521086

# GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL REPORT ON THE SATCHIE AND HESTERVAN CLAIM GROUPS

to May 1, 1973

SITUATED NEAR HESQUIAT LAKE
THIRTY-TWO AIR MILES NORTHWEST OF TOFINO,
ALBERNI MINING DIVISION, BRITISH COLUMBIA

Latitude 49°30'N, Longitude 126°23'W
NTS 92E/8, 9

Based on Field Work between August 14, 1972 and March 10, 1973.

Vancouver, B.C.
June 5th, 1973.

P.T. McCullough, B.Sc., M.S.

# CONTENTS

## LOCATION, ACCESS, AND TOPOGRAPHY

The Satchie claim group is located in the Alberni Mining Division along the east side of Hesquiat Lake thirty-two miles northwest of Tofino, B.C. The Hestervan claim group lies west of the Satchie group and on the west side of Hesquiat Lake. The claimsare on Maps 92E/8W and 92E/9W (N.T.S.) and are centered at Latitude 40°30'N and 126°23'W (Figure 1).

The topography varies from flat or gently rolling in the south and near Satchie Creek to steep along the east and west sides of Hesquiat Lake. The elevation ranges from 0 to 2,200 feet.

The claim groups are accessible by float plane or boat from Tofino. A logging road is under construction from Stewardson Inlet to Hesquiat Lake, which will eliminate the necessity of negotiating the unprotected waters from Hot Springs Cove to Hesquiat Harbour, provided truck transporation is available. Two cabins are available on the shore of Rae Basin at the northeast end of Hesquiat Harbour.

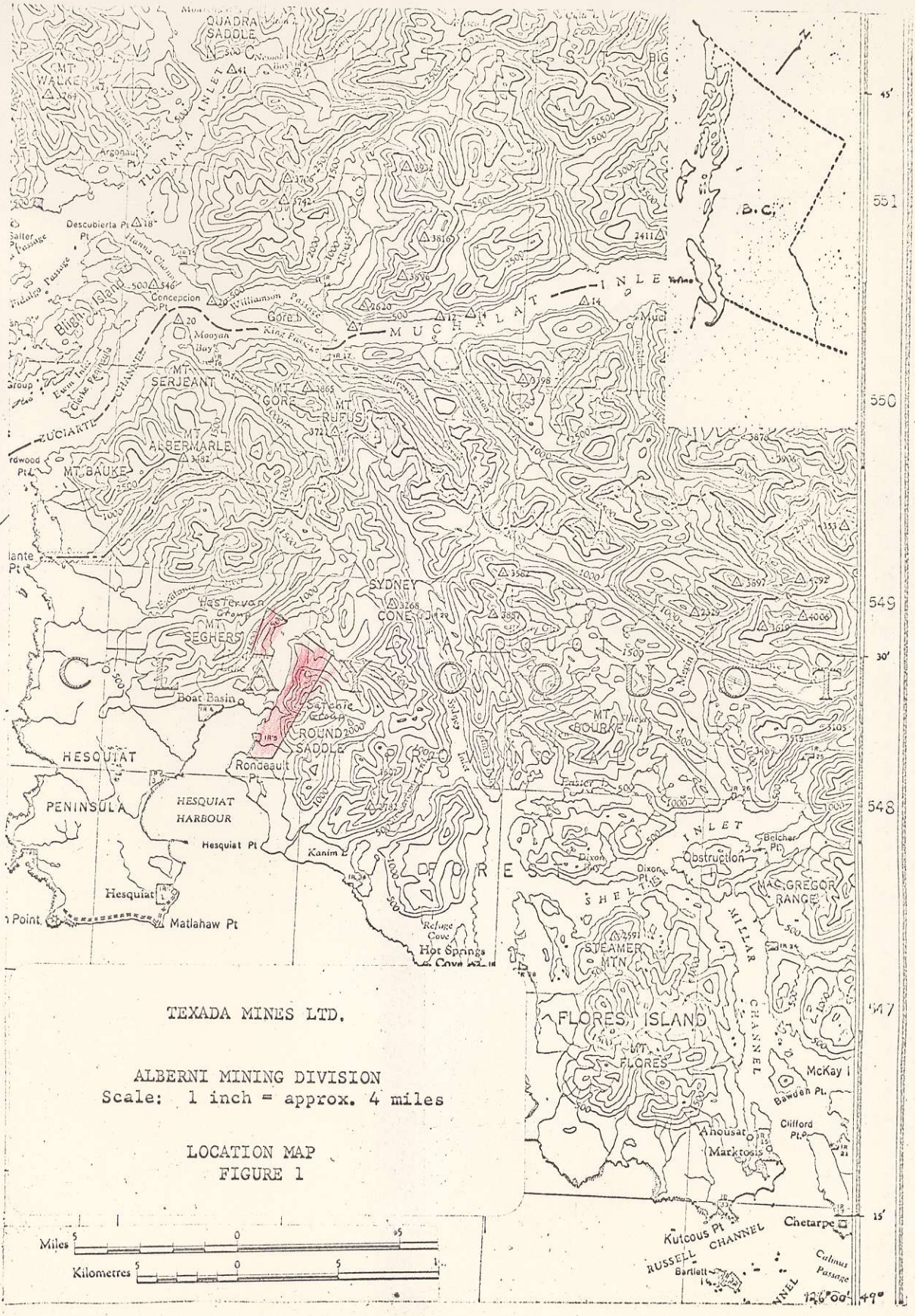
## CLAIM OWNERSHIP

The Satchie claim group consists of 35 claims; 30 claims are optioned by Texada Mines Ltd. and 5 claims (Hes 1 - 5) are owned by Texada. A claim map (Plate 1) is inoluded in the pocket at the end of this report.

| Name of Claim | Record No. | No. of Claims |
|---|---|---|
| Brown Jug No. 1 - 6 inclusive | 14307-14311, 14587 | 6 |
| Estevan No. 1 - 9 inclusive | 19167-19168, 14583-14586, 18645-18647 | 9 |
| Hes 1 - 5 inclusive | 19514-19518 | 5 |
| Hesquiat No. 5 - 9 inclusive | 12709-12713 | 5 |
| Hestervan No. 1, 10 - 12 inclusive | 18642, 18930-18931, 19249 | 4 |
| Satchie No. 2 - 7 inclusive | 13209-13214 | 6 |
| | | 35 claims |

The Hestervan claim group consists of the following 4 claims which are optioned by Texada Mines Ltd. (Plate 1):

| Name of Claim | Record No. | No. of Claims |
|---|---|---|
| Hestervan No. 2 - 5 inclusive | 18643-18644, 18992-18993 | 4 |
| | | 4 claims |




TEXADA MINES LTD.

