

LOG NO: 1103	RD.
FILE NO:	

GEOLOGICAL AND GEOCHEMICAL REPORT

on the

NEW CLAIM GROUP

OMINECA MINING DIVISION

NTS 93K 14

SUB-RECORDER  
RECEIVED  
OCT 31 1988  
M.R. # ..... \$ .....  
VANCOUVER, B.C.

FILED

LATITUDE 54°50'N LONGITUDE 125°16'W

by

JOANNE R. FORBES, B.Sc., F.G.A.C.

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

October, 1988

Vancouver, B.C.

17,944

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## 1.0 INTRODUCTION

A program of geological mapping, rock sampling, silt sampling and pan sampling took place on August 2, 1987 and between July 18 and July 25, 1988 on the New 1, 2, 3 and 4 claims of the Trembleur Lake Area.

### 1.1 Location, Access and Logistics

The New Claim Group is located approximately 80 kilometers northwest of Fort St. James, B.C. at latitude  $54^{\circ}50'$  N and longitude  $125^{\circ}16'$  W (Figure 1).

Access to the property can be gained via boat, helicopter or float plane. Float planes operate out of Fort St. James. When water levels are high (spring) the sandy shore may be under water, thus eliminating campsites.

Northern Mountain Helicopters operates out of Fort St. James. Logging roads (courtesy of Tanizul Timber) now extend to the south side of Trembleur Lake. Should several helicopter trips be necessary this newly logged section or Tachie may be used as a staging area. Helicopter access is restricted due to the limited number of areas suitable for landing.

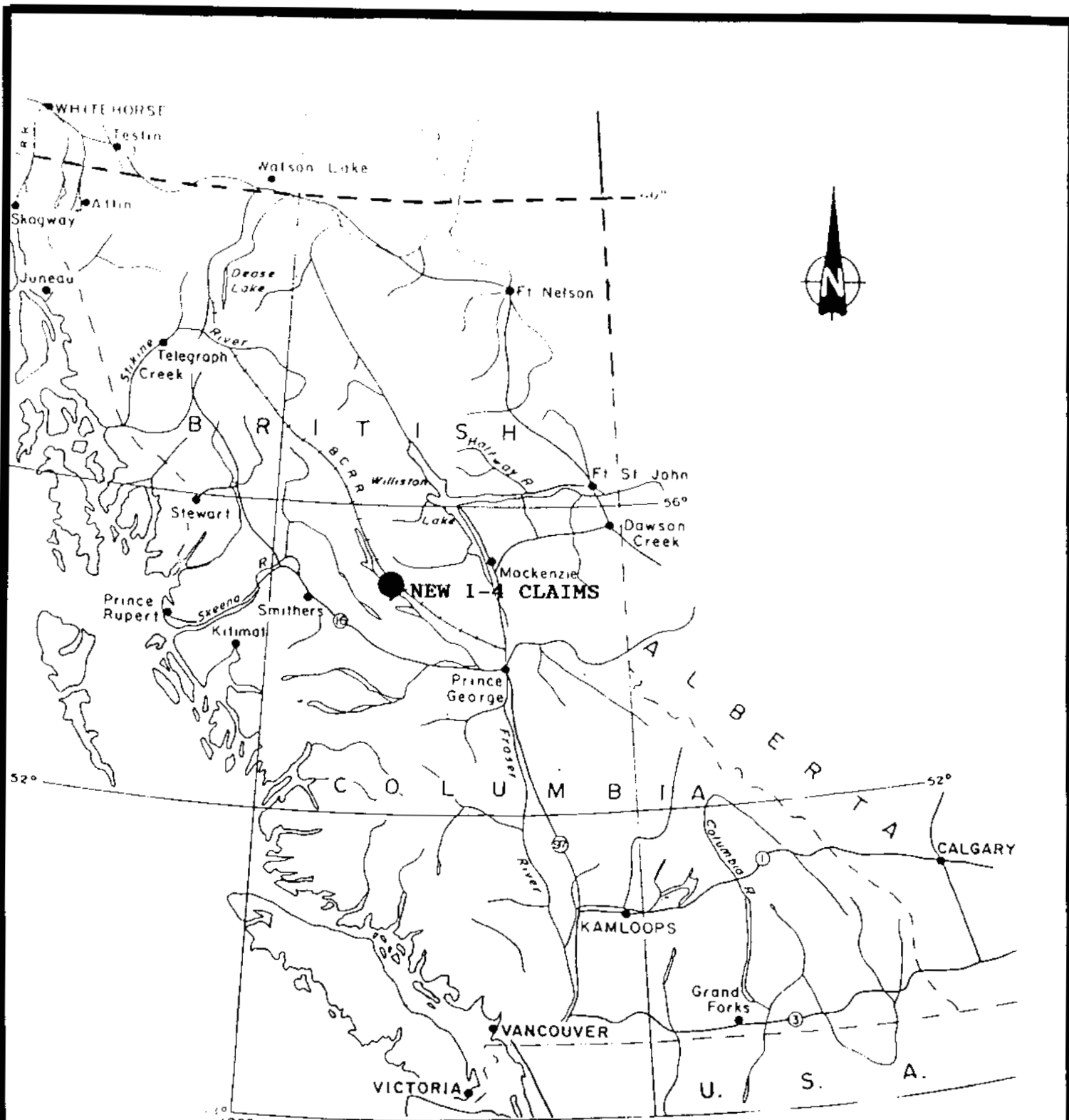
The boat trip from Fort St. James requires running the Tachie River between Stewart and Trembleur Lakes. This trip is safe provided a reliable boat is used.

The B.C Rail line runs along the east shore of Trembleur Lake.

Boats, fuel and accomodation are available at a fishing camp situated at the mouth of Middle River.

Fort St. James is the nearest town where accomodation, fuel, supplies and groceries can be obtained.

There is a sub-mining recorder based in Fort St. James.



**NEW 1 - 4 CLAIMS**

**LOCATION MAP**

DRWN BY: MMF	DATE: OCT./88	FIGURE <b>1</b>
SCALE: AS SHOWN	NTS: 93 K/14	
GEOLOGY BY: JRF		

## 1.2 Physiography

The project area lies within the Nechako Plateau subdivision of the Interior Plateau.

Elevations on the New Claims range from approximately 770 - 1400 meters. Slopes on the property are generally moderate.

The entire property is densely forested. Due to both the moderate topography and forest cover, outcrops are limited to areas of sharp break in slopes, cliff areas and creek valleys.

Vegetation is predominately spruce and pine. Willow and devils club are common in the creek valleys.

