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MEMORANDUM

TO: **FILE**
 FROM: EXPLORATION GEOLOGIST, TEMPORARY
 RE: **AIVEN MINERAL CLAIMS - 1986 TRENCHING PROGRAMME**

INTRODUCTION & HISTORY

The Aiven claims are located north of Owen Lake, approximately 25 km southwest of Houston via the Morice River road. They were staked in 1984 to cover a drainage area where anomalous Ag and Au values had been determined in heavy mineral samples.

The current status of the claims is listed below.

<u>Claim Name</u>	<u>Record No.</u>	<u>No. of Units</u>	<u>Expiry Date</u>
Aiven 3	6184	20	May 11, 1988
Aiven 4	6185	20	May 11, 1988
Aiven 5	6186	6	May 11, 1988
Aiven 6	6187	8	May 11, 1988

In 1984, a soil geochemistry survey was conducted over portions of the Aiven 3, 4, 5, and 6 claims. Results from this programme identified three relatively weak Cu, Zn anomalies with high spot values of Pb, Ag, Au and As.

Preliminary geological mapping in 1984 identified a "window" of pre-Tertiary pyroclastic rocks exposed in the Aiven Creek gorge. Rocks of this general age and type are known to be favorable hosts for bulk tonnage Ag/Au deposits.

In 1986, magnetometer and EM surveys were conducted over portions of the 1984 soil grid. No strong conductors or anomalies were identified.

The purpose of the 1986 trenching programme was to expose and sample bedrock underlying the three geochemical zones of interest in hope of encountering sub-outcropping Au/Ag mineralization.

DISCUSSION

i) Sampling Procedure

Test pits were dug in overburden to a depth of 4 metres using a back-hoe attached to a John Deere 540-A skidder. The work was performed by Joe Hidber Contracting of Telkwa. A total of 63 pits were dug at 50 metre intervals over portions of the 1984 soil grid.

A sample of the overburden was collected from the bottom of each pit and placed in a brown Kraft paper bag. Samples of mineralized "float" were collected from each pit where possible. Overburden and "float" samples were sent to the Placer Development Laboratory in Vancouver for geochemical analysis.

Field notes for each pit included location; overburden sample depth, composition and color; "float" sample rock type and mineralization.

ii) Analytical Procedure

After standard preparation, all samples were analyzed for Cu, Zn, Pb, Ag, As and Sb using a direct coupled plasma technique. A solvent extraction Atomic Absorption method was used for Au analysis.

iii) Results

a) Area 1 5250-5750 N 2000-2750 E

Area 1 is the location of weakly anomalous Cu-Zn soil values. It is generally covered by greater than 4 metres of heavily compacted, dry, clay till with few pebbles and boulders and very minor "float". The "float" are generally sub-angular to sub-rounded pieces of ash-lapilli tuff and felsite with up to 7% pyrite occurring as disseminations and/or fracture fillings. One sample (RF4102) contained tetrahedrite and malachite as fracture fillings in a dark grey, aphanitic volcanic rock. No bedrock was encountered in the vicinity of the soil anomaly.

No significant metal values were found in the overburden samples. RF4102 contained 0.41% Cu and 58 ppm Ag.

b) Area 2 7250-7500 N 3000-3500 E

Access to Area 2 was limited by swampy ground conditions. This zone of weakly anomalous Cu-Zn soil values is covered by stream gravels associated with Aiven Creek. Only one piece of weakly pyritic "float" was

observed. No bedrock was encountered.

No interesting metal values were found in the "float" or overburden samples.

- c) Area 3 7700-8000 N
1400-1800 E

Area 3 was the final Cu-Zn soil anomaly to be investigated. South of 7750 N is covered by greater than 4 metres of sand and gravel which may be part of an old Aiven Creek channel. No "float" was observed in this area. North of 7750 N is covered by greater than 4 metres of silty, clay till with up to 15% boulders, 10% pebbles and very minor "float". The "float" are generally angular to sub-angular pieces of felsite and minor volcanic breccia with less than 2% pyrite as disseminations and/or fracture fillings. One sample of felsite (RF4111) contained traces of pyrite, pyrrhotite, chalcopyrite and malachite as fracture fillings. Bedrock was not encountered in either sub-area.

