83-#292-#11303.

REPORT OF

GEOLOGICAL - GEOCHEMICAL WORK

COMPLETED ON THE

CAROL S, TANIA S, LUCIA S, MARINO S, CAROL S #2,
EFREM S, TANIA S #2, TANIA #3, TANIA S #4, CAROL S #3 CLAIMS

N.T.S. 92C/15E, 16W

VICTORIA MINING DIVISION
48° 58' N 124° 30' W

RECORD NO. 644-649, 683-686

WORK PERFORMED MARCH 7th to JUNE 14th, 1983

by

CHEVRON CANADA RESOURCES LIMITED

C.V. Dyson, P.Eng.

Vancouver, B.C.
July 26, 1983

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INTRODUCTION

Prospecting by E. Specogna along logging roads in early 1982 led to the discovery of sulphide mineralization within Sicker group rocks. Further prospecting in the general area outlined a number of mineral showings. Specogna staked the area in early August and added more claims in October of 1982 and optioned the property to Falconbridge Nickel.

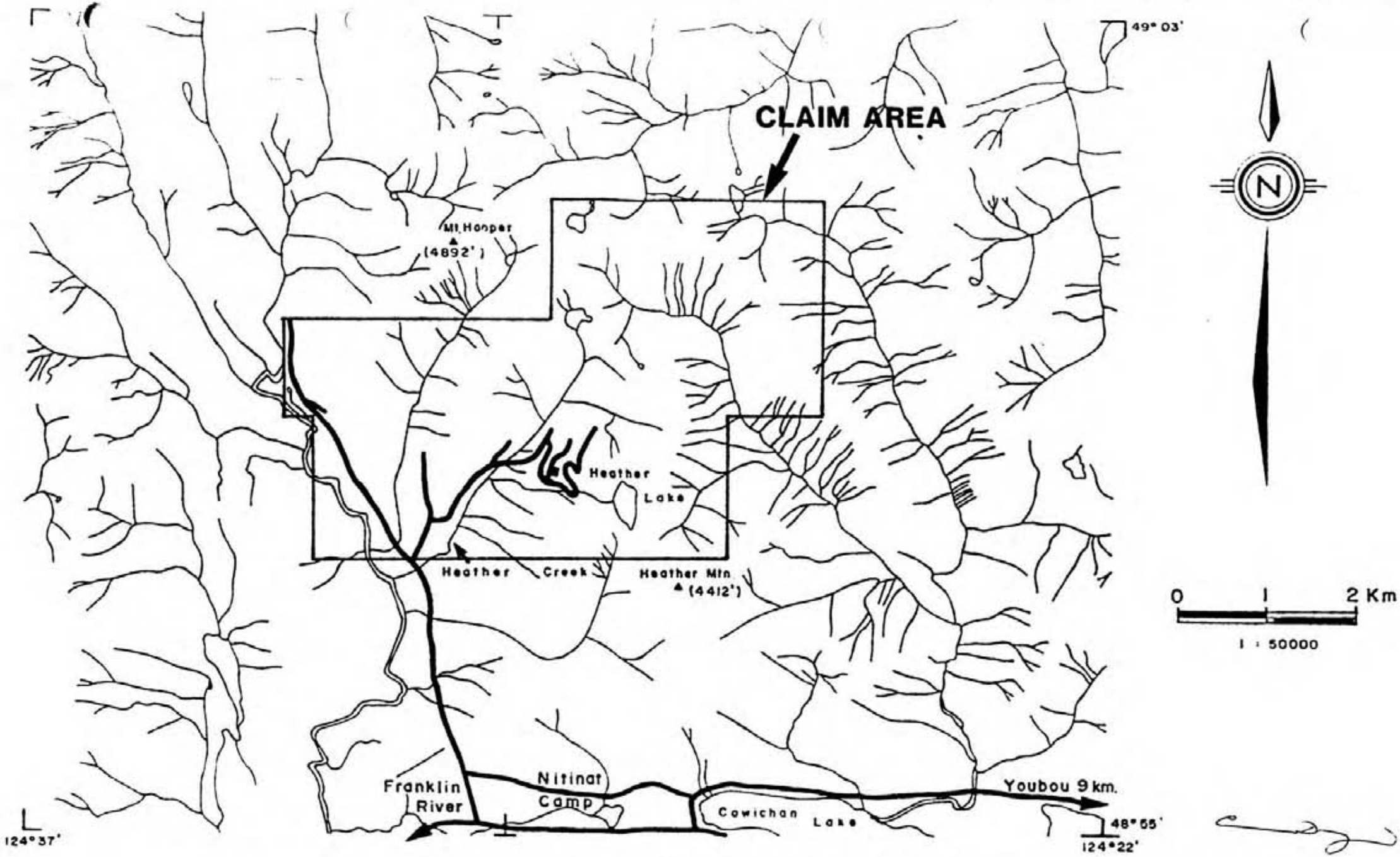
Chevron Canada Resources Limited completed a property examination with extensive surveys in March and April 1983 to determine the extent and nature of the mineralization. A program consisting of geological mapping, prospecting and soil sampling was conducted along all logging roads and on some traverses between roads.

