

MAP NO.: ASSESSMENT REPORT  
115I 6,7 PROSPECTUS  
CONFIDENTIAL X  
OPEN FILE

DOCUMENT NO: 093130  
MINING DISTRICT: WHITEHORSE  
TYPE OF WORK: GEOCHEMISTRY  
GEOPHYSICS

REPORT FILED UNDER: AURUM GEOLOGICAL CONSULTANTS

DATE PERFORMED: JULY 11 1993

DATE FILED: AUGUST 30, 1993

LOCATION: LAT.: 60°18'N

AREA: GRANITE MOUNTAIN

LONG.: 136°59'W

VALUE \$: 8,800

CLAIM NAME & NO.: LEACH 1-24 (YB36315-338), 25-30 (YB38007-012), 33-36 (YB36339-342)  
61-70 (YB36343-352)

WORK DONE BY: RICHARD DIMENT

WORK DONE FOR: PINTAIL RESOURCES LTD

DATE TO GOOD STANDING:


REMARKS: 1172 SOIL AND 78 ROC SAMPLES COLLECTED.  
TOTAL FIELD MAGNETICS AND VLF SURVEYS CONDUCTED.



**ASSESSMENT REPORT  
on the  
GRANITE MOUNTAIN PROPERTY**

Whitehorse Mining District, Y.T.

**093130**

**Location:**

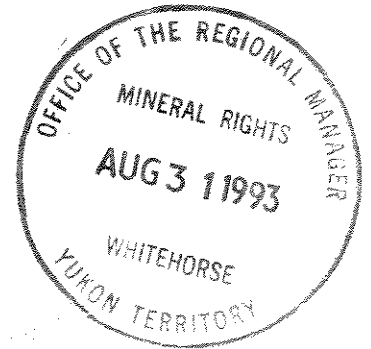
1. 45 km NW of Carmacks, Y.T.
2. NTS 115 I/6&7
3. Latitude 60°18' N  
Longitude 136°59' W

**For:**

**Pintail Minerals Ltd.**  
1601-675 West Hastings Street  
Vancouver, B.C.,  
V6B 1N2

**By:**

**Richard M. Diment, B.Sc., P.Geol.**  
**Aurum Geological Consultants Inc.**  
P.O. Box 4367  
205-100 Main Street  
Whitehorse, Yukon  
Y1A 3T5



July 27, 1993

*Aurum Geological Consultants Inc.*

## SUMMARY

The Granite Mountain Property, held under option by Pintail Minerals Ltd., consists of 58 contiguous mineral claims located in the Mount Nansen area, 45 km northwest of Carmacks, Yukon. The property is accessible by road from Carmacks.

The property is within the Yukon Crystalline Terrane schist and gneiss. Late Triassic to Early Jurassic Klotassin Meta-Plutonic Suite, which consists of foliated hornblende biotite granodiorite, intrude these Yukon Crystalline Terrane basement rocks. An Early Cretaceous porphyritic biotite quartz monzonite stock outcrops in the centre of the property and hosts porphyry copper-gold-molybdenum style mineralization.

Exploration on the property between 1965 and 1971 included geological mapping, geochemistry, trenching, IP and Magnetometer surveys, and 10 diamond drill holes. Canex Aerial Exploration Ltd., outlined an area of 1500 m by 250 m with copper in soil anomalies greater than 320 ppm. Follow up diamond drilling on copper soil geochemical anomalies and IP anomalies intersected 0.23% Cu over 60 feet in DDH 1 and 0.28% Cu over 50 feet in DDH 3. Samples were not analyzed for gold during these earlier exploration programs.

Work completed in 1993 was directed at evaluating the copper-gold-molybdenum porphyry potential of the Granite Mountain property. Work consisted of mapping, prospecting, trenching, and magnetometer and VLF surveys.

Results from this program confirmed the previous soil geochemical results for copper but also revealed coincident gold in soil anomalies in the 100-300 ppb range. An area of argillic and sericitic altered granodiorite returned a 20 m section of 0.24% Cu; This zone is open to both the north and east.

The highest gold in soil geochemical anomalies (471 & 417 ppb Au) are located on the extreme west side of the grid and are open to the west.

Based on the results of the 1993 work program, known mineralization, favourable geology, and coincident gold and copper geochemistry, a two-stage success contingent exploration program is warranted and recommended for the Granite Mountain Property. Further prospecting, mapping, trenching and diamond drilling are recommended at an estimated total cost of \$500,000.

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## INTRODUCTION

This report was prepared at the request of the directors of Pintail Minerals Ltd. Its purpose is to assess the economic potential of the Granite Mountain Property mainly through a description of work carried out in June of 1993, and through a review and compilation of previous exploration results.

The property is located 45 km northwest of Carmacks, Yukon in the Whitehorse Mining District and is accessible by road.

Previous exploration during the late 1960's and early 1970's evaluated the porphyry copper potential of the property. Samples were analyzed for copper and molybdenum; the gold potential on the property was not investigated.

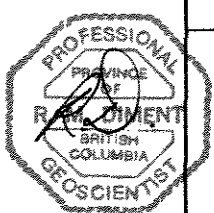
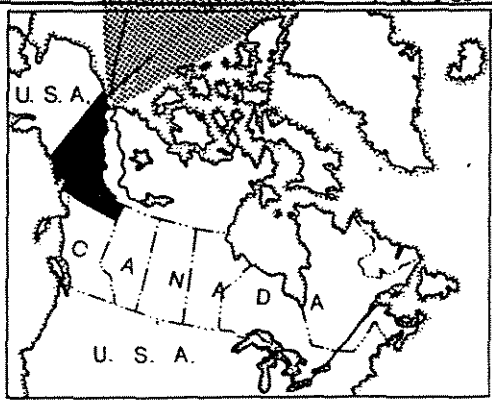
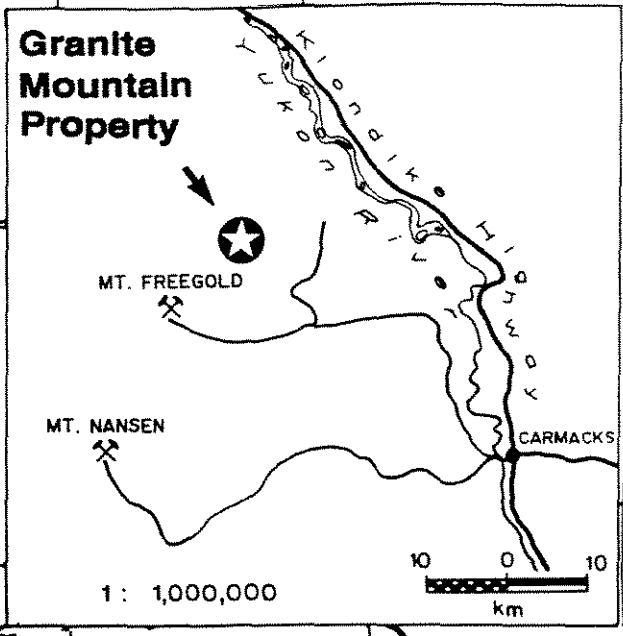
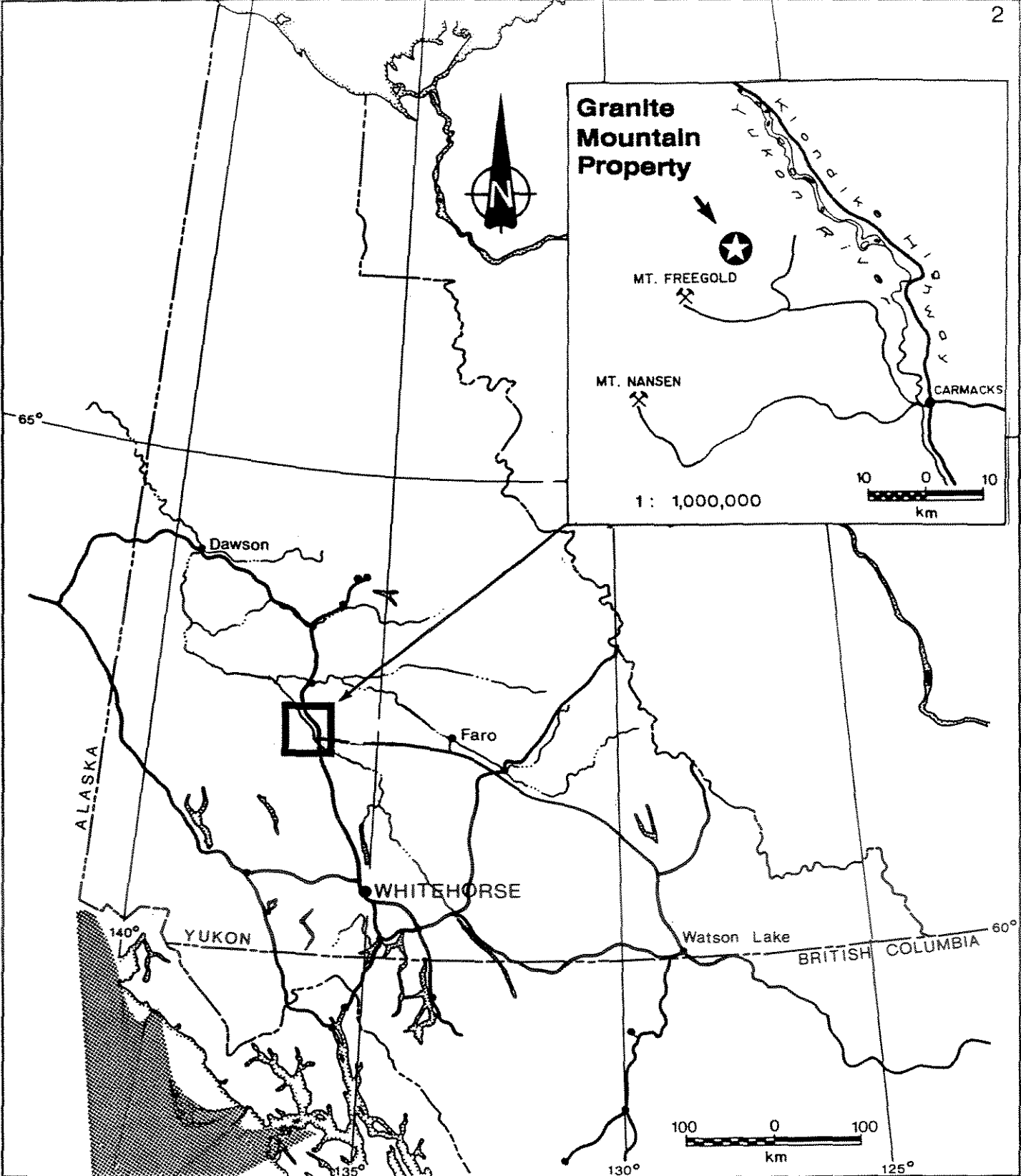
Work programs completed between 1987 and 1992, consisted of very limited soil and rock sampling (22 soil and 25 rock samples), which identified elevated gold, silver, arsenic, and antimony values associated with porphyry breccias and felsic volcanic rocks.

Exploration work carried out in June of 1993 by Aurum Geological Consultants Inc., is described in this report. The program was directed at evaluating the copper-gold porphyry and epithermal precious metal potential of the Granite Mountain property. Work consisted of geological mapping, prospecting, geochemical sampling, bulldozer trenching, and proton magnetometer and VLF geophysical surveys.

## LOCATION AND ACCESS

The Granite Mountain property (Figure 1) is located in the Dawson Range, approximately 45 km northwest of Carmacks, Yukon. A point at the centre of the claim block is located at 60°18'N latitude and 136°59'W longitude, one kilometre west of Granite Mountain. The property straddles the boundary between the 1:50,000 NTS map areas 115 I/6 and 115 I/7.

Access is via the government-maintained Mt. Freegold road, a summer road that leads west from the Klondike Highway at the town of Carmacks, to Mount Freegold. At km 51 of the Mt. Freegold road a gravel road branches northeast to Granite Mountain. The total road distance from Carmacks to the property is 65 km. Numerous four-wheel drive roads and trails cross the property.



<b>PINTAIL MINERALS LTD.</b>	
Granite Mountain Property WHITEHORSE MINING DISTRICT	
<b>LOCATION</b>	
Aurum Geological Consultants Inc.	July, 1993
NTS 115/6&7	Drawn by GS Figure 1

## HISTORY

In 1930, P.F. Guder discovered gold bearing quartz veins at Mt. Freegold. The discovery led to a staking rush in the area that resulted in the location of several polymetallic vein occurrences during the early 1930's (Yukon Minfile 1992).

The Tinta Hill Vein, two kilometres south of the Granite Mountain Property, was discovered in 1930 and has undergone extensive drilling and underground development work by several mining companies. The most recent mineral reserve, calculated by Tinta Hill Mines Ltd. in 1975, is 5589 tonnes per vertical metre grading 2.6 g/t Au, 183 g/t Ag, 4.71% Pb, 6.03% Zn, 0.37% Cu and 0.049% Cd (Morin 1981). Yukon Minfile reports reserves of 515,300 tonnes grading 222.9 g/t Ag, 4.1 g/t Au, 7.2% Pb, 2.6% Zn, and 0.4 % Cu.

During the late 1960's considerable exploration was directed at porphyry copper occurrences in the Dawson Range. In 1968, Casino Silver Mines Ltd. discovered the Casino porphyry copper deposit 90 km northwest of Mt. Freegold. Drilling between 1969 and 1973 outlined a reserve of 179 million tonnes grading 0.37% copper and 0.039% molybdenum (Eaton and Main 1986). Pacific Sentinel Gold Corp., is currently re-evaluating the Casino property as a copper-gold-molybdenum porphyry deposit. Pacific Sentinel Gold Corp., reports a current mineral inventory of 417 million Tons grading 0.30% Cu, 0.025% Mo, and 0.01 oz/t Au (Pacific Sentinel Gold Corp., May 17, 1993)

Low grade gold mineralization has been recognized in leached caps overlying porphyry breccias in the Mt Nansen area. These leached caps, amenable to heap leach mining techniques, became attractive exploration targets when the Antoniuk gold deposit was outlined on Mt. Freegold in 1987. Reserves calculated by Nordac Mining Corp., and Permian Resources Ltd. are reported as 4.2 million tonnes grading 1.2 g/t Au (Yukon Minfile 1992).

The Granite Mountain property, originally staked as the March claims, was explored by Canex Aerial Exploration Ltd. (Canex) between 1965 and 1967. Canex conducted magnetometer and I.P. surveys and outlined a 1500 m by 250 m copper in soil geochemical anomaly defined by the >320 ppm copper contour. The copper geochemical anomaly is associated with a mid-Cretaceous stock. Six wide-spaced diamond drill holes (totalling 915 m) and two rotary holes (totalling 275 m) were drilled on either I.P. or geochemical anomalies. The best results from the drilling program were 0.23% copper over 60 feet in DDH-1 and 0.28% copper over 50 feet in DDH-3 (Phillips 1971). The core from this drill program was not assayed for its precious metal content. DDH-1 was drilled within the >320 ppm copper anomaly contour interval, and DDH-3, was located approximately 500 m north of DDH-1, and 250 m outside the >320 ppm

copper anomaly contour interval. Copper in soil anomalies around the DDH-3 drill collar area are below the 80 ppm contour interval.

In 1971 additional exploration on the property was completed by Archer Cathro and Associates for the Dawson Range Joint Venture (DRJV). A 22 km bulldozer line grid was established over the existing Canex grid in order to improve soil sample quality and geological control. Diamond drilling, totalling 305 m in four holes, outlined new areas of brecciation but failed to intersect any significant mineralization. The best intersection in drill core returned 0.13% Cu over a 10 foot interval in DDH-8, (Phillips 1971).

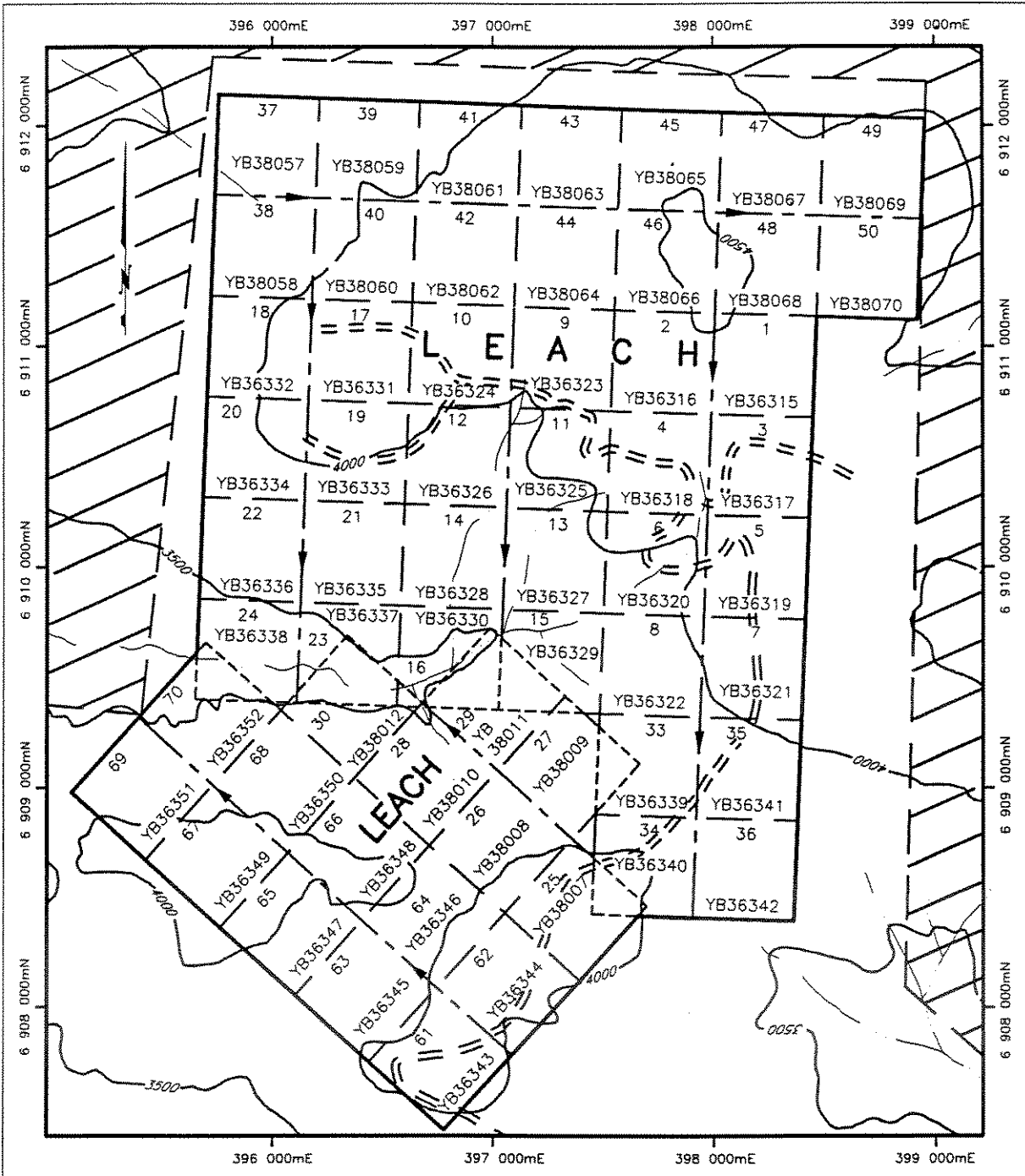
Limited exploration has been completed on the property since 1971, mainly to satisfy assessment requirements. The property was staked by Harris and Associates as the Windy and City claims in 1987 and later as the Leach claims in 1991. Exploration between 1987 and 1992 focussed on evaluating the precious metal potential of the property. A total of 22 soil and 26 surface rock samples were collected and analyzed for 30 elements by ICP and fire assay for gold. Gold values in soil averaged 39 ppb Au with a maximum of 110 ppb Au (Davidson 1993). Rock samples averaged 313 ppb Au with a maximum of 5580 ppb Au (Lueck 1989; Davidson 1993). One rock sample returned a value of 546 ppm antimony and 1520 ppm arsenic (Lueck 1989).

