

822315

B.C. GOLD RECONNAISSANCE 1985

NECHAKO PROJECT

Final Report

For: Kerr Addison Mines Ltd.

By:

J. Nelson
October 1985

Table of Contents

	<u>Page</u>
INTRODUCTION	1
LOCATION AND ACCESS	1
TOPOGRAPHY, VEGETATION, GLACIATION AND OUTCROPS	3
GEOLOGY	3
ANOMALOUS SAMPLE RESULTS AND MINERALISATION	
<u>Bedrock anomalies</u>	4
<u>Silicification without accompanying anomalies</u>	5
<u>Au anomalies in panned samples</u>	6
REGIONAL PATTERNS OF MINERALIZATION	7
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	8
REFERENCES	10

List of Figures

Figure 1	Location Map	2
Figure 2	Regional mapping and sampling 1984/1985 near Trout Claims, 93 F/10	In Pocket
Figure 3	Regional mapping and sampling, 1985.93F.	In Pocket

INTRODUCTION

The Nechako map-area, 93 F, contains extensive exposures of the Eocene felsic to intermediate Ootsa Lake Group. Recent exploration has identified a number of epithermal precious metal occurrences within the Ootsa Lake Group, including:

1. Trout Claims, 93 F/10, staked by Kerr Addison in 1984 and drilled in 1985
2. Wolf Claims, 93F/3, Riocanex
3. Cop Claims, 93 F/10, ABO Oil
4. Duk Claims, 93 F/12, ABO Oil

This report summarizes a 3-week reconnaissance program undertaken by Kerr Addison from June 3 - June 1985, using helicopter support to reach areas not accessible by road. A Bell 206-B, on contract from Frontier Helicopters, was stationed at Nechako Lodge near Kenney Dam. Kerr Addison personnel included J. Nelson, Party Chief; and J. Mackay, S. Friday and S. Goertz, geologists.

Exploration was done by prospecting and pan sampling in the Eocene outliers. Mapping was done at 1:10,000 scale on airphotos, at 1:50,000 and at 1:100,000. The compilations, Figures 2 and 3, are at 1:50,000 and 1:250,000 scales respectively. For more detail, the reader is referred to the field sheets.

LOCATION AND ACCESS

The Nechako map-area lies about 120 km west of Prince George, B.C. (Figure 1). Major unpaved roads service the logging operations north and east of the Nechako Reservoir. (Figure 3).

