

83-#151-11292

GEOLOGICAL AND GEOCHEMICAL PROGRAM  
MARINO, KILPALA 1-6 AND FIDO A-H  
MINERAL CLAIMS

NIMPKISH LAKE, B. C.

~~50°27'~~  
~~50°15'N~~ 127°07'W

N.T.S. <sup>32L</sup>~~96E~~/6E

NANAIMO V.I.E.

OWNER: E. SPECOGNA

OPERATOR: CHEVRON CANADA RESOURCES LIMITED

by

G. WALTON

May, 1983

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

11,292

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## INTRODUCTION

Prospecting by E. Specogna along logging roads in early 1982 led to the discovery of a sphalerite-chalcopyrite-pyrite-quartz vein system in a shear zone within Karmutsen massive and amygdaloidal basalts. Further prospecting in the general area outlined a number of other pyrite-chalcopyrite-quartz veinlets in a nearby Island granitic intrusion. Specogna staked the area in early May and optioned the property to Falconbridge Nickel in early 1983.

Chevron Canada Resources Limited completed an extensive property examination in April 1983 to determine the extent and nature of the mineralization. A program consisting of geological mapping and prospecting and soil sampling was conducted along all logging roads and on some traverses between roads. One VLF-EM traverse was completed in the area of the showing.

The results of this work are outlined in this report.

## LOCATION AND ACCESS (Fig. 1 & 2)

The property is located in the Alice Lake topographic sheet (NTS 92L/6E), 12 kilometers south of Port McNeil (Fig. 1), on the northern end of Vancouver Island. The property is centered at longitude 127°07'W and latitude 50°15'N.

Access to the property is gained by using the Canadian Forest Products logging road (Kilpala main line) which intersects the Island Highway at the north end of Nimpkish Lake. The showing is in a small rock quarry beside branch 800 which cuts off the main line at mile 14.