No significant metal values were found in the overburden samples. RF4111 contained 520 ppm Cu and 1.7 ppm Ag.

CONCLUSIONS AND RECOMMENDATION

The trenching programme added very little information to the further investigation of the Aiven claims. No satisfactory explanation for the soil geochemistry pattern was revealed although, due to the nature and depth of the overburden, it is unlikely that anomalous soil values or mineralized "float" can be directly related to underlying bedrock mineralization.

No additional bedrock information on the extent of the pre-Tertiary "window" was generated by the programme.

No further work is warranted on the Aiven claims at this time. When a cost effective method for sampling through thick till to bedrock has been developed, another attempt should be made to assess the economic significance of this area.

D. Hanson

DH:lh

MEMORANDUM

To: Engineering Supervisor
From: Exploration Geologist
Re: Geology of the Aiven Mineral Claims

Introduction

The Aiven Claims are located north of Owen Lake, approximately 25 km southwest of Houston. They were staked to cover an area where anomalous Ag and Au values had been determined in heavy mineral samples.

Work on the claims in the summer of 1984 included soil sampling and geological mapping. The results of the soil sampling have been documented in an assessment report, which was filed with the B. C. Ministry of Mines on Dec. 7, 1984. This assessment extended the expiry dates of the claims to those listed below.

Claim Name	Record Number	Number of Units	Expiry Date
Aiven 1	6182	20	May 11, 1985
Aiven 2	6183	20	May 11, 1985
Aiven 3	6184	20	May 11, 1988
Aiven 4	6185	20	May 11, 1988
Aiven 5	6186	6	May 11, 1988
Aiven 6	6187	8	May 11, 1988

The Aiven 1 and 2 claims will be allowed to expire in 1985.

The assessment report dealt only with the soil geochemistry. It purposely did not include any discussion of geology.

Geology

Outcrop is sparse on the claims. It is generally restricted to the Aiven Creek gorge and ridge tops. The rock type exposed on the ridges is believed to be Tertiary volcanics which correlate to the Goosly Lake Volcanics. They are reddish brown to greyish purple vasicular flows and flow breccias. They are relatively flat lying.

The rocks exposed in the Aiven Creek gorge are green to grey andesites, pyroclastics, and flow breccias. Since they differ considerably in appearance from the rocks on the ridges, and apparently occur at a lower stratigraphic position, they are interpreted to belong to a older formation (Mid to Lower Cretaceous). These rocks contain amygdules and strings of calcite and occasionally traces of disseminated pyrite. The pyroclastics vary widely in grain size, and are intercalated with the andesite. A bedding orientation was measured at 162/35 W. The rocks can display chlorite alteration.

Four rock chip samples were collected across different stratigraphic horizons in the Aiven Creek gorge. The geochem results are listed below.

Sample No.	Rock Type-Description	Cu	Zn	Pb	Ag	Au	As
84A01	Pyroclastics	91	42	5	<0.2	0.02	<2
84A02	Pyroclastics	41	50	6	<0.2	<0.02	<2
84A03	Pyroclastics	43	54	4	<0.2	<0.02	<2
84A04	Pyroclastics	43	50	6	<0.2	<0.02	<2

No "anomalous" or interesting metal values were found in these rocks.

Recommendation

The rocks exposed in the Aiven Creek gorge are the most likely to host economic mineralization. However, the chip samples indicate no interesting results. The Aiven Creek gorge rocks are considered to be a window of older rocks exposed through the Tertiary cover.

The results of the soil geochemistry are not encouraging. Only weak zones of interest were defined. However, because of the window, the soil geochemistry should be carefully examined. The zones of interest indicated from the soils should be further investigated. The Aiven 3, 4, 5, and 6 claims are in good standing for three years, so the work does not necessarily have to be completed next year.

No further soil sampling is recommended. A ground EM survey such as VLF should be run over the three areas of interest indicated by the soil sampling.

At present, the window is only known to occur in the Aiven Creek gorge. It is important to try to determine the extent of the window. Trenching the soil zones of interest would contribute. It is possible that a ground magnetometer survey may help to map the extent of the window.

R. B. Pease
Exploration Geologist