

ASSESSMENT REPORT  
MAGNETOMETER SURVEY, GRID EMPLACEMENT  
LEM 1 - 3 MINERAL CLAIMS

TAWHEEL LAKE AREA, B.C.  
Kamloops Mining Division  
NTS: 92P/9W

Lat: 51 deg 37'N - Long: 120 deg 15'W

For:  
Canadian Mining Company Ltd.  
Ste.2500 - 1177 West Hastings St.  
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V6E - 2K3

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June 18, 1998

GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORT

25,582

## SUMMARY

The following describes the work activities completed in the field between November 13th through 22nd, 1997 on the Lem 1 to 3 mineral claims situated in the Taweel Lake area eighteen kilometres west of Clearwater, B.C. Property access was from Little Fort, B.C. via a combination of paved and gravel road, four wheel drive trail and snowmobile. Work completed included line-cutting, grid emplacement (14.88 line kilometres) and ground magnetic survey. The claims are owned by Canadian Zeolite Ltd./Canadian Mining Company Ltd.

The survey was carried out by Percy Cox under the direction of John Jenks, P.Geo., who plotted and interpreted the magnetic data and prepared the final report.

The grid now totals approximately 16,843 metres of crosslines, blazed and flagged plus 1,400 metres of baseline. The entire grid was magnetically surveyed, 817 stations in total.

The claim area is underlain by a Triassic flysch sequence, largely argillitic, in fault contact with various andesitic volcanics of Jurassic age. Small Cretaceous monzonite stocks occur in the general area and likely underlie certain portions of the claim. A series of NNW-trending fault linears traverse the area. Massive sulphides, including pyrrhotite, pyrite, spalerite and galena have been found near the headwaters of Lemieux Creek and some 700 metres to the northeast.

Ground magnetics suggest a division of the grid area into three discreet sectors designated Northern, Central and Southern. The magnetically flat Central sector, transverse to the regional structure, separates the other two and could reflect a change in lithology such as a fault zone or series of intrusives. The Northern sector contains five separate magnetic anomalies generally associated with structural linears and a certain proximity to massive sulphides as exposed in the area of trenches. Three smaller, lower-intensity anomalies in the Southern sector also show an association with linears and should similarly be followed up.

Recommendations are made for extending the current grid and magnetic survey coverage, geological mapping and soil sampling. The Northern sector in particular warrants follow-up. A budget of \$34,075.00 is proposed for 1998.

A total of \$7,087.54 was expended on the 1997 programme of which \$6,263.24 was filed for work assessment.

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## 1. INTRODUCTION:

### 1a. Location and Access:

The Lem claims are situated 24 air kilometres NNW of Little Fort, B.C. and 18 kilometres west of Clearwater, B.C. During the project the claims were accessed from Little Fort as follows:

<u>Odometer(Kms)</u>	<u>Description</u>
0	Junction of highways #5 and #24 at Little Fort. Take highway #24 west from Little Fort.
3.7	Turn left onto Lemieux Creek logging road.
17.4	Take left fork.
19.6	Take left fork.
20.8	Left turn to private property. Stay right.
24.3	Cross over Fourteen Mile Creek.
24.6	Left turn to Tinthohtan Lake. Stay right.
25.9	Southern boundary of Roff #3.
29.0	Arrival at Taweel Lake/Nehalliston Fishing Camp situated within claim area.

The final eight kilometres of road are extremely rough, requiring a four-wheel drive vehicle and a full hour of driving time. The trip from Little Fort to Taweel Lake requires 1.5 hours to complete. Two fishing lodges on Taweel Lake may provide accomodation at prices exceeding \$160/day, meals included. During November the snow cover required access by snowmobile for the final few kilometres.

### 1b. Topography and Vegetation:

The claim area consists of rolling, hilly upland terrain with elevations ranging from 1,000 to 1,250 metres. Well-timbered, the forest cover is thick, submature with a mixture of conifers (spruce, hemlock, balsalm fir, jackpine) up to two feet in diameter. Logging activities are encroaching upon the area from the norteast. Lemieux Creek is the only permanent stream traversing the claim area.

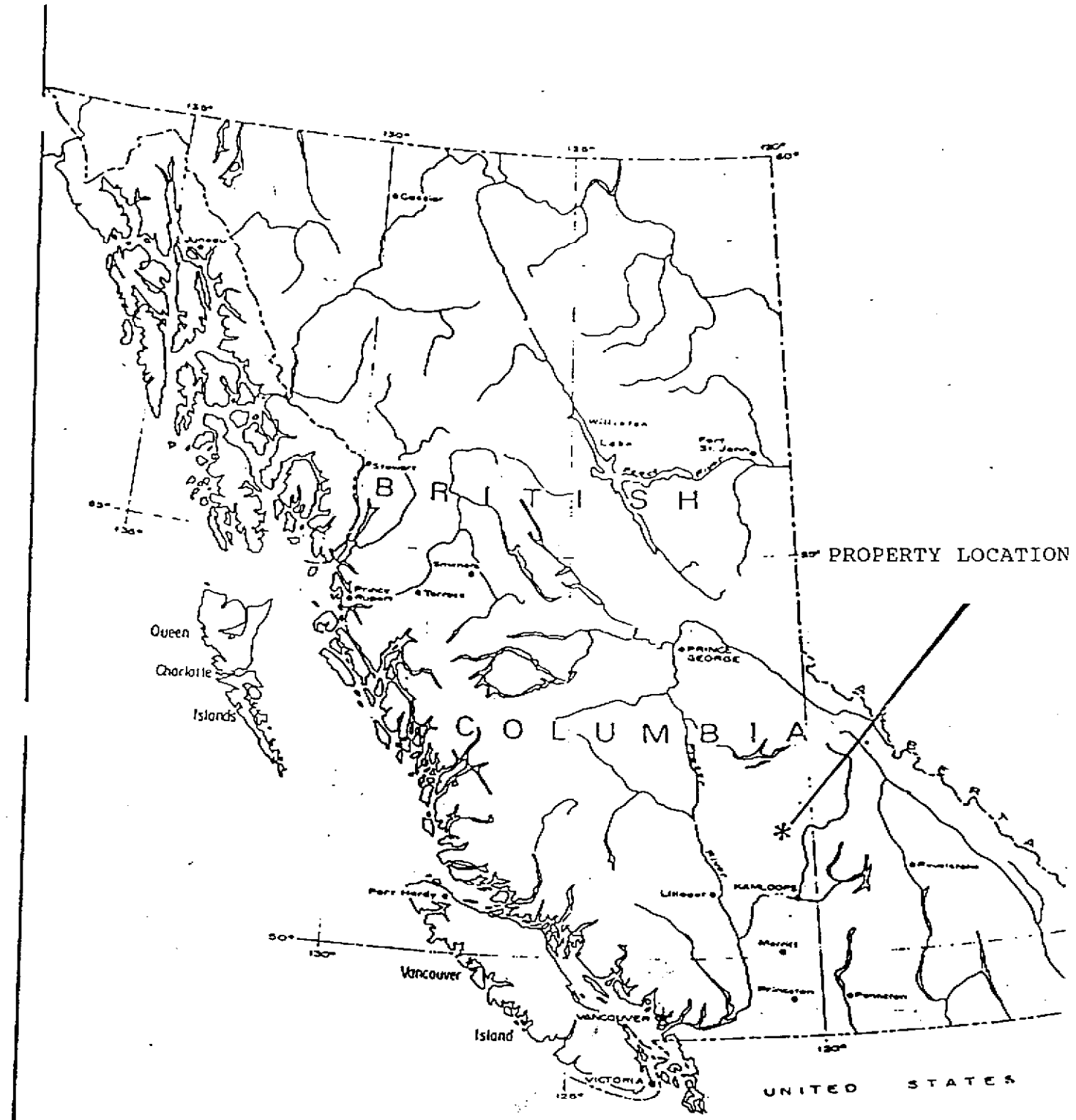
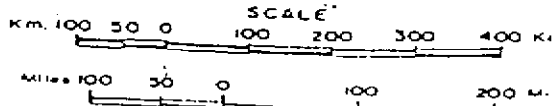


