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GEOLOGICAL - GEOCHEMICAL REPORT  
ON THE  
RED AND CHINA CLAIMS GROUPS

CLINTON AND LILLOET MINING DIVISIONS

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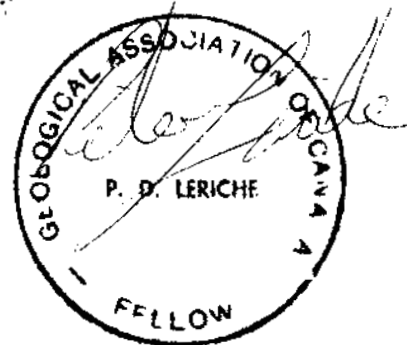
KENNEDY RIVER GOLD INC.  
780 - 885 Dunsmuir Street  
Vancouver, B.C.

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GEOLOGICAL BRANCH  
ASSESSMENT REPORT

**17,953**

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October 28, 1988

## SUMMARY

Ashworth Explorations Limited carried out a field program, consisting of geological mapping, rock sampling, stream sediment sampling and soil sampling on the Red and China Claim Groups, for Kennedy River Gold Inc. during August, 1988.

The Red and China claim groups consist of 6 contiguous mineral claims (120 units) located in the Lillooet and Clinton Mining Divisions. The claims are situated 40 kilometres northeast of Goldbridge, B.C.

The subject property is underlain by a sequence of Eocene volcanic rocks. These rocks are known for hosting an epithermal gold-silver quartz vein deposit at Blackdome Mountain, 11 kilometres north of the Red and China Claim Groups.

Previous work on the Red claim group consisted of an airborne magnetometer and VLF-electromagnetometer survey in August 1984. Survey results were interpreted as revealing a geological environment similar to the Blackdome Mine.

The 1988 exploration program has outlined three anomalous areas indicated by high mercury, arsenic and gold values in soil, stream sediment and rock samples and coincident with argillically altered and silicified rhyolites. Area 1 (northeast portion of China I claim) includes six high mercury values in stream sediments, a large coincident mercury-arsenic soil anomaly and one rock sample which assayed 3300 ppb mercury. Area 2 (located 1.0 and 1.4 kilometres west of Red Mountain) consists of two rock anomalies in gold (40 ppb) and mercury (183 ppb). Area 3 is close to the northern boundary of the claim group and includes one high mercury assay (1600 ppb) in a rock sample.

A second and third phase exploration program has been recommended. Phase II will consist of grid extension, detailed soil sampling, geological mapping and rock sampling, trenching and blasting at an estimated cost of \$ 72,000. Phase III is contingent upon targets being established from Phase II. It would consist of backhoe trenching and diamond drilling to test surface mineralization at depth.

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## 1. INTRODUCTION

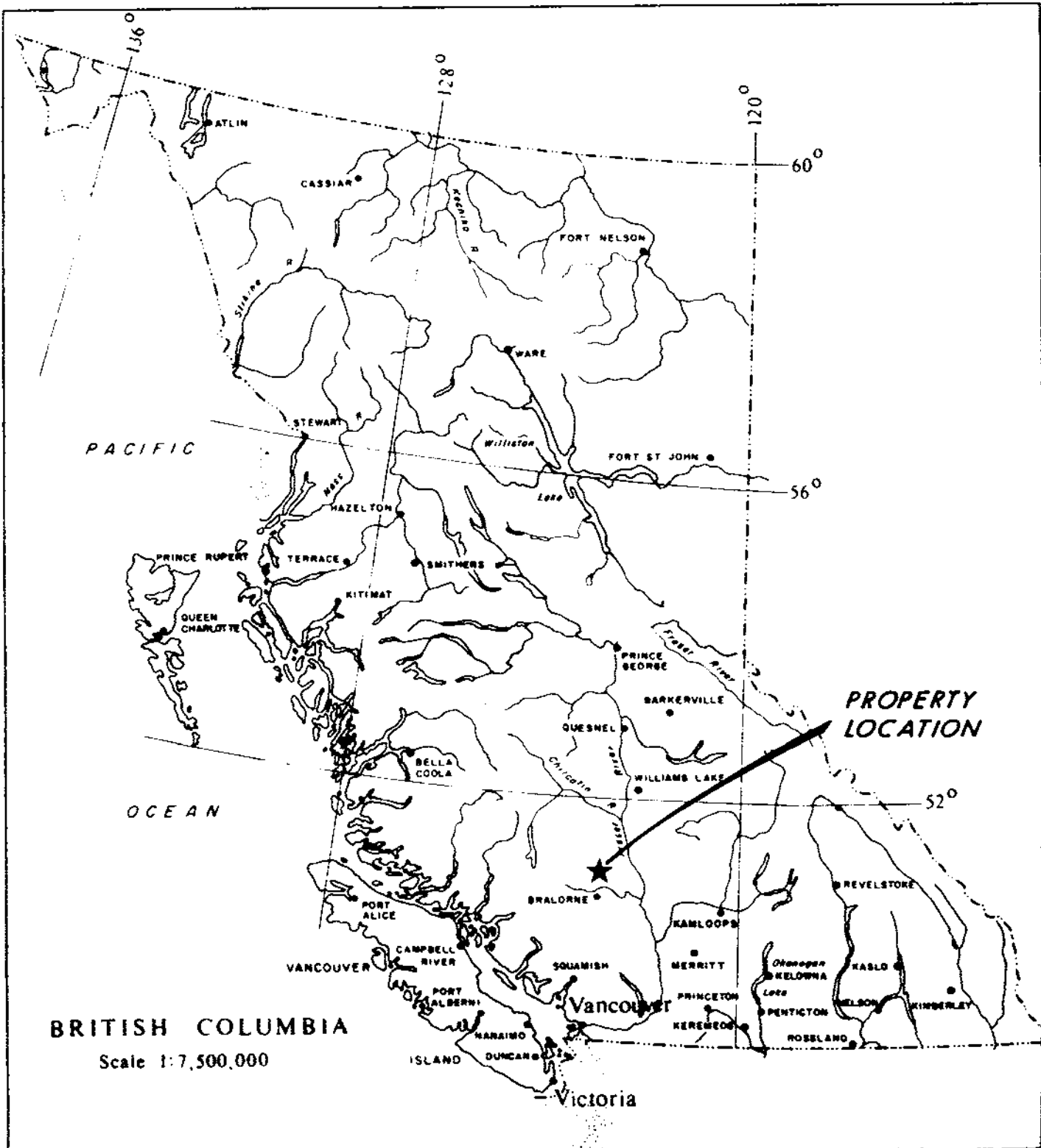
This report was prepared at the request of Kennedy River Gold Inc. to describe and evaluate the results of a geological-geochemical survey carried out by Ashworth Explorations Limited from August 19 to 29, 1988 on the Red and China Claim Groups, Red Mountain Area, B.C. The report also describes the regional geology and the past exploration activities in the area, and outlines a proposed exploration program.

One of the authors, Mr. Leriche, planned and supervised all fieldwork and examined the subject claims from August 23 to 24, 1988.

## 2. LOCATION, ACCESS AND TOPOGRAPHY

The Red and China Claim Groups are located in the Camelsfoot Range on the Fraser Plateau approximately 55 kilometres west of Clinton, B.C. and 40 kilometres northeast of the town of Goldbridge (Figure 1). The Rouge I to IV claims are centred around Red Mountain (elevation 2633 metres) and the China I and II claims surround French Mountain (elevation 2402 metres). The claims lie within NTS mapsheets 92O/1 and 92O/2, at latitude  $51^{\circ} 12'$  north, longitude  $122^{\circ} 31'$  west.

Access to the claims is by helicopter from the town of Goldbridge, B.C. where Cariboo-Chilcotin Helicopters maintains a base. A series of logging roads leads from Lillooet, northwest up the Yalakom River valley to within 1.5 kilometres of the property. A road could be extended onto the claims for future exploration use.

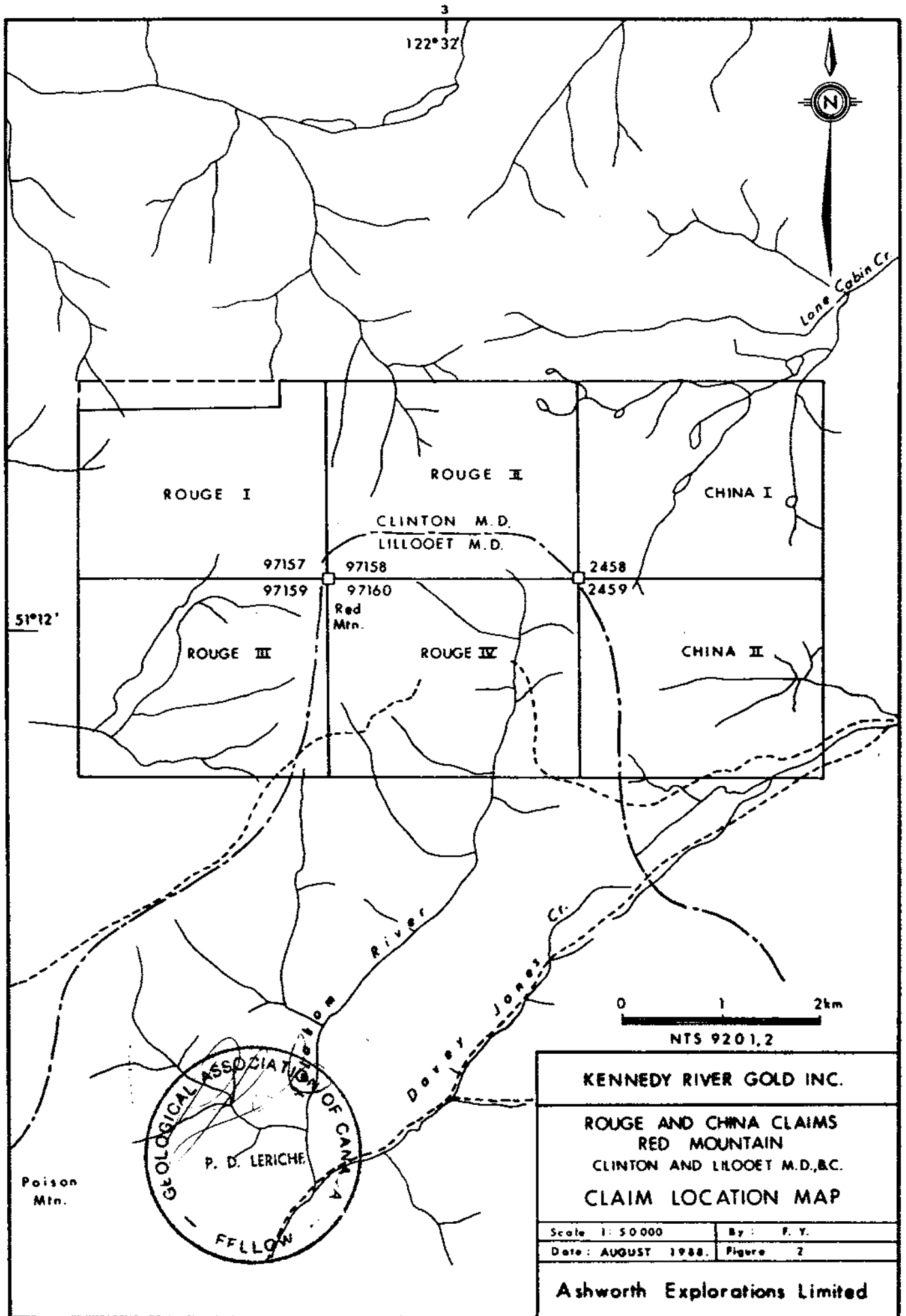


**KENNEDY RIVER GOLD INC.**

**ROUGE AND CHINA CLAIMS  
RED MOUNTAIN  
CLINTON AND LILOOET M.D.B.C.  
GENERAL LOCATION MAP**

Scale 1:7500000	Date: SEPTEMBER 1988
Drawn: J.S.	Figure 1

**Ashworth Explorations Limited**





The terrain is characterized by gentle to moderate slopes descending in all directions from the Red and French Mountains. Approximately 40 per cent of the claims lie above treeline (elevation 6800 feet or 2230 metres). Below treeline, vegetation consists of scrub pine, spruce and minor fir. Elevation varies from 8026 feet (2633 metres) at the peak of Red Mountain to 5300 feet (1739 metres) in the Lone Cabin Creek valley, giving a total relief of 2726 feet (894 metres).

### 3. PROPERTY STATUS (Figure 2)

The Red and China Claim Groups consist of six contiguous mineral claims totalling 120 units. The claims were grouped on April 22, 1988 as the Red Group (80 units) and the China Group (40 units). The boundary for the Clinton and Lillooet Mining Divisions transects the south-central part of the claims. The legal corner post for the Red Claim Group is located in the Lillooet Mining Division and the legal corner post for the China Claim Group is in the Clinton Mining Division. The claims are owned by Doug Cochrane, 1340 Crescent Road, Surrey, B.C., V4A 2V8 and operated by Kennedy River Gold Inc., 780-885 Dunsmuir Street, Vancouver, B.C.

Pertinent claim data is as follows:

<u>CLAIM NAME</u>	<u>GROUP</u>	<u>RECORD #</u>	<u>UNITS</u>	<u>RECORD DATE</u>
Rouge I	Red	3883	20	Nov. 3, 1987
Rouge II	Red	3884	20	Nov. 3, 1987
Rouge III	Red	3885	20	Nov. 3, 1987
Rouge IV	Red	3886	20	Nov. 3, 1987
China I	China	2458	20	Nov. 3, 1987
China II	China	2459	20	Nov. 3, 1987

The total area covered by the claim groups is 3,000 hectares.

#### 4. AREA HISTORY

The first major find in the general area of the subject claims occurred in the late 1940's with the discovery of gold-bearing quartz veins in the Black Dome Mountain area, approximately 11 kilometres north of the China I north claim boundary. The following ten year period saw work performed by Empire Valley Gold Mines Ltd. and Silver Standard Mines Ltd. which included sampling, stripping, packsack drilling, trenching and the driving of two adits into the vein structures.

By 1972 additional gold-bearing quartz veins had been located west of the original claims. In 1980, Blackdome Explorations Ltd. completed additional work including trenching, drilling and underground exploration. Mine construction began in 1985 with underground development of the Number 1 and 2 veins on two levels and a 200 ton-per-day mill. This led to the commencement of production on May 16, 1986. Reserves at December 31, 1987 were estimated at 245,615 tons with an average grade of 0.74 ounces of gold and 2.15 ounces of silver per ton (Blackdome Mining Corporation Annual Report, 1987).

The gold-bearing quartz veins at the Blackdome Mine are hosted by Eocene rhyolitic to andesitic volcanics which exhibit argillic wallrock alteration adjacent to the veins. A northeasterly trend is dominant in the structure, veins and host rocks. Northeasterly-trending normal faults cut the area and are believed to be related to movement along the Fraser Fault System during the Eocene epoch (Harrop & Scroggins, 1987).

Immediately southwest of the Blackdome property, and approximately five kilometres north of the north claim boundary of the Red Claim Group, lies the Bobcat Claim Group owned by Lexington Resources Ltd. The Bobcat claims were originally staked in 1980 as the Pony claims and occupy the southwest extension of the same mineralized zone present on the Blackdome Mine property. Highly anomalous gold results were obtained from soil samples collected in 1982 near the northwest corner of the Pony claims.

In 1986 the Pony claims lapsed and were restaked as Bobcat I, II and III claims and were subsequently sold to Lexington Resources Ltd. Between 1986 and the present, geological mapping, prospecting, geochemical soil sampling, geophysical surveys, trenching and diamond drilling have been performed on the claims with results showing good potential for finding epithermal Au-Ag mineralization similar to that at the Blackdome Mine.

Ballatar Explorations Ltd. has optioned the EH1, EH3, EH5, EH6 and EH7 claims, located immediately south of Blackdome Mine and immediately southeast of the Bobcat Claims. Claims EH7 and Rouge II share a common claim boundary, with EH7 to the north and Rouge II to the south. An airborne VLF-EM survey and reconnaissance geological mapping followed by mapping, soil and rock sampling and geophysical surveys have been performed on this property from 1984 to 1987. In 1988 a detailed soil sampling program was completed followed by trenching of soil anomalies and vein occurrences in October 1988. A diamond drill program is scheduled to follow.

As on the Bobcat claims, Ballatar's targets are the epithermal gold silver vein systems which strike south from the Blackdome property. Rather intense mercury soil anomalies have been discovered in the vicinity of the Hungry Valley Fault Zone suggesting the presence of a possible gold-bearing hydrothermal system (Dynamic Stock Market Analysis Ltd., 1988).

Brenwest Mining Ltd.'s Edge Claim Group, located approximately 23 kilometres southeast of China II, has undergone exploration since 1980 when Kerr Addison Mines Ltd. staked the original Big Bar claims. Percussion drilling completed in 1980 obtained a high Au value of 2600 ppb, As 1000 ppm and Ag 25.2 ppm, over drill intersections of 3, 3.1 and 3 metres respectively (Stritychuk Hopkins & Yacoub, 1988). Recent work by Brenwest has consisted of surface sampling, trenching, geophysical work and limited drilling. Results have outlined drill targets including an area highlighted by a northwest-trending I.P. anomaly, 950 metres long and open in both strike directions. Previously obtained values include a surface sample high of 3480 ppb Au and a drill intersection over 3 metres of 0.13 oz/ton Au (Stritychuk Hopkins & Yacoub, 1988).

Four kilometres west-southwest of Brenwest's property and approximately 16 kilometres southeast of China III claim, Chevron Standard Limited controls several crown grants and mineral claims covering the headwaters of Stirrup and Ward Creeks.

This property has seen a long history of exploration and prospecting for gold since the location of the original Astonisher and Chisholm claims around 1926. Development work has included several crosscuts, open cuts and trenching to 1933, geochemical soil surveys and percussion drilling by Rio Tinto in 1971, mapping, trenching and sampling by Canex Placer Limited in 1973.

Chevron Standard Limited took control of the crown grants in addition to 19 mineral claims in 1975 and completed two diamond drill holes with no documented assay results. Since 1982 Chevron has restaked ground formerly covered by the Eagle claim. A 1982 reconnaissance rock and soil sampling survey plus detailed soil sampling obtained anomalous values of greater than 1000 ppm antimony, 100 ppm arsenic and 374 ppm gold (Stritychuk Hopkins & Yacoub, 1988).

The Poison Mountain copper-molybdenum-gold porphyry deposit is located on the southwest slopes of Poison Mountain, approximately six kilometres southwest of the Rouge III claim. Initial staking occurred in 1935 following the discovery of placer gold along Poisonmount Creek in 1932.

Mineralization is associated with granodiorite to quartz diorite stocks intruding Jackass Mountain Group sedimentary rocks. Two porphyritic zones are present: an inner relatively unaltered hornblende plagioclase porphyry which grades outward into a biotite plagioclase porphyry. The highest grade mineralization occurs within the biotite-altered border phases and consists of pyrite, chalcopyrite, molybdenite and bornite, both disseminated, fracture fillings and in veins associated with quartz. Diamond drilling and trenching outlined reserves of 175 million tonnes averaging 0.33% copper, 0.015% molybdenum and 0.3 gram per tonnes gold (Glover et al, 1987). Long Lac Mineral Explorations completed additional diamond drilling in 1979 and 1980 but no published figures are available.

Exploration for porphyry copper-molybdenum mineralization began in 1970 in the upper Relay Creek area, located approximately 23 kilometres west of the Rouge III claim. At this location mineralization is associated with a swarm of sills, dykes and small plugs which intrude volcanic and sedimentary rocks. Disseminated pyrite and/or pyrrhotite occur within and adjacent to the porphyries along with local chalcopyrite, molybdenite, arsenopyrite and sphalerite. Esso Minerals Canada is currently exploring the northwestern end of the altered belt, obtaining gold values of one to ten grams per tonne from narrow quartz-carbonate and chalcedony veins in association with broader zones of elevated gold values in the range of 50 to 300 parts per billion and anomalously high values of arsenic (Glover et al, 1987).

Low grade epithermal gold mineralization occurs at Big Sheep Mountain which is located 18 kilometres southwest of the Rouge III claim. The mineralization is associated with carbonate and argillic-altered granitic intrusions, probably Tertiary in age.

##### 5. PREVIOUS WORK

The earliest record of work done in the area covered by this claim group is that of an airborne magnetometer and VLF-electromagnetometer survey conducted in August 1984. It was performed by Western Geophysical Aero Data Ltd. on the Camel 1 to 4 claims for Liberty Gold Inc. The area covered by the Camel 1 to 4 claims is now the Rouge I to IV claims.

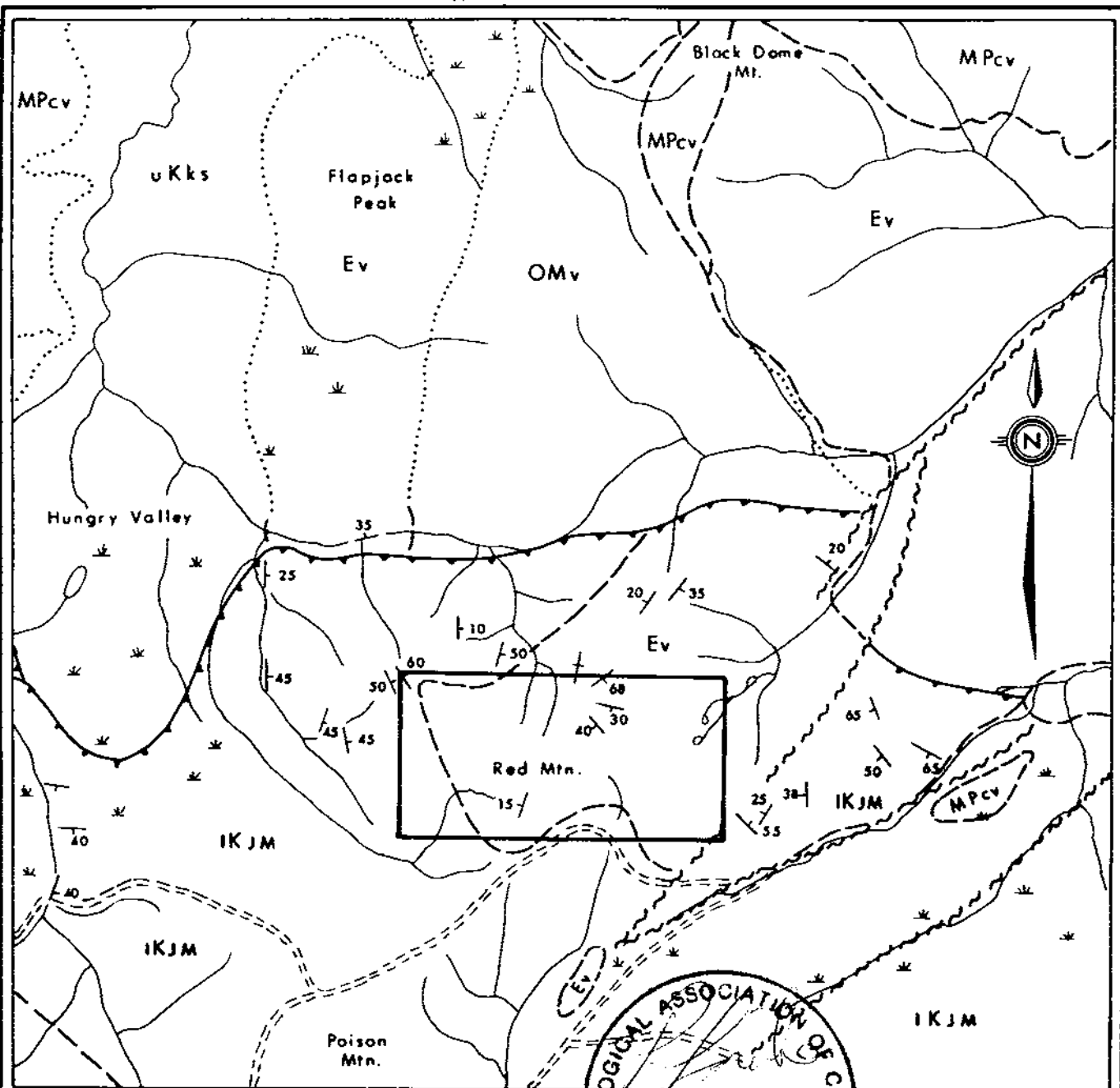
The purpose of the survey was to assist a preliminary geological evaluation of the area and to provide direction for a subsequent phase of exploration work.

Results of the survey were interpreted to reveal a similar geological environment to that observed across Black Dome Mountain, including a 1.6 kilometre long, northeasterly striking magnetic low which was thought to delineate an ancient volcanic vent (Pezzot et al, 1984). Also, a number of northwest-southeast trending magnetic lineations were observed and were interpreted as outlining fault zones, probably splays off the Hungry Valley thrust fault which trends east-west approximately three kilometres to the north.

Recommendations included detailed geological mapping and prospecting to aid in identifying the source of the major magnetic anomalies. It was felt that a detailed program of ground magnetometer surveying would help give precise delineation of geologic contacts and fault zones. Geochemical soil and stream sampling at the lower elevations, below the basaltic cap, was also recommended to assist further exploration for a Blackdome-type auriferous quartz vein system (Pezzot et al, 1984).

