

4472

GEOPHYSICAL, GEOCHEMICAL & GEOLOGICAL

REPORT

ON THE

TAXI 1 GROUP

NAHWITTI LAKE

(18 miles west of Port Hardy, B.C.)

(127° 45 ' : 50° 41')

by

IRA S. ROTE, B.Sc., (Geologist)

endorsed by

W.E. CLARKE, B.Sc., P.Eng.

June 13, 1973

for

Department of Mines and Petroleum Resources ASSESSMENT REPORT NO. 4472 M.P.
--

GIANT EXPLORATIONS LIMITED (N.P.L.)

P.O. Box 10010 - 700 West Georgia Street

Vancouver 1, B.C.

Dates: June 7th. - June 9th. incl., 1973

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MAPS ACCOMPANYING REPORT

With Text:

MAP NO.

Nahwitti Lake

#1 Index Map	400-S-81
#2 Area Map	400-S-82
#3 Claims Map & Grid Location	400-S-83

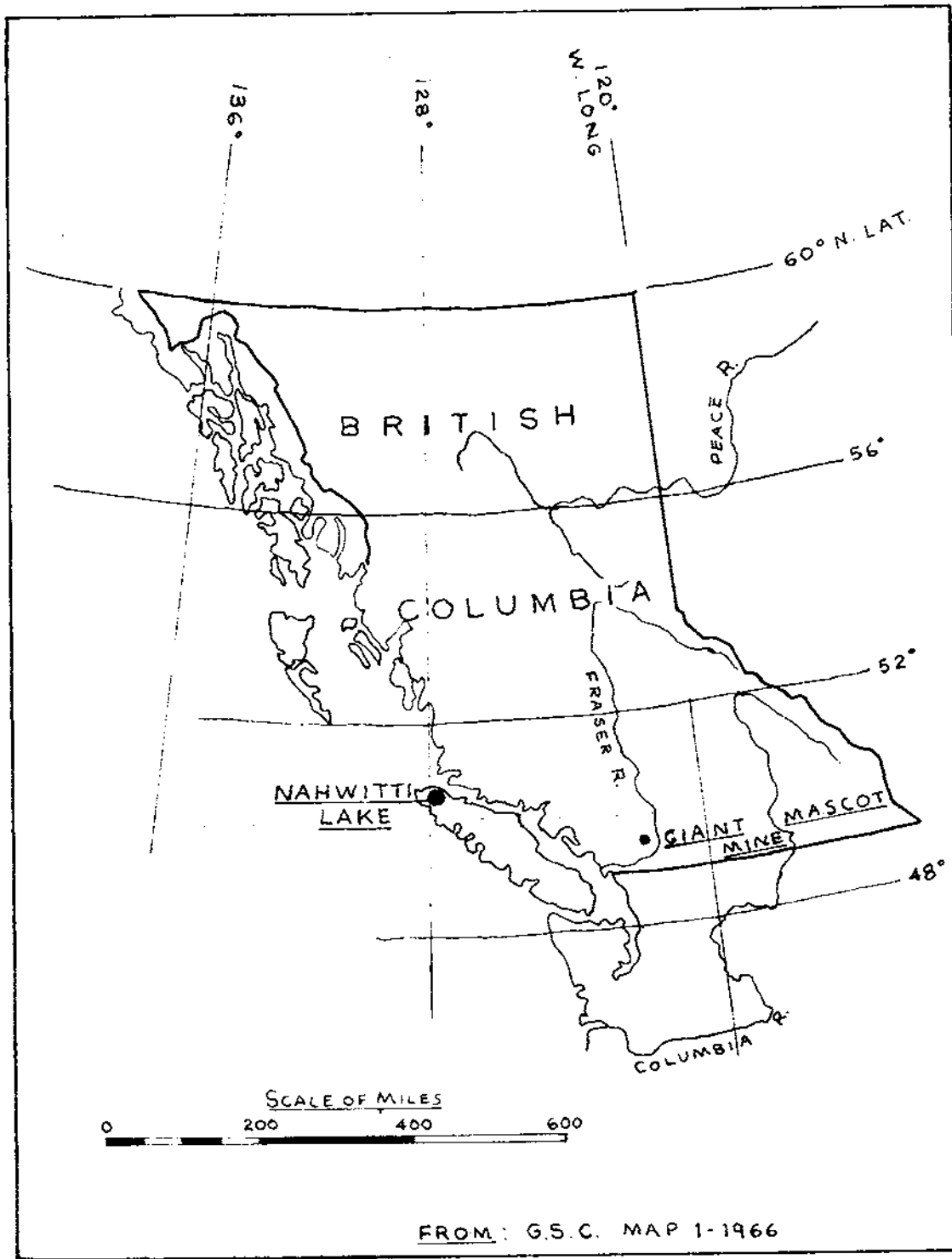
In Pocket:

Nahwitti Lake - Taxi-Sun Grid

#4 Magnetometer Survey	400-S-84
#5 PPM Cu	400-S-85
#6 PPM Pb	400-S-86
#7 PPM Zn	400-S-87
#8 Geology	400-S-88

Appendix 1

Personnel & Expenditures



FROM: G.S.C. MAP 1-1966

To Accompany
 Geophysical geochemical & geological
 report by I. S. ROTE,
 B.Sc., on the TAXI-1
 Group at Nahwitti
 Lake, in the NANAIMO
 Mining Division, dated
 June 13th, 1973.

I. S. Rote

GIANT EXPLORATIONS LTD.

NAHWITTI LAKE 4472

INDEX MAP

MI

SCALE AS SHOWN
 DRAWN I. S. R.

CHECKED: *[Signature]*
 DATE June 12th, 1973

DWG. NO.

400-S-81

[Signature]

INTRODUCTION

Exploration work on the Nahwitti Lake property during the late 1960's disclosed two mineral showings in the area bounded by Meade Creek on the west, and Ida Creek on the east.

The Bluff showing located on the 1,100 ft. elevation near Ida Creek, contains lead, zinc, and silver mineralization exposed near a limestone - volcanic contact. The mineralization is contained in two small lenticular bodies of altered silicified limestone. The mineralized structures subparallel the south-dipping Bonanza volcanic rocks.

A narrow band of limestone in Meade Creek (about 20 feet thick) has magnetite developed along its contacts with andesite. The magnetite bodies vary in thickness from 1 - 10 feet and are generally less than 20

feet long. The copper content of the magnetite has been reported as being low.

Considering the recent discovery of significant chalcopyrite-magnetite mineralization in the Rain-Claims area of the Nahwitti Lake property, it was felt that the contact zone between Ida Creek and Meade Creek deserved additional exploration work.

This report outlines geophysical, geological, and geochemical work done on the Taxi-Sun grid over the period June 7th, to 9th, 1973.

LOCATION & ACCESS

The Nahwitti Lake property is located 18 miles west of Port Hardy, a small town in north-central Vancouver Island, B.C. The Holberg road cuts through the property and provides easy access. A network of roads allows one to drive into the survey area.