# NIMPKISH GROUP

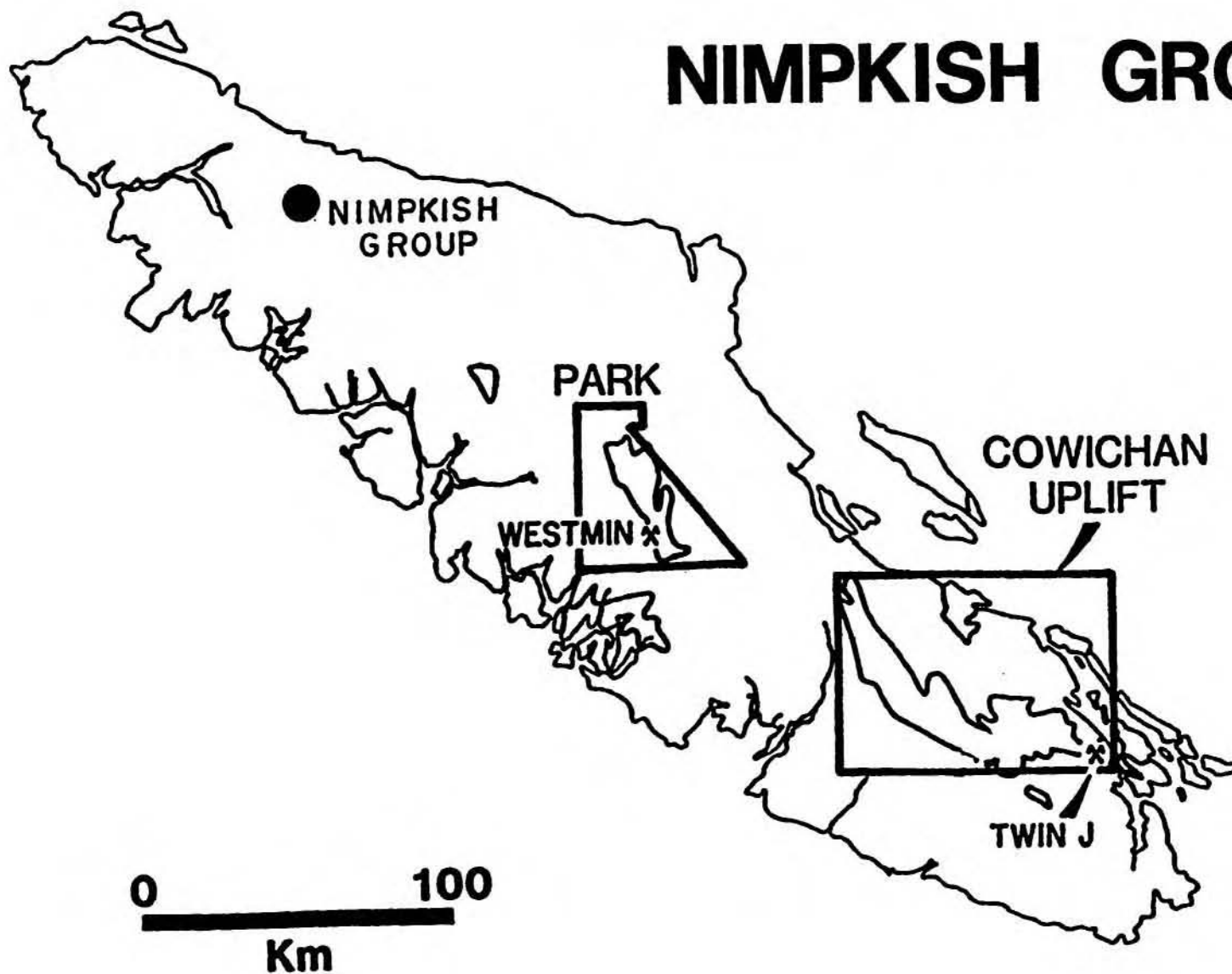
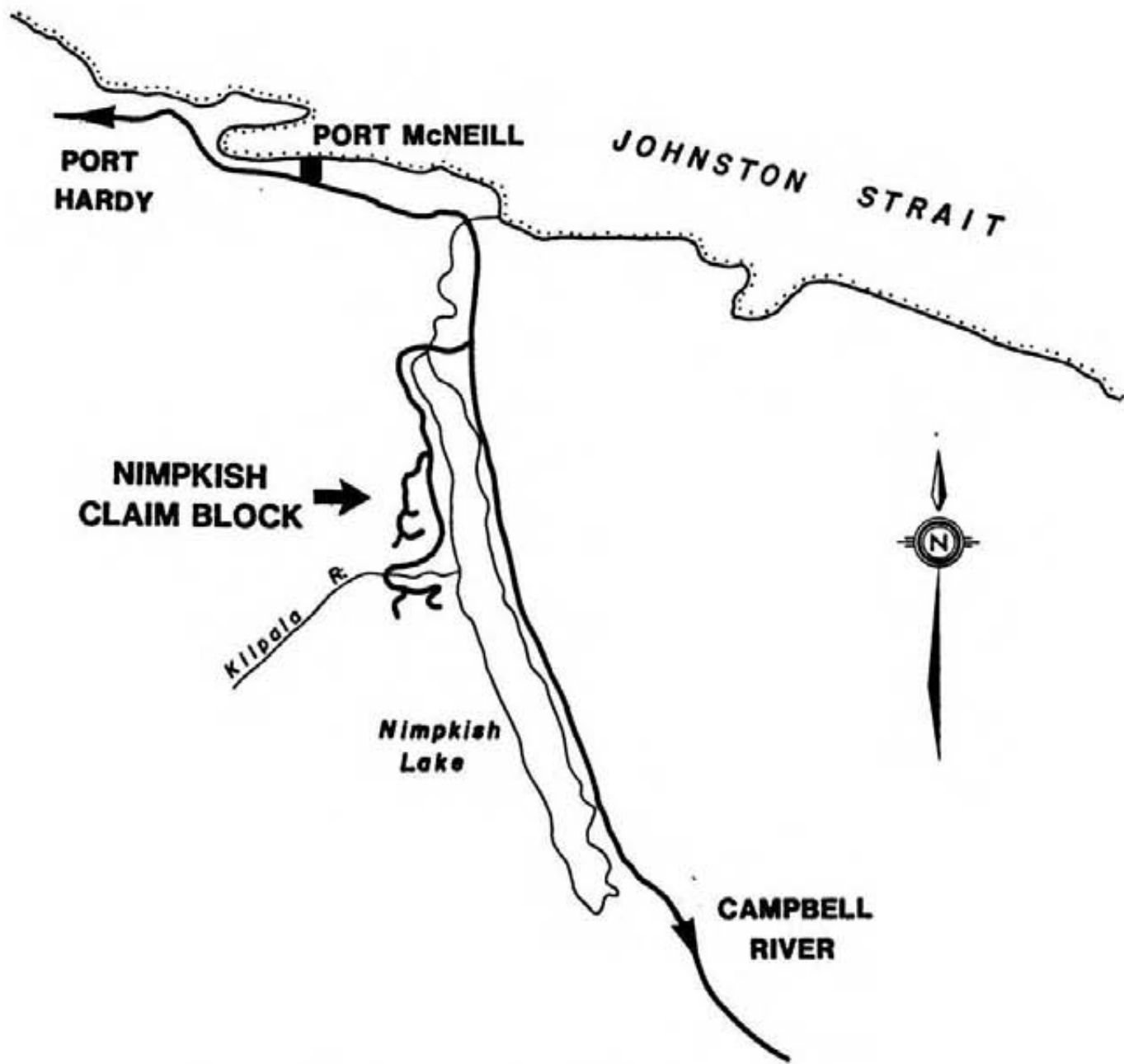


FIG. 1



# ACCESS ROUTES



FIG.2

CLAIMS (Fig. 3)

The claim block is comprised of 32 units which is made up of the following claims:

<u>Claim Name</u>	<u>No. of Units</u>	<u>Record No.</u>	<u>Record Date</u>
MARINO	18	1150	May 7, 1982
FIDO A	1	1159	May 18, 1982
FIDO B	1	1160	"
FIDO C	1	1161	"
FIDO D	1	1162	"
FIDO E	1	1163	"
FIDO F	1	1164	"
FIDO G	1	1165	"
FIDO H	1	1166	"
KILPALA 1	1	1167	"
KILPALA 2	1	1168	"
KILPALA 3	1	1169	"
KILPALA 4	1	1170	"
KILPALA 5	1	1171	"
KILPALA 6	1	1172	"

These claims are all owned by E. Specogna of Nanaimo.

GEOGRAPHY

The claims cover a small hill just north of the broad valley that has the Kilpala and Karmutsen rivers run through it. The claim area has been almost completely logged off with only two relatively small stand of trees left. The logging activity has, therefore, provided excellent coverage in the form of new roads and uncovered new outcrops.