## 6. REGIONAL GEOLOGY

The Red and China Claim Groups occur in a region underlain by Mesozoic sedimentary and volcanic rocks which lie within a northwest-trending, structurally complex zone along the western margin of the Intermontane Belt, east of the Coast plutonic complex. The Tyaughton Trough is a feature of the area and is characterized by marine sedimentary rocks of the Middle Jurassic to Lower Cretaceous Relay Mountain Group and the mid-Cretaceous Taylor Creek and Jackass Mountain groups. An Upper Cretaceous succession of laterally discontinuous, nonmarine basinal deposits grading up into continental volcanic



### LEGEND

**GEOLOGY** (by Tipper O.F. 534, 1978.)

#### MIOCENE

**MPcv** Olivine basalt, andesite; minor tuff.

#### OLIGOCENE

**OMv** Grey to brown, fine grained to porphyritic and amygdaloidal andesite and basalt tuff and breccia.

#### EOCENE

**Ev** Rhyolitic and dacitic tuff, breccia, and flows; minor andesitic to basaltic rocks.

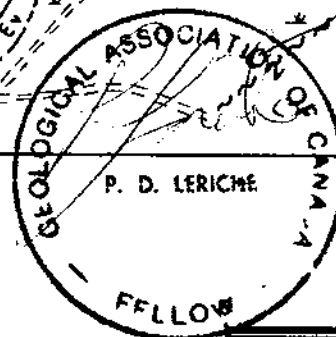
#### CRETACEOUS

**uKks** Interbedded siltstone, greywacke and conglomerate.

**iKJM** Buff to green greywacke, light grey shale, and pebble conglomerate; massive boulder conglomerate.

#### SYMBOLS

- Geological contact (defined, approximate, assumed)
- +— Bedding (inclined, vertical)
- ~~~~~ Fault
- ▲▲▲ Thrust or high angle reverse



5 10km

NTS 920/1, 2

**KENNEDY RIVER GOLD INC.**

**ROUGE AND CHINA CLAIMS  
RED MOUNTAIN  
CLINTON AND LILLOOET M.D., B.C.**

**REGIONAL GEOLOGY MAP**

Scale 1:250 000

By: P. Y. / J.S.

Date: AUGUST 1988.

Figure 3

**Ashworth Explorations Limited**



arc-related rocks, overlies the Tyaughton rocks with local angular unconformity (Glover et al, 1987).

The Jackass Mountain Group (Lower Cretaceous) is composed of clastic sedimentary rocks which outcrop over a large area northeast of the Yalakom Fault. It outcrops in the south-central, and western portion of the Rouge and China claims. The boulder to cobble conglomerate of the Jackass Mountain Group is the most distinctive and at Red Mountain occurs as beds up to several metres thick.

The Jackass Mountain Group is unconformably overlain by Eocene volcanics comprised of andesitic to rhyolitic composition. The volcanics are similar lithologically to Eocene-dated volcanics to the north and northeast which are host to the Blackdome epithermal gold deposit. They are made up of andesitic to dacitic flows (locally vesicular and/or amygdaloidal), discontinuous units of flow-banded rhyolite, and unsorted andesitic to dacitic volcanic conglomerates.

Eocene (Glover et al, 1987) or Oligocene (Tipper, 1978) porphyritic rocks appear to intrude the Eocene volcanics at Red Mountain and Big Sheep Mountain and a large area to the north of the Red and China Claim Groups (Glover et al, 1987). These are commonly carbonate altered and contain variable proportions of feldspar, hornblende, biotite and quartz phenocrysts.

Flat-lying Miocene plateau basalts unconformably overlie the older rocks in the area. They occur as medium to dark gray flows intercalated with minor amounts

of volcanic breccia and volcanic conglomerate. They cap several ridges in the region including Black Dome Mountain.

The Yalakom fault and the Fraser fault system are dominant features on the regional scale. The Yalakom fault divides the general area into two parts. The Red Mountain region lies northeast of the fault zone and is characterized by relatively widely spaced northwest and northeast-trending faults and by east-trending folds probably related to dextral movement along the Yalakom fault system.

The Jackass Mountain Group and the Eocene volcanics are bounded to the west by the north-northwest-trending Red Mountain fault which truncates several northeast-trending faults. North-northeast-trending extensional faults and fractures (Eocene?) appear to have developed in the Eocene volcanics in relation with the dextral wrench fault along the Fraser fault system (Glover et al, 1987).

An easterly-trending fault, north of Red Mountain, is believed to be part of the Hungry Valley thrust fault (Tipper, 1978). It is inferred, separating Jackass Mountain sandstones from the Eocene volcanics, and possibly extends to the west.

## 7. 1988 PROGRAM

### 7.1 SCOPE AND PURPOSE

During August 1988 a field crew consisting of two geologists, a prospector and three geotechnicians completed a program of geological mapping, rock sampling, stream sediment and soil sampling.

The purpose of this program was to cover the property using geochemical methods to define follow-up exploration targets. The expected target is an epithermal gold-silver deposit similar to that found at Blackdome Mountain.

## 7.2 METHODS AND PROCEDURES

Geological mapping was performed at a scale of 1:10,000 (Figure 4) over the property. Control for mapping was established using an altimeter, compass, hipchain and the survey grid on the China I claim.

A total of 71 rock samples were collected and analyzed for gold, mercury and multi-element ICP by Vangeochem Lab Limited. See Appendix B for analytical reports and Appendix C for analytical techniques.

Eleven rock samples from various rock units were sent to Vancouver Petrographics Ltd. for thin section analysis. Appendix E is a complete report on each section and Figure 4 shows their locations.

Stream sediment samples were taken from all drainages. Samples were collected at 200 to 300 metre intervals from the active part of the streams. Grain size varied from silt to sand size. Altogether 135 stream sediment samples were taken, placed into marked sand sample bags and sent to Vangeochem Lab Ltd. for gold, mercury and multi-element ICP analysis (see Appendix C and D).

A survey grid (Figure 6) was laid out on the China I to use as control for soil sampling and geological mapping. A baseline was compassed, brushed out, slope corrected and hipchained at an azimuth of 40 degrees for 1.3 kilometres. Cross-

lines were surveyed using compass, hipchain and flagging at 100 metre line spacings and 50 metre station spacings. Total line surveyed, including baseline and cross-lines, was 20.2 kilometres.

The grid was soil sampled at 50 metre station spacings. The total number of soil samples taken was 410, including 404 samples from the grid and six samples from elsewhere on the property (Figure 5). All soil samples were taken with a grub hoe from the B horizon (approximate depth of 25 cm), placed into marked Kraft-paper bags, field dried, then sent to Vangeochem Lab Ltd. and analyzed for gold, mercury and multi-element ICP (Appendix B and C).

The lab results for three elements (Au, Hg, As) were computer-plotted on 1:2,500 scale maps (Figures 7 to 9). To evaluate any existing geochemical anomalies, frequency distribution histograms based on lab data were prepared for each of the aforementioned elements (Appendix D). Anomalous values were chosen using natural breaks in each histogram. For interpretation purposes, correlation coefficients were calculated (Appendix D) and anomalous ranges for each element were plotted using symbol maps (Figures 10 to 12). All statistical and plotting work was performed by Tony Clark Consulting Services.

### 7.3 PROPERTY GEOLOGY (Figure 4)

The property is underlain by a package of Eocene volcanic rocks and one outcrop of Cretaceous conglomerate. These rocks are transected by at least three extensional faults.

The following description of lithologic units is based on geological mapping by both authors and from petrographic analysis by Vancouver Petrographics Ltd. (See Figure 4 for thin section locations).

#### Unit 1 - Polymictic Conglomerate

This unit occurs in one small outcrop approximately 2.4 kilometres northeast of Red Mountain. It is interpreted as Cretaceous in age, belongs to the Jackass Mountain Group, and is unconformably overlain by the Eocene volcanic rocks. It consists of poorly-sorted, well-rounded cobbles and boulders of granitic, volcanic, clastic sedimentary and metamorphic composition.

#### Unit 2 - Latite

This unit represents the oldest rock within the Eocene package. It underlies the northeast part of the property.

It is a light gray-brown porphyritic amygdaloidal latite. Phenocrysts of plagioclase (5%) and minor hornblende lie in a groundmass of plagioclase (43%), K-feldspar (30%), and interstitial quartz (5%). Amygdules up to 2 mm in size are infilled with calcite plus minor quartz and sericite.

#### Unit 3 - Rhyolite

Unit 3 stands out as a light gray to white weathered welded rhyolite tuff, rhyolite flow, and rhyolite flow breccia. It is approximately 100 metres thick and appears to be conformable between the latite (Unit 2) and the pyroxene

basalt (Unit 4). The rhyolite is not always present between Units 2 and 4 as seen on French Mountain.

Thin section analysis (Sample 8) revealed a welded rhyolite tuff composed dominantly of pumice (90 to 93%), chalcedony/quartz fragments (3 to 4%), quartz phenocrysts (1 to 2%) and minor plagioclase.

Texturally the rhyolite exhibits flow banding, flow breccia and subaerial welded textures.

#### Unit 4 - Pyroxene Basalt

This unit occurs at higher elevations on Red and French Mountains.

It is a medium gray to black porphyritic/amygdaloidal pyroxene basalt. The porphyritic variety consists of plagioclase and lesser pyroxene phenocrysts in a groundmass of devitrified glass, plagioclase, pyroxene and opaques. The vesicular/amygdaloidal basalts contain approximately 5% plagioclase phenocrysts and 15% vesicles in a groundmass of plagioclase and pyroxene. Amygdules consist of montmorillonite stained orange by limonite.

#### Unit 5 - Agglomerate

This unit occurs as a wedge approximately 200 metres west of the peak of Red Mountain. It is considered a "volcanic agglomerate" however, because of partial

reworking observed in the field, it could easily be considered a "volcanic conglomerate".

Poorly sorted subangular dacitic to andesitic volcanic fragments (approximately 70%) occur in a friable silty matrix (30%). Fragments are variable in size, ranging up to 0.6 metres in diameter.

### Intrusive Rocks

A series of porphyritic latite dykes were located 600 metres north of French Mountain. Thin section evidence (thin sections 10 and 11) revealed a composition of plagioclase-hornblende phenocrysts in a groundmass of plagioclase, K-feldspar and limonite. One other observed dyke 1.3 kilometres east of Red Mountain is a porphyritic olivine basalt.

Glover et al (1987) mapped three Eocene intrusive stocks approximately 1.5 to 2 kilometres north of Red Mountain and these consist of an equigranular to porphyritic quartz diorite to quartz monzonite. They were not observed during recent mapping.

### Structure

The Eocene volcanic rocks are essentially flat-lying.

The main structural feature on the property are north-trending extensional faults which are Eocene to younger in age. They are interpreted as compressional

fractures related to the Fraser River fault system. Lateral displacement along these faults is minimal, ranging from 0 to 400 metres.

### Alteration

Two types of alteration occur on the subject claims: 1) argillic alteration with silicification and 2) rusty limonitic.

Moderate to intense argillic-silicic alteration was observed mainly in the rhyolite unit (Unit 3) and it often masks all primary textures. The source of this alteration could be from a hydrothermal magmatic origin, possibly from the intrusive stocks on the northern part of the property.

Limonitic alteration occurs within the latite unit (Unit 2), 2.0 kilometres northeast of Red Mountain.

## 7.4 MINERALIZATION AND ROCK GEOCHEMISTRY

### 7.4.1 Geological Model

The target deposit expected on the Red and China claims is an epithermal gold-silver deposit similar to that found at Black Dome Mountain.

According to the British Columbia Epithermal Model (Panteleyev, 1986), the Blackdome deposit fits in as gold-silver-bearing quartz-carbonate veins relatively high up in the epithermal system. Elements typically associated with these deposits include mercury, arsenic and antimony. A regional geochemical survey jointly conducted by the British Columbia Ministry of Energy, Mines and Petroleum Resources (B.C.RGS-3) and the Geological Survey of Canada (Open File



774, 1983) shows that creeks surrounding the Blackdome deposit are highly enriched in mercury.

Another example of enriched mercury is on the Bobcat II claim, owned by Lexington Resources Ltd. Mercury anomalies in soils and rocks (argillic alteration zones) have been used to define trenching and drilling targets. Follow-up trenching and drilling has located gold and base metal mineralization in quartz veins. Gold geochemistry is generally low on surface.

Hence, mercury is considered to be the best pathfinder element in the area of the subject claims.

#### 7.4.2 Rock Geochemistry (Figure 5)

The following rock sample results are considered significant.

SAMPLE	VALUE	DESCRIPTION
RM88-R-411	40 ppb Au	Sample across 5.0 metres of white to light gray rhyolite with strong argillic alteration. Alteration zone is 150 metres long, 10 metres wide and strikes at 40 degrees.
RM88-R-431	110 ppb Hg	Grid coordinates 1+20N 5+10W. Float sample consisting of chalcedony, quartz and calcite, hosted by latite.
RM88-R-434	120 ppb Hg	Chip sample across 1.0 metre of rusty silicified rhyolite.
RM88-R-435	260 ppb Hg	Chip sample across 20 metres of volcanic rock exhibiting strong argillic alteration and silicification.
RM88-R-440	1600 ppb Hg	Select sample across 50 cm of silicified rhyolite.
RM88-R-443	135 ppb Hg	Select sample across 2.0 metres of brecciated rhyolite with intense argillic alteration and minor silicification.

RM88-R-450	185 ppb Hg	Zone of intense argillic alteration with limonite staining. Host rhyolite.
RM88-R-709	3300 ppb Hg	Grid coordinates 1+40N 2+20E. Chip sample across 2.0 metres of light gray flow banded rhyolite with moderate argillic alteration and silicification.
RM88-R-726	400 ppb Hg	Grid coordinates 4+80N 4+40W. Select sample across 30 cm. Dark brown, rusty latite.???

### 7.5 STREAM SEDIMENT GEOCHEMISTRY (Figure 5)

The following samples are considered anomalous.

SAMPLE	VALUE	LOCATION
RM88-T-009	100 ppb Hg	Near eastern boundary of claim group in Lone Cabin Creek headwaters.
RM88-T-026	40 ppb Au	Headwaters of Lone Cabin Creek, 500 metres west of soil grid.
RM88-T-035	240 ppb Hg	Lone Cabin Creek (China I claim), 200 meters west of soil grid.
RM88-T-051	100 ppb Hg	Lone Cabin Creek near northeast corner of China I claim.
RM88-T-053	220 ppb Hg	Lone Cabin Creek, 300 metres northeast of soil grid.
RM88-T-058	135 ppb Hg	Lone Cabin Creek, 230 metres northeast of soil grid.
RM88-T-061	25 ppb Au	Near headwaters of south-flowing creek between Red and French Mountains.

Six out of seven of the above-mentioned anomalies occur in the Lone Cabin Creek valley.

### 7.6 SOIL GEOCHEMISTRY

A grid was laid out for soil sampling in the Lone Cabin Creek drainage on the China I claim. The location was chosen to follow a fault which trends up Lone

Cabin Creek at approximately 40 degrees. This orientation parallels the strike of the gold-silver veins at Black Dome Mountain.

#### 7.6.1 Gold in Soils (Figures 7 and 10)

Range:	Not detected to 40 ppb
Mean:	9.03
Standard Deviation:	5.98
Background:	0 - 20 ppb
Low Anomalous:	20 - 25 ppb
Anomalous:	25 - 35 ppb
High Anomalous:	35+ ppb

The symbol plot for gold shows a scattered pattern of anomalies. A total of 29 soil samples assayed greater than 20 ppb.

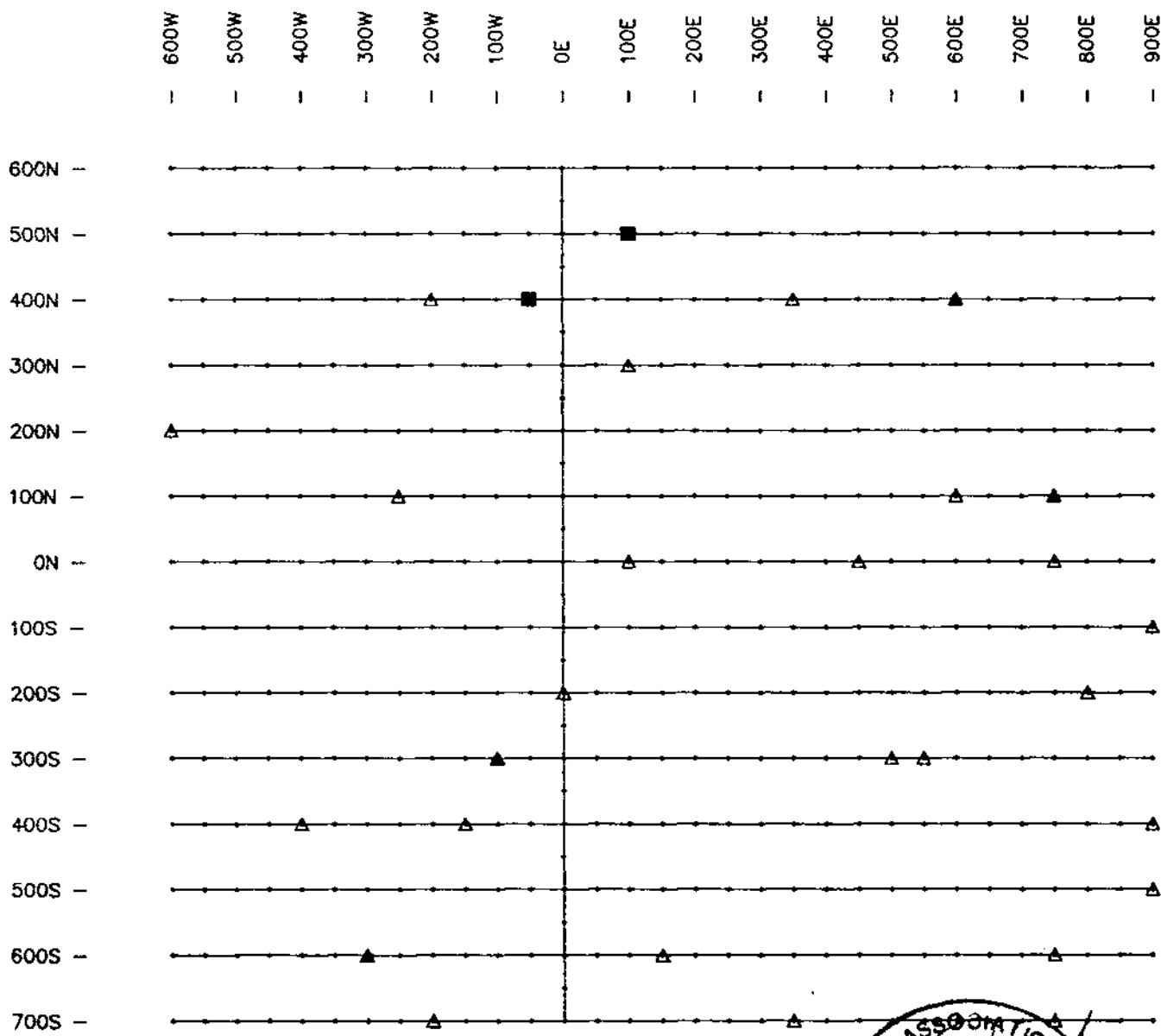
Two significant spot highs occur at line 4+00N 0+50W (35 ppb) and L5+00N 1+00E (40 ppb).