PROPERTY

The claims covered by the survey described in this report are:

<u>Name</u>	<u>Record No.</u>
Taxi 1	18537
Taxi 2	18538
Sun 3	16385
Sun 4	16386
Sun 5	16387
Sun 6	16388

GEOLOGY

The Nahwitti Lake property is underlain by sediments and volcanic rocks of the Vancouver Group, subdivisions of which are: the Karmutsen Group, the Quatsino Formation and the Bonanza Group.

The Karmutsen Group occurs in the northern part of the property and consists mainly of andesite.

The Quatsino Limestone is a light to dark-grey rock which serves as a marker horizon, and is found in the central portion of the property.

All the known mineral showings in the Nahwitti Lake area are located in, or near, the Quatsino Limestone.

The Bonanza Group is made up of interbedded argillites and limestones, which contact the Quatsino Formation. The argillites and limestones are overlain by andesites comparable to those of the Karmutsen Group.

Faulting is widespread in the Nahwitti Lake area and trends WNW to NW. The bedded rocks generally dip 20 - 50° south and may represent the south limb of a broad, westerly-trending anticlinal fold.

SURVEY GRID

A survey grid was established as depicted on map 400-S-84. The grid consists of 12 cross lines 1,500 feet long aggregating 3.4 line miles. The base line was blazed and flagged with stations every 50 feet.

The 00 cross line was cut so as to run north-south through the Taxi 1 & 2 initial claim post.

MAGNETOMETER SURVEY

The ground magnetometer survey was carried out using a McPhar M 700 flux-gate magnetometer with readings taken every fifty feet on the cross lines. An arbitrary "zero" (5,000 γ) was set at a base station against which measurements taken on the cross lines were compared. A daily check was made for diurnal variation, and the necessary adjustments made. The daily variation was generally less than 100 γ . As an additional control cross line readings were tied into the base so as to form a loop traverse. In addition, the instrument was reset to 5,000 at the base station at least once a day.

GEOCHEMICAL SURVEY

The Taxi-Sun grid was soil-sampled every 100 feet on cross lines 200 feet apart. Where forest growth permitted, the B-horizon of the soil profile was sampled.

The samples were assayed by Fraser Laboratories Limited, 1175 West 15th, Street, North Vancouver, B.C. A one half gram portion of the dried and screened sample (-80 mesh) was digested for 2 hours in a mixture of perchloric and nitric acid. Following cooling, mixing and settling, the sample was diluted and run on a Techtron AA-5 atomic absorption spectrometer against matrix standards. Results were reported in PPM with \pm 2% error.

The samples were labeled in the field with the station designation, e.g., a sample collected at cross line eight west 400 feet south, was marked XL8W-4S.

Metal values in PPM are shown on Maps 400-S-5, 6, and 7.

GEOLOGICAL MAPPING

Rock outcrops on the Taxi-Sun grid are most prevalent near an abrupt break in slope on the north facing sidehill. Rock exposure is sporadic over the remainder of the grid, and confined mainly to the zone of recent logging and slash-burning. The wooded area commencing at the 1,300 ft. elevation is devoid of outcrop.

Rock types and structural features are shown on Map 400-S-8.

DESCRIPTION & INTERPRETATION OF RESULTS.

Magnetometer Survey

The magnetometer values were contoured, and the resulting map indicated a number of localized mag highs in the NW corner of the grid. The remainder of the ground is rather flat magnetically, and the contoured values do not differentiate between rock types.

A magnetite-chalcopyrite body was discovered in the roadcut near XL7W in the course of geological mapping, and the highest value this mineralization gave was 10,000 γ. Mag values quickly dropped to background within a few feet of the showing.

The high magnetic readings recorded for the NW corner of the grid correlate with magnetic porphyry dikes noted during mapping; however, in two cases (Mag Anomalies A & B) no outcrop was in evidence, and small bodies of magnetite might underlie this locale.

Geochemical Survey

An anomalous zone in Cu, Pb and zinc strikes WNW across the northern half of the Taxi-Sun grid.

The highest values in PPM copper (Anomaly A) occur in the NW corner of the grid. This sector is underlain by porphyritic andesite dikes and is close to the Karmutsen-Quatsino contact. No mineralization was observed in nearby outcrops.

High values in PPM lead coincide with those of copper (Anomaly A), and are also present in Anomalies B & C to the east.

The B anomaly straddles the break in slope in the northern part of the grid. The NW portion of the anomaly occurs on a bench and may represent a drainage feature; however, the highest values occur above the abrupt change in slope and may indicate a mineralized area. The Bluff showings are only 250 ft. southeast, but the drainage pattern is such that the Bluff zone could not have contributed to Anomaly B.

High lead values (Anomaly C) occur on the eastern boundary of the grid near a dike intruded into Quatsino Lst.

Anomalous values in PPM zinc coincide with Anomaly B, and tend to be concentrated along the previously mentioned bench. High zinc values have also been reported for samples taken from the C-Anomaly area, and may represent mineralization adjacent to dikes.

Geological Survey

Rock Types

The Karmutsen Group of volcanic rocks borders the NW part of the Taxi-Sun Grid. Outcrops exposed in logging roads to the north are a hard brittle, dark greenish-grey very fine-grained rock. In the grid area the Karmutzen formation is strongly fractured and sheared, with the fractures coated and partly healed by calcite and minor chlorite. Pyrite is commonly disseminated along fractures and throughout the rock. For mapping purposes the Karmutsen volcanics were termed andesites.

An intrusive irregular-shaped mass of porphyritic "gabbro diorite", or diabase, occurs in the northwest corner of the survey grid. The gabbro diorite contains plagioclase laths up to 3/8 inches in length. Near contacts with Quatsino limestone, mafic-filled amygdules in the gabbro diorite are limonite-stained and readily observable on the weathered surface. In addition, the rock is moderately magnetic. The gabbrodiorite is closely associated with rocks of trachyte and rhyolite (felsite) composition. Possibly the andesite and trachytes are dikes and sills, while the gabbro diorite represents a massive plug which acted as a feeder for major volcanic vents.

Quatsino limestone mapped on the grid is typically a light to dark-grey fine-to medium-grained crystalline rock. The dark color results from very fine-grained argillaceous and carbonaceous impurities. Chert nodules and color banding are present in the limestone, and are probably indicative of bedding attitude.

The Bonanza Group is made up of two units; a relatively thin (50 - 100 ft.) lower member, and a thick massive upper member.

The lower member is composed of thin-banded argillites and limestones with intercalated thin rhyolite and trachyte flows. The contact between the Bonanza Group and the Quatsino limestone can only be arbitrarily placed since the Quatsino formation grades over thirty or forty feet into the thin-bedded limestone of the Bonanza Group. Lower member rocks were not present in the grid area.

Rocks of rhyolite-andesite composition in the southern part of the grid were mapped as Upper Bonanza.

Mineralization

The Bluff Showing occurs in Quatsino limestone immediately adjacent to the Quatsino-Bonanza contact. The two small lenticular bodies which sub-parallel the south-dipping contact contain pyrite, sphalerite, and minor amounts of galena.

