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International Cherokee Developments Ltd.

Summary Report  
on the Heather Property,  
Vancouver Island, B. C.

Prepared by:

Corporation Falconbridge Copper

May, 1986

## SUMMARY

The Heather Property (206 units) is underlain by Myra Formation volcanic rocks of the Sicker Group and is located approximately 40km west of Duncan, B. C. on Vancouver Island. The Myra Formation also hosts Westmin's Buttle Lake massive sulphide - gold deposits and the historic massive sulphide - gold deposits on Mt. Sicker.

Three mineralized gold showings or anomalous zones are known to exist on the Property. These zones or showings have returned assays of up to 0.7 oz/ton Au and have all assayed between 1000 ppb and 0.25 oz/ton Au. Little work has been done to test these zones and showings either along strike or downdip.

In 1986 CFC proposes to extend and delineate each of these zones by geological mapping, prospecting, sampling, geophysics and diamond drilling.

These high grade gold showings, the stratigraphic setting, and the virtually unexplored nature of this large property indicates excellent potential for the discovery of economic concentrations of gold and massive sulphides at HEATHER.

## INTRODUCTION

The Heather Property consists of 206 units well located in the Paleozoic Sicker Group volcanics. The Sicker volcanics host the large massive sulphide - gold deposits of Westmin at Buttle Lake, two former massive sulphide - gold producers on Mt. Sicker near Duncan, and Abermin's new Lara discovery (also massive sulphide - gold) 15km west of Duncan (Fig. 1). The Heather Property has excellent potential for massive sulphide - gold deposits similar to those above, and for lode or vein gold deposits which are also found in Sicker volcanics (Thistle).

## LOCATION AND ACCESS

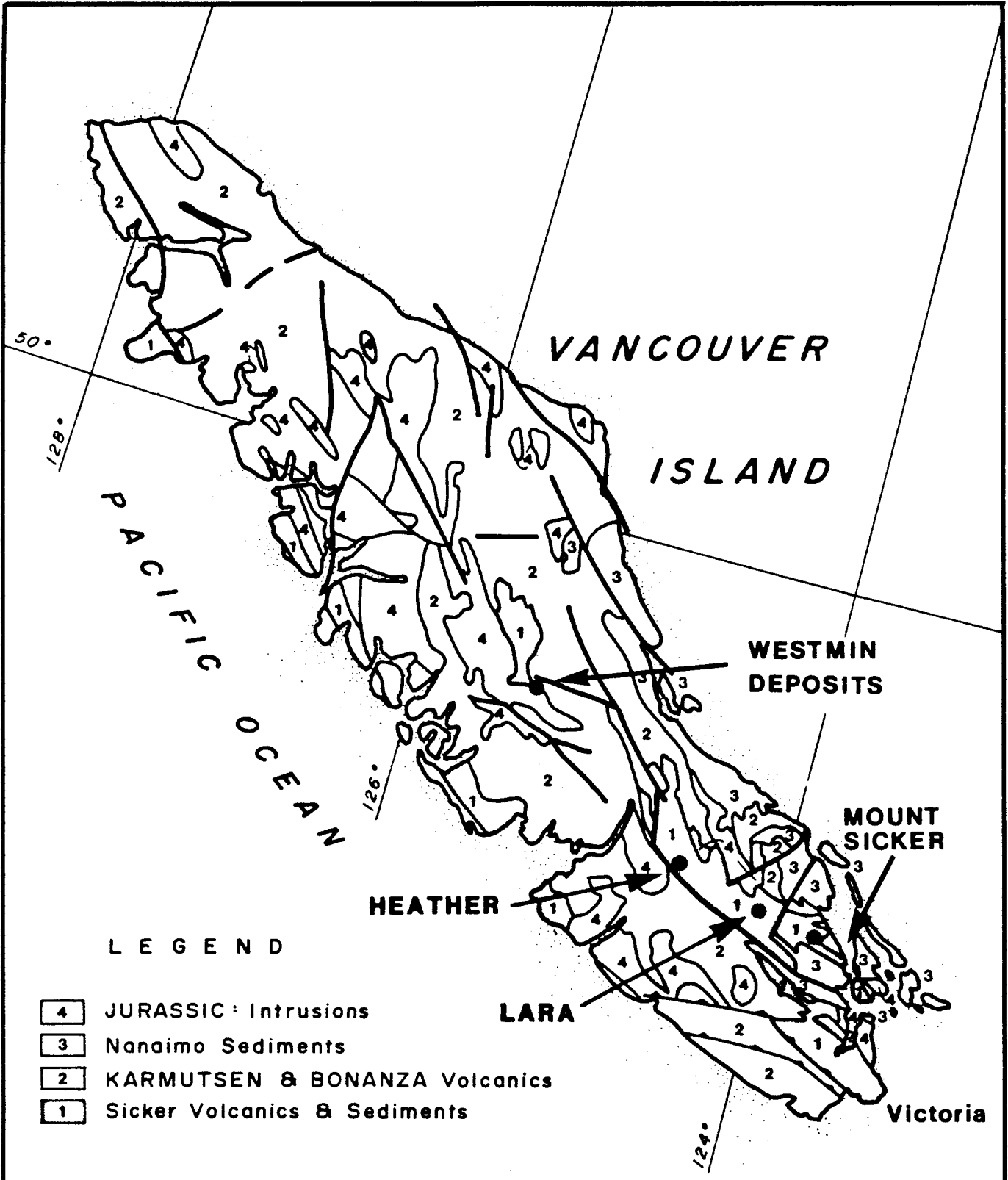
The Heather property is located about 40 km west of Duncan and 7 km northwest of Lake Cowichan. The claims are accessible by 4WD vehicle and a network of logging roads give good access to most parts of the claim group.