#### 7.6.2 Mercury in Soils (Figures 8 and 11)

Range:	Not detected to 480 ppb
Mean:	40.64
Standard Deviation:	44.32
Background:	0 - 80 ppb
Low Anomalous:	80 - 125 ppb
Anomalous:	125 - 200 ppb
High Anomalous:	200+ ppb

A cluster (5 points) of mercury anomalies is centred around 2+50N 1+50E and includes high anomalies of 240, 420 and 450 ppb mercury.

One spot high (480 ppb mercury) occurs at L1+00N 4+00E. This high value could be related to the five point cluster as it lies upslope and is joined to the cluster by an anomaly of 95 ppb mercury at L2+00N 3+00E.



- △ 20 to <25 ppb Au
- ▲ 25 to <35 ppb Au
- 35+ ppb Au

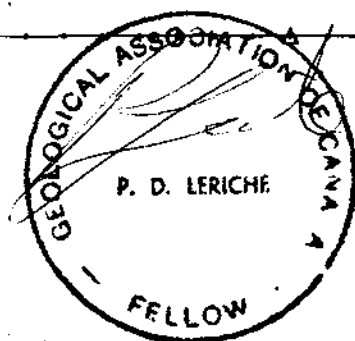
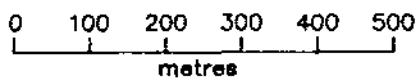
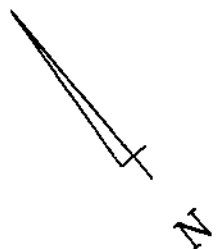
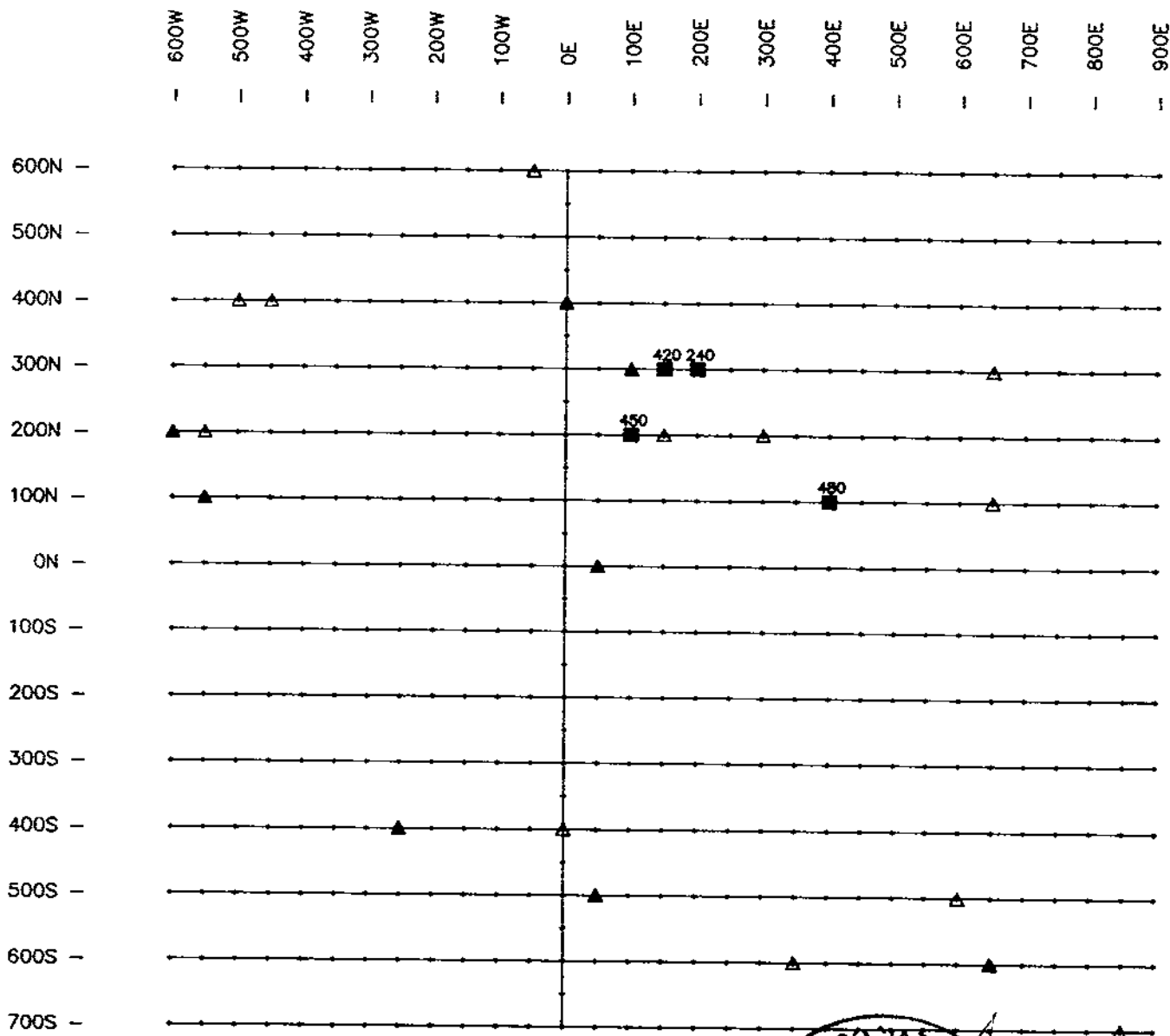


Figure 10



<b>KENNEDY RIVER GOLD INC.</b>	
ROUGE AND CHINA CLAIMS	
Clinton and Lillicoet M.D.	NTS 92 0/1,2
<b>SOIL GEOCHEMISTRY</b>	
<b>GOLD</b>	
ASHWORTH EXPLORATIONS LIMITED	
DATE 3 Oct 1988	SCALE 1 : 10000
Drawn by: TONY CLARK CONSULTING	



- △ 80 to <125 ppb Hg
- ▲ 125 to <200 ppb Hg
- 200+ ppb Hg

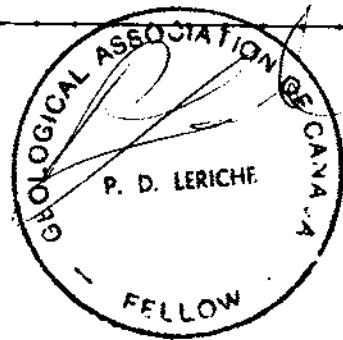
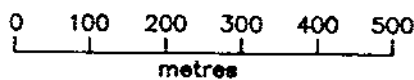
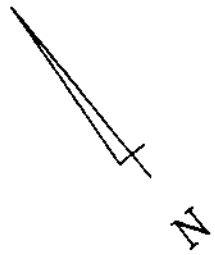
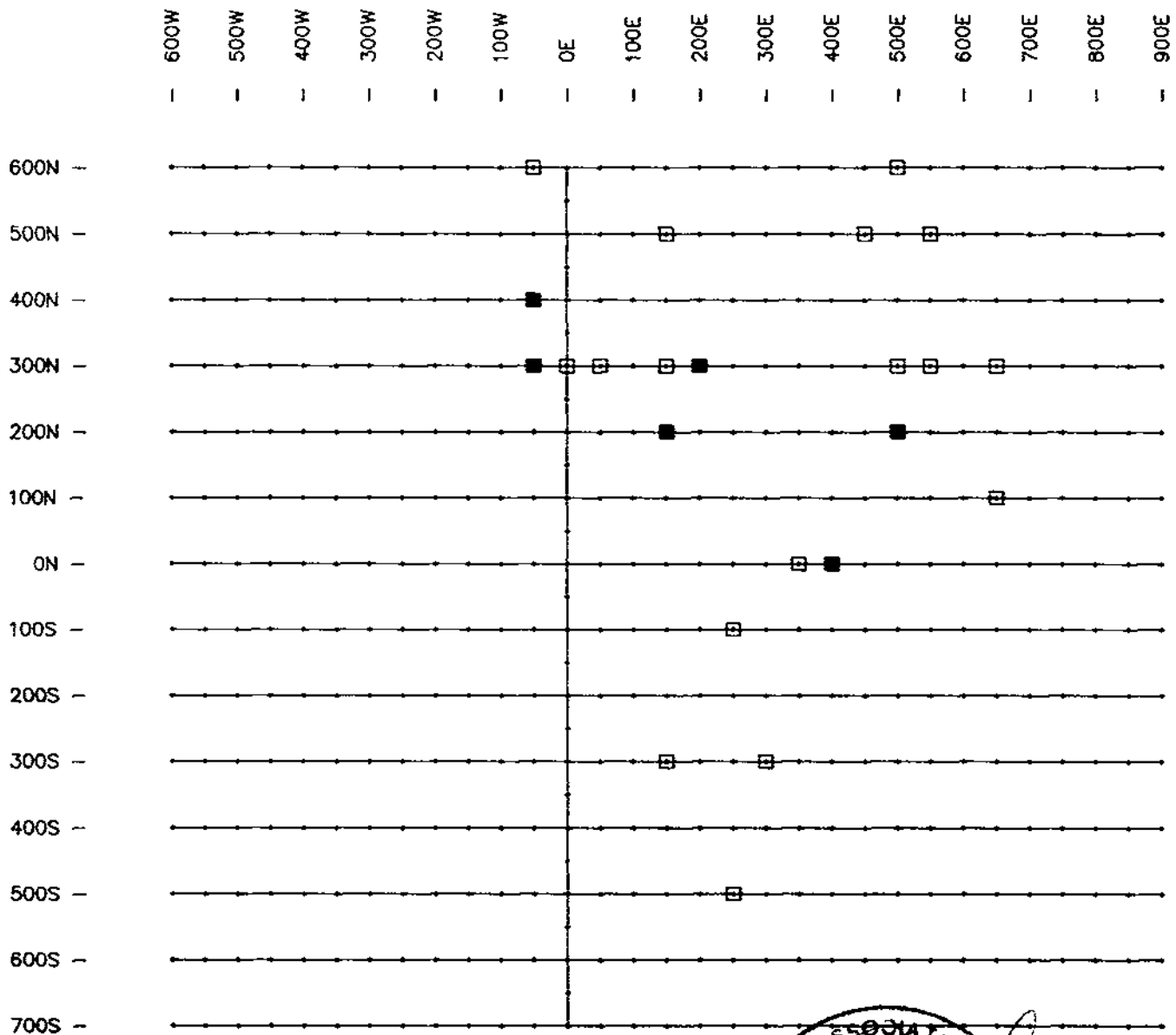


Figure 11



<b>KENNEDY RIVER GOLD INC.</b>	
ROUGE AND CHINA CLAIMS	
Clinton and Lillooet M.D.	NTS 92 0/1,2
<b>SOIL GEOCHEMISTRY</b>	
<b>MERCURY</b>	
ASHWORTH EXPLORATIONS LIMITED	
DATE 3 Oct 1988	SCALE 1 : 10000
Drawn by: TONY CLARK CONSULTING	



□ 45 to <100 ppm As  
 ■ 100+ ppm As

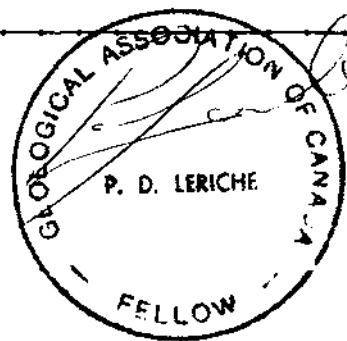
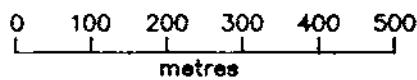
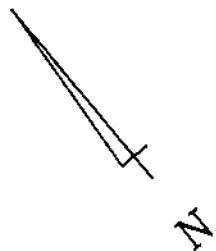


Figure 12



<b>KENNEDY RIVER GOLD INC.</b>	
ROUGE AND CHINA CLAIMS	
Clinton and Lillocet M.D.	NTS 92 0/1,2
<b>SOIL GEOCHEMISTRY</b>	
<b>ARSENIC</b>	
ASHWORTH EXPLORATIONS LIMITED	
DATE: 3 Oct 1988	SCALE: 1 : 10000
Drawn by: TONY CLARK CONSULTING	

### 7.6.3 Arsenic in Soils (Figures 9 and 12)

Range:	3 - 172 ppm
Mean:	15.91
Standard Deviation:	19.15
Background:	0 - 45 ppm
Low Anomalous:	45 - 100 ppm
Anomalous:	100+ ppm

A concentration of seven arsenic anomalies occurs from L4+00N 0+50W to L2+00N 1+50E. One value of 172 ppm arsenic is coincident with a 35 ppb gold anomaly. Three other high arsenic values in the cluster correlates with three mercury anomalies.

A three point anomaly is centred around 2+50N 5+00E.

A two point arsenic anomaly occurs on L0+00N 3+50 to 4+00E.

## 7.7 DISCUSSION OF RESULTS

The 1988 geological and geochemical surveys have delineated three anomalous areas that will require follow-up exploration work.

The first area includes the north part of the grid area and the northeast portion of the China I claim (see Figure 13, grid area compilation map). Anomalies in this area include: six high (>100 ppb) mercury values in stream sediments, a large coincident arsenic and mercury anomaly in soils, a single point coincident arsenic and gold anomaly in soils, plus five high mercury (>100 ppb) results in rocks. One rock sample (RM88-R-709) from argillically altered and silicified rhyolite assayed 3300 ppb mercury and lies 50 metres south of the arsenic-mercury soil anomaly. These high results point toward the presence of an

epithermal system that could be related to a fault structure trending along Lone Cabin Creek.

The second area is from two zones of intense argillic alteration from rhyolitic rocks, located 1.0 and 1.4 kilometres west of Red Mountain (Figure 5). Two rock samples from these zones assayed 40 ppb gold (R411) and 185 ppb mercury (R450).

The third area is located close to the northern boundary of the claim group, where a rock sample (R440) from a silicified rhyolite assayed 1600 ppb mercury.

To date, all gold and mercury anomalies from rocks to date have been obtained from samples of argillically altered and silicified rhyolites. The rhyolite unit or any unit with argillic alteration should be a focus for follow-up detailed mapping.

## 8.0 CONCLUSIONS

Both writers conclude that the Red and China Claim Groups have the potential to host an epithermal gold-silver vein deposit for the following reasons:

- The main host rock (Eocene volcanics) is favourable for hosting economic gold-silver quartz veins as seen at the Blackdome deposit.
- Anomalous values in gold, mercury and arsenic from stream sediments, soils and rocks point towards the presence of an auriferous epithermal system on the subject claims.

For these reasons further exploration work is warranted and recommended.



## 9.0 RECOMMENDATIONS

### Phase II

- 1) Lay out approximately 25 kilometres of grid to extend the present grid. The existing grid should be extended to the north and west. Fill-in lines should be put in at 5+50N, 4+50N, 3+50N, 2+50N, 1+50N and 0+50N to cover the current soil anomalies.

Layout approximately 10 kilometres total grid over Areas 2 and 3 for soil sampling and geological mapping purposes.

- 2) Soil sample the new grids and grid extension at 50 metre stations.

Soil sample the fill-in lines at 25 metre stations to better define the existing soil anomalies.

- 3) Geologically map and rock sample all grids in detail. Special attention should be paid to all rhyolite units or units with strong argillic alteration.
- 4) Hand trench and blast along strike from the two highest mercury anomalies in rocks. These include 3300 ppb mercury (Area 1) and 1600 ppb mercury (Area 3).

### Phase III


Phase III is contingent upon targets being established from Phase II. It would consist of backhoe trenching and diamond drilling to test the surface mineralization at depth.

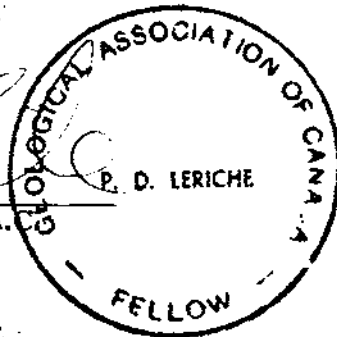
10. PROPOSED BUDGET - PHASE II

(Project Geologist, Blaster - 5 field days,  
Field Geologist, 3 Geotechnicians - 10 field days)

Project Preparation		\$	1,200
Mob/Demob (Includes transportation, freight and wages)			4,500
Field Crew			11,925
Field Costs			23,210
<u>Lab Analysis</u>			
Say 700 soil samples @ \$19/sample	\$	13,300	
Say 50 rock samples @ \$22/sample		<u>1,100</u>	14,400
Supervision and Report			<u>7,300</u>
Sub-total	\$		62,535
Administration 15%			<u>9,380</u>
Total	\$		<u>71,915</u>
	(Say	\$	<u>72,000</u> )

Respectfully Submitted,

  
Peter D. Leriche, B.Sc., F.G.A.C.



PERSONNEL

The following personnel were employed during the 1988 Field Program on the Red and China Claim Groups:

Fayz Yacoub	Field Geologist
Robert Paeseler	Geotechnician
Jeff Mallick	Geotechnician
Dennis Froc	Geotechnician
Peter Leriche	Project Geologist
John Fleishman	Prospector

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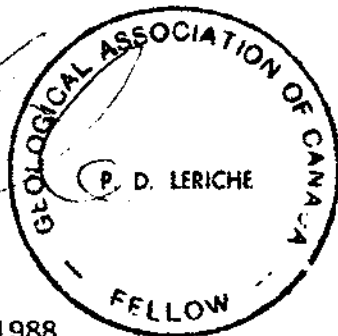
CERTIFICATE

I, PETER D. LERICHE, of 3612 West 12th Avenue, Vancouver, B.C., V6K 2R7, do hereby state that:

1. I am a graduate of McMaster University, Hamilton, Ontario, with a Bachelor of Science Degree in Geology, 1980.
2. I am a Fellow in good standing with the Geological Association of Canada.
3. I have actively pursued my career as a geologist for nine years in British Columbia, Ontario, Yukon and Northwest Territories, Arizona, Nevada and California.
4. The information, opinions, and recommendations in this report are based on fieldwork carried out under my direction, and on published and unpublished literature. I was present on the subject property on August 23 to 24, 1988.
5. I have no interest, direct or indirect, in the subject claims or the securities of Kennedy River Gold Inc.
6. I consent to the use of this report in a Prospectus or Statement of Material Facts for the purpose of private or public financing.

  
Peter D. Leriche, B.Sc., F.G.A.C.

Dated at Vancouver, October 28, 1988



CERTIFICATE

I, FAYZ F. YACOUB, of 13031 - 64th Avenue, Surrey, British Columbia, V3W 1X8, do hereby declare:

1. That I am a graduate in geology and chemistry from Assuit University, Egypt (B.Sc. 1967), and Mining Exploration Geology of the International Institute for Aerial Survey and Earth Sciences (I.T.C.), Holland (Diploma 1978).
2. I have actively pursued my career as a geologist for the past fifteen years.
3. The information, opinions, and recommendations in this report are based on fieldwork carried out by myself, and on published and unpublished literature. I was present on the subject property on August 19 to 29, 1988.
4. I have no interest, direct or indirect, in the subject claims or the securities of Kennedy River Gold Inc.
5. I consent to the use of this report in a Prospectus or Statement of Material Facts for the purpose of private or public financing.



*F. Yacoub*

Fayz F. Yacoub, B.Sc.

Dated at Vancouver, October 28, 1988

ROUGE AND CHINA CLAIMS  
ITEMIZED COST STATEMENT

(Project Geologist, Prospector - Aug. 24 & 25, 2 days in field;  
Field Geologist, Three Geotechnicians - August 19 - 29, 11 days in field.)

Project Preparation	\$	1,200
Mob/Demob (includes transportation, freight and wages)		7,200
<u>Field Crew</u>		
Project Geologist \$325/day x 2 days	\$	650
Field Geologist \$275/day x 11 days		3,025
Prospector \$250/day x 2 days		500
3 Geotechnicians \$210/day x 33 mandays		<u>6,930</u>
		11,105
<u>Field Costs</u>		
Helicopter Support \$650/hr x 15 hrs	\$	9,750
Food and Accommodation \$70/day x 48 mandays		3,360
Expediting		300
Communications \$50/day x 11 days		550
Supplies		550
4X4 Trucks \$110/day x 11 days		<u>1,210</u>
		15,720
<u>Lab Analysis</u>		
545 silt and soil samples @ \$16.50/sample (Au by Aqua Regia/Sol.Ext./AAS, Hg, Multi-element ICP)	\$	8,992.50
71 rock samples @ \$20.50/sample (Fire Assay Au/AAS, Hg, Multi- element ICP)		<u>1,455.50</u>
		10,448
Supervision and Report		<u>7,200</u>
Sub-total	\$	52,873
Administration 15%		<u>7,930</u>
Total	\$	<u><u>60,803</u></u>

**APPENDIX A**

**ROCK SAMPLE DESCRIPTIONS**



ROUGE AND CHINA CLAIMS  
ROCK SAMPLE DESCRIPTIONS

SAMPLE NO.	DESCRIPTION	WIDTH(cm)
RM88-R-401	Chip Sample; Dark brown volcanic lava with 10-20% quartz chalcedony.	300
RM88-R-402	Float; Quartz vein material, subangular sugary quartz with 1-2% light brown mica.	
RM88-R-403	Float; Light brown sugary quartz vein material 6"X9", subangular with 2% mica.	
RM88-R-404	Chip Sample; Dark gray to black volcanic porphyry, intercalated with light blue to white quartz chalcedony, no obvious mineralization.	100
RM88-R-405	Float; Light brown sugary quartz float, minor mica, no sulphides.	
RM88-R-406	Chip sample; Argillic alteration zone, light to deep brown weathered rock with chalcedony/quartz fragments, the zone striking at 20 degrees east.	1000
RM88-R-407	Float; Quartz vein material, sugary quartz with minor muscovite, red weathering surfaces.	
RM88-R-408	Chip sample; Light to dark gray vesicular volcanic lava, 10-20% chalcedony/quartz fragments.	100
RM88-R-409	Chip sample; Light gray altered volcanic rhyolite gradation into clay with remnant of dark gray volcanic fragments, strike 30 degrees.	50
RM88-R-410	Chip sample; Argillic alteration zone 100 metres long, 10 metres wide, strike 30 degrees azimuth, light gray altered volcanic rhyolite with remnants of dark gray volcanic fragments, minor chalcedony/quartz.	500
RM88-R-411	Chip sample; Argillic alteration zone of white to light gray altered volcanic, massive, light green chalcedony quartz, remnants of volcanic fragments. The zone striking at 40 degrees east, 150 metres long, 10 metres wide.	200
RM88-R-412	Float; Quartz vein material, reddish sugary quartz with minor muscovite. Angular (2'X3').	

RM88-R-413	Chip sample; Light brown-buff to green argillic alteration zone, clay, friable material, black remnant fragments on weathering surfaces.	2000
RM88-R-414	Chip sample; Light brown to green alteration zone going into clay, striking 210 degrees, exposed for 250 metres, 30 metres wide. No sulphides.	500
RM88-R-415	Float; Subangular sugary quartz material, reddish, rusty along cleavage. No obvious mineralization.	
RM88-R-416	Chip sample; Reddish to light brown altered rock, weak argillic alteration, remnants of dark gray volcanic fragments, minor chalcedony/quartz.	500
RM88-R-417	Chip sample; Argillic alteration zone, 150 metres long, 50 metres wide, light gray clay rock, vesicular with dark gray to green banded volcanic fragments.	2000
RM88-R-418	Chip sample; Light gray to light green altered volcanic rock, moderate argillic alteration with 10-15% altered green plagioclase.	200
RM88-R-419	Float; Angular rusty rock with 20% hematite, light gray metallic oxides, remnants of volcanic fragments.	
RM88-R-420	Float; Angular quartz vein material, light brown hematitic quartz with 2-3% light green altered biotite.	
RM88-R-421	Float; Subangular quartz vein material, light brown, hematitic quartz with 5% hematite staining. Light gray metallic oxides 2-3%.	
RM88-R-422	Float; Hematitic volcanic glass with light brown to orange hematite. light to dark gray metallic oxides.	
RM88-R-423	Chip sample; Argillic alteration zone, gray to green clay rock, striking 40 degrees, exposed for 50 metres, 20 metres wide.	2000
RM88-R-424	Chip sample; Argillic alteration zone striking 60 degrees, light gray to green clay rock, no mineralization, dark volcanic fragments, minor chalcedony/quartz.	500
RM88-R-425	Float; Quartz vein material 3'X2', sugary quartz with light brown rusty cavities, minor biotite.	
RM88-R-426	Float; Angular quartz vein, sugary with light to dark brown cavities, 2% muscovite.	

RM88-R-427	Float; White sugary quartz material, 20-30% altered brown biotite, no obvious sulphides.	
RM88-R-428	Float; Quartz vein material, angular 2'X4', 20-30% white mica, 5% light brown cavities on weathering surfaces.	
RM88-R-429	Float; Angular quartz vein material, vesicular with limonite and light gray oxides.	
RM88-R-430	Chip sample; Argillic alteration zone striking 50 degrees, white to light gray clay rock with dark volcanic fragments.	5000
RM88-R-431	Float; Hotspring formation, well developed quartz crystals with 20% calcite, both hosted by light gray altered volcanic.	
RM88-R-432	Chip sample; Rusty oxidized volcanic rhyolite, weak argillic alteration, limonite staining.	100
RM88-R-433	Chip sample; Altered rusty volcanic rhyolite with limonite and gray metallic oxides.	100
RM88-R-434	Chip sample; Rusty weathered silicified volcanic outcrop, 2-5% quartz, light brown to buff rusty oxides.	100
RM88-R-435	Chip sample; Argillic alteration zone with strong silicification, 50% secondary quartz, 30% clay minerals, remnants of volcanic fragments.	2000
RM88-R-436	Chip sample; Light to dark brown weathered argillic alteration zone grading into clay, minor silicification, light gray banded volcanic fragments.	1000
RM88-R-437	Chip sample; Argillic alteration zone with 15-20% secondary quartz, 40-50% white to light gray clay-hosting minor volcanic fragments.	
RM88-R-438	Chip sample; Alteration zone within volcanic outcrop, dark gray vesicular volcanic with partial infilling of green materials, minor chalcedony.	100
RM88-R-439	Select sample; chalcedony quartz with calcite moderately oxidized.	50
RM88-R-440	Select sample; Silicified rhyolite with 10-20% secondary quartz and dark green biotite.	50
RM88-R-441	Chip sample; Moderate argillic alteration zone, light gray to brown altered silicified rhyolite, no sulphides.	500

RM88-R-442	Chip sample; Moderate argillic alteration zone, light brown altered and weathered rocks with limonite in cavities, minor silicification.	500
RM88-R-443	Chip sample; Altered, brecciated volcanic rhyolite, intense argillic alteration, minor silicification.	200
RM88-R-444	Select sample; Light gray, green to dark brown alteration zone, weak to moderate argillic alteration within rhyolite with dark green biotite.	200
