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REPORT

ON THE

ETZEL MINERAL PROPERTY

FOR

PEARL RESOURCES LTD.

WHITEHORSE MINING DISTRICT

YUKON TERRITORY

BY

J.P. FRANZEN, P.ENG.

North Vancouver, B.C.

April 20, 1986

115103

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SUMMARY

The ETZEL property is in the Mount Nansen District, Yukon Territory and is held under option agreement by Pearl Resources Ltd. Reconnaissance surveys on the 56 claim property returned anomalous base and precious metals values at a number of sites. The property is centered on a major porphyry system. Porphyritic rocks elsewhere in the district contain significant precious metals mineralization.

A two stage work program is recommended to assess the potential of the ETZEL property. Stage 1, at an estimated cost of \$50,000, would consist of grid layout and geochemical and geophysical surveys. Contingent upon encouraging results from the first stage, Stage 2 would include a bulldozer trenching and diamond drilling program at an estimated cost of \$200,000.

INTRODUCTION

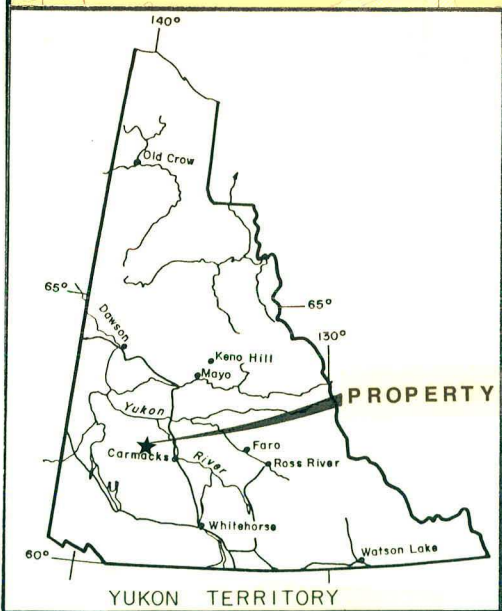
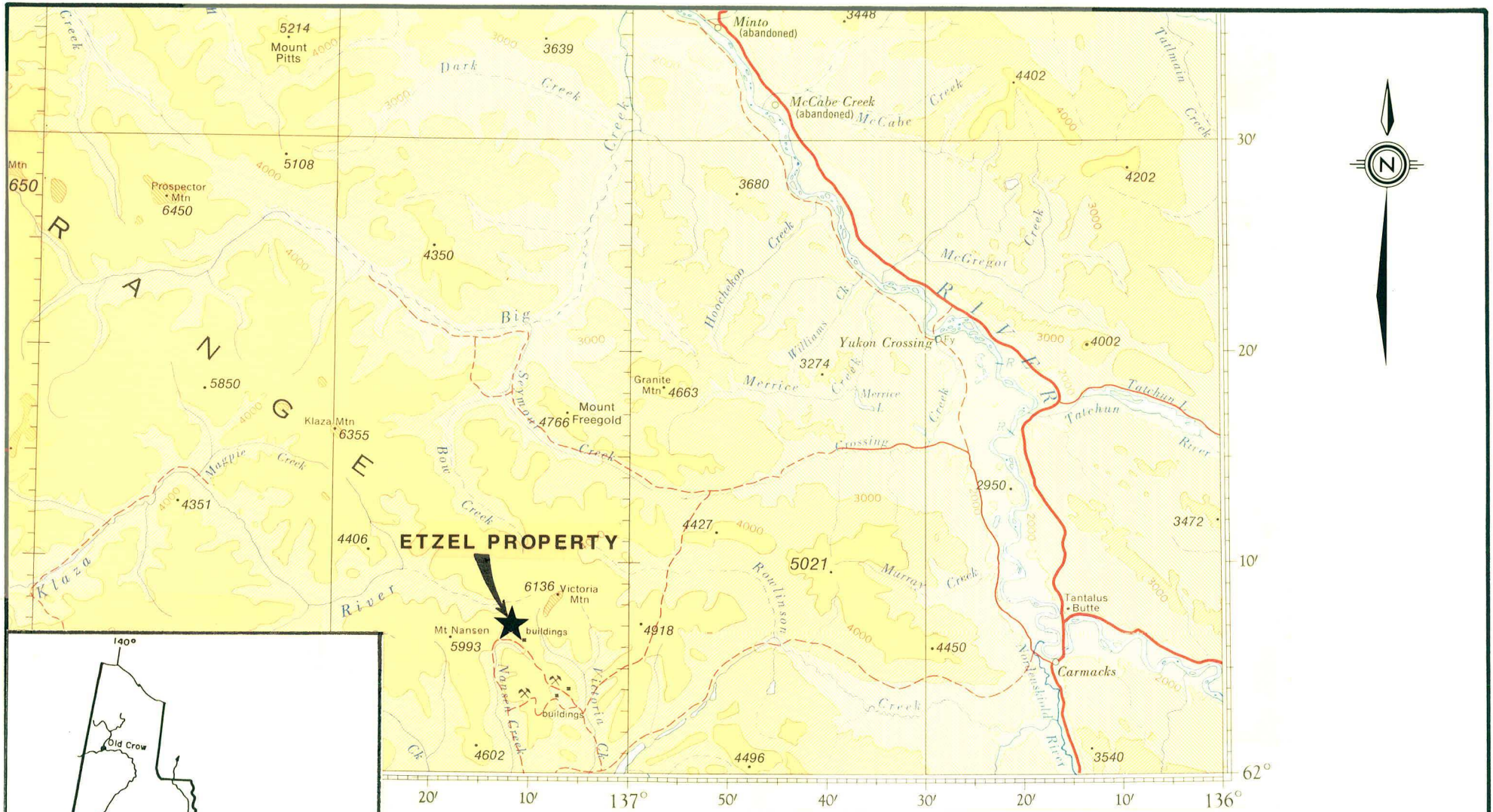
Pearl Resources Ltd. holds under option agreement the ETZEL property near Mt. Nansen, Yukon Territory. Reconnaissance exploration surveys on the 56 claim property returned anomalous precious and base metals values in stream sediment and quartz float samples. Bedrock exposure is poor. The property is centered on a major copper-molybdenum porphyry system; significant gold-silver quartz veins are nearby.

