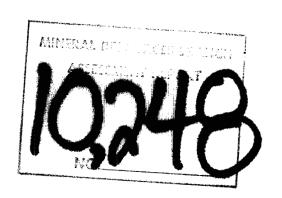
PROSPECTING ASSESSMENT REPORT ON THE PRETTY GIRL/DELOS PROSPECT GOLDEN MINING DIVISION BRITISH COLUMBIA



# PROSPECTING ASSESSMENT REPORT ON THE PRETTY GIRL/DELOS PROSPECT GOLDEN MINING DIVISION BRITISH COLUMBIA

NTS 82 K/9W

Lat: 50°31' Long: 116°18'

OWNER: DANIEL J. GALLAGHER AND ROBIN W. PEARSON

OPERATOR: PEARSON, GALLAGHER LTD.

BY

DAVID S. EVANS, P. Geol., Consultant, Calgary, Alberta

NOVEMBER 30, 1981

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Appendix 1: Analytical Results

#### SUMMARY

The <u>Pretty Girl/Delos Property</u>, a copper-silver prospect, is located some 20 kilometres east of Invermere in southeastern British Columbia. Old workings are in evidence and old Minister of Mines documentation report exceptional copper and silver values from selected grab samples.

The <u>geological setting</u> consists of a gently folded sequence of Late Proterozoic (Horsethief Series Group) sedimentary rocks striking N 15° W and dipping vertical to near vertical. The Forster Syncline traverses the property.

<u>Copper-silver mineralization</u> is found on the Delos prospect as disseminated to semi-massive concentrations in a quartz vein system or stockwork. Assays up to 9.1% Cu and 52.6 ppm Ag were obtained on grab samples from the <u>Delos</u> occurrence. No samples were obtained from the Pretty Girl.

It is concluded that the geological environment and metallogeny of the area is promising and that the mineral potential for small, high grade Cu-Ag deposits and, possibly a deeply emplaced "porphyry copper type" deposit is indicated. A phased exploration program is warranted.

The estimated cost of Phase I is \$21,175 and Phase II, \$132,220.

#### INTRODUCTION

Geostrategic Consultants Ltd. has been requested by Pearson Gallagher Ltd. to examine and report on the Pretty Girl/Delos property, a copper-silver prospect near Invermere in southeastern British Columbia. The writer examined the property on October 8, 1981 accompanied by Mr. Dale Pauls and Mr. W. McCuaig.