RM88-R-445	Chip sample; Strong argillic alteration zone, light gray to light brown altered rhyolite gradational into clay with remnant of volcanic fragments.	500
RM88-R-446	Select sample; Same zone as 445. Light green altered plagioclase and dark volcanic fragments.	30
RM88-R-447	Chip sample; Light gray weather argillic alteration zone, 50 metres long, 10 metres wide, 20-30% clay, minor silicification, no mineralization.	500
RM88-R-448	Select sample; Moderate to strong argillic alteration zone. Light green altered plagioclase, minor biotite.	100
RM88-R-449	Chip sample; Argillic alteration zone with altered plagioclase, minor silicification, soft weathered rock, light gray medium-grained volcanic fragments.	100
RM88-R-450	Chip sample; Light to dark brown rusty outcrop of extensive oxidation, limonite and Fe-oxide hosted by large zone of argillic alteration 300 metres long, 10 metres wide.	30
RM88-R-706	Float; angular black siliceous rhyolite.	
RM88-R-707	Chip sample; Brecciated volcanic rhyolite, across 2 metres of outcrop, minor silicification.	200
RM88-R-708	Select sample; Argillic alteration zone with extensive silicification up to 70% secondary quartz, light brown to yellow cavities filled with limonite, hematite and minor dark oxides.	30
RM88-R-709	Chip sample; Brown to light gray banded rhyolite, moderate argillic alteration and silicification, vesicles filled with light brown hematite.	200

RM88-R-710	Chip sample; Light to dark brown altered volcanic rhyolite intruded by calcite veinlets 1 to 5 cm wide.	30
RM88-R-711	Chip sample; Brecciated rhyolite volcanic with 10 cm calcite vein. No mineralization.	50
RM88-R-712	Chip sample; Rusty light brown weathered outcrop of volcanic rhyolite hosting calcite veinlets.	30
RM88-R-713	Float; Quartz vein material, sugary subangular with 2-5% brown muscovite.	
RM88-R-714	Chip sample; Argillic alteration zone, white to light green altered volcanic rhyolite gradational into clay, moderate silicification, minor brecciation.	500
RM88-R-715	Chip sample; Light brown rhyolite slightly altered with laminated quartz-chalcedony, minor limonite and hematite in cavities.	500
RM88-R-716	Chip sample; Light to dark brown altered volcanic rhyolite, 15% quartz, weak argillic alteration.	1000
RM88-R-717	Chip sample; Rusty light to dark brown altered zone, weak argillic alteration and minor silicification, intense oxidation.	500
RM88-R-718	Float; Siliceous rhyolite with sugary quartz crystals.	
RM88-R-719	Chip sample; Reddish to dark brown oxidation zone striking 120 degrees, exposed for 600 metres, 50 metres wide, secondary quartz phenocrysts in dark brown altered rock.	1000
RM88-R-720	Chip sample; Rusty altered oxidation zone at the contact with rhyolite volcanic, weak argillic alteration.	200
RM88-R-721	Chip sample; Moderate to strong argillic alteration zone, 5% secondary quartz, light gray to green altered plagioclase.	1000
RM88-R-722	Float; Angular green altered rock with remnant of volcanic fragments.	
RM88-R-723	Float; Angular altered volcanic, white to light gray banded rock with remnants of volcanic fragments.	
RM88-R-724	Float; Siliceous hot spring formation hosted by light brown volcanic.	

RM88-R-725	Chip sample; Argillic alteration zone, light gray to white clay minerals, remnants of volcanic fragments.	200
RM88-R-726	Chip sample; Intense oxidation zone, dark brown rusty altered rhyolite with dark black oxides.	30

**APPENDIX B**  
**ANALYTICAL REPORTS**



# VANGEOCHEM LAB LIMITED

MAIN OFFICE AND LABORATORY  
1988 Triumph Street  
Vancouver, B.C. V5L 1K5  
(604)251-5656 FAX:254-5717

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

## GEOCHEMICAL ANALYTICAL REPORT

---

CLIENT: ASHWORTH EXPLORATION LTD.  
ADDRESS: Mez. Fl., 744 W. Hastings St.  
: Vancouver, B.C.  
: V6C 1A5

DATE: Sept 20 1988

REPORT#: 881203 GA  
JOB#: 881203

PROJECT#: 227  
SAMPLES ARRIVED: August 31 1988  
REPORT COMPLETED: Sept 20 1988  
ANALYSED FOR: Hg Au (FA/AAS) ICP

INVOICE#: 881203 NA  
TOTAL SAMPLES: 71  
SAMPLE TYPE: Rock  
REJECTS: SAVED

SAMPLES FROM: ASHWORTH EXPLORATION LTD.  
COPY SENT TO: Mr. F. Yacoub

PREPARED FOR: Mr. F. Yacoub

ANALYSED BY: VGC Staff

SIGNED: \_\_\_\_\_

GENERAL REMARK: None





# VANGEOCHEM LAB LIMITED

MAIN OFFICE AND LABORATORY  
1988 Triumph Street  
Vancouver, B.C. V5L 1Y5  
(604)251-5656 FAX:254-5717

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

REPORT NUMBER: 881203 GA

JOB NUMBER: 881203

ASHWORTH EXPLORATION LTD.

PAGE 1 OF 2

SAMPLE #	Hg ppb	Au ppb
RM88 R 401	45	nd
RM88 R 402	nd	nd
RM88 R 403	25	nd
RM88 R 404	40	nd
RM88 R 405	30	nd
RM88 R 406	30	nd
RM88 R 407	50	nd
RM88 R 408	30	10
RM88 R 409	30	nd
RM88 R 410	40	nd
RM88 R 411	35	40
RM88 R 412	35	nd
RM88 R 413	50	nd
RM88 R 414	30	nd
RM88 R 415	25	nd
RM88 R 416	50	nd
RM88 R 417	60	nd
RM88 R 418	30	nd
RM88 R 419	40	nd
RM88 R 420	10	nd
RM88 R 421	20	nd
RM88 R 422	30	nd
RM88 R 423	nd	nd
RM88 R 424	nd	nd
RM88 R 425	nd	20
RM88 R 426	20	10
RM88 R 427	nd	10
RM88 R 428	nd	nd
RM88 R 429	35	nd
RM88 R 430	90	nd
RM88 R 431	110	nd
RM88 R 432	40	nd
RM88 R 433	30	nd
RM88 R 434	120	20
RM88 R 435	260	nd
RM88 R 436	50	nd
RM88 R 437	85	nd
RM88 R 438	nd	nd
RM88 R 439	nd	nd

DETECTION LIMIT

5

5

nd = none detected

-- = not analysed

is = insufficient sample



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REPORT NUMBER: 881203 GA

JOB NUMBER: 881203

ASHWORTH EXPLORATION LTD.

PAGE 2 OF 2

SAMPLE #	Hg ppb	Au ppb
RN88 R 440	1600	nd
RN88 R 441	40	nd
RN88 R 442	70	nd
RN88 R 443	135	nd
RN88 R 444	30	nd
RN88 R 445	nd	nd
RN88 R 446	20	nd
RN88 R 447	20	nd
RN88 R 448	nd	nd
RN88 R 449	nd	nd
RN88 R 450	185	nd
RN88 R 706	nd	nd
RN88 R 707	nd	nd
RN88 R 708	50	nd
RN88 R 709	3300	nd
RN88 R 710	60	nd
RN88 R 711	20	nd
RN88 R 712	30	nd
RN88 R 713	nd	30
RN88 R 714	30	nd
RN88 R 715	80	20
RN88 R 716	30	nd
RN88 R 717	30	nd
RN88 R 718	95	nd
RN88 R 719	35	nd
RN88 R 720	70	nd
RN88 R 721	20	nd
RN88 R 722	80	nd
RN88 R 723	10	nd
RN88 R 724	85	nd
RN88 R 725	15	nd
RN88 R 726	400	nd

DETECTION LIMIT

5 5

nd = none detected

-- = not analysed

is = insufficient sample



SAMPLE NAME	AG PPM	AL %	AS PPM	AU PPM	BA PPM	BT PPM	CA %	CO PPM	CO PPM	CR PPM	CU PPM	FE %	K %	MG %	MN PPM	MO PPM	NA %	NI PPM	P %	PR PPM	PD PPM	PT PPM	SB PPM	SN PPM	SR PPM	U PPM	W PPM	ZN PPM	
RM-88 R-440	.1	.23	ND	ND	37	ND	.05	.1	3	34	9	.30	.04	.06	63	1	.01	10	.01	26	ND	ND	ND	1	3	ND	ND	ND	38
RM-88 R-441	.1	.60	ND	ND	149	ND	.10	.1	4	37	11	.95	.05	.22	178	2	.01	4	.03	18	ND	ND	ND	2	8	ND	ND	ND	34
RM-88 R-442	.2	.24	4	ND	62	ND	.48	.1	4	50	8	.76	.12	.16	220	3	.01	4	.02	17	ND	ND	ND	2	8	ND	ND	ND	35
RM-88 R-443	.1	.42	3	ND	24	ND	.06	.1	2	33	5	.76	.04	.14	154	2	.01	2	.01	15	ND	ND	ND	1	4	ND	ND	ND	45
RM-88 R-444	.1	.28	ND	ND	45	ND	.03	.1	3	80	6	.65	.04	.09	143	2	.01	5	.01	13	ND	ND	ND	2	3	ND	ND	ND	29
RM-88 R-445	.1	2.86	ND	ND	440	ND	.64	.1	2	15	4	.30	.17	.38	28	2	.01	3	.01	42	ND	ND	ND	2	190	ND	ND	ND	28
RM-88 R-446	.2	2.54	ND	ND	439	ND	.60	.1	3	14	4	.22	.17	.30	18	2	.02	3	.01	41	ND	ND	ND	2	187	ND	ND	ND	22
RM-88 R-447	.1	2.89	ND	ND	424	ND	.65	.1	2	7	4	.27	.17	.40	34	1	.01	2	.01	41	ND	ND	ND	2	198	ND	ND	ND	21
RM-88 R-448	.1	1.63	ND	ND	562	ND	.34	.1	3	59	5	.31	.11	.26	33	1	.01	5	.01	32	ND	ND	ND	2	126	ND	ND	ND	28
RM-88 R-449	.1	2.23	ND	ND	352	ND	.44	.1	2	23	3	.27	.13	.31	38	1	.01	3	.01	36	ND	ND	ND	2	152	ND	ND	ND	22
RM-88 R-450	.5	1.60	378	ND	55	8	.64	.5	31	36	60	7.69	.13	.66	643	22	.04	30	.09	36	ND	ND	ND	10	47	ND	ND	ND	86
RM88 R-706	.2	.22	16	ND	24	ND	.02	.1	3	41	5	.71	.04	.07	53	2	.02	4	.01	17	ND	ND	ND	2	3	ND	ND	ND	32
RM88 R-707	.3	.14	8	ND	12	ND	.01	.1	2	87	4	.78	.05	.01	130	3	.02	4	.01	20	ND	ND	ND	1	1	ND	ND	ND	70
RM88 R-708	.3	.09	16	ND	11	ND	.01	.1	3	44	4	.60	.04	.01	62	2	.02	7	.01	18	ND	ND	ND	2	1	ND	ND	ND	26
RM88 R-709	.3	.35	66	ND	41	ND	.11	.1	4	37	7	1.26	.07	.10	171	4	.02	4	.04	21	ND	ND	ND	2	11	ND	ND	ND	66
RM88 R-710	.1	.78	308	ND	38	ND	30.98	.1	17	48	57	3.08	.01	2.11	1630	3	.03	89	.01	31	ND	ND	ND	1	80	ND	ND	ND	41
RM88 R-711	.5	.49	83	ND	35	ND	11.73	.1	15	57	17	1.77	.40	.71	1501	3	.03	69	.01	43	ND	ND	ND	3	81	ND	ND	ND	29
RM88 R-712	.5	.66	230	ND	33	ND	2.58	.1	16	105	35	1.98	.33	.52	664	4	.03	58	.05	35	ND	ND	ND	3	52	ND	ND	ND	59
RM88 R-713	.5	.05	20	ND	5	ND	.07	.1	4	145	6	.23	.10	.03	35	2	.02	8	.01	28	ND	ND	ND	2	1	ND	ND	ND	8
RM88 R-714	.5	1.60	20	ND	408	ND	.44	.1	5	14	7	.49	.16	.23	125	4	.03	6	.01	49	ND	ND	ND	4	265	ND	ND	ND	24
RM88 R-715	.3	.11	42	ND	20	ND	.03	.1	6	108	12	.45	.13	.03	41	8	.04	21	.01	43	ND	ND	ND	4	3	ND	ND	ND	29
RM88 R-716	.2	1.02	42	ND	27	ND	.50	.5	14	18	32	2.03	.21	.13	349	5	.05	19	.09	58	ND	ND	ND	5	47	ND	ND	ND	53
RM88 R-717	.1	.61	11	ND	46	ND	.40	.5	33	54	42	5.03	.10	.14	1342	6	.03	50	.15	19	ND	ND	ND	3	32	ND	ND	ND	80
RM88 R-718	.1	.07	ND	ND	61	ND	.01	.1	2	130	3	.49	.03	.01	65	1	.01	6	.01	12	ND	ND	ND	1	7	ND	ND	ND	21
RM88 R-719	.2	.28	ND	ND	84	ND	5.33	.3	18	12	18	2.31	.25	4.46	3150	1	.01	13	.04	18	ND	ND	ND	3	96	ND	ND	ND	56
RM88 R-720	.1	.12	7	ND	12	ND	.06	.1	2	21	3	.89	.05	.06	67	1	.02	3	.01	16	ND	ND	ND	1	2	ND	ND	ND	46
RM88 R-721	.2	1.86	ND	ND	603	ND	.42	.1	3	13	4	.28	.13	.27	32	2	.02	4	.01	37	ND	ND	ND	2	180	ND	ND	ND	22
RM88 R-722	.1	.38	ND	ND	70	ND	1.79	.1	5	8	18	.89	.26	.15	1211	1	.01	5	.12	16	ND	ND	ND	1	12	ND	ND	ND	54
RM88 R-723	.1	2.67	ND	ND	1158	ND	.65	.1	2	12	1	.16	.16	.37	39	1	.01	2	.01	31	ND	ND	ND	1	338	ND	ND	ND	15
RM88 R-724	.1	.14	ND	ND	68	ND	.02	.1	2	82	3	.22	.04	.01	200	1	.01	6	.01	11	ND	ND	ND	ND	6	ND	ND	ND	18
RM88 R-725	.1	1.04	ND	ND	54	ND	.39	.1	1	11	2	.21	.12	.07	27	1	.04	2	.01	24	ND	ND	ND	1	52	ND	ND	ND	20
RM88 R-726	.1	.58	18	ND	91	ND	.28	.1	18	12	23	2.38	.08	.16	3163	1	.02	6	.11	18	ND	ND	ND	2	27	ND	ND	ND	118
DETECTION LIMIT	.1	.01	3	3	1	3	.01	.1	1	1	1	.01	.01	.01	1	1	.01	1	.01	2	3	5	2	2	1	5	3	1	



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(604) 251-5656

## =====

### GEOCHEMICAL ANALYTICAL REPORT

## =====

CLIENT: ASHWORTH EXPLORATION LTD.  
ADDRESS: 1010-789 West Pender St.  
: Vancouver, B.C.  
: V6C 1H2

DATE: Sept 23 1988

REPORT#: 881209 GA  
JOB#: 881209

PROJECT#: 227  
SAMPLES ARRIVED: Sept 23 1988  
REPORT COMPLETED: Sept 23 1988  
ANALYSED FOR: Au Hg ICF

INVOICE#: 881209 NA  
TOTAL SAMPLES: 545  
SAMPLE TYPE: Silt & Soil  
REJECTS: DISCARDED

SAMPLES FROM: ASHWORTH EXPLORATION LTD.  
COPY SENT TO: ASHWORTH EXPLORATION LTD.

PREPARED FOR: Mr. F. Yacoub

ANALYSED BY: VGC Staff

SIGNED: \_\_\_\_\_

GENERAL REMARK: None



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REPORT NUMBER: 881209 GA

JOB NUMBER: 881209

ASHMORTH EXPLORATION LTD.

PAGE 1 OF 14

SAMPLE #		Au ppb	Hg ppb
RM88 L0+00	0+00E	10	nd
RM88 L0+00	0+50E	5	135
RM88 L0+00	1+00E	20	45
RM88 L0+00	1+50E	10	40
RM88 L0+00	2+00E	10	30
RM88 L0+00	2+50E	10	30
RM88 L0+00	3+00E	10	nd
RM88 L0+00	3+50E	10	40
RM88 L0+00	4+00E	15	30
RM88 L0+00	4+50E	20	nd
RM88 L0+00	5+00E	5	nd
RM88 L0+00	5+50E	15	40
RM88 L0+00	6+00E	nd	40
RM88 L0+00	6+50E	nd	45
RM88 L0+00	7+00E	nd	25
RM88 L0+00	7+50E	20	20
RM88 L0+00	8+00E	10	25
RM88 L0+00	8+50E	5	20
RM88 L0+00	9+00E	10	25
RM88 L0+00	0+50W	5	50
RM88 L0+00	1+00W	nd	60
RM88 L0+00	1+50W	15	nd
RM88 L0+00	2+00W	10	30
RM88 L0+00	2+50W	5	40
RM88 L0+00	3+00W	5	nd
RM88 L0+00	3+50W	10	35
RM88 L0+00	4+00W	5	30
RM88 L0+00	4+50W	5	50
RM88 L0+00	5+00W	10	65
RM88 L1+00N	0+50E	10	40
RM88 L1+00N	1+00E	15	20
RM88 L1+00N	1+50E	15	40
RM88 L1+00N	2+00E	15	60
RM88 L1+00N	2+50E	5	20
RM88 L1+00N	3+00E	10	nd
RM88 L1+00N	3+50E	5	20
RM88 L1+00N	4+00E	10	480
RM88 L1+00N	4+50E	10	40
RM88 L1+00N	5+00E	10	30

DETECTION LIMIT

5 5

nd = none detected

-- = not analysed

is = insufficient sample



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1988 Triumph Street  
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REPORT NUMBER: 881209 GA

JOB NUMBER: 881209

ASHWORTH EXPLORATION LTD.

PAGE 2 OF 14

SAMPLE #	Au	Hg
	ppb	ppb
RM88 L1+00N 5+50E	nd	50
RM88 L1+00N 6+00E	20	40
RM88 L1+00N 6+50E	10	90
RM88 L1+00N 7+00E	15	30
RM88 L1+00N 7+50E	30	20
RM88 L1+00N 8+00E	5	65
RM88 L1+00N 8+50E	nd	nd
RM88 L1+00N 9+00E	10	nd
RM88 L1+00N 0+00W	5	25
RM88 L1+00N 0+50W	10	60
RM88 L1+00N 1+00W	10	30
RM88 L1+00N 1+50W	10	30
RM88 L1+00N 2+00W	15	20
RM88 L1+00N 2+50W	20	25
RM88 L1+00N 3+00W	10	35
RM88 L1+00N 3+50W	10	40
RM88 L1+00N 4+00W	10	30
RM88 L1+00N 4+50W	5	nd
RM88 L1+00N 5+00W	5	70
RM88 L1+00N 5+50W	10	145
RM88 L1+00N 6+00W	10	60
RM88 L1+00S 0+00E	5	40
RM88 L1+00S 0+50E	10	40
RM88 L1+00S 1+00E	5	45
RM88 L1+00S 2+00E	10	40
RM88 L1+00S 2+50E	15	40
RM88 L1+00S 3+50E	10	nd
RM88 L1+00S 4+00E	10	20
RM88 L1+00S 4+50E	10	30
RM88 L1+00S 5+00E	5	40
RM88 L1+00S 5+50E	15	30
RM88 L1+00S 6+00E	5	25
RM88 L1+00S 6+50E	10	35
RM88 L1+00S 7+00E	15	30
RM88 L1+00S 7+50E	5	10
RM88 L1+00S 8+00E	5	25
RM88 L1+00S 8+50E	10	30
RM88 L1+00S 9+00E	20	30
RM88 L1+00S 0+50W	10	40

DETECTION LIMIT

5 5

nd = none detected

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is = insufficient sample



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(604) 251-5656

REPORT NUMBER: 881209 6A

JOB NUMBER: 881209

ASHMORTH EXPLORATION LTD.

PAGE 3 OF 14

SAMPLE #	Au	Hg
	ppb	ppb
RN88 L1+00S 1+00W	5	40
RN88 L1+00S 2+00W	5	50
RN88 L1+00S 2+50W	5	25
RN88 L1+00S 3+00W	nd	nd
RN88 L1+00S 3+50W	15	20
RN88 L1+00S 4+00W	10	40
RN88 L1+00S 4+50W	10	nd
RN88 L1+00S 5+00W	5	35
RN88 L1+00S 5+50W	10	40
RN88 L1+00S 6+00W	10	15
RN88 L2+00N 0+50E	5	70
RN88 L2+00N 1+00E	10	450
RN88 L2+00N 1+50E	nd	85
RN88 L2+00N 2+00E	nd	65
RN88 L2+00N 2+50E	10	50
RN88 L2+00N 3+00E	10	95
RN88 L2+00N 3+50E	15	30
RN88 L2+00N 4+00E	10	30
RN88 L2+00N 4+50E	10	40
RN88 L2+00N 5+00E	nd	nd
RN88 L2+00N 5+50E	10	30
RN88 L2+00N 6+00E	5	30
RN88 L2+00N 6+50E	5	40
RN88 L2+00N 7+00E	15	nd
RN88 L2+00N 7+50E	5	50
RN88 L2+00N 8+00E	5	60
RN88 L2+00N 8+50E	10	50
RN88 L2+00N 9+00E	nd	40
RN88 L2+00N 0+00W	10	40
RN88 L2+00N 0+50W	10	50
RN88 L2+00N 1+00W	5	50
RN88 L2+00N 1+50W	15	40
RN88 L2+00N 2+00W	5	20
RN88 L2+00N 2+50W	10	40
RN88 L2+00N 3+00W	5	40
RN88 L2+00N 3+50W	10	25
RN88 L2+00N 4+00W	15	50
RN88 L2+00N 4+50W	15	40
RN88 L2+00N 5+00W	5	70

DETECTION LIMIT

5 5

nd = none detected

-- = not analysed

is = insufficient sample





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1988 Triumph Street  
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16041251-5656 FAX: 254-5717

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

REPORT NUMBER: 881209 6A

JOB NUMBER: 881209

ASHWORTH EXPLORATION LTD.

PAGE 4 OF 14

SAMPLE #	Au ppb	Hg ppb
RM88 L2+00N 5+50W	nd	85
RM88 L2+00N 6+00W	20	135
RM88 L2+00S 0+00E	20	40
RM88 L2+00S 0+50E	5	30
RM88 L2+00S 1+50E	10	40
RM88 L2+00S 2+00E	5	50
RM88 L2+00S 2+50E	nd	45
RM88 L2+00S 3+50E	nd	35
RM88 L2+00S 4+00E	15	30
RM88 L2+00S 4+50E	10	45
RM88 L2+00S 5+00E	15	50
RM88 L2+00S 5+50E	5	50
RM88 L2+00S 6+00E	5	35
RM88 L2+00S 6+50E	15	30
RM88 L2+00S 7+00E	15	20
RM88 L2+00S 7+50E	15	50
RM88 L2+00S 8+00E	20	50
RM88 L2+00S 8+50E	15	50
RM88 L2+00S 9+00E	5	45
RM88 L2+00S 0+50W	10	40
RM88 L2+00S 1+50W	nd	nd
RM88 L2+00S 2+00W	10	50
RM88 L2+00S 2+50W	15	45
RM88 L2+00S 3+50W	nd	40
RM88 L2+00S 4+00W	15	40
RM88 L2+00S 4+50W	10	50
RM88 L2+00S 5+00W	5	40
RM88 L2+00S 5+50W	15	40
RM88 L2+00S 6+00W	5	35
RM88 L3+00N 0+50E	10	30
RM88 L3+00N 1+00E	20	180
RM88 L3+00N 1+50E	10	420
RM88 L3+00N 2+00E	5	240
RM88 L3+00N 2+50E	5	15
RM88 L3+00N 3+00E	10	50
RM88 L3+00N 3+50E	nd	30
RM88 L3+00N 4+00E	5	20
RM88 L3+00N 4+50E	10	nd
RM88 L3+00N 5+00E	15	30

DETECTION LIMIT

5 5

nd = none detected

-- = not analysed

is = insufficient sample



# VANGEOCHEM LAB LIMITED

MAIN OFFICE AND LABORATORY  
1928 Triumph Street  
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BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V5L 1L6  
(604) 251-5656

REPORT NUMBER: 881209 GA

JOB NUMBER: 881209

ASHMORTH EXPLORATION LTD.

PAGE 5 OF 14

SAMPLE #	Au	Hg
	ppb	ppb
RM88 L3+00N 5+50E	15	30
RM88 L3+00N 6+00E	10	40
