

PROSPECTUS  
Received Jan 9, 1987

~~XXXXXX~~

~~XXXXXXXXXX~~

062221

REPORT  
ON THE  
PIGLET 1 - 32 QUARTZ CLAIMS

FOR

SILVERQUEST RESOURCES LTD.

WATSON LAKE MINING DIVISION

YUKON TERRITORY

BY

J.P. FRANZEN, P.ENG.

North Vancouver, B.C.

February 28, 1986

~~XXXXXXXXXX~~

**TABLE OF CONTENTS**

155500

	<b>Page</b>
Summary	1
Introduction	2
Location and Access	2
Mineral Property	4
Physical Features	4
Property History	7
Regional Geology and Mineralization	8
Property Geology and Mineralization	9
Property Geochemistry	12
Conclusions and Recommendations	14
Cost Estimate	16
References	17
Certificate	18

**FIGURES**

Figure 1	-	Location Map	3
Figure 2	-	Quartz Claim Map	5
Figure 3	-	Topographic Map	6
Figure 4	-	Property Geology Map	10
Figure 5	-	Property Geological Cross Section	11
Figure 6	-	Property Geochemical Map	13

## **SUMMARY**

Silverquest Resources Ltd. is negotiating an option agreement on the PIGLET gold property, near Watson Lake, Yukon Territory. Access to the property is by float plane or helicopter. The PIGLET property consists of 32 quartz claims and is centered on an overburden-covered, faulted and silicified zone some two km long and one-half km wide. Soils overlying the zone are strongly anomalous in gold and arsenic.

A two stage exploration program is recommended to assess the gold potential of the PIGLET property. Stage 1, at an estimated cost of \$125,000, would consist of geological, geochemical and geophysical surveys. Contingent on encouraging results from the first stage, Stage 2 would include a diamond drilling program at an estimated cost of \$444,000.

## **INTRODUCTION**

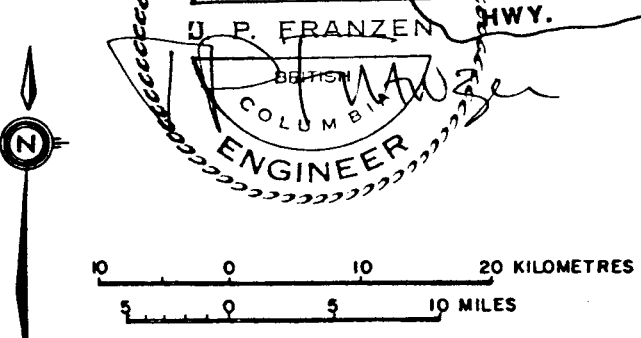
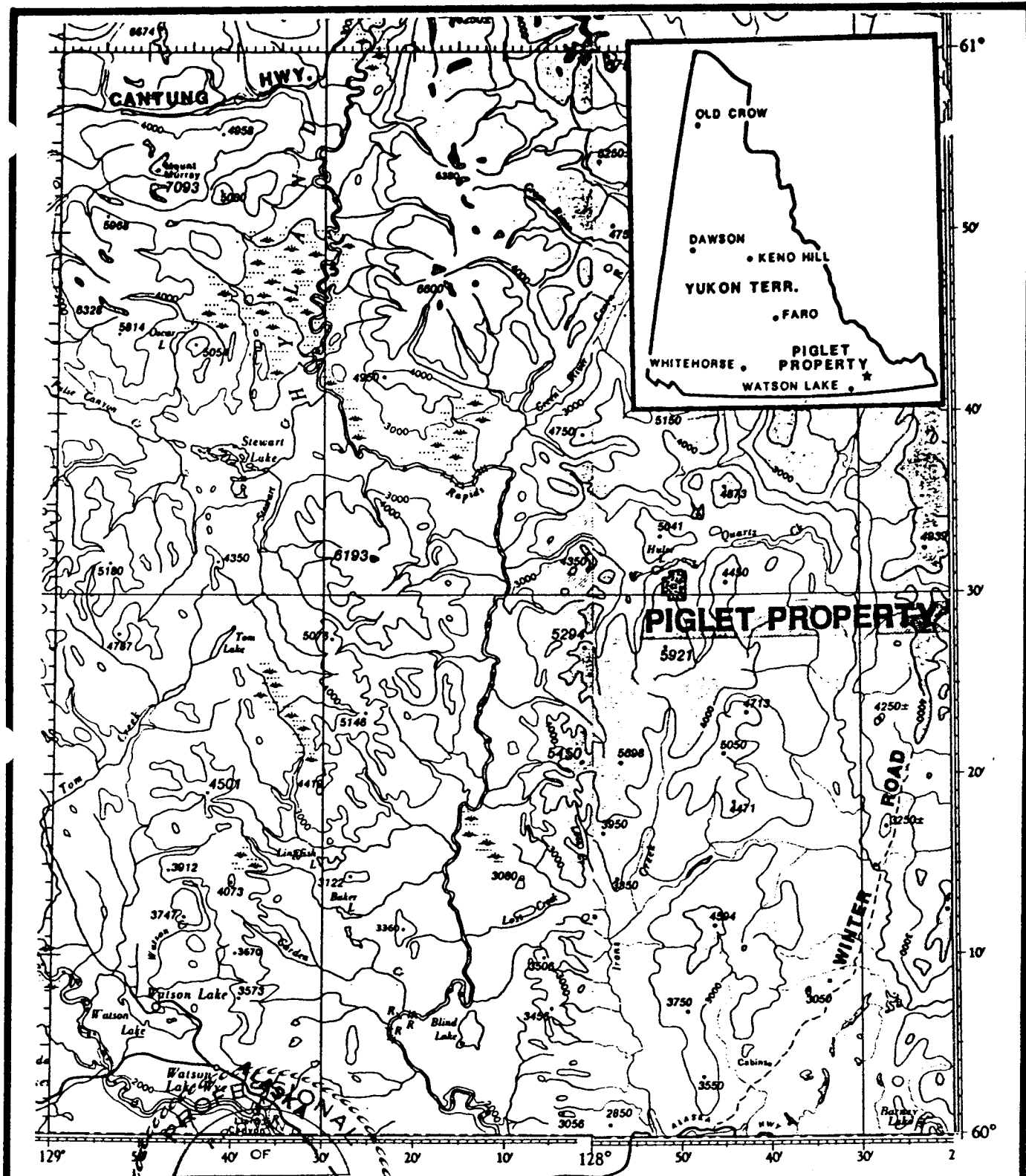
Silverquest Resources Ltd. is negotiating an option agreement on the PIGLET gold property, Watson Lake Mining Division, Yukon Territory. The 32 quartz claim property is centered on a faulted and silicified zone some two km long and one-half km wide. Bedrock exposure is poor. Soils overlying the zone are strongly anomalous in gold and arsenic.

