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**GEOLOGICAL and GEOCHEMICAL
REPORT**

on the
ATEN PROPERTY
Johanson Lake area
Omineca Mining District
British Columbia

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

for
22,861

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23 February 1993

SUMMARY

At the request of the Swannell Minerals Corporation, Reliance Geological Services carried out an exploration program consisting of rock and stream sediment surveys and reconnaissance geological mapping on the ATEN property during July 1992.

The ATEN property comprises six contiguous mineral claims totalling 104 units in the Aiken Lake area of the Omineca Mining Division. The property is situated approximately 225 kilometers north-northwest of Fort St James, B.C., and is accessible by helicopter.

The property is on mountainous terrain with moderate to steep slopes rising from approximately 1320 meters to 2074 meters. Recommended work season is mid-June to early October.

The claims lie in the regionally extensive Mesozoic Quesnel Belt. In the Aiken Lake district, Triassic Takla volcanic rocks are intruded by Triassic-Jurassic alkaline stocks and Cretaceous Hogem Batholith. The alkalic plutons of the Quesnel Belt commonly host porphyry copper-gold deposits.

The claims are underlain by Triassic-Jurassic Takla volcanics, intruded by monzonite-diorite and quartz monzonite of the Triassic-Jurassic Hogem batholith. Copper mineralization consists of minor malachite and chalcopyrite as small blebs in fractures, shears, and quartz veinlets.

Regional aeromagnetic and silt sampling surveys were completed in the early 1970's. Four magnetic anomalies were identified, all surrounding a monzonite stock intruding volcanic rocks. Silt samples from streams draining the area underlain by the stock were anomalous in copper. Two copper occurrences were found, both associated with quartz-carbonate veins in or near the monzonite stock.

Approximately 60% of the claim area remains to be investigated. Geological mapping at a scale of 1:10,000 is recommended in these areas.

Previous work and the 1992 exploration program have outlined three targets.

First: located in the northern area of the property near the contact between monzonite and Takla volcanics.

Five anomalous rock samples from malachite staining and chalcopryrite along fractures yielded results from 1738 ppm to 3.2% copper. Twenty-six soil samples in the area were anomalous in copper.

Second: located on the Aten 4 claim.

Consists of five anomalous soil samples from a reconnaissance soil line.

Third: located in the central area of the Aten 2 claim.

Four rock samples from monzonite assayed between 2116 ppm and 2.82% copper.

Further work consisting of grid establishment, geological mapping at a 1:5,000 scale, and soil sampling has been recommended to test these target areas.

Contingent on favorable results, followup work would include detailed mapping, soil sampling, and IP surveys to establish drill targets.

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ATEN Property

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1.

INTRODUCTION

This report was prepared at the request of Swannell Minerals Corporation to describe and evaluate the results of the 1992 geological and geochemical program carried out by Reliance Geological Services Inc on the ATEN property in the Aiken Lake area of the Omineca Mining District, British Columbia.

The field work was undertaken for the purpose of following up on anomalous rock and soil geochemistry identified in earlier exploration programs and evaluating the potential of the property to host a porphyry copper/gold deposit.

Field work was carried out from July 29th to 31st, 1992, by Alan Taylor (geologist), Doug Johannessen (geologist), Ted Archibald (prospector), and Brian Chore (geotechnician), under the supervision of Peter Leriche, P.Geo, and Mark Rebagliati, P.Eng, both of whom visited the property.

This report is based on published and unpublished information and the maps, reports and field notes of the crew listed above.

2. LOCATION, ACCESS and PHYSIOGRAPHY

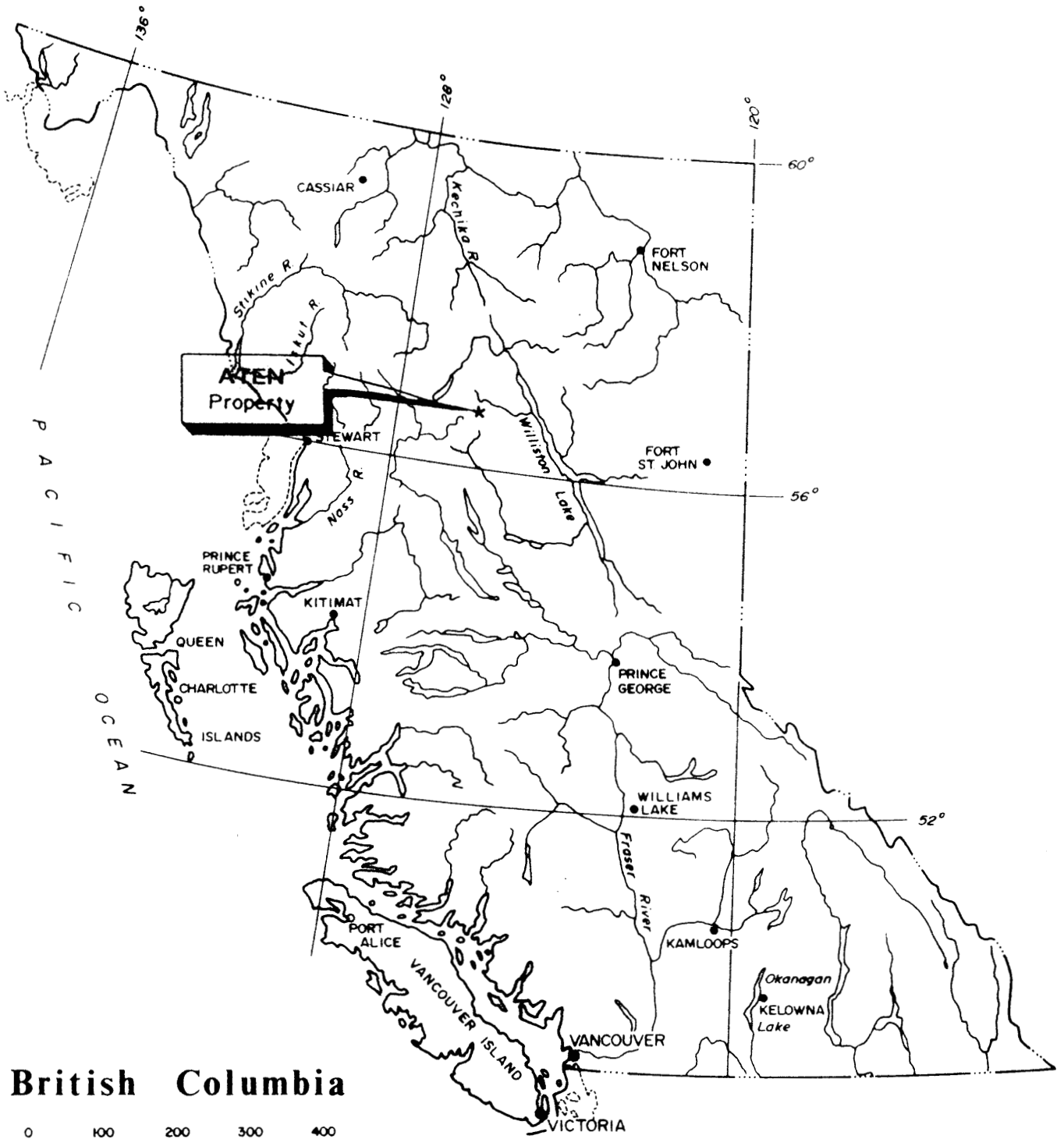
The ATEN property is situated in the Omineca Mining Division in the Aiken Lake area, approximately 225 kilometers northwest of Fort St James (Figures 1 and 2).

The claims are located on Map Sheet NTS 94C/3W,4E, at latitude 56° 10' North, longitude 125° 32' West, and between UTM 6231000 m and 6225000 m North, and UTM 341000 m and 349000 m East.

Road access is via the Omineca Mining Road from Fort St James north to Aiken Lake (approximately 360 km) and then by helicopter to Aiken Lake.

The property is on mountainous terrain with moderate to steep slopes rising from approximately 1320 meters to 2074 meters. The area is sparsely forested with spruce and pine. Scrub fir and alpine vegetation occur above tree-line (\pm 1600 meters).

Recommended work season is mid-June to early October.



British Columbia



SWANNELL MINERALS CORPORATION		
ATEN PROPERTY		
<i>General Location Map</i>		
Scale noted above	N.T.S.	Drawn by
Date JAN. 93	Geologist	Figure 1
RELIANCE GEOLOGICAL SERVICES INC.		

3. PROPERTY STATUS

The property consists of 6 contiguous mineral claims (Figure 2) in the Omineca Mining Division. The claims are registered in the name of Major General Resources Ltd, and have been optioned to Swannell Minerals Corporation.

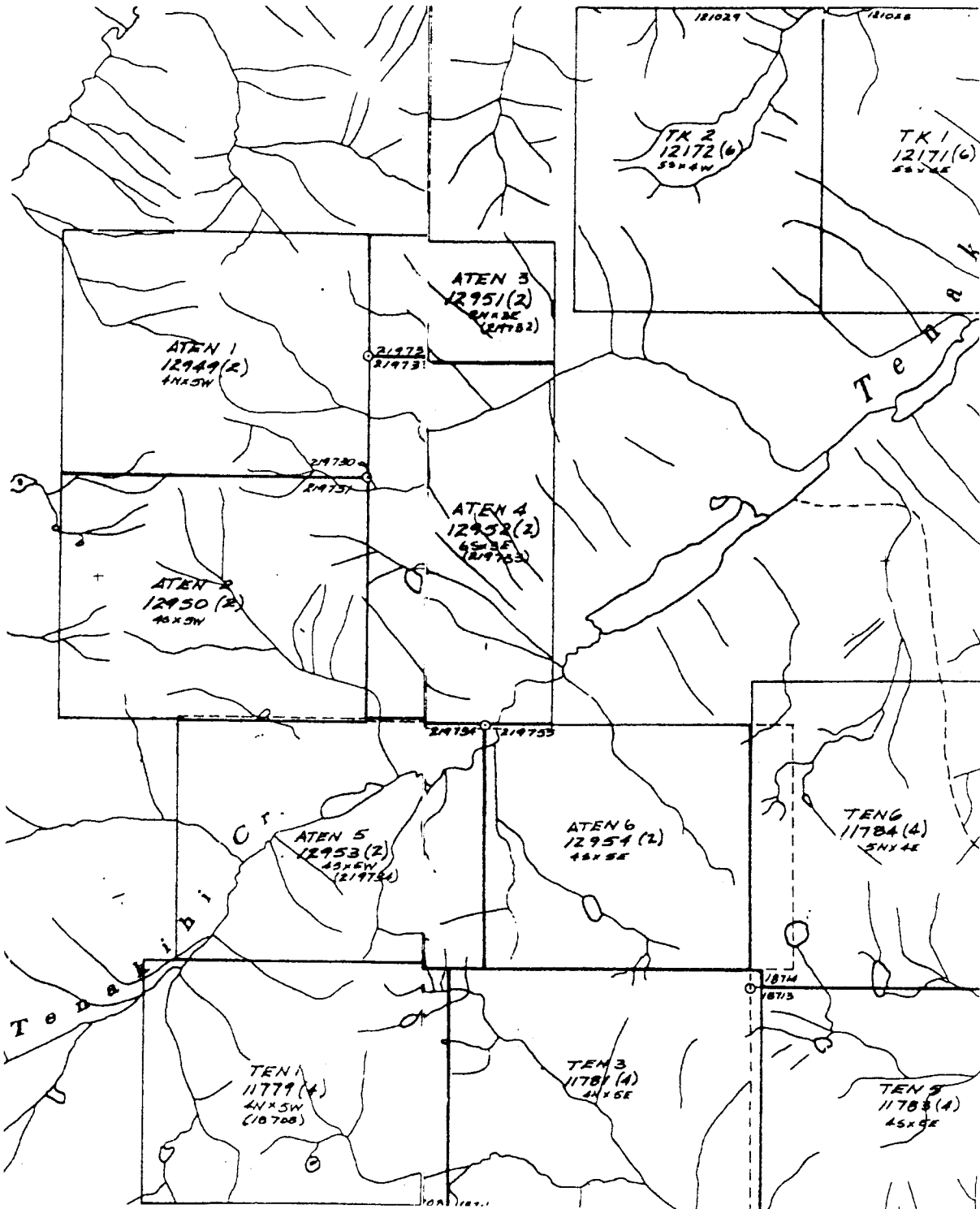
Details of the claims are as follows:

<u>Claim</u>	<u>Record Number</u>	<u>Units</u>	<u>Record Date</u>	<u>Expiry Date</u>
ATEN 1	12949	20	8 Feb 1991	8 Feb 1994
ATEN 2	12950	20	8 Feb 1991	8 Feb 1994
ATEN 3	12951	6	8 Feb 1991	8 Feb 1994
ATEN 4	12952	18	8 Feb 1991	8 Feb 1994
ATEN 5	12953	20	8 Feb 1991	8 Feb 1994
ATEN 6	12954	<u>20</u>	8 Feb 1991	8 Feb 1994

Total 104 units

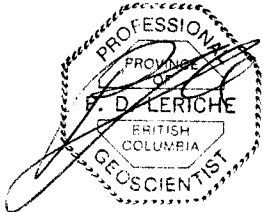
The total area covered by the claims is 2550 hectares, or 6298 acres, allowing for overlap.

The writers are not aware of any particular environmental, political or regulatory problems that would adversely affect mineral exploration and development on the ATEN property.



SWANNELL MINERALS CORPORATION
ATEN PROPERTY

CLAIM MAP



Scale 1:50,000	N.T.S. 94C/4E.3W	Drawn by
Date JAN. 93	Geologist	Figure 2
RELIANCE GEOLOGICAL SERVICES INC.		

4. REGIONAL GEOLOGY

(from Rebagliati, 1991)

"The ATEN property lies within the regionally extensive early Mesozoic Quesnel Belt. This 35 km wide belt extends northwesterly for 1200 km and includes equivalent rocks of the Upper Triassic-Lower Jurassic Takla, Nicola, and Stuhini Groups (Mortimer, 1986) (Figures 3 and 4). To the west, deformed and uplifted Permian Cache Creek Group rocks are separated from the Quesnel Belt by the Pinchi Fault Zone. To the east, the Manson Fault Zone separates this belt from the uplifted Proterozoic/early Palaeozoic Wolverine Metamorphic Complex, and the Mississippian-Permian Slide Mountain and Cache Creek Groups (Garnet, 1978).

In the Mt Milligan - Johanson Lake district, the Takla Group volcanics are dominated by subaqueous alkalic to subalkalic dark green tuffs and volcanic breccias of andesitic and basaltic composition, interbedded with pyroxene porphyritic flow rocks of similar composition. Intercalated bedded tuffs and argillites are subordinate. Black argillites interfinger with volcanic rocks to the east and west of the central volcanic core. Locally, thick successions of maroon colored lahars suggest the presence of emergent subaerial volcanic centres.

The volcanic-sedimentary strata of the Quesnel Belt are locally intruded by alkaline syenite, monzonite, and diorite batholiths, stocks and dykes. In the Quesnel Belt, most intrusions are considered coeval and comagmatic with late Triassic-early Jurassic volcanism. Many of the stocks lie along linear trends which are interpreted to reflect fault zones which have localized volcanism and associated stock emplacement.

The Hogem Batholith of Early Jurassic to Cretaceous age is the largest body of intrusive rock within the Omineca Mountains (Armstrong and Garnett 1973) (Figure 4). Takla Group volcanic and sedimentary strata are intruded by the north-south elongate batholith which is, in part, truncated along its western margin by the Pinchi Fault. Numerous satellitic plutons flank the eastern margins of the batholith.

The complexity of the Hogem Batholith is characterized by rock units ranging in composition from diorite to granite. Lithologic changes are rapid to gradational at all scales of mapping.

Garnett, who used the I.U.G.S. classification of 1973, described three phases within the Hogem Batholith.

The earliest, Phase I, contains the more basic phases, including pyroxenite, gabbro, diorite, monzodiorite, monzonite, and the 'Hogem Granodiorite', and accounts for two-thirds of all rock types mapped. The Hogem Granodiorite is a distinctive leucocratic felsic division, predominantly quartz diorite in composition, but also comprising quartz monzodiorite, quartz monzonite and, more rarely, quartz diorite, tonalite and granite.

The Phase II syenites, such as the Duckling Creek complex, (with migmatitic, compositionally banded, and intrusive varieties) and the leucocratic Chuchi (quartz) syenite, are reported to be intrusive into Phase I rocks.

Phase III rocks include leucocratic varieties (including aplites, pegmatite, varieties of granite, quartz syenite and alaskite). These rocks may be represented by leucocratic late-stage dykes cutting units of Phases I and II.

Numerous porphyry copper prospects occur throughout the Hogem Batholith.

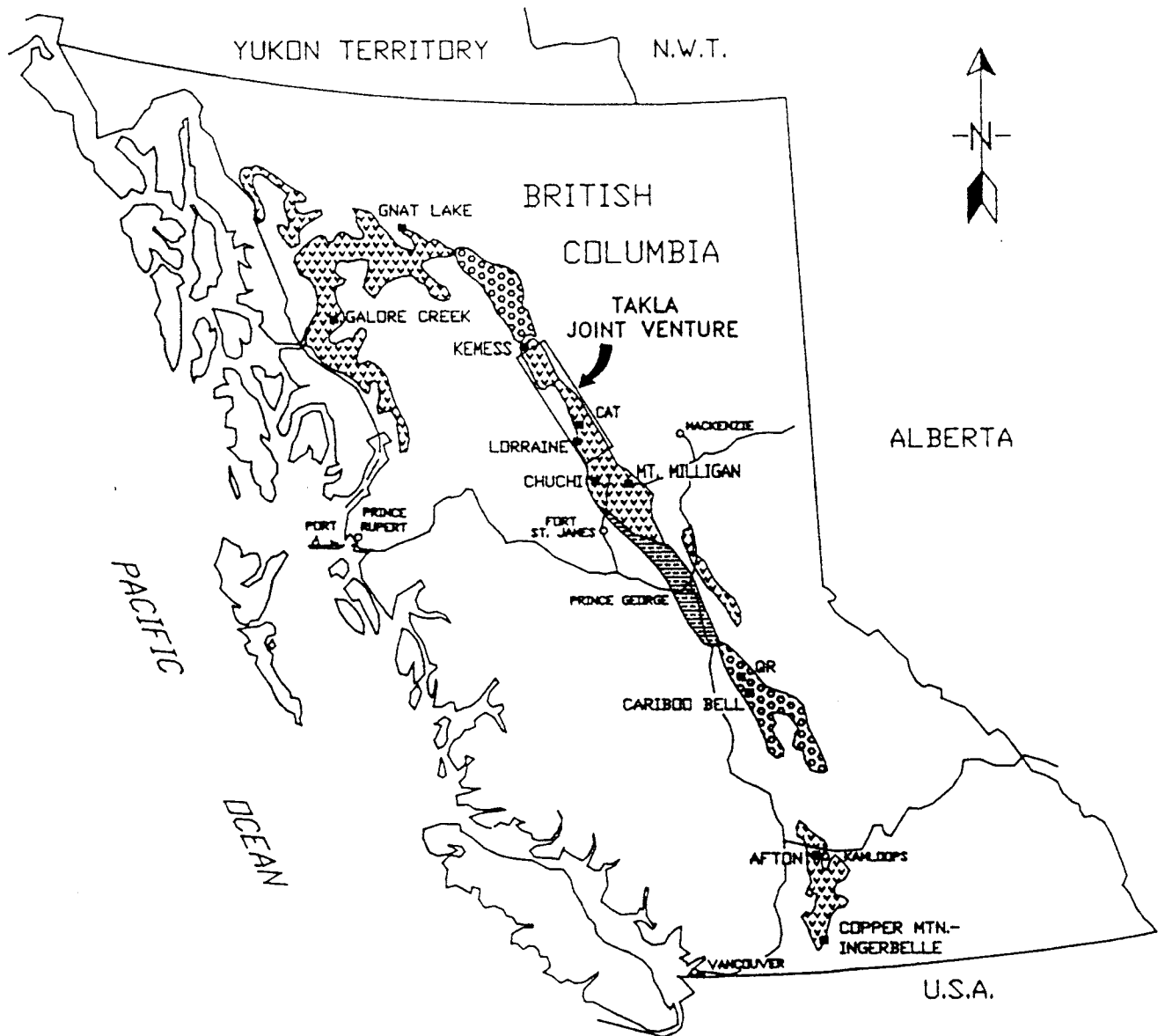
The alkalic plutons of the Quesnel Belt commonly host porphyry copper deposits, which are increasingly being recognized as an important source of gold. It has also been recently recognized that related failed porphyry systems (those that did not form copper deposits) also have the potential to generate disseminated gold deposits (eg: QR and the 66 Zone at Mt Milligan).

The volcanic strata on all of the ATEN property claims are intruded by alkalic plutons. Some of these plutons are reported to display some of the geological characteristics which are related to the formation of gold-rich porphyry copper deposits in the Quesnel Belt."




