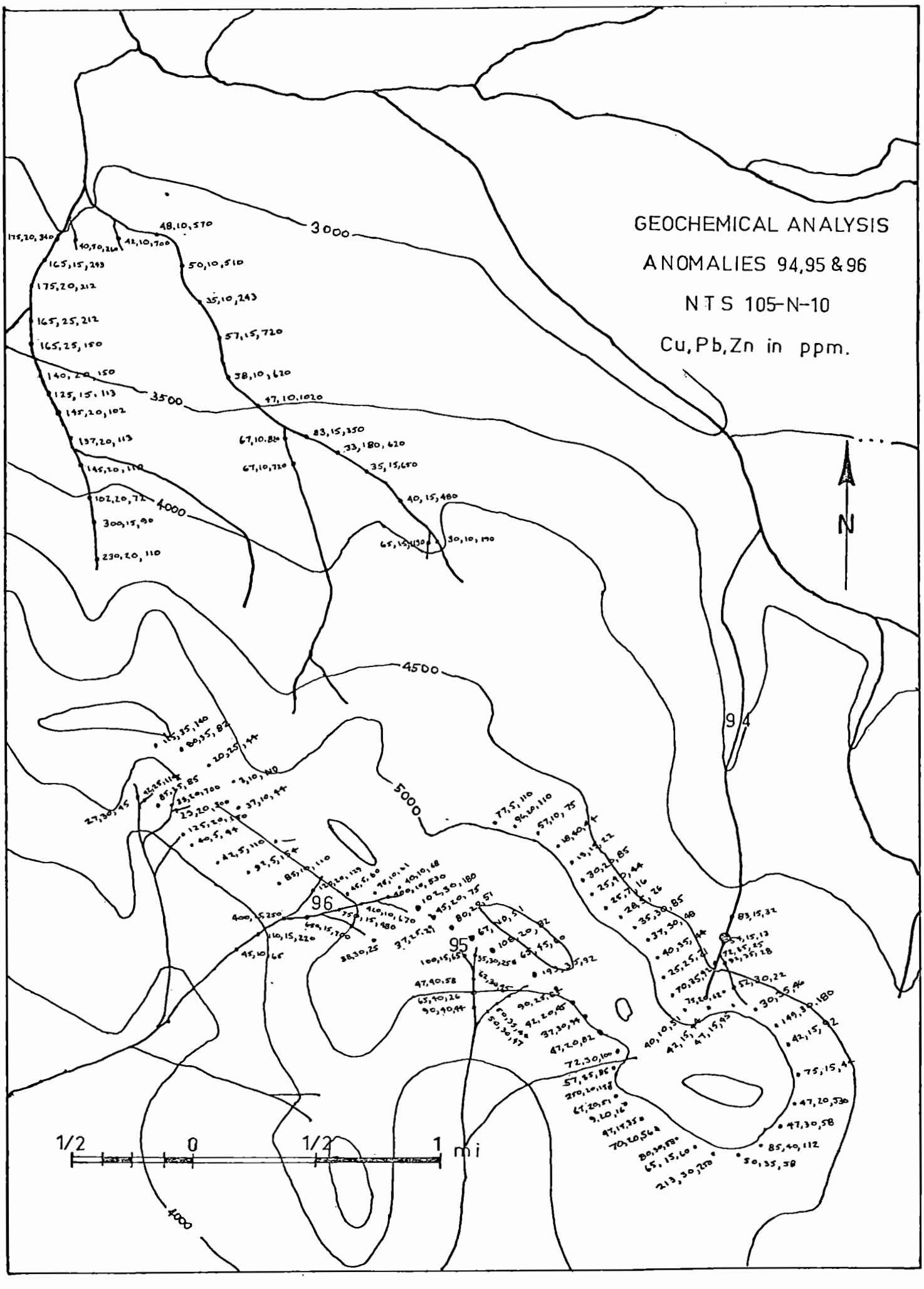
A rust seepage which had cemented creek talus was found in the creek bottom one mile above anomaly #94. Most of the fragments were of black argillites which formed the only outcrop in the vicinity. It was thought that this gossan was the source of the anomalous copper values, but gossan and silt samples from the immediate area did not contain any anomalous values.

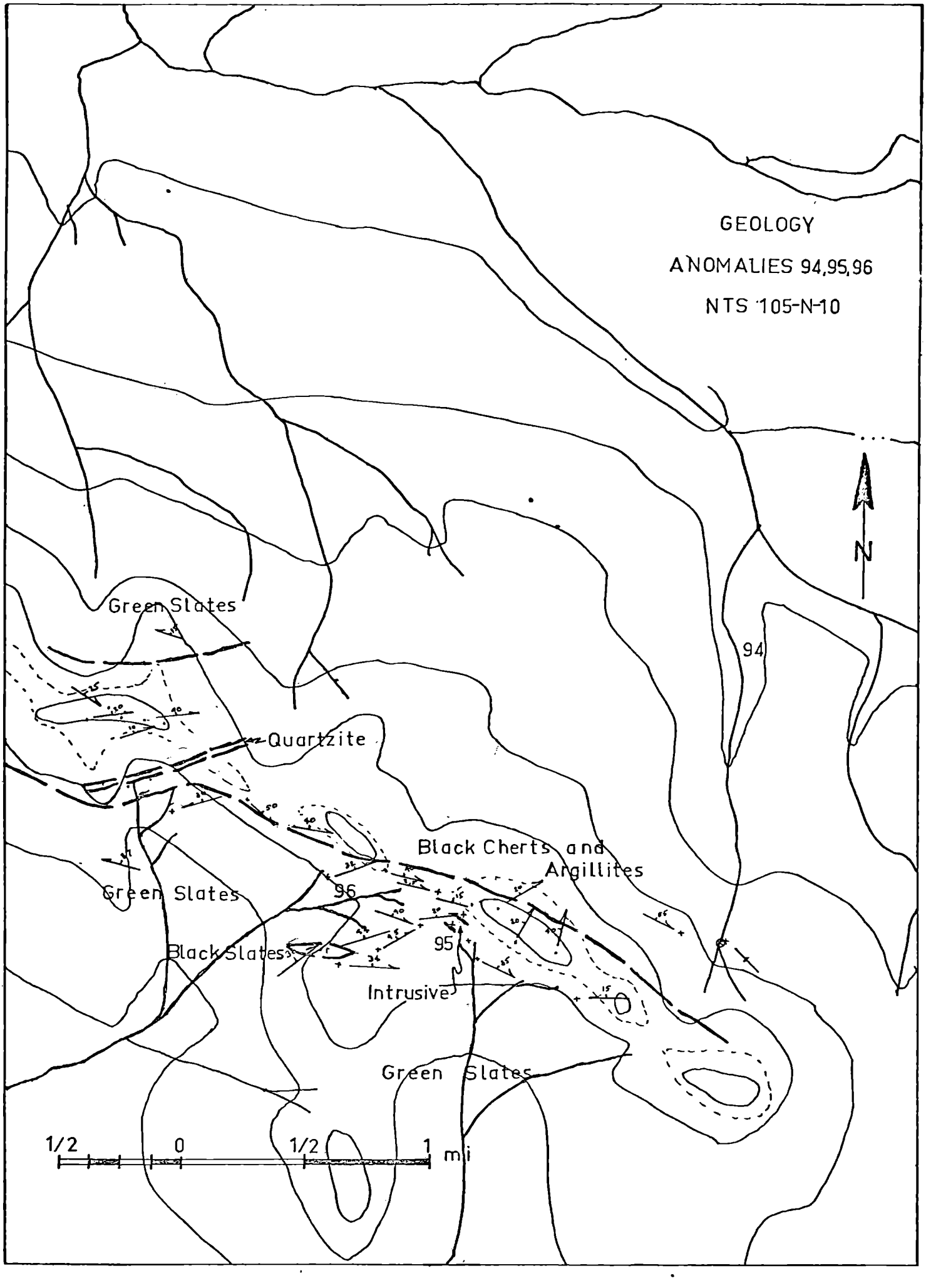
The soil samples taken around the mountain indicated an anomalous copper area on the southeastern flank, but lead and zinc values were non-anomalous. The west fork of the previously unsampled creek to the north also contained anomalous copper values (averaged 150 ppm and ranged up to 300 ppm) but non-anomalous lead and zinc values were obtained

In the future, creek #94 below the gossan should be prospected and re-sampled. The source of the high copper values in the creek to the northwest should be determined. While in the area creek #96 should be re-prospected as well as the southeast flank of the mountain. High zinc values can be attributed to the black cherts and argillites.

