

LOG NO: <i>March 14/91</i> RD.
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1991 GEOCHEMICAL REPORT

on the

ALA 9 MINERAL CLAIM

ATLIN MINING DIVISION, B.C.

NTS 104K/11W

LATITUDE 58°33'N, LONGITUDE 133°30'W

*March 14 1991*

for **21,085**

GEORGIA RESOURCES, INC.

Vancouver, B.C.

**SUB-RECORDER  
RECEIVED**  
**MAR 12 1991**  
M.R. # ..... \$.....  
VANCOUVER, B.C.

by

ELLEN LAMBERT, M.Sc., FGAC

March 10, 1991

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## INTRODUCTION

A geochemical rock sampling program was conducted on behalf of Georgia Resources Inc. in August, 1990, on the ALA 9 claim. The property is located in northwestern British Columbia near the B.C.- Alaska border, approximately 60 kilometres east of Juneau (Figure 1) at latitude 58°33'N and longitude 133°30'W. The claims are situated along the north side of the Sittakanay River, a tributary of the Taku-Tulsequah rivers. Access to the area can be obtained by a 15 minute float plane or helicopter ride from Atlin, B.C.

The property is comprised of 1 mineral claim totalling 20 units owned by Georgia Resources Inc. (Figure 2):

<u>Claim</u>	<u>Units</u>	<u>Record #</u>	<u>Expiry Date</u>
ALA 9	20	2810	March 25, 1993

Previous work on the property was conducted by Island Mining Explorations Co. in 1980, and Georgia Resources Inc. in 1987. Both companies collected rock and soil samples.

## REGIONAL GEOLOGY

### Stratigraphy and Structure

Rocks of the Tulsequah region range in age from late Paleozoic to Tertiary, with the oldest rocks occurring in a northwesterly band along the Alaska-BC border (Figure 3). These rocks are comprised mainly of metamorphic sediments, limestones and cherts intruded by Cretaceous- and Tertiary-age granitic to dioritic plutons of the Coast Plutonic Complex. Mesozoic sediments and volcanic units belonging to the Stuhini and Laberge Groups overlie the Paleozoic rocks and are also intruded by younger plutons. Unconformably overlying these units are Eocene-age volcanic rocks belonging to the Sloko Group.

A regional, northwest-trending structural fabric is apparent and is defined by rock units of similar age, thrust and normal faults and bedded units deformed into major folds with northerly-plunging axes. Cross-cutting this dominant trend are northeast-trending normal faults (often manifest in major river systems), and a dike swarm that occurs southeast of the claims area.