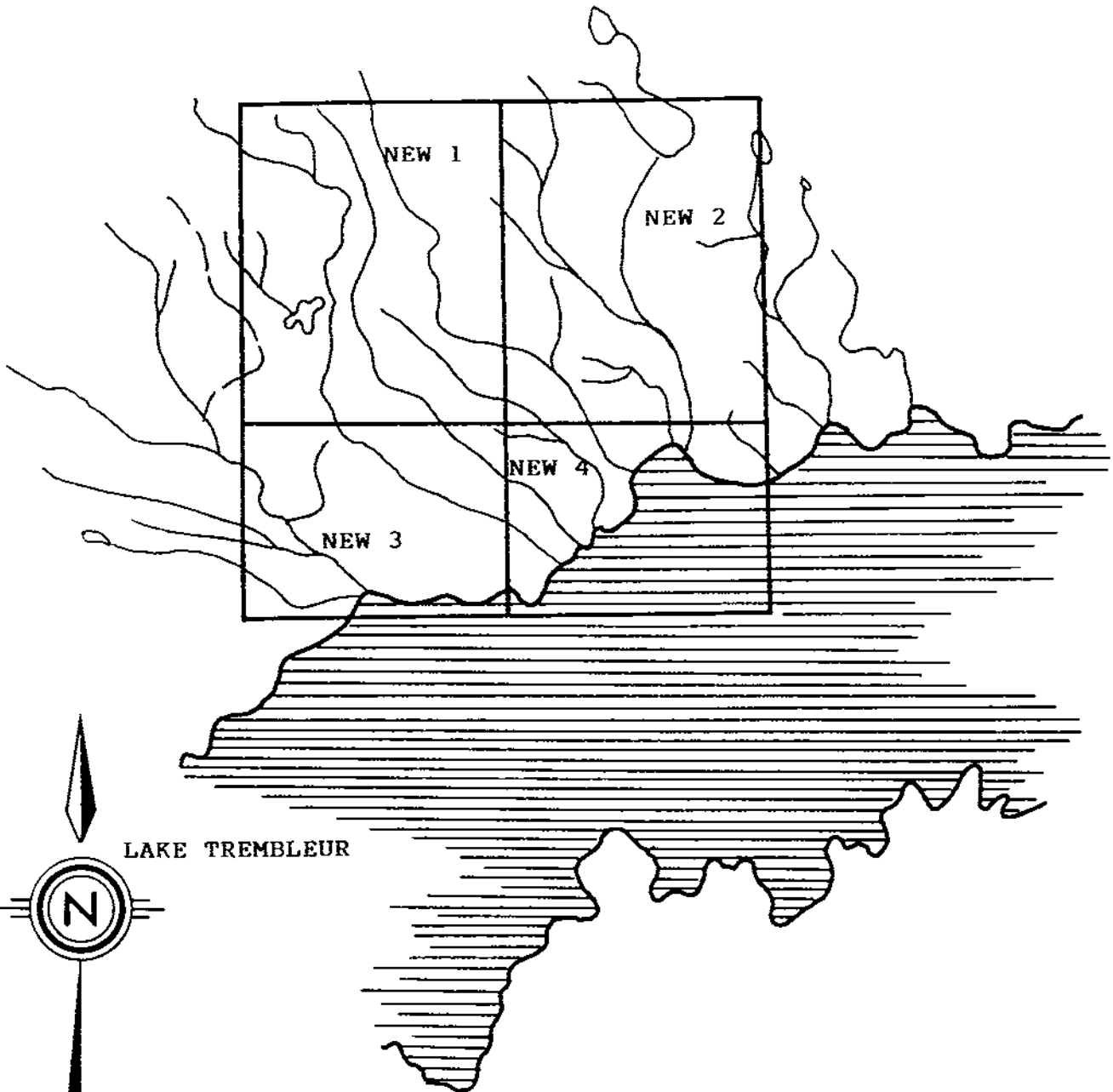
## 1.3 Property and Ownership

The property is comprised of the New 1, 2, 3 and 4 claims which have been grouped into the "New Claim Group" (Figure 2). They are located in the Omineca Mining Division. Joanne R. Forbes is the owner.

Claim Name	Units	Recorder Number	*Expiry Date
New #1	20	8730	August 24, 1988
New #2	20	8731	August 24, 1988
New #3	12	8732	August 24, 1988
New #4	12	8733	August 24, 1988

\* includes assessment applied this year.

Metres 1000 500 0 1000 2000 3000 Metres  
 Kilometres 3 0 1 2 3 Kilometres



NEW 1 - 4 CLAIMS

CLAIM LOCATION MAP

DRWN BY: MMF	DATE: OCT./88	FIGURE <b>2</b>
SCALE: AS SHOWN	NTS: 93 K/14	

## 2.0 PREVIOUS HISTORY

There is no previous work recorded in the area now covered by the New 1-4 claims.

## 3.0 REGIONAL GEOLOGY

The New Claim Group is situated within the Intermontane Belt of the Canadian Cordillera (Figure 3). The claim group is underlain by the Mt. Sydney Willams batholith, the largest of the Trembleur intrusives.

The Trembleur Intrusions consist of stocks, sills and batholiths of peridotite, dunite and pyroxenite.

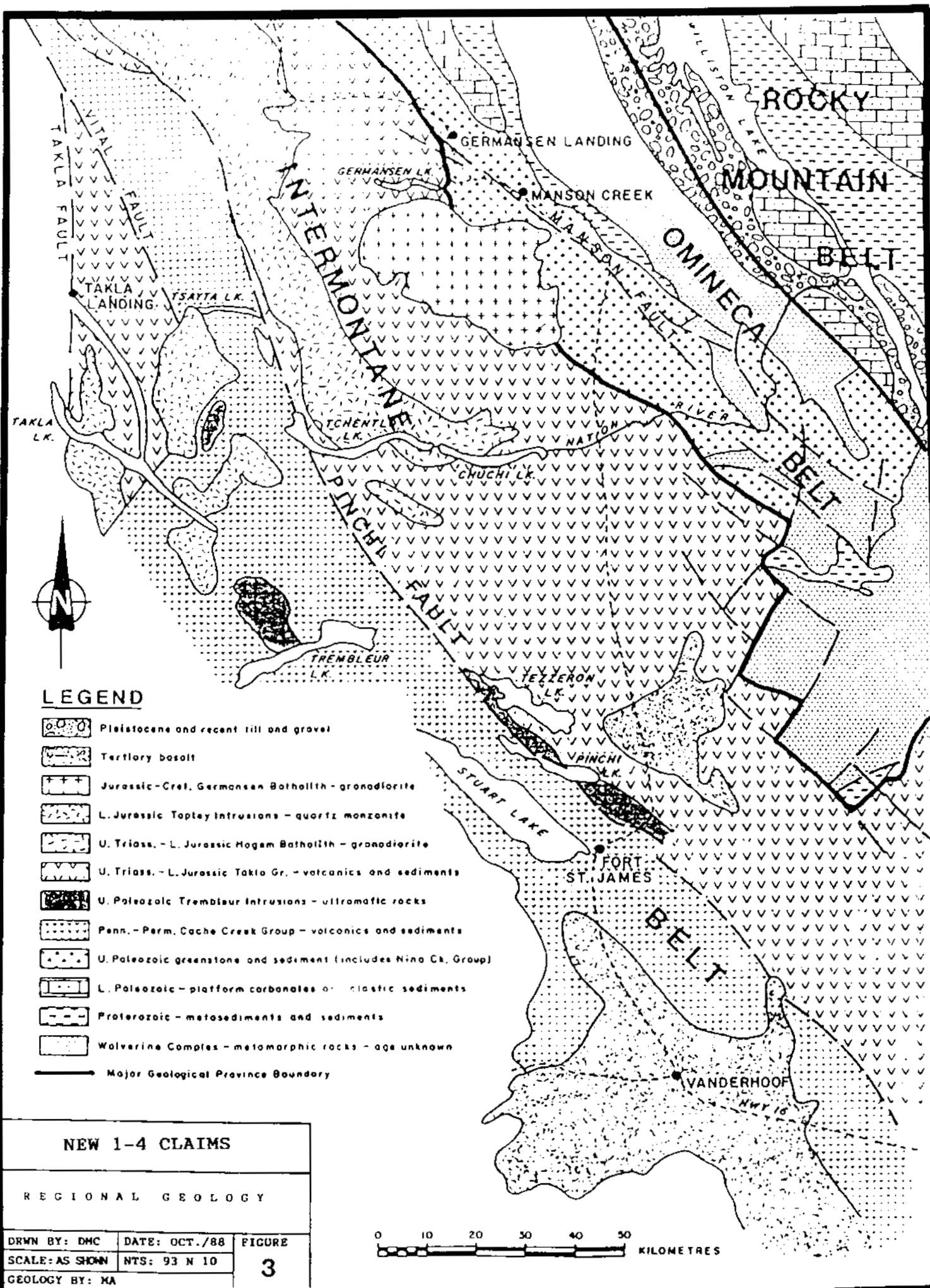
These peridotites, dunites and pyroxenites have all been partially to completely altered to serpentinite. Fault, shear and fracture zones cut many of the larger of the ultramafic masses. These structural features vary from a few hundred feet to several miles in width and generally trend northwesterly (Armstrong, 1949).

