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KENNCO EXPLORATIONS, (WESTERN) LIMITED

REPORT

ON

NG PROPERTY

SWAN PROPERTY

TIA PROPERTY

Ootsa Lake Area

OMINECA MINING DIVISION

BRITISH COLUMBIA

NTS 93F/3, 93F/10, 93F/15

R. W. Stevenson P. Eng.

Vancouver, B.C.
October, 1982

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LIST OF MAPS

Additional Location Maps by Kennco/Kerr Addison at end of report.

SUMMARY

In 1981, Kennco conducted a reconnaissance geological and geochemical survey over Late Cretaceous to Early Tertiary acid volcanics of the Ootsa Lake Group in an area south of Burns Lake in central British Columbia. This sequence of rocks has recently been postulated to be part of a caldera complex. Geological evaluation discovered areas of advanced argillic and phyllic alteration, as well as several areas with silicification and disseminated pyrite. The objective of the work was to discover bulk tonnage gold-silver mineralization of economic size and grade.

The work was done in seven weeks by an eight-man crew using Hughes 500C helicopter support. In addition to geological traverses, silt sampling, rock and soil sampling, considerable use was made of heavy mineral in silt sampling, with the heavy mineral fraction being separated at Min-En Laboratories. The field work was done under the supervision of C. F. Staargaard.

Three claim groups were subsequently staked to cover strong gold anomalies in heavy mineral silt samples. The claims were held in 1982 by payment of cash-in-lieu of work, with some unnecessary units being dropped from the SWAN and TIA properties.

The NG property is underlain by Ootsa Lake rhyolite, and has a heavy mineral in silt sample containing 8500 ppb Au. It is accessible from a logging road.

The SWAN property is underlain by altered Ootsa Lake rhyolite, and biotite-feldspar porphyry. Three heavy mineral in silt samples are anomalous in gold (up to 6300 ppb), and one soil sample is strongly anomalous in gold (180 ppb). The property is 5 km from a logging road.

The TIA property is underlain by Hazelton andesite; although altered Ootsa Lake rhyolite occurs four km to the west. Gold is anomalous in two heavy mineral silt samples (up to 1875 ppb), and in one silt sample (105 ppb). A stream draining the west side of the property has a heavy mineral in silt sample containing 8.7 ppm Ag and 55 ppb Au. The property is somewhat more remote than the other two, being 50 km from the nearest road.

Recommendations are given at the end of each property description on pages 6, 7, 8 of this report. The recommended work would be similar on each property, with initial stream and gully sampling to indicate more precisely the probable anomaly source. Guided by those results, there should be geologic mapping, prospecting, and soil sampling. Consideration would then be given to what further work might be justified, such as: trenching, magnetics, EM (looking for drift-covered open structures), IP (looking for disseminated pyrite zones), or drilling.

Vancouver, B.C.
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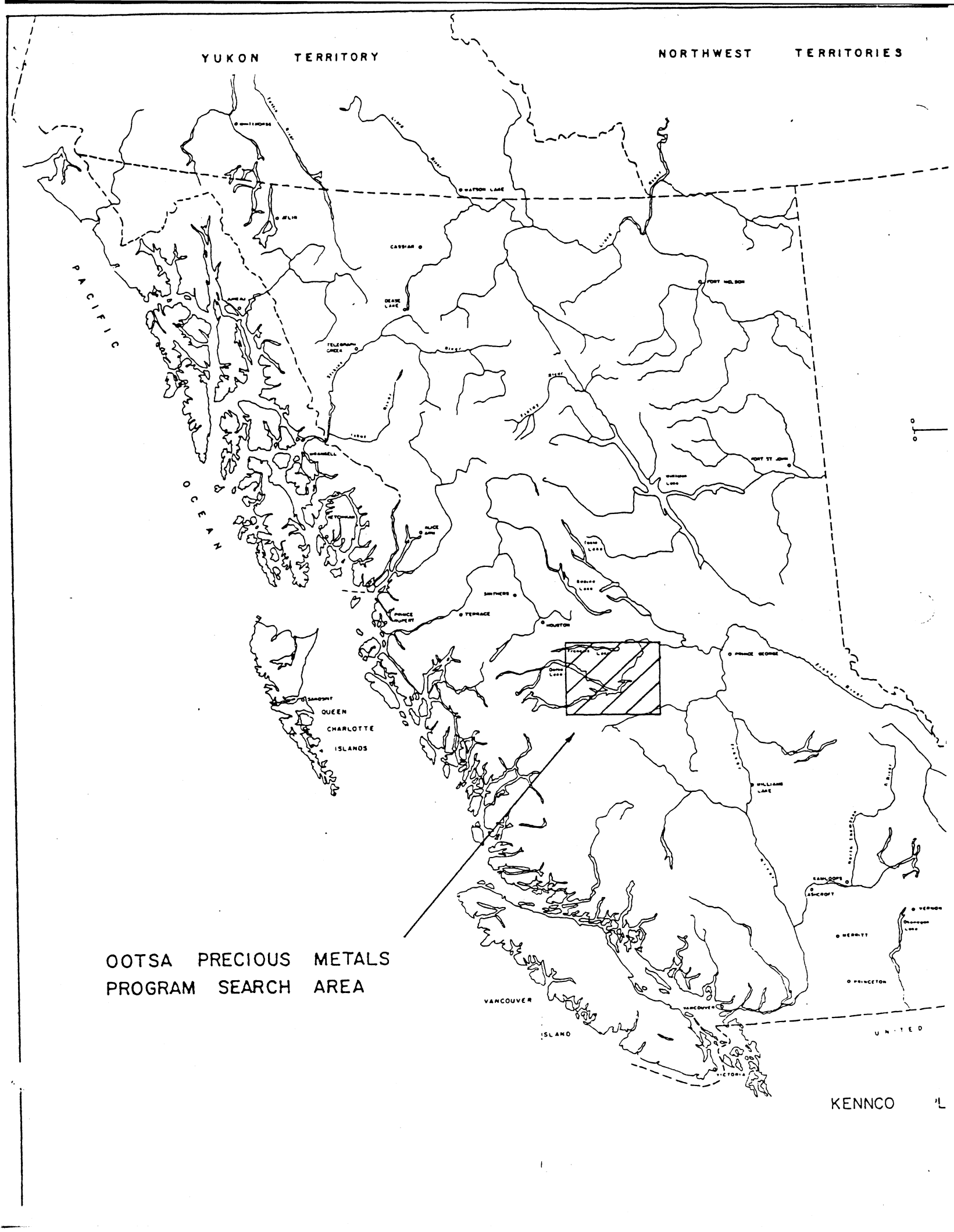

YUKON TERRITORY
NORTHWEST TERRITORIES
PACIFIC OCEAN
QUEEN CHARLOTTE ISLANDS
VANCOUVER ISLAND
OOTSA PRECIOUS METALS
PROGRAM SEARCH AREA
KENNCO

INTRODUCTION

Research to identify areas with good potential for bulk tonnage gold-silver deposits focused attention on the Cretaceous to Tertiary acid volcanics of the Ootsa Lake Group south of Burns Lake in central British Columbia. These rocks occur in a large subcircular pattern which has been suggested to be a collapse structure. The favourable geology, and the paucity of previous gold-silver prospecting induced Kennco to launch a reconnaissance program in 1981 under the supervision of C. F. Staargaard.