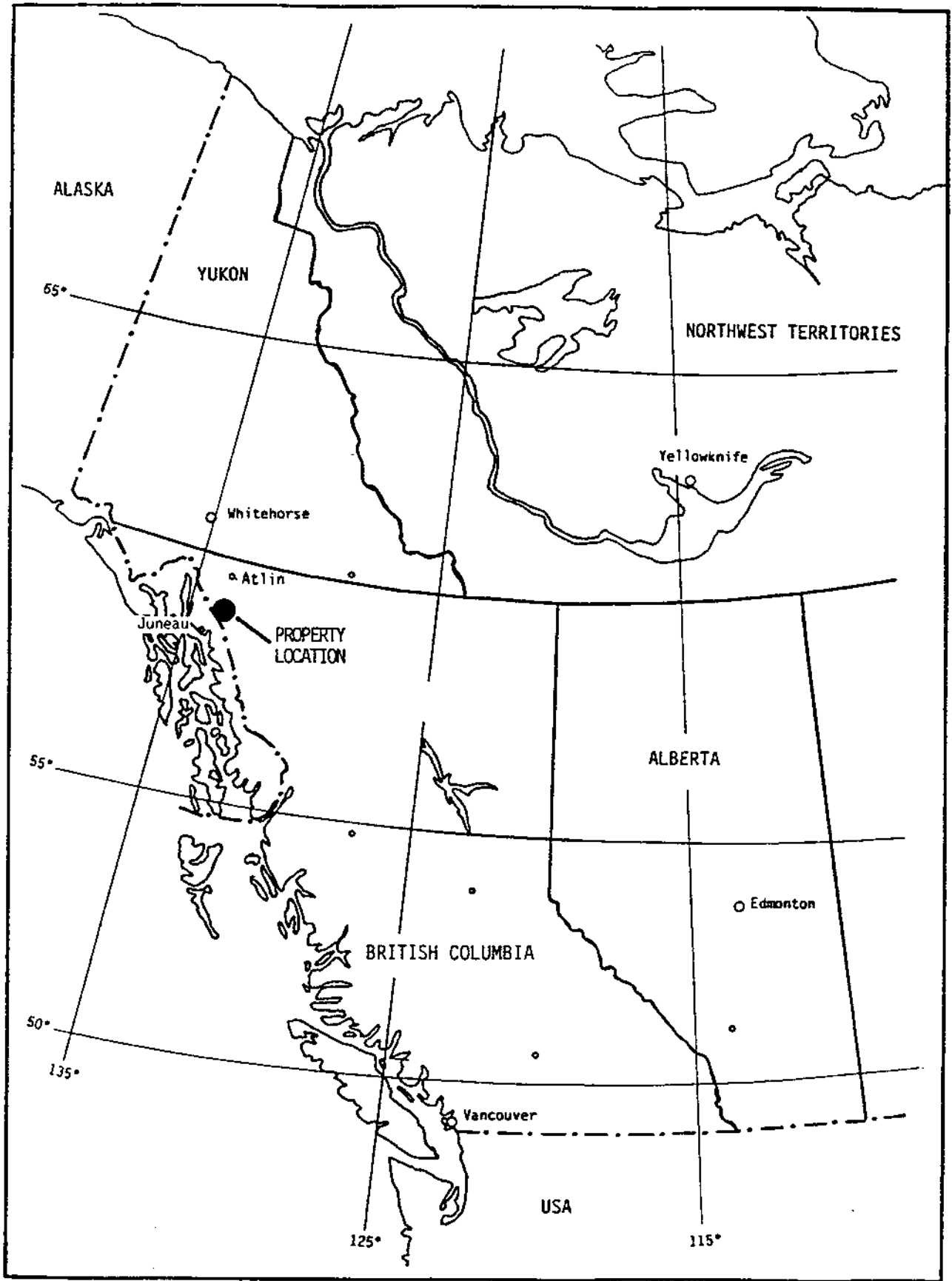


FIGURE 1: PROPERTY LOCATION MAP

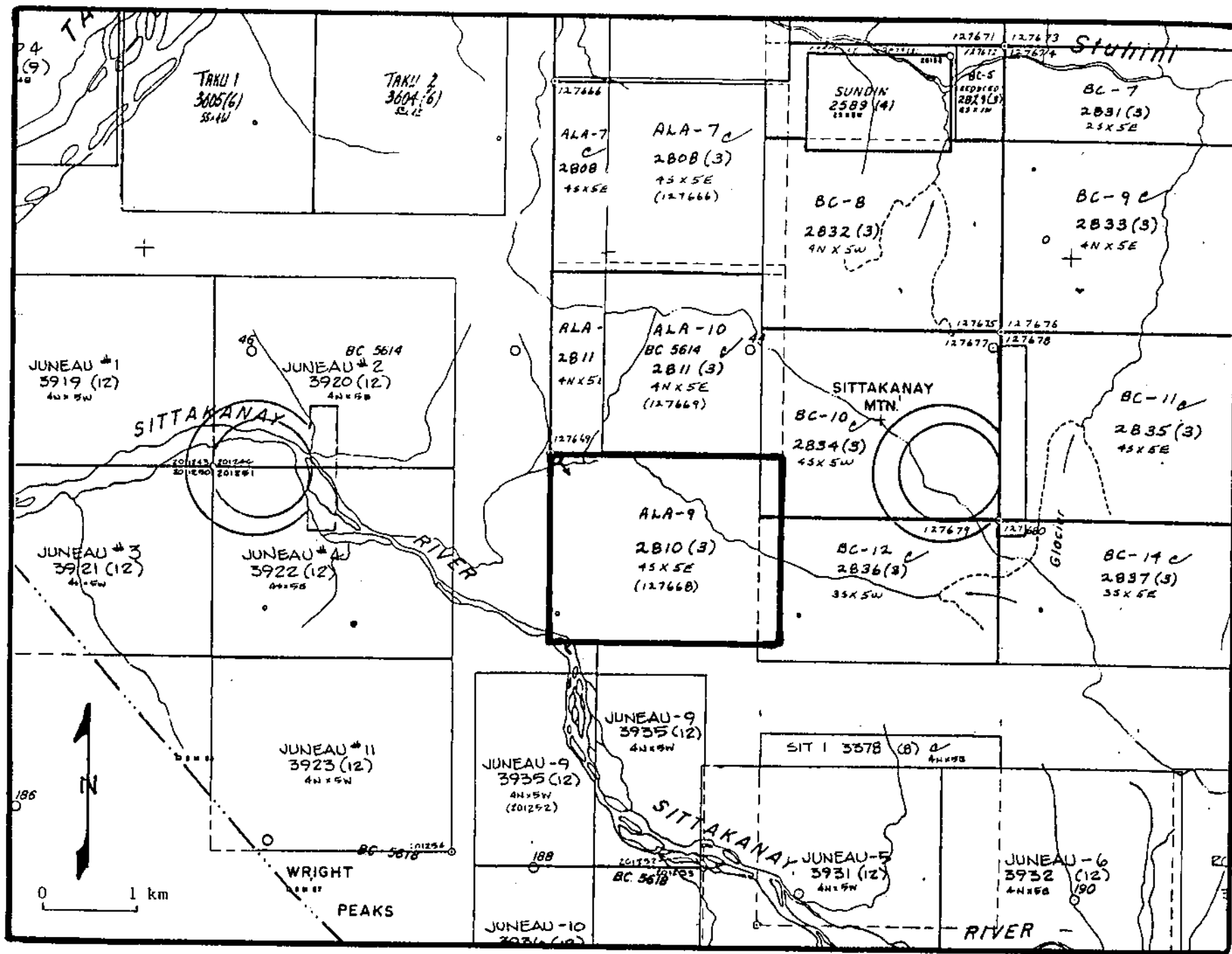


FIGURE 2: Claim Map

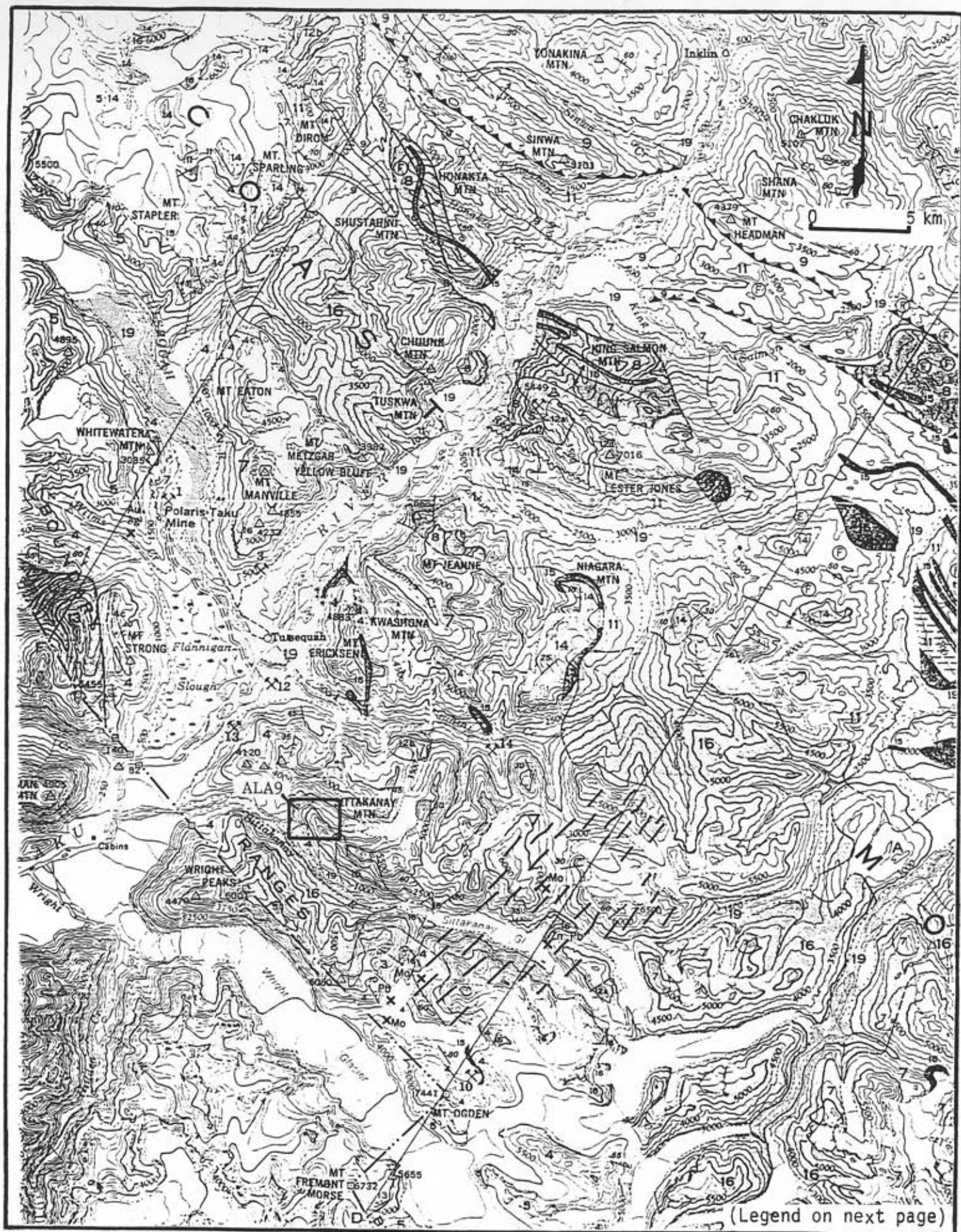


FIGURE 3: REGIONAL GEOLOGY (From Souther, 1971)

## Legend for Figure 5

### **Quaternary**

- 19 Pleistocene and Recent gravels, sand, silt and glacial deposits

### **Tertiary**

- 16 Sloko Group: pink biotite-hornblende quartz monzonite  
15 Sloko Group: felsite, quartz-feldspar porphyry  
14 Sloko Group: rhyolite, dacite, and trachyte flows, pyroclastics

### **Cretaceous**

- 13 Central Plutonic Complex: granodiorite, quartz diorite, minor diorite, leuco-granite, migmatite and agmatite