Silverquest Resources Ltd. retained the writer to assess the results of earlier reconnaissance work on the subject property and to recommend a follow-up exploration program. The writer has had considerable precious metals exploration, development and production experience in Yukon Territory; data were reviewed from this perspective. At the time of writing, Environment Canada reported one metre of snow cover on the property. Accordingly, a site visit was not undertaken. This report is based on published reports and maps and data provided by Archer, Cathro & Associates (1981) Limited.

## **LOCATION AND ACCESS**

The PIGLET property is 70 km northeast of Watson Lake, Yukon Territory (Figure 1). The claims are centered at latitude 60°31' north and longitude 127°50' west. Watson Lake is the local population centre and provides all goods and services required for mineral exploration work.

Access to the property is by helicopter or float plane from Watson Lake. A winter road ends 30 km southeast of the property (Figure 1).



**SILVERQUEST RESOURCES LTD.**

**PIGLET PROPERTY**  
WATSON LAKE M.D., YUKON TERR.

**LOCATION MAP**

FEBRUARY 1986 NTS:95-D-12  
BY: J.P. FRANZEN P.Eng./r.w.r. FIGURE: 1

## MINERAL PROPERTY

The PIGLET property is in the Watson Lake Mining District, Yukon Territory. The property consists of 32 contiguous quartz claims covering approximately 408 hectares (Figure 2). These claims are believed to have been properly located according to The Act Respecting Quartz Mining in Yukon Territory.

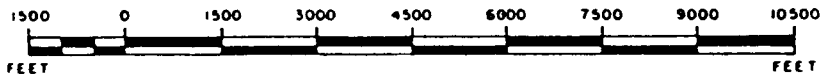
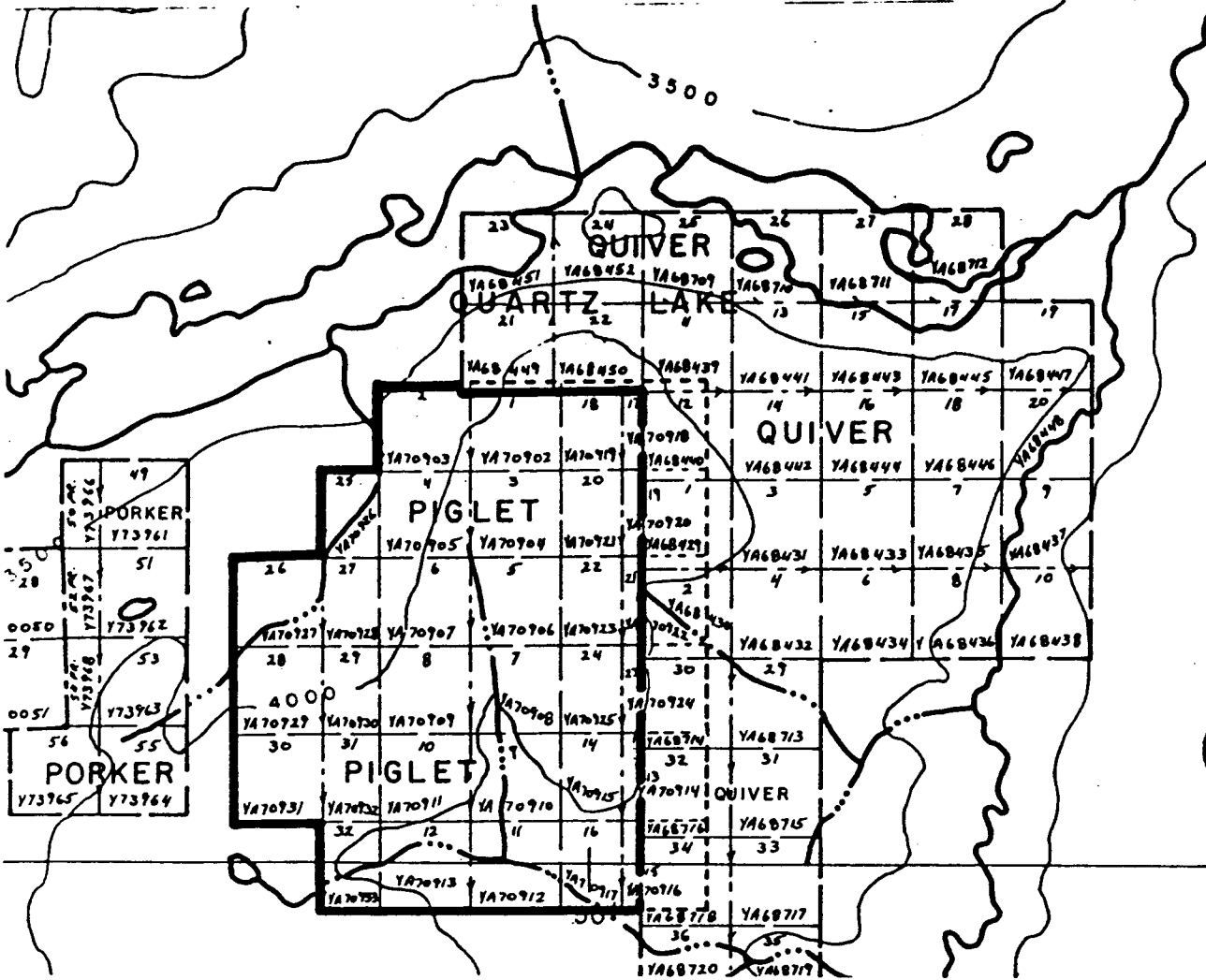
Details of claims, as supplied by the Mining Recorder - Watson Lake Mining District, follow:

<u>Claim Name</u>	<u>Grant Number</u>	<u>Recorded Owner</u>	<u>Expiry Date</u>
PIGLET 1-32	YA70902- YA70933	Archer, Cathro & Associates (1981) Limited	12 March, 1989

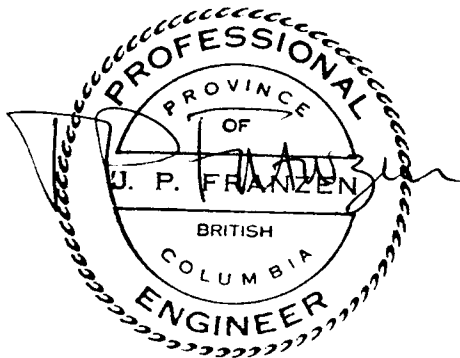
## PHYSICAL FEATURES

The subject property straddles a moderately rugged, northeast trending ridge south of Hulse and Roy Lakes (Figure 3). Property elevations range from 920 m at lake level, to 1,320 m on the ridge top. A glaciofluvial terrace rims the northwestern corner of the property at elevation 1,070 m (Figure 3. - 3500 feet). This terrace is part of a much larger glacial deposit that rims the adjoining lakes and valleys at a similar elevation.

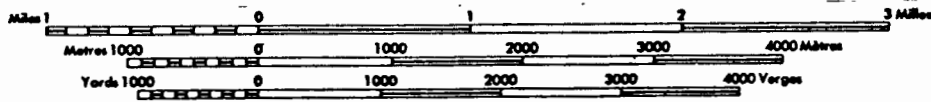
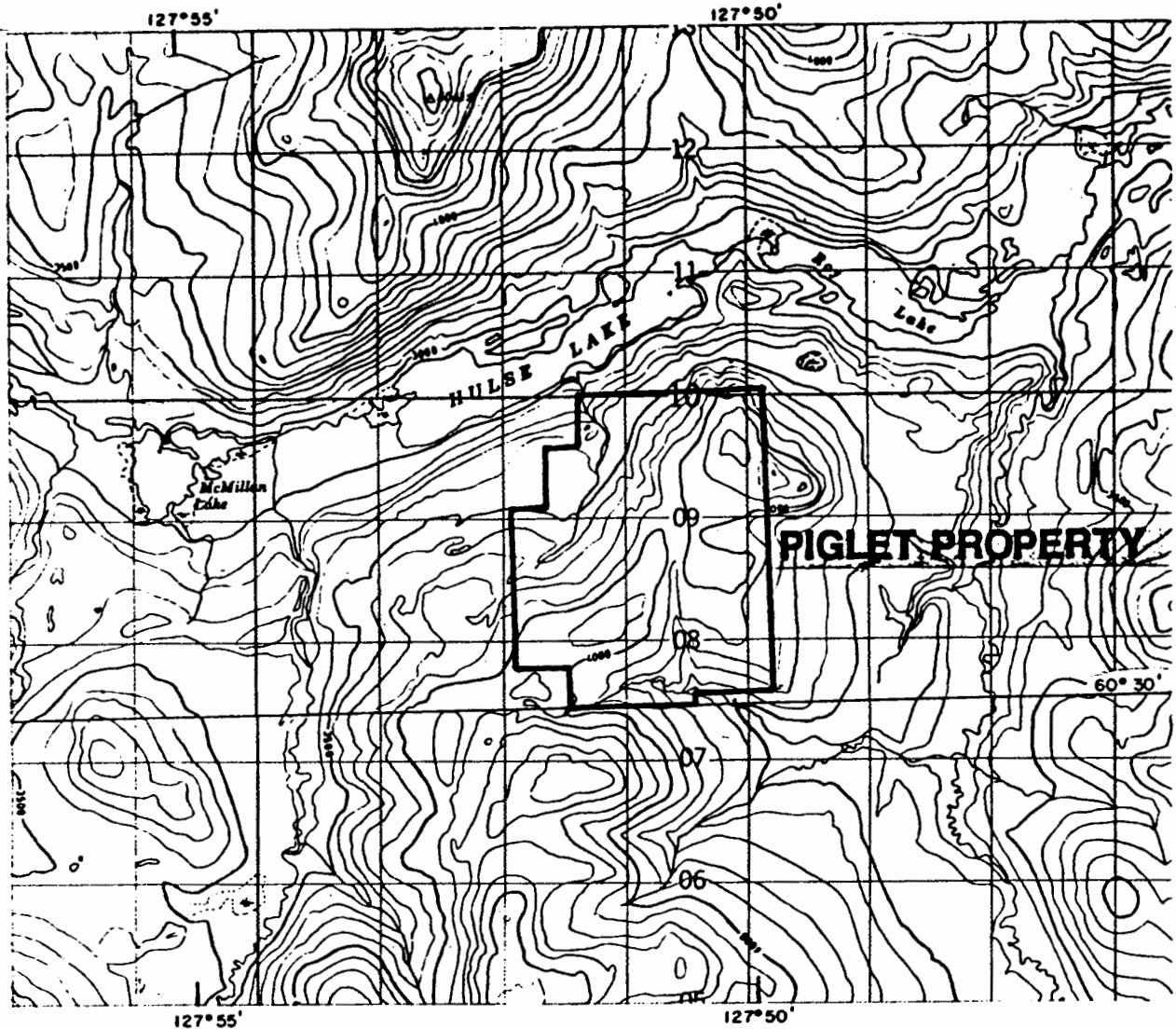
The property is characterized by heavy forest cover. Work to date, albeit of a reconnaissance nature, suggests less than five percent bedrock exposure. Orientation soil geochemical surveys, that is soil samples taken in the vicinity of known bedrock mineralization, returned highly anomalous values. These results demonstrate that soils on the property are sufficiently mature to reflect bedrock mineralization, when present. The depth of soil and overburden cover is not known.