FIG. 1

TAWHEEL LAKE, KAMLOOPS M.O.,  
 LOCATION MAP



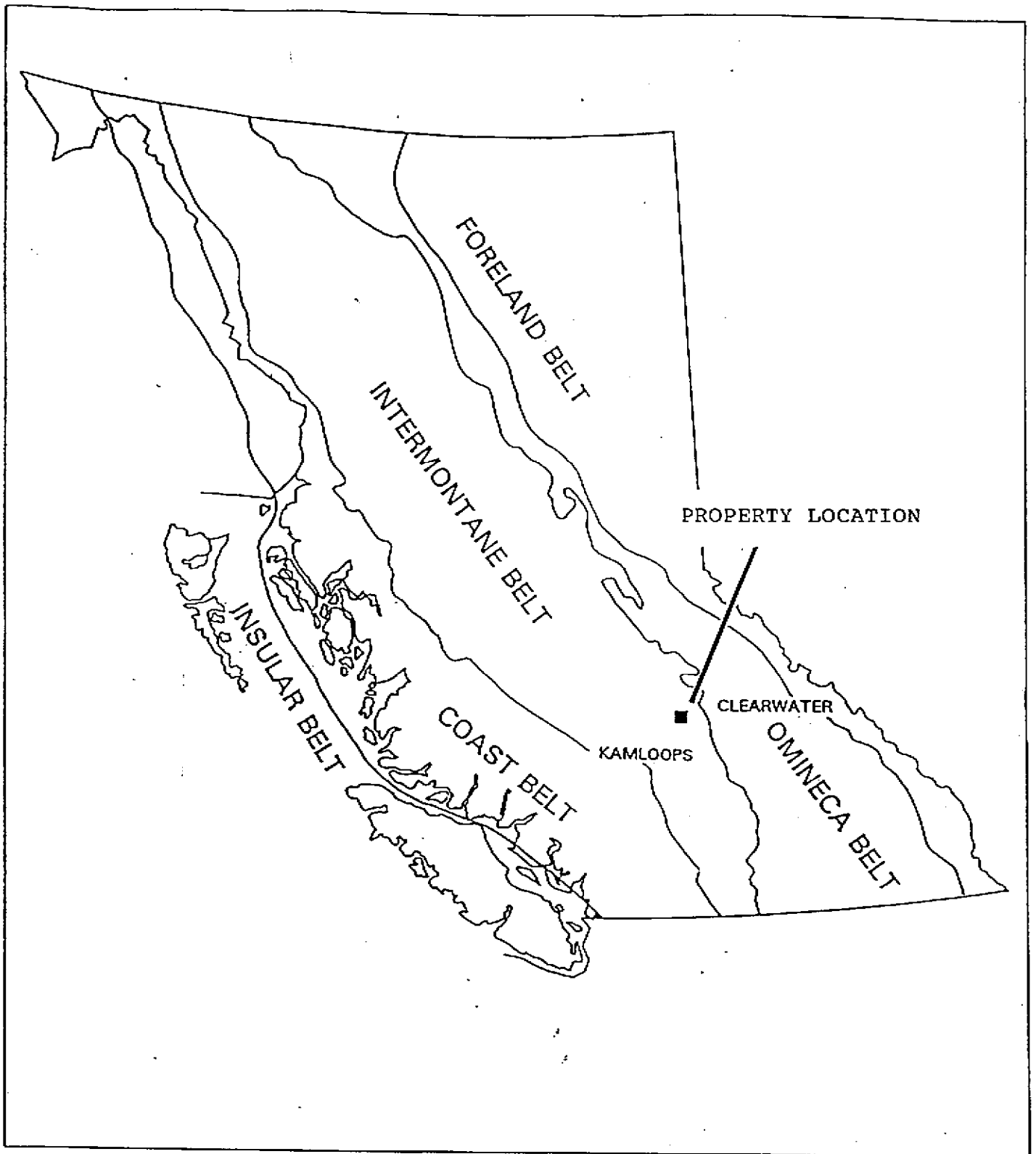


Figure 2  
PHYSIOGRAPHIC LOCATION MAP  
THE LEM CLAIMS  
Taweel Lake Area, B.C.  
NTS 92P/9

1c. Land Tenure:

The Lem 1-3 claims consist of 56 contiguous units (28,000 hectares) situated around the eastern portion of Taweel Lake and including the eastern 10% of the lake itself. Details are as follows:

<u>Claim Name</u>	<u>No.Units</u>	<u>Rec No.</u>	<u>Anniv.Date</u>	<u>Owner of Record</u>
Lem #1	20	334437	March 25	Cdn.Zeolite/Cdn.Mining Co.
Lem #2	16	334438	March 25	-do-
Lem #3	20	334439	March 25	-do-

The claims are wholly owned by Canadian Mining Co.

1d. History of Exploration:

Poorly documented exploration activity within the claim area dates back to at least 1925. A now-collapsed, short adit driven into a gold-bearing massive sulphide zone near the headwaters of Lemieux Creek likely originates some 50-75 years ago. A series of trenches and test pits one kilometre to the northeast in similar material was probably dug during the same time period.