### **Jurassic**

- 12b Biotite-hornblende quartz diorite  
11 Takwahoni Formation: conglomerate, greywacke, quartzose sandstone, siltstone, shale  
10 Inklin Formation: greywacke, siltstone and silty sandstone, pebbly mudstone, limy pebble conglomerate. 10a, limestone

### **Triassic**

- 9 Sinwa Formation: limestone, minor sandstone, argillite, chert  
8 Stuhini Group, King Salmon Formation: greywacke, conglomerate, mudstone, siltstone, shale, minor andesitic lava, volcanic breccia, tuff, limestone, limy shale  
7 Stuhini Group: andesite and basalt flows, volcanic breccia and agglomerate, lapilli tuff; minor sediments  
5 Quartz-albite-amphibole gneiss; quartz-biotite schist, garnetiferous schist, augen gneiss, tremolite marble  
4 Clastic sediments and intercalated volcanic rocks altered to greenstone and phyllite; chert, jasper, greywacke, limestone

### **Permian**

- 3 Chiefly limestone; minor chert, argillite, sandy limestone

### **Unknown Age**

- A Diorite gneiss, amphibolite, migmatite

## Mineralization

The Tulsequah-Taku River region is host to several major mineral deposits and numerous more minor occurrences (see Figure 3), the most important of which are the Ericksen-Ashby, Tulsequah Chief, Big Bull and Polaris Taku deposits. The first three are massive-sulphide deposits whereas the latter is a vein-type deposit.