The prospective area was underlain by Ootsa Lake Group, and older, rocks. A Hughes 500C helicopter and eight people were used to sample soils and rocks and to map geology at a scale of 1:50000, paying particular attention to areas of alteration. In addition, the prospective area was sampled using a heavy mineral technique involving sieving of stream sediments to -20mesh size while in the field, with further concentration and analysis by Min-En Laboratories in Vancouver. The main field program was completed in seven weeks between May 15 and June 30, 1981.

Three claim groups (NG, SWAN, and TIA) were subsequently staked on sites that were anomalous in gold in the heavy mineral silt samples.

REGIONAL GEOLOGY

The regional geology has been summarized by C. F. Staargaard as follows.

The Nechako area forms part of the Interior Plateau of British Columbia and is located within the Intermontane Belt. The oldest rocks in the area, the Takla and Hazelton Groups, represent sediments and volcanics deposited in the Nechako Basin which was active until Late Jurassic time. A depositional hiatus lasted until latest Cretaceous or Early Tertiary time, after which the subaerial volcanics of the Ootsa Lake and Endako Groups were erupted.

The oldest exposed rocks in the area belong to the Upper Triassic to Lower Jurassic Takla Group. Eugeosynclinal in nature, they are typically dark green to dark grey or black andesitic to basaltic flows and breccias occurring in thick sections interlayered with lesser amounts of fine grained, waterlain tuff, argillite,and greywacke. Included within this group is a local "red bed" unit consisting mainly of red and brown shales, conglomerate with lesser amounts of green and grey shales, orthoquartzite, greywacke and black limestone.

Overlying the Takla Group are rocks of the Hazelton Group which, in the Nechako area, are mainly early Middle Jurassic in age. A lower "chert-pebble conglomerate" unit is comprised of dark coloured andesites and basalts, both flows and pyroclastics, and the conglomerate for which it was named, along with some orthoquartzite, shale, and greywacke. This unit is overlain by the "Middle Jurassic" unit which is predominantly sedimentary in nature, including conglomerate, greywacke, shale and arkose. Interlayered with these are some andesitic, basaltic and rhyolitic flows and pyroclastics.

Upper Cretaceous to Oligocene Ootsa Lake Group volcanic rocks unconformably overlie the Mesozoic rocks. Much of the group occupies depressions in the eroded pre-Tertiary surface with the minor sedimentary component generally accumulating mainly in the pre-Tertiary valleys.

Two different units have been identified within the group, a lower andesitic unit, and an upper rhyolitic unit. However, the contact between the two is chosen arbitrarily and serves mainly to separate predominantly intermediate rocks below from predominantly acidic rocks above.

The lower andesitic unit, probably Late Cretaceous to Paleocene in age, is comprised of more than 50% andesite, with less common basalt and rhyolite. Pyroclastic rocks are as abundant as flow material. Andesites may be grey, green, reddish brown, or black and for the most part are porphyritic. Basalts are commonly dense and black and locally, may be porphyritic. Columnar jointing is common and occasional vesicular and amygdaloidal textures are seen. The fragmental rocks are coarse, poorly sorted and only crudely stratified. A small sedimentary component at the base of this unit consists mainly of conglomerate and greywacke. The upper rhyolitic unit, probably Eocene or Oligocene in age, is comprised mainly of rhyolites with lesser amounts of trachyte and dacite and minor amounts of andesite and basalt. Fragmental rocks, breccias and tuffs, are approximately equal in volume to flows. Flow rocks may be various shades of white, red, green or grey and flow-banding is common. Spherulitic structures and perlites are common. In places, rhyolite dykes, almost certainly related to the Ootsa Lake Group, can be seen cutting Mesozoic sediments and volcanic. Rhyolitic tuffs and breccias are generally poorly sorted and may be very coarse. Some consolidated stream gravels and sands of Early Tertiary age occur along major valleys.

Plateau basalts of the Miocene or later Endako Group unconformably overlie the Ootsa Lake Group. Generally flatlying and occupying valleys and other topographic lows, the group is comprised mainly of massive,vesicular and amygdaloidal andesitic to basaltic flows.

Two main ages of intrusive rocks are found in the Nechako area. Lower Jurassic Topley Intrusions consist of pink, occasionally

porphyritic and often coarse-grained granite and, in places, granodiorite. Foliated greyish-green diorites and quartz diorites make up the other sub-unit of this age of intrusives. The second major intrusive age is Late Cretaceous to Early Tertiary and is represented by mainly coarse-grained equigranular and light-coloured granites with some granodiorite. The relationship of these intrusives to the Ootsa Lake Group is not understood.

Glaciation was important in the area during the Pleistocene with the latest ice moving in from the southwest, possibly reaching a thickness of as much as 6000 feet. Much of the area is covered with some type of drift. Glacial features are prominent, including striae, drumlins, crag and tail features, eskers, crevasse fillings, melt-water channels and glacial lake sediments.

All the volcanic and sedimentary rocks in the area are folded to some degree, with folds generally having northwesterly trends. Most folding is broad and open, with some shaly sections however, having dips of up to 80°. Narrow and steep faults characterized by zones of intense shearing are common. The abundant Tertiary volcanic and Quarternary glacial cover have made structural interpretation in the area very difficult. The relative amounts of deformation before, during, and after the eruption of Ootsa Lake Group volcanics, are not known. Recently, however, the large subcircular feature within which the Ootsa Lake Group is situated, has been suggested to be a large collapse structure.

A number of porphyry-type showings, both Mo and Cu, have been found to be associated with some of the intrusives in the area. As yet, none of them are economic or are likely to be in the near future. Significant low grade bulk tonnage type silver mineralization has been identified in Hazelton Group rhyolite breccias at Capoose Lake. This prospect is being actively evaluated by Granges Exploration.

GEOCHEMISTRY

Sampling and Analysis

Soil samples were taken at an average spacing of between 1000 and 1500 feet, over areas mapped as Ootsa Lake Group volcanics and in some areas underlain by Hazelton Group rocks. Soil development is poor in many instances and consequently, the C horizon was generally sampled. Soil samples were sieved for the -80 mesh fraction which was then analyzed.

Rock samples generally consisted of chip samples taken over distances of 1-3 meters, resulting in about 2 kg of material. Occasional grab samples were also taken. All material underwent an initial crushing stage followed by a split and final grinding to -80 mesh size for the split portion.

All samples were analyzed for Cu, Pb, Zn, and Ag by atomic absorption spectrophotometry following a nitric-perchloric acid digestion. As was determined by spectrophotometry. Au and Sb were determined by AAS following an aqua regia attack. F was determined by specific ion meter.