A previous claim owner during the 1980's, Sim Jutras, had a portion of the claim area gridded, soil sampled and surveyed by ground magnetics. Several promising indicated anomalies were never followed up.

Peppa Resources/P.Lieberman drilled three short diamond drillholes in the Lemieux Creek area during 1988, with encouraging results. At least two other holes drilled into the same area prior to Peppa's programme are undocumented, their date of completion uncertain.

Rock samples taken by previous workers from the Lemieux Creek showing and from the trench areas to the northeast have indicated gold values ranging up to 1.237 ounces per ton with zinc grades to 13.7% and silver to 12,225 opt.

Anaconda carried out a geochemical survey during the 1960's on a massive sulphide zone near Friendly Lake thirteen kilometres to the west while Falconbridge Nickel explored for molybdenum in pegmatites and quartz veins slightly east of the Lem claims. Immediately south of the Lem 2 claim Amax conducted an extensive programme directed towards molybdenum in and around a small granitic stock which culminated in diamond drilling during 1980. A zinc soil anomaly delineated during the programme projects onto the Lem claim area.

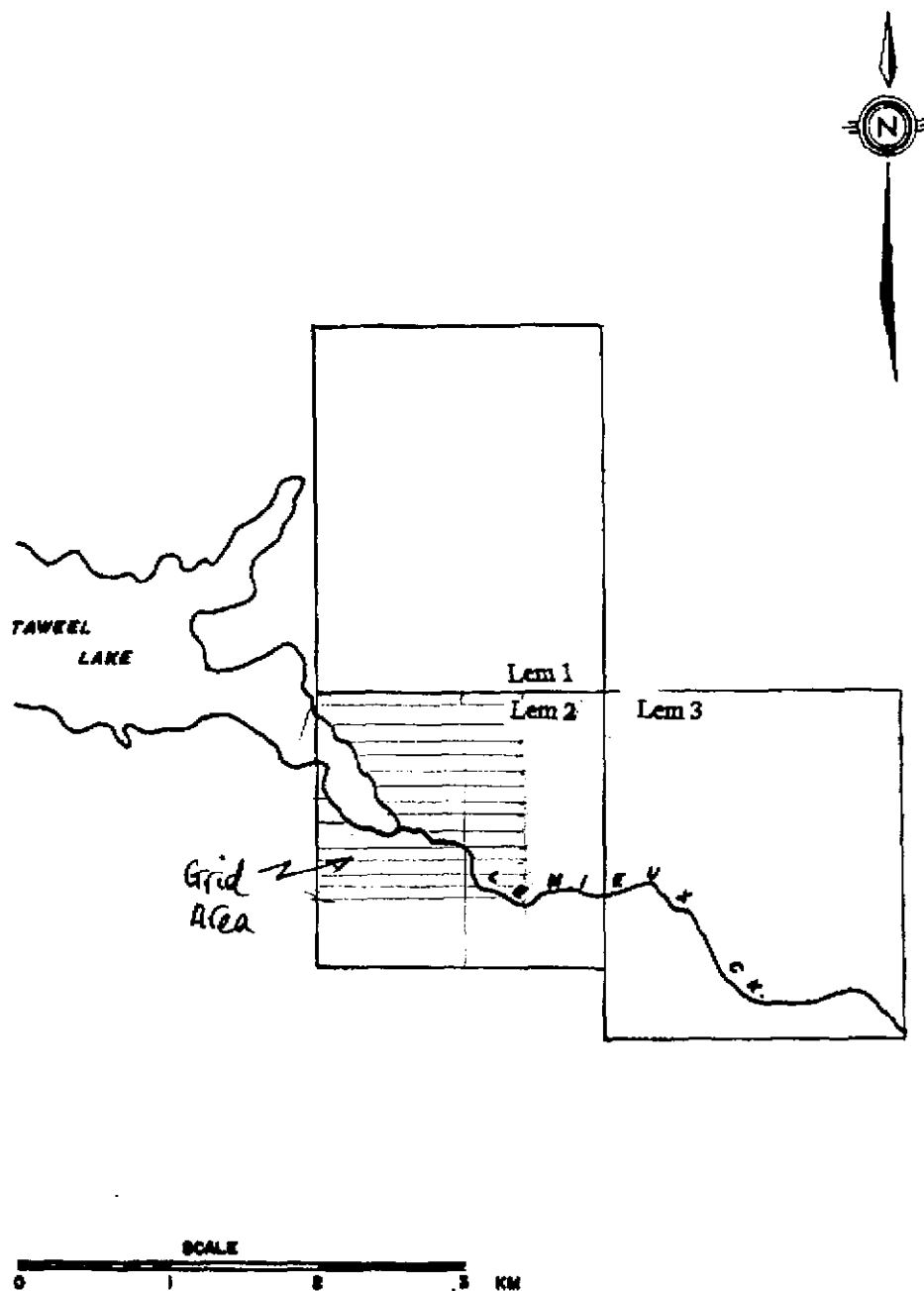


Figure 3  
CLAIM MAP  
THE ROFF CLAIMS  
Taweel Lake Area, B.C.  
NTS 92P/9



Assessment work carried out by the author for the previous owner, Forefront Ventures during 1994, included rock sampling and reconnaissance soil sampling. High gold and base metal values as indicated by previous workers were verified. A partial grid was cut and magnetometer surveyed during February 1996.

Within the general North Thompson area a number of gold sulphide properties and showings are present. These include the Little Fort, Nehalliston Creek, Lakeview, Diamac, Eakin Creek placer, Silver Lake, Chu Chua, Queen Bess, Windpass and Samatosum properties; the latter three have undergone previous production.

## 2. WORK PROGRAMME - NOVEMBER 1997:

Work on the property was carried out under BCEM approval number KAM 97-1500533-177 from November 13 through November 22, 1998. Field work was completed by Percy Cox under the direction of John Jenks, P.Geo.

