

# 1999 Exploration Program

on the

## Atty Property

Claims:	Claim Name	Tenure Number
	A1	338121
	A2	338123
	A3	338124
	A4	338125
	A5	338126
	A6	338127
	A7	338128
	AT991	368386
	AT9910	368395
	AT9911	368396
	AT9912	368397
	AT992	368387
	AT993	368388
	AT994	368389
	AT995	368390
	AT996	368391
	AT997	368392
	AT998	368393
	AT999	368394
	ATTY 3	241922
	ATTY 4	241938
	ATTY 5	311160
	ATTY 7	330410

Mining Division: Omineca  
NTS Map Sheet: 94 E 2  
Latitude: 57° 06' N  
Longitude: 126° 41' W  
Owner of Claims: Electrum Resource Corporation  
Project Operator: Finlay Minerals Limited  
Consultant: New Caledonian Geological Consulting  
Report by: P.A. Ronning, P.Eng.  
Date of Report: December 1999

copy number 4

26,166

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## **I. Summary and Conclusions**

Placer gold was discovered in the Toodoggone area in the 1920's. The modern era of exploration in the district began with regional prospecting and geochemical programs in the 1960's which led to the discovery of several porphyry copper prospects, found primarily with the upper Triassic Takla Group volcanic rocks. A further outcome of the 1960's work was a flurry of exploration for epithermal gold-silver deposits in the 1980's. These deposits are related to and for the most part are found within the lower Jurassic Toodoggone Formation, consisting of dacites and related pyroclastic rocks.

There is at present one major producing mine, the Kemess porphyry copper-gold deposit, at the southern edge of the district. A small gold-silver deposit, the Baker Mine, produces sporadically.

Quartz veins bearing base and precious metal mineralization on what is now the Atty property were discovered in the 1960's. In 1982 a gold and silver bearing, low-sulphidation epithermal style silicified zone, the Awesome showing, was discovered on what is at present the Atty 5 claim.

During the 1999 field program work was undertaken on the southwest and northwest parts of the property, on the Atty 4, Atty 3, AT991, Atty 5, Atty 7, A1, A4, A5 and A6 claims. Work consisted of geochemical soil sampling, rock chip sampling, reconnaissance geology and prospecting.

The southwest part of the property, including the Atty 4, Atty 3 and AT991 claims, contains numerous mesothermal base and precious metal occurrences, within an area that is almost 2 kilometers east-west and about half a kilometer north-south. Most of the known mineralization is in or near quartz veins. Also present is a prominent colour anomaly covering about a tenth of a square kilometer, that is due to oxidation of a zone of quartz-sericite-pyrite alteration. Extensive soil sample coverage indicates the presence of a zone of relatively high copper and gold values in and around the colour anomaly with a peripheral area containing relatively high copper, lead, zinc and silver values.

The base and precious metal veins combined with the pattern of metal dispersion in the soils suggests that porphyry copper-gold style mineralization could be present in the southwest part of the Atty property. A program of further soil sampling, orientation testing of geophysical techniques and refinement of the geological mapping is recommended.

## **II. Introduction**

### **A. Location and Access**

*(see Figure 1)*

The Atty Claims are located about 260 km due north of Smithers, B.C., in the Toodoggone River Area. They are centered at latitude 57°06' north and longitude 126°41' west. They lie in the central part of NTS sheet 94 E 2.

The Omineca Mining Access Road crosses the Finlay River about 10 km. west of the property. Vehicular access to the property itself is available only by helicopter. During the 1999

field season the two day field campaign was done using daily helicopter flights from an exploration camp on Jock Creek, about 22 kilometers northwest of the Atty.

## B. Physiography

The claim block straddles the broad valley of Attycelly Creek, whose elevation is about 1,300 meters above sea level. Surrounding hills rise to 2,000 meters. The terrain is moderate to steep. Some of the areas of interest are difficult to explore due to cliffs.

The valley of Attycelly Creek is covered in grasses and buckbrush. Slopes are forested with conifers to about 1,700 meters, above which are found alpine grasses and dwarf conifers.

## C. Property Definition

### 1. Claims

The claims that make up the Atty Property are listed in Table 1, which follows:

**Table 1: Claims of the Atty Property**

Tenure Number	Claim Name	Issue Date	Good Standing To	Units
338121	A1	17-Jul-95	17-Jul-01	1
338123	A2	17-Jul-95	17-Jul-01	1
338124	A3	17-Jul-95	17-Jul-01	1
338125	A4	26-Jul-95	26-Jul-00	1
338126	A5	26-Jul-95	26-Jul-00	1
338127	A6	26-Jul-95	26-Jul-00	1
338128	A7	26-Jul-95	26-Jul-00	1
368386	AT991	9-Apr-99	09-Apr-00	12
368395	AT9910	9-Apr-99	09-Apr-00	1
368396	AT9911	9-Apr-99	09-Apr-00	1
368397	AT9912	9-Apr-99	09-Apr-00	1
368387	AT992	9-Apr-99	09-Apr-00	1
368388	AT993	9-Apr-99	09-Apr-00	1
368389	AT994	9-Apr-99	09-Apr-00	1
368390	AT995	9-Apr-99	09-Apr-00	1
368391	AT996	9-Apr-99	09-Apr-00	1
368392	AT997	9-Apr-99	09-Apr-00	1
368393	AT998	9-Apr-99	09-Apr-00	1
368394	AT999	9-Apr-99	09-Apr-00	1
241922	ATTY 3	17-Apr-90	17-Apr-02	6
241938	ATTY 4	17-Apr-90	17-Apr-03	12
311160	ATTY 5	10-Jul-92	10-Jul-00	20
330410	ATTY 7	25-Aug-94	25-Aug-00	6
<b>Total Units</b>				<b>74</b>


Note: the "good standing to" dates shown are before the acceptance of the work described in this report

# Finlay Minerals Limited

## Atty Project

### Location Map



 Claims Owned by  
Electrum Resource Corp.

 Roads  
(conditions vary)

 Lakes & Streams

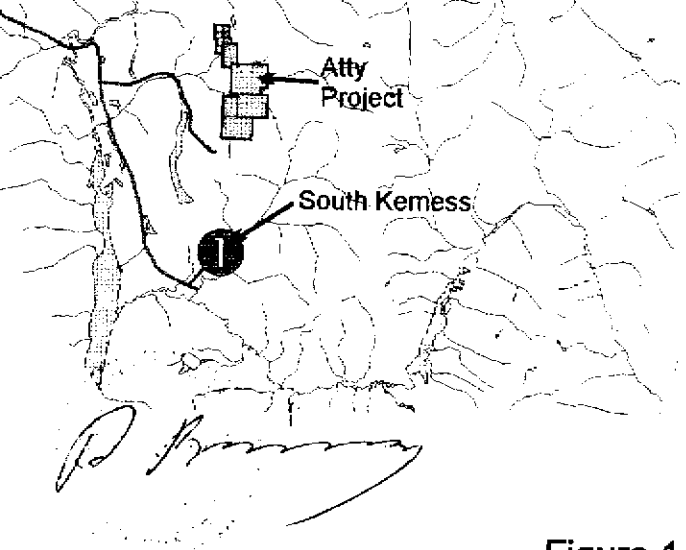
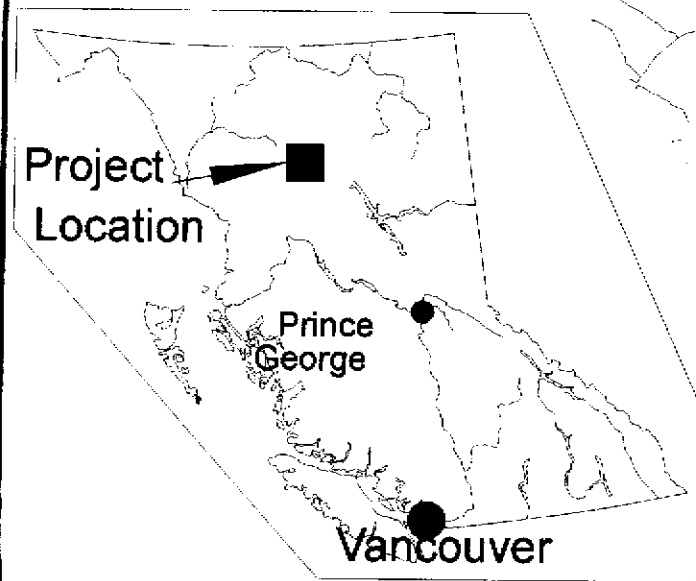
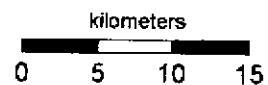


Figure 1

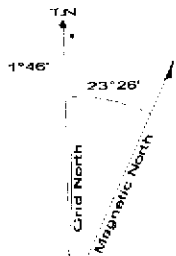
### Symbol Legend

- water course
- tree line
- minor topographic contour, 20 meter interval
- major topographic contour, 100 meter interval
- road

### Name & Record Number

Mineral Claim Included in the Atty Property

The topographic base for this map was a B.C. "TRIM" representational map. The topographic linework was designed to be plotted at 1:20,000. Its degree of accuracy is less suitable for larger scales.

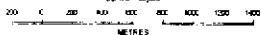


Approximate Mean Declination 1996  
for Centre of Map  
Decreasing 17.0' Annually

1991	1992	1993	1994	1995
1996	1997	1998	1999	2000

Microfilm Sheet index at the B.C. Geological Survey Office  
This map was produced in 1996 for the B.C. Ministry of Environment, Lands & Parks, Survey & Mapping, as required by the "Terms and Conditions of Information Management System" from 1988 and is the property of the Ministry of Environment, Lands & Parks.  
Unpublished Topographic Map Series - 1:20,000  
North American Datum - NAD83  
UTM Zone 18

SCALE 1:50,000



A5 338126 A7 338128

A4 338125 A6 338127

A3 338124 A1 338121

A2 338123  
ATTY 7  
330410

ATTY 5  
311160

AT9911 368396 AT9912 368397

AT999 368394 AT9910 368395

AT997 368392 AT998 368393

AT992 368387 AT995 368390 AT996 368391

AT993 368388 AT994 368389

ATTY 3  
241922

AT991  
368386

ATTY 4  
241938

Finlay Minerals Ltd.

Atty Project

## Claim Map

Drawn by: PAR  
Date: 05/01/00

Project: 25  
Report: 25-3

Drawing: 25-3-2  
Revision: 1



New Caledonian  
Geological Consulting

Figure 2

## 2. History

A listing of the exploration history of the area now within and adjacent to the Atty Property follows:

- 1929: D.W. Chisholm staked a claim near the western boundary of the Atty claim group (Piroshco, 1982).
- 1969: Kennco Explorations (Western) Ltd. did a limited program of soil geochemistry in the area of the AT991 and 2 claims (Staargaard, 1992).
- 1978: Bishop Mines Ltd. did a limited program of soil geochemistry, magnetics and VLF in the area of the present AT991 and 2 claims (Staargaard, 1992).
- 1979: ABM Mining did airborne magnetics and VLF cover part of the area of the present AT991 and 2 and Atty 3 and 5 and the former Atty 6 claims (Piroshco, 1982).
- 1980: Inca Resources Inc. did a comprehensive program of soil sampling and VLF surveys in the area of the present AT991 and 2 and Atty 3, 4 and 5 and the former Atty 6 claims (Staargaard, 1992).
- 1981: Texasgulf Canada Ltd. did geological mapping, rock chip sampling and prospecting in areas now covered by the AT991, At 2, Atty 3 and Atty 4 claims (Piroshco, 1982).
- 1982: Kidd Creek Mines Ltd. did trenching, rock sampling, prospecting and mapping in the area of the present AT991 and 2 and Atty 3, 4 and 5 and the former Atty 6 claims (Staargaard, 1992).
- 1988: Canadian Venture Corporation did airborne magnetic and VLF-EM surveys in the area of the present Atty 5 claim (Staargaard, 1992).
- 1989: Moondust Ventures reprocessed the data from the 1988 airborne survey (Staargaard, 1992).
- 1990: Electrum Resource Corporation did limited mapping, hand trenching and rock sampling in the AT991 and 2 area (Staargaard, 1992).



- 1992: Electrum staked the Atty 5 and Atty 6 claims, and did a reconnaissance level program of silt, soil and rock sampling on the new claims (Staargaard, 1992).
- 1994: Electrum did rock and stream sediment geochemistry and VLF-EM surveys on the Atty 5 and Atty 7 claims (Ronning, 1995).
- 1995: Electrum did geochemical soil and rock chip sampling, and VLF-EM, on the Atty 7, A1, A2, A3, A4 and A6 claims (Zastavnikovich and Visser, 1995).
- 1997: Electrum did geochemical stream sediment, soil and rock chip sampling as well as magnetometer and VLF-EM surveys on the Atty 4 claims (Zastavnikovich, 1998).
- 1998: Electrum did geochemical soil sampling, rock chip sampling and some preliminary geological work (Ronning, 1998).

### 3. Economic Potential

The Atty Property contains low sulphidation epithermal style precious metal mineralization, at the Awesome prospect, and widespread mesothermal quartz or quartz-carbonate veins containing base and precious metal mineralization. It is near the North Kemess porphyry copper deposit. Potential exists for the discovery of porphyry copper-gold mineralization on the Atty property. At present, however, no potentially economic body of mineralization is known to exist on the property.

#### D. Work Program

During the 1999 field program the following work was undertaken. The Atty 4, Atty 3, AT991, Atty 5, Atty 7, A1, A4, A5 and A6 claims were each the site of some work:

- Line Establishment** 2,600 meters (nominal length) of lines were established on the Atty 3, Atty 4 and Atty 5 claims. Lines were oriented and measured using a compass and hip chain. Stations were placed every 50 meters, marked by flagging tape with station numbers written on it.
- Geochemical Soil Survey** 53 soil samples were collected at 50 meter intervals along the lines. Samples were collected in a conventional manner, 200 to 300 grams of soil being collected and put in a standard kraft paper soil envelope. Where possible soil was collected from the zone of iron oxide accumulation, but in the highly mobile soils of this mountainous area that wasn't always possible.

- Stream Sediment Sampling** 4 conventional stream sediment samples were collected where the opportunity was encountered during the course of soil sampling and geological reconnaissance.
- Lithogeochemical Sampling** 30 rock chip samples were collected from the Atty property. The rock samples were collected during the course of soil sampling, geological reconnaissance and prospecting. The samples are either character samples consisting of selected pieces of rock, or composite grabs consisting of several chips collected from an outcrop or area. None of the 1999 rock samples are unbiased representations of measured lengths, areas or volumes of material.
- Geological Survey** Geological work done in 1999 was reconnaissance in nature, consisting primarily of describing rock sample collection sites and a first pass evaluation of a part of the claim group not previously visited by the writer. Detailed geological maps of the Atty 3, Atty 4 and AT991 area were produced by prior workers (e.g. Piroshco, 1982).
- Prospecting** In addition to the prospecting that is inherently a part of geological reconnaissance and soil sampling, two prospectors spent one day in the cirque on the AT991 claim doing purposeful prospecting. 24 of the 30 rock chip samples that were collected came from this work.

### **III. Geology and Geochemistry**

#### **A. Regional Geological Setting**

*(Regional geology is adapted from Diakow et al, 1993. See Figure 3, Figure 4 and Table 2)*

The Toodoggone area lies within the Intermontane Belt, between the east end of the Stikine Arch in the north and the Skeena Arch in the south. Geology along the east-northeast margin of the Stikine Terrane is dominated by successive volcano-plutonic arcs which were constructed from Permian time but most importantly during the Late Triassic and Early Jurassic. The Toodoggone area lies within a north-northwest trending corridor of Mesozoic island-arc magmatism.

Two supracrustal units are important hosts of mineralization in the Toodoggone District. Volcanics of the Takla Group host the Kemess deposit and numerous porphyry prospects. The Toodoggone Formation of the Hazelton Group is the most important stratigraphic unit in terms of epithermal precious metal deposits.

A number of granodioritic to quartz monzonitic intrusives of lower Jurassic to lower Cretaceous age cut the Takla and Toodoggone Volcanics.

**Table 2: Regional Stratigraphy**

Period	Group	Formation	Lithology
Upper and Lower Cretaceous	Sustut	Brothers Peak	Nonmarine conglomerate, siltstone, shale, sandstone; minor ash-tuff
		Tango Creek	
Cassiar Intrusions: Quartz monzonite and granodiorite			
Major Unconformity			
Lower Cretaceous to Middle Jurassic	Bowser Lake		Marine and nonmarine shale, siltstone and conglomerate
Conformable Contact			
Middle and Lower Jurassic	Spatsizi	Toodoggone	Marine equivalent of the Hazelton Group; shale, siltstone and conglomerate, subordinate fine tuffs
	Hazelton		Subaerial andesite to dacite flows and tuffs, rare basalt and rhyolite flows; subordinate volcanic siltstone to conglomerate; rare limestone lenses
			Black Lake Intrusive Suite: Granodiorite and quartz monzonite
Unconformity			
Upper Triassic	Takla		Submarine basalt to andesite flows and tuffs, minor limestone and argillite
Unconformity			
Lower Permian	Asitka		Limestone, chert, argillite
Major Terrane Boundary Fault			
Cambrian and Proterozoic			Siltstone, shale, sandstone, limestone; regionally metamorphosed to greenschist and amphibolite grade

*from Diakow et al., 1993, after Gabrielse et al., 1977*

## B. Mineral Deposits in the District

Mineral deposits and prospects in the Toodoggone area can be broadly categorized as volcanic-hosted epithermal gold-silver, porphyry copper-molybdenum or copper-gold, skarn and placer gold occurrences. Epithermal gold-silver and porphyry copper-gold deposits have been the most attractive exploration targets in the recent past. The Kemess South porphyry deposit is currently the most important. Some of the more significant deposits are listed in Table 3.

**Table 3 - Examples of Deposits in the Toodoggone District**

Name	Host Rock	Status as of August 1998	Reserves plus Production, Jan 92
<i>Epithermal Gold-Silver</i>			
Lawyers	dacite & latite of Toodoggone Fm	past producer	661,000 tonnes @ 8.4 g Au/t & 192 g Ag/t
Baker Mine	basalt & andesite of Takla Group	small scale producer	87,490 tonnes @ 13.7 g Au/t & 273 g Ag/t
Shasta	dacite & latite of Toodoggone Fm	past producer	106,300 tonnes @ 4.5 g Au/t & 250 g Ag/t
others	Toodoggone Fm	prospects & minor past production	2,628,855 tonnes @ 2.6 g Au/t
<i>Porphyry Copper-Gold</i>			
Kemess North	early Jurassic gd & qt monz intruding Hazelton & Takla groups	defined reserve, decision pending	70,000,000 tonnes @ 0.66 g Au/t & 0.18 % Cu
Kemess South	early Jurassic gd & qt monz intruding Hazelton & Takla groups	in production	206,796,000 tonnes @ 0.65 g Au/t & 0.23 % Cu
<i>data adapted from Diakow et al., 1993, except Kemess reserves, which are from Royal Oak Mines WWW site, 1998</i>			

# Finlay Minerals Toodoggone Mineral District Summary Geology

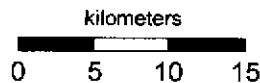
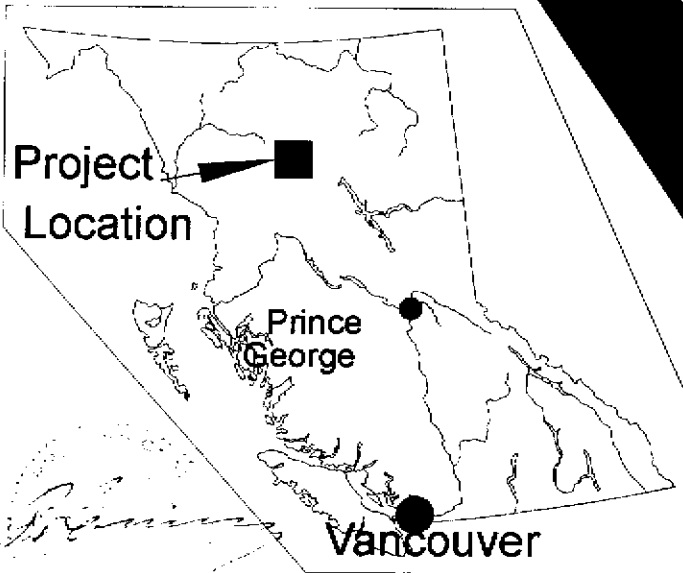
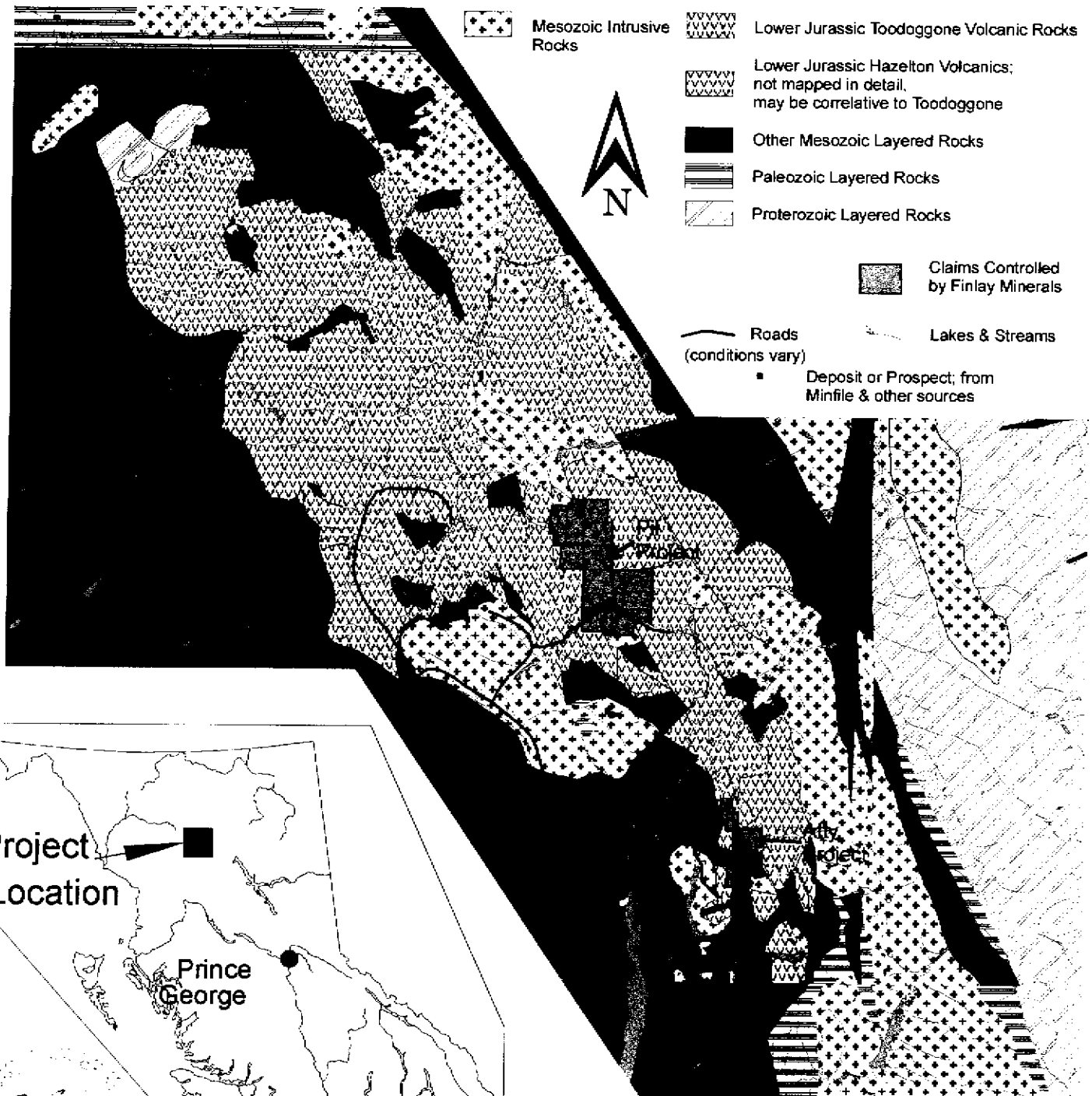


Figure 3

## C. Local and Property Geology

### 1. Lithologic Units

*(see Figure 4)*

The Atty property is underlain in part by each of the Hazelton Volcanics, four member units of the Toodoggone Formation, the Takla Volcanics and intrusive rocks contemporaneous with the Lower Volcanic Cycle of the Toodoggone Formation (the Black Lake Intrusive Suite).

The Awesome Showing on the Atty 5 claim is underlain by the Attycelly Member of the Lower Volcanic Suite of the Toodoggone Formation, described by Diakow et. al. as “crudely layered lithic-crystal tuff, lapilli tuff and local pyroclastic breccia; minor welded ash flow tuff ...etc.”

The central part of the property is underlain by Takla volcanics, dominated by plagioclase and/or augite-phyric andesite to basaltic andesite flows and fragmental rocks. On the southwest facing slope on the Atty 3 and Atty 4 claims, some units of thinly layered ash tuffs exist. In the southwest corner of the Atty 4 claim a lobe of Toodoggone-age monzogranitic intrusive rock is found.

### 2. Structural Geology

Piroshco (1982) described the structural orientation of the Takla volcanics south of Attycelly Creek as follows:

“Takla Group volcanics in the main area of interest generally strike northeast to northwest, and dip steeply to the east. This is inferred from bedding traces and pillow attitudes in the area. Bedding and parallel schistosity indicate that the Toodoggone sequence dips moderately to the north, and a northerly striking fracture cleavage suggests that the strata are locally gently folded about north trending axes (Smitheringale, 1980).

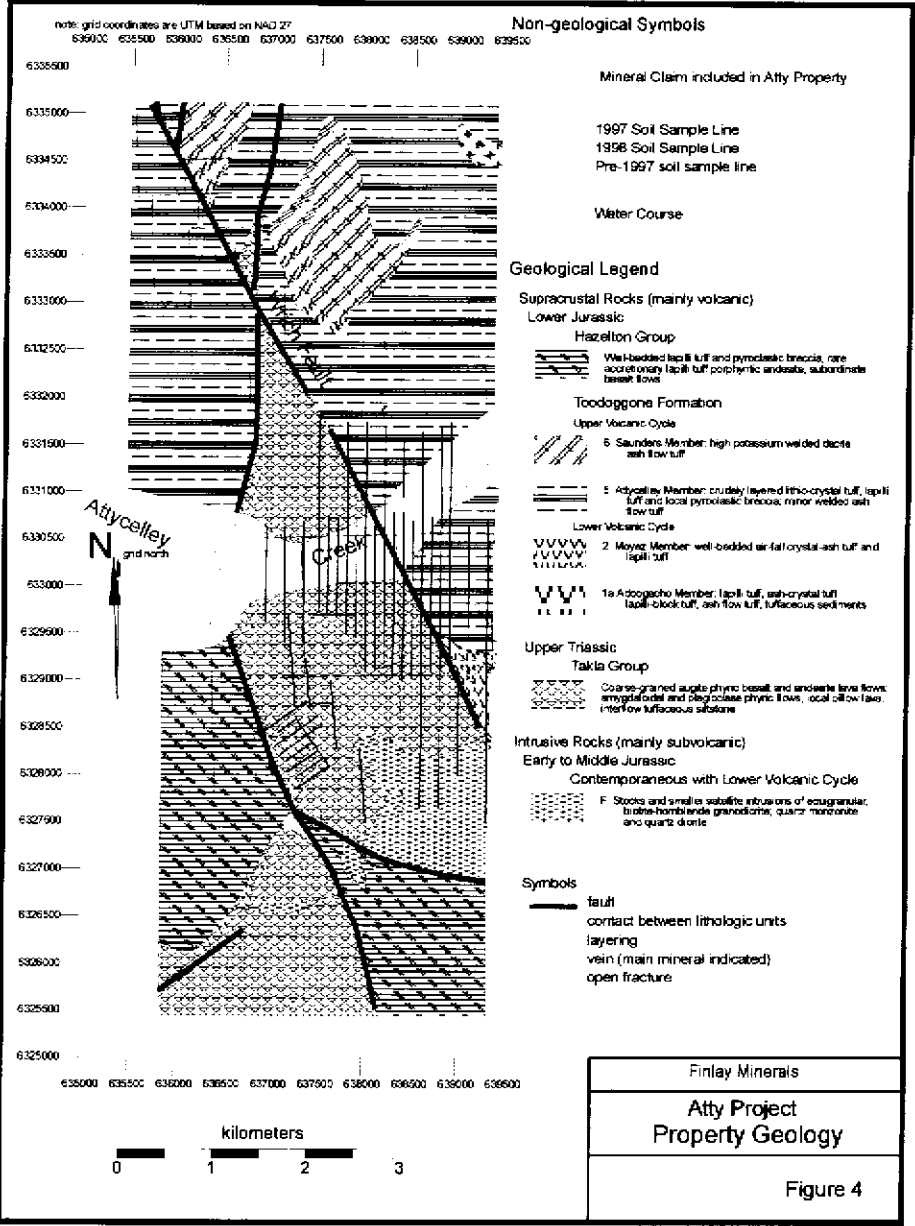
The present writer found, based on two measurements from thinly layered ash tuff, that Takla volcanics in the area of interest on the Atty 3 and Atty 4 claims in fact strike westerly to northwesterly and dip 30° to 40° to the north or northeast.

The most prominent structural break on the Atty property is the northwest trending Wrich Fault (Figure 4), which according to Diakow et. al. (1993) has about 5 kilometers of right lateral offset. Overall the property is broken up into blocks of Triassic or Jurassic rocks by the Wrich Fault, others sub-parallel to it, and northeast trending cross faults.

Piroshco (1982) noted two distinct fracture sets within the area of the then Kem-Audrey claim group, in the area now covered by the Atty 3, Atty 4 and AT991 claims:

“They are north to northwest trending, southwesterly dipping fractures and east-west trending, southward dipping fractures. .... Both fracture sets are often represented by quartz veins, which are generally podiform or lensoid in character and may host base and precious metal mineralization. The veins themselves are locally displaced by as much as 30 m by fault sets oriented normal to them. Shearing and slickensides often are associated with these faults.

The present writer measured two sets of calcite veins at different locations and found that they strike northerly and dip steeply towards the east.



### 3. Metamorphism

Metamorphism is not an important factor on the Atty property. Takla and Toodoggone volcanics both exhibit zeolites in places, and parts of the Takla may have undergone lower greenschist facies metamorphism.

#### D. Mineralization

##### 1. Types of Mineralization

Piroshco (1982) described three varieties of mineralization on what is now the southwestern part of the Atty property. Piroshco's three varieties did not encompass the Awesome Showing, which could be considered a fourth variety. Piroshco's three varieties are:

1. quartz-sulphide veins — these are common on what are now the AT991, ATTY 3 and Atty 4 claims. They consist of massive to medium crystalline white to grey quartz veins, less than or equal to 3 meters wide, with associated galena, sphalerite, chalcopyrite and pyrite. They trend west to northwest. The "Kennco Veins" (see below) are members of this group.
2. quartz-sulphide gossan zones — Piroshco describes "numerous silicified zones" located in the western portion of the map area. They contain disseminated pyrite and intense quartz veining and in some instances contain traces of chalcopyrite. The zones as described by Piroshco are relatively small, less than 5 meters by 5 meters. He provides the following analyses obtained from this style of mineralization:

**Table 4: Analyses from Quartz-Sulphide Gossan Zones**

Sample No.	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ag gpt	Au ppb
56203	1,035	70	116	>50.0	96.0	355
56266	100	320	343	36.0		470
56340	(9.9%)	460	2,700	>50.0	240.0	980
56343	70	28	184	0.4		1,210
61280	390	134	85	10.0		460
61290	20	231	400	2.8		1,950

(sample descriptions not available)

3. quartz-sulphide-oxide vein — the one example of this type is the "Inca Vein" described on page 14.