The ETZEL property is in the Dawson Range Gold Belt. Twenty-eight significant mineral occurrences are known within the belt. All of these occurrences are associated with porphyry systems. Recent exploration work on a number of the occurrences has demonstrated that precious metals mineralization is amenable to low-cost, open pit - heap leach mining methods.

Pearl Resources Ltd. retained the writer to assess the results of earlier work on the subject property and to recommend a work program to test the potential of the property. This report is based on published and private reports and maps provided by Pearl Resources Ltd. and Archer, Cathro & Associates (1981) Limited. These data were carefully reviewed by the writer who has had considerable precious metals exploration, development and production experience in Yukon Territory. At the time of writing, Environment Canada reported 60 cm of snow cover on the property; a site visit was not undertaken.

LOCATION AND ACCESS

The ETZEL property is 50 km west of Carmacks, Yukon Territory (Figure 1). The subject claims are centered at latitude 62°07' north and longitude 137°11' west. Access to the property is by gravel road from Carmacks where goods and services required for mineral exploration work are available.



20' 10' 137° 50' 40' 30' 20' 10' 136°



PEARL RESOURCES LTD.	
ETZEL PROPERTY	
WHITEHORSE MINING DISTRICT; YUKON TERRITORY	
LOCATION MAP	
BY: J.P. FRANZEN/d.w.	NTS: 115-1-3
DATE: APRIL, 1986	FIGURE: 1

MINERAL PROPERTY

The ETZEL property is in the Whitehorse Mining District, Yukon Territory. The property consists of 56 contiguous quartz claims covering approximately 1125 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 provided by the Mining Recorder - Whitehorse Mining Division, follow:

<u>Quartz Claim Name</u>	<u>Grant Numbers</u>	<u>Recorded Owner</u>	<u>Expiry Date</u>
ETZEL 1-50	YA86336 - YA86385	Gordon Dickson	18 Dec. 1986
WEDGE 11-14	YA82177 - YA82180	Gordon Dickson	26 Sept. 1986
WEDGE 1-2	YA82167 - YA82168	Gordon Dickson	26 Sept. 1986

As noted on Figure 2, the area covered by claims WEDGE 1 and WEDGE 2 has also been assigned to claims DOME 64 and DOME 66. The Mining Recorder has advised the writer that claim boundary configuration in this small area is uncertain and subject to review.