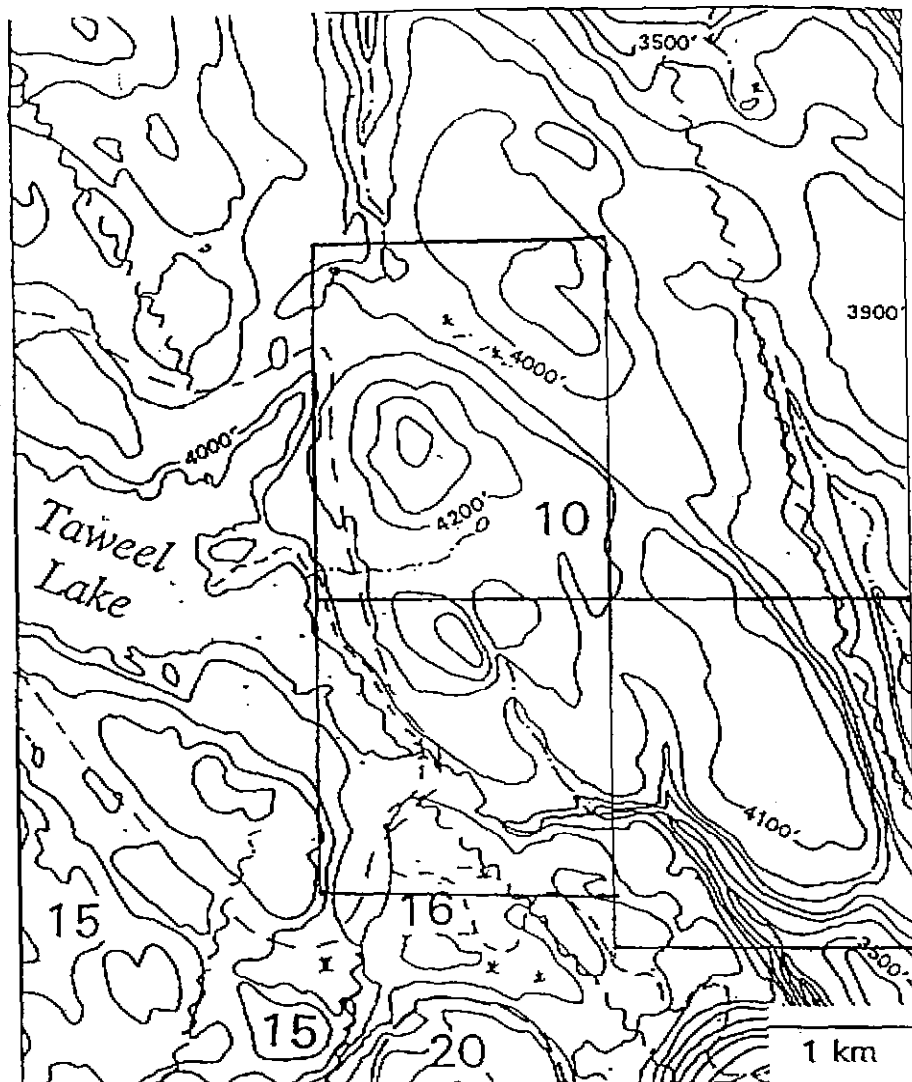
Approximately 14.88 km of grid and base line was blazed and flagged with stations at 25 metre intervals. The grid now totals 16.8 km in length with a base line interval of 1,400 metres. A ground magnetic survey was completed with readings taken at 817 stations.

Snow conditions required access of the final few kilometres to the property by snowmobile. The field work was undertaken on snowshoes.

## 3. GEOLOGY:

Regionally the claim area is situated at the eastern margin of the Quesnel Trough near the border with the Shushwap Metamorphic Complex. Within a swarm of northwesterly and north-northwesterly trending block fault splays the area is underlain by folded and block-faulted late Paleozoic, Mesozoic and early Tertiary volcanic, sedimentary and granitic rocks. Much of the claims are covered by glacial drift and loess, especially around the perimeter of Taweel Lake, and rock exposure is restricted to Lemieux Creek, the banks of ravines and gullies and the tops of ridges and hills.

The predominant rock type is a Triassic-aged argillite commonly with more siliceous horizons, layers and lenses. Northwesterly and north-northwesterly trending fault linears are readily discernable on air photographs and manifest themselves on the ground as narrow ravines and gullies. The probability of small covered intrusive bodies within the claim area is high.



- UNIT 20 Leuco-quartz monzonites with fine-grained biotite scattered throughout the rock. Scattered veinlets of smoky grey quartz carry molybdenite.
- UNIT 16 Porphyritic augite andesite breccia and conglomerate with minor arenite, tuff, argillite, and flows.
- UNIT 15 Grey to brown weathering, medium to dark grey and greenish grey clastic volcanic rocks including andesitic arenites, siltstones, grits and brecciated tuffs.
- UNIT 10 Silicious argillaceous rock including black shales and argillites variably metamorphosed to phyllites.

Figure 4

GEOLOGICAL MAP  
(After Campbell & Tipper, 1971)

Taweel Lake Area, B.C.