## 2. Kennco Veins

According to Staargaard (1992):

"The Kennco or Attycelly 1 occurrence is one of several massive quartz veins up to 3 meters wide and exposed for up to 350 meters in length that contain galena, sphalerite, chalcopryrite and pyrite. A 1978 soil survey by Bishop Mines revealed a coincident Cu-Zn-Pb-Ag soil anomaly about 400 meters long. In 1990, on behalf of Electrum Resource Corporation, Gower-Thompson and Assoc. carried out minor hand trenching and sampling on some of these veins, collecting a total of twenty-two samples ranging in width from 0.5 to 3.2 meters. Gold levels generally fell between 0.01 and 0.04 g/t, with some values of up to 0.45 g/t. Silver generally ranged between 5 and 75 g/t with a maximum of 268 g/t over 0.5 meters. Base metals were ubiquitous, with up to 1.98% Cu, 14.6% Pb, and 5.65% Zn in various samples."

Table 5 on page 16 is adapted from Gower (1990) and serves to characterize the Kennco veins.

## 3. Inca Veins

According to Staargaard (1992):

"At the Inca or Attycelly 2 occurrence, a 200 meter long quartz-specularite-pyrite-magnetite vein known as vein "A" and up to 1.5 meters wide contains traces of malachite. Grab samples taken by Kidd Creek Mines in 1982 contained up to 25.7 gt Au and 633 gt Ag while panel samples taken in trenches returned values of up to 7.34 gt Au and 306.9 gt Ag over 1 meter. A second *pyrite-hematite-chalcopryrite-quartz vein immediately to the east is up to 4 m in width. Grab samples returned up to ~15 g Ag/t and 0.3% Cu.*

"Numerous small silicified zones in the general area of the above showings contain disseminated pyrite, intense quartz veining and traces of chalcopryrite. Grab samples from some of these returned values of up to 1,950 ppb Au."

## 4. Awesome Prospect

According to Staargaard (1992):

"The Awesome prospect, situated within the Atty 5 claim, was found in 1982 by Kidd Creek Mines Ltd. during regional reconnaissance work. Samples of quartz float occurring over an area about 800 meters long contained up to 4,300 ppb Au and 404 ppm Ag. These were derived from a northwest trending, +200 mere long and 20 to 40 meter wide silicified zone developed in Toodoggone andesitic crystal lapilli tuff. Two narrow trenches about 25 meters apart were opened across the zone immediately upslope from the highest grade float samples. Panel sampling in the trenches returned values of up to 730 ppb Au and 58.5 ppm Ag over 0.5 meters.

"Mineralization is comprised by multiple stages of hematitic quartz vein breccia and quartz-hematite veins up to 1.5 meters wide. open space filling textures are very common and often involve late stage calcite, which also tends to occur peripheral to the central silicified zone.

Specularite is a common accessory mineral. Pyrite is the only sulphide mineral observed and then only infrequently.

"Several types of alteration are developed in and around the quartz veins. Pervasive silicification of varying intensity is common, particularly within a few meters of the veins. Further away, silicification is manifested in the development of quartz eyes in the host tuff. Pervasive and fracture-controlled calcite are common. In places, strongly argillized tuff has been oxidized and is limonitic. The entire zone is surrounded by an argillic propylitic envelope extending to the limits of trenching."

**Table 5: Samples from Kennco Veins, 1990**

<b>Sample Identifier</b>	<b>Rock Type</b>	<b>Width Represented, meters</b>	<b>Gold (grams per tonne)</b>	<b>Silver (grams per tonne)</b>	<b>Copper (%)</b>	<b>Lead (%)</b>	<b>Zinc (%)</b>
Att-90-001	quartz vein	2.0	0.01	63.80	0.48	0.66	0.30
Att-90-002	quartz float	"representative"	0.18	74.00	0.093	9.30	4.05
Att-90-003	quartz vein	3.0	0.03	4.50	0.024	0.33	0.15
Att-90-004	shear zone	1.0	0.02	2.00	0.203	0.36	5.65
Att-90-005	shear zone	0.8	0.01	7.00	1.98	4.70	1.53
Att-90-006	shear zone	0.4	0.01	0.29	0.127	0.16	3.80
Att-90-007	quartz vein	1.1	0.01	43.40	0.563	0.18	1.83
Att-90-008	volcanics	0.5	0.22	268.00	0.433	14.60	2.55
Att-90-009	quartz vein	0.8	0.01	133.00	0.337	1.23	0.19
Att-90-010	quartz vein	1.0	0.01	39.80	0.185	0.25	0.39
Att-90-011	quartz vein	1.0	0.01	30.70	0.407	2.50	3.40
Att-90-012	altered volcanics & quartz	0.7	0.04	71.60	0.86	1.28	1.48
Att-90-013	quartz vein	3.2	0.03	68.00	0.413	2.35	0.38
Att-90-014	quartz vein	1.6	0.01	35.00	0.206	2.41	0.36
Att-90-015	quartz vein	1.6	0.02	55.30	0.323	0.80	0.47
Att-90-016	quartz vein, crush zone	1.7	0.01	17.30	0.163	0.59	0.54
Att-90-017	whitish quartz vein	1.8	0.01	7.30	0.060	0.55	0.65
Att-90-018	quartz vein	1.5	0.03	8.30	0.045	0.44	1.21
Att-90-019	quartz vein	2.0	0.15	45.10	0.273	2.30	0.57
Att-90-020	quartz vein	1.2	0.01	7.80	0.680	0.28	0.24
Att-90-021	quartz vein	1.1	0.02	56.80	0.342	0.90	0.28
Att-90-022	quartz vein	1.0	0.45	201.00	0.940	0.46	0.27

## **5. Gossan Zone on the Atty 4 Claim**

In 1997 and 1998 much field work took place in and around an extensive zone of rusty red-brown weathering scree with minor outcrop on the Atty Claim. A lesser amount of field work was done nearby in 1999. This area is referred to throughout this report as the "gossan zone" or "gossanous area" on the Atty 4 claim. It covers a surface area of roughly a tenth of a square kilometer, though its apparent size may be exaggerated due to downslope dispersion of the rusty coloured scree. The rust-stained rocks consist of vari-textured Takla Volcanics, andesitic to basaltic in original composition. Two specimens thought to have originally been monzonite were found (see descriptions of AJB-3 and AJB-4 in Appendix C). They exhibit varying degrees of sericite-chlorite alteration, ranging from negligible to almost complete. Less altered rocks within the gossanous zone are strongly magnetic, while more altered ones have lost their magnetism. Disseminated pyrite is present in the range 1% to 5%, with the degree of pyritization being only loosely correlative to the degree of sericite-chlorite alteration. Traces of chalcopyrite are occasionally seen. Rock samples collected from the gossanous area in 1998 do not contain metal concentrations that would normally be described as "mineralization" but the writer considers the alteration and sulphidization of this zone to be indicative of potentially mineralizing processes.

### **E. Results of Soil Geochemical Survey**

#### **1. Procedures**

In 1999 soil sample lines were run in two distinct areas on the Atty property. One is adjacent to the northwest of the gossan zone on the Atty 4 claim. The 400 N base line of the 1997 grid was extended a further 1000 meters to the northwest, and a single wing line run from the northwest end of the base line for 850 meters to the northeast. 37 conventional soil samples were collected at 50 meter intervals along these lines.

In the other area of soil sampling, a single north-south soil line was run starting near the northwest corner of the Atty 5 Claim and extending 750 meters southward. A magnetic high feature is thought to exist west of the claim boundary on competitor's ground, and this soil line was an attempt to see if any metal concentrations of interest are associated with the magnetic feature. On this line 16 conventional soil samples were collected at 50 meter intervals.

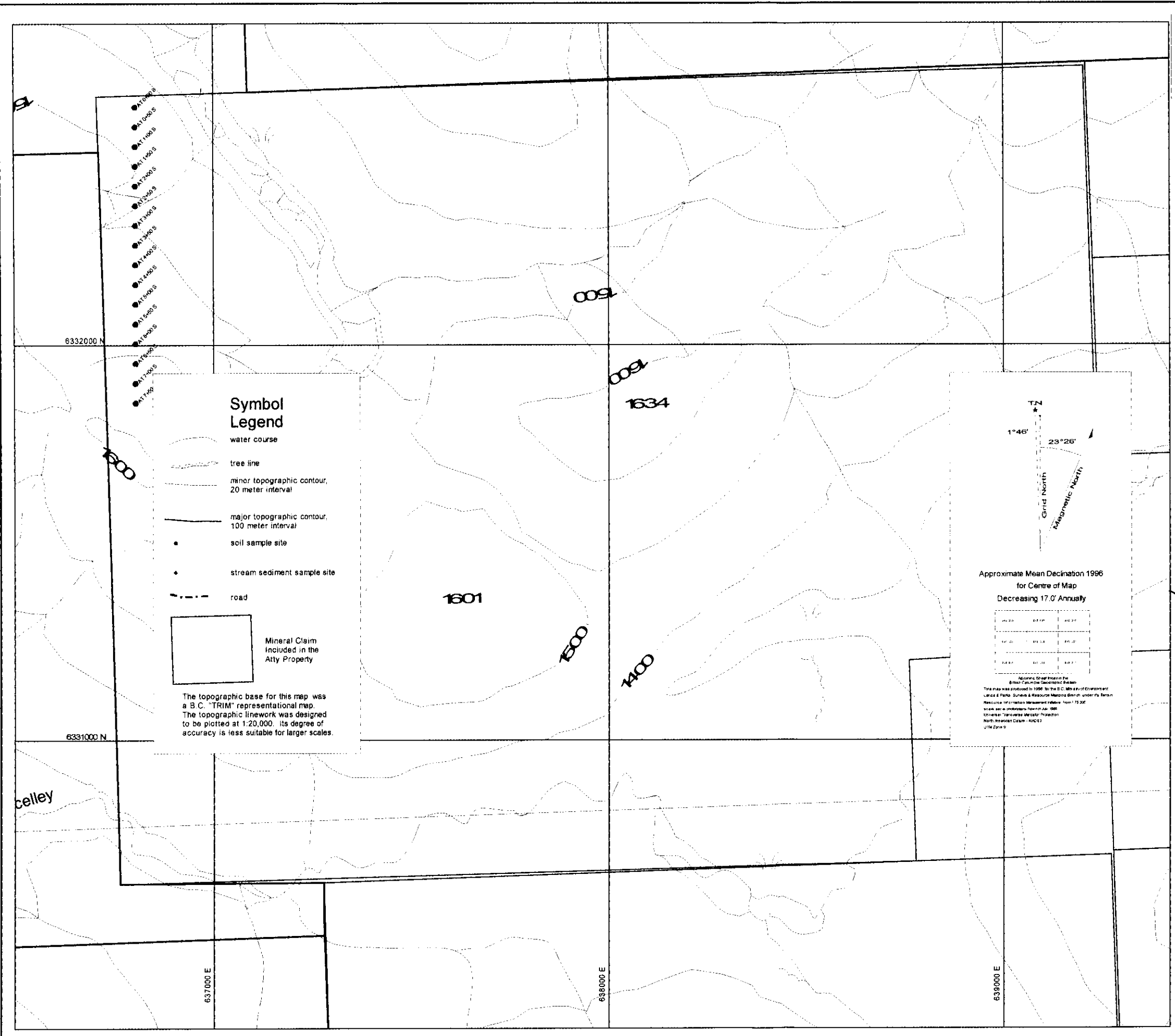
The 1999 soil lines were placed using a hip chain and compass. Lines and sample sites were marked using flagging tape tied to trees and brush. The writer located several points on the southern lines using a hand held GPS that has an approximate accuracy of  $\pm 50$  meters. The sample locations are plotted on the accompanying maps taking into account both the chainages and the GPS readings. The illustrated placement of the lines is accurate only to within the limits of the GPS. The relationships between individual samples are accurate to within normal hip chain limits.

Figures 5n and 5s show the locations of the samples collected in 1999. Subsequent figures that show analytical results show not only the 1999 samples but a large number of soil samples from preceding years, mainly 1981, for context.

The 1999 soil samples were collected in a conventional manner, 200 to 300 grams of soil being gathered and put in a standard kraft paper soil envelope. Where possible soil was collected

from the zone of iron oxide accumulation, but in the highly mobile soils of this mountainous area that wasn't always possible. Samples were air dried at a base camp.

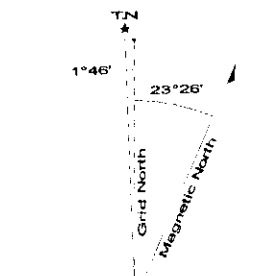
The soil samples were shipped to TSL Assayers Corp. of Vancouver. The laboratory analyzed them for 30 elements using the ICP technique and for gold using a fire assay preparation with an AA finish.



**Symbol Legend**

- water course
- tree line
- minor topographic contour, 20 meter interval
- major topographic contour, 100 meter interval
- soil sample site
- stream sediment sample site
- road
- Mineral Claim Included in the Atty Property

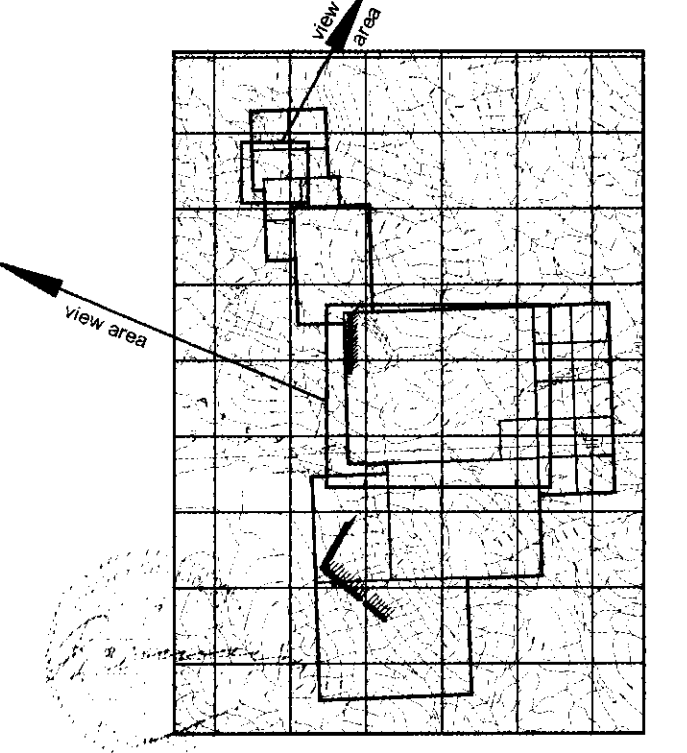
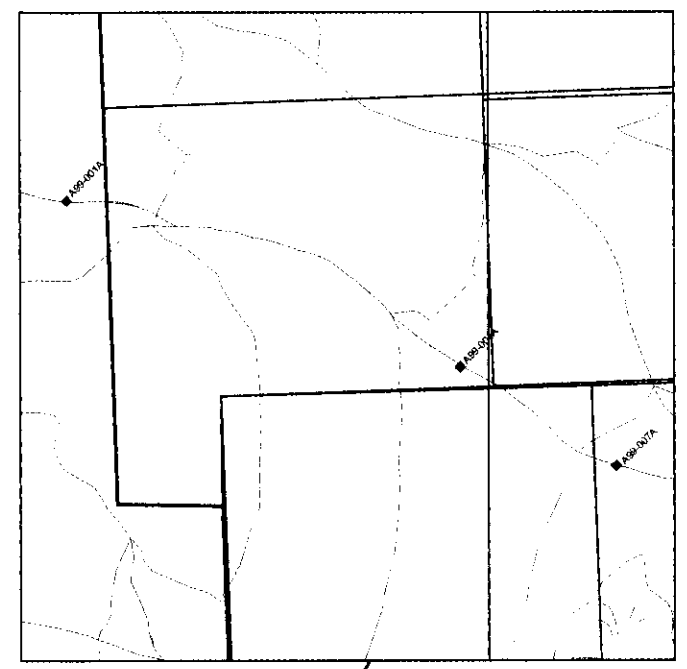
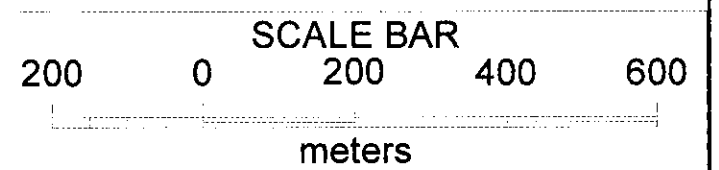
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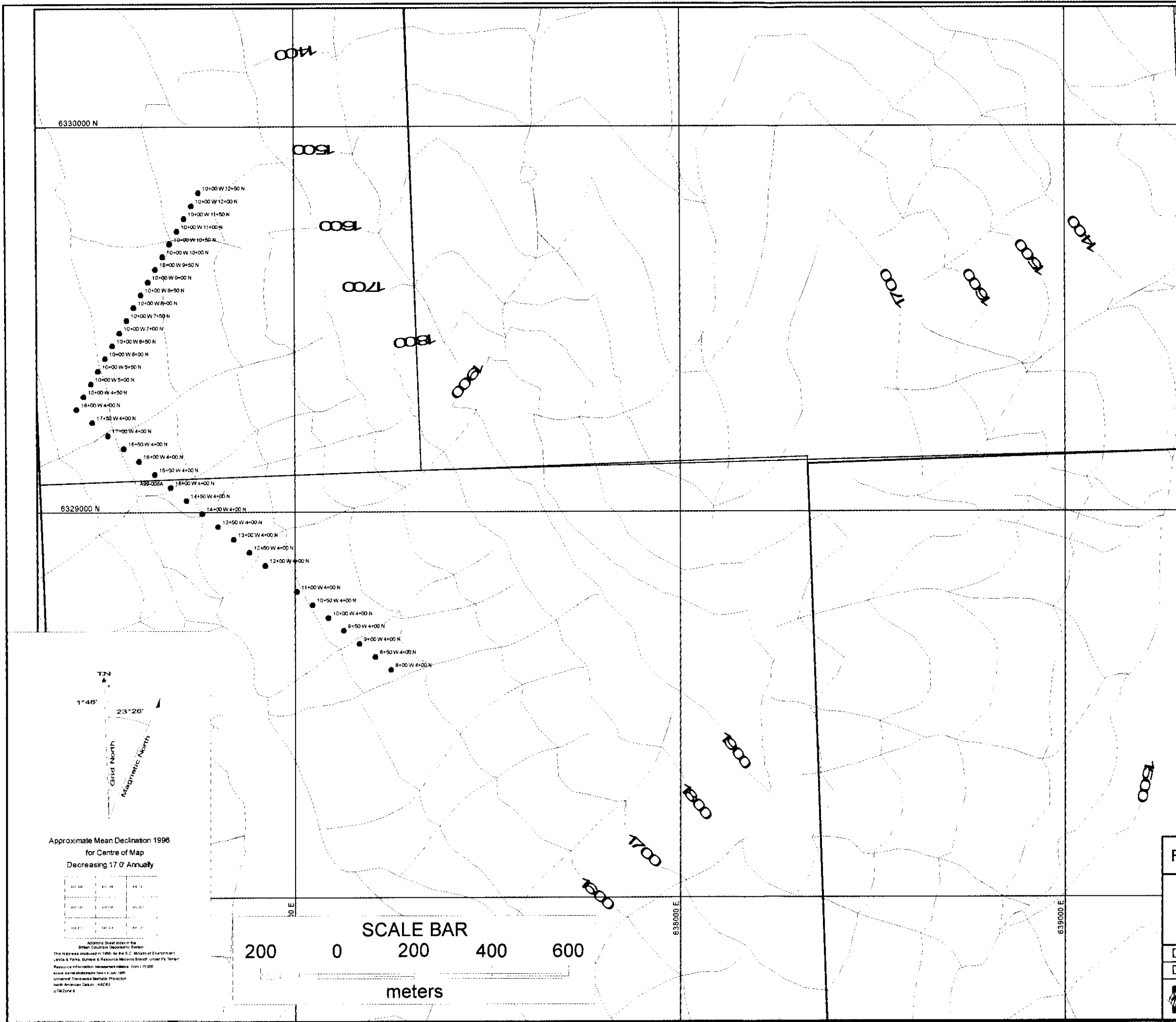
Approximate Mean Declination 1996 for Centre of Map Decreasing 17.0' Annually

1996	0°00'	00.00
1997	1°46'	01.46
1998	3°32'	02.92
1999	5°18'	04.38
2000	7°04'	05.84
2001	8°50'	07.30
2002	10°36'	08.76
2003	12°22'	10.22
2004	14°08'	11.68
2005	15°54'	13.14
2006	17°40'	14.60
2007	19°26'	16.06
2008	21°12'	17.52
2009	22°58'	18.98
2010	24°44'	20.44

Source: Geographical Information Systems  
 This map was produced in 1998 by the B.C. Ministry of Environment, Lands & Parks, Survey & Resource Mapping Branch, under the British Columbia Information Management Policy, from 1:75,000 scale data by the Ministry of Environment, Lands & Parks, Survey & Resource Mapping Branch, North American Datum - NAD83, UTM Zone 9.



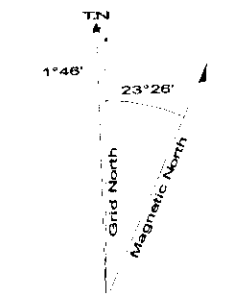
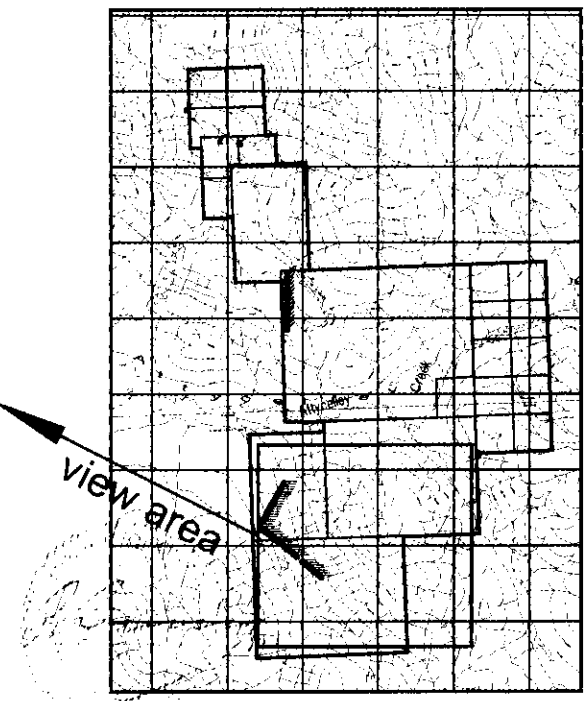
Finlay Minerals Ltd.		Atty Project
<b>1999 Soil &amp; Stream Samples (North Sheet)</b>		
Drawn by: PAR	Project: 25	Drawing: 25-3-5n
Date: 05/01/00	Report: 25-3	Revision: 1
New Caledonian Geological Consulting		<b>Figure 5n</b>



### Symbol Legend

- water course
- tree line
- minor topographic contour, 20 meter interval
- major topographic contour, 100 meter interval
- soil sample site
- stream sediment sample site
- road
- Mineral Claim Included in the Atty Property

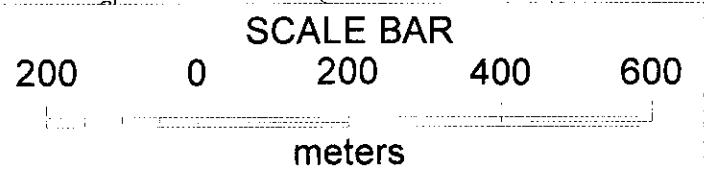
The topographic base for this map was a B.C. "TRIM" representational map. The topographic linework was designed to be plotted at 1:20,000. Its degree of accuracy is less suitable for larger scales.



Approximate Mean Declination 1996  
for Centre of Map  
Decreasing 17.0' Annually

1996	1997	1998
1999	2000	2001
2002	2003	2004
2005	2006	2007

Adding sheet index to the  
SPM (Surface Preparation) Sheet  
This map was produced in 1996 for the S.C. Ministry of Environment,  
Lands & Parks, Survey & Resource Measurement Branch, under the "Survey"  
Resource Information Management system. From 1:25,000  
scale aerial photographs from 1990-1995.  
Universal Transverse Mercator Projection  
North American Datum - NAD83  
UTM Zone 9



Finlay Minerals Ltd.		Atty Project
<b>1999 Soil &amp; Stream Samples</b> (South Sheet)		
Drawn by: PAR	Project: 25	Drawing: 25-3-5s
Date: 05/01/00	Report: 25-3	Revision: 1
New Caledonian Geological Consulting		<b>Figure 5s</b>

## 2. Method of Interpretation and Data Quality

The interpretation of the soil geochemical data in the following sections rests primarily on a visual search for patterns in map view symbol plots. In the 1998 report on the Atty Project (Ronning, 1998), probability plots were used as an adjunct to the map interpretation. The analysis of probability plots is not redone in this report, as the incremental amount of new data available would not appreciably change the plots. Some of the insights gained from the probability analysis are incorporated into the discussions of the soil sample results in this report.

On the map plots of soil sample results in this report, and in the 1998 probability plot analysis, more than 1,700 prior soil sample records, mainly from 1981, have been merged indiscriminately with the new data. A rigorous treatment of the data would require a statistical study designed to reveal any systematic, artificial differences between the 1981 and the 1997-99 sample populations. No such study has been done. After working with the data set, however, the writer believes that the merged data set is of adequate quality to support the conclusions expressed herein. In the discussion that follows, note is made of those instances in which the writer suspects that *apparent differences in metal concentrations may be artifacts of differing analytical techniques between 1981 and the later samples.*

Although winter damage to the 1997 soil grid was extensive, a few of the 1997 stations were found in 1998 and GPS locations were obtained for them. The 1997 grid is plotted on the accompanying maps based on the GPS locations and compass sightings along the lines.

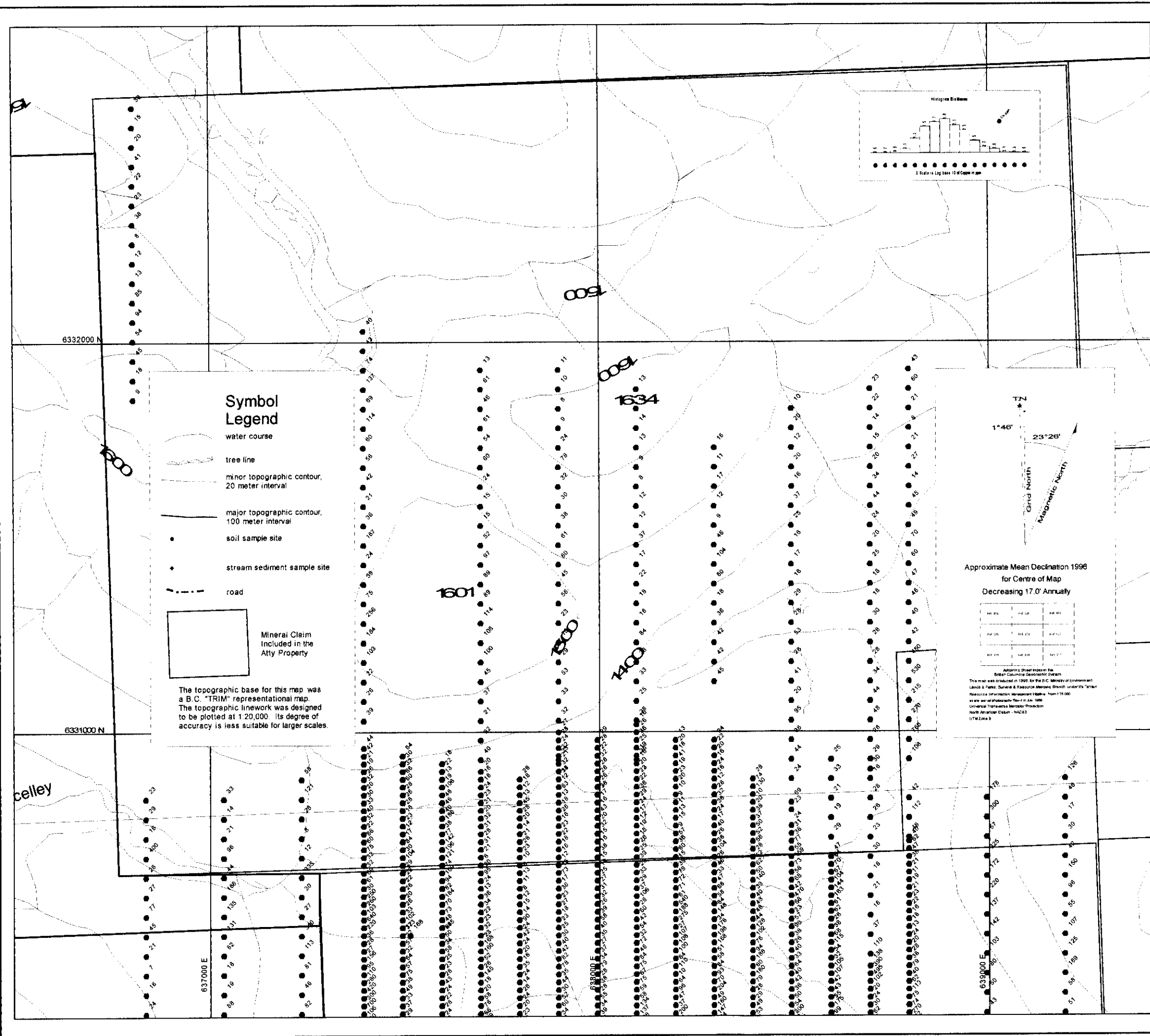
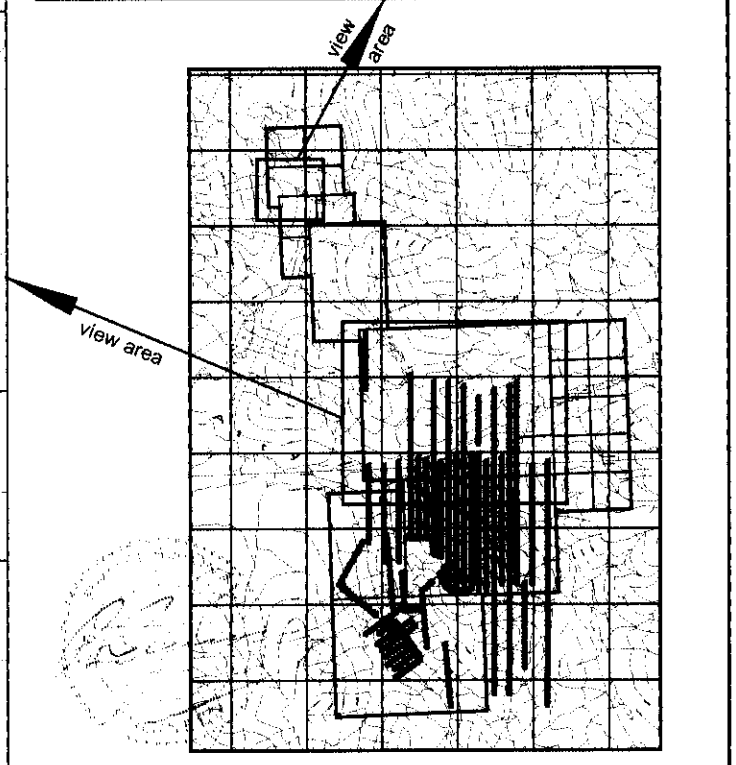
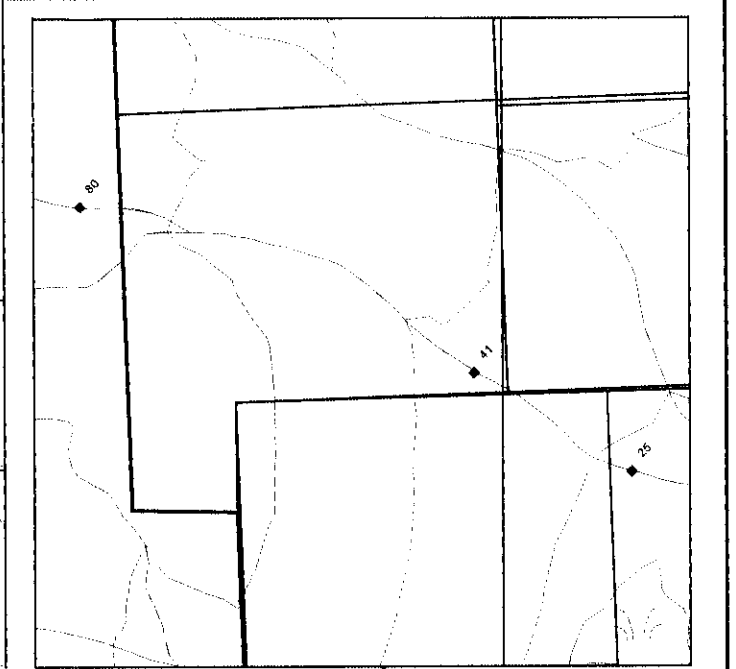
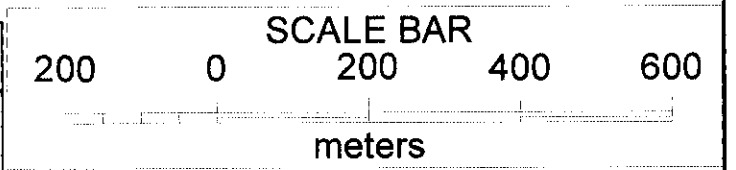
As expected, no pre-1997 soil sample sites were located in the field, and the pre-1997 grids were digitized using map locations in original reports. To save costs, deviations in the old lines that were illustrated on the original hand drawn maps aren't preserved in the digital data base used to produce the maps in this report. The pre-1997 location data used herein are of adequate quality to show patterns in metal distribution, but the location of any individual sample site may be accurate only to within a radius of about 100 meters.