# CLAIM MAP

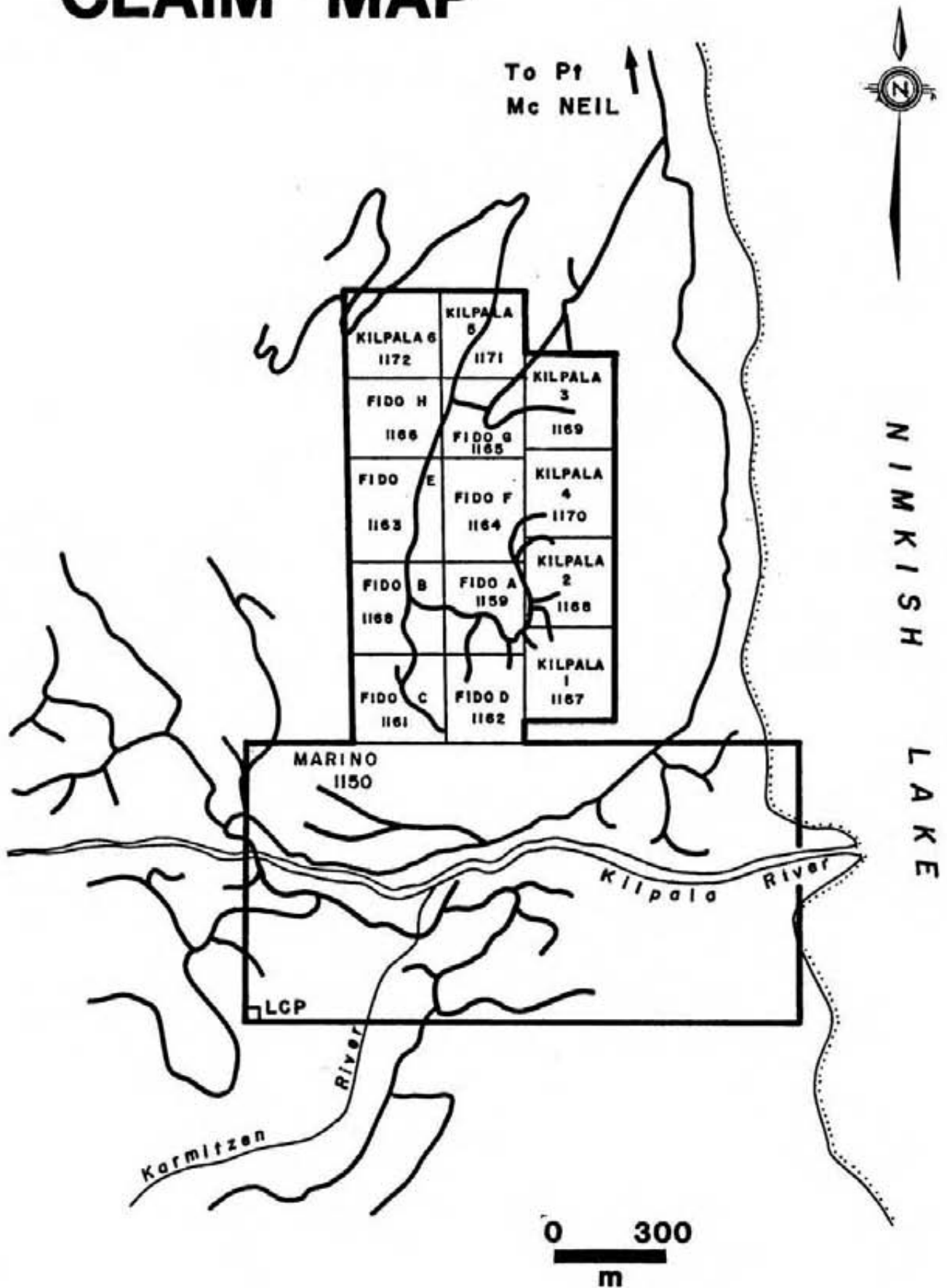


FIG.3



## GEOLOGY

### General

The rocks that underlie the claim block fall into two units:

- (1) Karmutsen Formation - massive, amygdaloidal and porphyritic basalt flows
- (2) Island Intrusion - quartz monzonite to granodiorite intrusive plug

### Karmutsen Formation

The Karmutsen Formation is prevalent in the area. On Vancouver Island it is composed of 10,000 feet of monotonous massive, amygdaloidal and pillowed basalt flows. Only the massive and amygdaloidal flows were seen on the claim block.

Throughout the claim block the flows appear fresh, green to dark green in colour, fine grained with occasional phenocrysts of feldspar and amygdules filled with quartz and epidote. A few epidote veins were noted in several localities.

Pyrite occurs as fine disseminations in some of the flows and is occasionally associated with some of the epidote-quartz veins.

In several outcrops volcanic layering can be determined because of the presence of flow top breccias with more massive or porphyritic base to the flows. The flows vary from two feet to greater than ten feet thick where recognizable. In all locations where layering is visible a very shall dip is indicated to the west.

The majority of the alteration occurs along the shear zone which follows the regional structural trends (northerly and northwesterly). The alteration is in the form of chlorite, sericite and quartz and calcite veining which leaves the rock very soft and crumbly.

#### Island Intrusion

This intrusion is a quartz monzonite stock that intrudes the Karmutsen basalts. No actual contacts have been seen between the stock and the basalts. However, one quartz monzonite was seen cutting the basalts.