Many auriferous porphyry copper prospects are under active exploration within the Quesnel Belt, and the following deposits have been identified:

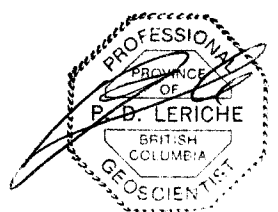
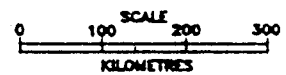
Gold-Copper Porphyry Deposits
Quesnel Belt
British Columbia

<u>Property</u>	<u>No. of Deposits</u>	<u>Reserves/Mineral Copper(x10⁶lbs)</u>	<u>Inventory Gold (x10⁶oz)</u>
<u>In Production:</u>			
Copper Mountain (Cassiar)	5	1,600	.910
Afton (Teck)	2	680	.970
<u>Exploration/Development Stage</u>			
Mt. Polley (Imperial Metals)	2	875	2.000
Galore Creek (Hudsons Bay et al)	8	3,000	1.750
Red Chris (Noranda)	2	550	.450
QR (QPX)	4	-0-	.200
Lorraine (Kennco)	2	150	.100
Mt. Milligan (Continental Gold/Placer Dome)	2	1,680	6.376
Kemess (El Condor)	2	1,615	6.226



LEGEND

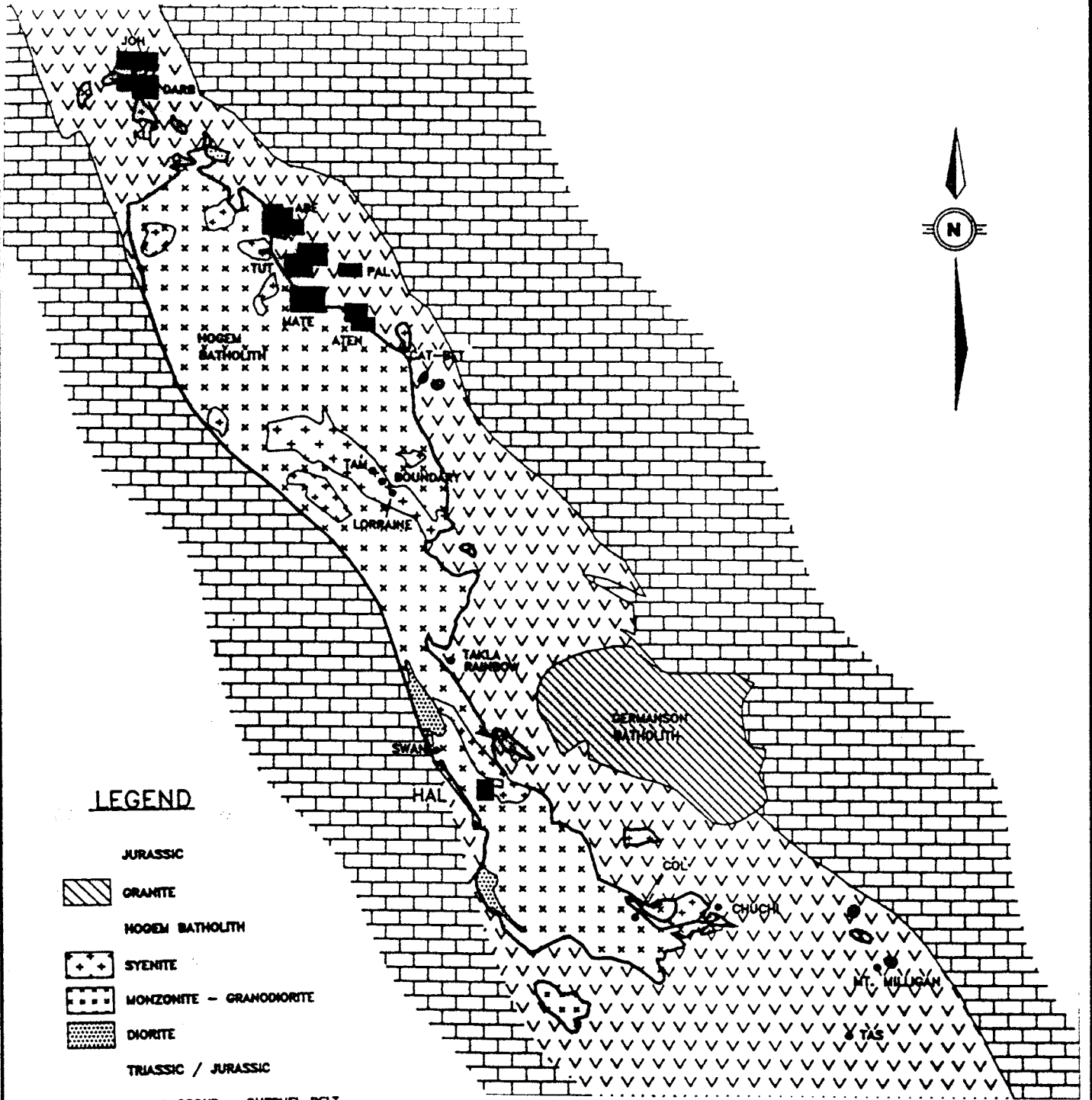
-  ALKALINE VOLCANIC ROCKS
-  SUBALKALINE VOLCANIC ROCKS
-  MAINLY SEDIMENTARY ROCKS
- GOLD AND / OR COPPER DEPOSIT



After Fox et. al 1976

6A

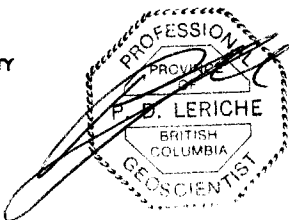
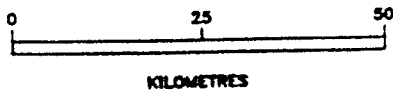
SWANNELL MINERALS CORPORATION		
ATEN PROPERTY		
<p>QUESNEL BELT UPPER TRIASSIC & LOWER JURASSIC VOLCANIC ROCKS, SIGNIFICANT GOLD AND / OR COPPER DEPOSITS, ASSOCIATED WITH ALKALIC PLUTONS</p>		
Scale AS SHOWN	N.T.S.	Drawn by
Date JAN. 93	Geologist	Figure 3
RELIANCE GEOLOGICAL SERVICES INC.		



LEGEND

- JURASSIC
- GRANITE
- HOSEM BATHOLITH
- SYENITE
- MONZONITE - GRANODIORITE
- DIORITE
- TRIASSIC / JURASSIC
- TAKLA GROUP - QUESHEL BELT
- BASALT - ANDESITE
- PERMIAN
- LIMESTONE - SHALE
- TAKLA JOINT VENTURE PROPERTY
- PORPHYRY DEPOSITS

SCALE



SWANNELL MINERALS CORPORATION

ATEN PROPERTY

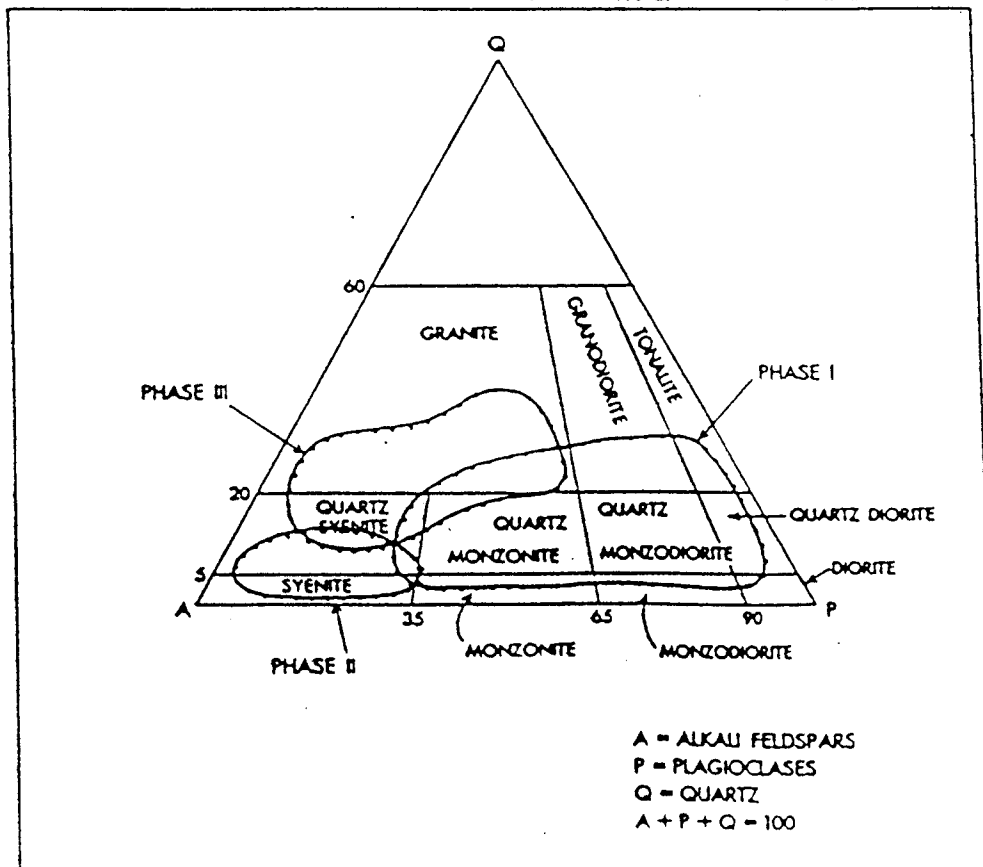
REGIONAL GEOLOGY

Scale as shown	N.T.S.	Drawn by
Date JAN. 93	Geologist	Figure 4
RELIANCE GEOLOGICAL SERVICES INC.		

TABLE 1

SOUTHERN HOGEM BATHOLITH: INTRUSIVE ROCK DIVISIONS

INTRUSIVE PHASES	PHASE DIVISIONS	UNIT	ROCK VARIETIES
PHASE III LOWER CRETACEOUS		9	LEUCOCRATIC GRANITE, Alaskite
PHASE II MIDDLE JURASSIC TO LOWER JURASSIC	CHUCHI SYENITE	8	LEUCOCRATIC SYENITE, Quartz Syenite
	DUCKLING CREEK SYENITE COMPLEX	7	LEUCOCRATIC SYENITE
		6	FOLIATED SYENITE
PHASE I LOWER JURASSIC TO UPPER TRIASSIC	HOGEM GRANODIORITE	5	GRANODIORITE, QUARTZ MONZONITE, minor Tonalite, Quartz Diorite, Quartz Monzonite, Granite
	HOGEM BASIC SUITE	4	MONZONITE to Quartz Monzonite
		3	MONZODIORITE to Quartz Monzodiorite
		2	NATION LAKES PLAGIOCLASE PORPHYRY (a) Monzonite (b) Monzodiorite
		1	DIORITE, minor Gabbro, Pyroxenite, Hornblende



Hogem batholith intrusive phases in relation to general plutonic rock classification (after I.U.G.S., 1973).

5. PREVIOUS WORK (Figure 5)

The UMEX-Wenner Gren Joint Venture carried out a program of aeromagnetic surveying and silt sampling on the ground now covered by the ATEN claim group.