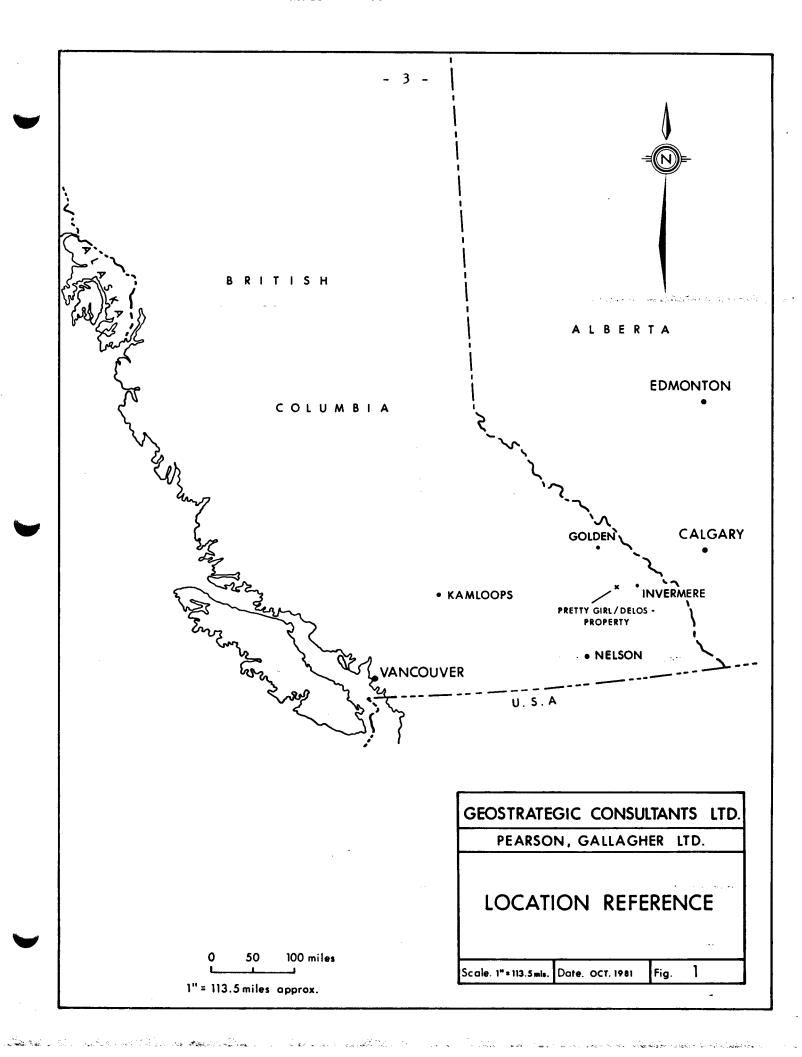
#### LOCATION

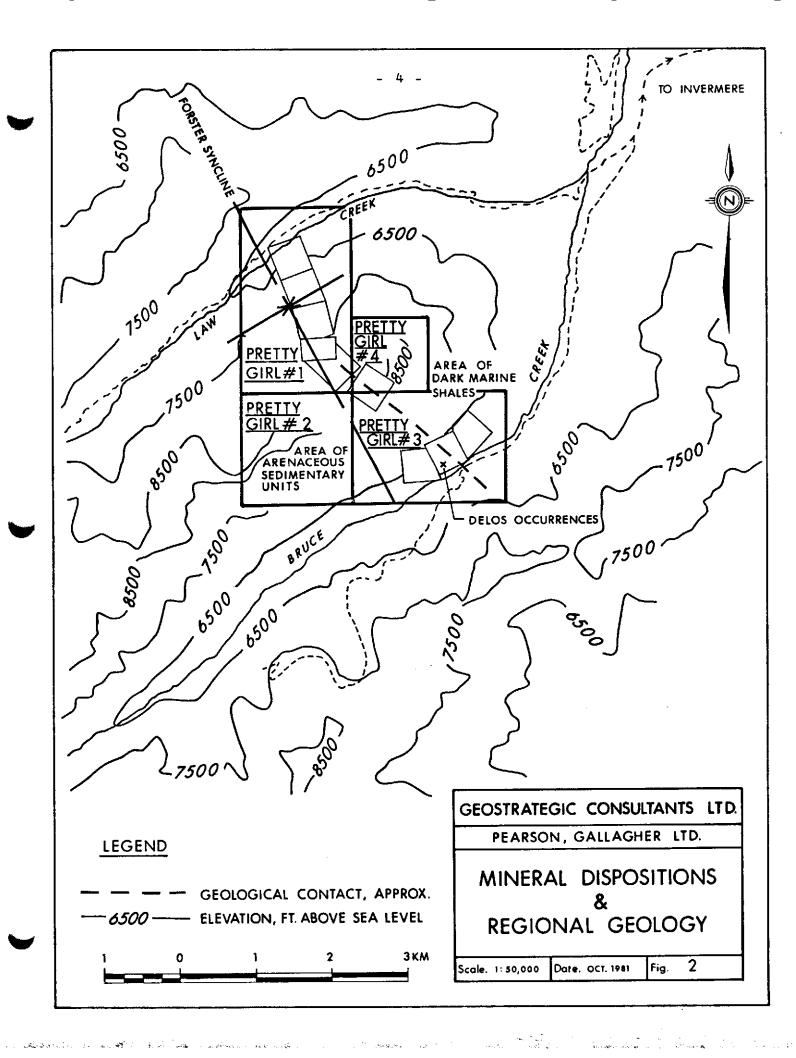
The property is centered between Law Creek and Bruce Creek at latitude 50°31'N and longitude 116°18'W. Bruce Creek flows into Horsethief Creek, about seven kilometres to the north. Invermere is approximately 20 km due east (Figure 1). Elevation ranges from 5500' to greater than 8500'.