The quartz monzonite is a medium grained, equigranular granitic rock with potassium feldspar, plagioclase, quartz and hornblende. The rocks display no alteration except for one locality where potassium feldspar veins were noticed.

#### MINERALIZATION

The mineralization (found by E. Specogna) is primarily associated with quartz veins which vary in width from one centimeter to eight centimeters. The veins are comprised of quartz, sphalerite, chalcopyrite, pyrite and minor amounts of molybdenite. The best mineralization occurs in quartz veins within an anastomosing shear zone that is 18 meters in width. The central six meters of the shear zone has quartz veins while the outer edges of the shear zone has calcite veins with no mineralization. High grade samples have produced values such as 4.79% Zn, 5500 ppm Cu. However, careful chip sampling of the whole shear zone has produced little encouragement (Fig. 7). A second shear zone with quartz-chalcopyrite-pyrite mineralization was located in Karmutsen

# SHOWING NIMPKISH

## LOOKING EAST

KARMUTSEN BASALT - SHEARED MINOR CLAY ALTERATION

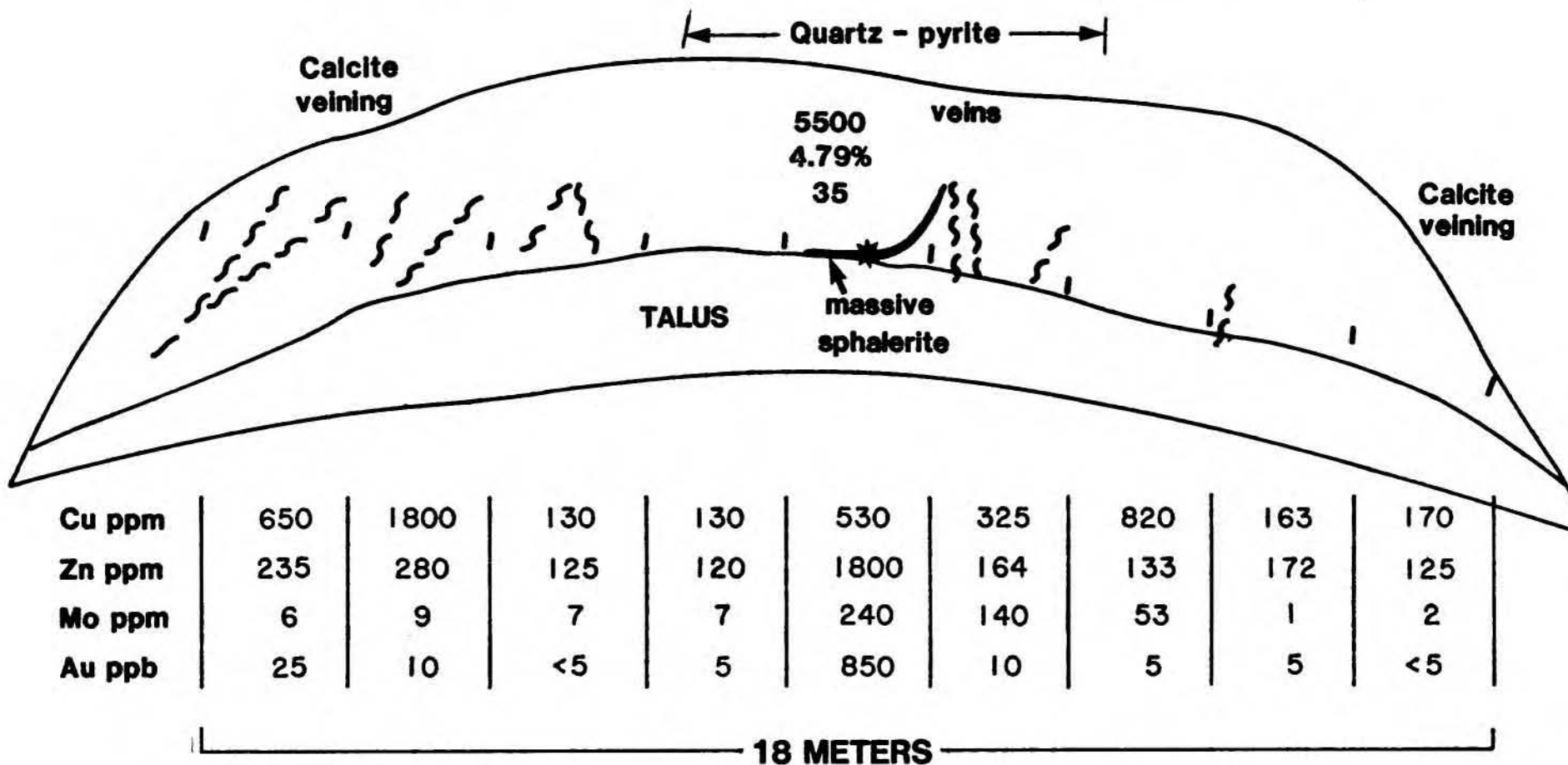


FIG.7

basalts. Analysis of samples from this zone gave little encouragement but showed that mineralization occurs along shear zones in two directions, one northerly, the other northwesterly.

In addition to this quartz vein associated mineralization two pods of massive pyrite and chalcopyrite were found. The pods are small lenticular bodies (30 cm wide 1.5 meters long). High grade samples of these bodies ran up to 2% Cu, however the dimensions are very small. The host rocks are totally unaltered, massive basalts.