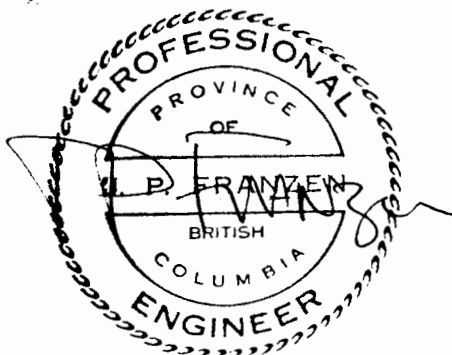
ISSUED UNDER THE AUTHORITY OF THE MINISTER  
OF  
INDIAN AFFAIRS AND NORTHERN DEVELOPMENT



<b>SILVERQUEST RESOURCES LTD.</b>
<b>PIGLET PROPERTY</b> WATSON LAKE M.D., YUKON TERR.
<b>QUARTZ CLAIM MAP</b>
FEBRUARY 1986      NTS:95-D-12 BY: J.P. FRANZEN P.Eng./r.w.r.      FIGURE: 2



NOTE: CONTOUR INTERVAL = 100 FEET



**SILVERQUEST RESOURCES LTD.**

**PIGLET PROPERTY**

**WATSON LAKE M.D., YUKON TERR.**

**TOPOGRAPHIC MAP**

**FEBRUARY 1986**

**NTS:95-D-12**

**BY: J.P. FRANZEN P.Eng./r.w.r.**

**FIGURE: 3**



## PROPERTY HISTORY

The Hulse Lake area has seen more or less continuous exploration activity since the early 1950's. Early work focused on the plus one million tonnes McMillan zinc-lead-silver sulphide deposit. Later work continued on the McMillan deposit and mineral occurrences on adjoining claim blocks. The PIGLET property is four km east of the McMillan deposit.

Work programs on and in the immediate vicinity of the PIGLET property are summarized below:

- 1954            Staked as the SN claims by Liard River Mining Company Ltd. Work program: geological mapping, hand trenching, soil sampling, EM surveys.
  
- 1973            Staked as the PORKER claims by Hyland Joint Venture. Work program: detailed geological mapping, prospecting, grid soil sampling, gravity surveys (Archer, 1973; Cathro, 1973).
  
- 1975            Hyland Joint Venture work program: gravity surveys and four diamond drill holes totalling 303 m. The drill holes were collared 600 m off the northeast corner of the PIGLET claims (Cathro, 1975). Cost of 1973-1975 programs = \$300,000.
  
- 1981-1982        Kidd Creek Mines Ltd. staked the CUZ and QUIVER claims. These claims bordered the PORKER property on three sides. Work program: geological and geochemical surveys.
  
- 1984            Staked as the PIGLET claims by Archer, Cathro & Associates (1981) Limited.

1984 Archer, Cathro & Associates (1981) Limited work program: prospecting, geological mapping, soil geochemical surveys (Carne, 1985). Cost of 1984 program = \$25,000.

## REGIONAL GEOLOGY AND MINERALIZATION

As noted in a previous section, bedrock exposure in the Hulse Lake area is poor. As a result, the area has received only minimal attention from the Geological Survey of Canada (Gabrielse and Blusson, 1968). Carne (1985) reports that the area is underlain by interbedded phyllite, grit, quartz-feldspar pebble conglomerate and minor limestone of the Hadrynian "Grit Unit" and Lower Cambrian "Phyllite Unit". The structural geology is poorly understood because of poor outcrop and the lack of marker horizons. The stratigraphy has been intruded and domed by a number of aligned mid-Cretaceous to Tertiary granitic bodies. Just northeast of Hulse Lake, rocks are thermally metamorphosed, presumably above an unroofed granitic body. Elsewhere the metamorphic grade is low.

