ASSESSMENT REPORT
ON
PETROGRAPHICAL AND GEOCHEMICAL WORK
ON THE FOLLOWING CLAIM

BLASTER ..... #2899

located

30 KM NORTHEAST OF
UCLUELET, BRITISH COLUMBIA
ALBERNI MINING DIVISION

49 degrees 11 minutes latitude
125 degrees 25 minutes longitude

N.T.S. 92F/3W

PROJECT PERIOD: May 10 to Nov. 12, 1991

ON BEHALF OF
K. GOURLEY
NORTH VANCOUVER, B.C.

REPORT BY

D. Cremonese, P. Eng.
509-675 W. Hastings
Vancouver, B.C.

Date: August 5, 1992

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1. INTRODUCTION

A. Property, Location, Access and Physiography

The property is located about 35 km northeast of Ucluelet on the west coast of Vancouver Island and approximately 57 km by road west of Port Alberni. The Port Alberni-Tofino paved highway runs 800 m east of the property, following the eastern side of the Kennedy River. Immediately east of the Canoe Creek bridge on the highway, McMillan Bloedel has constructed a logging road which gives direct access to the southern and western portions of the property.

The property is drained by a number of tributaries of the Kennedy River. The central and southwest portions of the property are drained by the easterly flowing Canoe Creek and a northeasterly flowing side-creek, Olympic Creek. Devil's Club Creek drains the northeast corner and flows in a southeasterly direction.

Elevations vary from approximately 150 m along the southeast border to over 950 m in the northwest corner. Vegetation in the area is comprised mainly of red cedar and occasional Douglas Fir at lower elevations grading into yellow cedar and hemlock at higher elevations. Underbrush is moderate to dense, typical of the coast rain forest. Physiography is rugged with frequent bluffs and small gorges.

Climate is relatively mild featuring abundant precipitation during early spring, fall and winter. Rain can range up to 275 cm a year. Because of the low-lying elevation and proximity to the coast, the property receives only light, scattered snowfall during the winter months. This allows for an extended field season.

B. Status of Property

Relevant claim information is summarized below:

Name	Record No.	No. of Units	Record Date
Blaster	2899	20	May 9, 1986

Claim location is shown on Fig. 2 after N.T.S. map 92F/3W, Alberni Mining Division. The claim is presently owned by Kelly Gourley of North Vancouver, British Columbia. At the time much of the assessment work was completed, the claim was under option to Kancana Ventures Limited. This option has since lapsed.

C. History

The Blaster claim lies within the historic Kennedy River Gold

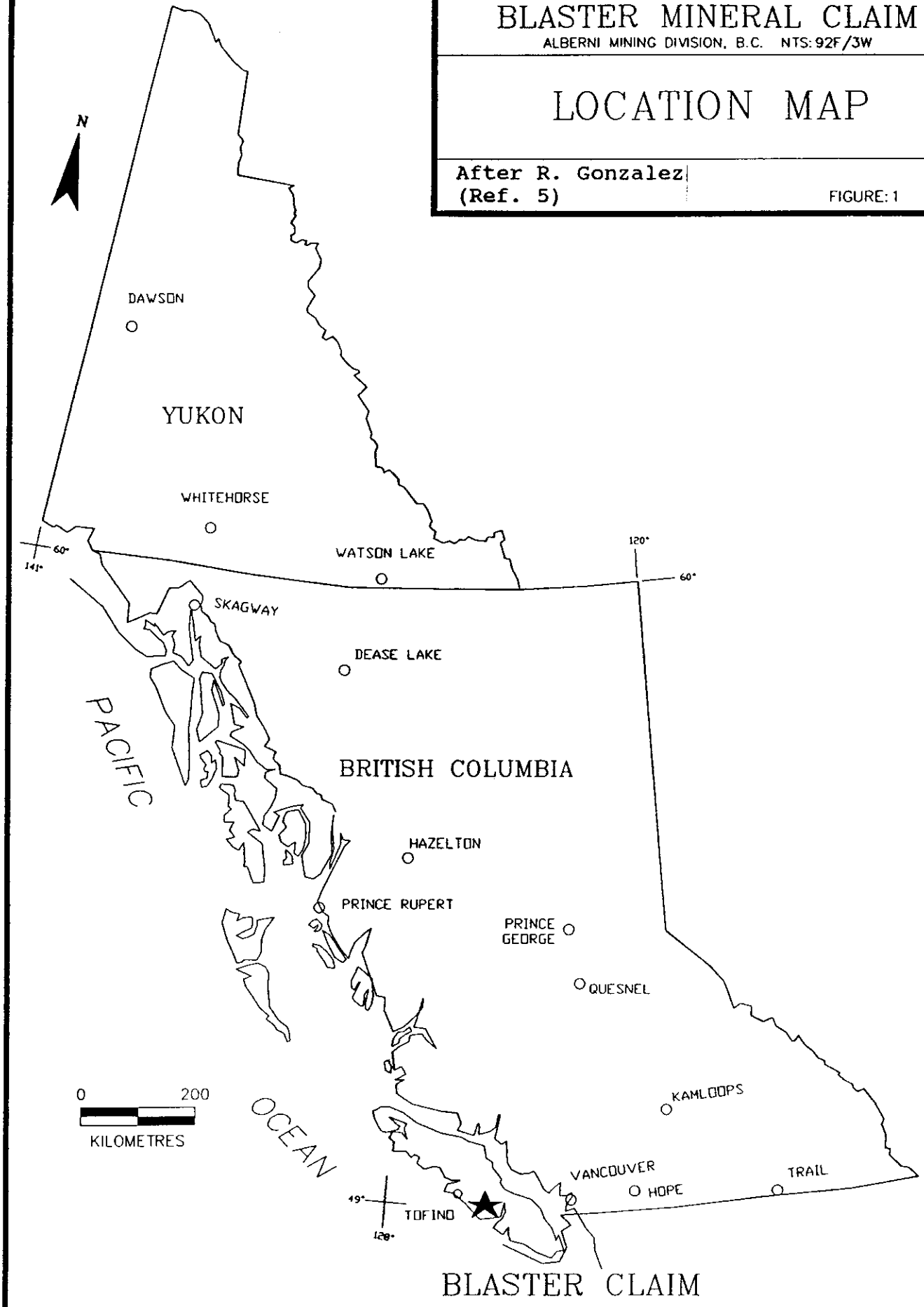
BLASTER MINERAL CLAIM

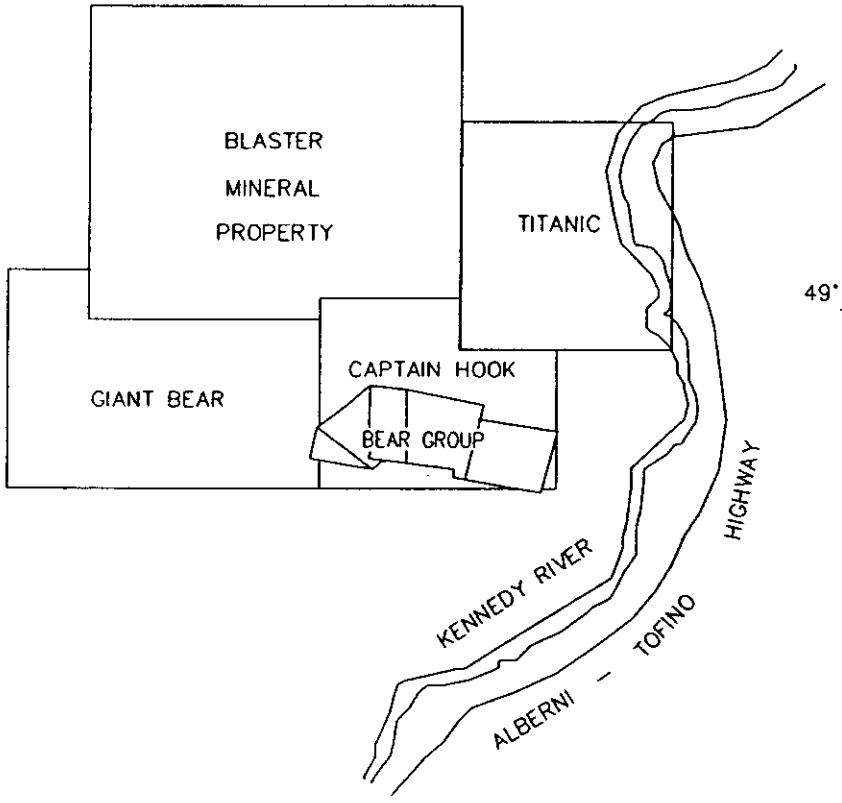
ALBERNI MINING DIVISION, B.C. NTS: 92F/3W

LOCATION MAP

After R. Gonzalez (Ref. 5)

FIGURE: 1





SCALE 1:50,000

0 0.5 1 2

KILOMETRES

BLASTER MINERAL CLAIM

ALBERNI MINING DIVISION, B.C. NTS: 92F/3W

CLAIM MAP

After R. Gonzalez
(Ref. 5)

FIGURE: 2

Camp. Prospectors were first attracted to the west coast of Vancouver Island in the 1860's after placer gold was discovered in several streams draining into the Pacific. Follow-up hard rock prospecting led to the location of gold-bearing quartz veins on China Creek, Bedwell River and Kennedy River.

In 1898, a small stamp mill was constructed on the Rose Marie claim, located about 4 km south-southeast of the Blaster claim; it ran for a few years before shutting down. In 1913, immediately to the east of the property, prospectors discovered the Olympic and Titanic Veins. Further showings were subsequently located and the area remained fairly active until World War II began after which gold exploration dropped off dramatically.

With the rise in the price of gold in the early 1980's, claim-staking and exploration activity resumed in the Kennedy River area. All of the old showings were staked and peripheral areas were also examined. In 1986, the Blaster claim was staked by K. Gourley to cover the favourable extension of a prominent fault structure. In 1987, anomalous gold stream geochem samples were followed up by prospecting leading to the discovery of the Elite Vein. Stripping and sampling of the vein in 1987 exposed 85 m of strike carrying appreciable gold values over relatively narrow widths. Further quartz veins such as the Elite II, Elite III and Rachel Veins were also discovered.

In 1988, optionee International Coast Minerals drilled 14 holes totalling 819 m testing depth extensions of the Elite and Rachel Veins. Gold values obtained in drilling were not as good as from surface sampling.

In 1991, after the property was returned to the owner by the optionee, a small program was carried out consisting of prospecting and rock chip sampling. This work located several new structures including a number of gold-bearing quartz veins, contact metamorphic pyrrhotite-chalcopyrite bands at intrusive-limestone contacts, and sulphide bearing calcite veins and quartz-calcite stringers in igneous rocks.

D. References

1. Annual Report of the Minister of Mines for 1895, 1907, 1913 and 1916: British Columbia Ministry of Mines Annual Reports.

2. Carter, N.C., 1989; Evaluation of Mineral Claims, Kennedy River Area, Alberni Mining Division, B.C.: Private Report for Nationwide Gold Mines Corp., March 17, 1989.

3. Epp, W.R., 1987; Elite Vein Sampling and Potential: Private report for Golden Spinnaker Minerals Corp. and Nationwide Gold Mines Corp., Dec. 21, 1987.

4. Epp, W.R., 1988; Elite Project - Interim Exploration Summary Report: Private report for Golden Spinnaker Minerals Corp. and Nationwide Gold Mines Corp., Jan. 4, 1988.

5. Gonzalez, R.A., 1991; Assessment Report on Geological and Geochemical Work on the Blaster Mineral Claim: On file with the BCDEMPR.

6. Gonzalez, R.A., 1991; Summary Report on the Geology and Mineral Potential of the Blaster Mineral Claim: Private report for Kancana Ventures Inc., August, 1991.

7. Henneberry, R.T., 1987; Geology and Economic Potential of the Bear Project, Alberni M.D., B.C.: Private memo to International Coast Minerals Corp., July 9, 1987

8. Henneberry, R.T., 1987; Economic Potential of the Kennedy River Valley Gold Camp, Vancouver Island, B.C.: Private report for International Coast Minerals Corp., Nov. 9, 1987.

9. Northcote, K.E., Ph.D.; Vancouver Petrographics Ltd.: Letter Reports on 8 petrographic samples from Blaster property dated May 23, 1991 and Aug. 6, 1991.