GEOCHEMISTRY (Fig. 5a, b)

*Brownish fines from B horizon about 20 cm deep; analyzed by Chemex*

All rock and soil samples taken were geochemically analyzed for copper, zinc, molybdenum and gold. A total of 300 soil samples and rock samples were taken throughout the property. The procedure for analysis for each element is outlined in Appendix A.

The only distinctively anomalous soil samples are located below the main line where the second shear zone containing quartz mineralized veins occur. These samples run up to 540 ppm Cu, 505 Zn and 80 ppb Au.

The initial showing found by Specogna was carefully chip sampled in 2 meter samples across the entire 18 meters of sheared basalt, and then a sample of just high grade material was taken (Fig. 7). Soil samples along the extension of this structure failed to indicate any mineralization.

A statistical evaluation of the geochemical data provides the following means and anomalous values:

		<u>Cu</u>	<u>Zn</u>	<u>Mo</u>	<u>Au</u>
Mean	( $\sigma$ )	72.8	52.2	2.3	5
Standard Deviation	( $d$ )	52.6	46.4	2.7	14
Anomalous	( $\sigma + 2 d$ )	178	145	7.7	32

N.B. Total samples - 300 soils

Contours have been based upon these values.

#### GEOPHYSICS (Fig. 6)

One traverse was made across the showing using an EM-16, to ascertain if any response could be obtained. No variation was obtained in the area of the showing although small cross over was found south of the showing (Fig. 6). No further traverses were made.

#### CONCLUSIONS AND RECOMMENDATIONS

The mineralization found by Specogna is associated with quartz veins within shear zones that cut the Karmutsen massive basalts. These shear zones contain locally high grade but, when the whole system is carefully sampled, little encouragement is found.

# EM-16 TRAVERSE ACROSS NIMPKISH SHOWING

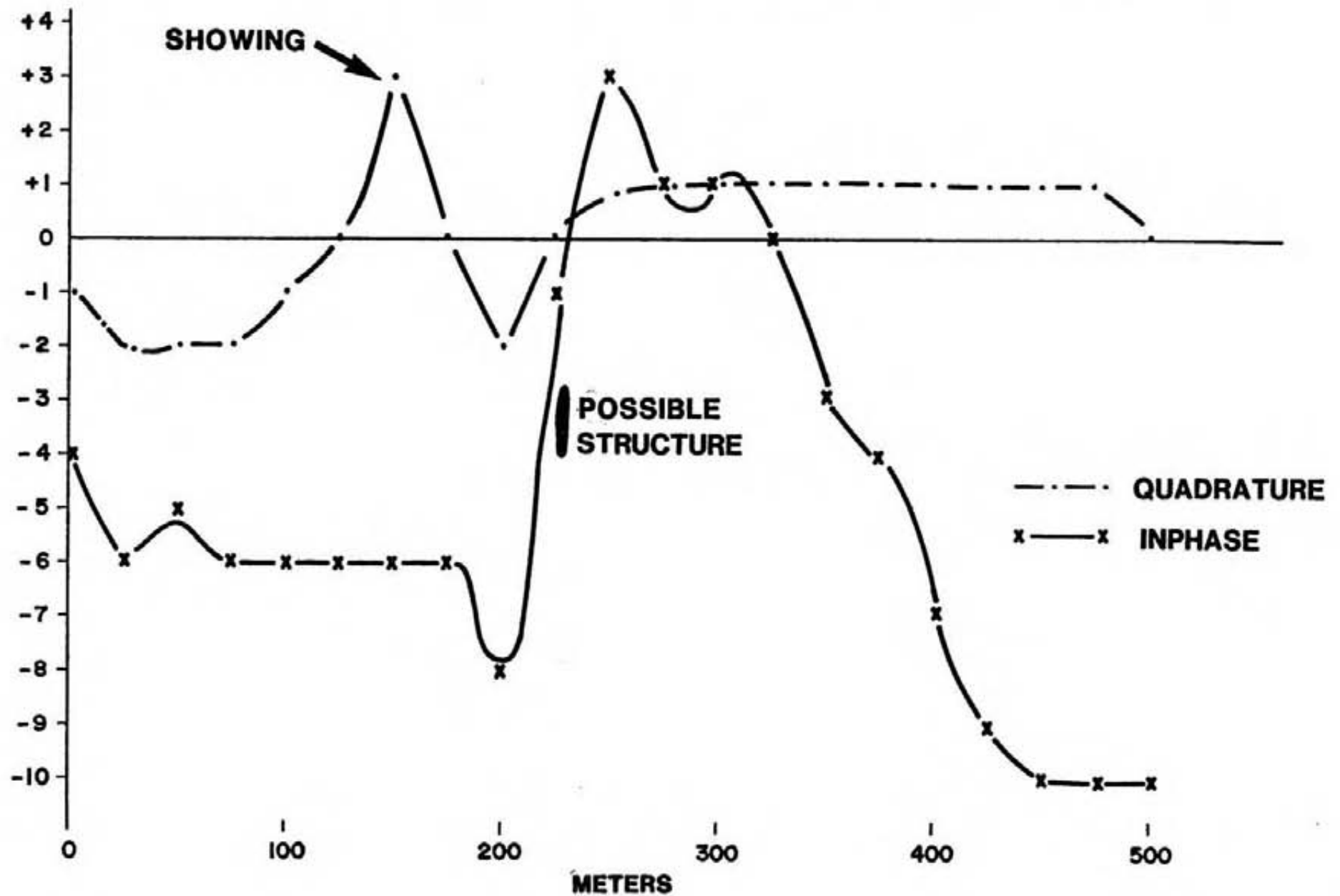


FIG. 6

The higher grades within the shear zone may be one or more of the lenticular bodies of pyrite and chalcopyrite that have been caught up in the shear. The Karmutsen is known for its local high grade pods of mineralization and I believe this is another example.