Respectfully submitted,

G. R. Sanford


GEOCHEMICAL ANALYSIS
ANOMALIES 94,95 & 96
NTS 105-N-10
Cu, Pb, Zn in ppm.
3000
3500
4000
4500
5000
4000
N
94
95
96
1/2
0
1/2
1 mi


GEOLOGY
ANOMALIES 94,95,96
NTS 105-N-10
N
Green Slates
94
Quartzite
Black Cherts and
Argillites
Green Slates
96
95
Black Slates
Intrusive
Green Slates
1/2
0
1/2
1
mi

REPORT ON ANOMALY #90

PLEASANT CREEK GOSSAN
105-N-10

June 24-28, 1969

The Pleasant Creek gossan is a moderately large swampy rust seepage found on Pleasant Creek about 5 miles NNE of Swan Lake. The rust seepage covers an area of several hundred square feet and is found at the base of a hill on the west side of the creek. Zinc values from 70-12,000 ppm, copper values from 30-400 ppm and lead values from 10-60 ppm were obtained from soil and silt samples in the 1968 season.

The gossan was revisited for four days near the end of June, 1969, during which time the area was prospected, a grid laid out, a Jalander magnetometer survey run and soil samples collected. The grid consisted of a 1200 ft. east-west base line with 1000 ft. crosslines every 400 ft. Magnetometer stations were at 100 ft. intervals along the base and cross-lines. Soil samples were taken at the same spacing. The grid adequately covered the exposed parts of the gossan and continued some distance up the hill. Lines 0 and the south half of Line 4 lay along the valley bottom and the remaining lines were on the side-hill. Soil samples obtained along the valley bottom were of a peaty nature.

A magnetometer traverse was run along the base line to check for closure and the grid was covered in a figure eight loop pattern. Unfortunately, the base line traverse did not close - 180 gammas difference and by the end of the grid traverse 450 gamms difference from the initial reading. As the maximum difference in the survey was 900 gammas it was decided that nothing could be gained by interpreting the results.

The nearest outcrop seen was one mile away, at the top of the hill above the gossan and was of little extent. The rock was a grey weathering chert breccia with interbeds of black slates and grey weathering black argillites and cherts.

Contoured soil sample results are attached. The high zinc concentration near the southern end of line 2 are in the vicinity of a second small rust seepage. Relatively high copper concentrations, up to 280 ppm, are found just above the main gossan. Three individual readings of 520, 520 and 400 ppm are found in this same area. There are no significant lead concentrations.

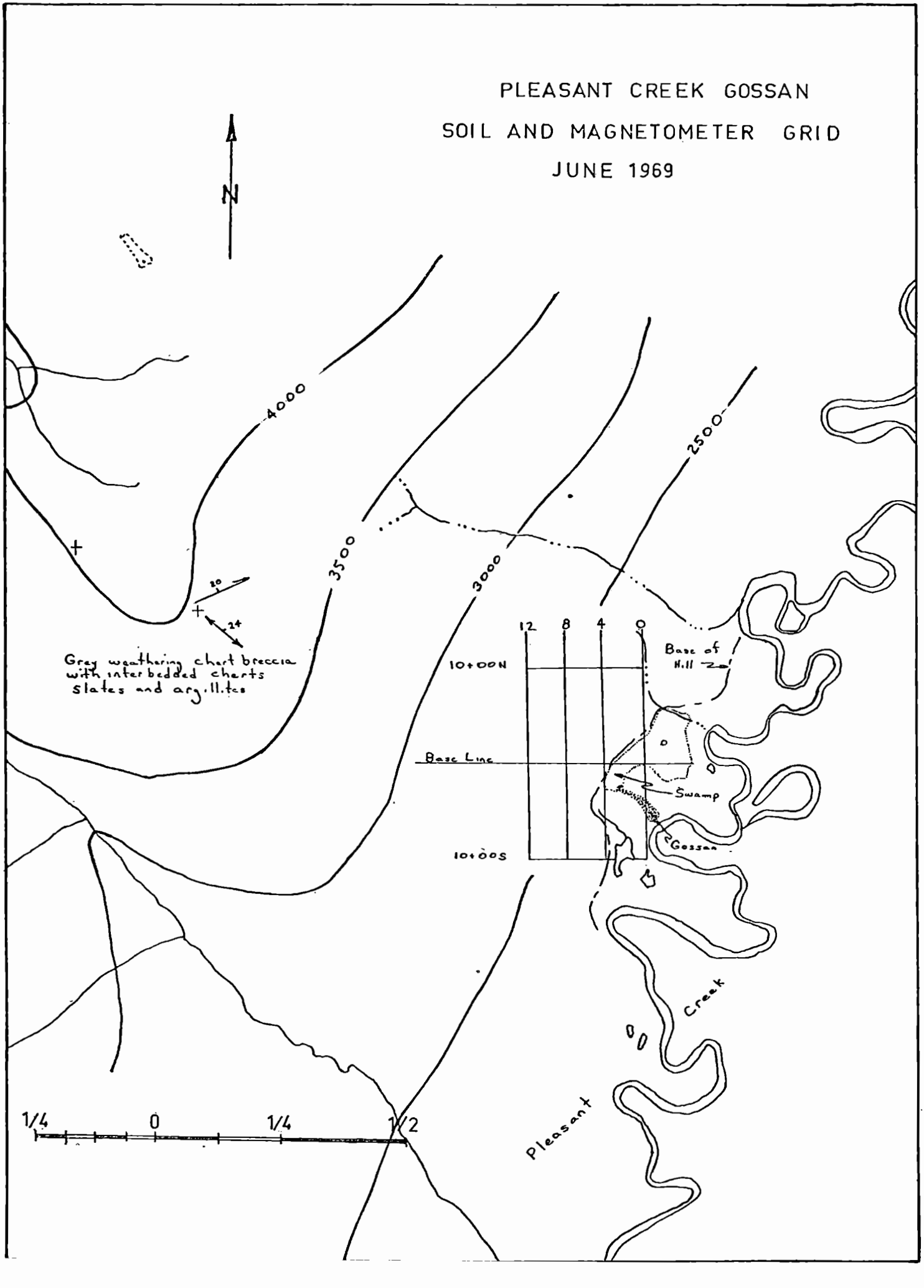
Two low hills on the valley bottom are possibly large frost boils which could create regions of high metal concentration due to capillary action and adsorption on near surface clays.

As no rock was seen close to the gossan and nothing could be learned from the magnetometer traverse, little can be said as to the probable origin of the gossan. It is recommended that the magnetometer survey be re-run but only if a crew happens to be in the area. Possibly an additional line should be run to the east of line 0 and soil samples taken along crosslines spaced at 200 ft. instead of 400 ft. to the present line 8.