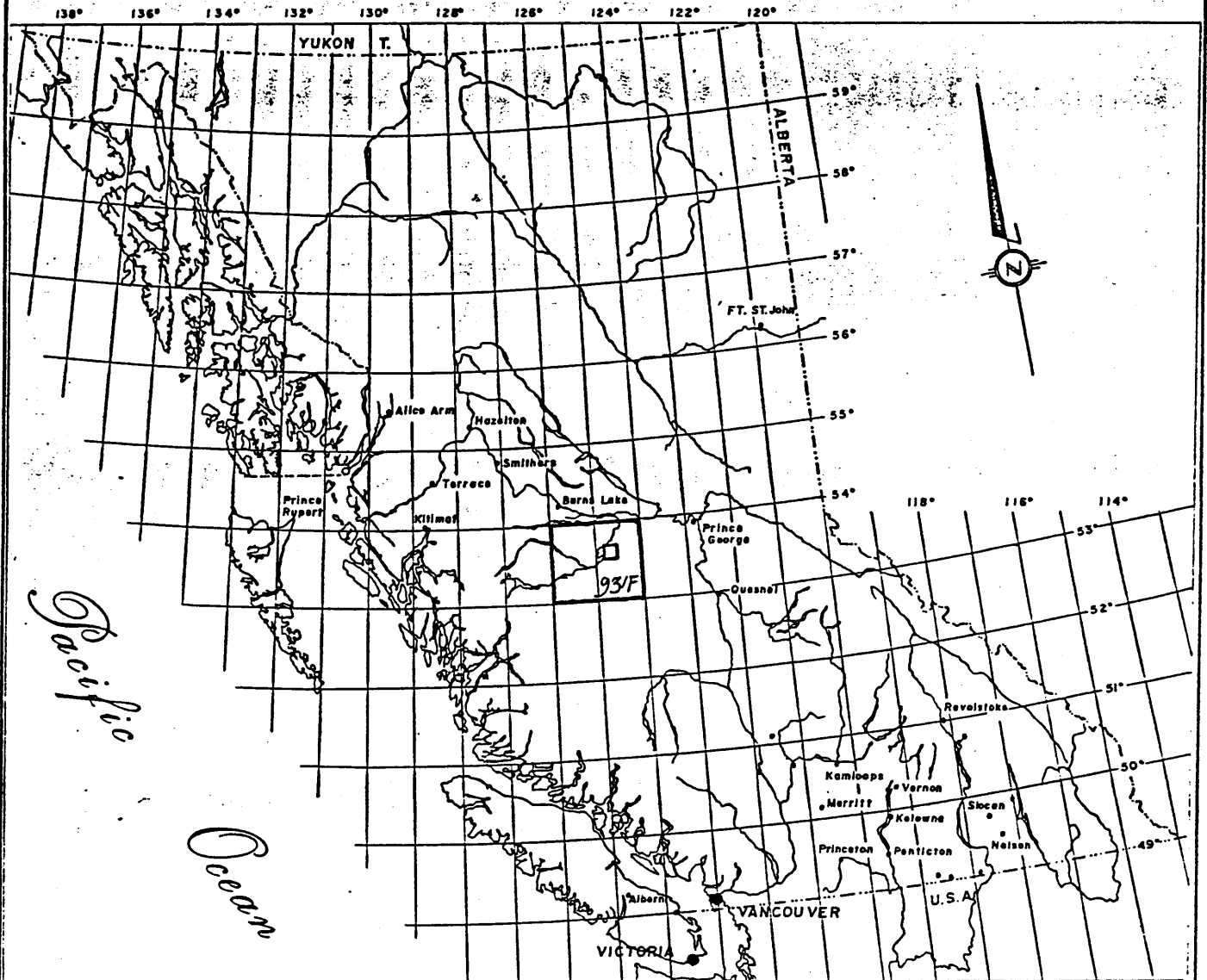


FIG. 1

0 25 50 100 200 miles

☐ TROUT CLAIMS LOCATION

KERR ADDISON MINES LTD	
NECHAKO RIVER	
MAP AREA, 93/F	
LOCATION MAP	
1:1,000,000 (approx)	DATE - SEPTEMBER, 85
Drawn by - P. HAILLOT	DATA - J. L. N.

Most of these roads were traversed in the course of Kerr Addison's reconnaissance in 1984 (Potter and Nelson, 1984). The more remote areas are accessible by helicopter and, in some cases, boat or float plane.

TOPOGRAPHY, VEGETATION, GLACIATION AND OUTCROPS

Elevations in the Nechako area range from 2500 to 6000 feet. Most of the area is tree-covered. Small swamps and old glacial-outwash channels provide helicopter landing sites.

Regional glaciation has left extensive, thick blankets of outwash and till, harrowed into patterns of west-northwest-erly-trending drumlins individually up to 10 km long.

Outcrops are scarce. They occur, in general, in three types of settings:

- 1) the westerly, up-ice ends of drumlins
- 2) along modern or outwash channels
- 3) hilltops

The use of air photos and/or areal reconnaissance is essential in locating areas of bedrock exposure.

GEOLOGY

For pre-Tertiary geology, the reader is referred to Tipper (1963). The Eocene Ootsa Lake Group is divided into a felsic and an intermediate suite (Figure 2, 3). The felsic suite consists of rhyolite, brachyte and minor dacite flows, domes and pyroclastic deposits. The intermediate suite is dominated by purple, hematitic porphyritic andesites. Tipper (1963) considers the felsic rocks to be younger than the andesites. In 93F/10, trachytes and related felsic rocks occupy a caldera developed in part in Ootsa Lake andesites (Figure 2).