ALBERNI MINING DIVISION
Scale: 1 inch = approx. 4 miles

LOCATION MAP
FIGURE 1

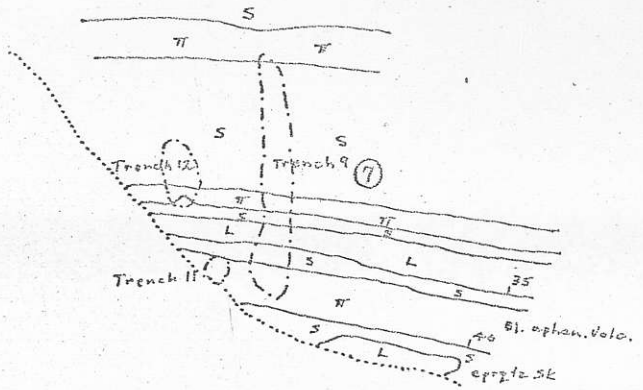
GEOLOGY

The Satchie group is underlain predominantly by diorite gneiss and gabbroic rocks of the "West Coast Crystalline Complex" of late Paleozoic to early Mesozoic age. There are scattered outcrops of olive green to dark green to black andesitic volcanic rocks. Toward the west and south the volcanic rocks are commonly foliated and probably belong to the Sicker group of Paleozoic age. A few thin limestone beds are exposed along the east side of Hesquiat Lake. These are interlayered with some Sicker group volcanic rocks.

Immediately south of Satchie Creek there are a few outcrops of black to grey volcanic rocks, perhaps part of the Karmutsen formation of Triassic age. Interlayered limestone, probably pert of the Quatsino formation of Upper Triassic age, is exposed in trenches south of Satchie Creek (Plate 2 and Figure 2). This interlayered sequence grades to a more massive limestone to the west where it is approximately 1400 feet thick. The limestone trends east-west to northwest and dips 30° to 47° north.

Near Satchie Creek these volcanic and sedimentary rocks were intruded by mafic hornblende diorite to gabbro which are gneissic in part and comprise part of the "West Coast Crystalline Complex". These rocks were further intruded by black and white mottled diorite of the Island intrusions during the Jurassic period. The intrusive contact dips approximately 25° northwest. Epidote-quartz skarn is developed within the volcanics and along limestone-andesite contacts near the Jurassic intrusion (Plate 2 and Figure 2). The skarn is well layered in trenches No. 1 to 3 and 9. Assays are given in Tables 1 and 2. Sample numbers correspond to locations indicated on accompanying maps. Mineralization consists of weak pyrite and chalcopyrite. There are some zones of epidote-garnet-diopside skarn with magnetite-chalcopyrite mineralization.

One of these zones has been explored by a short adit and consists of a small pod of magnetite with minor chalcopyrite in epidote-garnet-diopside skarn which has replaced black besaltic volcanic rocks.




N

FIGURE 2

20 feet

7 SAMPLE NO.

OUTCROP

S SKARN (epidote, quartz)

VOLCANICS (basaltic)

L LIMESTONE

TEXADA MINES LTD.

VANCOUVER, BRITISH COLUMBIA

| | | |
|---|---|---|
| SCALE: 1"=20' | APPROVED BY: | DRAWN BY TM |
| DATE: MAY 9, 1973 | | REVISED |

SATCHIE CREEK TRENCHES 9, 11, 12, BESQUIAT LAKE, B.C.

DRAWING NUMBER

8½X11 PRINTED ON NO. 1000H CLEARPRINT

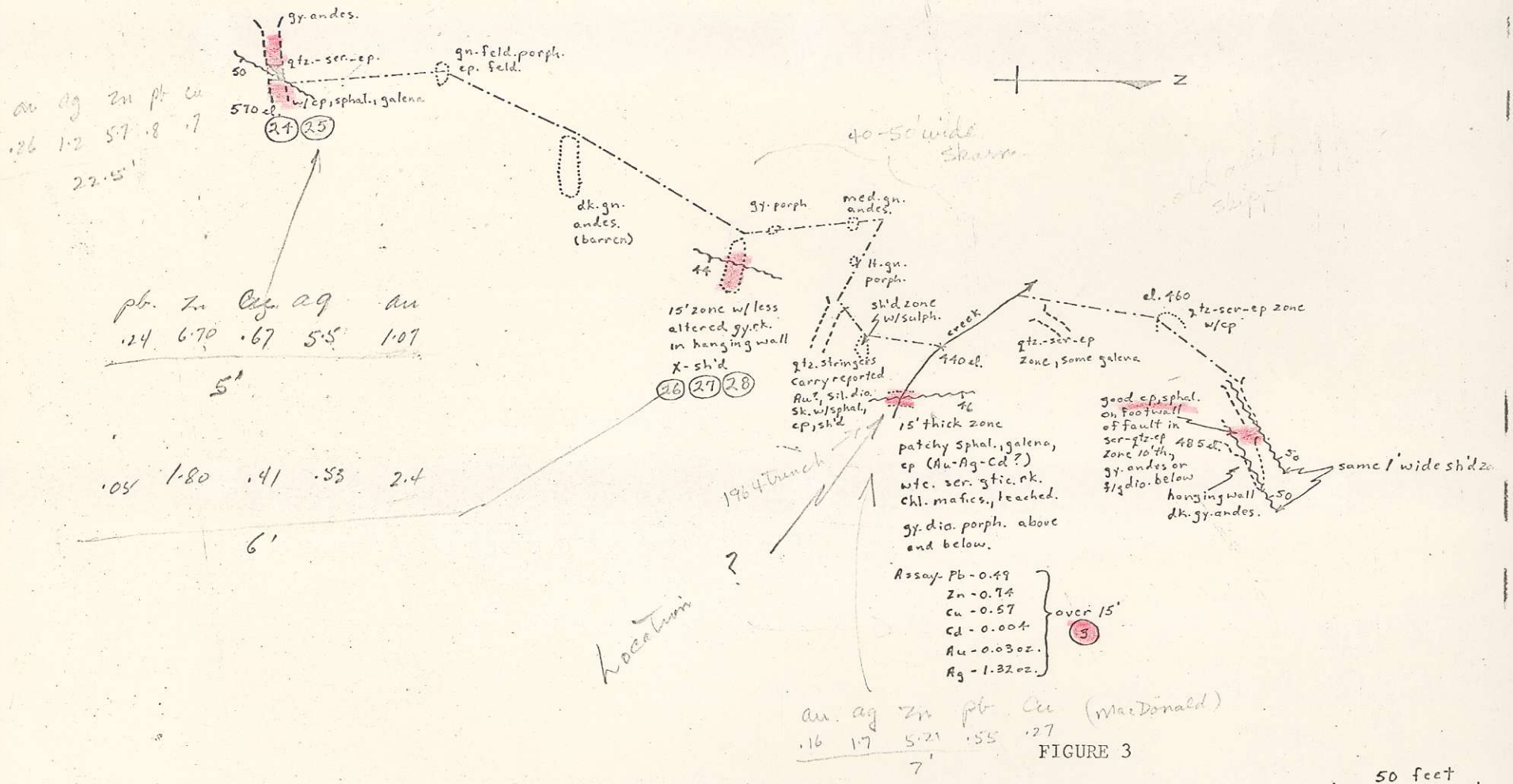



FIGURE 3

(3) SAMPLE NO.