Quartz-carbonate-mariposite rocks predominate along fault and shear zones.

The Trembleur intrusives as a whole are confined to cut rocks of the Cache Creek Group.

The Mt. Sydney Willimas Batholith intrudes a sedimentary sequence of the Cache Creek Group deemed to be Pennsylvanian/Permian in age. The sequence is comprised of ribbon chert, argillite, slate, argillaceous quartzite and greenstone.





Contact zones between the ultramafics and Cache Creek Group are up to 100 feet in width. Alteration products common to these contact zones includes talc-carbonate, tremolite, talc-carbonate-serpentine, chlorite and actinolite.

The Topley diorite intrudes the Trembleur intrusions.

#### **4.0 PROPERTY GEOLOGY**

##### **4.1 Economic Geology**

To the north of the New 1-4 claims, yet still within the Mt. Sydney Williams Batholith, several chromite occurrences have been documented.

Disseminated chromite and chrome layers are hosted by some dunite layers of a rhythmic sequence of hartzbergite and dunites mapped within the Mt. Sydney Williams Massif (Whittaker, 1982). Several of this style of occurrence exist, some up to 500 meters in extent carrying bands of chromite up to 2 cm.

Armstrong (1949) describes one chromite occurrence:

"The Mount Sydney Williams deposit occurs at an elevation of about 5,000 feet, 2 miles east of Mount Sydney Williams on the southeast slope of the long ridge that extends to Middle River.

At this locality a dunite body about 30 by 280 feet in surface area is exposed in the peridotite-dunite batholith. The whole body is mineralized, the average chromite content being from 3 to 5 per cent. A part of the dunite body, 7 by 30 feet in area, contains 6 to 9 per cent chromite.

No analyses for platinum group element has been performed on the New 1-4 claims to date.

As previously noted, quartz-carbonate-mariposite rocks dominate along fault and shear zones in the Trembleur intrusives. Armstrong (1949) reports .035 oz/ton gold from an outcrop on Baptiste Creek (just north of the New Claim Group) in quartz-carbonate mariposite rocks.

Auriferous listwanites have been detected in the northern part of the Kuznetsk Alatau region of the USSR. The listwanites are characterized by talc-carbonate-serpentine, carbonate-serpentinite and quartz-carbonate-assemblages. Impurities include fuchsite, chlorite, and serpentine. Ore minerals are represented by pyrite, magnetite and chrom-spinel.

B.C.D.M. Assessment Report 11879 regarding the BAP claim of Aume Resources, reports gold anomalies in soils and rocks. Arsenic is associated with the gold enrichment. Peridotites and dunites are intruded by quartz veining and exhibit quartz carbonate alteration. The highest Au value noted was 1400 ppb in altered serpentinite.

#### **4.2 Mapping**

A total of approximately 20 km was mapped and prospected. Due to heavy forest cover and the moderate topography, bedrock exposures are restricted to creek drainages, lake edges and areas of sharp break in slope.

### 4.3 Structure

Fault, shear and fracture zones trend northwesterly (Armstrong 1949). Quartz veins measured on the New property exhibited a variety of orientations. A well defined northeasterly trending joint set was noted in the vicinity of the camp. Zones of intense silicification are characterized by a northerly orientation.

### 4.4. Lithology

Property geology is located on Figures 4, 5 and 6. The dominant lithology on the New 1-4 claims is an ankeritized, silicified ultramafic. Where silicification is intense, weathered colour is yellowish red. Locally, brecciation has occurred. Intense (react to HCl) carbonatization and serpentinization was noted but is not common.

Mineralization includes minor amounts of pyrite, mariposite/fuchsite and a striated black, cubic metallic.

Some fresh ultramafics (dunite?) were observed on the property. Weathered surfaces of the dunite? were dark and at times exhibited a conglomeratic weathering feature.

The area in the vicinity of RT-007 exhibited brecciation, talc alteration, and some open space filling with quartz crystals all within the silicified ultramafic. A large xenolith of argillite was mapped on the northern portion of the New 2 claim.

The camp area (Figure 4) exhibits intense silicification, trace amounts of pyrite, local brecciation and some mariposite bearing quartz veins.

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### 4.4. Lithology

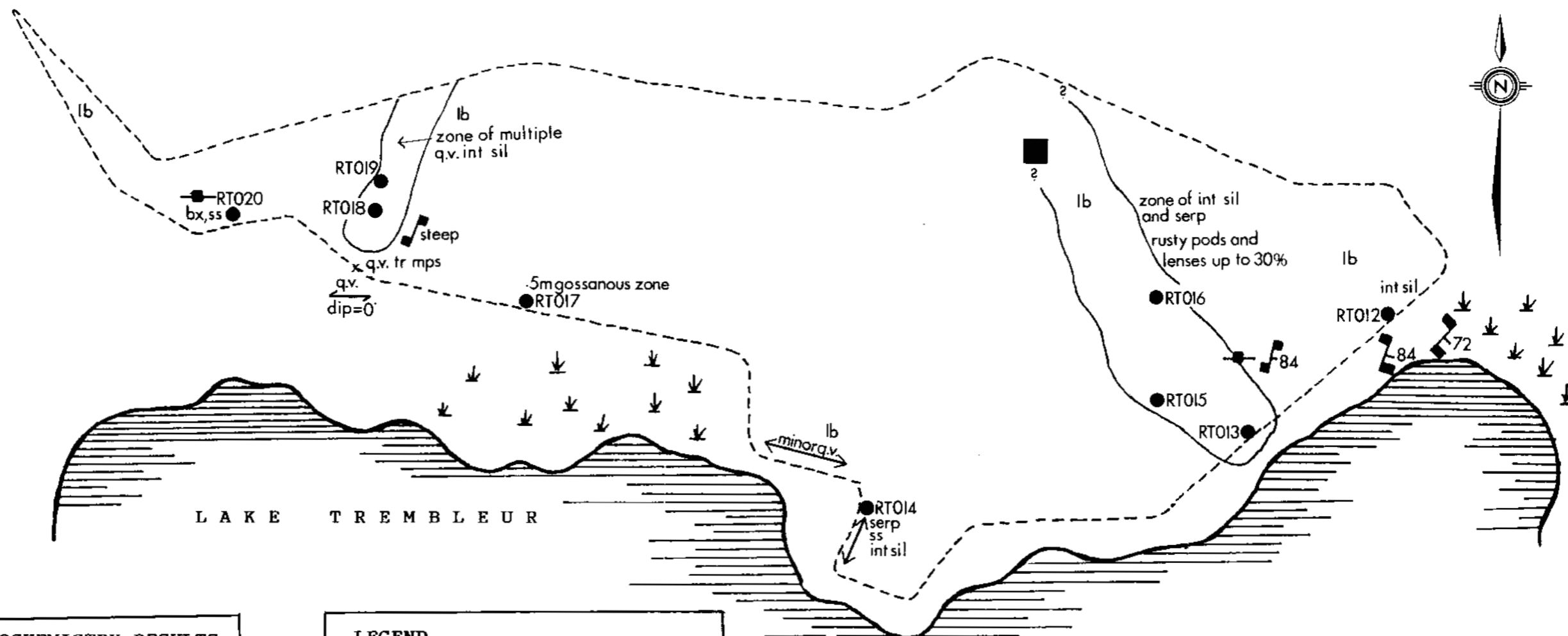
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GEOCHEMISTRY RESULTS	
SAMPLE	Au*ppb
RT012	1
RT013	1
RT014	1
RT015	2
RT016	1
RT017	1
RT018	1
RT019	1
Rt020	1