In late June 1983, Chevron Canada Resources Limited reached agreement with Falconbridge on terms of an option. The results of the work by Chevron are outlined in this report.

LOCATION AND ACCESS (Fig. 1)

The property is located on map sheet 92C/15 and 16. It is accessed from Duncan by either the north or south shore roads along Cowichan Lake, past the old town of Nitinat and up Crown Zellerbach line to Heather Creek (Fig. 1). The roads are all in excellent shape since Crown Zellerbach rehabilitated the property roads in early May.

The property itself has been almost completely logged off which has resulted in excellent road coverage. The roads have provided good outcrop sections.



PROPERTY LOCATION MAP

FIG. 1

CLAIM STATUS (Fig. 2)

The property consists of 191 units which are owned by Canamin and are under option to Falconbridge. Chevron has an agreement with Falconbridge which gives Chevron a percentage interest of Falconbridge's interest in the property. The data for the claims is outlined below:

Claim Name	No. of Units	Record Date	Record No.
CAROL S	20	August 3, 1982	644
TANIA S	20	"	645
LUCIA S	20	"	646
MARINO S	20	"	647
CAROL S #2	20	"	648
EFREM S	20	"	649
TANIA S #2	15	October 5, 1982	683
TANIA S #3	20	"	684
TANIA S #4	16	"	685
CAROL S #3	20	"	686

These claims are all owned by E. Specogna of Nanaimo and are within the Victoria Mining division.

GEOLOGY

Regional

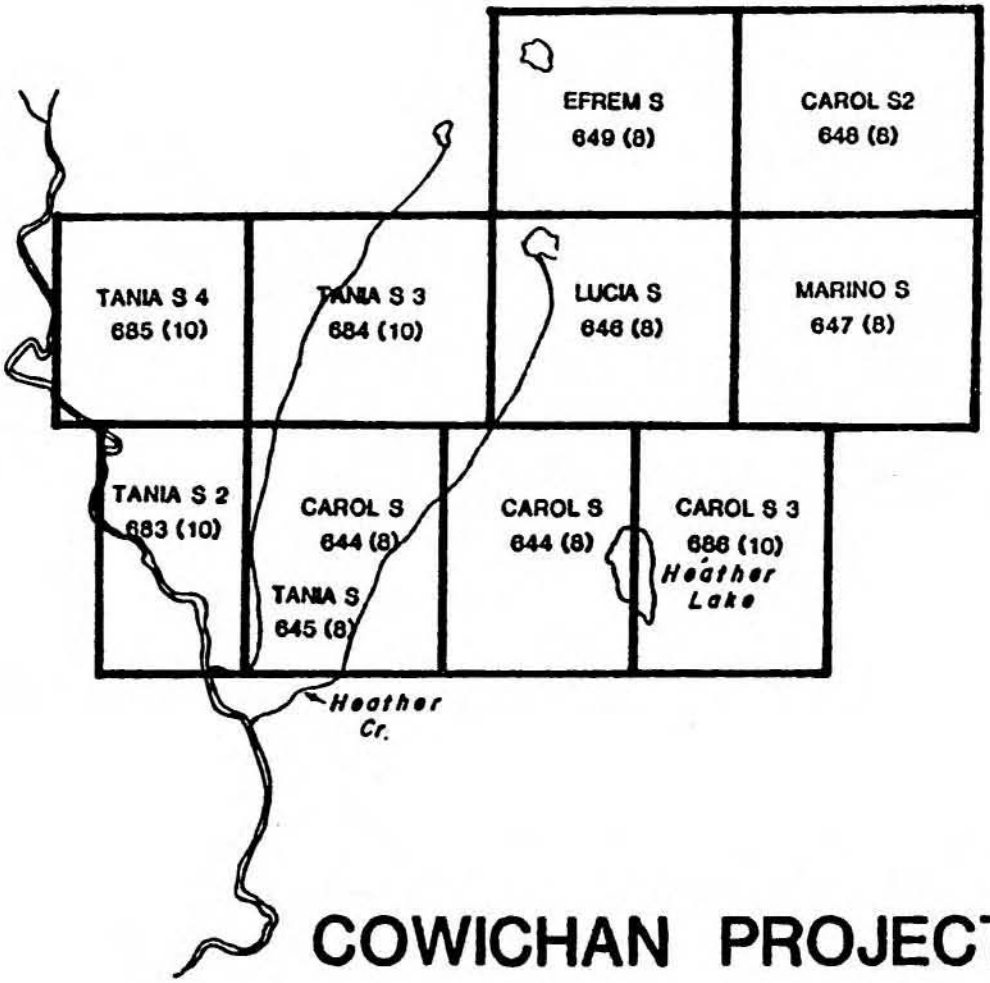
The claim block is underlain by the Sicker volcanics. These Sicker volcanics can be subdivided into three main formations (Muller 1981):