10. Pawliuk, D.J., 1988; Diamond Drilling, Geology, Geophysical and Geochemical Surveys on the Blaster Mineral Claim: Private report for Nationwide Gold Mines Corp. and Golden Spinnaker Minerals Corp., Sept. 15, 1988.

11. Stevenson, J.S., 1947; Lode-gold Deposits of Vancouver Island: B.C. Department of Mines, Bulletin 20, Part V.

E. Summary of Work Done.

The 1991 assessment work program on the property was undertaken in several stages. On June 22, 1991, prospector Kelly Gourley and assistant R. Gourley visited the property and took 9 rock samples. On Nov. 11, 1991, a three man crew from Keewatin Engineering (headed by geologist A. Travis) visited the property in the company of prospectors Kelly Gourley and Dean Fleming. Poor weather conditions and high water precluded mapping and sampling of the Elite II structure as planned. The crew, however, managed to take 5 rock samples before demobilizing to Vancouver.

The first batch of samples was analysed at the Acme Analytical facility in Vancouver, the second batch by Min-En Labs. of North Vancouver. All samples were analysed for gold by standard AA techniques, as well as for 30 elements by I.C.P. (Inductively Coupled Argon Plasma).

As an adjunct to the field program, petrographic studies were

also carried out on 8 rock samples from the property. This work included polished sections, polished thin sections, off-cuts, and petrographic descriptions with photos. K.E. Northcote, Ph.D., P.Eng., of Vancouver Petrographics Ltd. in Fort Langley prepared two petrographic reports, the first dated May 23, 1991 and the second Aug. 6, 1991.

2. TECHNICAL DATA AND INTERPRETATION

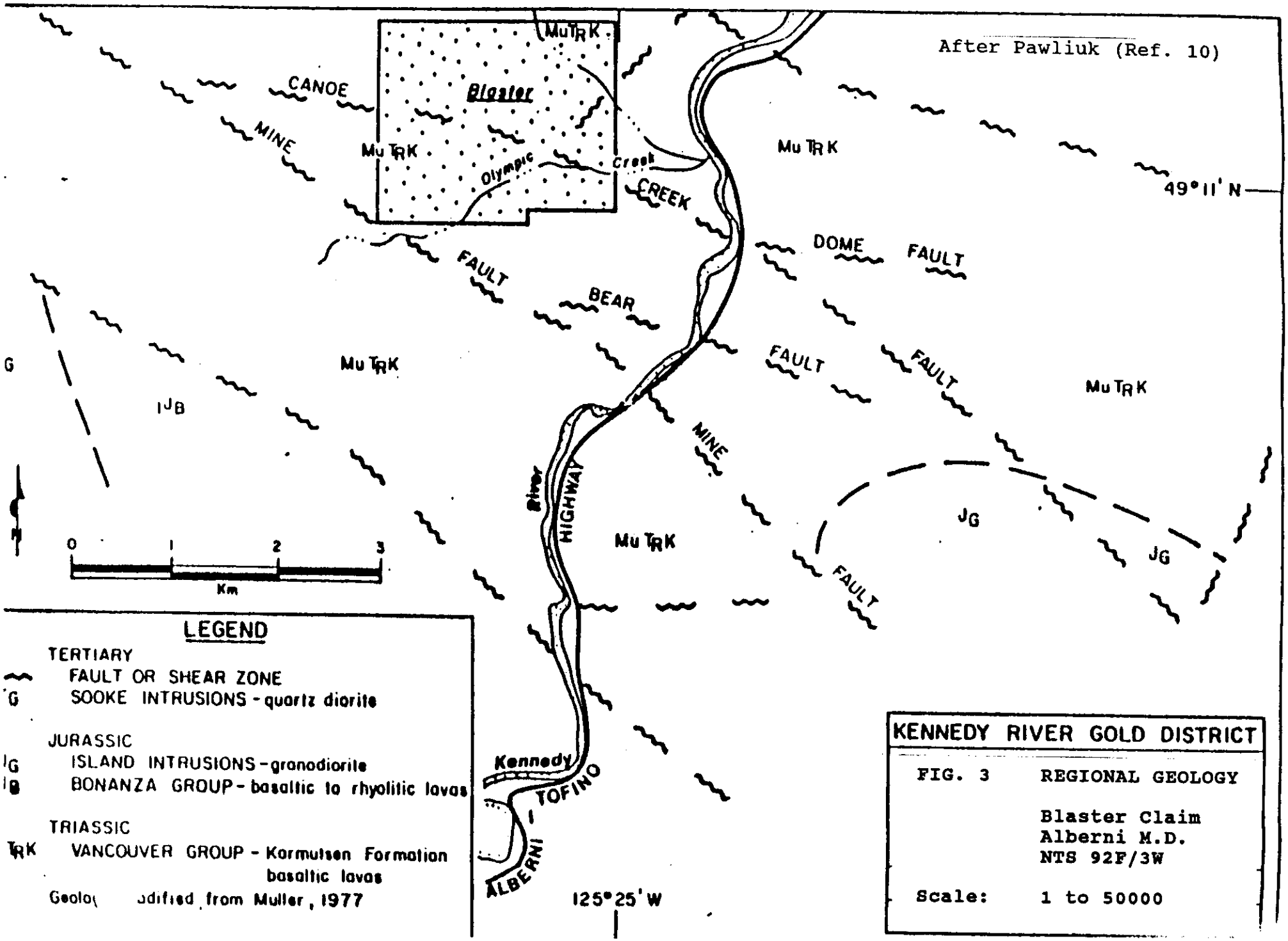
A. Regional Geology

This and the following section on property geology has been largely excerpted from Gonzalez (Ref. 6).

The Kennedy River District lies within a structurally active section of western Vancouver Island and is underlain by rocks of the Vancouver Group, including the Karmutsen Formation, the Quatsino Formation and the Bonanza Volcanics. The Vancouver Group is intruded by rocks of Jurassic and Tertiary age. Gold mineralization is predominantly localized by west-northwest trending faults and shear zones, active during Tertiary time and probably related to Tertiary intrusions.

The Karmutsen and Quatsino Formations are the principal members of the Triassic aged, Vancouver Group. The Karmutsen Formation represents a thick accumulation (approximately 6000 m)of submarine basic pillow lavas, pillow breccias, lava flows, related dykes and sills, and intervolcanic limestone. Limestone is present only in the upper portion of the formation and is usually less than one metre thick. Most of the formation is characterized by weakly metamorphosed greenschist facies. The Quatsino Formation is a sedimentary unit composed primarily of massive limestone. It rests paraconformably atop the Karmutsen Formation and is disconformably overlain by the Bonanza Volcanics. The sedimentation represented by the Quatsino Formation indicates a prolonged cessation of volcanism. The limestone is massive, gray with little or not apparent bedding. The Quatsino Formation varies in thickness from 25 m in the northern half of Vancouver Island to approximately 475 m north of Victoria. The formation may be contact metamorphosed to marble and/or partly or completely silicified at intrusive contacts. At intrusive contacts, skarn is commonly present containing pyroxene (diposide), epidote, chlorite, and garnet together with magnetite, pyrrhotite, and chalcopyrite.

Bonanza Volcanics represents an assemblage of volcanic rocks comprised of andesitic to latitic flows, tuffs, and breccias which overlies the Quatsino Formation as an erosional unconformity. The lithology of Bonanza Volcanics are varied and heterogeneous, in contrast to the monotonously uniform sequences of the Karmutsen Formation. Lavas range in composition from basaltic andesite, commonly amygaloidal, to rhyodacite and are interbedded with maroon


After Pawliuk (Ref. 10)
Blaster
CANOE
MINE
Olympic Creek
CREEK
DOME
FAULT
BEAR
49°11'N
MuTRK
JB
G
JG
MINE
River
HIGHWAY
Kennedy
TOFINO
ALBERNI
125°25'W
0 1 2 3
Km
LEGEND
TERTIARY
FAULT OR SHEAR ZONE
SOOKE INTRUSIONS - quartz diorite
JURASSIC
ISLAND INTRUSIONS - granodiorite
BONANZA GROUP - basaltic to rhyolitic lavas
TRIASSIC
VANCOUVER GROUP - Karmutsen Formation basaltic lavas
Geolo(odified from Muller, 1977
KENNEDY RIVER GOLD DISTRICT
FIG. 3 REGIONAL GEOLOGY
Blaster Claim
Alberni M.D.
NTS 92F/3W
Scale: 1 to 50000

and green tuffs and breccias and several clastic sedimentary units, some of which contain Lower Jurassic fossils. The total thickness of this unit is estimated at over 2500 m.

Two periods of intrusive activity have been documented in the district. The Jurassic Island Intrusions exhibit rocks varying in composition from leucocratic quartz monzonite to gabbro, but the majority are granodiorite and quartz diorite. Generally, small high-level bodies and cores of the larger plutons contain leucocratic granodiorite and quartz monzonite while deeper and marginal intrusives are composed of diorite and gabbro. Contacts with Karmutsen Formation rocks are generally sharp and well-defined. Tertiary plutons are confined to narrow belts crossing Vancouver Island and radiating out from the Tofino region; they usually consist of small stocks (less than two square km in surface area), dykes, and sills. Gold-quartz veins appear to be mainly or exclusively related to these Tertiary plutons. These stocks are medium-grained quartz diorite and consist mainly of quartz, oliogoclase-andesine, and biotite. Outcrops are conspicuously jointed, with a bouldery or hummocky appearance due to rounding by exfoliation of angles between joint planes. Contacts with older rocks can be either sharp or sheared.

West-northwesterly to westerly trending faults of Tertiary age cut the rock units in the area. Gold mineralization is predominantly localized within these structures, suggesting a Tertiary age for the mineralization.

Regional geology is shown on Fig. 3.

B. Property Geology

Karmutsen Formation andesite and andesite porphyry crop out on the east and south side of the claim. These volcnaics have been intruded by quartz diorite belonging to the Island Intrusions and are found to outcrop in the central and northwestern portion of the claim. A small amount of Quatsino Formation limestone, approximately 40 m thick, is found capping a small hill in the southwestern portion of the claim. The Canoe Creek Fault passes through the central portion of the property, is about 20 m wide, and includes sheared, brecciated rock that has been locally silicified and bleached.

The most important structures found to date on the property from an economic perspective are the Elite and Elite II Veins. The Elite Vein is hosted in an easterly to northeasterly trending shear or fault which is likely a splay of the Canoe Creek fault. This quartz-sulphide vein is 35 to 75 cm wide at surface and dips steeply to the north and northwest. It has been partially exposed by hand trenching for an indicated length of 85 m. Massive to weakly brecciated andesitic volcanics host the vein. Alteration is

typical of the regional propylitic assemblage which consists of chlorite, carbonate and pyrite; it is significantly stronger proximal to the vein. Pervasive chlorite with lesser silicification, limonite, pyrite and bleaching form a halo of approximately 40 cm in both the hanging wall and the footwall. No gouge was noted along vein contacts. Mineralization, occurring primarily as pods, seams, and fracture filling, consists predominantly of pyrite and pyrrhotite ranging in concentration from 10 to 25 per cent. Minor amounts of arsenopyrite and sphalerite have also been observed. The stronger mineralized sections of the vein are well oxidized within the surface exposures.

The complex nature of the regional faulting is little understood in the southern portion of Vancouver Island; however, there is a strong correlation between gold deposits and the regional west-northwesterly to westerly faults. The Canoe Creek fault is one of these westerly trending structures, and it divides the claim into two halves. The Elite II Vein lies within this structure and is traceable, where the Creek has exposed bedrock, for approximately 400 m. The shear, which in places is up to 10 m wide, is made up of bleached and silicifed volcanics and contains irregular lenses and pods of quartz. Two to six per cent disseminated pyrite and minor pyrrhotite are found throughout the shear. The most abundant sulphides are contained with the quartz lenses and pods. Rock samples that contain the most pyrite also contain the most gold and silver.

C. Geochemistry - Rock

Fourteen rock geochem samples were collected during the 1991 program. Sample locations have been plotted on Fig. 4; values for gold, silver and arsenic are shown on Fig. 5 and for copper, lead and zinc on Fig. 6. All maps are at a scale of 1:5000; sample sites were plotted in the field on a base map prepared from a government topographic map.

Following are sample descriptions.

