

Project: M-524  
M-527

840427

Presentation of:  
Heather Option  
Nimpkish Group  
Sicker Project  
Macleod-Cockshat  
Gold Mine  
Greenstone Mtn.  
Nook

# HEATHER OPTION

## 1984 PROGRAM

**OBJECTIVE :** TO LOCATE ECONOMIC GRADE GOLD - COPPER  
MASSIVE SULPHIDE TYPE MINERALIZATION

**METHOD :** DEFINE DRILL TARGETS BY GROUND EM ( IP ),  
SOIL GEOCHEMISTRY , MAPPING, PROSPECTING.  
DIAMOND DRILLING ( 5 HOLES - 1500m )

**TOTAL COST :** \$ 380,000 US

**CHEVRON COST :** \$ 200,000 US

PROJECT DATA SUMMARY

PROJECT TITLE: Heather Option PROJECT NUMBER: M524  
LOCATION: Cowichan uplift, Vancouver Island, B. C.  
CHEVRON INTEREST: Current: 38% Possible:  
OTHER PARTICIPATION: 37% Falconbridge Limited  
25% Canamin (carried to feasibility with  
option to reduce to 10% NPI)

OPERATOR: Chevron Canada Resources Limited

DEPOSIT TYPE: Massive sulphide (Au-Cu)

GEOLOGIC CONCEPT:

Sicker Group rocks host copper-gold massive sulphide type mineralization at Westmin (HW, Lynx, Price, etc.). Heather is on trend and in a similar geological environment as Westmin. A copper-gold showing of possible massive sulphide affiliation has been discovered on the Heather claims.

LAND: 191 claim units, 3865 hectares approx.

ACCOMPLISHMENTS TO DATE:

1983: Geological mapping and prospecting, reconnaissance soil geochemistry, backhoe trenching, airborne Input survey. A grab sample of possibly massive sulphide type mineralization assayed 0.284 oz/t Au and 0.33% Cu.

CHEVRON PRE-1984 EXPENDITURES: \$184,000. US

1984 BUDGET PROPOSAL

PROPOSED FIRM BUDGET: \$200,000. US CHEVRON MAN-MONTHS: 4 C.V. Dyson  
J.P. Steele

ADDITIONAL FROM RESERVES: - TEMPORARY MAN-MONTHS: -

RECOMMENDED PROGRAM:

Detailed grid soil sampling, mapping, prospecting and ground geophysics (EM and/or I.P.) in areas of interest defined by the 1983 Input survey. Drill evaluation of defined targets.

PROGRAM OBJECTIVES:

Definition of massive sulphide targets and preliminary drill evaluation of the same.

By: C. V. Dyson

Date August 10, 1983

PROJECT DATA SUMMARY

Project Title: HEATHER OPTION

Project Number:

Location: Vancouver Island - 60 km west of Vancouver

Chevron Interest - Current:  $\emptyset$  % Possible: 51% of Falconbridge position

Other Participation: 75 % Falconbridge

25 % Canamin

Operator: CHEVRON

Geologic Concept:

Kuroko type polymetallic massive sulphides within the Devonian Myra Formation. The Myra Formation hosts the Westmin and Twin J deposits. Application of exploration criteria developed at Westmin.

Land: Cowichan Group 191 units ]  
Nimpkish Group 32 units ] 5575 hectare

Accomplishments to Date:

Ground prospecting, location of one massive sulphide lense, and two zones of high grade gold quartz veins.

Chevron 1982 Expenditures:  $\emptyset$

Chevron Pre-1982 Expenditures:  $\emptyset$

1983 Budget Proposal

Proposed Firm Budget: \$200,000. US

Chevron Man-Months: 8

Additional from Reserves:

Temporary Man-Months: 12

Recommended Program:

Geological mapping and prospecting, soil, rock and silt sampling, bulk silt sampling, panning, ground magnetics, VLF survey and possibly I.P. survey.

Program Objectives:

To locate massive sulphide mineralization in place and/or geophysical targets in preparation for drilling.

By: G. Walton

Date: January 14, 1983

# HEATHER OPTION

## PROGRAM AND BUDGET

### PROGRAM

- (1) GEOLOGICAL MAPPING AND PROSPECTING
- (2) SILT, SOIL AND ROCK SAMPLING
- (3) BULK SILT SAMPLING AND PANNING
- (4) GROUND MAGNETIC - VLF - SURVEYS
- (5) POSSIBLE I.P. OR EM SURVEY

### BUDGET

SALARIES	\$ 85,000.
GEOPHYSICS	50,000.
GEOLOGY/GEOCHEMISTRY	<u>65,000.</u>
TOTAL	\$200,000.

## HEATHER OPTION PROPOSED DEAL

EARN: 51% OF 75% FALCONBRIDGE SHARE BY SPENDING \$151,000.  
PRIOR TO JANUARY 1, 1984

REMAINING 25% CANAMIN - CARRIED TO FEASIBILITY  
- OPTION TO PROCEED OR REDUCE  
TO 10% NPR

### PAYMENT SCHEDULE:

NIMPKISH GROUP:	ZERO
COWICHAN GROUP:	
ON EXECUTION	\$ 6,000.
DECEMBER 31, 1983	25,000.
DECEMBER 31, 1984	50,000.
DECEMBER 31, 1985	75,000.
DECEMBER 31, 1986	100,000.
DECEMBER 31, 1987	125,000.
DECEMBER 31, 1988	125,000.

# HEATHER OPTION

## CURRENT INTEREST:

CHEVRON 38.25%  
FALCONBRIDGE NICKEL 36.25%

OTHER-CANAMIN 25.0%  
-CARRIED TO FEASIBILITY  
-OPTION TO REDUCE TO 10%

## POSSIBLE INTEREST:

CHEVRON 51.0%  
FALCONBRIDGE NICKEL 49.0%

OTHER-CANAMIN 10.0% NPR.

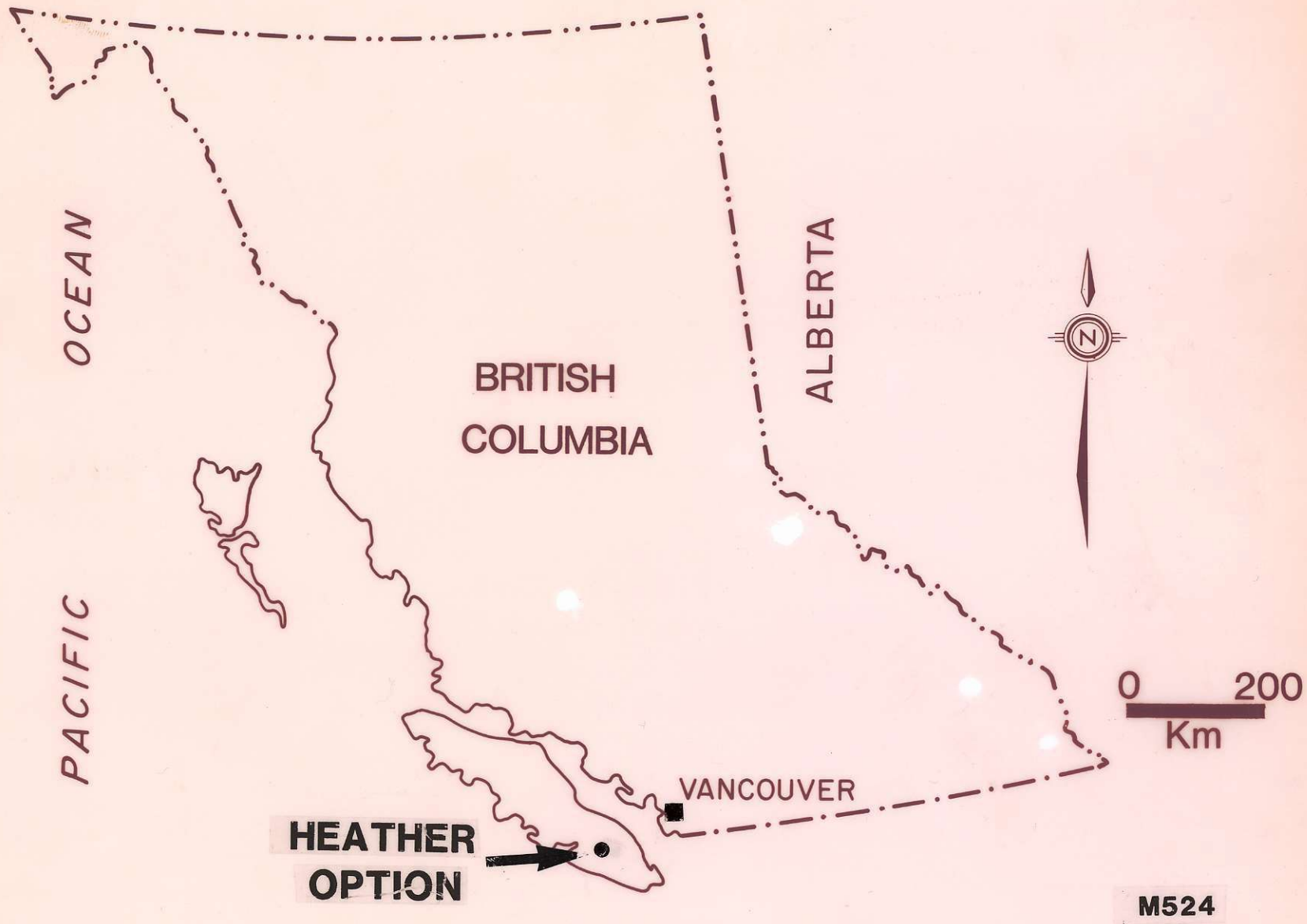
OPERATOR CHEVRON

## OPTION TERMS:

### PAYMENT SCHEDULE:

DEC. 31 1983	\$25,000 CAN.
1984	50,000
1985	75,000
1986	100,000
1987	125,000
1988	125,000
	<u>\$500,000 CAN.</u>



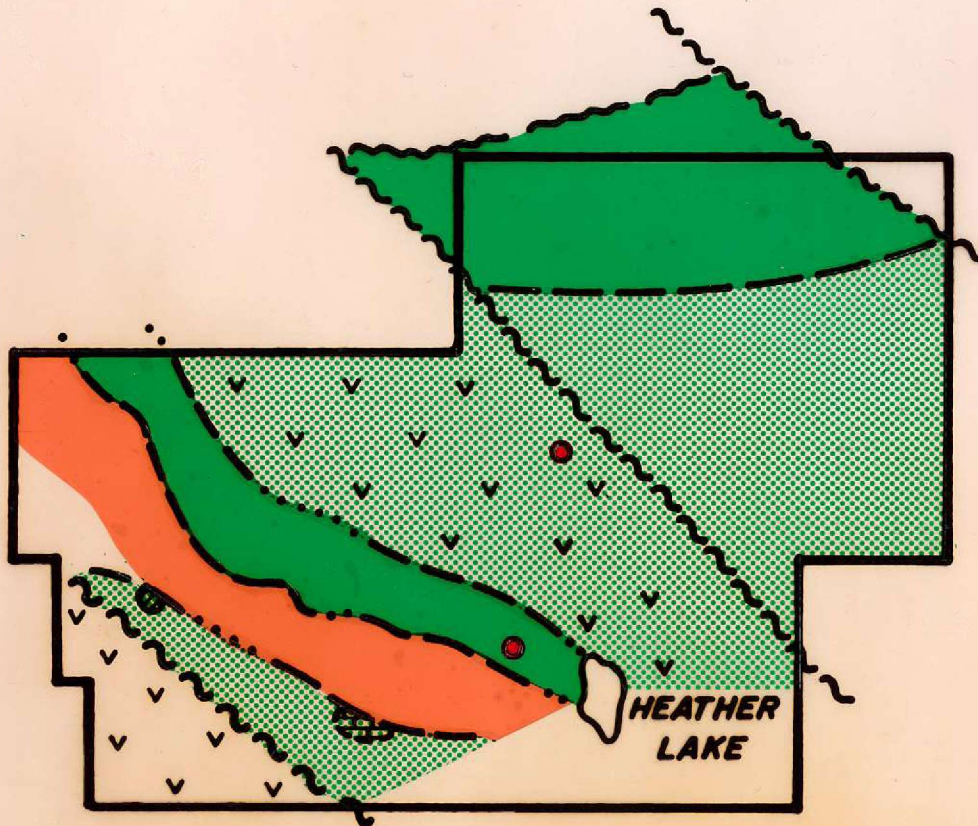


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# HEATHER OPTION

## GEOLOGY



JURA - CRET.


 DIORITE-HORNFELS


 VOLCANICS

PERMIAN

SICKER GROUP

 UNDIFFERENTIATED

 BUTTLE LAKE/  
SILL UNIT FM.

 MYRA Fm.

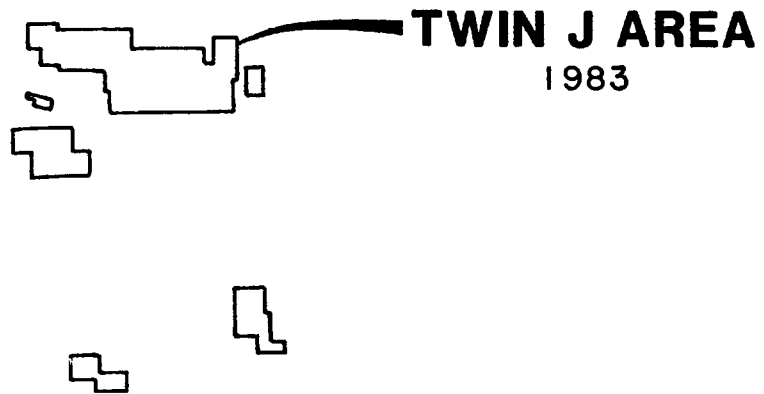
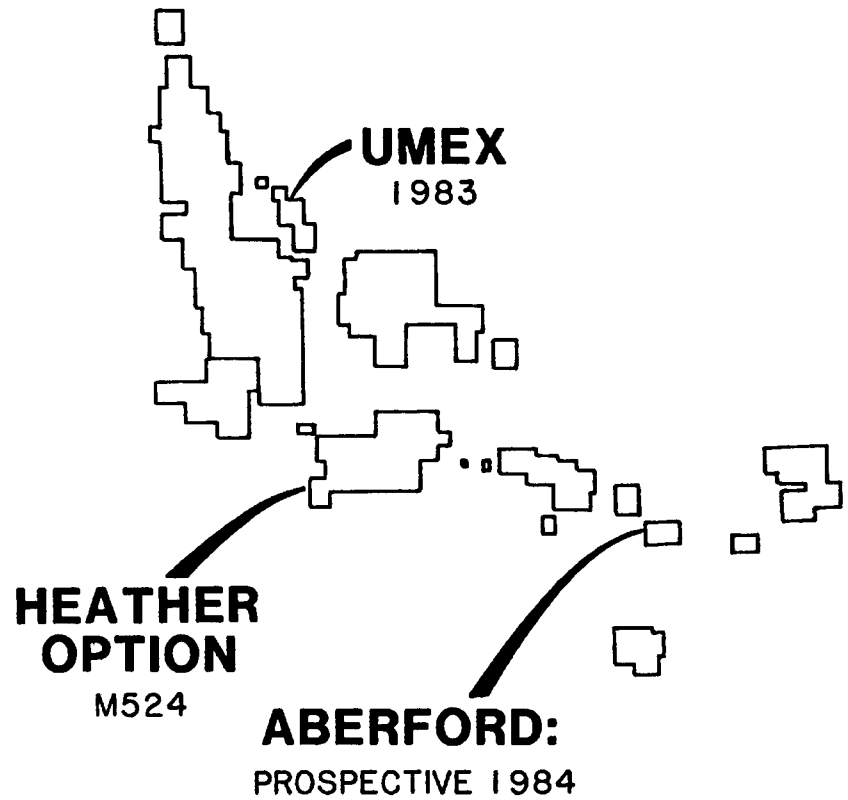
 NITINAT