Access to the property is by gravel road from Invermere along both Bruce and Law Creeks. Higher elevations are best suited to helicopter assisted positioning and depositioning.

#### **PROPERTY**

The property consists of nine Reverted Crown Grants and staked over by four mineral claims (Figure 2). The four mineral claims are comprised of 44 mineral claim units.





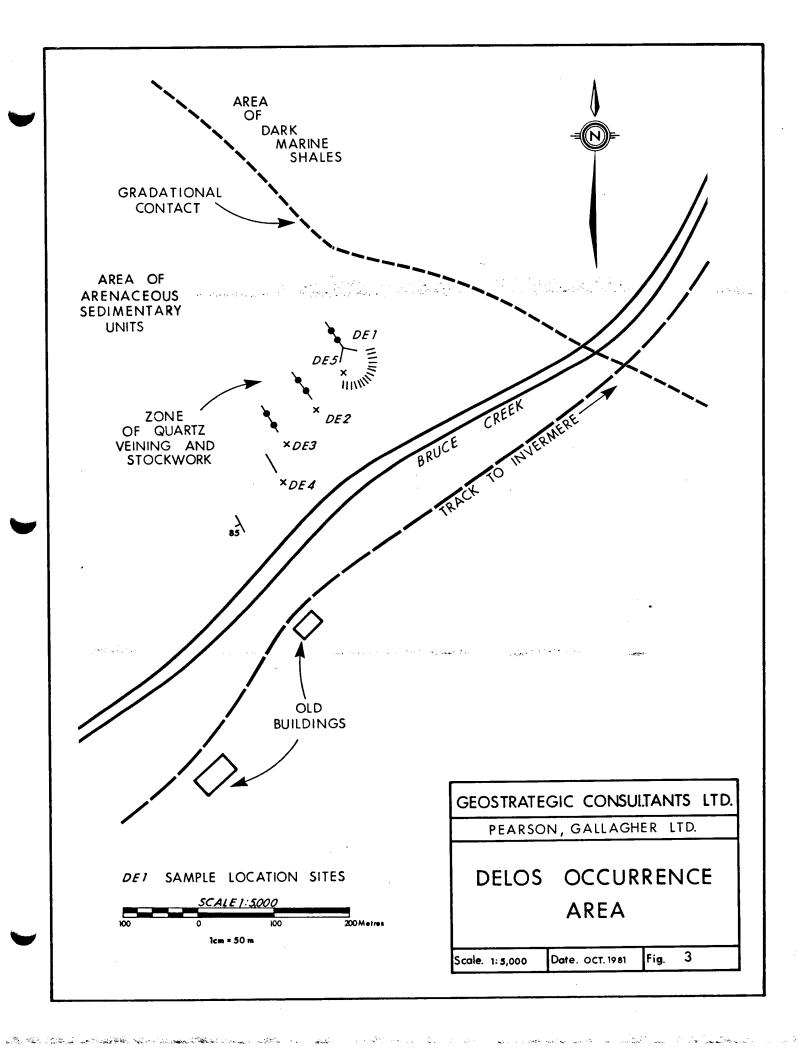


TABLE 1

<u>Claim Name</u>	Record No.	Lot No.	Recorded Owner
Delos	870	3790	D. J. Gallagher
Calamity Jane	871	3791	D. J. Gallagher
Trojan	872	3792	D. J. Gallagher
Minnie Ha-Ha Fr.	868	2575	R. W. Pearson
Old Chum	867	2574	R. W. Pearson
Beauty	866	2573	R. W. Pearson
Venus	865	2572	R. W. Pearson
New Chum	864	2571	R. W. Pearson
Pretty Girl	863	2570	R. W. Pearson
Pretty Girl 1	953		R. W. Pearson
Pretty Girl 2	954		D. J. Gallagher
Pretty Girl 3	955		D. J. Gallagher
Pretty Girl 4	956		R. W. Pearson

#### HISTORY

The history of the Pretty Girl/Delos property appears to be largely confined to descriptions appearing in the British Columbia Reports to the Minister of Mines from 1898 to 1929.