LEGEND	
<b>GEOLOGY</b>	
lb	SILICIFIED ULTRAMAFIC
<b>SYMBOLS</b>	
■	CAMP
⋯	OUTCROP PATTERN
⋈	JOINT
↗	STRIKE/DIP, QUARTZ VEIN
<b>ABBREVIATIONS</b>	
ss	SLICKENSIDES
serp	SERPENTINE
sil	SILIFICATION
int	INTENSE
bx	BRECCIATED

NEW 1 - 4 CLAIMS		
DETAILED PROPERTY GEOLOGY, SAMPLE LOCATIONS, AND Au GEOCHEMISTRY		
DRWN BY: MMF	OCT./88	FIGURE <b>4</b>
SCALE: 1:500	NTS: 93 K/14	
GEOLOGY BY: JRF		

Quartz veins on the property tend to follow joint planes. The quartz veins are massive to coarsely crystalline and commonly carry mariposite/fuchsite along their selvage. A zone of intense quartz veining was mapped on the west central portion of the New 1 claim.

## **5.0 GEOCHEMISTRY**

A total of 30 rocks, 20 silt and 3 pan concentrate samples were collected. Twenty rocks and 11 silts were geochemically analyzed for gold. Eight rocks, 9 silts and 3 pans were analyzed with 28 element ICP and also geochemically for gold.

Two rocks, a silicified ultramafic hosting up to 10% mariposite/fuchsite and an altered ultramafic (JC-87-4 and HK-87-1) returned elevated values in gold, 90 and 80 ppb respectively.

Rock sample descriptions appear in Table 1.

The highest silt sample carried 25 ppb gold.

Samples were geochemically analyzed for gold at Acme Analytical Laboratories and Van Geochem Labs both of Vancouver, B.C. Analytical procedures are located in Appendix 2 and geochemical results in Appendix 3.

## **6.0 CONCLUSIONS AND RECOMMENDATIONS**

Due to time constraints, the New Claim Group was given a cursory examination only. A more thorough investigation including mapping, prospecting, soil sampling, pan sampling and selected geophysics is required to fully evaluate the potential of this property.

**TABLE I**  
**Rock Sample Descriptions**

<u>Sample #</u>	<u>Type</u>	<u>Location</u>	<u>Description</u>	<u>Au(ppb)</u>
RT-001	Grab	New 1	Silicified ultramafic, gossanous, unidentified black mineral - cubic with striations (pyrite?) in trace amounts, minor brecciation.	1
RT-002	Grab	New 1	Silicified ultramafic with 5% mariposite/fuchsite, unidentified black mineral - cubic with striations (pyrite?) in trace amounts.	1
RT-003	Grab	New 1	Quartz vein, 5 cm in width, 280°/flat lying, mariposite along selvage, quartz is milky white and massive.	2
RT-004	Grab	New 1	Intensely silicified ultrabasic, trace unidentified silver metallic, striated black mineral (pyrite?) in trace amounts.	1
RT-005	Grab	New 1	Silicified ultramafic.	1
RT-006	Grab	New 1	Silicified ultramafic, slightly gossanous.	1
RT-007	Grab	New 1	Silicified ultramafic, brecciated, infilled with reddish brown cement, talc noted, some open space filling with quartz crystals.	1
RT-008	Grab	New 2	Intensely altered, difficult to identify parent rock, strongly carbonated, weathers white, weathered surface looks conglomeratic.	1
RT-009	Grab	New 2	Silicified ultramafic, trace disseminated pyrite, gossanous.	3
RT-010	Grab	New 2	Silicified ultramafic, rusty pods and patches, no visible sulphides.	2
RT-011	Grab	New 2	Intensely gossanous silicified ultramafic, no visible sulphides.	1



**TABLE 1 (Cont'd)**  
**Rock Sample Descriptions**

<u>Sample #</u>	<u>Type</u>	<u>Location</u>	<u>Description</u>	<u>Au(ppb)</u>
RT-012	.5m Chip	New 1	Zone of intense silicification in ultramafic.	1
RT-013	2m Chip	New 1	Silicified ultramafic, some serpentine, minor mariposite.	1
RT-014	3m Chip	New 1	Rusty and silicified ultramafic, some serpentine on jointing noted.	1
RT-015	Grab	New 1	Silicified ultramafic.	2
RT-016	Grab	New 1	Silicified ultramafic.	1
RT-017	Grab	New 1	Silicified ultramafic.	1
RT-018	Grab	New 1	Silicified ultramafic, quartz flooding, minor mariposite, multiple quartz veins.	1
RT-019	Grab	New 1	Silicified ultramafic, quartz flooding, minor mariposite, multiple quartz veins.	1
RT-020	Grab	New 1	Silicified and brecciated ultramafic.	1
RT-021	Grab	New 1	Silicified ultramafic.	2
RT-022	Grab	New 1	Silicified ultramafic, 1-2% disseminated pyrite as 1-3mm cubes, up to 1% mariposite.	4
JC-87-3	Grab	New 4	Silicified ultramafic, from possible fault system with brecciated silicified zone, trends at 152 <sup>o</sup> , quartz carbonate with minor fuchsite/mariposite.	10

TABLE 1 (Cont'd)

Rock Sample Descriptions

<u>Sample #</u>	<u>Type</u>	<u>Location</u>	<u>Description</u>	<u>Au(ppb)</u>
JC-87-4	Grab	New 4	Silicified ultramafic with high degree of carbonatization, mariposite/fuchsite up to 10%, trace disseminated pyrite.	90
JC-87-5	Grab	New 4	Vuggy quartz vein, mariposite/fuchiste along selvage, trends 133°/80°N.E., host is altered and carbonitized ultramafic.	nd
JC-87-8	Grab	New 2	Dark grey/black green dunite, locally conglomeratic weathered feature.	nd
HK-87-1	Grab	New 4	Altered ultramafic.	80
HK-87-4	Grab	New 2	Altered ultramafic, trace pyrite.	nd
HK-87-6	Grab	New 2	Altered ultramafic, trace pyrite.	nd
HK-87-9	Grab	New 2	Altered ultramafic, trace pyrite.	10

## 7.0 REFERENCES

Armstrong, J.E., 1949, Fort St. James Map Area, Cassiar and Coast Districts, British Columbia; Geol. Surv. Can., Memoir 252.

Goncharenko, A.I., 1970, Auriferous Listwanites As a New Type of Mineralization In the Northern Part of The Kuznetsk Alatau, unedited translation, January 10, 1984.

Whittaker, P.J. 1982, Chromite Occurences in the Mount Sydney Williams Area, Central British Columbia, source unknown.

B.C.D.M. Assessment Report 11879.

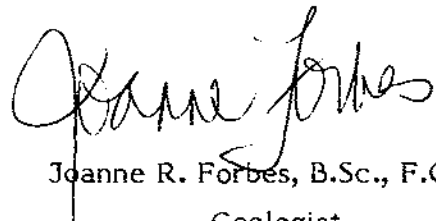
APPENDIX I  
CERTIFICATE

## CERTIFICATE

I, JOANNE R. FORBES, of the city of Vancouver, British Columbia hereby certify that:

- 1) I am a geologist with offices at 205 - 470 Granville St., Vancouver, B.C.
- 2) I hold a degree of Bachelor of Science in Geology from the University of Calgary, May, 1981.
- 3) I have been employed in my profession for the past 9 years.
- 4) I am a fellow of the Geological Association of Canada.