Oly Crk 1	Off-white to pale grey vein quartz with patches of sulphides, predominantly pyrite; sericite, chlorite; weak brecciation. Chip across vein over 0.3 m.
Oly Crk 2	Same as above, only 5 m further west along vein.
Oly Crk 3	Same as above, only 5 m further west along vein.
Oly Crk 4	Same as above, with higher sulfide content. 5 m further west along vein.
Oly Crk 5	Same as above, lesser sulfides, 5 m further west.

Oly Crk 6	Same as above, 5 m further west.
Oly Crk 7	Same as above, 5 m further west.
Oly Crk Kristen	Grab from quartz vein outcrop. Abundant pyrrhotite with lesser chalcopyrite and pyrite; carbonate alteration.
FrogLk Qtzflt	Grab from 0.3 m angular float boulder. Pale quartz with minor pyrite.
4251	Sericitized, bleached, pyritized Karmutsen volcanic (?); grab across 2.5m; gossanous zone pinches to less than 0.5m within 10m, trends 324/82NE (splay off E-W structure?).
4252	Sample from underwater quartz vein (about 2.5cm) in sericitized/foliated volcanic (295/83NE); 5-7% pyrite as euhedral 1mm cubes; iron carbonate veinlets (?).
4253	Pale green, sericite altered volcanic with minor (1-3%) quartz sweats/veinlets, trace pyrite. Hanging wall to Elite II structure?.
4254	As above.
4255	As above.

The Oly Crk #1-7 samples were 0.3 m chips taken across the Elite II Vein at five metre intervals to test for extension of gold values westward beyond the limits of previous sampling. Gold values range from 23 to 13,540 ppb in this section accompanied variously by elevated values in arsenic, copper and zinc. Silver values, although anomalous, are not in the economic range. Surface leaching may have contributed to the variable metal content along the vein, although such large fluctuations are not inconsistent with quartz vein systems.

Grab sample #Oly Kristen from a new vein discovered southeast of the Elite Vein returned gold values of 7,280 ppb. The float sample from the southwest corner of the claim (#Frog Lk Qtz Flt) also returned an encouraging gold value of 1200 ppb. Unfortunately the samples from the Nov. 11, 1991 visit to the property were not as promising. As stated, inclement weather and high water kept the party from sampling vein/shear mineralization exposed in and paralleling the creek beds. Best sample was #4252 which was taken underwater from a veinlet: it returned 2700 ppb gold.

D. Petrographic Studies

Eight rock specimens from the Blaster claim were submitted for petrographic analysis at the Fort Langley facility of Vancouver Petrographics Ltd. Sample locations are shown on Fig. 4 marked by a round dot.

Polished thin sections from several gold-bearing quartz specimens indicate the presence of irregular grains of native gold ranging in size from 0.0025 to 0.5 mm and commonly associated with microfractures in pyrite or at the contact between pyrite and chalcopyrite. The presence of bismuth telleride was suspected but not proved.

Complete petrographic descriptions and photographs by Dr. K. E. Northcote, P.Eng., are included in this report in Appendix III.

E. Field Procedure and Laboratory Technique

Rock samples were taken in the field with a prospector's pick and collected in a standard plastic sample bag. Grab samples were taken to ascertain character of mineralization at any specific locality. These samples consisted generally of three to ten representative pieces with total sample weight ranging between 0.5 to 2.0 kg. Chip samples were taken across the strike of mineralized structures and generally weighed about 1.0 to 2.0 kg.

The first group of samples were analyzed at the Acme Analytical facility in Vancouver, the second group at Min-En Labs in North Vancouver, B.C. Rock samples were first crushed to minus 10 mesh using jaw and cone crushers. Then 250 grams of the minus 10 mesh material was pulverized to minus 140 mesh using a ring pulverizer. For the gold analysis a 10.0 gram portion of the minus 140 mesh material was used. After concentrating the gold through standard fire assay methods, the resulting bead was then dissolved in aqua regia for 2 hrs at 95 deg. C. The resulting solution was then analysed by atomic absorption. The analytical results were then compared to prepared standards for the determination of the absolute amounts. For the determination of the remaining trace and major elements Inductively Coupled Argon Plasma (ICP) was used. In this procedure a 1.00 gram portion of the minus 140 mesh material is digested with aqua regia for 2 hours at 95 deg. C and made up to a volume of 20 mls prior to the actual analysis in the plasma. Again the absolute amounts were determined by comparing the analytical results to those of prepared standards.

Specific samples were subjected to further analysis where values obtained exceeded certain threshold levels. High golds were fire-assayed using conventional methods followed by parting and weighing of beads.

F. Conclusions

The 1991 work program on the Blaster claim established continuity of gold values westward along the Elite II Vein structure and located two other areas worthy of follow-up exploration. Petrographic studies provided much useful information as to distribution of gold values in auriferous vein material from the property, as well as establishing common mineral associates with the gold.

Follow-up prospecting and geochemical sampling is warranted in the vicinity of the new occurrences as well as in areas of the claim only lightly covered by previous exploration. Sampling should be continued westward along the Elite II structure and further surface stripping undertaken if warranted.

Respectfully submitted,

D. Cremonese, P.Eng.
Aug. 5, 1992

APPENDIX I -- WORK COST STATEMENT

Field Personnel--Period June 21 to Nov. 12, 1991:	
A. Travis, Geologist (Keewatin Eng.)	
2 days @ $325/day	650
C. Krauss, Prospector (Keewatin Eng.)	
1 day @ $235/day	235
V. Malo, Assistant (Keewatin Eng.)	
1 day @ $235/day	235
K. Gourley, Prospector	
3 days @ $150/day	450
D. Fleming, Prospector	
1 day @ $150/day	150
R. Gourley, Assistant	
1 day @ $100/day	100
Transportation (Truck rental, fuel, ferry costs)	406
Meals & Accommodation	337
Field Supplies/Radios/Consumables, etc.	60
Assays--Acme and Min-en Labs	
Geochem Au, I.C.P. and rock sample preparation	
14 @ $14.75/sample	206
Au Assays	8
Petrographic Studies (Vancouver Petrographics Ltd.)	
8 polished thin sections, 2 reports and photos, etc.	1,173
Assessment Report Costs	
Report and map preparation, compilation and research	
D. Cremonese, P.Eng., 1.5 days @ $375/day	562
Draughting -- RPM Computer	120
Word Processor - 4 hrs. @ $25/hr.	100
Copies, report, jackets, maps, etc.	40
TOTAL.....$	**4,832**
Amount Claimed Per Statement of Exploration $	3,200

APPENDIX II - CERTIFICATE

I, Dino M. Cremonese, do hereby certify that:

1. I am a mineral property consultant with an office at Suite 509-675 W. Hastings, Vancouver, B.C.

2. I am a graduate of the University of British Columbia (B.A.Sc. in metallurgical engineering, 1972, and L.L.B., 1979).

3. I am a Professional Engineer registered with the Association of Professional Engineers of the Province of British Columbia as a resident member, #13876.

4. I have practiced my profession since 1979.

5. This report is based upon field and office work carried out with respect to the Blaster mineral claim, Alberni Mining Division, from mid-May to November of 1991. Reference to sample notes and maps made by geologist A. Travis and prospector Kelly Gourley is acknowledged. I have full confidence in the abilities of all samplers used in the 1991 assessment program and am satisfied that all samples were taken properly and with care.

6. I am a principal of Wotan Resources Corp., a prospective optionor of the Blaster claim: this report was prepared solely for satisfying assessment work requirements in accordance with government regulations.

Dated at Vancouver, B.C. this 5th day of August, 1992.

D. Cremonese

D. Cremonese, P.Eng.

APPENDIX III

PETROGRAPHIC STUDIES

BY

K. E. NORTHCOTE, PH.D., P.ENG.
VANCOUVER PETROGRAPHICS LTD.

Vancouver Petrographics Ltd.

JAMES VINNELL, Manager
JOHN G. PAYNE, Ph.D. Geologist
CRAIG LEITCH, Ph.D. Geologist
JEFF HARRIS, Ph.D. Geologist
KEN E. NORTHCOTE, Ph.D. Geologist

P.O. BOX 39
8080 GLOVER ROAD,
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Mr. Earl MacKrae
Kancana Resources Ltd.
1018-475 Howe Street
Vancouver, B.C. V6C 2B3
Tel 669-6232
FAX 669-3797

May 23, 1991
JOB #187

Dear Mr. MacKrae,

Re: Kancana Sample

Petrographic descriptions have been completed on this sample in transmitted and reflected light.

Results have been sent by FAX this date. Additional sections are being prepared for petrographic examination. The full report and samples, sections etc. will be sent to your office when complete.

Yours very truly,

K.E. Northcote, Ph.D., P.Eng. (604) 796-2068

Kancana 1
Metamorphosed felsic (crystal) tuff, phyllite.

General description
Phyllite composed of a microgranular "feldspathic" groundmass with a strong diffuse patchy sericite overgrowth. The groundmass contains widely scattered coarser angular quartz fragments, a few showing partial resorption. Suggestion of elongate sericitized "plagioclase" fragments and irregular chloritic clusters. Conspicuous disseminated euhedral/subhedral opaques ranging from (microgranular to >0.1 mm).

The microgranular groundmass is very irregularly foliated by diffuse elongate/lensoidal patches of felted microgranular to locally fine granular sericite. Locally forms conspicuous wispy foliated partings.

Cut by very irregular crackle breccia vein systems mostly subparallel to foliation. Few layers breccia voids. Filled with one or more of quartz, chlorite, wall rock fragments, carbonate and opaques which tend to be coarser than opaques disseminated in wall rock. Opaques include magnetite, ilmenite(?), pyrite, chalcopyrite, hematite.

Microscopic description

Groundmass. Original textures largely obliterated. Feldspathic material; 40%, microgranular; forms most of the groundmass.

Sericite; 35%, (microgranular to 0.1 mm). Very fine felted/foliated. Abundantly disseminated mainly in elongate clots, wispy partings in foliation.

Crystal fragments

Quartz; <<5%, fragments (to 1.5 mm). Most fragments angular but with slight rounding, "nibbled" margins and a few with embayments suggesting resorption.

Plagioclase remnants(?); <10%, irregular sericitic clusters with contrasting textures and distinct outlines may represent former scattered plagioclase grains. Suggested by widely scattered irregular outlines of more abundantly sericitic patches scattered within the foliated groundmass.

Opaques; see Reflected light, below.

Crackle breccia/veinlets; 10%

Quartz; >5%
Chlorite;<5%
Carbonate; <1%
Wall rock fragments
?; <1%, sinuous hairline veinlets, microgranular high relief.

Kancana 1 Continued

Reflected light
Opaques; >5%

Magnetite; <5%, euhedral/subhedral, (<.01 to 0.3 mm). Fairly evenly disseminated grains, clusters of grains.

Ilmenite(?); <<1%, euhedral/subhedral, (<.01 to 0.3 mm). Similar in appearance to magnetite but weakly anisotropic.

Pyrite; <1%; euhedral/subhedral (<.01 to 0.8 mm, most grains <0.2 mm). Abundantly disseminated in narrow fracture zones. One large composite grain contains blebs of magnetite, chalcopyrite, partial hematite alteration.

Chalcopyrite; traces, anhedral (<.01 to <.05 mm). Widely disseminated grains and associated with (cutting) magnetite. Small clusters of grains in carbonate. Minute fracture controlled blebs in pyrite. [Note: Lacks poor polish and anomalous reflectance of gold.]

Hematite; <1%, anhedral and pseudomorphous after magnetite, (<.01 to 0.2 mm). Some grains pseudomorphous after magnetite, but commonly just partial replacement/intergrowths with magnetite. There are a number of anhedral grains, pale grey-white in colour with faint mottled anisotropism, weak reddish internal reflection; also hematite(?).

Gold was not observed in this polished thin section.

Kancana #1 A
Mineralized sericite phyllite (altered crystal tuff)

General description
Original minerals and textures obliterated by "alteration" and mineralization. Some ghost-like remnant textures of former crystal tuff. Irregular discontinuous streaked foliation.

Groundmass mottled by intermixed patches of very fine/microgranular sericite and sericite and plagioclase clouded by red-brown alteration dusting. Contains abundant pseudomorphs of former plagioclase crystal/fragments replaced by slightly coarser felted sericite. Widely scattered isolated quartz grains. (Original crystals/fragments?) Disseminated euhedral/subhedral opaque (pyrite) grains.

Superimposed diffuse partings of pure sericite and fracture controlled diffuse segregations, veins of coarse sericite, quartz, epidote and opaques (pyrite).

