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EXPLORATION PROPOSAL  
FOR THE  
CATFACE PRECIOUS METALS PROJECT,  
VANCOUVER ISLAND  
NTS 92 C, E, & F

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December 5, 1982

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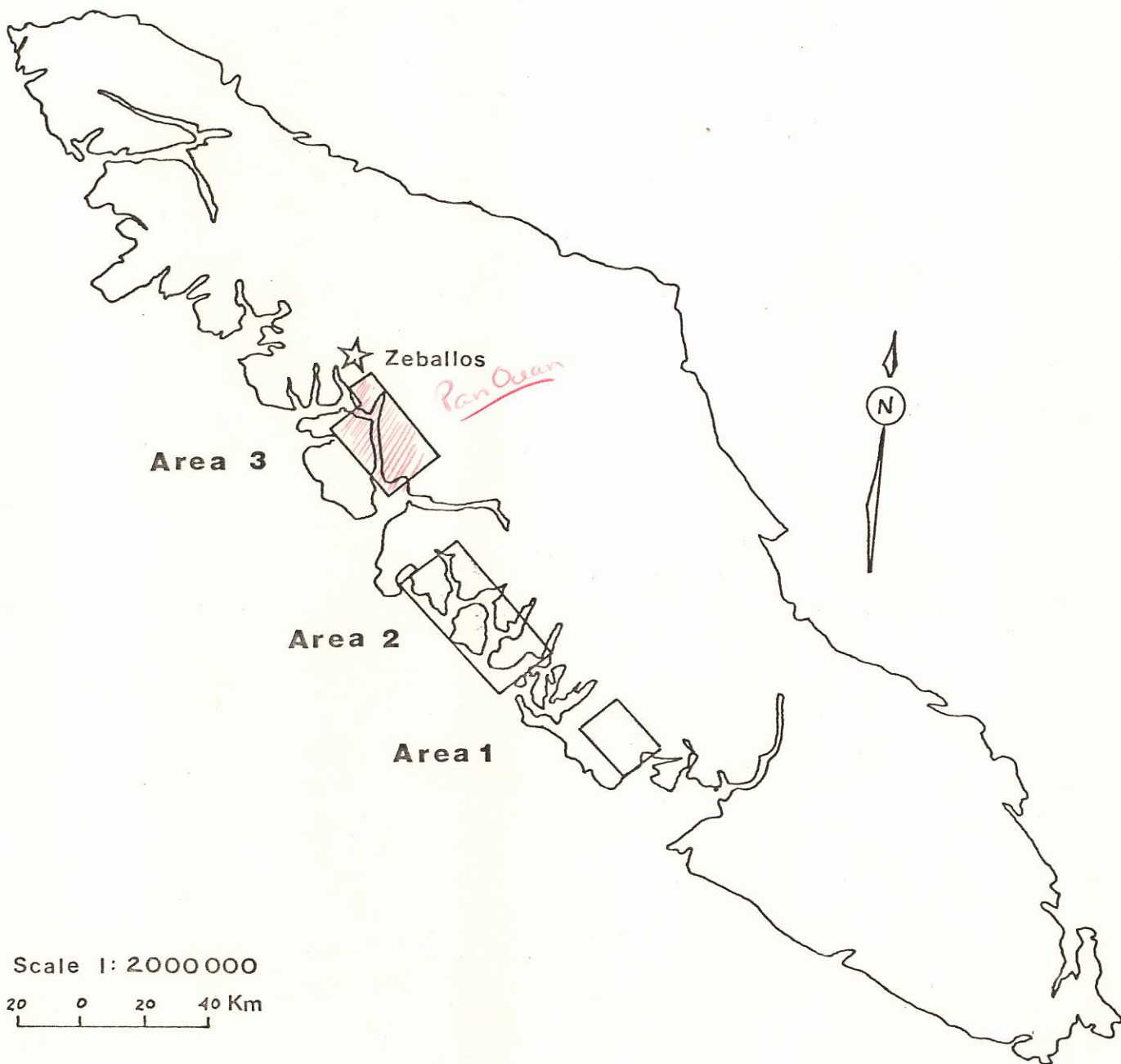
## INTRODUCTION

Since the turn of the century the west coast of Vancouver Island has been a known producer of gold. Although production from the Zeballos camp was significant at the time, in comparison to the Rossland, Hedley, Bridge River, Premier or Barkerville camps it's production is considered somewhat small. This along with the relatively lush vegetation prevalent in this region of British Columbia has no doubt discouraged a considerable amount of recent exploration activity.