 FAULT

 SHOWING

0 2  
Km

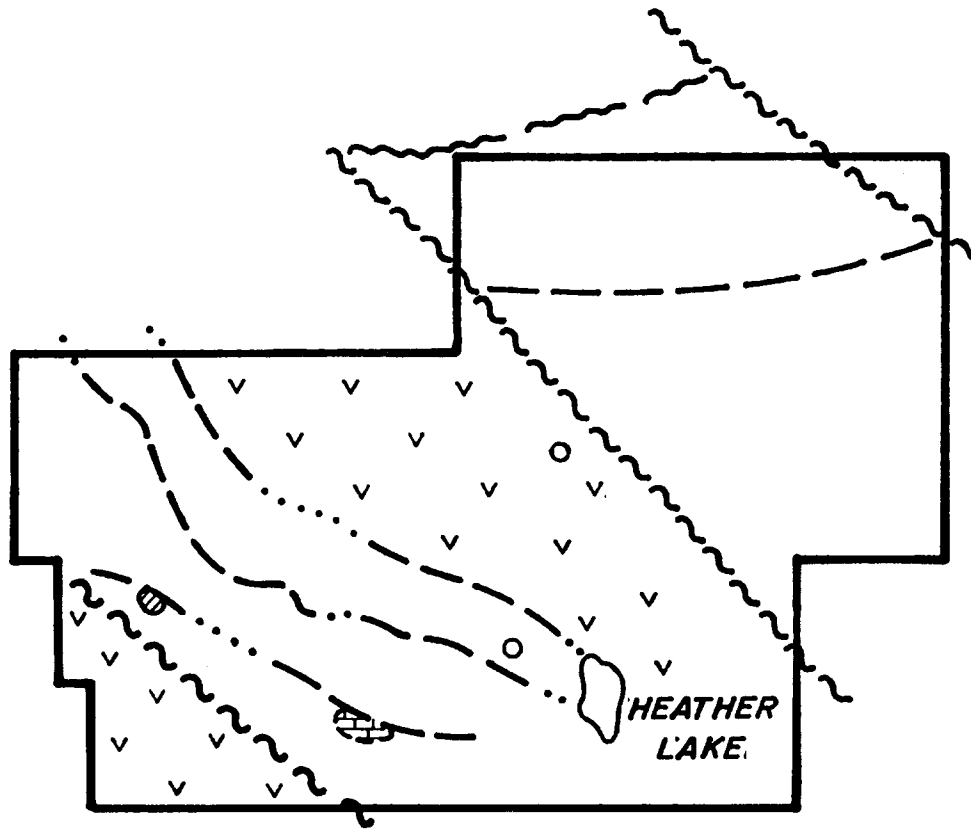
M524



**LAND HOLDINGS AND CHEVRON ACTIVITY**

# HEATHER OPTION

## GEOLOGY



0 2  
Km

### JURA - CRET.

□ DIORITE-HORNFELS

□<sub>v</sub> VOLCANICS

### PERMIAN

#### SICKER GROUP

□ UNDIFFERENTIATED

▣ BUTTLE LAKE/  
SILL UNIT FM.

□ MYRA Fm.

□<sub>v</sub> NITINAT

~ FAULT

○ SHOWING

M524

# HEATHER PROPERTY

## GENERAL PROPERTY GEOLOGY

### JURASSIC

**G** GRANITE, DIORITE

### PALEOZOIC SICKER GROUP

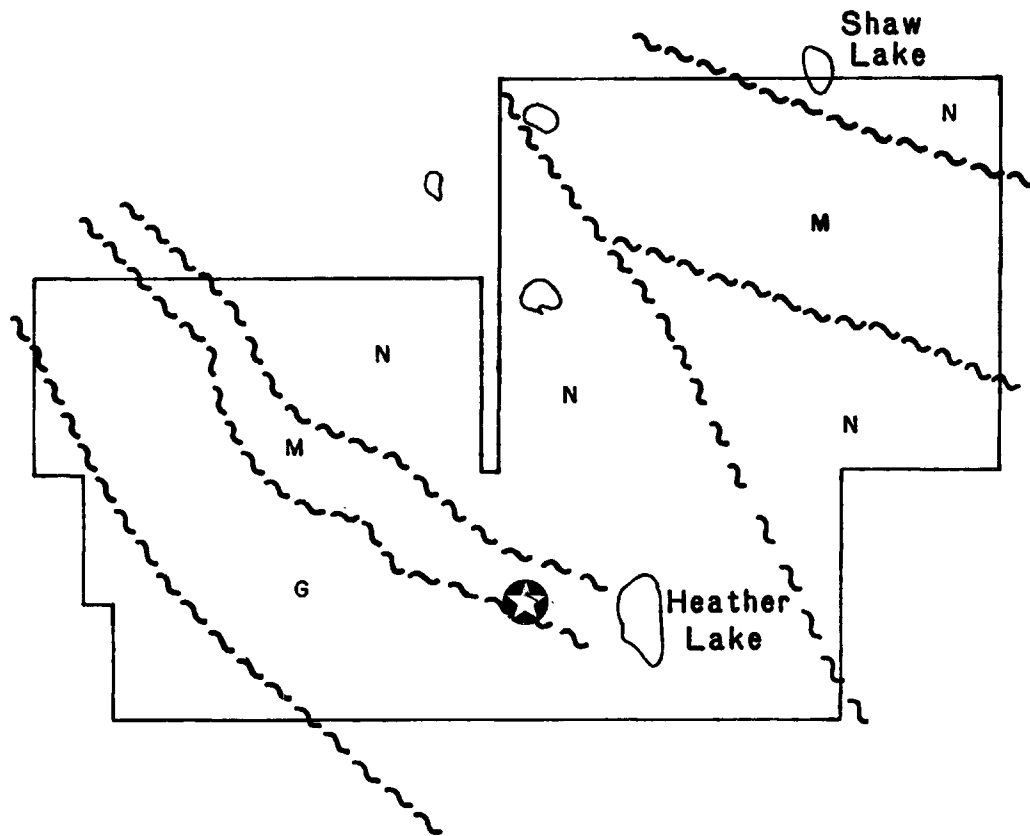
**M** MYRA Fm. CHERT, TUFF

**N** NITINAT Fm. ANDESITE

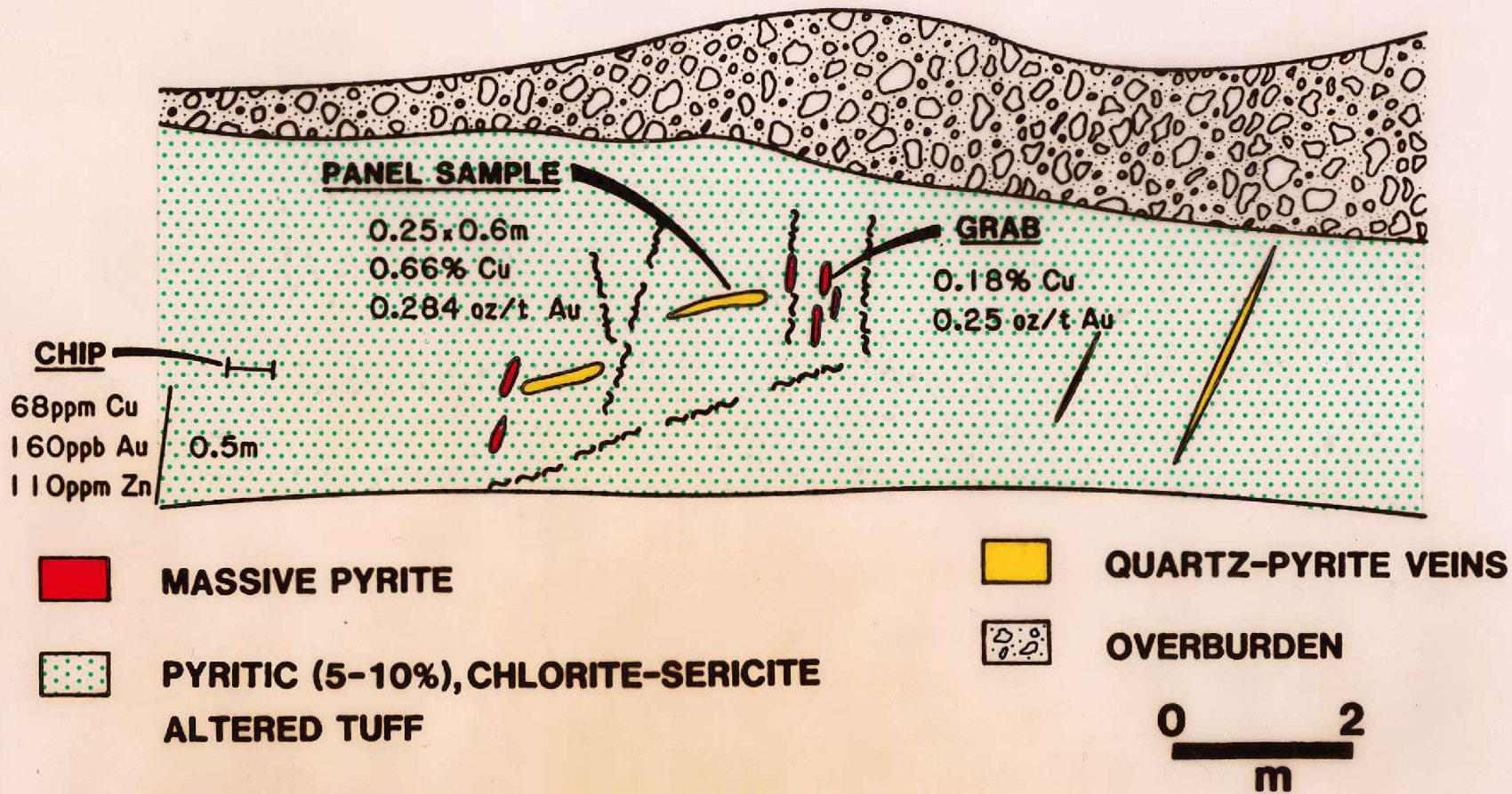
★ MAIN SHOWING  
MINOR PYRITE,  
CHALCOPYRITE,

~ FAULT

0 2  
Km



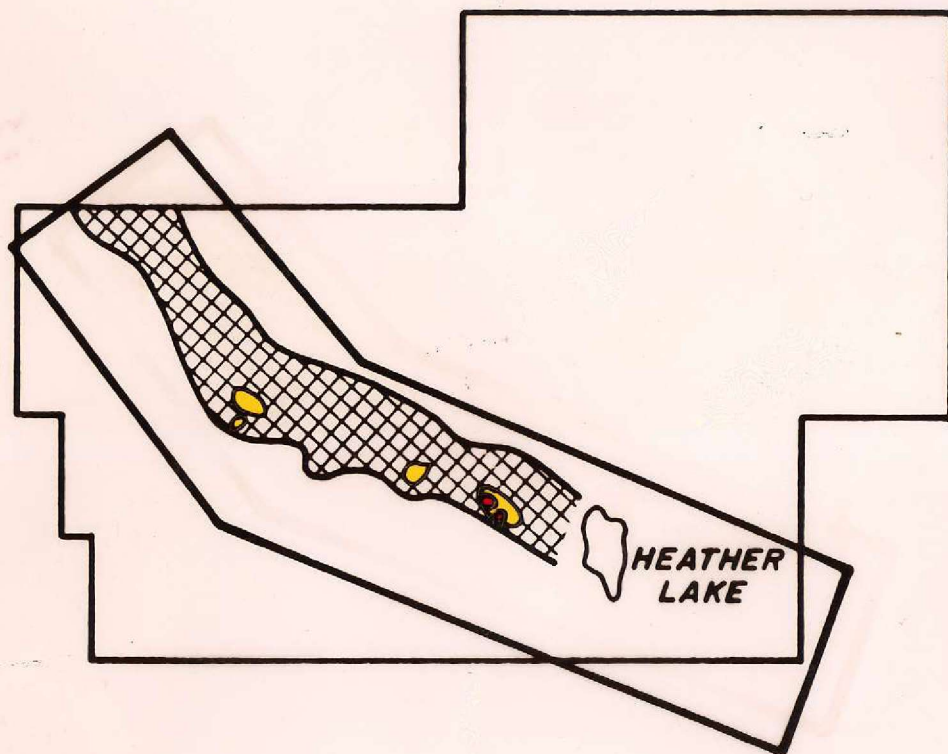
# HEATHER OPTION



**MAIN SHOWING : GEOLOGY AND SAMPLING**

# HEATHER OPTION

## SOIL GEOCHEMISTRY



### GEOCHEMICAL ANOMALIES



MYRA Fm



> 150ppm Cu



> 30ppb Au

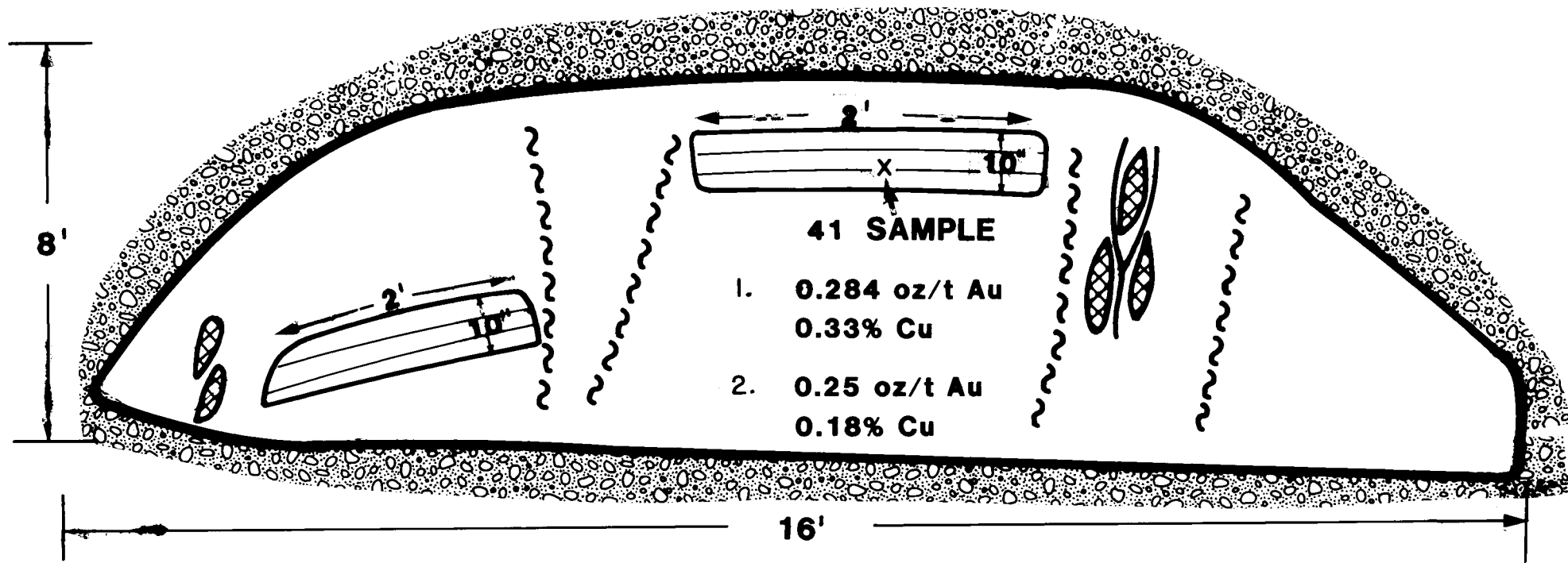


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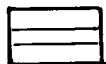
# HEATHER

## MASSIVE SULPHIDE SHOWING

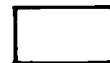
VERTICAL FACE  
LOOKING SOUTHEAST



MASSIVE PYRITE



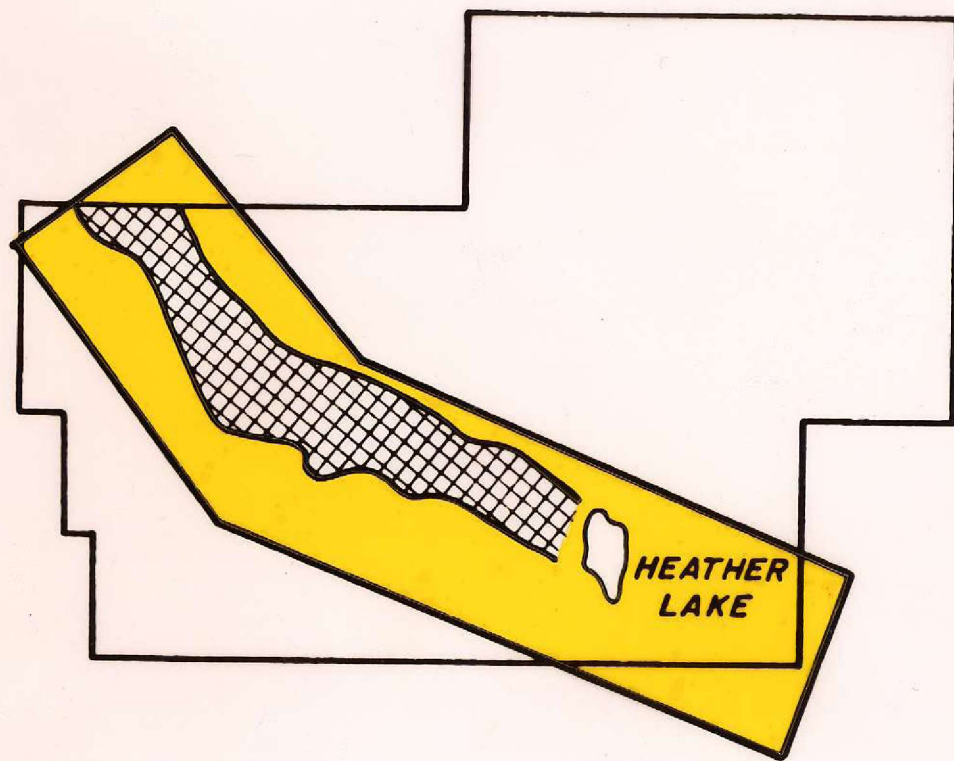
PYRITE - QUARTZ - CHERT (?)