OUTCROP

47 FAULT

TRAIL

ADIT

| | | |
|---|---|---|
| TEXADA MINES LTD. VANCOUVER, BRITISH COLUMBIA | | |
| SCALE: 1"=50' | APPROVED BY: | DRAWN BY TM |
| DATE: MAY 5, 1973 | | REVISED |
| BROWN JUG SHOWINGS, HESQUIAT LAKE, B.C. | | |
| | | DRAWING NUMBER |

8½ X11 PRINTED ON NO. 1000H CLEARPRINT

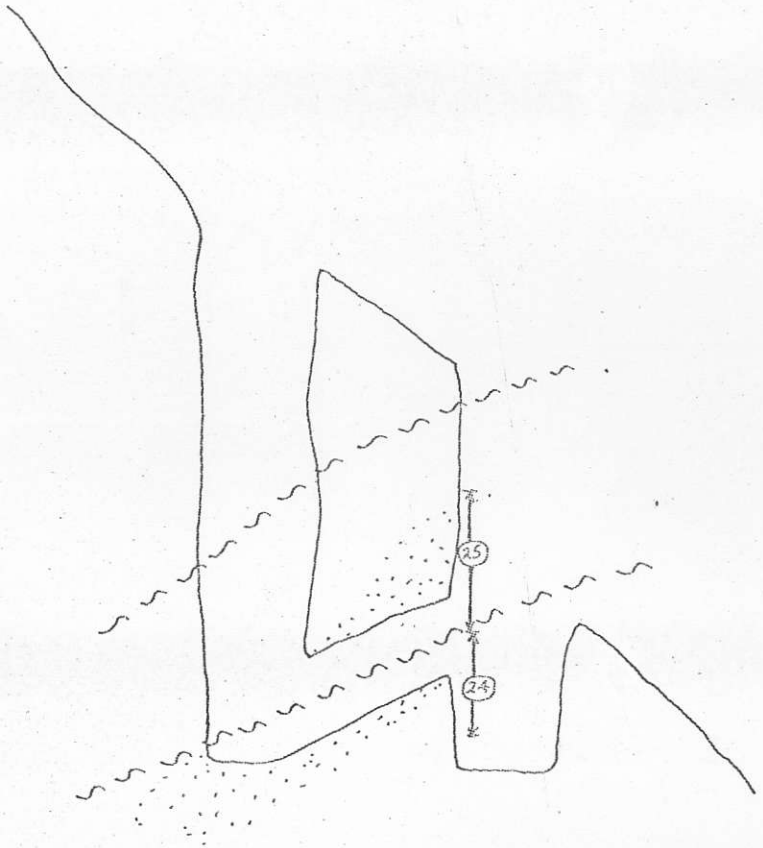



FIGURE 4

(25) SAMPLE NO.

FAULT

MINERALIZATION

TEXADA MINES LTD.

VANCOUVER, BRITISH COLUMBIA

| | | |
|---|---|---|
| SCALE: 1" = 10' | APPROVED BY: | DRAWN BY T.M. |
| DATE: May 5, 1973 | | REVISED |

CROSS SECTION THROUGH BROWN JUG SOUTH ADIT
(LOOKING NORTHERLY), HESQUIAT LAKE, B.C.

DRAWING NUMBER

8½X11 PRINTED ON NO. 1000R CLEARPRINT

Another zone near Hesquiat Lake was explored by Noranda, and although the detailed geology and diamond drill logs are not available, the zone appears to consist of thin lenses of magnetite mineralization in epidote-garnet skarn (Plates 3 and 4). Assays from trenching done by Noranda are listed in Table 1.

Mineralization on the Brown Jug showings, 7000 feet south of Satchie Creek, consists of chalcopyrite-galena-sphalerite with some silver and gold values (Figures 3 and 4). The zone is approximately 15 feet wide and extends for 400+ feet along a sheared sone which trends north northeasterly and dips 45° to 50° southeast. The zone consists of quartz-epidote-sericite with or without garnet, diopside, and calcite. The skarn lies within dioritic rocks in the Brown Jug zone and is in andesite on the Brown Jug extension to the north. Although the mineralization is similar to the Brown Jug proper host rocks on the Brown Jug extension are apparently Sicker group andesitic volcanics. Skarn occurs over a greater width in the northern zone but volcanics tend to break up the continuity of this zone.

On the west side of Hesquiat Lake trenching has exposed mafic diorite and volcanic rocks with some epidote skarn and minor chalcopyrite. An assay from Trench No. 19 is given in Table 1.

TABLE 1 ASSAYS FROM HESQUIAT LAKE PROPERTY[1]

| Sample No. | Plate or Figure No. | Length or Sample Type | Fe[2] | Pb | Zn | Cu | W($WO_3$%) | Ca | Au (oz/st) | Ag (oz/st) | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | grab | | | | | | | 0.01 | Trace | Quartz vein, Satchie area, Hesquiat Lake |
| 2 | | grab | | | 0.01 | | Trace | | Trace | Trace | Ba ($BaSO_4$) -0.20% quartz vein, heavy, Satchie area |
| 3 | Fig. 3 | 12' | | 0.49 | 0.74 | 0.57 | | 0.004 | 0.03 | 1.32 | See Spec. (457M) Table 2, Leached. |
| 4 | Plate 2 | 33' | | | 0.02 | 0.01 | Trace | | Trace | 0.02 | Trench No. 1 |
| 5 | Plate 2 | 28' | | | 0.02 | 0.01 | Trace | | 0.005 | Trace | Trench No. 2 |
| 6 | Plate 2 | 67' | | | 0.01 | 0.005 | Trace | | Trace | 0.03 | Trench No. 3, see Spec. (450M) Table 2. |
| 7 | Fig. 2 | 50' | | | 0.01 | 0.01 | Trace | | Trace | Trace | Trench No. 9 |
| 8 | Plate 2 | | | | | 0.005 | | | Trace | Trace | Trench No. 19 |
| 9 | Plate 3 | 4' | 25.2 | | | | | | | | |
| 10 | Plate 3 | 5' | 35.2 | | | | | | | | |
| 11 | Plate 3 | 20' | 23.4 | | | | | | | | |
| 12 | Plate 3 | 7' | 32.4 | | | | | | | | |
| 13 | Plate 3 | 27' | 37.4 | | | | | | | | |
| 14 | Plate 3 | 20' | 28.2 | | | | | | | | |
| 15 | Plate 3 | 20' | 43.4 | | | | | | | | |
| 16 | Plate 3 | 8' | 37.8 | | | | | | | | |
| 17 | Plate 3 | 4' | 30.0 | | | | | | | | |
| 18 | Plate 3 | 12.5' | 26.2 | | | | | | | | |
| 19 | Plate 3 | 7.5' | 31.8 | | | | | | | | |
| 20 | Plate 3 | 10.0' | 29.3 | | | | | | | | |
| 21 | Plate 3 | 8.0' | 35.5 | | | | | | | | |
| 22 | Plate 3 | 7.0' | 32.2 | | | | | | | | |
| 23 | Plate 3 | 20.0' | 50.7 | | | | | | | | |