## PROPERTY STATUS

The property is comprised of the following claims:

<u>Claim Name</u>	<u>Record No.</u>	<u>No. of Units</u>	<u>Record Date</u>
CAROL S	644	20	August 3, 1982
TANIA S	645	20	August 3, 1982
LUCIA S	646	20	August 3, 1982
MARINO S	647	20	August 3, 1982
CAROL S-2	648	20	August 3, 1982
EFREM S	649	20	August 3, 1982
TANIA S#2	683	15	October 5, 1982
TANIA S#3	684	20	October 5, 1982
TANIA S#4	685	16	October 5, 1982
CAROL S#3	686	20	October 5, 1982
AUDACE	1592	15	September, 1985

Corporation Falconbridge Copper has optioned the Heather Property from Canamin Resources Ltd. To maintain the option in good standing CFC must



**LEGEND**

- 4 JURASSIC: Intrusions
- 3 Nanaimo Sediments
- 2 KARMUTSEN & BONANZA Volcanics
- 1 Sicker Volcanics & Sediments

**VANCOUVER ISLAND  
GEOLOGY**

SCALE: 1:2,000,000

spend \$500,000 on exploration of the Property before February 28, 1990. Option payments totalling \$50,000 over the four years are included as expenditures. Canamin can retain a 10% royalty on the Net Proceeds of Production after CFC recoups all its exploration, development, preproduction and capital expenditures.

## HISTORY

The claims were staked in 1982 by E. Specogna after discovering massive sulphide boulders containing pyrrhotite, pyrite, chalcopyrite and sphalerite along a logging road. Subsequent sampling of this zone returned assays up to 0.25 oz/ton Au. Further prospecting of the claim group in 1982 led to the discovery of a quartz vein about 2km north of the massive sulphide showing which returned assays up to 0.70 oz/ton Au.

Chevron Canada optioned the property in late 1982 and carried out work programs in 1983 and 1984. The following work was done:

Geophysics	1983	Questor helicopter INPUT Survey; 432 km
	1983	Mise-a-la-Masse survey; Main Showing
	1983	EM 37 survey, Main Showing and INPUT Anomaly #1
Geochemistry	1983	Soil Sampling; reconnaissance survey
	1984	Soil Sampling; 65 samples
	1984	Rock Sampling; 200 samples
Trenching	1983	Main massive sulphide showing
Geology	1983-1984	Reconnaissance mapping 1:5000 scale
Diamond Drilling	1984	Two holes totalling 338 metres.

## REGIONAL GEOLOGY

The Heather property is located in the Cowichan - Horne Lake uplift, one of three exposures of the Paleozoic Sicker Group on Vancouver Island. The Sicker Group is composed mainly of felsic to mafic volcanics with less abundant clastic and carbonate sediments. The basal unit of the Sicker is the Nitinat Formation. The Nitinat is in turn overlain by the Myra Formation which is host to the polymetallic massive sulphide deposits at Buttle Lake and the gold - massive sulphide deposits on Mt. Sicker. Other significant showings and properties in the Cowichan uplift are the Thistle (Cu-Au) property of

Nexus-Westmin, the Regina-Lizard (Au) of Noranda and the Black Panther (Au) prospect of Nexus. Significant rock geochemical anomalies in Ba, Cu, Na<sub>2</sub>O, and Au also occur in the Heather area (Fig. 2). Muller, 1980 proposed the following subdivision of the Sicker Group.