Recent geological concepts, plus the general tendency of the most gold districts to be dominated by one major producer indicate the west coast of Vancouver Island is long overdue an extensive second look.

Based upon geological relationships considered important to the genesis of epithermal Au-Ag deposits, three areas of interest have been selected (Fig. 1). For the first two areas (Kennedy Lake and Flores Island) a stream sediment survey would seem to be the most practical method of approach. For the Tahsis area (Area 3) Pan Ocean has competently covered the area of interest and in the course of their survey has defined several very interesting anomalies. With the approaching lapse of the Tah 1-19 claims consideration should be given to acquiring this ground through either an option agreement or restaking.

# VANCOUVER ISLAND



Area 3

Zeballos

*PanOcean*

Area 2

Area 1

Scale 1: 2000000

20 0 20 40 Km

AREA of INTEREST

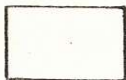


FIG 1

## GEOLOGICAL MODEL

The association of Tertiary volcanism or intrusive activity appears to be the dominant geologic characteristic of epithermal Au-Ag deposits in the Cordillera. In a compilation of over seventy deposits this relationship was evident in almost three-quarters of them. Another feature which appears to be significant is the subareal nature of the associated volcanics as exemplified in the Tayaltita district Mexico and Lake City district, Colorado (Smith et. al., 1982; Slack, 1980). This relationship may in part explain the significance of the Tertiary ages since a good portion of the Cordillera was emergent by the Tertiary.

On Vancouver Island a number of Tertiary Intrusions known as the Catface Intrusions occur in three linear belts. Plotting the locations of the epithermal Au-Ag deposits on the geology again suggests an association with the Tertiary Intrusions. Recent work by Sinclair and Hansen (in preparation) indicate that not only are locations of the deposits spatially related to the Catface Intrusions but also the amount of contained metal or size of deposits increases in proximity to the intrusive contact (Fig. 2). In addition Muller (1981) points out that the epithermal Au occurrences on the Nitinat Lake map sheet occur in all rocks older than Tertiary sediments, again suggesting a Tertiary mineralizing event. Lastly, associated with the Catface Intrusions are a number of Porphyry copper deposits Buchanan, L.J. (personal communication, 1981) considers there is a direct genetic relationship between epithermal Au deposits and porphyry copper deposits, the former being the distal end member of the latter.

TERT  
ASSOC  
w  
EPI AU  
SUBAERIAL

CATFACE

IN  
RX  
OLDER  
THAN  
TERT

EPI AU  $\equiv$  PORPHCU

46 6210  
Mined Ag (10<sup>2</sup>g/m)

KE SEMI-LOGARITHMIC 5 CYCLES X 70 DIVISIONS  
KEUFFEL & ESSER CO. MADE IN U.S.A.  
Mined Au (10<sup>2</sup>g/m)