The Ericksen-Ashby deposit was first discovered in 1929 but serious exploration activity did not take place until the 1960's. Drilling has delineated lenses and pods of massive pyrite, galena, sphalerite and freibergite (a silver-bearing tetrahedrite) within Late Paleozoic limestone and chert sediments, the average grade of which is 10% Zn, 3% Pb and 6 oz/ton Ag.

The Tulsequah Chief deposit was discovered in 1923 and was in operation from 1951 to 1957. It is currently undergoing extensive exploration for re-determination of its ore potential. Massive sulphide mineralization occurs in upper Paleozoic, altered pyroclastic rocks adjacent to a felsic intrusion and consists of pyrite, chalcopyrite, galena, sphalerite and precious metals.

The deposit of the Big Bull Mine was discovered in 1929 and mining occurred from 1951 to 1955. Characteristics of this deposit are similar to Tulsequah Chief. Combined production of Big Bull and Tulsequah Chief in the 1950's totalled 1,029,089 tons of ore yielding 94,254 ounces gold, 3,400,773 ounces silver, 13,603 tons copper, 13,463 tons lead, 62,346 tons zinc and 227 tons cadmium (Souther, 1971).

The Polaris Taku deposit was discovered at the same time as Big Bull and Tulsequah Chief, and production lasted from 1937 to 1951. Quartz-carbonate veins containing arsenopyrite, pyrite and stibnite crosscut andesitic volcanics. Mining yielded 759,600 tons of 0.30 oz/ton gold and 0.015 oz/ton Ag.

In addition to these major deposits, four mineralized occurrences have been identified within 6 km north of the ALA 9 claim and are described in the BC Minfiles (104K) as follows:

- (1) **Surveyor (16):** a mineralized shear zone containing stibnite and pyrite occurs in argillites, quartzites and schists of Paleozoic age.
- (2) **Squat (62):** chalcopyrite, galena, sphalerite and pyrite mineralization occurs in a brecciated zone within Paleozoic age.
- (3) **Anty (23):** stibnite and arsenopyrite mineralization occurs along a northwest-trending fault within Paleozoic quartzites, schists and phyllites. The zone is 75 m long and 1.5 m wide.
- (4) **Spring (96):** pyrrhotite, sphalerite, chalcopyrite, galena and pyrite mineralization occurs in veins, lenses and cross-cutting fractures in upper Triassic Stuhini Group volcanic rocks.



## PROPERTY GEOLOGY

The area about the ALA 9 claim is underlain by upper Paleozoic to Triassic volcanic and sedimentary rocks of the Stuhini Group (Souther, 1971). Volcanics are generally andesitic in composition, consisting of flow and fragmental units. Felsic intrusions of lower Cretaceous to early Tertiary age (belonging to the Sloko Group) cut Stuhini Group rocks. Major northeasterly-trending faults in the region generally crosscut northwesterly trending faults.

### Mineralization

A large limonitic and hematitic gossanous zone occurs on the north side of a prominent ESE-trending valley, with part of the gossan zone occurring in the northeast corner of the claim (Figure 5). Previous work conducted by Island Capital Mining and Explorations Co. in 1980 consisted of rock and soil sampling of the gossan (Clouthier, 1981). Heavy pyrrhotite mineralization with lesser amounts of pyrite, sphalerite, chalcopyrite and galena were found in the gossan terrain as a result of this initial exploration. Sampling returned anomalous copper, zinc and silver values, along with a few anomalous gold results. Mineralization basically occurs in extensive cross-cutting fractures, veins and lenses that are covered in the down-dip direction by glacial debris.

In 1987, a soil sampling program was conducted by Georgia Resources Inc., to determine if mineralization occurs elsewhere in the gossanous zone. Anomalous copper, zinc, silver and arsenic values were returned from soils collected in the northeast corner of the claim block.

### 1990 FIELD WORK

A combined airborne geophysical survey was conducted in March, 1990, over the northern half of the claim. Numerous electromagnetic conductors were identified in the northeastern corner of the claim, an area underlain by gossan (Figure 5).

The property was subsequently visited in August, 1990, by geologists John Watkins and Mark Terry. 11 rock samples were collected from the coincident gossan-electromagnetic anomaly and geochemically analyzed by MinEn Laboratories Ltd., of Vancouver, B.C. (Figure 4). Samples were analyzed for 8 elements using standard ICP analysis techniques, and results appear in the appendix.