Continued on next page.

| mple No. | Plate or Figure No. | Length or Sample Type | $Fe^2$ | Pb | Zn | Cu | $W(WO_3\%)$ | Ca | Au (oz/st) | Ag (oz/st) | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | Fig. 3, 4 | 8.5' | | 0.72 | 2.15 | 0.63 | | | 0.15 | 3.1 | |
| 25 | Fig. 3, 4 | 5' | | 0.24 | 6.70 | 0.67 | | | 1.07 | 5.5 | |
| 26 | Fig. 3 | 6' | | 0.05 | 1.80 | 0.41 | | | 0.53 | 2.4 | |
| 27 | Fig. 3 | 7' | | 0.10 | 0.45 | 0.04 | | | 0.07 | 0.1 | |
| 28 | Fig. 3 | 4' | | 0.38 | Trace | 0.04 | | | 0.01 | 0.1 | |
| 29 | | grab | | | | | | | 0.04 | 1.0 | Below helicopter pad, Brown Jug extension, pyrrhotite from open cut, |
| 30 | | grab | | | | | | | 0.13 | 0.1 | Below helicopter pad, Brown Jug extension, arsenopyrite from open cut. |



Samples 1 to 8 were collected by Texada Mines Ltd.; samples 9 to 30 were collected by OLSEN ASARCO. 1966

Assays in percent unless otherwise indicated.

PHONE (604) 254-1647 TELEX 04-507514 CABLE SUPERVISE

TO:

TEXADA MINES LIMITED,
#407 - 1111 West Georgia Street
Vancouver 5, B.C.

# SEMI QUANTITATIVE SPECTROGRAPHIC ANALYSES CERTIFICATE

No.: 7303-1554 | DATE: March 23,1973

*We hereby certify that the following are the results of spectrographic analyses made on:* Two Ore Samples

| | | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Aluminum | Al | 8. | 2. | | | |
| Antimony | Sb | ND | ND | | | |
| Arsenic | As | ND | ND | | | |
| Barium | Ba | * | ND | | | |
| Beryllium | Be | ND | ND | | | |
| Bismuth | Bi | ND | ND | | | |
| Boron | B | ND | ND | | | |
| Cadmium | Cd | ND | ND | | | |
| Calcium | Ca | major | major | | | |
| Chromium | Cr | 0.007 | 0.007 | | | |
| Cobalt | Co | ND | ND | | | |
| Copper | Cu | 0.3 | 0.003 | | | |
| Gallium | Ga | ND | ND | | | |
| Gold | Au | trace | trace | | | |
| Iron | Fe | 3. | major | | | |
| Lead | Pb | 0.3 | ND | | | |
| Magnesium | Mg | 0.5 | 3. | | | |
| Manganese | Mn | 0.07 | * | | | |
| Molybdenum | Mo | ND | 0.001 | | | |
| Niobium | Nb | ND | ND | | | |
| Nickel | Ni | ND | ND | | | |
| Potassium | K | trace | trace | | | |
| Silicon | Si | major | matrix | | | |
| Silver | Ag | 0.003 | trace | | | |
| Sodium | Na | trace | trace | | | |
| Strontium | Sr | 0.03 | 0.003 | | | |
| Tantalum | Ta | ND | ND | | | |
| Thorium | Th | ND | ND | | | |
| Tin | Sn | ND | ND | | | |
| Titanium | Ti | 0.5 | 0.1 | | | |
| Tungsten | W | ND | ND | | | |
| Uranium | U | ND | ND | | | |
| Vanadium | V | 0.005 | 0.001 | | | |
| Zinc | Zn | * | ND | | | |

HS/sk

SAMPLE No. DESCRIPTION:
1 457 M Ore
2 460 M Ore
3
4
5

All results expressed as percentages

MATRIX — Major constituent
MAJOR — Above normal spectrographic range
TRACE — Detected but minor amounts
N.D. — Not detected
* — Suggest assay

NOTES: Rejects retained one month.
Pulps retained three months.
On request pulps and rejects will be stored for a maximum of one year.



H. Sharples
Chief Assayer SIGNATURE AND TITLE

## GEOCHEMISTRY

Copper and to a lesser extent zinc soil and silt geochemistry were used to detect zones of anomalous copper and zinc on the Hesquiat Lake property. Soil samples were restricted to the yellow brown, red brown, or brown "B" soil horizon where possible. The soils vary from clay-rich to sandy. Most silt samples were sandy, but some consisted of organic mud. Soil samples were taken with a mattock from between 0.5 and 2.0 feet. The samples were bagged and sent to Vancouver Geochemical Laboratories Ltd. in Vancouver for analysis.

## METHOD OF ASSAY

The samples were dried and sieved; the -80 mesh fraction was dissolved by hot $HClO_4$ and $HNO_3$ digestion and the resulting solution analyzed by atomic absorption.

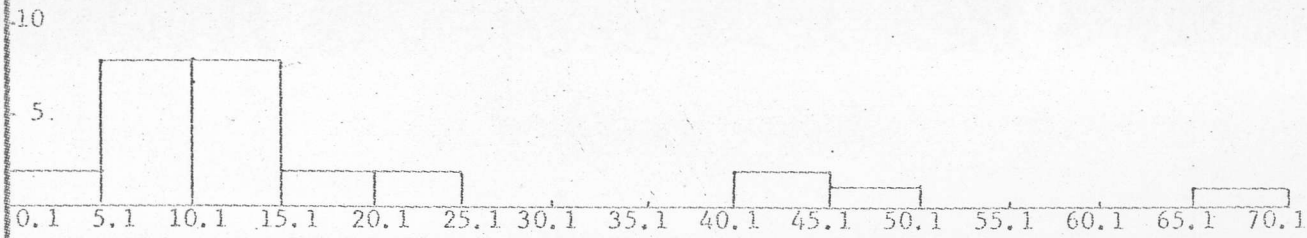
## RESULTS

### Copper

The distribution of copper is bimodal with peaks between 5.1 and 10.1 p.p.m. and between 35.1 and 40.1 p.p.m. (Figure 5). The distribution is skewed with the frequency decreasing toward the high side; only 3 samples contain more than 100 p.p.m. The rock units and correspondingly the rock types underlying the Hesquiat Lake area are similar to those on the upper slopes of Lone Cone Mountain and near Lemay Creek on the Meares Island Property. As a result, as on Meares Island, 100 p.p.m. was chosen as the lower limit of the anomalous zone. No areas of particularly high copper in the soils were found at the Hesquiat Lake Property (Figures 6, 7, 8, and 9).

### Zinc

Only 26 soil and silt samples were analyzed for zinc. There are too few samples to establish an acceptable background level. The distribution is plotted on the histogram in Figure 5. Because no samples are abnormally high in zinc it is felt that the concentrations represented in the soils from Hesquiat constitute background levels only.