Dated on this 12th day of October, 1988 at Vancouver, B.C.



Joanne R. Forbes, B.Sc., F.G.A.C.  
Geologist

APPENDIX 2  
ANALYTICAL PROCEDURES



**ACME ANALYTICAL LABORATORIES LTD**

Assaying & Trace Analysis  
852 E. Hastings St. Vancouver B.C. V6A 1H6  
Telephone 253-3150

GEOCHEMICAL LABORATORY METHODOLOGY & PRICES - 1988

Sample Preparation

840	Soils or slits up to 2 lbs drying at 60 deg.C and sieving 10 gms # 80 mesh (other size on request)	0.85
93	Saving part or all reject	.45
920R	Soils or slits - drying at 60 deg.C and sieving #20 mesh & pulverizing (other mesh size on request.)	2.00
9P	soils or slits - drying at 60 deg.C pulverizing (approx. 100 gms)	1.50
RP100	Rock or cores - crushing to -3/16" up to 10 lbs, then pulverizing 1/2 lb to -100 mesh (98%)	3.00
Cr	Surcharge crushing over 10 lbs	.25/lb
2P1	Surcharge for pulverizing over 1/2 lb	1.75/lb
RP5100	Same as RP100 except sieving to -100 mesh and saving #100 mesh (200gms)	1.75
RP5100 1/2	Same as above except pulverizing 1/2 the reject - additional	2.50/lb
RP5100 A	Same as above except pulverizing 1/2 the reject - additional	2.50/lb
COP	Compositing pulps - each pulp Mixing & pulverizing	.50 1.50
HM	Heavy mineral separation - S.G. 2.96 + wash #20 mesh	12.00
V1	Drying vegetation and pulverizing 50 gms to #40 mesh	3.00
V2	Ashing up to 1 lb wet vegetation at 475 deg.C	2.00
H1	Special Handling	17.00/hr

Sample Storage

Rejects - Approx. 2 lbs of rock or total core are stored for three months and discarded unless claimed.

Pulps are retained for one year and discarded unless claimed.

Additional storage - for 3 years \$10.00/1.2 cu.ft. box  
or 15cents/sample pulp  
or 5cents/sample soil

Supplies

Soil Envelopes	6" x 6"	\$125.00/thousand
Soil Envelopes	4" x 6" with gusset	\$140.00/thousand
Plastic Bags	7" x 11" 4 ml	\$10.00/hundred
Plastic Bags	11" x 20" 6 ml	\$20.00/hundred
Ties		\$3.00/hundred
Assay Tags		M/C
10% HCl		\$3.00/liter
Dropping bottles		\$1.00/each
In Test	A & B	\$12.00/each liter

Conversion Factors

1 Troy oz	= 31.10 g
1 oz/tun	= 24.3 ppm = 24.3 g/tonne = 24,300 ppb
1 %	= 10,000 ppm



**ACME ANALYTICAL LABORATORIES LTD**

Assaying & Trace Analysis  
852 E. Hastings St. Vancouver B.C. V6A 1H6  
Telephone 253-3150

GEOCHEMICAL ANALYSES - Rocks and Soils

Group 1 Digestion

.40 gram sample is digested with 3 ml 3-1-2 HCl-HNO3-H2O at 95 deg.C for one hour and is diluted to 10 ml with water. This leach is near total for base metals, partial for rock forming elements and very slight for refractory elements. Solubility limits Ag, Pb, Sb, Bi, V for high grade samples.

Group 1A - Analysis by Atomic Absorption.

Element	Detection	Element	Detection	Element	Detection
Antimony	1 ppm	Copper	1 ppm	Niobium	1 ppm
Bismuth	1 ppm	Iron	0.01 ppm	Nickel	1 ppm
Cadmium	0.1 ppm	Lead	1 ppm	Silver	0.1 ppm
Chromium	1 ppm	Lithium	1 ppm	Vanadium	1 ppm
Cobalt	1 ppm	Manganese	1 ppm	Zinc	1 ppm

First Element \$2.25      Subsequent Element \$1.00

Group 1B - Hydride generation of volatile elements and analysis by ICP.  
This technique is unsuitable for sample grading over 1% Bi or Cu.

Element	Detection
Arsenic	0.1 ppm
Antimony	0.1 ppm
Bismuth	0.1 ppm
Cadmium	0.1 ppm
Seelenium	0.1 ppm
Tellurium	0.1 ppm

First Element \$4.25      All Elements \$5.50

Group 1C - Hg      Detection limit - 5 ppb      Price \$2.50

Hg in the solutions are determined by cold vapour AA using a F & J scientific Hg assembly. The aliquots of the extract are added to a stannous chloride/hydrochloric acid solution. The reduced Hg is swept out of the solution and passed into the Hg cell where it is measured by AA.

Group 1D - ICP Analysis, same digestion

Element	Detection
Ag	0.1 ppm
Cd, Co, Cr, Cu, Mn, Mo, Ni, Sr, Zn	1 ppm
As, Au, B, Ba, Bi, La, Pb, Sb, Th, V, W	1 ppm
U	1 ppm
Al, Ca, Fe, K, Mg, Na, P, Ti	0.01 %

Any 7 elements	\$1.25
10 elements	1.50
All 30 elements	6.25

Group 1E - Analysis by ICP/MS

Element	Detection
Ca, Cr	1 ppm
Au, Bi, Cd, Hg, In, Ir, Os, Re, Rh, Sb, Te, Th, Tl, U	0.1 ppm

All Elements 15.00 (minimum 20 samples per batch or \$15.00 surcharge)

Hydro Geochemical Analysis

Natural water for mineral exploration

26 element ICP - Hg, Cu, Pb, Zn, Ag, Co, Ni, Mn, Fe, As, Sr, Cd, V, Ca, P, Li, Cr, Mg, Ti, B, Al, Na, K, Ce, Be, Bi      \$8.00

F by Specific Ion Electrode	- detection	20 ppb	\$3.75
U by IAA	- detection	0.01 ppb	5.00
pH		1	1.50

\* Minimum 20 samples or \$5.00 surcharge for ICP or AA and \$15.00 surcharge for ICP/MS. All prices are in Canadian Dollars

VANGEOCHEM LAB LTD.  
1521 Pemberton Ave.  
North Vancouver, B.C.  
V7P 2S3

FROM: Vangeochem Lab Ltd.  
1521 Pemberton Ave.  
North Vancouver, B.C. V7P 2S3

SUBJECT: Analytical procedure used to determine multiple elements  
in hot acid soluble by Induction Couple Plasma  
Spectrometer (ICP) analysis.

1. Method of Sample Preparation

- (a) Geochemical soil, silt or rock samples were received in the laboratory in wet-strength 4" x 6" Kraft paper bags or rock samples sometimes in 8" x 12" plastic bags.
- (b) The dried soil and silt samples were sifted by hand using a 8" diameter 80-mesh stainless steel sieve. The plus 80-mesh fraction was rejected and the minus 80-mesh fraction was transferred into a new bag for analysis later.
- (c) The dried rock samples were crushed by using a jaw crusher and pulverized to 100-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for later analysis.

2. Method of Digestion

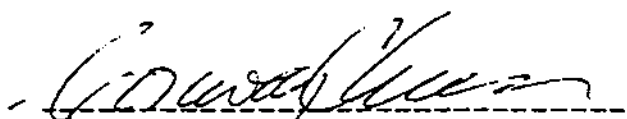
- (a) 0.500 gram of -80 mesh sample was used.
- (b) Samples were digested in a hot water bath at 95 C for 75 minutes with diluted aqua regia acids. (3 : 1 : 3.  
HCl : HNO<sub>3</sub> : H<sub>2</sub>O)
- (c) The digested samples were diluted to a fixed volume and shaken well.