RM88 L3+00N 6+50E	10	100
RM88 L3+00N 7+00E	nd	45
RM88 L3+00N 7+50E	10	30
RM88 L3+00N 8+00E	5	45
RM88 L3+00N 8+50E	10	nd
RM88 L3+00N 9+00E	10	45
RM88 L3+00N 0+00W	10	45
RM88 L3+00N 0+50W	10	60
RM88 L3+00N 1+00W	10	40
RM88 L3+00N 1+50W	10	40
RM88 L3+00N 2+00W	10	35
RM88 L3+00N 2+50W	nd	35
RM88 L3+00N 3+50W	nd	15
RM88 L3+00N 4+00W	nd	40
RM88 L3+00N 4+50W	10	30
RM88 L3+00N 5+00W	5	40
RM88 L3+00N 5+50W	10	40
RM88 L3+00N 6+00W	5	50
RM88 L3+00S 0+00E	5	50
RM88 L3+00S 0+50E	nd	30
RM88 L3+00S 1+50E	10	40
RM88 L3+00S 2+00E	10	20
RM88 L3+00S 2+50E	10	30
RM88 L3+00S 3+00E	10	40
RM88 L3+00S 3+50E	5	20
RM88 L3+00S 4+00E	10	nd
RM88 L3+00S 4+50E	10	40
RM88 L3+00S 5+00E	20	nd
RM88 L3+00S 5+50E	20	50
RM88 L3+00S 6+00E	10	40
RM88 L3+00S 6+50E	10	60
RM88 L3+00S 7+00E	10	50
RM88 L3+00S 7+50E	10	35
RM88 L3+00S 8+00E	10	40
RM88 L3+00S 8+50E	15	40
RM88 L3+00S 9+00E	10	40
RM88 L3+00S 0+50W	10	50

DETECTION LIMIT 5 5

nd = none detected

-- = not analysed

is = insufficient sample



# VANGEOCHEM LAB LIMITED

MAIN OFFICE AND LABORATORY  
1988 Triumph Street  
Vancouver, B.C. V5L 1K5  
16041251-5656 FAX: 254-5717

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

REPORT NUMBER: 881209 6A

JOB NUMBER: 881209

ASHWORTH EXPLORATION LTD.

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SAMPLE #	Au ppb	Hg ppb
RN88 L3+00S 1+00W	25	20
RN88 L3+00S 1+50W	10	45
RN88 L3+00S 2+00W	10	50
RN88 L3+00S 3+00W	5	30
RN88 L3+00S 3+50W	10	30
RN88 L3+00S 4+00W	10	20
RN88 L3+00S 4+50W	nd	30
RN88 L3+00S 5+00W	5	30
RN88 L3+00S 5+50W	10	60
RN88 L3+00S 6+00W	5	40
RN88 L4+00N 0+50E	10	45
RN88 L4+00N 1+00E	10	40
RN88 L4+00N 1+50E	5	50
RN88 L4+00N 2+00E	5	25
RN88 L4+00N 2+50E	10	40
RN88 L4+00N 3+00E	10	40
RN88 L4+00N 3+50E	20	30
RN88 L4+00N 4+00E	15	40
RN88 L4+00N 4+50E	10	25
RN88 L4+00N 5+00E	5	nd
RN88 L4+00N 5+50E	15	30
RN88 L4+00N 6+00E	25	30
RN88 L4+00N 6+50E	10	30
RN88 L4+00N 7+00E	10	20
RN88 L4+00N 7+50E	10	25
RN88 L4+00N 8+50E	10	30
RN88 L4+00N 9+00E	5	30
RN88 L4+00N 0+00W	10	150
RN88 L4+00N 0+50W	35	50
RN88 L4+00N 1+00W	nd	40
RN88 L4+00N 1+50W	15	50
RN88 L4+00N 2+00W	20	20
RN88 L4+00N 2+50W	15	45
RN88 L4+00N 3+00W	10	30
RN88 L4+00N 4+50W	10	85
RN88 L4+00N 5+00W	10	110
RN88 L4+00N 5+50W	5	70
RN88 L4+00N 6+00W	nd	nd
RN88 L4+00S 0+00E	10	80

DETECTION LIMIT 5 5

nd = none detected

-- = not analysed

is = insufficient sample



# VANGEOCHEM LAB LIMITED

MAIN OFFICE AND LABORATORY  
1968 Triumph Street  
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(604) 251-5656

REPORT NUMBER: 881209-8A

JOB NUMBER: 10

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SAMPLE #	Au ppb	Hg ppb
RM88 L4+00S 0+50E	nd	25
RM88 L4+00S 1+00E	15	35
RM88 L4+00S 1+50E	5	45
RM88 L4+00S 2+00E	10	20
RM88 L4+00S 2+50E	10	30
RM88 L4+00S 3+00E	nd	20
RM88 L4+00S 3+50E	5	55
RM88 L4+00S 4+00E	10	50
RM88 L4+00S 4+50E	15	40
RM88 L4+00S 5+00E	nd	30
RM88 L4+00S 5+50E	5	30
RM88 L4+00S 6+00E	5	45
RM88 L4+00S 6+50E	5	35
RM88 L4+00S 7+00E	15	30
RM88 L4+00S 7+50E	5	40
RM88 L4+00S 8+00E	nd	50
RM88 L4+00S 8+50E	10	nd
RM88 L4+00S 9+00E	20	70
RM88 L4+00S 0+50W	5	30
RM88 L4+00S 1+00W	5	30
RM88 L4+00S 1+50W	20	30
RM88 L4+00S 2+00W	5	30
RM88 L4+00S 2+50W	nd	165
RM88 L4+00S 3+00W	5	30
RM88 L4+00S 3+50W	nd	30
RM88 L4+00S 4+00W	20	40
RM88 L4+00S 4+50W	5	45
RM88 L4+00S 5+00W	10	30
RM88 L4+00S 5+50W	15	40
RM88 L4+00S 6+00W	10	30
RM88 L5+00N 0+50E	10	45
RM88 L5+00N 1+00E	40	35
RM88 L5+00N 1+50E	10	70
RM88 L5+00N 2+00E	10	30
RM88 L5+00N 2+50E	15	20
RM88 L5+00N 3+00E	10	nd
RM88 L5+00N 3+50E	10	15
RM88 L5+00N 4+00E	15	30
RM88 L5+00N 4+50E	5	20

DETECTION LIMIT

5 5

nd = none detected

-- = not analysed

is = insufficient sample



# VANGEOCHEM LAB LIMITED

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REPORT NUMBER: 881209 GA

JOB NUMBER: 881209

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PAGE 8 OF 14

SAMPLE #	Au ppb	Hg ppb
RM88 L5+00N 5+00E	10	25
RM88 L5+00N 5+50E	10	25
RM88 L5+00N 6+00E	10	30
RM88 L5+00N 6+50E	15	20
RM88 L5+00N 7+00E	15	45
RM88 L5+00N 7+50E	10	20
RM88 L5+00N 8+00E	15	nd
RM88 L5+00N 0+00W	15	30
RM88 L5+00N 0+50W	10	20
RM88 L5+00N 1+00W	15	20
RM88 L5+00N 1+50W	10	nd
RM88 L5+00N 2+00W	nd	45
RM88 L5+00N 2+50W	nd	15
RM88 L5+00N 3+00W	10	45
RM88 L5+00N 3+50W	5	30
RM88 L5+00N 4+00W	nd	nd
RM88 L5+00N 4+50W	10	30
RM88 L5+00N 5+00W	nd	25
RM88 L5+00N 5+50W	nd	40
RM88 L5+00N 6+00W	nd	60
RM88 L5+00S 0+50E	10	180
RM88 L5+00S 1+00E	nd	35
RM88 L5+00S 1+50E	nd	50
RM88 L5+00S 2+00E	10	45
RM88 L5+00S 2+50E	nd	40
RM88 L5+00S 3+00E	15	40
RM88 L5+00S 3+50E	nd	20
RM88 L5+00S 4+00E	nd	65
RM88 L5+00S 4+50E	5	30
RM88 L5+00S 5+00E	10	35
RM88 L5+00S 5+50E	5	30
RM88 L5+00S 6+00E	10	80
RM88 L5+00S 6+50E	10	40
RM88 L5+00S 7+00E	10	40
RM88 L5+00S 7+50E	nd	30
RM88 L5+00S 8+00E	5	40
RM88 L5+00S 8+50E	10	55
RM88 L5+00S 9+00E	20	45
RM88 L5+00S 0+50W	nd	55

DETECTION LIMIT

5 5

nd = none detected

-- = not analysed

is = insufficient sample



# VANGEOCHEM LAB LIMITED

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 (604) 251-5656

REPORT NUMBER: 881209 6A

JOB NUMBER: 881209

ASHWORTH EXPLORATION LTD.

PAGE 9 OF 14

SAMPLE #	Au ppb	Hg ppb
RM88 L5+00S 1+00W	15	20
RM88 L5+00S 1+50W	5	30
RM88 L5+00S 2+00W	10	45
RM88 L5+00S 2+50W	5	30
RM88 L5+00S 3+00W	10	nd
RM88 L5+00S 3+50W	5	25
RM88 L5+00S 4+00W	nd	20
RM88 L5+00S 4+50W	5	30
RM88 L5+00S 5+00W	nd	40
RM88 L5+00S 5+50W	5	50
RM88 L5+00S 6+00W	5	25
RM88 L6+00N 0+00E	nd	35
RM88 L6+00N 0+50E	10	25
RM88 L6+00N 1+00E	10	20
RM88 L6+00N 1+50E	10	35
RM88 L6+00N 2+00E	10	30
RM88 L6+00N 2+50E	15	30
RM88 L6+00N 3+00E	10	nd
RM88 L6+00N 3+50E	10	40
RM88 L6+00N 4+00E	15	20
RM88 L6+00N 4+50E	10	20
RM88 L6+00N 5+00E	10	30
RM88 L6+00N 5+50E	15	20
RM88 L6+00N 6+00E	15	25
RM88 L6+00N 6+50E	5	30
RM88 L6+00N 7+00E	5	30
RM88 L6+00N 7+50E	15	25
RM88 L6+00N 8+00E	5	30
RM88 L6+00N 8+50E	10	20
RM88 L6+00N 9+00E	nd	25
RM88 L6+00N 0+50W	15	80
RM88 L6+00N 1+00W	5	70
RM88 L6+00N 1+50W	10	10
RM88 L6+00N 2+00W	nd	40
RM88 L6+00N 2+50W	nd	40
RM88 L6+00N 3+00W	5	nd
RM88 L6+00N 3+50W	5	40
RM88 L6+00N 4+00W	5	35
RM88 L6+00N 4+50W	nd	30

DETECTION LIMIT

5 5

nd = none detected

-- = not analysed

is = insufficient sample



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REPORT NUMBER: 881209 6A

JOB NUMBER: 881209

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PAGE 10 OF 14

SAMPLE #	Au ppb	Hg ppb
RM88 L6+00N 5+00W	nd	60
RM88 L6+00N 5+50W	5	40
RM88 L6+00N 6+00W	15	nd
RM88 L6+00S 0+00E	5	nd
RM88 L6+00S 0+50E	5	40
RM88 L6+00S 1+00E	5	20
RM88 L6+00S 1+50E	20	35
RM88 L6+00S 2+00E	15	40
RM88 L6+00S 2+50E	nd	nd
RM88 L6+00S 3+00E	nd	35
RM88 L6+00S 3+50E	5	90
RM88 L6+00S 4+00E	10	60
RM88 L6+00S 4+50E	10	25
RM88 L6+00S 5+00E	15	20
RM88 L6+00S 5+50E	10	35
RM88 L6+00S 6+00E	5	65
RM88 L6+00S 6+50E	nd	130
RM88 L6+00S 7+00E	15	60
RM88 L6+00S 7+50E	20	10
RM88 L6+00S 8+00E	10	35
RM88 L6+00S 8+50E	10	45
RM88 L6+00S 9+00E	5	40
RM88 L6+00S 0+50W	nd	20
RM88 L6+00S 1+00W	10	20
RM88 L6+00S 1+50W	5	nd
RM88 L6+00S 2+00W	15	35
RM88 L6+00S 2+50W	5	nd
RM88 L6+00S 3+00W	25	25
RM88 L7+00S 0+00E	10	40
RM88 L7+00S 0+50E	15	50
RM88 L7+00S 1+00E	5	40
RM88 L7+00S 1+50E	10	25
RM88 L7+00S 2+00E	15	50
RM88 L7+00S 2+50E	10	35
RM88 L7+00S 3+00E	15	20
RM88 L7+00S 3+50E	20	50
RM88 L7+00S 4+00E	10	40
RM88 L7+00S 4+50E	10	30
RM88 L7+00S 5+00E	15	40

DETECTION LIMIT

5

5

nd = none detected

-- = not analysed

is = insufficient sample



# VANGEOCHEM LAB LIMITED

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(604) 251-5656

REPORT NUMBER: 881209 6A

JOB NUMBER: 881209

ASHWORTH EXPLORATION LTD.

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SAMPLE #	Au ppb	Hg ppb
RM88 L7+00S 5+50E	15	30
RM88 L7+00S 6+00E	5	20
RM88 L7+00S 6+50E	10	20
RM88 L7+00S 7+00E	10	60
RM88 L7+00S 7+50E	20	40
RM88 L7+00S 8+00E	15	30
RM88 L7+00S 8+50E	15	80
RM88 L7+00S 9+00E	15	35
RM88 L7+00S 0+50W	nd	25
RM88 L7+00S 1+00W	nd	30
RM88 L7+00S 1+50W	5	35
RM88 L7+00S 2+00W	20	25
RM88 L7+00S 2+50W	15	30
RM88 L7+00S 3+00W	5	15
RM88-S 001	10	40
RM88-S 002	nd	45
RM88-S 003	5	55
RM88-S 004	5	nd
RM88-S 005	15	nd
RM88-S 006	5	nd
RM88-T 001	10	50
RM88-T 002	20	70
RM88-T 003	nd	20
RM88-T 004	nd	40
RM88-T 005	15	40
RM88-T 006	10	50
RM88-T 007	10	50
RM88-T 008	5	50
RM88-T 009	5	100
RM88-T 010	15	80
RM88-T 011	10	85
RM88-T 012	10	35
RM88-T 013	5	60
RM88-T 014	10	50
RM88-T 015	15	55
RM88-T 016	10	55
RM88-T 017	15	60
RM88-T 018	5	30
RM88-T 019	nd	nd

DETECTION LIMIT

5 5

nd = none detected

-- = not analysed

is = insufficient sample





# VANGEOCHEM LAB LIMITED

MAIN OFFICE AND LABORATORY  
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REPORT NUMBER: 881209 6A

JOB NUMBER: 881209

ASHWORTH EXPLORATION LTD.

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SAMPLE #	Au ppb	Hg ppb
RM88-T 020	10	nd
RM88-T 021	5	20
RM88-T 022	15	30
RM88-T 023	20	nd
RM88-T 024	10	80
RM88-T 025	10	85
RM88-T 026	40	65
RM88-T 027	5	70
RM88-T 028	10	65
RM88-T 029	5	20
RM88-T 030	5	80
RM88-T 031	5	50
RM88-T 032	nd	40
RM88-T 033	nd	30
RM88-T 034	5	20
RM88-T 035	15	240
RM88-T 036	15	60
RM88-T 037	10	80
RM88-T 038	5	90
RM88-T 039	nd	55
RM88-T 040	10	30
RM88-T 041	15	30
RM88-T 042	10	40
RM88-T 043	10	45
RM88-T 044	15	55
RM88-T 045	10	50
RM88-T 046	nd	50
RM88-T 047	5	45
RM88-T 048	15	60
RM88-T 049	10	40
RM88-T 051	10	100
RM88-T 052	5	30
RM88-T 053	nd	220
RM88-T 054	10	80
RM88-T 055	5	80
RM88-T 056	5	90
RM88-T 057	nd	55
RM88-T 058	nd	135
RM88-T 059	nd	90

DETECTION LIMIT

5 5

nd = none detected

-- = not analysed

is = insufficient sample



# VANGEOCHEM LAB LIMITED

MAIL OFFICE AND LABORATORY  
1988 Inoueh Street  
Vancouver, B.C. V6L 1L5  
(604) 251-5656

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

REPORT NUMBER: 881209 6A

JOB NUMBER: 881209

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SAMPLE #	Au ppb	Hg ppb
RM88-T 060	20	25
RM88-T 061	25	55
RM88-T 062	15	50
RM88-T 063	15	30
RM88-T 064	nd	nd
RM88-T 065	15	nd
RM88-T 066	15	60
RM88-T 067	10	40
RM88-T 068	10	nd
RM88-T 069	5	15
RM88-T 070	nd	20
RM88-T 071	10	nd
RM88-T 072	nd	30
RM88-T 073	15	80
RM88-T 074	5	20
RM88-T 075	nd	nd
RM88-T 076	10	nd
RM88-T 077	10	nd
RM88-T 078	15	45
RM88-T 079	10	30
RM88-T 080	5	15
RM88-T 081	20	15
RM88-T 082	5	20
RM88-T 083	20	30
RM88-T 084	15	30
RM88-T 085	10	nd
RM88-T 086	5	nd
RM88-T 088	5	nd
RM88-T 089	10	nd
RM88-T 090	5	20
RM88-T 091	10	80
RM88-T 092	25	75
RM88-T 094	15	35
RM88-T 094B	10	65
RM88-T 095	15	30
RM88-T 096	10	80
RM88-T 097	15	55
RM88-T 098	nd	60
RM88-T 099	5	90

DETECTION LIMIT

5 5

nd = none detected

-- = not analysed

is = insufficient sample



# VANGEOCHEM LAB LIMITED

BRANCH OFFICE  
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REPORT NUMBER: 881209 GA

JOB NUMBER: 881209

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SAMPLE #	Au ppb	Hg ppb
RM88-T 100	10	40
RM88-T 101	10	45
RM88-T 102	10	40
RM88-T 103	15	40
RM88-T 104	15	65
RM88-T 105	5	60
RM88-T 106	10	50
RM88-T 107	10	nd
RM88-T 108	15	45
RM88-T 109	10	25
RM88-T 110	10	40
RM88-T 111	5	45
RM88-T 112	5	40
RM88-T 113	nd	80
RM88-T 114	10	55
RM88-T 115	nd	70
RM88-T 116	nd	60
RM88-T 117	5	30
RM88-T 118	20	45
RM88-T 119	10	65
RM88-T 120	15	50
RM88-T 121	10	85
RM88-T 122	5	30
RM88-T 123	5	35
RM88-T 124	nd	90
RM88-T 125	nd	55
RM88-T 126	nd	40
RM88-T 127	10	70
RM88-T 128	nd	80
RM88-T 129	nd	85
RM88-T 130	10	50
RM88-T 131	5	65
RM88-T 151	15	40
RM88-T 152	5	65
RM88-T 153	nd	50
RM88-T 154	5	45
RM88-T 155	nd	65
RM88-T 156	10	25

DETECTION LIMIT

5 5

nd = none detected

-- = not analysed

is = insufficient sample



















Table with columns: Sample Number, Ag, Al, As, Au, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, P, Pb, Pd, Pt, Sb, Sn, Sr, U, W, Zn. It contains analytical data for various samples including RM88 L5+00S and RM88 L6+00N.

Minimum Detection: 0.1 0.01 3 3 ; 3 0.01 0.1 1 1 1 0.01 0.01 0.01 1 1 0.01 1 0.01 2 3 5 2 2 1 5 3 1
Maximum Detection: 50.0 10.00 2000 100 1000 1000 10.00 1000.0 20000 1000 20000 10.00 10.00 10.00 20000 1000 10.00 20000 10.00 20000 100 100 2000 1000 10000 100 1000 20000

(< = Less than Minimum is = Insufficient Sample ns = No sample > = Greater than Maximum AuFA = Fire assay/AAS













APPENDIX C  
ANALYTICAL TECHNIQUES



## VANGEOCHEM LAB LIMITED

MAIN OFFICE  
1521 PEMBERTON AVE.  
NORTH VANCOUVER, B.C. V7P 2S3  
(604) 886-5211 TELEX: 04-352578

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

December 1st, 1987

TO: Peter Leriche  
ASHWORTH EXPLORATION LTD.  
Mezz Fir - 744 W. Hastings St.  
Vancouver, B.C. V6C 1A5

FROM: Vangeochem Lab Limited  
1521 Pemberton Avenue  
North Vancouver, British Columbia  
V7P 2S3

SUBJECT: Analytical procedure used to determine gold by fire assay method and detect by atomic absorption spectrophotometry in geological samples.

### 1. Method of Sample Preparation

- (a) Geochemical soil, silt or rock samples were received at the laboratory in high wet-strength, 4" x 6", Kraft paper bags. Rock samples would be received in poly ore bags.
- (b) Dried soil and silt samples were sifted by hand using an 8" diameter, 80-mesh, stainless steel sieve. The plus 80-mesh fraction was rejected. The minus 80-mesh fraction was transferred into a new bag for subsequent analyses.
- (c) Dried rock samples were crushed using a jaw crusher and pulverized to 100-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for subsequent analyses.

### 2. Method of Extraction

- (a) 20.0 to 30.0 grams of the pulp samples were used. Samples were weighed out using a top-loading balance and deposited into individual fusion pots.
- (b) A flux of litharge, soda ash, silica, borax, and, either flour or potassium nitrite is added. The samples are then fused at 1900 degrees Fahrenheit to form a lead "button".
- (c) The gold is extracted by cupellation and parted with diluted nitric acid.



## VANGEOCHEM LAB LIMITED

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VANCOUVER, B.C. V5L 1L6  
(604) 251-5656

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(d) The gold bead is retained for subsequent measurement.

### 3. Method of Detection

(a) The gold bead is dissolved by boiling with sodium cyanide, hydrogen peroxide and ammonium hydroxide.

(b) The detection of gold was performed with a Techtron model AA5 Atomic Absorption Spectrophotometer with a gold hollow cathode lamp. The results were read out on a strip chart recorder. The gold values, in parts per billion, were calculated by comparing them with a set of known gold standards.

### 4. Analysts

The analyses were supervised or determined by Mr. Conway Chun or Mr. David Chiu and his laboratory staff.

A handwritten signature in black ink, appearing to read 'D. Chiu', written over a horizontal line.

David Chiu  
VANGEOCHEM LAB LIMITED



## VANGEOCHEM LAB LIMITED

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

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

December 1st, 1987

TO: Peter Leriche  
ASHWORTH EXPLORATION LTD.  
Mezz Fir - 744 W. Hastings St.  
Vancouver, B.C. V6C 1A5

FROM: Vangeochem Lab Limited  
1521 Pemberton Avenue  
North Vancouver, British Columbia  
V7P 2S3

SUBJECT: Analytical procedure used to determine hot acid soluble for 28 element scan by inductively coupled plasma Spectrophotometry in geochemical silt and soil samples.

### 1. Method of Sample Preparation

- (a) Geochemical soil, silt or rock samples were received at the laboratory in high wet-strength, 4" x 6", Kraft paper bags. Rock samples would be received in poly ore bags.
- (b) Dried soil and silt samples were sifted by hand using an 8" diameter, 80-mesh, stainless steel sieve. The plus 80-mesh fraction was rejected. The minus 80-mesh fraction was transferred into a new bag for subsequent analyses.
- (c) Dried rock samples were crushed using a jaw crusher and pulverized to 100-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for subsequent analyses.