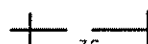
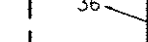
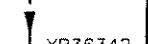
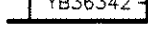

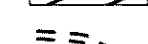

In 1993, Pintail Minerals Ltd., optioned the property from Harris and Associates. The exploration program (June 1-28) consisted of geological mapping, prospecting, grid establishment, a 56 line km magnetometer survey, a 16.25 line km VLF survey, 119 m of bulldozer trenching, and the collection of 1,172 soil and 78 rock samples. Total cost of the 1993 exploration program was \$100,000.

## PROPERTY

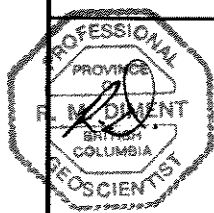
The property consists of 58 contiguous mineral claims (Leach 1-30, 33-50, 61-70 claims), staked under the Yukon Quartz Mining Act totalling approximately 1211 ha (2991 acres), shown on Figure 2.

The Leach 37-50 claims were added to the existing property on June 28, 1993. No assessment credits have been applied to these claims.



-  claim boundary
-  claim number
-  tag number
-  land withdrawal
-  4WD trail
-  creek
-  elevation contour:  
500ft. interval



<b>PINTAIL MINERALS LTD.</b>			
Granite Mountain Property <small>WHITEHORSE MINING DISTRICT</small>			
		<b>CLAIM MAP</b>	
<i>Aurum Geological Consultants Inc.</i>		JUNE 1993	
<small>MTS:115/6,7</small>	<small>DRAWN BY S. HANSEN</small>	<small>1:30,000</small>	<small>FIGURE 2</small>

Note : adapted from D.I.A.N.D. map sheet

Claim data are as follows:

Claim Name	Grant No.'s	Recording Date	Expiry Date*
Leach 1-24	YB36313-38	20/08/91	20/08/95
Leach 25-30	YB38007-12	11/06/93	11/06/95
Leach 33-36	YB36339-42	20/08/91	20/08/95
Leach 37-50	YB38057-70	28/06/93	28/08/94
Leach 61-70	YB36343-52	20/08/91	20/08/95

\*expiry dates are subject to approval of 1993 assessment work.

The claims are subject to an option agreement made between Harris and Associates and Pintail Minerals Ltd, whereby Pintail Minerals Ltd., has an option to acquire a 100% interest in the Leach Group of claims in the Whitehorse Mining District, subject to certain terms and conditions. The claims are shown on Yukon Quartz and Placer sheet 115 1/6&7, and are known collectively as the Granite Mountain Property.

### TOPOGRAPHY, CLIMATE, VEGETATION

Granite Mountain lies within the Dawson Range, a gently rolling unglaciated upland. Elevations range from 750 m to 1500 m above sea level. Valley floors are commonly flat and swampy with valley walls rising sharply at 20°-30° to the upland. Ridge tops are rounded and punctuated by castellated outcrops.

The climate in the area is variable with warm dry summers and long cold winters. Precipitation is low to moderate averaging 10 cm annually. Temperatures average 15°C in summer and -20°C in winter.

Vegetation on the property consists of black spruce and poplar forest below 1200 m of elevation. Above treeline, vegetation consists of a thick ground cover of dwarf birch and willow, alpine grasses and moss. North facing slopes and valley floors are covered with thick moss underlain by permafrost.

## GEOLOGY

### Regional Geology

The geology of the Carmacks area (NTS 115 I) has been recently mapped by Tempelman-Kluit (1984) at a scale of 1:250,000, and the Mt. Nansen and Stoddart Creek areas (NTS 115 I/6 & 7) at a scale of 1:50,000 by Carlson (1987).

The Granite Mountain Property is situated within the Yukon Cataclastic Terrane, eight kilometres northeast of a major northwest structure known as the Big Creek Fault (Figure 3). This structure separates schists and gneiss of the Yukon Crystalline Terrane to the south from the highly sheared metamorphic rocks of the Yukon Cataclastic Terrane to the north. Basement rocks north of the Big Creek Fault are poorly represented due to large Late Triassic to Early Jurassic intrusions of foliated hornblende granodiorite and syenite (Klotassin and Big Creek Meta-Plutonic Suites). The latest metamorphism in the area is likely related to emplacement of these suites (Carlson 1987). To the east Triassic Pavoas greenstone volcanics and Jurassic sedimentary rocks of the Whitehorse Trough are bounded by the northwest trending Hoochekoo and Braeburn Faults.

The Early Cretaceous was marked by the intrusion of the Dawson Range Batholith consisting of granodiorite, local granitic plugs, and cogenetic Mt. Nansen Group andesite and rhyolite. Lithologies representing this plutonic-volcanic event are localized along and south of the Big Creek Fault.

The Late Cretaceous to Paleocene Carmacks Suite comprise the youngest rocks in the area and consist of extensive flat lying basalt flows with lesser andesite and rhyolite pyroclastics. Late intermediate to mafic dykes are interpreted as feeders for the Carmacks basaltic volcanics (Carlson 1987).

Regional structures generally trend northwest with some younger subsidiary northeast structures. Mineral deposits in the area are associated with Cretaceous porphyry stocks and volcanics in proximity to major regional structures such as Big Creek Fault, and secondary northwest and northeast trending faults (Carlson 1987).

### Property Geology

In 1993, geological mapping was conducted over the entire claim block at a scale of 1:5,000. Outcrops were mapped in trenches, on ridges, and steeper creek draws. Areas of felsenmeer were assumed to reflect underlying bedrock lithologies.

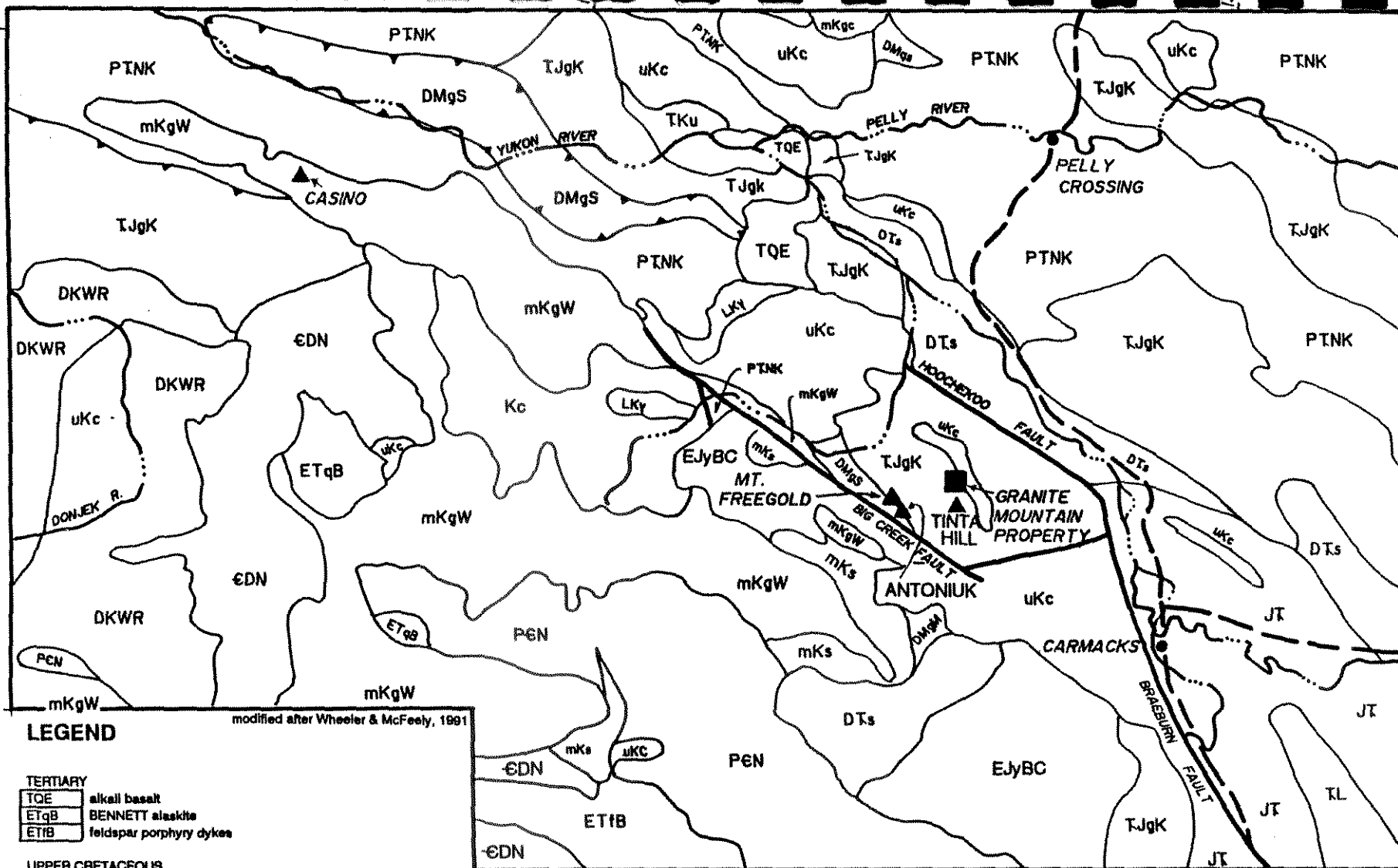
Property geology (Figure 4) is primarily underlain by the Late Triassic Klotassin

63° N

63° N

62° N

62° N



## LEGEND

modified after Wheeler &amp; McFeely, 1991

## TERTIARY

EQE	alkali basalt
ETqB	BENNETT alkalis
ETIB	feldspar porphyry dykes

## UPPER CRETACEOUS

uKc	CARMACKS andesite flows & pyroclastics
LKy	CARMACKS syenite & granite

## MID CRETACEOUS

mKgw	DAWSON RANGE hmbide granodiorite to qtz monzonite
mKs	MT NANSEN andesite to rhyolite flows

## JURASSIC

EJyBC	BIG CREEK foliated hornblende syenite
JT	LABERGE sediments- conglm, greywacke, siltst, & shale

## TRIASSIC

Tjgk	KLOTASSIN foliated hornblende biotite granodiorite
TL	LEWES RIVER clastic volcanic tuff, sandst siltst & limestone
TKU	PAVOUS basalt to rhyolite, phyllites, sandstone & limestone

## DEVONIAN - MISSISSIPPIAN

DMgS	SIMPSON RANGE foliated megacrystic hmbide granodiorite
DMgM	MINK CREEK granite, augen gneiss

## DEVONIAN - TRIASSIC

DTs	SLIDE MOUNTAIN sheared oceanic volcanics & seds
DKWR	WHITE RIVER oceanic clastics & volcanics

## UPPER PROTEROZOIC - TRIASSIC

PTNK	NISUTLIN cataclastic sediments & volcanics
------	--

## CAMBRIAN - DEVONIAN

EDN	NASINA quartzite, schist, marble
-----	----------------------------------

## UPPER PROTEROZOIC-LOWER CAMBRIAN

PCN	NISLING schist, phyllite, slate, amphibolite
-----	--

## SYMBOLS

	Thrust Fault
	Fault
	Highway
	River
	Granite Mountain Property

## PINTAIL MINERALS LTD.

GRANITE MOUNTAIN PROPERTY  
WHITEMORSE MINING DISTRICT

## REGIONAL GEOLOGY

Aurum Geological Consultants Inc.

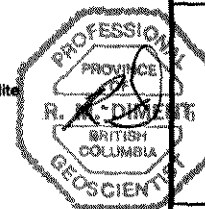
JUNE 1993

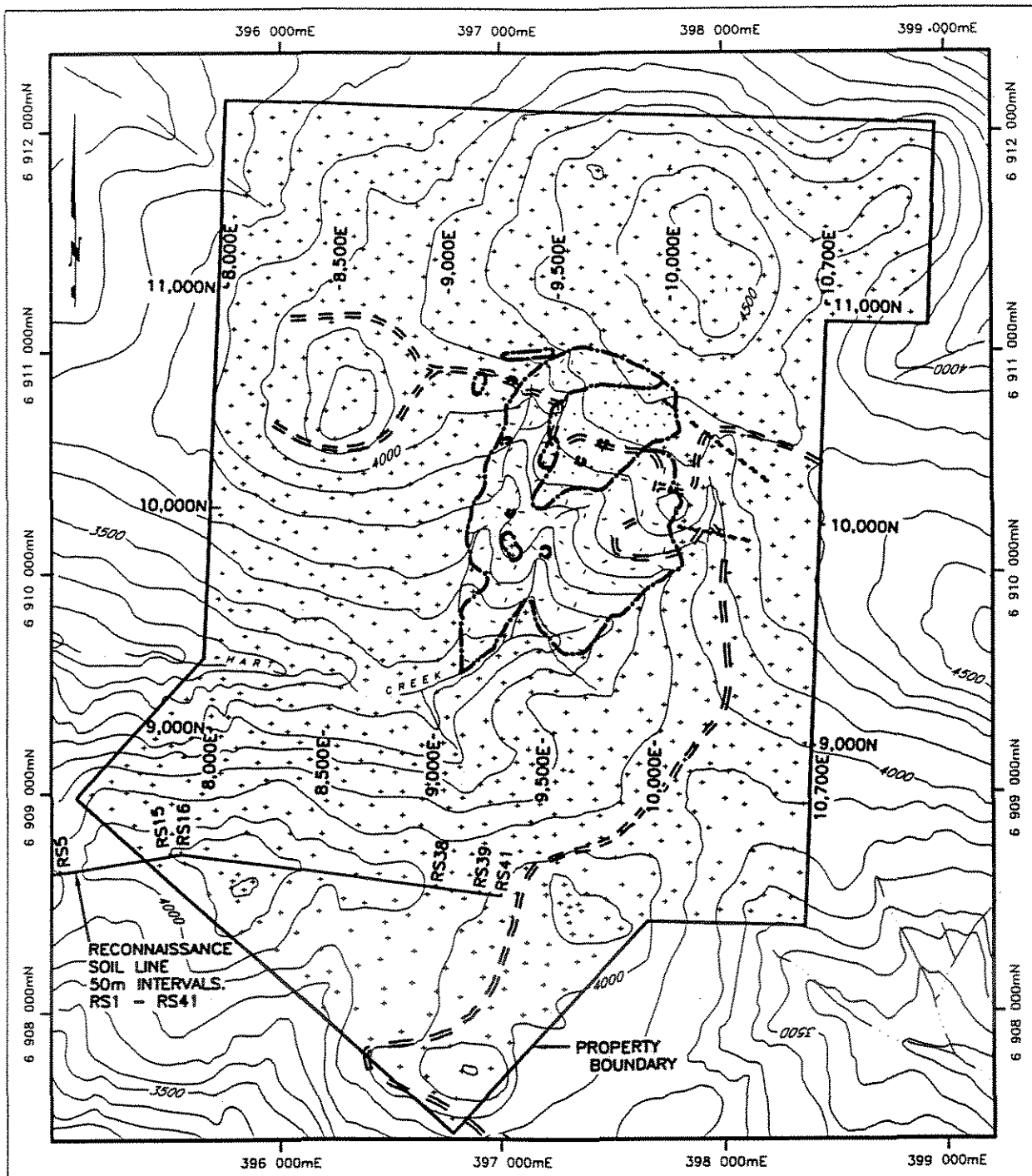
NTS R5 1/16 JT

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ALANSE /JVR

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FIGURE 3





**LEGEND**

**LATE CRETACEOUS TO PALEOCENE**

 CARMACKS SUITE  
- QUARTZ PORPHYRY  
RHYOLITE (UKc)

**EARLY CRETACEOUS**

 PORPHYRYIC BIOTITE QUARTZ  
MONZONITE (mKgDR)

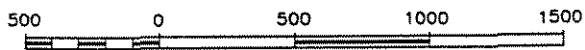
**JURASSIC**

 KLOTASSI N META-PLUTONIC SUITE  
- FOLIATED HORNBLende  
BIOTITE GRANODIORITE (TJgk)

 CONTACT (INFERRED)

 FAULT

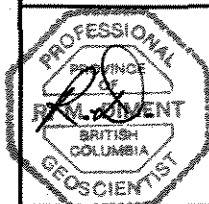
 ROAD



**PINTAIL MINERALS LTD.**

**Granite Mountain Property**

WHITEHORSE MINING DISTRICT



**PROPERTY  
GEOLOGY**

Aurum Geological Consultants Inc.

JUNE 1993

NTS:1119/6,7

DRAWN BY  
S. HANSEN

1:30,000

FIGURE 4

Meta-Plutonic Suite consisting of weakly foliated hornblende granodiorite and granite (map unit TJgK). This lithology forms prominent castellated outcrops on ridge tops. Hornblende is commonly altered to fine shredded biotite, and chlorite, near contacts with younger intrusive phases.

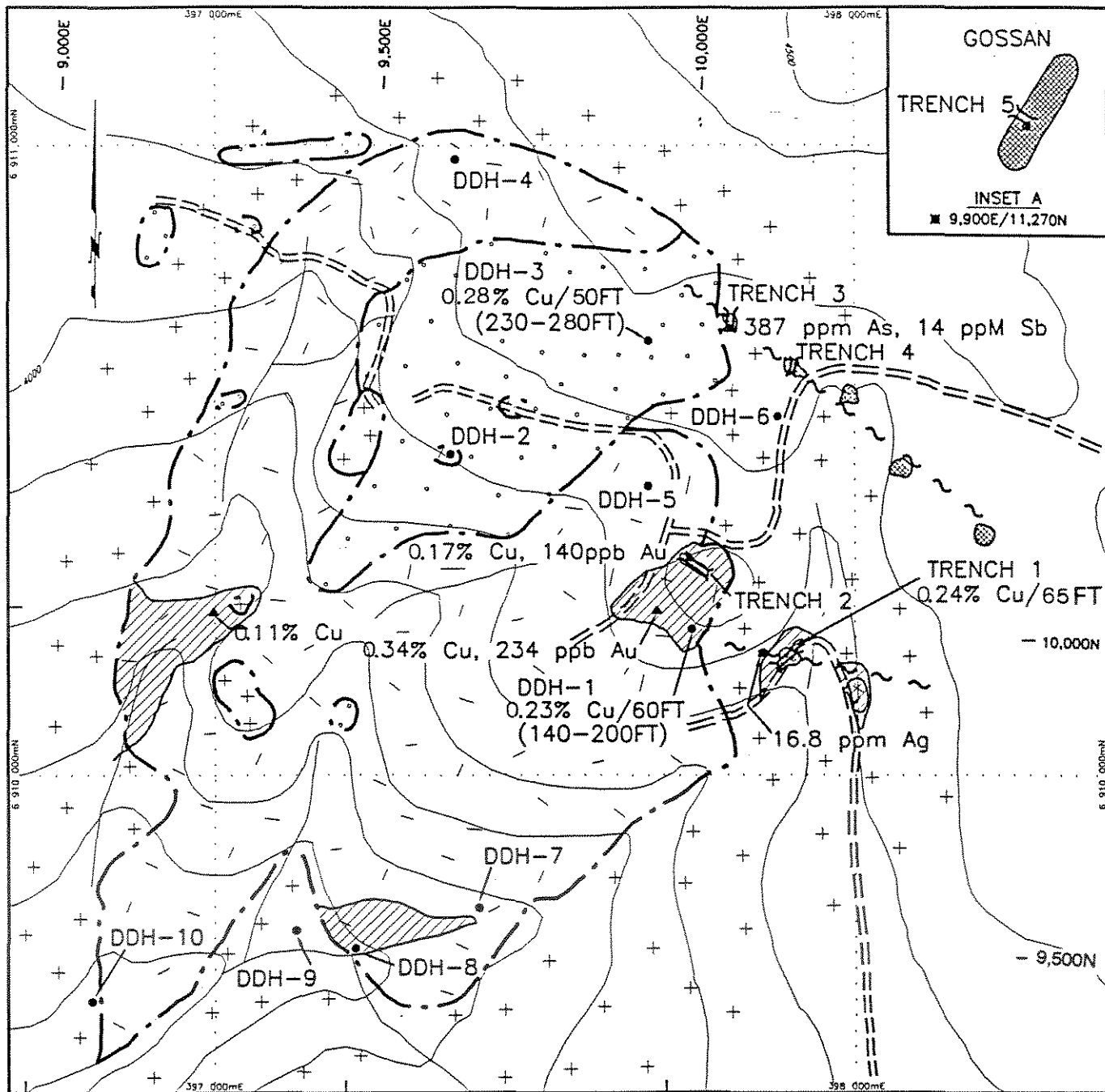
Foliated Klotassin rocks are intruded by a semi-circular porphyritic biotite quartz monzonite stock (map unit mKgDR). The stock is characterized by megacrysts of potassium-feldspar (1 to 2 cm in diameter) with 5-10% subhedral biotite books and minor hornblende. Chlorite is the most common mafic mineral and appears to have formed from the propylitic alteration of biotite and hornblende. This unit is similar to the Cretaceous Dawson Range quartz monzonites, that outcrop along the Big Creek Fault, as described by Carlson (1987). Brecciation and quartz stockwork veining are localized along contacts with the Klotassin granodiorite.