The Ootsa Lake Group is overlain by Endako Group basalts, also of Eocene age. Miocene Chilcotin basalts, distinguishable by their freshness, lack of vesicle filling, olivine content, and crisp columnar jointing, are also present in the area.

ANOMALOUS SAMPLE RESULTS AND MINERALISATION

Two instances of strongly anomalous Au, As, As and Sb were encountered in bedrock sources.

1. Angel Claims (Figure 3).

Bleached rhyolite hosts chalcedony stockworks and silicified breccia zones, some with up to 10% very fine grained pyrite. Samples returned up to 200 ppb Au, 50.0 ppm Ag, 28.0 ppm Sb and 270 ppm As. (47764, 47765). This ground is held by JMT Resources Ltd. Present expiry date is June 30, 1989. A few samples anomalous in arsenic (to 120 ppm in 47760) were collected east of the existing claims. They came from float concentrations that may be subcrop or locally derived till.

2. Mouth of Entiako River, south of Jim Smith Point (Figure 3).

A prominent gossan is developed in cliffs along the flooded mouth of the Entiako River. Most of this area is underlain by bleached trachytes with very sparse quartz veinlets. At the southern end of exposure, a polymict explosion breccia with matrix silicification and grey chalcedony veinlets returned 63 ppm As, 20 ppm Au and 39.0 ppm Ag. (47771). The sample represents a selective highgrading over the 5-meter outcrop, which disappears under till to the south. Seven km east of this site, a sample from an isolated outcrop of limonitic rhyolite returned 180 ppm arsenic. (Figure 3).

As these exposures are small and geochemical results were not obtained until after the program was complete, no staking was done in 1985. This area warrants several days follow-up in 1986. A further isolated arsenic anomaly of 88 ppm near Yellow Moose Lake, northwest of Jim Smith Point, could be investigated at the same time.

Silicification without accompanying anomalies.

In several areas, zones of textural interest were identified that were not accompanied by anomalous geochemistry. Features of interest included silicification (chalcedony and/or opal), quartz veining, pyrite, and brecciation. Two of these areas were staked but not recorded.

1. "Tiger Claims", northwest of the Nechako River across from Mt. Greer. (Figure 3). Within the outlier, trachyte domes have undergone pervasive shattering and infilling with brown to orange chalcedony-limonite mixtures. A fine grained Jurassic (?) intrusion next to the outlier shows extensive silicification with disseminated pyrite. Examples of brecciation with chalcedony infilling are seen at this locality as well. (47501-06; 47758,59).

2. "Lady Claims", 4 km north of Lucas Lake and 10 km east of the Angel Claims (Figure 3). This area shows intense brecciation, silicification and opalisation of banded trachytes next to highly fractured Lower Jurassic Hazelton Group exposures. The alteration here may be related to the system exposed on the Angel Claims, although intervening Endako Group basalts obscure the connection.

3. Two km southwest of Trout claim block (Figure 2).

White-weathering bleached, silicified trachyte polymictic flow breccias host very minor chalcedony veining with traces of pyrite. (47753-55)

Au anomalies in panned samples

1. GP-1, 85 ppb Au. This sample was taken from Swanson Creek on the Swan Claims staked by Kennco in 1979. Other pan samples on these claims, GP-2, and MP 1,2,3 contained less than detectable gold. These results are surprising in the light of the strongly anomalous Au values reported by Kennco (1979). Kennco's heavy-liquid separation techniques must have produced concentrations of gold (and other heavy minerals) considerably in excess of those derived by panning.

Outcrop is extremely scarce on the Swan Claims. No bedrock sources for the gold were identified. The rare outcrops of trachyte range from unaltered to weakly argillised. The gold in Swanson Creek may be the result of glacial or glacial outwash dispersal from the Trout showings, just as the placer anomalies staked by Kennco on Entiako spur, (Tia Claims) came from the veins on Riocanex' Wolf Claims, five km to the west.