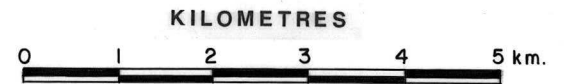
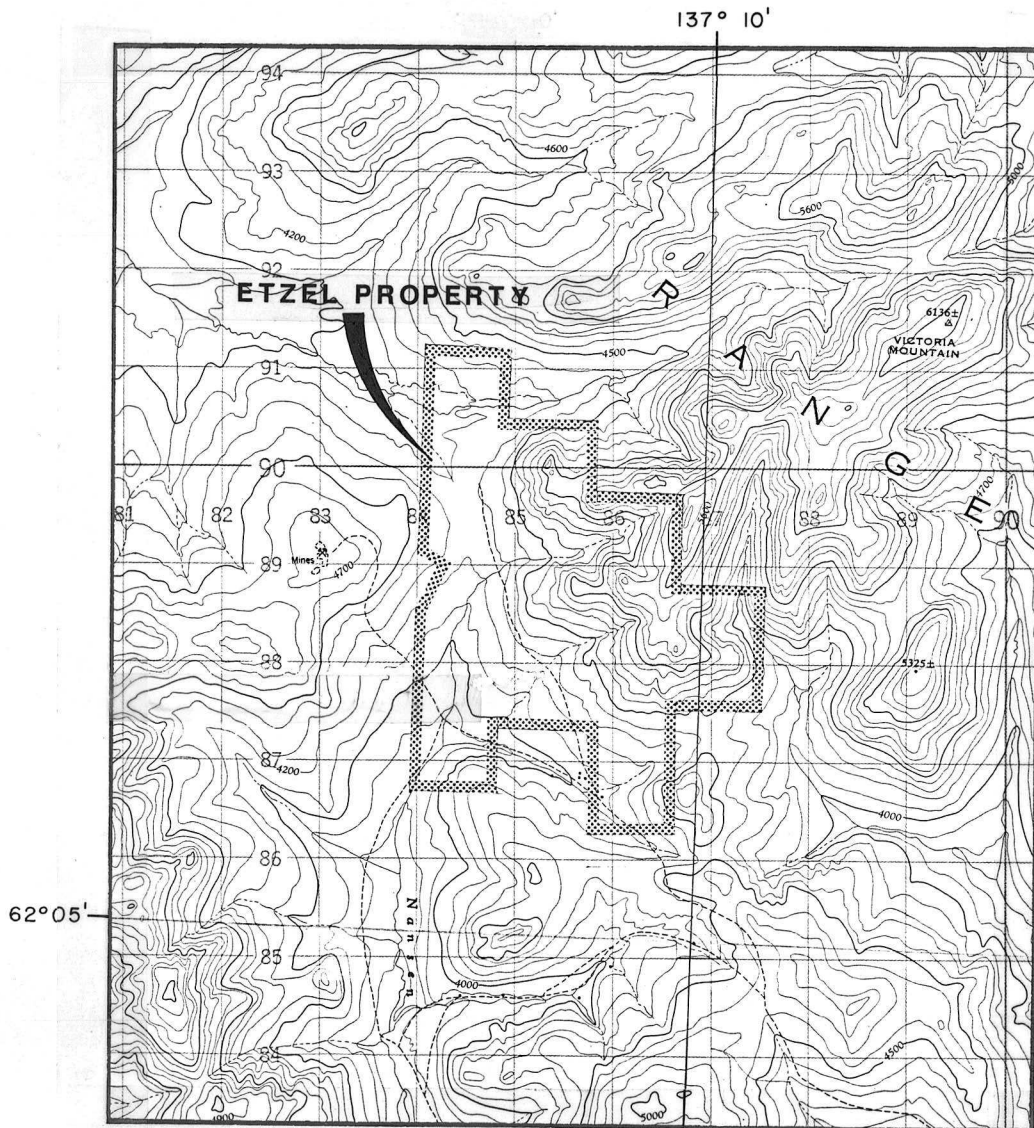
Pearl Resources Ltd. has entered into an option agreement with Mr. G. Dickson, the recorded owner of the claims. The writer has not reviewed this agreement as this was beyond the terms of the assignment.

PHYSICAL FEATURES

The ETZEL property is at the southeast end of the Dawson Range (Figure 1). This mountain belt escaped Pleistocene continental glaciation. Hills and ridges are characteristically subdued and well-rounded; with few exceptions the horizon is even. Because the bedrock surface is deeply weathered, drainage is characterized by V-shaped valleys and an absence of lakes. Outcrop is scarce. A blanket of volcanic ash covers much of the area. Permafrost is common.