The TS Road Showing is exposed in the roadcut near XL7W- $\frac{1}{2}$ N. The mineralized body consists mainly of magnetite and pyrite with small amounts of chalcopyrite and sphalerite. The mineralized structure was thought to be of limited dimensions and this was confirmed by taking spot readings with the magnetometer. Chip samples taken over 2 ft. intervals across the mineralized body gave assay values for copper ranging from 0.12% to 0.34%, and zinc values of less than 1% to as high as 7 $\frac{1}{2}$ %. Lead values were extremely low, and gold and silver occurred in only trace amounts.

CONCLUSIONS & RECOMMENDATIONS

High magnetometer values in the NW corner of the Taxi-Sun grid may be indicative of magnetite-chalcopyrite mineralization comparable to that occurring in Meade Creek. The magnetometer survey should be extended across Meade Creek so as to delineate the size and configuration of anomalies A & B.

The highest copper value is found at station 12W-1S and may, represent magnetite chalcopyrite mineralization. Overburden is not deep in this part of the grid, and a trench put in at this location would probably expose bedrock and any attendant mineralization.

Although geochem anomaly B is in part a drainage feature, the occurrence of coincident high lead and zinc values in this location may indicate the presence of mineralization up slope. The B Anomaly should be investigated by trenching, near stations XL2W-25 and XL4W-53.

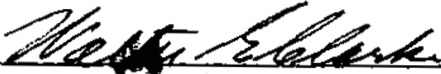
The C Anomaly, as indicated by high lead and zinc values, forms part of an E-W trending anomalous zone of which Anomaly B is a part. Trenching work should be carried out in the C area as part of an overall investigation of the zone.

In the event that mineralization is disclosed in the trenches proposed above, diamond drilling with a small machine is recommended to further explore the zone.



I.S. Rote, Geologist

Endorsed by:



W.E. Clarke, B.Sc., P.Eng.

CERTIFICATE

I, Ira S. Rote, of the City of Vancouver in the Province of British Columbia hereby certify:

1. That I am engaged in work as a Geologist and reside at #205 - 1717 Comox Street, Vancouver 5, British Columbia.
2. That I am a graduate of the University of Guelph with an Honours Bachelor of Science degree.
3. That I have done two years work towards an M.Sc. in Geology at the University of British Columbia.
4. That I have practiced as an exploration Geologist for three years.
5. That I have personally done work on the claims mentioned in this report.
6. That I am presently employed by Giant Mascot Mines Limited.

DATED this 13th, day of June, 1973.

Signed,

A handwritten signature in black ink, appearing to read 'Ira S. Rote', written in a cursive style.

Ira S. Rote, Geologist

- 15 -
APPENDIX 1

PERSONNEL & EXPENDITURES

PERSONNEL

From June 6th, to June 9th, 1973, work on the Taxi-Sun Grid was carried out under the writer's supervision. The personnel were as follows:

Ira S. Rote	#205-1717 Comox St. Vancouver, B.C.
R.A. Gonzalez	#1-1621 St. Georges, N. Vancouver, B.C.
B. Cheyne	4556 Victoria St., Burnaby, B.C.
G. Lowes	Box 297, Port Hardy, B.C.

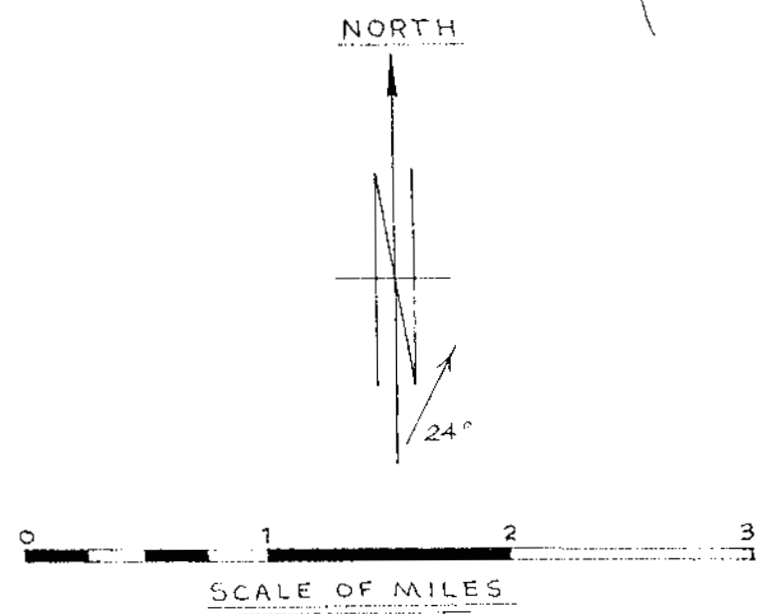
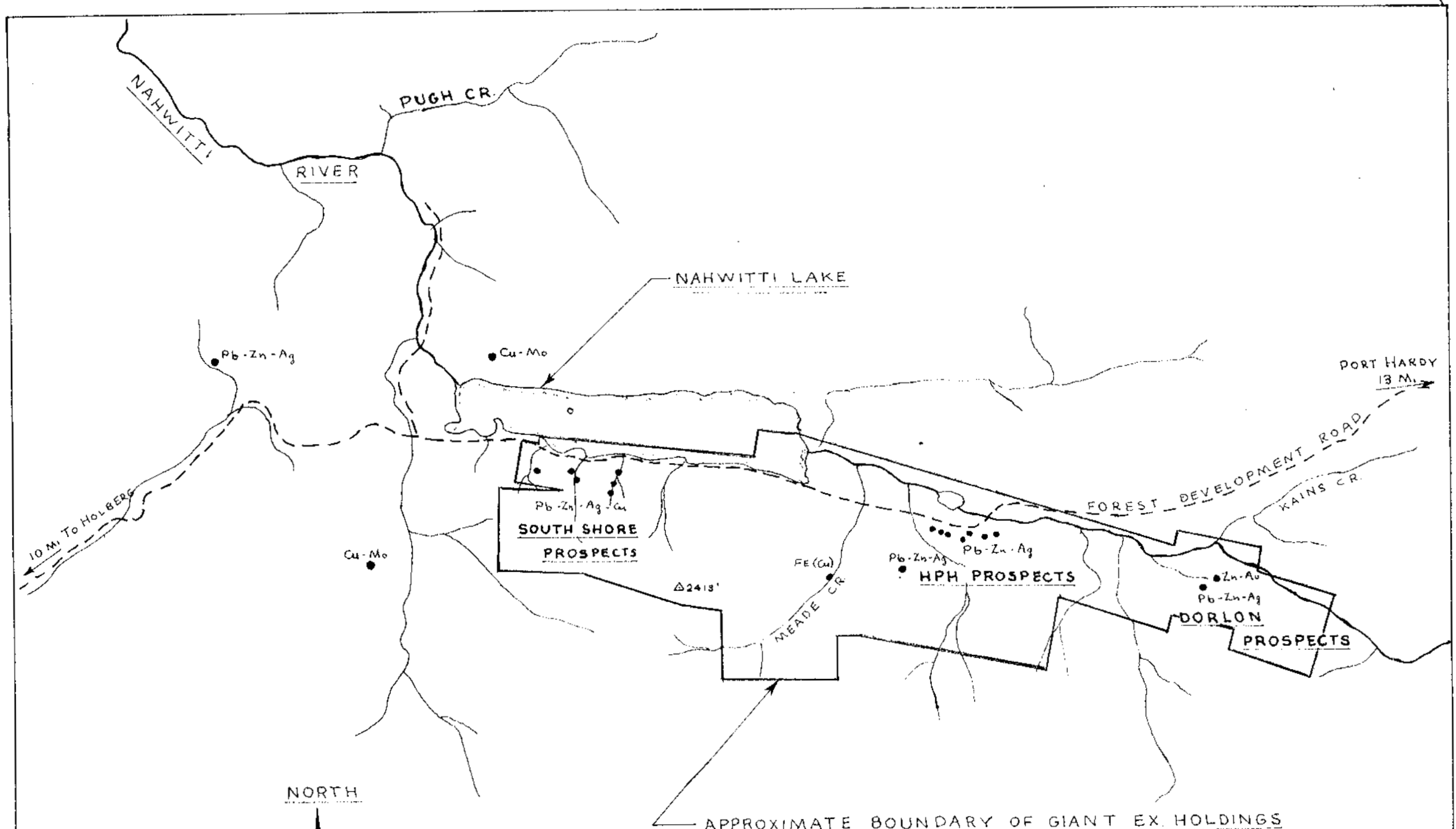
EXPENDITURES