Late Cretaceous rhyolite quartz porphyry of the Carmacks Suite (map unit uKc) intrudes all older rocks and is restricted to the north-central part of the property. This unit contains 1-3 mm size quartz phenocrysts within a white to buff coloured aphanitic matrix. Minor brecciation and quartz stockwork veining are common along contacts where biotite quartz monzonite intrudes Klotassin Granodiorite.

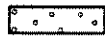






Faulting on the property follows a predominant northwest trend (100-125°), crosscutting both the Klotassin granodiorite and biotite quartz monzonite. Minor northeasterly trending structures are associated with gossanous zones on the northern part of the property. Hart Creek (Figure 4) defines the southern contact between the quartz monzonite and Klotassin granodiorite and may represent a major fault.

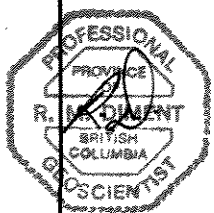
## MINERALIZATION

Previous exploration conducted by Canex Aerial Exploration Ltd., and Archer Cathro and Associates between 1965 and 1971, identified porphyry copper style mineralization around the margins of the biotite quartz monzonite stock. Sulphides are restricted to breccia and quartz stockwork zones and consist of 0.5-1% chalcopyrite, 1-2% pyrite with minor chalcocite, and molybdenite. Malachite and azurite staining are common along fracture surfaces. Alteration is predominantly propylitic consisting of pervasive chloritization of mafic minerals and the introduction of calcite, magnetite, and minor epidote. Narrow discontinuous zones of phyllic and potassic alteration are related to northwest trending dykes and shear zones. Diamond drilling by Canex returned copper values up to 0.23% Cu over 60 feet and 0.28% Cu over 50 feet in DDH's 1 and 3 respectively (Phillips 1971). Drill collar locations are shown in Figure 5.



LEGEND

-  RHYOLITE
-  QUARTZ MONZONITE
-  GRANODIORITE
-  COPPER MINERALIZATION (TR - 1% DISSEMINATED CHALCOPYRITE MALACHITE STAINING)
-  STRONG ARGILLIC/PHYLLIC ALTERATION
-  CONTACT (INFERRED)
-  CAT TRENCH (1993)
- DDH-7 • DIAMOND DRILL HOLES
- ▲ ROCK SAMPLE LOCATION

<b>PINTAIL MINERALS LTD.</b>			
Granite Mountain Property			
<small>WHITEHORSE MINING DISTRICT</small>			
		<b>COMPILATION</b>	
<small>Aurum Geological Consultants Inc.</small>		<small>JUNE 1993</small>	
<small>NTS:1151/6,7</small>	<small>DRAWN BY S. HANSEN</small>	<small>1:10,000</small>	<small>FIGURE 5</small>

Exploration work completed in 1993 was directed at evaluating the gold potential in the porphyry system and defining the bedrock source and extent of epithermal mineralization found in float. Five bulldozer trenches were completed in 1993, and 52 samples were collected. The trenching program resulted in the discovery of two areas of intense alteration. They are: 1) a copper-molybdenum shear zone centred at 10150E/9940N exposed in Trench 1; and 2) a quartz-tourmaline stockwork zone centred at 10175E/10400N exposed in Trenches 3 & 4.

Trench 2 is located 200 m northwest of Trench 1, and was excavated over an area of surface copper mineralization. Trench 5, exposed an altered northeast trending fault zone, located approximately 700 m northwest of Trench 3.

The copper-molybdenum shear zone is exposed in Trench 1 (Figure 6). Chloritized hornblende granodiorite is cut by east-west striking vertical shears (0.3 to 3.5 m wide) across a 50 m width. Phyllic and argillic alteration facies are dominant, consisting of sericitization of plagioclase, moderate to intense silicification, and destruction of K-feldspars to clay. Limonite staining, resulting from the oxidation of pyrite is pervasive. Intense argillic alteration is localized along shear zones and consists of white kaolinite and minor silicified fragments. The distribution of sulphides is restricted to minor molybdenite rosettes along quartz veinlets and 10% pyrite with minor molybdenite in a one-metre wide fault gouge zone (Figure 6). Malachite staining is common in the weakly altered hornblende granodiorite.

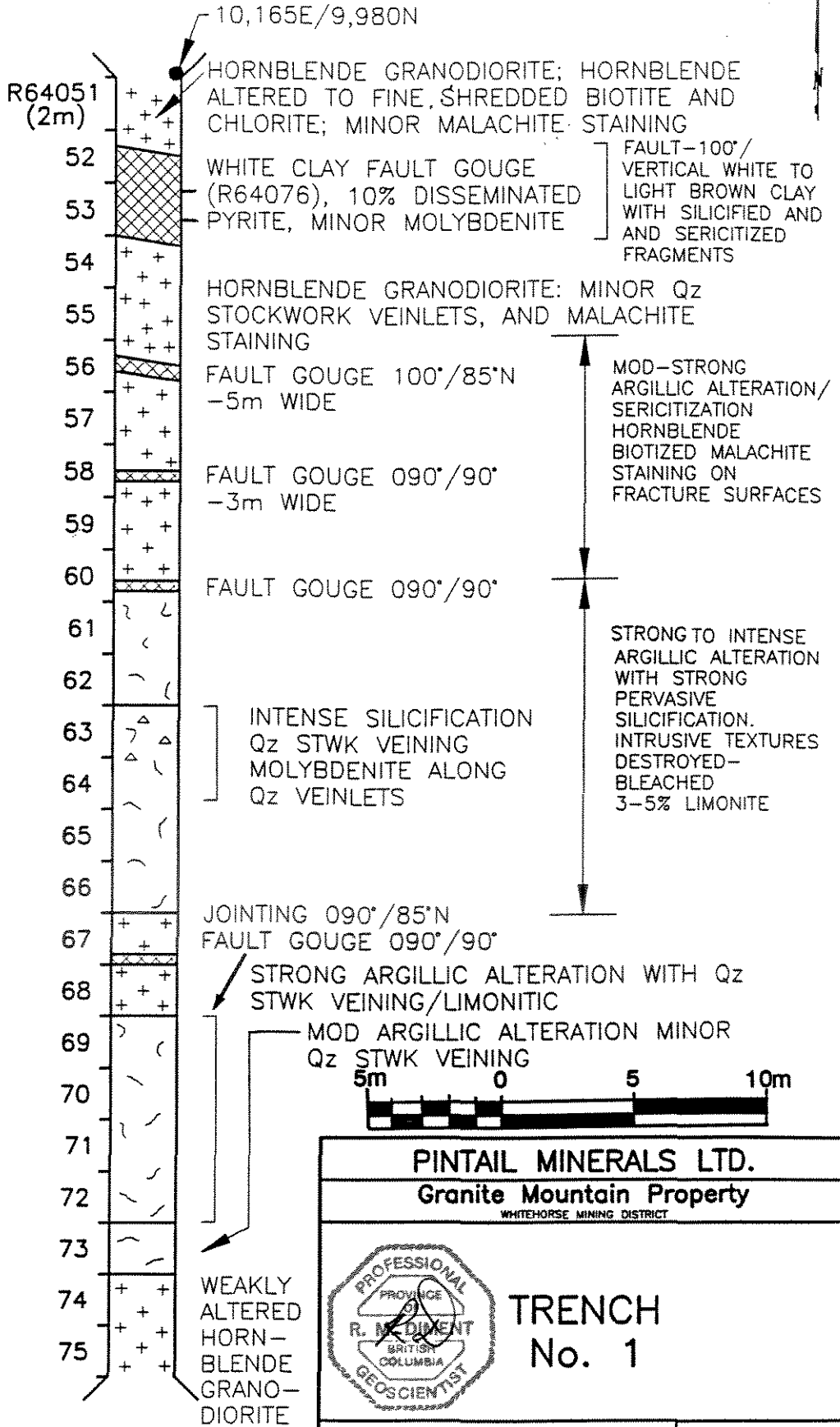
An area of quartz-tourmaline vein float containing 546 ppm Sb, and 1520 ppm As was reported by Lueck(1989), and was relocated at 10050E/10400N on the current grid. Lueck also reported a composite grab sample of weathered siderite (located at 10175E/9950N) which assayed 5580 ppb Au, and 1110 ppm Ag. These samples were collected near an area of rhyolite quartz porphyry and may indicate potential for locating epithermal precious metal mineralization in this area of the property.

A total of 25 continuous two-metre wide chip samples were collected in bedrock from Trench 1. Analytical results for copper, molybdenum, silver, and gold are tabulated on Figure 6. Significant results include 0.24% Cu over 20 m and includes a 4 m section, which returned 31.4 ppm Ag, across fault gouge. The maximum values for gold and molybdenum are 116 ppb and 281 ppm respectively.

Higher copper values are associated with the malachite stained chloritic granodiorite and fault gouge. The first sample at the north end of Trench 1 returned 5270 ppm Cu leaving the 20 m mineralized zone open to the north. Strong phyllic alteration zones average only 617 ppm copper. The presence of limonite in these areas suggest

Mo ppm	Cu ppm	Ag ppm	Au ppb
192	5270	3	95
144	3256	30.7	116
134	1229	32.1	77
38	3028	0.5	30
26	3317	0.4	36
41	2601	0.4	42
28	1468	0.5	43
39	1218	0.6	69
33	1129	0.5	39
65	1412	0.6	45
71	687	0.7	51
136	270	0.7	43
171	233	0.7	39
281	157	0.4	57
122	247	0.5	31
107	559	0.6	42
93	941	1.4	43
60	1766	0.4	30
90	1625	2.8	54
97	628	1.4	50
60	1268	0.6	36
37	92	0.3	34
43	1026	0.4	34
36	924	0.4	30
17	1073	0.3	32

0.24% Cu



\*R64076-SAMPLE OF WHITE, SULPHIDE RICH FAULT GOUGE. 1179 ppm Cu, 50 ppm Ag, 145 ppm Mo, 401 ppm Sb

**PINTAIL MINERALS LTD.**  
 Granite Mountain Property  
WHITEHORSE MINING DISTRICT

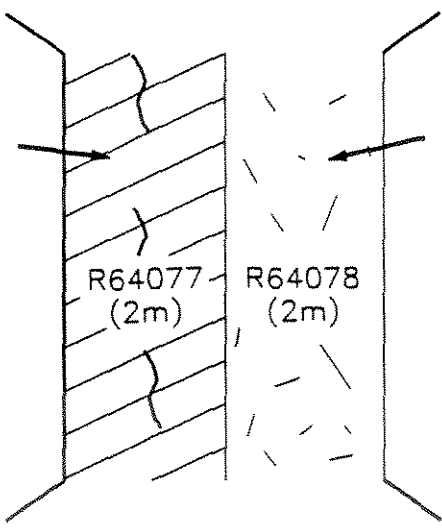
**TRENCH No. 1**

PROFESSIONAL  
 R. MEDIMENT  
BRITISH COLUMBIA  
 GEOSCIENTIST

Aurum Geological Consultants Inc.      JUNE 1993

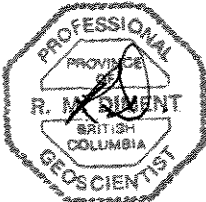
NTS:115I/6,7      DRAWN BY S. HANSEN      SCALE 1:250      FIGURE 6

FROZEN (PERMAFROST)  
 FAULT GOUGE STRIKE  
 APPROX. 160°/VERTICAL  
 WHITE TO LIGHT BROWN  
 (LIMONITIC) KAOLINITE.  
 MINOR DISSEMINATED  
 PYRITE. (OPEN TO THE  
 SOUTHWEST).  
 141 ppb Au,  
 1922 ppm Cu,  
 3.2 ppm Ag,  
 809 ppm As,  
 71 ppm Mo.



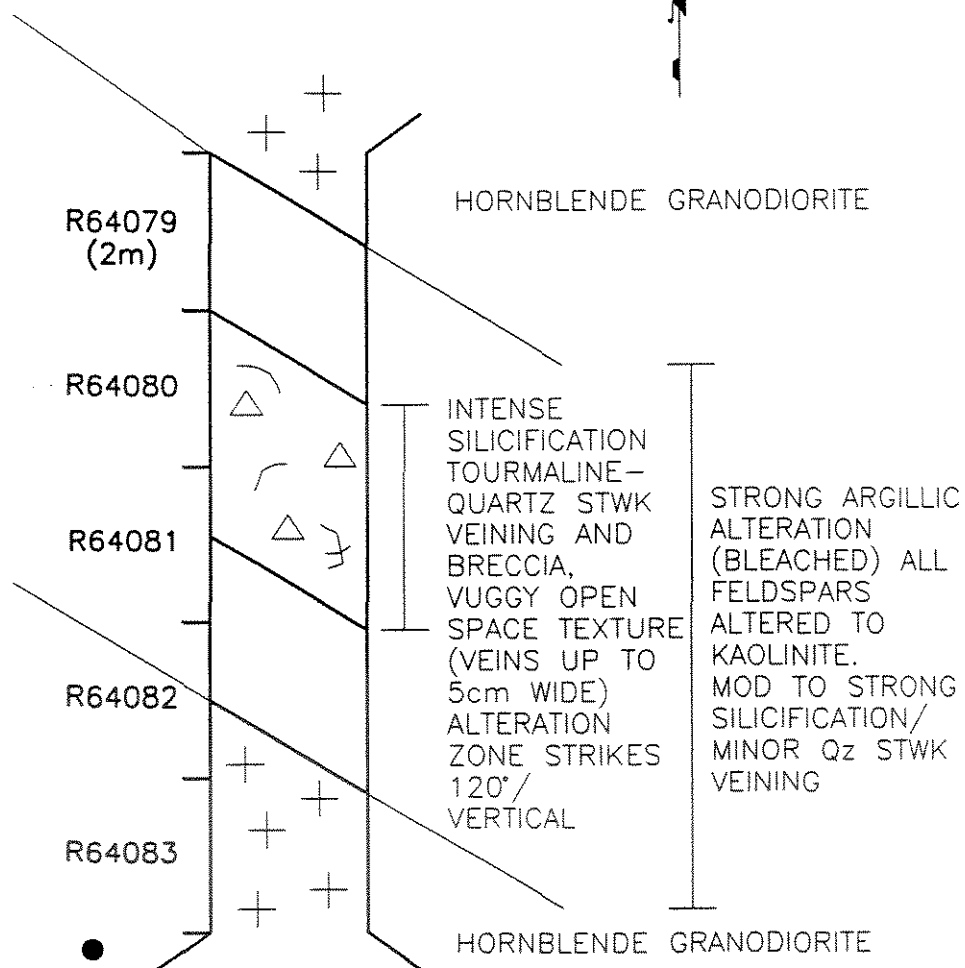
CHLORITIZED BIOTITE Qz  
 MONZONITE. MINOR Qz  
 STWK WITH .5-1%  
 DISSEMINATED CHALCO-  
 PYRITE. MALACHITE  
 STAINING ON FRACTURE  
 SURFACES. 140 ppb Au,  
 3145ppm Cu, 1.2 ppm Ag,  
 20 ppm As, 62 ppm Mo.

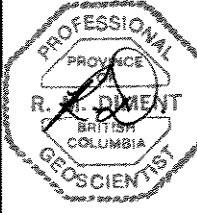


<b>PINTAIL MINERALS LTD.</b>			
<b>Granite Mountain Property</b>			
<small>WHITEHORSE MINING DISTRICT</small>			
	<h2>TRENCH No. 2</h2>		
<small>Aurum Geological Consultants Inc.</small>		<small>JUNE 1993</small>	
<small>NTS:115/6.7</small>	<small>DRAWN BY S. HANSEN</small>	<small>SCALE 1:100</small>	<small>FIGURE 7</small>

As ppm	Ag ppm	Au ppb
562	0.4	39
1329	0.7	51
411	0.7	53
159	2.8	51
203	1.2	41

10,050E/10,475N



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<b>Granite Mountain Property</b>	
WHITEHORSE MINING DISTRICT	
	<b>TRENCH No. 3</b>
Aurum Geological Consultants Inc.	JUNE 1993
NTS:115/6,7	DRAWN BY S. HANSEN
SCALE 1:100	FIGURE 8

possible leaching of copper sulphides at surface. Silver mineralization is associated with the pyritic fault gouge which assayed 50 ppm Ag ( 1.46 oz/ton) over one metre (Sample # R64076, Figure 6).

Trench 1 was centred on the composite grab sample, taken by Lueck in 1989, which assayed 5580 ppb Au, and 1110 ppm Ag. Although similar rock type and alteration were found in the trench, assay values could not be reproduced. Similar alteration is found along trend in float at 10125E/9925N and at 10275E/9875N. Rock samples at these locations returned 16.8 ppm silver, and 666 ppm copper respectively. Further trenching is required to define the alteration zone both to the north and along strike.