## 3. Copper in Soils

*(see Figure 6n and Figure 6s)*

The highest copper concentrations in soils are mainly on the southern part of the Atty property, south of Attycelly Creek. They are found on and to either side of a 1,900+ meter elevation ridge that trends northwest, in the northeast corner of the Atty 4 claim. On this ridge a number of copper-bearing veins crop out, including the Inca Veins (see section III.D.3 on page 14). On the southwest flank of the ridge, in the central part of the Atty 4 claim, is the gossanous area described in section III.D.5. Some of the highest copper values in soils are found on the lines crossing the gossanous area. The 1999 extension of the northwest-trending base line shows that moderately high copper values in soils, in the range 93 ppm to 396 ppm, persist on the southwest facing slope. Once the line of samples crosses the valley bottom to the northeast facing slope, the copper values drop off to the range 6 ppm to 42 ppm. The valley bottom marks a fault contact between rocks of the Takla Group on the northeast, where the higher copper values are, and the Hazelton on the southwest, where copper in soils is less concentrated.

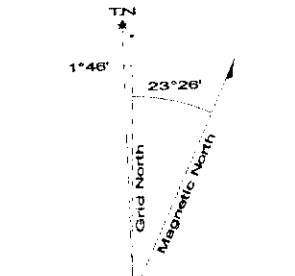
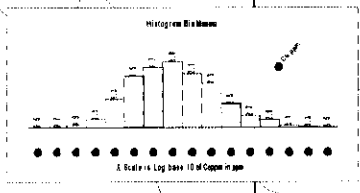




**Symbol Legend**

- water course
- tree line
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- major topographic contour, 100 meter interval
- soil sample site
- stream sediment sample site
- road
- Mineral Claim Included in the Atty Property

The topographic base for this map was a B.C. "TRIM" representational map. The topographic linework was designed to be plotted at 1:20,000. Its degree of accuracy is less suitable for larger scales.



Approximate Mean Declination 1996  
for Centre of Map  
Decreasing 17.0' Annually

1995	1996	1997
1998	1999	2000

Author: Steve Johnson Ltd.  
Scale: Caledonia Geomatics Systems  
This map was produced in 1995 for the B.C. Ministry of Environment, Lands & Parks, Survey & Resource Assessment Branch under the "Atty" Resource Information Management System. Map 175-000.  
www.srs.gov.bc.ca/geomap/trim/trim.htm  
Universal Transverse Mercator Projection  
North American Datum - NAD83  
UTM Zone 9

Finlay Minerals Ltd.		Atty Project
<b>Copper in Soils &amp; Streams, ppm (North Sheet)</b>		
Drawn by: PAR	Project: 25	Drawing: 25-3-6n
Date: 05/01/00	Report: 25-3	Revision: 1
New Caledonian Geological Consulting		<b>Figure 6n</b>



#### **4. Gold in Soils**

*(see Figure 7n and Figure 7s)*

Higher gold values exhibit a distinct clustering on the southwest slope of the ridge on the Atty 3, Atty 4 and AT991 claims. This includes the gossanous area on the Atty 4 claim and an area downslope of the lobe of intrusive rock in the southeast corner of the Atty 4 claim (see Figure 4 for the location of the intrusive lobe).

Gold in soils indicates the same target areas as the copper, on the central to northeast part of the Atty 4 claim, with the gossanous area on Atty 4 as a focus.

#### **5. Silver in Soils**

*(see Figure 8n and Figure 8s)*

The 1981 soil geochemical data for silver show consistently higher levels than the data from the 1997 through 1999 surveys. Thus, in the case of silver, there is concern that the merging of the older and newer data sets with no correction factors applied may not be legitimate. If there is a systematic, artificial difference between the older and newer data it is most likely to be due to differing analytical techniques.

If the silver data are taken at face value, most of the higher silver values cluster around the north end of the ridge on the Atty 3 and AT991 claims, and in the head of the cirque on the south edge of the At991 claim. The gossan area on the Atty 4 claim, where higher copper and gold values are found, has a low silver background (compare Figure 8s with Figure 7s). The relationship of silver and gold in the soils appears almost antithetical, but, to reiterate, this appearance could be an artifact of differing analytical techniques.

Considering the full soil data set, the highest concentration of silver values lies in the drainage basin of the cirque in the central part of the AT991 claim, between about 1,500 meters and 1,400 meters of elevation. The silver is accompanied by lead and zinc, and the silver-lead-zinc zone may be a reflection of the mineralization at the Kennco Veins.

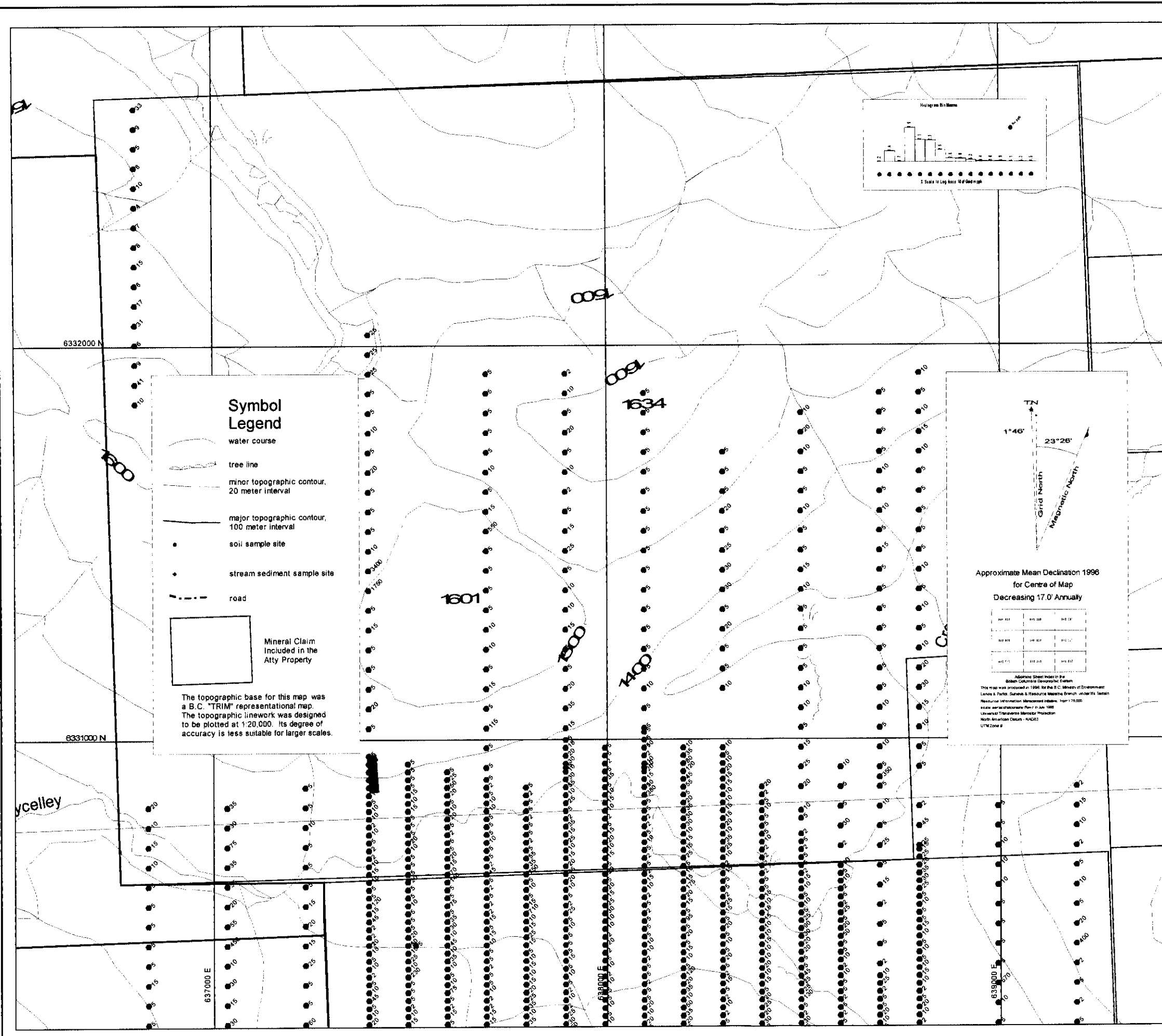
#### **6. Lead in Soils**

*(see Figure 9n and Figure 9s)*

There is a similar dichotomy of 1981 lead values compared to later ones as is found with silver, so again there is some concern that the merging of old and new data sets may not be legitimate.

The gossanous area on the Atty 4 claim, containing one of the highest clusters of copper values, contains very low lead values. In the area of 1997 and 1998 activity the higher lead values lie around the northwest tip of the ridge on the Atty 3 and AT991 claims. The reason for this is unknown, though the Inca Veins and similar showings may contain some lead. Some higher lead values are also found downslope of the lobe of intrusive rock in the southeast corner of the Atty 4 claim.

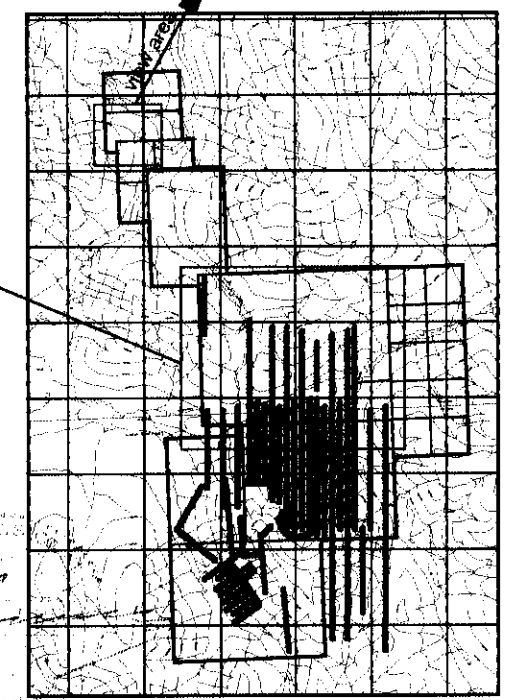
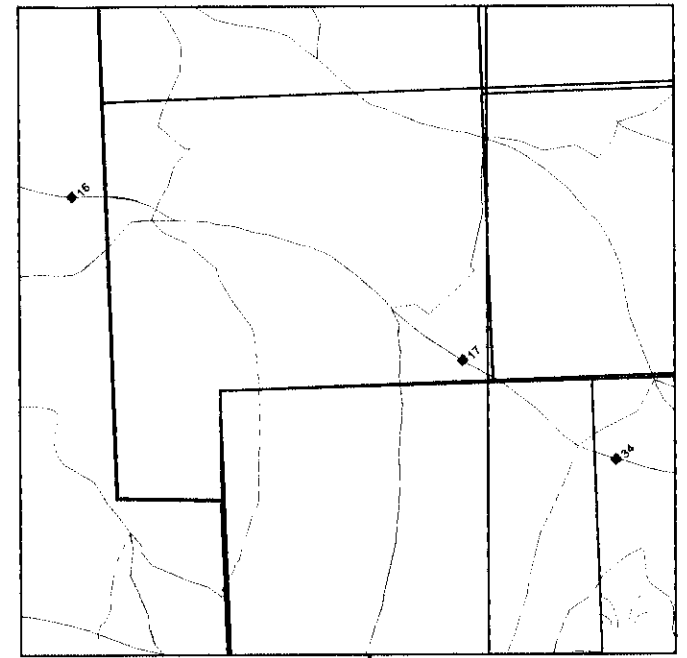
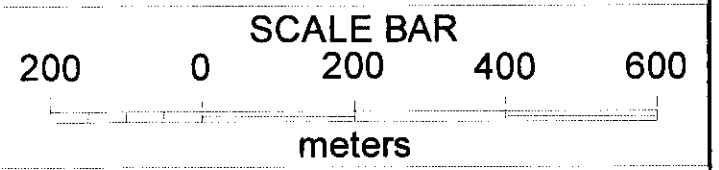
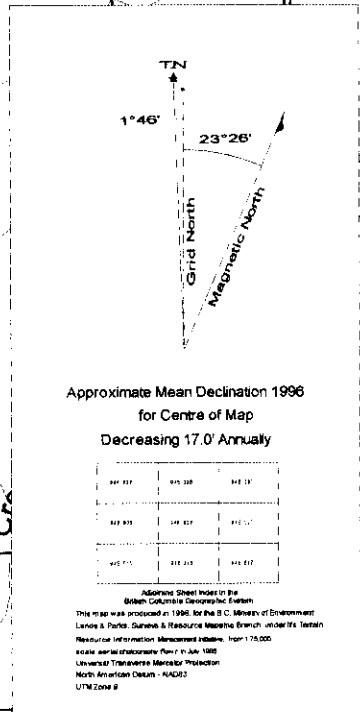
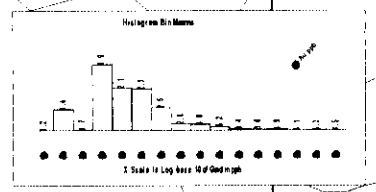
*Considering the full soil data set, the highest concentration of lead values lies in the silver-lead-zinc zone in the drainage basin of the cirque in the central part of the AT991 claim, between about 1,500 meters and 1,400 meters of elevation.*



**Symbol Legend**

- water course
- tree line
- minor topographic contour, 20 meter interval
- major topographic contour, 100 meter interval
- soil sample site
- stream sediment sample site
- road
- Mineral Claim Included in the Atty Property

The topographic base for this map was a B.C. "TRIM" representational map. The topographic linework was designed to be plotted at 1:20,000. Its degree of accuracy is less suitable for larger scales.



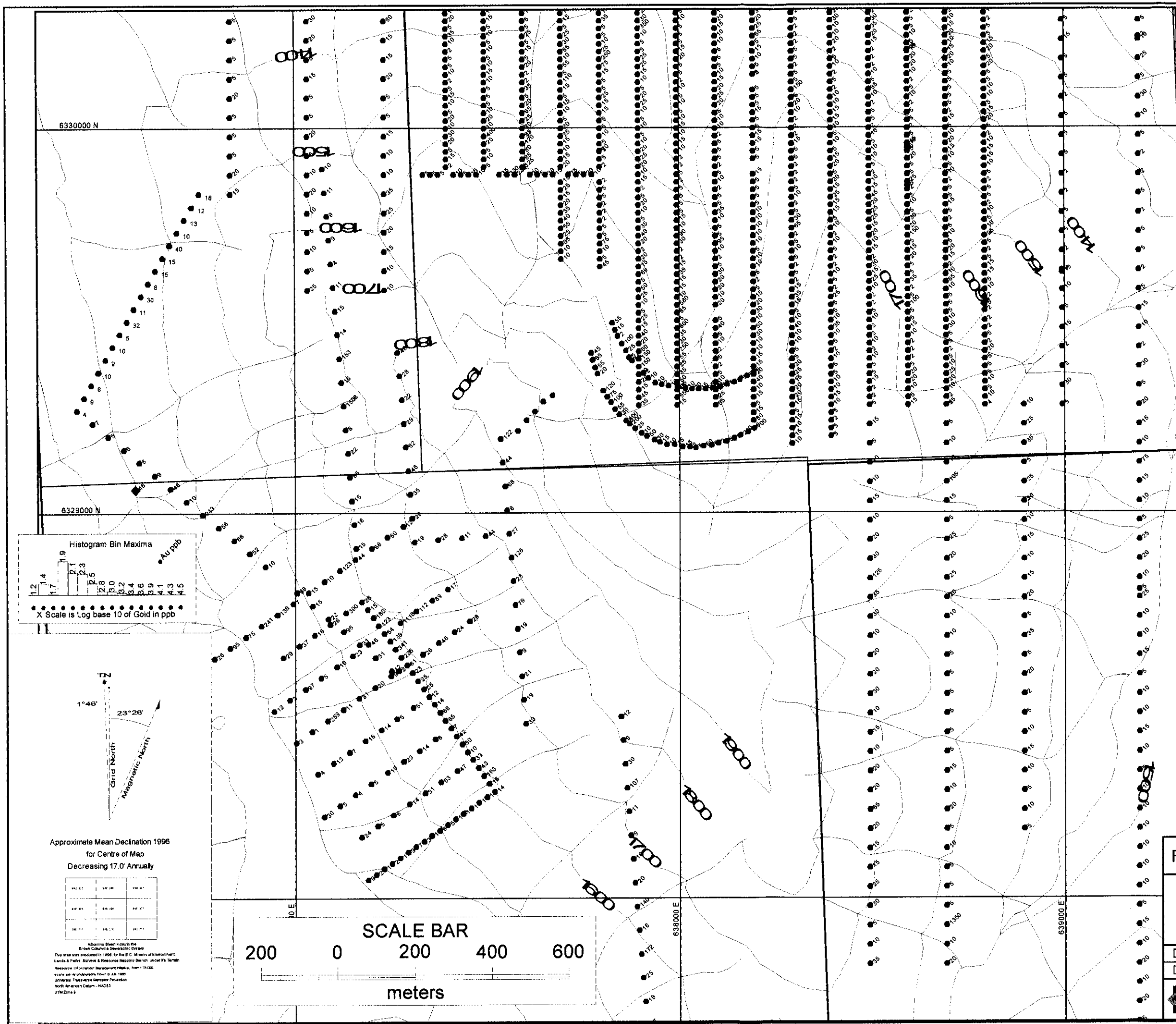
Finlay Minerals Ltd. Atty Project

**Gold in Soils & Streams, ppb  
(North Sheet)**

Drawn by: PAR	Project: 25	Drawing: 25-3-7n
Date: 05/01/00	Report: 25-3	Revision: 1

New Caledonian Geological Consulting

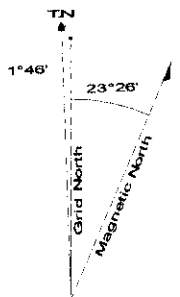
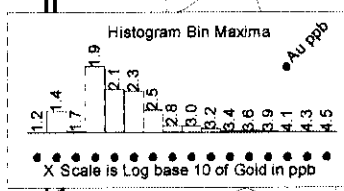
**Figure 7n**



### Symbol Legend

- water course
- tree line
- minor topographic contour, 20 meter interval
- major topographic contour, 100 meter interval
- soil sample site
- stream sediment sample site
- road
- Mineral Claim included in the Atty Property

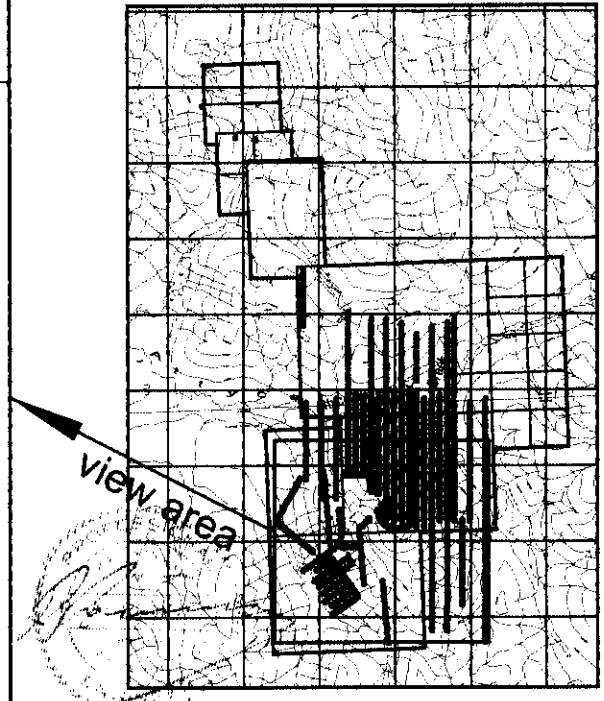
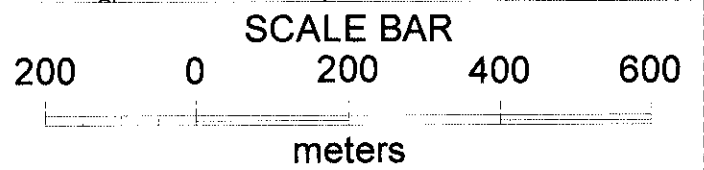
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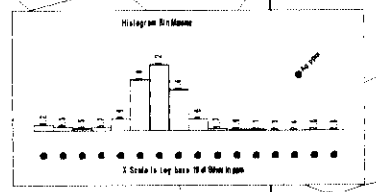
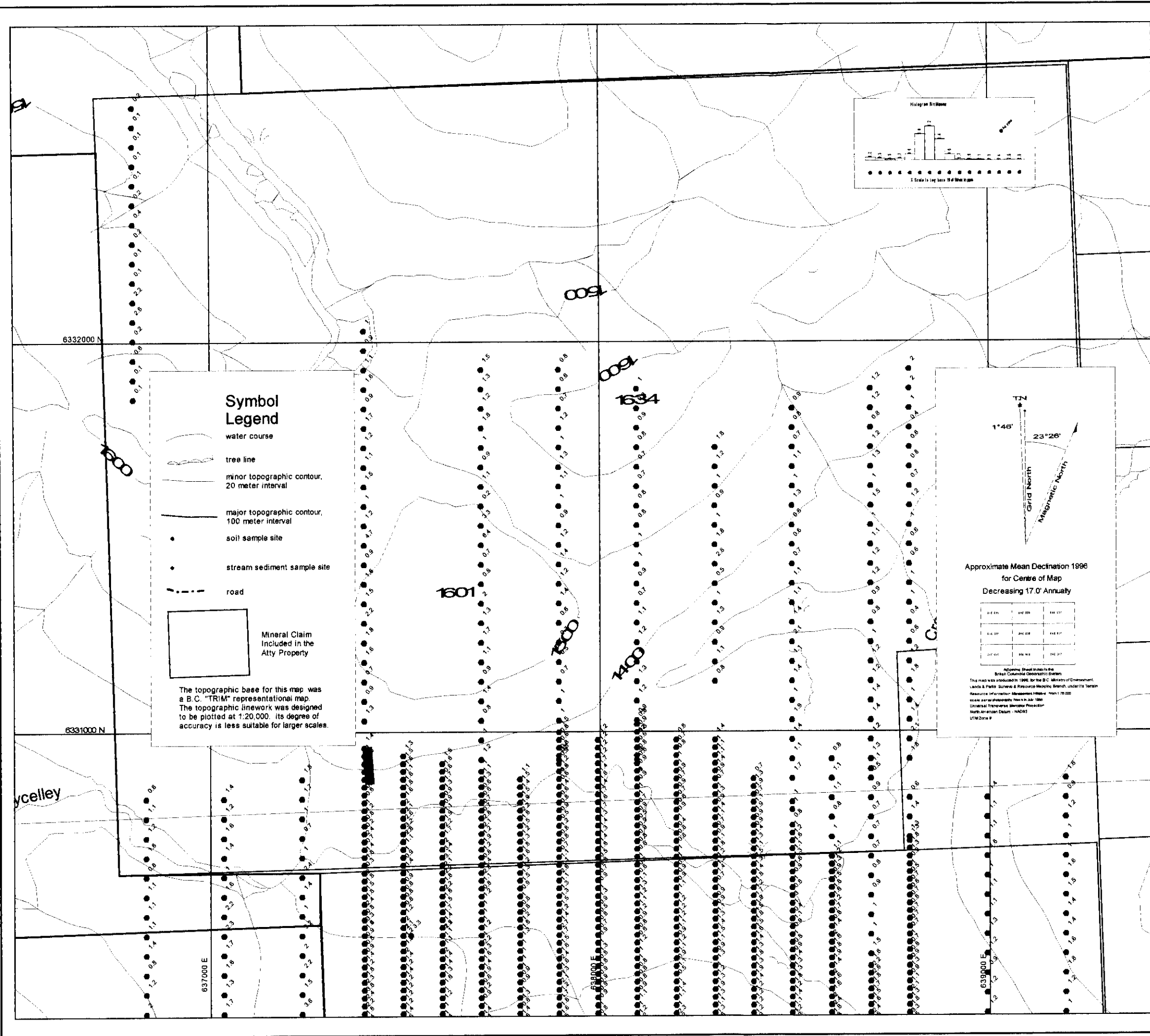
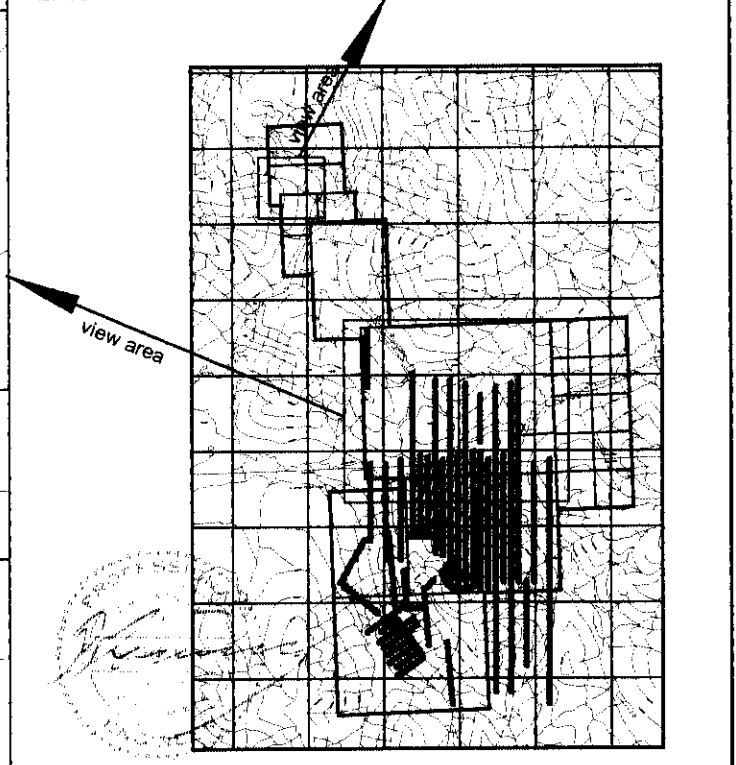
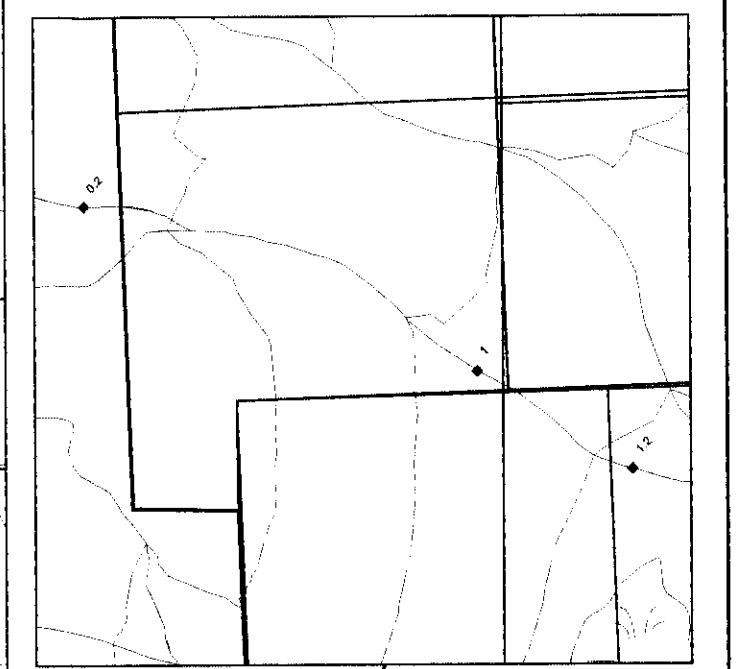
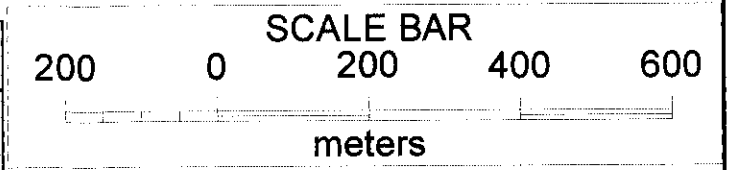
Approximate Mean Declination 1996  
for Centre of Map  
Decreasing 17.0' Annually

442 221	442 228	442 237
442 238	442 248	442 257
442 271	442 278	442 287

Adapted from notes by the British Columbia Geomatics Division. This map was produced in 1995 for the B.C. Ministry of Environment, Lands & Parks, Bureau & Resource Mapping Branch, Unclassified Terrain. Reference: Information Management Manual, Item 170-000. © 1995 New Caledonian Geological Consulting. Universal Transverse Mercator Projection. NORTH AMERICAN DATUM - NAD83. UTM Zone 9.



Finlay Minerals Ltd.		Atty Project
<b>Gold in Soils &amp; Streams, ppb</b> (South Sheet)		
Drawn by: PAR	Project: 25	Drawing: 25-3-7s
Date: 05/01/00	Report: 25-3	Revision: 1
New Caledonian Geological Consulting		<b>Figure 7s</b>



**Symbol Legend**

- water course
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- road
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The topographic base for this map was a B.C. "TRIM" representational map. The topographic linework was designed to be plotted at 1:20,000. Its degree of accuracy is less suitable for larger scales.

Approximate Mean Declination 1996 for Centre of Map Decreasing 17.0' Annually

114 00'	114 30'	115 00'
114 30'	115 00'	115 30'
115 00'	115 30'	116 00'

Adopting Grid North in the British Columbia Geodetic System. This map was produced in 1996, for the B.C. Ministry of Environment, Lands & Parks Survey & Resource Mapping Branch under the Terrain Resource Information Management Initiative. Form 1 (7/00) www.srv.gov.bc.ca/geomat/geomat.html. Universal Transverse Mercator Projection. North American Datum - NAD83. UTM Zone 9.