Opaques; 20%, predominantly pyrite, traces chalcopyrite, trace covellite.

Microscopic description
Minerals present

Sericite; 40%, anhedral (microgranular to 0.1 mm)
(a) Microgranular felted groundmass with feldspathic material
(b) Superimposed sericite-rich partings
(c) Felted pseudomorphs after plagioclase crystals/fragments
(d) Coarser fracture controlled diffusions/veins with epidote etc.

Feldspathic grains; 30%, anhedral (microgranular) as irregular red brown alteration patches with intermixed microgranular sericite forming much of groundmass.

Epidote; <5%, anhedral (<.01 to 0.1 mm). Irregular grains, clusters of grains in fracture controlled segregations with sericite, quartz and sulphides.

Quartz; >5%, anhedral, (<.05 to 0.1 mm)
(a) Irregular grains, clusters of grains in fracture controlled segregations with sericite epidote and sulphides.
(b) Few coarser isolated grains which may represent scattered original quartz crystals/fragments.

Sphene(?); <1%, anhedral (microgranular), small clusters of microgranular grains.

Carbonate; traces, anhedral

Opaques 20%, see Reflected light, below

Kancana #1A Continued

Reflected light
Opaques; 20%, disseminated and fracture controlled.

Pyrite; 20%; euhedral/subhedral/anhedral (<.01 to 0.5 mm). Disseminated clusters of grains but most abundantly as diffuse fracture-controlled clusters of grains.

Distinct pale yellow colour. Very weakly but distinctly anisotropic, dark bluish grey to dark orangy red. Does not have the strong anisotropism of marcasite and arsenopyrite. A multielement analysis should be run on this sample (ICP).

Chalcopyrite; <<<1%, anhedral (<.01 to 0.1 mm). Irregular blebs and hairline fracture controlled blebs in pyrite. Not gold because it lacks the colour, poor polish and "anomalous reflectance" of gold.

Sphene(?); <<<1%, anhedral, (<.01 to .05 mm). Low reflectivity translucent.

Covellite; trace, anhedral (<.0025 to <.01 mm). Associated with chalcopyrite.

No gold was observed in polished thin section.

Kancana #2
Altered mineralized sericite phyllite/crystal tuff

General description
Groundmass textures obliterated. Composed of felted microgranular sericite. Some mottling by clots of intermixed microgranular feldspathic material. Scattered coarser ghost-like pseudomorphs of sericitized plagioclase with more abundant partially resorbed quartz crystal/fragments.

Superimposed crackle fracture network filled with diffuse dissemination and larger clots of intermixed quartz, undetermined(?), epidote, sericite and opaques.

Opaques <20%, pyrite, some dissemination in groundmass but predominantly in fracture controlled diffuse networks. Trace of chalcopyrite.

Gold was <u>not</u> noted in this polished thin section.

Microscopic description
Minerals present

Sericite; 55%, anhedral (microgranular to 0.1 mm).
(a) Microgranular felted groundmass; some mottling by more feldspathic rich microgranular patches.
(b) Scattered slightly coarser felted patches with regular outlines pseudomorphous after plagioclase crystal/fragments.
(c) Fracture controlled diffuse segregations.

Quartz; >10%
Original crystal fragments(?); >5%, anhedral (to >1.0 mm). Most are irregular shaped, crackled and fracture filled with microgranular sericite of groundmass. Suggestion of subrounded resorption textures.

Impregnation; >5%, anhedral (<.05 to 0.2 mm). Diffuse fracture controlled aggregates of grains with epidote, coarser felted sericite, opaques.

Epidote; 1%; anhedral, (<.05 to 0.1 mm). Irregular clusters of grains in diffuse fracture controlled segregations with quartz, epidote, ?, and opaques.

Undetermined(?); <5%, anhedral/subhedral (0.1 to 0.2 mm). Sinuous lensoidal fracture fillings. Mottled plumose/fibrous, low relief and birefringence. Colourless. Regular cross fracture pattern filled with sericite, trace carbonate.

Opaques; see Reflected light, below.

Kancana #2 Continued

Reflected light

Opaques; <20%. Some disseminated in groundmass but most in fracture controlled networks as disseminated grains/clusters of grains with quartz, epidote, coarser sericite.

Pyrite; 20%, euhedral, subhedral, anhedral, (<.01 to >0.3 mm). Disseminations in groundmass but predominantly linear disseminations and clusters controlled by fractures/ impregnations.

Chalcopyrite; traces, anhedral, (.0025 to .01 mm). Few minute blebs in pyrite. Less abundant than in Kancana #1.

Hematite; <<1%, anhedral, (<.05 to 0.1 mm). Irregular shapes associated with some pyrite grains.

Kancana #3 (Two sections)
Gold-bearing mineralized quartz

General description
Massive white quartz with widely scattered fracture controlled pyrite/marcasite>chalcopyrite>>sphalerite, bismuth telluride?, pyrrhotite.
Gold present:
One of the two sections contains numerous, >35), gold grains closely associated with chalcopyrite and like chalcopyrite, in microfractures in quartz, some gold grains associated with bismuth telluride(?)

The gold grains are very irregular in shape and range in size from (<.0025 to 0.5 mm). Distribution very irregular, widespread clusters of grains.

NOTE: Some vugs in polished section and hand specimens contain unidentified pale green-yellow crystals. Sections too thick to obtain optical properties.

Iron stained.

Reflected light
Opaques 5%

Pyrite/marcasite; <5%, subhedral/anhedral, (<.01 to clusters >2.0 mm). Single grains clusters of grains. Fracture controlled in quartz. Associated with chalcopyrite. Distinct cream colour, weakly anisotropic. Minor intergrowths with paler mascasite which is strongly anisotropic. Pyrite may be arsenical??

Note: Arsenopyrite is suspected in hand specimens but was not detected in polished sections.

Chalcopyrite; <1%, anhedral, (<.01 to 1.0 mm). Irregular grains. fracture-controlled. Associated with pyrite/marcasite. Some associated sphalerite, gold galena/bismuth(?).

Covellite; traces, anhedral, (<.01 to <.05 mm). Rimming and in fractures in some chalcopyrite grains.

Sphalerite; traces, anhedral (<.05 to 0.1 mm). Scattered irregular grains associated with chalcopyrite.

Pyrrhotite; trace, anhedral (0.1 mm). Fracture controlled.

Bismuth telluride(?); traces, anhedral, (<.05 to >0.2 mm). Irregular grains, fracture controlled. Associated with gold, chalcopyrite. Very poor polish. Silver white, soft, anisotropic, tarnishes readily. Requires Scanning Electron Microscope analysis for positive identification.

Kancana #3 Continued

NOTE: Two minute pinkish tint blebs (native bismuth?) were noted in chalcopyrite.

Gold; several clusters of grains. Conspicuous in polished thin section. Bright gold colour. Poor polish, "anomalous reflectance". Isotropic.

(a) In microfractures in quartz; >20 grains (<.01 to >0.5 mm), in a very conspicuous cluster. In microfractures in quartz and in adjacent quartz with no obvious fracture control. Very minor associated bismuth telluride?

(b) In microfractures in quartz gangue. Beaded clusters (<.0025 to >.05 mm).

(i) 5 grains in one cluster
(ii) 2 grains in brecciated quartz(?) fragment.

(c) Fracture controlled, 8 grains (<.05 to >0.5 mm) intergrown with chalcopyrite and galena (?) bismuth telluride(?) and in adjacent quartz gangue. Conspicuous.

Ken and Kelly Gourley
Gumboot Exploration Ltd.
961 Shavington Street
North Vancouver, B.C.
V7L 1K6
Tel 986-4497 /597-5163

August 6, 1991
JOB # 212

Dear Sirs:

Re: Samples marked Kristen Vein, Frog Lake Skarn and E 2

Polished thin sections from samples, provided by you, from Kristen Vein (2 sections A and B), Frog lake Skarn and E 2 were analyzed under transmitted and reflected light. The resulting report, accompanied by photomicrographs, is attached.

As I mentions on the telephone, the suspected presence of bismuth telluride in a polished thin section examined earlier should be confirmed by SEM before its presence is made "official". Its presence is only suspected. If multielement analyses show significant Bi and Te it would support the suggestion.

Yours very truly,

K.E. Northcote

K.E. Northcote, Ph.D., P.Eng. 796-2068

Kristen "A" Continued

Microscopic description

Transmitted light
Gangue 80% (estimate)

Quartz; 70%, anhedral lesser subhedral, (to several mm). Very irregular interlocking grains, some vague deformed crystal outlines. Abundantly sheared, brecciated. Intense strained extinction.

Carbonate; <5%, anhedral, (<.01 to 0.5 mm). Segregated clusters of grains filling fractures and voids in brecciated quartz. Generally crushed fabric. Close association with opaques (sulphides). Local iron staining.

Sericite; <<5%, anhedral (<.05 to 0.3 mm). Irregular bladed. In foliated segregations forming networks in shear planes among quartz fragments. Although in segregations shows association and slight intermingling with carbonate and chlorite.

Chlorite; <<5%, anhedral (<.05 to >0.2 mm). Irregular bladed/plumose. In foliated segregations forming networks in shear planes among quartz fragments. As for sericite, shows slight intermingling with carbonate and sericite.

Reflected light

Opaques >20% (estimate) Strong breccia void/fracture control. Very little disseminated other than very weak nonreflective dusting in quartz. Mineralization forms a discontinuous network among quartz grains associated with carbonate > sericite > chlorite.

Pyrrhotite; 10%, anhedral, (<.05 to 0.5 mm). Aggregates of grains form irregular masses/networks among quartz fragments. Some intergrowths with chalcopyrite. Veinlets cut pyrite.

Chalcopyrite; <5%, anhedral, (<.05 to masses several mm). Some irregular "clusters" are intergrown with pyrrhotite. Most of the chalcopyrite is segregated into irregular masses/ networks among quartz fragments. An important association is irregular narrow chalcopyrite veined networks showing linear orientation (fracture fillings) cutting through masses of pyrite where it is associated very minor pyrrhotite, galena, traces of sphalerite and a gold grain.

Pyrite; <<<5%, anhedral, (<.01 to 0.2 mm). Irregular subrounded grains aggregates of grains to several mm. Cut by pyrrhotite. Veined by chalcopyrite, galena with associated gold.

Kristen "A" continued

Arsenopyrite(?); traces, anhedral, (to >0.2 mm). Irregular grain in chalcopyrite.

Galena; <<<<1%, anhedral, (<.01 to mm) Blebs in chalcopyrite. Hairline veinlets/networks with parallel arrangement in pyrite associated with chalcopyrite, lesser pyrrhotite.

Sphalerite; <<<1%, anhedral, (<.01 to .05 mm). Occurs as small blebs associated with pyrrhotite, chalcopyrite. Scattered blebs in chalcopyrite. Beaded grains in hairline fractures in gangue associated with chalcopyrite.

Gold; trace, anhedral (.025 mm)
(a) Small grain (.025 mm) associated with chalcopyrite, galena, pyrrhotite, sphalerite in hairline near parallel fracture system/network in pyrite. Photomicrograph # 91 R VIII-9.
(b) Small grain (.005 mm) in gangue (not confirmed, chalcopyrite with poor polish?). Minute isolated disseminated grains like this require SEM confirmation.

Suggested Paragenesis

Pyrite _____

Pyrrhotite _____

Chalcopyrite _____

Sphalerite _____

Galena _____

Gold _ _ _ ___

Kristen "B"

Mineralized brecciated quartz
General description

Predominantly brecciated quartz with minor carbonate, sericite and chlorite in fractures. Mineralized by fracture controlled pyrrhotite, chalcopyrite and very minor sphalerite, galena and significant free gold in quartz gangue. (See second gold association Kristen "A")

Transmitted light

Gangue
Quartz; as for Kristen "A"
Carbonate; as for Kristen "A"
Sericite; as for Kristen "A"
Chlorite; as for Kristen "A"

Reflected light

Opaques 20%, strong breccia void fracture control. Form a discontinuous network among quartz grains associated with carbonate > sericite > chlorite.

Pyrrhotite; <10%, anhedral, (<.05 to 0.5 mm). Aggregates of grains form irregular masses/networks among quartz fragments. Some intergrowths with chalcopyrite.

Chalcopyrite; <10%, anhedral (<.01 to 0.5 mm?) Large fracture controlled masses (to several mm). Intergrowths and veinlets in pyrrhotite. Segregations among quartz fragments.