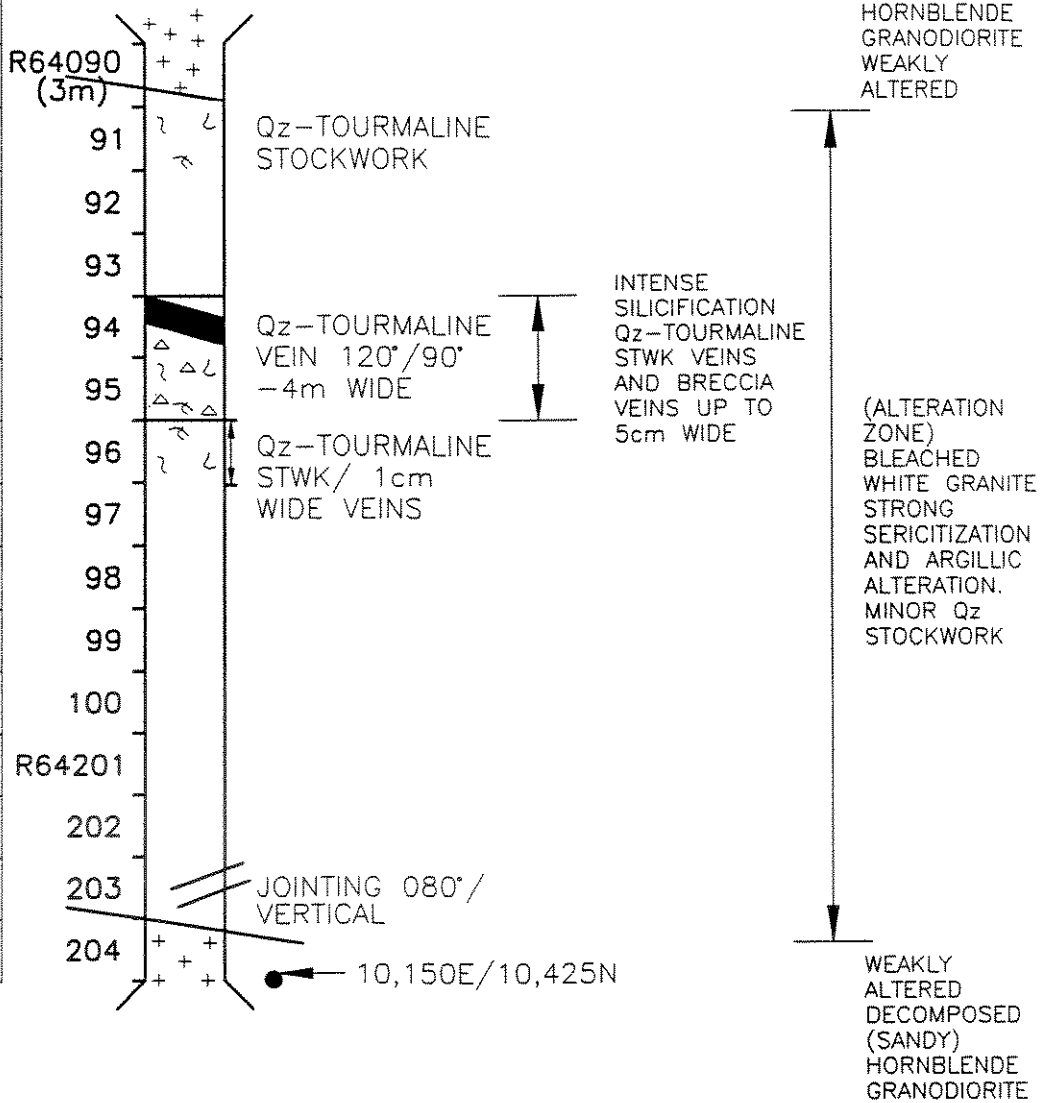
Trench 2, located at 10000E/10130N, is centred over a narrow zone of fault gouge cutting chloritized biotite quartz monzonite (Figure 7). Two continuous chip samples across the trench had a weighted average of 141 ppb Au, and 0.25% Cu over four metres. Further trenching to determine the true width of the shear zone could not be completed because of permafrost. The anomalous area remains open in all directions.

Argillically altered granodiorite with quartz-tourmaline stockwork veining is exposed in Trenches 3 and 4 (Figures 8 and 9). Quartz-tourmaline veins are found in a clay matrix of montmorillonite and lesser kaolinite. Vein widths are between 0.5 cm to 40 cm. Sulphides have been leached, producing a limonitic vuggy texture. The alteration zone widens from 10 m in Trench 3 to 40 m in Trench 4 and trends northwesterly at 126°. Similar alteration is found along strike in outcrop at 10225E/10325N and in felsenmeer at 10300E/10275N and 10550E/10175N.

A total of 20 continuous chip samples were collected in bedrock exposed in Trenches 3 & 4. Trench 3 was sampled at two-metre intervals over 10 m and Trench 4 was sampled at three-metre intervals across 45 m. Analytical results for gold, silver, and arsenic are tabulated on Figures 8 and 9. Gold values range from 11 to 53 ppb, averaging 30 ppb. Trench 3 averages 533 ppm As over its entire 10 m length, ranging up to 1329 ppm across a two-metre interval of strong quartz-tourmaline stockwork. Arsenic values in Trench 4 are less than 30 ppm. Silver values in both trenches are less than 3 ppm.

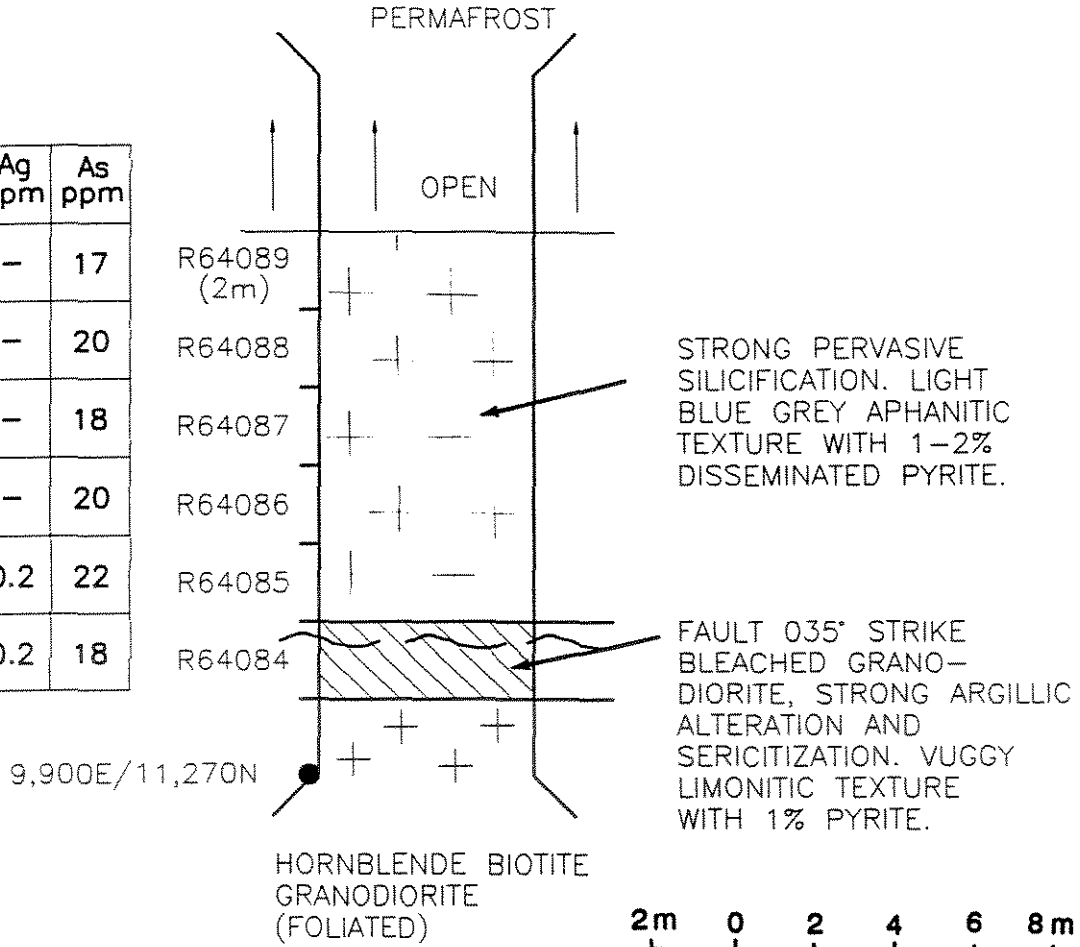
Trench 5 (Figure 10, and Inset on Figure 5) is located at 9900E/11270N, and exposes a northeasterly trending fault structure cutting foliated hornblende granodiorite. Alteration consists of pervasive silicification bordering a two-metre wide sericitized shear zone. Six continuous two-metre chip samples returned values averaging 19 ppb gold and 17 ppm arsenic.


As ppm	Ag ppm	Au ppb
24	-	11
14	0.1	30
20	-	22
10	0.1	22
15	-	19
5	0.1	19
21	0.1	22
10	0.2	21
28	0.1	36
6	0.1	34
18	0.2	33
13	0.4	27
17	0.5	18
14	0.4	23
19	0.2	20



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<small>WHITEHORSE MINING DISTRICT</small>	
	<h2>TRENCH No. 4</h2>
<small>Aurum Geological Consultants Inc.</small>	<small>JUNE 1993</small>
<small>NTS:115I/6,7</small>	<small>DRAWN BY S. HANSEN</small>
<small>SCALE 1:250</small>	<small>FIGURE 9</small>

Au ppb	Ag ppm	As ppm
20	-	17
18	-	20
12	-	18
16	-	20
17	0.2	22
17	0.2	18



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	<b>TRENCH No. 5</b>
Aurum Geological Consultants Inc.	JUNE 1993
NTS:1151/6,7	SCALE 1:200
DRAWN BY S. HANSEN	FIGURE 10

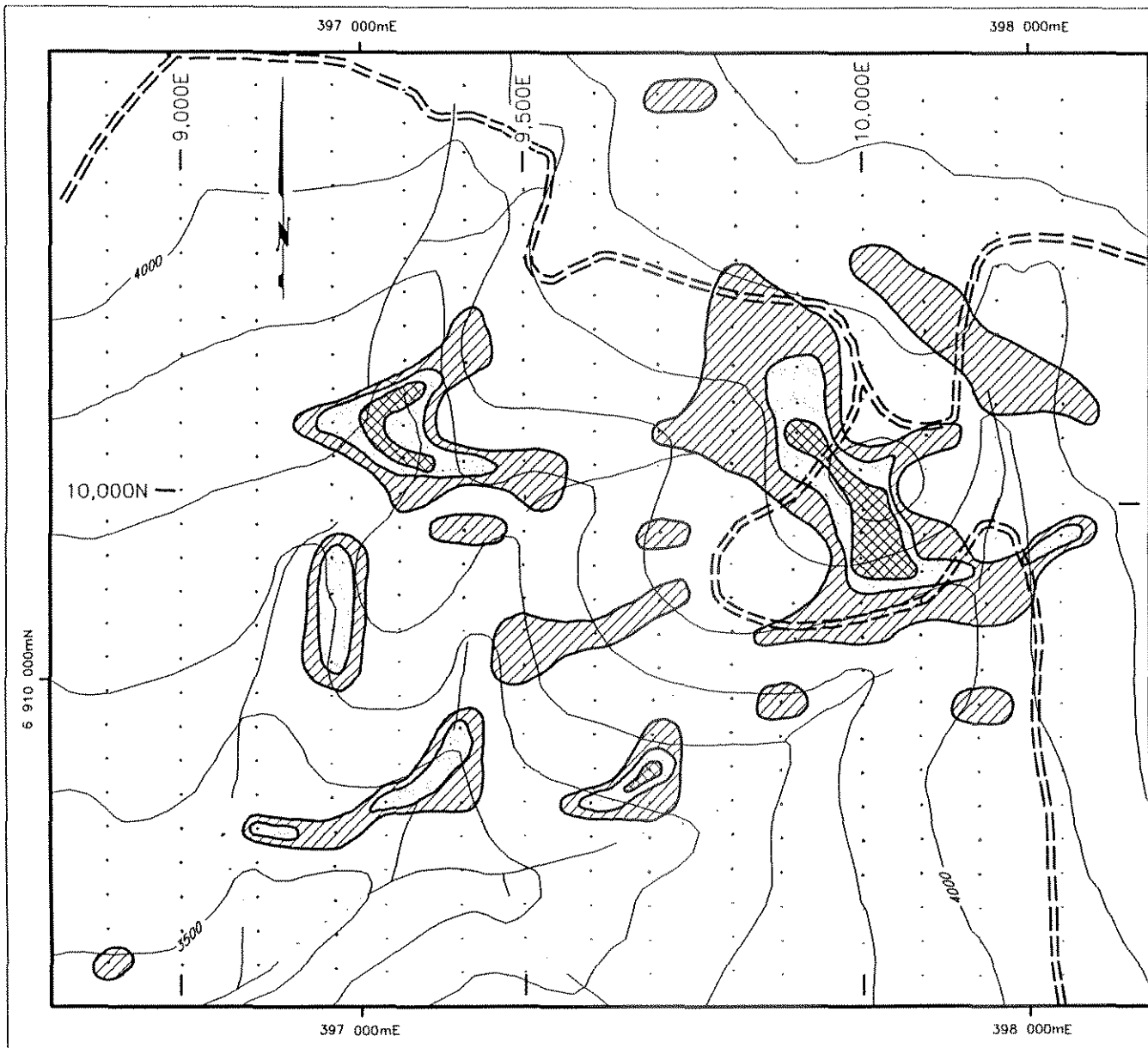
## GEOCHEMISTRY

A total of 1,172 soil samples and 78 rock samples were collected on the property in 1993. The majority (1,131) of the soil samples were collected across a 2.7 km by 2 km grid (8000E to 10700E; 9000N to 11000N). Samples were collected at 50 m intervals on lines spaced 100 m apart. All samples were analyzed for 30 elements by ICP at IPL Laboratories Ltd. in Vancouver, and 10 g fire assay for gold at Northern Analytical Laboratories Limited in Whitehorse. Analytical data are tabulated in Appendix A.




All rock samples were collected by the author. Descriptions and locations for rock samples other than those described under the Trenching and Mineralization sections can be found in Appendix B. Soil sample geochemical results have been compiled on Figures 11 & 12.


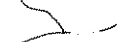
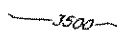
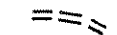
The 1993 soil geochemical survey outlined gold, and copper in soil anomalies associated with the margins of a biotite quartz monzonite stock. Gold ranges up to 477 ppb, averaging 15 ppb. Copper ranges up to 7714 ppm, averaging 80 ppm. Copper in soil geochemical values above the 300 ppm contour interval, and gold values above the 50 ppb contour interval are compiled on Figures 11 and 12 respectively. The 1993 survey was successful in reproducing the copper anomaly defined by Canex and Archer Cathro but failed to extend it in any direction. Gold values are spotty but correlate well with copper along Hart Creek and the eastern edge of the quartz monzonite stock. Three isolated soil anomalies, exceeding 350 ppb Au, straddle Hart Creek near the western edge of the claim block. Analytical results for copper from these samples are between 15 and 56 ppm Cu. These gold anomalies are situated in an area of extensive overburden and remain open to the west.

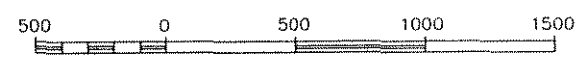
A two kilometre reconnaissance soil line (Figure 4) was completed along an east-west trending ridge on the southern part of the claim block. A total of 41 soil samples were collected at 50 m intervals. One sample (RS-4) returned 205 ppm zinc and 10 ppm antimony.

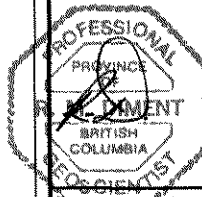


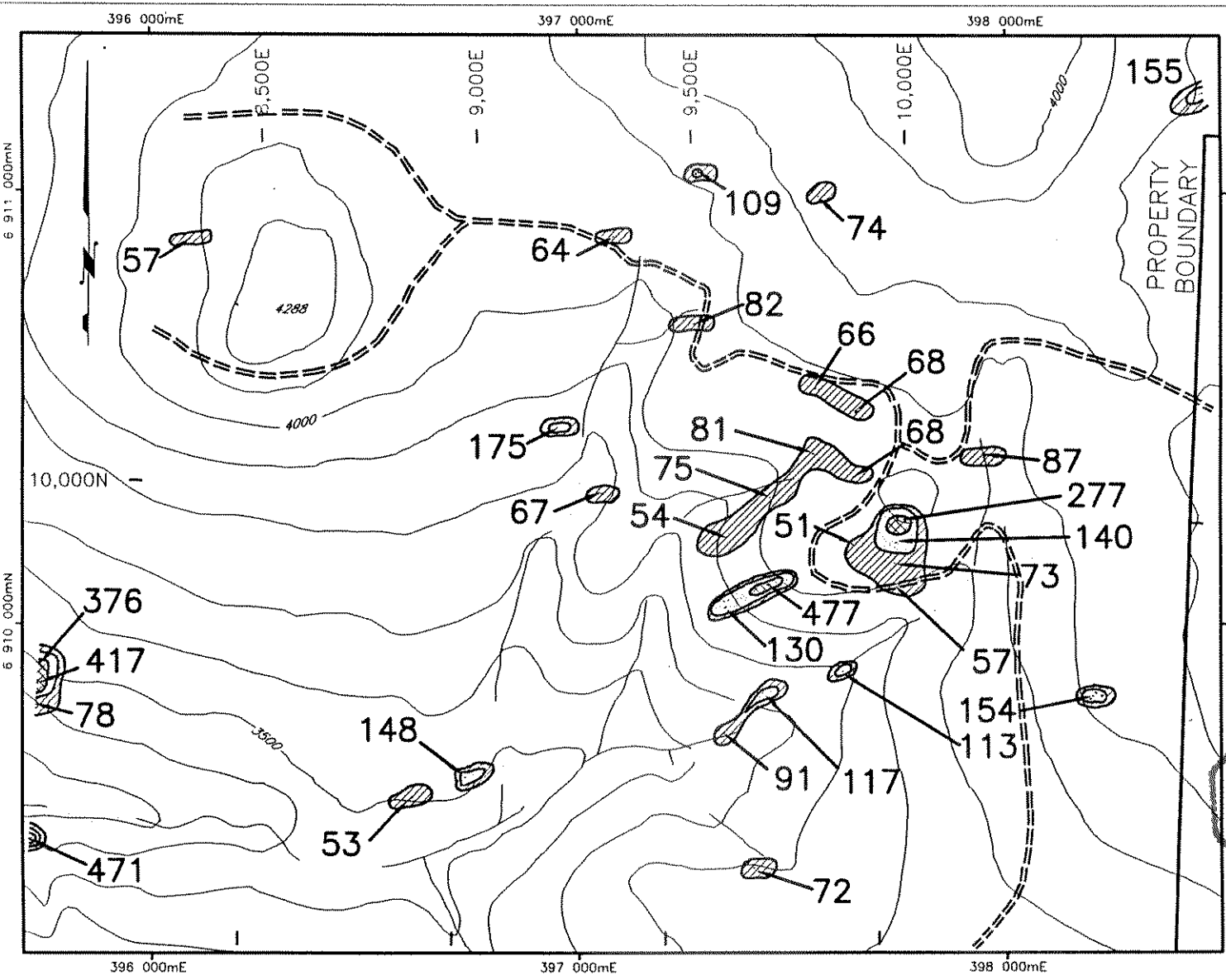
**LEGEND**

-  COPPER (300 ppm)
-  COPPER (600 ppm)
-  COPPER (900 ppm)

-  SOIL LOCATION
-  CREEK
-  CONTOUR
-  4 WD ROAD

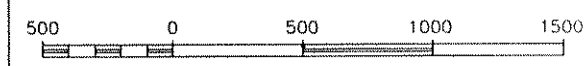


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<b>Granite Mountain Property</b> <small>WHITEHORSE MINING DISTRICT</small>			
		<b>COPPER GEOCHEMISTRY</b>	
<i>Aurum Geological Consultants Inc.</i>		JUNE 1993	
NTS:115/6,7	DRAWN BY S. HANSEN	1:10,000	FIGURE 11

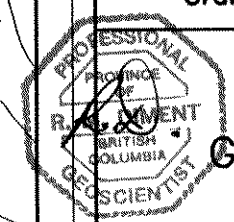


**LEGEND**

- GOLD (50 ppb)
- GOLD (100 ppb)
- GOLD (200 ppb)
- 4 WD ROAD
- CREEK
- CONTOUR



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Granite Mountain Property WHITEHORSE MINING DISTRICT	
<b>GOLD GEOCHEMISTRY</b>	
Aurum Geological Consultants Inc.	JUNE 1993
NTS:115/6.7	DRAWN BY S. HANSEN
1:15,000	FIGURE 12