PYRITIC, CHLORITE SERICITE  
ALTERED TUFF

# HEATHER OPTION

## AIRBORNE GEOPHYSICS



MYRA Fm



INPUT  
SURVEY AREA

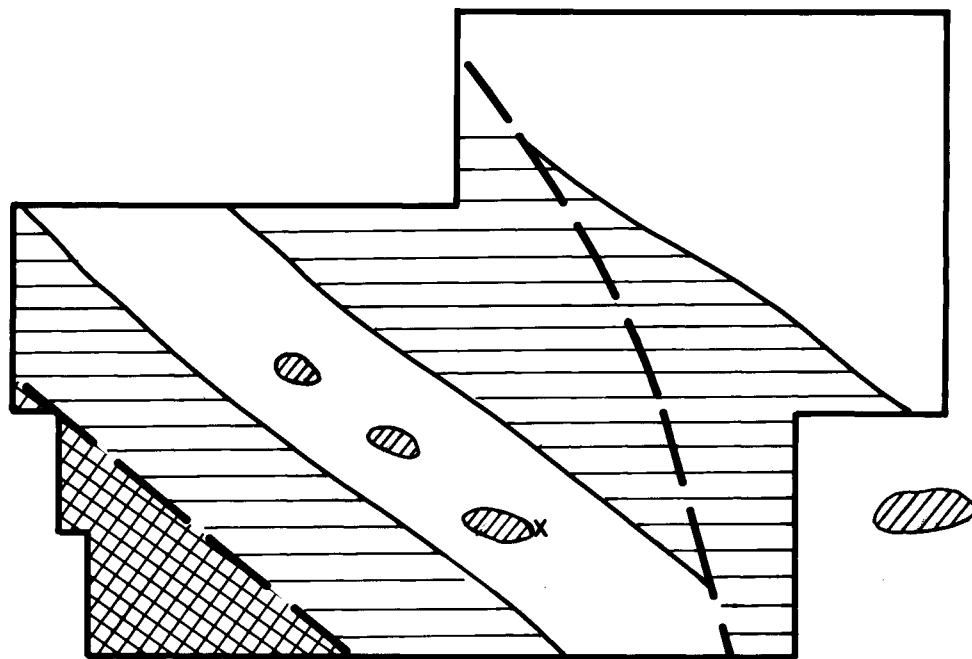
0 2  
Km

M524



# HEATHER OPTION

## COWICHAN GROUP



 FRANKLIN Fm

 MYRA Fm

 NITINAT Fm

 FAULT

 x SHOWING

### GEOCHEMICAL ANOMALIES

> 200 ppm Cu

> 200 ppm Zn

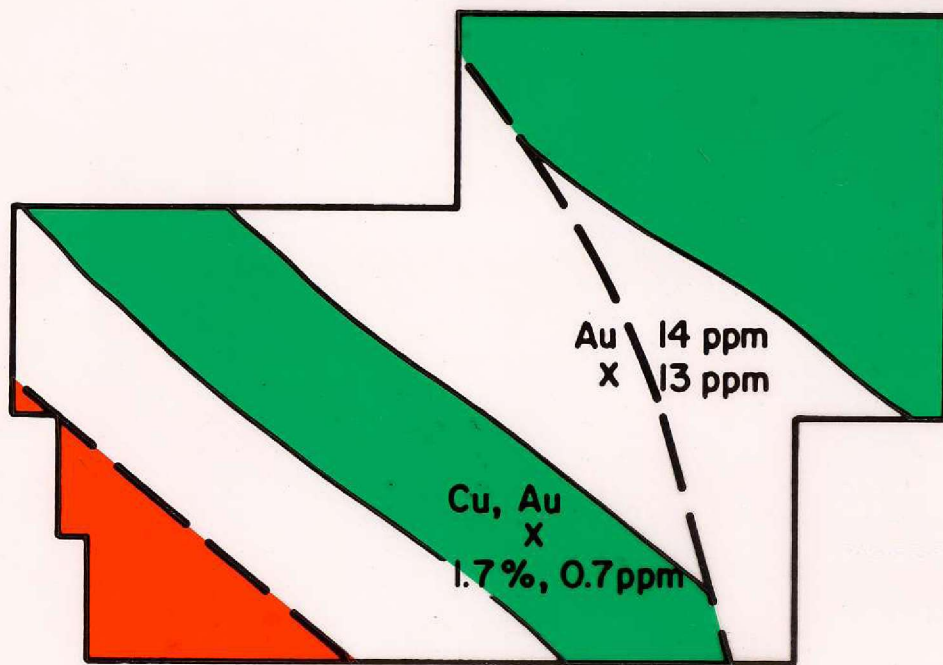
up to 840 ppm Cu

1340 ppm Zn

0 2  
Km

# HEATHER OPTION

## COWICHAN GROUP



FRANKLIN Fm

MYRA Fm

NITINAT Fm

FAULT

x SHOWING

Au 14 ppm  
x 13 ppm

Cu, Au  
x 1.7%, 0.7 ppm

0 2  
Km

# NIMPKISH GROUP

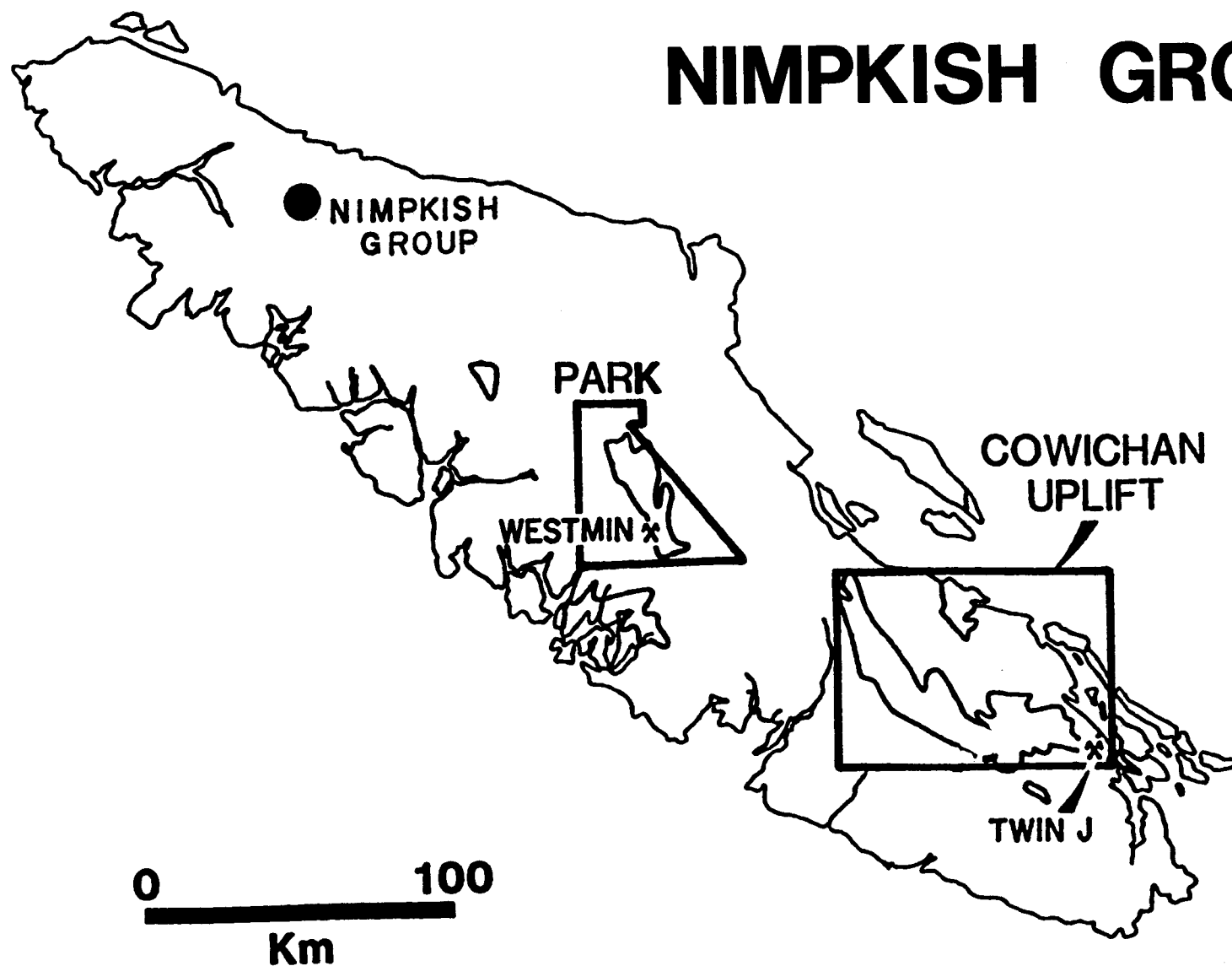
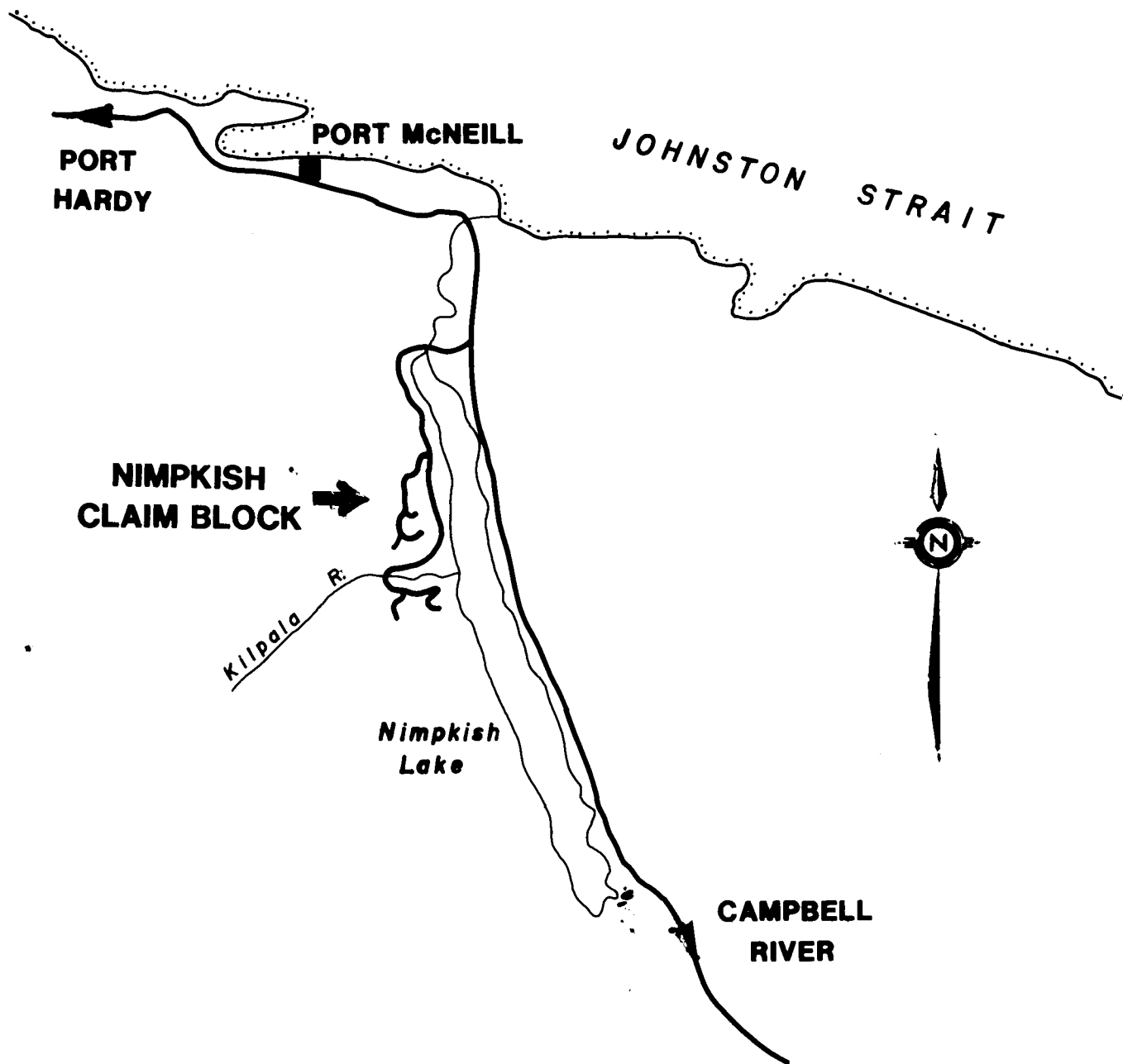