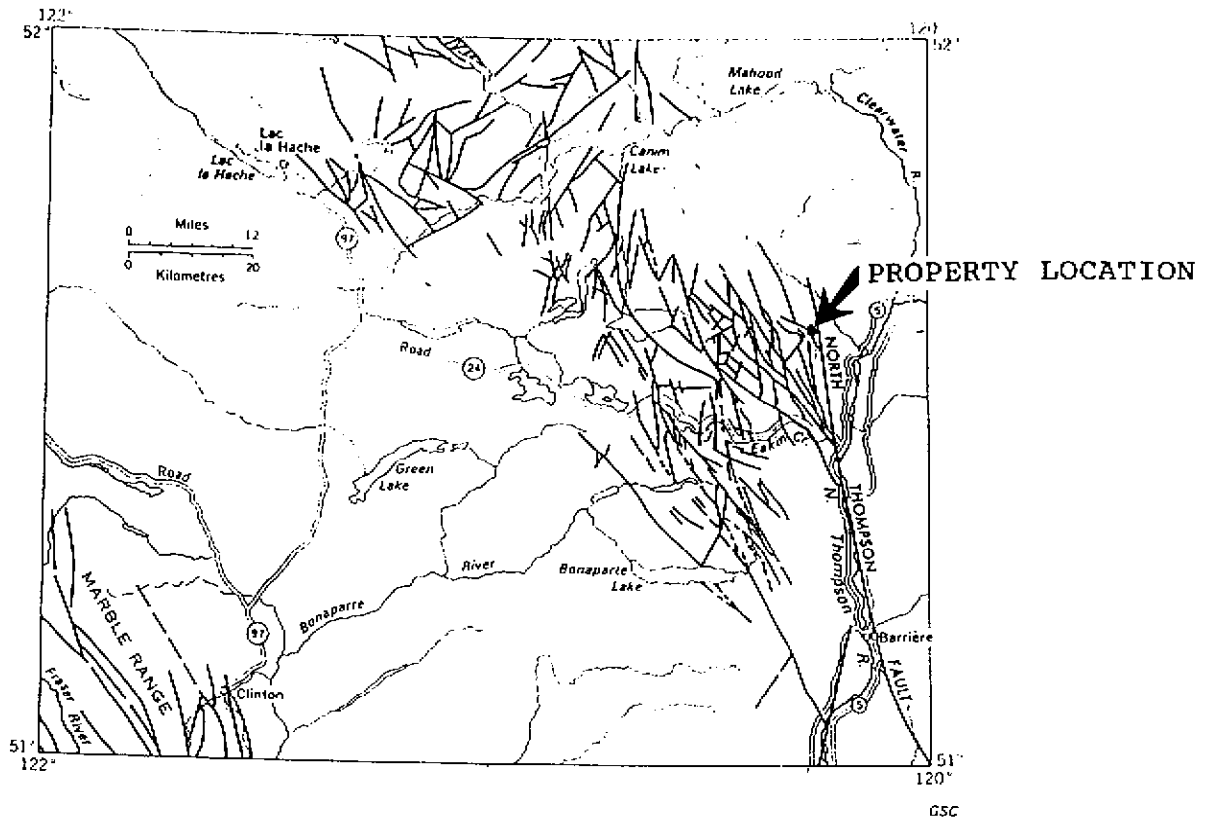


Figure 5

STRUCTURAL MAP SHOWING BLOCK FAULTS  
(After Campbell & Tipper, 1971)

Taweel Lake Area, B.C.

Showings of massive sulphides and gold-bearing arsenopyrite in the Lemieux Creek and the Trench area northeast of Lemieux Creek appear fault associated though they could relate to more distal Besshi or Kuroko type deposits. The presence of pyrrhotite enhances the applicability of ground magnetics.

#### 4. MAGNETOMETER SURVEY:

##### 4a. Instrumentation:

A single hand-held Scintrex MP-2 Proton Precession Magnetometer rented from T. Hasek Associates was used for the survey. The machine has digital readout accurate to within one gamma when used with the sensor detached and extended from the instrument as was the case during the survey.

The machine is so-named because "it employs the precession of spinning protons or nuclei of the hydrogen atom in a sample of hydrocarbon liquid (contained in the sensor) to measure the total magnetic dipoles which are temporarily aligned or polarized by application of a uniform magnetic field generated by a current in a coil of wire. When the current is removed, the spin of the protons causes them to precess around the direction of the ambient or earth's magnetic field, much as a top precesses about the gravity field. The precessing protons then generate a small signal in the same coil to polarize them, a signal whose frequency is precisely proportional to the total magnetic field intensity and independent of the orientation of the coil, i.e., sensor of the magnetometer. The proportionality constant which relates frequency to field intensity is a well known atomic constant; the gyromagnetic ratio of the proton. The precession frequency, typically 2000 Hz, is measured by digital counters as the absolute value of the total magnetic field intensity with an accuracy of 1 gamma in the earth's field of approximately 50,000 gammas" (Breiner, 1973)

The instrument measures the total magnetic field intensity or, in actual fact, the magnitude of the earth's field vector independent of its direction.

With no moving parts the instrument produces an absolute and relatively high resolution measurement in the form of a digital readout. Two field conditions may degrade the field signal: the presence of a large magnetic field gradient (larger than 200 gammas per foot) or that of nearby alternating current power sources. Neither of these conditions were evident during the survey.

#### 4b. Survey Procedures:

Readings were taken at 25 metre stations along pre-cut lines spaced 100 metres apart. Care was taken to remove all metallic objects from the operator's person while taking readings. A minimum of five separate readings were taken at each station with either the average or the most frequently occurring reading taken as the value.

If poor repeatabilities are noted at any time within a short interval the survey is temporarily discontinued due to a magnetic storm.

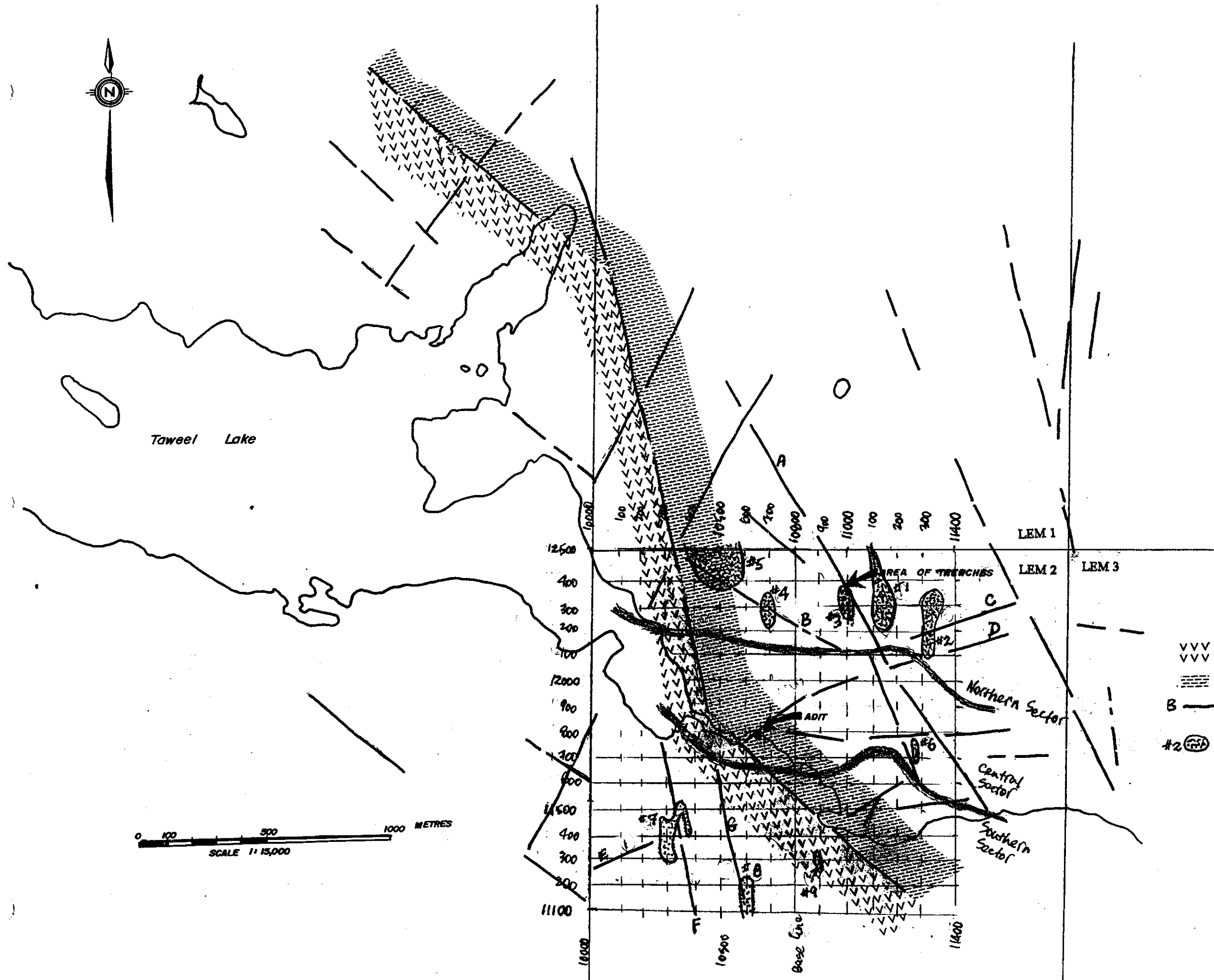
To correct for diurnal variations the following procedure was used: baseline readings were taken by traversing the baseline from the origin to the southern extremity and back again. Averages were taken for the two sets of readings which then became the assigned baseline values. Crossline readings were started each day from the baseline; the time of the initial reading was recorded as was the time of the final reading, also concluding at the baseline station. Additions or subtractions made to the initial baseline reading to return it to its assigned value were also made to the crossline stations. Further proportional corrections were made to these station values according to the lapsed time of the readings and the difference between the concluding baseline reading and the assigned baseline reading.