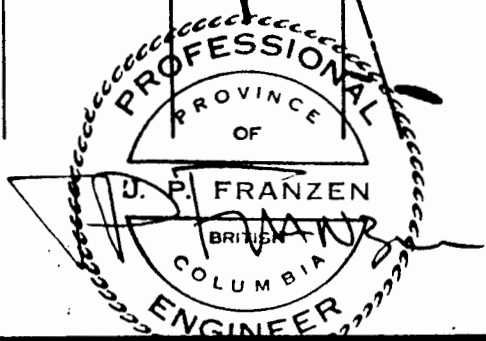
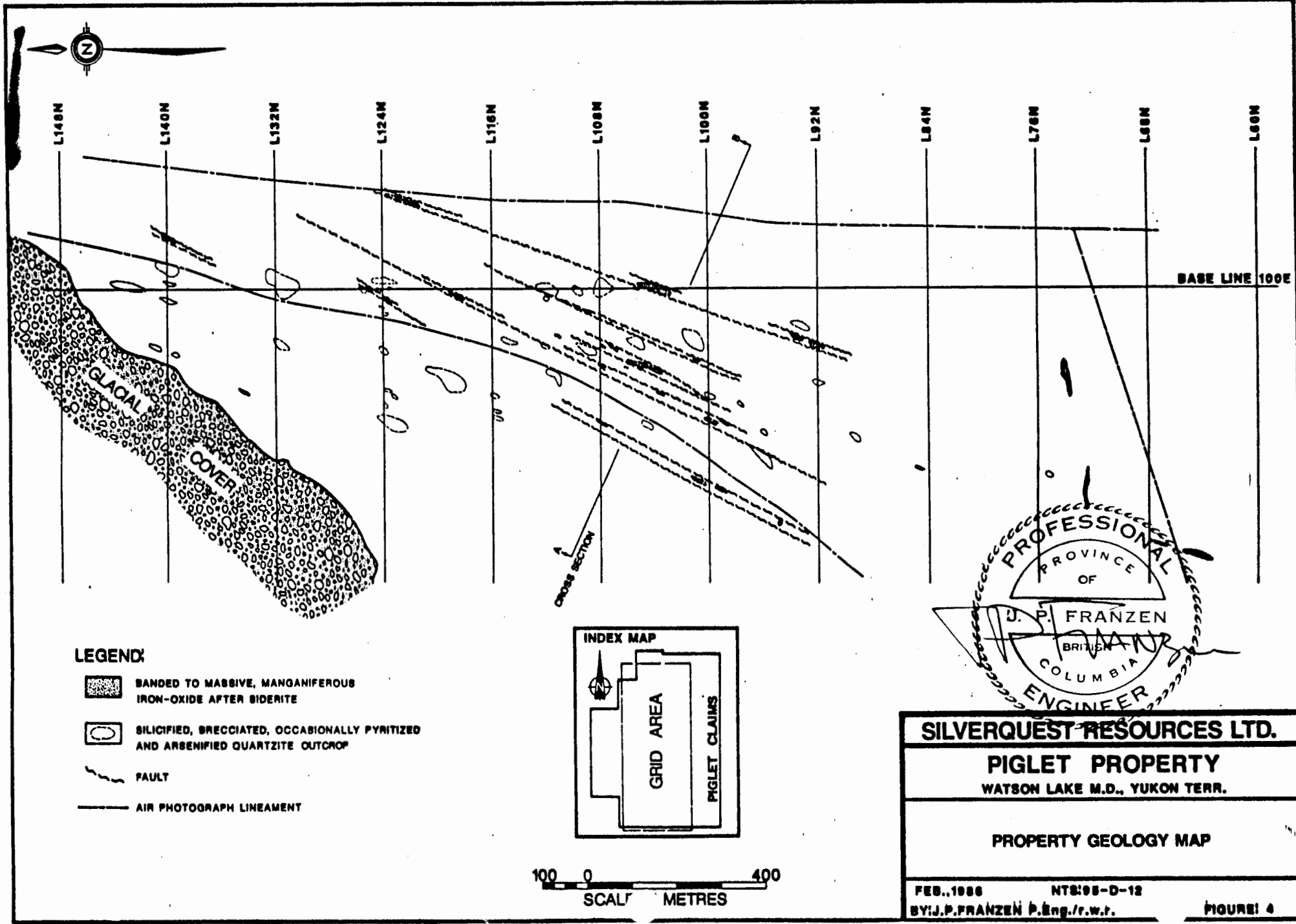
The McMillan deposit is 4 km west of the PIGLET property. Vaillancourt (1982) reports drill indicated reserves totalling 1.5 million tonnes grading 6.6% Zn, 5.5% Pb and 102 g/t Ag. The massive sulphide mineralization is hosted by Hadrynian to Cambrian sedimentary rocks. Mineralization is both stratiform and discordant. Siderite is a common gangue mineral. Arsenopyrite mineralization forms an irregular halo around the deposit. Most recent data support a hydrothermal replacement origin for the deposit.