FIG. 1

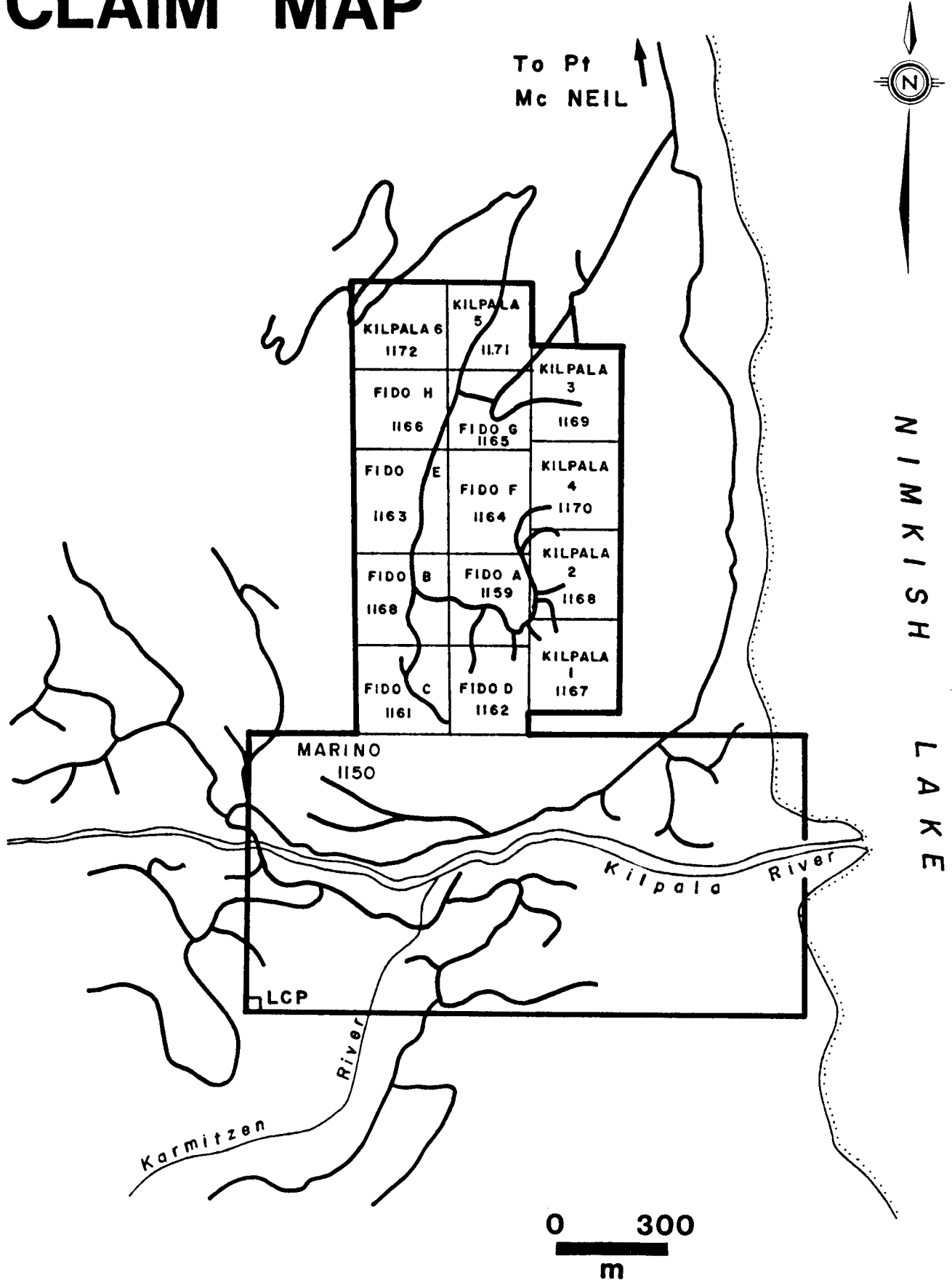


# ACCESS ROUTES

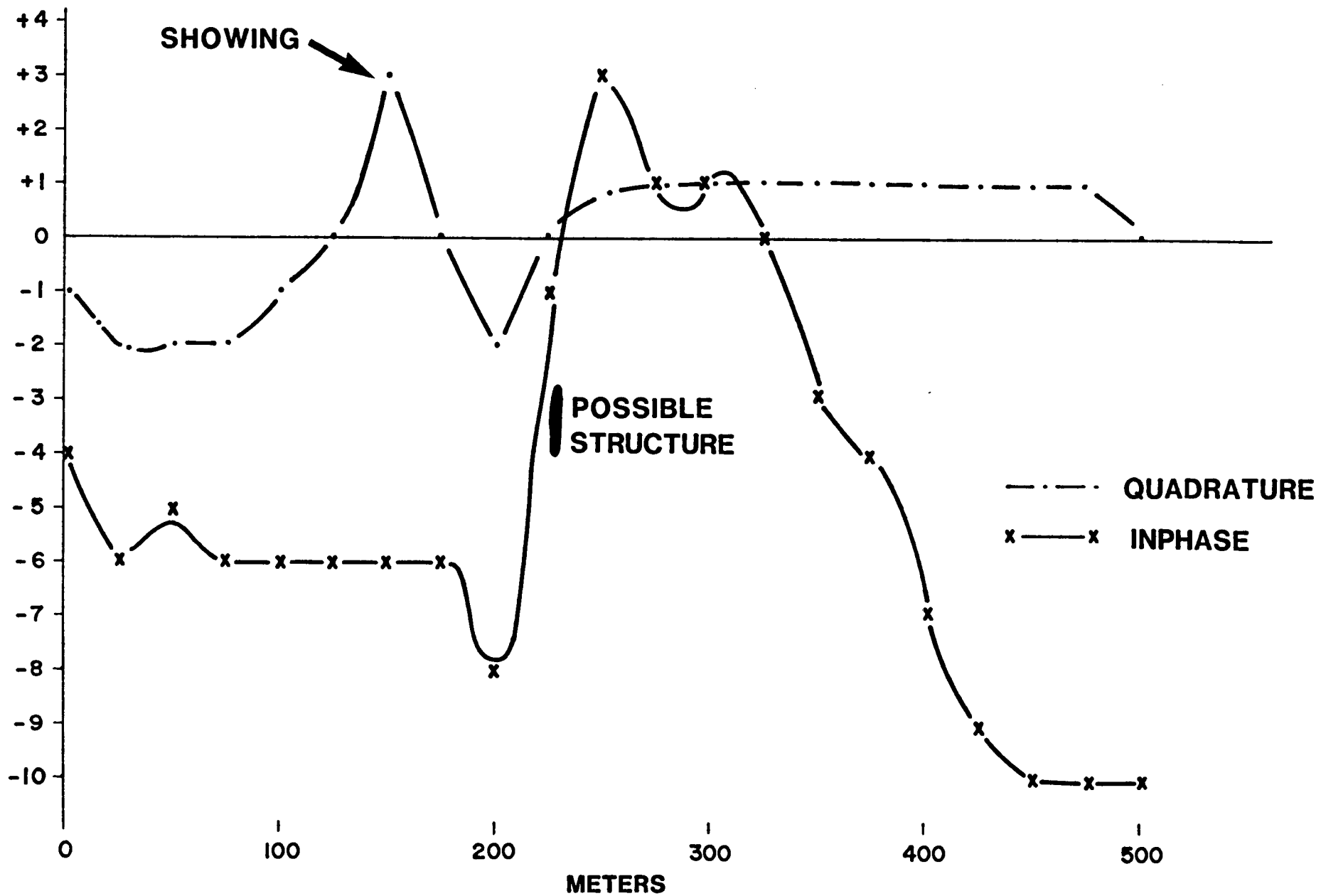


FIG.2

# CLAIM MAP



# EM-16 TRAVERSE ACROSS NIMPKISH SHOWING



# SHOWING NIMPKISH LOOKING EAST

KARMUTSEN BASALT - SHEARED MINOR CLAY ALTERATION

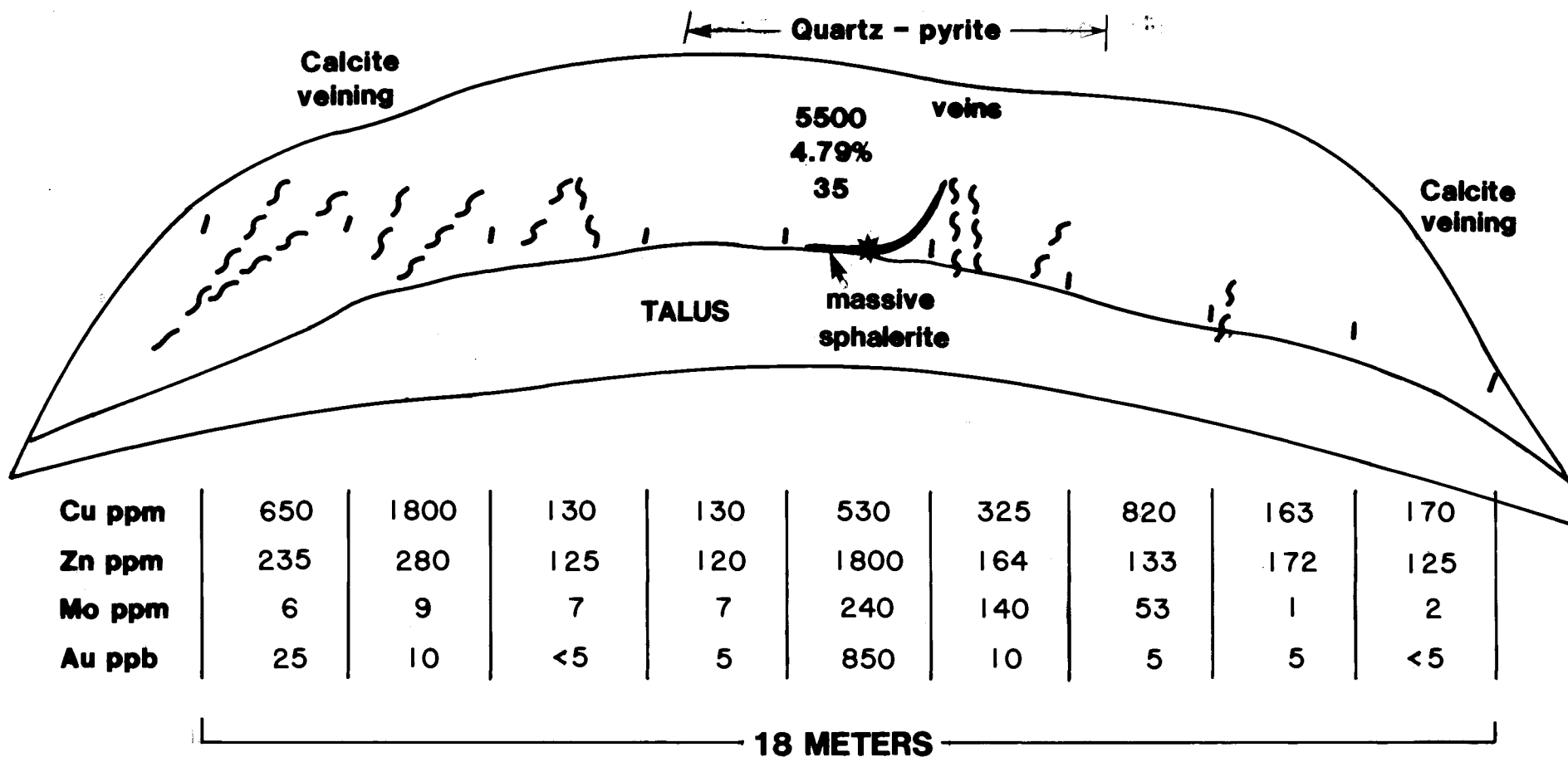


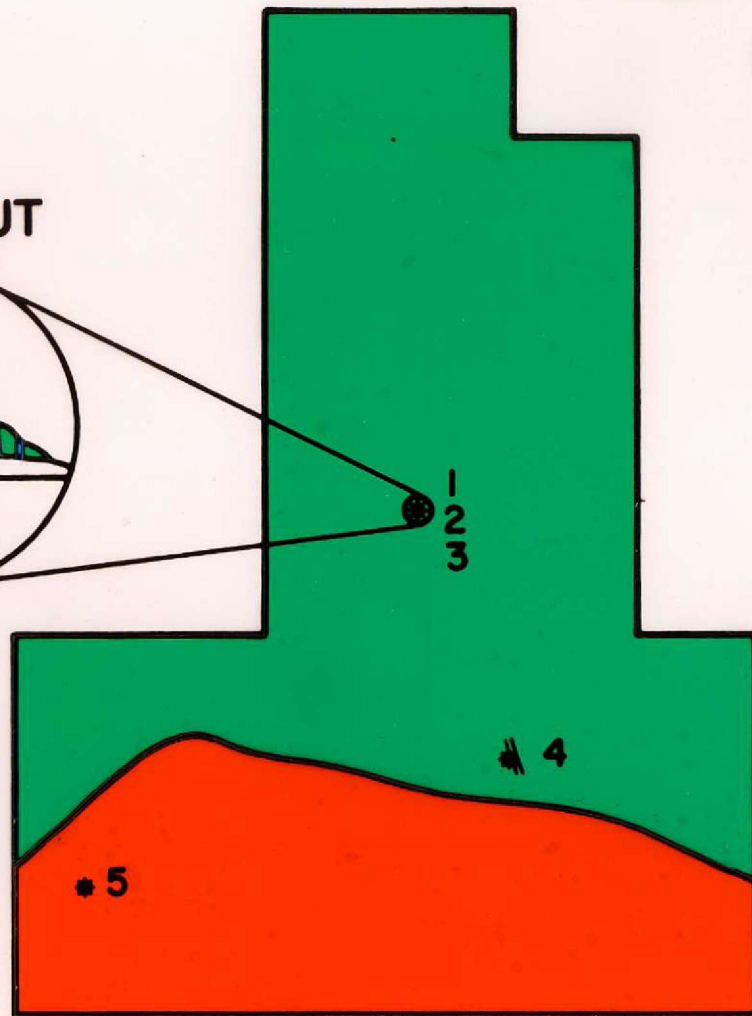
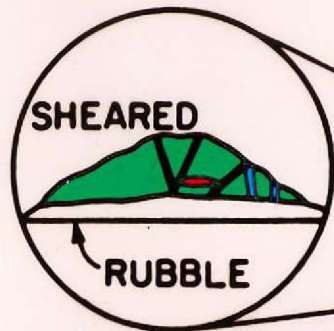
FIG.7

# HEATHER OPTION

## NIMPKISH GROUP

- FAULT
- Banded Massive Sulphides
- QUARTZ VEIN
- KARMUTSEN ? VOLCANICS
- GRANITE

### ROAD CUT



ROCK SAMPLE	Cu %	Zn %	Pb %	Au oz	Ag oz
1	.83	11.5	.01	.9	1.4
2	.26	.04	—	.075	3.3
3	.14	.05	—	.45	1.9
4	.27	—	—	—	—
5	.38	—	—	—	—

0 Km 1



PROJECT DATA SUMMARY

Project Title: SICKER Project Number:

Location: Vancouver Island, B. C.

Chevron Interest - Current: 100 % Possible:

Other Participation: %

%

Operator: CHEVRON

Geologic Concept:

Exploration of the Sicker Group for volcanogenic massive sulphide deposits. The deposits are associated with felsic volcanism within an island arc tectonic setting. Application of specific exploration criteria developed at the Westmin and Twin J deposits which are hosted by the Myra Formation of the Sicker Group.

Land: None

Accomplishments to Date:

1982 - Some field work, extensive literature search and tour of the Westmin deposits.

Chevron 1982 Expenditures: Ø Chevron Pre-1982 Expenditures: Ø

1983 Budget Proposal

Proposed Firm Budget: \$100,000. US Chevron Man-Months: 7

Additional from Reserves: Temporary Man-Months: 8

Recommended Program:

Geological mapping and prospecting, bulk sampling, panning and detailed stratigraphy within the Sicker. Property examination and evaluation of submissions.

Program Objectives:

To locate new opportunities in the Sicker Group. Acquisition of land, generation of projects.

By: G. Walton

Date: January 14, 1982.

# SICKER PROGRAM AND BUDGET

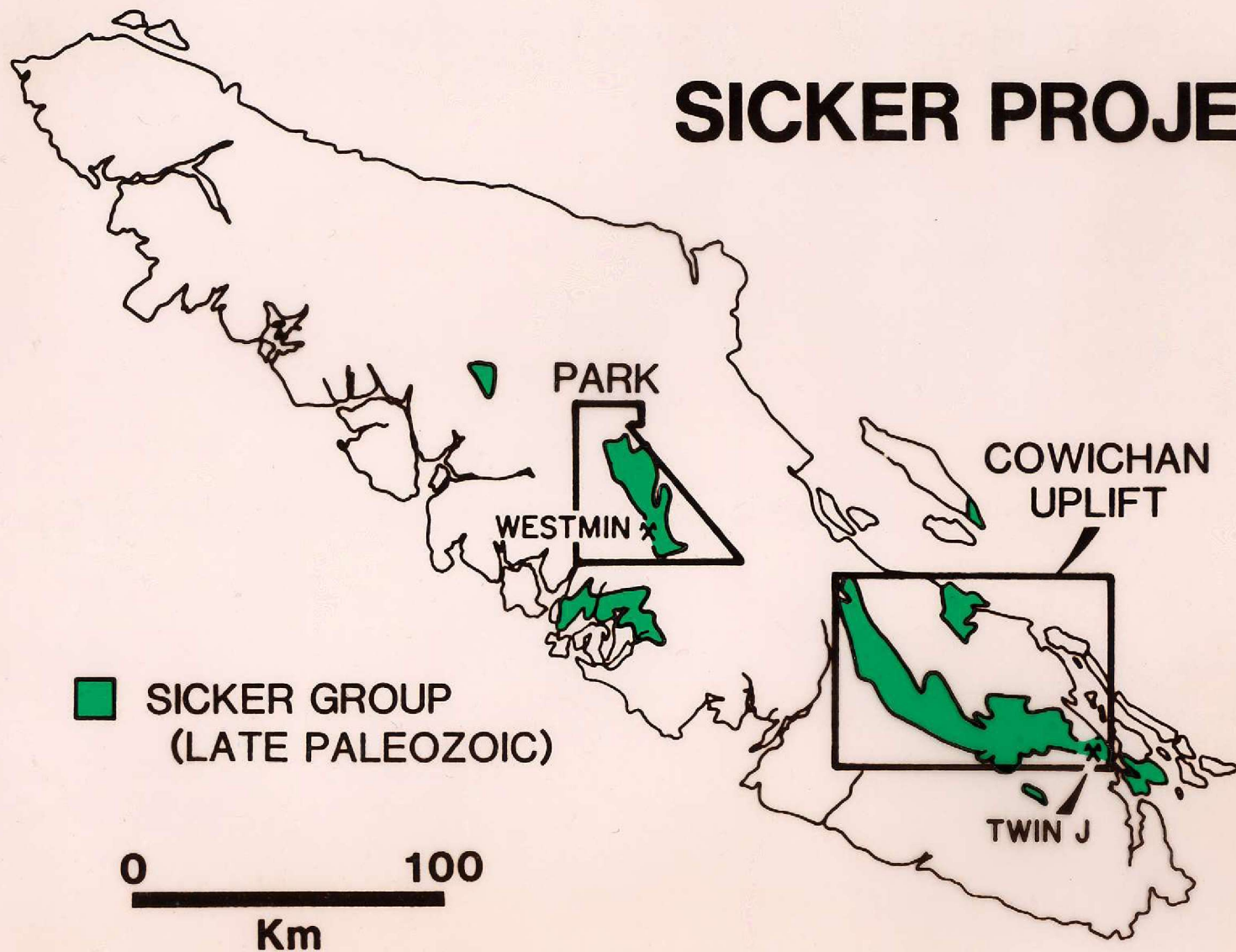
## PROGRAM

- (1) GEOLOGICAL MAPPING AND PROSPECTING - MYRA FORMATION
- (2) GEOCHEMICAL SAMPLING - SOIL, ROCK, SILT, BULK SILTS
- (3) PANNING
- (4) PROPERTY EXAMINATION AND DATA EVALUATION