#### 4c. Results:

Magnetometer readings were taken for 817 stations. These were corrected for diurnal variations, plotted and contoured (Fig.8). Gamma values ranged from 56,530 to 58,530 with average of 57,448 gammas. Contouring by hand was felt to give a more accurate depiction of the anomalies and their trends. Accordingly the computer-generated contouring (Fig.9) is included for reference only.

#### 4d. Interpretation:

The magnetic results are best interpreted in context with the underlying geology; accordingly, the magnetic highs are compiled and overlain (Fig.7) onto a geology base derived from regional government mapping (Fig.4) and aerial photo analysis of structural linears. The gross lithology as indicated by government mapping indicates a NNW-trending contact between andesitic volcanics on the west and argillaceous sediments on the east. Analysis from airphotos indicates a fairly complex structural picture which includes NNW, NW, NE, NNE and ENE trending fault linears. Massive sulphides are exposed both in the vicinity of the adit as well as



- v v v Volcanics
- v v v Argillites, greywackes
- B — Implied fault linear
- #2 (circled) Ground Magnetic Anomaly

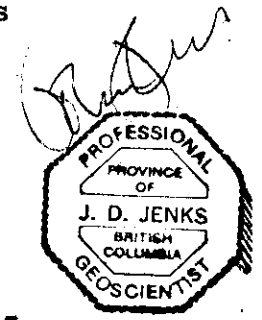
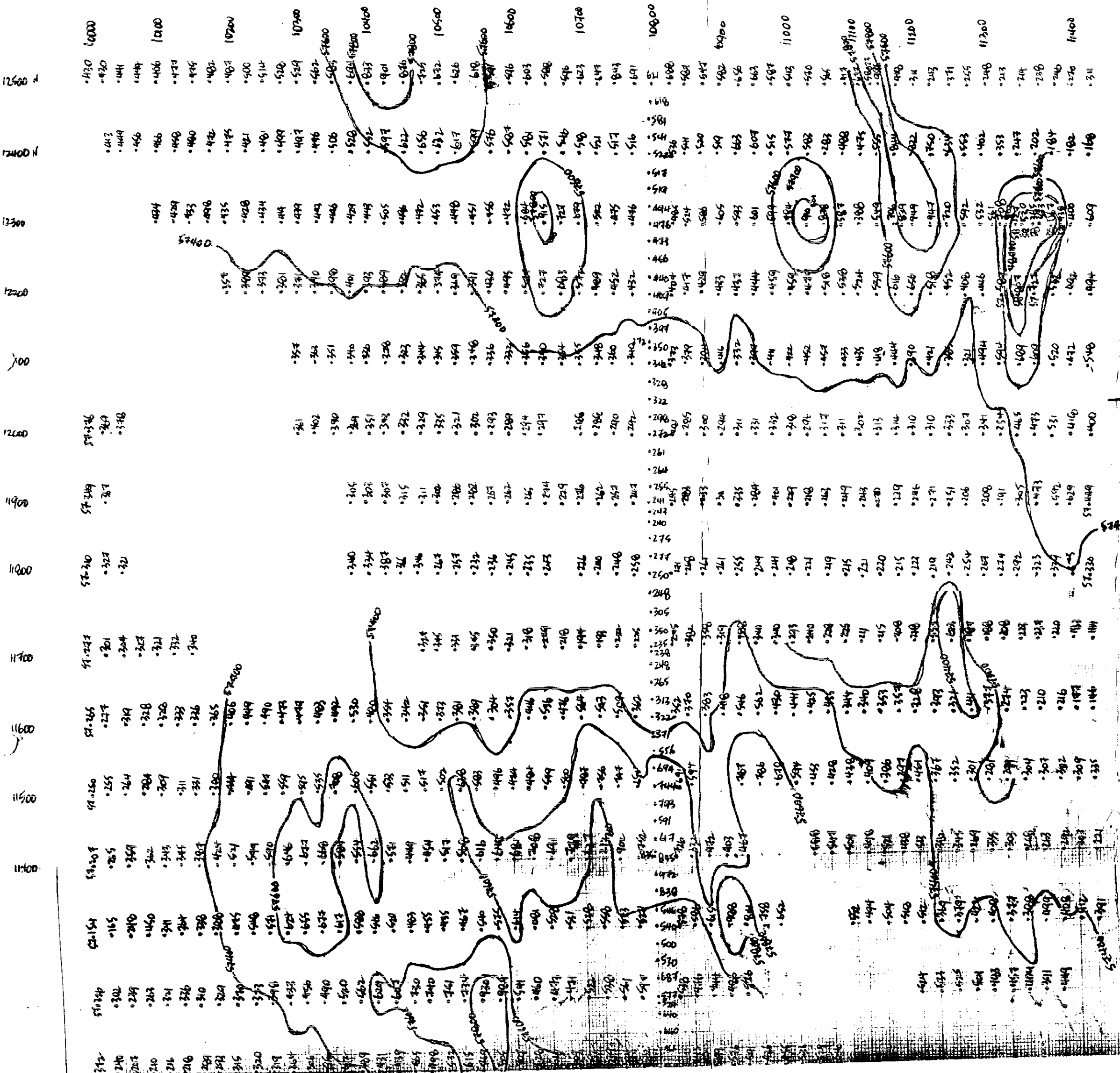