Heavy mineral samples were taken over the entire prospective area at a density of approximately one per square kilometer. Stream sediment material was sieved for the -20 mesh fraction in the field, with about 1 kg of this fraction being obtained for each sample. The heavy minerals in this material were separated, in the laboratory, by flotation in a heavy liquid medium. The resulting heavy mineral separate was then analyzed for Cu, Pb, Zn, Ag, As, Au, and Sb using standard geochemical techniques.

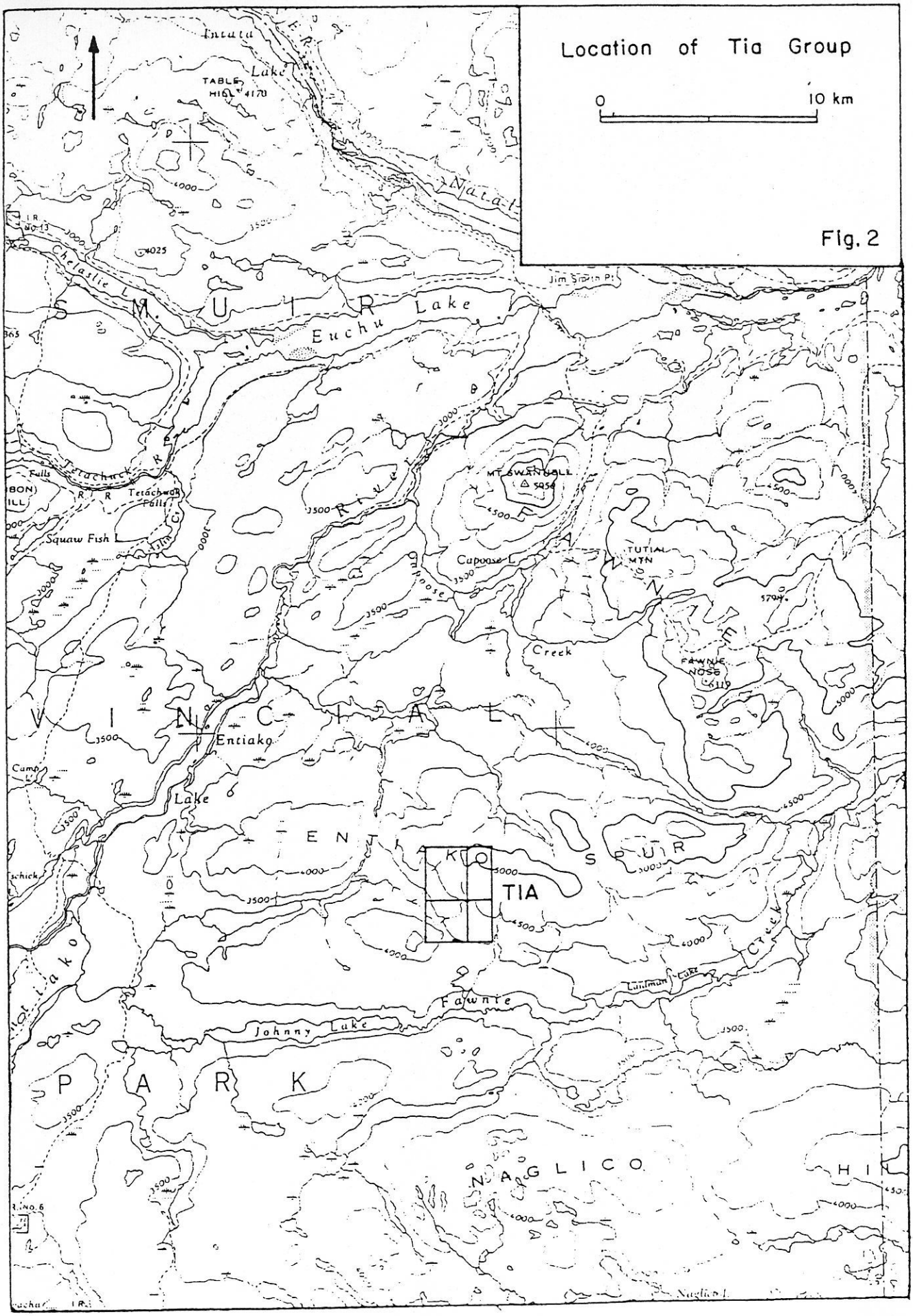
Geochemical Populations

All geochemical data were plotted at a scale of 1:50000. Histograms for all elements in soils were constructed as well as those for heavy mineral samples. Threshold values indicated by these charts are listed below:

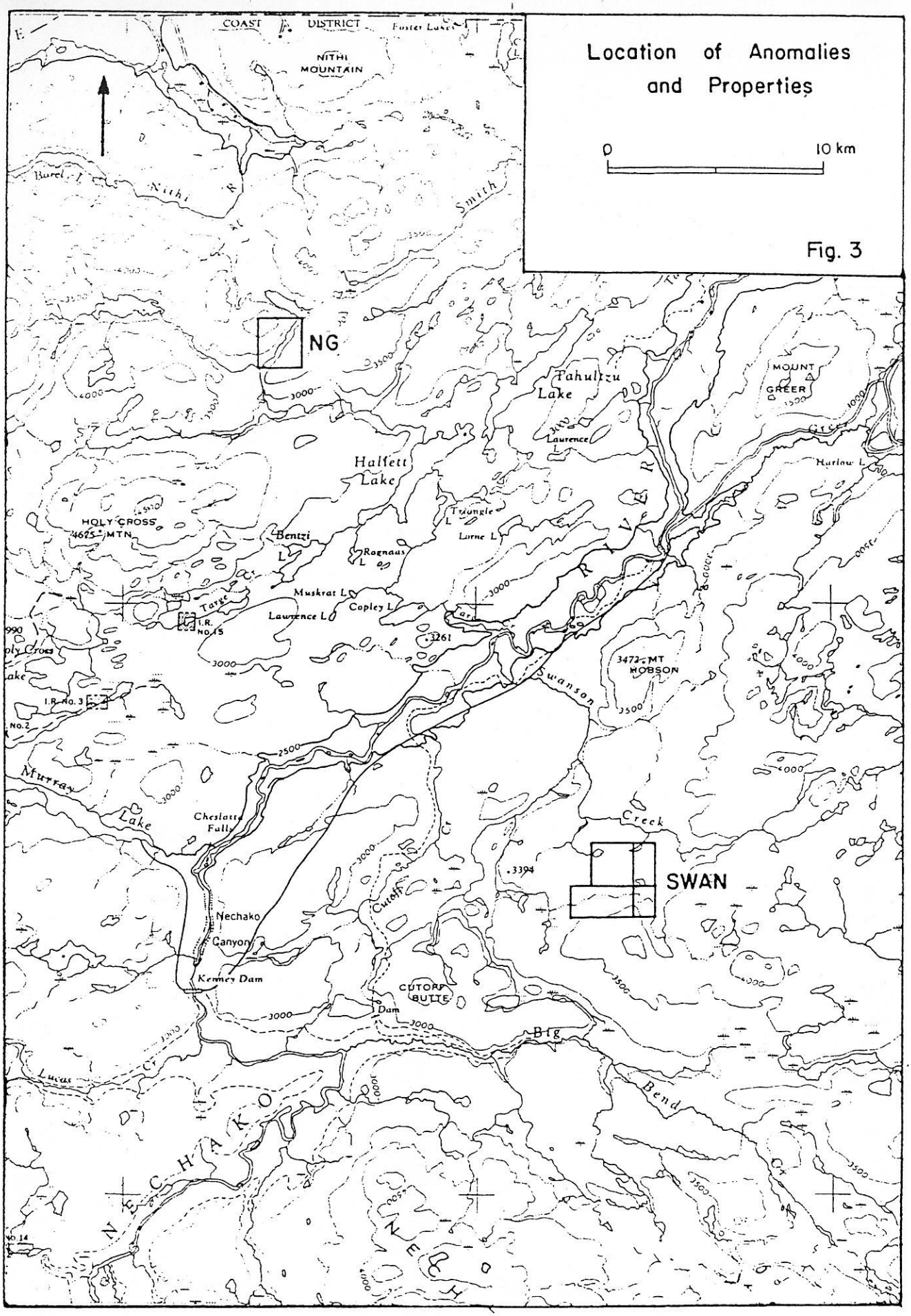
a)	soil samples	Cu - 50 ppm	Au - 30 ppb
		Pb - 40 ppm	Ag - 1.8 ppm
		Zn - 300 ppm	As - 20 ppm
		F - 425 ppm	Sb - 18 ppm?
b)	heavy mineral samples	Cu - 60 ppm	Au - 500 ppb
		Pb - 80 ppm	Ag - 1.9 ppm
		Zn - 300 ppm	As - 33 ppm
			Sb - -