A cost statement for work done on the Taxi-Sun grid is as follows:

Crew

I. Rote	Period: June 6th - 9th, incl. & June 11th - 13th, incl. Days Worked: 7 days @ \$60/day	\$420.00
R.A. Gonzalez	Period: June 7th - 9th, incl. Days worked 4 days @ \$55/day	220.00
B. Cheyne	Period: June 7th - 9th, incl. Days worked 3 days @ \$36/day	108.00
G. Lowes	Period: June 7th - 9th, incl. Days worked 3 days @ 36/day	<u>108.00</u>
	Subtotal	\$856.00

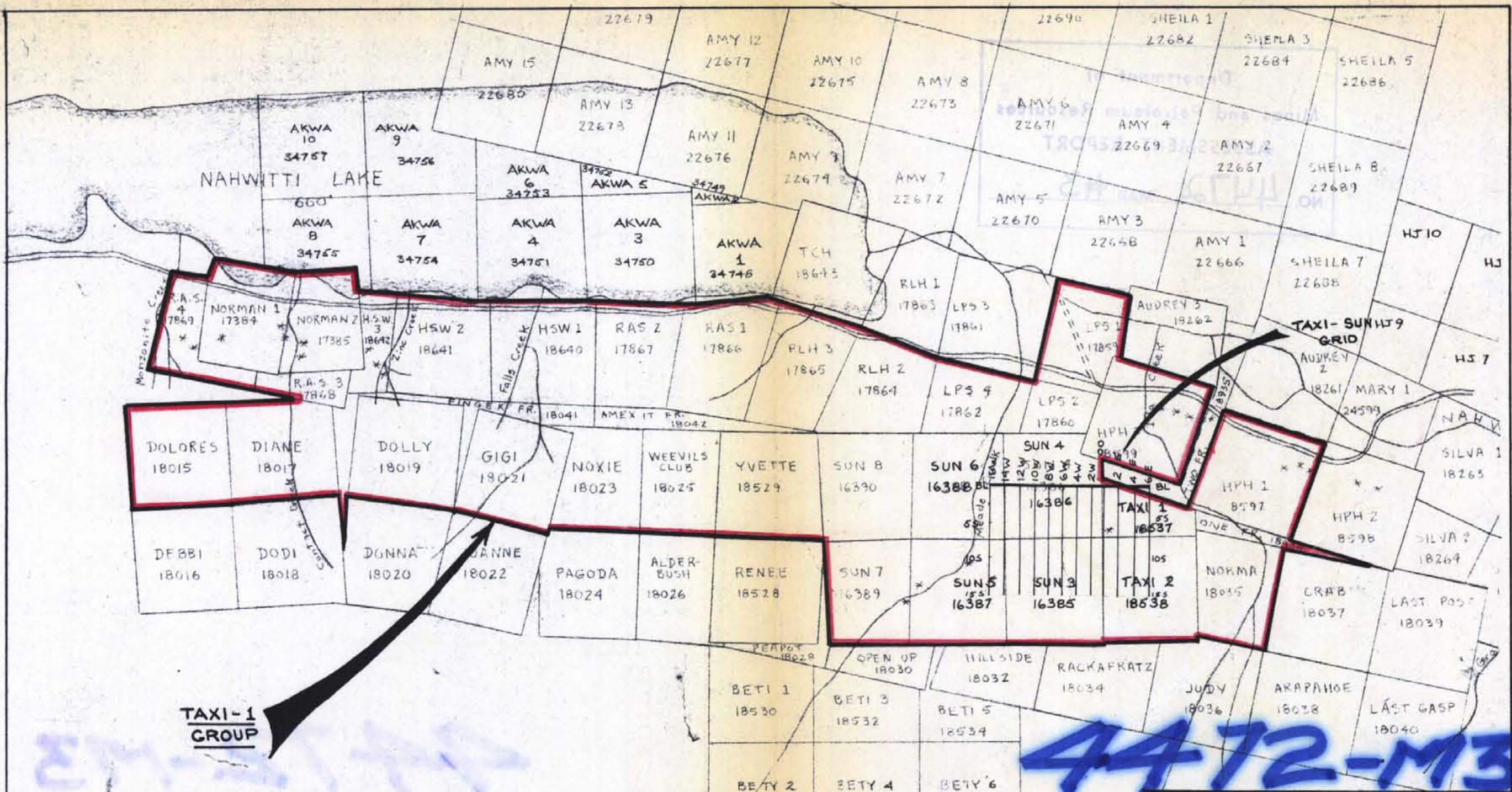
contined p.2



To Accompany Geophysical geochemical & Geological report by I. S. ROTE B.Sc., on the TAXI-1 Group at Nahwitti Lake, in the NANAIMO Mining Division dated June 13 th 1973	GIANT EXPLORATIONS LTD.	
	NAHWITTI LAKE AREA	
SCALE: 1:50000 DRAWN: I.S.R. CHECKED: <i>[Signature]</i> DATE: June 12 th 1973	DWG NO. 400-5-82	

FROM: NAT. TOPOG. SYSTEM SHEET 92 L/12 WEST.