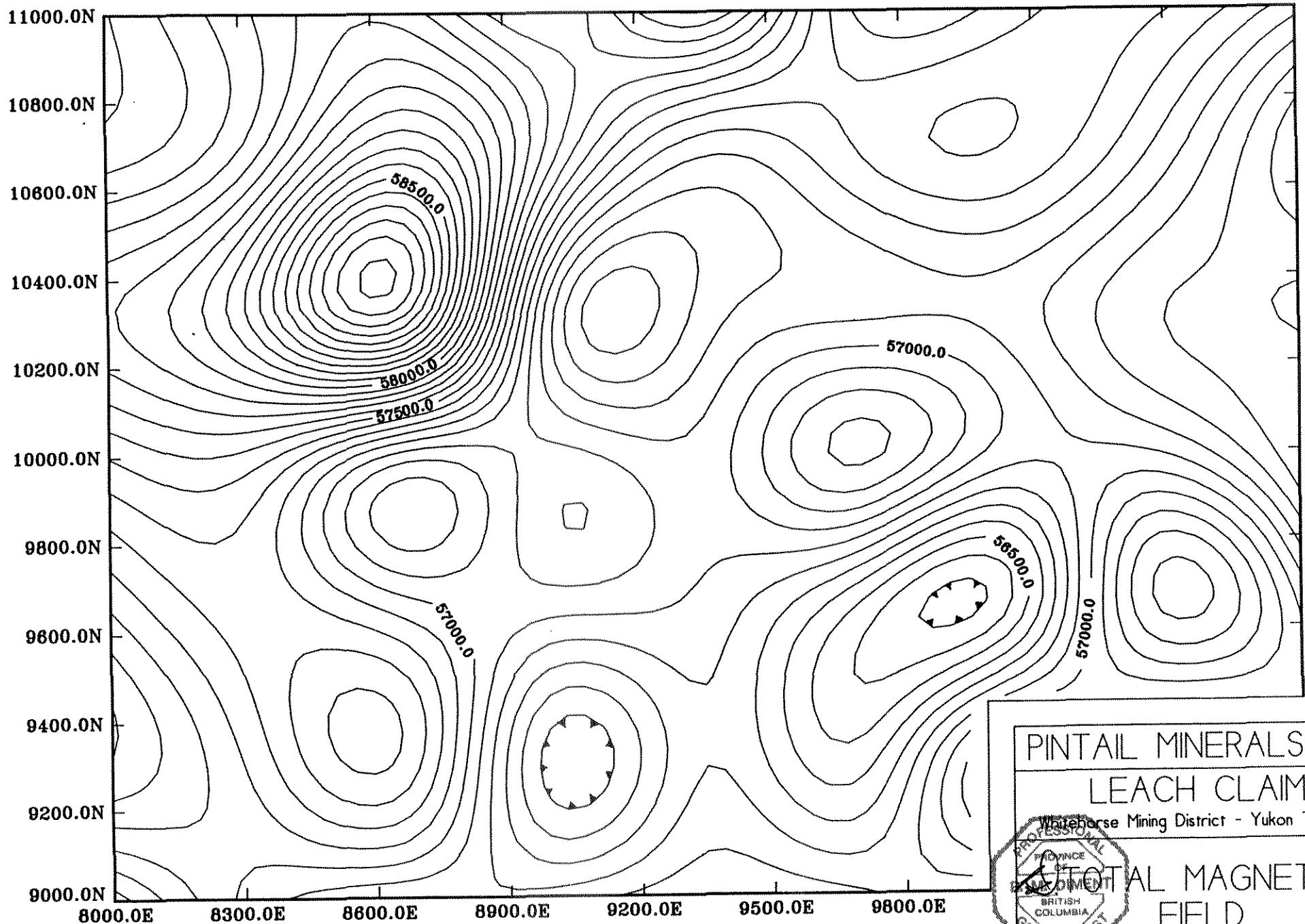



## GEOPHYSICS

Total field magnetic and VLF surveys were conducted on the property by Amerok Geophysics of Whitehorse. Data interpretation was done by Michael Power, M.Sc.

The magnetic survey (Figure 13) was conducted over the entire grid (56 line km) using 12.5 m station spacing. Very high gradient and total field values in the northwest corner of the grid correlate with magnetite veining in granodiorite float. The northeasterly trending magnetic low to the south, paralleling Hart Creek, is interpreted as a fault which defines the contact between the biotite quartz monzonite and Klotassin Granodiorite.

The VLF survey (Figure 14), consisting of 16.25 line km, was centred over Trench 2 and Trenches 3 & 4. Lines 9500 to 10700E were surveyed from 9500 to 10750N. The survey was conducted at 25 m station intervals using the NPM (Lualualei, Hawaii) transmitter. The data were interpreted using a northwest facing direction. Conductor axes generally trend east-west to northeast and follow creek drainages. No response was found over the northwest trending mineralized zones.

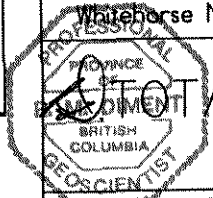



**total magnetic field contour (interval 100 nT)**



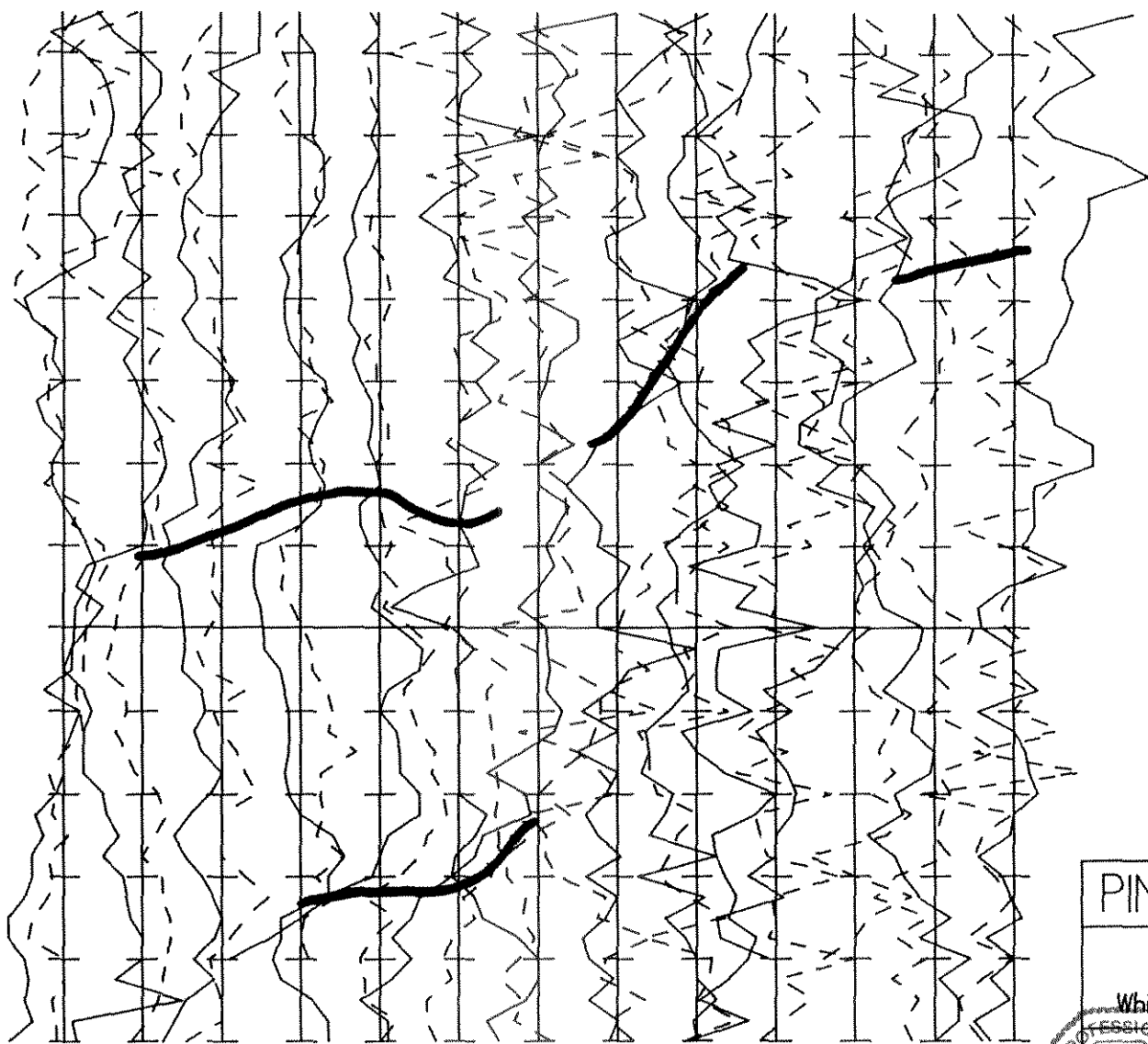
**magnetic low**



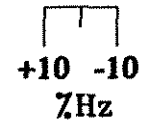
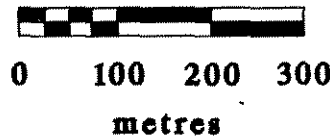
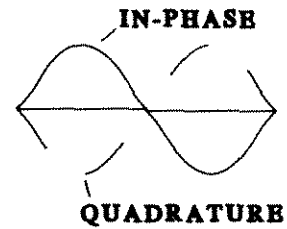
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LEACH CLAIMS	
Whitehorse Mining District - Yukon Territory	
	
TOTAL MAGNETIC FIELD	
AMEROK GEOPHYSICS	JUNE 1993
Scale 1:2000	NTS 1/5 16/7 Figure 13

9500N 9700N 9900N 10100N 10300N 10500N 10700N

10700.0N  
10600.0N  
10500.0N  
10400.0N  
10300.0N  
10200.0N  
10100.0N  
BL  
9900.0N  
9800.0N  
9700.0N  
9600.0N  
9500.0N

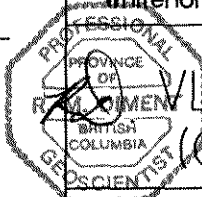


VLF Station  
(Lualualei, Ha)



— - conductor axis

PINTAIL MINERALS LTD.	
LEACH CLAIMS	
Whitehorse Mining District - Yukon Territory	
VLF-EM SURVEY (Geonics EM-16)	
AMEROK GEOPHYSICS	JUNE 1993
Scale 1:9000	NTS 115 16/7 Figure 14



## CONCLUSIONS AND RECOMMENDATIONS

The Granite Mountain Property is underlain by late Triassic Klotassin granodiorite which has been intruded by a Cretaceous biotite quartz monzonite stock. These rocks are intruded and overlain by Late Cretaceous rhyolite quartz porphyry of the Carmacks suite. Steeply dipping northwest and northeast trending faults cut both the Klotassin granodiorite and biotite quartz monzonite.

Exploration in the late 1960's and early 1970's identified porphyry copper mineralization around the propylitically altered margins of the biotite quartz monzonite stock. Limited work between 1987 and 1992 resulted in the discovery of elevated gold, silver, arsenic, and antimony values in porphyry breccias and altered felsic rocks.

Work conducted in 1993 was directed at evaluating gold potential in the porphyry system, and in epithermal alteration zones outlined by areas of altered felsenmeer. Trenching exposed a 50 m wide area of strong phyllic and argillic alteration associated with a northwest trending vertical shear zone. Significant results from this program include 0.24% Cu over 20 m and 31.4 ppm Ag over 4 m, in Trench 1. Pervasive limonite staining is common and indicates possible leaching of copper sulphides from surface and higher grade supergene and hypogene mineralization at depth. The mineralization exposed in Trench 1 is located 150 m east of any previously discovered mineralization, and this zone is open to the east.

Previous diamond drilling on the property in 1967 and 1971 was widely spaced and the results do not correlate well with surface copper in soil anomalies. The discovery of similar grade mineralization in Trench 1 located 150 m east of previously known mineralization indicates that more detailed trenching is required in this area.

Anomalous gold and copper in soil samples correlate well with the margins of the quartz monzonite stock, however, rock samples collected in trenches returned lower gold values, yielding a maximum of 141 ppb over four metres.

Three soil samples containing greater than 300 ppb Au were collected on the western edge of the property. These anomalies were not trenched and remain open to the west.

An extensive zone of quartz-tourmaline stockwork veining and pervasive silicification associated with a northeasterly striking fault was trenched. Analytical results for gold, silver, arsenic, and antimony were all low; further work is not recommended in this area.

Results of the 1993 exploration program warrant additional work to evaluate the potential for higher grade copper mineralization below an extensive leached zone of strong phyllic and argillic alteration. The following two-stage exploration program, where the second stage is contingent on an economic evaluation of results obtained in the first, is warranted and recommended:

### Stage 1

1. Further exploration including trenching along strike of the phyllic/argillic alteration zone to determine its extent on surface. Trench 1 should be extended to the north and the zone should be trenched to extend it to the east.
2. Diamond drilling over areas of greatest alteration and surface leaching to test for supergene and hypogene mineralization at depth. Drill holes should be orientated at  $-45^{\circ}$ , since controls to mineralization are vertical.

### Stage 2 (Implemented if Stage 1 yields positive results)

1. Begin systematic drilling over alteration zone in order to define reserves.
2. Carry out additional trenching and drilling focussing on similar northwest trending shear zones around the margins of the quartz monzonite stock.

The costs for the recommended work programs are estimated below:

### Stage 1

Excavator trenching:	\$10,000
Drill pad preparation and road building:	\$5,000
HQ diamond drilling: (500 m @ \$100/m)	\$50,000
Geology and sampling:	\$10,000
Support costs (camp, truck, supplies):	\$10,000
Analytical:	\$10,000
Report preparation:	\$7,500
Contingencies:	<u>\$7,500</u>

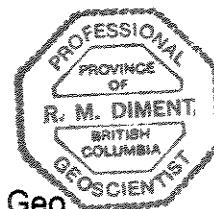
### Total Cost, Stage 1

**\$110,000**

**Stage 2**

Excavator trenching:	\$25,000
Drill pad preparation and road building:	\$15,000
Diamond drilling: (2500 m @ \$100/m)	\$250,000
Geology and sampling:	\$20,000
Analytical:	\$30,000
Support costs (camp, truck, supplies):	\$30,000
Report preparation:	\$10,000
Contingencies:	<u>\$10,000</u>
<b>Total Cost, Stage 2:</b>	<b><u>\$390,000</u></b>
<b>Total Estimated Cost, Stages 1 and 2:</b>	<b>\$500,000</b>

Respectfully submitted,  
Aurum Geological Consultants Inc.

July 27, 1993

Richard M. Diment, B.Sc., P. Geo.

## REFERENCES

- Ainsworth, B. and Adie L., 1966. Geochemical Report, March Claim Group, Granite Mountain, Y.T., for Canex Aerial Exploration Ltd.
- Carlson, G.G., 1987. Geology of Mount Nansen (115-1/3) and Stoddart Creek (115-1/6) map areas; Department of Indian and Northern Affairs Canada, Whitehorse, Y.T., Open File 1987-2.
- Davidson, G.S., 1992. Assessment report on the Granite Mountain Property, Freegold Mountain area for Harris and Associates.
- Eaton, W.D. and Main, C., 1986. Potential for Heap Leach Mining in the Dawson Range, Yukon, Archer-Cathro & Associates Ltd.
- Lueck, B.A., 1989. Geological and Geochemical Assessment Report on the Windy and City Claim Block for G. Harris.
- Morin, J.A., 1981. Element Distribution in Yukon Gold-Silver Deposits, *in* Yukon Geology and Exploration 1979-80, Department of Indian and Northern Affairs Canada, Whitehorse Yukon.
- Phillips, M.P., 1971. Granite Mountain Property, Yukon, Dawson Range Joint Venture Summary Report by Archer Cathro and Associates.
- Pacific Sentinel Gold Corp., 1993. News release issued May 17, 1993.
- Tempelman-Kluit, D.J., 1984. Geology, Laberge (105E) and Carmacks (115 I), Yukon Territory, Exploration and Geological Services Division, Mineral Resource Directorate, Indian and Northern Affairs, Government of Canada.
- Wheeler, J.O. and McFeely, P., (comp), 1991. Tectonic Assemblage Map of the Canadian Cordillera and adjacent parts of the United States of America; Geological Survey of Canada, Map 1712A.
- Yukon Minfile, 1992. Northern Cordilleran Mineral Inventory; Exploration and Geological Services, Department of Indian and Northern Affairs, Whitehorse Yukon.

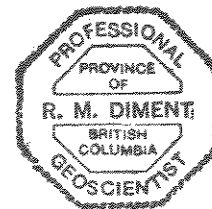
## STATEMENT OF QUALIFICATIONS

I, RICHARD M. DIMENT, with business address:

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P.O. Box 4367  
205 - 100 Main Street  
Whitehorse, Yukon  
Y1A 3T5

do hereby certify that:

1. I am a geologist with AURUM GEOLOGICAL CONSULTANTS INC., P.O. Box 4367, 205-100 Main Street, Whitehorse, Yukon Territory, Y1A 3T5.
2. I am a graduate of University of British Columbia, with a degree in geology (B.Sc., 1986) and have been involved in geology and mineral exploration continuously since 1980.
3. I am a member of The Association of Professional Engineers and Geoscientists of the Province of British Columbia, Registration No. 20288.
4. I have no direct or indirect interest in the properties or securities of Pintail Minerals Ltd.
5. I am the author of this report on the LEACH 1-30, and LEACH 33-70 claims, Whitehorse Mining District, Yukon, which is based on my personal examination of the ground during June 9-28<sup>th</sup>, 1993 and on referenced sources.
6. I consent to the use of this report by Pintail Minerals, provided no portion is used out of context in such a manner as to convey a meaning differing from that set out in the whole.



July 27, 1993

Richard M. Diment, B.Sc., P.Geo.