3. Method of Analysis

The analyses were determined by using a Jarrel Ash ICAP model 9002 direct reading emission spectrometer with an inductively coupled plasma excitation source. Background and inter-element corrections (IEC'S) were applied. All data is compiled into an Apple IIe computer. stored on floppy disk and printed by an Epson 100 dot-matrix printer.

4. The analyses were supervised by Mr. Wade Reeves and Mr. Conway Chun of Vangeochem Lab Ltd. and their staff.

  
-----  
Conway Chun  
VANGEOCHEM LAB LTD.

APPENDIX 3  
GEOCHEMISTRY

ACME ANALYTICAL LABORATORIES LTD.  
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6  
PHONE(604)253-3158 FAX(604)253-1716

DATE RECEIVED: AUG 1 1988

DATE REPORT MAILED: *Aug. 6./88...*

### GEOCHEMICAL ANALYSIS CERTIFICATE

- SAMPLE TYPE: P1-P2 ROCK P3 SOIL P4 SILT  
AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

ASSAYER: *C. Leong* D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

AZIMUTH GEOLOGICAL FILE # 88-3132 Page 1

SAMPLE#	AU* ppb
RT-001	1
RT-002	1
RT-003	2
RT-004	1
RT-005	1
RT-006	1
RT-007	1
RT-008	1
RT-009	3
RT-010	2
RT-011	1

SAMPLE#	AU* ppb
RT-012	1
RT-013	1
RT-014	1
RT-015	2
RT-016	1
RT-017	1
RT-018	1
RT-019	1
RT-020	1
RT-021	2
RT-022	4

ST-001	1
ST-002	3
ST-003	1
ST-004	1
ST-005	1
ST-006	15
ST-007	1
ST-008	2
ST-009	5
ST-010	1
ST-011	3



# VANGEOCHEM LAB LIMITED

MAIN OFFICE  
1521 PEMBERTON AVE  
NORTH VANCOUVER, B.C. V7P 2S3  
(604) 986-5211 TELEX 04-352578

BRANCH OFFICE  
1630 PANDORA ST  
VANCOUVER, B.C. V5L 1L6  
(604) 251-5656

REPORT NUMBER: 870949 GA

JOB NUMBER: 870949

AZIMUTH GEOLOGICAL

PAGE 1 OF 1

SAMPLE #	Au
	ppb
HK-87-T-1	80
HK-87-T-4	nd
HK-87-T-6	nd
HK-87-T-9	10
T-JC-87-3	nd
T-JC-87-4	90
T-JC-87-5	nd
T-JC-87-8	nd
T-JC-87-1	nd
T-JC-87-7	5

DETECTION LIMIT

5

nd = none detected

-- = not analysed

is = insufficient sample

VANGEOCHEM LAB LIMITED

MAIN OFFICE: 1521 PEMBERTON AVE. N. VANCOUVER B.C. V7P 2S3 PH: (604)986-5211 TELEX: 04-352578  
 BRANCH OFFICE: 1630 PANDORA ST. VANCOUVER B.C. V5L 1L6 PH: (604)251-5656

ICAP GEOCHEMICAL ANALYSIS

A .5 GRAM SAMPLE IS DIGESTED WITH 5 ML OF 3:1:2 HCL TO HNO3 TO H2O AT 95 DEG. C FOR 90 MINUTES AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR SM, MN, FE, CA, P, CR, MG, BA, PD, AL, NA, K, W, PT AND SR. AU AND PD DETECTION IS 3 PPM.  
 IS= INSUFFICIENT SAMPLE, ND= NOT DETECTED, --= NOT ANALYZED

COMPANY: AZIMUTH GEOLOGICAL  
 ATTENTION:  
 PROJECT: TREM BLEUR

REPORT#: PA  
 JOB#: 870949  
 INVOICE#: NA

DATE RECEIVED: 87/08/06  
 DATE COMPLETED: 87/08/27  
 COPY SENT TO:

ANALYST *J. J. J.*

PAGE 1 OF 1

SAMPLE NAME	AG	AL	AS	AU	BA	BI	CA	CO	CO	CR	CU	FE	K	MG	MN	MO	NA	NI	P	PB	PB	PT	SB	SM	SR	U	W	ZN	
	PPM	U	PPM	PPM	PPM	PPM	U	PPM	PPM	PPM	PPM	U	U	U	PPM	PPM	U	PPM	U	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	
MK-87-T-1	.1	.15	ND	ND	1	ND	.08	.1	44	363	24	3.80	.94	12.98	820	1	.22	555	.01	5.5	ND	ND	ND	ND	ND	ND	ND	ND	11
MK-87-T-4	.1	.13	ND	ND	1	ND	.06	.1	47	539	21	4.82	.79	11.51	874	2	.22	536	.01	6.5	ND	ND	ND	ND	ND	ND	ND	ND	8
MK-87-T-6	.1	.07	4	ND	1	ND	.65	.1	23	274	29	2.99	.75	9.73	1011	1	.17	283	.01	5.5	ND	ND	ND	ND	ND	5	ND	3	6
MK-87-T-9	.1	.10	ND	ND	ND	ND	.41	.1	52	324	7	3.41	.80	10.62	898	ND	.19	349	.01	6	ND	ND	ND	ND	ND	1	ND	ND	8
T-JC-87-3	.1	.03	95	ND	2	ND	3.25	.1	21	119	15	2.39	.78	13.07	1388	ND	.20	919	.01	3	ND	ND	ND	ND	106	ND	ND	3	
T-JC-87-4	.1	.03	ND	ND	3	ND	.26	.1	46	124	16	2.56	.92	16.67	401	ND	.25	1212	.01	ND	ND	ND	ND	ND	19	ND	ND	6	
T-JC-87-5	.1	.03	19	ND	5	ND	2.41	.1	1	80	3	.89	.47	2.92	355	4	.06	75	.01	8.5	ND	ND	ND	ND	276	ND	15	4	
T-JC-87-8	.1	.11	83	ND	1	ND	.05	.1	115	255	20	4.58	.77	11.09	695	1	.21	1770	.01	3.5	ND	ND	ND	ND	3	ND	ND	7	
T-JC-87-1	.1	1.28	15	ND	57	7	.24	.1	20	211	35	2.94	.49	2.93	736	3	.09	257	.04	20	ND	ND	ND	ND	12	ND	10	57	
T-JC-87-7	.1	.91	28	ND	57	8	.16	.1	19	171	23	2.86	.52	3.06	762	2	.09	280	.02	19.5	ND	ND	ND	ND	9	ND	13	43	
DETECTION LIMIT	.1	.01	3	3	1	3	.01	.1	1	1	1	.01	.01	.01	1	1	.01	1	.01	2	3	5	2	2	1	5	3	1	



# VANGEOCHEM LAB LIMITED

MAIN OFFICE  
1521 PEMBERTON AVE  
NORTH VANCOUVER, B.C. V7P 2S3  
(604) 986-5211 TELEX 04-352578

BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L8  
(604) 251-5658

REPORT NUMBER: 970951 GA

JOB NUMBER: 970951

AZIMUTH GEOLOGICAL

PAGE 1 OF 1

SAMPLE #	Au
	ppb
HK-87-T-2	25
HK-87-T-3	10
HK-87-T-5	20
HK-87-T-7	5
HK-87-T-8	10
T-JC-87-10	10
<del>HK-87-T-10</del>	
T-JC-87-2	10
T-JC-87-6	10
T-JC-87-7	10
T-JC-87-9	10