4472-M2



**TAXI-1
GROUP**

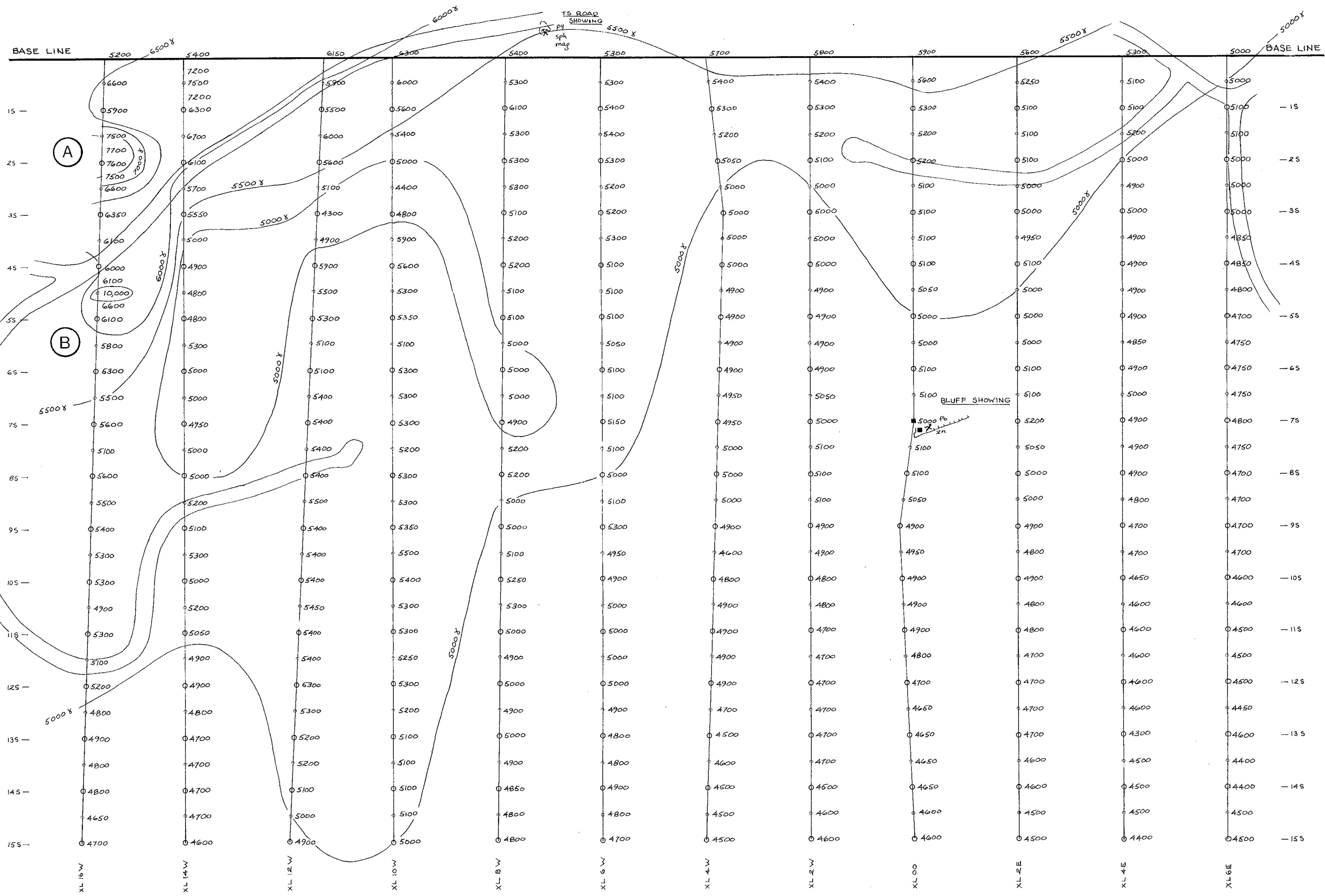
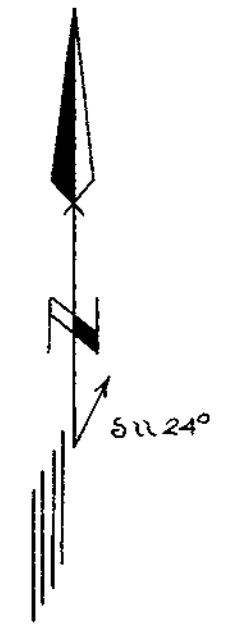
4472-M3

To Accompany
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 at Nahwitti Lake, in the NANAIMO
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**NAHWITTI LAKE
 CLAIMS MAP &
 GRID LOCATION**

SCALE 1" = 1500'	DWG. NO.
DRAWN I.S.R.	400-S-83
CHECKED	
DATE June 12, 1973	



LEGEND

- ⊙ - Station
- 5000 γ - Mag contour
- ⊙^{zn} - Open cut with mineralization

4472-M4

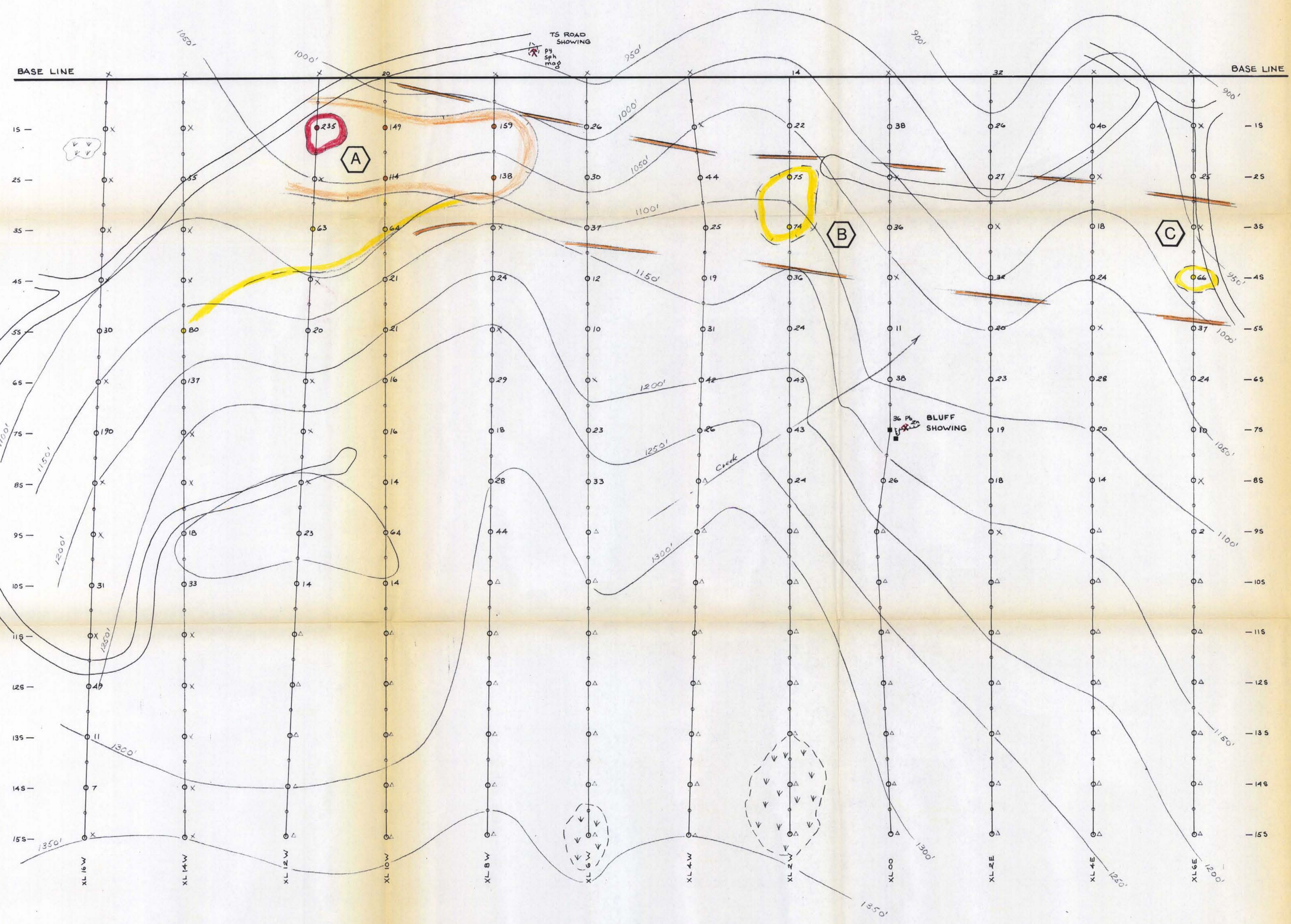
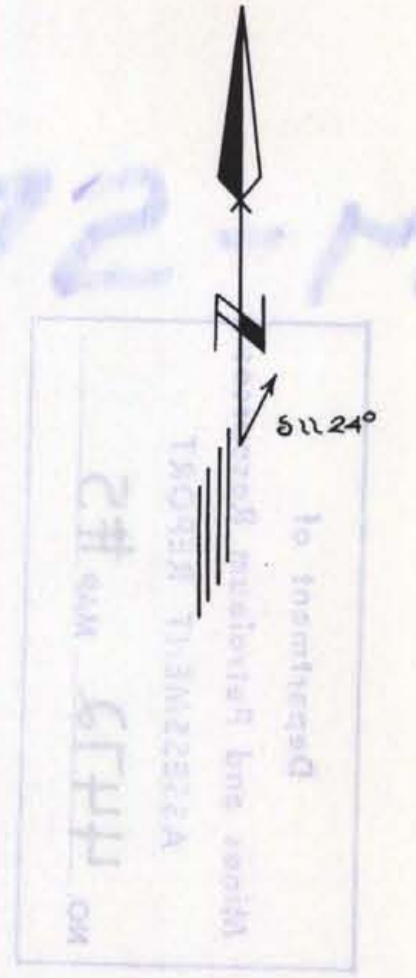
To Accompany
 Geophysical, Geochemical
 & Geological Report by I. S. ROPE,
 B.Sc. on the TAXI-1 Group at
 Nahwitti Lake in the NANAIMO
 Mining Division, dated June 15, 1973.
I. S. Rope