Pyrite/marcasite; <1%, anhedral, (<.05 to >0.2 mm). Irregular blebs/rims on pyrrhotite. Less pyrite than Kristen "A".

Galena; <<<<1%, anhedral (<.05 to 0.1 mm). Small irregular blebs in chalcopyrite.

Sphalerite; <<<1%, anhedral (<.05 to 0.3 mm). Intergrowths with and blebs in chalcopyrite

Gold; traces
(a) Gold in gangue (microfractures)
(i) In microfractures leading off from chalcopyrite (.01 mm).

Note: several additional minute grains (<.01 mm) between quartz grains. In many are chalcopyrite with poor polish. A few show deeper colour and anomalous reflectance of gold. SEM required for positive identification of each minute grain.

Frog Lake Skarn
Mineralized skarn
General description

A complex skarn composed of fine interlocking/felted masses of pyroxene (diopside), secondary amphibole, epidote, chlorite, and garnet. The gangue minerals although intermixed, show some segregation into separate mineral species. There are a number of very fine components which require Microprobe analyses for positive identification.

Mineralization, in approximate order of abundance, consists of massive pyrrhotite and intermediate alteration products to pyrite/marcasite, marcasite, pyrite, chalcopyrite and very minor sphalerite. Hematite forms coliform veinlets in late fractures.

No gold was observed in this section.

Transmitted light Section thick, (anomalous birefringence)

Gangue; 35%, partially obscured by iron stain.
Altered lithic fragments; Felted masses of very fine diopside(?), secondary amphibole, with microfractures filled with chlorite.

Microprobe analysis required to sort out this very fine assemblage.

Coarser crystalline component

Diopside (?); anhedral (<.01 to 0.3 mm). Interlocking clusters of grains enclosed in opaques. Associated epidote. Inclined extinction Confirmed pyroxene group by interference figure. Clouded and obscured by red-brown dusting.

Epidote; anhedral (<.01 to 0.3 mm). Interlocking clusters of grains. Yellow pleochroism. High birefringence (anomalously high because of thick section). Parallel extinction.

Chlorite; anhedral, (<.01 to 0.1 mm). Clusters of grains.

Amphibole; anhedral, (<.01 to 0.3 mm) Acicular to weakly fibrous prismatic. Felted interlocking Confirmed biaxial (-). High 2V. Inclined extinction. With diopside(?), epidote.

Garnet; euhedral/subhedral, (<.05 to 0.2 mm). Clusters of grains and disseminated in opaques. Zoned, anisotropic

Reflected light

Opaques; 65%, (estimate)

Pyrrhotite; >10%, anhedral (continuous masses). Continuous masses of pyrrhotite comprised of aggregates of intergrown

Frog Lake Continued

grains. Early generation crackle fracturing controls alteration from pyrrhotite through:

Intermediate alteration product of pyrrhotite; >20%, anhedral. Micropitted surface. Fracture controlled antler like structures which commonly coalesce to form continuous masses enclosing "birds-eye" pyrrhotite remnants and marcasite protrusions.

Chalcopyrite; <5%, anhedral (<.0025 to >1.0 mm)
Occurs as:
(a) Patches of irregular grains interstitial to gangue (<.0025 to 0.1 mm)
(b) Fracture fillings through gangue (<.01 to
(c) Intergrowths and blebs in fracture controlled pyrrhotite (to >1.0 mm)
(d) Minor blebs in pyrite.

Pyrite; >5%; anhedral (<0.1 to <1.0 mm). Subrounded remnants in pyrrhotite, in intermediate altered pyrrhotite and marcasite.

Marcasite; >10%, anhedral (<.01 to several mm). Rims on altered pyrrhotite and micropitted intermediate alteration product of pyrite. Conspicuous plumose protrusions into pyrrhotite and intermediate alteration product from margins and microfractures in altered pyrrhotite.

Sphalerite; <<<1%, anhedral (<.01 to 0.1 mm). Irregular grains in association with chalcopyrite.

Veins; late crackle fracture.

Hematite; >10%, anhedral (continuous veins-fracture fillings). Composite incrustations.

E 2
Mineralized brecciated quartz

General description
Gangue predominantly crackle brecciated quartz with infilling by felted/foliated clusters of sericite, lesser carbonate.

Mineralized by pyrite interstitial to and partly replacing quartz, crackle breccia infilling. Lesser chalcopyrite (<<1%) in microfractures between pyrite grains and in quartz gangue. Abundant minute blebs in pyrite. Very minor arsenopyrite, galena and pyrrhotite as blebs in pyrite.

There are numerous small gold grains ranging from (<.0025 to 0.05 mm) which occur as isolated grains and in microfractures in pyrite and quartz gangue. Some gold grains are associated with chalcopyrite with the contrast between the two minerals clearly visible. Representative photomicrographs are provided.

Microscopic description
Gangue; 80%

Quartz; 70%, anhedral/subhedral (<.05 to >1.0 mm). Irregular interlocking grains with scattered subhedral crystals. Strong zones of crackle brecciation fracturing. Strained extinction. Weak dusting of microgranular nonreflective opaques.

Sericite; <10%, anhedral, (microgranular to .05 mm) small felted to foliated clusters as crackle infilling with chlorite(?). Masked by iron staining. Associated opaques (sulphides)

Chlorite(?) <<<5%, anhedral (microgranular to .05 mm). Small felted to foliated clusters as crackle infilling with sericite. Low birefringence but masked by iron staining. Associated opaques, (sulphides).

Reflected light
Opaques; 20%, uneven distribution in diffuse clots, fracture filling strong fracture control.

Pyrite; >15%, euhedral/subhedral (<.01 to several mm). Close packed clusters of euhedral/subhedral grains. Crushed locally. Minor infilling with chalcopyrite and associated blebs of gold. Scattered blebs of gold in pyrite.

Chalcopyrite; <<1%, anhedral, (<.01 to 0.5 mm) Irregular clusters of grains in fracture between quartz veins, between pyrite grains. Abundant small blebs in pyrite.

Arsenopyrite; <1%, euhedral/subhedral (<.05 to >0.2 mm). White as compared to pyrite. Weakly/moderately anisotropic. Isolated euhedral grains, irregular intergrowths with pyrite. Some association with chalcopyrite.

E 2 Continued

Galena; traces, anhedral (<.01 to <.05 mm). Minute blebs associated with chalcopyrite and gold grains. Widely scattered minute blebs isolated in pyrite.

Pyrrhotite; traces, anhedral, (<.05 to <0.1 mm). Minute blebs in pyrite. Lacks the massive pyrrhotite of Kristen "A" and "B".

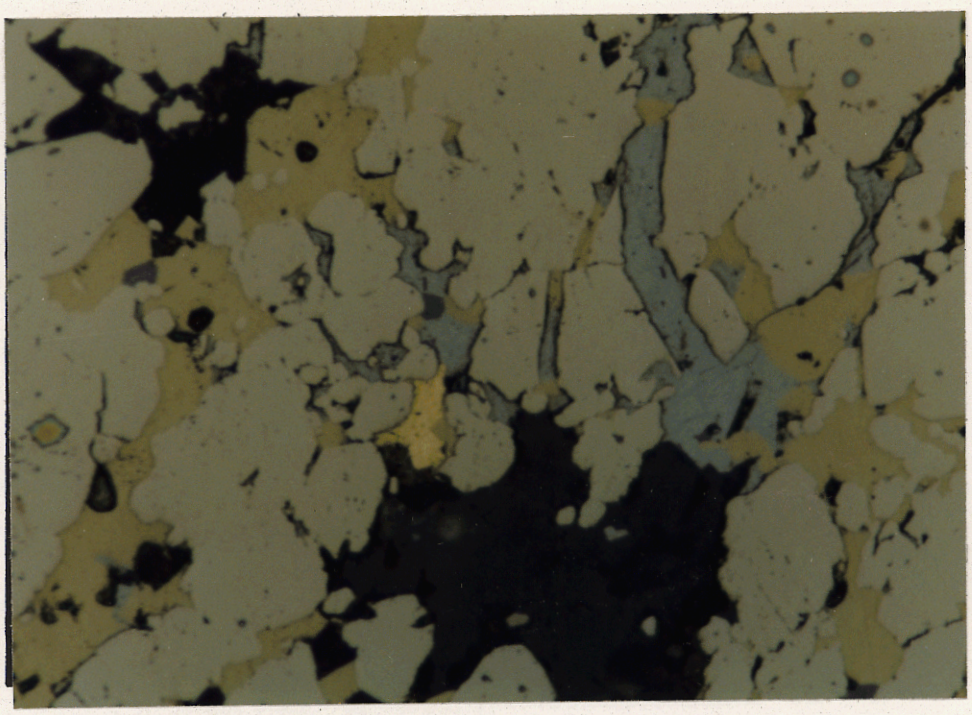
Gold; numerous gold grains ranging in size from (<.0025 to .05 mm) occur as isolated grains and in microfractures in pyrite, in or associated with chalcopyrite and in gangue.

Photomicrographs on the following pages illustrate the size and how the gold occurs as observed in E 2.

K. J. Northcote

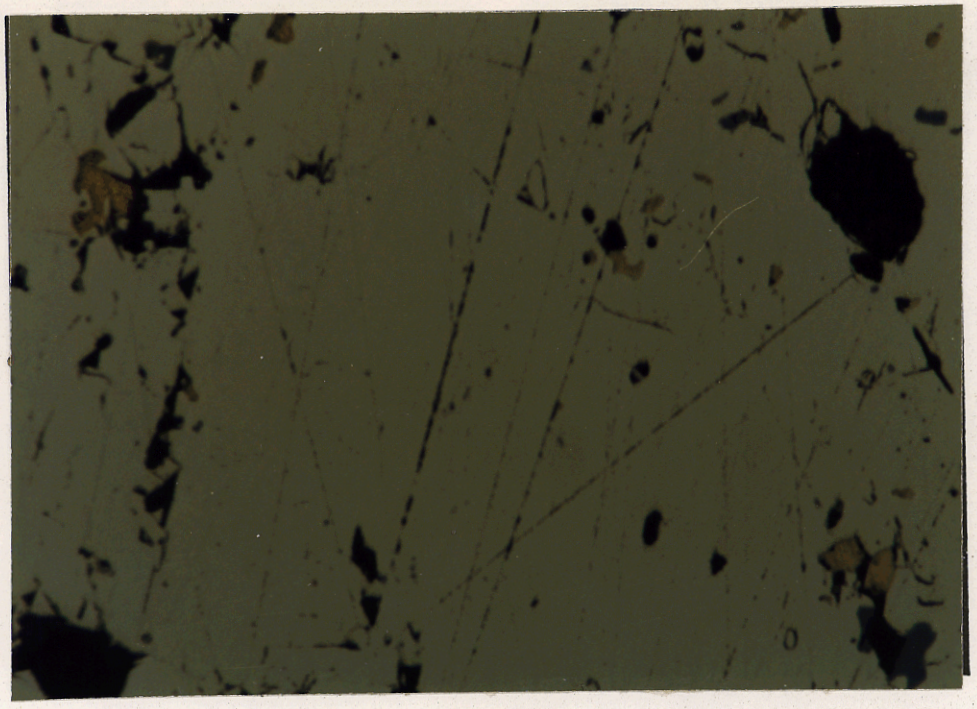
Kristen "A"
Mineralized brecciated quartz

General description
Predominantly brecciated quartz with minor carbonate, sericite and chlorite in fractures. Mineralized by fracture controlled pyrrhotite (10%), lesser chalcopyrite (<5%), pyrite remnants (<<<5%), sphalerite (<<<1%), galena (<<<<1%), trace arsenopyrite and significant free gold. Photomicrograph 91 R VIII-9.