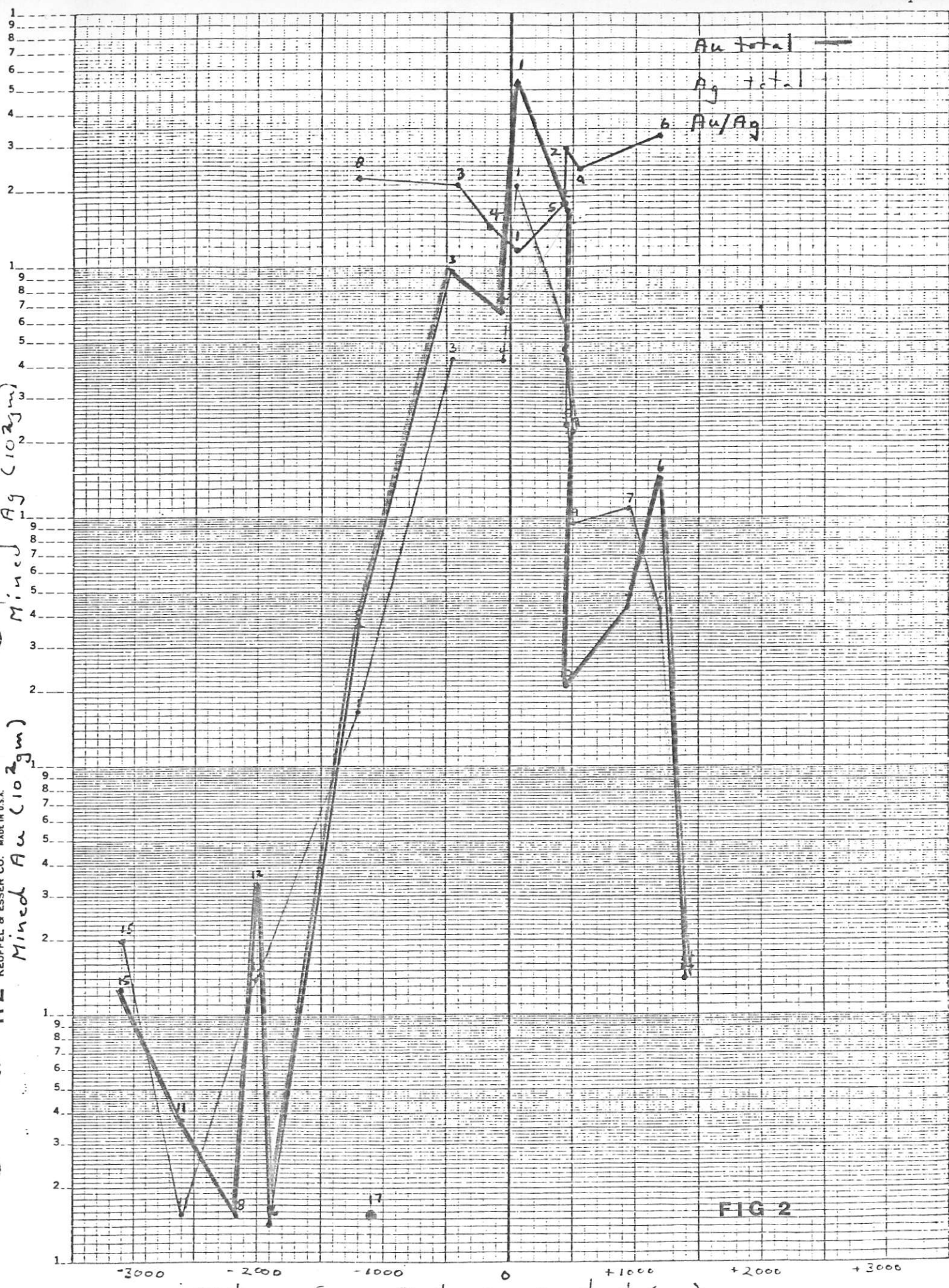


FIG 2

Distance from Intrusive Contact (m)

## PROPOSED AREAS

Based upon the apparent genetic relationship the epithermal Au-Ag deposits of Vancouver Island have to the Tertiary Catface Intrusions three areas of interest have been selected. All three areas are relatively accessible by either boat or a network of logging roads, and have received only sporadic exploration activity in the past.

Area 1- Located west of Ucluelet near Kennedy Lake was selected for five reasons; 1) proximity to Catface intrusions, 2) the presence of Tertiary ignimbrites indicating a subareal volcanic environment, 3) the presence of Quatsino Formation limestone suggesting the possibility of replacement and/or Carlin-type mineralization, 4) known Au-Ag deposits which may be related to the Catface intrusions, and 5) relatively good road access.

Area 2 - centered about Flores Island north of Tofino was selected on the basis of four criteria; 1) the presence of Catface intrusions, 2) pre-Tertiary block faulting, 3) associated porphyry copper deposits, and 4) relatively good boat access.

Area 3 - centered south of the town of Tahsis has been staked by Pan Ocean as the Tah 1-19 claims. This area is considered favourable for the following reasons; 1) the presence of Catface intrusions along strike from the Zeballos mining camp, 2) pre-Tertiary block faulting paralleling the trend of the Catface intrusions suggesting an area of possible crustal weakness, 3) the presence of Quatsino Formation limestone suggesting the possibility of replacement and/or Carlin-type mineralization, 4) known Au-Ag deposits which appear to be related to the Catface intrusions, 5) the anomalous drainages and rock chip samples Pan Ocean has defined on the Tah claim blocks, and 6) the good access afforded by the Tahsis-Gold River road and by boat along Tahsis Inlet.