No histograms of gold content in either soils or heavy mineral samples were constructed as a very large proportion of values are 5 ppb or less. A visual inspection of the data suggested that 30-40 ppb Au in soil would be an appropriate threshold. Similarly, in the case of heavy mineral samples, a threshold of about 500 ppb Au was indicated.

Antimony results appear to be somewhat erratic. Consequently, antimony should be used with caution in identifying anomalous samples.



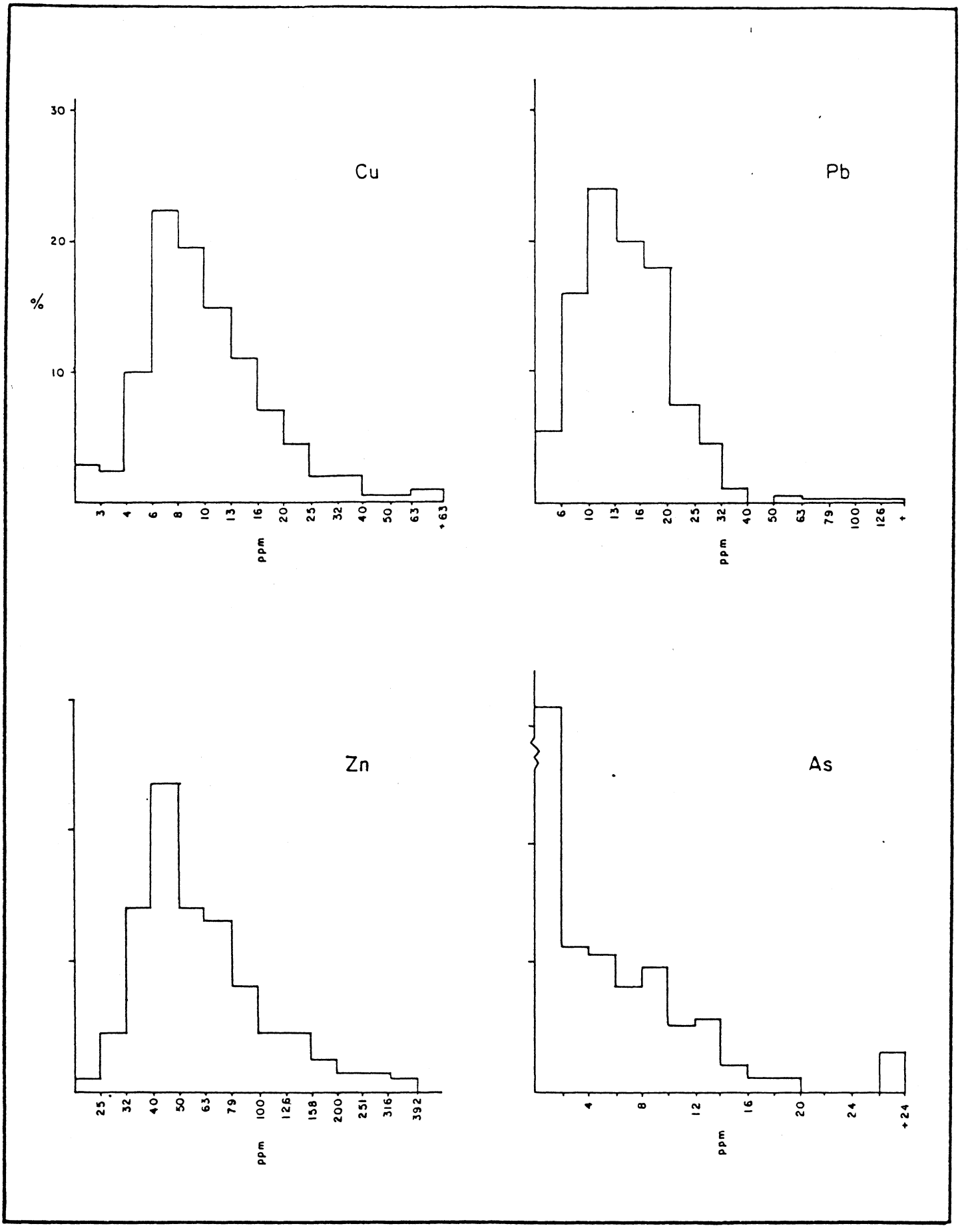
Location of the TIA Property



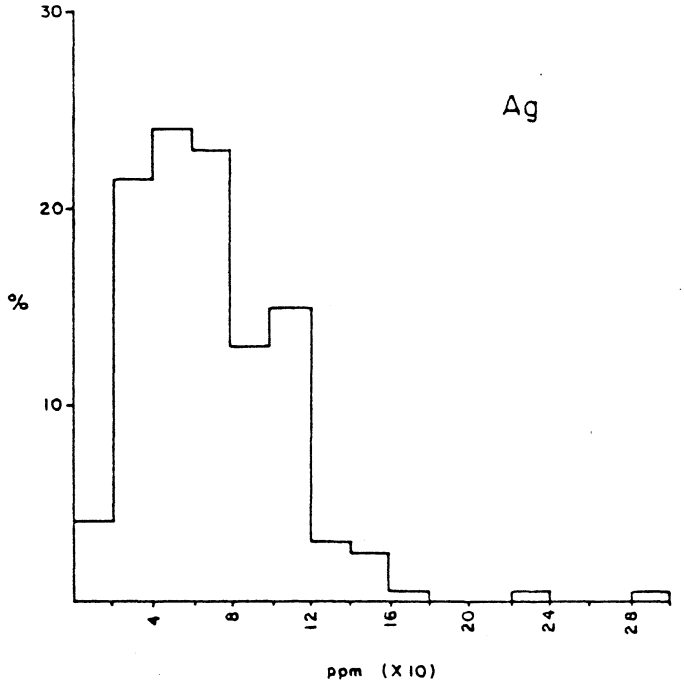
Location of Anomalies and the NG and SWAN Properties