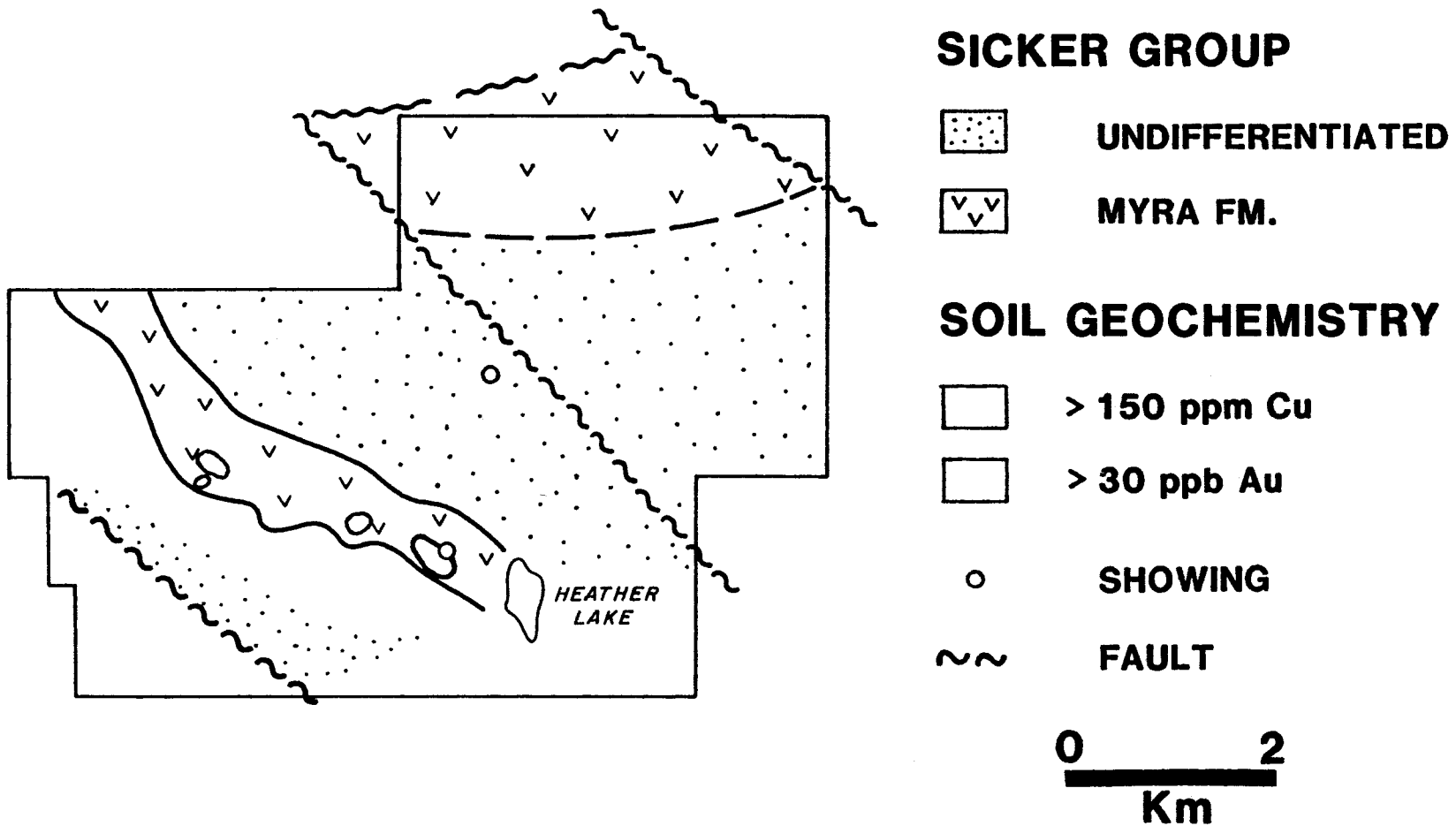
## BUDGET

SALARIES	\$ 65,000.
GEOCHEMISTRY/GEOLOGY, FIELD SUPPORT	<u>35,000.</u>
TOTAL	\$100,000.