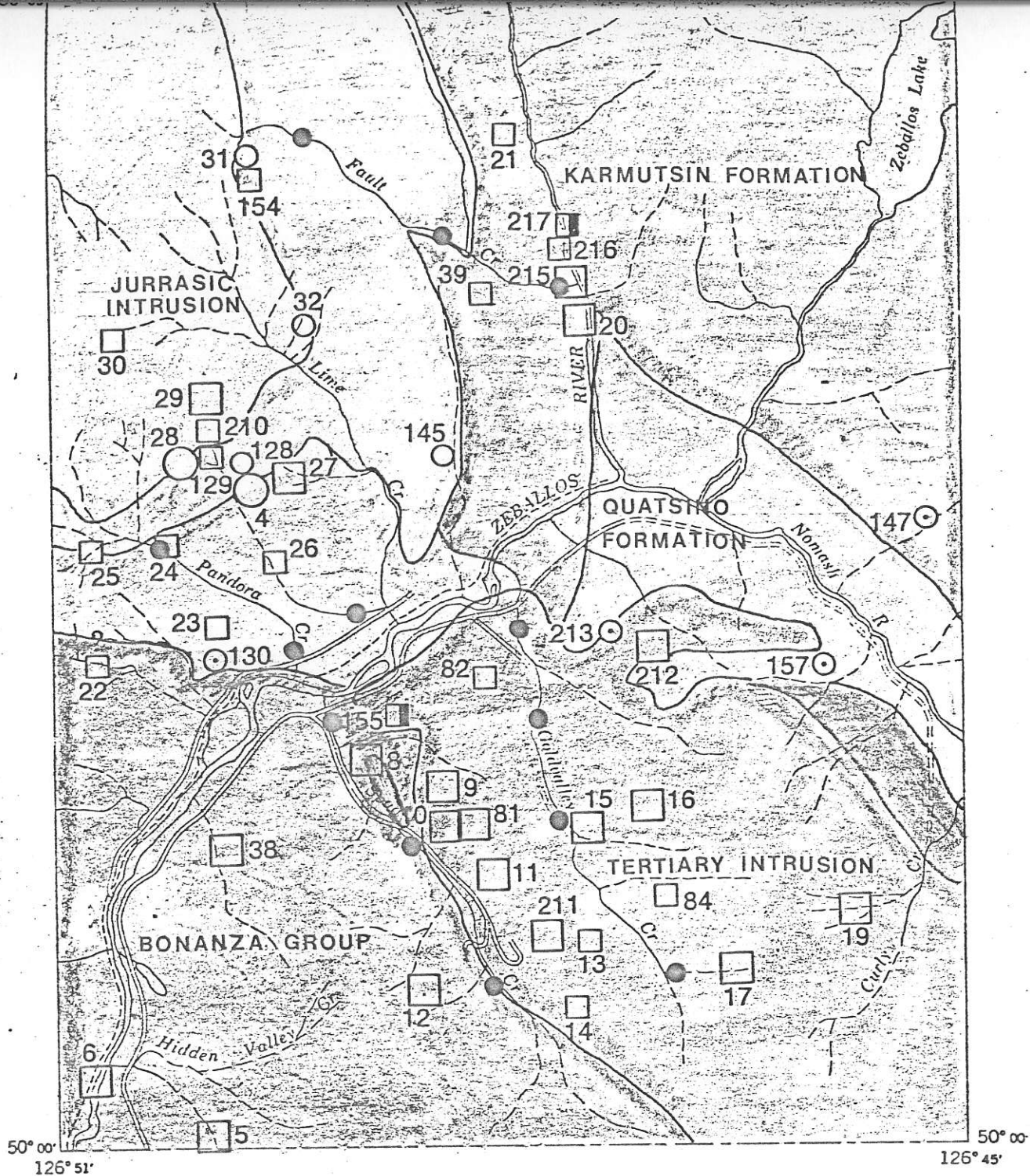
## METHODOLOGY

Stream sediment sampling appears to be the most cost-effective means of narrowing down areas of possible economic interest. The only drawbacks with this approach is the nugget-effect sometimes displayed by Au and the popularity of the method. However these obstacles can be overcome if the methodology can be improved upon over previous surveys.

Based upon a number of case histories (Brundin and Nairis, 1972; White and Chabot, 1981; Barakso and Tegart, 1982) heavy mineral sampling has shown to reduce the nugget-effect and enhance anomalies over conventional silt sampling. At present two commercial heavy mineral processes are available. The CF Mineral method approximately 150\$/sample separates out a heavy intermediate and light weight fraction into non-magnetic, paramagnetic and magnetic fraction. This method although costly in general provides the best data. The second method, provided by either Chemex or Min-en is less costly (approx. 30\$/sample) and as a consequence not as complicated. In this method the heavy fraction is separated into a magnetic and non-magnetic fraction. Conventional silt sampling (approx. 10\$/sample) can pick up some anomalous drainages but in general cannot recognise the more subtle anomalies.