APPENDIX 2

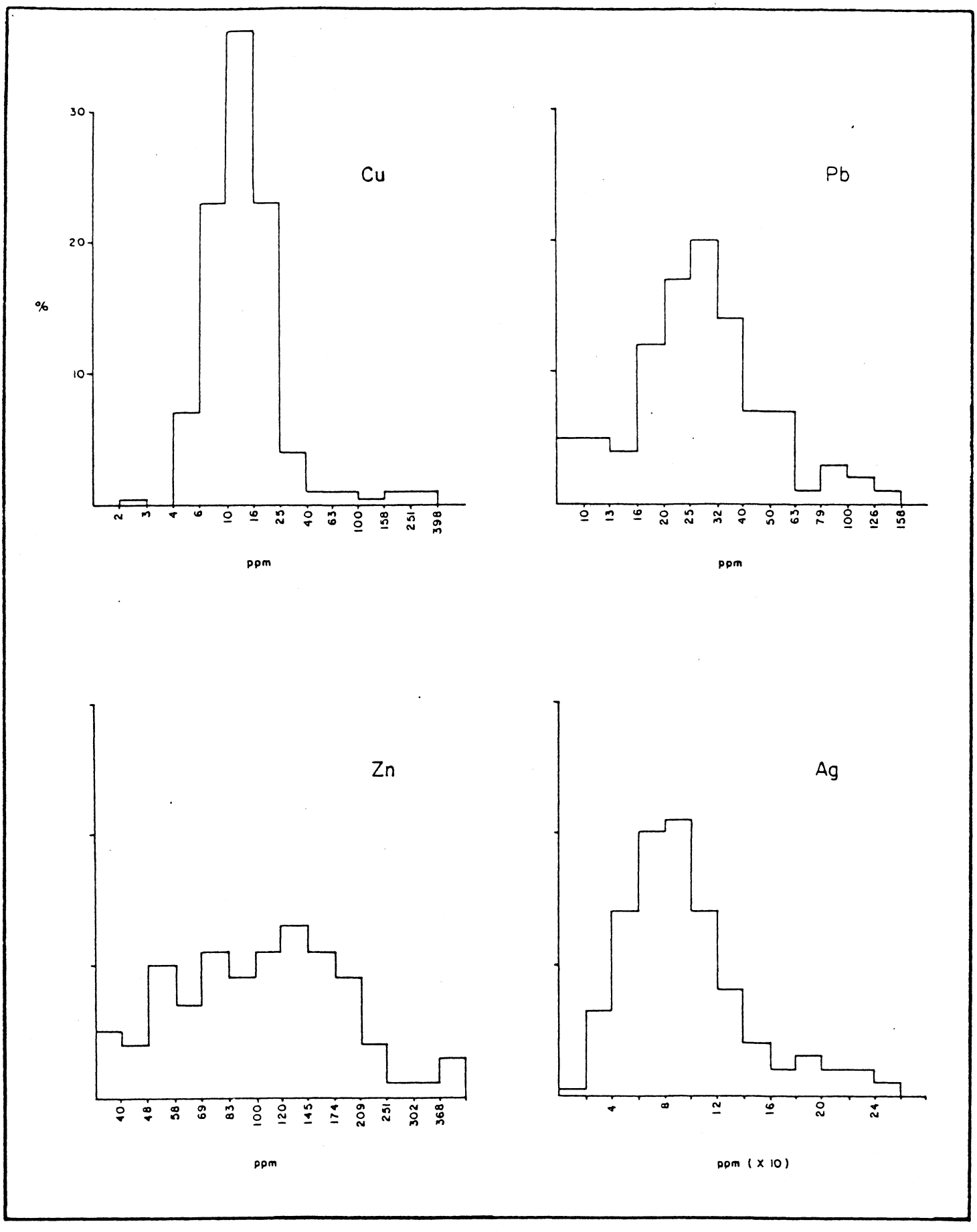
Histograms of trace element levels in soil and heavy mineral samples.



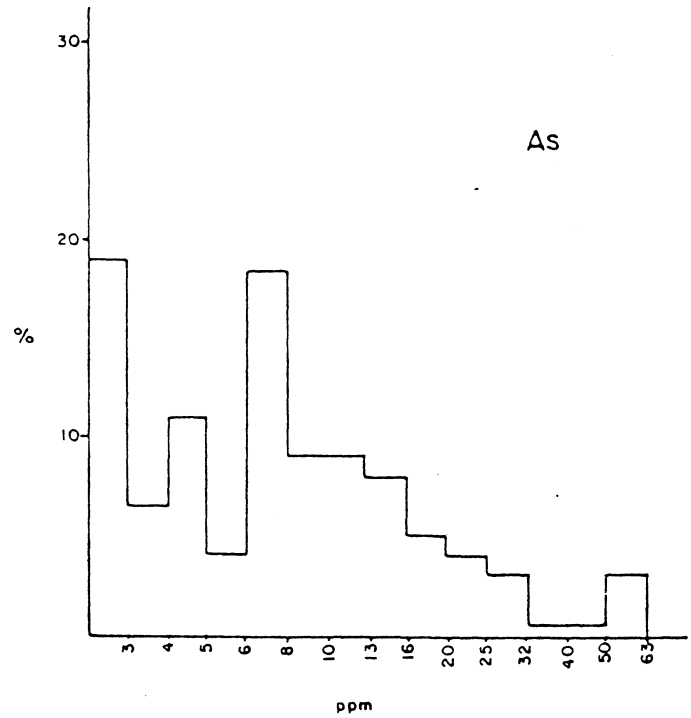
Histograms of Cu, Pb, Zn and As Levels in Soils