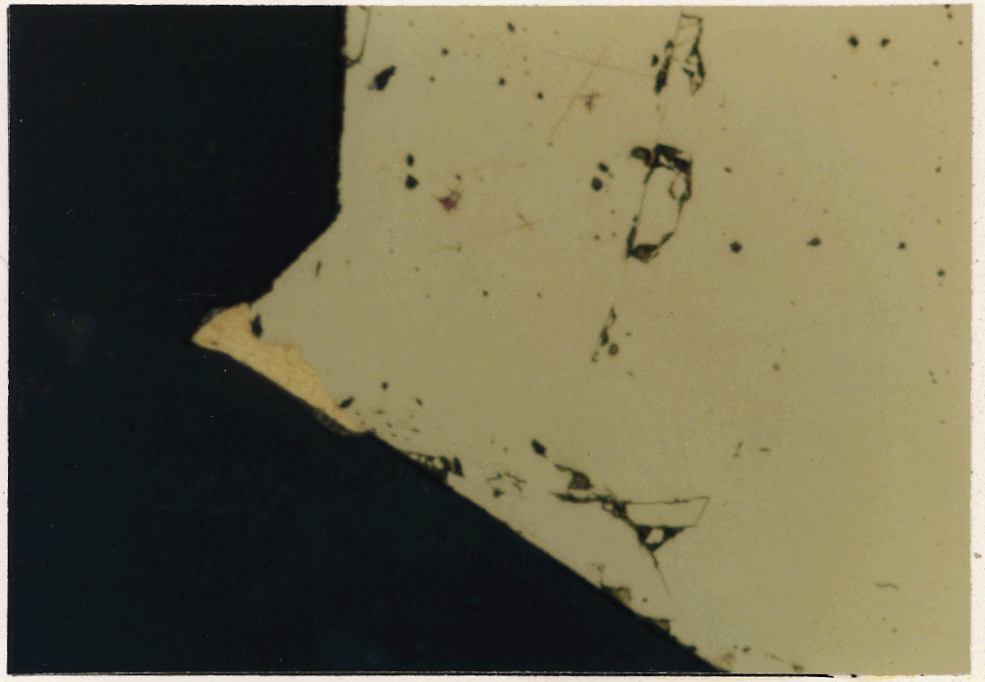
Kristen "A" 91 R VIII-9 0.1 mm

Gold grain (.025 mm) in microfracture in pyrite associated with chalcopyrite, galena, trace sphalerite.



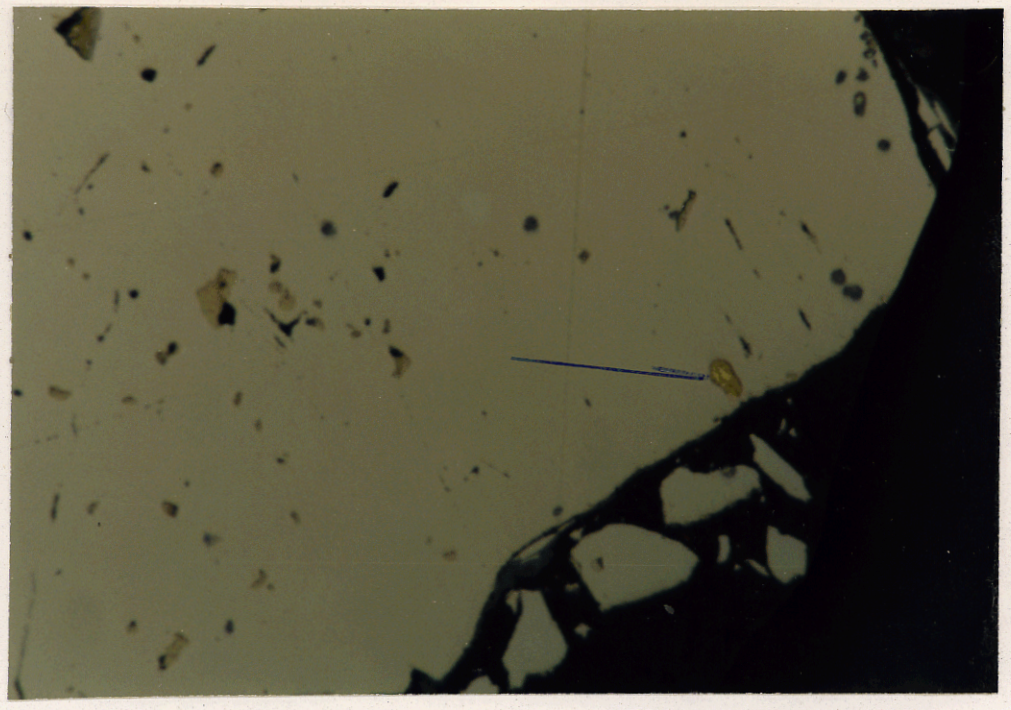
E 2 Target 5 91 R VIII-5 0.1 mm

Isolated gold grain in pyrite (.02 mm), top left. Isolated chalcopyrite grain for comparison lower right.



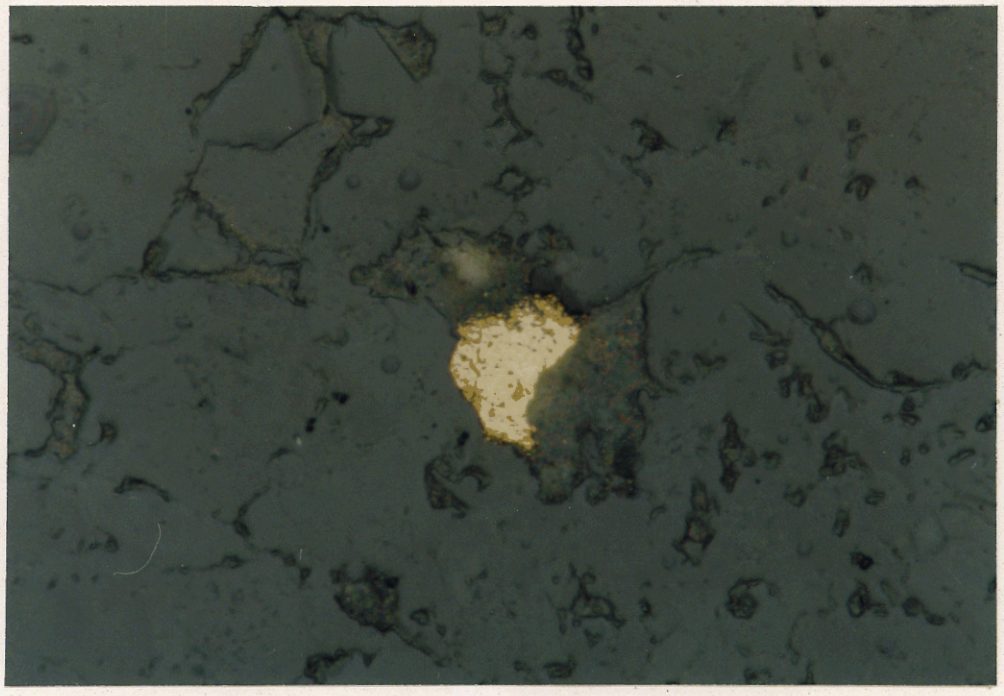
E 2 Target 9 91 R VIII-7 0.1 mm

Gold grain (.05 mm) on point of chalcopyrite centre left against gangue.



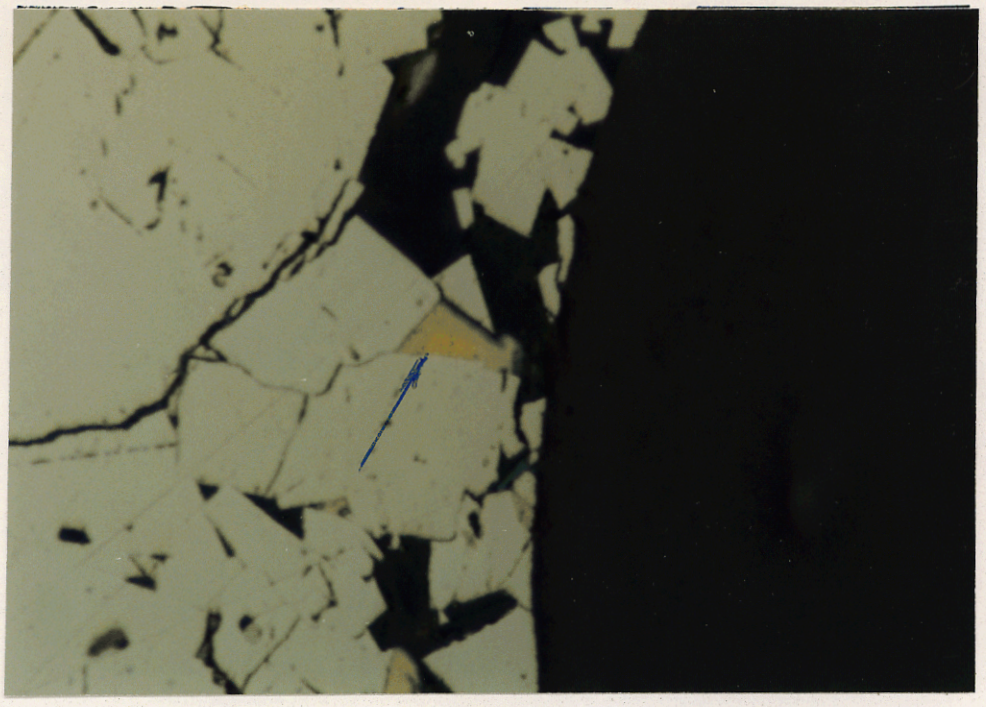
E 2 Target #10 91 R VIII-1 0.1 mm

Isolated gold grain (.01 mm), arrow, in pyrite. Note abundant chalcopyrite grains for comparison.



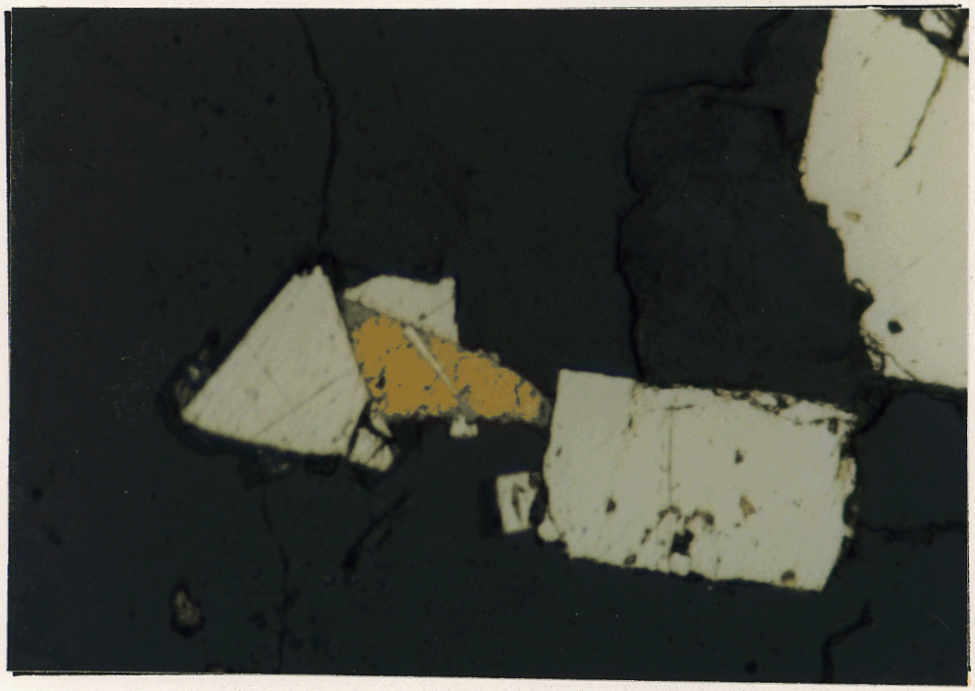
E 2 Target #4 91 R IX-1 0.1 mm

Isolated gold grain (.04 mm) in gangue.