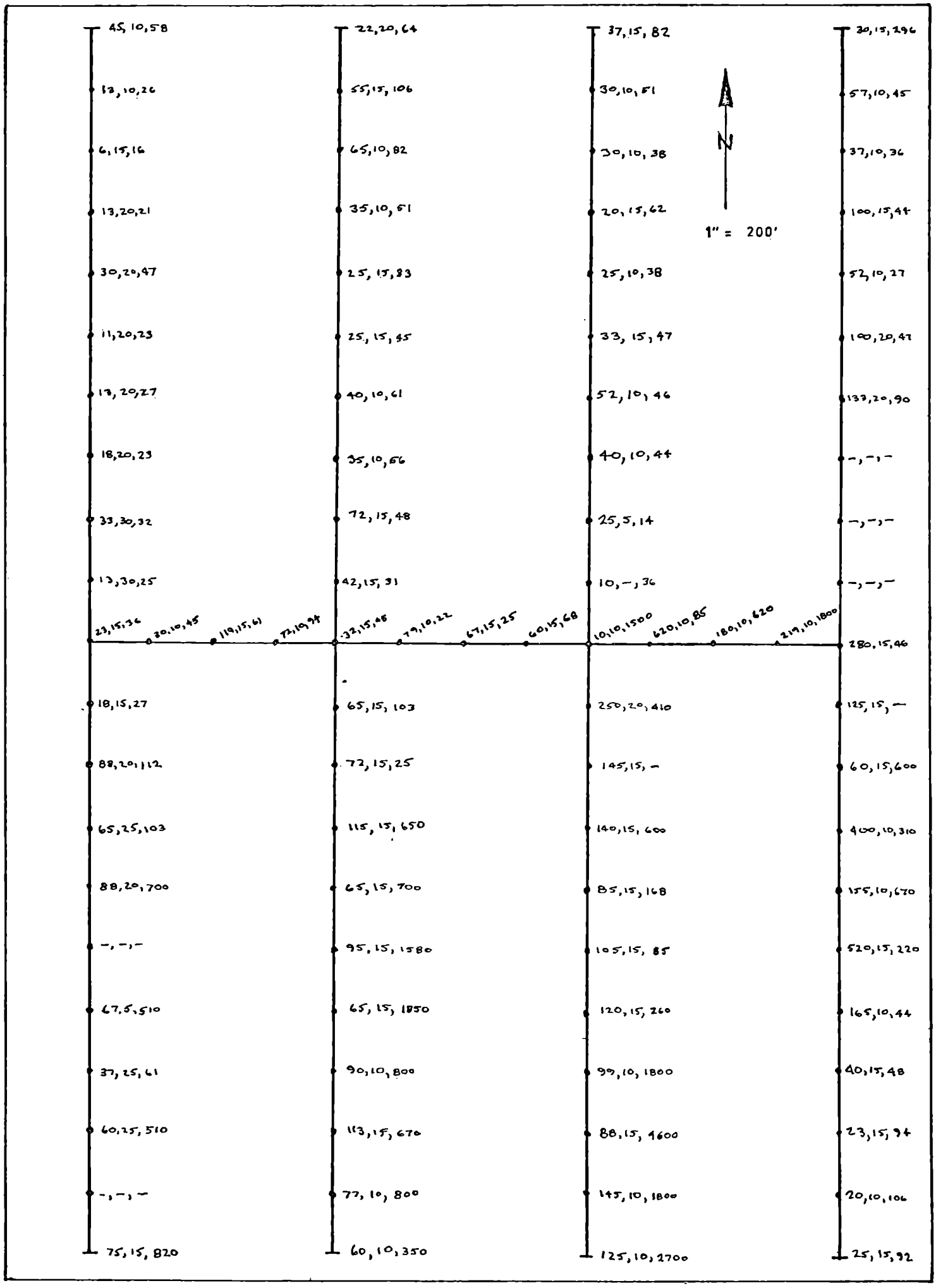
Illustrations: Pleasant Creek Gossan
Geochemistry
Copper contours
Lead contours
Zinc contours