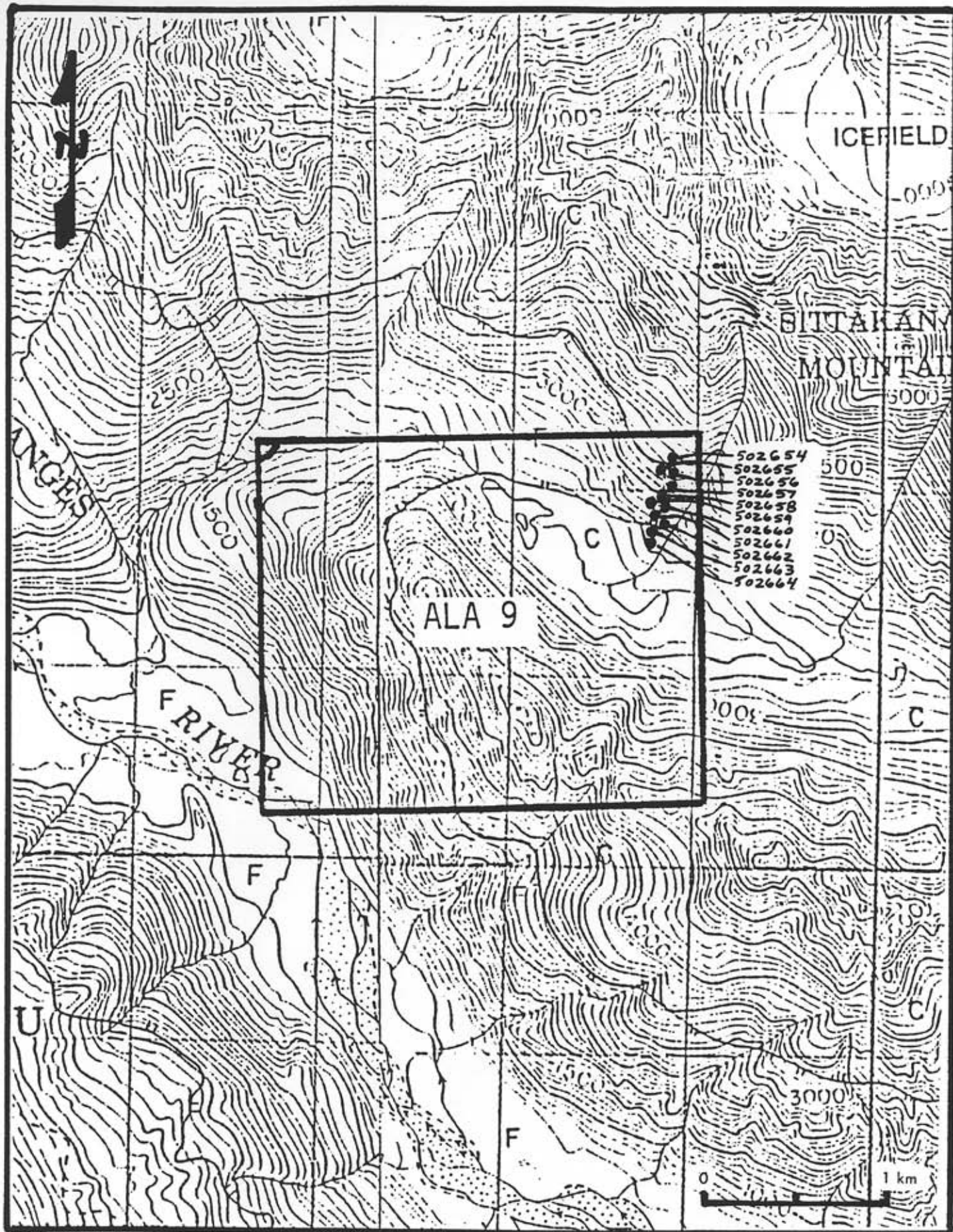


FIGURE 4: Rock Sample Location Map

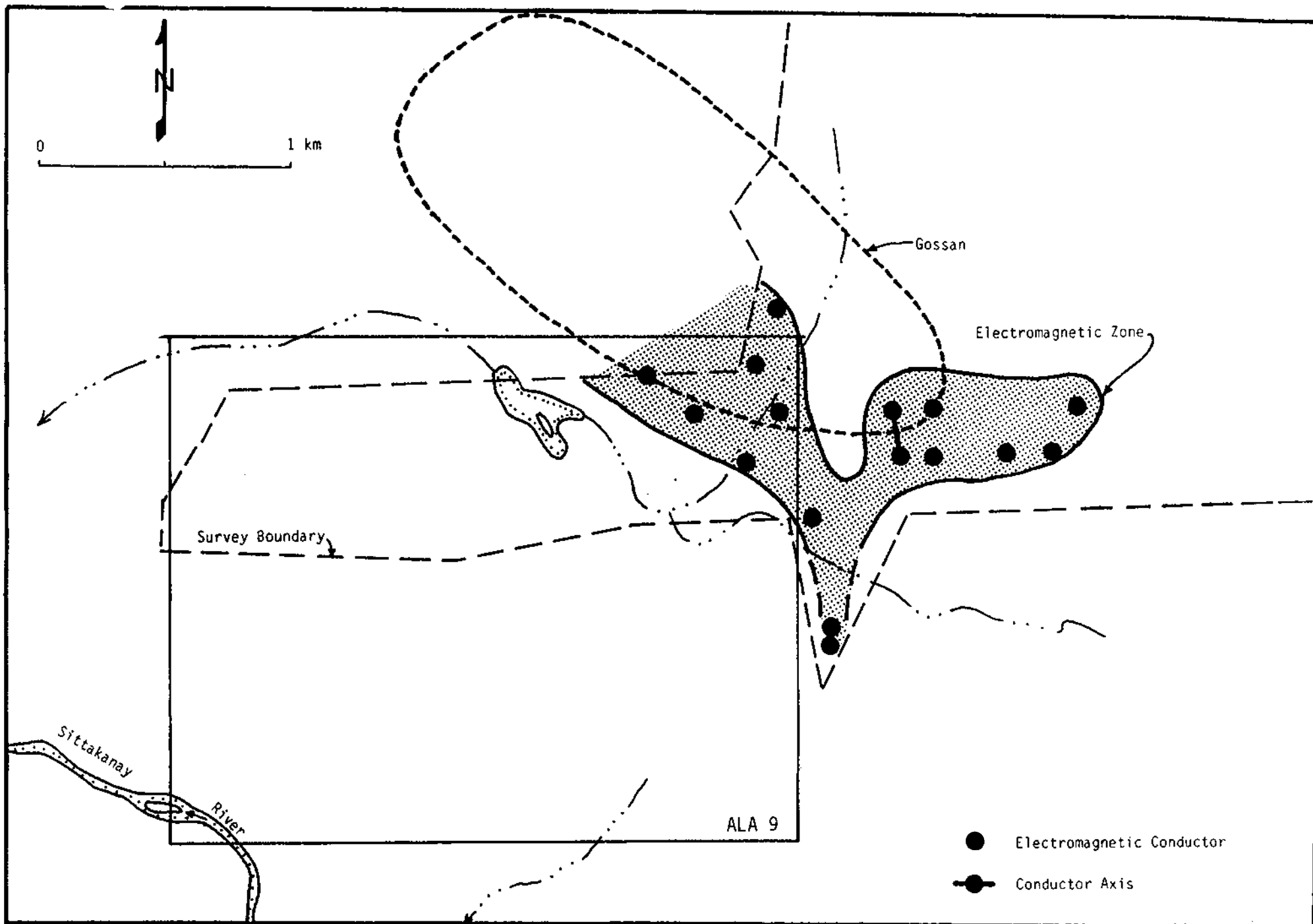


FIGURE 5: EM Airborne Geophysical Results

## RESULTS

A shear zone-gossan area was observed on the eastern portion of the claim that coincided with an airborne geophysical anomaly. Rock types in this area were found to be mainly siltstone and argillite with some sandstone. East-west trending feldspar porphyry dykes cross-cut the sediments. Within the shear zone are pods of massive sulphide. Three samples were anomalous in Cu, Zn, As, Ag and Au as follows:

<u>Sample #</u>	<u>Description</u>	<u>Cu</u> <u>ppm</u>	<u>Zn</u> <u>ppm</u>	<u>As</u> <u>ppm</u>	<u>Ag</u> <u>ppm</u>	<u>Au</u> <u>ppb</u>
502659	Massive gossan pod	911	547	18,475	5.1	50
502660	Massive sulphide pod	2475	35,088	1	11.1	10
502663	Massive pyrite	1393	113,361	1	14.7	530

## RECOMMENDATIONS

Results of the geochemical survey outlined in this report gave encouraging results in copper, zinc, silver and gold from the northeastern corner of the claim, corresponding to the geophysical anomaly and gossanous zone. Further exploration work in the form of detailed prospecting and fill-in geochemical soil sampling should be carried out in this region, with the intent of defining drilling targets.

## REFERENCES

- Clouthier, G.A., 1981; A preliminary Geochemical Evaluation of the Spring #1, #2 and Reto #1, #2 Mineral Claims; BCDM Assessment Report #9106.
- Smith, Paul, 1990; Dighem III Survey for KRL Resources Corp., Company report.
- Souther, J.G., 1971; Geology and Mineral Deposits of Tulsequah Map Area, British Columbia; GSC Memoir 362.

STATEMENT OF COSTS

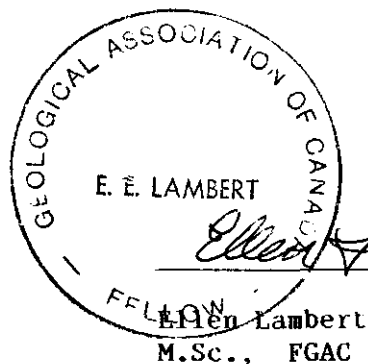
1. Field Personnel:	
John Watkins, geologist, 11 @ \$300	3,300.00
Mark Terry, geologist, 6 @ 165	990.00
1. Food & Accommodation	2,138.16
3. Travel/Vehicle	875.07
4. Field Supplies	53.63
5. Helicopter	2,488.25
6. Laboratory Analysis	372.50
7. Freight & Miscellaneous	51.40
8. Report & Map Preparation	929.21
9. Office	<u>36.04</u>
TOTAL COSTS	<u>\$11,235.16</u>

STATEMENT OF QUALIFICATIONS

I, **Ellen Lambert**, of 5949 Toderick St., Vancouver, British Columbia, hereby certify that:

1. I am a Fellow of the Geological Association of Canada.
2. I have a Bachelor's Degree in Geology from the University of Washington (1979) and a Master's Degree in Geology from the University of New Mexico (1983).
3. I have practised as a geologist part time since 1979 and full time in mineral exploration since 1986 in the United States and Canada.
4. I have not directly examined the ALA 9 claim and this report is based upon all data made available to me, published and unpublished, on the property area.
5. I have not received, nor do I intend to receive, any interest, direct or indirect, in the properties or securities of Georgia Resources Inc. or any affiliate thereof.

March 10, 1991



**APPENDIX**

Rock Sample Descriptions

Assay Certificates

SAMPLES - ALA-9 CLAIM

	<u>Location</u>	<u>Description</u>
502654	ALA-9	Outcrop of massive siltstone with 3% pyrite.
502655	ALA-9	Outcrop similar to 502654 with possible pyrrhotite @ contact with shear zone @ 070/90.
502656	ALA-9	Same as 502655 - shear zone.
502657	ALA-9	Siltstone with pyrite located in contact with feldspar porphyry dyke @ 070/90.
502658	ALA-9	Similar tp 502657
502659	ALA-9	Massive gossan pod located in siltstone.
502660	ALA-9	Massive sulphide pod located in siltstone.
502661	ALA-9	Siltstone with fine grained pyrite.
502662	ALA-9	Silicified siltstone with 2% pyrite.
502663	ALA-9	Massive pyrite in siltstone.
502664	ALA-9	Dark grey siltstone with very fine pyrite throughout.