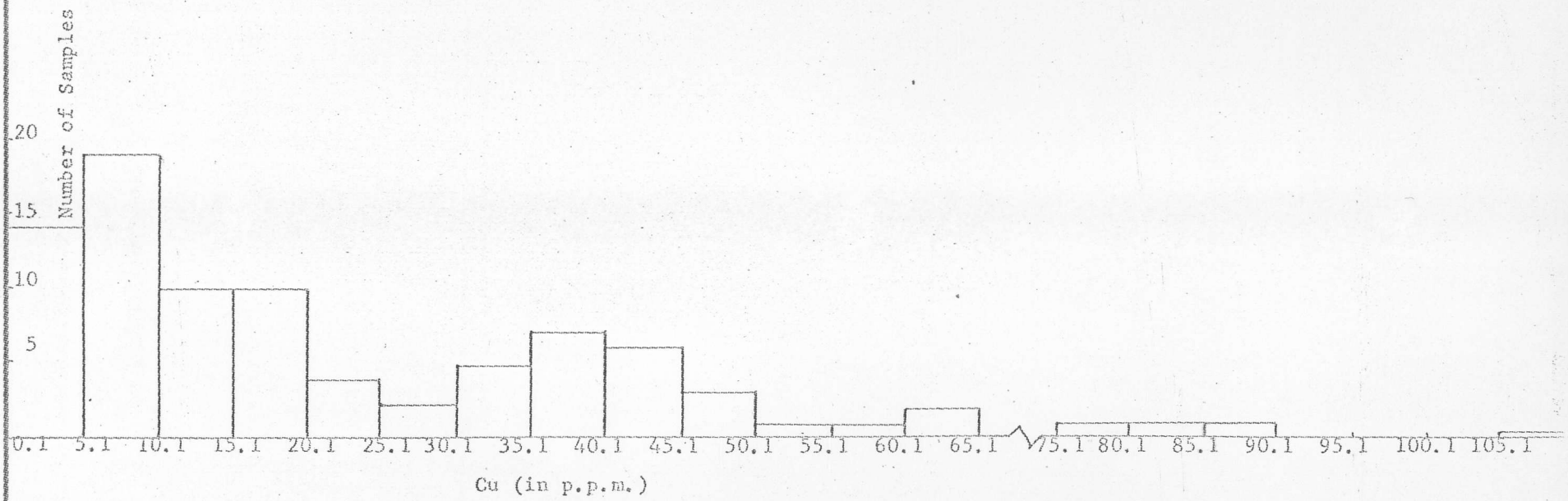




FIGURE 5

TEXADA MINES LTD.
VANCOUVER, BRITISH COLUMBIA

| SCALE: | APPROVED BY: | DRAWN BY |
|---|---|---|
| DATE: | | REVISED |

HISTOGRAMS OF ZINC AND COPPER CONCENTRATIONS
IN SOIL AND SILT SAMPLES, HESQUIAT LAKE, B.C.

DRAWING NUMBER

8½ X11 PRINTED ON NO. 1000H CLEARPRINT

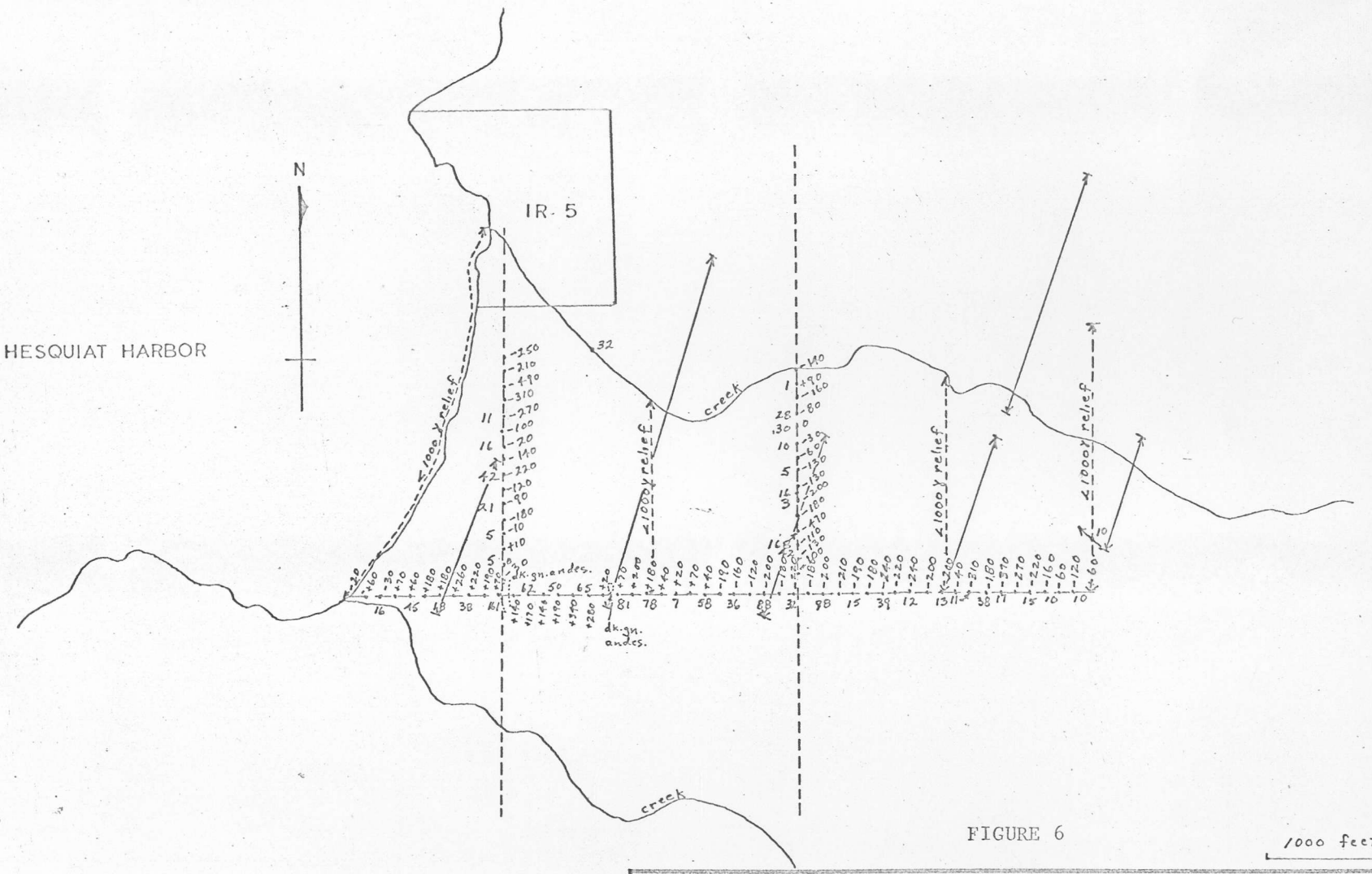



FIGURE 6

- SOIL SAMPLE (Cu in p.p.m.)
+500 GROUND MAGNETOMETER READING ( $\gamma$ )
AERIAL MAGNETIC ANOMALY
OUTCROP

TEXADA MINES LTD.