I recommend no further work on this property.

G. Walton

STATEMENT OF COST

G. Walton - Geologist (field April 7-10, office May 2) 5 days @\$235.	\$ 1,175.00
D. Brown - Geologist (field April 7-10) 4 days @\$182.	728.00
Food - \$15/day x 4 days x 2 people	120.00
Room - \$62. x 5 nights	310.00
Truck - 4 days @ \$25/day	100.00
Geochemical analysis - 300 soils @ \$10.55	3,165.00
- 31 rocks @ \$10.55	<u>327.05</u>
Total	\$5,925.05

*Godfrey Walton*



STATEMENT OF QUALIFICATIONS

I, Godfrey Walton, am a professional geologist with office at 901 - 355 Burrard Street, Vancouver, B. C. V6C 2G8.

I am a graduate of the University of Alberta (B.Sc. 1974) and Queen's University (M.Sc. 1978). I have worked in mineral exploration since 1970 and am a member of the Canadian Institute of Mining and Metallurgy, Mineralogical Association of Canada and the Association of Exploration Geochemists.



Godfrey Walton

May, 1983

A P P E N D I X

ANALYTICAL PROCEDURES

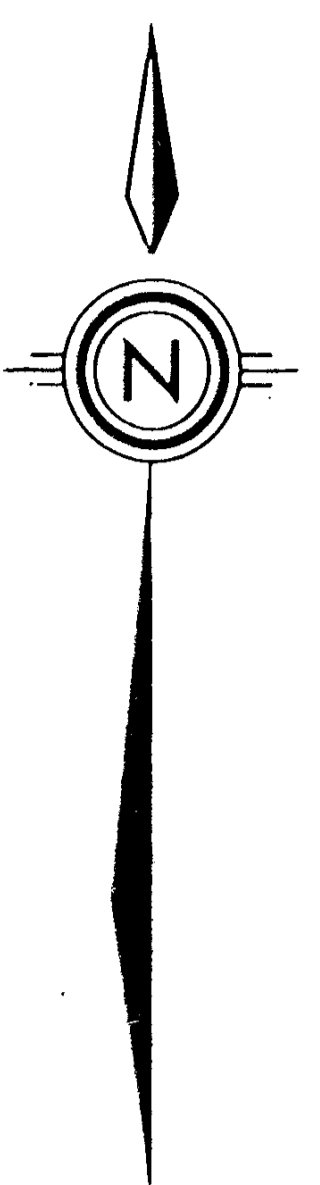
GEOCHEMICAL PREPARATION  
AND  
ANALYTICAL PROCEDURES

1. Geochemical samples (soils, silts) are dried at 50°C for a period of 12 to 24 hours. The dried sample is sieved to -80 mesh fraction through a nylon and stainless steel sieve. Rock geochemical materials are crushed, dried and pulverized to -100 mesh.
  2. A 1.00 gram portion of the sample is weighed into a calibrated test tube. The sample is digested using hot 70% HClO<sub>4</sub> and concentrated HNO<sub>3</sub>. Digestion time = 2 hours.
  3. Sample volume is adjusted to 25 mls. using demineralized water. Sample solutions are homogenized and allowed to settle before being analyzed by atomic absorption procedures.
  4. Detection limits using Techtron A.A.5 atomic absorption unit.
    - Copper - 1 ppm
    - Molybdenum - 1 ppm
    - Zinc - 1 ppm
    - \*Silver - 0.2 ppm
    - \*Lead - 1 ppm
    - \*Nickel - 1 ppm
    - Chromium - 5 ppm
- \*Ag, Pb & Ni are corrected for background absorption.
5. Elements present in concentrations below the detection limits are reported as one half the detection limit, ie. Ag - 0.1 ppm

F.A. - A.A. GOLD COMBO METHOD

For low grade samples and geochemical materials 10 gram samples are fused with the addition of 10 mg of Au-free Ag metal and cupelled. The silver bead is parted with dilute  $\text{HNO}_3$  and then treated with aqua regia. The salts are dissolved in dilute HCl and analyzed for Au on an atomic absorption spectrophotometer to a detection of 5 ppb.

N I M P K I S H  
L A K E



0 200  
m

To Pt  
Mc NEIL

ESTIMATED  
FLOW  
LAYERING

FLOW LAYERING

CLAIM BLOCK

LCP MARINO

Kilpala River

Kaimuisen River

LEGEND

- Quartz Monzonite  
fresh, white to pink in colour  
medium grained, equigranular
- Karmutsen Basalt  
massive, amygdaloidal, some breccia, fine grained  
fresh colour - dark green, epidote alteration locally
- Contact
- Fault
- Flow layering
- Foliation or Shearing
- Dyke orientation
- Qtz/Qtz
- Ep
- AMYG
- MT
- chalc
- py
- mal
- F.P.
- pyrr
- Shr
- Calc
- alter
- egulgr
- Quartz Monzonite  
fresh, white to pink in colour  
medium grained, equigranular
- Karmutsen Basalt  
massive, amygdaloidal, some breccia, fine grained  
fresh colour - dark green, epidote alteration locally
- Contact
- Fault
- Flow layering
- Foliation or Shearing
- Dyke orientation
- Qtz/Qtz
- Ep
- AMYG
- MT
- chalc
- py
- mal
- F.P.
- pyrr
- Shr
- Calc
- alter
- egulgr