DETECTION LIMIT

5

nd = none detected

-- = not analysed

is = insufficient sample

VANGEOCHEM LAB LIMITED

MAIN OFFICE: 1521 PEMBERTON AVE. N. VANCOUVER B.C. V7P 2S3 PH: (604)986-5211 TELEX: 04-352578  
 BRANCH OFFICE: 1630 PANDORA ST. VANCOUVER B.C. V5L 1L6 PH: (604)251-5656

ICAP GEOCHEMICAL ANALYSIS

A .25 GRAM SAMPLE IS DIGESTED WITH 5 ML OF 10% HF (10% HF) TO H2O AT 95 DEG. C FOR 90 MINUTES AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR SN, BA, FE, LA, P, CR, MO, BA, PD, AL, NA, K, W, PT AND SA. AU AND PU DETECTION IS 3 PPM.  
 IS= INSUFFICIENT SAMPLE, ND= NOT DETECTED, - = NOT ANALYZED

COMPANY: AZIMUTH GEOLOGICAL  
 ATTENTION: JOANNE FORBES  
 PROJECT: TREMBLEUR

REPORT#: 870951PA  
 JOB#: 870951  
 INVOICE#: 870951NA

DATE RECEIVED: 87/08/06  
 DATE COMPLETED: 87/09/04  
 COPY SENT TO:

ANALYST: *[Signature]*

PAGE 1 OF 1

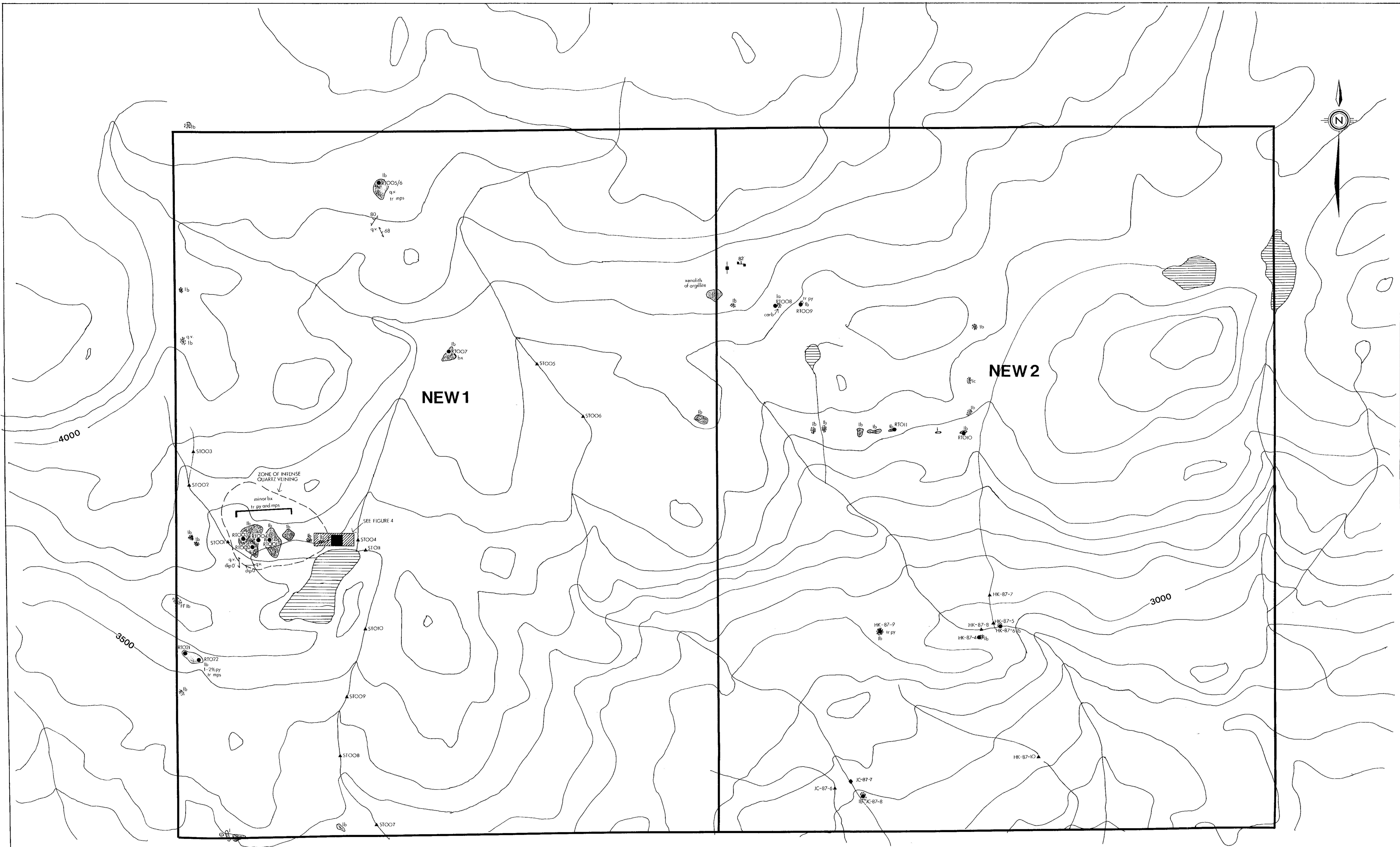
SAMPLE NAME	AG	AL	AS	AU	BA	BI	CA	CD	CO	CR	CU	FE	K	MO	NA	NI	P	PB	PD	PT	SB	SA	SR	U	W	ZN		
	PPM	%	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	%	%	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM		
HA 87-1-2	.1	1.23	22	ND	71	ND	.55	.1	30	296	17	3.87	.02	5.24	961	1	.22	427	.04	14	ND	ND	ND	ND	25	ND	ND	46
HK 87-1-3	.1	1.25	22	ND	74	ND	.59	.1	32	300	19	3.83	.01	5.51	1086	1	.22	453	.04	14	ND	ND	ND	ND	27	ND	ND	47
HK 87-1-5	.1	1.20	25	ND	63	ND	.58	.1	34	363	11	4.08	.01	6.69	1356	ND	.27	459	.03	12	ND	ND	ND	ND	24	ND	ND	41
HK 87-1-7	.1	1.22	21	ND	66	ND	.56	.1	26	239	12	3.79	.02	3.77	1005	1	.19	349	.04	14	ND	ND	3	ND	28	ND	ND	47
HA 87-1-8	.1	1.22	19	ND	66	ND	.38	.1	26	259	8	3.75	.02	4.02	893	1	.19	331	.04	13	ND	ND	3	ND	22	ND	ND	44
<del>TJC-87-10</del>	.1	1.67	14	ND	116	ND	.32	.1	30	226	25	3.90	.04	2.59	1035	1	.15	339	.06	18	ND	ND	2	ND	21	ND	ND	56
TJC-87-2	.1	1.98	13	ND	65	4	.44	.1	30	263	29	4.16	.03	3.60	956	2	.19	329	.06	23	ND	ND	ND	ND	19	ND	ND	68
TJC-87-6	.1	1.47	23	ND	137	4	.40	.1	29	212	21	3.99	.02	3.90	1524	1	.19	428	.05	20	ND	ND	ND	ND	27	ND	ND	60
TJC-87-7	.1	1.41	30	ND	96	ND	.34	.1	25	289	11	4.00	.01	5.35	1197	1	.22	562	.04	14	ND	ND	ND	ND	19	ND	ND	45
TJC-87-9	.1	1.48	25	ND	119	ND	.50	.1	22	141	25	3.45	.04	2.33	955	1	.14	302	.06	19	ND	ND	2	ND	31	ND	ND	59
DETECTION LIMIT	.1	.01	3	3	1	3	.01	.1	1	1	1	.01	.01	.01	1	1	.01	1	.01	2	3	5	2	2	1	5	3	1