### 2. Method of Digestion

- (a) 0.50 gram portions of the minus 80-mesh samples were used. Samples were weighed out using an electronic balance.
- (b) Samples were digested with a 5 ml solution of HCL:HN03:H2O in the ratio of 3:1:2 in a 95 degree Celsius water bath for 90 minutes.
- (c) The digested samples are then removed from the bath and bulked up to 10 ml total volume with dimineralized water and thoroughly mixed.



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### 3. Method of Analyses

The ICP analyses elements were determined by using a Jarrel-Ash ICAP model 9000 directly reading the spectrophotometric emissions. All major matrix and trace elements are interelement corrected. All data are subsequently stored onto disk.

### 4. Analysts

The analyses were supervised or determined by either Mr. Eddie Tang, and, the laboratory staff.

A handwritten signature in cursive script, reading 'Eddie Tang', written over a horizontal line.

Eddie Tang  
VANGEOCHEM LAB LIMITED



## VANGEOCHEM LAB LIMITED

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BRANCH OFFICE  
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Sept 22, 1988

TO: Peter Leriche  
ASHWORTH EXPLORATIONS LTD.  
1010 - 789 W. Pender  
Vancouver, B.C. V6C 1H2

FROM: Vangeochem Lab Limited  
1988 Triumph Street  
Vancouver, British Columbia  
V5L 1K5

SUBJECT: Analytical procedure used to determine aqua regia soluble mercury in soil, silt, lake sediments and rock samples.

### 1. Method of Sample Preparation

- (a) Geochemical soil, silt or rock samples were received at the laboratory in high wet-strength, 4" x 6", Kraft paper bags. Rock samples would be received in poly ore bags.
- (b) Dried soil and silt samples were sifted by hand using an 8" diameter, 80-mesh, stainless steel sieve. The plus 80-mesh fraction was rejected. The minus 80-mesh fraction was transferred into a new bag for subsequent analyses.
- (c) Dried rock samples were crushed using a jaw crusher and pulverized to 100-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for subsequent analyses.

### 2. Method of Extraction

- (a) 0.50 grams of the minus 80-mesh samples were used. The samples were weighed out into test tubes with a top-loading balance.
- (b) The samples were digested with aqua-regia in a hot water bath for an hour.
- (c) The samples were agitated and diluted with demineralized water to a fixed volume and left to settle.



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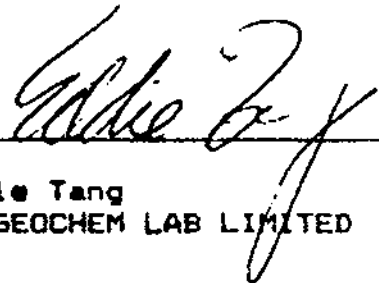
BRANCH OFFICE  
1630 PANDORA ST.  
VANCOUVER, B.C. V6L 1L6  
(604) 251-5656

### 3. Method of Analysis

- (a) An aliquot of the digested samples were mixed with H<sub>2</sub>SO<sub>4</sub>, NaCl, & hydroxylamine sulphate-stannous sulphate as the reductant.
- (b) The vapour of the mixture was then drawn into the absorption cell. The Hg vapour was detected by a Techtron model AAS atomic absorption spectrophotometer.

### 4. Analysis

The analyses were supervised or determined by Mr. Conway Chun or Mr. Eddie Tang and his laboratory staff.



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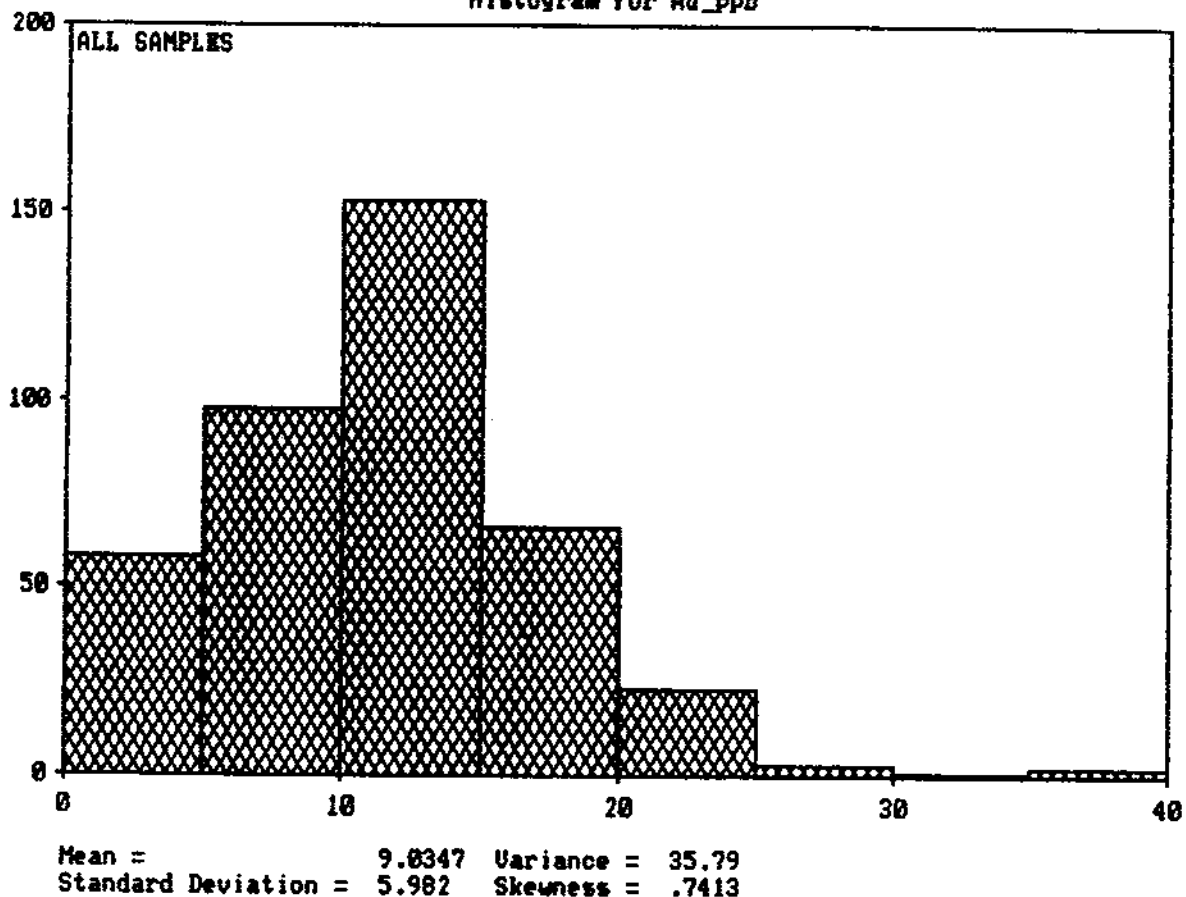
Eddie Tang  
VANGEOCHEM LAB LIMITED



APPENDIX D

STATISTICAL ANALYSIS  
BY  
TONY CLARK CONSULTING SERVICES

Histogram for Au\_ppb



Histogram for Au\_ppb

Lower limit	Upper limit	Frequency	%	Cumulative	%
0	5	58	14	58	14
5	10	98	24	156	39
10	15	153	38	309	76
15	20	66	16	375	93
20	25	23	6	398	99
25	30	3	1	401	99
30	35	1	0	402	100
35	40	2	0	404	100

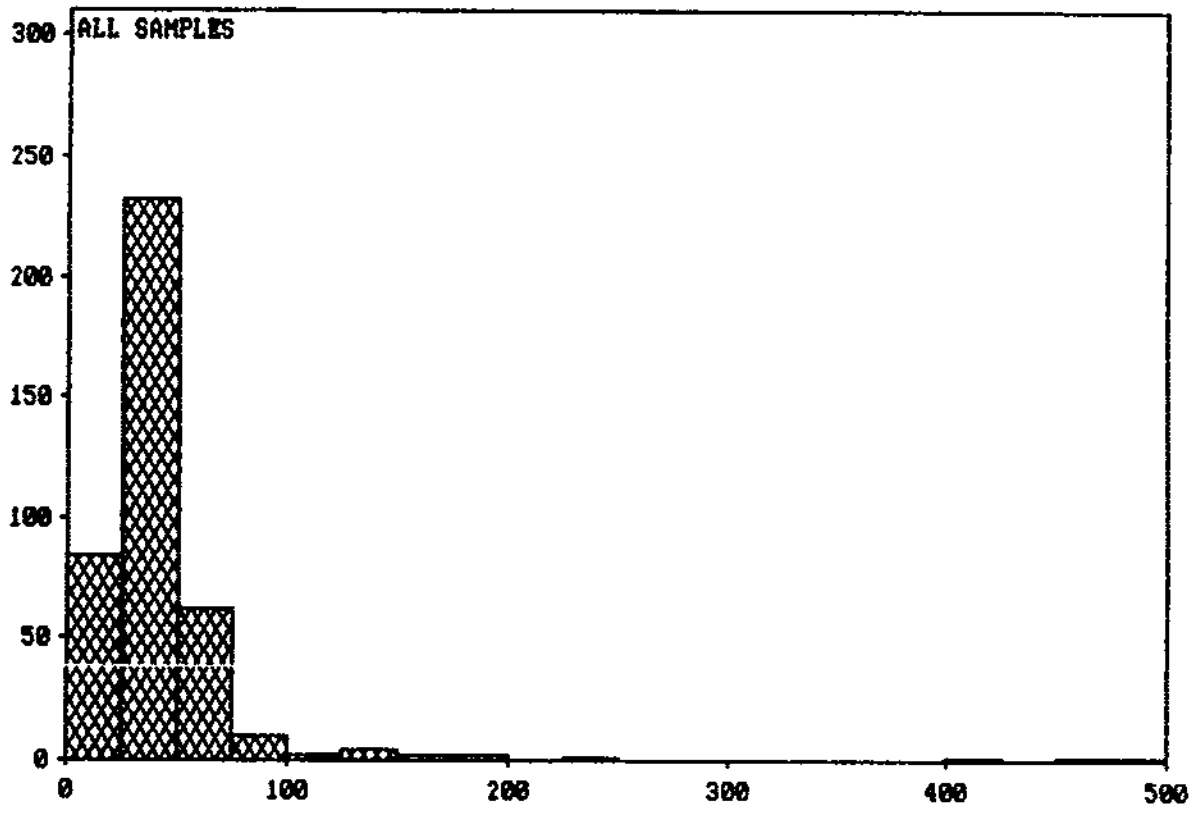
Mean

Data elements inside histogram 404  
 Data elements outside histogram 0

Descriptive Statistics

Mean 9.034654  
 Variance 35.79037  
 Standard Deviation 5.982505  
 Skewness 0.7412745

Histogram for Hg\_ppm



Mean = 48.644 Variance = 1965  
Standard Deviation = 44.32 Skewness = 6.472

Histogram for Hg\_ppm

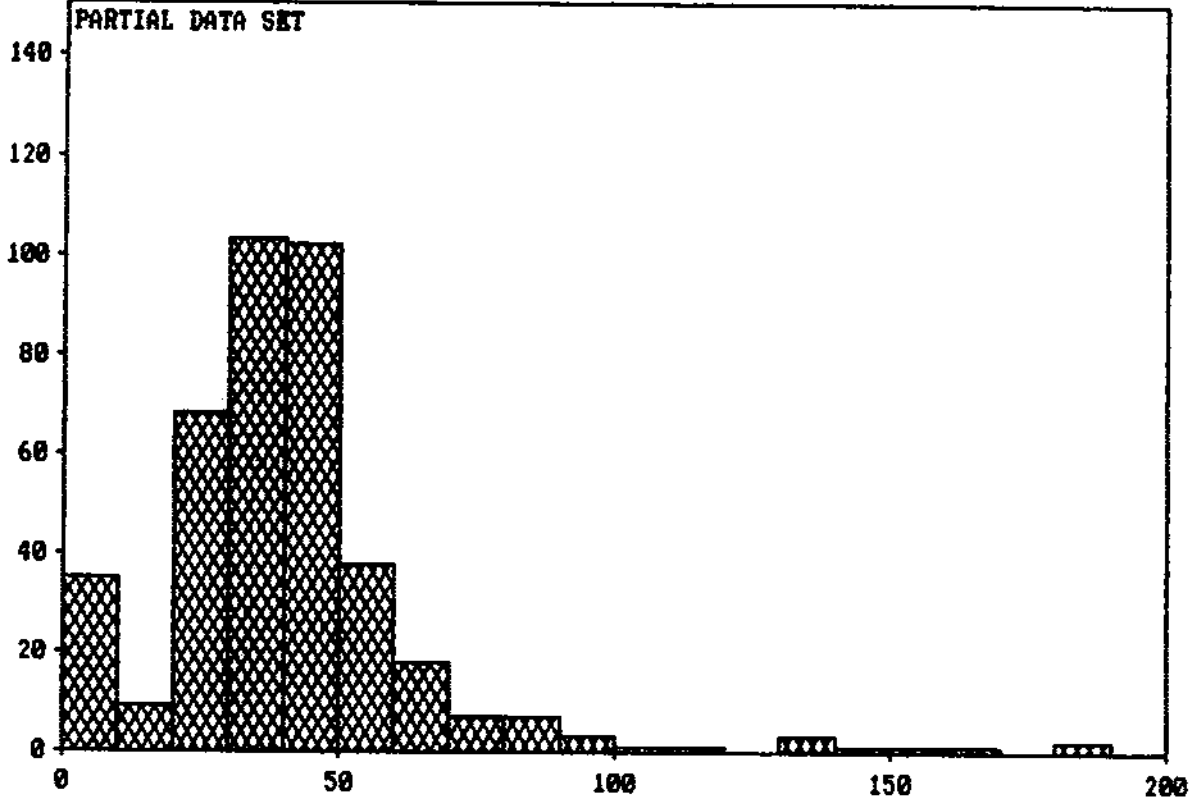
Lower limit	Upper limit	Frequency	%	Cumulative	%	
0	25	85	21	85	21	
25	50	232	57	317	78	Mean
50	75	63	16	380	94	
75	100	10	2	390	97	
100	125	2	0	392	97	
125	150	4	1	396	98	
150	175	2	0	398	99	
175	200	2	0	400	99	
200	225	0	0	400	99	
225	250	1	0	401	99	
250	275	0	0	401	99	
275	300	0	0	401	99	
300	325	0	0	401	99	
325	350	0	0	401	99	
350	375	0	0	401	99	
375	400	0	0	401	99	
400	425	1	0	402	100	
425	450	0	0	402	100	
450	475	1	0	403	100	
475	500	1	0	404	100	

Data elements inside histogram 404  
 Data elements outside histogram 0

Descriptive Statistics

Mean 40.64357  
 Variance 1964.599  
 Standard Deviation 44.3238  
 Skewness 6.471779

Histogram for Hg\_ppm \*\*\* DATA OUTSIDE RANGE \*\*\*



Mean = 40.644 Variance = 1965  
Standard Deviation = 44.32 Skewness = 6.472

Histogram for Hg\_ppm \*\*\* DATA OUTSIDE RANGE \*\*\*

Lower limit	Upper limit	Frequency	%	Cumulative	%
0	10	35	9	35	9
10	20	9	2	44	11
20	30	68	17	112	28
30	40	103	25	215	53
40	50	102	25	317	78
50	60	38	9	355	88
60	70	18	4	373	92
70	80	7	2	380	94
80	90	7	2	387	96
90	100	3	1	390	97
100	110	1	0	391	97
110	120	1	0	392	97
120	130	0	0	392	97
130	140	3	1	395	98
140	150	1	0	396	98
150	160	1	0	397	98
160	170	1	0	398	99
170	180	0	0	398	99
180	190	2	0	400	99
190	200	0	0	400	99

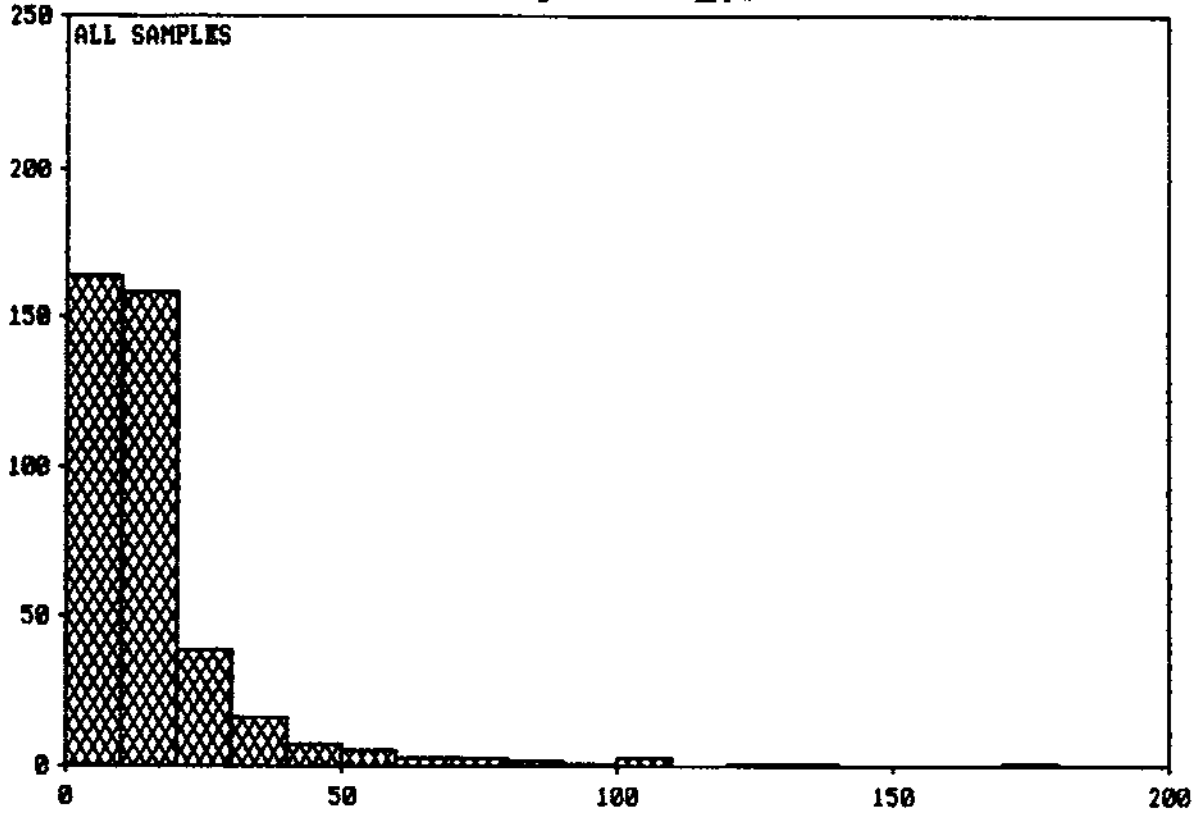
Mean

Data elements inside histogram 400  
 Data elements outside histogram 4

Descriptive Statistics

Mean 40.64357  
 Variance 1964.599  
 Standard Deviation 44.3238  
 Skewness 6.471779

Histogram for As\_ppm



Mean = 15.908 Variance = 366.7  
Standard Deviation = 19.15 Skewness = 3.89



Histogram for As\_ppm

Lower limit	Upper limit	Frequency	%	Cumulative	%
0	10	164	41	164	41
10	20	158	39	322	80
20	30	39	10	361	89
30	40	16	4	377	93
40	50	7	2	384	95
50	60	5	1	389	96
60	70	3	1	392	97
70	80	3	1	395	98
80	90	2	0	397	98
90	100	1	0	398	99
100	110	3	1	401	99
110	120	0	0	401	99
120	130	1	0	402	100
130	140	1	0	403	100
140	150	0	0	403	100
150	160	0	0	403	100
160	170	0	0	403	100
170	180	1	0	404	100
180	190	0	0	404	100
190	200	0	0	404	100

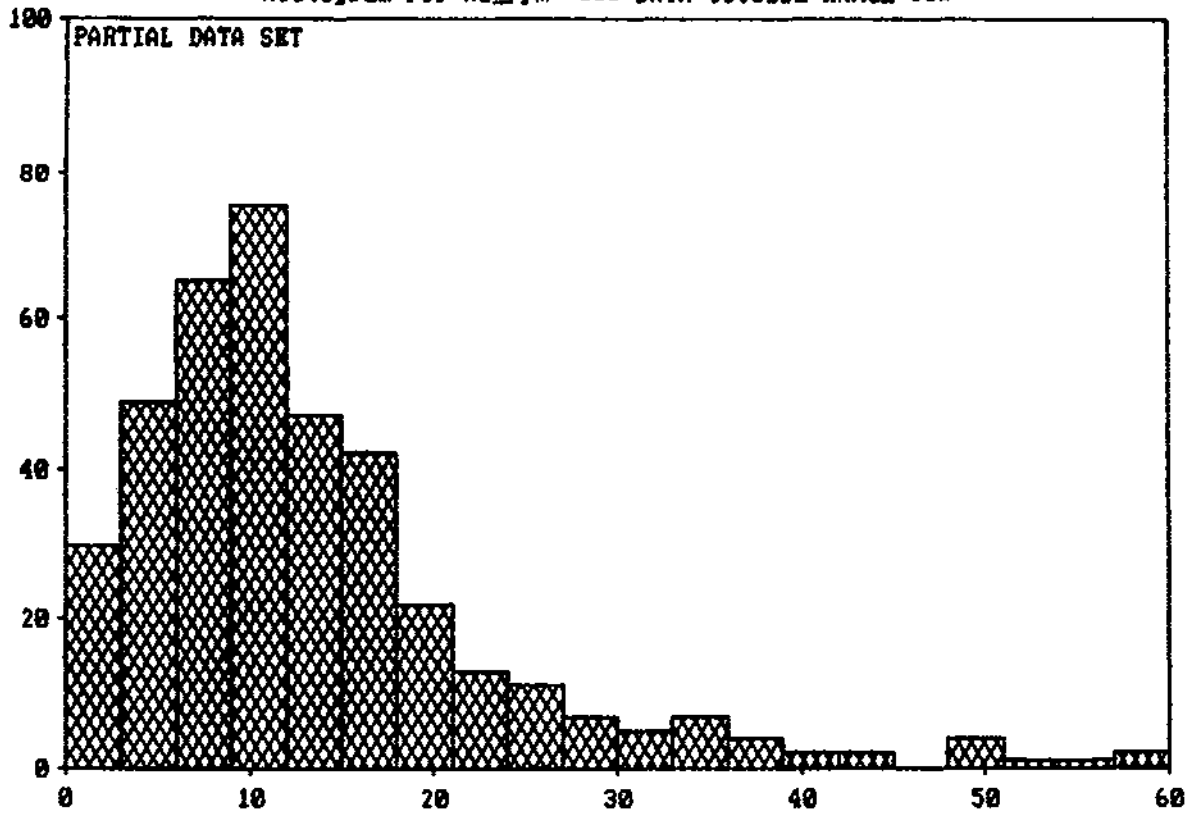
Mean

Data elements inside histogram 404  
 Data elements outside histogram 0

Descriptive Statistics

Mean 15.90842  
 Variance 366.6789  
 Standard Deviation 19.14886  
 Skewness 3.889999

Histogram for As\_ppm \*\*\* DATA OUTSIDE RANGE \*\*\*



Mean = 15.908 Variance = 366.7  
Standard Deviation = 19.15 Skewness = 3.89

Histogram for As\_ppm \*\*\* DATA OUTSIDE RANGE \*\*\*

Lower limit	Upper limit	Frequency	%	Cumulative	%
0	3	30	7	30	7
3	6	49	12	79	20
6	9	65	16	144	36
9	12	75	19	219	54
12	15	47	12	266	66
15	18	42	10	308	76
18	21	22	5	330	82
21	24	13	3	343	85
24	27	11	3	354	88
27	30	7	2	361	89
30	33	5	1	366	91
33	36	7	2	373	92
36	39	4	1	377	93
39	42	2	0	379	94
42	45	2	0	381	94
45	48	0	0	381	94
48	51	4	1	385	95
51	54	1	0	386	96
54	57	1	0	387	96
57	60	2	0	389	96

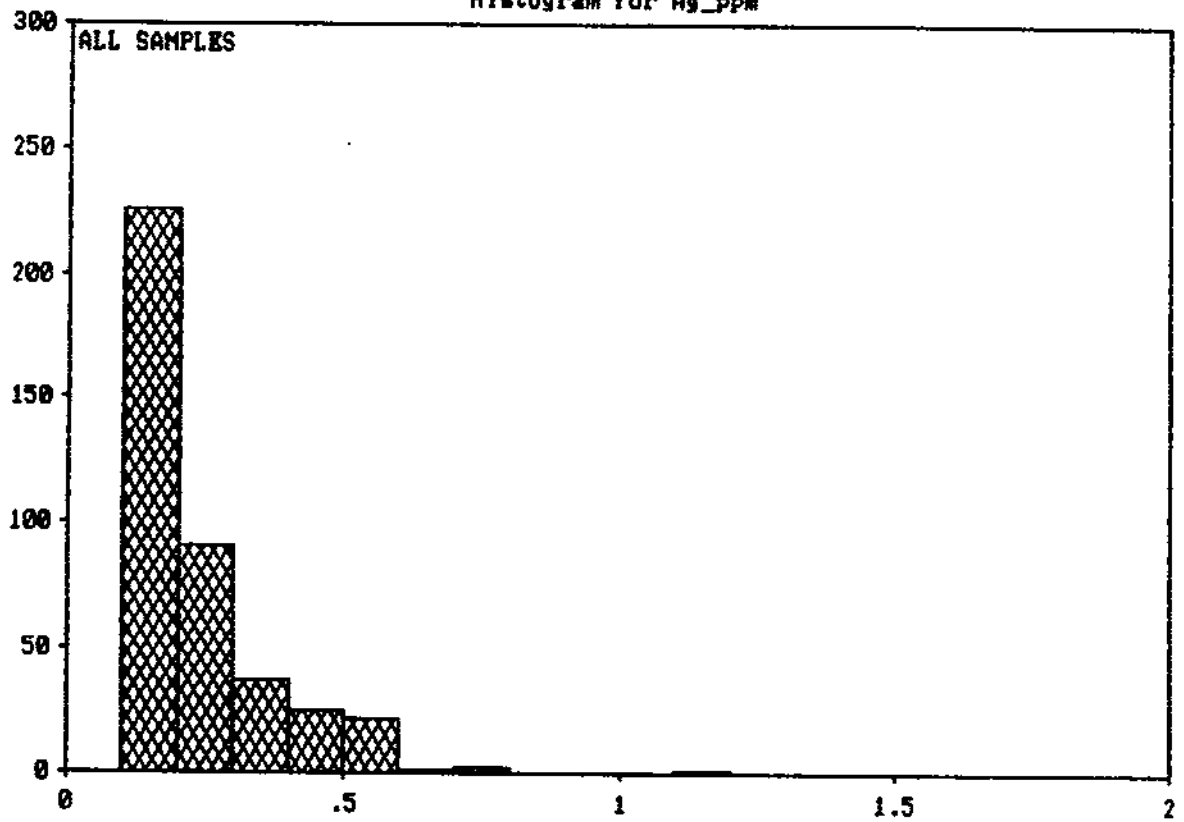
Mean

Data elements inside histogram 389  
 Data elements outside histogram 15

Descriptive Statistics

Mean 15.90842  
 Variance 366.6789  
 Standard Deviation 19.14886  
 Skewness 3.889999

Histogram for Ag\_ppm



Mean = .18787    Variance = .0174  
Standard Deviation = .1319    Skewness = 2.063

Histogram for Ag\_ppm

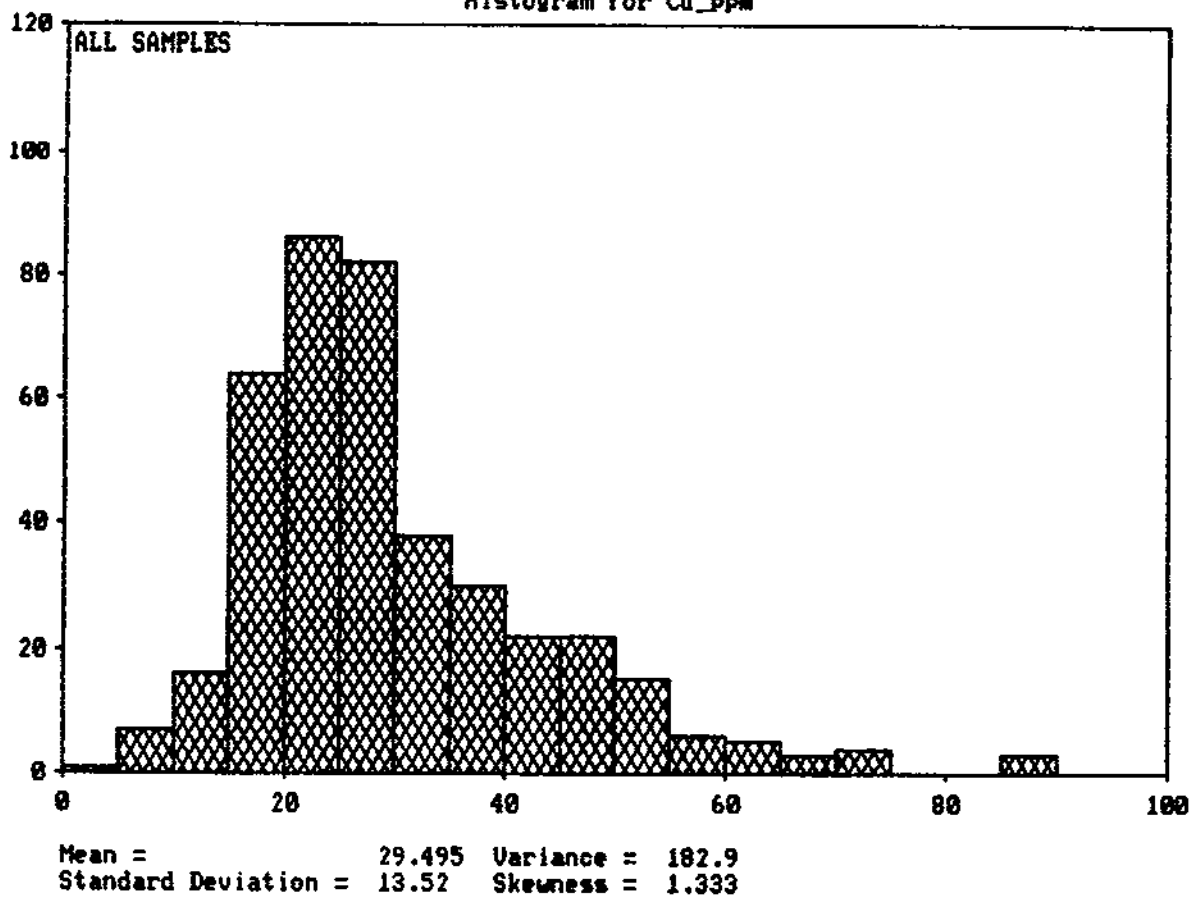
Lower limit	Upper limit	Frequency	%	Cumulative	%	
0	0.1	0	0	0	0	
0.1	0.2	225	56	225	56	Mean
0.2	0.3	91	23	316	78	
0.3	0.4	37	9	353	87	
0.4	0.5	25	6	378	94	
0.5	0.6	22	5	400	99	
0.6	0.7	1	0	401	99	
0.7	0.8	2	0	403	100	
0.8	0.9	0	0	403	100	
0.9	1	0	0	403	100	
1	1.1	0	0	403	100	
1.1	1.2	1	0	404	100	
1.2	1.3	0	0	404	100	
1.3	1.4	0	0	404	100	
1.4	1.5	0	0	404	100	

Data elements inside histogram 404  
 Data elements outside histogram 0

Descriptive Statistics

Mean 0.1878706  
 Variance 0.017396  
 Standard Deviation 0.1318937  
 Skewness 2.062596

Histogram for Cu\_ppm



Histogram for Cu\_ppm

Lower limit	Upper limit	Frequency	%	Cumulative	%
0	5	1	0	1	0
5	10	7	2	8	2
10	15	16	4	24	6
15	20	64	16	88	22
20	25	86	21	174	43
25	30	82	20	256	63
30	35	38	9	294	73
35	40	30	7	324	80
40	45	22	5	346	86
45	50	22	5	368	91
50	55	15	4	383	95
55	60	6	1	389	96
60	65	5	1	394	98
65	70	3	1	397	98
70	75	4	1	401	99
75	80	0	0	401	99
80	85	0	0	401	99
85	90	3	1	404	100
90	95	0	0	404	100
95	100	0	0	404	100

Mean

Data elements inside histogram 404  
 Data elements outside histogram 0

Descriptive Statistics

Mean 29.49505  
 Variance 182.9106  
 Standard Deviation 13.52445  
 Skewness 1.332974

Correlation Matrix

ROUTE AND CHEM CLASSE

	ADPN	ALPT	AMPN	ANPN	BAPN	BIPN	CACT	COPN	COFP	COPN	COPN	COPN	COPN	FEPT	IPCT	MPCT	NPPN	NPPN	NACT	NIPN	PFCT	PPPN	PPPN	PTPN	SEPN	SEPP	SEPPR	UPPN	UPPN	ZPPN	ALPN	ADPN
ADPN	1.00	-0.06	-0.06	-0.02	0.03	0.12	0.02	0.10	0.03	-0.20	0.02	0.05	0.00	-0.02	0.05	-0.02	0.16	-0.15	-0.00	0.06	0.05	0.00	-0.04	0.30	-0.07	0.00	0.00	0.03	-0.07	-0.02		
ALPT	-0.06	1.00	-0.13	0.14	0.52	0.24	-0.07	0.49	0.49	0.31	0.20	0.61	-0.06	0.41	-0.10	0.43	-0.04	0.59	0.29	0.30	0.02	0.00	0.17	0.46	0.23	0.00	0.00	0.34	0.00	-0.05		
AMPN	-0.06	-0.13	1.00	0.01	-0.20	0.15	0.34	0.24	0.35	0.21	0.39	0.26	-0.05	0.21	0.10	0.43	0.17	0.21	-0.12	-0.10	0.12	0.00	-0.04	-0.14	0.17	0.00	0.00	0.05	0.10	0.17		
ANPN	-0.02	0.14	0.01	1.00	0.01	0.29	0.10	0.27	0.20	0.22	0.20	-0.00	0.26	0.11	0.06	0.12	0.25	0.00	0.12	-0.07	0.00	0.36	0.01	0.00	0.00	0.00	0.00	0.00	0.05	-0.00		
BAPN	0.03	0.52	-0.20	0.01	1.00	0.01	-0.13	0.13	0.01	0.05	-0.05	0.11	-0.02	0.02	-0.07	0.10	-0.14	0.07	0.13	0.33	0.12	0.00	0.01	0.10	0.29	0.00	0.00	0.07	0.02	-0.06		
BIPN	0.12	0.24	0.15	0.29	0.01	1.00	0.40	0.37	0.59	0.34	0.51	0.64	0.04	0.64	0.20	0.09	0.20	0.45	-0.06	0.22	0.10	0.00	0.10	0.21	0.30	0.00	0.00	0.16	0.07	-0.01		
CACT	0.02	-0.02	0.34	0.10	-0.13	0.40	1.00	0.40	0.53	0.17	0.61	0.43	0.25	0.37	0.32	-0.00	0.30	0.29	-0.23	-0.05	0.13	0.00	0.13	-0.09	0.54	0.00	0.00	-0.01	-0.04	0.00		
COPN	0.10	0.49	0.24	0.27	0.13	0.57	0.40	1.00	0.70	0.49	0.72	0.05	0.10	0.75	0.24	0.29	0.30	0.63	0.66	0.49	0.10	0.00	0.22	0.23	0.49	0.00	0.00	0.25	0.10	-0.02		
COFP	0.03	0.49	0.30	0.20	0.01	0.59	0.52	0.70	1.00	0.62	0.05	0.06	0.04	0.72	0.30	0.31	0.30	0.02	0.00	0.41	0.10	0.00	0.24	0.33	0.41	0.00	0.00	0.30	0.12	0.02		
COPN	-0.20	0.31	0.21	0.22	0.05	0.34	0.17	0.49	0.62	1.00	0.62	0.43	-0.03	0.62	-0.05	0.17	0.06	0.00	0.02	0.41	0.11	0.00	0.09	0.10	0.37	0.00	0.00	0.20	0.10	0.00		
COPN	0.03	0.30	0.29	0.20	-0.05	0.51	0.41	0.72	0.05	0.42	1.00	0.75	0.09	0.72	0.33	0.16	0.37	0.74	-0.13	0.30	0.14	0.00	0.22	0.16	0.50	0.00	0.00	0.22	0.10	0.06		
FEPT	0.09	0.61	0.26	0.20	0.11	0.60	0.42	0.05	0.06	0.49	0.75	1.00	0.02	0.72	0.03	0.45	0.23	0.64	0.14	0.35	0.09	0.00	0.22	0.46	0.41	0.00	0.00	0.39	0.11	-0.02		
IPCT	0.00	-0.06	0.05	-0.00	-0.02	0.04	0.25	0.10	0.04	-0.02	0.09	0.02	1.00	0.10	0.03	0.00	0.15	-0.02	-0.04	-0.05	0.03	0.00	0.05	-0.15	0.10	0.00	0.00	-0.01	-0.07	0.02		
MPCT	-0.02	0.41	0.21	0.20	0.02	0.64	0.37	0.76	0.72	0.62	0.72	0.72	0.10	1.00	0.17	0.13	0.29	0.62	-0.09	0.34	0.15	0.00	0.17	0.20	0.39	0.00	0.00	0.26	0.04	-0.02		
NPPN	0.05	-0.10	0.10	0.11	-0.07	0.20	0.32	0.24	0.36	-0.05	0.23	0.23	0.03	0.17	1.00	0.12	0.17	0.17	0.06	-0.14	0.04	0.00	0.09	-0.01	0.03	0.00	0.00	0.21	0.03	0.05		
NPPN	-0.02	0.43	0.13	0.06	0.10	0.09	-0.00	0.29	0.31	0.17	0.16	0.16	0.45	0.00	0.13	0.12	1.00	-0.13	0.23	0.30	0.44	-0.20	0.00	0.04	-0.03	0.00	0.00	0.39	0.00	0.02		
NACT	0.16	-0.04	0.17	0.12	-0.14	0.20	0.30	0.30	0.30	0.06	0.37	0.23	0.15	0.29	0.17	-0.13	1.00	0.14	-0.27	0.02	0.15	0.00	0.14	-0.04	0.27	0.00	0.00	-0.02	-0.06	0.07		
NIPN	-0.15	0.20	0.21	0.23	0.07	0.45	0.29	0.62	0.02	0.00	0.74	0.66	-0.02	0.62	0.17	0.23	0.14	1.00	0.01	0.09	0.10	0.00	0.24	0.22	0.41	0.00	0.00	0.27	0.13	-0.00		
PFCT	-0.00	0.20	-0.12	0.00	0.13	-0.06	-0.23	0.06	0.00	0.02	-0.13	0.14	-0.04	-0.05	0.06	0.30	-0.27	0.01	1.00	0.29	-0.12	0.00	-0.03	0.25	-0.24	0.00	0.00	0.51	0.03	-0.01		
PPPN	0.06	0.30	-0.10	0.12	0.33	0.22	-0.05	0.45	0.41	0.41	0.30	0.33	-0.05	0.34	-0.04	0.44	0.02	0.49	0.29	1.00	0.12	0.00	0.14	0.45	0.20	0.00	0.00	0.39	0.07	-0.03		
PPPN	0.09	0.02	0.12	-0.07	0.12	0.10	0.13	0.10	0.10	0.11	0.14	0.09	0.03	0.15	0.00	-0.20	0.15	0.10	-0.12	0.12	1.00	0.00	-0.04	-0.04	0.11	0.00	0.00	0.02	-0.02	-0.01		
PTPN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
SEPN	-0.04	0.17	-0.04	0.30	0.01	0.10	0.13	0.22	0.24	0.09	0.22	0.22	0.05	0.17	0.00	0.04	0.16	0.24	-0.03	0.14	-0.04	0.00	1.00	0.02	0.21	0.00	0.00	0.11	0.10	0.04		
SEPP	0.30	0.06	-0.14	0.03	0.10	0.21	-0.09	0.23	0.22	0.10	0.16	0.46	-0.15	0.20	-0.05	0.44	-0.04	0.22	0.25	0.45	-0.04	0.00	0.02	1.00	0.00	0.00	0.00	0.35	0.06	-0.10		
SEPPR	-0.07	0.33	0.17	0.00	0.29	0.30	0.54	0.45	0.41	0.37	0.50	0.41	0.10	0.35	0.03	-0.03	0.27	0.41	-0.24	0.20	0.11	0.00	0.21	0.00	1.00	0.00	0.00	-0.01	0.06	0.05		
UPPN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
UPPN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
ZPPN	0.03	0.34	0.05	0.00	0.07	0.16	-0.01	0.29	0.30	0.20	0.22	0.09	-0.01	0.26	0.11	0.29	-0.02	0.27	0.51	0.39	0.02	0.00	0.10	0.35	-0.01	0.00	1.00	0.05	0.00	0.00		
ALPN	-0.07	0.00	0.10	0.05	0.03	0.07	-0.04	0.10	0.12	0.10	0.10	0.10	0.11	-0.07	0.04	0.30	-0.00	-0.06	0.13	0.03	0.07	-0.02	0.00	0.10	0.06	0.00	0.00	0.05	1.00	0.00		
ADPN	-0.02	-0.05	0.17	-0.00	-0.06	-0.01	0.00	-0.02	0.02	0.00	0.06	-0.02	0.02	-0.02	0.03	0.02	0.07	-0.00	-0.01	-0.02	-0.01	0.00	0.04	-0.10	0.05	0.00	0.00	0.00	0.00	1.00		



**APPENDIX E**  
**PETROGRAPHIC REPORTS**



(227)

# Vancouver Petrographics Ltd.

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**Report for: Peter Leriche,  
Ashworth Explorations Ltd.,  
744 West Hastings Street,  
VANCOUVER, B.C., V6C 1A5**

Invoice 7613  
September 1988

**Project: 227**

**Samples: 1- 11**

**Summary:**

The samples are from a suite of Tertiary volcanic rocks ranging in composition from basalt to rhyolite. Samples 2, 3, and 9 are slightly magnetic, and the others are non-magnetic. They are grouped as follows:

**A: Pyroxene Basalt**

These range from moderately to slightly porphyritic, with phenocrysts dominated by plagioclase with lesser pyroxenes and locally minor olivine. Commonly both orthopyroxene and clinopyroxene are present. Distinction of some grains is difficult, as is distinction of clinopyroxene from olivine.

**A:1 Porphyritic**

phenocrysts of plagioclase, and lesser orthopyroxene and clinopyroxene; groundmass dominated by devitrified volcanic glass

Sample 1      orthopyroxene>>clinopyroxene  
Sample 4      orthopyroxene>clinopyroxene

**A:2 Slightly Porphyritic**

phenocrysts of plagioclase, groundmass dominated by lathy plagioclase with much less pyroxenes and opaque

Sample 3

**A:3 Vesicular/Amygdaloidal**

minor phenocrysts of plagioclase, groundmass of plagioclase and pyroxene; abundant vesicles, some partly filled by montmorillonite

Sample 5  
Sample 7

(continued)

**B: Olivine Basalt**

minor plagioclase phenocrysts with groundmass of plagioclase with lesser olivine and moderately abundant opaque

Sample 9

**C: Fragments of Silicified-Hematitic Basalt in Opal-Chalcedony Matrix**

fragments containing minor to moderately abundant relic phenocrysts of plagioclase and very abundant spheroidal to irregular patches of chalcedony and opal in a groundmass of hematite; fragments surrounded by groundmass of opal-(chalcedony)

Sample 6

**D: Latite****D:1 Porphyritic**

phenocrysts of plagioclase, lesser hornblende, and minor biotite in groundmass dominated by plagioclase and K-feldspar

Sample 10

**D:2 Vesicular/Amygdaloidal Latite**

minor plagioclase phenocrysts, groundmass of lathy plagioclase and anhedral K-feldspar/plagioclase, minor sericite/limonite; amygdules of calcite and sericite-quartz

Sample 2  
Sample 11

**E: Rhyolite**

welded tuff dominated by pumice fragments, with minor fragments of quartz crystals, chalcedony aggregates, and basalt