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*C. J. W.*

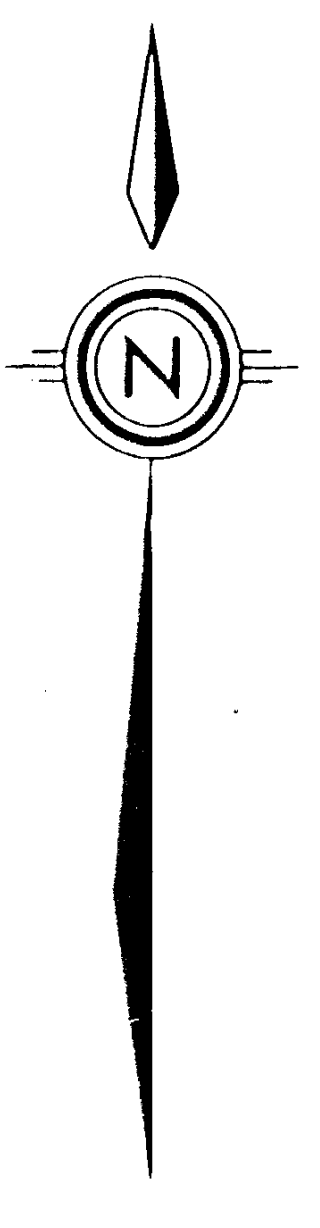
Chevron  
Chevron Canada Resources Limited  
Minerals Staff

HEATHER PROJECT  
GEOLOGY

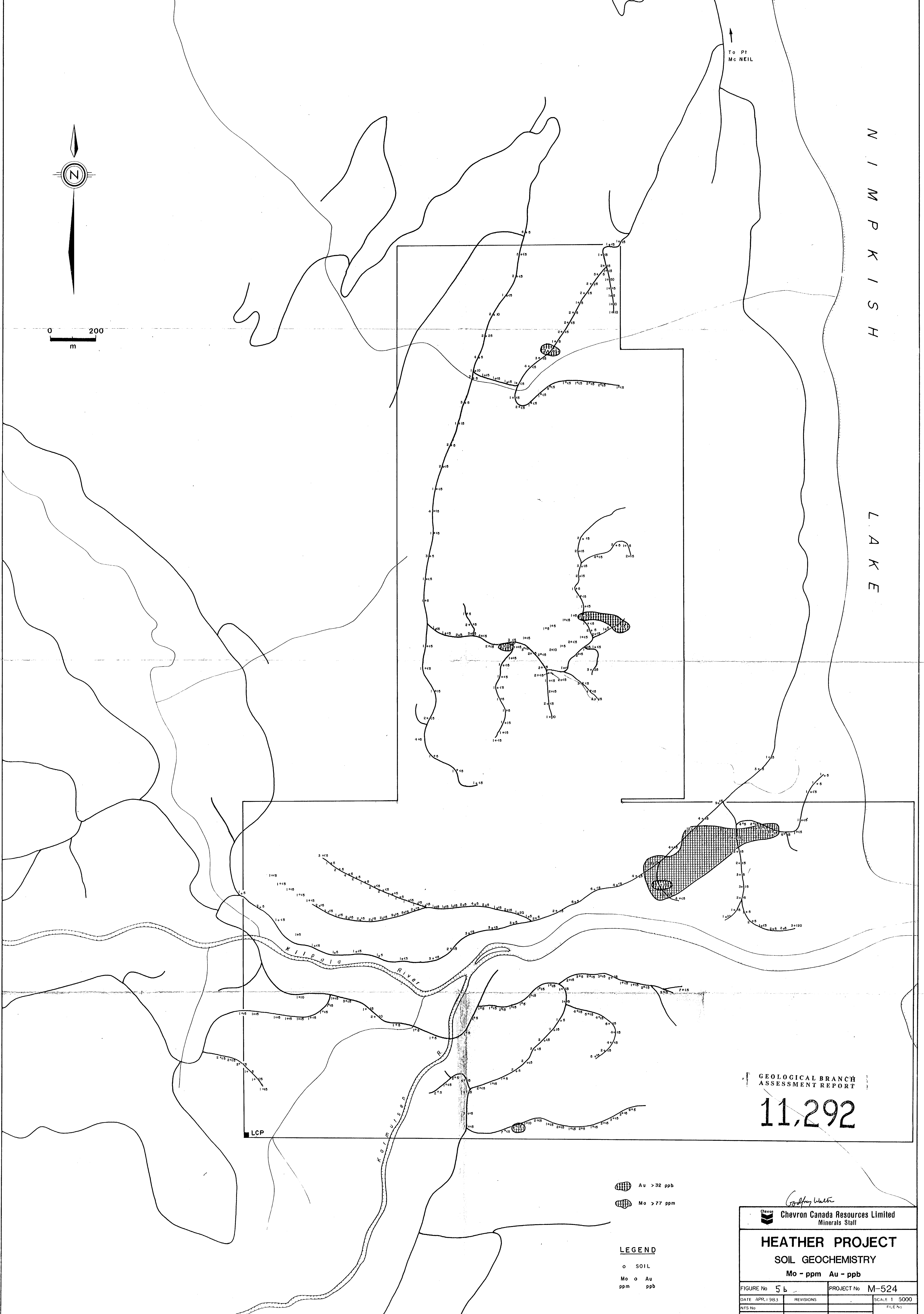
FIGURE No	4	PROJECT No	M-524
DATE	APR. 1983	SCALE	1:5000
NFS No			
COMPILED BY	G.W.		