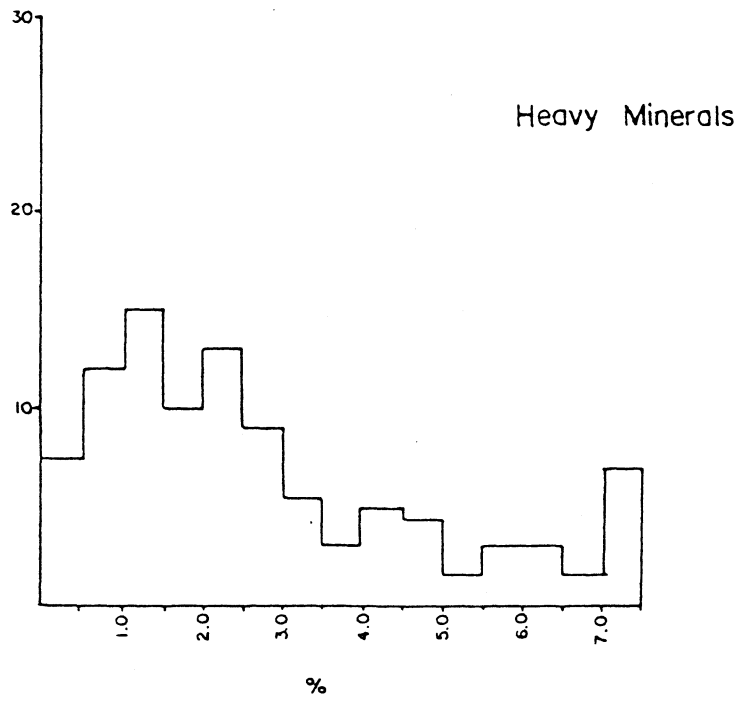


Histogram of Ag Levels in Soil

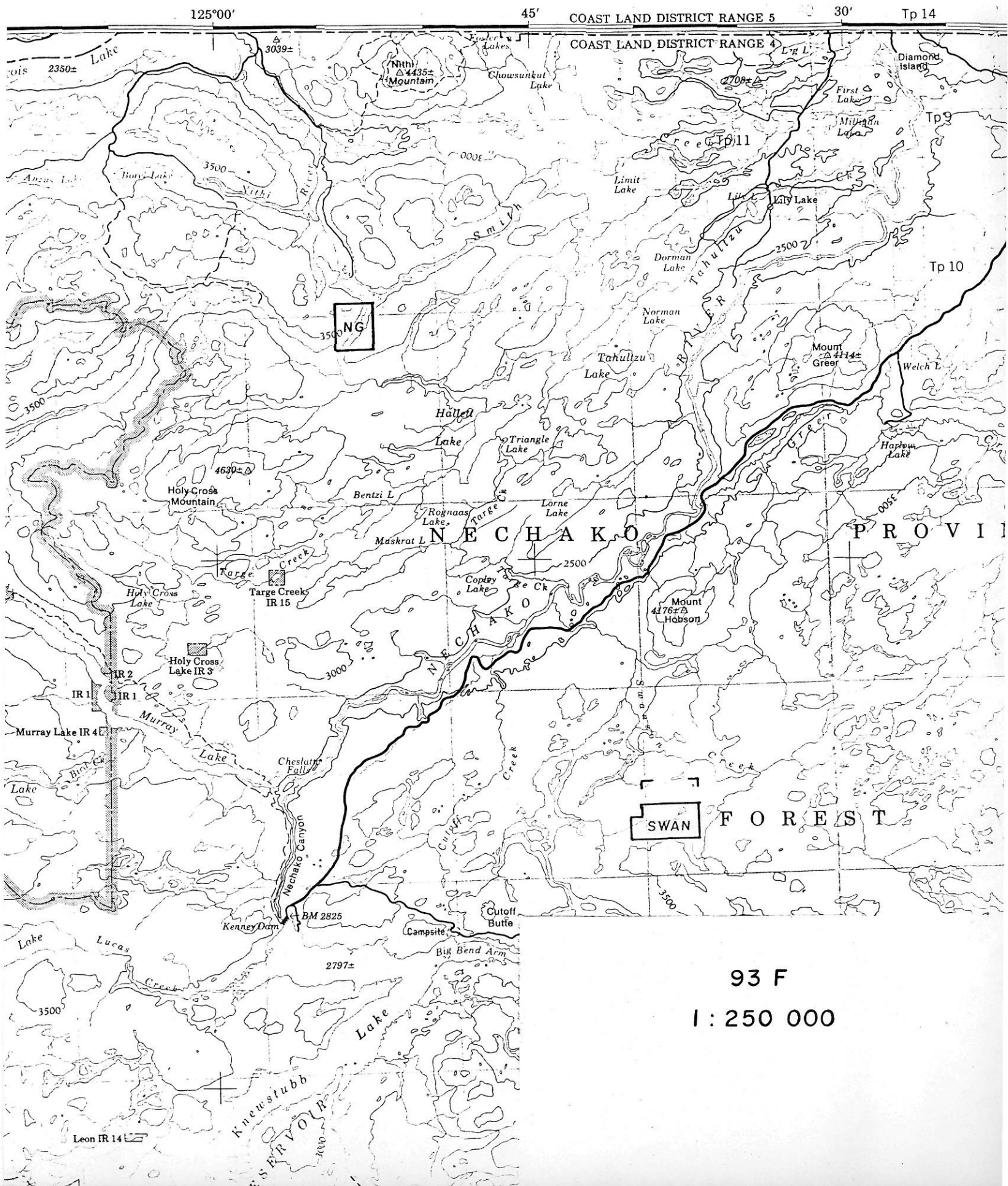


Histograms of Cu, Pb, Zn, and Ag Levels in Heavy Mineral Concentrates





Histograms of As in Heavy Mineral Concentrates
and of Weight Percent Heavy Minerals in Stream Sediment Samples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COAST LAND DISTRICT RANGE 4
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Tp 11
Tp 9
Tp 10
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Limit Lake
Lily Lake
Dorman Lake
Tahultzu River
Norman Lake
Tahultzu Lake
Mount Greer
△4114±
Welch L
Hallett Lake
Triangle Lake
Harlow Lake
Holy Cross Mountain
4630±△
Bentzi L
Rognaas Lake
Lorne Lake
Maskrat L
NECHAKO PROVI
Targe Creek
Targe Creek IR 15
Holy Cross Lake
Copley Lake
Mount Hobson
4176±△
Holy Cross Lake IR 3
IR 2
IR 1
IR 1
Murray Lake IR 4
Murray Lake
Cheslatta Falls
Nechako Canyon
Cutoff Creek
Swan Creek
SWAN FOREST
Kenney Dam
BM 2825
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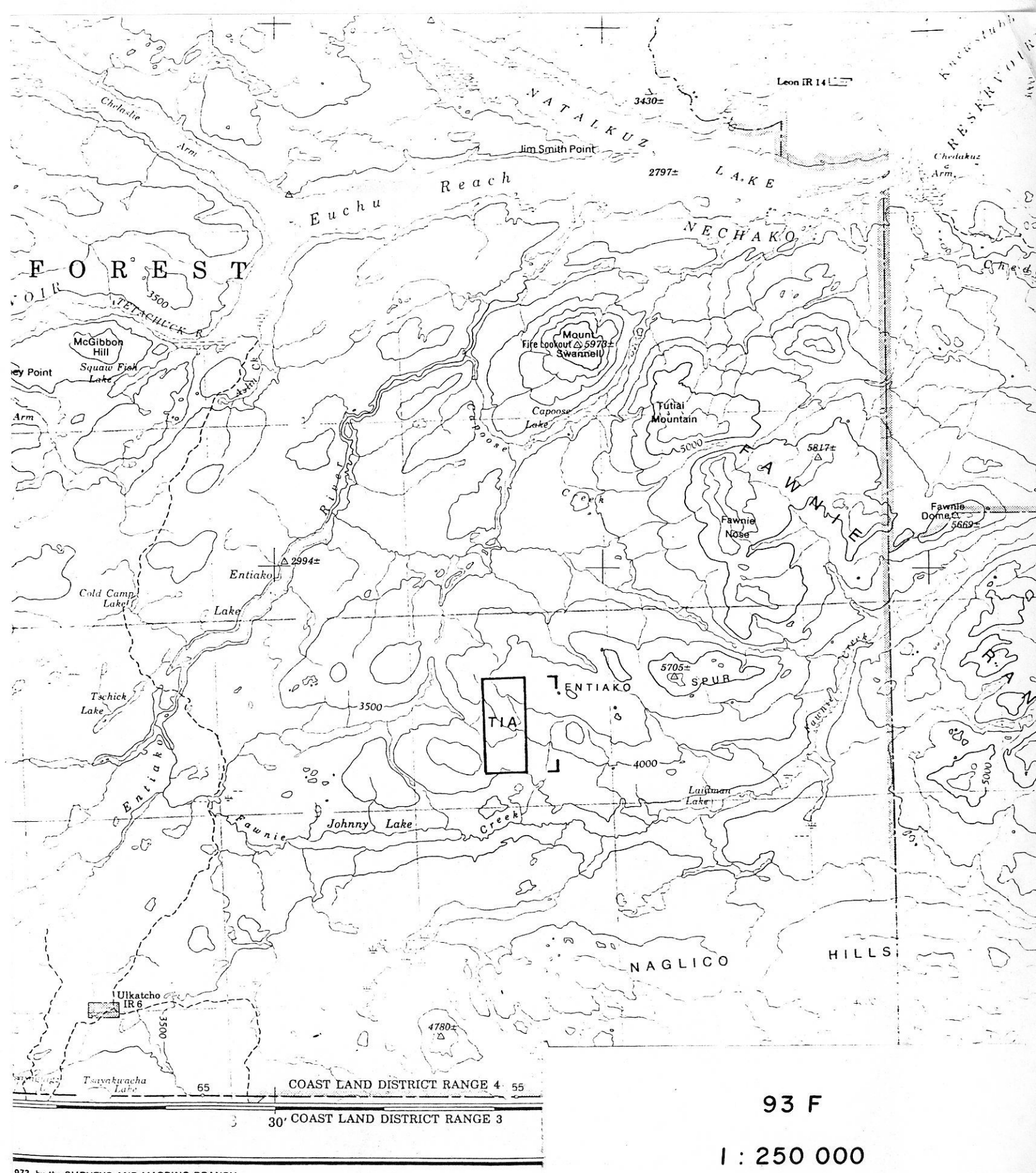