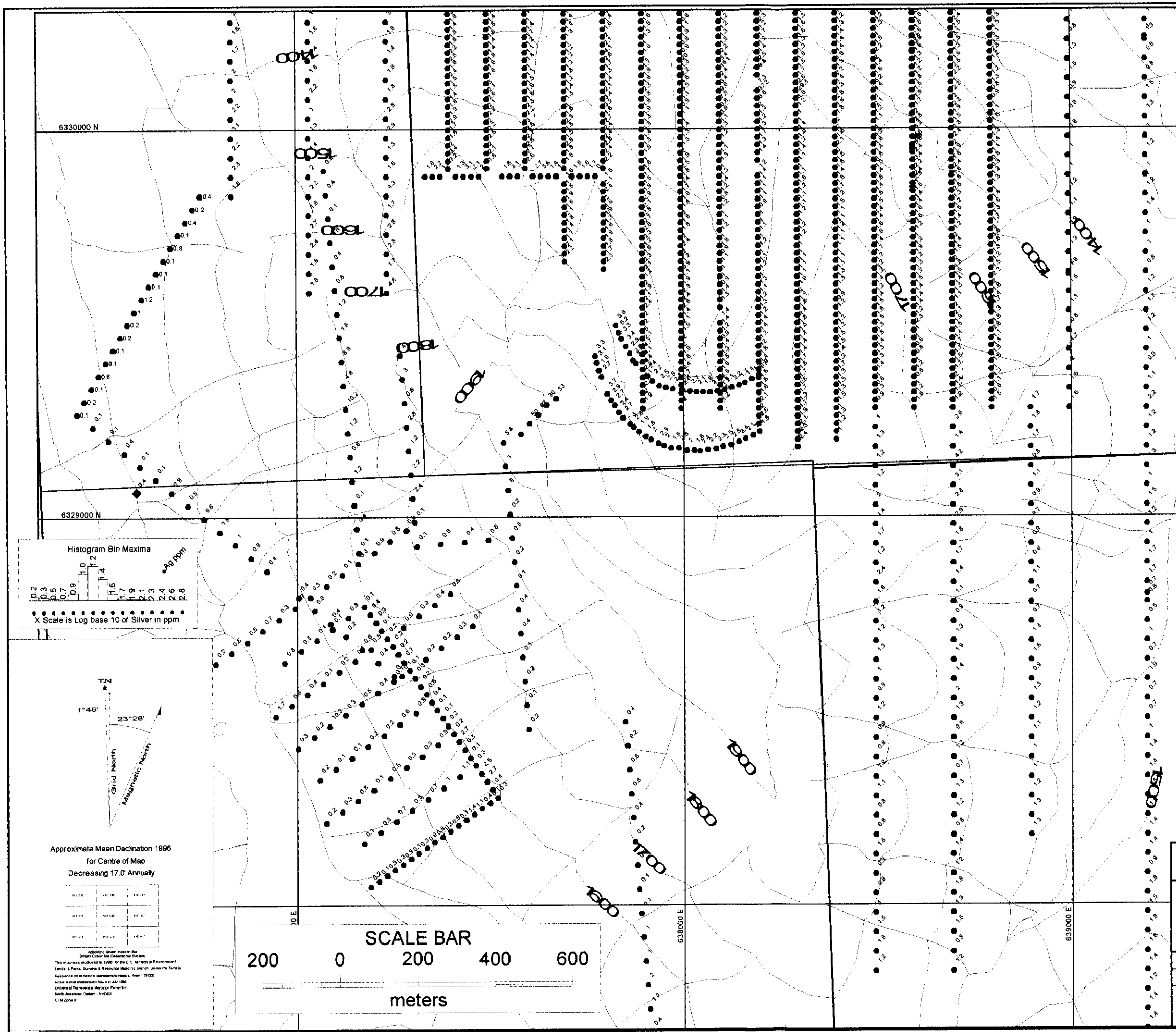
Finlay Minerals Ltd. Atty Project

**Silver in Soils & Streams, ppm (North Sheet)**

Drawn by: PAR	Project: 25	Drawing: 25-3-8n
Date: 05/01/00	Report: 25-3	Revision: 1

New Caledonian Geological Consulting

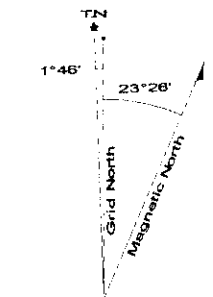
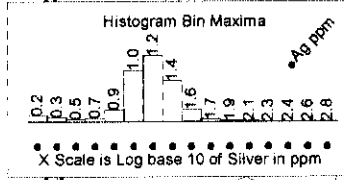
**Figure 8n**



### Symbol Legend

- water course
- tree line
- minor topographic contour, 20 meter interval
- major topographic contour, 100 meter interval
- soil sample site
- stream sediment sample site
- road
- Mineral Claim Included in the Atty Property

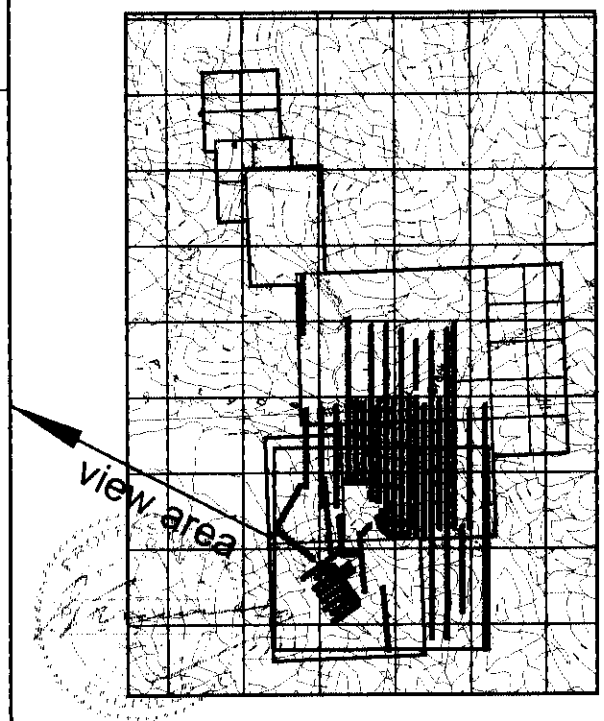
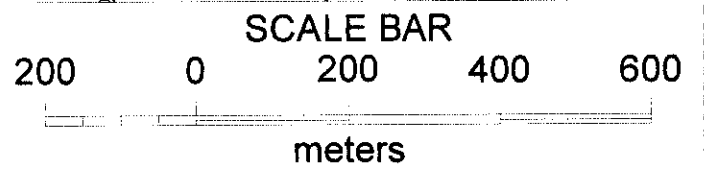
The topographic base for this map was a B.C. "TRIM" representational map. The topographic line work was designed to be plotted at 1:20,000. Its degree of accuracy is less suitable for larger scales.



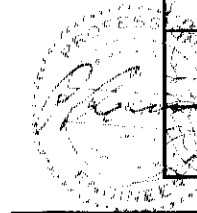
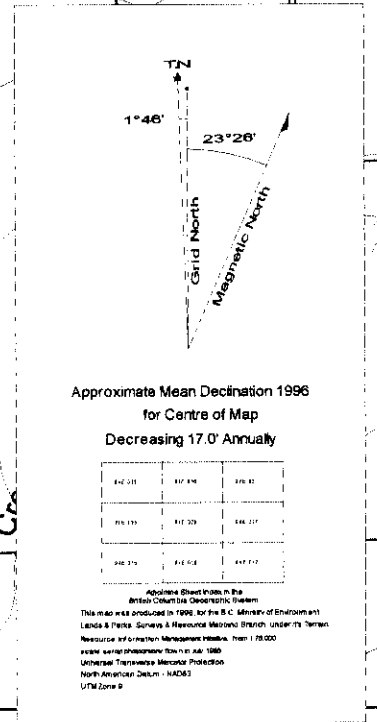
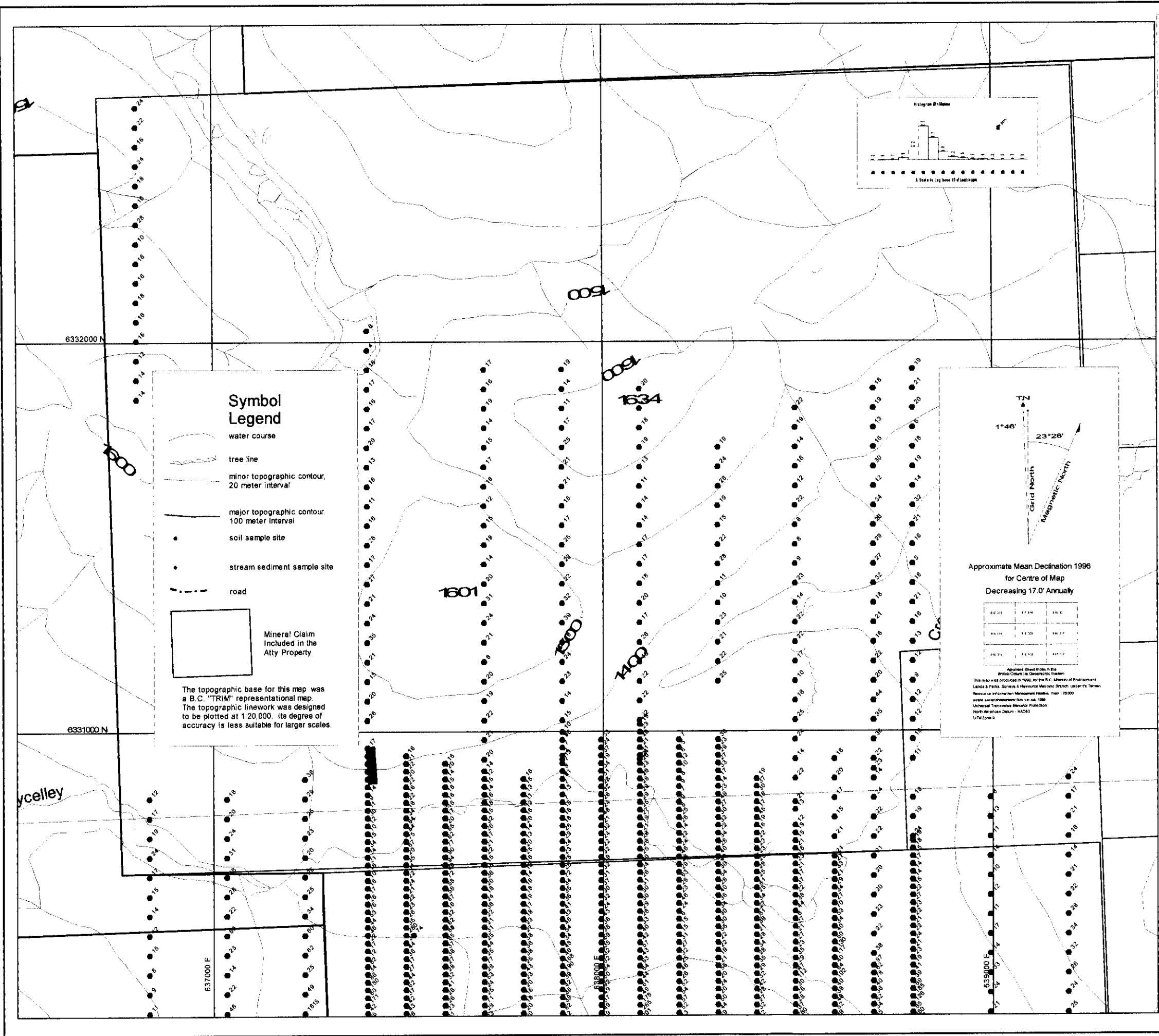
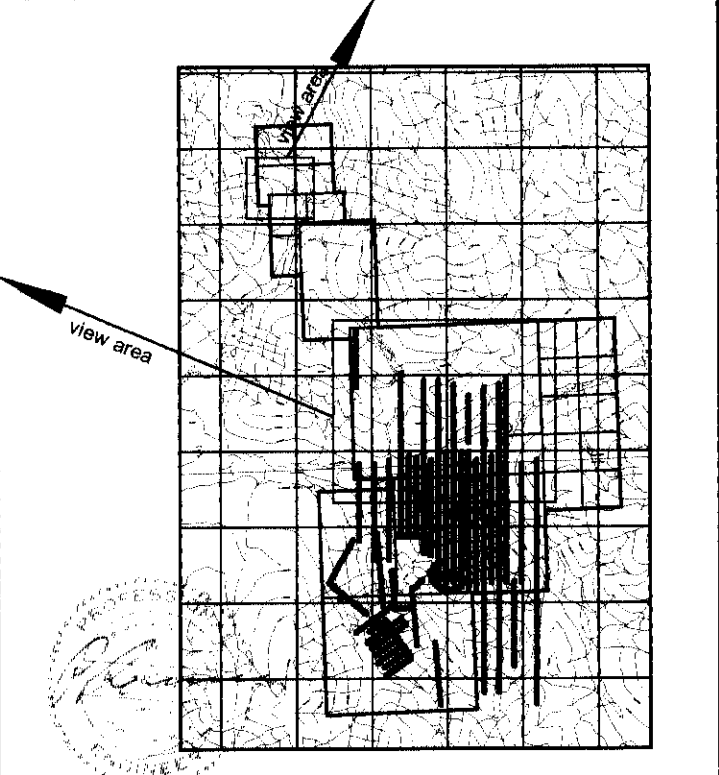
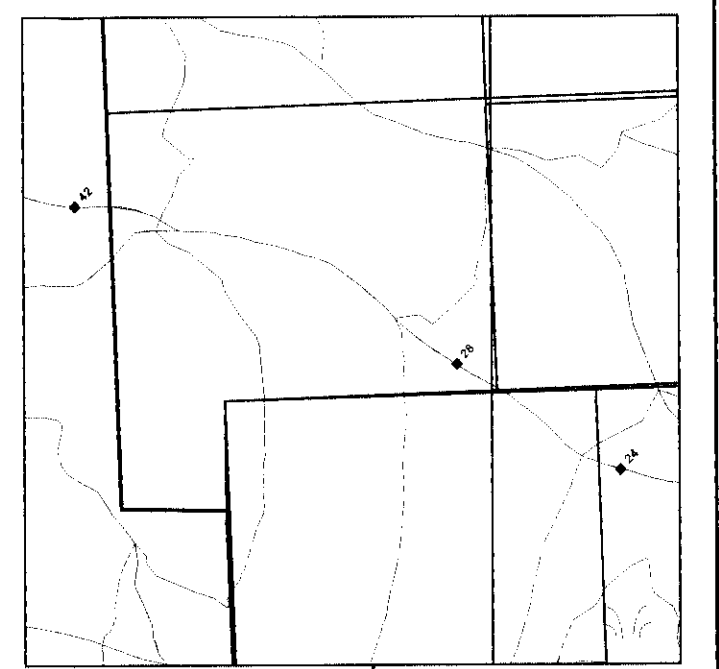
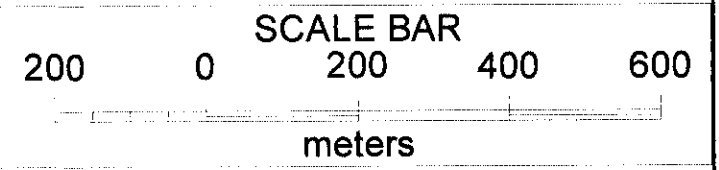
Approximate Mean Declination 1996  
for Centre of Map  
Decreasing 17.0' Annually

633 000	633 100	633 200
633 300	633 400	633 500
633 600	633 700	633 800
633 900	634 000	634 100

Approved: Great Falls to the  
British Columbia Department of  
Lands & Parks, Survey & Resource Mapping Section, under the Terms  
Resource Information Management System, from 1/9/00  
scale: same as shown from 1:25,000  
Universal Transverse Mercator Projection  
North American Datum - NAD83  
UTM Zone 9



Finlay Minerals Ltd.		Atty Project
<b>Silver in Soils &amp; Streams, ppm</b> (South Sheet)		
Drawn by: PAR	Project: 25	Drawing: 25-3-8s
Date: 05/01/00	Report: 25-3	Revision: 1
New Caledonian Geological Consulting		<b>Figure 8s</b>



Finlay Minerals Ltd. Atty Project

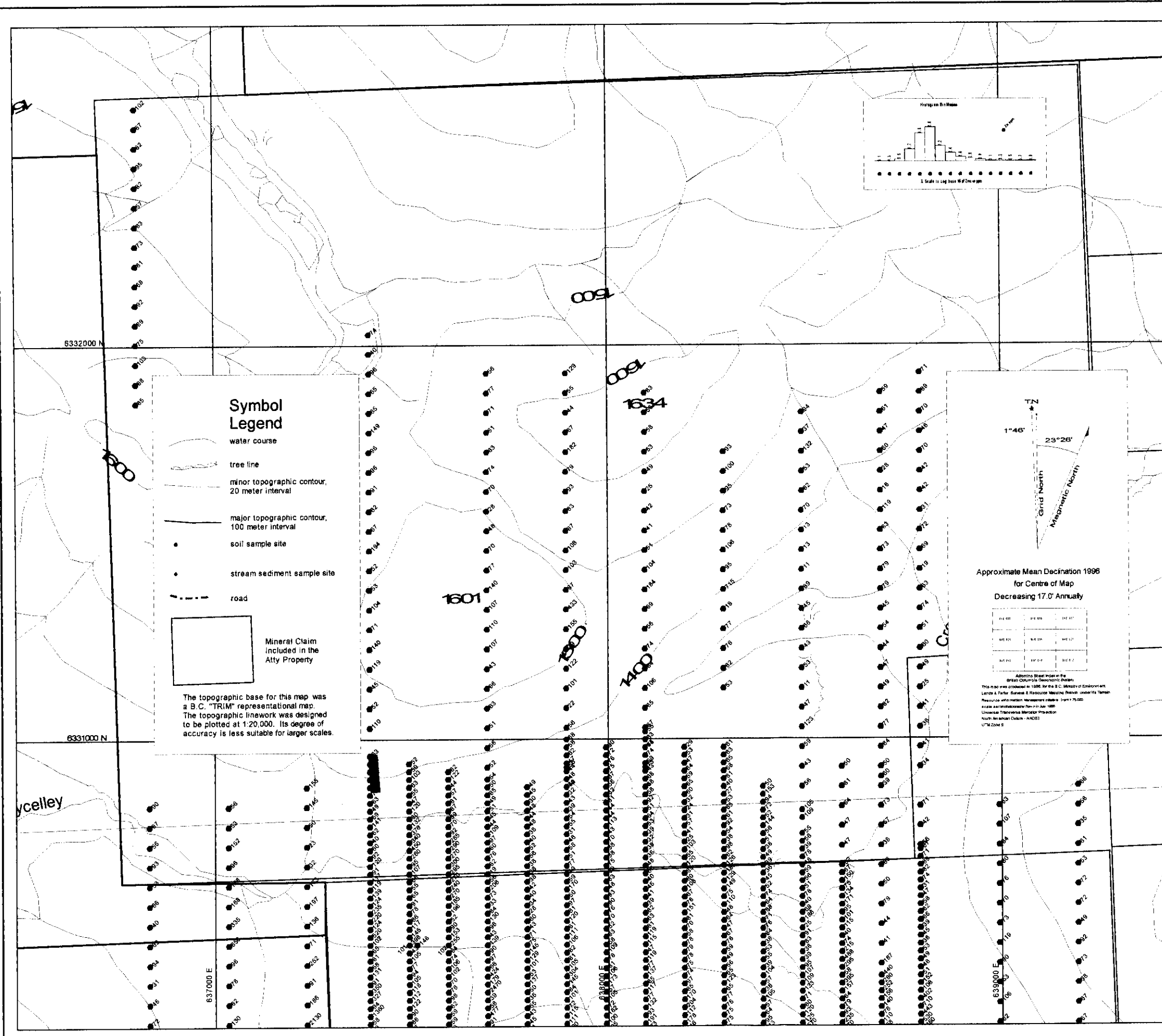
**Lead in Soils & Streams, ppm**  
(North Sheet)

Drawn by: PAR	Project: 25	Drawing: 25-3-9n
Date: 05/01/00	Report: 25-3	Revision: 1

New Caledonian Geological Consulting **Figure 9n**



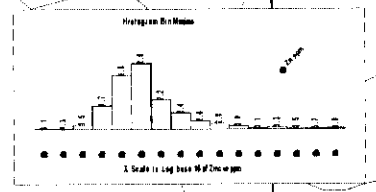




**Symbol Legend**

- water course
- tree line
- minor topographic contour, 20 meter interval
- major topographic contour, 100 meter interval
- soil sample site
- stream sediment sample site
- road
- Mineral Claim included in the Atty Property

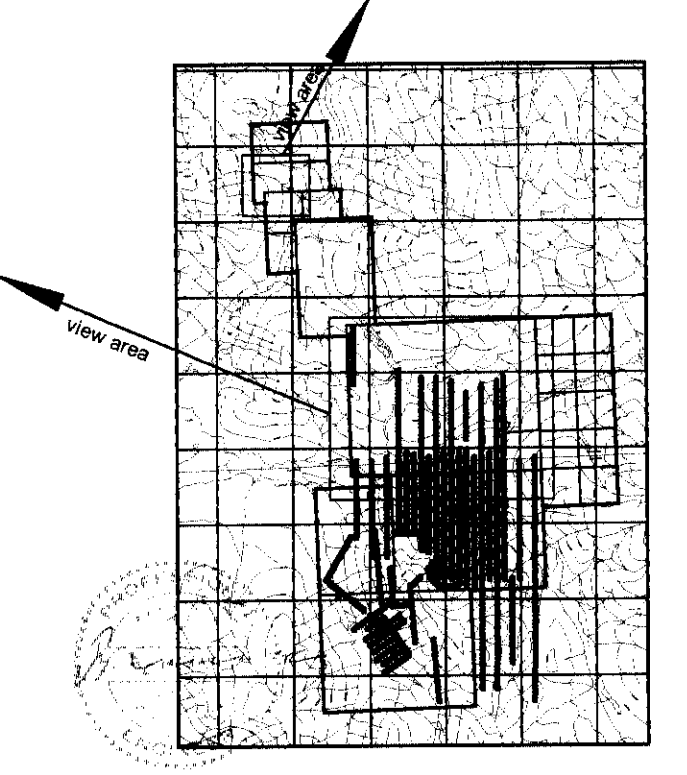
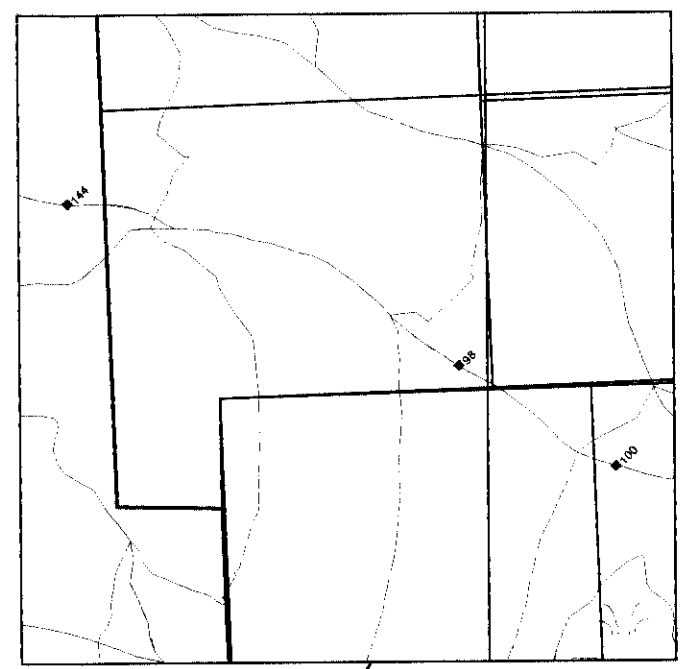
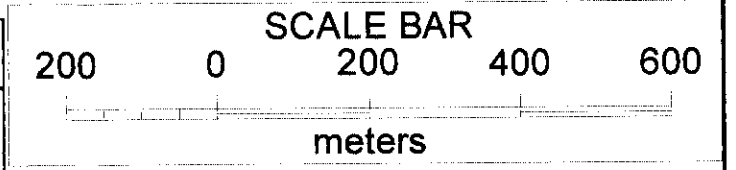
The topographic base for this map was a B.C. "TRIM" representational map. The topographic linework was designed to be plotted at 1:20,000. Its degree of accuracy is less suitable for larger scales.



Approximate Mean Declination 1996 for Centre of Map Decreasing 17.0' Annually

114 000	114 500	115 000
115 000	115 500	116 000
116 000	116 500	117 000

This map was prepared in 1996 by the S.C. Ministry of Environment, Land & Parks, Survey & Resource Mapping Branch under the terms of a Resource Information Management Order (RIMO) 1996. It is based on the 1986 Universal Transverse Mercator Projection North American Datum - NAD83 UTM Zone 8.

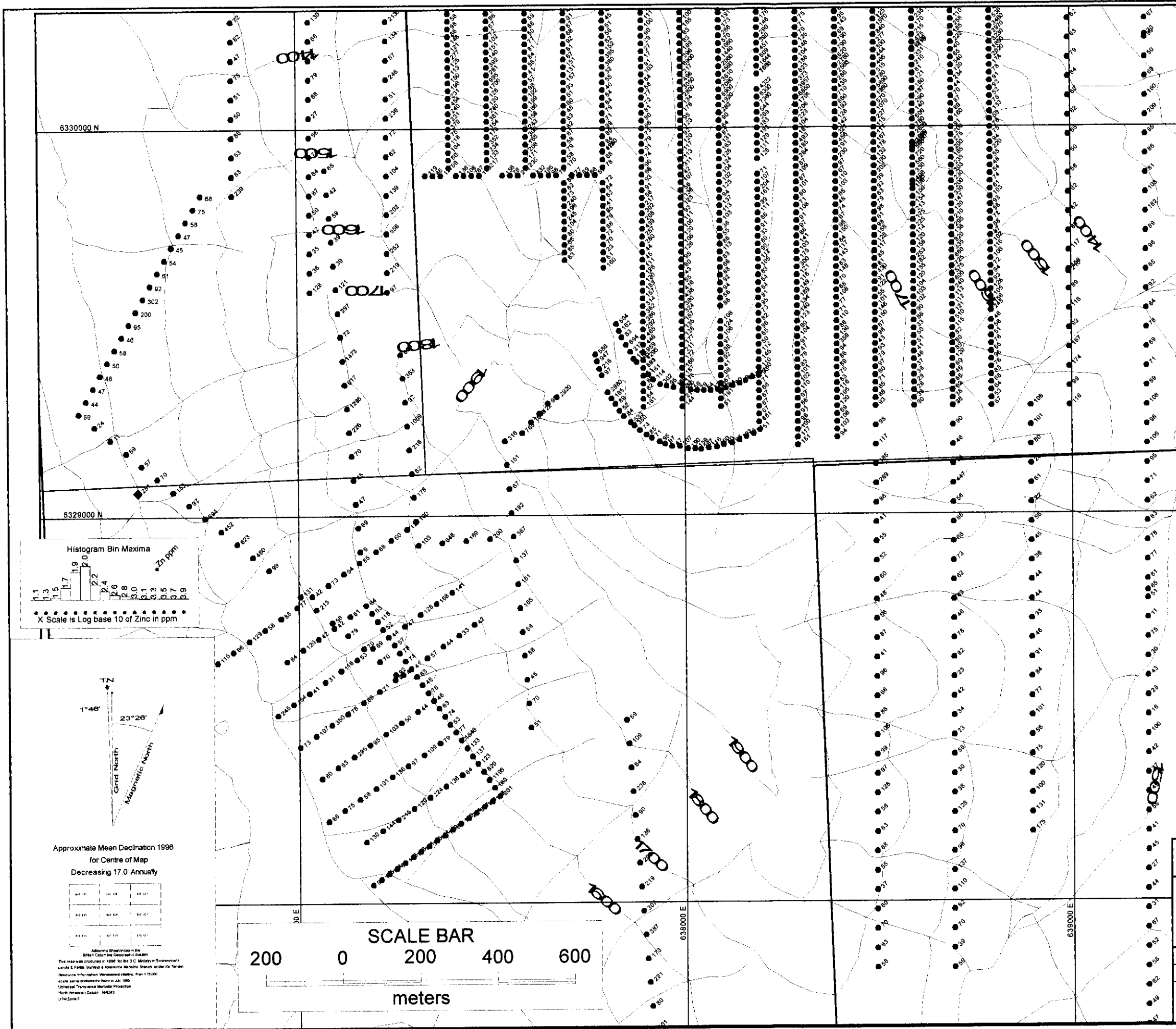


Finlay Minerals Ltd. Atty Project

**Zinc in Soils & Streams, ppm**  
(North Sheet)

Drawn by: PAR	Project: 25	Drawing: 25-3-10n
Date: 05/01/00	Report: 25-3	Revision: 1

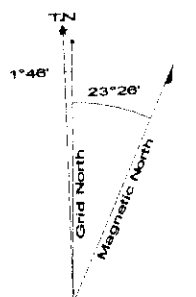
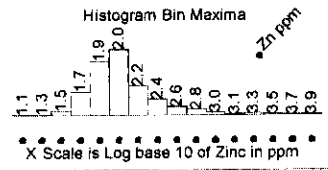
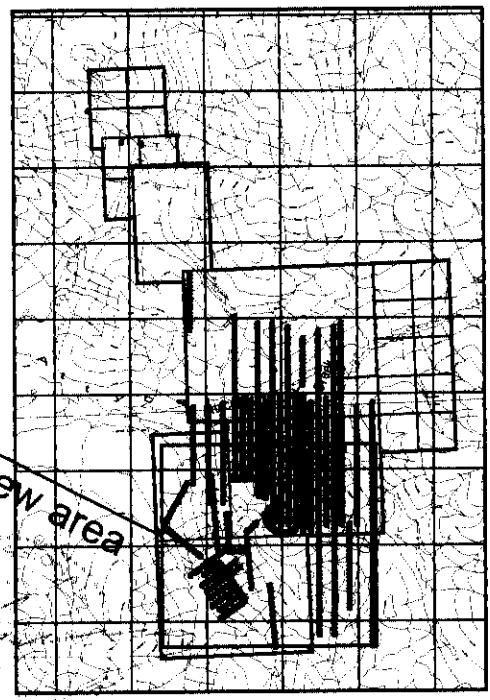
New Caledonian Geological Consulting **Figure 10n**



### Symbol Legend

- water course
- tree line
- minor topographic contour, 20 meter interval
- major topographic contour, 100 meter interval
- soil sample site
- stream sediment sample site
- road
- Mineral Claim Included in the Atty Property

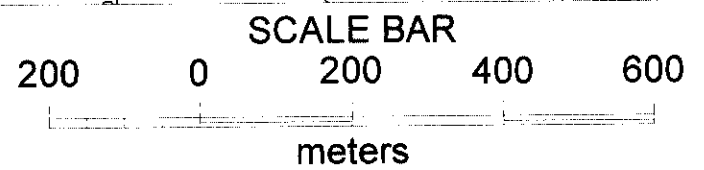
The topographic base for this map was a B.C. "TRIM" representational map. The topographic linework was designed to be plotted at 1:20,000. Its degree of accuracy is less suitable for larger scales.



Approximate Mean Declination 1996  
for Centre of Map  
Decreasing 17.0' Annually

637 00	637 50	638 00	638 50
638 00	638 50	639 00	639 50
639 00	639 50	640 00	640 50

Approved Sheet Lines in the  
SHEET COORDINATE SYSTEM  
This sheet was produced in 1996 for the B.C. Ministry of Environment,  
Lands & Parks, Survey & Resource Mapping Branch, under its Terrain  
Resource Information Management (TRIM) Plan 1:20,000  
Scale: 1:20,000  
Universal Transverse Mercator Projection  
North American Datum (NAD83)  
UTM Zone 8



Finlay Minerals Ltd.		Atty Project
<b>Zinc in Soils, ppm</b> (South Sheet)		
Drawn by: PAR	Project: 25	Drawing: 25-3-10s
Date: 05/01/00	Report: 25-3	Revision: 1
New Caledonian Geological Consulting		<b>Figure 10s</b>

## **7. Zinc in Soils**

*(see Figure 10n and Figure 10s)*

The spacial distribution of zinc in soils is somewhat similar to that of lead, with higher zinc values wrapping around the northern end of the ridge on the Atty 3 and AT991 claims. As in the case of lead, there appear to be some higher zinc values downslope of the lobe of intrusive rock in the southeast corner of the Atty 4 claim. One of the strongest concentrations of zinc in soils is in the cirque on the central part of the At991 claim, in the same area as high silver and lead values are found, near the Kennco Showing.

The gossanous area on the Atty 4 claim contains low zinc values.

## **8. Summary of Metal Distributions in Soils**

The area of greatest interest as suggested by the soil sample results includes most of the Atty 4 and parts of the Atty 3 and AT991 claims. The five metals discussed are copper, lead, zinc, gold and silver. Of these, copper and gold are distributed in similar patterns on the southwest slope of a ridge on the Atty 4 claim. Relatively high values of these metals lie within and near a zone of rusty red-brown weathering scree and minor outcrop on the southwest slope. There are also relatively high values of copper and gold on parts of one sample line that traverses across the slope below a lobe of granodioritic intrusive in the southeast corner of the Atty 4 claim. The combined area of high copper and gold values covers very roughly 1.5 square kilometers. This surface area is probably larger than it might otherwise be due to an unknown but important degree of downslope dispersion.