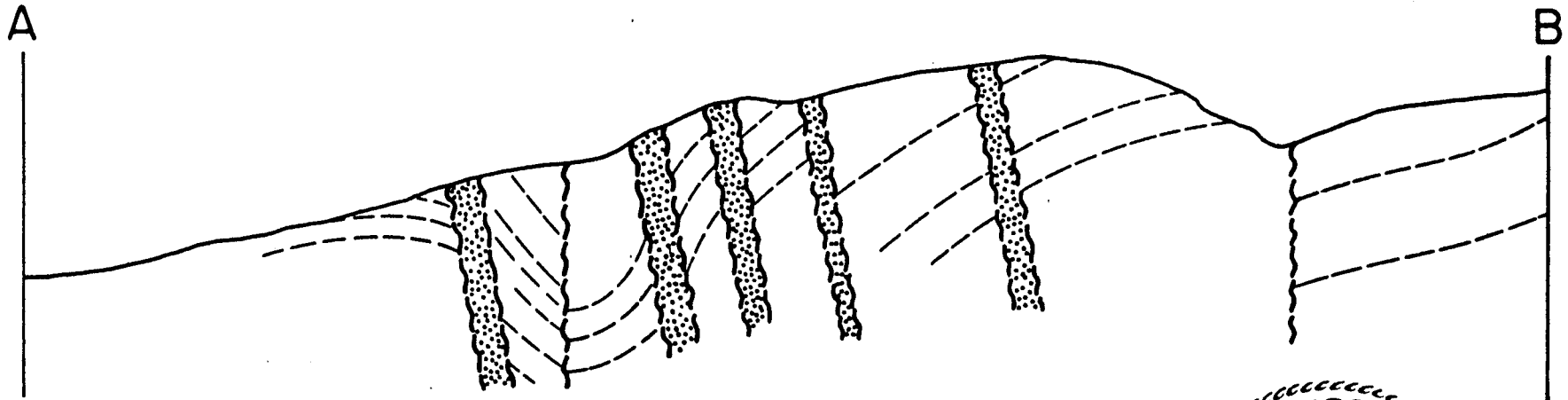
## PROPERTY GEOLOGY AND MINERALIZATION

Geology of the PIGLET property is shown on Figure 4. This information was compiled by Carne (1985) and is based upon the results of reconnaissance exploration programs described earlier in this report.

The PIGLET claims cover a series of north, east and northeast trending air photograph lineaments. Work programs have focused on the lineaments area; Carne (1985) reports the following geological observations:

1. The lineaments are marked on the ground by a number of steep-walled, linear topographic depressions. The northerly-trending depressions are more or less continuous for 1.5 km along-strike. The depression or lineament zone is 500 m wide.
2. Bodies of massive to banded siderite and manganiferous iron-oxide, after siderite, occur in and adjacent to the lineaments. These lenses are up to 60 m long and 15 m wide and are elongate parallel to the lineaments. The siderite is often pyritic with variable amounts of arsenopyrite. Gold values for six siderite samples range from 21 to 182 ppb.
4. Quartzitic wallrocks display irregular areas of silica alteration. The degree of alteration ranges from weak silicification to complete replacement by chalcedony. The latter is often accompanied by finely disseminated arsenopyrite. Quartz flooding, gold and arsenopyrite values show a positive correlation. Nine strongly silicified samples returned gold values between 80 ppb and 18,300 ppb. These silica altered rocks form local, positive bedrock features; interlayered rocks (phyllites and carbonaceous limestone) tend to weather recessively resulting in poor bedrock exposure.





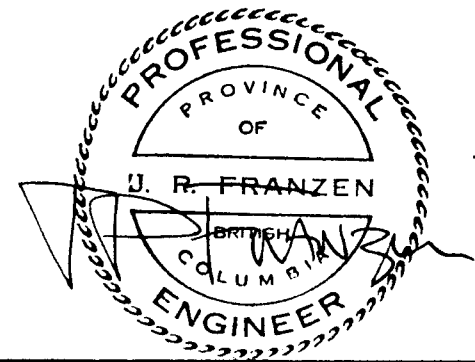
**LEGEND:**



**BANDED TO MASSIVE, MANGANIFEROUS  
IRON-OXIDE AFTER SIDERITE**



**FAULT**



**SILVERQUEST RESOURCES LTD.**

**PIGLET PROPERTY**  
WATSON LAKE M.D., YUKON TERR.

**PROPERTY GEOLOGICAL  
CROSS SECTION**

FEB., 1986 NTS:96-D-12  
BY: J.P. FRANZEN P. Eng. P. w. r. FIGURE 5

The above geological data are consistent with the vertical cross-section shown in Figure 5 (Carne, 1985). Lineaments are the surface expression of large, high-angle faults. Early, northeast-trending faults appear to be truncated by later north and east-trending faults (Figure 4). Hydrothermal fluids have moved through these structures. Siderite-pyrite-arsenopyrite mineralization has been localized in and along the fault zones; silica and strongly anomalous levels of arsenic and gold have been introduced into the adjacent country rock. The presence of chalcedony suggests that the present surface may have cut the hydrothermal system at a relatively high level.