Buttle Lake Formation - crinoidal limestone, calcareous siltstones.

sediment-sill unit - diabase sills and argillite beds.

Myra Formation - rhyolite to rhyodacite tuff and agglomerates, some graphitic and sedimentary beds, massive sulphides.

Nitinat Formation - basalt - andesite agglomerates, pillow lavas and flows.



COWICHAN PROJECT

CLAIM MAP

FIG.2

The formation of primary interest is the Myra Formation which hosts the mineralization at Westmin and at Mount Sicker. Some of the important characteristics of these deposits are:

(1) multiple lenses that have varying grade and tonnage.

(2) association with felsic volcanism.

(3) association with coarse pyroclastics.

(4) typical chlorite, sericite and clay alteration in footwall.

(5) typical disseminated pyrite in footwall that can increase area of deposit.

(6) deposits in Sicker have consistently good precious metal values.

Property Geology (Fig. 3, 4)

The complex stratigraphy of the Sicker group can be recognized on the property. The more compositionally basic Nitinat Formation is found at the head of Heather creek. Lower down Heather creek, a 1 kilometer wide band of Myra Formation is located which has been intruded on the southwestern side by a diorite plug. Further down the creek is an outcrop of limestone and calcareous siltstone with some diabase or basaltic rocks. These last rocks are presumed to be the Buttle Lake Formation although no definitive fossils were identified.

Nitinat Formation

The Nitinat Formation is found at the headwaters of Heather and Hooper creek in the property. It is composed of coarse pillow breccias, agglomerates, or flows, crystal lithic tuff and lapilli tuffs, all of basaltic and andesitic composition. Typically the formation is massive with only a slight foliation visible in outcrop. A small bed of chert suggests there is some folding

present in the formation, but the units are too massive and not distinctive enough to outline the exact nature of any folding.

The rock is typically maroon to green in colour, both fresh and weather. Some quartz veins cut the formation near the head of Heather creek. Large maroon and green agglomerate clasts are visible in some of the road cuts, with very rare rhyolite fragments. No sulphide fragments were seen in any of the road cuts.

Myra Formation

The Myra Formation is found part way down Heather creek and Hooper creek. It is a band approximately 1 to 1.5 kilometers which cuts across country. The band strikes approximately northwesterly as does a lot of the foliation within the Myra. The Myra Formation is comprised of a series of well bedded tuffs and tuffaceous sediments (in some cases shaly). The tuffs are rhyodacitic in composition although some rare quartz eyes have been located which may indicate the presence of some rhyolite tuffs.

The Myra Formation is comprised of three main units which have been named in the field, (1) green tuff, (2) maroon tuff and (3) silty tuff. The green tuff appears to be the main volcanic unit which occurs below and above the other two units. The maroon tuff overlies the silty tuff. The maroon tuff is very well bedded and locally resembles a shale. The silty unit is well bedded (beds approximately 1-2" thick) and locally well sheared. Most of

the faulting appears to have been taken up in the silty unit. Locally pyrite content will approach massive in form although it is fairly well disseminated.

The structure and mineralization associated with this unit will be discussed later.