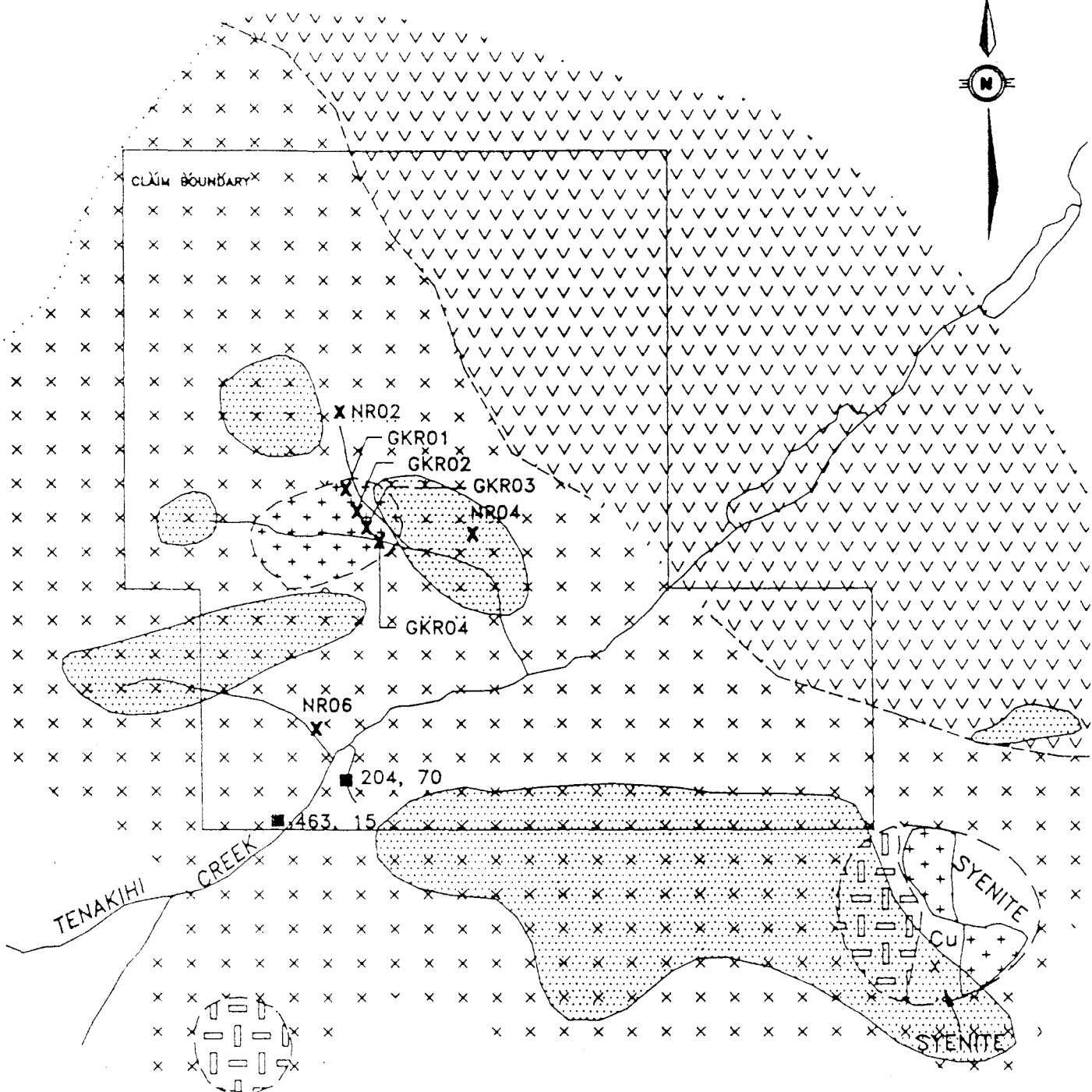
A small monzonitic stock in the centre of the property was found to be surrounded by four magnetic anomalies (Figure 5).

Silt samples from the stream that drains the area underlain by the intrusion were anomalous in copper. Two copper occurrences associated with quartz-carbonate veins in or near the monzonite stock were found. No samples were assayed for gold.










In 1991, at the request of Swannell Minerals Corp, Reliance Geological Services carried out exploration programs consisting of rock and stream sediment geochemistry.

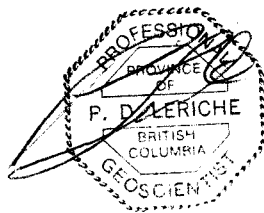
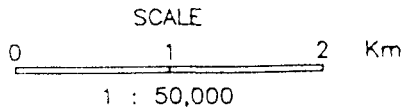
Chalcopyrite and malachite mineralization along fractures was found in two areas on the ATEN 2 claim. Copper values from five samples ranged from 2116 ppm (.21%) to 2.83%.

In the central area of the Aten 5 claim, a 50 cm chip sample returned a value of 1402 ppm Cu. Three stream sediment samples in the same area were anomalous in copper and/or gold.



LEGEND

-  DIORITE
-  MONZONITE
-  MAFIC INTRUSION
-  HOGEM BATHOLITH (UNDIFF.)
-  TAKLA VOLCANICS
-  AEROMAGNETIC ANOMOLY
-  SILT ANOMALY ppm Cu, ppb Au
-  HEAVY MINERAL ANOMALY ppm Cu, ppb Au
-  Cu COPPER OCCURRENCE, SAMPLE NO.



after Rebagliati 1992

SWANNELL MINERALS CORPORATION

ATEN PROPERTY

COMPOSITE PLAN
AEROMAGNETICS, GEOLOGY AND
ANOMALOUS STREAM SITES

Scale 1 : 50,000	N.T.S 94C/4E,3W	Drawn by
Date JAN. 93	Geologist	Figure 5

RELIANCE GEOLOGICAL SERVICES INC.

6. 1992 WORK PROGRAM

Done under B.C.M.E.M.P.R. Approval Number **PRG-1300198-44753**

6.1 Methods and Procedures, General

Geological and geochemical surveys were completed in order to follow up on anomalous rock and soil geochemistry identified in previous exploration programs.

A survey grid was laid out over the north-central property area. Two reconnaissance survey lines were established over the northeast and southern areas of the claim. Grid-lines were put in at 200 meter line spacings using compass, hipchain and flagging. Stations were located at 50 meter intervals using marked double flagging. Total line surveyed was 8.4 kilometers.

Using a scale of 1:10,000, geological mapping was performed over the grid area and approximately 30% of the property area.

(Figure 6)

Twenty-three rock samples were collected and analyzed for gold (Fire Assay/AA) and multi-element ICP by International Plasma Laboratory Ltd (IPL). See Appendix A for rock sample descriptions and Appendix B for analytical reports and techniques.

The grids were soil sampled at 100 meter station spacings. Using a grub hoe, 88 samples were taken from the 'B' horizon (approximate depth 30 cm), placed into marked Kraft paper bags and sent to IPL for analysis. The analytical results for two elements (Cu and Au) were hand-plotted on a 1:10,000 scale map (Figure 6).

6.2 Property Geology

6.2.1 Lithologies

The ATEN property is underlain by Triassic-Jurassic Takla volcanics, which are intruded by monzonites and syenites of the Triassic-Jurassic Hogem batholith. Approximately 30% of the claim area has been mapped.

Takla Group:

Unit 1A of the Takla Group volcanics is an andesite augite porphyry found in the northwest area of the property. Augite porphyry commonly weathers to a dark brown to green color. Mineral constituents include 20% (range 10% to 40%) subhedral to euhedral dark green augite phenocrysts in a fine grained matrix of plagioclase and biotite.

Unit 1A occurs as both dykes and flows. Distinctive rusty-weathering quartz-ankerite zones are common.

Unit 1B consists of green weathering andesitic tuffs and is found in the northern part of the property. Feldspar porphyry dykes (Unit 2D) are commonly found co-planar to bedding attitudes.

Intrusive Rocks (Hogem Batholith):

Unit 2A, a coarse grained monzonite, outcrops in the central part of the property. Unit 2A weathers to a light brown - pink color with a rough surface texture. Monzonite is massive with coarse blocky jointing. It is weakly magnetic. Mineral constituents include 80% coarse, milky grey to green, feldspar crystals with interstitial black biotite and amphibole.

Unit 2B, a light pink syenite, is found in limited dyke-like exposures within both monzonite units. Mineral constituents include 80% pink alkali feldspars and 20% dark green, fine grained amphiboles with minor epidote.

Unit 2C, a fine grained monzonite, was found in the northern area of the claims. Unit 2C is light grey - pink and contains equal amounts of fine grained alkali feldspar and plagioclase (85%) with interstitial mafic minerals giving the rock a pepper-like texture.

Unit 2D, a feldspar porphyry, occurs as sub-vertical dykes up to 10 meters wide. Dykes consist of light grey - white, medium grained subhedral plagioclase laths (up to 1 cm) in a light grey, fine grained silicic matrix.

6.2.2 Alteration

No extensive, pervasive alteration was found on the ATEN property. Local zones of moderate chloritic alteration up to one meter width occur adjacent to some hematitic veins. Rusty brown weathering quartz-ankerite intrusion type and replacement type veins are common within shear zones of the Takla volcanics. Weak propylitic hornfelsing of the Takla Group at the northern boundary occurs in association with local potassium feldspar veins. The coarse grained monzonite (Unit 2A) contains variable amounts of epidote along joints and fractures.

6.2.3 Structure

The east facing cliffs in the northern part of the Aten property host shallow (30°) south-dipping fault planes which are partly ankeritized.

Steeply dipping bedding planes within unit 1B are cut by steeply south-dipping faults. All hematitic veins are sub-vertical and north-south striking.

The coarse grained monzonite displays coarse orthogonal jointing.

6.2.4 Mineralization

Three types of mineralization were found on the property:

- a) Structurally controlled:
Located in the coarse grained monzonite as magnetite-azurite-malachite-chalcopryrite along joint planes and tension gashes.
- b) Vein-type:
Specular hematite with minor chalcopryrite and native copper as 1 - 3 cm sub-vertical veinlets in fine grained monzonite. Flanked by 10 - 100 cm chloritic alteration rims.
- c) Disseminated:
Syenitic dykes with malachite-azurite on fractures and weakly disseminated pyrite-chalcopryrite.

6.3 Rock Geochemistry (Figure 6)

For complete rock sample descriptions, see Appendix A.

Ten samples returned significant results in copper (>1000 ppm). See summary on the following page.

<u>Sample #</u>	<u>Type</u>	<u>Width (m)</u>	<u>Cu (ppm)</u>	<u>Au (ppb)</u>	<u>Description</u>
12374	Select	-	2689	26	Northern claim area. 2 - 4 cm quartz-hematite veins in a pink fine grained monzonite.
12377	Select	-	18627	104	Northern claim area. 5% combined chalcopyrite-hematite along a 4 cm wide joint plane. 6.0 ppm Ag.
12378	Chip	2.0	1738	6	Adjacent to 377. Hematite rich zone with chlorite alteration in monzonite.
12380	Chip	1.0	6139	6	Central claim area. Syenite dyke cutting coarse grained monzonite. 1% malachite along fractures.
12381	Chip	0.2	3098	5	Northern claim area. Tension gash in coarse grained monzonite. Minor chalcopyrite.
12382	Chip	2.0	3.2%	106	Northern claim area. Malachite stain in syenite dyke cutting andesitic tuffs. 48.7 Ag.
12383	Chip	2.5	15094	60	Northern claim area. Malachite stain across a silicic tuff horizon.
12434	Select	-	2441	111	Southern claim boundary. Sheared, silicified intrusive with minor hematite and chalcopyrite.
12485	Select	-	1219	<5	Central claim area. Quartz vein in monzonite with 2 to 3% chalcopyrite.
12486	Select	-	8615	9	Central claim area. Quartz vein in monzonite with 2 to 3% chalcopyrite.