North and northeast of the copper-gold zone, an area of relatively high lead, zinc and silver values, with copper, wraps around the northern end of the ridge on the Atty 3 and AT991 claims. High lead, zinc and silver are also found northeast of the ridge in the drainage basin of the cirque on the central part of the AT991 claim.

The line of soil samples collected in 1999 in the northwest corner of the ATTY 5 claim did not reveal any significant concentrations of copper, gold, silver, lead or zinc.

## **F. Results of Rock Geochemical Sampling**

*(see Figure 11 through Figure 16)*

### **1. Procedures**

During the 1999 field program 30 rock chip samples were collected from the Atty property. Of those, 6 are from the north end of the property on the A5, A3 and ATTY 7 claims. The remaining 24 are from the area where the ATTY 4 and AT991 claims adjoin, near the head of the cirque whose drainage runs south to north in the central part of the AT991 claim.

The rock samples are either character samples consisting of selected pieces of rock, or composite grabs consisting of several chips collected from an outcrop or area. None of the 1999 rock samples are unbiased representations of measured lengths, areas or volumes of material.

The rocks were shipped to TSL Assayers Corp. of Vancouver. The laboratory analyzed them for 30 elements using the ICP technique and for gold using a fire assay preparation with an AA finish.

Descriptions of all the samples appear in Appendix C, while analytical results are in Appendix B. Figure 11 through Figure 16 show the locations of the samples collected in 1999, with analytical results for copper, gold, silver, lead and zinc. On the figures, rock samples collected in 1998 are also plotted, in order to provide some context. The rock chip samples are too few, and were collected too selectively, for a statistical treatment of the results to be meaningful. They are discussed herein in a qualitative manner.

## **2. Rocks Collected on the South Part of the Atty Property**

Samples ATR-1 through ATR-24 were collected in the cirque on the south-central part of the AT991 claim. Most were selected because they contained visible mineralization, variously described by the collectors as quartz veins and/or disseminated mineralization in mafic or intrusive rock.

Most of the mineralization, as described by the collectors, is similar to that in known veins on the cirque rims to the north, the Inca Vein and the Kennco Veins. The significance of the many high metal concentrations found in the 1999 samples is that they extend the known range of the vein-type mineralization to almost two kilometers in an east-west direction near the common boundary of the ATTY 4 and AT991 claims. The mineralized zone is probably at least half a kilometer wide. It is speculated that the vein mineralization is laterally or vertically peripheral to a porphyry system, and that the gossan zone on the Atty 4 claim may be the tip of the zone of disseminated sulphides associated with the porphyry.

## **3. Rocks Collected at the North End of the Atty Property**

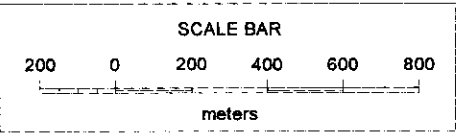
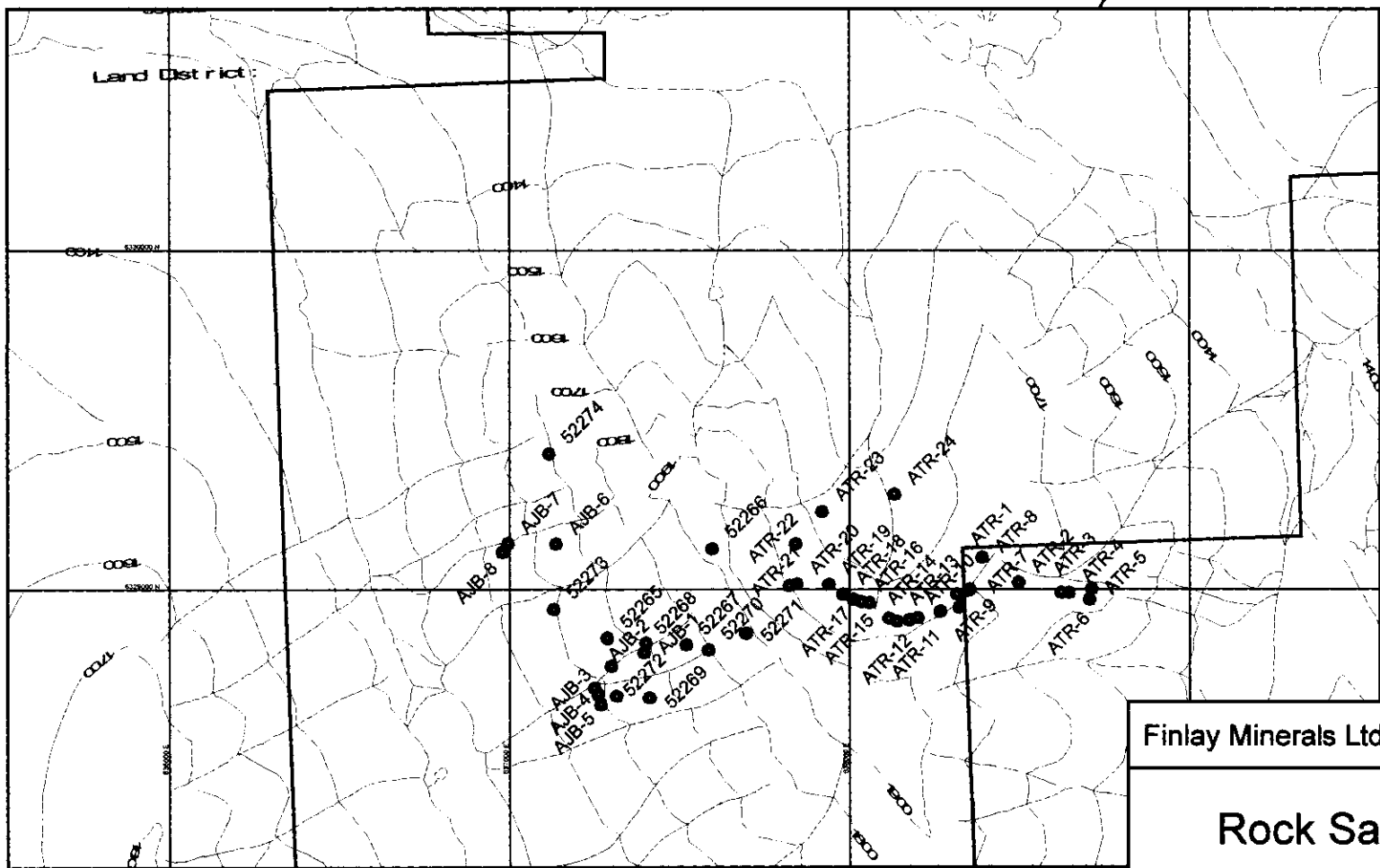
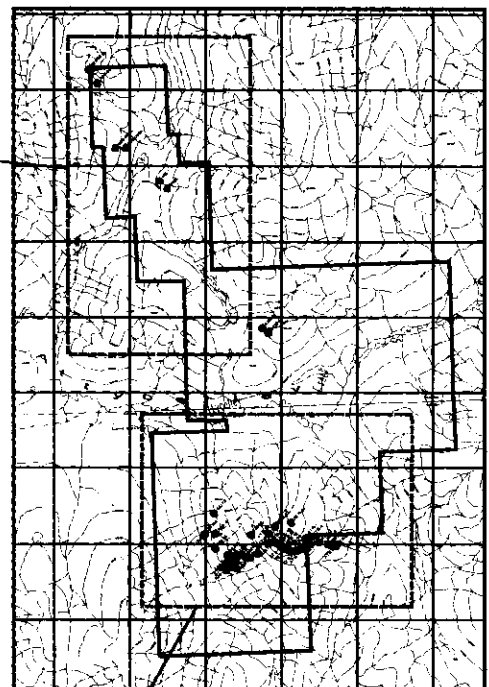
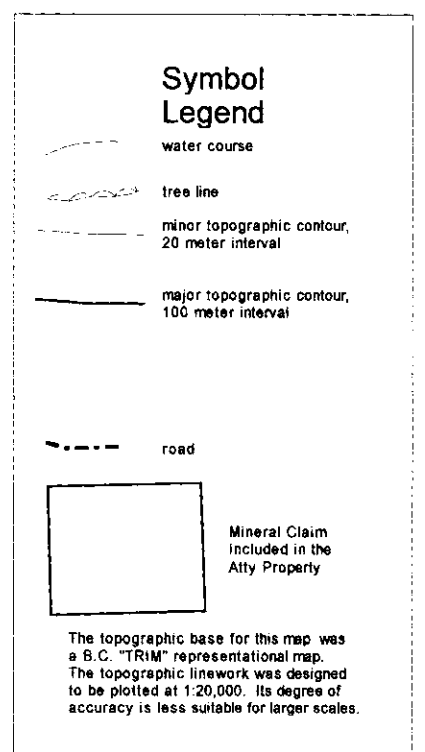
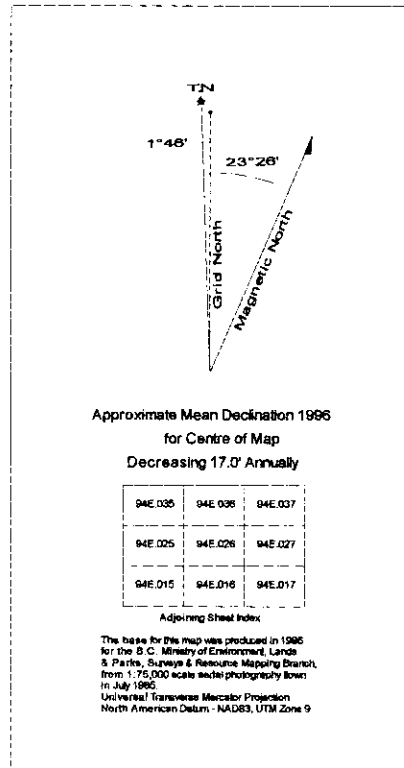
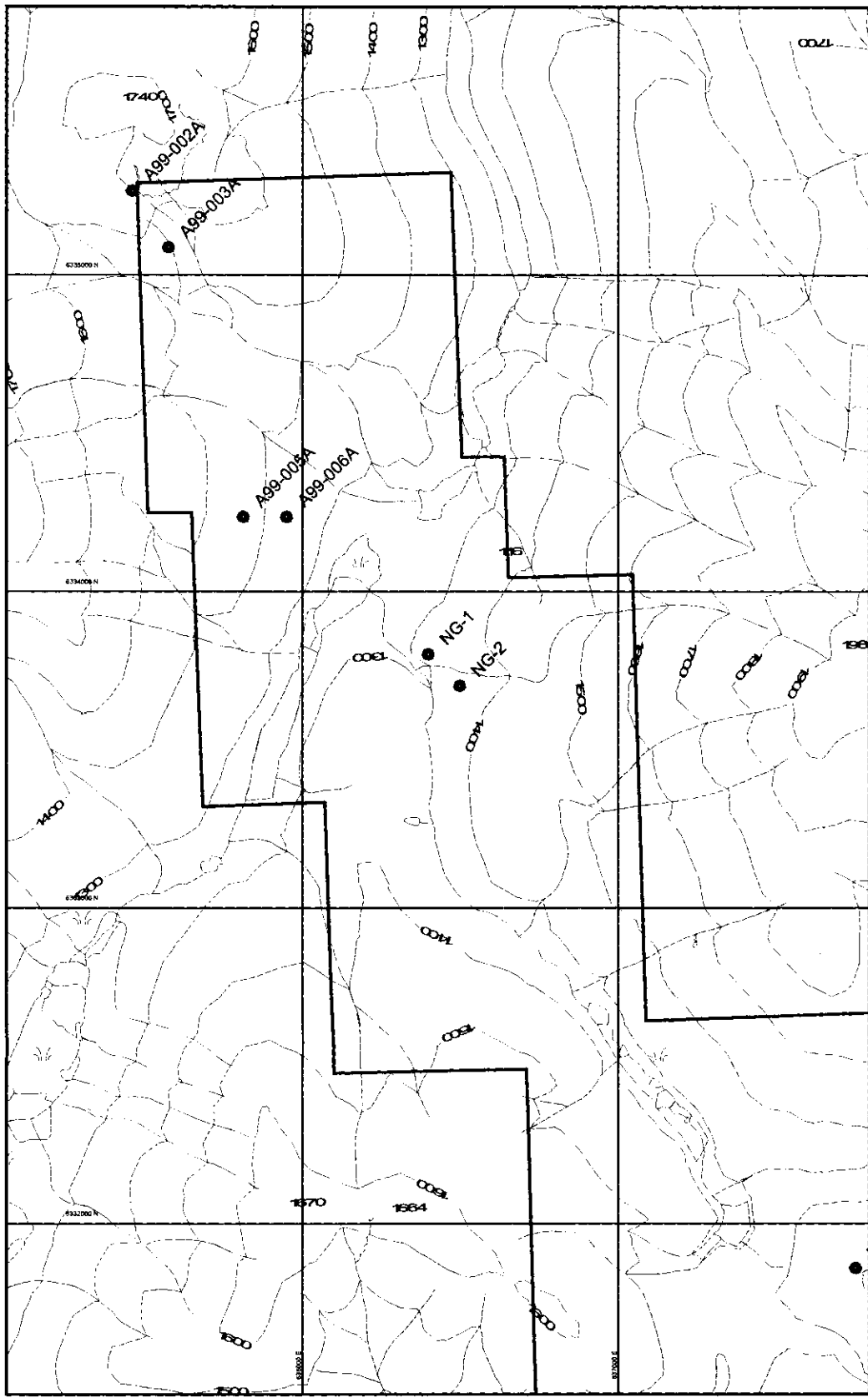
At the northwest corner of the A5 claim, either just on or just off the Atty property, the headwall of a small cirque is entirely underlain by a hydrothermal breccia. *Sub-centimetric, sub-angular fragments in random orientation make up 40% of the rock. The fragments are vuggy, sintery silica.* They are in a finely crystalline, cream-coloured groundmass that powders under a knife. All exposed and fracture surfaces of the breccia are coated with orange and deep hematitic red iron oxides.

The country rock, remnants of which are still present in the outcrops of breccia, are fine feldspar crystal ash tuffs.

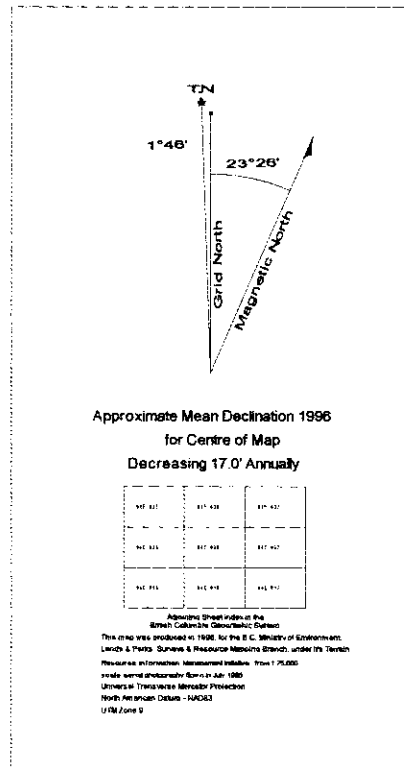
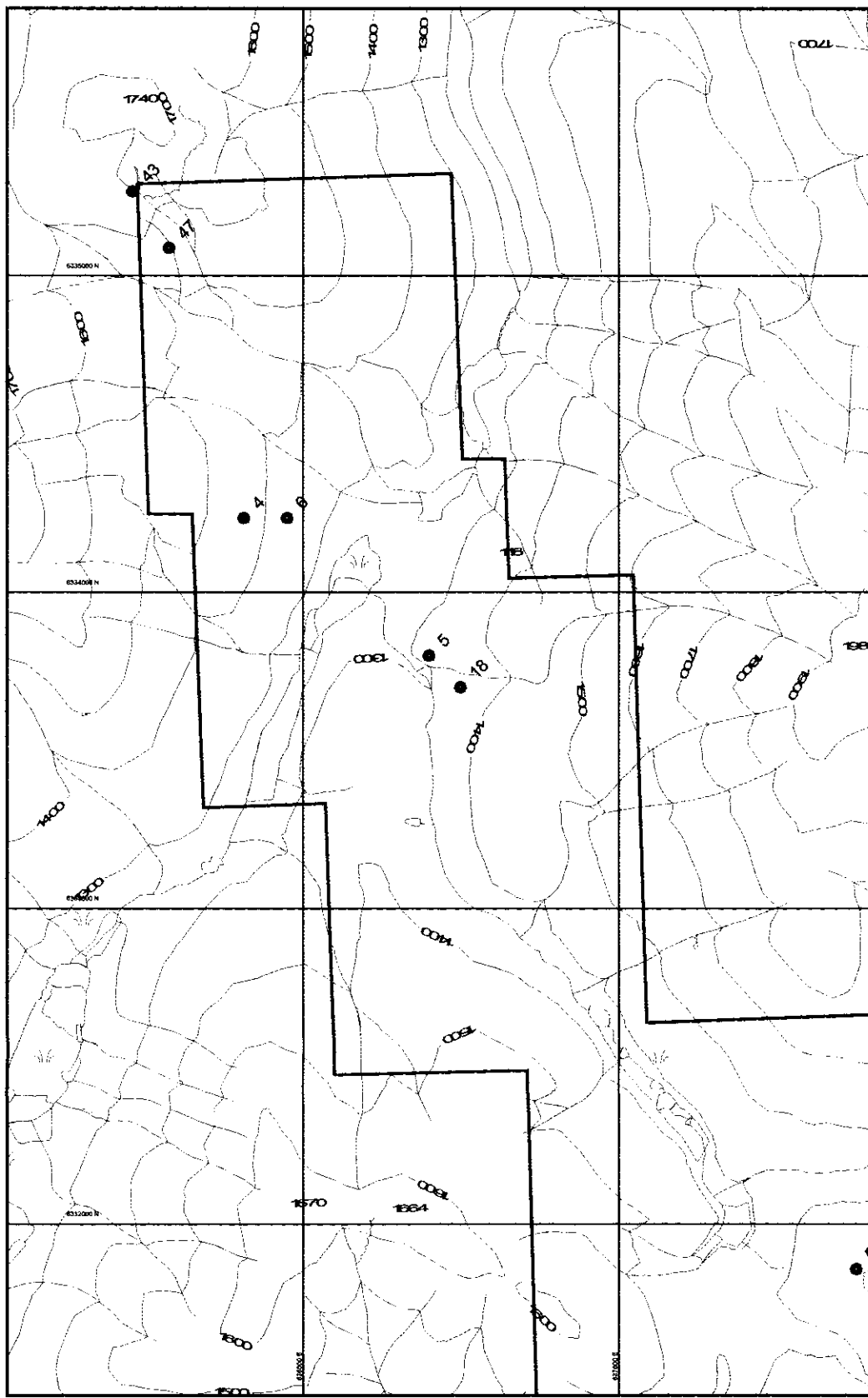
Samples A99-002A and A99-003A, collected in this area, contained elevated silver, 6.4 ppm and 5.6 ppm, with slightly elevated lead, 56 and 146 ppm. Copper and gold were not notably high.

Samples NG-1 and NG-2 were collected by prospectors from gossanous outcrops in a fault zone in the northwest corner of the Atty 7 claim. NG-1 yielded 5.4 ppm silver with 178 ppm zinc, while NG-2 contained 279 ppm zinc. Copper, gold and lead were not notably high in either sample.

The remaining two samples collected on the north part of the property, A99-005A and A99-006A, were grab samples of feldspar crystal tuff. They were collected as checks from outcrops lacking visible mineralization or alteration.



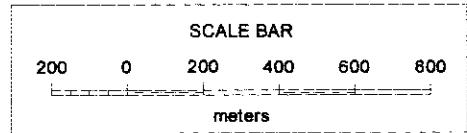
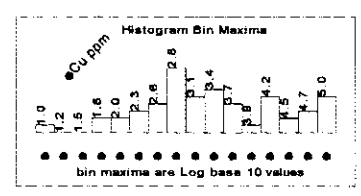
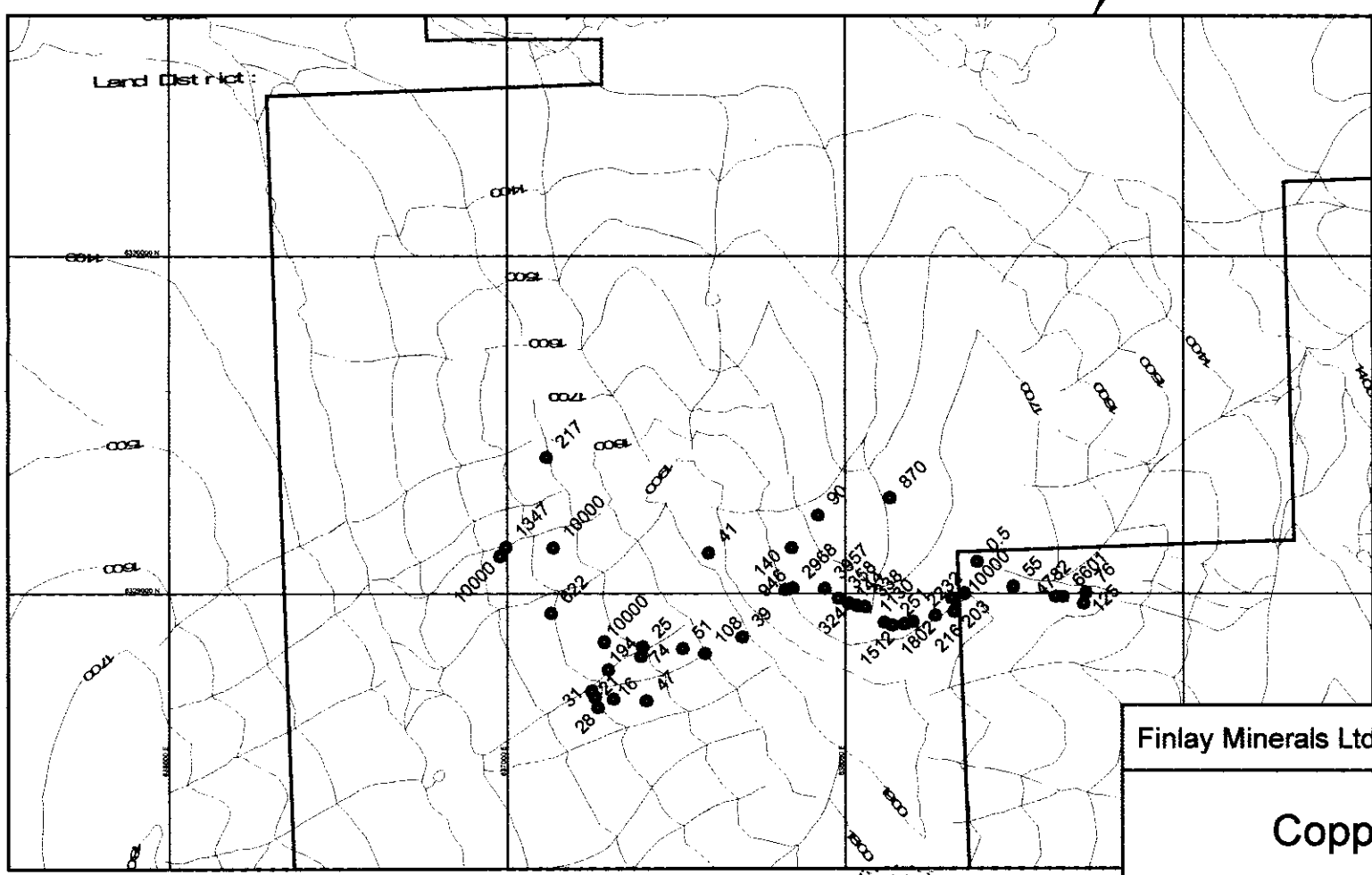
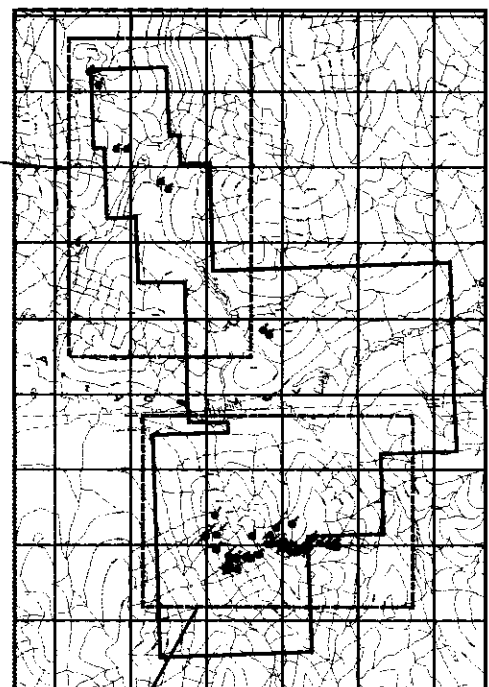
Finlay Minerals Ltd.		Atty Project
<b>Rock Sample Numbers</b>		
Drawn by: PAR	Project: 25	Drawing: 25-3-11
Date: 06/01/00	Report: 25-3	Revision: 1
New Caledonian Geological Consulting		<b>Figure 11</b>



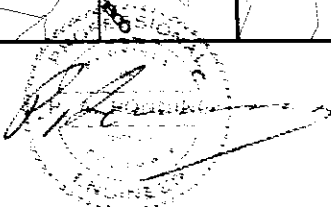
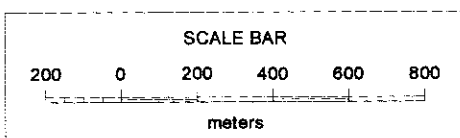
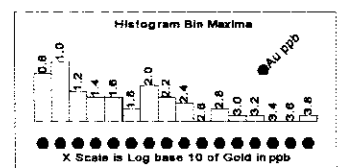
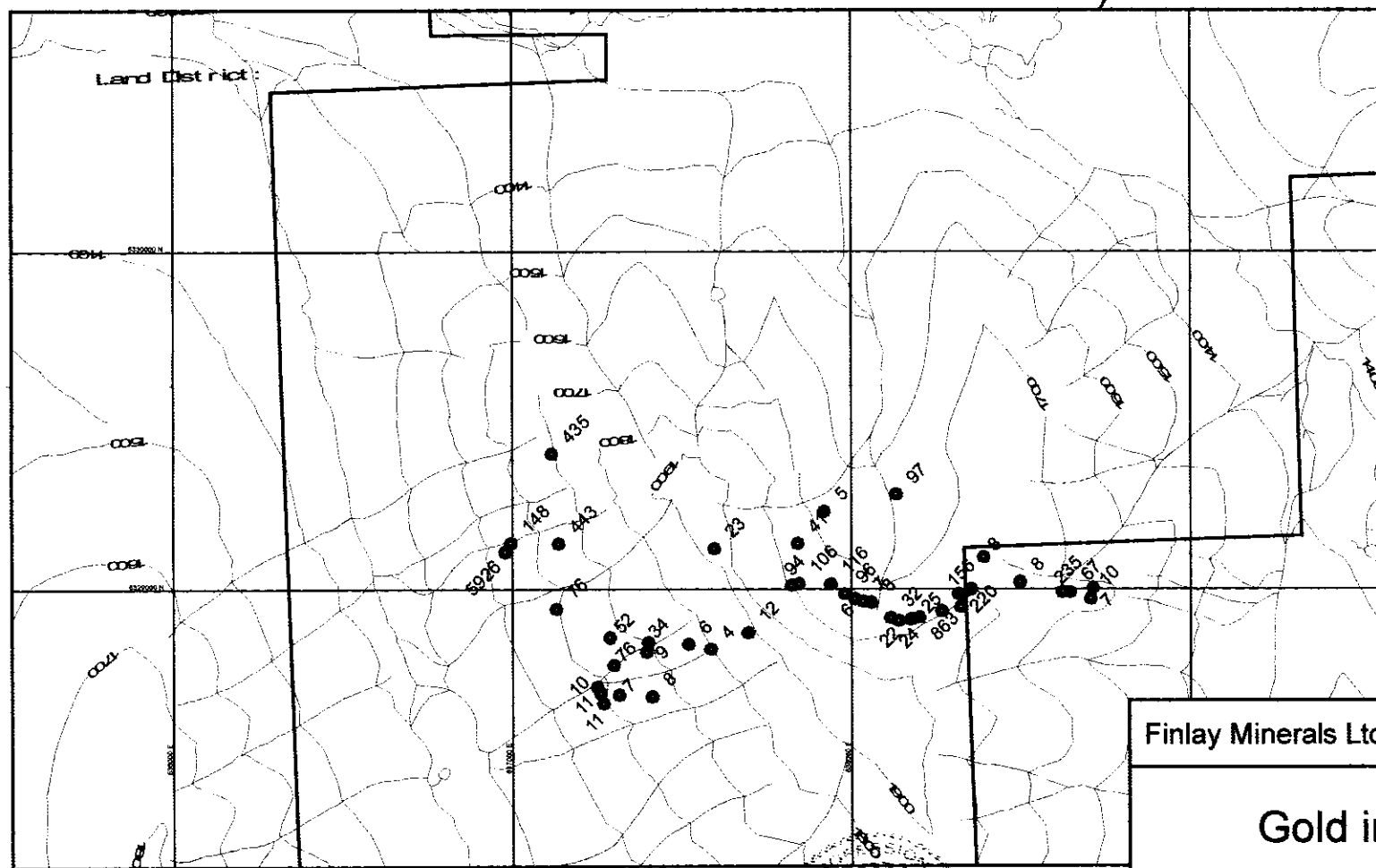
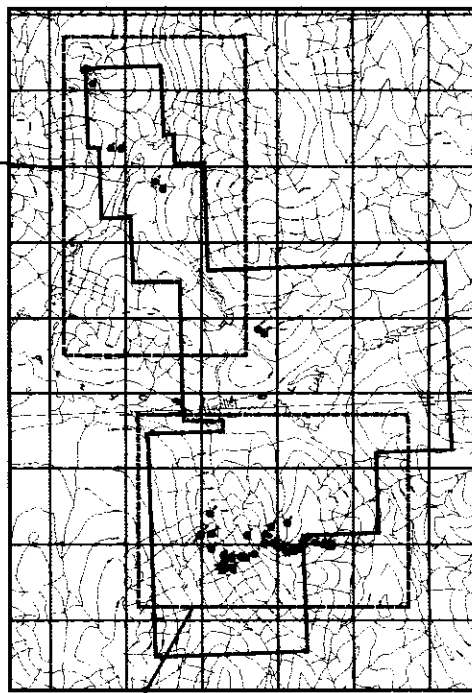
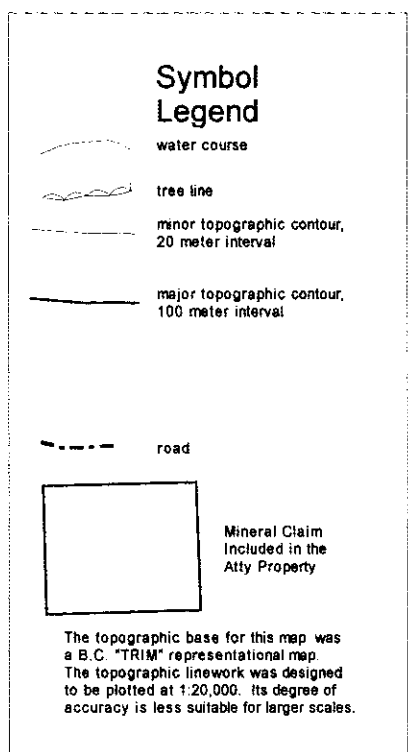
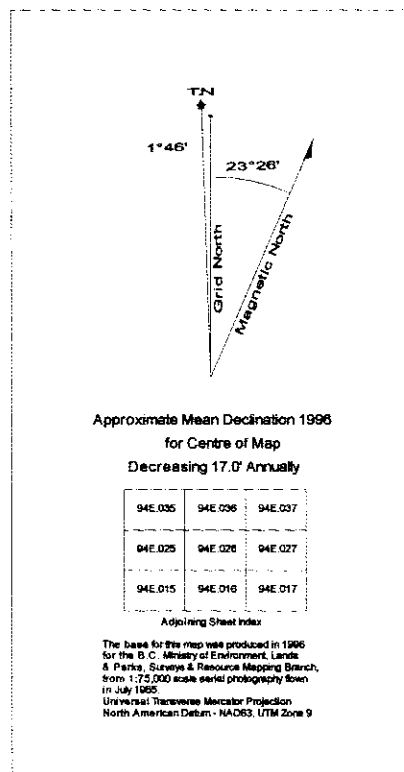
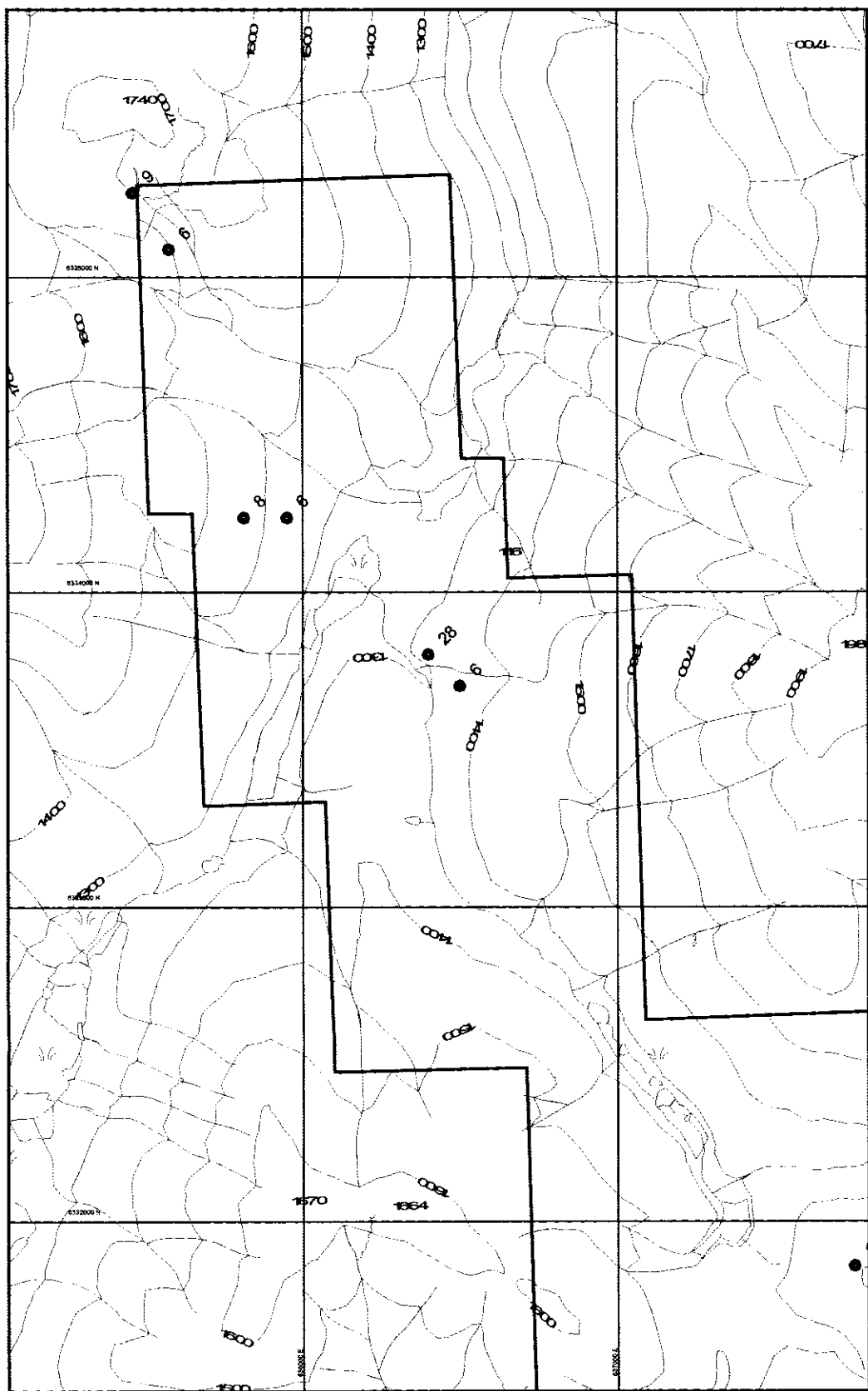
### Symbol Legend

- water course
- tree line
- minor topographic contour, 20 meter interval
- major topographic contour, 100 meter interval
- road
- Mineral Claim included in the Atty Property

The topographic base for this map was a B.C. "TRIM" representational map. The topographic linework was designed to be plotted at 1:20,000. Its degree of accuracy is less suitable for larger scales.