# SICKER PROJECT

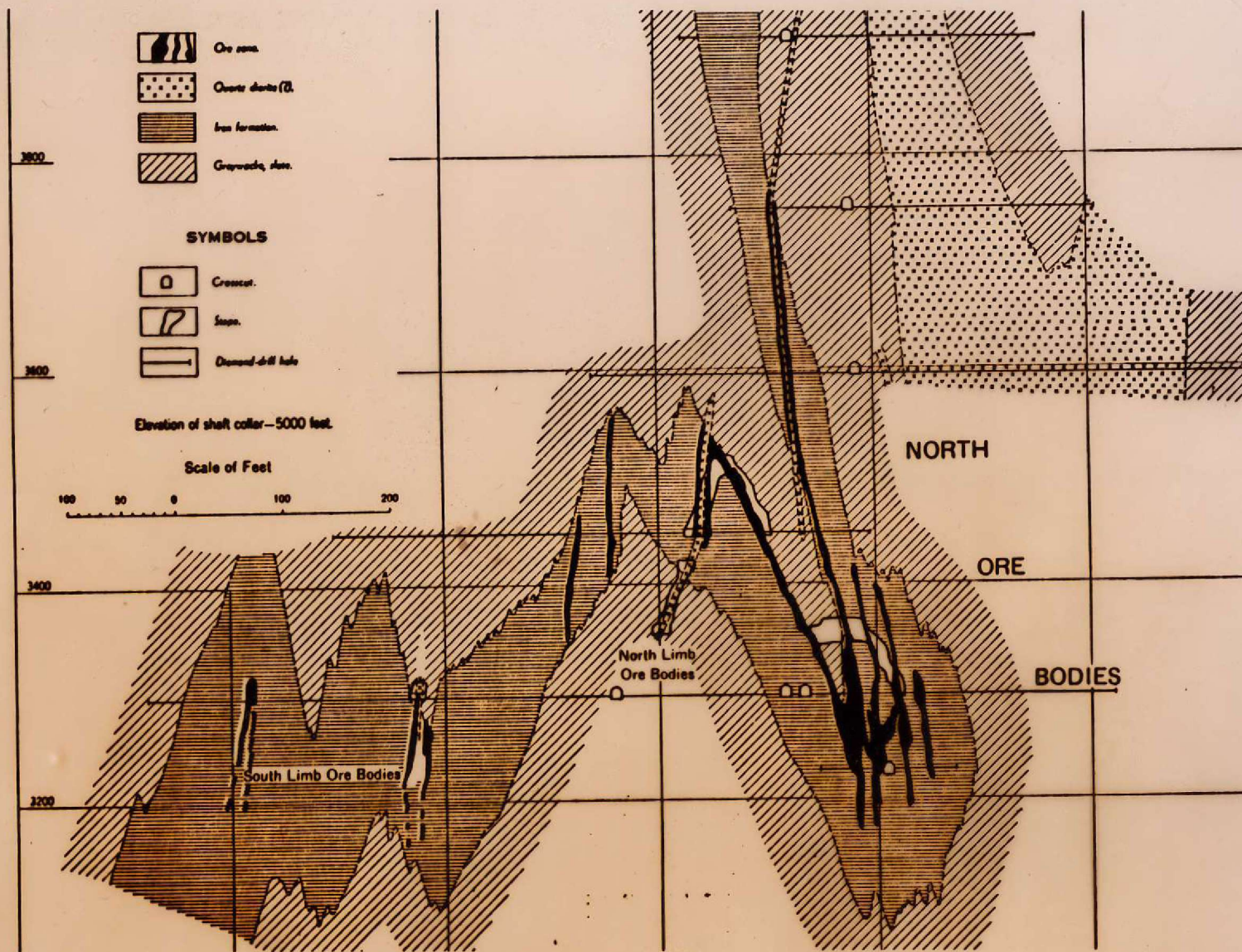


# HEATHER OPTION

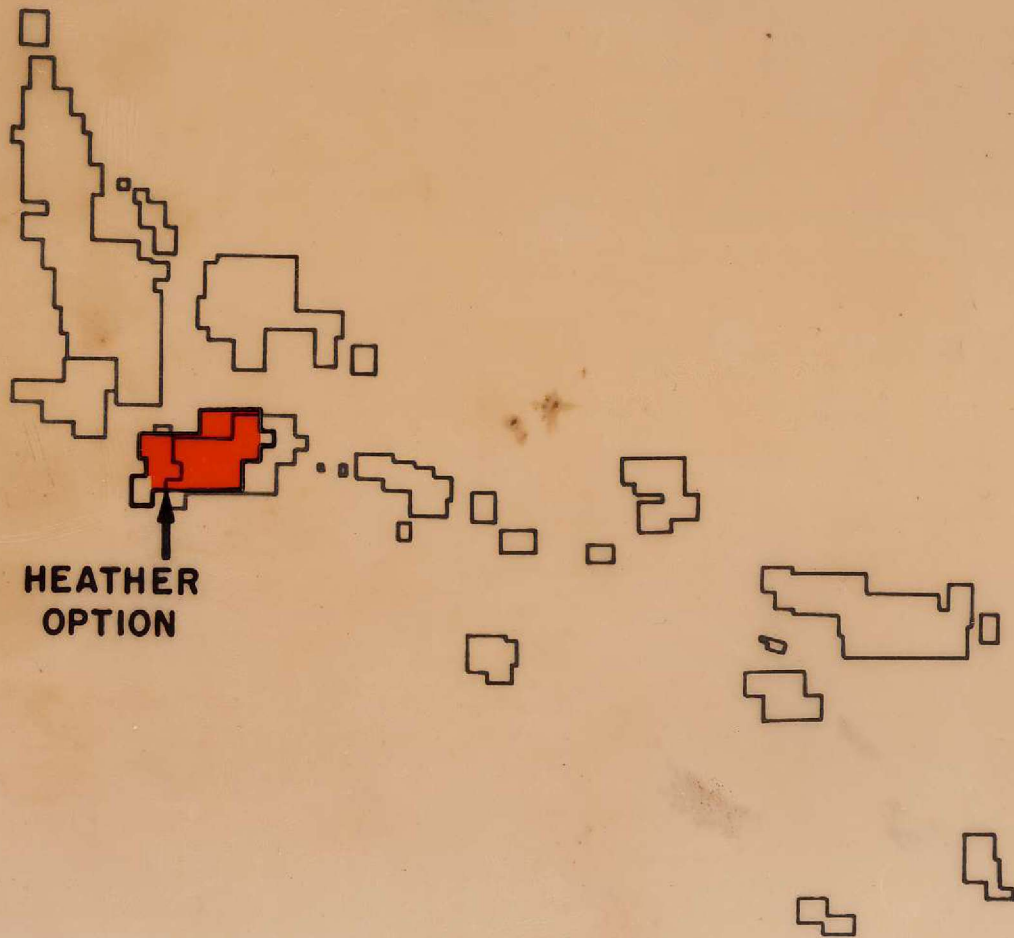


**RECONNAISSANCE SOIL GEOCHEMISTRY ANOMALIES**

# MACLEOD - COCKSHUTT GOLD MINE

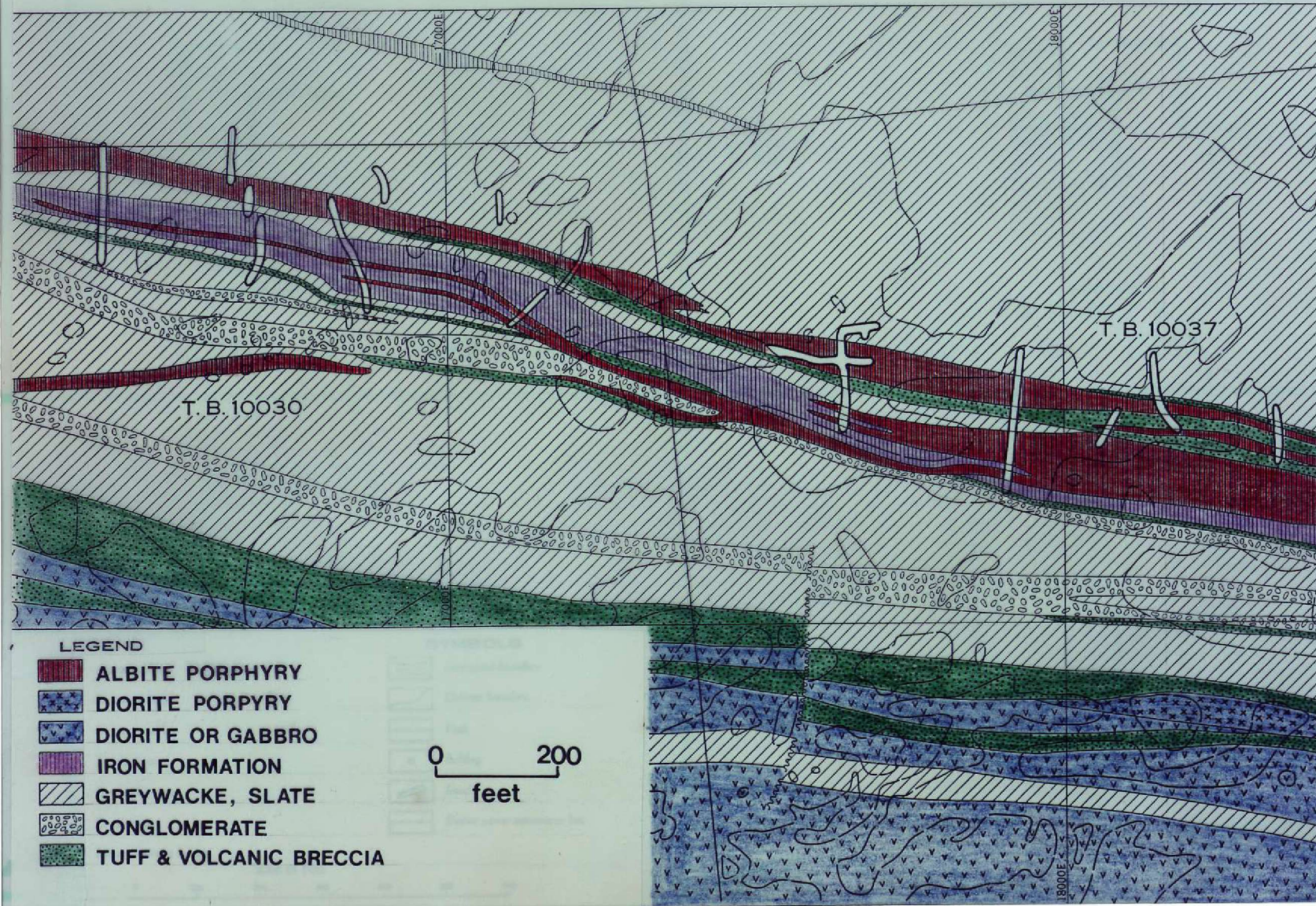


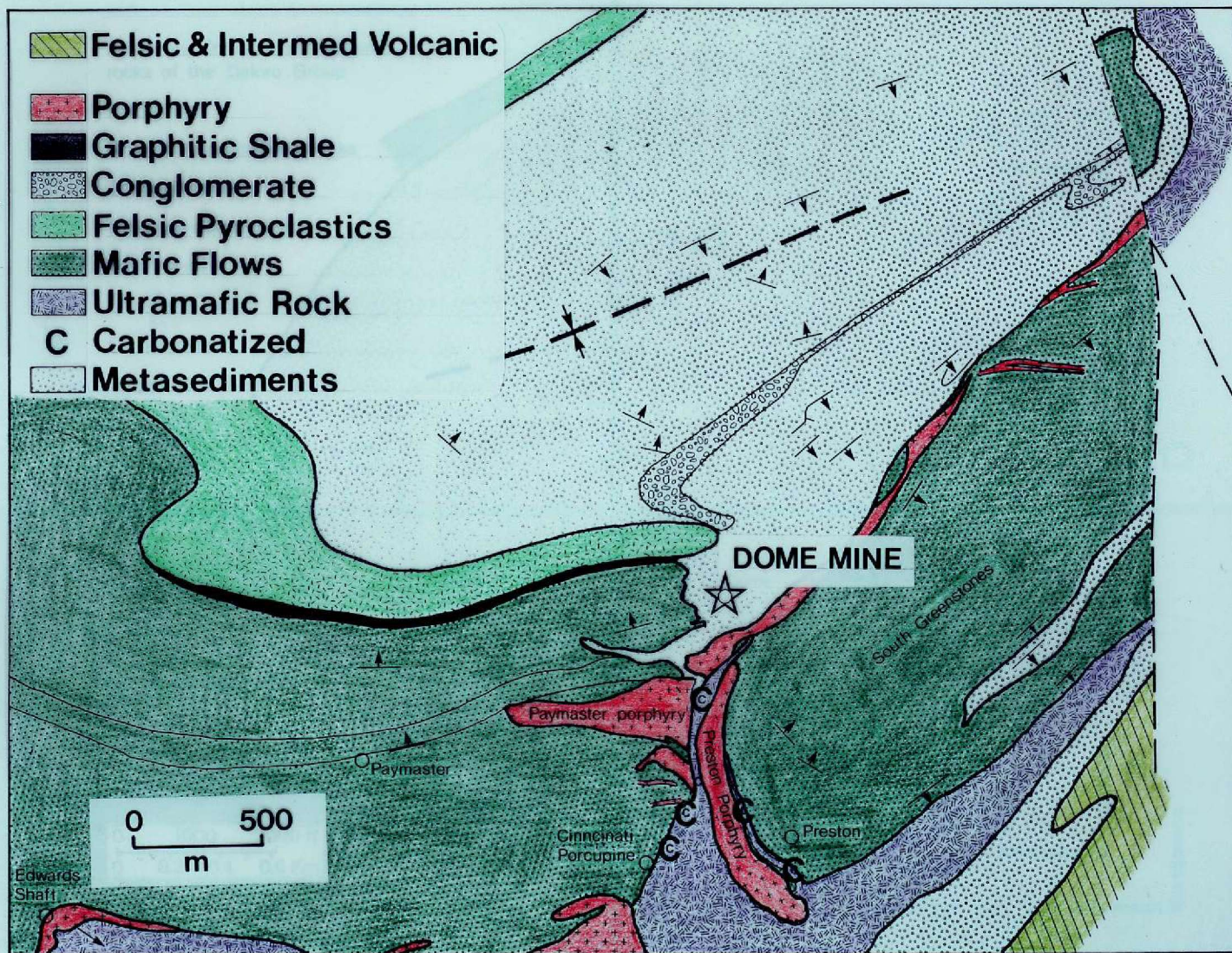
# MACLEOD - COCKSHUTT GOLD MINE



HEATHER  
OPTION

# MACLEOD - COCKSHUTT GOLD MINE



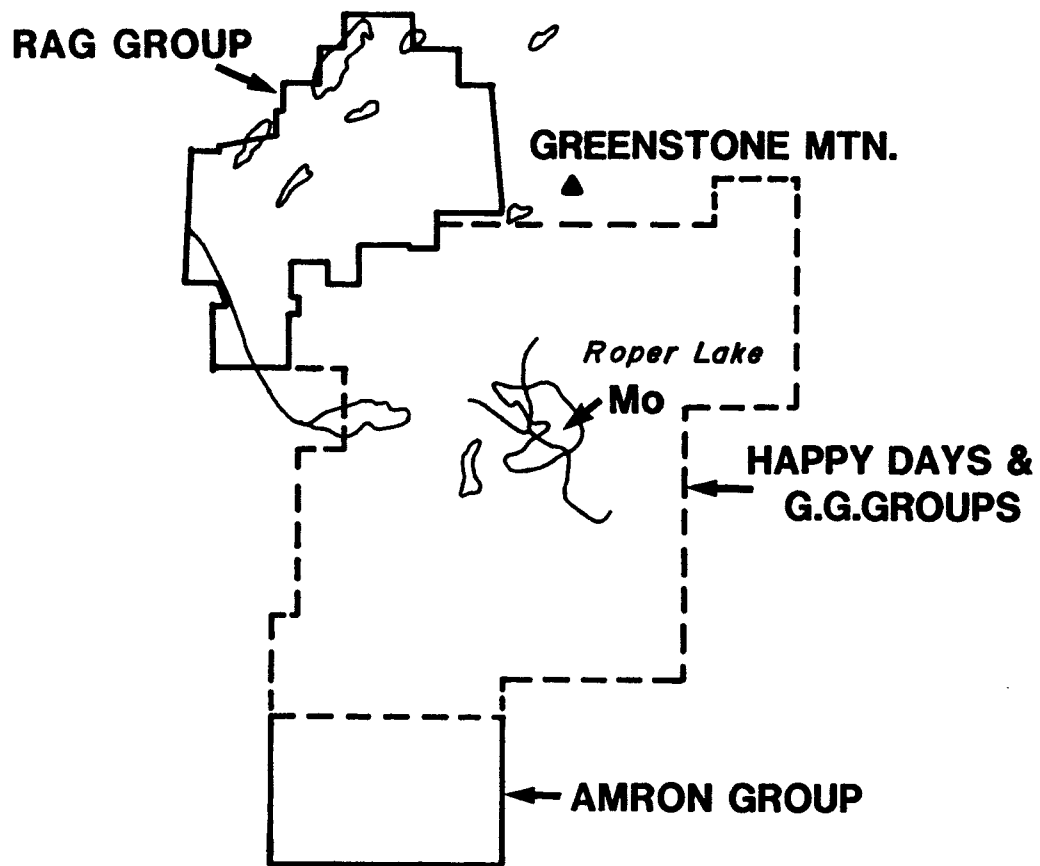


R. G. Roberts

Figure 2-5—The Porcupine Syncline.



# GREENSTONE MOUNTAIN J.V. LAND



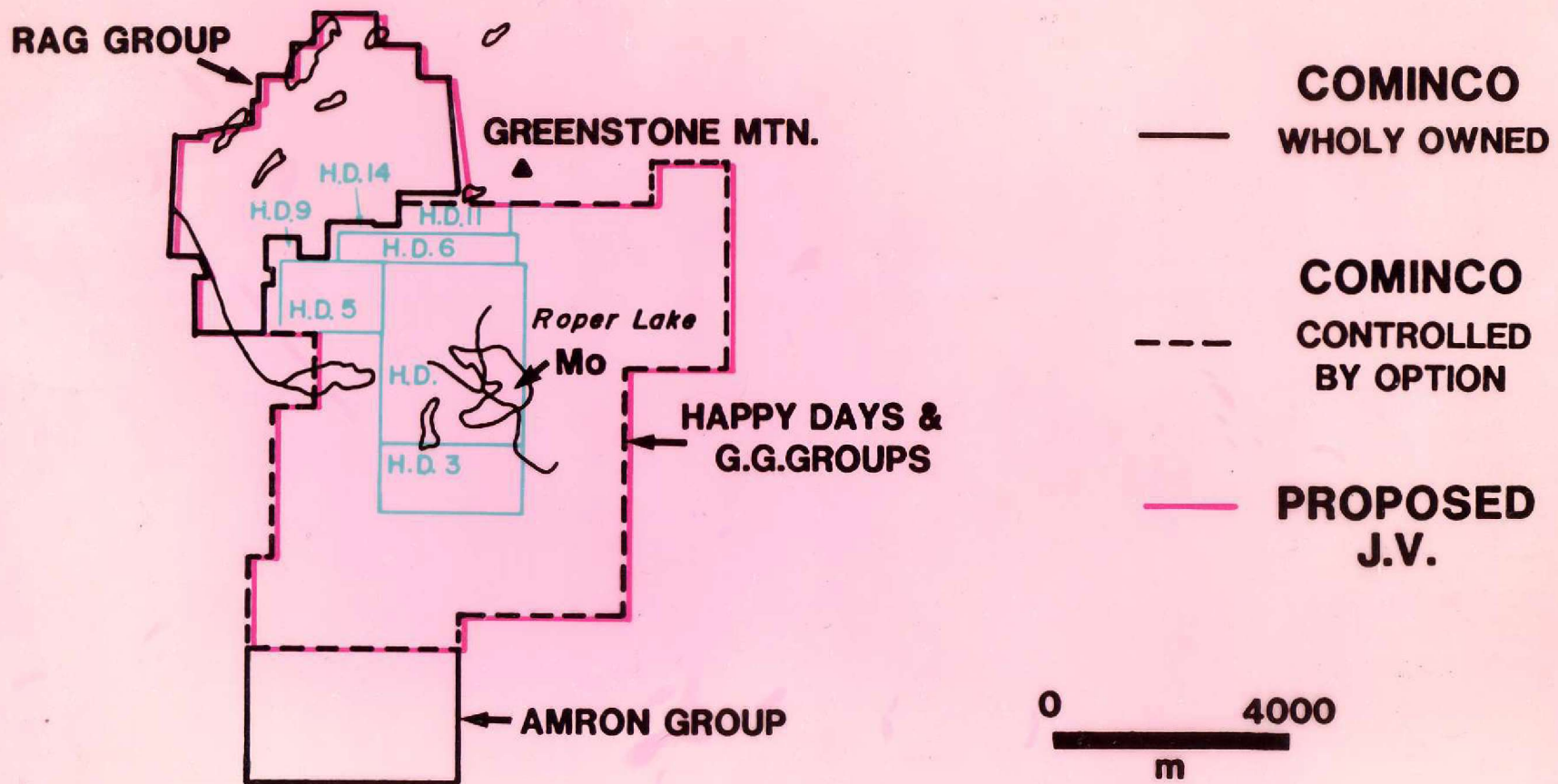
**COMINCO**  
WHOLY OWNED

**COMINCO**  
CONTROLLED  
BY OPTION

**PROPOSED  
J.V.**

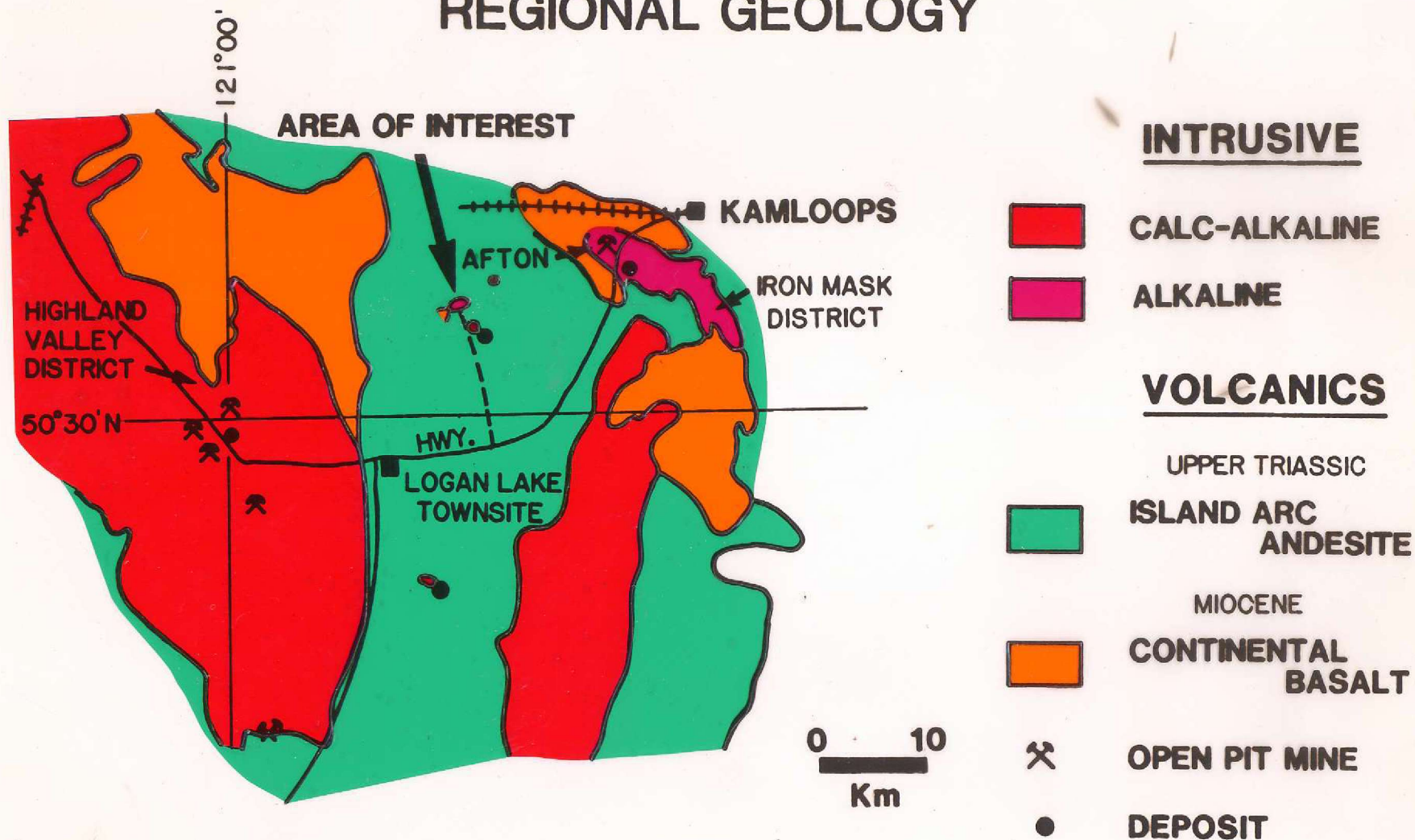
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m

# GREENSTONE MOUNTAIN J.V. LAND



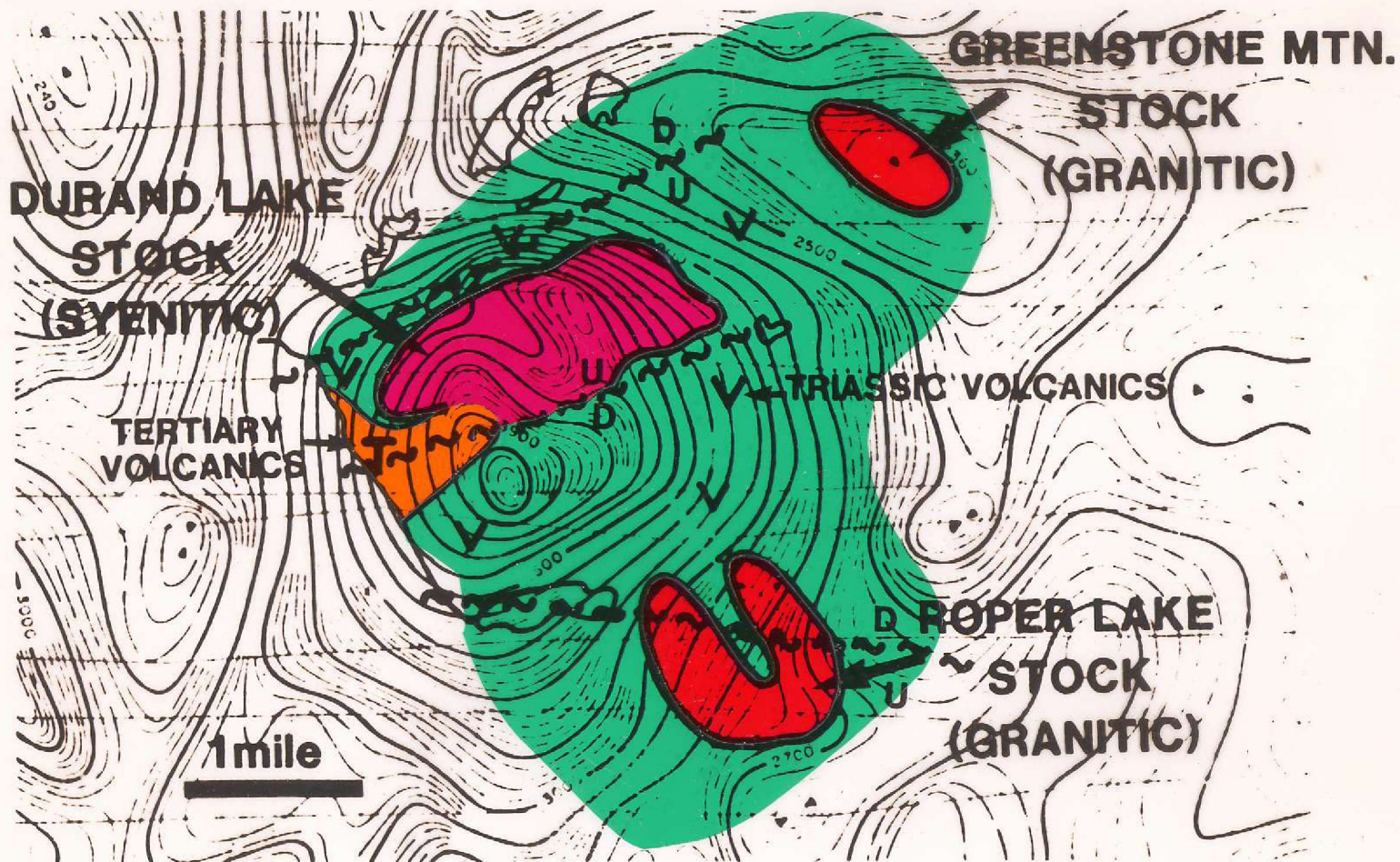
# GREENSTONE MTN. J.V.