6.4 Soil Geochemistry (Figure 6)

No statistical analysis was performed on soil sample results. Eighty-eight samples was not considered a large enough population to be statistically relevant.

Based on the writer's knowledge of regional threshold values and a visual examination of the data, ≥ 150 ppm copper and ≥ 25 ppb gold were chosen as anomalous threshold values.

Twenty-six samples from the grid area were anomalous in copper. The anomalous area occurs downslope and around rock sample sites 12374, 12377, 12378, 12382, and 12383, all of which assayed greater than 1000 ppm copper. Not enough samples were collected to define a pattern.

Five soil samples from the south end of L 10 + 400 E were anomalous in copper.

Gold results in soils were not significant.

7. DISCUSSION

Previous work and the 1992 exploration program have outlined three targets which warrant further exploration work.

The first target is located in the northern area of the property near the contact between monzonite and Takla volcanics. Five anomalous rock samples from malachite staining and chalcopyrite along fractures yielded results from 1738 ppm to 3.2% copper. Twenty-six soil samples in the area were anomalous in copper.

The second target consists of five anomalous soil samples from a reconnaissance soil line on the Aten 4 claim.

The third target, defined in 1991, is located in the central area of the Aten 2 claim. Four rock samples from monzonite assayed between 2116 ppm and 2.82% copper.

Approximately 60% of the claim area remains to be investigated.

8. CONCLUSIONS

The ATEN property has potential to host a porphyry style copper deposit because:

- it lies within the Mesozoic Quesnel Belt, already known to host several porphyry copper/gold deposits;
- the geological environment, monzonite stocks intruding Takla volcanic rocks, is favorable; and
- three target areas with anomalous copper in rocks and/or soils have been defined.

9. RECOMMENDATIONS

Initial work should include:

- a) Extend the existing grid over target areas 1 and 2. Soil sample the grids and map at a scale of 1:5,000.
- b) Establish a grid over target area 3. Soil sample and map at a scale of 1:5,000.
- c) Geologically map the unmapped areas of the property at a scale of 1:10,000.

Contingent upon favorable results, further work would consist of detailed mapping, soil sampling, and induced polarization surveys to establish drill targets.

CERTIFICATE

I, **PETER D. LERICHE**, of 3125 West 12th Avenue, Vancouver, B.C., V6K 2R6, do hereby state that:

1. I am a graduate of McMaster University, Hamilton, Ontario, with a Bachelor of Science Degree in Geology, 1980.
2. I am registered as a member in good standing with the Association of Professional Engineers and Geoscientists of British Columbia.
3. I am a Fellow in good standing with the Geological Association of Canada.
4. I have actively pursued my career as a geologist for twelve years in British Columbia, Ontario, the Yukon and Northwest Territories, Montana, Oregon, Alaska, Arizona, Nevada and California.
5. The information, opinions, and recommendations in this report are based on fieldwork carried out under my direction, and on published and unpublished literature. I visited the subject property during July 1992.
6. I have no interest, direct or indirect, in the subject claims or the securities of Swannell Minerals Corporation or Major General Resources Ltd, nor do I expect to receive any.
7. I consent to the use of this report only in its entirety in a Prospectus or Statement of Material Facts for the purpose of private or public financing.

RELIANCE GEOLOGICAL SERVICES INC.



Peter D. Leriche, B.Sc., P. Geo.

Dated at North Vancouver, B.C., this 19th day of October 1992.

REFERENCES

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ITEMIZED COST STATEMENT
ATEN PROJECT (J770)

Project preparation		\$ 450
Mobilization and demobilization (includes transportation, and wages)		\$ 2,080
Consulting		\$ 500
Field Crew:		
Supervision (P. Leriche & M. Rebagliati)	\$ 600	
Project Geologist (A. Taylor: July 29 - 31, 1992)	\$ 325/day x 3 days	\$ 975
Field Geologists (D. Johannessen and T. Archibald: July 29 - 31, 1992)	\$ 275/day x 6 days	\$ 1,650
Geotechnician (B. Chore: July 29 - 31, 1992)	\$ 210/day x 3 days	\$ <u>630</u> \$ 3,855
Field Costs:		
Helicopter	\$ 840/hr x 4.7 hrs	\$ 3,948
Communications	\$ 50/day x 3 days	\$ 150
Expediting and freight		\$ 200
Food & accommodation	\$ 75/day x 12 days	\$ 900
Supplies	\$ 18/day x 12 days	\$ 216
Vehicle	\$ 30/day x 3 days	\$ <u>90</u> \$ 5,504
Assays & Analysis:		
87 soil samples @ \$14/sample (Geochem/AA for Au + 30 element ICP)		\$ 1,218
24 rock samples @ \$17/sample (FA/AA for Au and 30 element ICP)		\$ <u>408</u> \$ 1,626
Report:		
Writing, editing, map prep, processing, binding, copying		\$ 1,875
Administration, incl overhead and profit		\$ <u>1,589</u>
Sub-total		\$ 17,479
plus 7% G.S.T.		\$ <u>1,224</u>
TOTAL		\$ 18,703

APPENDIX A

Rock Sample Descriptions

APPENDIX "A"

ATEN Property

ROCK SAMPLE DESCRIPTIONS

Page 1 of 2

<u>Sample #</u>	<u>Width</u>	<u>Description</u>
12373	Select	2045 m. 2 x 4 cm quartz-hematite veins in a pink, fine-grained monzonite.
12374	1.0 m	same location as 12373. Trace malachite/hematite along monzonite joint planes.
12375	10 cm	2040 m, 100 m west of 12373 on ridge. 1 cm hematite vein with 5 cm chlorite alteration into wall rock (monzonite).
12376	20 cm	10 m farther west from 12375. On ridge (north face). 1 cm hematite vein with 10 cm chlorite alteration in pink syenite.
12377	Select	2040 m, 25 m west of 12376. Chalcopyrite-hematite (5% combined). 4 cm thick joint plane
12378	2.0 m	Immediately adjacent to 12377. Hematite-rich zone with chlorite alteration in monzonite.
12379	1.0 m	1865 m. Hematite in fractures in coarse grain monzonite. Fractures every 3 cm, sub-vertical trending 010°
12380	1.0 m	Syenitic dyke cutting coarse grain monzonite. Dyke contains 1% fracture-controlled malachite stain.
12381	20 cm	Tension gash in coarse grain monzonite with minor chalcopyrite.
12382	2.0 m	1870 m, 7905F, 12510N. South side of draw. Moderate malachite stain across a syenitic dyke cutting Takla andesitic tuffs.

APPENDIX "A"

ATEN Property

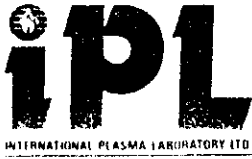
ROCK SAMPLE DESCRIPTIONS

Page 2 of 2

<u>Sample #</u>	<u>Width</u>	<u>Description</u>
12383	2.5 m	1962 m, 8100E, 12425N. Subcrop. Moderate malachite stain across a silicic tuff horizon.
12482	Select	Coarse-grained syenite at Takla contact with 1 - 2% pyrite as disseminations with minor chlorite and secondary biotite.
12483	2.0 m	Pyritic Takla andesite tuff with ankeritic veinlets.
12484	2.0 m	Ankeritic shear in monzonite/syenite unit.
12485	Select	Malachite stained joint plane in coarse monzonite.
12486	Select	Quartz vein with 2 - 3% chalcopyrite in host monzonite.
12487	1.0 m	Ankeritic zone in coarse-grained monzonite, including a syenitic dyke with 1 - 2 mm chalcopyrite blobs.
12488	1.0 m	Monzonite with K-spar and non-propylitic alteration in a 1 meter circular zone.
12434	Select	Sheared/silicified intrusive with minor hematite and chalcopyrite.
12435	Select	Talus. Black greenstone with chalcopyrite.

APPENDIX B

Analytical Reports and Techniques



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

R E P O R T S U M M A R Y

Report:[9200595 R]

A N A L Y T I C A L R E P O R T

Origin

Inception Date:[Aug 06, 1992]

Client:[	269	Reliance Geological Services Ltd.]
Contact:[		Peter Leriche]
Project:[	0	770 AT]
Amount/Type:[	27	Rock]
	[]

Analytical Requisition

Geochemical:[	ICP(AgR)30]	
Assay:[	Au(FA/AAS 20g)	]	ICP:[30]
Comments:[	None]]

Delivery Information

Reporting Date:[Aug 11, 1992]

Principal Destination (Hardcopy,Fascimile,Invoice)

Company:[	Reliance Geological Services Ltd.]
Address:[	241 East 1st Street]
City/Province:[	North Vancouver, BC]
Country/Postal:[	V7L 1B4]
Attention:[	Peter Leriche]
Fascimile:[	(604)988-4653]

Secondary Destination (Hardcopy)

Company:[]
Address:[]
City/Province:[]
Country/Postal:[]
Attention:[]
Fascimile:[]

1 data pages in this report.

Approved by: 

B.C. Certified Assayers

iPL CODE: 920811-16:37:22

Report: 9200595 R Reliance Geological Services Ltd.