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973, by the SURVEYS AND MAPPING BRANCH,
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c declination 1974 varies from 25°58′ easterly at
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GSC Geological Map 1131 A

93 F

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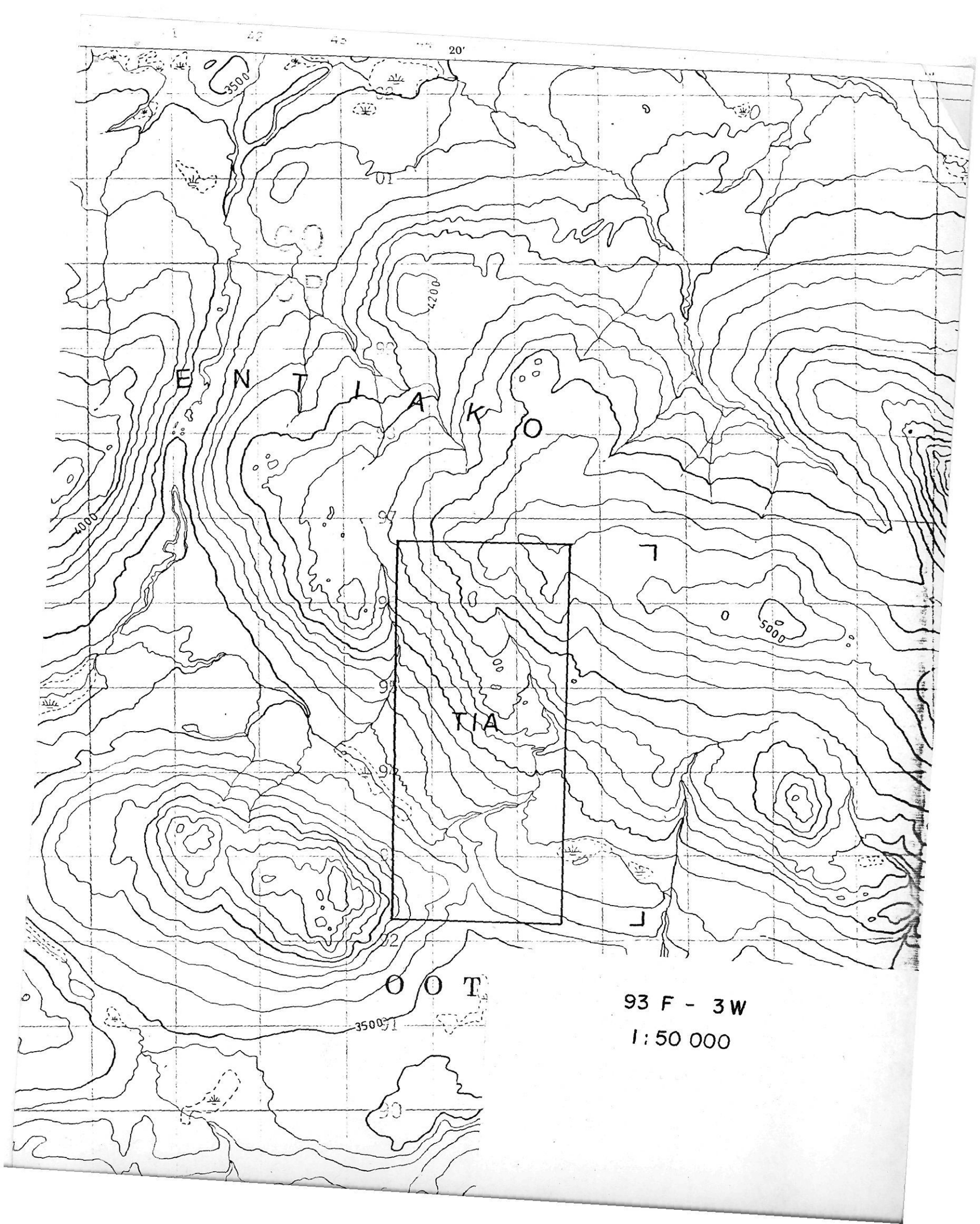
GSC Geological Map 1131 A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93 F - 3W
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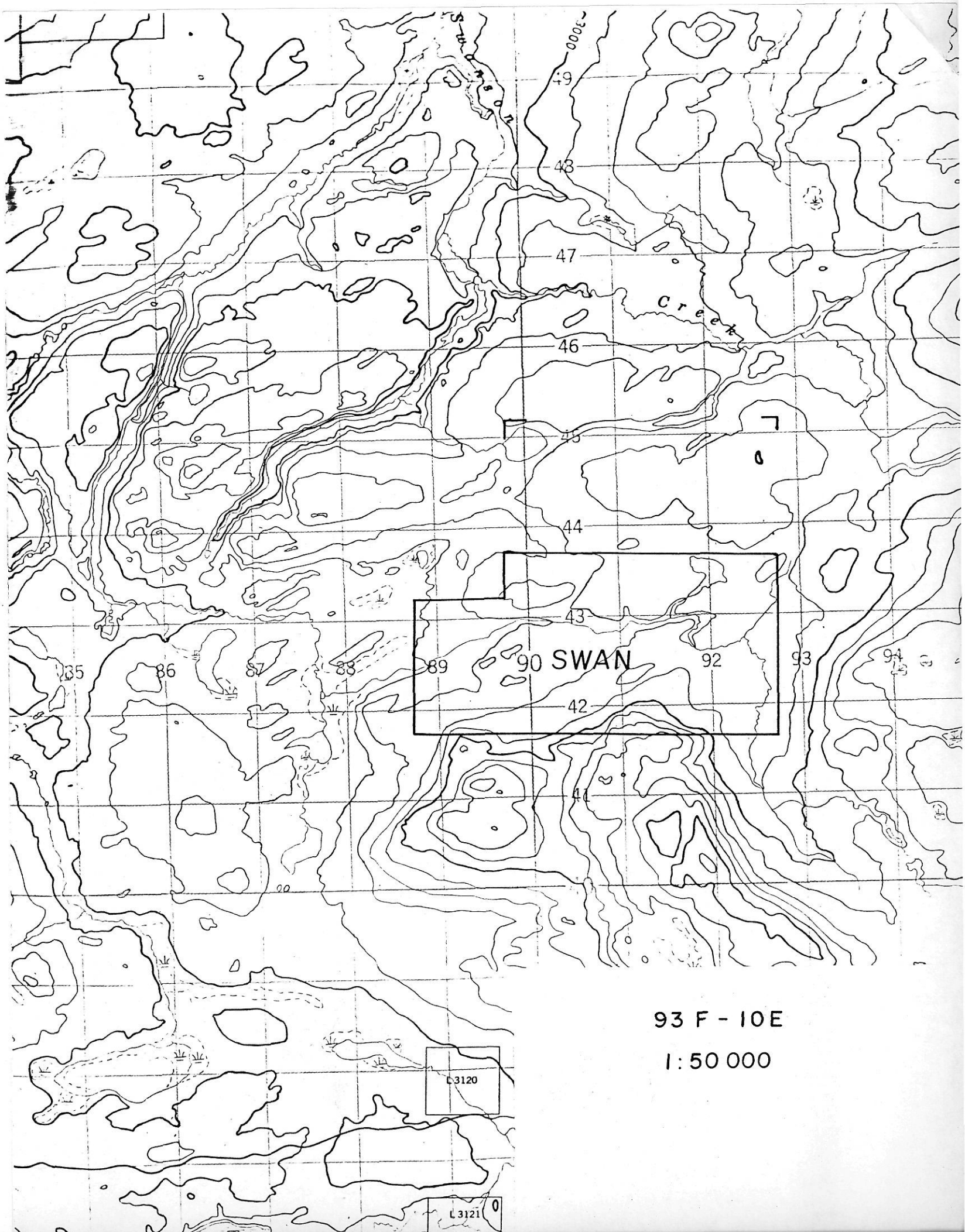