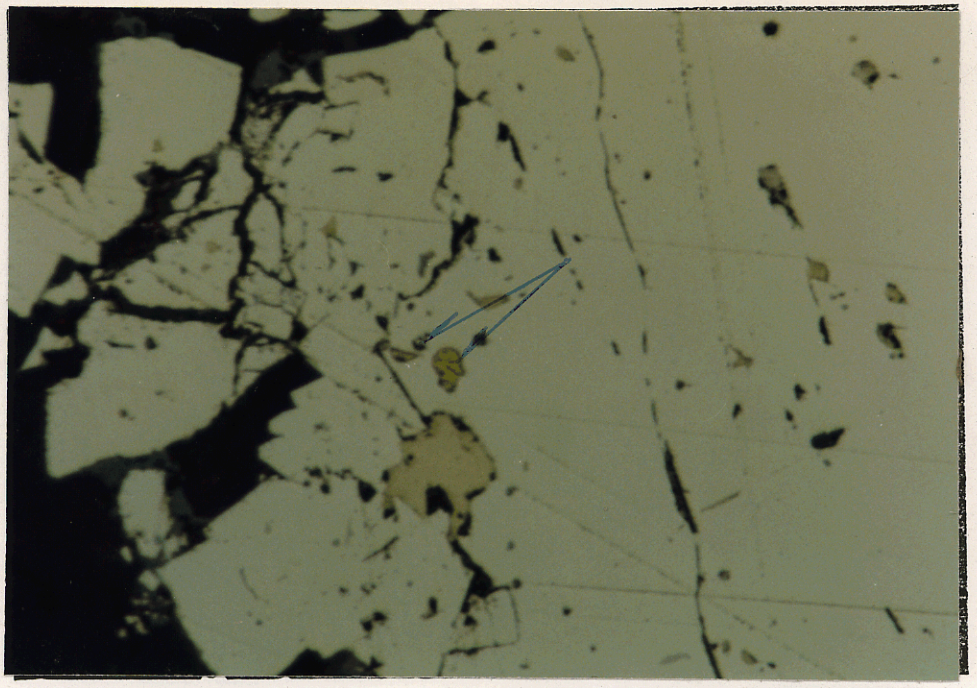
E 2 Target 1 91 R IX-6 0.1 mm

Gold grains arrow (0.0125 mm) in chalcopyrite against pyrite.



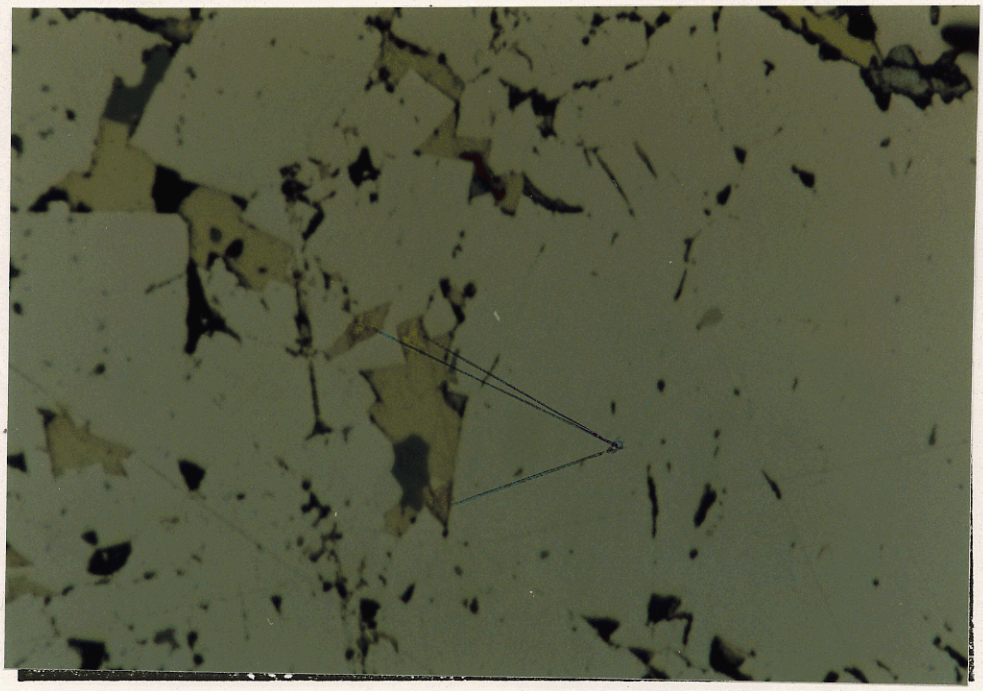
E 2 Target 6 91 R IX 8 0.1 mm

Gold grain (.05 mm) between pyrite grains in gangue. Associated galena (light blue grey.



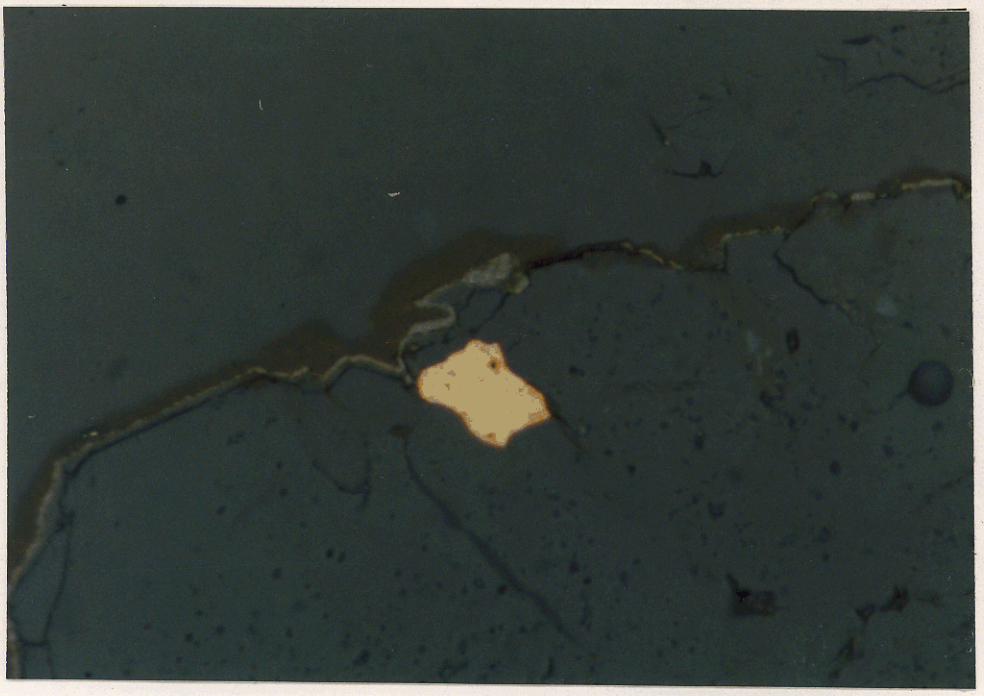
E 2 Target 3 91 R IX 3 0.1 mm

Two grains of gold (.01 and .005 mm), arrow, in pyrite with associated blebs of chalcopyrite for comparison.



E 2 Target 2 91 R IX 4 0.1 mm

Cluster of 3 (+) grains of gold arrows (.01 to <.0025 mm) associated with chalcopyrite in pyrite. Small blebs of sphalerite.



E 2 Target 7 91 R IX-11 0.1 mm

Gold grains, (.0325 mm), in gangue.

E 2 Target 8 91 R IX 12 0.1 mm

Cluster of 3 grains gold (bright orange yellow) in microfracture in gangue and 4 grains associated with pale yellow chalcopyrite (two of these 4 are very minute) (<.0025 to 0.35 mm).

APPENDIX III

ASSAY CERTIFICATES

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Gumboot Mining Exploration File # 91-2737

961 Shavington St., North Vancouver BC V7L 1K6

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
OLY CRK #1	3	694	38	3787	4.8	16	25	459	10.49	46	5	ND	1	5	102.2	4	7	26	.19	.094	2	8	.51	35	.01	4	1.41	.01	.17	1	1280
OLY CRK #2	4	10	14	74	.8	3	9	685	3.64	1753	5	ND	2	71	1.1	4	2	4	3.37	.073	3	3	.74	54	.01	3	1.21	.01	.20	1	114
OLY CRK #3	1	93	4	207	1.2	6	13	996	4.21	827	5	ND	1	127	2.3	2	2	14	4.43	.069	3	4	.96	47	.01	3	.88	.01	.21	1	23
OLY CRK #4	1	1363	72	173	24.2	11	21	891	22.37	1536	5	16	1	52	4.8	5	2	6	1.53	.094	2	3	.60	13	.01	2	.24	.01	.10	1	15760
OLY CRK #5	4	878	35	7070	10.6	11	14	401	5.60	505	5	ND	1	38	187.8	6	2	5	1.52	.060	2	9	.18	24	.01	2	.19	.01	.07	1	2110
OLY CRK #6	3	762	41	6436	12.9	9	7	544	4.44	249	5	10	1	47	177.8	4	2	7	2.48	.053	2	6	.17	29	.01	2	.41	.01	.10	1	13540
OLY CRK #7	2	7	4	49	.2	5	3	703	1.95	11	5	ND	4	69	.9	2	2	2	3.17	.035	5	6	.25	35	.01	2	.35	.02	.18	1	93
OLY CRK KRISTEN	3	7280	78	542	18.6	9	122	2	24.53	18	5	14	1	5	15.1	3	5	2	.16	.371	2	11	.01	9	.01	2	.16	.01	.04	1	14560
FROGLK QTZFLT	4	35	4	46	1.2	13	7	335	2.66	34	5	ND	1	10	.8	2	2	3	.48	.003	2	10	.08	13	.01	2	.36	.01	.03	1	1200
STANDARD C/AU-R	18	57	40	133	6.7	70	32	1039	3.98	41	20	7	39	52	17.2	16	19	56	.48	.089	38	57	.88	177	.09	34	1.89	.06	.15	12	490

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUL 22 1991 **DATE REPORT MAILED:** July 25/91. **SIGNED BY** ..... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

ASSAY IN PROGRESS for Au >5000 ppb

Invoice to Kancana Ventures Ltd.

COMP: KEEWATIN ENGINEERING
PROJ: 9003
ATTN: B.WHELAN/R.PEGG

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 1
DATE
* ROCK *

SAMPLE NUMBER	AU-FIRE PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM
4251	59	1.0	17	16	17	13	1	4
4252	2700	10.7	707	100	6139	446	3	6
4253	100	5.6	64	19	172	925	2	1
4254	118	3.0	168	18	240	982	1	1
4255	313	2.0	153	59	299	72	1	1

• EN LABORATORIES
(DIVISION OF ASSAYER CORP.)

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

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SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-1006

Assay Certificate

1V-1458-RA1

Company: KEEWATIN ENGINEERING
Project: 9003
Attn: B. WHELAN/R. PEGG

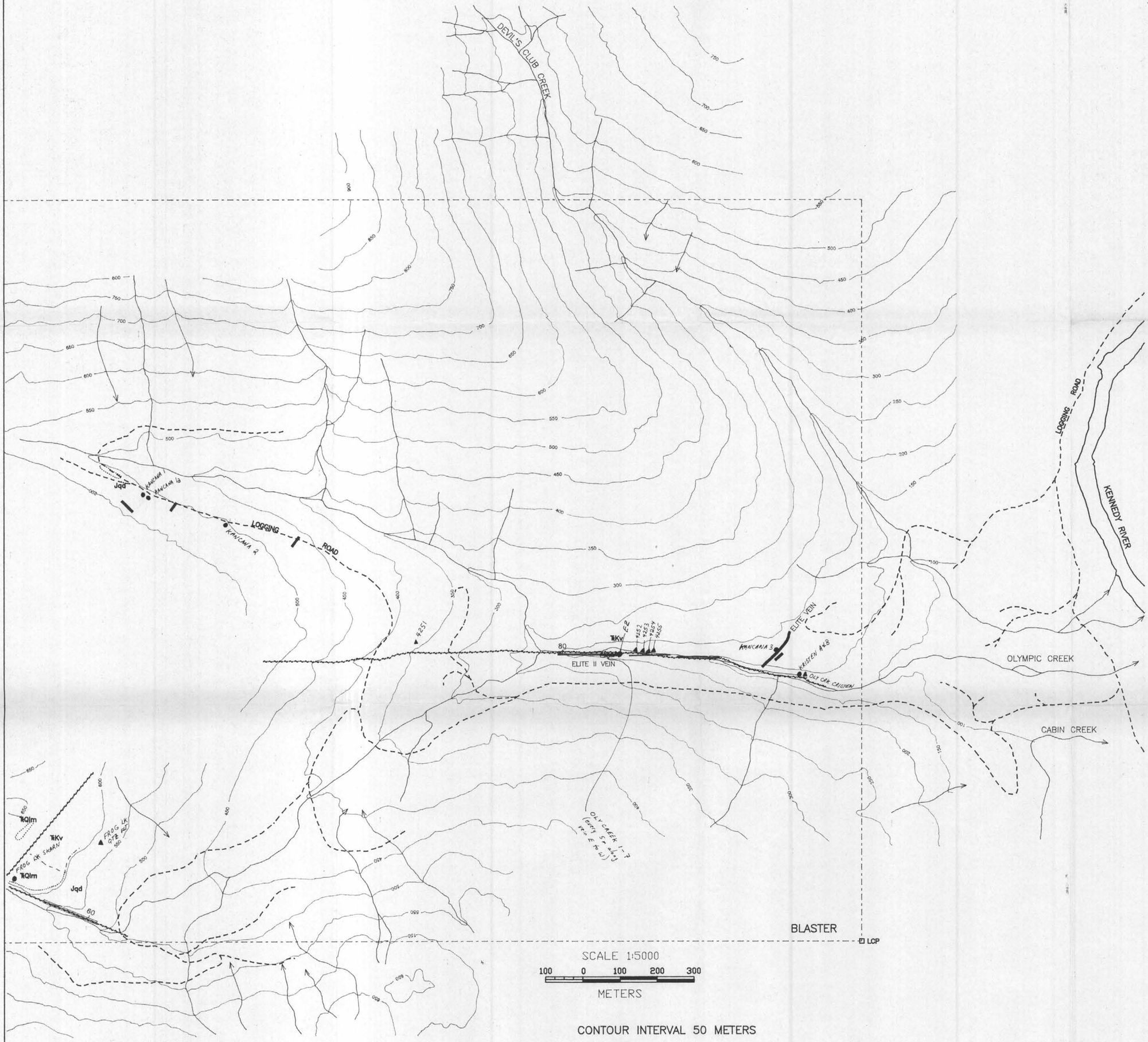
Date: NOV-18-91
Copy 1. KEEWATIN ENGINEERING, VANCOUVER, B.C.