The 1898 report describes an occurrence on the <u>Pretty Girl</u> reverted Crown Grant as follows: "This open cut, 12 feet in length, has been sunk 10 or 12 feet in a soft shale, dipping nearly vertical, and striking approximately N 25° W. Lying between the layers of the shales or slates across the cut were bands of gray copper and some carbonates of copper, forming a highly mineralized zone some 6 to 8 feet wide... There seems to be no vein, in the usual acceptance of the term, but a zone in the bedding of the shales, which carries very considerable quantities of ore. A fairly representative sample of this ore gave, on assay, 26.68% copper, 55.5 oz. silver to the ton."

During this same year a tunnel is reported as being in over 200 feet and, apparently, encountered a down dip extension of the occurrence. No assays were given.

In the same year, activity on the <u>Delos</u>, <u>Trojan</u> and <u>Calamity</u>

<u>Jane</u> claims reports a zone, some 150 feet wide, composed of quartz stringers up to 24 inches in width. A tunnel had been driven on a 20 inch quartz "ledge" and encountered semi-massive pyrite and chalcopyrite assaying up to 32.48% Cu.

In 1899, the shaft at the <u>Pretty Girl</u> was deepened but the width of mineralization now averaged 2 feet assaying 22.5% Cu, 40 oz. Ag and \$3 Au.

The next important date appears to be 1915 when the <u>Pretty Girl</u> was revisited by the Provincial Mineralogist who reported the tunnel accessible for only 60 feet. The workings were now in poor repair, the shaft full of ice and, the tunnel partially caved in. An assay of shaft dump material assayed 38 oz. Ag and 20.8% Cu.

In the same year, the <u>Delos</u> was also visited by the Provincial Mineralogist and reported similar disrepair and neglect of the workings. A sample taken across 3 feet of mineralized quartz assayed 9.6% Cu, 0.8 oz. Ag and 0.02 oz. Au.

In 1918, the <u>Delos</u> and <u>Trojan</u> properties were reported as very active, including the building of a wagon trail and three cabins. Underground development work was proceeding and at least three carloads of high grade material assaying 15.5% Cu with traces of Ag and Au were shipped. Other shipments were probably undertaken as well during this period.

Following this period, both the <u>Delos</u> and <u>Pretty Girl</u> prospects were apparently abandoned and, with the exception of some minor activity during the late 1920's, both prospects have received little, if any attention.

#### GEOLOGICAL SETTING

#### Regional

The area of interest is underlain by metasedimentary rocks classified as the Windermere System. According to G.S.C. Map 1326A by J. E. Reesor, 1957 the Pretty Girl/Delos area is included wholly within Horsethief Creek Group rocks. These rocks consist of grey, black and green slate and argillite, quartz pebble conglomerate, quartzite, feld-spathic quartzite and grit, red slate and arenaceous slate, minor limestone and low grade metamorphic equivalents.

The Forster Syncline (Figure 2) traverses the property and is observable as a major structural feature to the north of the property. All units have been gently folded. The strike is N 15° W and the dip is vertical to near vertical.

#### Property

Fresh snow had fallen prior to the writer's visit but sufficient outcrop and talus was observed to confirm most major rock types. To the west, finely bedded slates with interbedded gritty units and conglomeratic lenses are prevalent. To the east, a more pelagic environment is dominant and characterized by massive black shales and argillites. Quartz veining and fracture jointing of component units are common features.

#### <u>Mineralization</u>

Considerable effort was made to re-establish the location of the <u>Pretty Girl</u> prospect. The old reports are inconsistent in documenting elevations. Apparently, the main workings are located on a saddle between Law and Bruce Creeks. However, the Pretty Girl reverted Crown Grant is well below the ridge crest. No workings were found or observed.

The <u>Delos</u> prospect is easily identified by the presence of the old cabins along the south side of Bruce Creek and, workings immediately to the north (Figure 3). About 50 metres above the creek a zone of quartz veining and veins appears to have been the focus of the early development activities. The geological environment of quartz veining appears to reflect either structural events or compositional variations as sulphide mineralization was most evident in the general contact area between a gritty slate and dark black marine shale. Mineralization is massive and semi-massive pyrite with chalcopyrite in white quartz gangue.

Several grab samples were collected from surface exposures of mineralization (Appendix 1). In general, the historical description of the Delos prospect is consistent with the writer's observations.