Finlay Minerals Ltd.		Atty Project
<b>Copper in Rocks</b>		
Drawn by: PAR	Project: 25	Drawing: 25-3-12
Date: 06/01/00	Report: 25-3	Revision: 1
New Caledonian Geological Consulting		<b>Figure 12</b>



Finlay Minerals Ltd. Atty Project

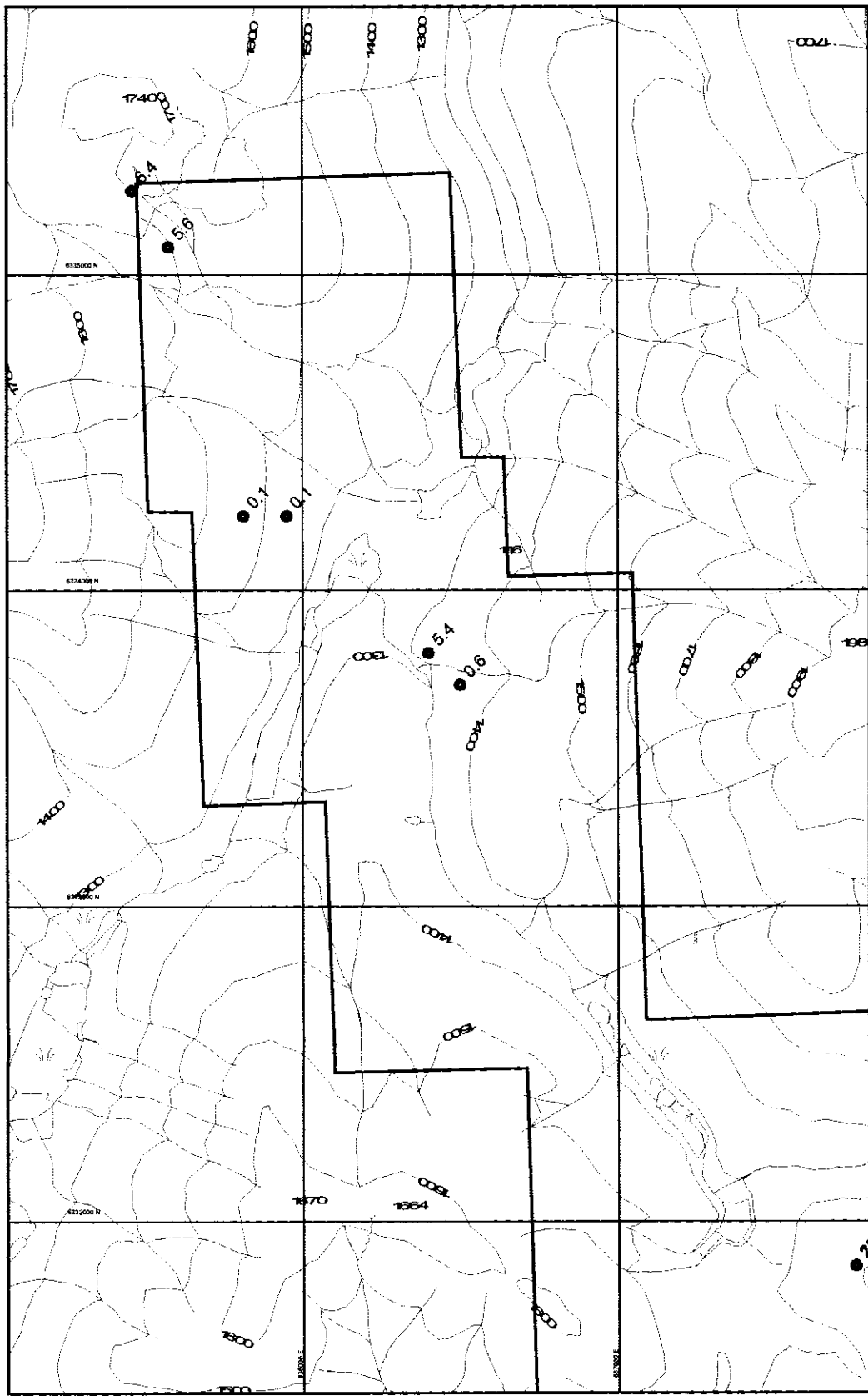
## Gold in Rocks, ppb

Drawn by: PAR Project: 25 Drawing: 25-3-13  
Date: 06/01/00 Report: 25-3 Revision: 1

New Caledonian Geological Consulting

Figure 13





**Symbol Legend**

- water course
- tree line
- minor topographic contour, 20 meter interval
- major topographic contour, 100 meter interval
- road
- Mineral Claim Included in the Atty Property

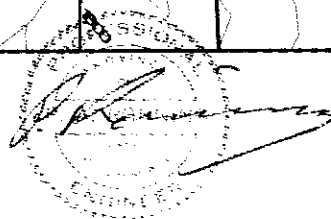
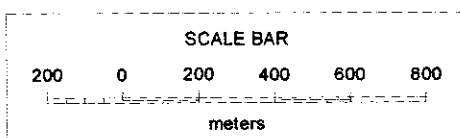
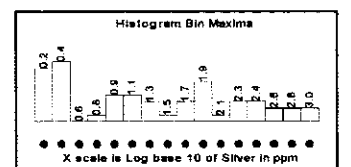
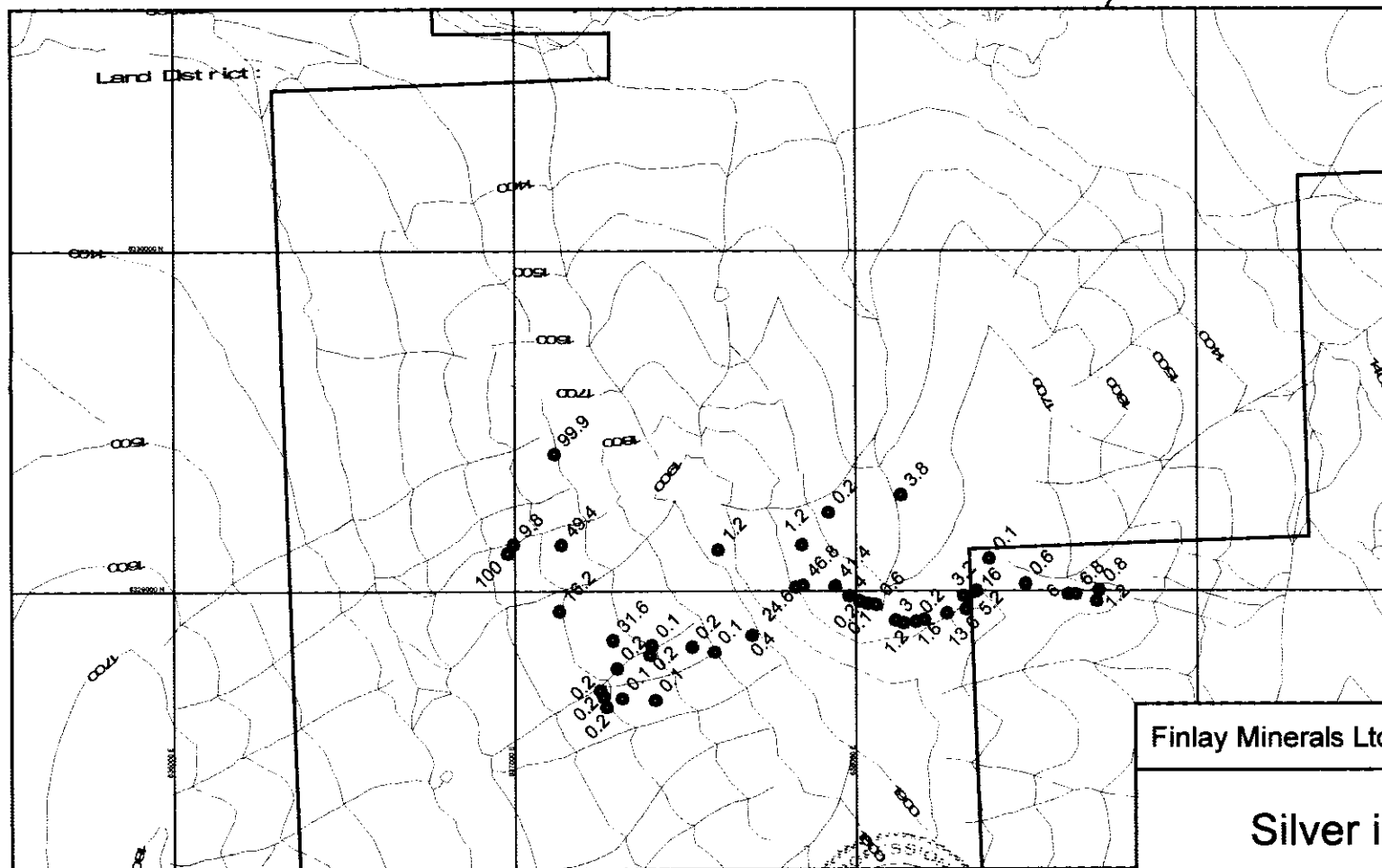
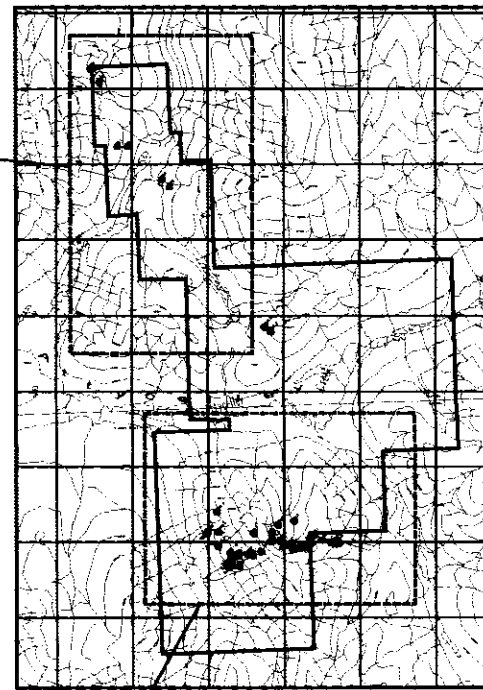
Approximate Mean Declination 1996 for Centre of Map  
Decreasing 17.0' Annually

94E 035	94E 036	94E 037
94E 025	94E 026	94E 027
94E 015	94E 016	94E 017

Adjoining Sheet Index

The base for this map was produced in 1996 for the B.C. Ministry of Environment, Lands & Parks, Survey & Resource Mapping Branch from 1:75,000 scale aerial photography flown in July 1992. Universal Transverse Mercator Projection North American Datum - NAD83, UTM Zone 9

The topographic base for this map was a B.C. "TRIM" representational map. The topographic linework was designed to be plotted at 1:20,000. Its degree of accuracy is less suitable for larger scales.



Finlay Minerals Ltd. Atty Project

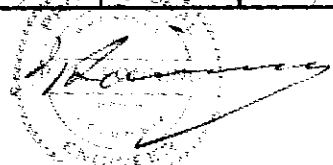
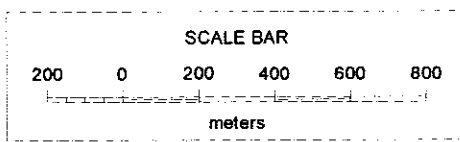
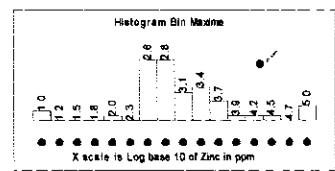
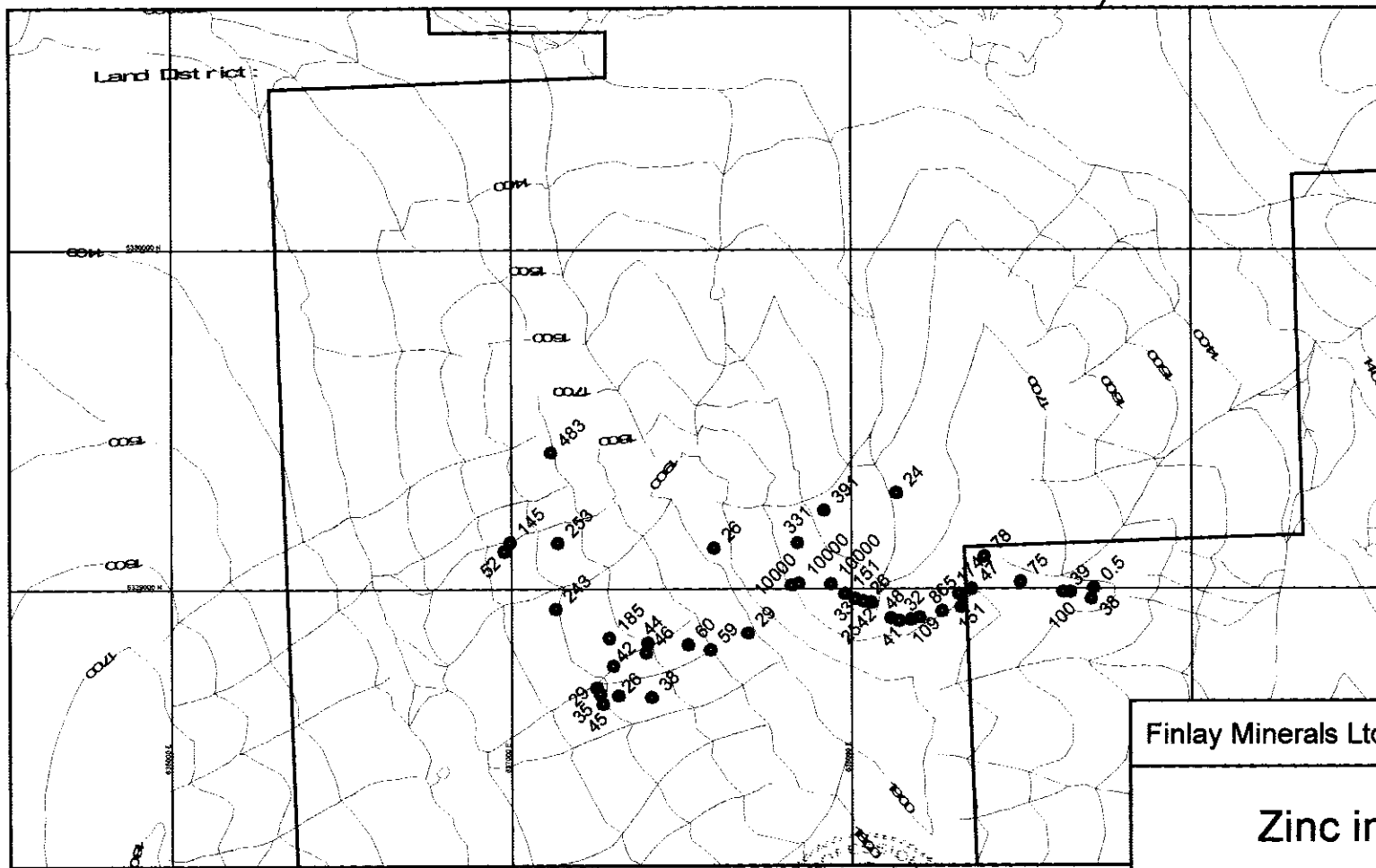
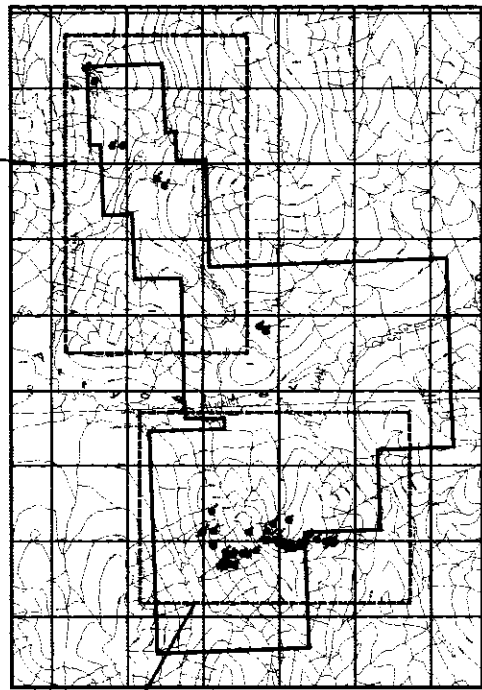
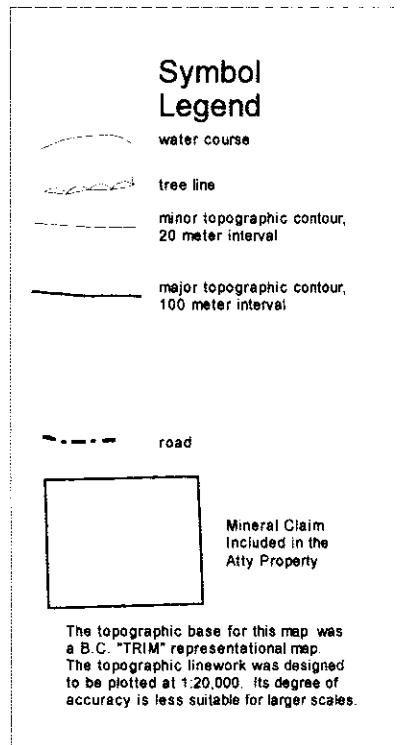
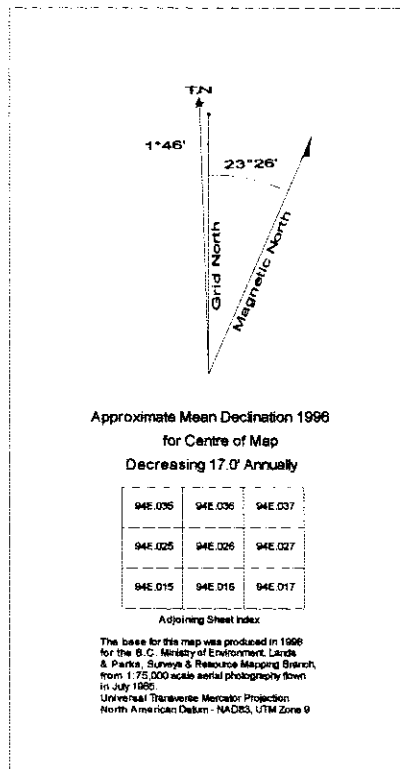
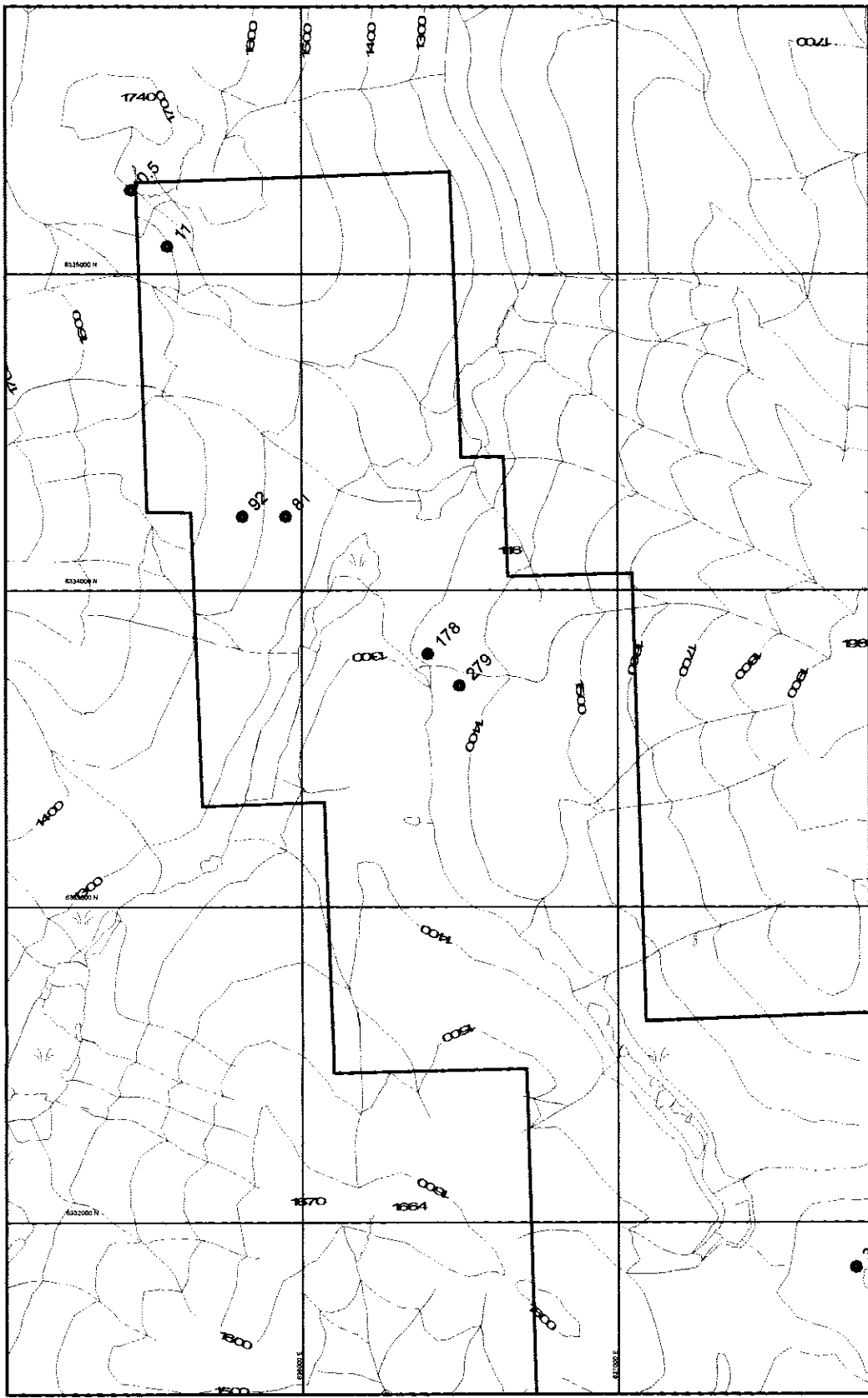
Silver in Rocks, ppm

Drawn by: PAR	Project: 25	Drawing: 25-3-14
Date: 06/01/00	Report: 25-3	Revision: 1

New Caledonian Geological Consulting

Figure 14





Finlay Minerals Ltd.		Atty Project
<b>Zinc in Rocks, ppm</b>		
Drawn by: PAR	Project: 25	Drawing: 25-3-16
Date: 06/01/00	Report: 25-3	Revision: 1
New Caledonian Geological Consulting		<b>Figure 16</b>

#### **IV. Recommendations**

Basic and precious metal-bearing mesothermal veins and veinlets are common within the fault-bounded block of Takla volcanics on the southern part of the Atty property, in the area covered by the Atty 3, Atty 4 and AT991 claims. They are found within an area that is almost 2 km long in an east-west direction and at least half a kilometer wide in a north-south direction. In part of this area, covering about a tenth of a square kilometer, is a prominent colour anomaly produced by surface oxidation of a zone of quartz-sericite-pyrite alteration. Extensive soil sample coverage shows a concentration of relatively higher gold and copper values in and around the colour anomaly, with an outer zone of relatively higher copper, lead, zinc and silver values. These factors taken together suggest that porphyry copper-gold style mineralization may exist in the southern part of the Atty property.

The following further work is warranted:

1. Fill in soil sample coverage on the Atty 4 claim, using north-south oriented grid lines, initially spaced 100 meters apart with samples every 50 meters. This grid should supersede the two small grids, each with differently oriented lines, that were established and extended in 1997, 1998 and 1999.
2. Using the above described grid, do an orientation geophysical test on the southern part of the Atty 4 claim. The geophysical technique(s) to be employed should be decided in consultation with a qualified geophysicist. A test of the induced polarization method is one likely choice.
3. Compile and merge the several existing generations of geological maps and refine the mapping as necessary.
4. Do statistical checks and field checks of the geochemical data, with the objective of conclusively validating the merging of the different generations of geochemical data and normalizing the data to common background levels for elements of importance.

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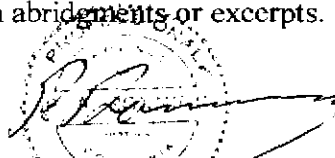
Zastavnikovich, S. and Visser, S.

1995 *Geochemical and Geophysical Assessment Report on the Atty Group Mineral Claims.* Internal report for Electrum Resource Corp., filed for assessment credit.

## VI. Statement of Qualifications

I, Peter Arthur Ronning, of 1450 Davidson Road, Langdale, B.C., hereby certify that:

1. I am a consulting geological engineer, doing business under the registered name New Caledonian Geological Consulting. My business address is 912 - 510 West Hastings Street, Vancouver, B.C., V6B 1L8.
2. I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia.
3. I am a graduate of the University of British Columbia in geological engineering, with the degree of B.A.Sc. granted in 1973.
4. I am a graduate of Queen's University in Kingston, Ontario, with the degree of M.Sc. (applied) in geology granted in 1983.
5. I have worked as a geologist and latterly as a geological engineer in the field of mineral exploration since 1973, in many parts North and South America.
6. I am the author of the report entitled "1999 Exploration Program on the Atty Property" and dated December 1999.
7. The conclusions expressed in this report are professional opinions, based upon my own work in the subject area in 1998-99 and on sources acknowledged in the text. Having undertaken reasonable due diligence, and believing the information I have used to be correct, I nevertheless accept no responsibility for the accuracy of information that I did not personally originate.
8. I neither own nor control a beneficial interest in the mineral property that is the subject of this report, nor in any corporation or other entity whose value could reasonably be expected to be affected by the conclusions expressed herein, including Electrum Resource Corporation, Finlay Minerals Limited (hereinafter referred to as "Electrum and Finlay") and their affiliates. I do not expect to receive any such interest. I may inadvertently be the beneficial owner of an interest in any public corporation through participation in mutual funds over whose portfolios I have no control. I have a personal and business relationship with certain principals of Electrum and Finlay.
9. This report may be used by Electrum and Finlay for any lawful purpose for which it is suitable. Should it be necessary to use abridgments of or excerpts from the report, these must be made in such a way as to retain their original meaning and context. All reasonable efforts must be made to obtain my approval prior to any use of such abridgments or excerpts.



Peter A. Ronning, P.Eng.

## **Appendix A: Statement of Costs**

Costs for the 1999 work program are itemized in detail on the pages that follow. The total cost including all preparation, travel, field work, laboratory work and report preparation is, in round figures, \$13,100. Note that the unit cost of the work is high due to the cost of access to the site.