The above factors have created a geological environment that is difficult to explore with conventional prospecting techniques (Franzen, 1981). Frost-heaved rafts of barren and resistant wallrock may cover deeply weathered zones of bedrock fracturing, alteration and sulphide mineralization. Poor soil development and the presence of a metals-depleted ash horizon may inhibit the development of soil geochemical anomalies. Successful Dawson Range exploration programs have demonstrated that float mapping and soil geochemical surveys should be followed by a systematic bedrock bulldozer trenching program (Campbell, 1965; Godwin, 1975).

The subject property covers the drainage divide between Mount Nansen and Victoria Mountain (Figure 1). Property elevations range from 1190 m at Nansen Creek to 1770 m on the southwest-facing slope of Victoria Mountain (Figure 3). Timberline is at elevation 1220 m. Thick buck brush extends from the valley floors to well above timberline. Spruce, birch and poplar cover the lower reaches of the property; the highest areas are covered only by grass. Bedrock exposure is less than one percent and is restricted to ridge crests on Victoria Mountain.



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ETZEL PROPERTY

WHITEHORSE MINING DISTRICT; YUKON TERRITORY

TOPOGRAPHIC MAP

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DATE: APRIL, 1986

FIGURE: 3

PROPERTY HISTORY

The Mount Nansen area has a long exploration and mining history. Miners were first drawn to the area in the early 1900's with the discovery of gold placer deposits. By 1910 all creeks in the district were staked. In 1943 narrow gold and silver-bearing veins were located. Operators tested a number of the zones with surface and underground exploration programs. The work was abandoned in 1947. Underground vein development work resumed in 1964. In 1968 Mt. Nansen Mines Ltd. placed the Huestis property into commercial production at a rate of 90 tonnes per day. Poor metals recovery and lower than forecast millhead grades resulted in closure of the mine in 1969. At this time several groups recognized the porphyry copper-molybdenum potential of the area. Cyprus Mines Corporation conducted a comprehensive porphyry exploration program from 1971 to 1973. Currently, work programs are testing the bulk tonnage, precious metals potential of a number of properties in the Mount Nansen area.

Work programs on the ETZEL property are summarized below:

- | | |
|------|--|
| 1970 | Mt. Nansen Mines Ltd. completed reconnaissance geological mapping and stream sediment sampling programs (Bianconi and Saager, 1971; Saager and Bianconi, 1971). Estimated (1986) program cost applicable to the subject property = \$25,000. |
| 1971 | Cyprus Mines Corporation and subsidiary Area Exploration Ltd. acquired control of ground covering much of the ETZEL area. |
| 1971 | Area Exploration Ltd. completed geological, geochemical and geophysical surveys (Dickinson and Lewis, 1972). |
| - | |
| 1973 | Seventeen diamond drill holes totalling 3463 m and nine percussion drill holes totalling 951 m were completed (Dickinson and Lewis, 1973). Six diamond drill holes |

totalling 1115 m and one percussion drill hole totalling 73 m are located on or just inside the southern perimeter of the subject property. Estimated (1986) program cost applicable to the subject property = \$350,000.

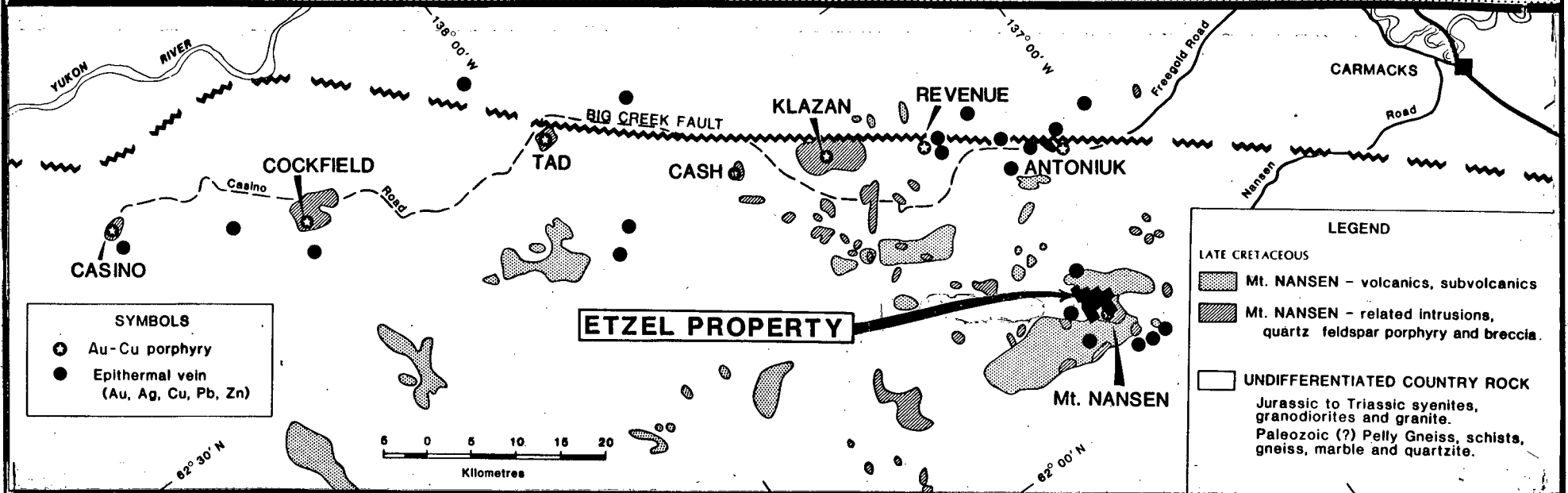
- 1984 Staked as the ETZEL and WEDGE claims by Mr. Gordon Dickson.
- 1985 G. Dickson work program: Bulldozer trenching. The trenches did not reach bedrock. Cost of 1985 program = \$3,000.
- 1986 Pearl Resources Ltd. optioned the ETZEL and WEDGE claims from Mr. Gordon Dickson.