#### MINERAL POTENTIAL AND METALLOGENY

Five samples collected at the <u>Delos</u> prospect were analyzed for Cu, Pb, Zn, Co, Ag, Au (Appendix 1). Only Cu and Ag are significantly enriched and the evidence suggests an "at depth" hydrothermal origin of metals as opposed to remobilized concentrations from metalliferous black shales.

The B.C. Dept. of Mines Mineral Potential Map 82 K (Lardeau sheet) confirms the above observations and classifies the general area as having potential for small, high grade deposits of hydrothermal origin.

#### CONCLUSIONS

Significant concentrations of copper with lesser amounts of silver are present in a system of quartz veins and/or quartz stock "networks" on the <u>Delos</u> prospect. The mineralization is consistent with the known metallogeny of southeastern British Columbia and offers potential for the discovery of either (i) small, high grade deposits of Cu-Ag and/or (ii) a deeply emplaced "porphyry style" Cu deposit or quartz stockwork hosted style Cu deposit.

#### RECOMMENDATIONS

The following program is proposed. Activities have been divided into two phases; Phase II being wholly dependent upon the results of Phase I.

- (1) Reconnaissance geological mapping coupled with prospecting is recommended to re-establish the location of the Pretty Girl prospect and map and explore the favourable area between this occurrence and the Delos prospect. Representative rock samples and mineralized specimens should be collected and geochemically analyzed for Cu and Ag.
- (2) Soil sampling should be carried out along selected topographic contour lines (altimeter control). Lines should be oriented normal to the general contact area between the arenaceous rock and dark marine shale. Sampling intervals should be 25 m for 20 to 30 stations, again concentrating in the area between the Pretty Girl and Delos prospects. Analysis for Cu and Ag only.
- (3) A field camp should be established at the old Delos workings area and the crew supported with helicopter positioning and de-positioning on a daily schedule from Invermere.
- (4) The Phase II proposal is based on standard follow-up and detailed procedures to precede exploratory diamond drilling should encouraging and promising responses warrant and justify such expenditures.

#### SELECTED REFERENCES

- Reesor, J.E., 1957.

  G.S.C. Map 1326A Geology Lardeau (East Half), British Columbia.
- B.C. Report to the Minister of Mines, 1898.

  Pretty Girl Group (p. 1042-43), Delos Group (p.1043-44).
- B.C. Report to the Minister of Mines, 1898.

  Pretty Girl Group (p. 667).
- B.C. Report to the Minister of Mines, 1915.

  Delos (p. K96), Pretty Girl (p. K96-K97).
- B.C. Report to the Minister of Mines, 1918.
  Delos (p. K185).
- B.C. Dept. of Mines and Petroleum Resources.
  Mineral Deposit Land Use Map; 82 K Lardeau.
  Scale 1:250,000.

# APPENDIX 1

ANALYTICAL RESULTS



### **ANALYTICAL REPORT**

Job #81-308

Geostrategic Consultants Ltd.