N I M P K I S H  
L A K E

To Pt  
Mc NEIL



0 200  
m



LCP

GEOLOGICAL BRANCH  
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Au > 32 ppb  
 Mo > 77 ppm

LEGEND

o SOIL  
Mo o Au  
ppm ppb

*Geoffrey Walker*

Chevron Canada Resources Limited  
Minerals Staff

**HEATHER PROJECT**  
SOIL GEOCHEMISTRY  
Mo - ppm Au - ppb

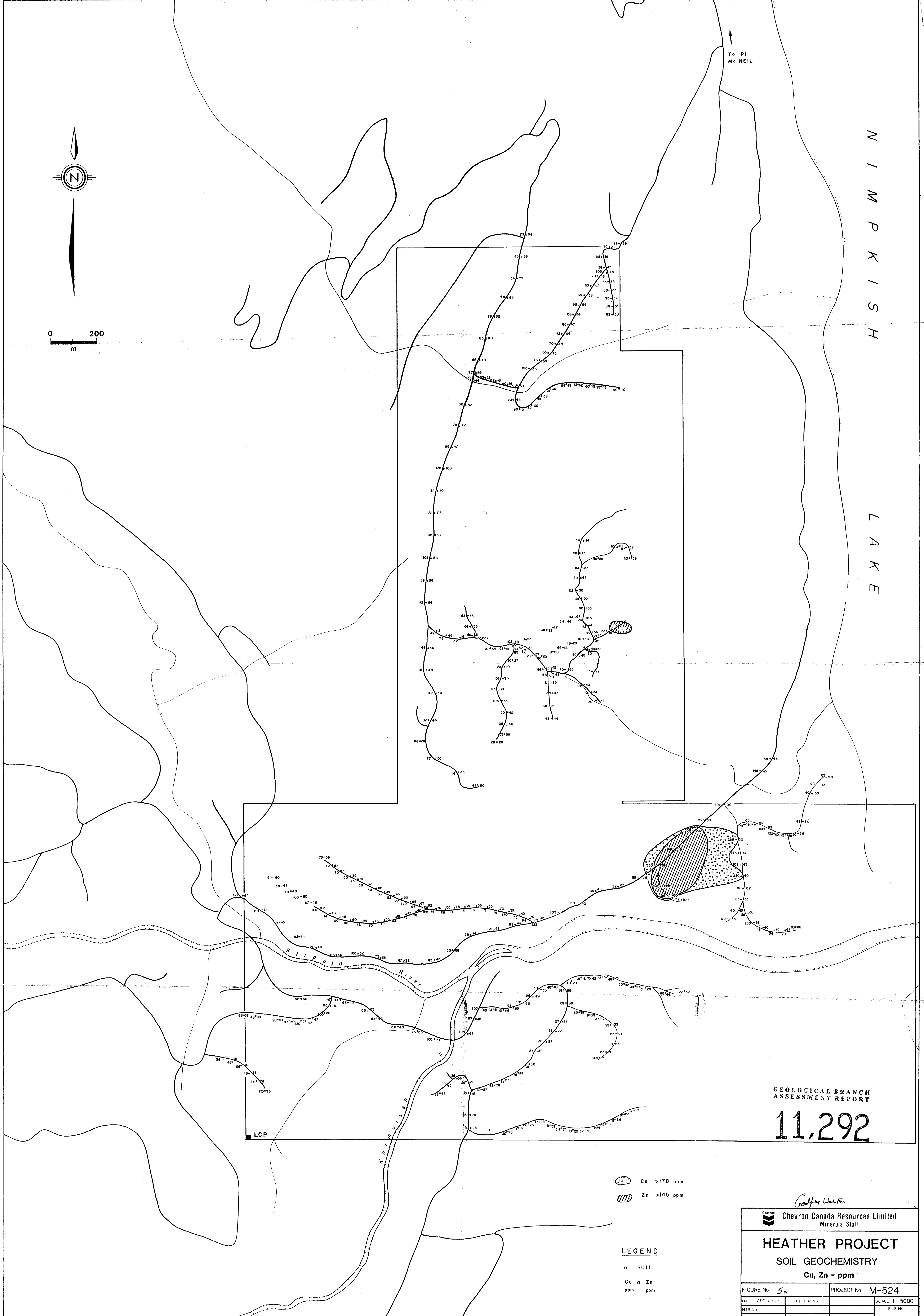
FIGURE No 5b	PROJECT No M-524
DATE APR, 1983	REVISIONS
NTS No	SCALE 1:5000
COMPILED BY G.W.	FILE No

N I M P K I S H  
L A K E

To Pt  
Mc NEIL



0 200  
m



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

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○ Cu > 178 ppm  
▨ Zn > 145 ppm

LEGEND

○ SOIL  
Cu o Zn  
ppm ppm

*Geoffrey White*

Chevron Canada Resources Limited Minerals Staff	
<b>HEATHER PROJECT</b>	
SOIL GEOCHEMISTRY	
Cu, Zn - ppm	
FIGURE No 5a	PROJECT No M-524
DATE APP. 1987	SCALE 1 5000
NTS No	FILE No
COMPILED BY J.W.	