REGIONAL GEOLOGY AND MINERALIZATION

The ETZEL property is one of a number of vein and porphyry precious metals prospects in the Dawson Range Gold Belt (Figure 4; Eaton and Main, 1986). Basement rocks in the 100 km long belt are schists and gneisses of the Yukon Metamorphic Complex (Tempelman-Kluit 1974). Mesozoic to Tertiary igneous rocks of the Coast Plutonic Complex intrude basement rocks. Metamorphic and igneous country rocks are locally capped by volcanic lavas, tuffs, tuff breccias and related intrusions of the early Eocene Mount Nansen Group. These volcanic and subvolcanic rocks occur as isolated small masses throughout Dawson Range. The masses probably represent individual volcanic centres. Plateau lavas of the Miocene Carmacks Group unconformably overlie older rocks in the region.

Precious metals occurrences in the belt are associated with two types or styles of mineralization: epithermal base metals veins; and copper-molybdenum porphyries. Most vein and porphyry mineralization is within or adjacent to Mt. Nansen volcanic and subvolcanic centres. A significant numbers of occurrences are also associated with the Big Creek Fault (Figure 4).

DAWSON RANGE GOLD BELT



(AFTER: EATON & MAIN, 1986)

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ETZEL PROPERTY

WHITEHORSE MINING DISTRICT; YUKON TERRITORY

REGIONAL GEOLOGY

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DATE: APRIL, 1986

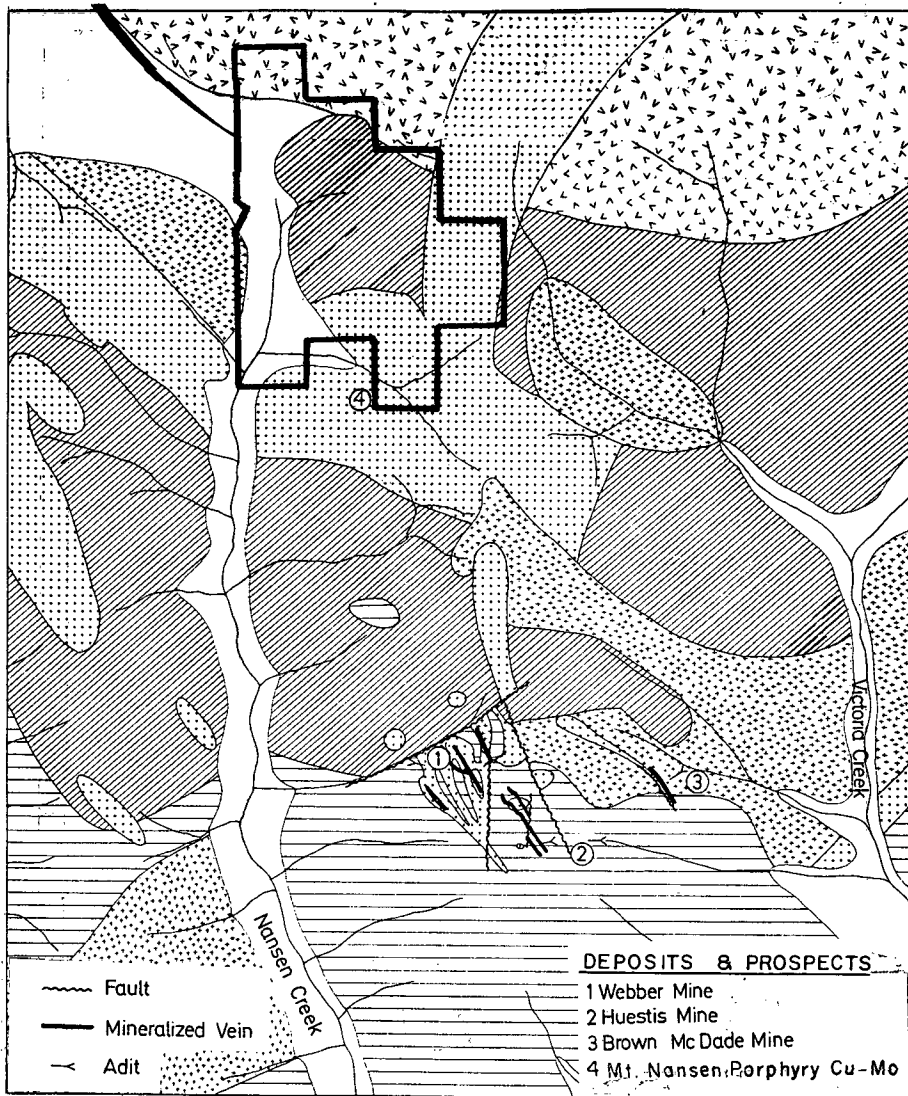
FIGURE: 4

General geology of the Mt. Nansen District is shown on Figure 5. Basement rocks are Paleozoic(?) Yukon Metamorphic Complex metaquartzites, mica schists and gneisses. Their structural grain trends north-south. These metamorphic rocks are unconformably overlain by tabular volcanic rocks of the early Eocene Mount Nansen Group. Andesite flow breccia and porphyritic andesite are the most common rock types. Compositional layering attitudes are variable and reflect folding or primary flow features. Narrow porphyry dykes cut the volcanic rocks. Layered metamorphic and volcanic