Buttle Lake Formation

This formation is presumed to be the limestone outcrop on one of the roads above Heather creek. Only one outcrop is visible and no fossils were seen in outcrop. Associated with the limestone are some basalt flows which are know in the Buttle Lake Formation. These flows are fairly extensive on the lower slopes of the nose between Hooper and Heather creek.

Diorite

The diorite is medium to coarse grained intruding both the Myra and Nitinat Formations. It has hornfels, some of the volcanics and has digested some large zenoliths. Its age is not known but it is probably related to the Island intrusions. At its contact, it often has massive pyrite in quartz veins and isseminated pyrite in the volcanics.

Structure

Little structure is visible in the Nitinat Formation primarly because of its massive style. A persistent foliation is visible in most outcrops.

The Myra Formation is highly contorted and suggests the whole Sicker group is actually highly deformed. This change in visual degree of deformation is probably due to the thinly bedded nature of the Myra. Two stages of folding are visible. One has an axial plane striking northwesterly with fairly shallow (45-60°) dipping a northeasterly limb and quite steeply (70-90°) dipping a southwesterly limb. The southwesterly limb is quite frequently sheared off which has provided some problem in correlating stratigraphy within the Myra.

In addition to the limbs being sheared off, there are numerous other faults which cut the stratigraphy. In some cases the crests have also been sheared out along the axial planar cleavage. These northwesterly striking folds are quite tight with a wave length of approximately 150 meters (this is approximate because of the faulting along the limbs).

A second phase of folding has an axial plane striking northeasterly and appears to have a broad wave length, aporoximately one to one and a half kilometers. On the east side of Heather creek, the phase one folds have a plunge of approximately 0-10° northwest, while at the top of the ridge between Hooper and Heather creek the plunge is 60-70° to the northwest. No foliation was seen parallel this second phase of folding.

Mineralization

Four types of mineralization have been recognized in the property. These are as follows:

(1) Quartz veining with gold values.

(2) Quartz pyrite veining.

(3) Quartz-chalcopyrite-pyrite veining associated with the intrusive.

(4) Massive sulphide type - quartz, pyrite, chalcopyrite and gold.

Of these four types of mineralization, the only one with any economic potential appears to be the massive sulphide mineralization. The other types are too small and insignificant. Although high grade samples do produce good values, when bulk samples or chip samples are taken, little encouragement is received.

Mineralization of possible massive sulphide affinity was located by E. Specogna while prospecting in 1982 on the Crown Zellerbach logging roads. Numerous faults can be seen throughout this section. Within one of these fault zones, three blocks or fragments of massive pyrite have been caught up.

The showing itself is possibly a stringer zone or the fringe of a massive sulphide; however, only further exploration will clarify that. The showing is hosted by the silty tuff horizon which, in the area of the showing, exhibits clay, chlorite and sericite alteration. The showing is in the central part of a large antiform so the orientation of any massive sulphide body within it is not clearly defined.

B. horizon, variable depth, Bondar-Clegg Lab.

GEOCHEMISTRY (Fig. 5, 6, 7, 8)

Since mineralization was known in Heather creek, the first phase of soil sampling was orientated towards this area. During the first phase, samples were selected every 50 meters along all of the roads that were clear of snow. Samples were

taken above the road bank and flags (gold and blue) placed on the road for quick location. Hooper and the Nitinat drainages were sampled at 100 meter spacing, again along most roads.

Background was arbitrarily taken to be 100 ppm Cu, 100 ppm Zn, 3 ppm Pb and 25 ppb Au. Contouring has been completed above 200 ppm Cu, 200 ppm Zn, 6 ppb Pb and 35 ppb Au. This clearly outlines a strong anomaly over the showing that can be traced 2 kilometers along strike through the hill between Hooper and Heather creeks. This anomaly ties in very clearly with the altered silty tuff horizon.

There are few sporadic copper, zinc anomalies which may reflect a small area of high background. An area at the headwaters of the Heather creek, which has high lead values, is very curious and is not completely explained. One current explanation is there are a number of quartz veins that may carry some lead; however, no significant lead has been obtained from them. An average of five rock samples were taken from each rock type for whole rock analysis to try to determine any variation in the whole rock geochemistry.