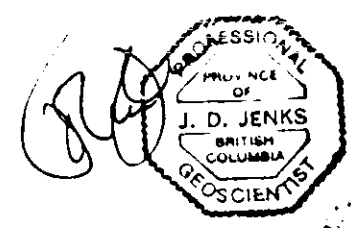
Figure 7

GEOLOGY/AERIAL PHOTO INTERPRETATION  
 SHOWING STRUCTURAL LINEAMENTS  
 AND MAGNETIC ANOMALIES

The LEM CLAIMS  
 Taweel Lake Area, B.C.  
 J.Jenks June 1998

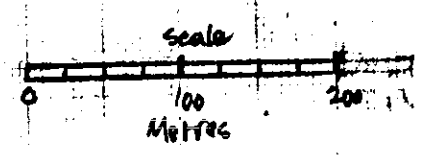


582 Diurnally corrected magnetic value (+57,000 gammas)  
 590 Magnetic contour line (gammas)  
 1000 Map grid line or station



25582

Figure 8  
 GROUND MAGNETIC CONTOURS  
 HAND-CONTOURED  
 The LEM CLAIMS  
 Tawee Lake Area, B.C.  
 J. Jenks June 1998



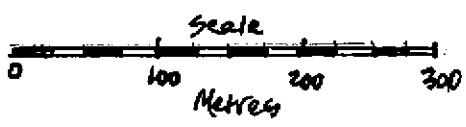
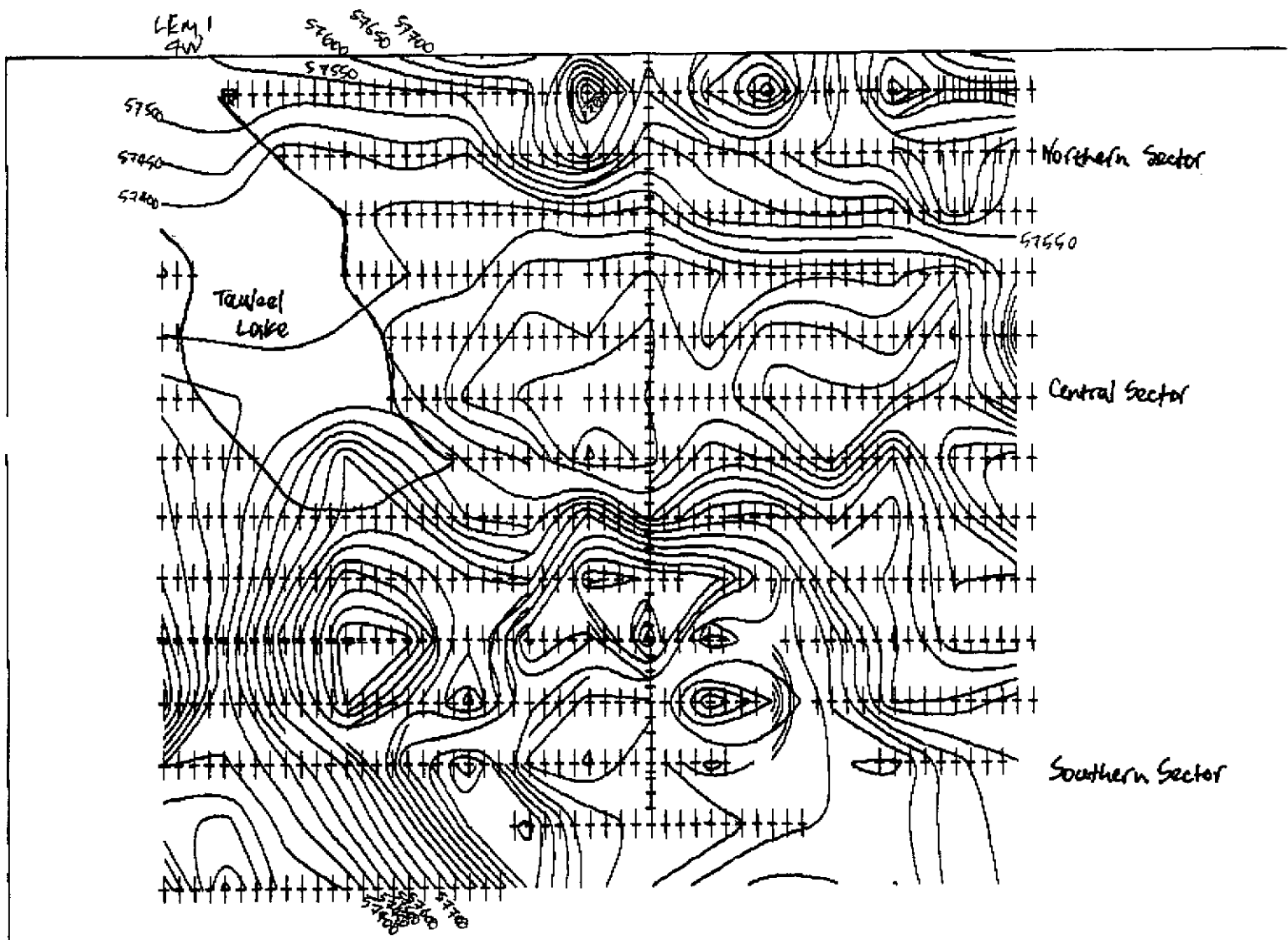
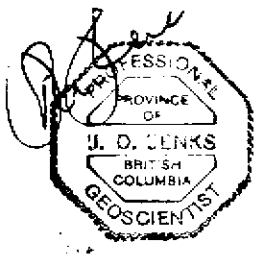


Figure 9  
GROUND MAGNETIC CONTOURS  
COMPUTER-CONTOURED

The LEM CLAIMS  
Tawael Lake Area, B.C.  
J.Jenks June 1998





the area of trenches indicated on Figure 7.

Essentially the magnetic data indicates that the survey area is divisible into three discrete sectors each with its unique magnetic characteristics. Arbitrarily these are called the Northern, Central and Southern sectors. The Northern and Southern sectors have similar magnetic characteristic though the anomalies in the North are better defined and greater in intensity. The Central sector would be described as magnetically flat, appearing to reflect some underlying geological feature transverse to the NNW-trending regional grain which separates the Northern and Southern sectors.

i) Northern Sector:

Five distinct magnetic anomalies were outlined within the northern sector; they are designated numbers 1 through 5.

Anomaly #1: Rough NNWerly trend. Roughly parallel to lineation A. Within 50 metres of massive sulphide mineralization uncovered in the indicated area of trenches. Measures approximately 300 x 150 metres with an intensity of 561 gammas. May possibly extend to anomaly #6 in the southern sector. Projects from the northern border of the central sector.