Date 16 November 1981

Client Project

Page 1 of 1

D.E. #1  D.E. #2  D.E. #3  D.E. #4  D.E. #4  D.E. #5     1.39	Sample No.	Cu %	Pb ppm	Zn ppm	Co ppm	Ag ppm	Au ppb	
D.E. #3  D.E. #4  D.E. #4  D.E. #5  D.E. #5  D.E. #5  D.E. #5  D.E. #5  D.E. #6  D.E. #6  D.E. #7  D.E. #8  D.E	D.E. #1	9.10	15	56	1	6.2	18	
D.E. #4  D.E. #5  D.E. #5  D.E. #5  D.E. #5  D.E. #5  D.E. #6  D.E. #6  D.E. #6  D.E. #7  D.E. #7  D.E. #7  D.E. #8  Location of Samples  Mineralized grab samples collected from old mine workings on the Delos claim.  Exact location uncertain owing to insufficient knowledge of old post positions.  Analytical Method  Samples were crushed to -200 mesh, metals taken up in a hot perchloric nitric leach and determined by atomic	D.E. #2	1.05	2	16	1	.7	<b>≺</b> 2	
Location of Samples  Location of Samples  Mineralized grab samples collected from old mine workings on the Delos claim. Exact location uncertain owing to insufficient knowledge of old post positions.  Analytical Method  Samples were crushed to -200 mesh, metals taken up in a hot perchloric nitric leach and determined by atomic	D.E. #3	1.39	2	28	3	1.9	6	
Location of Samples  Mineralized grab samples collected from old mine workings on the Delos claim. Exact location uncertain owing to insufficient knowledge of old post positions.  Analytical Method  Samples were crushed to -200 mesh, metals taken up in a hot perchloric nitric leach and determined by atomic	D.E. #4	.57	5	10	2	.7	2	
Mineralized grab samples collected from old mine workings on the Delos claim.  Exact location uncertain owing to insufficient knowledge of old post positions.  Analytical Method  Samples were crushed to -200 mesh, metals taken up in a hot perchloric nitric leach and determined by atomic	D.E. #5	9.00	2	1090	1	52.6	6	
Samples were crushed to -200 mesh, metals taken up in a hot perchloric nitric leach and determined by atomic								
metals taken up in a hot perchloric nitric leach and determined by atomic		old Exac insu	mine et lo uffic	workin cation ient kn	gs on uncer	the De	elos claim ving to	
		old Exac inst posi	mine et lo uffic ition	workin cation ient kn s.	gs on uncer owled	the De	elos claim ving to	

# ESTIMATED COST

## Phase I

Helicopter support		\$2,500.00
Surface Transportation		1,000.00
Camp Maintenance		1,500.00
Geological mapping/prospecting	3	3,500.00
Geochemical sampling		3,500.00
Assays/geochemical analyses		3,250.00
Field Support (travel, communications, from maps, sundries, etc.)	eight,	2,000.00
Report		2,000.00
	Subtotal	19,250.00
	Contingency 10%	1,925.00
	TOTAL	21,175.00
<u>Phase II</u>		
Helicopter support		\$5,000.00
Surface Transportation		2,000.00
Camp Maintenance		3,000.00
Gridding, topo control survey		12,000.00
Geophysical Surveys, Vertical	Loop EM,	
and Magnetometer		16,000.00
Diamond drilling, 600 m @ \$12	0 / m	72,000.00
Supervision		3,500.00
Assays		700.00
Field Support (as above)		2,000.00
Report		4,000.00
	Subtotal	120,200.00
	Contingency 10%	12,020.00
	TOTAL	132,220.00

## LIFMIZED COST STATEMENT

Geological Assessment Report by David S. Evans includes transportation from Calgary to Fairmont and return, field work, writing of report, assay costs	\$1,317.85
Two (2) geological assistants for one day, October 8, 1981, @ \$200./day and travel to and from Fairmont @ \$100./day, ea	400.00
Vehicle rental, 2 days, October 7, 8, 1981, ল \$50./day	100.00
Gasoline, Nelson to Fairmont and return	88.29
Helicopter charter, October 8, Fairmont to Delos claim and return	466.36
Accommodatations	42.40
Meals	60.00
TOTAL	\$2,674.90

#### CERTIFICATE

I, David S. Evans, currently residing at 5232 Viceroy Drive N.W., Calgary, Alberta T3A OV7, hereby certify that:

- 1. I am a mining exploration geologist and have practised my profession since 1966.
- 2. I am a graduate of the University of British Columbia with a B.Sc. (1966) in chemistry and geology, and a graduate of the Royal School of Mines, University of London, U.K. with a Ph.D. (1971) in applied geochemistry.
- 3. I am a registered Professional Geologist with the Association of Professional Engineers, Geologists and Geophysicists of Alberta, and a Fellow of the Geological Society of Canada.
- 4. I visited the Pretty Girl/Delos prospect on October 8, 1981.
- 5. I, or Geostrategic Consultants Ltd., have not received, directly or indirectly, nor do I expect to receive any interest, direct or indirect, in the property of Pearson, Gallagher Ltd. nor do I beneficially own, directly or indirectly, any securities of Pearson, Gallagher Ltd.
- 6. I permit and allow this report to be used, partially or wholly, in the preparation of a prospectus or, for other qualifying purposes as required by securities regulations.

now 30, 1981

David S.

/Geol

Date