Sample 8

*John G. Payne*  
John G. Payne

Sample 1      **Porphyritic Two-Pyroxene Basalt**

The rock contains phenocrysts of plagioclase, orthopyroxene and much less clinopyroxene in a devitrified glassy groundmass containing minor laths of plagioclase.

phenocrysts	
plagioclase	12-15%
orthopyroxene	8-10
clinopyroxene	1- 2
groundmass	
lathy plagioclase	2- 3
crystallites	1- 2
devitrified glass	70-75
opaque	trace

Plagioclase forms phenocrysts averaging 0.2-0.6 mm in size, with a few up to 1 mm long. A few patches up to 1.5 mm in size consist of clusters of plagioclase and clinopyroxene or orthopyroxene phenocrysts. Many plagioclase grains show strong oscillatory zoning. Composition is in the range An55-57 (Carlsbad-albite twin method).

Orthopyroxene forms a cluster 3 mm across of anhedral grains averaging 0.7-2 mm in size. Near and on the border of the cluster are a few grains of plagioclase from 0.1-0.3 mm in size; some of these are interstitial to orthopyroxene. A second cluster 2 mm across contains a few orthopyroxene grains surrounded by plagioclase phenocrysts.

Orthopyroxene is widespread as euhedral to subhedral, equant to prismatic phenocrysts averaging 0.1-0.3 mm in length, and a few prismatic phenocrysts from 0.5-0.8 mm in size.

Clinopyroxene forms scattered, subhedral phenocrysts averaging 0.15-0.3 mm in size, with a few up to 0.7 mm long.

One cluster 2 mm long contains a patch 1.2 mm long of very fine grained rounded orthopyroxene with minor interstitial plagioclase. It is surrounded on three sides by clinopyroxene grains averaging 0.3-0.8 mm in size.

In the groundmass, plagioclase forms elongate, lathy grains averaging 0.05-0.1 mm in length.

Most of the groundmass is cryptocrystalline devitrified glass with disseminated crystallites of moderately high relief from 0.002-0.005 mm in size.

Opaque forms disseminated, anhedral grains averaging 0.02-0.03 mm in size.

**Sample 2      Amygdaloidal Latite: Calcite-Quartz-Sericite Amygdules**

The sample contains scattered phenocrysts of plagioclase in a groundmass dominated by plagioclase and K-feldspar, with interstitial patches of quartz. Amygdules up to a few mm across are dominated by calcite with lesser quartz or by sericite-quartz.

phenocrysts	
plagioclase	3- 4%
groundmass	
plagioclase	40-45
K-feldspar	25-30
quartz	5- 7
sericite/limonite	4- 5
opaque	1- 2
apatite	trace
amygdules	
calcite	5- 7
quartz	1
sericite-(limonite)	1- 2

Plagioclase forms subhedral to euhedral prismatic phenocrysts from 0.5-1.7 mm in length. Many are altered strongly to sericite/limonite, and in some, sericite/limonite was leached from the section.

The groundmass is dominated by subhedral prismatic plagioclase grains averaging 0.05-0.1 mm in length, with interstitial extremely fine to very fine grained K-feldspar and lesser plagioclase. Sericite, stained yellow by limonite, forms extremely fine grained interstitial patches.

Quartz forms irregular, interstitial patches averaging 0.07-0.12 mm in size. Larger ones have vaguely radiating textures similar to those in quartz patches in amygdules, suggesting a similar origin.

Opaque (oxide or pyrite) forms a very few euhedral, equant grains averaging 0.2 mm across. Opaque also forms abundant disseminated, equant grains averaging 0.005-0.01 mm in size.

Apatite forms minor acicular grains up to 0.2 mm long.

Amygdules up to several mm long are dominated by calcite grains averaging 1-2 mm in size. Quartz forms patches from 0.1-0.4 mm in size with a vague radiating texture outlined by trains of dusty fluid(?) inclusions. Hematite and lesser sericite form ragged, extremely fine grained patches intergrown with calcite.

Several amygdules up to 1.7 mm in size contain abundant, very fine grained, subradiating aggregates of sericite/limonite and scattered quartz grains. Most of these have irregular central cavities, probably partly formed by leaching of sericite.

### Sample 3      **Two-Pyroxene Basalt**

The rock contains a few small phenocrysts of plagioclase in a slightly foliated groundmass of plagioclase, with much less clinopyroxene, orthopyroxene, and opaque. A few seams of coarser grain size contain interstitial patches of calcite and minor limonite.

phenocrysts	
plagioclase	2- 3%
groundmass	
plagioclase	80-83
pyroxene	8-10
opaque/hematite	4- 5
calcite	1- 2
limonite	0.2

Plagioclase forms subhedral to euhedral, elongate prismatic phenocrysts averaging 0.4-0.6 mm in length. Composition is about An53.

The groundmass is dominated by lathy plagioclase averaging 0.07-0.2 mm in length, showing a moderately preferred orientation which defines the weak flow-foliation in the rock. Plagioclase forms less abundant, anhedral interstitial grains up to 0.1 mm in size. These are colored light to medium grey by dusty inclusions.

Clinopyroxene and orthopyroxene both form anhedral, equant grains averaging 0.03-0.06 mm in size and a few prismatic grains up to 0.12 mm long.

Opaque forms equant, subhedral to euhedral grains averaging 0.07-0.1 mm in size, and a few elongate grains up to 0.15 mm long.

In the main part of the rock, calcite forms anhedral, interstitial grains up to 0.1 mm in size.

A few lenses up to 1 mm in width are of slightly coarser grained minerals, with more abundant interstitial plagioclase with abundant dusty opaque, and moderately abundant interstitial calcite. Interstitial plagioclase grains are up to 0.2 mm in length. Locally they contain unusual plagioclase crystals up to 0.15 mm across with delicate, boxwork textures.

A few calcite-rich patches up to 1 mm in size are incipient amygdules. Calcite forms very abundant interstitial grains with a few inclusions of plagioclase and pyroxene. Locally calcite shows arcuate, finely concentrically banded textures in patches up to 0.3 mm across, and elsewhere forms sharply terminated crystals up to 0.1 mm in length, with similar fine growth zones defined by dusty inclusions of high-relief material (limonite?). Some of the "amygdules" contain interstitial patches up to 0.4 mm across of deep orange-brown, cryptocrystalline limonite.

#### Sample 4      **Porphyritic Two-Pyroxene Basalt**

The rock contains phenocrysts and clusters of phenocrysts of plagioclase and lesser orthopyroxene and clinopyroxene in a devitrified glassy groundmass containing minor lathy plagioclase. One fragment is of fine to very fine grained plagioclase-clinopyroxene.

phenocrysts	
plagioclase	12-15%
orthopyroxene	4- 5
clinopyroxene	1.5-2
fragment	1.5-2
groundmass	
lathy plagioclase	4- 5
devitrified glass	72-77
opaque	1

Plagioclase forms euhedral to subhedral phenocrysts from 0.3-0.8 mm in size. Clusters are common of a few plagioclase phenocrysts with minor to moderately abundant, finer grained pyroxenes. Grains show prominent oscillatory zoning, and common Carlsbad-albite twins. Composition is An53. A few grains show prominent growth zoning from more-calcic cores (probably about An53) to more-sodic rims (probably about An45). One tabular plagioclase phenocryst 1.3 mm long contains abundant, irregular inclusions of groundmass material in a graphic texture.

Orthopyroxene forms subhedral, equant to prismatic phenocrysts averaging 0.15-0.5 mm in size. Two grains are from 2-2.5 mm across. One of these contains extremely fine lamellae of clinopyroxene.

Clinopyroxene forms anhedral to subhedral phenocrysts averaging 0.2-0.5 mm in size.

Both types of pyroxene form a few prismatic grains up to 1.7 mm long in clusters surrounded by lesser plagioclase phenocrysts.

One fragment 3 mm across consist of 20-30% plagioclase grains from 0.15-0.4 mm in size enclosed in a patchy groundmass of about equal amounts of plagioclase and clinopyroxene ranging from patches averaging 0.015-0.03 mm in grain size to those averaging 0.05-0.08 mm in grain size. Opaque forms an irregular grain up to 0.2 mm across.

The groundmass contains scattered lathy plagioclase grains averaging 0.05-0.1 mm in length. These are set in a groundmass of much finer grained plagioclase (?) formed by devitrification of glass, with moderately abundant disseminated opaque grains averaging 0.003-0.007 mm in size. Opaque forms minor disseminated grains from 0.01-0.02 mm in size.

**Sample 5 Vesicular Basalt with Montmorillonite in some Vesicles**

The rock contains scattered plagioclase phenocrysts in a groundmass of lathy plagioclase, pyroxene (probably clinopyroxene), and minor opaque. Vesicles up to several mm across contain minor to moderately abundant montmorillonite and minor opaque.

phenocrysts	
plagioclase	3- 4%
groundmass	
plagioclase	50-55
pyroxene	25-30
opaque	1- 2
vesicles	
cavities	12-15
montmorillonite	2- 3
opaque	0.3

Plagioclase forms equant phenocrysts up to 0.35 mm in size, and prismatic grains up to 0.7 mm long. Composition is An50. One coarse tabular phenocryst is 1.2 mm long; it contains moderately abundant inclusions of clinopyroxene(?) averaging 0.01-0.02 mm in size.

In the groundmass, plagioclase forms laths averaging 0.05-0.1 mm in length. Pyroxene forms patches of anhedral grains averaging 0.01-0.02 mm in size, and scattered subhedral prismatic grains up to 0.07 mm long. Plagioclase forms interstitial patches of extremely fine to very fine grained, anhedral grains containing abundant dusty opaque which gives the groundmass a dark grey color in thin section. Discrete opaque grains averaging 0.01-0.02 mm in size are scattered through the rock.

Most vesicles are empty. Several have a rim up to 0.15 mm wide of cryptocrystalline to very fine grained montmorillonite. In some vesicles, montmorillonite is concentrically zoned, with layers of extremely fine, prismatic to feathery grains oriented perpendicular to vesicle walls interlayered with cryptocrystalline layers. Layers average 0.02-0.03 mm thick. In some vesicles, the color increases in intensity from pale to light yellowish brown towards the center of the vesicle, probably because of increasing content of limonite.

One vesicle is filled with montmorillonite showing concentric growth structures as described above. The aggregate contains a network of polygonal fractures suggesting that the mineral was dehydrated and compacted after formation.

One vesicle 0.7 mm across is filled with extremely fine grained, orange montmorillonite (+ limonite) with a few inclusions of plagioclase and clinopyroxene grains.

One vesicle is largely filled by opaque of unknown composition.

In a zone averaging 0.5-0.8 mm wide about vesicles, the groundmass of the rock is bleached to a pale to light brown color.,



**Sample 6****Fragments of Altered Basalt: Chalcedony-Opal-Hematite  
in Matrix of Opal-Chalcedony**

Rock fragments up to several cm across contain minor to moderately abundant plagioclase crystals and abundant spheroidal patches of chalcedony and lesser opal set in a groundmass of hematite. These probably are fragments of altered basalt, in which only a few plagioclase crystals were preserved. The matrix between fragments is dominated by opal with patches of chalcedony.

fragments	70-75% of rock
plagioclase	1- 2
chalcedony	35-40
opal	12-15
hematite	20-25
matrix	25-30% of rock
opal	20-25
chalcedony	5- 7

In the main fragment, plagioclase forms scattered, prismatic crystals averaging 0.15-0.3 mm long. Plagioclase grains are enclosed in opaque hematite in interstitial selvages between patches of silica.

Spheroidal patches average 0.1-0.5 mm in size, and irregular patches are up to 1.2 mm across. Many of these have a thin rim of opal, and about 20% of the smaller ones are dominated by opal. In some larger patches, opal forms delicate concentric aggregates averaging 0.03 mm in diameter.

Larger silica patches generally contain subradiating aggregates of chalcedony in a wide variety of textures. These range from patches with numerous subradiating to radiating clusters up to 0.15 mm in size, to others with which are dominated by one large subradiating aggregate and a few smaller radiating ones along one side. Large radiating clusters are up to 1.5 mm in length. Some of the smaller radiating clusters have a delicate concentric structure. Some, mainly smaller patches contain zones of chalcedony near the borders grading rapidly into cores of anhedral quartz. A few large fragments contain cores partly of chalcedony and partly of very fine to fine grained quartz. One large irregular patch contains a thin zone of opal 0.02 mm wide along the border, then a zone averaging 0.04-0.05 mm wide of chalcedony, another zone of opal 0.04 mm wide, and a broad core of chalcedony. Radiating structures extend uninterrupted through both types of silica. Other patches nearby show the same two zones along the border, with a broad core of opal.

In a smaller fragment at one end, plagioclase forms abundant subparallel lathy grains up to 0.07 mm long in hematite between patches of opal and chalcedony averaging 0.1-0.5 mm in size.

One fragment contains wispy hematite seams and selvages between abundant spheroidal to irregular patches dominated by opal. Opal patches average 0.1-0.3 mm in size, with a few up to 1 mm across. Some patches of opal contain fragments up to 0.5 mm in size of basalt composed of abundant lathy plagioclase grains from 0.03-0.07 mm in length in a matrix of hematite.

The matrix grades somewhat into the fragments, with opal in spherical patches grading out into opal of the groundmass. Commonly silica patches near borders of fragments are dominated by opal, whereas those further away contain much more chalcedony. Opal in the groundmass has delicate spheroidal to irregular structures.

(continued)

Sample 6 (page 2)

Some concentrically zoned spheroidal patches of opal are up to 0.8 mm across. Much of the opal is anisotropic and form radiating to crustiform aggregates of grains up to 0.05 mm long oriented perpendicular to walls of the patches.

Larger interstitial patches in the matrix consist of very fine grained chalcedony, generally without any preferred orientation or zoned texture.

## Sample 7 Vesicular/Amygdaloidal Basalt

The rock contains minor phenocrysts of plagioclase in a groundmass of lathy to anhedral plagioclase with less pyroxene and minor opaque. Vesicles up to 1.5 cm in size are partly filled with montmorillonite-(limonite).

phenocrysts	
plagioclase	3- 4%
groundmass	
plagioclase	
lathy	17-20
anhedral	40-45
pyroxene	17-20
montmorillonite-(limonite)	2- 3
opaque	0.2
vesicles/amygdules	
cavities	7- 8
montmorillonite	8-10

Plagioclase forms euhedral to subhedral, equant to prismatic phenocrysts averaging 0.2-0.5 mm in size, with a few prismatic grains up to 1.5 mm long, and one tabular grain 1.8 mm long. Two clusters up to 2 mm across are of several plagioclase phenocrysts averaging 0.5-0.7 mm in size, with interstitial patches of volcanic glass altered to montmorillonite(?). Some of these grains and a few other phenocrysts contain abundant, extremely fine grained inclusions of groundmass minerals in sieve-like textures. Some grains show prominent growth zones from more-calcic cores to more-sodic rims. Composition of grains in the plagioclase cluster is in the range An58-64.

The groundmass contains lathy plagioclase grains averaging 0.07-0.1 mm in length in a groundmass of anhedral plagioclase and anhedral to prismatic pyroxene averaging 0.02-0.05 mm in grain size. Groundmass plagioclase contains abundant dusty opaque, giving the mineral a medium to dark grey color.

Pyroxene forms scattered prismatic grains up to 0.1 mm long. It includes both clinopyroxene and orthopyroxene; because of the extremely fine grain size, their ratio could not be determined.

