MR. G. M. HOGG Babine have Porth Green LA

J.H.S.

Subject BABINE LAKE BC. Explorestron Project in 18, 1972. R.D.S.

POSSIBLE EX

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exploration in the Babine area.

E.C.J.

The proposed area extends from the north end of Morrison Lake northwestward to Mount Horetzky, a distance of approximately 24 miles. The average width of this area is about 2.5 miles.

Basically, the intent of the program would be for two men to collect soil samples at 1,000 ft. intervals on line one-half mile apart, and to make a crude geological map in the process. This area would be the northwesterly extension of geology in which such deposits as Newman and Granisle have been found. Government aeromagnetics over this area indicate that much of the terrain is underlain by Mesozoic sediments with a narrow strip of volcanics in the centre and a broad belt of volcanics bordering the eastern side. We would expect in the course of this work to uncover several porphyritic intrusions which, in this area, appear essential to mineral deposition. The government airmag does not appear to have picked up any of these intrusions but some of them are magnetically feeble and would therefore not be detected. Conceivably, by running ground mag concurrently with the soil sampling, we could better indicate the location of these intrusions if they exist.

Since there are quite a number of lakes in the area on which a Beaver could land, we would hope to keep moving costs at a minimum and we think the program could be done for \$15,000. We have held off any positive action on this proposed program until we knew whether or not we would be heavily committed in the Kamloops area. If we do not become so committed, we will try to get Wilf Christian and a suitable partner to do this work.

MMS/eh pard the server and server

E.C.J.

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

To	MR. G. M. HOGG	From	MR. W. M.	SIROLA	J.H.S.
10					G.M.H.
Subject	BABINE LAKE NORTH AREA -	•	Date	April 18, 1972.	R.D.S.
Subject	POSSIBLE EXPLORATION PROJ	FCT (1072)			B.C.B.
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Herewith a proposal assembled by John Lund for limited exploration in the Babine area.

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WMS/eh encl. W. M. SIROLA God. agid 20/22 Pulk April 26/12

BABINE LAKE NORTH AREA

PROPOSED EXPLORATION PROJECT

Introduction

Within the Smithers-Babine area are two producing mines, and at least three economically significant deposits in an advanced stage of exploration. The producing mines and two of the economically significant deposits occur within a belt of Mesozoic volcanic and sedimentary rocks that have been intruded by small Tertiary bi-feldspar and hb-bi-feldspar porphyry sills, dykes and small stocks.

Many of the sills and dykes have a north-northeasterly to north-easterly strike; however, the trend in the distribution of these intrusions is north to north-northwesterly. This northwesterly trend is the direction of major faulting in the Babine area. The dykes and sills were likely implaced along tension fractures developed from stresses along the main NW fault system. Exploration should therefore be directed along the northerly to northwesterly belt of Mesozoic rocks within the porphyry intrusive belt.

Location

The project proposed here is within the above belt. It lies along the northeast side of Babine River and Nilkitkwa Lakes extending from Haul and Tahlo Lakes northwesterly to Mount Horetzky. The area is centred on Lat. 55° 30', Long. 126° 40'.

Access

The proposed area lies about 45 miles northeast of Hazelton and 55 miles north-northeast of Smithers. Nearest railroad point is at Hazelton. Highland Helicopters maintains a base at Hazelton, Okanagan Helicopters at Smithers. Pacific Western Airlines have a daily flight between Vancouver and Smithers.

Nature of the Area

The selected area lies between the Bait Mountain Range to the east and the Babine River on the west, encompassing a topographic low. Most of the area is drift-covered with relatively flat terrain and numerous swamps and lakes, hence outcrop occurrences can be expected to be less than 10%. Glacial movement was southeast.

Size of Proposed Area

An area 24 miles by 10 miles elongate in a northwesterly direction has been outlined. It extends from Haul Lake on the southeast to Horetzky Mountain on the northwest.

Project

Briefly, the geology consists of a north-western belt of Mesozoic sedimentary and volcanic rocks, which form part of the Hazelton group. These have been intruded by hb-feldspar and porphyry, hb-bi-feldspar-porphyry intrusions. Associated with the porphyries are the deposits of Mt. Horetzky at the northwest end of the project area and Newman, Granisle and Morrison deposits on the southeast end of the area. Nick Carter, of the B. C. Department of Mines, classifies the Horetzky deposit with the latter three. It is conceivable, therefore, that similar deposits may exist in the area between Mt. Horetzky and Morrison Lake.

Work would be centred on a northwesterly trending magnetic "ridge". The ridge is likely a reflection of a volcanic unit interbedded with magnetically featureless sedimentary rocks. The known deposits are in or near volcanic rocks, hence the work should be concentrated along this magnetic ridge.

Methods

The lack of outcrop, possibly thick sections of overburden, and abundance of swampy ground make exploration difficult. The problem could be attacked in two ways: (a) Regional soils only taken at 1,000 ft. intervals on lines spaced at 1/2 mile, and (b) Combined regional soils and a low altitude, high sensitivity airborne magnetometer survey. Purpose of the air-

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borne survey would be to pick up the northeasterly trending porphyry masses. It would serve to direct exploration into areas of priority and/or concentration.

The area is relatively featureless, hence good air photo control would be necessary. Silt sampling, prospecting and boulder mapping should be done where applicable in conjunction with the soil sampling. All samples should be tested for Cu, Ag, Mo, Pb and Zn.

The airborne survey should be on 1/4 mile line spacings flown at not greater than 350 feet above the ground surface. Good ground control is necessary.

The combined survey, which would provide the most favourable results, is favoured; however, if money is not available to this extent, the regional soil program in itself could prove effective where overburden is not excessive.

Crew

A crew of two, consisting of one prospector and a helper familiar with soil collecting, could complete the survey in about 3 months. They would be serviced and moved by helicopter at 7 - 10 day intervals, weather permitting.

Costs

Regional Soil Program only (time to complete = 90 days)	:		
(a) Wages, 2 men: Prospector @ \$700/mo.) Helper @ \$559/mo.)	\$ 3,750		
(b) Food and accommodation @ \$8.00/day for 180 man days	\$ 1,440		
<pre>(c) Transport: (i) In - 3 hrs. @ \$250/hr. \$ 750 (ii) Out - 3 hrs. @ \$250/hr. \$ 750 (iii) Moving camp, trip 9 days for period 90 days = 10 trips 3 hrs/trip for 10 trips =</pre>			
30 hrs. @ \$150	\$ 6,000		
(d) Sample Testing - 1,000 samples			
for Cu only = 1,000 \times \$1.20 \$ 1,200 for Cu, Ag, Mo = 1,000 \times \$2.20 \$ 2,200*	\$ 2,200		
·	\$13,390		
Add 10%	1,390		
Toțal Cost Estimate			

This proposal is submitted as a possible exploration project for this season starting on or before June 1, 1972. Wilf Christian could be put on this work either together with a helper of his choice or a student familiar with soil collecting techniques.

John C. Lund

March 22, 1972.

JCL/eh