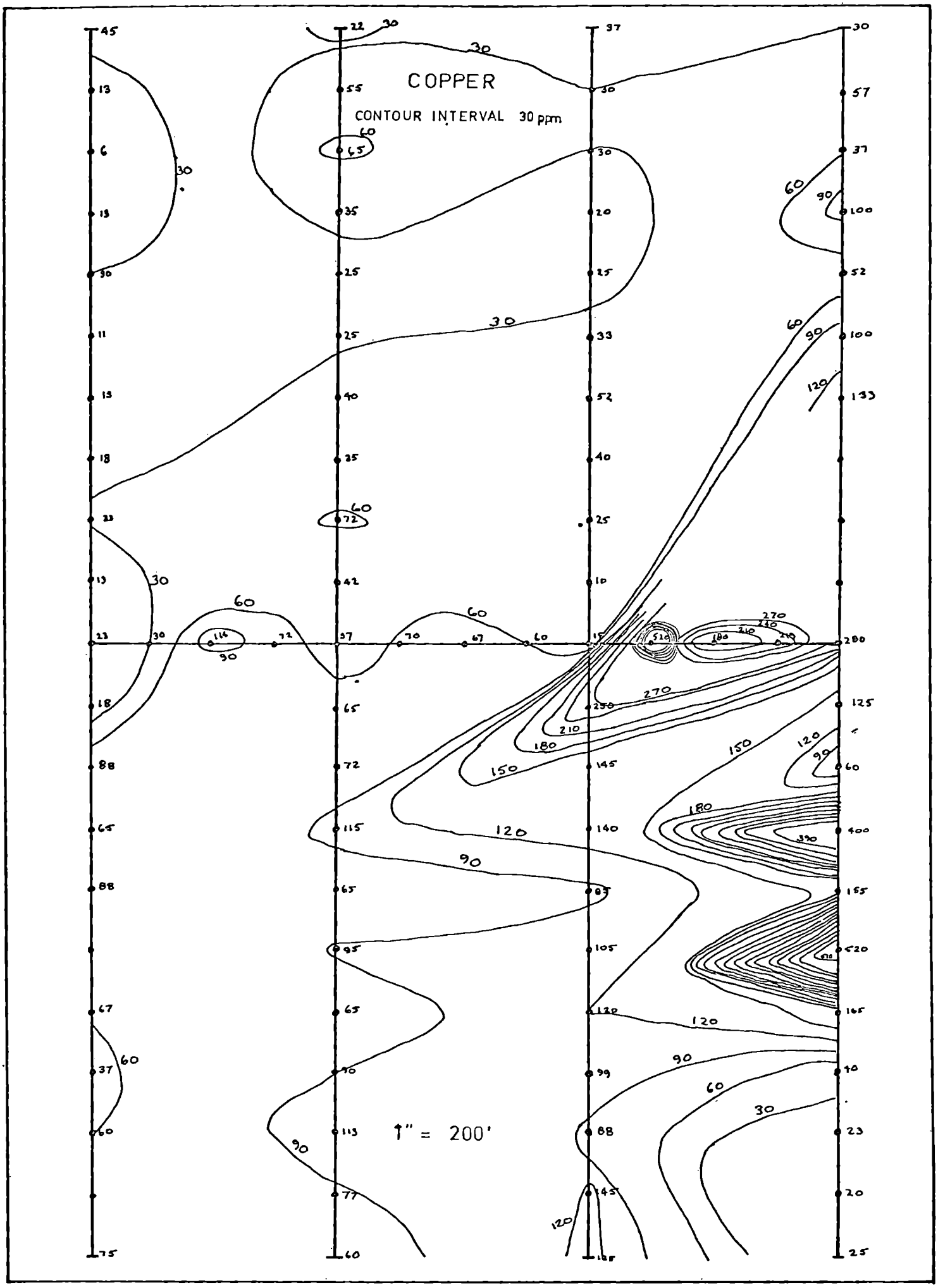
Respectfully submitted,

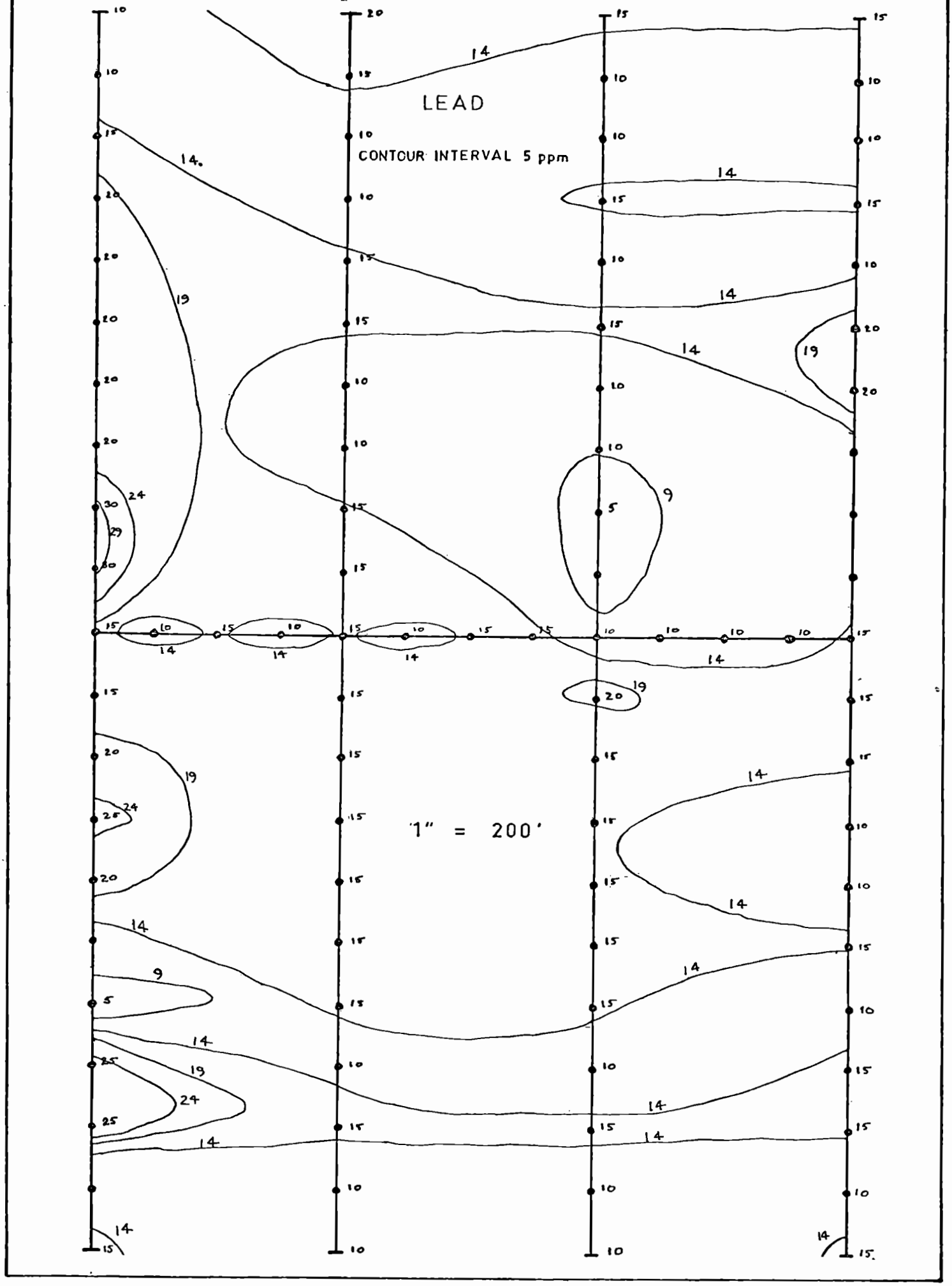
G. R. Sanford

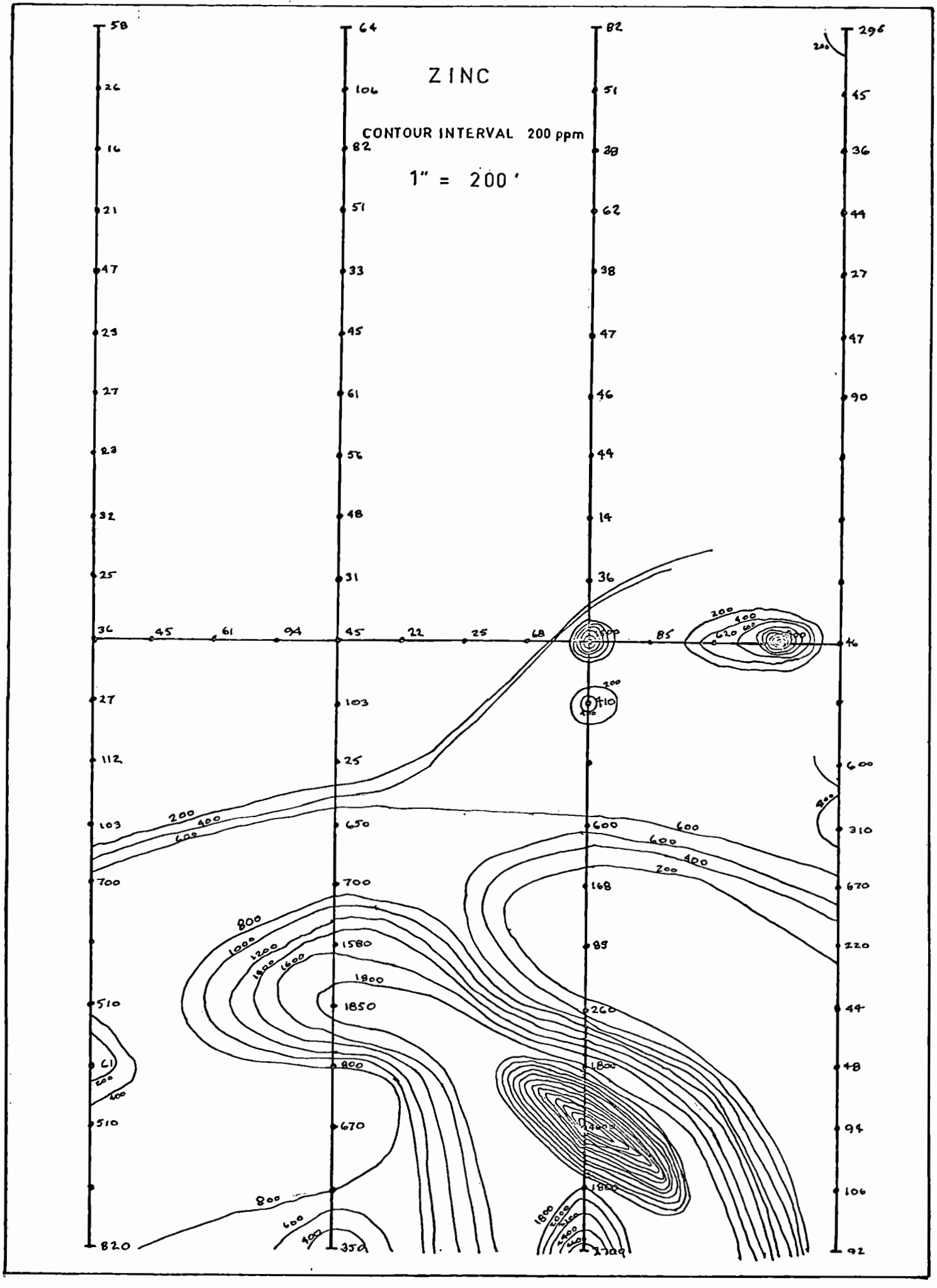

PLEASANT CREEK GOSSAN
SOIL AND MAGNETOMETER GRID
JUNE 1969
N
4000
3500
3000
2500
20
24
Grey weathering chert breccia with interbedded cherts slates and argillites
12
8
4
0
10+00N
Base of Hill
Base Line
10+00S
Swamp
Gossan
Creek
Pleasant
1/4
0
1/4
1/2

GEOCHEMICAL ANALYSIS COPPER LEAD ZINC in ppm.




COPPER
CONTOUR INTERVAL 30 ppm
1" = 200'


LEAD
CONTOUR INTERVAL 5 ppm
1" = 200'


ZINC
CONTOUR INTERVAL 200 ppm
1" = 200'

REPORT ON ANOMALIES #34 AND #36

105-N-6

June 20-23, 1969

Anomalies #34 and #36 are two copper, lead and zinc anomalies on a northward flowing creek at the northwest end of the Russell Range and seven miles east of Lone Duck Lake. The anomalies are two and four miles respectively from the Mt. Armstrong stock. A float-equipped aircraft could land on the Hess River, one mile north of anomaly #36 and three miles north of anomaly #34.

Anomaly #34 is a copper-lead anomaly in three closely spaced silt samples taken from minor drainages flowing from the east into the main creek across a relatively recent massive rock slide area. Copper values of 70, 134 and 144 ppm and lead values of 19, 38 and 117 ppm were found in these creeks. Anomalous values were also found in the main creek, two miles north of this area. Values ranged from 30-186 ppm copper, 15-112 ppm lead and 56-300 ppm zinc in four samples.

This area was sampled in 1968 and was revisited in mid-June, 1969 for three days. Contour samples on both sides of the creek were taken in the vicinity of anomaly #34. A line of soil samples was taken at right angles to the main creek in the vicinity of anomaly #36 and the main creek was re-sampled at a much smaller interval than had previously been done in this area. Some additional sampling was done while in the process of prospecting and mapping.

Outcrop in the area is quite plentiful and the only rocks seen were Yukon Group quartzites with some interbedded dark slates. The quartzites are typically light greenish to white weathering and from fine to medium grained. They are schistose, with the general trend being northwest-southeast and slight to moderate dips to the south. Pyrite is common in all rocks. In numerous places the rocks are cut by quartz veins up to two feet thick. In one location, at least one mile from either anomaly, one of these quartz veins was found to contain minor amounts of pyrite, galena and possibly molybdenite. Minor muscovite was also present in the vein. Minor galena was found in another vein about one-half mile southwest of anomaly #36.

The soil samples taken in the vicinity of #34 indicate that a copper anomaly does exist at this point. Three adjacent values of the same magnitude as previous were found near the position of the previous samples. The lead anomaly did not check out. The slide area was thoroughly prospected. Significant amounts of quartz were found but it was all barren. This anomaly could possibly be due to adsorption on large numbers of clay sized particles released during the slide. An additional copper

anomaly was found in samples from a creek one mile to the east. This anomaly was only several hundred feet from one of the mineralized quartz veins.