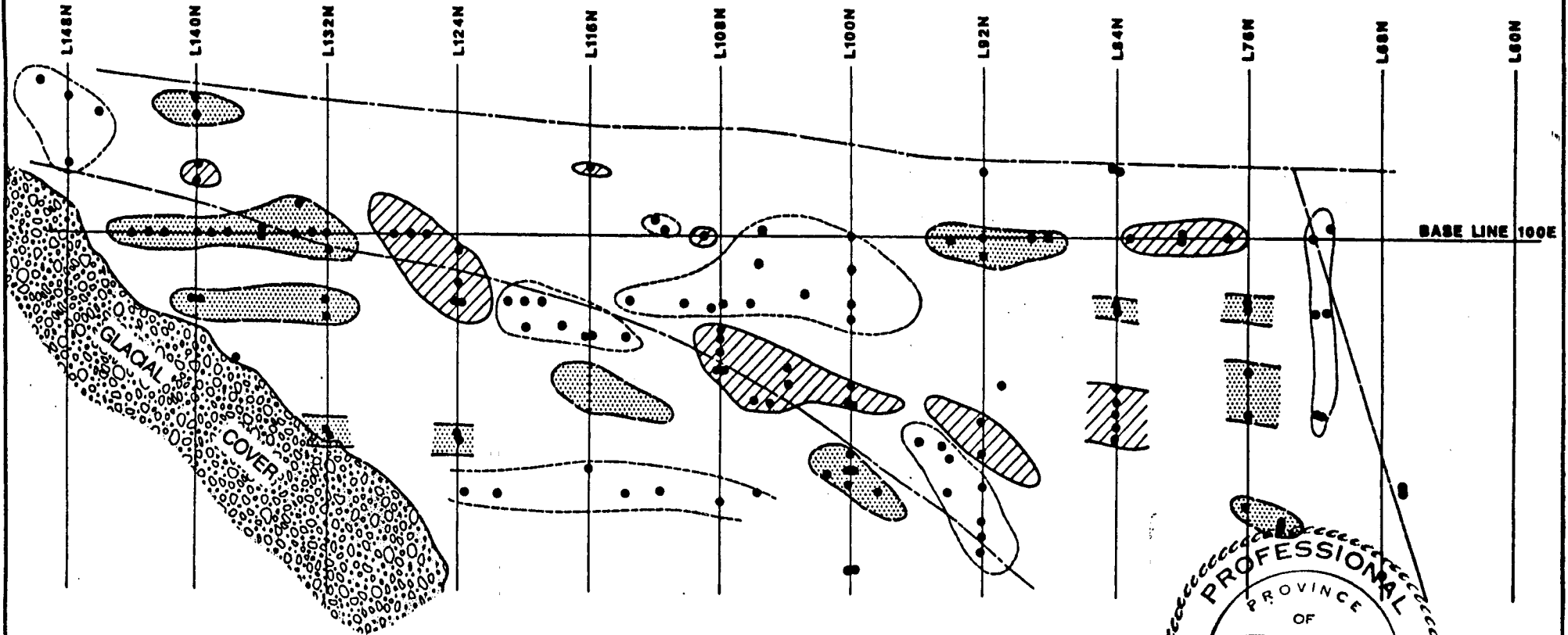
In a very general way, known metal and mineral zonation in the Hulse Lake area is similar to that seen in the Ketz River district, 250 km northwest of the PIGLET property. At Ketz River, gold mineralization is centered on a thermal dome. This mineralization is flanked by barren, massive siderite lenses (compare with PIGLET). Silver-lead-zinc-siderite mineralization (compare with McMillan) is peripheral to the siderite lenses. Drill indicated reserves at the Ketz prospect total 860,000 tonnes at an average grade of 12.2 g/t Au.






#### PROPERTY GEOCHEMISTRY

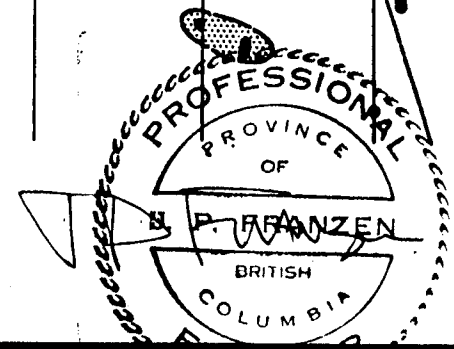
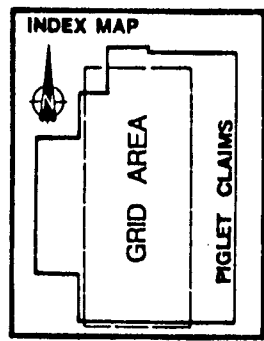
Several reconnaissance soil sampling programs have been completed in the lineament area (Carne, 1985). For the most part, soil grid line spacing is 245 m; however, a significant number of fill-in samples have been collected in key areas. Samples analyzed for arsenic are on 60 m and 120 m centres; samples analyzed for gold are on 30 m centres. Intermediate samples, on 15 m centres, were collected but not analyzed. The writer reviewed approximately 200 arsenic and 300 gold in soils determinations. Results of this review are summarized below and in Figure 6.

#### PIGLET SOIL GEOCHEMISTRY

<u>Element</u>	<u>Background</u>		<u>Strongly Anomalous</u>	<u>Number of Strongly Anomalous Samples</u>
Gold	10	ppb	50	59
Arsenic	50	ppm	200	78



- SOIL ANOMALIES**
-  DOMINANTLY GOLD ANOMALY >60 P.P.B.
  -  DOMINANTLY ARSENIC ANOMALY >200 P.P.M.
  -  ARSENIC & GOLD ANOMALY
  -  STRONGLY ANOMALOUS SOIL SAMPLE SITE
  -  AIR PHOTOGRAPH LINEAMENT



<b>SILVERQUEST RESOURCES LTD.</b>	
<b>PIGLET PROPERTY</b> WATSON LAKE M.D., YUKON TERR.	
<b>PROPERTY GEOCHEMICAL MAP</b>	
FEB., 1986	NTS:96-D-12
BY: J.P. FRANZEN P.Eng./r.w.r.	
FIGURE: 6	

Sixty-eight percent of the samples that were anomalous in gold, and that were analyzed for arsenic, returned anomalous arsenic values. Thirty-six percent of the samples that were anomalous in arsenic, and that were analyzed for gold, returned anomalous gold values.

There are insufficient data to contour the soil values. As a result, the writer grouped the strongly anomalous values into a number of gold; arsenic; and gold-arsenic anomalies. In spite of the reconnaissance-type line spacing the anomalies show strong continuity (Figure 6). The anomalous zone is 2,000 m long and 500 m wide. The eastern and southern limits of the anomalous zone are bordered by lineaments. Glacial cover delimits the anomaly to the north and west. The general anomaly pattern is one of a north-northeast-trending gold and gold-arsenic axis that is flanked by arsenic. The area of anomalous soils is coincident with the large lineament zone. Bedrock sources for most of the anomalies have not been identified.

#### CONCLUSIONS AND RECOMMENDATIONS

Reconnaissance exploration programs on the 408 hectare PIGLET property have demonstrated that:

1. Bedrock exposure is poor.
2. A number of steep-walled linear topographic depressions are present. These are considered to be the surface expression of high-angle faults.
3. The lineaments contain elongate zones of siderite-pyrite-arsenopyrite mineralization.
4. Quartzitic lineament wallrocks display large irregular areas of silicification. Elevated levels of arsenic and gold are associated with the silicified zones.
5. Reconnaissance soil samples contain strongly anomalous values of gold and arsenic over an area 2,000 m long and 500 m wide.