Buttle Lake Formation limestone, calcarenitic, crinoidal, commonly recrystallized; interbedded with subordinate or equal thicknesses of calcareous siltstone and chert; some diabase sills.

Sediment - Sill Unit: thinly bedded to massive argillite, siltstone and chert with interlayered sills of diabase.

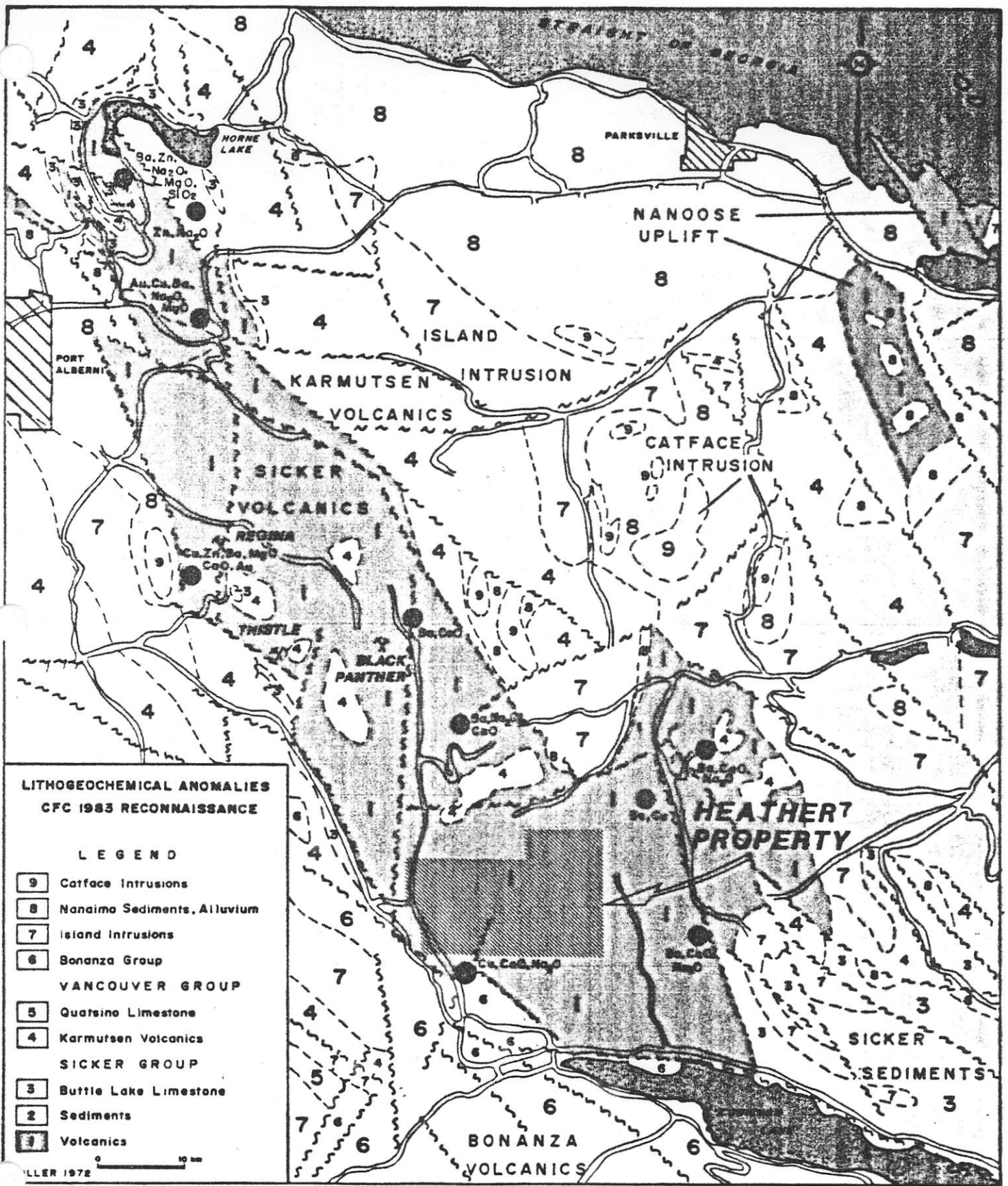
Myra Formation: basic to rhyodacitic banded tuff, breccia and (?) lava; thinly bedded to massive argillite, siltstone, chert. Massive sulphide host rocks.