Considering the range in cost and sophistication afforded by these methods an orientation study involving drainages hosting known mineralization may be the most practical means of determining the sampling procedure. Encompassed in this study would be a comparison of the three methods using a variety of mesh sizes under number of geological and hydrologic conditions. Approximately twenty sample sites should be sufficient, fourteen from streams draining known Au-Ag occurrences (Fig. 3) and six from streams with no known mineralization. To aid in determining the optimum sampling interval, samples should be taken at intervals of approximately 1.0 km along specific streams. Once collected the samples should be analyzed for Au, Ag, Cu, Pb, Zn, As, Sb, Mo and Th. Other elements could be determined since the ones listed above are only anticipated to be the most reliable.





### ZEBALLOS GOLD CAMP

- Gold quartz veins ..... □
- Copper-bearing veins ..... ▣
- Copper skarn ..... ⊙
- Iron skarn ..... ○
- Properties recording production ..... ○ □ △ ▱
- SAMPLE LOCATIONS ..... ●



FIG 3

## LOGISTICS

As mentioned previously access does not appear to be a serious problem, except in the case of Area 2 (Flores Island) if the weather is stormy. Accommodation likewise should not be a problem with adequate hotels in Ucluelet and Tahsis. Area 2 (Flores Island) would be a slight problem and would require camping out.

Using a heavy mineral sampling technique it has been estimated that each sample on the average should take about one hour to collect. This is doubled in cases where boat access is concerned because difficulties may be encountered in beaching the boat and selecting a suitable sample site. In general a two man crew should be able to collect 12 - 16 samples a day.

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APPENDIX I  
Cost Estimate

10

Zeballos-Orientation

<u>20 samples</u>		
Wages		
2 people - 2 days @ \$400/day	800	
Accommodation and Food		
2 nights Motel @ \$35	70	
Food @ \$35 X 2	70	
Sub Total-1	<u>940</u>	\$ 940.00

Truck rental 4 X 4 @ \$1000/month		
4 days @ \$32.25	129	
Mobilization and Demobilization		
2 people - 2 days @ \$300/day	600	
Gear (2 pairs)	200	
Typing and Drafting	200	
Report	2000	
Sub Total-2	<u>3129</u>	3,129.00

Geochem		
(Minem-Chemex) A 20 X \$30	600	A-\$600
(C.F.) B 20 X \$150	3000	B-\$3000
Sub Total-1+2+A	<u>\$4669</u>	4,669.00
Sub Total-1+2+B	<u>\$7069</u>	7,069.00

Kennedy Lake

<u>52 samples</u>		
Wages		
2 people-4 days @ \$400	1600	
Accommodation and Food		
4 nights Motel @ \$35	140	
Food @ \$35 X 4	140	
Sub Total-1	<u>1880</u>	1,880.00

Truck Rental 4 X 4 @ \$1000/month		
5 days @ \$32.25	193.50	
Mobilization and Demobilization		
2 people - 2 days @ \$300/day	600	
Boat Rental @ \$450/week		
1 day @ \$64.28	64.28	
Gear (2 pairs)	200	
Typing and Drafting	200	
Report	2000	
Sub Total-2	<u>3257.28</u>	3,257.28

Geochem		
(Minem-Chemex) A 52 X \$30	1560	A-\$1560
(C.F.) B 52 X \$150	7800	B-\$7800
Sub Total 1+2+A	<u>\$6697</u>	6,697.00
Sub Total 1+2+B	<u>\$12937</u>	12,937.00

Flores Island

<u>60 samples</u>		
Wages		
2 people - 10 days @ \$400	4000	
1 Boat Operator 10 days @ \$150	1500	
Accommodation and Food		
Camping Equipment + Food	700	
Sub Total-1	<u>6200</u>	6,200.00

Truck Rental 4 X 4 @ \$1000/month		
10 days @ \$32.25	322.25	
Mobilization and Demobilization		
2 people - 2 days @ \$300	600	
Boat Rental @ \$450/week		
10 days @ \$64.28	642.85	
Gear (2 pairs)	200	
Typing and Drafting	200	
Report	2000	
Sub Total-2	<u>3965.10</u>	3,965.10

Geochem		
(Minem-Chemex) A 60 X \$30	1800	A-\$1800
(C.F.) B 60 X \$150	9000	B-\$9000
Sub Total-1+2+A	<u>\$11965.10</u>	11,965.10
Sub Total 1+2+B	<u>\$19165.10</u>	19,165.10

Zeballos, Kennedy Lake, and Flores Island	TOTAL A	\$23,331.00
	TOTAL B	\$59,171.00