## REGIONAL GEOLOGY



# GREENSTONE MNT. J.V.

## AEROMAGNETICS



PROJECT DATA SUMMARY

Project Title: NOOK J.V. Project Number:

Location: 40 km east of Prince George

Chevron Interest - Current: % Possible: 60%

Pacific Cassier] ]  
Other Participation: Vestor ] 20%  
Redfern ]

Comaplex 20%

Operator: CHEVRON

Geologic Concept:

Kuroko or Besshi type massive sulphides within the Mississippian Antler Formation. This unit is the extension of the Fennel Formation which host Chu Chua massive sulphide deposit.

Land: 133 units - 3325 hectares

Accomplishments to Date:

1979-1982: Exploration by Shell, Vestor, Campbell Resources and Noranda. Their programs consisted of geological mapping and prospecting, soil geochemistry, geophysical survey (VLF, HLEM, Questor airborne, I.P.) and diamond drilling (300 m Noranda, 700 m Vestor). Vestor's work has outlined several geophysical anomalies which in some cases are associated with graphitic argillites overlying rhyolite; three geochemical anomalies (two of which were drilled and found to be surface enrichment); one hole intersected .8% Cu over 3 meters in rhyolite at the graphic argillite - rhyolite interface (no core obtained above rhyolite). A Questor Input anomaly uphill from soil geochem anomalies represents a separate target.

Chevron 1982 Expenditures: Ø Chevron Pre-1982 Expenditures: Ø

1983 Budget Proposal

Proposed Firm Budget: Chevron Man-Months: 4

Additional from Reserves: \$200,000. US Temporary Man-Months: 12

Recommended Program:

Geological mapping and prospecting, completion of I.P. coverage to west, linecutting, diamond drilling of lower rhyolite.

Program Objectives:

To test lower rhyolite for massive sulphide mineralization and define buried target west of current grid.

By: G. Walton

Date: January 17, 1983

# NOOK

## PROGRAM AND BUDGET

### PROGRAM

- (1) GEOLOGICAL MAPPING AND PROSPECTING
- (2) GEOPHYSICAL SURVEY - I.P. EXTENSION
- (3) DIAMOND DRILLING, 1000 FEET
- (4) GEOCHEMISTRY - SOIL, ROCK SAMPLING

### BUDGET

SALARIES	\$ 60,000.
GEOPHYSICS	50,000.
DIAMOND DRILLING 1000' @ \$40.	40,000.
GEOLOGY/GEOCHEMISTRY FIELD COSTS	<u>50,000.</u>
TOTAL	\$200,000.

# NOOK PROPOSED DEAL

WE EARN:

60%                                  AFTER \$2.25 M                                  INCLUDING PAYMENT OVER 5 YEARS

REMAINING:

40%	20% VESTOR	OR	REDUCE TO 8% NPI
	20% COMAPLEX	OR	REDUCE TO 8% NPI

NPI - AFTER PAYBACK OF EXPLORATION, DEVELOPMENT CAPITAL COST  
WITH INTEREST AT PRIME +2%

PAYMENTS:

		<u>MINIMUM WORK</u>	
DOWN	\$10,000.	YEAR 1	\$125,000.
12 MONTHS	10,000.	2	200,000.
24 MONTHS	30,000.	3	200,000.
36 MONTHS	40,000.	4	200,000.
48 MONTHS	50,000.	5	200,000.
60 MONTHS	60,000.		

**NOOK**  
**PREVIOUS OPERATOR**

NORANDA

- PORPHYRY COPPER EXPLORATION
- I.P. SURVEY
- DIAMOND DRILLING - 300 M
- SOIL GEOCHEMISTRY

VESTOR  
COMAPLEX  
CAMPBELL RESOURCES

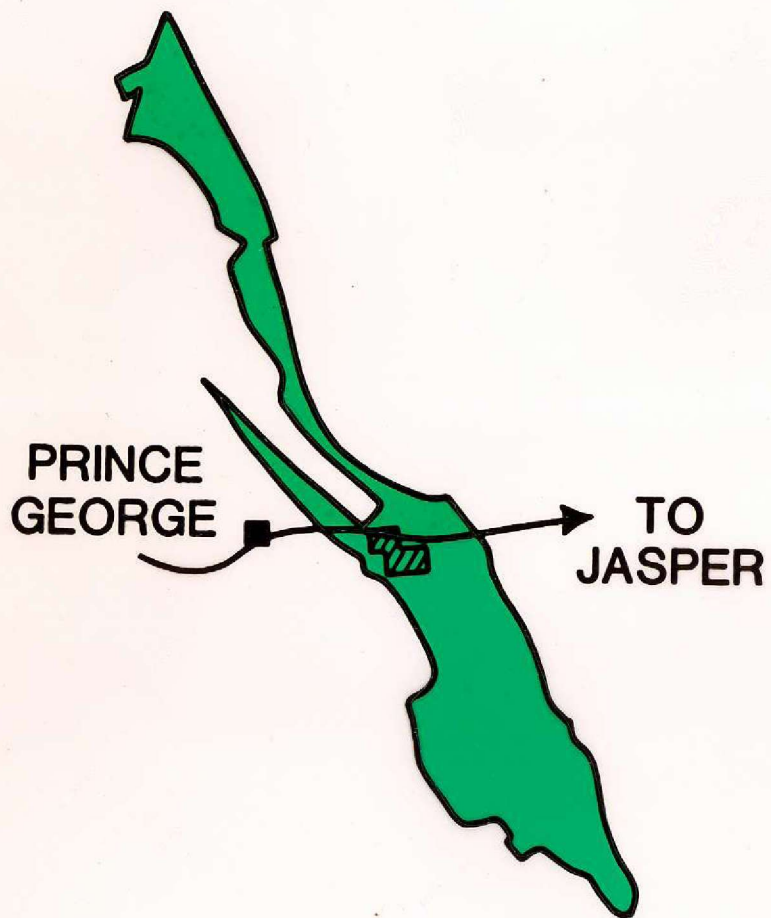
- GEOLOGY
- SOIL GEOCHEMISTRY
- VLF SURVEY
- HLEM SURVEY
- DIAMOND DRILLING - 700 M
- QUESTOR INPUT SURVEY

SHELL

- GEOLOGY
- SOIL GEOCHEMISTRY



# NOOK JV

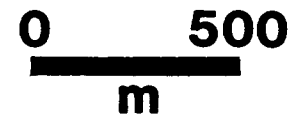
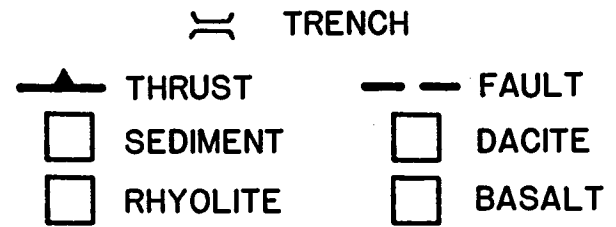
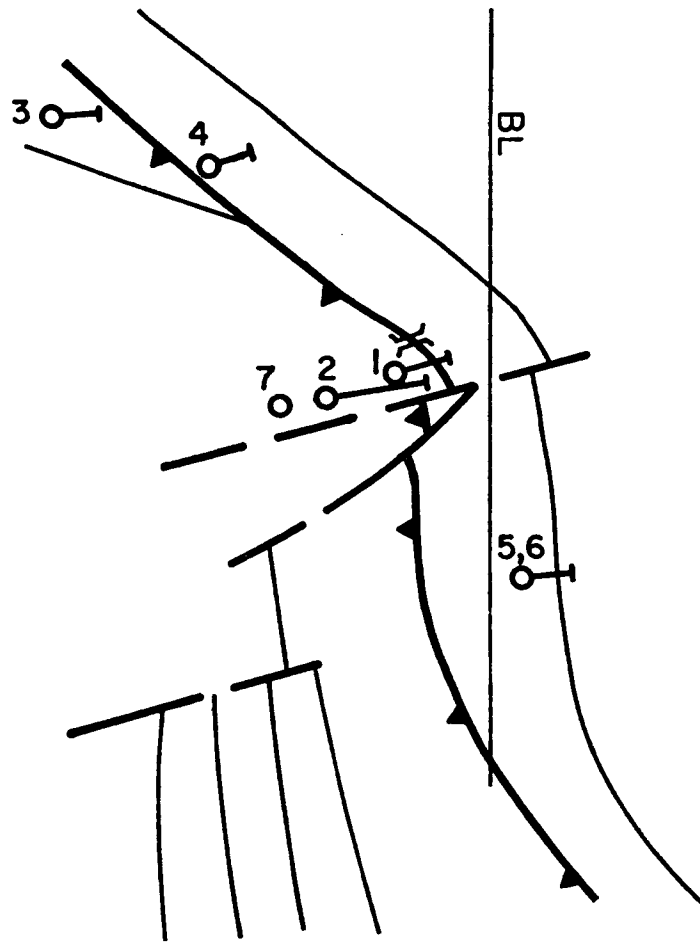