CONCLUSION AND RECOMMENDATION

The property contains the Myra Formation rocks known to host massive sulphide mineralization elsewhere on Vancouver Island. A showing, possibly of massive sulphide type, has been identified. To date only geological mapping and prospecting combined with soil and rock geochemistry has been completed. A good correlation exists between anomalous geochemical values of copper, zinc and gold, and the geological mapping of Myra Formation rocks.

Further work is definitely warranted on the claims to further answer the potential for massive sulphide type mineralization.

Respectfully submitted,

C. V. Dyson, P.Eng.

STATEMENT OF COSTS
COWICHAN CLAIMS

FIELD:			
Personnel:	G. Walton - Geologist (Mar.8-14, 17-24, Apr.20-27) 23 days @$235/d:		$ 5,405.
	D. Shaw - Structural Geologist (March 8-14) 8 days @$200/d:		1,600.
	D. Brown - Geologist (March 17-24) 8 days @$125/d:		1,000.
	S. McArthur - Field assistant (April 20-27) 8 days @$90/d:		720.
	C. Dyson - Senior Geologist (June 14) 1 day at $300/d:		300.
Transportation:			
	Truck 23 days @$25/d.		575.
	Helicopter 1.5 hr. @$450/hr + fuel		747.
Accommodations:			
	23 nights @$62/night (double occupancy)		1,426.
Food:			
	48 man-days @$15/day		720.
Geochemistry:			
	778 samples for Cu, Zn, Ag, Au @$10./sample (incl. flagging, pickets, bags)		7,780.
	Sub Total		20,273.
OFFICE:			
	G. Walton 2 days @$235/d. (data compilation)	$470.	
	D. Brown 2 days @$125/d. (day drafting)	250.	
	C. Dyson 1 days @$300/d. (report)	300.	1,020.
	TOTAL		$21,293.

APPENDIX

ANALYTICAL PROCEDURES

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 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.

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% $HClO_4$ and concentrated HNO_3. 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

STATEMENT OF QUALIFICATIONS

I, Colin Dyson, am a member of the Association of Professional Engineers of the Province of British Columbia and have an office at 1900 - 1055 West Hastings Street, Vancouver, B. C. V6E 2E9.

I am a graduate of the University of Manchester, England (B.Sc. Hons. 1963).

I have worked in mineral exploration since 1964 and am a member of the Geological Association of Canada and the Society of Economic Geologists.

C. V. Dyson

July, 1983

GEOLOGICAL BRANCH
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CLAIM LINE

LAKE

CN shist

coarse Vbx, pitted

Vbx - coarse - pitted

Lapilli tuff to Vbx

Limonitic Rhyolite + Silicified tuffs

LANDSLIDE

HG3-5c QZ VEINS

HG3-10 QZ VEIN

HG3-13 chert

HG3-17,18

HG3-12

basaltic dykes

lapilli tuff massive Agg

HG3-56

HG3-6,7,8

HG3-14

HG3-15

HG3-9

lapilli to Agg tuff

massive

lapilli tuff

Agg

Phyllitic tuff

maroon & green tuff

lapilli tuff

HG3-21

Creek

HG3-19

HG3-4a

HG3-23

HG3-22

LUCIAS TANIA 4

green tuff

hematite tuff

xtal lithic tuff

diorite

HG3-11

CLAIM POST: LUCIA 5 S 4W

HG3-20

HG3-26

cherty tuff

HG3-67

HG3-27

HG3-2 rusty

HG3-1 rusty

MYRA

HEATHER LAKE

0 200 m

N

TANIA 2W

Py-qtz vn

Tania S2 (4N 4W) 3 4N SE 4 5S 3W

HG3-16

Creek

HOOPER

NITINAT

MYRA

DIORITE PLUS HORNFEL

ZONES OF CN SCHIST

HG3-1a NB diorite

HG3-1

HG3-2 Fe-CARB Altered Phyllite

HG3-2a

HG3-2b

HG3-35

HG3-36

HG3-37

HG3-34

HG3-33 basalt

NB3-12X QZ-PY VEINS

CAROL 5 IW

TANIA 5 IW

Horn fel

Tania S2 3S S 4W

LEGEND

- Di — Diorite - Island Intrusive
- Ls — Buttle Lake Limestone
- MYRA — MYRA Formation
- NITINAT — NITINAT Formation

SYMBOLS, ABBREVIATIONS

Agg	agglomerate
Vbx	volcanic breccia
Qz	quartz
Fe	iron
Carb	carbonate
ch	chlorite
gt	green tuff

- Antiform, plunging
- Synform, plunging
- Bedding with dip
- Foliation with dip
- Fault
- Contact

To accompany a Report of Geological and Geochemical work on the CAROL, TANIA, LUCIA, MARINO and EFREM claims, dated July 26, 1983, by C. V. Dyson, P.Eng.