Nitinat Formation: metabasaltic lavas, pillowed or agglomeratic, commonly with large conspicuous uralitized pyroxene phenocrysts and amygdules of quartz and dark green minerals; minor massive to banded tuff.

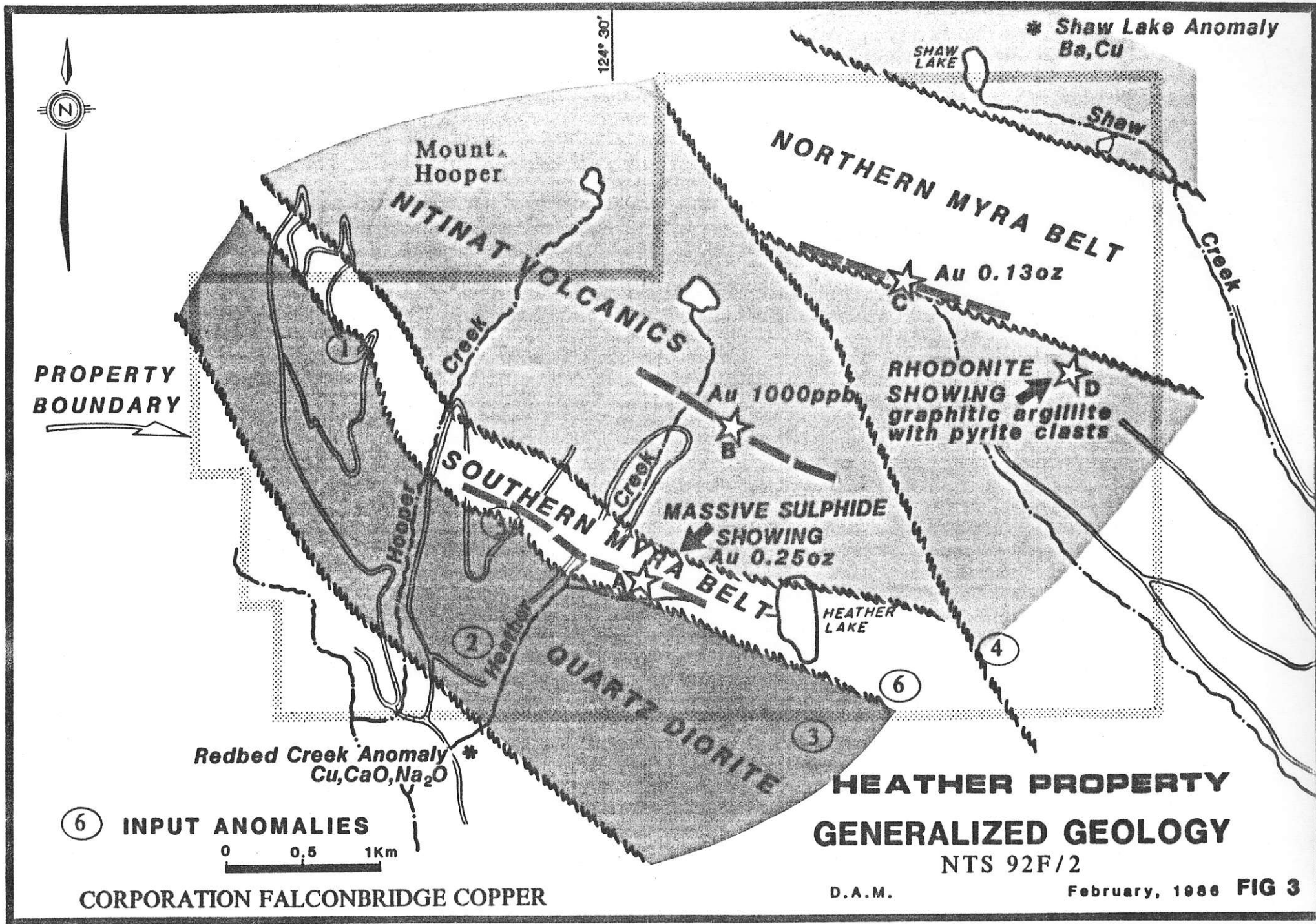
## PROPERTY GEOLOGY

Two belts of Myra Formation volcanics separated by Nitinat basalts trend westerly across the Property (Fig. 3). The Southern Myra Belt is composed mainly of intermediate volcanics and volcaniclastics and is intruded by diorites. This belt hosts the Main massive sulphide showing and was the focus of much of the past work. The massive sulphides occur in a zone of highly sheared andesitic tuffs containing pods of white and grey quartz with pyrite and minor chalcopyrite. This zone of sheared andesitic tuffs is up to 100m. wide and has been called the "Showing Lithology". It has been traced (by Chevron) for about 3 kilometres to the west by reconnaissance mapping.

The Northern Myra Belt is a fault bounded block about 2km wide. Road exposures are mostly of green and maroon chert, interbedded tuffs and minor sulphides. Little work has been done on this part of the Property.



**FIG 2**





A graphitic argillite (D) outcrops near the eastern boundary of the claim group near the Nitinat - Northern Myra contact. This argillite contains numerous pyrite clasts and although no significant base metal values have been reported the argillite could mark a new horizon. Fyles (1955) identified a rhodonite showing called the Black Prince near this area.

#### MINERALIZATION

Three showings or mineralized areas occur on the Property. These are from south to north, A) the Main Massive Sulphide showing, B) Specogna's showing and C) the Northern Quartz Vein.

- A) The main massive sulphide showing, exposed in a 78m. long trench, occurs in a wide shear zone. Elongate pods of grey and white quartz contain massive sulphides. The best values returned from the trench to date are 0.25 oz/ton Au in a grab sample. Chevron drilled two holes below the showing in 1984 and intersected the zone in both holes. The best value was 0.09 oz/ton Au/1.5 metres in the shallow hole and 237 ppb/2.3 metres in the deeper hole. The lithology which hosts this zone can be traced for 3km. Several INPUT and rock geochemical anomalies occur along the strike extension of this zone. No other work has been done to trace or better define either the zone or the mineralized area.