GIANT EXPLORATIONS LTD.

NAHWITTI LAKE
 TAXI-SUN GRID
 Magnetometer Survey

SCALE	1" = 100'	DWG. NO.
DRAWN	I. S. R.	400-S-84
CHECKED	<i>[Signature]</i>	
DATE	June, 1973	

4472-M5



LEGEND

- - Threshold* (50-90 PPM)
- - Anomalous (90-200 PPM)
- - Most Anomalous (200+ PPM)
- XΔ - Organic sample - no assay; no sample taken
- U - Anomaly
- - Topographic contours @ 50' intervals
- - Open Cut
- Zn, Cu - Mineralization
- - Bog
- - Anomalous Zone

4475-W2

4472-M5

To Accompany
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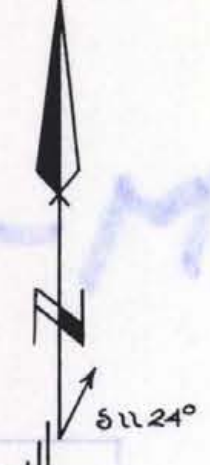
I. S. Rote

GIANT EXPLORATIONS LTD.

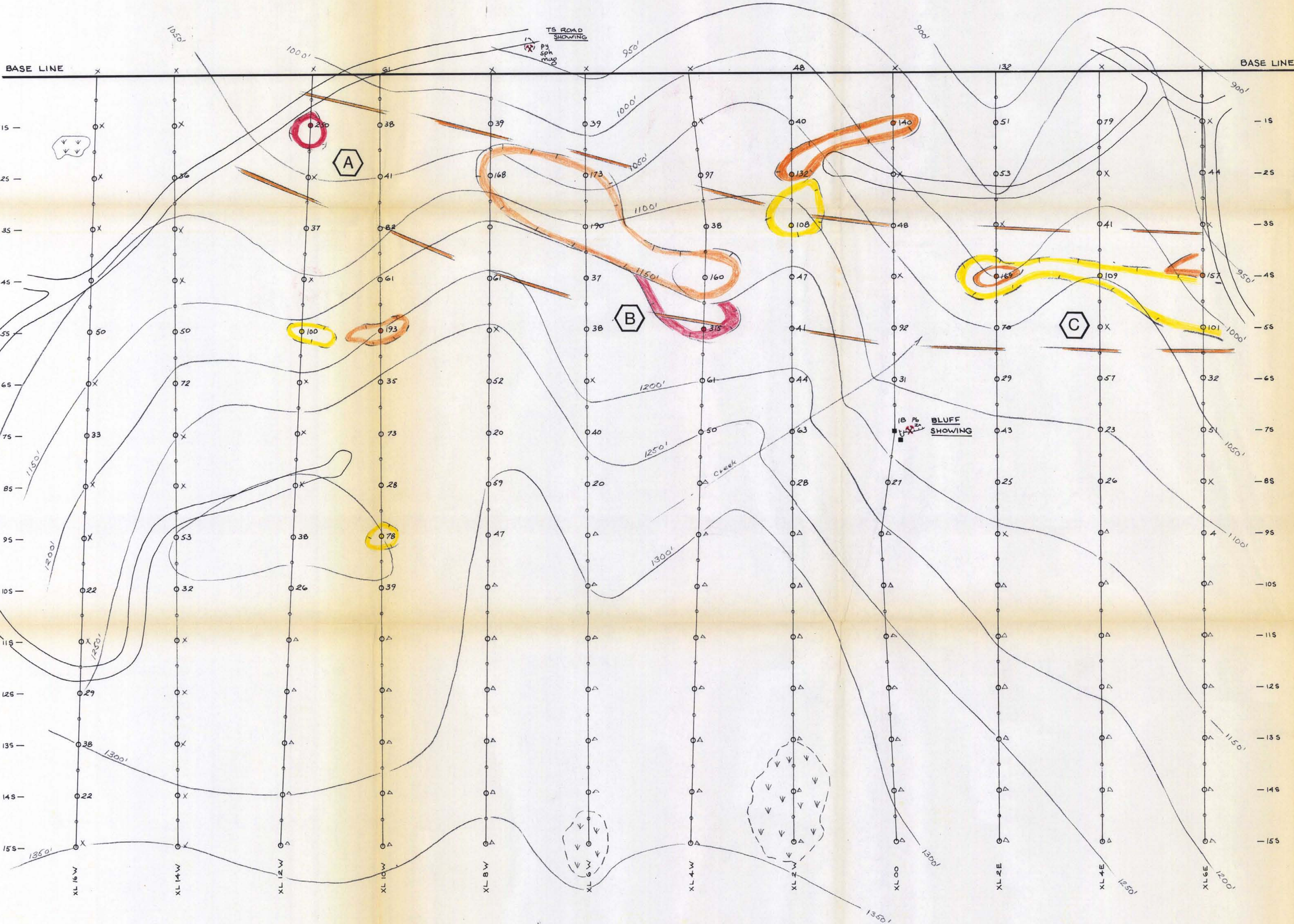
NAHWITTI LAKE
TAXI-SUN GRID
PPM CU

SCALE 1" = 100'	DWG. NO.
DRAWN I. S. R.	400-S-85
CHECKED	
DATE June 1973	<i>I. S. Rote</i>

4472-M6



TO ACCOMPANY
GEOLOGICAL REPORT BY I.S. ROTE,
B.Sc. ON THE TAXI-1 GROUP AT
NAHWITTI LAKE IN THE NANAIMO
MINING DIVISION DATED JUNE 15, 1973.