VANCOUVER, BRITISH COLUMBIA

| | | |
|---|---|---|
| SCALE: 1" = 1000' | APPROVED BY: | DRAWN BY TM |
| DATE: MAY 8, 1973 | | REVISED |

HESQUIAT HARBOUR AERIAL MAGNETIC ANOMALY, HESQUIAT LAKE, B.C.

DRAWING NUMBER

8½X11 PRINTED ON NO. 1000H CLEARPRINT

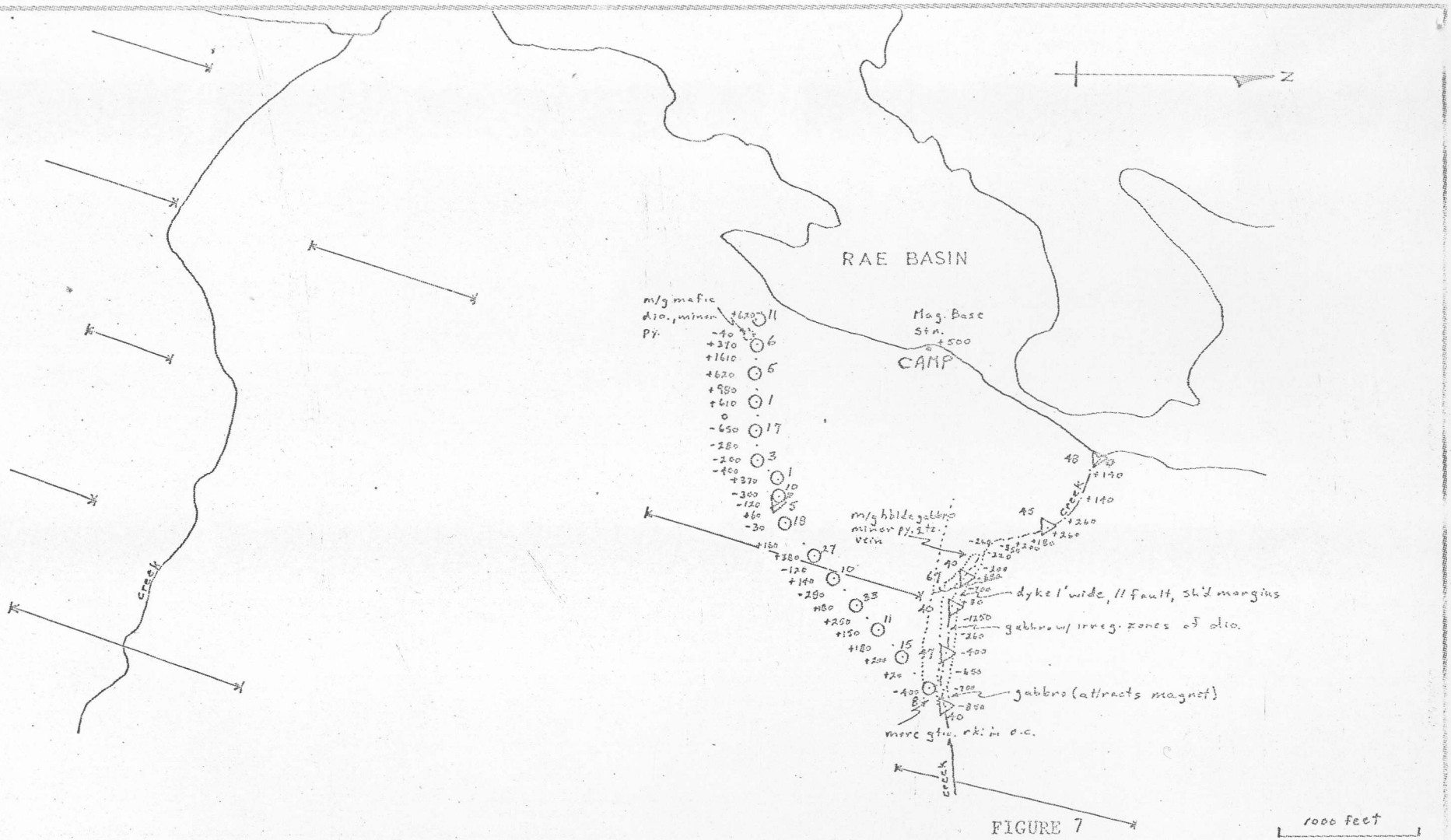



FIGURE 7

△ SILT SAMPLE (Cu in p.p.m.)

○ SOIL SAMPLE (Cu in p.p.m.)

+500 GROUND MAGNETOMETER READING (γ)

AERIAL MAGNETIC ANOMALY

OUTCROP

TEXADA MINES LTD.
VANCOUVER, BRITISH COLUMBIA

| | | |
|---|---|---|
| SCALE: 1"=1000' | APPROVED BY: | DRAWN BY TM |
| DATE: MAY 8,1973 | | REVISED |

CAMP AERIAL MAGNETIC ANOMALY, HESQUIAT LAKE, B.C.