2. JNP 13, 470 ppb Au and JNP 16, 300 ppb Au. (Figure 3). These samples were taken with the same Eocene outlier that hosts mineralisation on the Angel Claims. JNP 13 was taken south of MacKenzie Lake, below a minor chalcedony swarm in trachyte that returned 120 As, 15 Au. JNP 16 came from a stream in glacial till above the highest outcrops in the immediate area. These two placer anomalies are probably the result of glacial dispersal, either from the Angel Claims or from sources yet unidentified. Further investigation

of this outlier could be conducted from the logging road system north of Intata Reach.

REGIONAL PATTERNS OF MINERALISATION

Exploration by Kerr Addison and other companies in the Nechako area has pinpointed epithermal precious metal mineralisation in three distinct types of settings within the Ootsa Lake Group: caldera margins; linears/faults; and felsic domes/intrusive centers.

1. Caldera Margins: Trout Claims

Gold-silver mineralisation on the Trout Claims occurs at the northwestern edge of a trachyte complex, where it abuts against slightly older Ootsa Lake Group andesites. Banded chalcedony with native gold and argentite occurs in brecciated andesite next to the felsic rocks. Linears may also have been an important localizing factor.

2. Linears/Faults: Wolf Claims; north of Entiako River

Gold-bearing quartz veins on Riocanex' Wolf Claims trend NNE, parallel to the contact of Ootsa Lake rhyolites with rocks of the Jurassic Hazelton Group on Entiako Spur. The contact occupies a strong topographic linear.

The mouth of the Entiako River is also controlled by a NNE-trending linear, as shown by prevalent dyke and fracture orientations. The small rhyolite/intrusive breccia body anomalies in Ag trends NNE parallel to the dominant structure.

It should be noted that pyritic chalcedony veining at Whitesail Reach, in the Whitesail map-area, visited in 1984, trends NNE (Potter and Nelson 1984).

3. Felsic domes/intrusive centres: Angel Claims, Cop Claims, Duk Claims

Linears in the Nechako area tend to host vein-type mineralisation. Rhyolite and trachyte domes, on the other hand, host chalcedony and/or quartz stockworks. Examples include the Angel Claims described above and ABO Oils Cop Claims, visited by Kerr Addison personnel in 1984 (Potter and Nelson 1984). The Duk Claims (ABO Oil) are a further example of this type. Argillized rhyolite contains occurrences of explosion breccia and local stockworks, with a few strongly anomalous grab samples containing up to 3600 ppb (D. Allen 1984).

These three models can be used to guide future exploration for epithermal targets in Ootsa Lake Group rocks. Linears, particularly those with NNE trends, should be sought after. They may have topographic expressions on air photos.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Helicopter-supported reconnaissance of Ootsa Lake Group outliers in the Nechako River map-area (93 F) in 1985 has outlined two targets worthy of follow-up work:

- 1) Mouth of Entiako River and vicinity. One high-graded sample of explosion breccia/rhyolite with quartz veinlets from this area contains 39.0 ppm Ag. Arsenic anomalies to 180 ppm were obtained 7 km west. Follow-up and staking could be done using boat support originating at the Nechako Lodge near Kenney Dam.
- 2) MacKenzie Lake area. Two placer Au anomalies in this area, 300 and 470 ppb, may have an as-yet undetermined bedrock source within the Ootsa Lake Group outlier that extends from Cheslatta Lk. south to Lucas Lk. At least part of this outlier could be explored on foot from the logging roads north of Intata Reach.

The prior examination of air photos to locate probable outcrop areas will save much time and frustration in the field. A total of two weeks work for a crew of two people is required to investigate the above targets. This could either be based from a permanent camp on the Trout Claims, or form part of the efforts of the Manson Reconnaissance Program.

A handwritten signature in cursive script that reads "J. Nelson". The signature is written in black ink and is positioned above the typed name.

J. Nelson.

REFERENCES

- Allen, D.G., 1984 Geological and Geochemical report on
the Uduk Lake Property. Duk 1-3 Claims.
Private Report, A & M Exploration, Ltd.
- Potter, R. and
J. Nelson, 1984. Report on field activities, British
Columbia Gold/Silver Regional 1984.
Private Report, Kerr Addison Mines Ltd.
- Tipper, H.W. 1963 Nechako River Map-Area. Geological
Survey of Canada Memoir 324.