Project: 770 AT

Page 1 of 1

Section 1 of 2

Sample Name	Type	Au ppb	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
12373	Rock	<5	0.2	30	<2	17	<5	<5	<3	4	<10	<2	<0.1	16	11	43	<5
12374	Rock	26	1.1	2689	<2	44	6	<5	<3	4	<10	<2	<0.1	10	25	24	<5
12375	Rock	<5	0.3	34	<2	53	<5	<5	<3	2	<10	<2	<0.1	28	8	99	<5
12376	Rock	<5	<0.1	18	<2	22	<5	<5	<3	2	<10	<2	<0.1	5	5	110	<5
12377	Rock	104	6.0	18627	17	60	22	<5	<3	7	<10	<2	<0.1	12	29	65	27
12378	Rock	6	0.3	1738	<2	50	<5	<5	<3	2	<10	<2	<0.1	11	10	410	<5
12379	Rock	<5	0.1	23	<2	31	<5	<5	<3	3	<10	<2	<0.1	27	10	122	<5
12380	Rock	6	0.5	6139	<2	56	<5	<5	<3	2	<10	<2	<0.1	11	15	70	<5
12381	Rock	5	1.5	3098	<2	38	<5	<5	<3	2	<10	<2	<0.1	15	11	164	<5
12382	Rock	106	48.7	3.2%	13	239	68	<5	<3	3	<10	<2	<0.1	42	52	17	<5
12383	Rock	60	3.5	15094	4	307	<5	<5	<3	3	<10	<2	0.4	54	32	36	<5
12384	Rock	16	0.8	287	<2	250	64	<5	<3	3	<10	<2	<0.1	34	25	26	<5
12385	Rock	7	0.1	82	<2	46	<5	<5	<3	2	<10	<2	<0.1	20	18	21	<5
12386	Rock	18	0.3	35	2	21	17	<5	<3	3	<10	<2	<0.1	65	95	5	<5
12430	Rock	205	14.0	3599	4	38	366	8	<3	2	<10	<2	0.3	23	9	102	<5
12431	Rock	93	27.1	16438	436	7315	<5	<5	<3	4	<10	<2	26.5	20	7	12	<5
12432	Rock	22	0.8	482	<2	93	36	<5	<3	35	<10	<2	<0.1	47	11	7	<5
12433	Rock	5110	8.2	3.0%	516	1654	24	<5	<3	5	<10	<2	0.2	25	12	<2	19
12434	Rock	111	1.8	2441	24	52	38	6	<3	89	<10	<2	<0.1	47	9	21	<5
12435	Rock	6	0.3	11	<2	61	<5	<5	<3	5	<10	<2	<0.1	60	18	47	<5
12482	Rock	21	0.1	152	<2	16	8	<5	<3	2	<10	<2	<0.1	19	41	56	<5
12483	Rock	<5	0.3	26	6	156	<5	5	<3	4	21	<2	3.5	32	39	269	<5
12484	Rock	<5	0.2	26	<2	104	<5	<5	<3	3	<10	<2	<0.1	15	9	553	<5
12485	Rock	<5	0.4	1219	<2	49	<5	<5	<3	4	<10	<2	<0.1	14	8	47	<5
12486	Rock	9	6.2	8615	5	71	23	6	<3	96	<10	10	0.3	32	12	41	<5
12487	Rock	<5	0.1	116	<2	91	<5	6	<3	5	<10	<2	0.1	22	11	1387	<5
12488	Rock	<5	0.2	255	<2	16	<5	<5	<3	1	<10	<2	<0.1	5	4	45	<5

Minimum Detection 5 0.1 1 2 1 5 5 3 1 10 2 0.1 1 1 2 5
Maximum Detection 10000 100.0 20000 20000 20000 10000 1000 10000 1000 1000 10000 10000.0 10000 10000 10000 1000
Method FA/AAS ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP

--No Test ReC=ReCheck ins=Insufficient Sample m=Est/1000 %=Est % Max=No Est

R E P O R T S U M M A R Y

Report:[9200593 R]

A N A L Y T I C A L R E P O R T

=====

Origin

Inception Date:[Aug 06, 1992]

Client:[269 | Reliance Geological Services Ltd.]
Contact:[Peter Leriche]
Project:[0 | 770 AT]
Amount/Type:[88 | Soil]
[]

Analytical Requisition

Geochemical:[ICP(AqR)30]
Assay:[Au(FA/AAS 10g)] ICP:[30]
Comments:[None]

Delivery Information

Reporting Date:[Aug 12, 1992]

Principal Destination (Hardcopy,Fascimile,Invoice)

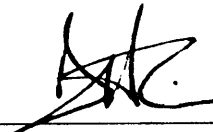
Company:[Reliance Geological Services Ltd.]
Address:[241 East 1st Street]
City/Province:[North Vancouver, BC]
Country/Postal:[V7L 1B4]
Attention:[Peter Leriche]
Fascimile:[(604)988-4653]

Secondary Destination (Hardcopy)

Company:[]
Address:[]
City/Province:[]
Country/Postal:[]
Attention:[]
Fascimile:[]

3 data pages in this report.

Approved by: _____



B.C. Certified Assayers

iPL CODE: 920812-10:18:21

Report: 9200593 R Reliance Geological Services Ltd. Project: 770 AT Page 1 of 3 Section 1 of 2

Sample Name	Type	Au ppb	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
80+00N 97+00E	Soil	<5	<0.1	140	<2	44	17	<5	<3	4	<10	<2	<0.1	15	9	65	<5
80+00N 100+00E	Soil	<5	<0.1	135	<2	54	41	<5	<3	7	<10	<2	<0.1	13	7	237	<5
80+00N 101+00E	Soil	<5	<0.1	46	<2	36	26	<5	<3	4	<10	<2	<0.1	9	5	61	<5
80+00N 102+00E	Soil	<5	<0.1	113	<2	55	23	<5	<3	6	<10	<2	<0.1	18	7	213	<5
80+00N 103+00E	Soil	<5	<0.1	88	<2	10	<5	<5	<3	1	<10	<2	<0.1	2	2	80	<5
80+00N 104+00E	Soil	<5	<0.1	46	<2	34	19	<5	<3	3	<10	<2	<0.1	8	6	52	<5
80+00N 105+00E	Soil	<5	<0.1	41	<2	44	18	<5	<3	5	<10	<2	<0.1	10	7	61	<5
80+00N 106+00E	Soil	<5	<0.1	96	<2	70	14	<5	<3	5	<10	<2	<0.1	12	8	219	<5
80+00N 107+00E	Soil	<5	<0.1	120	<2	36	11	<5	<3	3	<10	<2	<0.1	11	6	49	<5
80+00N 108+00E	Soil	<5	<0.1	35	<2	40	5	<5	<3	3	<10	<2	<0.1	9	5	66	<5
80+00N 109+00E	Soil	<5	0.1	65	<2	91	6	<5	<3	3	<10	<2	<0.1	11	9	124	<5
80+00N 110+00E	Soil	<5	<0.1	52	<2	43	9	<5	<3	4	<10	<2	<0.1	12	7	40	<5
80+00N 111+00E	Soil	<5	0.1	57	<2	51	7	<5	<3	4	<10	<2	<0.1	12	7	152	<5
80+00N 112+00E	Soil	<5	<0.1	14	4	16	<5	<5	<3	2	<10	<2	<0.1	4	2	20	<5
80+00N 113+00E	Soil	<5	<0.1	47	<2	47	5	<5	<3	5	<10	<2	<0.1	10	5	31	<5
80+00N 114+00E	Soil	<5	<0.1	104	<2	106	5	<5	<3	11	<10	<2	<0.1	16	7	359	<5
80+00N 115+00E	Soil	<5	<0.1	51	4	59	<5	<5	<3	19	<10	<2	<0.1	9	5	301	<5
80+00N 116+00E	Soil	<5	<0.1	211	7	98	5	<5	<3	5	<10	<2	<0.1	23	10	111	<5
80+00N 117+00E	Soil	<5	<0.1	320	4	74	9	<5	<3	4	<10	2	<0.1	13	18	63	<5
116+00N 90+00E	Soil	<5	<0.1	89	4	36	<5	<5	<3	11	<10	3	<0.1	8	5	457	<5
116+00N 91+00E	Soil	<5	<0.1	77	<2	60	9	<5	<3	5	<10	<2	<0.1	8	7	71	<5
116+00N 92+00E	Soil	<5	<0.1	59	2	57	5	<5	<3	4	<10	2	<0.1	10	7	120	<5
116+00N 93+00E	Soil	<5	<0.1	133	3	84	55	<5	<3	7	<10	<2	<0.1	12	10	117	<5
116+00N 94+00E	Soil	<5	<0.1	151	<2	56	16	<5	<3	5	<10	<2	<0.1	9	9	89	<5
118+00N 89+00E	Soil	<5	<0.1	223	5	87	<5	<5	<3	5	<10	<2	<0.1	25	12	85	<5
118+00N 90+00E	Soil	<5	<0.1	96	5	95	<5	<5	<3	4	<10	<2	<0.1	13	8	63	<5
118+00N 91+00E	Soil	<5	<0.1	85	<2	87	18	<5	<3	7	<10	<2	<0.1	12	12	83	<5
118+00N 92+00E	Soil	<5	<0.1	113	<2	83	6	<5	<3	3	<10	<2	<0.1	30	15	102	<5
120+00N 84+00E	Soil	<5	0.4	253	7	107	<5	<5	<3	5	<10	<2	<0.1	27	13	349	<5
120+00N 86+00E	Soil	<5	<0.1	194	2	72	<5	<5	<3	5	<10	<2	<0.1	22	8	425	<5
120+00N 87+00E	Soil	12	<0.1	286	9	85	<5	<5	<3	6	<10	<2	<0.1	21	11	225	<5
120+00N 88+00E	Soil	10	<0.1	282	10	95	<5	<5	<3	6	<10	<2	<0.1	24	10	338	<5
120+00N 89+00E	Soil	<5	<0.1	173	4	79	<5	<5	<3	5	<10	<2	<0.1	21	11	81	<5
120+00N 90+00E	Soil	<5	<0.1	130	3	66	5	<5	<3	4	<10	<2	<0.1	16	23	47	<5
120+00N 91+00E	Soil	<5	<0.1	132	<2	53	41	<5	<3	2	<10	<2	<0.1	17	18	196	<5
120+00N 77+00E	Soil	<5	<0.1	111	2	61	5	<5	<3	4	<10	<2	<0.1	10	9	54	<5
121+00N 77+00E	Soil	6	<0.1	189	4	72	<5	<5	<3	4	<10	<2	<0.1	16	15	175	<5
122+00N 77+00E	Soil	<5	<0.1	198	3	72	<5	<5	<3	4	<10	<2	<0.1	17	13	133	<5
123+00N 77+00E	Soil	<5	<0.1	129	7	78	<5	<5	<3	3	<10	<2	<0.1	14	8	132	<5

Minimum Detection	5	0.1	1	2	1	5	5	3	1	10	2	0.1	1	1	2	5
Maximum Detection	10000	100.0	20000	20000	20000	10000	1000	10000	1000	1000	10000	10000.0	10000	10000	10000	1000
Method	FA/AAS	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