- B) Another zone of massive sulphides has been discovered approximately 1km north of the Main Showing. This zone, which consists of massive pyrite in quartz has been traced in outcrop for almost 1 kilometre and has returned assays of up to 1000 ppb Au. No work at all has been done to further trace or explore this zone.
- C) The Northern Quartz Vein is located near the Nitinat/Northern Myra Belt contact. It was first discovered in 1982 and returned assays of up to 0.7 oz/ton Au. The gold is contained in a quartz vein containing occasional blebs of chalcopyrite. Black carbonaceous banding is also evident. A rock sampling program by Chevron in 1984 returned 4600 ppb (0.13 oz/ton) Au from the same area and 850 ppb from 200m. northeast of the vein. No other work has been done in the vicinity.

## CONCLUSIONS

1. The Heather property consists of 206 units well located in the Myra Formation of Sicker Group volcanics near Lake Cowichan, Vancouver Island.
2. The Myra Formation hosts Westmin's large massive sulphide - gold deposits at Buttle Lake, the historic massive sulphide - gold deposits on Mt. Sicker, and Abermin's Lara discovery west of Duncan.
3. Three mineralized zones or gold showings are known to exist on the property. These are:
  - A) Main Showing - massive sulphides in a shear zone. Assays of up to 0.25 oz/ton Au have been returned from surface samples and limited drilling has intersected up to 0.09 oz/ton Au/1.5m.
  - B) Specogna's Massive Sulphide - found 1km north of the Main Showing and traced for 1km. This zone has returned assays of up to 1000 ppb Au. No further work has been done on this zone.
  - C) Northern Quartz Vein - located 2km north of Heather Lake it has returned assays of up to 0.7 oz/ton Au. Little work has been done to explore any of these zones or showings.
4. Potential for discovering both massive sulphide (Westmin type) and lode gold deposits on the Heather property is excellent.

## RECOMMENDATIONS

1. Trace the Showing Lithology from the Main Showing westwards by using IP, detail geology and sampling.
2. Trench by excavator suitable anomalies along the Showing Lithology.

3. Trace by detail prospecting, mapping, sampling and geophysics the Specogna massive sulphides and the Northern Quartz Vein.
4. Drill test priority targets along the Showing Lithology and elsewhere on the Property.