Stream samples in the vicinity of anomaly #36 were non-anomalous and soils contained some anomalous but erratic copper and lead values. The lead values could be associated with near surface quartz veins but the source of the copper values is unknown.

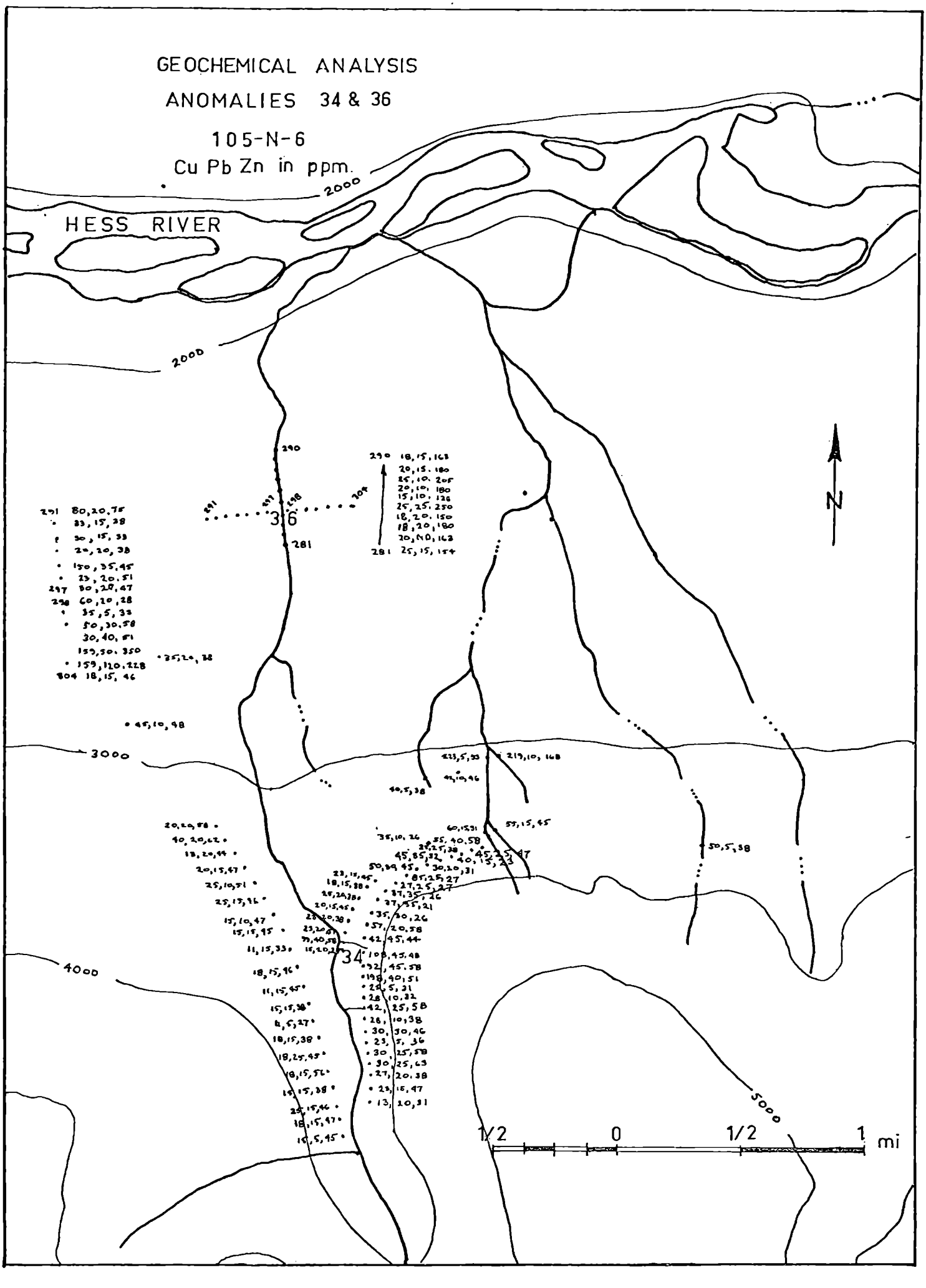
The main creek could possibly run along a fault as it flows along a rugged steepwalled narrow canyon wall over 150 ft. deep in most places. No evidence of a fault was found.

The source of the anomalous copper values could not be determined. Perhaps minor copper mineralization could be associated with some of the quartz veins, although none was seen. Additional prospecting should be carried out in this area but only if other work is being done at a nearby location.

Illustrations: Geochemistry
Geology

Respectfully submitted,

G. R. Sanford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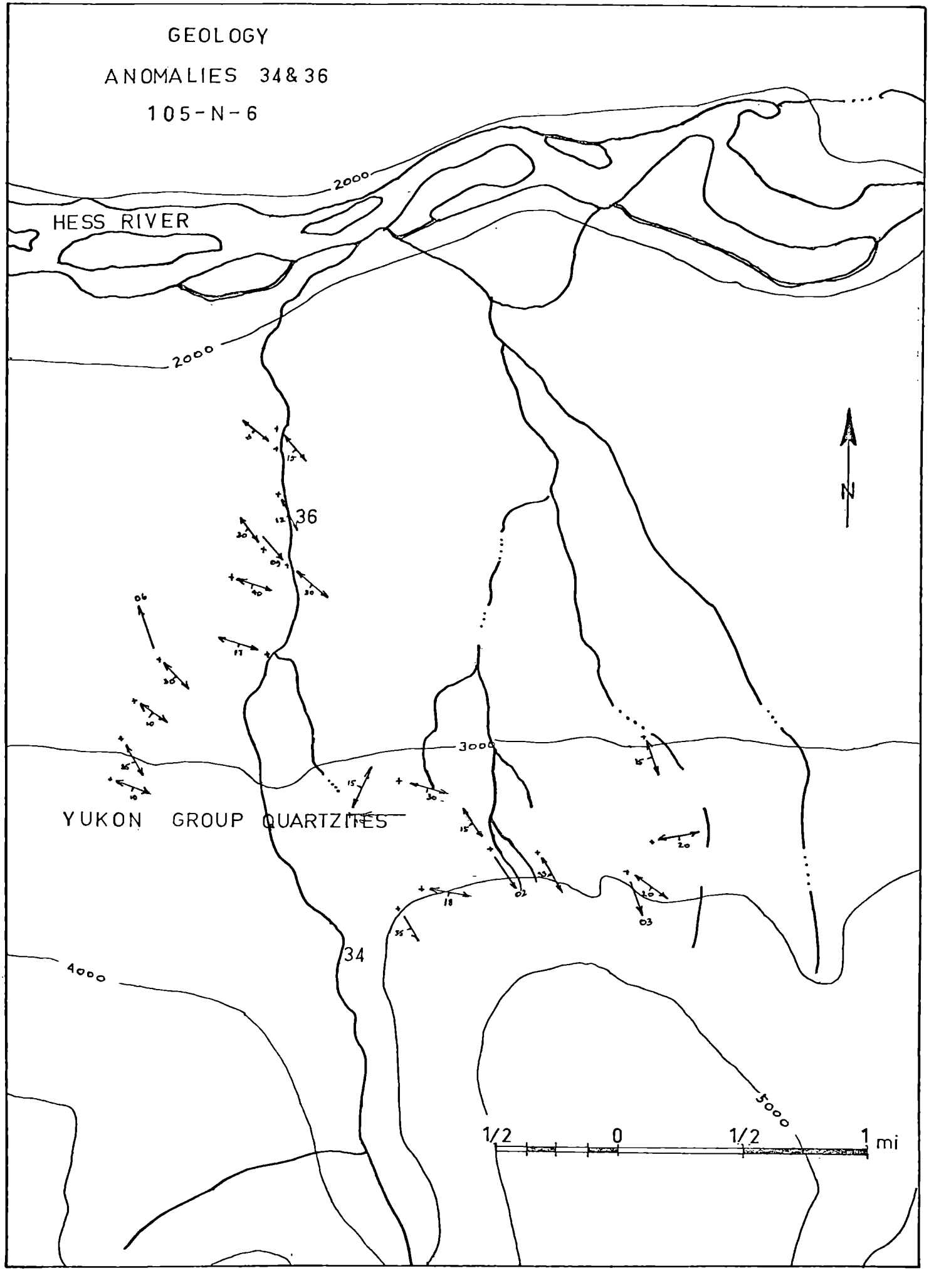
ANOMALIES 34 & 36
105-N-6
Cu Pb Zn in ppm.
HESS RIVER
2000
2000
3000
4000
5000
36
34
N
1/2
0
1/2
1 mi