LEGEND

- - Threshold* (75-110 PPM)
- - Anomalous (110-200 PPM)
- - Most Anomalous (200+ PPM)
- X - Organic sample - no assay
- - Anomaly
- - - Topographic contours
at 50' intervals
- - Open Cut
- Zn Cu - Mineralization
- - Bog
- - Anomalous Zone

4472-M6

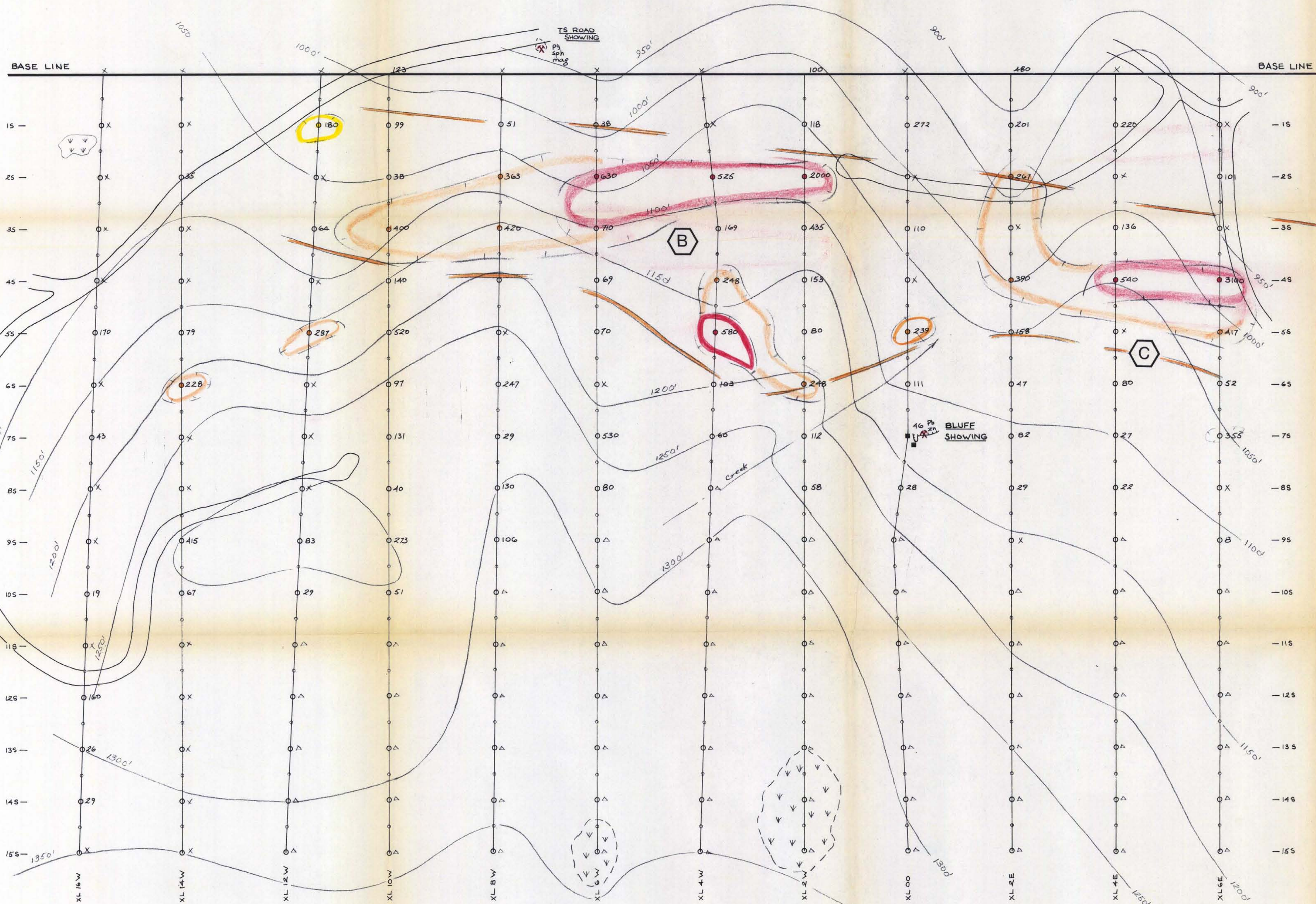
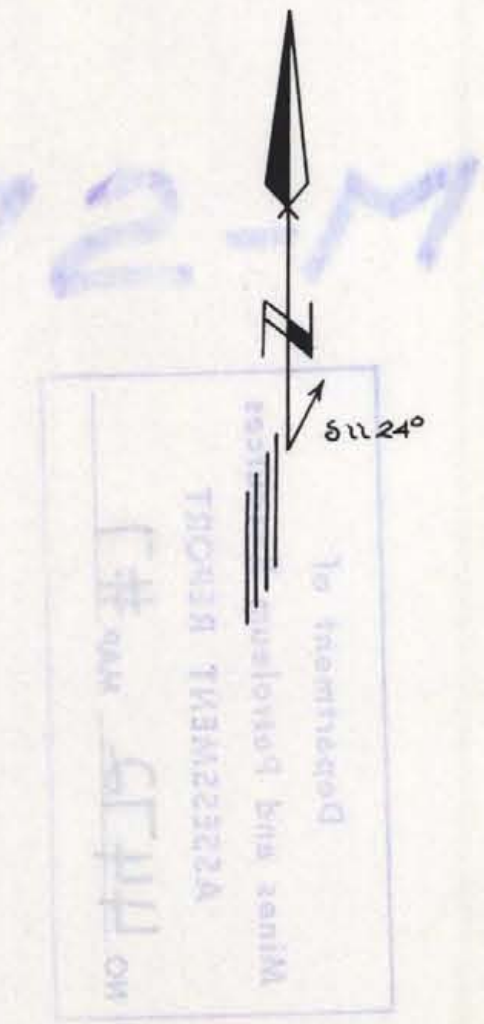
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Mining Division dated June 15, 1973.