We hereby certify the following Assay of 1 ROCK samples submitted NOV-13-91 by A. TRAVIS.

Sample Number	*AU-FIRE g/tonne	*AU-FIRE oz/ton
4252	2.80	.082

*AU = 1 ASSAY TON.

Certified by _____



LEGEND

JURASSIC

TKv — ISLAND INTRUSIVE, GRANODIORITE

TRIASSIC

TRQlm — QUATSINO LIMESTONE

TKv — KARMUTSEN VOLCANICS

QUARTZ and (or) CARBONATE VEIN (Not to Scale)

CONTACT

FAULT

60 — SHEAR ZONE

ROCK SAMPLE LOCATION

PETROGRAPHIC SAMPLE LOCATION

OUTCROP

GEOLOGICAL BRANCH
ASSESSMENT REPORT

22,456

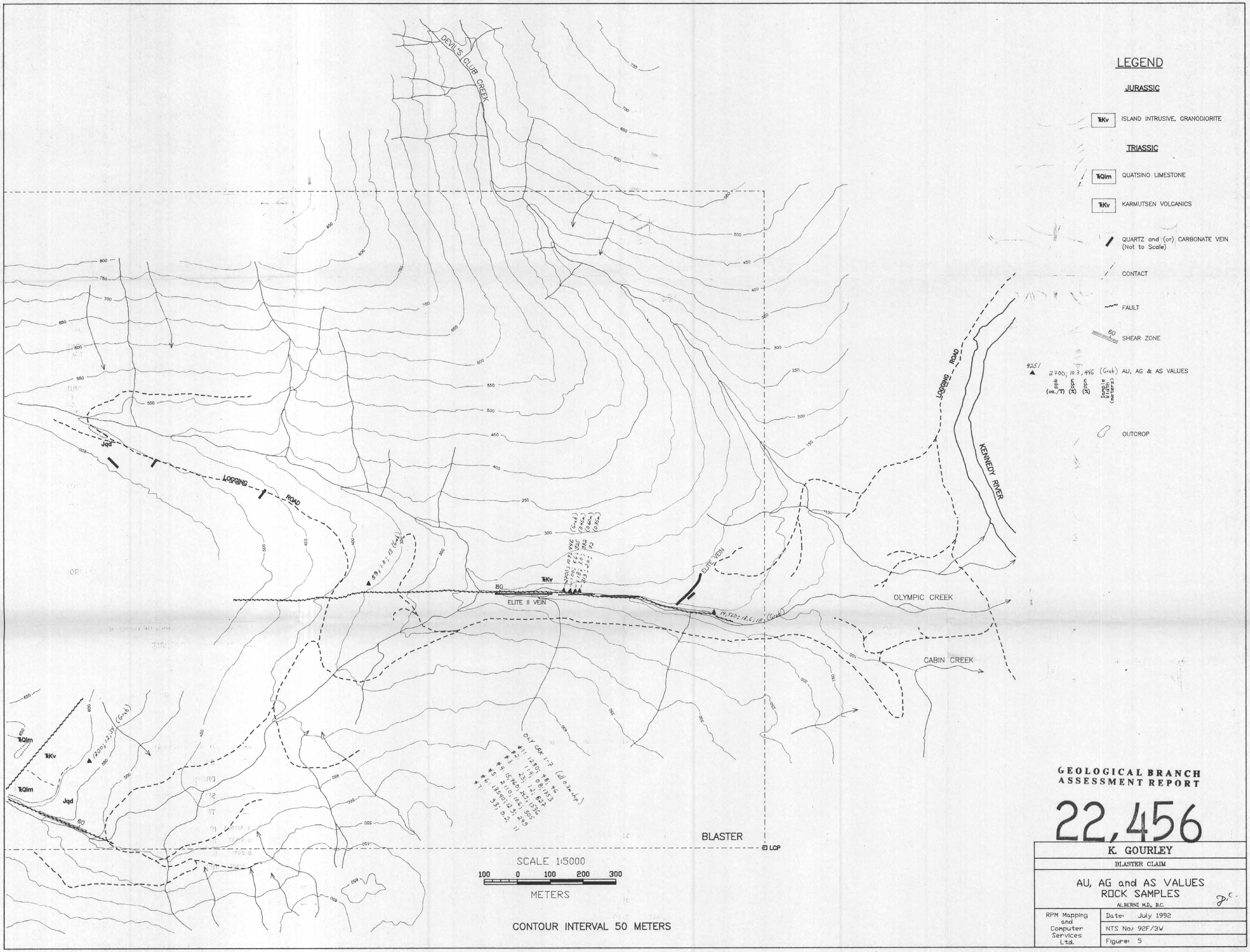
K. GOURLEY

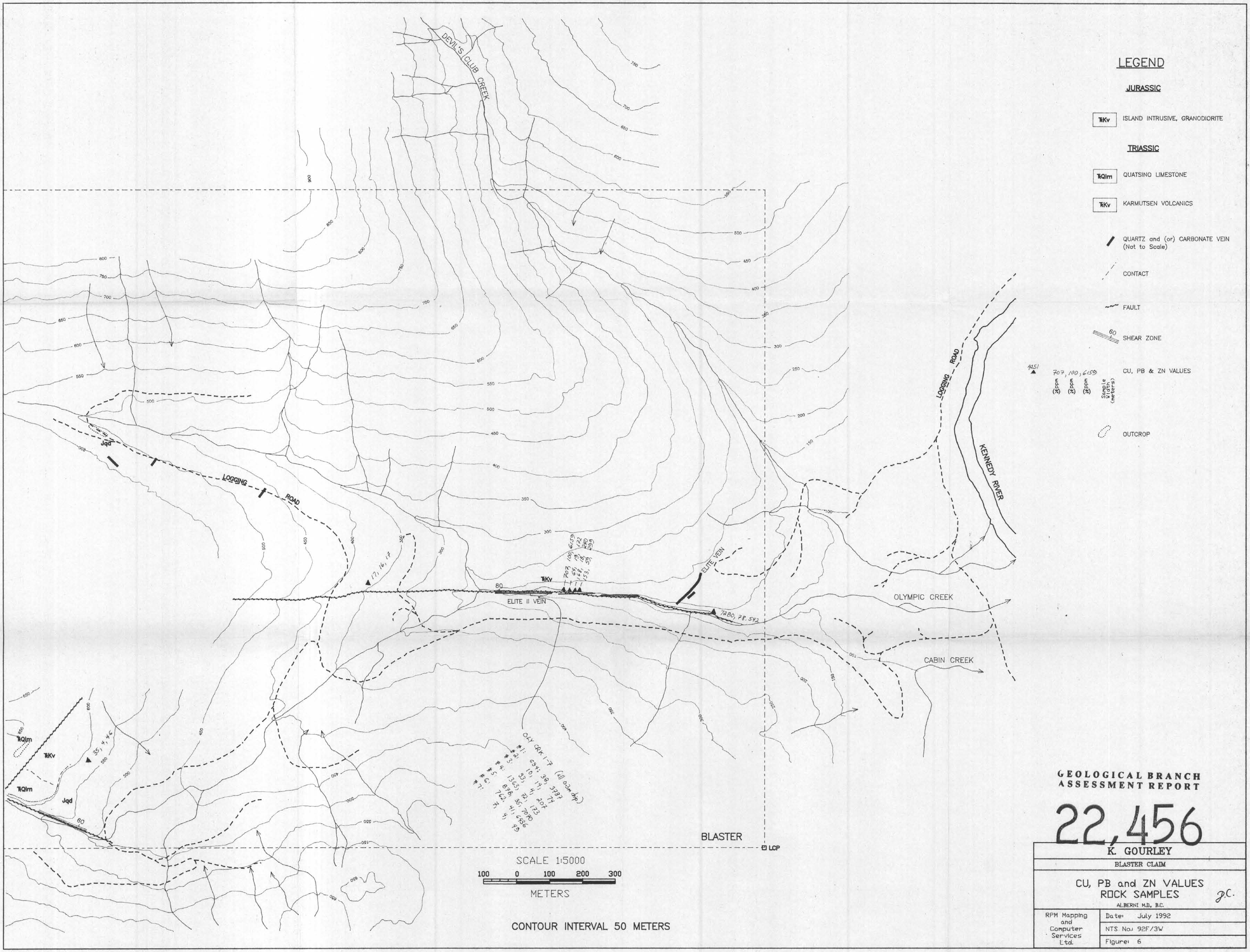
BLASTER CLAIM

PETROGRAPHIC AND ROCK SAMPLE LOCATION MAP

ALBERNI M.D., B.C.

RPM Mapping and Computer Services Ltd.	Date: July 1992
	NTS No.: 92F/3W
	Figure: 4


LEGEND
JURASSIC
TrKv ISLAND INTRUSIVE, GRANODIORITE
TRIASSIC
TrQlm QUATSINO LIMESTONE
TrKv KARMUTSEN VOLCANICS
QUARTZ and (or) CARBONATE VEIN (Not to Scale)
CONTACT
FAULT
SHEAR ZONE
2700; 10.7; 446 (Grab) AU, AG & AS VALUES
ppb (oz./T) ppm (%) ppm (%) Sample Width (meters)
OUTCROP
DEVIL'S CLUB CREEK
LOGGING ROAD
KENNEDY RIVER
ELITE VEIN
ELITE II VEIN
OLYMPIC CREEK
CABIN CREEK
BLASTER
LCP
SCALE 1:5000
100 0 100 200 300
METERS
CONTOUR INTERVAL 50 METERS
GEOLOGICAL BRANCH
ASSESSMENT REPORT
22,456
K. GOURLEY
BLASTER CLAIM
AU, AG and AS VALUES
ROCK SAMPLES
ALBERNI M.D., B.C.
RPM Mapping and Computer Services Ltd.
Date: July 1992
NTS No.: 92F/3W
Figure: 5


LEGEND
JURASSIC
ISLAND INTRUSIVE, GRANODIORITE
TRIASSIC
TrQlm QUATSINO LIMESTONE
TrKv KARMUTSEN VOLCANICS
QUARTZ and (or) CARBONATE VEIN (Not to Scale)
CONTACT
FAULT
SHEAR ZONE
CU, PB & ZN VALUES
Sample Width (meters)
OUTCROP
DEVIL'S CLUB CREEK
LOGGING ROAD
KENNEDY RIVER
OLYMPIC CREEK
CABIN CREEK
ELITE VEIN
ELITE II VEIN
Jqd
TrKv
TrQlm
BLASTER
LCP
SCALE 1:5000
100 0 100 200 300
METERS
CONTOUR INTERVAL 50 METERS
GEOLOGICAL BRANCH
ASSESSMENT REPORT
22,456
K. GOURLEY
BLASTER CLAIM
CU, PB and ZN VALUES
ROCK SAMPLES
ALBERNI M.D., B.C.
RPM Mapping and Computer Services Ltd.
Date: July 1992
NTS No.: 92F/3W
Figure: 6