-  ANTLER Fm
-  CLAIM BLOCK




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Km

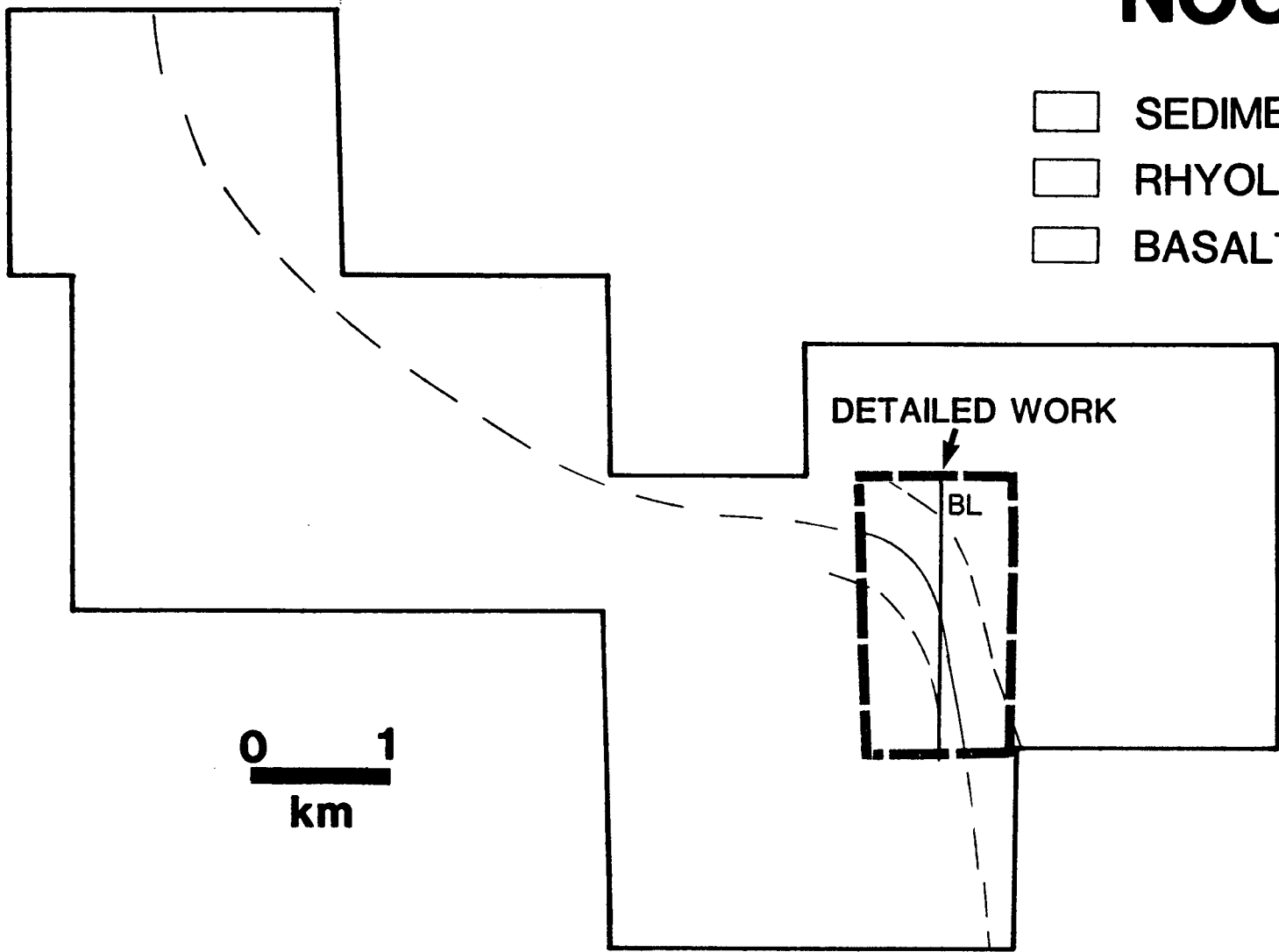
# NOOK

## GEOLOGICAL PLAN



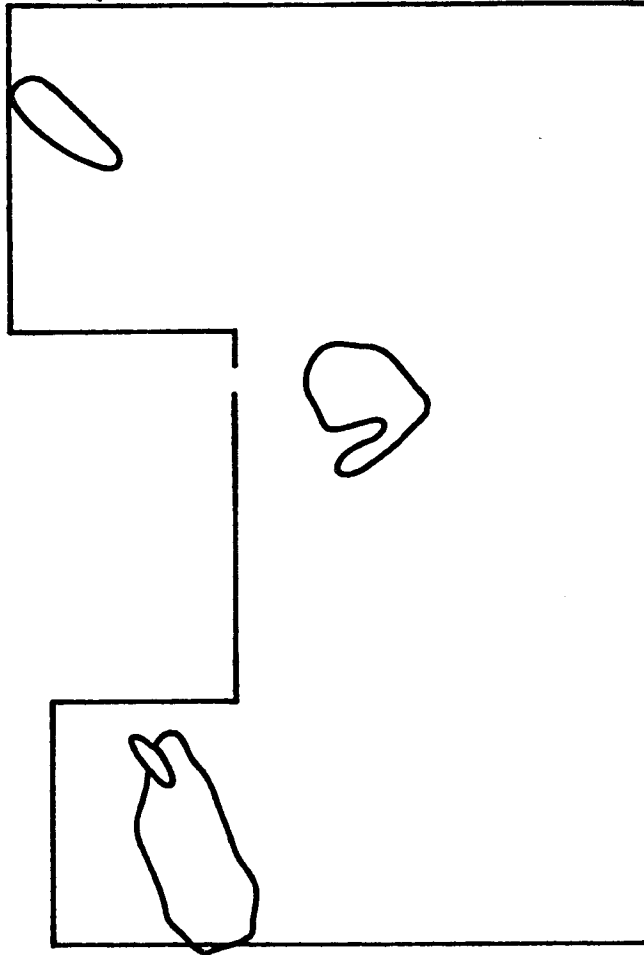
# NOOK

-  SEDIMENT
-  RHYOLITE
-  BASALT



0 1  
km

GEOCHEM.  
COVERAGE

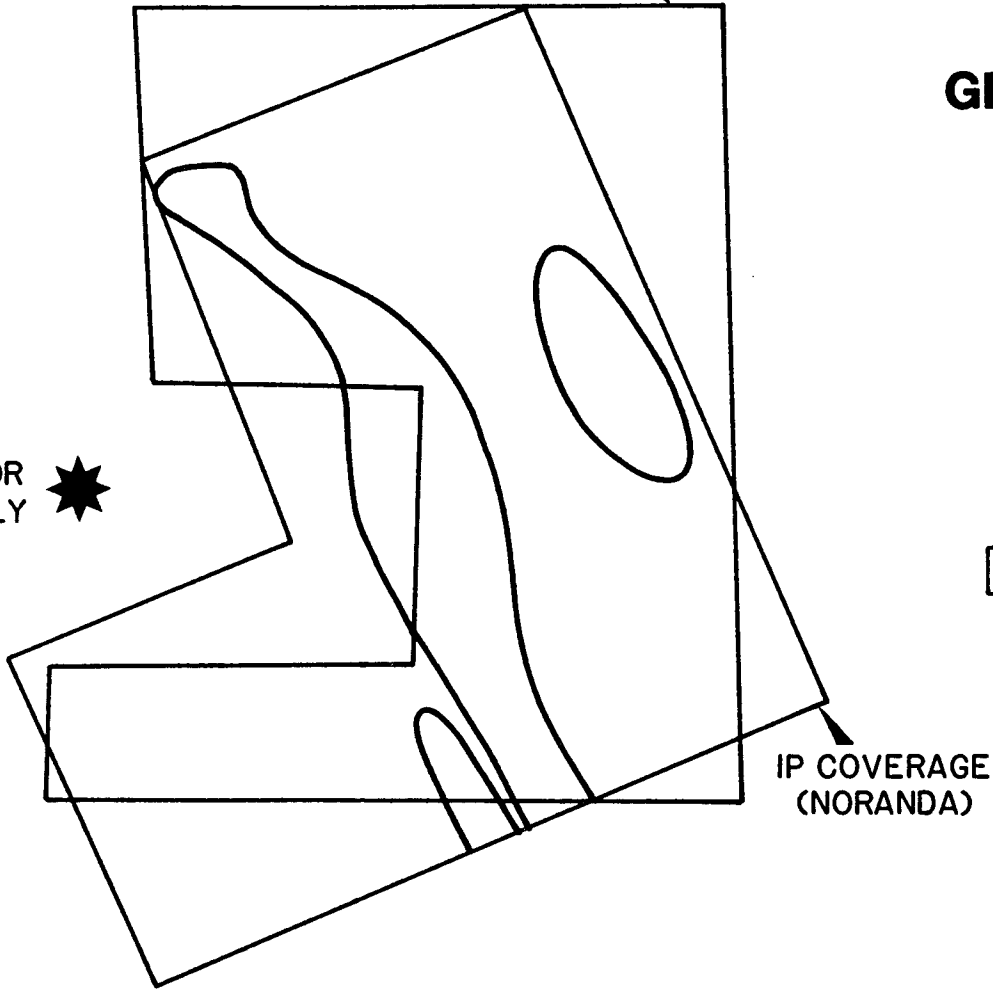


## GEOCHEMISTRY

- Cu >100 ppm
- Ag >10 ppm

QUESTOR ANOMALY ★

HLEM  
VLF-EM  
COVERAGE

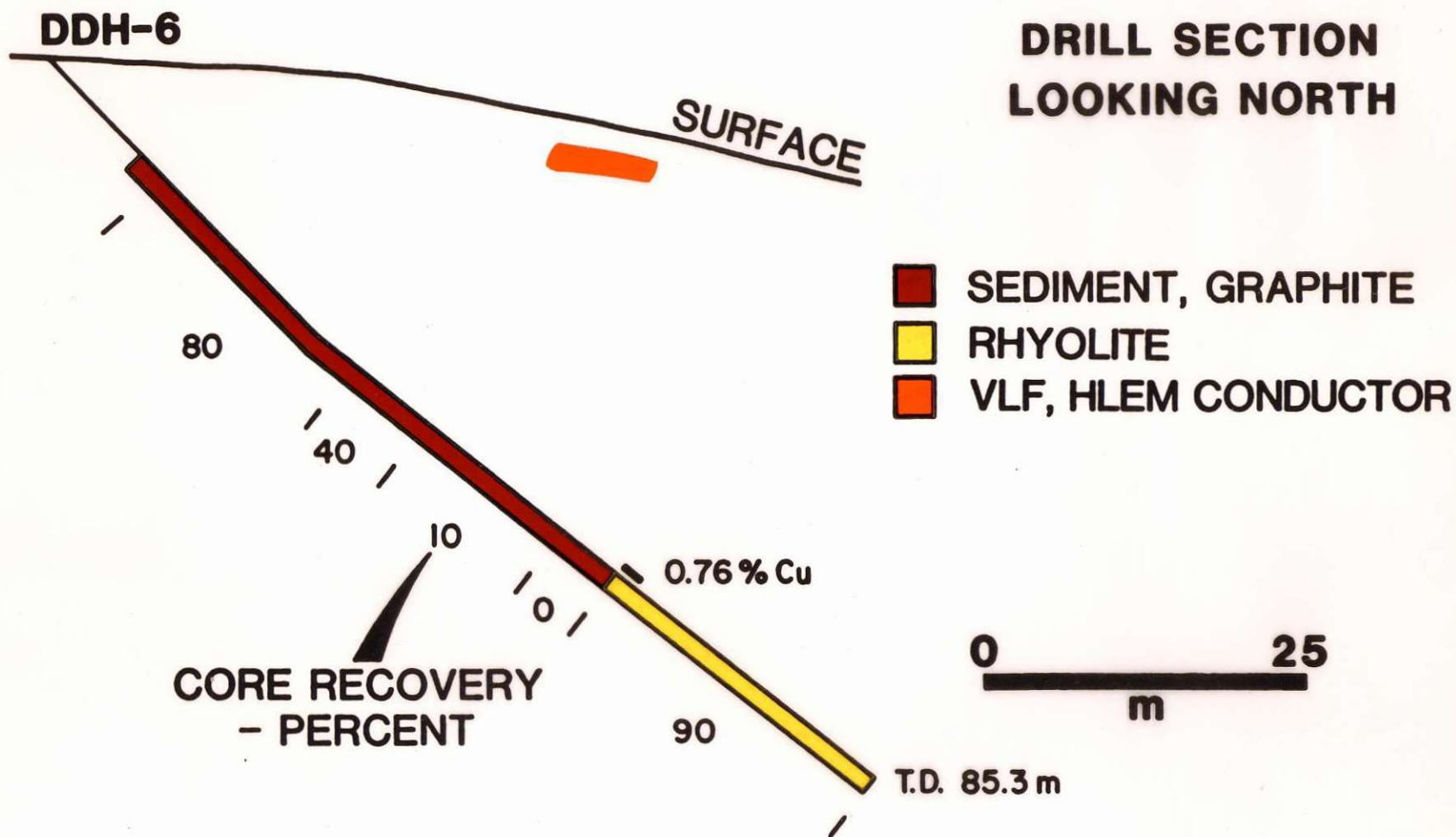


# GEOPHYSICS

□ IP >5% PFE  
EM CONDUCTORS  
STRONG, WEAK

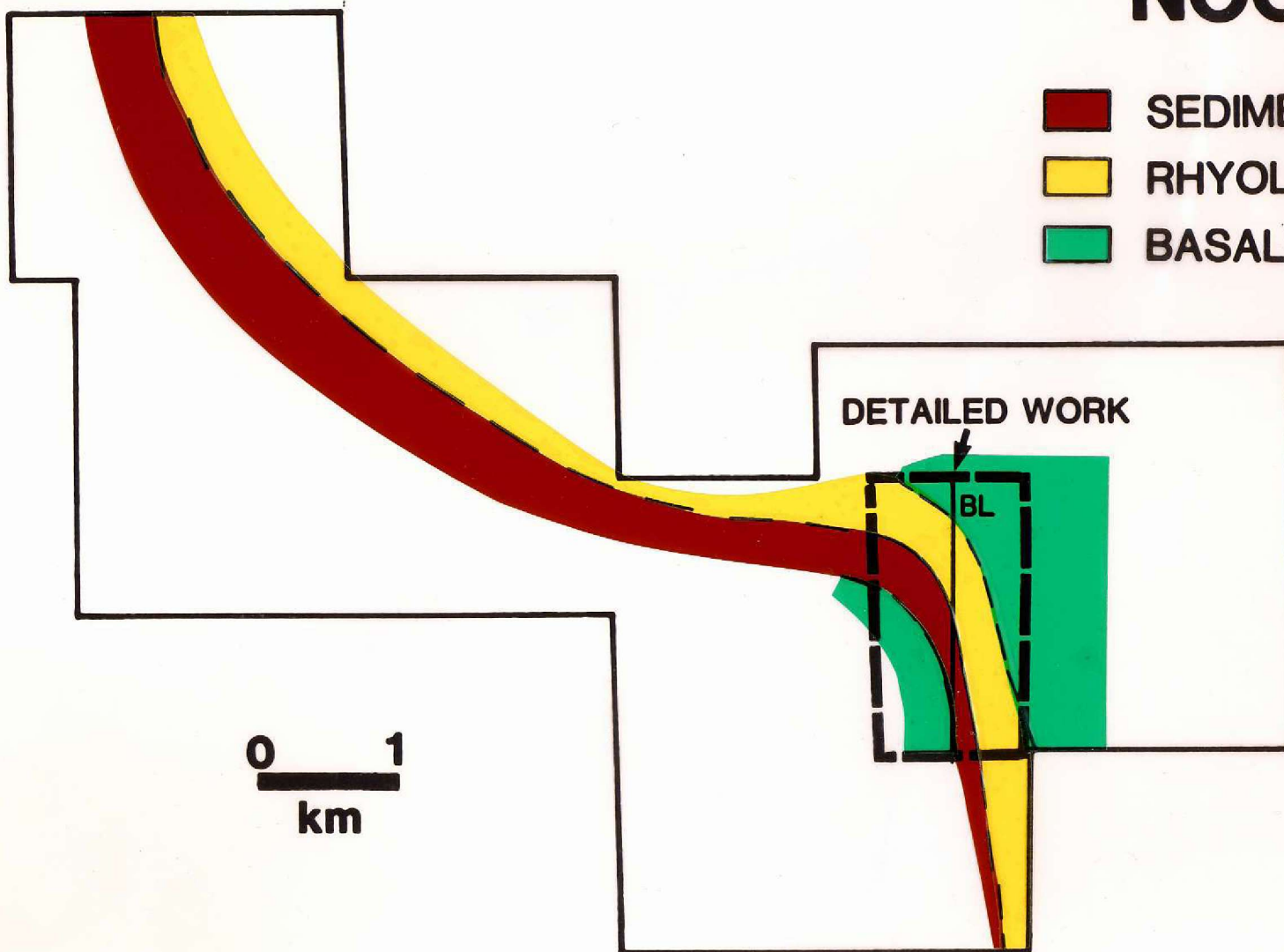
# NOOK

## DRILL SECTION LOOKING NORTH



# NOOK

-  SEDIMENT
-  RHYOLITE
-  BASALT



0 1  
km

1983

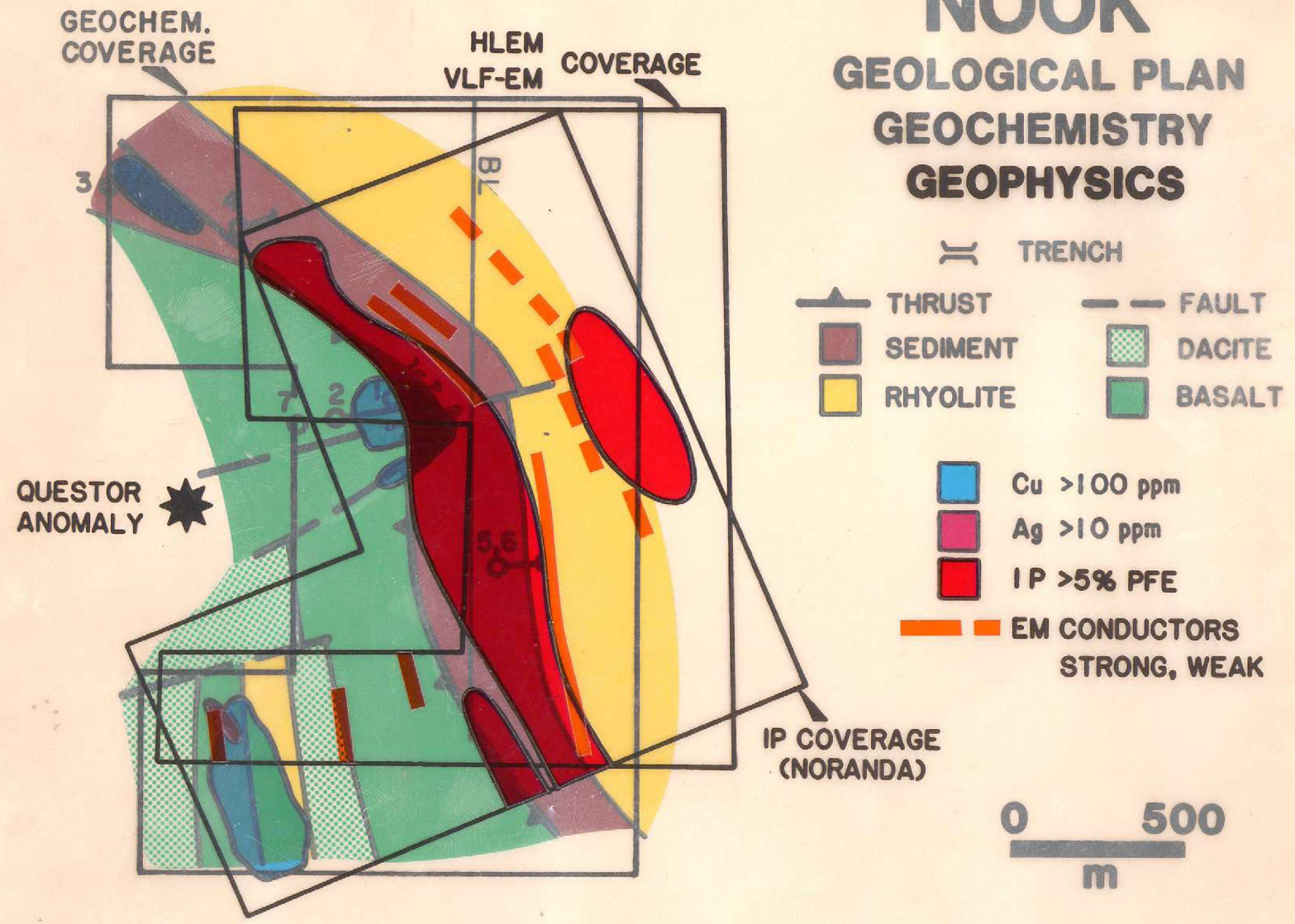
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# NOOK

## GEOLOGICAL PLAN

### GEOCHEMISTRY

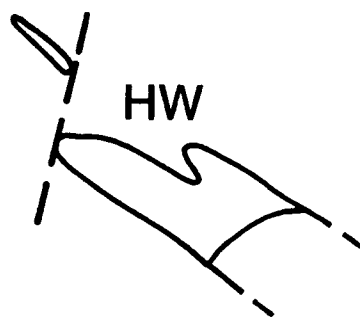
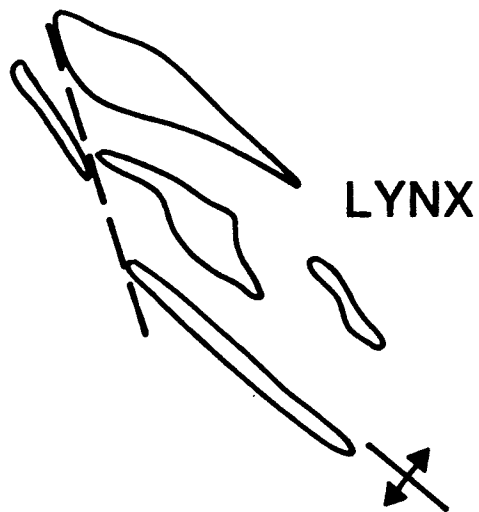
### GEOPHYSICS





# WESTMIN DEPOSITS

PLAN VIEW



--- FAULT  
○ DEPOSIT

0 800  
m