93 F - 10E

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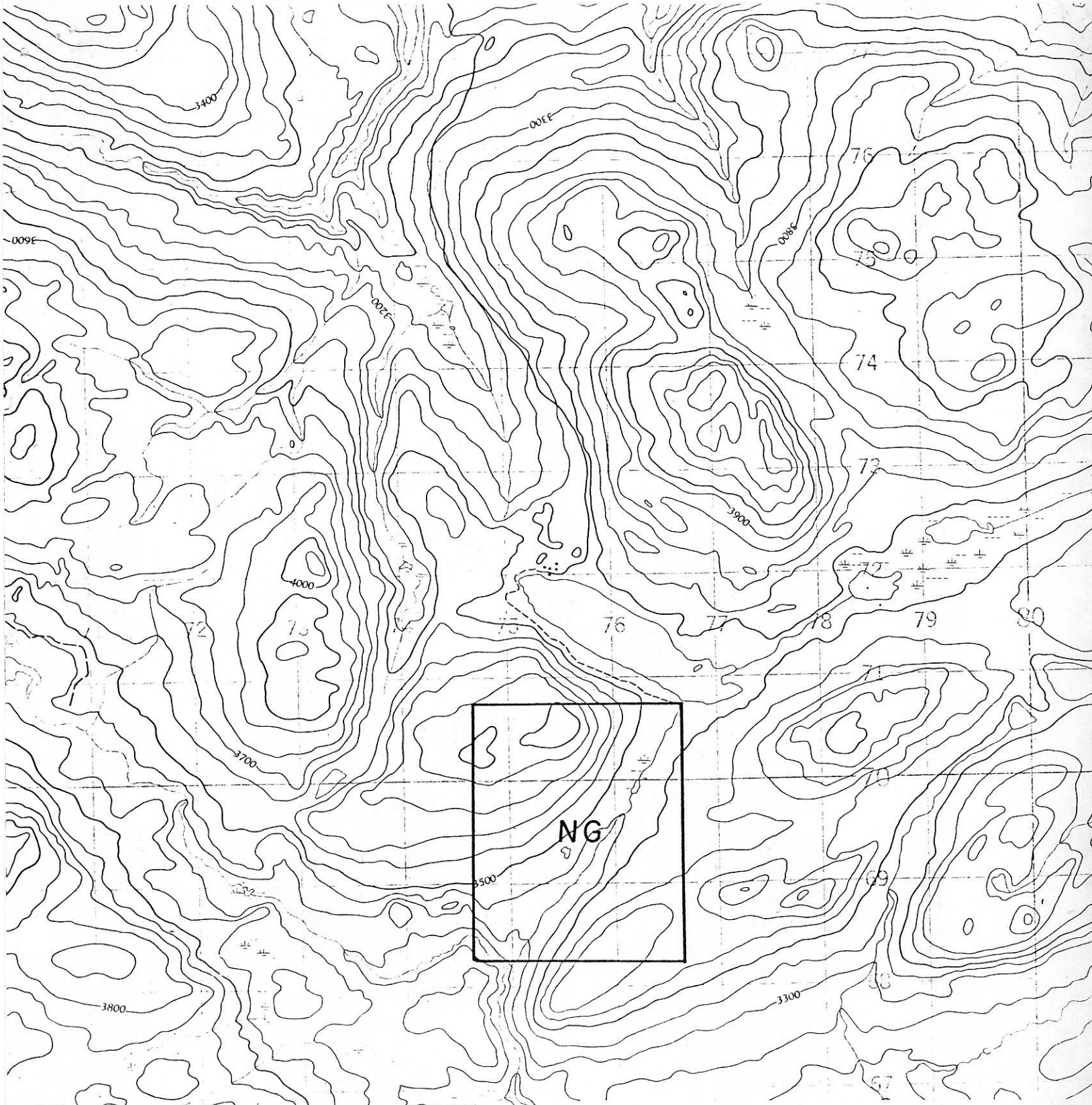

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