#### PROPOSED 1986 WORK PROGRAM AND BUDGET

The 1986 program will consist of three phases of exploration which will define, detail and drill test high priority targets on the Heather property. The three phases total \$152,152 and will be completed by October 1986.

Phase 1 consists of a one-month program of initial prospecting, linecutting, geophysical surveys and detail mapping and rock and soil geochemistry designed to define, trace and detail the intense shear zone that hosts the gold mineralization at the Main Showing. CFC sampling of the Showing returned 0.6 oz/ton Au in a grab sample.

Phase 2 is also a one-month program and is centred on the northern part of the Property and the Shaw Creek area. It is designed to explore the intense carbonate alteration zone associated with the McDougall Showing (0.7 oz/ton) and to explore the nature and the mineral hosting potential of the Nitinat - Myra Fm. contact both on the main part of the Property and in the Shaw Creek area.

Phase 3 consists of a minimum of 400 metres of diamond drilling to test the best geophysical (LP., VLF, MAG) and rock and soil geochemical anomalies defined by the Phase 1 work along the Main Showing shear zone.

PROPOSED 1986 BUDGET

Phase 1      Trace the Showing Lithology from the Main Showing westwards by using IP, detail geology and rock and soil sampling.

Linecutting	30km @ \$400/km	\$12,000
VLF/Mag Survey	30km @ \$200/km	\$ 6,000
L.P. Survey	25 days @ \$1500/day	\$22,500
Mapping and Sampling - 2 men for 1 month		\$10,000
Soil Sample Analysis - 1200 @ \$10/sample		\$12,000
Rock Sample Analysis - 100 @ 15/sample		\$ 1,500
Supervision	5 days @ \$400/day	\$ 2,000
Administrative Services (12%)		<u>\$7,920</u>
TOTAL		\$73,920

Phase 2      Trace by detail prospecting, mapping, sampling and geophysics the Specogna massive sulphides, the McDougall Showing and the Nitinat - Myra Fm. contact.

Linecutting	20km @ \$400/km	\$ 8,000
Mapping and Sampling - 2 men for 1 month		\$12,000
Sample Analysis	400 samples @ \$15/sample	\$ 6,000
VLF/Mag Survey	20 kms @ \$250/km	\$ 5,000
Rock Sample Analysis - 50 samples @ \$25/sample		\$ 1,250
Supervision	4 days @ \$400/day	\$ 1,600
Administrative Services (12%)		<u>\$ 4,062</u>
TOTAL		\$37,912

Phase 3      Drill test priority targets along the Showing Lithology.

Diamond Drilling	400m @ \$90/m	\$ 36,000
Administrative Services (12%)		<u>\$ 4,320</u>
TOTAL		\$ 40,320

SUMMARY

Phase 1	\$ 73,920
Phase 2	\$ 37,912
Phase 3	<u>\$ 40,320</u>
TOTAL	\$152,152

ESTIMATED QUARTERLY EXPENDITURES

June 1 - September 30, 1986

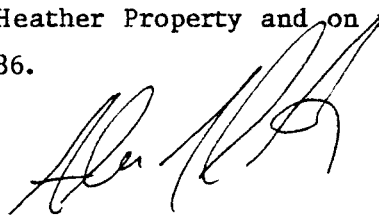
Phase 1	\$ 73,920
Phase 2	<u>\$ 37,912</u>
TOTAL	\$111,832

September 30 - December 31, 1986

Phase 3	\$ 40,320
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I, Alex J. Davidson, residing at 3266 W. 14th Avenue, Vancouver, B.C., hereby certify that:

- 1) I am a 1972 graduate from McGill University at Montreal, Quebec and hold a Bachelor of Arts degree majoring in Geological Science.
- 2) I am a 1977 graduate from McGill University of Montreal, Quebec and hold a Master of Science degree in Economic Geology.
- 3) I am presently employed as Senior Exploration Geologist, Western Canada for Corporation Falconbridge Copper.
- 4) I have been employed by Corporation Falconbridge Copper for the past 6 years as a mining and exploration geologist.
- 5) I am a Fellow of the Geological Association of Canada.
- 6) The information contained in this report is based upon an examination of relevant maps and documents on the Heather Property and on field visits between April 15, 1986 and May 25, 1986.



Alex J. Davidson