*Aurum Geological Consultants Inc.*

## STATEMENT OF COSTS

1993 Assessment Work Valuation: Granite Mountain, Leach Claims

## 1. Geological Field Work

R. Diment, B.Sc., P.Geol. June 1-30; 30 days @ \$300/day	\$9,000.00
M. Elson, B.Sc., May 22-June 30: 35 Days @ \$272.25/day	\$9,528.75
L. Steigenburger, B.Sc., May 22-June 30; 35 Days @ \$272.25/Day	\$9,528.75
R. Quovadis, Sampler June 1-30; 30 Days @ \$181.50	\$5,445.00
Mark Elson, Sampler June 20-30; 10 Days @ \$151.23/day	\$1,512.30
J. Miller, Sampler June 12-18; 6.5 Days @ \$181.50/day	\$1,179.75
C. Wheeler, Sampler June 12-16; 4 Days @\$181.50/day	\$726.00
B. Sauer, Prospector June 25-28; 4 days @\$181.50/day	\$726.00
H. MacDonald, Sampler June 15-24; 6 Days @ \$151.25	<u>\$907.38</u>
TOTAL FIELD LABOUR	\$38,553.93
Total Assessment Credits Claimed:	\$8,800.00

**APPENDIX A**

**Analytical Results**

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Proj. 18

Sample Au ppb

L8000E 9000N	11
9050N	13
9100N	16
9150N	15
9200N	29
9250N	471 15
9350N	14
9400N	14
9450N	17
9550N	78
9600N	417 20
9650N	376
9700N	20
9750N	16
9800N	27
9850N	14
9900N	16
9950N	14
L8000E 10000N	9
10050N	15
10100N	13
10150N	15
10200N	7
10250N	9
10300N	10
10350N	10
10400N	12
10450N	17
10500N	14
10550N	11
10600N	15
10650N	12
10700N	14
10750N	10
10800N	14
10850N	17
10900N	20
10950N	22
L8000E 11000N	12
L8100E 9000N	18
9050N	18
9100N	11

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Sample Au ppb

---

9150N	11
9200N	9
9250N	16
9300N	10
9350N	17
9400N	15
9450N	11
9500N	16
9550N	10
9600N	17
9650N	13
9700N	18
9750N	20
9800N	10
9850N	9
9900N	20
9950N	13
L8100E 10000N	12
10050N	18
10100N	18
10150N	15
10200N	17
10250N	17
10300N	20
10350N	18
10400N	17
10450N	21
10500N	19
10550N	18
10600N	18
10650N	9
10700N	57
10750N	13
10800N	10
10850N	15
10900N	18
10950N	14
L8100E 11000N	13
L8200E 9000N	9
9050N	9
9100N	11
9150N	10

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Sample Au ppb

9200N	11
9250N	7
9300N	11
9350N	8
9400N	16
9450N	15
9500N	13
9550N	7
9600N	15
9650N	22
9700N	15
9750N	17
9800N	13
9850N	17
9900N	17
9950N	13
L8200E 10000N	9
10050N	5
10100N	5
10150N	<5
10200N	10
10250N	11
10300N	5
10350N	8
10400N	24
10450N	7
10500N	29
10550N	9
10600N	9
10650N	6
10700N	<5
10750N	9
10800N	8
10850N	6
10900N	7
10950N	7
L8200E 11000N	9
L8300E 9000N	10
9050N	9
9100N	7
9150N	7
9200N	9

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Sample Au ppb

---

9250N	11
9300N	11
9350N	13
9400N	11
9450N	15
9500N	7
9550N	10
9600N	7
9650N	5
9700N	11
9750N	13
9800N	10
9850N	8
9900N	8
9950N	6
L8300E 10000N	7
10050N	12
10100N	8
10150N	<5
10200N	8
10250N	5
10300N	9
10350N	9
10400N	<5
10450N	6
10500N	9
10550N	19
10600N	7
10650N	6
10700N	18
10750N	8
10800N	8
10850N	9
10900N	6
10950N	13
L8300E 11000N	10
L8400E 9050N	9
9100N	11
9150N	5
9200N	9
9250N	5
9300N	6

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Sample Au ppb

9350N	10
9400N	8
9450N	6
9500N	52
9550N	5
9600N	8
9650N	9
9700N	10
9750N	9
9800N	11
9850N	14
9900N	8
9950N	5
L8400E 10000N	<5
10050N	12
10100N	<5
10150N	<5
10200N	6
10250N	6
10300N	5
10350N	9
10400N	<5
10450N	5
10500N	5
10550N	5
10600N	5
10650N	5
10700N	<5
10750N	5
10800N	<5
10850N	5
10900N	6
10950N	5
L8400E 11000N	10
L8500E 9000N	8
9050N	8
9100N	7
9150N	13
9200N	6
9250N	13
9300N	15
9350N	9

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Proj. 18

Sample Au ppb

---

9400N	16
9450N	14
9500N	8
9550N	6
9600N	8
9650N	10
9700N	9
9750N	6
9800N	7
9850N	5
9900N	10
9950N	<5
L8500E 10000N	9
10050N	10
10100N	6
10150N	6
10200N	7
10250N	16
10300N	6
10350N	7
10400N	7
10450N	7
10500N	9
10550N	11
10600N	5
10650N	6
10700N	12
10750N	16
10800N	10
10850N	12
10900N	6
10950N	7
L8500E 11000N	9
L8600E 9000N	26
9050N	20
9100N	26
9150N	30
9200N	27
9250N	24
9300N	31
9350N	18
9400N	14

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Sample Au ppb

9450N	16
9500N	23
9550N	16
9600N	10
9650N	17
9700N	13
9750N	23
9800N	40
9850N	29
9900N	37
9950N	26
L9600E 10000N	13
10050N	13
10100N	8
10150N	11
10200N	7
10250N	8
10300N	11
10350N	6
10400N	<5
10450N	5
10500N	6
10550N	6
10600N	5
10650N	<5
10700N	5
10750N	5
10800N	18
10850N	7
10900N	7
10950N	6
L8600E 11000N	13
L8700E 9000N	47
9050N	11
9100N	10
9150N	11
9200N	14
9250N	8
9300N	9
9350N	6
9400N	<5
9450N	7

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Sample Au ppb

---

9500N	<5
9550N	7
9600N	15
9650N	10
9700N	28
9750N	11
9800N	6
9850N	15
9900N	5
9950N	8
L8700E 10000N	14
10050N	18
10100N	14
10150N	9
10200N	9
10250N	10
10300N	9
10350N	11
10400N	15
10450N	8
10500N	32
10550N	9
10600N	8
10650N	7
10700N	10
10750N	10
10800N	3
10850N	7
10900N	7
10950N	11
L8700E 11000N	8
L8800E 9000N	7
9050N	7
9100N	10
9150N	9
9200N	11
9250N	12
9300N	38
9350N	53
9400N	18
9450N	11
9500N	6

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Sample Au ppb

9550N	7
9600N	5
9650N	9
9700N	6
9750N	5
9800N	6
9850N	5
9900N	7
9950N	12
L8800E 10000N	6
10050N	8
10100N	8
10150N	6
10200N	19
10250N	8
10300N	6
10350N	<5
10400N	14
10450N	5
10500N	8
10550N	6
10600N	6
10650N	7
10700N	15
10750N	7
10800N	9
10850N	9
10900N	9
10950N	9
L8800E 11000N	22
L8900E 9000N	9
9050N	7
9100N	8
9150N	13
9200N	7
9250N	8
9300N	5
9350N	7
9400N	7
9450N	<5
9500N	<5
9550N	6

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Sample	Au ppb
9600N	14
9650N	7
9700N	8
9750N	5
9800N	9
9850N	6
9900N	7
9950N	8
L8900E 10000N	6
10050N	6
10100N	<5
10150N	5
10200N	5
10250N	<5
10300N	<5
10350N	7
10400N	<5
10450N	5
10500N	<5
10550N	6
10600N	I.S.
10650N	<5
10700N	6
10750N	9
10800N	6
10850N	7
10900N	7
10950N	7
L8900E 11000N	10
L9000E 9050N	<5
9100N	8
9150N	8
9200N	5
9250N	5
9300N	5
9350N	5
9400N	148
9450N	12
9500N	12
9550N	<5
9600N	<5
9650N	5

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Sample Au ppb

9700N	7
9750N	6
9800N	<5
9850N	12
9900N	6
9950N	7
L9000E 10000N	8
10050N	8
10100N	13
10150N	5
10200N	<5
10250N	7
10300N	11
10350N	5
10400N	11
10450N	14
10500N	11
10550N	7
10600N	37
10650N	8
10700N	16
10750N	9
10800N	14
10850N	8
10900N	9
10950N	24
L9000E 11000N	11
L9100E 9000N	10
9050N	11
9100N	8
9150N	13
9200N	9
9250N	5
9300N	6
9350N	5
9450N	40
9500N	8
9550N	17
9600N	8
9650N	11
9700N	10
9750N	8

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Sample Au ppb

---

9800N	7
9850N	6
9900N	39
9950N	8
L9100E 10000N	10
10050N	13
10100N	8
10150N	27
10200N	12
10250N	8
10300N	3
10350N	30
10400N	14
10450N	10
10500N	11
10550N	<5
10600N	5
10650N	12
10700N	14
10750N	21
10800N	33
10850N	23
10900N	31
10950N	27
L9100E 11000N	18
L9200E 9000N	19
9050N	18
9100N	31
9150N	17
9200N	22
9250N	15
9300N	16
9350N	14
9400N	14
9450N	14
9500N	11
9550N	5
9600N	<5
9650N	15
9700N	10
9750N	6
9800N	7

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Sample Au ppb

9850N	16
9900N	13
9950N	8
L9200E 10000N	10
10050N	10
10100N	7
10150N	8
10200N	175
10250N	20
10300N	10
10350N	16
10400N	14
10450N	11
10500N	25
10550N	16
10600N	11
10650N	15
10700N	7
10750N	16
10800N	7
10850N	13
10900N	10
10950N	10
L9200E 11000N	10
L9300E 9000N	14
9050N	9
9100N	11
9150N	7
9200N	<5
9250N	5
9300N	11
9350N	13
9400N	16
9450N	8
9500N	26
9550N	17
9600N	10
9650N	<5
9700N	<5
9750N	12
9800N	10
9850N	5

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Sample Au ppb

9900N	29
9950N	12
L9300E 10000N	12
10050N	67
10100N	22
10150N	25
10200N	8
10250N	7
10300N	10
10350N	27
10400N	11
10450N	10
10500N	9
10550N	26
10600N	36
10650N	64
10700N	10
10750N	24
10800N	28
10850N	18
10900N	13
10950N	20
L9300E 11000N	31
L9400E 9000N	10
9050N	9
9100N	10
9150N	14
9200N	8
9250N	11
9300N	8
9350N	14
9400N	9
9450N	5
9500N	10
9550N	30
9600N	5
9650N	33
9700N	13
9750N	10
9800N	12
9850N	16
9900N	25

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Sample Au ppb

9950N	31
L9400E 10000N	5
10050N	37
10100N	13
10150N	20
10200N	20
10250N	36
10300N	36
10350N	11
10400N	19
10450N	15
10500N	11
10550N	11
10600N	9
10650N	7
10700N	9
10750N	12
10800N	7
10850N	9
10900N	9
10950N	10
L9400E 11000N	11
L9500E 9000N	6
9050N	45
9100N	45
9150N	8
9200N	8
9250N	5
9300N	6
9350N	45
9400N	9
9450N	7
9500N	13
9550N	7
9600N	13
9650N	15
9700N	12
9750N	15
9800N	17
9850N	10
9900N	29
9950N	33

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Sample Au ppb

L9500E 10000N	19
10050N	9
10100N	15
10150N	10
10200N	11
10250N	8
10300N	12
10350N	5
10400N	13
10450N	82
10500N	7
10550N	16
10600N	15
10650N	26
10700N	11
10750N	18
10800N	109
10850N	8
10900N	8
10950N	7
L9500E 11000N	9
L9600E 9000N	5
9050N	5
9100N	16
9200N	8
9250N	7
9300N	8
9350N	5
9400N	7
9450N	15
9500N	91
9550N	44
9600N	8
9650N	19
9700N	10
9750N	21
9800N	130
9850N	29
9900N	27
9950N	54
L9600E 10000N	11
10050N	15

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Sample Au ppb

10100N	13
10150N	13
10200N	7
10250N	6
10300N	17
10350N	11
10400N	9
10450N	<5
10500N	15
10550N	<5
10600N	5
10650N	9
10700N	11
10750N	26
10800N	27
10850N	9
10900N	8
10950N	7
L9600E 11000N	10
L9700E 9000N	14
9100N	9
9150N	8
9200N	72
9250N	27
9300N	15
9350N	7
9400N	7
9450N	5
9500N	21
9550N	28
9600N	117
9650N	24
9700N	12
9750N	21
9800N	17
9850N	477
9900N	33
9950N	41
L9700E 10000N	13
10050N	75
10100N	19
10150N	5

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Sample Au ppb

10200N	12
10250N	17
10300N	12
10350N	7
10400N	7
10450N	6
10500N	12
10550N	12
10600N	17
10650N	13
10700N	6
10750N	7
10800N	25
10850N	13
10900N	10
10950N	5
L9700E 11000N	6
L9800E 9000N	6
9050N	<5
9100N	6
9150N	11
9200N	6
9250N	12
9300N	6
9350N	11
9400N	5
9450N	5
9500N	11
9550N	7
9600N	10
9650N	29
9700N	14
9750N	6
9800N	16
9850N	8
9900N	15
9950N	7
L9800E 10000N	8
10050N	18
10100N	39
10150N	81
10200N	46

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Sample Au ppb

---

10250N	35
10300N	66
10350N	11
10400N	6
10450N	9
10500N	7
10550N	25
10600N	10
10650N	14
10700N	9
10750N	74
10800N	22
10850N	8
10900N	7
10950N	9
L9800E 11000N	8
L9900E 9000N	12
9050N	8
9100N	8
9150N	7
9200N	7
9250N	6
9300N	8
9350N	6
9400N	8
9450N	11
9500N	10
9550N	16
9600N	15
9700N	28
9750N	12
9800N	32
9850N	11
9900N	12
9950N	51
L9900E 10000N	36
10050N	35
10100N	68
10150N	23
10200N	33
10250N	68
10300N	16

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Sample Au ppb

10350N	<5
10400N	18
10450N	9
10500N	12
10550N	7
10600N	13
10650N	113
10700N	9
10750N	11
10800N	10
10850N	27
10900N	14
10950N	15
L9900E 11000N	6
L10000E 9000N	8
9050N	6
9100N	9
9150N	6
9200N	6
9350N	6
9400N	9
9450N	7
9500N	6
9550N	9
9600N	11
9650N	10
9700N	8
9750N	14
9800N	42
9850N	57
9900N	73
9950N	140
L10000E 10000N	277
10050N	49
10100N	17
10150N	10
10200N	16
10250N	9
10300N	13
10350N	8
10400N	5
10450N	10

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Sample Au ppb

---

10500N	19
10550N	15
10600N	19
10650N	10
10700N	10
10750N	<5
10800N	11
10850N	13
10900N	6
10950N	7
L10000E 11000N	8
L10100E 9000N	<5
9050N	7
9100N	5
9150N	<5
9200N	5
9250N	8
9300N	8
9350N	5
9400N	8
9450N	<5
9500N	8
9550N	6
9600N	10
9650N	12
9700N	<5
9750N	7
9800N	6
9850N	47
9900N	18
9950N	39
L10100E 10000N	20
10050N	.8
10100N	43
10150N	20
10200N	13
10250N	29
10300N	17
10350N	5
10400N	9
10450N	11
10500N	12

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Proj. 18

Sample Au ppb

10550N	8
10600N	12
10650N	5
10700N	15
10750N	23
10800N	7
10850N	7
10900N	11
10950N	8
L10100E 11000N	7
L10200E 9000N	7
9050N	6
9100N	7
9150N	6
9200N	5
9250N	13
9300N	7
9350N	<5
9400N	10
9450N	5
9500N	<5
9550N	<5
9600N	7
9650N	6
9700N	14
9750N	10
9800N	13
9850N	21
9900N	24
9950N	9
L10200E 10000N	43
10050N	15
10100N	22
10150N	87
10200N	27
10250N	19
10300N	5
10350N	16
10400N	5
10450N	6
10500N	8
10550N	14

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Proj. 18

Sample Au ppb

10600N	5
10650N	13
10700N	9
10750N	13
10800N	7
10850N	6
10900N	9
10950N	<5
L10200E 11000N	6
L10300E 9000N	34
9050N	7
9100N	<5
9150N	8
9200N	6
9250N	<5
9300N	7
9350N	<5
9400N	5
9450N	9
9500N	7
9550N	5
9600N	12
9650N	7
9700N	8
9750N	5
9800N	10
9850N	13
9900N	7
9950N	36
L10300E 10000N	7
10050N	<5
10100N	7
10150N	31
10200N	7
10250N	9
10300N	11
10350N	12
10400N	17
10450N	13
10500N	6
10550N	6
10600N	14

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Proj. 18

Sample Au ppb

10650N	16
10700N	7
10750N	8
10800N	11
10850N	8
10900N	7
10950N	12
L10300E 11000N	8
L10400E 9000N	7
9050N	7
9100N	5
9150N	6
9200N	<5
9250N	5
9300N	<5
9350N	<5
9400N	8
9450N	<5
9500N	5
9550N	8
9600N	10
9650N	6
9700N	6
9750N	<5
9800N	<5
9850N	10
9900N	8
9950N	6
L10400E 10000N	6
10050N	5
10100N	8
10150N	5
10200N	<5
10250N	9
10300N	8
10350N	11
10400N	6
10450N	<5
10500N	<5
10550N	<5
10600N	<5
10650N	15

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Proj. 18

Sample Au ppb

10700N	6
10750N	5
10800N	5
10850N	<5
10900N	6
10950N	10
L10400E 11000N	<5
L10500E 9000N	6
9050N	9
9100N	5
9150N	9
9200N	6
9350N	7
9400N	15
9550N	7
9600N	154
9650N	6
9700N	7
9750N	6
9800N	9
9850N	12
9900N	12
9950N	10
L10500E 10000N	7
10050N	10
10100N	6
10150N	10
10200N	7
10250N	11
10300N	13
10350N	6
10400N	6
10450N	18
10500N	6
10550N	8
10600N	14
10650N	7
10700N	5
10750N	9
10800N	7
10850N	<5
10900N	7

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Proj. 18

Sample Au ppb

10950N	7
L10500E 11000N	8
L10600E 9000N	8
9050N	7
9100N	6
9150N	7
9200N	7
9250N	9
9300N	11
9350N	10
9400N	11
9450N	10
9500N	13
9550N	12
9600N	12
9650N	13
9750N	12
9800N	10
9850N	16
9900N	11
9950N	7
L10600E 10000N	22
10050N	<5
10150N	5
10200N	5
10250N	6
10300N	<5
10350N	8
10400N	11
10450N	15
10500N	11
10550N	8
10600N	21
10650N	34
10700N	18
10750N	13
10800N	6
10850N	9
10900N	7
10950N	15
L10600E 11000N	9
L10700E 9000N	19

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Sample Au ppb

9050N	10
9100N	6
9150N	8
9200N	<5
9250N	5
9300N	<5
9350N	<5
9400N	<5
9450N	<5
9500N	6
9550N	5
9600N	5
9650N	7
9700N	13
9750N	44
9800N	15
9850N	14
9900N	12
9950N	17
L10700E 10000N	14
10050N	12
10100N	12
10150N	17
10200N	<5
10250N	5
10300N	<5
10350N	<5
10400N	<5
10450N	<5
10500N	<5
10550N	<5
10600N	<5
10650N	<5
10700N	17
10750N	<5
10800N	11
10850N	<5
10900N	<5
10950N	<5
L10700E 11000N	155
RS 1	<5
RS 2	<5

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Sample Au ppb

RS 3	45
RS 4	8
RS 5	15
RS 6	45
RS 7	7
RS 8	45
RS 9	5
RS 10	10
RS 11	11
RS 12	5
RS 13	6
RS 14	6
RS 15	8
RS 16	5
RS 17	45
RS 18	10
RS 19	6
RS 20	5
RS 21	45
RS 22	5
RS 23	7
RS 24	45
RS 25	5
RS 26	9
RS 27	5
RS 28	5
RS 29	45
RS 30	45
RS 31	45
RS 32	45
RS 33	45
RS 34	45
RS 35	7
RS 36	8
RS 37	7
RS 38	5
RS 39	45
RS 40	45
RS 41	7
R 64051	95
64052	116
64053	77

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Proj. 18

Sample Au ppb

64054	30
64055	36
64056	42
64057	43
64058	69
64059	39
64060	45
R 64061	51
64062	43
64063	39
64064	57
64065	31
64066	42
64067	43
64068	30
64069	54
64070	50
R 64071	36
64072	34
64073	34
64074	30
64075	32
64076	179
64077	140
64078	141
64079	39
64080	51
R 64081	53
64082	51
64083	41
64084	17
64085	17
64086	16
64087	12
64088	18
64089	20
64090	11
R 64091	30
64092	22
64093	22
64094	19
64095	19

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WO 13949

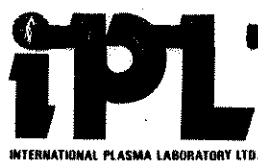
Proj. 18

Sample	Au ppb
64096	22
64097	21
64098	36
64099	34
64100	33
R 64101	21
64102	30
64103	19
64104	23
64105	19
64106	19
64107	10
64108	17
64109	39
64110	25
R 64111	9
64112	7
64113	14
64114	12
64115	234
64116	57
64117	41
64118	140
64119	18
64120	27
R 64121	15
64122	14
64123	11
64124	19
R 64201	27
64202	18
64203	23
64204	20

Note: L8100E 9500N noted as no sample was received

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CERTIFICATE OF ANALYSIS

iPL 93G0201

236 Columbia Street  
Vancouver, B.C.  
Canada V5Y 3E1  
Phone (604) 879-7878  
Fax (604) 879-7898

Northern Analytical Laboratories 1251 Samples

Out: Jul 07, 1993 Project: 13949  
In: Jul 02, 1993 Shipper: Norm Smith  
PO#: Shipment: ID=C030901