--=No Test ReC=ReCheck ins=Insufficient Sample m=Est/1000 %=Est % Max=No Est

Sample Name	Type	Au ppb	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
124+00N 77+00E	Soil	<5	<0.1	153	<2	107	<5	<5	<3	2	<10	<2	<0.1	21	24	115	<5
125+00N 77+00E	Soil	8	<0.1	135	5	57	<5	<5	<3	4	<10	<2	<0.1	10	6	129	<5
126+00N 77+00E	Soil	10	<0.1	267	8	93	<5	<5	<3	3	<10	<2	<0.1	25	48	136	<5
127+00N 77+00E	Soil	8	<0.1	171	<2	67	<5	<5	<3	3	<10	<2	<0.1	28	63	97	<5
120+00N 79+00E	Soil	<5	<0.1	133	<2	81	<5	<5	<3	4	<10	<2	<0.1	20	8	342	<5
121+00N 79+00E	Soil	<5	<0.1	114	<2	67	<5	<5	<3	4	<10	<2	<0.1	13	11	78	<5
122+00N 79+00E	Soil	<5	<0.1	80	2	82	9	<5	<3	3	<10	<2	<0.1	14	24	135	<5
123+00N 79+00E	Soil	<5	<0.1	114	3	51	<5	<5	<3	3	<10	<2	<0.1	10	16	51	<5
124+00N 79+00E	Soil	<5	<0.1	153	<2	90	<5	<5	<3	2	<10	5	<0.1	19	23	122	<5
125+00N 79+00E	Soil	14	0.2	434	9	223	7	<5	<3	3	<10	<2	0.5	31	39	86	<5
126+00N 79+00E	Soil	28	<0.1	149	6	86	<5	<5	<3	3	<10	<2	<0.1	20	48	82	<5
127+00N 79+00E	Soil	<5	<0.1	309	14	95	7	<5	<3	3	<10	<2	0.1	41	115	46	<5
120+00N 81+00E	Soil	<5	<0.1	177	3	74	<5	<5	<3	4	<10	<2	<0.1	25	14	211	<5
121+00N 81+00E	Soil	<5	<0.1	106	5	78	<5	<5	<3	4	<10	<2	<0.1	14	13	146	<5
122+00N 81+00E	Soil	18	<0.1	86	3	58	<5	<5	<3	2	<10	<2	<0.1	9	5	357	<5
123+00N 81+00E	Soil	<5	<0.1	176	3	67	<5	<5	<3	3	<10	<2	<0.1	11	9	330	<5
124+00N 81+00E	Soil	<5	0.1	330	2	101	6	<5	<3	10	<10	<2	<0.1	39	74	150	<5
125+00N 81+00E	Soil	10	<0.1	120	2	122	6	5	<3	2	<10	<2	0.1	33	157	31	<5
126+00N 81+00E	Soil	10	<0.1	333	<2	78	<5	<5	<3	2	<10	<2	<0.1	30	36	91	<5
127+00N 81+00E	Soil	<5	<0.1	178	<2	63	<5	<5	<3	3	<10	<2	<0.1	26	49	108	<5
120+00N 83+00E	Soil	6	<0.1	302	<2	113	<5	<5	<3	6	<10	3	<0.1	34	18	176	<5
121+00N 83+00E	Soil	12	<0.1	337	4	85	6	<5	<3	3	<10	<2	<0.1	20	18	144	<5
122+00N 83+00E	Soil	<5	<0.1	312	4	100	<5	<5	<3	3	<10	<2	<0.1	27	27	526	<5
123+00N 83+00E	Soil	<5	<0.1	102	7	66	6	<5	<3	3	<10	<2	<0.1	11	14	124	<5
124+00N 83+00E	Soil	8	0.6	388	7	112	<5	<5	<3	6	<10	<2	<0.1	23	19	90	<5
125+00N 83+00E	Soil	16	0.1	410	8	189	10	<5	<3	4	<10	28	<0.1	46	48	105	<5
126+00N 83+00E	Soil	<5	<0.1	219	3	88	5	<5	<3	3	<10	<2	<0.1	28	33	340	<5
127+00N 83+00E	Soil	<5	<0.1	250	2	102	10	<5	<3	3	<10	4	<0.1	47	121	51	<5
105+00N 104+00E	Soil	<5	<0.1	228	<2	71	10	<5	<3	2	<10	<2	<0.1	35	55	54	<5
106+00N 104+00E	Soil	6	0.3	200	13	496	59	<5	<3	3	<10	<2	<0.1	36	82	66	<5
107+00N 104+00E	Soil	18	1.8	244	14	1010	178	<5	<3	4	<10	<2	1.1	44	53	146	<5
108+00N 104+00E	Soil	<5	<0.1	150	<2	111	54	<5	<3	5	<10	<2	<0.1	19	26	312	<5
109+00N 104+00E	Soil	<5	<0.1	169	<2	111	55	<5	<3	5	<10	<2	<0.1	23	29	350	<5
110+00N 104+00E	Soil	<5	<0.1	120	<2	80	161	<5	<3	5	<10	<2	<0.1	18	44	232	<5
111+00N 104+00E	Soil	10	<0.1	39	4	48	9	<5	<3	3	<10	<2	<0.1	9	13	29	<5
112+00N 104+00E	Soil	<5	<0.1	88	<2	87	21	<5	<3	4	<10	<2	<0.1	18	24	128	<5
113+00N 104+00E	Soil	<5	<0.1	46	3	56	12	<5	<3	3	<10	<2	<0.1	11	12	46	<5
114+00N 104+00E	Soil	<5	<0.1	118	2	43	10	<5	<3	3	<10	2	<0.1	17	10	80	<5
115+00N 104+00E	Soil	6	0.1	118	<2	160	59	<5	<3	3	<10	<2	<0.1	21	30	135	<5

Minimum Detection	5	0.1	1	2	1	5	5	3	1	10	2	0.1	1	1	2	5
Maximum Detection	10000	100.0	20000	20000	20000	10000	1000	10000	1000	1000	10000	10000.0	10000	10000	10000	1000
Method	FA/AAS	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

--=No Test ReC=ReCheck ins=Insufficient Sample m=Est/1000 %=Est % Max=No Est

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Sample Name	Cr ppm	V ppm	Mn ppm	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
124+00N 77+00E	56	120	1260	2	19	<1	2	0.02	1.90	0.37	4.78	0.76	0.04	0.02	0.10
125+00N 77+00E	7	44	1070	10	12	2	1	<0.01	1.62	0.08	3.65	0.37	0.06	0.01	0.13
126+00N 77+00E	83	77	1295	8	25	1	7	0.01	1.72	0.39	4.10	1.34	0.05	0.02	0.08
127+00N 77+00E	125	98	1435	3	41	1	9	0.01	2.39	0.77	4.71	2.17	0.02	0.01	0.09
120+00N 79+00E	4	66	1984	9	31	1	4	<0.01	1.43	0.45	4.80	0.57	0.08	0.01	0.25
121+00N 79+00E	8	95	625	9	21	1	3	0.01	1.95	0.30	4.50	0.72	0.05	0.02	0.20
122+00N 79+00E	45	83	996	5	13	<1	2	0.01	1.98	0.13	3.80	0.66	0.06	0.02	0.15
123+00N 79+00E	28	42	351	7	8	2	1	0.01	1.54	0.12	2.91	0.39	0.03	0.01	0.08
124+00N 79+00E	49	89	914	7	20	1	5	0.01	1.49	0.42	4.07	0.70	0.02	0.01	0.14
125+00N 79+00E	67	90	1423	5	33	1	4	0.01	2.06	0.43	3.98	1.63	0.03	0.02	0.15
126+00N 79+00E	98	74	957	5	24	1	3	0.01	1.88	0.40	3.56	1.41	0.02	0.02	0.13
127+00N 79+00E	224	95	1172	3	57	<1	4	0.06	2.58	0.44	3.61	2.53	0.01	0.02	0.09
120+00N 81+00E	9	112	1339	18	34	1	8	0.02	2.05	0.87	5.4%	1.22	0.08	0.02	0.32
121+00N 81+00E	11	91	954	10	22	1	1	0.01	2.00	0.21	4.77	0.63	0.06	0.02	0.21
122+00N 81+00E	3	34	954	14	11	1	3	<0.01	1.00	0.35	3.34	0.18	0.08	0.01	0.15
123+00N 81+00E	7	41	1079	10	17	2	2	<0.01	1.24	0.48	3.52	0.36	0.08	0.01	0.20
124+00N 81+00E	149	139	1365	5	21	1	15	0.01	1.53	0.89	6.6%	1.25	0.05	0.02	0.11
125+00N 81+00E	211	68	1219	4	16	1	8	0.01	1.70	0.61	3.86	1.89	0.02	0.02	0.08
126+00N 81+00E	70	107	1370	4	28	1	10	0.01	1.98	0.57	5.1%	1.22	0.01	0.02	0.10
127+00N 81+00E	95	112	957	4	16	1	12	0.01	1.34	0.61	4.96	1.17	0.03	0.01	0.14
120+00N 83+00E	12	174	1692	24	82	2	18	0.05	2.85	1.36	7.6%	1.39	0.06	0.02	0.38
121+00N 83+00E	16	111	1097	17	20	1	7	0.03	1.84	0.51	5.1%	0.88	0.08	0.02	0.22
122+00N 83+00E	58	110	1613	15	32	2	12	0.02	1.79	0.68	5.1%	1.10	0.05	0.02	0.15
123+00N 83+00E	13	47	890	12	12	1	2	0.01	1.48	0.13	3.73	0.37	0.05	0.02	0.13
124+00N 83+00E	19	108	1660	17	33	1	8	0.07	2.34	0.48	5.3%	1.21	0.07	0.02	0.18
125+00N 83+00E	92	165	2506	3	58	2	13	0.06	2.77	1.01	5.9%	1.77	0.03	0.02	0.12
126+00N 83+00E	64	83	1576	7	19	1	10	<0.01	1.21	0.49	5.00	0.79	0.05	0.01	0.13
127+00N 83+00E	181	101	988	3	57	<1	2	0.06	2.13	0.27	3.97	1.75	0.04	0.02	0.08
105+00N 104+00E	111	123	773	2	59	1	2	0.14	2.18	0.36	3.80	1.73	0.11	0.02	0.09
106+00N 104+00E	154	114	1107	3	46	1	3	0.11	3.05	0.39	4.01	1.95	0.04	0.02	0.10
107+00N 104+00E	61	129	2492	7	117	<1	3	0.08	4.11	0.31	4.63	1.21	0.03	0.02	0.10
108+00N 104+00E	50	96	1121	15	74	1	4	0.02	2.17	0.80	4.34	0.97	0.05	0.02	0.19
109+00N 104+00E	56	109	1375	18	76	1	6	0.02	2.37	0.88	4.98	1.10	0.06	0.02	0.21
110+00N 104+00E	93	111	639	5	52	1	4	0.03	2.14	0.72	3.95	1.57	0.04	0.02	0.09
111+00N 104+00E	34	107	292	3	24	1	2	0.03	2.06	0.22	3.67	0.73	0.02	0.02	0.08
112+00N 104+00E	39	118	552	5	65	1	4	0.03	2.52	0.81	4.30	1.28	0.03	0.02	0.12
113+00N 104+00E	24	175	307	3	13	1	3	0.03	2.16	0.11	6.0%	0.53	0.03	0.02	0.20
114+00N 104+00E	17	110	670	10	15	1	4	0.02	1.52	0.44	4.18	0.75	0.05	0.02	0.18
115+00N 104+00E	49	169	654	3	28	1	6	0.06	3.13	0.20	5.4%	1.56	0.04	0.02	0.05

Minimum Detection	1	2	1	2	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Maximum Detection	10000	10000	10000	10000	10000	10000	10000	1.00	5.00	10.00	5.00	10.00	10.00	5.00	5.00
Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