**Summary of Expenditures  
Atty Project, 1999**

Start Date	End Date	Paid To	Description of Item	Base Cost	GST	Other Tax	Total Cost
<b>Professional Services</b>							
27-Jul-99	27-Jul-99	Jaworski Mapping	convert archive data from NAD27 to NAD83	\$125.00	\$8.75		\$133.75
10-Jul-99	31-Jul-99	NCG Consulting	compile data, make logistical preparations, 1.8 days @ \$375	\$675.00	\$47.25		\$722.25
01-Aug-99	30-Aug-99	NCG Consulting	travel, field coordination, geological mapping, 3 days @ \$375 per day	\$1,125.00	\$78.75		\$1,203.75
01-Sep-99	31-Dec-99	NCG Consulting	drafting, data base maintenance and report writing, 5.3 days @ \$375 per day	\$1,987.50	\$139.13		\$2,126.63
<b>Labour</b>							
05-Aug-99	30-Aug-99	CJL Enterprises	labour, including mobilization of camp & equipment, camp construction, prospecting, soil sampling:				
			3 man days @ \$260	\$780.00	\$54.60		\$834.60
			2 man days @ \$350	\$700.00	\$49.00		\$749.00
<b>Room and Board</b>							
05-Aug-99	30-Aug-99	CJL Enterprises	camp @ \$40 per man day & meals @ \$25 per man day:				
			2 man days @ \$25	\$50.00	\$3.50		\$53.50
			5 man days @ \$65	\$325.00	\$22.75		\$347.75

Start Date	End Date	Paid To	Description of Item	Base Cost	GST	Other Tax	Total Cost
<b>Laboratory Services</b>							
		TSL Assayers Van.	invoice 39527 re file 9V-0338	\$851.88	\$59.63		\$911.51
		TSL Assayers Van.	invoice 39543 re file 9V-0314	\$616.64	\$43.16		\$659.80
<b>Helicopter Flight Services</b>							
22-Aug-99	23-Aug-99	Canadian Helicopters	invoices P196440 and P196445, 2 round trip flights from Pil Camp to Atty	\$2,916.46	\$204.15		\$3,120.61
<b>Commercial Carrier Fares</b>							
02-Sep-99	02-Sep-99	B.C. Ferry Corporation	two persons with vehicle returning home, 10%	\$5.00	\$0.35		\$5.35
<b>Commercial Freight Charges</b>							
01-Sep-99	01-Sep-99	Canadian Freightways	ship samples Smithers - Vancouver, 25%	\$20.23	\$1.42		\$21.64
17-Sep-99	17-Sep-99	Argus Carriers	deliver cut samples from lab to office, 25%	\$1.81			\$1.81
<b>Hotels</b>							
05-Aug-99	30-Aug-99	NCG Consultants	3 hotel stays enroute to/from field, 10%	\$18.00	\$1.26	\$1.44	\$20.70
<b>Meals</b>							
04-Aug-99	30-Aug-99	NCG Consultants	meals for 2 persons travelling to/from field by road, 10%	\$17.00	\$0.60		\$17.60

Start Date	End Date	Paid To	Description of Item	Base Cost	GST	Other Tax	Total Cost
<b>Charges for Use of Vehicles and Equipment</b>							
04-Aug-99	30-Aug-99	NCG Consulting	vehicle licence number 1776 AE; 4x4 PU truck & camper, \$2,000 per month x 2/31	\$129.03	\$9.03		\$138.06
05-Aug-99	30-Aug-99	CJL Enterprises	Ford diesel 4x4, 10% of 3 weeks @ \$125	\$37.50	\$2.63		\$40.13
			Ford diesel 4x4, 10% of 9 days @ \$75	\$67.50	\$4.73		\$72.23
			Ford diesel 4x4, 10% of 3,000 km @ \$0.25	\$75.00	\$5.25		\$80.25
05-Aug-99	30-Aug-99	CJL Enterprises	Ford PU, 10% of 2 weeks @ \$125	\$25.00	\$1.75		\$26.75
			Ford PU, 10% of 3 days @ \$75	\$22.50	\$1.58		\$24.08
			Ford PU, 10% of 2,250 km @ \$0.25	\$56.25	\$3.94		\$60.19
<b>Vehicle Operation</b>							
04-Aug-99	02-Sep-99	NCG Consulting	vehicle licence number 1776 AE; pickup truck & camper, fuel & other consumables, 10%	\$43.00	\$2.48	\$0.43	\$45.91
<b>Telephone Charges</b>							
05-Aug-99	05-Aug-99	NCG Consulting	phone calls from hotel, 10%	\$0.15	\$0.01		\$0.16
07-Aug-99	15-Aug-99	CJL Enterprises	satellite phone rental, 10 % of 1 week @ \$50	\$5.00	\$0.35		\$5.35
15-Aug-99	30-Aug-99	CJL Enterprises	satellite phone rental, 10 % of 2 weeks @ \$50	\$10.00	\$0.70		\$10.70
07-Aug-99	30-Aug-99	CJL Enterprises	satellite phone air time charges, 10%	\$70.03	\$4.90	\$4.90	\$79.84
<b>Data Purchases</b>							
15-Jul-99	03-Aug-99	NCG Consulting	purchase claim maps, paper topographic maps & digital topographic data	\$1,217.93	\$127.05	\$127.26	\$1,472.23

<b>Start Date</b>	<b>End Date</b>	<b>Paid To</b>	<b>Description of Item</b>	<b>Base Cost</b>	<b>GST</b>	<b>Other Tax</b>	<b>Total Cost</b>
<b>Expendable Supplies</b>							
22-Jul-99	22-Jul-99	NCG Consultants	field supplies	\$5.00	\$0.35	\$0.35	\$5.70
06-Aug-99	06-Aug-99	NCG Consultants	groceries	\$5.00		\$0.35	\$5.35
07-Aug-99	30-Aug-99	CJL Enterprises	soil sample bags	\$25.00	\$1.75	\$1.75	\$28.50
07-Aug-99	30-Aug-99	CJL Enterprises	flagging tape	\$33.00	\$2.31	\$2.31	\$37.62
07-Aug-99	30-Aug-99	CJL Enterprises	plastic rock sample bags	\$50.00	\$3.50	\$3.50	\$57.00
<b>Total Project Cost</b>							<b>\$13,120.29</b>

## **Appendix B: Analytical Results**

The following pages contain *print-outs of analytical results for samples collected in 1999*. The data were received in electronic form from TSL Assayers Corp., and are stored in an electronic data base maintained by Finlay Minerals Ltd. Original, signed paper copies of the analytical certificates are available for inspection at the offices of Finlay Minerals Ltd. and TSL Assayers Corp.

# Rock Sample Results 1999

Analyses by TSL Assayers, 6282 Sherbrooke Street, Vancouver, B.C. V5X 4E8, phone (604) 327-3438.  
 This is a print-out of data received and stored electronically. Original, signed certificates are on file with Fluor Minerals Ltd. and with TSL.  
 The symbol "-" (minus sign) indicates "less than"

Sample Name	Ag ppm	Al %	As ppm	Ba ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Fe %
<b>TSL Assayers File Number</b>	9V0341RJ										
A99-002A	6.4	0.42	25	390	-0.5	10	0.01	-1	-1	116	3.61
A99-003A	5.6	0.67	25	140	-0.5	-5	-0.01	-1	2	128	1.81
A99-005A	-0.2	1.15	5	90	-0.5	-5	1.67	-1	10	46	4.04
A99-006A	-0.2	1.33	5	80	-0.5	-5	1.98	-1	10	47	3.71
ATR-1	-0.2	1.53	-5	180	0.5	-5	0.25	-1	8	35	4.1
ATR-10	13.6	1.65	-5	110	-0.5	25	1.45	7	28	233	10.17
ATR-11	1.6	1.33	-5	100	-0.5	-5	0.85	-1	63	137	4.13
ATR-12	0.2	0.88	10	80	-0.5	-5	0.9	-1	45	153	2.71
ATR-13	1.2	1.87	75	50	-0.5	-5	2.06	-1	154	159	9
ATR-14	3	1.07	35	50	-0.5	5	1.14	-1	216	104	15
ATR-15	0.6	0.84	-5	30	-0.5	-5	2.86	20	49	152	6.54
ATR-16	-0.2	1.14	-5	100	-0.5	-5	0.79	-1	18	117	3.53
ATR-17	0.2	1.4	-5	50	-0.5	-5	1.35	-1	34	166	6.51
ATR-18	4	0.22	5	50	-0.5	5	0.13	1	7	288	5.81
ATR-19	41.4	2.94	5	30	-0.5	70	0.26	100	20	214	9.56
ATR-2	0.6	1.58	25	2690	-0.5	-5	0.45	-1	14	165	3.83
ATR-20	46.8	1.25	-5	20	-0.5	75	0.5	100	14	140	10.52

Sample Name	Cu ppm	Cu %	K %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm
<b>TSL Assayer's File Number</b>	9V0341RJ										
A99-002A	43		0.01	0.01	20	8	0.01	4	240	56	5
A99-003A	47		0.03	0.01	25	2	0.01	5	310	146	15
A99-005A	4		0.21	1.18	1185	-2	0.03	4	920	10	5
A99-006A	6		0.17	0.92	1675	-2	0.04	4	870	10	5
ATR-1	-1		0.2	1.25	920	-2	0.03	4	770	14	5
ATR-10	2232	0.21	0.12	0.73	2555	2	0.01	8	410	104	10
ATR-11	1802	0.172	0.26	0.82	540	10	0.04	12	500	18	5
ATR-12	251		0.16	0.68	300	2	0.05	8	800	14	-5
ATR-13	1512	0.147	0.17	1.67	735	6	0.19	95	1030	36	5
ATR-14	1130	0.11	0.08	1.09	370	-2	0.03	66	1000	50	10
ATR-15	338		0.09	1	10000	-2	0.05	38	1040	2156	5
ATR-16	144		0.13	0.96	325	2	0.08	6	840	12	-5
ATR-17	324		0.12	1.09	395	-2	0.12	36	1000	14	5
ATR-18	358		0.02	0.07	115	6	0.01	12	130	38	5
ATR-19	3957	0.392	0.07	2.08	4185	30	-0.01	26	750	1816	10
ATR-2	55		0.11	1.14	650	-2	0.02	15	500	16	5
ATR-20	2988	0.276	0.05	0.71	1610	28	0.01	14	410	2650	10

Sample Name	Sc ppm	Sr ppm	Sr ppm	Ti %	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm	Au ppb	Au ppt
<b>TSL Assay's File Number</b>	9V0341RJ										
A99-002A	1	-10	51	-0.01	113	-10	-1	-1	6	9	
A99-003A	2	-10	66	0.01	205	-10	2	11	7	6	
A99-005A	5	-10	30	0.16	43	-10	12	92	15	8	
A99-006A	6	-10	30	0.18	50	-10	13	81	14	6	
ATR-1	2	-10	16	-0.01	37	-10	11	78	13	8	
ATR-10	1	-10	11	0.01	29	-10	4	865	9	863	0.83
ATR-11	3	-10	22	0.02	58	-10	5	109	5	25	
ATR-12	5	-10	29	0.15	65	-10	6	32	11	24	
ATR-13	7	-10	57	0.28	168	-10	7	41	15	22	
ATR-14	4	-10	9	0.03	105	-10	5	48	29	32	
ATR-15	5	-10	53	0.2	174	10	5	2542	10	8	
ATR-16	6	-10	54	0.22	108	-10	8	26	13	7	
ATR-17	3	-10	82	0.28	205	-10	5	33	9	6	
ATR-18	1	-10	7	0.01	45	-10	-1	151	4	96	
ATR-19	9	-10	3	0.06	147	50	3	10000	9	116	
ATR-2	6	-10	43	0.11	95	-10	2	75	7	8	
ATR-20	3	-10	7	0.03	68	20	1	10000	9	106	



Sample Name	Ag ppm	Al %	As ppm	Ba ppm	Ba ppm	Bi ppm	Cu %	Cd ppm	Co ppm	Cr ppm	Fe %
ATR-21	24.6	0.97	-5	40	-0.5	40	0.65	100	17	478	9.68
ATR-22	1.2	3.32	45	10	-0.5	-5	0.68	-1	235	135	14.68
ATR-23	0.2	1.57	-5	10	-0.5	-5	1.64	4	25	172	5.41
ATR-24	3.8	0.47	295	30	-0.5	-5	0.02	-1	352	47	15
ATR-3	6	1.67	750	170	-0.5	25	0.11	-1	120	15	15
ATR-4	6.8	3.16	30	100	-0.5	-5	5.93	-1	35	422	7.18
ATR-5	0.8	0.08	30	950	-0.5	-5	0.02	-1	2	128	1.31
ATR-6	1.2	1.01	180	1050	-0.5	-5	0.32	-1	9	84	4.49
ATR-7	16	1.54	-5	270	-0.5	-5	7.56	4	118	105	12.24
ATR-8	3.2	1.38	-5	150	-0.5	10	0.43	-1	18	154	6.27
ATR-9	5.2	0.71	5	110	-0.5	10	1.51	1	15	247	4.19
NG-1	5.4	1.48	-5	70	-0.5	-5	0.1	2	10	42	4.81
NG-2	0.6	2.33	-5	110	-0.5	-5	0.76	2	21	21	6.82

Sample Name	Cu ppm	Cu %	K %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm
ATR-21	946		0.06	0.65	1655	-2	0.01	15	290	1994	15
ATR-22	140		0.04	3	1215	44	0.01	73	1120	58	10
ATR-23	90		0.03	1.9	615	-2	0.05	26	820	20	5
ATR-24	870		0.12	0.42	90	4	0.01	35	790	78	15
ATR-3	4782	0.482	0.1	0.7	300	16	0.01	36	860	112	10
ATR-4	6601	0.651	0.04	4.01	1655	-2	0.01	110	660	44	10
ATR-5	76		0.11	0.02	25	2	0.01	6	80	14	5
ATR-6	125		0.39	0.14	80	2	0.02	10	700	24	25
ATR-7	10000	2.55	0.03	1.32	970	4	0.01	75	1300	82	10
ATR-8	216		0.18	0.57	1620	8	0.01	6	430	90	5
ATR-9	203		0.14	0.24	825	6	0.01	6	250	114	5
NG-1	5		0.11	1.57	2005	-2	0.03	5	610	66	5
NG-2	18		0.08	2.57	2530	-2	0.07	5	1240	30	-5

Sample Name	Sc ppm	Sr ppm	Sr ppm	Ti %	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm	Au ppb	Au gpt
ATR-21	2	-10	5	0.01	43	250	2	10000	8	94	
ATR-22	5	-10	126	0.15	117	-10	-1	331	13	41	
ATR-23	4	-10	57	0.31	143	-10	6	391	9	5	
ATR-24	4	-10	5	0.25	240	-10	-1	24	19	97	
ATR-3	9	-10	31	0.12	208	-10	1	39	20	235	
ATR-4	15	-10	59	0.05	157	-10	5	100	7	67	
ATR-5	1	-10	285	0.01	11	-10	-1	-1	1	10	
ATR-6	6	-10	29	0.1	75	-10	2	38	6	7	
ATR-7	8	-10	301	0.13	174	-10	6	47	12		7.04
ATR-8	2	-10	11	0.02	29	-10	4	174	7	156	
ATR-9	1	-10	9	0.01	15	-10	4	151	5	220	
NG-1	6	-10	7	0.01	90	-10	7	178	10	28	
NG-2	17	-10	28	0.48	264	-10	13	279	12	6	

# Soil Sample Results 1999

Analysis by TSL Assayers, 6292 Sherbrooke Street, Vancouver, B.C. V6X 4E9, phone (604) 927-3439.  
 This is a print-out of data received and stored electronically. Original, signed certificates are on file with Flukey Minerals Ltd. and with TSL.  
 The symbol "-" (minus sign) indicates "less than"

Sample Name	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Cu ppm	Cr ppm	Fe %
<b>TSL Assayer's File Number</b>	9V0338SJ										
10+00 W 10+00 N	-0.2	1.77	-5	80	-0.5	-5	0.32	1	10	23	5.19
10+00 W 10+50 N	0.8	2.8	5	190	0.5	-5	1.31	1	16	19	5.55
10+00 W 11+00 N	-0.2	2.12	-5	180	-0.5	-5	0.4	1	11	26	4.42
10+00 W 11+50 N	0.4	1.96	-5	170	-0.5	-5	0.17	1	9	28	5.39
10+00 W 12+00 N	0.2	2.97	-5	120	-0.5	-5	0.21	1	13	29	7.79
10+00 W 12+50 N	0.4	2.88	-5	110	-0.5	-5	0.1	-1	9	28	5.75
10+00 W 4+00 N	0.4	4.37	5	50	-0.5	-5	1.41	1	15	22	5.75
10+00 W 4+50 N	0.2	2.27	-5	100	-0.5	-5	0.13	-1	6	14	4.06
10+00 W 5+00 N	-0.2	4.22	-5	100	-0.5	-5	0.33	-1	7	20	5.15
10+00 W 5+50 N	0.6	5.46	-5	90	-0.5	-5	0.39	-1	7	24	5.3
10+00 W 6+00 N	-0.2	1.73	-5	90	-0.5	-5	0.16	-1	8	19	5.18
10+00 W 6+50 N	-0.2	2.19	-5	90	-0.5	-5	0.25	1	9	20	5.5
10+00 W 7+00 N	0.2	1.92	-5	90	-0.5	-5	0.17	1	9	23	6.54
10+00 W 7+50 N	0.2	1.83	50	110	0.5	-5	2.91	-1	13	29	3.52
10+00 W 8+00 N	1	3.52	5	250	1	-5	2.41	3	11	31	4.8
10+00 W 8+50 N	1.2	2.76	95	180	1	-5	2.56	7	12	64	3.05
10+00 W 9+00 N	-0.2	2.28	-5	90	-0.5	-5	0.21	1	10	22	3.67

Sample Name	Cu ppm	K %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm
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TSL Assayors File Number 9V0338SJ

10+00 W 10+00 N	16	0.08	0.64	395	-2	0.01	14	850	14	-5
10+00 W 10+50 N	183	0.12	0.82	1760	-2	0.01	13	1180	22	5
10+00 W 11+00 N	252	0.06	0.56	700	-2	0.01	11	480	16	5
10+00 W 11+50 N	29	0.07	0.67	470	-2	0.01	10	660	16	5
10+00 W 12+00 N	48	0.05	0.79	800	-2	0.01	14	920	18	5
10+00 W 12+50 N	21	0.05	0.81	365	-2	0.01	11	960	14	5
10+00 W 4+00 N	63	0.09	0.75	760	2	0.03	15	1250	18	5
10+00 W 4+50 N	8	0.04	0.32	270	-2	0.02	6	600	18	-5
10+00 W 5+00 N	14	0.04	0.44	310	-2	0.01	10	780	8	5
10+00 W 5+50 N	19	0.04	0.46	315	-2	0.01	10	1020	8	5
10+00 W 6+00 N	12	0.04	0.54	355	-2	0.01	10	860	12	-5
10+00 W 6+50 N	16	0.04	0.62	410	-2	0.01	12	540	12	5
10+00 W 7+00 N	13	0.03	0.53	360	-2	0.01	12	480	16	5
10+00 W 7+50 N	85	0.05	0.45	405	6	0.02	12	1600	20	5
10+00 W 8+00 N	157	0.09	0.75	1950	4	0.01	19	3000	14	5
10+00 W 8+50 N	628	0.08	0.77	1710	6	0.02	17	2250	18	5
10+00 W 9+00 N	32	0.06	0.82	470	-2	0.01	14	340	10	5

Sample Name	Sc ppm	Sr ppm	Sr ppm	Ti %	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm	Am ppb
<b>TSL Assayers File Number</b>	9V0338SJ									
10+00 W 10+00 N	3	-10	34	0.17	143	-10	3	54	4	15
10+00 W 10+50 N	10	-10	66	0.08	139	-10	42	45	4	40
10+00 W 11+00 N	3	-10	32	0.07	128	-10	3	47	3	10
10+00 W 11+50 N	3	-10	17	0.05	135	-10	3	58	3	13
10+00 W 12+00 N	3	-10	39	0.11	228	-10	3	75	5	12
10+00 W 12+50 N	3	-10	13	0.02	143	-10	2	68	3	18
10+00 W 4+00 N	3	-10	125	0.11	174	-10	4	58	4	22
10+00 W 4+50 N	2	-10	28	0.14	121	-10	3	44	5	9
10+00 W 5+00 N	3	-10	41	0.14	120	-10	3	47	8	8
10+00 W 5+50 N	4	-10	46	0.15	128	-10	4	48	10	10
10+00 W 6+00 N	3	-10	25	0.21	168	-10	3	50	4	9
10+00 W 6+50 N	3	-10	31	0.18	168	-10	4	58	5	10
10+00 W 7+00 N	3	-10	29	0.2	217	-10	3	46	6	5
10+00 W 7+50 N	2	-10	99	0.03	46	-10	6	95	4	32
10+00 W 8+00 N	6	-10	80	0.04	77	-10	19	200	11	11
10+00 W 8+50 N	8	-10	86	0.04	80	-10	28	302	9	30
10+00 W 9+00 N	4	-10	25	0.12	93	-10	4	92	4	8

Sample Name	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Fe %
10+00 W 9+50 N	-0.2	1.72	-5	120	-0.5	-5	0.38	1	9	21	5.24
10+50 W 4+00 N	0.8	4.34	25	30	-0.5	-5	3.84	4	28	63	3.92
11+00 W 4+00 N	0.4	4.91	20	40	0.5	-5	3.52	1	32	47	3.74
12+00 W 4+00 N	0.4	1.77	5	100	0.5	-5	0.78	5	10	22	2.65
12+50 W 4+00 N	0.8	1.22	15	50	-0.5	-5	2.56	23	23	28	2.11
13+00 W 4+00 N	1	3.24	65	40	-0.5	-5	1.16	5	44	131	6.84
13+50 W 4+00 N	1.8	3.31	125	50	-0.5	5	1.48	6	47	73	5.77
14+00 W 4+00 N	6.6	4.79	185	60	-0.5	5	2.37	-1	38	79	6.09
14+50 W 4+00 N	0.8	2.04	15	120	0.5	-5	1.72	2	11	21	2.94
15+00 W 4+00 N	0.8	2.57	65	150	0.5	-5	1.81	-1	12	28	3.82
15+50 W 4+00 N	-0.2	3.96	-5	90	0.5	-5	1.02	1	10	17	4.23
16+00 W 4+00 N	-0.2	3.42	-5	80	0.5	-5	1.07	-1	7	12	3.62
16+50 W 4+00 N	0.4	1.84	-5	120	-0.5	-5	0.25	1	9	23	6.55
17+00 W 4+00 N	-0.2	0.94	-5	80	-0.5	-5	0.07	-1	3	8	2.01
17+50 W 4+00 N	-0.2	1.31	-5	80	-0.5	-5	0.13	-1	6	13	4.42
18+00 W 4+00 N	-0.2	2.19	-5	120	-0.5	-5	0.19	1	10	22	5.82
8+00 W 4+00 N	0.4	4.03	30	60	-0.5	-5	0.9	-1	22	27	6.43
8+50 W 4+00 N	0.4	4.37	25	70	-0.5	-5	0.62	-1	30	36	6.8
9+00 W 4+00 N	0.6	4.81	25	40	-0.5	-5	0.34	-1	19	31	5.94
9+50 W 4+00 N	0.2	3.69	15	70	-0.5	-5	0.76	-1	16	20	5.62

Sample Name	Cu ppm	K %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm
10+00 W 9+50 N	16	0.07	0.56	410	-2	0.01	11	1250	12	-5
10+50 W 4+00 N	271	0.15	1.23	1705	-2	0.02	27	1100	26	5
11+00 W 4+00 N	218	0.15	0.96	1765	-2	0.01	22	1410	22	5
12+00 W 4+00 N	93	0.09	0.27	810	-2	0.02	11	1850	28	-5
12+50 W 4+00 N	146	0.09	0.48	2710	-2	0.02	12	1450	100	-5
13+00 W 4+00 N	178	0.06	2.04	3315	-2	0.01	38	770	140	5
13+50 W 4+00 N	288	0.08	1.41	4345	-2	0.01	24	1280	136	5
14+00 W 4+00 N	398	0.06	1.77	2830	-2	0.02	27	1070	156	5
14+50 W 4+00 N	123	0.05	0.53	925	-2	0.01	12	1220	16	5
15+00 W 4+00 N	142	0.07	0.78	830	2	0.01	17	1290	18	-5
15+50 W 4+00 N	42	0.06	0.68	760	4	0.01	9	1020	16	5
16+00 W 4+00 N	19	0.06	0.5	540	2	0.01	5	710	12	-5
16+50 W 4+00 N	25	0.05	0.54	435	2	0.02	9	830	18	-5
17+00 W 4+00 N	2	0.03	0.06	105	-2	0.01	2	190	10	-5
17+50 W 4+00 N	6	0.03	0.21	230	-2	0.01	5	400	12	-5
18+00 W 4+00 N	15	0.04	0.61	390	-2	0.01	12	740	12	-5
8+00 W 4+00 N	55	0.06	1.12	1045	-2	0.02	20	1160	20	5
8+50 W 4+00 N	104	0.06	0.98	700	2	0.02	28	1020	18	5
9+00 W 4+00 N	117	0.04	0.85	600	-2	0.02	20	910	14	5
9+50 W 4+00 N	58	0.09	0.61	455	2	0.03	17	750	18	5



Sample Name	Sc ppm	Sr ppm	Sr ppm	Ti %	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm	Au ppb
10+00 W 9+50 N	3	-10	41	0.16	145	-10	4	61	4	15
10+50 W 4+00 N	7	-10	206	0.11	101	-10	5	213	5	15
11+00 W 4+00 N	5	-10	221	0.06	95	-10	4	131	4	68
12+00 W 4+00 N	-1	-10	74	0.01	86	-10	2	99	2	10
12+50 W 4+00 N	2	-10	55	0.02	43	-10	4	460	2	52
13+00 W 4+00 N	11	-10	92	0.19	207	-10	4	623	6	66
13+50 W 4+00 N	8	-10	104	0.12	135	-10	4	452	5	56
14+00 W 4+00 N	12	-10	155	0.13	146	-10	8	694	8	243
14+50 W 4+00 N	3	-10	63	0.05	69	-10	4	97	3	10
15+00 W 4+00 N	5	-10	67	0.05	83	-10	8	153	6	46
15+50 W 4+00 N	4	-10	110	0.08	103	-10	7	70	3	9
16+00 W 4+00 N	3	-10	121	0.1	90	-10	4	57	3	6
16+50 W 4+00 N	3	-10	60	0.2	213	-10	3	59	5	6
17+00 W 4+00 N	1	-10	20	0.13	83	-10	2	11	2	5
17+50 W 4+00 N	1	-10	29	0.16	155	-10	2	24	3	7
18+00 W 4+00 N	3	-10	27	0.22	146	-10	3	59	6	4
8+00 W 4+00 N	4	-10	103	0.14	174	-10	4	92	5	12
8+50 W 4+00 N	5	-10	74	0.15	153	-10	4	70	6	31
9+00 W 4+00 N	5	-10	41	0.17	151	-10	4	70	6	31
9+50 W 4+00 N	4	-10	70	0.23	198	-10	3	79	6	96

Sample Name	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Fe %
A99-001A	0.2	2.35	20	230	0.5	-5	1.2	-1	22	26	4.91
A99-004A	1	1.89	5	270	0.5	-5	1.06	-1	11	12	4.93
A99-007A	1.2	1.89	5	240	0.5	-5	1.02	-1	12	12	4.68
A99-008A	0.4	2.56	-5	130	0.5	5	0.43	3	15	20	15
AT 0+00 S	0.2	1.91	-5	210	-0.5	-5	0.38	-1	12	49	6
AT 0+50 S	-0.2	2.36	-5	100	-0.5	-5	0.11	-1	10	49	6.1
AT 1+00 S	-0.2	2.47	-5	90	0.5	-5	0.12	-1	11	69	6.85
AT 1+50 S	-0.2	2.7	-5	140	0.5	-5	0.55	1	22	83	6.99
AT 2+00 S	-0.2	2.22	-5	130	-0.5	-5	0.25	-1	10	52	6.14
AT 2+50 S	0.2	1.92	-5	140	-0.5	-5	0.38	1	7	38	4.83
AT 3+00 S	0.4	2.12	-5	170	0.5	-5	0.64	1	12	32	5.1
AT 3+50 S	0.2	2.05	-5	110	-0.5	-5	0.1	-1	7	31	4.13
AT 4+00 S	-0.2	2.37	-5	120	0.5	-5	0.11	-1	8	28	5.54
AT 4+50 S	-0.2	1.85	-5	140	-0.5	-5	0.17	1	7	33	5.09
AT 5+00 S	2.2	2.7	5	410	0.5	-5	1.27	1	9	46	4
AT 5+50 S	2.6	2.52	5	330	0.5	-5	1.38	1	9	56	4.16
AT 6+00 S	0.2	2.4	-5	160	0.5	-5	0.15	1	10	60	5.64
AT 6+50 S	0.6	2.96	-5	140	0.5	-5	0.17	-1	10	42	5.39
AT 7+00 S	-0.2	1.76	5	190	0.5	-5	0.5	-1	8	26	4.1
AT 7+50 S	-0.2	1.79	5	120	-0.5	-5	0.2	-1	6	25	4.58

Sample Name	Cu ppm	K %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm
A99-001A	80	0.12	1.03	1520	2	0.02	20	990	42	5
A99-004A	41	0.12	0.96	1195	-2	0.01	7	1160	28	5
A99-007A	25	0.11	0.95	1070	-2	0.01	8	980	24	5
A99-008A	191	0.05	0.73	525	12	0.02	14	1180	66	10
AT 0+00 S	30	0.07	0.82	970	-2	0.01	16	970	24	5
AT 0+50 S	15	0.06	0.88	470	-2	0.01	15	490	22	5
AT 1+00 S	20	0.07	0.98	500	-2	0.01	20	970	16	5
AT 1+50 S	41	0.08	1.44	1705	-2	0.01	28	1330	24	5
AT 2+00 S	22	0.1	0.71	605	-2	0.01	14	850	18	5
AT 2+50 S	23	0.09	0.61	325	-2	0.01	14	720	16	5
AT 3+00 S	38	0.12	0.73	1295	-2	0.01	14	1220	28	5
AT 3+50 S	8	0.09	0.55	710	-2	0.01	10	940	10	5
AT 4+00 S	12	0.08	0.62	430	-2	0.01	12	800	16	5
AT 4+50 S	13	0.11	0.56	425	-2	0.01	12	990	16	5
AT 5+00 S	85	0.14	0.8	1120	-2	0.01	22	1300	18	5
AT 5+50 S	94	0.17	0.91	820	-2	0.01	23	1230	16	5
AT 6+00 S	54	0.09	0.72	655	-2	0.01	18	1030	16	5
AT 6+50 S	45	0.08	0.81	760	-2	0.01	15	1140	12	5
AT 7+00 S	18	0.1	0.84	525	-2	0.01	13	610	14	5
AT 7+50 S	9	0.11	0.62	380	-2	0.01	11	1230	14	5

Sample Name	Sc ppm	Sn ppm	Sr ppm	Ti %	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm	Au ppb
A99-001A	7	-10	62	0.04	102	-10	19	144	4	16
A99-004A	4	-10	57	0.02	93	-10	12	98	3	17
A99-007A	4	-10	58	0.02	89	-10	10	100	3	34
A99-008A	2	-10	67	0.06	91	-10	11	251	12	46
AT 0+00 S	2	-10	40	0.04	144	-10	4	102	3	33
AT 0+50 S	4	-10	16	0.03	145	-10	3	67	5	9
AT 1+00 S	3	-10	13	0.02	165	-10	2	82	5	5
AT 1+50 S	5	-10	21	0.01	167	-10	5	95	5	8
AT 2+00 S	3	-10	14	0.01	149	-10	2	82	4	10
AT 2+50 S	1	-10	24	0.01	111	-10	2	57	3	4
AT 3+00 S	2	-10	48	0.02	120	-10	5	83	3	7
AT 3+50 S	2	-10	16	0.01	103	-10	2	73	2	8
AT 4+00 S	2	-10	14	0.01	132	-10	3	81	3	15
AT 4+50 S	1	-10	19	0.01	122	-10	2	68	3	6
AT 5+00 S	6	-10	50	0.01	83	-10	33	92	3	17
AT 5+50 S	12	-10	51	0.01	91	-10	45	89	4	31
AT 6+00 S	3	-10	14	0.01	149	-10	5	75	3	6
AT 6+50 S	4	-10	17	0.01	114	-10	5	103	3	9
AT 7+00 S	3	-10	38	0.03	87	-10	11	88	2	41
AT 7+50 S	1	-10	22	0.01	96	-10	3	85	2	10

## **Appendix C: Descriptions of Rock Samples**

The following descriptions of samples in the 50000 and A99 series are field descriptions by P.A. Ronning. Those in the AJB series are by J.J. Barakso, while those in the NG and ATR series are by L.W. Warren.