0= Rock 0= Soil 0= Core 0=RC Ct 1251= Pulp 0=Other  
Raw Storage: -- -- -- -- 12Mon/Dis  
Pulp Storage: -- -- -- -- 12Mon/Dis

[024716:40:24:39070793]  
Mon=Month Dis=Discard  
Rtn=Return Arc=Archive

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Analytical Summary

##	Code	Met	Title	Limit	Limit	Units	Description	Element	##
			hod	Low	High				
01	721P	ICP	Ag	0.1	100	ppm	Ag ICP	Silver	01
02	711P	ICP	Cu	1	20000	ppm	Cu ICP	Copper	02
03	714P	ICP	Pb	2	20000	ppm	Pb ICP	Lead	03
04	730P	ICP	Zn	1	20000	ppm	Zn ICP	Zinc	04
05	703P	ICP	As	5	9999	ppm	As ICP 5 ppm	Arsenic	05
06	702P	ICP	Sb	5	9999	ppm	Sb ICP	Antimony	06
07	732P	ICP	Hg	3	9999	ppm	Hg ICP	Mercury	07
08	717P	ICP	Mo	1	9999	ppm	Mo ICP	Molybdenum	08
09	747P	ICP	Tl	10	999	ppm	Tl ICP 10 ppm	Thallium	09
10	705P	ICP	Bi	2	999	ppm	Bi ICP	Bismuth	10
11	707P	ICP	Cd	0.1	100	ppm	Cd ICP	Cadmium	11
12	710P	ICP	Co	1	999	ppm	Co ICP	Cobalt	12
13	718P	ICP	Ni	1	999	ppm	Ni ICP	Nickel	13
14	704P	ICP	Ba	2	9999	ppm	Ba ICP	Barium	14
15	727P	ICP	W	5	999	ppm	W ICP	Tungsten	15
16	709P	ICP	Cr	1	9999	ppm	Cr ICP	Chromium	16
17	729P	ICP	V	2	999	ppm	V ICP	Vanadium	17
18	716P	ICP	Mn	1	9999	ppm	Mn ICP	Manganese	18
19	713P	ICP	La	2	9999	ppm	La ICP	Lanthanum	19
20	723P	ICP	Sr	1	9999	ppm	Sr ICP	Strontium	20
21	731P	ICP	Zr	1	999	ppm	Zr ICP	Zirconium	21
22	736P	ICP	Sc	1	99	ppm	Sc ICP	Scandium	22
23	726P	ICP	Ti	0.01	1.00	%	Ti ICP	Titanium	23
24	701P	ICP	Al	0.01	99.99	%	Al ICP	Aluminum	24
25	708P	ICP	Ca	0.01	99.99	%	Ca ICP	Calcium	25
26	712P	ICP	Fe	0.01	99.99	%	Fe ICP	Iron	26
27	715P	ICP	Mg	0.01	9.99	%	Mg ICP	Magnesium	27
28	720P	ICP	K	0.01	9.99	%	K ICP	Potassium	28
29	722P	ICP	Na	0.01	5.00	%	Na ICP	Sodium	29
30	719P	ICP	P	0.01	5.00	%	P ICP	Phosphorus	30

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iPL 93G0201

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Canada V5Y 3E1  
Phone (604) 879-7878  
Fax (604) 879-7898

Client: Northern Analytical Laboratories  
Project: 13949 1251 Pulp

iPL: 93G0201

Out: Jul 08, 1993  
In: Jul 02, 1993

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Section 1 of 1  
Certified BC Assayer: David Chiu

Sample Name	Ag	Cu	Pb	Zn	As	Sb	Hg	Mo	Tl	Bi	Cd	Co	Ni	Ba	W	Cr	V	Mn	La	Sr	Zr	Sc	Ti	Al	Ca	Fe	Mg	K	Na	P
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%
L 9200E 10000N	<	88	28	64	14	<	<	4	<	<	0.1	9	14	127	<	24	65	324	7	20	1	3	0.08	1.59	0.18	2.67	0.47	0.07	0.02	0.02
L 9200E 10050N	<	41	23	52	14	<	<	2	<	<	0.2	11	9	101	<	21	53	610	7	23	1	3	0.07	1.22	0.23	2.07	0.41	0.07	0.02	0.04
L 9200E 10100N	<	825	43	209	74	<	<	21	<	<	<	23	17	113	<	20	75	368	10	18	1	4	0.02	2.59	0.20	4.40	0.41	0.08	0.02	0.10
L 9200E 10150N	<	57	20	62	12	<	<	2	<	<	0.1	10	10	153	<	21	65	434	8	29	<	3	0.08	1.52	0.25	2.43	0.41	0.08	0.03	0.05
L 9200E 10200N	<	86	25	80	17	<	<	3	<	<	<	9	14	148	<	29	73	284	10	28	<	4	0.08	2.14	0.24	3.03	0.62	0.07	0.02	0.04
L 9200E 10250N	<	53	16	44	8	<	<	2	<	<	0.1	6	8	99	<	16	51	119	6	23	<	2	0.06	1.26	0.17	1.94	0.28	0.06	0.03	0.04
L 9200E 10300N	<	100	27	71	16	<	<	3	<	<	<	10	16	141	<	31	66	262	11	28	1	4	0.09	2.13	0.25	2.92	0.66	0.09	0.02	0.04
L 9200E 10350N	<	47	20	54	11	<	<	2	<	<	0.2	10	14	103	<	28	63	264	9	20	1	3	0.09	1.73	0.21	2.59	0.59	0.10	0.02	0.04
L 9200E 10400N	<	40	12	50	13	<	<	2	<	<	<	8	12	110	<	26	59	209	8	22	1	3	0.09	1.69	0.21	2.50	0.58	0.08	0.02	0.04
L 9200E 10450N	<	55	17	49	13	<	<	3	<	<	<	8	13	118	<	29	62	182	9	21	1	4	0.09	1.87	0.21	2.61	0.64	0.09	0.02	0.03
L 9200E 10500N	<	42	16	47	11	<	<	2	<	<	<	9	15	156	<	29	59	196	9	22	2	4	0.09	2.18	0.21	2.61	0.65	0.11	0.02	0.03
L 9200E 10550N	<	23	18	36	15	<	<	4	<	<	<	8	12	185	<	31	71	206	12	44	1	5	0.09	2.47	0.20	3.28	0.89	0.19	0.03	0.05
L 9200E 10600N	<	18	14	48	16	<	<	1	<	<	<	10	20	155	<	31	60	231	9	32	1	4	0.08	2.49	0.27	2.92	0.73	0.09	0.02	0.06
L 9200E 10650N	<	4	<	16	<	<	<	<	<	<	0.1	3	2	32	<	5	31	53	2	14	<	1	0.05	0.44	0.12	0.97	0.09	0.03	0.05	0.04
L 9200E 10700N	<	14	19	48	23	<	<	2	<	<	<	9	15	124	<	34	74	255	9	26	<	4	0.12	2.38	0.24	3.07	0.82	0.11	0.02	0.04
L 9200E 10750N	<	18	18	64	28	<	<	1	<	<	<	20	22	473	<	75	116	558	12	96	2	6	0.23	3.07	0.66	4.86	1.78	0.51	0.03	0.16
L 9200E 10800N	<	15	17	47	12	<	<	<	<	<	0.1	11	19	138	<	33	60	241	10	20	2	4	0.09	2.38	0.21	2.71	0.65	0.08	0.02	0.04
L 9200E 10850N	<	16	16	42	12	<	<	1	<	<	<	11	18	104	<	30	54	242	9	20	2	3	0.09	2.01	0.21	2.42	0.63	0.08	0.02	0.04
L 9200E 10900N	<	10	10	21	5	<	<	1	<	<	<	5	7	62	<	13	35	90	4	14	<	1	0.05	1.01	0.12	1.37	0.22	0.04	0.03	0.03
L 9200E 10950N	<	20	14	47	16	<	<	1	<	<	<	10	19	146	<	34	66	225	9	24	1	4	0.09	2.10	0.25	3.00	0.66	0.07	0.02	0.04
L 9200E 11000N	<	11	12	34	8	<	<	1	<	<	0.2	7	10	77	<	19	53	146	7	17	1	2	0.08	1.22	0.17	1.92	0.37	0.05	0.03	0.04
L 9300E 9000N	0.1	20	15	49	14	<	<	1	<	<	0.1	10	19	113	<	28	58	196	9	16	2	3	0.08	1.82	0.16	2.54	0.58	0.07	0.02	0.02
L 9300E 9050N	<	35	28	81	22	<	<	2	<	<	<	11	17	93	<	32	66	465	7	29	1	3	0.08	2.07	0.26	2.96	0.72	0.05	0.02	0.07
L 9300E 9100N	<	53	62	97	29	<	<	2	<	<	0.1	12	18	148	<	36	70	326	8	37	1	3	0.10	2.59	0.25	3.29	0.66	0.07	0.02	0.04
L 9300E 9150N	<	27	15	49	10	<	<	1	<	<	0.1	12	21	145	<	32	60	269	9	23	3	3	0.09	2.20	0.24	2.69	0.62	0.07	0.02	0.04
L 9300E 9200N	<	16	14	29	11	<	<	1	<	<	<	5	9	92	<	21	62	145	8	20	1	2	0.07	1.32	0.16	2.28	0.26	0.04	0.02	0.06
L 9300E 9250N	<	29	16	47	22	<	<	2	<	<	<	11	17	87	<	32	66	299	7	33	2	3	0.10	2.07	0.18	3.04	0.55	0.06	0.02	0.05
L 9300E 9300N	0.2	70	20	60	12	<	<	1	<	<	<	10	18	133	<	32	48	273	11	43	1	3	0.08	2.00	0.30	2.38	0.69	0.08	0.02	0.06
L 9300E 9350N	<	32	13	43	8	<	<	1	<	<	0.1	7	12	112	<	22	38	144	10	29	<	2	0.06	1.38	0.27	1.80	0.48	0.05	0.02	0.06
L 9300E 9400N	<	9	9	36	5	<	<	1	<	<	0.1	8	9	73	<	17	41	237	8	31	<	2	0.07	0.89	0.26	1.50	0.38	0.04	0.02	0.05
L 9300E 9450N	<	12	10	39	5	<	<	1	<	<	<	6	9	90	<	19	36	159	7	36	1	2	0.06	1.08	0.32	1.51	0.43	0.04	0.03	0.06
L 9300E 9500N	<	16	15	36	5	<	<	1	<	<	0.1	5	7	75	<	15	37	150	5	30	<	1	0.05	0.92	0.25	1.48	0.32	0.04	0.03	0.04
L 9300E 9550N	<	823	38	152	188	<	<	42	<	<	0.6	10	16	214	<	22	40	317	19	62	1	3	0.03	1.60	0.75	2.44	0.49	0.05	0.03	0.10
L 9300E 9600N	<	155	13	38	11	<	<	7	<	<	0.1	9	10	156	<	19	52	502	12	20	<	3	0.07	1.28	0.19	2.00	0.36	0.06	0.02	0.03
L 9300E 9650N	<	69	15	37	10	<	<	5	<	<	<	7	14	123	<	23	50	188	10	14	1	3	0.07	1.57	0.15	2.20	0.45	0.07	0.02	0.02
L 9300E 9700N	0.1	81	15	45	10	<	<	3	<	<	0.2	9	13	123	<	24	60	235	9	16	1	3	0.09	1.61	0.16	2.49	0.53	0.06	0.02	0.04
L 9300E 9750N	<	199	23	56	12	<	<	3	<	<	<	9	23	193	<	32	60	239	9	21	2	4	0.08	2.37	0.24	2.72	0.69	0.08	0.02	0.05
L 9300E 9800N	<	92	26	43	9	<	<	3	<	<	0.1	8	15	105	<	27	59	204	9	19	1	3	0.08	1.73	0.21	2.45	0.48	0.07	0.02	0.04
L 9300E 9850N	<	68	23	54	16	<	<	5	<	<	0.3	10	18	143	<	35	78	318	8	19	3	3	0.10	2.07	0.17	3.38	0.63	0.09	0.02	0.03

Min Limit 0.1 1 2 1 5 5 3 1 10 2 0.1 1 1 2 5 1 2 1 2 1 1 1 1 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01  
 Max Reported\* 99.9 20000 20000 20000 9999 9999 9999 9999 999 999 99.9 999 999 9999 999 9999 999 9999 999 9999 9999 999 999 1.00 99.99 99.99 99.99 9.99 9.99 5.00 5.00  
 Method ICP  
 ---No Test ins=Insufficient Sample S=Soil R=Rock C=Core L=Silt P=Pulp U=Undefined m=Estimate/1000 %=Estimate % Max=No Estimate  
 International Plasma Lab Ltd. 2036 Columbia St. Vancouver BC V5Y 3E1 Ph:604/879-7878 Fax:604/879-7898



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Client: Northern Analytical Laboratories
Project: 13949 1251 Pulp

iPL: 93G0201

Out: Jul 08, 1993
In: Jul 02, 1993

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Section T of T
Certified BC Assayer: David Chiu

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Table with columns for Sample Name, Ag, Cu, Pb, Zn, As, Sb, Hg, Mo, Tl, Bi, Cd, Co, Ni, Ba, W, Cr, V, Mn, La, Sr, Zr, Sc, Ti, Al, Ca, Fe, Mg, K, Na, P. Rows list various sample IDs and their corresponding element concentrations.

Min Limit 0.1 1 2 1 5 5 3 1 10 2 0.1 1 1 2 5 1 2 1 2 1 1 1 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01
Max Reported\* 99.9 20000 20000 20000 9999 9999 9999 9999 999 999 999 99.9 999 999 9999 999 9999 999 9999 9999 9999 999 99 1.00 99.99 99.99 99.99 9.99 9.99 5.00 5.00
Method ICP
--No Test ins=Insufficient Sample S=Soil R=Rock C=Core L=Silt P=Pulp U=Undefined m=Estimate/1000 %=Estimate % Max=No Estimate







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Client: Northern Analytical Laboratories    iPL: 93G0201    Out: Jul 08, 1993    Page 18 of 33    Section 1 of 1  
Project: 13949    1251 PuIp    In: Jul 02, 1993    Certified BC Assayer: David Chiu

Sample Name	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Hg ppm	Mo ppm	Tl ppm	Bi ppm	Cd ppm	Co ppm	Ni ppm	Ba ppm	W ppm	Cr ppm	V ppm	Mn ppm	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
L 9600E 9650N	0.4	159	18	67	<	<	<	8	<	<	<	8	17	202	<	30	64	276	9	19	1	3	0.07	1.92	0.23	2.71	0.66	0.05	0.02	0.03
L 9600E 9700N	0.1	172	19	50	7	<	<	10	<	<	0.3	7	13	208	<	24	52	209	8	20	1	2	0.07	1.50	0.23	2.13	0.54	0.05	0.02	0.03
L 9600E 9750N	0.6	248	29	93	10	<	<	25	<	<	0.1	9	20	192	<	32	60	306	9	18	1	4	0.07	2.14	0.25	2.81	0.72	0.07	0.01	0.05
L 9600E 9800N	0.3	361	38	130	12	<	<	16	<	<	0.3	14	23	103	<	47	87	433	8	14	3	5	0.12	2.69	0.25	4.00	1.30	0.06	0.01	0.08
L 9600E 9850N	0.8	181	23	60	7	<	<	6	<	<	0.1	8	14	97	<	28	57	204	8	13	3	3	0.08	1.61	0.16	2.35	0.59	0.04	0.01	0.02
L 9600E 9900N	0.7	255	59	63	10	<	<	8	<	<	0.2	10	21	135	<	33	62	262	8	15	2	4	0.09	2.12	0.22	2.75	0.76	0.06	0.02	0.04
L 9600E 9950N	<	276	31	69	8	<	<	6	<	<	0.2	11	17	100	<	36	76	289	8	19	2	4	0.13	1.93	0.28	3.05	1.05	0.09	0.02	0.08
L 9600E 10000N	<	92	21	40	5	<	<	5	<	<	0.4	5	9	55	<	14	44	121	5	10	<	1	0.06	0.82	0.11	1.63	0.30	0.05	0.02	0.04
L 9600E 10050N	0.4	136	26	56	10	<	<	8	<	<	0.2	6	10	88	<	20	48	169	7	13	1	2	0.06	1.19	0.17	1.99	0.41	0.05	0.02	0.04
L 9600E 10100N	0.5	189	19	46	17	<	<	10	<	<	<	7	12	100	<	23	58	185	8	12	1	2	0.07	1.41	0.14	2.32	0.45	0.05	0.02	0.04
L 9600E 10150N	<	26	11	42	6	<	<	4	<	<	0.2	10	11	123	<	20	52	508	6	12	1	2	0.06	1.27	0.11	2.20	0.33	0.04	0.01	0.03
L 9600E 10200N	<	105	28	54	14	<	<	8	<	<	<	10	14	125	<	23	61	264	7	14	1	3	0.07	1.65	0.14	2.47	0.48	0.04	0.02	0.03
L 9600E 10250N	0.1	67	17	54	11	<	<	6	<	<	0.1	9	15	121	<	26	63	232	7	13	1	3	0.08	1.76	0.14	2.76	0.50	0.05	0.02	0.04
L 9600E 10300N	<	81	10	45	13	<	<	6	<	<	0.2	8	16	131	<	27	71	180	7	15	1	3	0.10	1.64	0.17	2.79	0.57	0.07	0.02	0.04
L 9600E 10350N	<	91	11	42	13	<	<	5	<	<	0.3	8	13	178	<	23	72	187	7	15	1	3	0.10	1.49	0.15	2.73	0.41	0.06	0.02	0.03
L 9600E 10400N	<	32	11	48	10	<	<	3	<	<	0.1	11	21	133	<	32	60	203	7	17	1	3	0.09	2.36	0.17	2.83	0.59	0.06	0.02	0.03
L 9600E 10450N	<	21	<	21	<	<	<	1	<	<	0.2	4	5	82	<	11	32	70	4	9	<	1	0.05	0.75	0.07	1.14	0.17	0.04	0.03	0.02
L 9600E 10500N	<	26	<	21	<	<	<	1	<	<	0.3	4	4	59	<	8	32	74	3	8	1	1	0.04	0.67	0.07	1.13	0.12	0.03	0.03	0.03
L 9600E 10550N	<	4	<	7	<	<	<	1	<	<	<	2	<	22	<	2	14	25	<	9	1	<	0.03	0.41	0.07	0.50	0.02	0.03	0.03	0.03
L 9600E 10600N	0.3	37	10	22	26	<	<	1	<	<	0.1	3	5	92	<	11	36	72	7	15	1	1	0.04	0.96	0.05	1.64	0.16	0.05	0.03	0.03
L 9600E 10650N	<	30	17	48	10	<	<	3	<	<	0.3	9	11	87	<	22	76	276	7	13	3	2	0.10	1.21	0.10	2.86	0.38	0.06	0.01	0.04
L 9600E 10700N	0.2	73	27	47	7	<	<	5	<	<	0.1	8	9	102	<	19	50	214	9	19	1	2	0.06	1.57	0.18	2.38	0.48	0.08	0.03	0.06
L 9600E 10750N	0.5	119	23	68	13	<	<	14	<	<	<	11	12	171	<	35	73	404	12	40	1	4	0.09	2.00	0.29	3.47	0.85	0.13	0.03	0.09
L 9600E 10800N	0.2	49	11	44	6	<	<	4	<	<	<	9	8	132	<	27	69	203	10	23	1	4	0.12	1.62	0.29	2.62	0.79	0.15	0.02	0.09
L 9600E 10850N	0.2	25	11	48	7	<	<	2	<	<	<	8	13	107	<	22	53	241	10	21	<	3	0.09	1.49	0.24	2.31	0.57	0.09	0.03	0.05
L 9600E 10900N	<	13	7	43	5	<	<	1	<	<	0.1	9	9	104	<	22	66	307	7	24	1	3	0.11	1.32	0.30	2.52	0.61	0.12	0.02	0.08
L 9600E 10950N	<	12	7	36	5	<	<	<	<	<	0.3	6	8	130	<	21	47	246	6	20	1	2	0.08	1.19	0.23	1.91	0.54	0.09	0.03	0.07
L 9600E 11000N	<	11	<	33	<	<	<	1	<	<	0.2	10	7	97	<	15	42	554	4	20	<	1	0.06	1.18	0.18	1.82	0.35	0.06	0.03	0.07
L 9700E 9000N	<	12	10	91	10	<	<	1	<	<	<	11	20	156	<	49	60	445	7	58	1	3	0.11	1.87	0.71	2.89	1.51	0.07	0.03	0.15
L 9700E 9100N	<	18	65	99	49	<	<	1	<	<	0.1	11	18	119	<	32	66	302	8	31	1	4	0.07	2.14	0.34	3.25	0.88	0.06	0.02	0.05
L 9700E 9150N	0.5	11	107	204	65	<	<	1	<	<	0.1	8	14	128	<	27	56	295	8	27	1	3	0.07	1.52	0.34	2.53	0.71	0.04	0.02	0.05
L 9700E 9200N	3.5	90	529	598	171	<	<	1	<	<	2.8	10	16	244	<	41	70	411	54	85	3	9	0.03	2.51	0.98	3.77	0.91	0.08	0.02	0.17
L 9700E 9250N	1.3	32	179	378	65	6	<	1	<	<	1.6	11	16	147	<	37	64	338	20	34	3	5	0.09	1.86	0.58	2.86	1.05	0.06	0.02	0.12
L 9700E 9300N	0.6	17	121	300	122	<	<	2	<	<	0.8	9	15	163	<	35	61	355	15	37	1	5	0.07	1.84	0.56	3.51	0.91	0.05	0.02	0.13
L 9700E 9350N	<	15	7	37	<	<	<	1	<	<	<	6	9	123	<	20	34	148	7	38	<	2	0.05	1.48	0.39	1.44	0.38	0.04	0.03	0.06
L 9700E 9400N	<	31	10	40	<	<	<	2	<	<	0.1	6	10	151	<	19	38	215	7	27	1	2	0.05	1.36	0.26	1.64	0.32	0.04	0.04	0.05
L 9700E 9450N	0.1	44	15	58	9	<	<	3	<	<	0.1	8	13	189	<	23	45	374	10	28	1	3	0.05	1.38	0.34	2.13	0.53	0.05	0.02	0.05
L 9700E 9500N	2.0	127	20	83	13	<	<	8	<	<	<	8	11	237	<	19	38	708	16	28	1	4	0.03	1.66	0.30	2.17	0.32	0.04	0.03	0.07
L 9700E 9550N	0.9	409	25	96	32	<	<	51	<	<	<	7	11	285	<	20	43	724	25	32	1	4	0.03	1.23	0.42	2.63	0.35	0.05	0.03	0.09