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NAHWITTI LAKE
TAXI-SUN GRID
PPM Pb

SCALE 1" = 100' DWG. NO.
DRAWN I.S.R. 400-S-86
CHECKED [Signature] DATE JUNE 1973

4472-M7



LEGEND

- - Threshold (175-225 PPM)
- - Anomalous (225-500 PPM)
- - Most Anomalous (500+ PPM)
- X, Δ - Organic sample - no assay; no sample taken
- - Anomaly
- Topographic contours @ 50' intervals
- - Open Cut
- Zn, Cu - Mineralization
- - Bog
- Anomalous Zone

4472-M7

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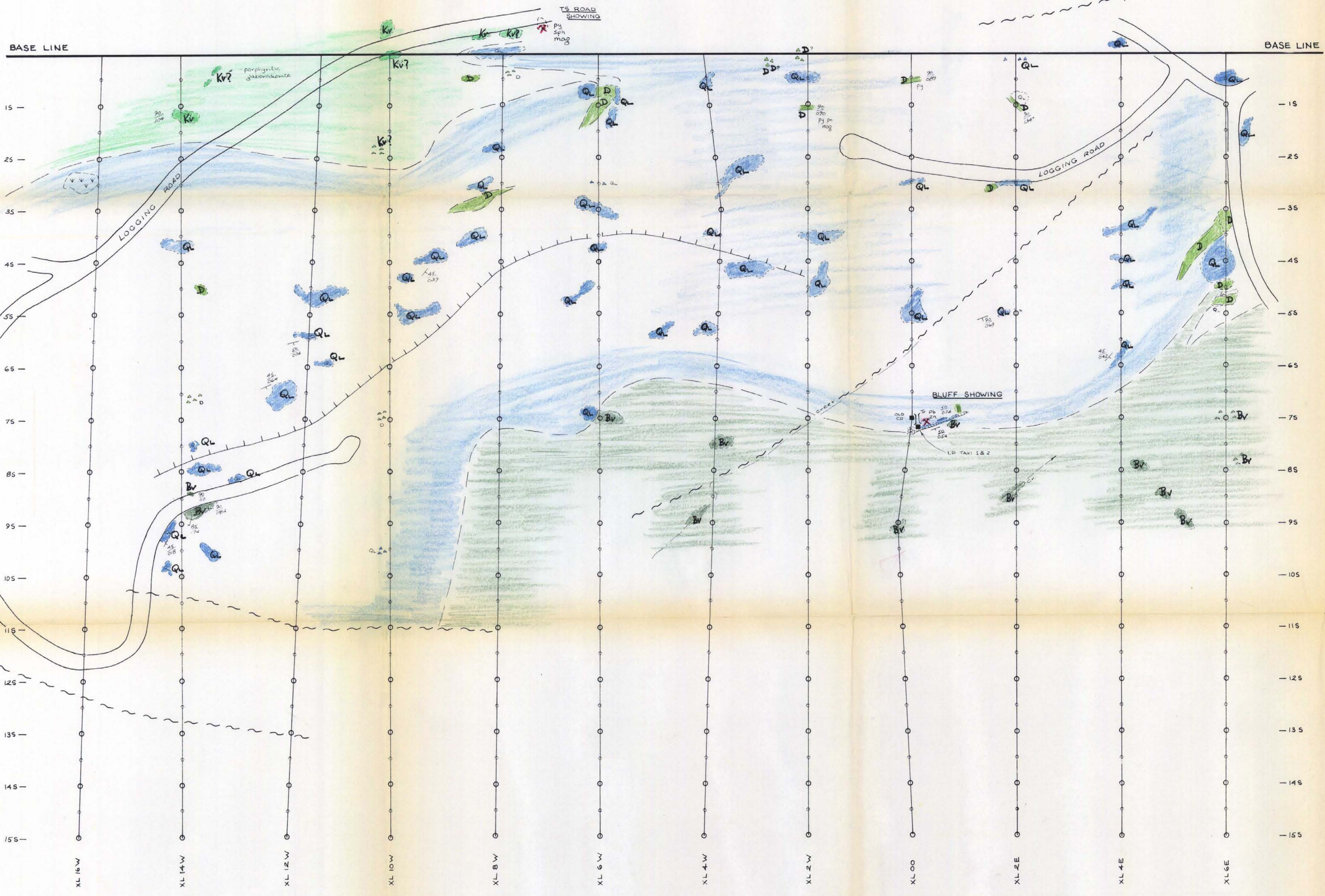
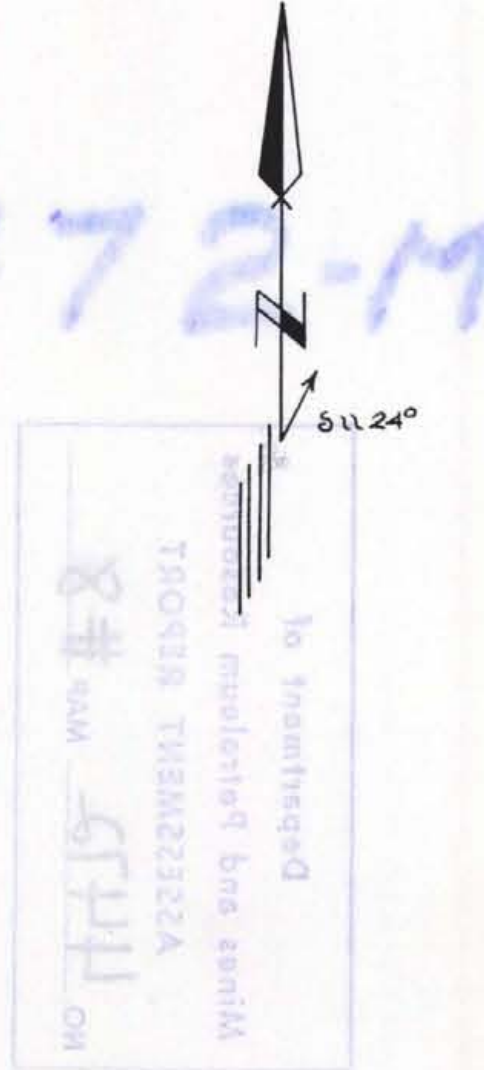
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NAHWITTI LAKE
TAXI-SUN GRID
PPM Zn

SCALE 1" = 100'
DRAWN I.S.R.
CHECKED [Signature]
DATE June 1973

DWG. NO.
400-5-87

4472-M8



LEGEND

- COAST INTRUSIVES: monz. minor diorite & grano-diorite phases.
- UPPER BONANZA GP: mostly andesites.
- LOWER BONANZA GP: banded limestone, argillite and intercalated volcanics.
- QUATSINO FORMATION: Limestone.
- KARMUTSEN GROUP: mostly andesites.
- FAULT: defined, approximate assumed.
- CONTACT: defined, approximate assumed.
- JOINT; close-spaced fractures
- FOLDS, in limestone
- SCARP
- OUTCROP - mineralized
- SKARN
- DIKE
- FLOAT

4472-M8

4472-M8

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GIANT EXPLORATIONS LTD.

NAHWITTI LAKE
TAXI-SUN GRID
GEOLOGY

SCALE	1" = 100'	DWG. NO.	
DRAWN	I. S. R.	CHECKED	400-5-88
CHECKED		DATE	June 1973