Opaque forms equant grains averaging 0.02 mm in size.

Montmorillonite, stained light to deep orange by limonite, is concentrated in patches up to 1.5 mm in size interstitial to plagioclase; grains are equant and less than 0.003 mm in size.

Amygdules consist of montmorillonite stained pale to deep orange by limonite; commonly layers along walls of amygdules are darker than those closer to the center. Some amygdules show delicate concentric banding of alternate layers of cryptocrystalline grains and feathery, flakes oriented perpendicular to walls of the amygdule. In several larger ones, an inner zone is dominated by radiating aggregates averaging 0.02-0.04 mm in size. Interior to these in a few amygdules are patches of cryptocrystalline montmorillonite. Some amygdules are more massive; these generally are stained bright orange with limonite. Many vesicles have a thin to thick zone of montmorillonite along walls and a central cavity. Montmorillonite contains abundant polygonal cracks, indicating compaction and dehydration after formation.

## Sample 8      **Welded Rhyolite Tuff**

The rock is dominated by fragments of pumice showing delicate flow and spheroidal textures. These consist of devitrified glass dominated by K-feldspar and silica. Minor fragment types include phenocrysts of quartz and of plagioclase (labradorite?), chalcedony, and basalt.

quartz phenocrysts	1- 2%
plagioclase phenocrysts	0.1
chalcedony/quartz fragments	3- 4
pumice fragments	90-93
basalt fragments	0.3
cavities	1

Quartz forms angular phenocrysts averaging 0.1-0.2 mm in size, with a few up to 0.5 mm across.

Plagioclase forms fragments of phenocrysts from 0.1-0.2 mm in size. One shows oscillatory zoning. These most probably are from basalt. (See also the description of basalt fragments below.)

Chalcedony forms subrounded to subangular fragments up to 0.5 mm in size of extremely fine grained, structureless aggregates. Some also contain minor to moderately abundant, disseminated opal. One fragment 0.7 mm across consists of a few subradiating aggregates of very fine grained fibrous chalcedony, with fibers up to 0.3 mm long, and smaller radiating aggregates at one side of the fragment. A few other fragments consist of segments of similar subradiating fibrous aggregates. In a few fragments, ragged clusters of fibrous chalcedony are surrounded by interstitial patches of opal. One fragment is dominated by radiating spheroids 0.03-0.1 mm in diameter of cryptocrystalline chalcedony.

A few fragments up to 0.5 mm across are of aggregates of very fine grained quartz.

Most of the fragments average from 0.5-1.5 mm in size. They are dominated by devitrified glass showing delicate flow-banded and spheroidal structures. Spheroidal structures commonly contain extremely fine grained chalcedony. Flow-banding generally is uniform to slightly warped, but in a few fragments is strongly warped. These are dominantly glassy fragments which were devitrified to cryptocrystalline to locally extremely fine grained aggregates dominated by K-feldspar and silica. The only mineral which could be identified tentatively in thin section was chalcedony. K-feldspar is indicated by the strong yellow stain on the offcut block. Opal may be present as well. Cavities in fragments averaging 0.1-0.2 mm in size commonly are lined with tiny grains of chalcedony.

A few pumice fragments up to 0.3 mm in size contain moderately abundant brown limonite/hematite.

Basalt fragments from 0.2-0.4 mm in size contain lathy plagioclase grains averaging 0.05-0.07 mm in length in a groundmass of extremely fine grained, anhedral plagioclase, pyroxene, and dusty opaque. One fragment contains several stubby phenocrysts of plagioclase up to 0.15 mm long, and another fragment contains a plagioclase phenocryst 0.3 mm long. One fragment is dominated by lathy plagioclase averaging 0.07-0.1 mm in length; it contains minor interstitial plagioclase and dusty opaque. One fragment contains a few plagioclase phenocrysts in a groundmass of light orangish brown devitrified glass.

One euhedral, stubby prismatic grain 0.18 mm across is of an unknown mineral with pleochroism from medium red-brown to nearly opaque.

## Sample 9      **Porphyritic Olivine Basalt**

The sample contains scattered plagioclase phenocrysts in a groundmass containing lathy plagioclase enclosed in interstitial plagioclase-opaque intergrowths, with lesser olivine and minor clinopyroxene and interstitial patches of chlorite.

phenocrysts		
plagioclase	4- 5%	
groundmass		
plagioclase		
lathy	30-35	
interstitial	40-45	
olivine		
fresh	4- 5	
altered	3- 4	{montmorillonite(?) - limonite}
clinopyroxene	1- 2	(possibly less)
chlorite	1- 2	
opaque		
with plagioclase	5- 7	
granular	0.3	
veinlet		
montmorillonite(?) - carbonate	0.2%	

Plagioclase forms lathy phenocrysts averaging 0.5-1 mm in length, with a few up to 1.7 mm long. Some grains show growth zones from cores of about An60-65 to rims of about An50-55.

The groundmass contains similar lathy plagioclase grains averaging 0.1-0.3 mm in length.

Interstitial patches are dominated by anhedral plagioclase grains averaging 0.05-0.1 mm in size. These contain abundant opaque in patches which grade from dense aggregates to delicate subparallel to subradiating trains averaging 0.03-0.06 mm in length of dusty to extremely fine (0.002-0.005 mm) grains.

Olivine forms subhedral to anhedral, commonly prismatic grains averaging 0.07-0.4 mm in size. It is distinguished from clinopyroxene by parallel extinction and higher birefringence. Patches averaging 0.1-0.4 mm in size of medium orange to greenish brown aggregates of montmorillonite(?) - limonite are pseudomorphic after subhedral to euhedral olivine. A few olivine grains are altered partly to similar patches.

Clinopyroxene forms anhedral to locally subhedral grains averaging 0.03-0.07 mm in size. In anhedral grains, clinopyroxene and olivine cannot be distinguished.

Chlorite forms a few interstitial patches up to 0.4 mm in size of pale green, extremely fine grained, subradiating aggregates.

Opaque forms disseminated, equant grains averaging 0.02-0.05 mm in size.

The rock is cut by a wispy en echelon veinlet averaging 0.03-0.04 mm wide. It is dominated by extremely fine grained montmorillonite(?), stained yellow to red by limonite/hematite, with a discontinuous core up to 0.015 mm wide of carbonate.

## Sample 10      **Porphyritic Latite**

The sample contains phenocrysts of strongly zoned plagioclase and minor ones of hornblende, biotite, and opaque in a groundmass containing lathy plagioclase surrounded by anhedral K-feldspar. The strongly zoned phenocrysts of plagioclase and the wide difference in composition of groundmass and phenocrysts indicates strong fractionation in the magma chamber.

phenocrysts	
plagioclase	17-20%
hornblende	4- 5
biotite	0.5
opaque	0.2
groundmass	
plagioclase	30-35
K-feldspar	40-45
limonite/hematite	2- 3
opaque	0.2
apatite	0.1

Plagioclase forms euhedral to subhedral phenocrysts averaging 0.2-1 mm in size, with a few elongate phenocrysts up to 1.7 mm long. Many show strong growth zoning from cores of labradorite to rims of andesine to oligoclase-andesine. A few patches up to 2 mm across consist of clusters of early-formed plagioclase, lesser hornblende and minor apatite crystals. In these and less commonly elsewhere, hornblende is replaced by limonite, about half of which was leached from the rock, leaving casts of hornblende phenocrysts lined with selvages and irregular patches of limonite.

Hornblende forms subhedral to euhedral phenocrysts averaging 0.1-0.7 mm in size, with a few elongate prismatic grains up to 1.1 mm long. Pleochroism is from light to medium brownish green to medium/dark brown. Most grains are rimmed by a thin zone containing abundant extremely fine grained opaque, possibly intergrown with biotite of similar size (less than 0.01 mm).

Biotite forms scattered subhedral flakes up to 0.5 mm in length. Pleochroism is from medium to very dark brown. A few contain clusters of opaque grains averaging 0.03-0.05 mm in size, and most are rimmed by a very thin zone containing extremely fine grained opaque.

Opaque forms equant, anhedral to locally euhedral grains averaging 0.1-0.2 mm in size, with a few skeletal grains up to 0.5 mm across.

Apatite forms a few acicular phenocrysts up to 0.3 mm long.

In the groundmass, plagioclase forms subhedral lathy grains averaging 0.07-0.12 mm in length. These are set in a groundmass dominated by K-feldspar as anhedral, equant, slightly interlocking grains averaging 0.01-0.02 mm in size. Opaque forms grains averaging 0.01 mm in size, and a few from 0.03-0.07 mm across. Apatite forms acicular to prismatic grains averaging 0.05-0.1 mm long both in the groundmass and in phenocrysts of plagioclase and to a minor extent in hornblende.

Hematite/limonite forms irregular patches averaging 0.03-0.07 mm in size; these probably were formed during weathering.

Sample 11      Slightly Porphyritic Vesicular Latite

The rock contains scattered phenocrysts of plagioclase and minor hornblende and opaque in a groundmass dominated by lathy plagioclase and interstitial K-feldspar. The rock contains lensy vesicles up to 2 cm long; some of these are partly filled with sericite(?)-(limonite) and minor quartz.

phenocrysts	
plagioclase	3- 4%
hornblende	minor
opaque	minor
groundmass	
plagioclase	45-50
K-feldspar	30-35
sericite(?)-(limonite)	2- 3
quartz	1- 2
opaque	1
vesicles	
cavities	5- 7
sericite(?)-(limonite)	2- 3
quartz	0.5

Plagioclase forms euhedral prismatic phenocrysts averaging 0.3-0.7 mm in length, and anhedral, equant grains averaging 0.1-0.3 mm in size. Some phenocrysts are altered in patches to sericite(?) which was leached from the rock.

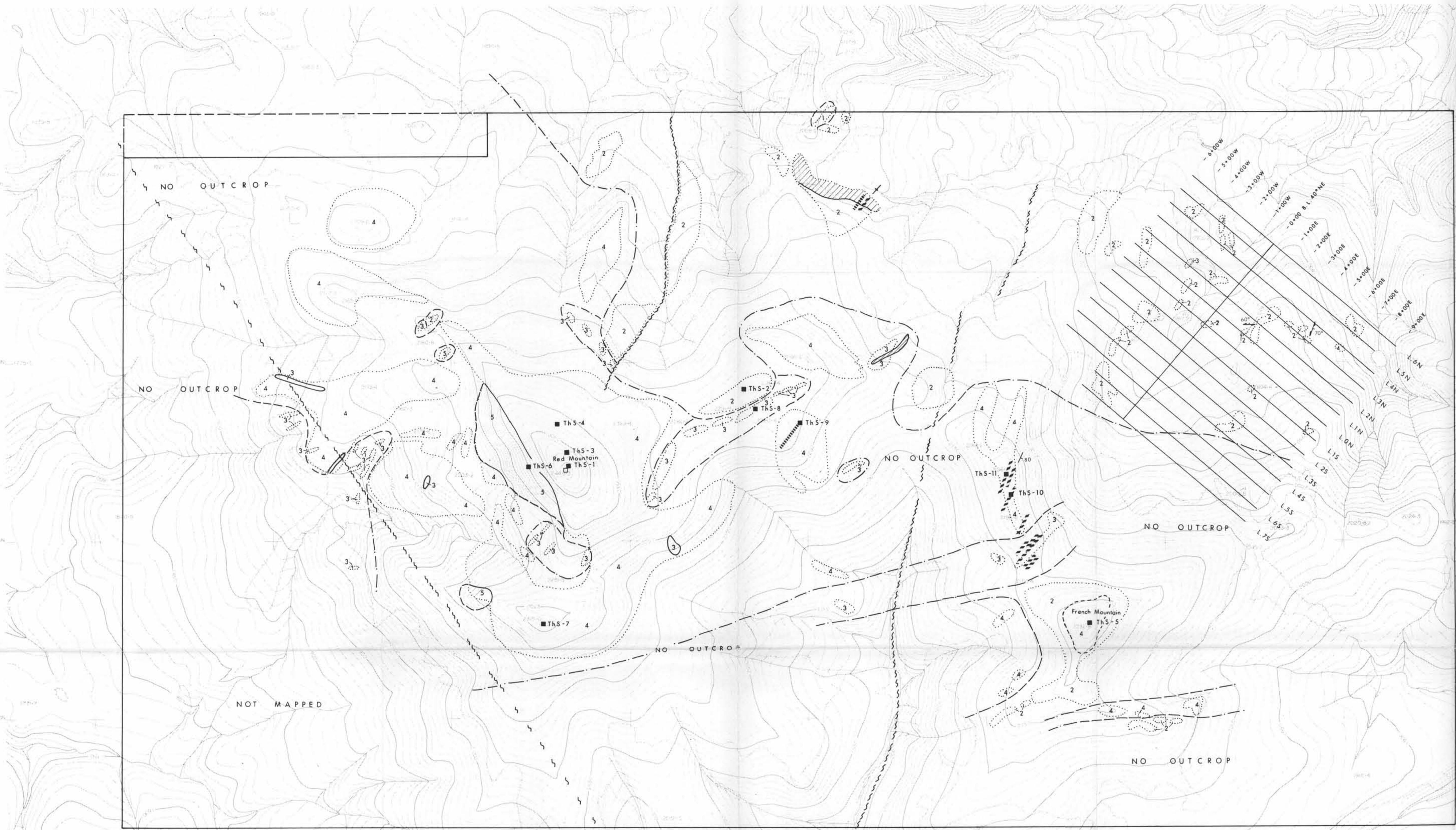
A few euhedral, equant to prismatic phenocrysts from 0.15-0.35 mm in size of hornblende are altered completely to sericite-(limonite) as in the plagioclase phenocrysts and vesicles. Sericite in altered hornblende phenocrysts is leached moderately to strongly from the section.

Opaque forms a few subhedral to anhedral, equant to prismatic grains averaging 0.1-0.15 mm in size.

The groundmass contains lathy plagioclase averaging 0.07-0.15 mm in length. Interstitial to this is an extremely fine to very fine grained aggregate dominated by K-feldspar, and possibly containing moderately abundant plagioclase. Sericite(?)/illite(?) forms extremely fine grained replacement and interstitial patches in the groundmass. Opaque forms disseminated grains averaging 0.01-0.015 mm in size. Apatite forms a few subhedral to euhedral prismatic to acicular grains up to 0.1 mm long.

Quartz forms interstitial patches averaging 0.1-0.2 mm in size of very fine, slightly interlocking grains. These commonly contain minor dusty inclusions.

Vesicles are mainly flattened in a plane which probably is parallel to original flow tops. Many smaller ones are partly filled with extremely fine grained aggregates of sericite/illite(?) stained light yellow to brown by limonite. Sericite forms subradiating to radiating clusters averaging 0.05-0.07 mm in size. Some contain anhedral grains and patches of quartz from 0.05-0.2 mm in size; textures of these is similar to that of interstitial quartz patches.

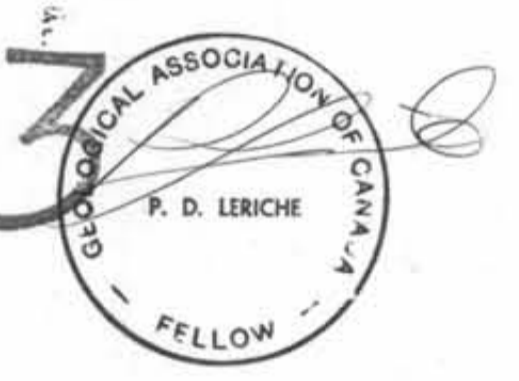


**LEGEND**

- GEOLOGY**
- TERTIARY**
- LATER INTRUSIONS**
- ▨ Porphyritic olivine basalt dyke
  - ▨▨▨▨ Porphyritic latite dyke
  - ▨ Oxidation zone
- VOLCANIC ROCKS OF PROBABLE EOCENE AGE**
- 5 Volcanic agglomerate
  - 4 Pyroxene basalt
  - 3 Rhyolite
  - 2 Latite
- EARLY CRETACEOUS**
- 1 Conglomerate
- SYMBOLS**
- Geological contact (defined, approx., assumed)
  - ~ Fault (defined, approx., assumed)
  - Area of outcrop
  - 80° Strike and dip
  - 60° Foliation
  - ThS Thin section sample location and number
  - Legal Corner Post
  - ▭ Claim boundary (approximate)
  - L.1N Grid with soil sample locations
  - ~ Tree line
  - ~ Creek
  - Lake
  - 2000 Topographic contour (interval 10m)

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

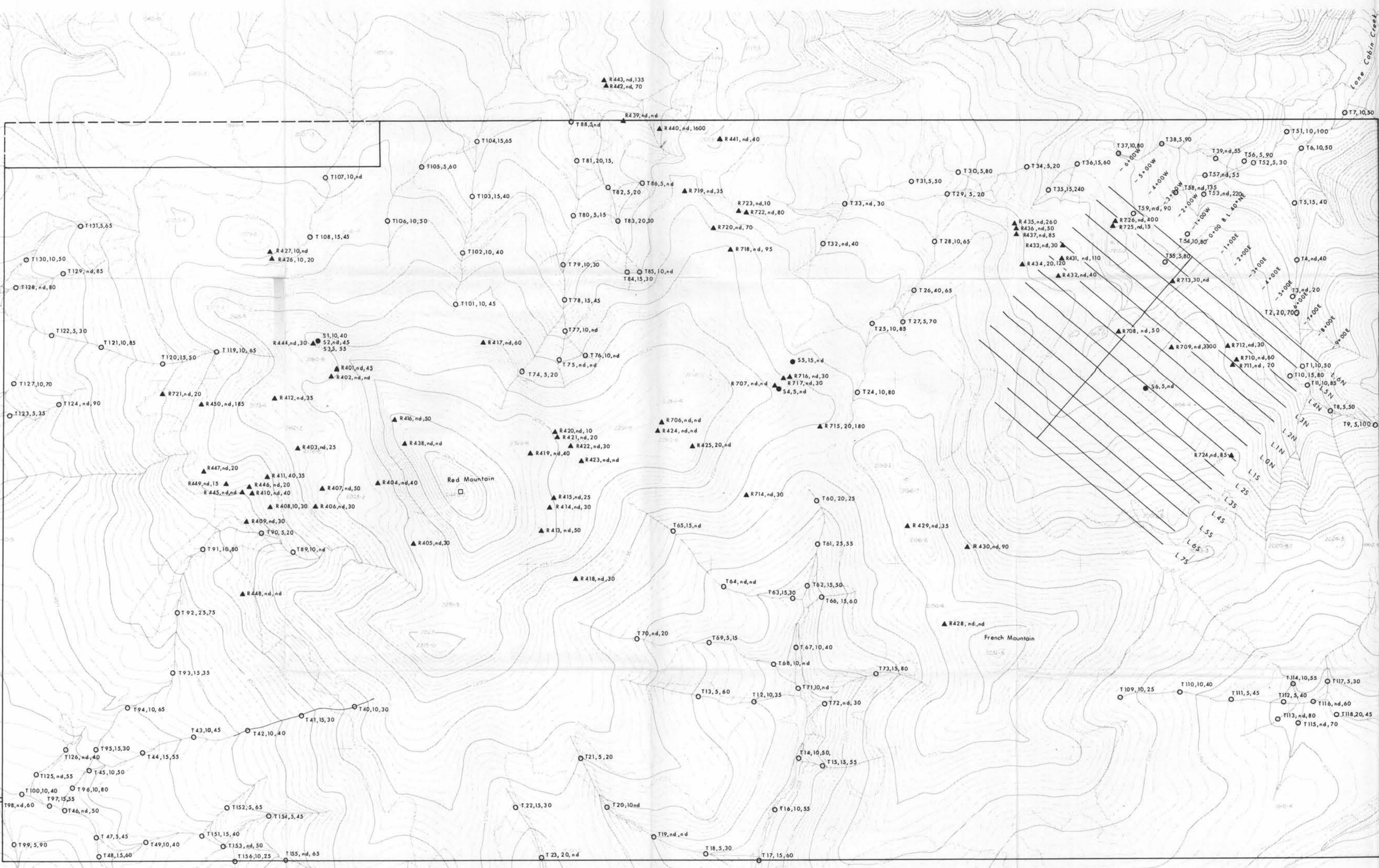
17,953



NTS 92 O/1,2

KENNEDY RIVER GOLD INC.		
ROUGE AND CHINA CLAIMS RED MOUNTAIN AREA CLINTON AND LILLOOET M.D., B.C.		
GEOLOGY MAP		
Scale 1:10000	By: F. Y.	Drawn: J. S.
Date: SEPTEMBER 1988.	Figure: 4	
Ashworth Explorations Limited		



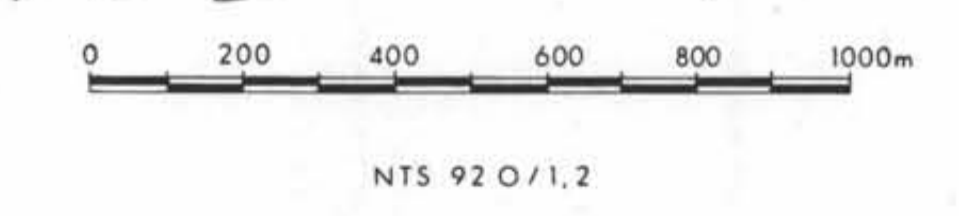


- LEGEND**
- Soil sample location and number, Au(ppb), Hg(ppb)
  - Silt sample location and number, Au(ppb), Hg(ppb)
  - ▲ Rock sample location and number, Au (ppb), Hg(ppb)
  - Legal Corner Post
  - Claim boundary (approximate)
  - Grid with soil sample locations
  - Tree line
  - Creek
  - Lake
  - 2000— Topographic contour (interval 10m)

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

**17,953**

P. D. LERICHE  
FELLOW



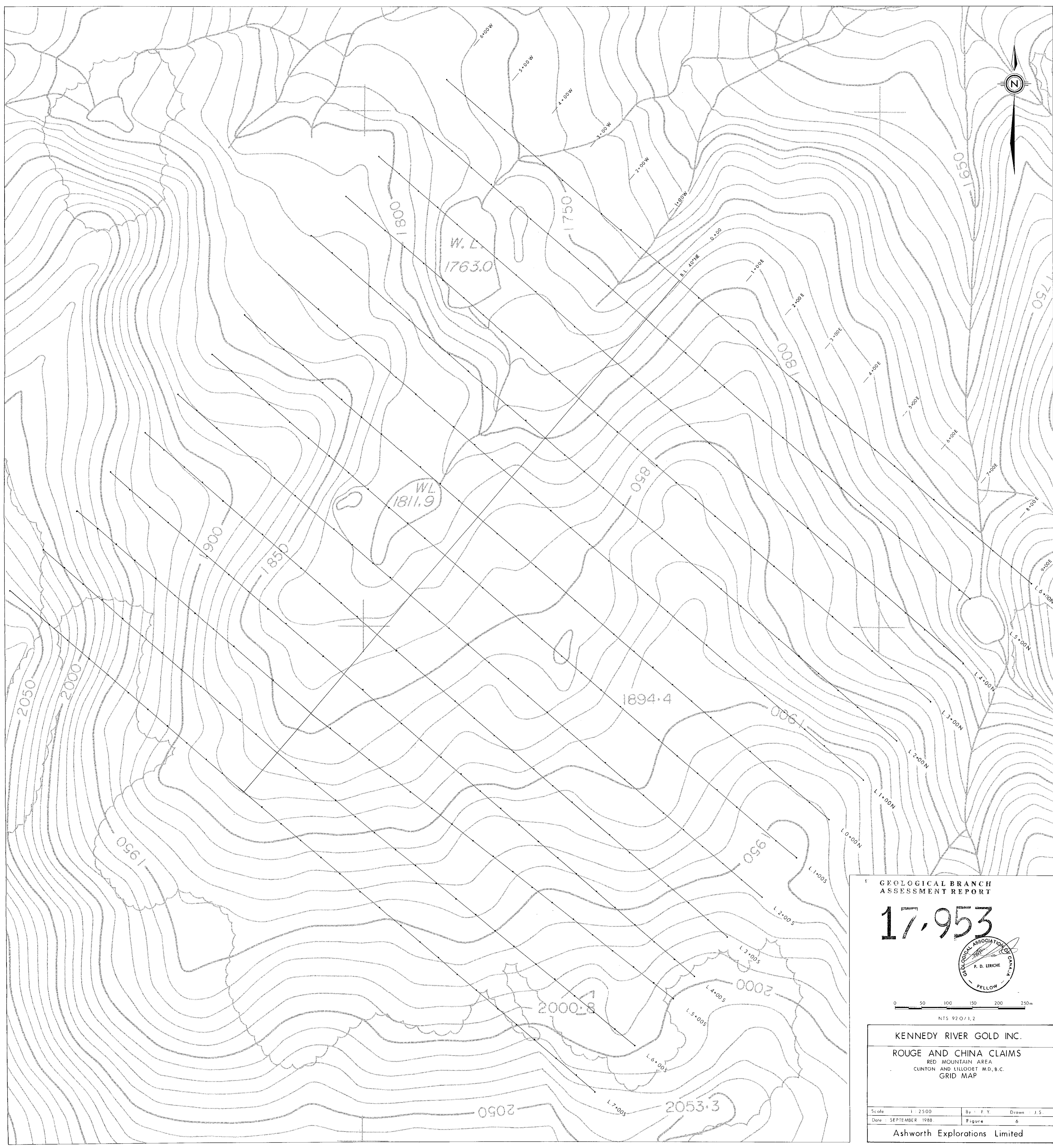
**KENNEDY RIVER GOLD INC.**

**ROUGE AND CHINA CLAIMS**  
RED MOUNTAIN AREA  
CLINTON AND LILLOET M.D., B.C.

**ROCK, STREAM SEDIMENT AND  
SOIL GEOCHEMISTRY MAP**

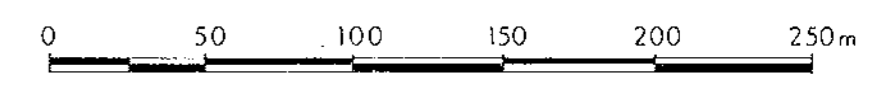
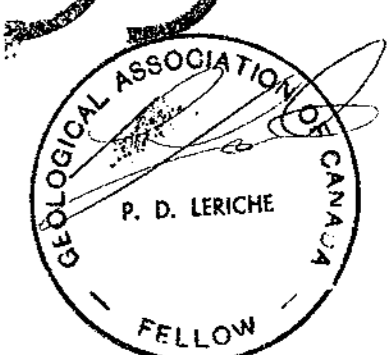
Scale 1:10000 By: F. Y. Drawn: J. S.  
Date: SEPTEMBER 1988. Figure: 5

**Ashworth Explorations Limited**



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

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NTS 920/1.2

KENNEDY RIVER GOLD INC.

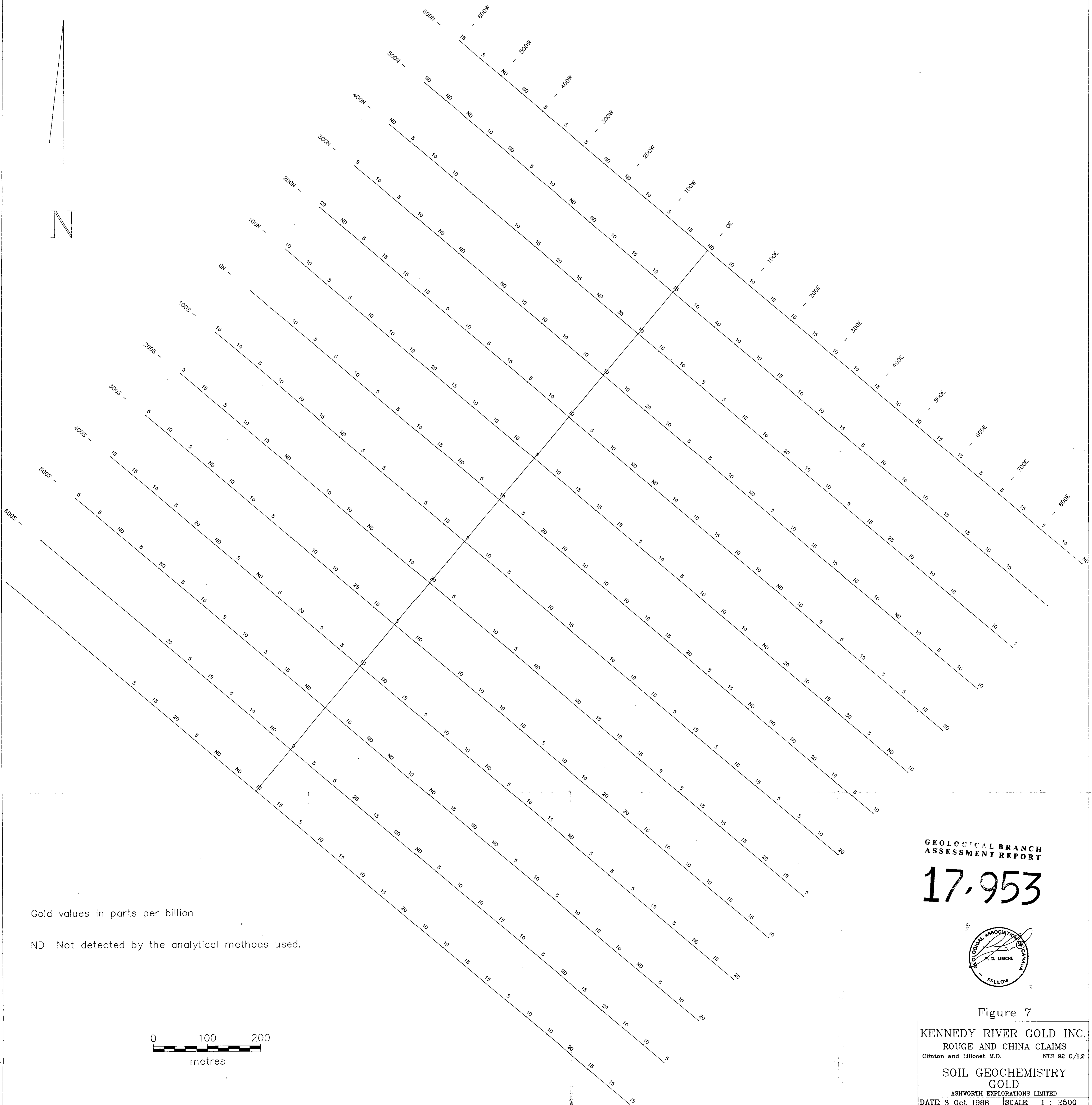
ROUGE AND CHINA CLAIMS  
RED MOUNTAIN AREA  
CLINTON AND LILLOOET MD., B.C.  
GRID MAP

Scale: 1:2500	By: F.Y.	Drawn: J.S.
Date: SEPTEMBER 1988	Figure: 6	

Ashworth Explorations Limited

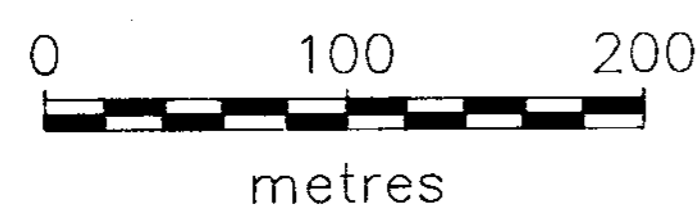


N



Gold values in parts per billion

ND Not detected by the analytical methods used.



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

17-953

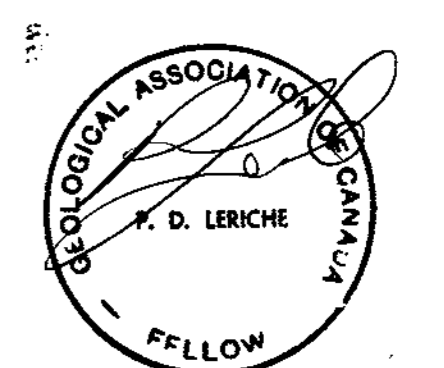
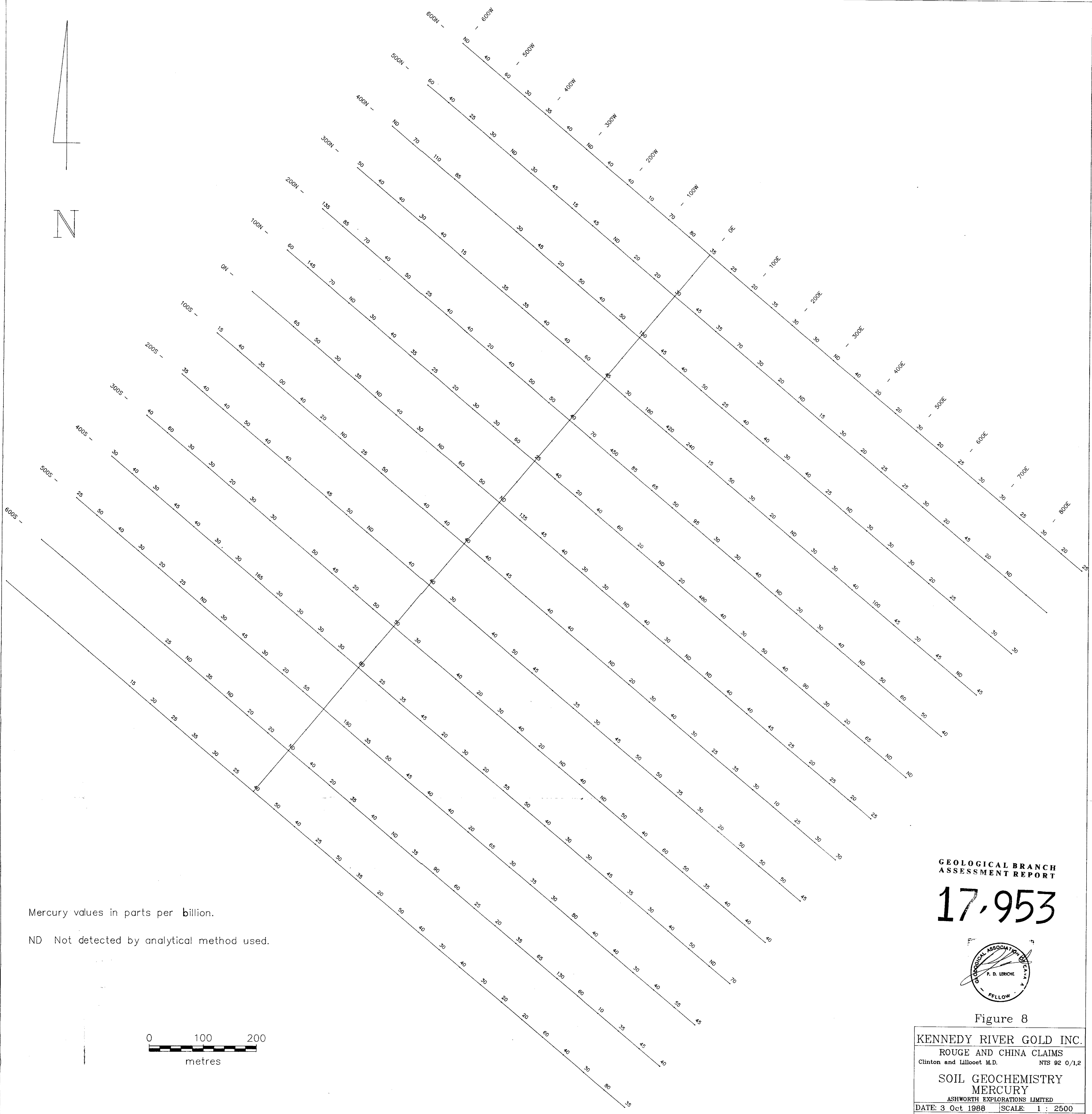
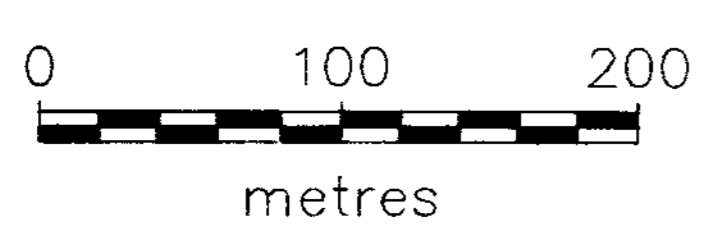


Figure 7

KENNEDY RIVER GOLD INC.  
ROUGE AND CHINA CLAIMS  
Clinton and Lillooet M.D. NTS 92 0/1,2  
SOIL GEOCHEMISTRY  
GOLD  
ASHWORTH EXPLORATIONS LIMITED  
DATE: 3 Oct 1988 SCALE: 1 : 2500  
Drawn by: TONY CLARK CONSULTING



Mercury values in parts per billion.  
ND Not detected by analytical method used.



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

17-953

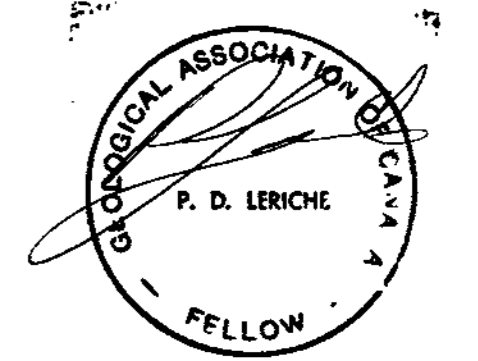
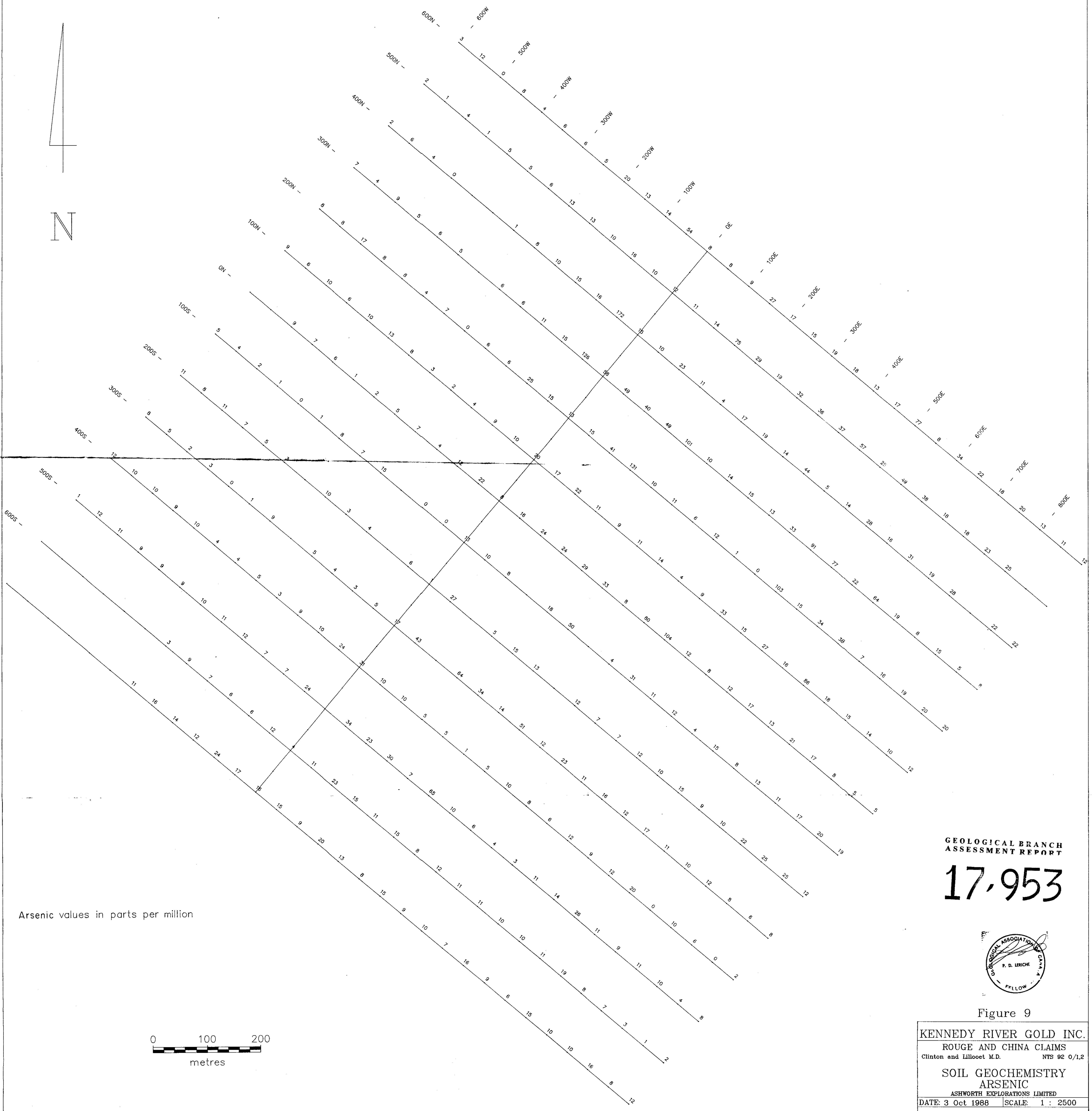
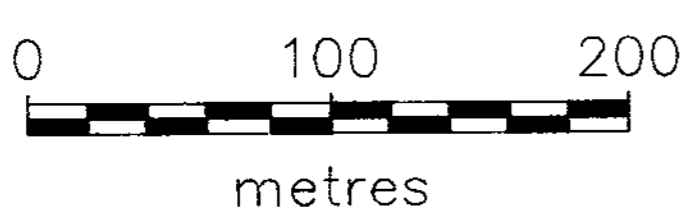


Figure 8

KENNEDY RIVER GOLD INC.	
ROUGE AND CHINA CLAIMS	
Clinton and Lillooet M.D.	NTS 92 0/1,2
SOIL GEOCHEMISTRY	
MERCURY	
ASHWORTH EXPLORATIONS LIMITED	
DATE: 3 Oct 1988	SCALE: 1 : 2500
Drawn by: TONY CLARK CONSULTING	



Arsenic values in parts per million



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

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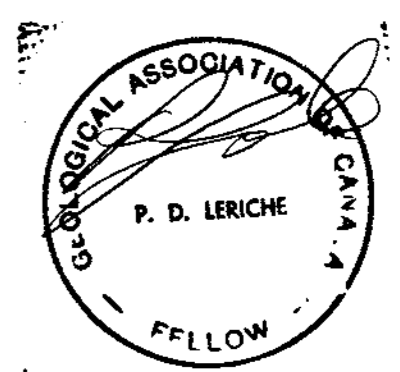


Figure 9

KENNEDY RIVER GOLD INC.	
ROUGE AND CHINA CLAIMS	
Clinton and Lillooet M.D.	NTS 92 0/1,2
SOIL GEOCHEMISTRY	
ARSENIC	
ASHWORTH EXPLORATIONS LIMITED	
DATE: 3 Oct 1988	SCALE: 1 : 2500
Drawn by: TONY CLARK CONSULTING	



- LEGEND**
- 35 Gold soil anomaly (in ppb).
  - 95 Mercury soil anomaly, contoured above 80 ppb.
  - \* 50 Arsenic soil anomaly, contoured above 40 ppb.
  - ▲ 120 Rock sample mercury anomaly (in ppb).
  - 220 Stream sediment mercury anomaly (in ppb).

**GEOLOGICAL BRANCH**  
ASSESSMENT REPORT

**17,953**

0 50 100 200 250m

NTS 92.0/1.2

KENNEDY RIVER GOLD INC.  
ROUGE AND CHINA CLAIMS  
RED MOUNTAIN AREA  
CLINTON AND LILLOET M.D., B.C.  
GRID MAP

**GRID AREA COMPILATION MAP**

Scale	1:2500	By	F.Y.	Drawn	J.S.
Date	SEPTEMBER 1988	Figure	13		

Ashworth Explorations Limited