GEOLOGY
ANOMALIES 34&36
105-N-6
HESS RIVER
2000
2000
36
3000
YUKON GROUP QUARTZITES
34
4000
5000
N
1/2
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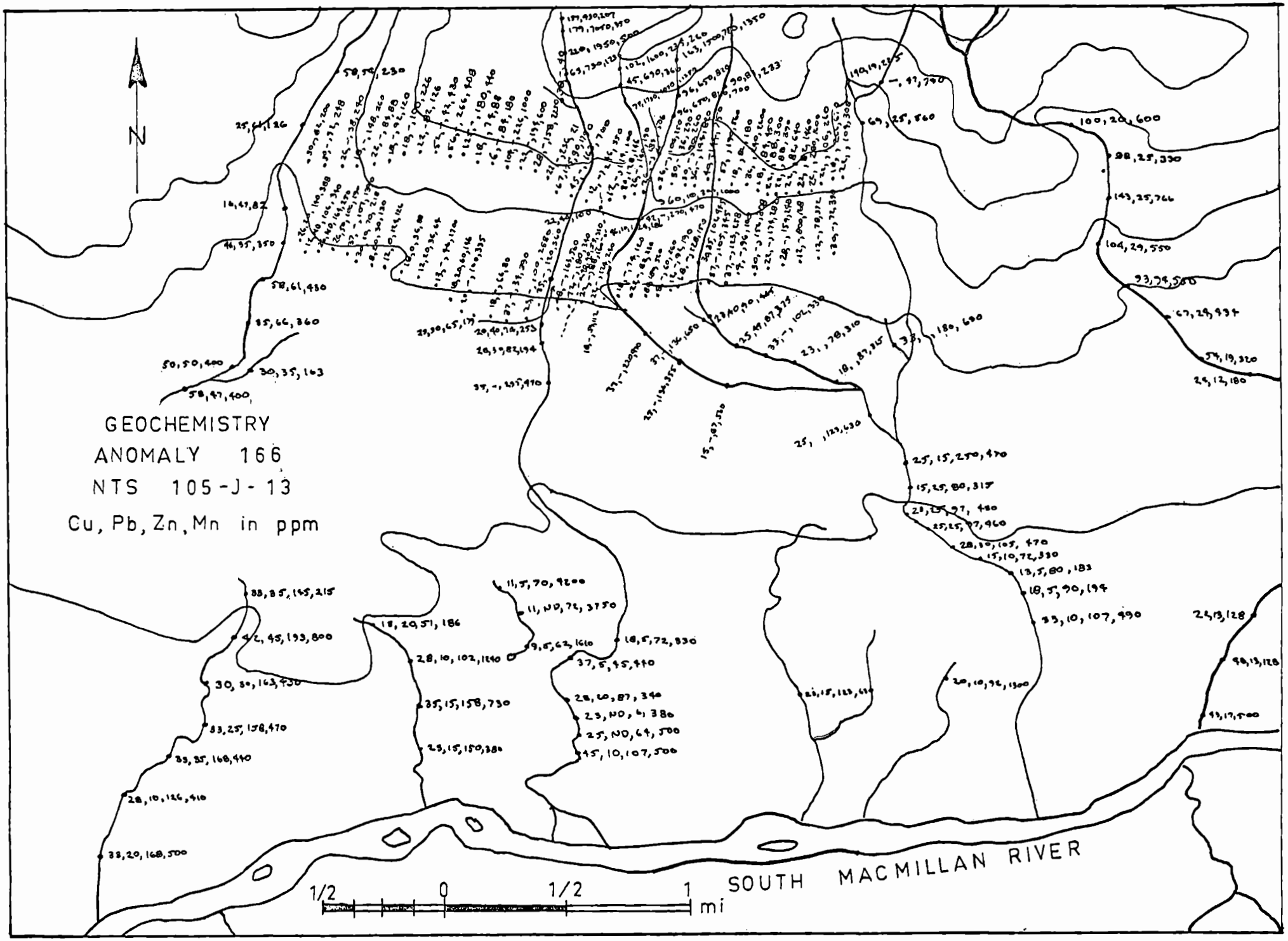
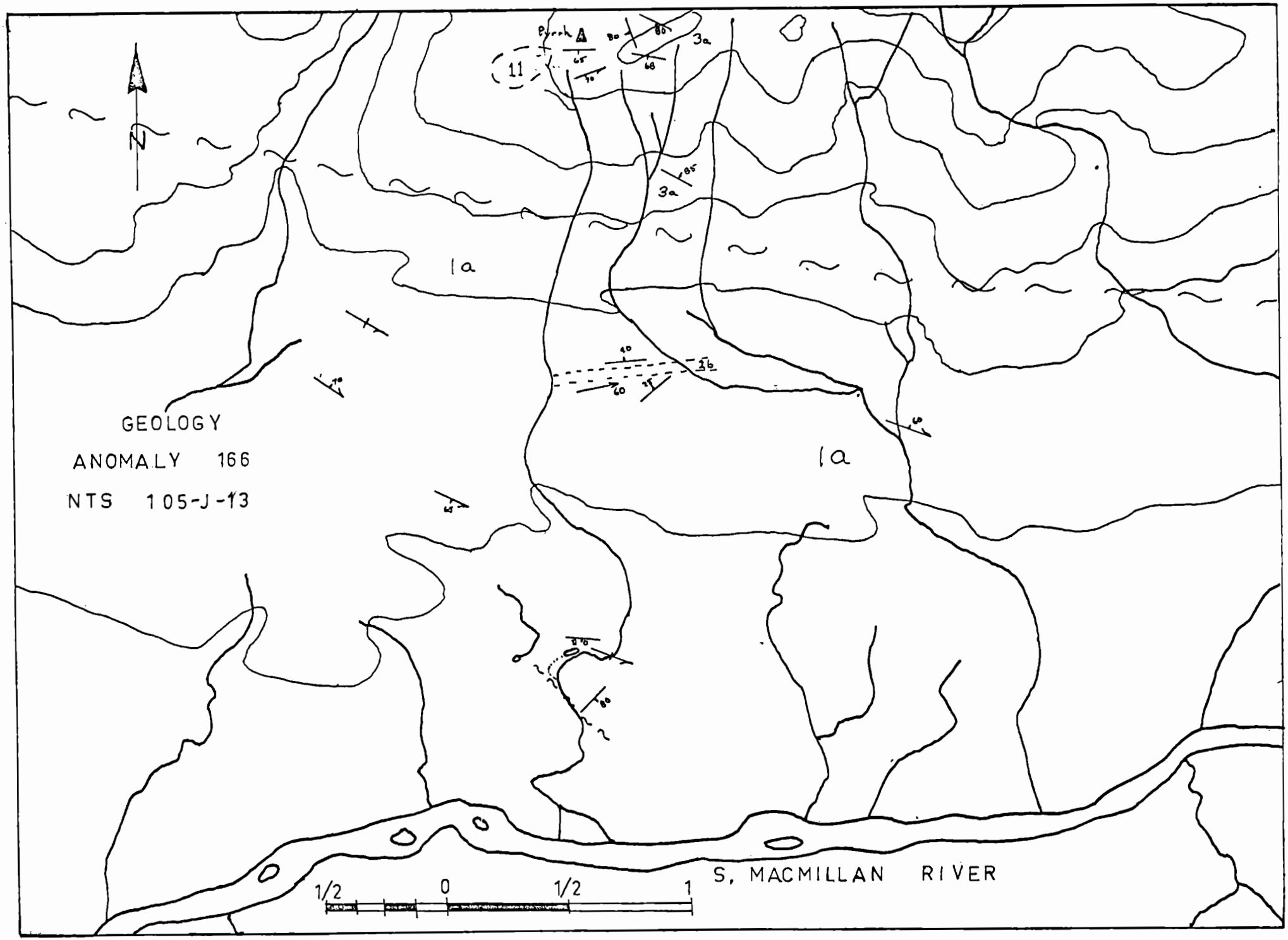
1/2
1 mi


N
GEOCHEMISTRY
ANOMALY 166
NTS 105-J-13
Cu, Pb, Zn, Mn in ppm
SOUTH MACMILLAN RIVER
1/2 0 1/2 1 mi


N
Block A
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3a
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1a
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1b
GEOLOGY
ANOMALY 166
NTS 105-J-13
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1
S. MACMILLAN RIVER

TELEPHONE 685-4331

ATLAS EXPLORATIONS LIMITED
(N.P.L.)
330 MARINE BUILDING
355 BURRARD STREET
VANCOUVER 1, B.C.