--=No Test ReC=ReCheck ins=Insufficient Sample m=Est/1000 %=Est % Max=No Est



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Sample Name	Type	Au ppb	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
116+00N 104+00E	Soil	<5	0.1	57	<2	111	24	<5	<3	2	<10	<2	0.1	12	15	59	<5
117+00N 104+00E	Soil	<5	<0.1	57	5	179	38	<5	<3	2	<10	<2	<0.1	17	22	56	<5
118+00N 104+00E	Soil	6	<0.1	60	<2	94	25	<5	<3	2	<10	2	<0.1	15	14	82	<5
119+00N 104+00E	Soil	32	0.2	76	<2	113	18	<5	<3	3	<10	<2	<0.1	14	21	73	<5
120+00N 104+00E	Soil	8	<0.1	75	<2	122	12	<5	<3	3	<10	<2	<0.1	20	25	91	<5
121+00N 104+00E	Soil	6	<0.1	69	<2	90	30	<5	<3	2	<10	<2	<0.1	14	13	194	<5
122+00N 104+00E	Soil	<5	<0.1	46	<2	49	8	<5	<3	2	<10	<2	<0.1	6	9	57	<5
123+00N 104+00E	Soil	<5	<0.1	72	<2	94	9	<5	<3	2	<10	<2	<0.1	10	11	42	<5
124+00N 104+00E	Soil	<5	<0.1	78	<2	110	5	<5	<3	2	<10	<2	<0.1	23	25	63	<5
125+00N 104+00E	Soil	<5	<0.1	91	<2	200	8	<5	<3	3	<10	<2	<0.1	25	21	82	<5

Minimum Detection 5 0.1 1 2 1 5 5 3 1 10 2 0.1 1 1 2 5
 Maximum Detection 10000 100.0 20000 20000 20000 10000 1000 10000 1000 1000 10000 10000.0 10000 10000 10000 1000
 Method FA/AAS ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP ICP
 ---No Test ReC=ReCheck ins=Insufficient Sample m=Est/1000 %=Est % Max=No Est

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Sample Name	Cr ppm	V ppm	Mn ppm	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
116+00N 104+00E	24	117	432	2	17	<1	1	0.05	1.97	0.12	4.00	0.61	0.02	0.02	0.06
117+00N 104+00E	35	128	747	3	17	<1	1	0.04	2.33	0.11	4.77	0.99	0.04	0.02	0.09
118+00N 104+00E	24	90	1823	5	23	<1	1	0.03	2.87	0.11	3.51	0.61	0.03	0.02	0.14
119+00N 104+00E	34	112	535	3	27	<1	2	0.03	3.50	0.20	4.66	0.94	0.02	0.02	0.16
120+00N 104+00E	34	99	1050	7	26	5	5	0.04	3.74	0.22	3.99	0.94	0.04	0.02	0.15
121+00N 104+00E	28	162	929	7	48	2	3	0.01	3.01	0.71	4.28	0.81	0.03	0.02	0.24
122+00N 104+00E	16	89	278	4	19	<1	1	0.02	3.09	0.10	3.37	0.35	0.02	0.02	0.13
123+00N 104+00E	17	93	578	5	17	<1	1	0.01	3.65	0.15	4.00	0.62	0.02	0.01	0.23
124+00N 104+00E	33	130	1364	5	19	2	8	0.01	3.55	0.19	5.2%	1.64	0.05	0.01	0.17
125+00N 104+00E	38	128	2108	3	22	2	4	0.03	4.92	0.18	4.90	1.05	0.02	0.02	0.17

Minimum Detection	1	2	1	2	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Maximum Detection	10000	10000	10000	10000	10000	10000	10000	1.00	5.00	10.00	5.00	10.00	10.00	5.00	5.00
Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

--=No Test ReC=ReCheck ins=Insufficient Sample m=Est/1000 %=Est % Max=No Est



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Method of Gold analysis by Fire Assay / AAS

- (a) 20.0 to 30.0 grams of sample is mixed with a combination of fluxes in a fusion pot. The sample is then fused at high temperature to form a lead "button".
- (b) The precious metals are extracted by cupellation. Any Silver is dissolved by nitric acid and decanted. The gold bead is then dissolved in boiling concentrated aqua regia solution heated by a hot water bath.
- (c) The gold in solution is determined with an Atomic Absorption Spectrometer. The gold value, in parts per billion, is calculated by comparison with a set of known gold standards.

QUALITY CONTROL

Every fusion of 24 pots contains 22 samples, one internal standard or blank, and a random reweigh of one of the samples. Samples with anomalous gold values greater than 500 ppb are automatically checked by Fire Assay/AA methods. Samples with gold values greater than 10000 ppb are automatically checked by Fire Assay/Gravimetric methods.



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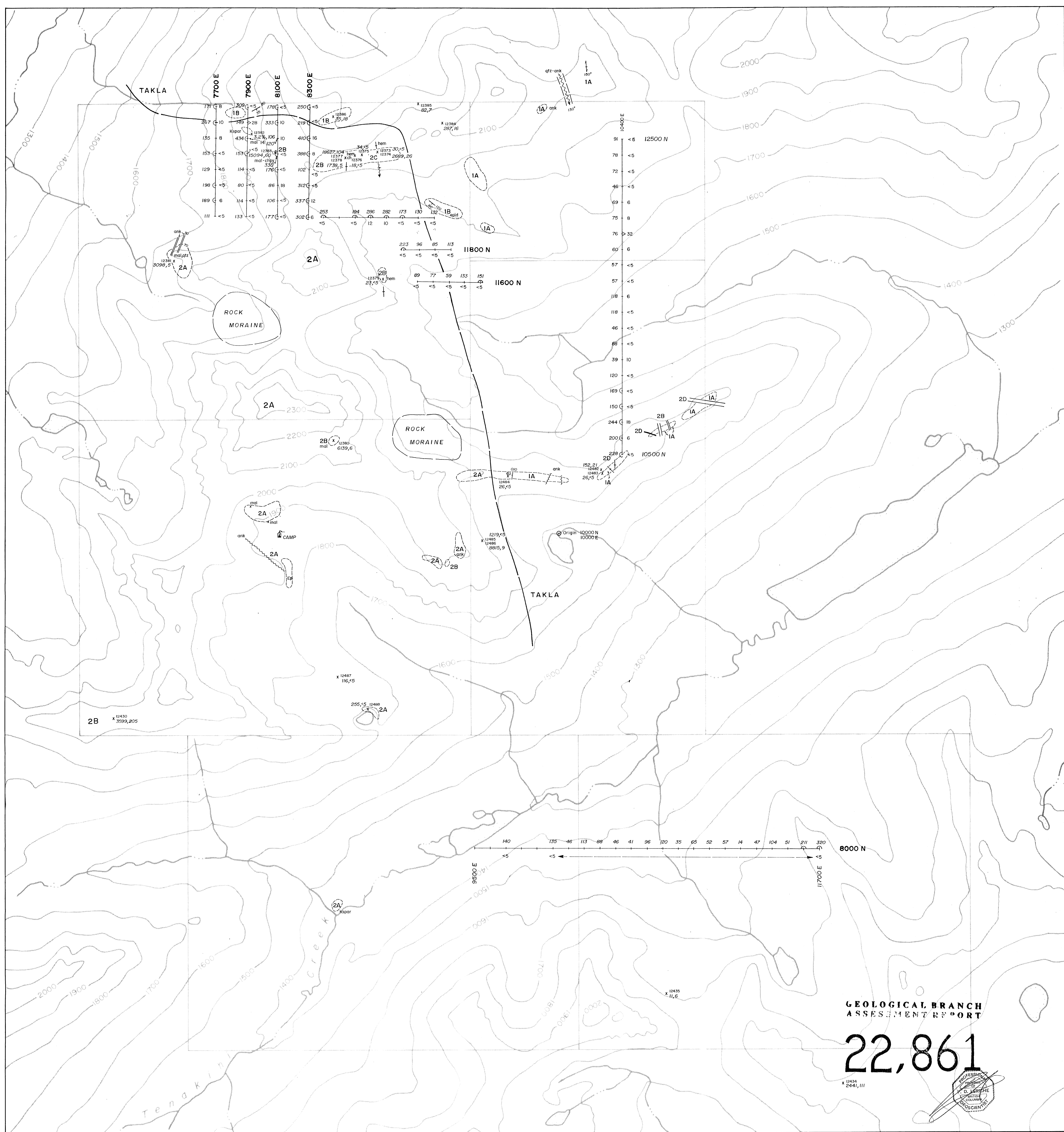
Method of ICP Multi-element Analyses

- (a) 0.50 grams of sample is digested with diluted aqua regia solution by heating in a hot water bath for 90 minutes, then cooled, bulked up to a fixed volume with demineralized water, and thoroughly mixed.

 - (b) The specific elements are determined using an Inductively Coupled Argon Plasma spectrophotometer. All elements are corrected for inter-element interference. All data are subsequently stored onto computer diskette.
- * Aqua regia leaching is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

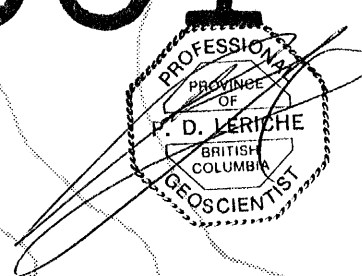
QUALITY CONTROL

The machine is calibrated using six known standards and a blank. Another blank, which was digested with the samples, and a standard are tested before any samples to confirm the calibration. A maximum of 20 samples are analysed, and then a standard, also digested with the samples, is run. A known standard with characteristics best matching the samples is chosen and tested. Another 20 samples are analysed, with the last one being a random reweigh of one of the samples. The standard used at the beginning is rerun. This procedure is repeated for all of the samples.



GEOLOGICAL BRANCH
ASSESSMENT REPORT

22,861



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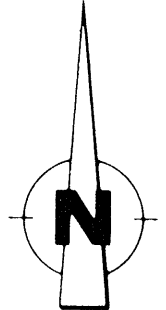
- IA Andesite Augite Porphyry
- IB Andesite Tuffs
- INTRUSIVES**
- 2A Coarse grain Monzonite
- 2B Syenite
- 2C Fine grain Monzonite
- 2D Feldspar Porphyry

- qtz - quartz
- ank - ankerite
- Kspar - potash feldspar
- hem - hematite (specular)
- chpy - chalcopyrite
- mag - magnetite
- mal - malachite / azurite

- bedding
- shear
- dyke
- outcrop
- geological contact
- rock sample location and id.

SOIL GEOCHEM. Cu (ppm) 52 175 denotes anomalous Cu value ≥ 150 ppm
Au (ppb) <5 26 " " Au " ≥ 25 ppb

0 100 200 500 750 1000 METRES



SWANNELL MINERALS CORPORATION		
ATEN PROPERTY		
OMINECA M.D., B.C.		
GEOLOGY and GEOCHEMISTRY		
Scale 1:10,000	N.T.S. 94-C/3W,4E	Drawn by g.e.l.
Date August 1992	Geologist	Figure 6
REBAGLIATI GEOLOGICAL CONSULTING LTD.		
RELINCE GEOLOGICAL SERVICES INC.		