Min Limit    0.1    1    2    1    5    5    3    1    10    2    0.1    1    1    2    5    1    2    1    2    1    1    1    1    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01

Max Reported\*    99.9    20000    20000    20000    9999    9999    9999    9999    999    999    999    99.9    999    999    9999    999    9999    999    9999    9999    9999    9999    9999    999    1.00    99.99    99.99    99.99    99.99    9.99    9.99    5.00    5.00

Method    ICP

—=No Test    ins=Insufficient Sample    S=Soil    R=Rock    C=Core    L=Silt    P=Pulp    U=Undefined    m=Estimate/1000    %=Estimate %    Max=No Estimate

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# CERTIFICATE OF ANALYSIS

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INTERNATIONAL PLASMA LABORATORY LTD.

Client: Northern Analytical Laboratories      iPL: 93G0201      Out: Jul 08, 1993      Page 29 of 33      Section 1 of 1  
Project: 13949      1251 Pulp      In: Jul 02, 1993      Certified BC Assayer: David Chiu

Sample Name	Ag	Cu	Pb	Zn	As	Sb	Hg	Mo	Tl	Bi	Cd	Co	Ni	Ba	W	Cr	V	Mn	La	Sr	Zr	Sc	Ti	Al	Ca	Fe	Mg	K	Na	P
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%
L10700E 9050N	<	13	19	46	11	<	<	1	<	<	<	9	13	204	<	28	49	351	9	48	1	3	0.05	1.63	0.57	2.16	0.57	0.07	0.02	0.07
L10700E 9100N	0.2	14	11	33	9	<	<	1	<	3	<	6	9	182	<	19	37	225	7	54	1	2	0.03	1.16	0.58	1.62	0.36	0.04	0.03	0.07
L10700E 9150N	0.2	15	11	33	9	<	<	1	<	<	<	9	11	201	<	20	38	555	10	47	<	2	0.03	1.32	0.52	1.81	0.41	0.05	0.03	0.07
L10700E 9200N	0.2	14	13	47	6	<	<	1	<	<	0.2	8	10	155	<	18	53	357	8	41	<	2	0.05	1.16	0.45	2.07	0.33	0.05	0.03	0.07
L10700E 9250N	0.3	15	11	28	<	<	<	1	<	<	<	6	8	180	<	15	30	208	9	60	1	1	0.03	1.08	0.64	1.32	0.31	0.04	0.03	0.08
L10700E 9300N	0.2	10	8	34	<	<	<	<	<	<	<	6	10	140	<	18	38	215	8	39	<	2	0.04	1.12	0.45	1.60	0.39	0.03	0.02	0.08
L10700E 9350N	0.1	16	11	29	<	<	<	<	<	<	<	7	11	177	<	18	35	326	7	47	<	2	0.04	1.34	0.47	1.59	0.43	0.04	0.03	0.07
L10700E 9400N	0.1	10	10	43	8	<	<	1	<	<	<	9	18	87	<	29	58	225	8	19	<	3	0.08	1.60	0.26	2.58	0.63	0.07	0.02	0.06
L10700E 9450N	0.2	12	12	22	<	<	<	<	<	<	<	4	5	56	<	10	33	86	3	15	<	1	0.05	0.66	0.14	1.19	0.18	0.03	0.03	0.03
L10700E 9500N	0.3	6	7	14	<	<	<	<	<	<	<	3	2	37	<	5	27	49	2	12	<	<	0.04	0.43	0.12	0.90	0.07	0.03	0.04	0.03
L10700E 9550N	0.1	6	9	26	<	<	<	<	<	<	<	5	4	68	<	8	51	117	<	24	<	1	0.07	0.44	0.25	1.53	0.12	0.02	0.03	0.04
L10700E 9600N	<	6	<	15	<	<	<	<	<	<	<	3	2	47	<	3	25	61	2	28	<	<	0.04	0.30	0.28	0.82	0.07	0.02	0.04	0.04
L10700E 9650N	0.2	11	6	14	<	<	<	<	<	<	<	4	5	96	<	8	16	278	3	57	<	1	0.02	0.65	0.53	0.75	0.16	0.02	0.04	0.06
L10700E 9700N	0.1	12	4	13	<	<	<	<	<	<	<	2	3	91	<	5	14	113	3	59	1	<	0.02	0.51	0.57	0.60	0.09	0.02	0.04	0.05
L10700E 9750N	0.8	19	48	80	<	<	<	1	<	<	0.8	4	6	187	<	9	25	180	6	65	<	1	0.02	0.81	0.72	1.12	0.20	0.03	0.04	0.09
L10700E 9800N	0.3	17	9	46	<	<	<	1	<	<	0.5	5	7	178	<	13	28	237	7	43	<	1	0.02	0.92	0.43	1.28	0.25	0.03	0.03	0.07
L10700E 9850N	0.3	4	6	14	<	<	<	<	<	<	<	2	2	44	<	4	22	34	<	10	<	<	0.02	0.34	0.09	0.72	0.05	0.03	0.04	0.02
L10700E 9900N	0.2	5	4	23	<	<	<	<	<	<	<	4	4	30	<	6	47	65	2	10	<	<	0.05	0.31	0.08	1.38	0.09	0.03	0.03	0.02
L10700E 9950N	0.7	23	17	47	10	<	<	1	<	<	<	10	13	396	<	24	54	1278	14	32	<	3	0.04	1.90	0.35	2.61	0.38	0.04	0.03	0.11
L10700E 10000N	0.1	4	4	10	<	<	<	<	<	<	<	2	1	49	<	3	13	42	2	11	<	<	0.02	0.32	0.09	0.48	0.05	0.03	0.03	0.03
L10700E 10050N	<	2	15	7	<	<	<	<	<	<	<	2	1	24	<	2	16	32	<	11	<	<	0.02	0.21	0.08	0.52	0.03	0.02	0.04	0.03
L10700E 10100N	0.2	13	20	37	10	<	<	2	<	<	0.1	5	8	78	<	19	76	128	7	14	<	1	0.08	1.20	0.13	2.12	0.34	0.05	0.02	0.03
L10700E 10150N	0.3	23	35	77	49	<	<	1	<	<	<	8	11	69	<	35	87	332	9	17	<	5	0.04	1.85	0.18	4.37	0.24	0.03	0.02	0.08
L10700E 10200N	<	16	20	47	14	<	<	1	<	<	<	9	14	88	<	31	57	258	9	14	1	4	0.07	2.23	0.17	2.87	0.50	0.06	0.02	0.06
L10700E 10250N	0.1	7	<	9	<	<	<	<	<	<	<	4	1	35	<	5	20	213	2	9	<	<	0.02	0.37	0.07	0.71	0.04	0.03	0.04	0.03
L10700E 10300N	<	17	2	16	<	<	<	<	<	<	<	2	3	37	<	7	21	50	2	11	<	<	0.02	0.59	0.09	0.91	0.09	0.02	0.04	0.03
L10700E 10350N	0.1	13	4	14	<	<	<	<	<	<	<	2	3	70	<	5	22	40	3	16	<	<	0.02	0.59	0.13	0.88	0.06	0.02	0.04	0.04
L10700E 10400N	<	3	<	7	<	<	<	<	<	<	<	2	1	29	<	2	14	24	<	10	<	<	0.01	0.16	0.06	0.44	0.03	0.02	0.04	0.02
L10700E 10450N	0.6	28	37	57	6	<	<	1	<	<	<	5	10	114	<	26	42	136	6	16	<	1	0.03	1.04	0.17	1.71	0.34	0.03	0.03	0.05
L10700E 10500N	<	10	2	6	<	<	<	<	<	<	<	1	1	25	<	3	12	21	<	11	<	<	0.01	0.28	0.06	0.44	0.04	0.02	0.03	0.03
L10700E 10550N	0.2	63	18	27	5	<	<	1	<	<	0.2	4	5	48	<	9	39	62	6	13	<	1	0.03	0.59	0.11	1.46	0.12	0.04	0.02	0.04
L10700E 10600N	0.1	14	<	9	<	<	<	2	<	<	<	7	2	43	<	7	24	792	2	11	<	1	0.03	0.47	0.11	1.05	0.08	0.02	0.03	0.04
L10700E 10650N	0.2	11	2	20	<	<	<	5	<	<	<	4	5	56	<	13	29	105	4	13	<	1	0.04	0.76	0.13	1.14	0.21	0.03	0.03	0.05
L10700E 10700N	0.3	44	17	38	14	<	<	21	<	<	<	7	12	134	<	31	54	195	13	28	<	3	0.04	1.51	0.37	2.50	0.54	0.03	0.02	0.10
L10700E 10750N	0.2	18	7	22	<	<	<	1	<	<	<	4	7	116	<	15	30	74	5	20	<	1	0.04	1.13	0.18	1.24	0.29	0.04	0.04	0.05
L10700E 10800N	0.1	30	16	43	7	<	<	7	<	<	<	17	13	183	<	31	60	389	7	34	<	4	0.07	1.98	0.40	2.84	0.69	0.11	0.04	0.08
L10700E 10850N	0.2	15	3	14	<	<	<	2	<	<	<	3	3	64	<	7	33	49	5	15	<	1	0.03	0.63	0.14	1.25	0.08	0.02	0.03	0.07
L10700E 10900N	0.1	12	5	18	<	<	<	1	<	<	0.1	3	5	83	<	11	20	94	4	20	<	1	0.02	0.87	0.17	1.02	0.14	0.04	0.03	0.06
L10700E 10950N	<	6	<	9	<	<	<	<	<	<	<	2	3	44	<	5	16	41	2	11	<	1	0.03	0.46	0.11	0.62	0.06	0.03	0.04	0.04

Min Limit      0.1    1    2    1    5    5    3    1    10    2    0.1    1    1    2    5    1    2    1    2    1    1    1    1    1    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01

Max Reported\*    99.9    2000    20000    20000    9999    9999    9999    9999    9999    9999    99.9    999    999    9999    999    9999    999    9999    9999    9999    9999    9999    9999    9999    9999    9999    9999    9999    9999    9999    9999    9999

Method            ICP    ICP

---No Test    ins=Insufficient Sample    S=Soil    R=Rock    C=Core    L=Silt    P=Pulp    U=Undefined    m=Estimate/1000    %=Estimate %    Max=No Estimate

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CERTIFICATE OF ANALYSIS

iPL 93G0201

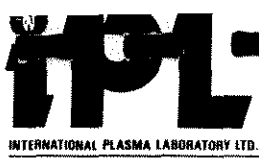
2036 Columbia St. Vancouver, B.C. Canada V5Y 3E1 Phone (604) 879-7878 Fax (604) 879-7898

Client: Northern Analytical Laboratories Project: 13949 1251 Pulp IPL: 93G0201 Out: Jul 08, 1993 In: Jul 02, 1993 Page 31 of 33 Section 1 of 1 Certified BC Assayer: David Chiu

Table with 28 columns (Sample Name, Ag, Cu, Pb, Zn, As, Sb, Hg, Mo, Tl, Bi, Cd, Co, Ni, Ba, W, Cr, V, Mn, La, Sr, Zr, Sc, Ti, Al, Ca, Fe, Mg, K, Na, P) and 45 rows of data.

Min Limit 0.1 1 2 1 5 5 3 1 10 2 0.1 1 1 2 5 1 2 1 2 1 1 1 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 5.00 5.00
Max Reported\* 99.9 20000 20000 20000 9999 9999 9999 9999 999 999 99.9 999 999 9999 999 9999 999 9999 9999 9999 9999 999 99 1.00 99.99 99.99 99.99 9.99 9.99 5.00 5.00
Method ICP
---No Test ins=Insufficient Sample S=Soil R=Rock C=Core L=Silt P=Pulp U=Undefined m=Estimate/1000 %=Estimate % Max=No Estimate
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**CERTIFICATE OF ANALYSIS**  
iPL 93G0201

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Client: Northern Analytical Laboratories    iPL: 93G0201    Out: Jul 08, 1993    Page 33 of 33    Section 1 of 1  
Project: 13949    1251 Pulp    In: Jul 02, 1993    Certified BC Assayer: David Chiu

Sample Name	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Hg ppm	Mo ppm	Tl ppm	Bi ppm	Cd ppm	Co ppm	Ni ppm	Ba ppm	W ppm	Cr ppm	V ppm	Mn ppm	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
R 64202	0.5	166	19	16	17	<	<	9	<	<	0.2	2	2	105	<	60	17	29	15	49	1	1	<	0.35	0.06	1.92	0.04	0.15	0.09	0.06
R 64203	0.4	113	21	16	14	<	<	12	<	<	0.1	2	2	93	<	68	24	43	14	61	<	2	<	0.59	0.09	1.58	0.16	0.15	0.10	0.06
R 64204	0.2	121	17	22	19	<	<	21	<	<	<	4	3	76	<	75	33	82	8	45	<	3	0.02	0.94	0.12	1.74	0.34	0.18	0.07	0.06

Min Limit    0.1    1    2    1    5    5    3    1    10    2    0.1    1    1    2    5    1    2    1    2    1    1    1    1    0.01    0.01    0.01    0.01    0.01    0.01    0.01    0.01

Max Reported\*    99.9    20000    20000    20000    9999

Method    ICP

---No Test    ins=Insufficient Sample    S=Soil    R=Rock    C=Core    L=Silt    P=Pulp    U=Undefined    m=Estimate/1000    %=Estimate %    Max=No Estimate

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**APPENDIX B**

**Rock Sample Location and Description**

Rock Sample Location and Description Record 1993

Project: Granite Mountain    Area: Carmacks, Yukon, NTS 115I/6&7    Sampler: RD

Sample Number	Location	Description	Width	Au ppb	Ag ppm	Cu ppm	Mo ppm
R64101	10475N/10050E	Strong quartz-tourmaline stockwork in argillically altered granodiorite.	Grab	21	1.6	47	108
R64102	10425N/10135E	Same as R64101	Grab	30	0.4	80	16
R64103	10350N/10300E	Same as R64101	Grab	18	<.1	9	6
R64104	10300N/10450E	Same as R64101	Grab	23	<.1	104	11
R64105	10500N/9920E	Brecciated rhyolite with hairline quartz stockwork.	Grab	18	0.8	93	45
R64106	10400N/9710E	Same as R64105	Grab	19	0.2	56	89
R64107	10550N/10050E	Quartz-tourmaline stockwork in bleached granodiorite.	Grab	10	0.4	76	12
R64108	10490N/9870E	Moderately silicified quartz porphyry. Minor quartz stockwork.	Grab	17	0.8	96	19
R64109	10535N/9620E	Same as R64108	Grab	39	0.1	64	26
R64110	10485N/9600E	Same as R64108	Grab	25	0.8	60	15
R64111	10750N/9450E	Same as R64108	Grab	9	<.1	6	4
R64112	10725N/9620E	Same as R64108	Grab	7	<.1	5	2
R64113	11100N/10100E	Silicified granodiorite. Aphanitic blue-grey matrix with minor pyrite, galena and chalcopyrite.	Grab	14	<.1	4	3
R64114	11300N/10800E	Moderately silicified biotite quartz monzonite. 1-3% limonite.	Grab	12	<.1	14	6

Rock Sample Location and Description Record 1993

Project: Granite Mountain      Area: Carmacks, Yukon, NTS 115I/6&7      Sampler: RD

Sample Number	Location	Description	Wdth	Au ppb	Ag ppm	Cu ppm	Mo ppm
R64115	10000N/9950E	Chloritic biotite quartz monzonite. Minor quartz stockwork with 1% disseminated chalcopyrite.	Grab	34	2.6	3410	61
R64116	10625N/9300E	Argillically altered quartz porphyry with minor quartz stockwork. 1% disseminated pyrite.	Grab	57	0.5	528	15
R64117	9925N/10125E	Bleached, moderately silicified intrusive. Minor pyrite. Alteration is east-west striking in trench.	Grab	41	16.	182	63
R64118	10125N/10000E	Same as R64117. Alteration northwest striking in trench.	Grab	140	2.5	1714	127
R64119	9550N/9560E	Limonitic biotite quartz monzonite with hairline quartz stockwork.	Grab	18	0.7	444	17
R64120	9325N/9560E	Limonitic silicified breccia. 1-2% disseminated pyrite.	Grab	27	0.4	540	7
R64121	9290N/9560E	Silicified granodiorite. Aphanitic blue-grey matrix with 1% pyrite.	Grab	15	<.1	17	3
R64122	9340N/9400E	Moderately silicified biotite quartz monzonite. 1% pyrite.	Grab	14	<.1	22	3
R64123	10000N/9225E	Chloritic biotite quartz monzonite with 0.5-1% chalcopyrite.	1m chip	11	0.4	1121	6
R64124	9875N/10275E	Argillically altered biotite quartz monzonite. Minor pyrite.	Grab	19	0.7	666	27