APPENDIX 4  
COSTS INCURRED

### COSTS INCURRED

Geologist - J. Forbes	8 days	@ \$300.00	\$ 2,400.00
J. Cuttle	1 day	@ \$300.00	300.00
H. Koopman	1 day	@ \$300.00	300.00
 Field Assistant	 8 days	 @ \$150.00	 1,200.00
 Food and Accommodation	 16 mandays	 @ \$ 40.00	 640.00
 Transportation - Truck	 2 days	 @ \$ 50.00 + .15/km	 175.00
- Helicopter			1,500.00
 Supplies			 75.00
 Fuel			 100.00
 Analyses	Au geochemistry - 22 rocks, 11 silts		
	Au geochemistry + 28 ICP(28)-8 rocks, 9 silts, 3 pans		480.00
 Report	Drafting/Reproduction	\$250.00	
	Word Processing	\$ 70.00	
	Geologist (1.5 days)	<u>450.00</u>	<u>770.00</u>
	TOTAL		<u><u>\$ 7,940.00</u></u>



**LEGEND**

**GEOLOGY**

1	ULTRAMAFIC
1a	ULTRAMAFIC - CONGLOMERATIC WEATHERING
1b	SILICIFIED
1c	INTENSELY CARBONATED

**SYMBOLS**

STRIKE/DIP  
JOINT  
STRIKE/DIP, QUARTZ VEIN  
CLAIM BOUNDARY  
LAKE/POND  
OUTCROP NOT TO SCALE  
OUTCROP  
CAMP

● RT001-009 ROCK SAMPLE LOCATION  
▲ JC-87-1 SILY SAMPLE LOCATION  
◆ JC-87-1 PAN SAMPLE LOCATION

**ABBREVIATIONS**

fu	FUCHSITE
mps	MARIPOSITE
q.v.	QUARTZ VEIN
qtz	QUARTZ
bx	BRECCIATED
carb	CARBONATED
tr	TRACE
py	PYRITE

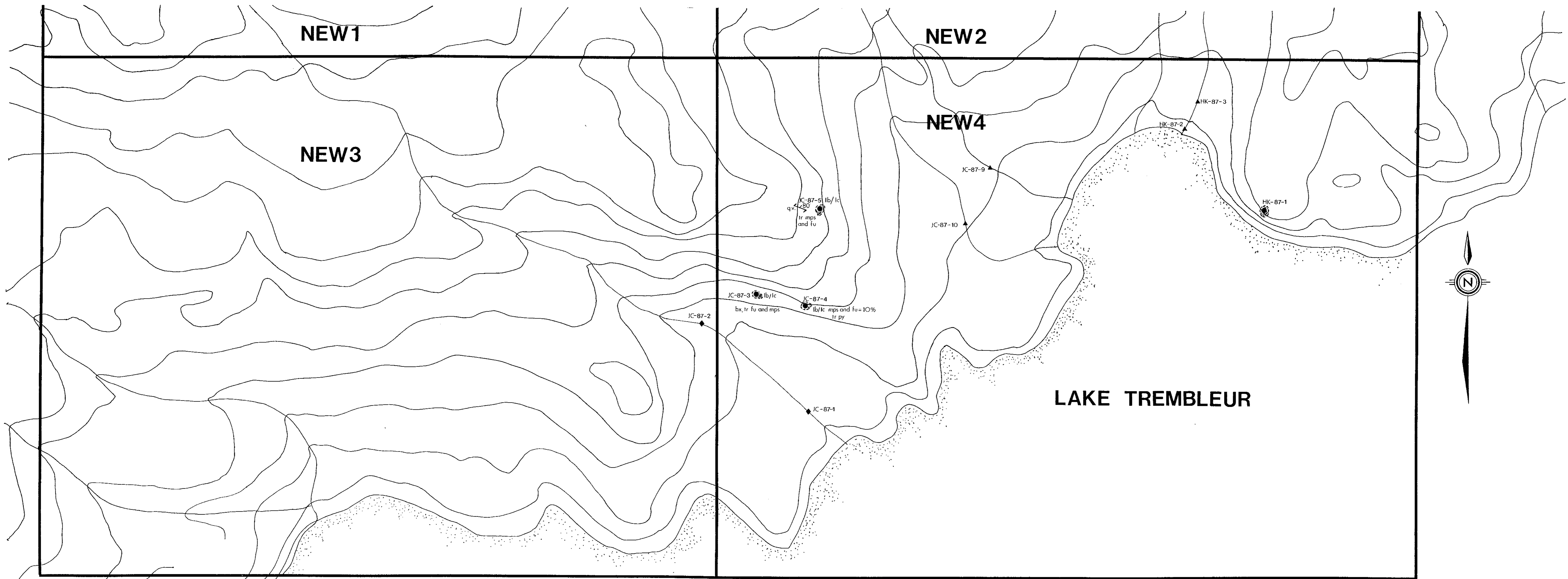
**GEOCHEMISTRY RESULTS**

SAMPLES	Au* ppb	SAMPLES	Au* ppb
RT001	1	ST001	1
RT002	1	ST002	3
RT003	2	ST003	1
RT004	1	ST004	1
ST005	1	ST005	1
ST006	1	ST006	15
ST007	1	ST007	1
ST008	1	ST008	1
ST009	1	ST009	1
ST010	2	ST010	1
ST011	1		
ST012	2	HK-87-4	6.0
ST013	4	HK-87-5	2.0
ST014	10	HK-87-6	6.0
ST015	1	HK-87-7	1.0
ST016	1	HK-87-8	2.0
ST017	1	HK-87-9	1.0
ST018	1	HK-87-10	1.0

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**17,944**

NEW 1 - 4 CLAIMS		
NORTH SHEET		
PROPERTY GEOLOGY, SAMPLE LOCATIONS AND AN GEOCHEMISTRY		
DRWN BY: MMF	DATE: OCT./88	FIGURE
SCALE: 1:5000	NTS: 93 K/14	<b>5</b>
GEOLOGY BY: JRF		



**LEGEND**

**GEOLOGY**

l ULTRAMAFIC  
la ULTRAMAFIC - CONGLOMERATIC WEATHERING  
lb SILICIFIED  
lc INTENSELY CARBONATED

**SYMBOLS**

◆ JC-87-1 PAN SAMPLE LOCATION  
 ● JC-87-4 ROCK SAMPLE LOCATION  
 ▲ HK-87-2 SILT SAMPLE LOCATION  
 OUTCROP NOT TO SCALE  
 — CLAIM BOUNDARY  
 qv STRIKE/DIP, QUARTZ VEIN

**ABBREVIATIONS**

fu FUCHSITE  
 mps MARLPOSITE  
 q.v. QUARTZ VEIN  
 qtz QUARTZ  
 bx DECECCATED  
 carb CARBONATE  
 tr TRACE  
 py PYRITE

GEOCHEMICAL RESULTS	
SAMPLES	Au*ppb
JC-87-1	nd
JC-87-2	10
JC-87-3	nd
JC-87-4	90
JC-87-5	nd
JC-87-9	10
JC-87-10	10
HK-87-1	80
HK-87-2	25
HK-87-3	10

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

17,944

NEW 1 - 4 CLAIMS		
SOUTH SHEET		
PROPERTY GEOLOGY, SAMPLE LOCATION AND Au GEOCHEMISTRY		
DRWN BY: MMF	DATE: OCT./88	FIGURE
SCALE: 1:5000	NIS: 93 R/14	6
GEOLOGY BY: JRF		