DRAWING NUMBER

8½X11 PRINTED ON NO. 1000H CLEARPRINT

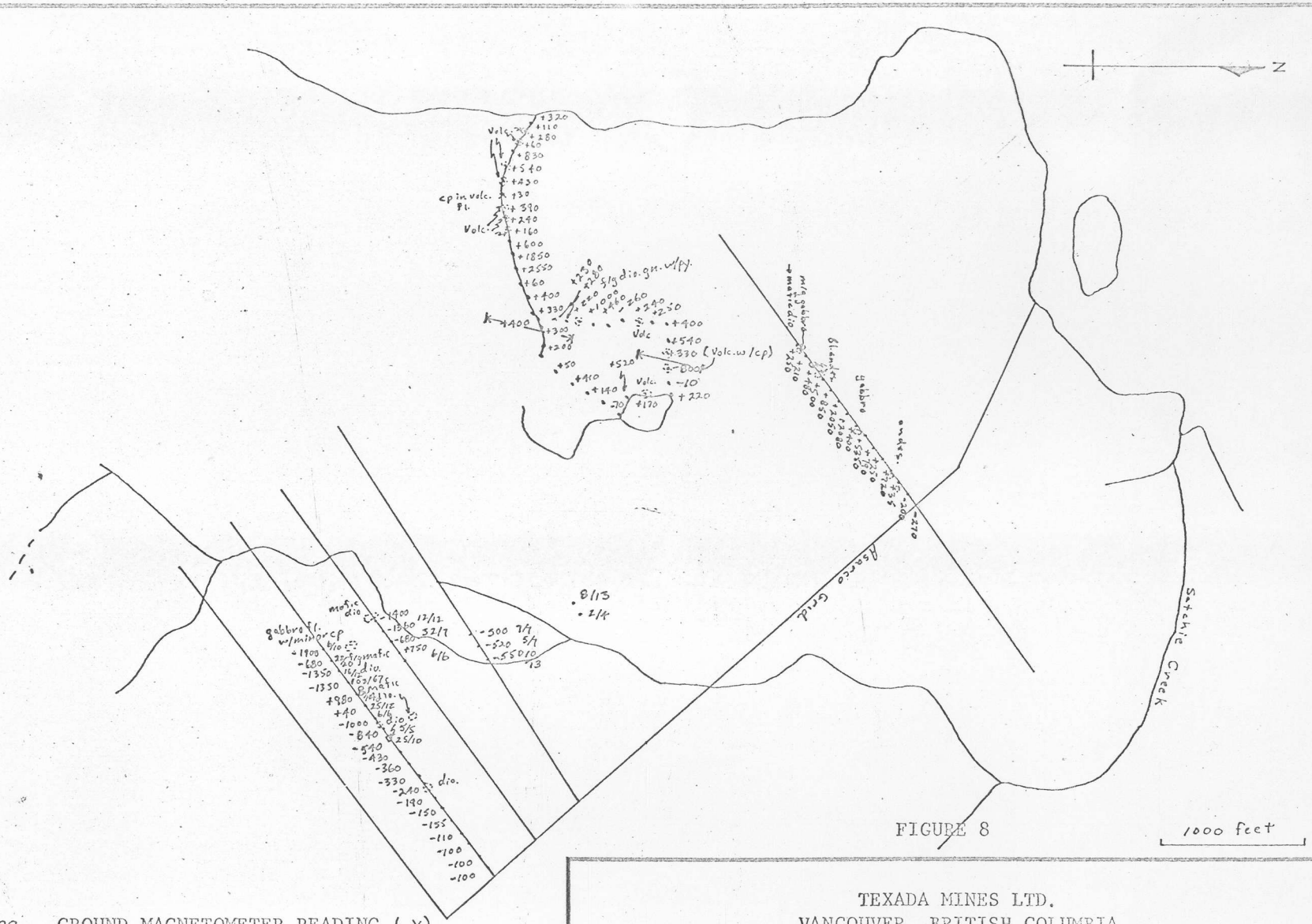



FIGURE 8

+500 GROUND MAGNETOMETER READING ( $\gamma$ )

AERIAL MAGNETIC ANOMALY

OUTCROP

CREEK

Cu/Zn in p.p.m.

TEXADA MINES LTD.
VANCOUVER, BRITISH COLUMBIA

| | | |
|---|---|---|
| SCALE: 1" = 1000' | APPROVED BY: | DRAWN BY TM |
| DATE: MAY 8, 1973 | | REVISED |

SATCHIE CREEK AERIAL MAGNETIC ANOMALY, HESQUIAT LAKE, B.C.

DRAWING NUMBER

8½X11 PRINTED ON NO. 1000H CLEARPRINT

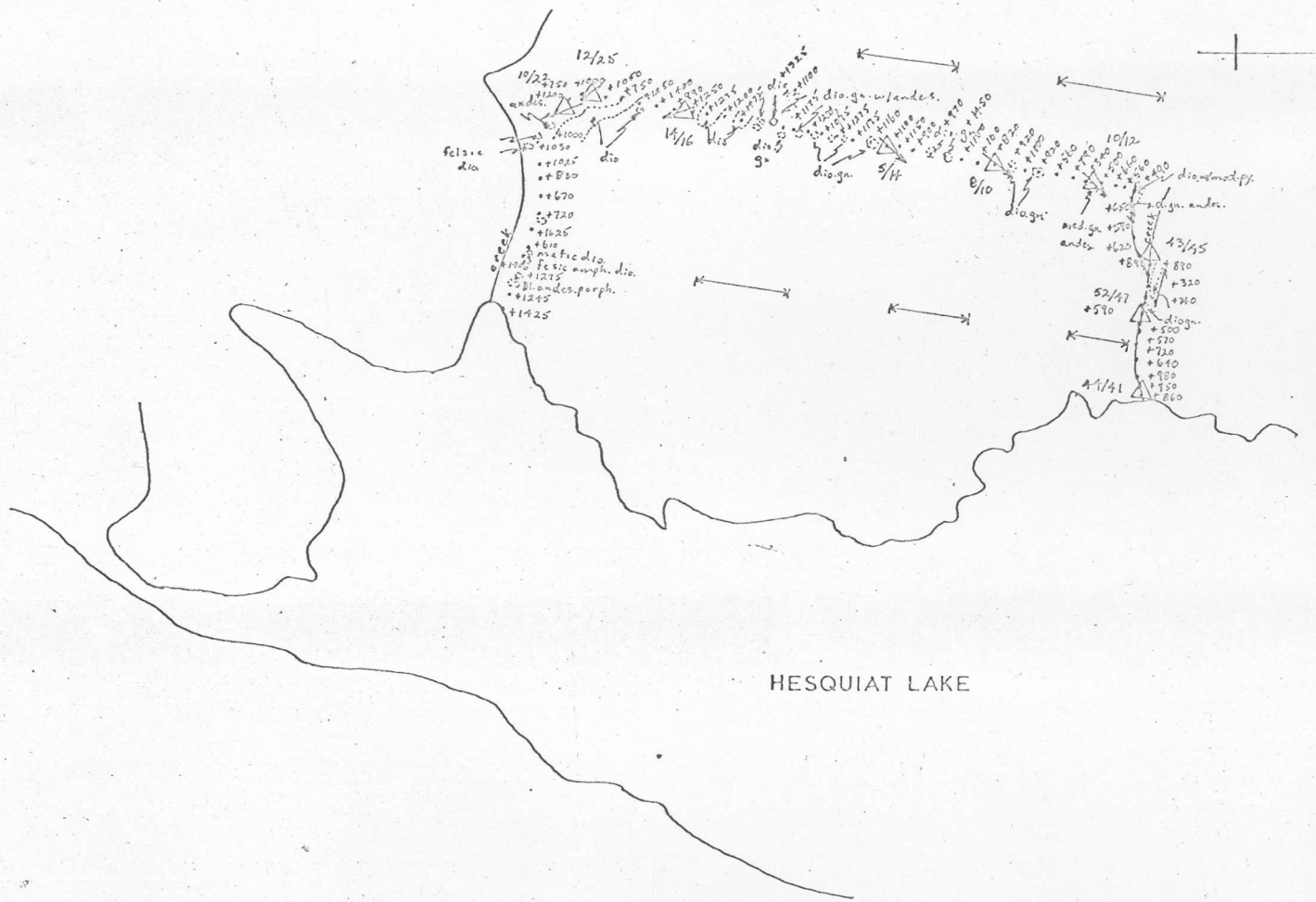



FIGURE 9

1000 feet

△ SILT SAMPLE (Cu/Zn in p.p.m.)

○ SOIL SAMPLE (Cu/Zn in p.p.m.)

+500 GROUND MAGNETOMETER READING (γ)

AERIAL MAGNETIC ANOMALY

OUTCROP

CREEK

TEXADA MINES LTD.
VANCOUVER, BRITISH COLUMBIA

| | | |
|---|---|---|
| SCALE: 1" = 1000' | APPROVED BY: | DRAWN BY T M |
| DATE: MAY 8, 1973 | | REVISED |

HESQUIAT WEST AERIAL MAGNETIC ANOMALY, HESQUIAT LAKE, B.C.