PROGRESS REPORT - LAD GROUP

PERIOD: July, 1969

Geology and Prospecting

During July, the mapping and prospecting of the area of interest - the East Grid Area - was completed. A total of ten new sulfide showings were discovered; most co-incident or nearly coincident with soil geochemical anomalies. The approximate location of these showings, (Showing M-V) is shown on the enclosed compilation sketch map. Assay results of grab samples from these showings have not yet been received. Following is a very brief description of each of the showings:

Showing M - Galena and chalcopyrite in quartz veinlets in shear zone; quartzite country rock; thickness of mineralized zone approximately 3"; exposed for 3 ft. along strike; Attitude of shear 150/85 NE.

Showing N - Quartz-calcite vein containing minor galena and sphalerite; dark grey impure quartzite host rock; vein about 2" thick; exposed for 5 ft. along strike.

Showing O - Thin, widely spaced, quartz-calcite-minor galena, sphalerite veinlets in highly fractured greenish slate.

Showing P - Massive galena vein, 3" thick; in clean fine grained quartzite; may be large float boulder.

Showing Q - Massive galena vein; minor quartz gangue; 40/65 SE; in grey fine grained quartzite; 4" wide; exposed for 6 ft. along strike

Showing R - Very minor galena and pyrite scattered along fractures in quartzite.

Showing S - Quartz-calcite-minor galena, chalcopyrite vein; in arkosic quartzite; vein 4" wide' attitude of vein NE; exposed for 150 ft. along strike.

Showing T - Minor chalcopyrite disseminated in coarse, dark, impure quartzite; only a very small exposure; size of the mineralized zone indefinite.

Showing U - Minor shpalerite in small (2" wide) quartz vein in quartzite; poor exposure, may be a large float boulder.

Showing V - Massive galena with minor sphalerite and chalcopyrite; minor quartz gangue; found as float in a gossan zone; some blocks of sulfides up to 10" in diameter; appears very similar to Showing J material.

Detailed prospecting has been carried out in the area of anomalous silt results east of East Creek and also in the headwaters of the northerly flowing tributary of Clearwater Creek, immediately upstream from Hugo Creek. No sulfides of any significance were found as a result of the above work.

Bulldozer Trenching

A total of 22 trenches have been worked on to date; the locations of which are shown on the enclosed compilation sketch map. Very brief descriptions of the results obtained to date in each trench are as follows:

TR-1,2,13 - Completed
- Purpose, to investigate lead geochem in soils, on each flank of aeromag high.
- In TR 1 and 2 discovered evidence of shearing and fracturing in quartzite and quartz mica schist; very minor galena, sphalerite, and pyrite along fractures and in shears; some rusty zones. In TR-13, only clean, unsheared, unmineralized quartzite and mica schist could be found; no mineralized float was seen; the soil geochemical anomaly could not be explained.

TR-3 - Not completed.
- Purpose, to intersect the onstrike continuation of showing B.

TR-4,5,6 - 6 finished; 4, 5 not completed.
- Purpose, to investigate an elongate zone of anomalous lead values in soils.
- In TR-6, a 100 ft. wide, highly sheared zone; in quartzite and phyllite; very minor galena, pyrite, arsenopyrite. This zone is directly beneath the soil anomaly. Two rock geochemical samples from this zone (highly sheared gangy material containing no visible sulfides) ran as follows:

	(1)	(2)
Cu	540 ppm	40 ppm
Pb	13,800 ppm	2000 ppm
Zn	200 ppm	51 ppm

A narrow pocket of heavy, white, earthy material (cerussite-angelsite??) ran about 12% Pb.

TR-7
- Completed
- Purpose, to investigate a lead soil anomaly.
- Only quartzite, micaceous quartzite, and minor phyllite were found; no apparent shearing or fracturing; minor zones of rusty weathering.

TR-8
- Completed.
- Purpose, to investigate anomalous Pb-Zn-Cu values.
- Mainly quartzite, minor mica schist and phyllite; a highly oxidized shear zone (about 2 ft. wide) containing disseminated galena, black sphalerite, chalcopyrite and pyrite, in quartz gangue, was discovered near the upslope margin of the geochemical anomalies.

TR-9
- Completed
- On zone of anomalous Cu-Zn values.
- Entire trench in quartzite; many very small randomly oriented shears; some very minor rust and copper staining associated with a few of the shears.

TR-10
- Completed
- Purpose, to investigate a zone of anomalous copper values in soils.
- Mainly quartzite with a minor amount of quartz-mica schist; 2 zones (30 ft. and 10 ft. wide) of rusty weathering quartzite having very minor amounts of pyrite and chalcopyrite disseminated on fracture planes.

TR-11
- Completed
- On a Pb-Cu soil anomaly coincident with a small ground mag high.
- Mainly clean blocky quartzite, minor mica schist; small rusty zones associated with shearing; quartzite cut by 3" wide quartz-galena-arseno-pyrite vein; vein exposed for 15 ft. along strike.

TR-12
- Completed
- Purpose, Pb-Cu soil anomaly adjacent to small ground magnetic anomaly.
- Interbedded quartzite and quartz mica schists; some sections quite rusty weathering; pyrite disseminated and along fracture planes in some

quartzite sections. Two rock geochemical samples from this trench (#1, a rusty weathering quartz mica schist containing no visible sulfides; #2, a fine grained light-grey quartzite containing minor disseminated pyrite) assayed as follows:

	(1)	(2)
Cu	149 ppm	62 ppm
Pb	1150 ppm	52 ppm
Zn	74 ppm	39 ppm

TR-14
- Completed
- Purpose, to investigate a gossan zone coincident with a Pb-Zn geochemical anomaly.
- A shear zone 15 ft. wide similar to that found in TR-6 was discovered; minor galena, sphalerite within the zone; the zone bordered to the NE by quartzite and to the SW by limestone.

TR-15
- Completed
- Purpose, to determine the extent of the showing K mineralization.
- The showing K sulfide body shown to be only about 10 ft. by 15 ft. in extent; mineralization restricted to the contact of a narrow limestone unit with a small fault zone.

TR-16
- Not completed.
- Purpose, to investigate a strong Pb anomaly coincident with lower magnitude Cu-Zn anomalies.
- A sulfide body (Showing L) with a surface exposure of about 130 ft. by 25 ft. was discovered, The sulfide are generally fine to medium grained and massive, consisting mainly of pyrrhotite, galena, chalcopyrite with lesser amounts of sphalerite and pyrite. Assay results from selected grab samples of this material have not yet been received. There is not enough rock exposed yet to get a clear picture of the situation, but the sulfide body seems to be between two closely spaced sub-parallel vertical faults. The mineralization is terminated on either end by a convergence of these faults (???). A detailed grid (100 ft. line spacing, 50 ft. station spacing) has been cut in both directions along strike from this showing. Magnetic and soil surveys are being run on this grid. Further trenching in this area will be based on the results of these surveys.

TR-17 - Not completed
- Showing G

TR-18 - Not completed
- Showing F

TR-19-22 - Not completed
- Purpose, to investigate lead soil anomalies
- No bedrock exposed yet.

Line Cutting and Soil Sampling

The cutting and soil sampling of fill-in lines in the East Grid area has been completed. The soil sample assay results have not yet been received. The following lines were cut and sampled:

L 148 E	46 N - 30 S
L 156 E	42 N - 35 S
L 164 E	39 N - 35 S
L 172 E	38 N - 40 S
L 180 E	26 N - 40 S
L 188 E	21 N - 30 S
L 196 E	22 N - 30 S
L 204 E	20 N - 30 S
L 212 E	14 N - 0
L 220 E	15 N - 18 S
L 228 E	11 N - 20 S
L 236 E	11 N - 20 S

The following lines, which were cut last year, were soil sampled:

L 128 E	54 N - 30 S
L 136 E	50 N - 0

The Showing L grid has 100 ft. line spacing and 50 ft. station spacing, with a total footage of 17,900 ft. This grid extends from 16 E to 33 E and from 31 N to 40 N, with respect to the old #1 Lad grid. Geological mapping, a mag survey, and soil sampling were conducted over this grid.

Geophysics

A total of 17,900 ft. of magnetometer survey was run over the Showing L grid. A highly anomalous magnetic response (3000 gammas above background to 1000 gammas below background) was recorded in the immediate visinity of Showing L. Anomalous responses, but of a lower magnitude, extend for about 300 NW of the showing and for over 500 (open) to the SE of the showing.