Chevron Canada Resources Limited
Minerals Staff

HEATHER PROJECT

EAST GEOLOGY

FIGURE No. 4		PROJECT No. M-524	
DATE MAR. 1983	REVISIONS	SCALE 1:5000	
NTS No.			
COMPILED BY C.W.			G-1

MAIN ROAD

NITINAT

MYRA

massive dk. gt
darker green
g-chert
hem silty
d-gt
gt
dl with xenoliths of green tuff
qtz.vn gr.chert
silty
shr gt
g. cherty
gt- hem fel pyrite at contact
gr, dl xenolith
g. cherty
hem/gr silty
Agg
rusty
H03-40
gr. x tal lithic tuff
tuff
dl
Diorite with hornfel
MYRA
hem silty
MAIN ROAD
Nitinat River
Hooper Creek
Heather Cr.

0 200 m

LEGEND

- Di — Diorite - Island Intrusive
- Ls — Buttle Lake Limestone
- MYRA — MYRA Formation
- NITINAT — NITINAT Formation

SYMBOLS, ABBREVIATIONS

Agg	agglomerate
Vbx	volcanic breccia
Qz	quartz
Fe	iron
Carb	carbonate
ch	chlorite
gt	green tuff

- Antiform, plunging
- Synform, plunging
- 70 — Bedding with dip
- 75 — Foliation with dip
- Fault
- Contact
- Claim post

GEOLOGICAL BRANCH
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Minerals Staff

HEATHER PROJECT

WEST GEOLOGY

FIGURE No 3		PROJECT No M-524	
DATE APR. 1983	REVISED		SCALE 1:5000
NTS N.			FILE No. G-3
COMPILED G.W.			

MAIN ROAD

Nitinat River

Hooper Creek

Heather Cr.

0 200 m

LEGEND

o SOIL HS 3-

SAMPLE NO.
Ag o Au
ppm ppb

Au >30 ppb

GEOLOGICAL BRANCH
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Minerals Staff

HEATHER PROJECT

SOIL GEOCHEMISTRY (WEST)

SAMPLE LOC. - Ag - ppm , Au - ppb

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

MAIN ROAD

Nitinat River

Hooper Creek

Heather Creek

N

0 200 m

GEOLOGICAL BRANCH
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LEGEND

o SOIL HS3 -

Cu ppm
Zn o Pb
ppm ppm

Cu >150 ppm

Chevron Canada Resources Limited
Minerals Staff

HEATHER PROJECT

SOIL GEOCHEMISTRY

(WEST) Cu, Zn, & Pb - ppm

FIGURE No. 6		PROJECT No. M-524	
DATE APR. 1983	REVISIONS		SCALE 1 : 5000
NTS No.			FILE No. C-6
COMPILED BY C.W.			

LAKE

Creek

Creek

HOOPER

HEATHER

LAKE

N

LEGEND

- SOIL HSG 3
- SOIL HSB 3
- SOIL HS 3

Sample No.
Ag x Au
ppm ppb

Au >30 ppb

0 200
m

GEOLOGICAL BRANCH
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Minerals Staff

HEATHER PROJECT

SOIL GEOCHEMISTRY (EAST)

SAMPLE LOC. Ag - ppm , Au - ppb

FIGURE No. 7		PROJECT No.	M-524
DATE MAR 1983	REVISIONS		SCALE 1:5000
NTS No.			FILE No. C-4
COMPILED BY C.V.			

LAKE

Creek

Hooper

Heather

HEATHER

LAKE

N

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,303

LEGEND

- o SOIL HSG 3
- x SOIL HSB 3
- • SOIL HS 3

Cu ppm
Zn x Pb
ppm ppm

Cu >150 ppm

Zn >100 ppm

0 200
m

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Minerals Staff

HEATHER PROJECT

SOIL GEOCHEMISTRY

(EAST) Cu, Zn, Pb - ppm

FIGURE No. 8		PROJECT No. M-524	
DATE MAR. 1983	REVISIONS		SCALE 1:5000
NTS No.			FILE No. C-3
COMPILED BY C.V.			