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**Sample Number** 52265                      **UTM Easting:**                      637289                      **Date:**                      25-Jul-98  
**Site Name**                      Atty 98-01                      **UTM Northing:**                      6328856

**Field Notes:** On a rock promontory that follows the fall line up and down slope from this point. The promontory is composed of pyroclastics dominated by feldspar-hornblende crystal tuff. Also noted is finely layered ash tuff. The bedding recorded is about 50 meters downslope from the nominal site. Between some tuffaceous layers are bodies of fresh hornblende porphyry, not traced out in detail.

At the nominal site is a coarse volcanic breccia with mafic volcanic fragments in a mafic groundmass. Possibly laharc?

Also at the nominal site is a minor copper showing. It is a local pod of vuggy silicification, about 20 cm. x 30 cm. x 50 cm., comprised of very irregular quartz stringers in a partially silicified groundmass. Chalcopyrite is disseminated and in 1 - 3 cm. blebs of  $\pm$  50% chalcopyrite. Overall within the pod, chalcopyrite is about 5%.

Sub-centimetric quartz stringers are common in the surrounding  $\pm$  5 meter radius, but are not volumetrically significant or mineralized.

**Sample Description:** grab consisting of several chips, about 1 kg. Selected for mineralization; not representative.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
10000	52	31.6	185	98

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**Sample Number** 52266                      **UTM Easting:**                      637597                      **Date:**                      25-Jul-98  
**Site Name**                      Atty 98-02                      **UTM Northing:**                      6329120

**Field Notes:** Ridge top site used as an altimeter check.

Outcrop is complex intermingling of hornblende porphyry flows and crystal tuff, made up of 0.5 mm to 2 mm crystals of feldspar and hornblende and other minerals. Epidote alteration is common along fractures. Minor k-feldspar veinlets are present.

Common along the ridge top are anastomosing veinlets, less than or equal to 5 cm thick, of calcite. The calcite is coarsely crystalline and not visibly mineralized.

**Sample Description:** Grab of several chips over about 5 meters of the length of a calcite veinlet. Roughly 1 kg.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
41	23	1.2	26	12

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**Sample Number** 52267                      **UTM Easting:**                      637520                      **Date:**                      25-Jul-98  
**Site Name**                      Atty 98-03                      **UTM Northing:**                      6328836

**Field Notes:** At the north edge of a scree slope, about 30 meters upslope from a zone of reddish, gossanous scree. Here, the scree is grey, relatively unaltered volcanics (Takla?). However, in the grass at the edge of the scree, mounds of rubble dug out by ground squirrels are made of orange-red gossanous material. This indicates that the upper end of the alteration zone visible downslope extends at least this far uphill.

Most of the gossanous rubble is so oxidized that original textures are obscured. Remnant textures hint that the rocks originated as crystal tuff with with 0.5 mm to 2 mm crystals. Mafic crystals in the tuff may have been pyritized and then oxidized.

**Sample Description:** about 1 kg. of rubble collected from material dug out by ground squirrels.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
51	6	0.2	60	28

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**Sample Number** 52268                      **UTM Easting:**                      637402                      **Date:**                      25-Jul-98  
**Site Name**                      Atty 98-04                      **UTM Northing:**                      6328841

**Field Notes:** At the site of a 1 m x 0.5 m rubbly gossanous outcrop surrounded by similar talus.

The gossanous material looks like a very finely to finely crystalline black basalt/andesite flow. It is made up of fine plagioclase, amphibole and biotite crystals in a felsic groundmass. Fresh material is strongly magnetic. Oxidized material is non-magnetic. The rock is finely fractured and rubbly. Orange-yellow iron oxides are concentrated along the fractures. Unfractured remnants show little oxidation. The fragments of rock are still relatively fresh and hard.

**Sample Description:** Grab sample of about 1 kg of chips of oxidized rock from outcrop.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
25	34	-0.2	44	10

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**Sample Number** 52269                      **UTM Easting:**                      637413                      **Date:**                      25-Jul-98  
**Site Name**                      Atty 98-05                      **UTM Northing:**                      6328681

**Field Notes:** On the upper edge of the broadest area of rusty scree. The dominant colour of the scree is a dark red-brown with some rusty red. The rock at this site may be fresher than in the center of the gossanous area, as more outcrop is present here.

The rock is finely crystalline, black and strongly magnetic. Under a hand lens, it is a finely crystalline, dense mixture of plagioclase feldspar (albite?) and black mafics which must be mainly magnetite. Coarse pyrite crystals are unevenly distributed along hairline fractures; overall the average pyrite grade is about 3%.

The rusty colour is probably produced by oxidation of both magnetite and pyrite along open hairline fractures.

**Sample Description:** grab of chips from outcrop within about a 2 m. radius.

Cu ppm	Au ppb	Ag ppm	Zn ppm	Pb ppm
47	8	-0.2	38	10

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**Sample Number** 52270                      **UTM Easting:**                      637586                      **Date:**                      26-Jul-98  
**Site Name**                      Atty 98-06                      **UTM Northing:**                      6328821

**Field Notes:** On a promontory above the most prominent of the gossanous scree slopes. Hard, resistant, dominantly grey weathering andesitic hornblende porphyry. Contains about 20% 0.5 mm to 3 mm ± equant hornblende crystals in a greenish grey aphanitic groundmass. The groundmass is variably saussuritized, giving it a waxy lustre. Epidote is present as blebs and lining some fractures, in the range 2% to 3%. The rock is strongly magnetic; magnetite is found as disseminated crystals and as hairline veinlets, amounting to about 3% of the rock. It must be at least in part secondary. Fresh white pyrite is found as disseminated crystals 1 mm to 2 mm in size. In part, the pyrite replaces the magnetite.

**Sample Description:** ± 1 kg random grab of chips from outcrop within a 5 meter radius.

Cu ppm	Au ppb	Ag ppm	Zn ppm	Pb ppm
108	4	-0.2	59	12

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**Sample Number** 52271                      **UTM Easting:**                      637696                      **Date:**                      26-Jul-98  
**Site Name**                      Atty 98-07                      **UTM Northing:**                      6328871

**Field Notes:** Up a spur along the fall line from 98-06.

The hornblende porphyry persists at this location, with alteration similar to that at 98-06. At this point is a calcite stringer veinlet about 10 cm. wide, white and coarsely crystalline.

**Sample Description:** Grab sample approximately representative of the veinlet width.

Cu ppm	Au ppb	Ag ppm	Zn ppm	Pb ppm
39	12	0.4	29	14



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**Sample Number** 52272                      **UTM Easting:**                      637316                      **Date:**                      26-Jul-98  
**Site Name**                      Atty 98-09                      **UTM Northing:**                      6328686

**Field Notes:** Location of 1997 picket 4N 600W. Picket is on a 2 m. x 1 m. outcrop barely exposed in the surrounding scree. The outcrop is volcanic (Takla?), probably originally a hornblende porphyry. Now the hornblende is chloritized, feldspar saussuritized to a waxy grey green. Pyrite is disseminated, shiny and fresh, amounting to about 5% of the rock. The outcrop is very rusty and all fracture surfaces are coated with orange-red iron oxide.

Quartz monzonite is present as float.

**Sample Description:** Random grab from outcrop described.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
16	7	-0.2	26	4

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**Sample Number** 52273                      **UTM Easting:**                      637131                      **Date:**                      26-Jul-98  
**Site Name**                      Atty 98-12                      **UTM Northing:**                      6328942

**Field Notes:** About 30 meters at 342 deg. from L1025W 150N.

Cliff forming outcrops are of massive very finely crystalline crystal tuff. Layering is not evident. Tuff is non-magnetic, fresh and relatively unaltered. A few minor calcite veinlets are present.

A brittle fracture zone trending  $\pm 04/72$  E, about half a meter wide, is followed by sub-centimetric calcite veinlets and seams of pyrite over a slope distance of about 2 meters. Fracture surfaces are rusty coloured. Rare traces of malachite are present.

**Sample Description:** continuous chip across 50 cm. of the width of the mineralized fracture zone described.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
622	76	16.2	243	64

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**Sample Number** 52274                      **UTM Easting:**                      637117                      **Date:**                      26-Jul-98  
**Site Name**                      Atty 98-15                      **UTM Northing:**                      6329400

**Field Notes:** At site of picket L1025W 400N. A backsight to the preceding picket, the only visible one, gives 165 deg.

Picket is in the lower part of an area with numerous copper showings. The showings show evidence of recent hand trenching and sampling.

In the area of the showings are at least two brittle shears  $\pm$  1 meter wide and exhibiting intense orange-red iron oxide staining.

Shear sampled crops out about 10 meters east of L1025W 400N. The material is a siliceous boxwork, presumably the remnant left after sulphides were leached out.

Country rock is hornblende porphyry andesite, erratically magnetic but overall much less so than similar rocks in a peripheral to the gossan zone to the south.

10 meters due south of L1025W 400N is a small exposure of water lain ash tuff. It is greyish green, banded on a centimeter and millimeter scale. See measurement.

**Sample Description:** Random grab from oxide-stained brittle shear described.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
217	435	99.9	483	464

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**Sample Number** 52278                      **UTM Easting:**                      637834                      **Date:**                      26-Jul-98  
**Site Name**                      Atty 98-20                      **UTM Northing:**                      6331792

**Field Notes:** At southeastermost of two trenches on the top of the Awesome Showing. The trench has sloughed in and systematic sampling is not possible.

Rock is felsic lithic and crystal tuff breccia. It has been hydrothermally brecciated by fluids that deposited chalcedonic & vuggy crystalline quartz. Visible sulphide or metallic minerals very rare. A few traces of malachite copper stain are present. Iron oxides are not significant.

**Sample Description:** Random collection of vuggy quartz rubble from material sloughed in to bottom of trench.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
20	5	1.6	47	12

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**Sample Number** 52279                      **UTM Easting:**                      637834                      **Date:**                      26-Jul-98  
**Site Name**                      Atty 98-20                      **UTM Northing:**                      6331792

**Field Notes:** At southeastermost of two trenches on the top of the Awesome Showing. The trench has sloughed in and systematic sampling is not possible.

Rock is felsic lithic and crystal tuff breccia. It has been hydrothermally brecciated by fluids that deposited chalcedonic & vuggy crystalline quartz. Visible sulphide or metallic minerals very rare. A few traces of malachite copper stain are present. Iron oxides are not significant.

**Sample Description:** Random collection of vuggy quartz rubble from material sloughed in to bottom of trench.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
62	134	25.2	53	74

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**Sample Number** 52280                      **UTM Easting:**                      637751                      **Date:**                      26-Jul-98  
**Site Name**                      Atty 98-21                      **UTM Northing:**                      6331857

**Field Notes:** At northwesternmost of two trenches on the Awesome Showing, about 50 meters northwest of 98-20.

The condition and geology of the trench is similar to that at 98-20. Sulphide or metallic minerals not seen. Specks of jarosite are present in rock fragments enveloped by quartz.

**Sample Description:** Random collection of chips bearing quartz vein material, collected from rubble in bottom of trench.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
51	1159	25.8	34	76

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**Sample Number** 52281                      **UTM Easting:**                      637751                      **Date:**                      26-Jul-98  
**Site Name**                      Atty 98-21                      **UTM Northing:**                      6331857

**Field Notes:** At northwesternmost of two trenches on the Awesome Showing, about 50 meters northwest of 98-20.

The condition and geology of the trench is similar to that at 98-20. Sulphide or metallic minerals not seen. Specks of jarosite are present in rock fragments enveloped by quartz.

**Sample Description:** Random collection of chips bearing quartz vein material, collected from rubble in bottom of trench.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
10	19	1.6	36	12

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**Sample Number** A99-002A                      **UTM Easting:**                      635460                      **Date:**    22-Aug-99  
**Site Name**                      A99-002                      **UTM Northing:**                      6335265

**Field Notes:** In the headwall of a cirque, about 30 meters upslope to the north of a drill rod sticking out of the ground. Outcrop is typical of that seen in rubble throughout the cirque. Quartz-alunite breccia? Sub-centimetric, sub-angular fragments, randomly oriented, form 40% of rock. Groundmass or matrix is cream-coloured and powders under a knife. All boulders, outcrops and fracture surfaces are coated with orange and deep hematitic red iron oxides. Block, rubbly fracture.

There are a few remnants of the country rock present in the outcrop. It is a fine feldspar crystal ash tuff.

**Sample Description:** grab sample of random chips within about a 5 meter radius

Cu ppm	Au ppb	Ag ppm	Zn ppm	Pb ppm
43	9	6.4	-1	56

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**Sample Number** A99-003A                      **UTM Easting:**                      635576                      **Date:**    22-Aug-99  
**Site Name**                      A99-003                      **UTM Northing:**                      6335086

**Field Notes:** Sample site encountered while descending drainage SE of A99-002. Outcrop 5m x 5m of feldspar crystal ash tuff as seen in the less altered parts of the outcrop at A99-002. The outcrop is grey-buff to orange weathering; it doesn't exhibit brecciation, silicification and alunite as at 002. Approximately 30% of the rock is 0.5 to 3 mm feldspar crystal shards in a very finely crystalline, buff coloured groundmass of ash. Weathering is rubbly. Does not appear mineralized, but a grab sample was collected as a check.

**Sample Description:** grab of several chips from outcrop

Cu ppm	Au ppb	Ag ppm	Zn ppm	Pb ppm
47	6	5.6	11	146

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**Sample Number** A99-006A                      **UTM Easting:**                      635950                      **Date:**    22-Aug-99  
**Site Name**                      A99-006                      **UTM Northing:**                      6334235

**Field Notes:** An outcrop forms a wooded bluff about 10 m x 10 m. It is tuff similar to that described at A99-005:

It is coarse feldspar-quartz crystal tuff, dull maroon-brown. It consists of 20% 1 - 3 mm feldspar crystal shards, creamy brown. The buff colour comes from the finely crystalline groundmass.

GPS reading not possible at this site. It is about 150 meters downslope from A99-005, at the point where contours start to angle in to a creek gully.

**Sample Description:** grab sample of several random chips from outcrop

Cu ppm	Au ppb	Ag ppm	Zn ppm	Pb ppm
6	6	-0.2	81	10

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**Sample Number** AJB-1 **UTM Easting:** 637397 **Date:** 26-Jul-98  
**Site Name** AJB-1 **UTM Northing:** 6328813

**Field Notes:**

**Sample Description:** volcanic; pyrite, goethite stains

Cu ppm	Au ppb	Ag ppm	Zn ppm	Pb ppm
74	9	0.2	46	12

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**Sample Number** AJB-10 **UTM Easting:** 637834 **Date:** 26-Jul-98  
**Site Name** Atty 98-20 **UTM Northing:** 6331792

**Field Notes:** At southeasternmost of two trenches on the top of the Awesome Showing. The trench has sloughed in and systematic sampling is not possible.

Rock is felsic lithic and crystal tuff breccia. It has been hydrothermally brecciated by fluids that deposited chalcedonic & vuggy crystalline quartz. Visible sulphide or metallic minerals very rare. A few traces of malachite copper stain are present. Iron oxides are not significant.

**Sample Description:** grab sample of drusy quartz; completely leached

Cu ppm	Au ppb	Ag ppm	Zn ppm	Pb ppm
56	7	0.4	16	10

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**Sample Number** AJB-11 **UTM Easting:** 637834 **Date:** 26-Jul-98  
**Site Name** Atty 98-20 **UTM Northing:** 6331792

**Field Notes:** At southeasternmost of two trenches on the top of the Awesome Showing. The trench has sloughed in and systematic sampling is not possible.

Rock is felsic lithic and crystal tuff breccia. It has been hydrothermally brecciated by fluids that deposited chalcedonic & vuggy crystalline quartz. Visible sulphide or metallic minerals very rare. A few traces of malachite copper stain are present. Iron oxides are not significant.

**Sample Description:** grab sample; sintery quartz in volcanic with some hematite staining.

Cu ppm	Au ppb	Ag ppm	Zn ppm	Pb ppm
10	6	0.2	30	10

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**Sample Number** AJB-12                      **UTM Easting:**                      637751                      **Date:**                      26-Jul-98  
**Site Name**                      Atty 98-21                      **UTM Northing:**                      6331857

**Field Notes:** At northwesternmost of two trenches on the Awesome Showing, about 50 meters northwest of 98-20.

The condition and geology of the trench is similar to that at 98-20. Sulphide or metallic minerals not seen. Specks of jarosite are present in rock fragments enveloped by quartz.

**Sample Description:** NW of trench. Hematite rich breccia with 50% sintery silica. No sulphides observed.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
63	928	100	50	232

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**Sample Number** AJB-13                      **UTM Easting:**                      637751                      **Date:**                      26-Jul-98  
**Site Name**                      Atty 98-21                      **UTM Northing:**                      6331857

**Field Notes:** At northwesternmost of two trenches on the Awesome Showing, about 50 meters northwest of 98-20.

The condition and geology of the trench is similar to that at 98-20. Sulphide or metallic minerals not seen. Specks of jarosite are present in rock fragments enveloped by quartz.

**Sample Description:** NW of trench. Grab sample contains radial veinlets of sintery, vuggy quartz.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
36	83	25.6	36	84

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**Sample Number** AJB-14                      **UTM Easting:**                      637751                      **Date:**                      26-Jul-98  
**Site Name**                      Atty 98-21                      **UTM Northing:**                      6331857

**Field Notes:** At northwesternmost of two trenches on the Awesome Showing, about 50 meters northwest of 98-20.

The condition and geology of the trench is similar to that at 98-20. Sulphide or metallic minerals not seen. Specks of jarosite are present in rock fragments enveloped by quartz.

**Sample Description:** Breccia containing volcanic fragments in veinlets of drusy quartz. Some hematized matrix fragments.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
103	983	70.6	53	110

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**Sample Number** AJB-15                      **UTM Easting:**                      637751                      **Date:**                      26-Jul-98  
**Site Name**                      Atty 98-21                      **UTM Northing:**                      6331857

**Field Notes:** At northwesternmost of two trenches on the Awesome Showing, about 50 meters northwest of 98-20.

The condition and geology of the trench is similar to that at 98-20. Sulphide or metallic minerals not seen. Specks of jarosite are present in rock fragments enveloped by quartz.

**Sample Description:** SW of trench. Lithologically similar to AJB-13. Hematite stains frequent; some drusy quartz.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
15	17	0.6	31	14

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**Sample Number** AJB-2                      **UTM Easting:**                      637301                      **Date:**                      26-Jul-98  
**Site Name**                      AJB-2                      **UTM Northing:**                      6328774

**Field Notes:**

**Sample Description:** as AJB-1, but highly oxidized and laced with goethite vienlets, probably oxidized magnetite. Some jarosite in cavities created by leaching. Just upslope from gossanous area

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
194	76	0.2	42	24

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**Sample Number** AJB-3                      **UTM Easting:**                      637316                      **Date:**                      26-Jul-98  
**Site Name**                      Atty 98-09                      **UTM Northing:**                      6328686

**Field Notes:** Location of 1997 picket 4N 600W. Picket is on a 2 m. x 1 m. outcrop barely exposed in the surrounding scree. The outcrop is volcanic (Takla?), probably originally a hornblende porphyry. Now the hornblende is chloritized, feldspar saussuritized to a waxy grey green. Pyrite is disseminated, shiney and fresh, amounting to about 5% of the rock. The outcrop is very rusty and all fracture surfaces are coated with orange-red iron oxide.

Quartz monzonite is present as float.

**Sample Description:** Grab sample by J. Barakso. Approx. 30 m at 040 deg. from 98-09

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
31	10	0.2	29	10

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**Sample Number** AJB-4                      **UTM Easting:**                      637316                      **Date:**                      26-Jul-98  
**Site Name**                      Atty 98-09                      **UTM Northing:**                      6328686

**Field Notes:** Location of 1997 picket 4N 600W. Picket is on a 2 m. x 1 m. outcrop barely exposed in the surrounding scree. The outcrop is volcanic (Takla?), probably originally a hornblende porphyry. Now the hornblende is chloritized, feldspar saussuritized to a waxy grey green. Pyrite is disseminated, shiny and fresh, amounting to about 5% of the rock. The outcrop is very rusty and all fracture surfaces are coated with orange-red iron oxide.

*Quartz monzonite is present as float.*

**Sample Description:** Grab sample by J. Barakso. Approx. 30 m at 084 deg from 98-09.

Cu ppm	Au ppb	Ag ppm	Zn ppm	Pb ppm
21	11	0.2	35	12

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**Sample Number** AJB-5                      **UTM Easting:**                      637270                      **Date:**                      26-Jul-98  
**Site Name**                      AJB-5                      **UTM Northing:**                      6328660

**Field Notes:**

**Sample Description:** Fine grained porphyry float; possibly the same as AJB-3 but with a hematite-goethite coating. 1% pyrite. Crosscut by quartz veinlets 1 - 2 mm wide.

Cu ppm	Au ppb	Ag ppm	Zn ppm	Pb ppm
28	11	0.2	45	10

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**Sample Number** AJB-6                      **UTM Easting:**                      637138                      **Date:**                      26-Jul-98  
**Site Name**                      AJB-6                      **UTM Northing:**                      6329134

**Field Notes:** at site of soil sample 1025W, 1+75 N

**Sample Description:** Shear vein with calcite and quartz crystals. Contains pyrite veinlets with blebs of chalcopyrite.

Cu ppm	Au ppb	Ag ppm	Zn ppm	Pb ppm
10000	443	49.4	253	80

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**Sample Number** AJB-7                      **UTM Easting:**                      636997                      **Date:**                      26-Jul-98  
**Site Name**                      AJB-7                      **UTM Northing:**                      6329136

**Field Notes:** 100 meters downslope from AJB-6, in creek bed.

**Sample Description:** Shear vein material; 75% pyrite with a manganese coating and some azurite staining.

Cu ppm	Au ppb	Ag ppm	Zn ppm	Pb ppm
1347	148	9.8	145	232



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**Sample Number** AJB-8 **UTM Easting:** 636980 **Date:** 26-Jul-98  
**Site Name** AJB-8 **UTM Northing:** 6329110

**Field Notes:** Small vein 60 meters downslope from AJB-7.

**Sample Description:** small vein containing magnetite, pyrite and chalcopyrite.

Cu ppm	Au ppb	Ag ppm	Zn ppm	Pb ppm
10000	5926	100	52	330

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**Sample Number** AJB-9 **UTM Easting:** 637834 **Date:** 26-Jul-98  
**Site Name** Atty 98-20 **UTM Northing:** 6331792

**Field Notes:** At southeasternmost of two trenches on the top of the Awesome Showing. The trench has sloughed in and systematic sampling is not possible.

Rock is felsic lithic and crystal tuff breccia. It has been hydrothermally brecciated by fluids that deposited chalcedonic & vuggy crystalline quartz. Visible sulphide or metallic minerals very rare. A few traces of malachite copper stain are present. Iron oxides are not significant.

**Sample Description:** grab sample; oxidized material with criss-crossing quartz veinlets

Cu ppm	Au ppb	Ag ppm	Zn ppm	Pb ppm
123	12	1.4	31	8

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**Sample Number** ATR-1 **UTM Easting:** 638391 **Date:** 23-Aug-99  
**Site Name** ATR-1 **UTM Northing:** 6329094

**Field Notes:** In cirque, south-central AT991 claim.

Sample contains chalcopyrite.

**Sample Description:** selected grab containing chalcopyrite

Cu ppm	Au ppb	Ag ppm	Zn ppm	Pb ppm
-1	8	-0.2	78	14

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**Sample Number** ATR-10 **UTM Easting:** 638267 **Date:** 23-Aug-99  
**Site Name** ATR-10 **UTM Northing:** 6328935

**Field Notes:** In cirque, south-central AT991 claim.

Southwest of ATR-9.

**Sample Description:** grab sample

Cu ppm	Au ppb	Ag ppm	Zn ppm	Pb ppm
2232	863	13.6	865	104

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**Sample Number** ATR-11                      **UTM Easting:**                      638202                      **Date:**    23-Aug-99  
**Site Name**                      ATR-11                      **UTM Northing:**                      6328916

**Field Notes:** *In cirque, south-central AT991 claim.*

Intrusive rock; malachite. Quartz(ite??) veining. Disseminated chalcopyrite.  
Specimens containing chalcopyrite are very magnetic.

**Sample Description:** *selected grab sample*

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
1802	25	1.6	109	18

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**Sample Number** ATR-12                      **UTM Easting:**                      638176                      **Date:**    23-Aug-99  
**Site Name**                      ATR-12                      **UTM Northing:**                      6328910

**Field Notes:** *In cirque, south-central AT991 claim.*

*Disseminated chalcopyrite.*

*Fine grained intrusive rock.*

**Sample Description:** *selected grab sample*

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
251	24	0.2	32	14

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**Sample Number** ATR-13                      **UTM Easting:**                      638141                      **Date:**    23-Aug-99  
**Site Name**                      ATR-13                      **UTM Northing:**                      6328906

**Field Notes:** *In cirque, south-central AT991 claim.*

*No description provided.*

**Sample Description:** *grab sample*

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
1512	22	1.2	41	36

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**Sample Number** ATR-14                      **UTM Easting:**                      638117                      **Date:**    23-Aug-99  
**Site Name**                      ATR-14                      **UTM Northing:**                      6328914

**Field Notes:** *In cirque, south-central AT991 claim.*

*Center of basin; small vein of massive chalcopyrite.*

**Sample Description:** *selected grab sample*

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
1130	32	3	48	50

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**Sample Number** ATR-15                      **UTM Easting:**                      638060                      **Date:**    23-Aug-99  
**Site Name**                      ATR-15                      **UTM Northing:**                      6328960

**Field Notes:** In cirque, south-central AT991 claim.

*Very mafic, highly magnetic rocks containg blobs of chalcopyrite.*

**Sample Description:** selected grab sample. (samples ATR-15 to ATR-17 are all within one and a half meters)

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
338	8	0.6	2542	2156

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**Sample Number** ATR-16                      **UTM Easting:**                      638035                      **Date:**    23-Aug-99  
**Site Name**                      ATR-16                      **UTM Northing:**                      6328964

**Field Notes:** In cirque, south-central AT991 claim.

*Medium grained syenite porphyry.*

**Sample Description:** selected grab sample. (samples ATR-15 to ATR-17 are all within one and a half meters)

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
144	7	-0.2	26	12

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**Sample Number** ATR-17                      **UTM Easting:**                      638012                      **Date:**    23-Aug-99  
**Site Name**                      ATR-17                      **UTM Northing:**                      6328970

**Field Notes:** In cirque, south-central AT991 claim.

*Dry fractures contain chalcopyrite.*

**Sample Description:** selected grab (samples ATR-15 to ATR-17 are all within one and a half meters)

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
324	6	0.2	33	14

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**Sample Number** ATR-18                      **UTM Easting:**                      637982                      **Date:**    23-Aug-99  
**Site Name**                      ATR-18                      **UTM Northing:**                      6328985

**Field Notes:** In cirque, south-central AT991 claim.

*Quartz vein contains sphalerite and chalcopyrite.*

**Sample Description:** selected grab sample

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
358	96	4	151	38

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**Sample Number** ATR-19                      **UTM Easting:**                      637940                      **Date:**    23-Aug-99  
**Site Name**                      ATR-19                      **UTM Northing:**                      6329014

**Field Notes:** In cirque, south-central AT991 claim.

Shear vein in west wall of cirque, strike/dip 285/80NE. Contains sphalerite, chalcopyrite and malachite.

**Sample Description:** selected grab sample.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
3957	116	41.4	10000	1816

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**Sample Number** ATR-2                      **UTM Easting:**                      638498                      **Date:**    23-Aug-99  
**Site Name**                      ATR-2                      **UTM Northing:**                      6329021

**Field Notes:** In cirque, south-central AT991 claim.

Quartz veining and epidote alteration.

**Sample Description:** selected grab sample

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
55	8	0.6	75	16

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**Sample Number** ATR-20                      **UTM Easting:**                      637846                      **Date:**    23-Aug-99  
**Site Name**                      ATR-20                      **UTM Northing:**                      6329016

**Field Notes:** In cirque, south-central AT991 claim.

Shear vein.

**Sample Description:** selected grab sample.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
2968	106	46.8	10000	2650

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**Sample Number** ATR-21                      **UTM Easting:**                      637824                      **Date:**    23-Aug-99  
**Site Name**                      ATR-21                      **UTM Northing:**                      6329011

**Field Notes:** In cirque, south-central AT991 claim.

Zone of thin shear veins.

**Sample Description:** selected grab sample.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
946	94	24.6	10000	1994

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**Sample Number** ATR-22                      **UTM Easting:**                      637842                      **Date:**    23-Aug-99  
**Site Name**                      ATR-22                      **UTM Northing:**                      6329134

**Field Notes:** In cirque, south-central AT991 claim.

15 cm to 20 cm shear vein contains chalcopyrite.

**Sample Description:** selected grab sample.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
140	41	1.2	331	58

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**Sample Number** ATR-23                      **UTM Easting:**                      637921                      **Date:**    23-Aug-99  
**Site Name**                      ATR-23                      **UTM Northing:**                      6329230

**Field Notes:** In cirque, south-central AT991 claim.

Skarn(?) containing chalcopyrite.

**Sample Description:** selected grab sample.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
90	5	0.2	391	20

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**Sample Number** ATR-24                      **UTM Easting:**                      638133                      **Date:**    23-Aug-99  
**Site Name**                      ATR-24                      **UTM Northing:**                      6329280

**Field Notes:** In cirque, south-central AT991 claim.

Vein, 4 cm to 5 cm wide, striking 110 deg.

**Sample Description:** selected grab from vein

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
870	97	3.8	24	78

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**Sample Number** ATR-3                      **UTM Easting:**                      638623                      **Date:**    23-Aug-99  
**Site Name**                      ATR-3                      **UTM Northing:**                      6328990

**Field Notes:** In cirque, south-central AT991 claim.

Highly limonitic rock.

**Sample Description:** grab sample of limonitic material

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
4782	235	6	39	112

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**Sample Number** ATR-4                      **UTM Easting:**                      638646                      **Date:**    23-Aug-99  
**Site Name**                      ATR-4                      **UTM Northing:**                      6328991

**Field Notes:** In cirque, south-central AT991 claim.

Visible malachite on surface.

**Sample Description:** grab sample selected for malachite.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
6601	67	6.8	100	44

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**Sample Number** ATR-5                      **UTM Easting:**                      638713                      **Date:**    23-Aug-99  
**Site Name**                      ATR-5                      **UTM Northing:**                      6329002

**Field Notes:** In cirque, south-central AT991 claim.

Barite-quartz vein trends 160 deg. 30 cm to 60 cm wide.

**Sample Description:** grab sample selected from vein

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
76	10	0.8	-1	14

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**Sample Number** ATR-6                      **UTM Easting:**                      638706                      **Date:**    23-Aug-99  
**Site Name**                      ATR-6                      **UTM Northing:**                      6328970

**Field Notes:** In cirque, south-central AT991 claim.

Sample contains visible malachite and limonite.

**Sample Description:** grab sample selected for visible mineralization

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
125	7	1.2	38	24

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**Sample Number** ATR-7                      **UTM Easting:**                      638354                      **Date:**    23-Aug-99  
**Site Name**                      ATR-7                      **UTM Northing:**                      6329000

**Field Notes:** In cirque, south-central AT991 claim.

Rock contains visible malachite.

**Sample Description:** grab sample selected for malachite.

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
10000		16	47	82

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**Sample Number** ATR-8                      **UTM Easting:**                      638317                      **Date:**    23-Aug-99  
**Site Name**                      ATR-8                      **UTM Northing:**                      6328985

**Field Notes:** *In cirque, south-central AT991 claim.*

Chalcopyrite, vein zone 1 meter wide in talus, on footwall of dyke 3 meters wide. North side of (vein or dyke?) has a dip of 85 deg to the north.

**Sample Description:** *grab sample selected from quartz vein.*

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
216	156	3.2	174	90

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**Sample Number** ATR-9                      **UTM Easting:**                      638323                      **Date:**    23-Aug-99  
**Site Name**                      ATR-9                      **UTM Northing:**                      6328946

**Field Notes:** *In cirque, south-central AT991 claim.*

Vein zone 10 m south of ATR-8.

**Sample Description:** *grab sample selected from vein*

<b>Cu ppm</b>	<b>Au ppb</b>	<b>Ag ppm</b>	<b>Zn ppm</b>	<b>Pb ppm</b>
203	220	5.2	151	114