6. The area of strongly anomalous soils is coincident with the lineament zone.
7. Bedrock sources for most of the soil anomalies have not been identified.

Geological features on the PIGLET property indicate that the prospect has significant potential for both fault and sediment-hosted gold mineralization. Accordingly, the writer recommends a two-stage program to test the potential of the PIGLET property. The first stage would include grid preparation, soil geochemistry, VLF-EM-RESISTIVITY surveys, geological mapping and hand trenching. The existing grid should be filled-in with cross lines on 80 m centres. These lines should be extended to areas of interest, east and west of the established baseline. The grid lines need not be cut; compass, slope-corrected chain and flagging surveys would be adequate. Soil samples should be collected on 30 m centres. This could be tightened up to 15 m centres to provide better definition in highly anomalous areas. Intermediate samples, collected but not analyzed in 1984, could assist with anomaly definition. The samples should be analyzed for gold and arsenic. Several geochemical orientation surveys should be undertaken near known bedrock mineralization and within the anomalous zones. In addition to gold and arsenic, the orientation samples should be analyzed for antimony, mercury, silver, lead, zinc, copper, barium and thalium. These data could indicate the level at which the present surface has cut the hydrothermal system. A VLF-EM-RESISTIVITY survey is warranted. This quick and cost-effective survey could trace fault structures through overburden-covered areas; identify areas of intense silicification (high resistivity); and target carbonaceous or graphitic zones and horizons in the stratigraphy. These three factors (faults, silica flooding and carbon) are commonly key ore controls in structurally-controlled gold deposits. The VLF-EM-RESISTIVITY survey would allow geochemical anomalies to be prioritized for hand trenching work.

Contingent on positive results, Stage 2 should include additional trenching and a diamond drill program to properly assess the zones of interest identified by Stage 1 work.

**COST ESTIMATE**

**Stage 1 (Engineer and Four Assistants - 45 field days)**

GRID LAYOUT - 30 km	
Labour cost	\$ 8,000
SOIL GEOCHEMISTRY - 2000 samples	
Labour cost	8,000
Analytical cost	25,000
VLF-EM SURVEY	
Labour cost	4,000
Equipment cost	1,000
VLF-RESISTIVITY SURVEY	
Labour cost	8,000
Equipment cost	1,000
ENGINEER	
Field labour cost	20,000
Report labour cost	5,000
HAND TRENCHING	
Labour cost	8,000
Explosives	2,000
CAMP SUPPORT	
225 man days	7,000
EQUIPMENT	
Field supplies	4,000
TRANSPORTATION	5,000
REPORT SUPPORT	3,000
<u>CONTINGENCIES AT 15%</u>	<u>16,000</u>
<b>Stage 1 Total</b>	<b>\$ 125,000</b>

**Stage 2 (Contingent on results of Stage 1)**

DIAMOND DRILLING	
1500 metres	\$ 369,000
<u>SUPERVISION, SUPPORT, TRENCHING,</u>	
<u>TRANSPORTATION, CAMP, REPORT, ETC.</u>	<u>75,000</u>
<b>Stage 2 Total</b>	<b>\$ 444,000</b>
<b>GRAND TOTAL STAGES 1 AND 2</b>	<b>\$ 569,000</b>

## REFERENCES

- Archer, A.R. (1973) Report on the PORKER 1-54 Claims for Hyland Joint Venture. Unpublished private report, 16 pp.
- Carne, R.C. (1985) Geochemical and Geological Report on the PIGLET 1-32 Claims. Unpublished private report, 15 pp.
- Cathro, R.J. (1973) Final Report Hyland Joint Venture. Unpublished private report, 48 pp.
- Cathro, R.J. (1975) Diamond Drilling, Gravity and Geochemical Surveys on PORKER 63-68 Claims. Unpublished private report, 8 pp.
- Gabrielse, H. and Blusson, S.L. (1968) Geology of Coal River Map-Area, Yukon Territory and District of Mackenzie. Geol. Surv. Can. Paper 68-38, 22 pp.
- Vaillancourt, P.G. 1982) Geology and Genesis of Pyrite-Sphalerite-Galena Concentrations in Proterozoic Quartzite at Quartz Lake, Yukon Territory. Unpublished M.Sc. Thesis, University of Western Ontario, 178 pp.

**CERTIFICATE**

I, Jeffrey Paul Franzen, P.Eng., of 4990 Cedarcrest Avenue, North Vancouver, B.C. do hereby certify that:

1. I am a Consulting Mining Geologist registered with the Association of Professional Engineers of British Columbia since 1982.
2. I am a graduate of the University of British Columbia with B.Sc. (1972) and Carleton University with M.Sc. (1974).
3. I have practiced my profession continuously since 1974. In Yukon: as Mine Geologist, Research Geologist and Chief Geologist, United Keno Hill Mines Ltd., and Exploration Geologist, Cyprus Anvil Mining Corp. In British Columbia: Regional Geologist - Western Canada, Billiton Canada Ltd.
4. This report is based upon research of published reports and maps and data supplied by Archer, Cathro & Associates (1981) Limited. Inclement weather conditions prevented the writer from visiting the subject property.
5. I have no interest, direct or indirect, in the PIGLET property or Silverquest Resources Ltd.
6. Permission is hereby granted to Silverquest Resources Ltd. to use this report in support of any Prospectus, Statement of Material Facts or Filing Statement to be submitted to the Superintendent of Brokers and the Vancouver Stock Exchange.

North Vancouver, B.C.  
February 28, 1986