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GEOPHYSICS

In the summer of 1972 an airborne magnetometer survey was conducted over the Hesquiat Lake area by Texada Mines Ltd. A total of 23 line miles was flown adjacent to Hesquiat Lake. A number of anomalous zones were outlined including areas east of Hesquiat Harbor, east of Rae Basin, south of Satchie Creek, and west of the south end of Hesquiat Lake. These areas were checked on the ground using a Scintrex model MF-2 magnetometer. A magnetic base station was established near the cabins where the creek draining Hesquiat Lake enters Rae Basin. At this station the magnetometer was set to +500 gammas (i.e. 50500 gammas). Magnetometer readings were made at 100 foot intervals where lines were measured or on creek traverses at intervals of 100 feet vertically. Because of the reconnaissance nature of the ground survey, the magnetometer was tied into a base station at the beginning and end of the day.

RESULTS

The largest airborne magnetic anomaly is the area east of Hesquiat Harbor (Figure 6). To check this zone an east-west base line 5100 feet long was established. Cross lines were cut at 1000 and 3000 feet. Additional lines were surveyed by chain and compass at 2000, 4000, and 5000 feet to check the apparent lack of magnetic relief (only 2000 gammas) found on the grid lines. The magnetic anomaly is caused by disseminated magnetite in the Sicker group andesitic volcanic rocks underlying the area.

East of Rae Basin an airborne magnetic anomaly in gabbroic rocks of the "West Coast Crystalline Complex" was checked (Figure 7). The magnetic relief is of the order of 2000 gammas and some of the gabbroic rocks attract a magnet. This airborne magnetic anomaly was thereby rejected.

South of Satchie Creek there are two areas of anomalous magnetics (Figure 8). The most significant of these is on the Asarco grid

where there is only 5500 gammas relief over mainly gabbroic rocks of the "West Coast Crystalline Complex". An aerial magnetic anomaly near a small lake south of Satchie Creek was also checked and provided only sporadic variations in ground magnetics of the order of 3000 gammas. Minor chalcopyrite was found in the associated volcanics.

Diorite to diorite gneiss of the "West Coast Crystalline Complex" (Figure 9) underlies the area of the aerial magnetic anomaly west of Hesquiat Lake. The magnetics in this area are higher than usual (approximately 1200 gammas) but the relief is generally low and no appreciable magnetite was found in the numerous outcrops.

The airborne magnetometer survey provided several anomalies. These were checked on the ground and found to be caused by disseminated magnetite in andesitic, gabbroic, and dioritic rocks of the Sicker group and the "West Coast Crystalline Complex".

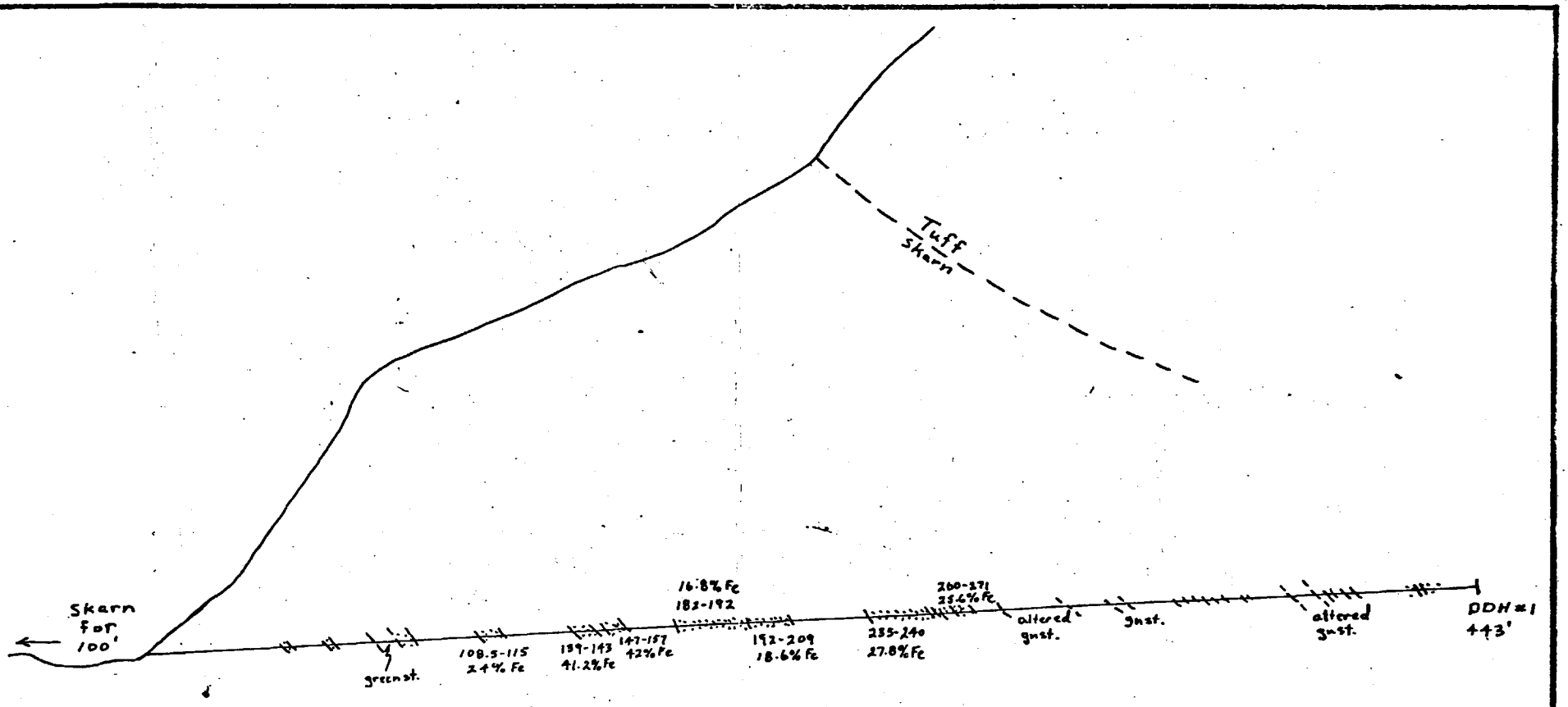


PLATE 4

TEXADA MINES LTD.
VANCOUVER, BRITISH COLUMBIA

| | | |
|---|---|---|
| SCALE: 1" = 50' | APPROVED BY: | DRAWN BY T.M. |
| DATE: June 4/73 | | REVISED |

CROSS SECTION THROUGH DDH NO. 1 (LOOKING NORTHERLY)
SATCHIE CREEK SHOWINGS, HESQUIAT LAKE, B.C.

DRAWING NUMBER

APPROXIMATE CONTACT

MINERALIZATION

8½X11 PRINTED ON NO. 1000H CLEARPRINT