Claim Tagging

All Lad Group claims, with the exception of the two most northwesterly lines have now been tagged. The remaining claims will be tagged in the very near future by a geology-prospecting crew who will be working (follow-up of high silt values) in the Mote Creek drainage basin.

Lad Group - Work Planned for August, 1969

1. Completion of all trenches now in progress.

2. Further trenching in Showing L area after a study of mag-soil results.

3. Trenching in East Grid area?, dependent for the most part on soil sample results and rock assay results (Ag).

4. Soil profile geochem study in the vicinity of all trenches.

5. Follow-up of anomalous silt results in Mote Creek drainage basin.

6. Completion of Lad Group claim tagging.

Respectfully submitted,

T. J. Adamson

Lad Group

Whitehorse Assay Office,
July 31, 1969
File #5499-8 and #5518-3

Description

Sample No.

5001 - Showing east grid 6" wide Galena vein (Showing Q) - massive galena-siliceous matrix - similar to showing J. Grab.
- Ag 2.00 oz/ton, Pb 79.8%.

5002 - Showing S east grid - massive galena, minor calco. Grab.
- Ag 2.24 oz/ton, Pb 84.4%

5003 - Showing O - sphalerite, minor galena, in sheared grafitic sedimentaries. Grab (Showing O)
- Ag .28 oz/ton, Pb .03%, Zn 23.6%.

5004 - Showing M - diss. gal. chalco. in shear. Sil. Gangue. Grab.
- Ag .24 oz/ton, Pb 14.0%, Zn .14$, Cu .30%.

5005 - Showing J - massive gal. Grab.
- Ag 3.84 oz/ton, Pb 83.5%

5006 - Showing I - east grid, fine diss. chalco. in coarse impure qtz. Grab.
- Au trace, Cu .31%.

5007 - Showing V - east grid, massive Gal. Grab.
- Ag 1.88 oz/ton, Pb 86.5%.

5008 - Showing U - sphal. in qtz-cal. matrix, very minor gal. Grab.
- Ag .06 oz/ton, Pb.04%, Zn 15.8%.

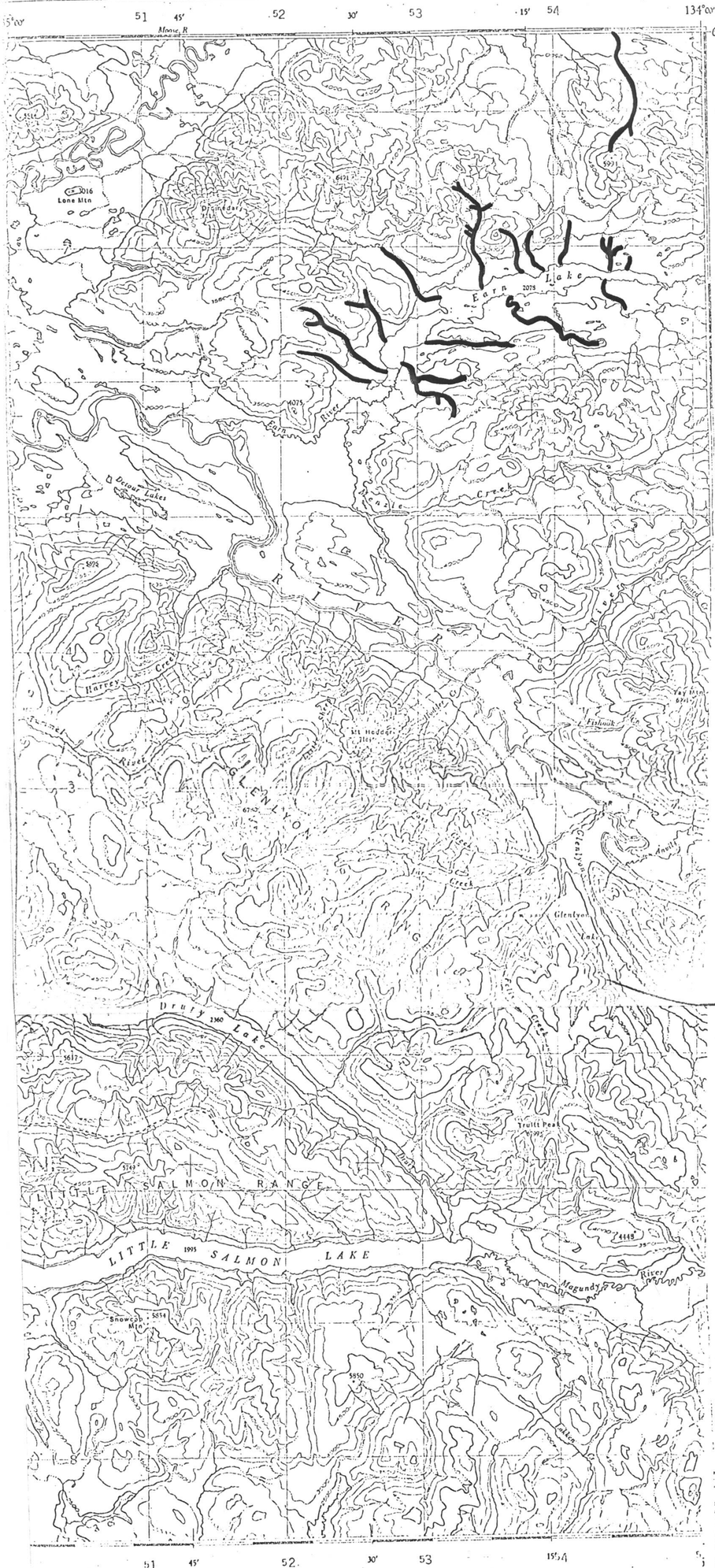
5009 - Tr.#11, qtz-arseno vein. Grab.
- Au grace, Ag 5.96 oz/ton.

5010 - Tr.#16, massive sulfides, Grab. Showing L. Grab
- Au grace, Ag 15.2 oz/ton, Pb 26.8%, Zn 6.7%, Cu .19%.

5011 - Showing L - massive sulfides. Grab.
- Au trace, Ag 10.5 oz/ton, Pb 10.6%, Zn 16.3%, Cu .16%.

105 L

AND TECHNICAL SURVEYS FIRST EDITION CANADA SHEET 10



miles (approximately)

10 15 20 Miles

15 20 25 30 Kilometres

inches

0 1 2

0 1 2 3 4 5

centimetres

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YUKON GEOLOGICAL SURVEY

Copies may be obtained from the Map Distribution Office, Department of Mines and Technical Surveys, Ottawa.

REFERENCE

Building	Fire Lookout Tower	Contours, Elevation	
School	Wireless Station	Contours, Approximate	
Post Office	Mine	Contours, Depression	
Church	Cliff	Esker	
Stream, Indefinite or Unsurveyed		Wooded Areas	
Stream, Intermittent		Navigable Canal	Navigable
Stream, in Dry River Bed		Rapids and Falls	
Braided Stream		Ferry	
Marsh or Swamp		Dam	
Marsh or Swamp in water		Light-house	
Glacier or Snowfield		Aerodrome (Hard surface)	2150
Sand, Gravel or Mud		Seaplane Anchorage	

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SECOND EDITION

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MAYO

YUKON TERRITORY

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inches
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Surveyed, compiled, drawn and printed by the ARMY SURVEY ESTABLISHMENT R.C.E., 1949-51
Aerial photography by the R.C.A.F. 1949. Published 1951.

Contour Interval 500 Feet.
All Elevations in Feet above Mean Sea Level.
Universal Transverse Mercator Projection

REFERENCE

Miles
Kilometres

inches
centimetres
YUKON GEOLOGICAL SURVEY
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132° 14'

62° 58'

CLEARWATER CREEK

HUGO CREEK

CHESTER

14 CLAIMS

SKETCH COMPILATION OF WORK TO DATE JULY 31, 1969, LAD CLAIMS

Pb SOILS ANOMALY OVER 200 PPM

Cu SOILS ANOMALY OVER 150 PPM

Cu COINCIDENT Pb and Cu ANOMALY

A MINERAL OCCURANCE

BULLDOZER TRENCH

CLAIMS BOUNDARY

GRID LINE

ROAD

SCALE 1" TO 1320'

inches
0 1 2
0 1 2 3 4 5
centimetres

YUKON GEOLOGICAL SURVEY

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