Anomaly #2: Approximate northerly trend subparallel and possibly contiguous with anomaly #1. Traversed by structural lineament C. Approximately 150 metres in length by 100 metres in width. Intensity: 1,130 gammas.

Anomaly #3: A small anomaly measuring 100 metres x 100 metres with an uncertain trend. Coincidental with massive sulphide mineralization exposed in the area of trenches. Adjacent to structural linear A. Intensity: 522 gammas.

Anomaly #4: Roughly NNWerly in trend. Dimensions: 150 metre x 100 metres. Intensity: 493 gammas. Traversed by NWerly trending structural lineament B.

Anomaly #5: A broad NNWerly-trending anomaly measuring 100 metres plus by 200 metres. Intensity: 448 gammas. Roughly contiguous with anomaly #4. Associated with the same NWerly trending lineament B. Situated within 50 metres of the contact between andestitic volcanics and flych sediments.

ii) Central Sector:

The central sector is magnetically very flat and assumes an approximate WNWerly trend transverse to the NNWerly regional grain. The zone measures some 400 metres wide and may reflect a contrast in the underlying lithology from that of the northern and southern sectors. This contrast could be indicative of an underlying fault

zone or even a series of intrusives. With the exception of anomaly 6 no well-defined magnetic anomalies lie within this sector. A small adit marks the presence of massive sulphide float within Lemieux Creek. This sulphide location is coincidental with structural lineament D. A weak NNW-trending anomaly (anomaly 6) projects NNW into the area occupied by anomalies 1, 2 and 3.

iii) Southern Sector:

The Southern sector contains three small anomalies within andesitic volcanics. Though they may lack the higher intensity and definition of the Northern sector anomalies they are also associated with structural lineaments. Accordingly, they should also be prospected, mapped and soil sampled

Anomaly 7: A low intensity feature of 259 gammas with a suggestion of a NNW trend. Located at the apparent intersection of structural lineaments designated E and F. Lineament E could conceivably be the projection of lineament D in the Northern sector which projects through the Lemieux Creek massive sulphide.

Anomaly 8: Another low intensity anomaly 460 gammas in size situated along structural lineament G. An apparent NNW trend though the location along the southern extremity of the grid makes its trend open to speculation.

Anomaly 9: Based upon the strength of a single station reading this very small anomaly is 373 gammas in intensity with a probable NNW trend.

5. CONCLUSIONS AND RECOMMENDATIONS:

With five well-defined magnetic anomalies the Northern Sector warrants further investigation. The association of the anomalies with structural lineaments and the near and close proximity of massive sulphides, including pyrrhotite, as revealed in the area of trenches, indicates a potentially favorable setting for Bessemer-type deposits. The presence of fault lineaments, the flysch/argillaceous and andesitic rock types and proximity to contacts all further enhance the chance for occurrence of this deposit variety. Assuming a positive magnetic correlation with Bessemer deposits, commonly containing pyrrhotite, the distribution of anomalies as seen in the Northern Sector suggests a magnetic pattern to be expected in association with a Bessemer type which frequently occur in clusters.

While the Southern sector anomalies are less defined and lower intensity than their Northern sector counterparts their association

with structural lineaments warrants follow-up, as well.

Additional work should be aimed at defining drilling and/or trenching targets. To that end the grid should be extended another 500 metres to the east and 500 metres north and 200 metres south. Magnetic coverage should also include the extended grid area. Since the accuracy of the large-scale regional mapping used on the overlay may be open to question the grid area should be mapped in detail. Detailed mapping would also provide additional prospecting coverage and answer questions relating to the presence of intrusives and fault structures.

Soil geochemistry should be utilized on 50 metre centres in general and 25 metre centres in high interest areas, particularly within the Northern Sector. As a follow-up hand-held auger drilling could be employed on a test basis.

6. ESTIMATED COSTS:

For emplacement of an additional 20,300 metres of grid line, additional magnetic survey, soil geochemical coverage and geological mapping/prospecting:

Line cutting, grid emplacement (11 MD @ \$200/)	\$ 2200
Magnetic survey (11MD @ \$300/)	3300
Soil sample collection (16 MD @ \$200/)	3200
Geological mapping/prospecting (11 days @ \$300/)	3300
Vehicle expense (26 days @ \$65/)	1625
Accomodation (26 days @ \$40/)	1000
Equipment rental	800
Supplies	450
Gasoline	300
Assays (1100 x \$12/)	13200
Project management	1700
Compilation, report preparation	<u>3000</u>
Total	\$34,075

7. STATEMENT OF EXPENDITURE:

The following costs were incurred in carrying out the 1997 subject programme:

Field costs:	
P.Cox - Motel	\$253.00
Meals	383.43
Gas	156.06
Batteries	20.50
Fax & phone	13.71
Shipping	29.32
Magnetometer rental	592.22
Wages (9 days @ \$200/)	1,800.00
Vehicle (9 days @ \$65/)	675.00
Snowmobile (9 days @ \$50/)	<u>450.00</u>
	4,373.24
Supervision, grid layout & selection	534.49
Plotting, data conversion, interp'n, field inspection & reconnaissance	355.51
Professional report	<u>1,000.00</u>
Subtotal (Total assessment work charged)	6,263.24
Outside consulting	107.00
GST on \$1,890.00 @ 7%	132.30
Other costs incurred:	
Free miners licence	25.00
Recording fees (10% of \$5,600 recorded)	<u>560.00</u>
Total expenditures incurred	\$7,087.54

Respectfully submitted



John Jenks - P.Geo.(B.C.)  
June 20, 1998



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STATEMENT OF QUALIFICATIONS

I, John Jenks, Consulting Geologist of the City of Salmon Arm, British Columbia, do hereby certify that:

1. I am a graduate of McGill University, Montreal, Canada with a Bachelor of Science (Geology major) degree, 1968.
2. I am a Registered Professional Geologist in good standing since 1970 with the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
3. I am a Registered Professional Geoscientist (#21122) in good standing since 1994 with the Association of Professional Engineers and Geoscientists of British Columbia.
4. I have practiced my profession continuously since graduation in British Columbia and various other parts of Canada, Southern Africa, Indonesia, Papua New Guinea, Western USA, Alaska and Venezuela.
5. I have no interest in the Canadian Mining Company Ltd., nor in any of its affiliates nor do I expect to receive any.
6. I personally supervised the fieldwork on the Lem Claims during the dates indicated within this report.
7. I hereby give my consent for inclusion of this report into a statement of material facts or a prospectus.

John Jenks, B.Sc., P.Geo. (B.C.)  
June 18, 1998