rocks are intruded by a northwest trending granodiorite batholith. All of the above rocks are intruded by a number of quartz-feldspar rhyodacite porphyry bodies. These occur as dykes, small plugs, breccia bodies and stocks. Rock texture and intensity of hydrothermal alteration are variable. District silver-gold-quartz vein mineralization and copper-molybdenum porphyry mineralization are associated with these porphyritic rocks (Figure 5).

PROPERTY GEOLOGY

The ETZEL property straddles the previously described Mount Nansen volcanics, granodiorite batholith and rhyodacite porphyry (Figure 6). Rock exposure is limited. Earlier exploration programs on the property focussed on its porphyry copper-molybdenum potential (Sawyer and Dickinson, 1976); the area underlain by Mt. Nansen volcanics saw limited exploration work. Systematic geochemical, geological and geophysical surveys on widespaced (250 m) grid lines provided control for percussion and diamond drill programs. This work outlined large areas of hydrothermal alteration and widespread, low-grade copper-molybdenum mineralization in rhyodacite porphyry. Mineralization occurs within all intrusive rock types and is related to the intrusion of the porphyry complex. Anomalous gold values (up to 0.010 ounces per ton) over narrow widths (3 m) were noted in several drill hole logs. A leached cap, supergene enriched zone and hypogene zone occur within the main porphyry complex. As previously noted, steep, narrow gold and silver-bearing veins occur south of and peripheral to the

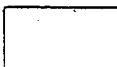
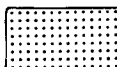

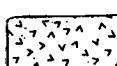

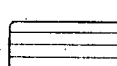
ETZEL PROPERTY

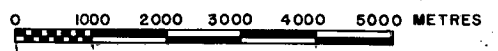


- ~ Fault
- Mineralized Vein
- └ Adit

- DEPOSITS & PROSPECTS**
- 1 Webber Mine
 - 2 Huestis Mine
 - 3 Brown Mc Dade Mine
 - 4 Mt. Nansen Porphyry Cu-Mo

LEGEND

-  Alluvium
-  Porphyry Intrusions
-  Granodiorite
-  Syenite
-  Mt, Nansen Volcanics
-  Yukon Metamorphic Complex

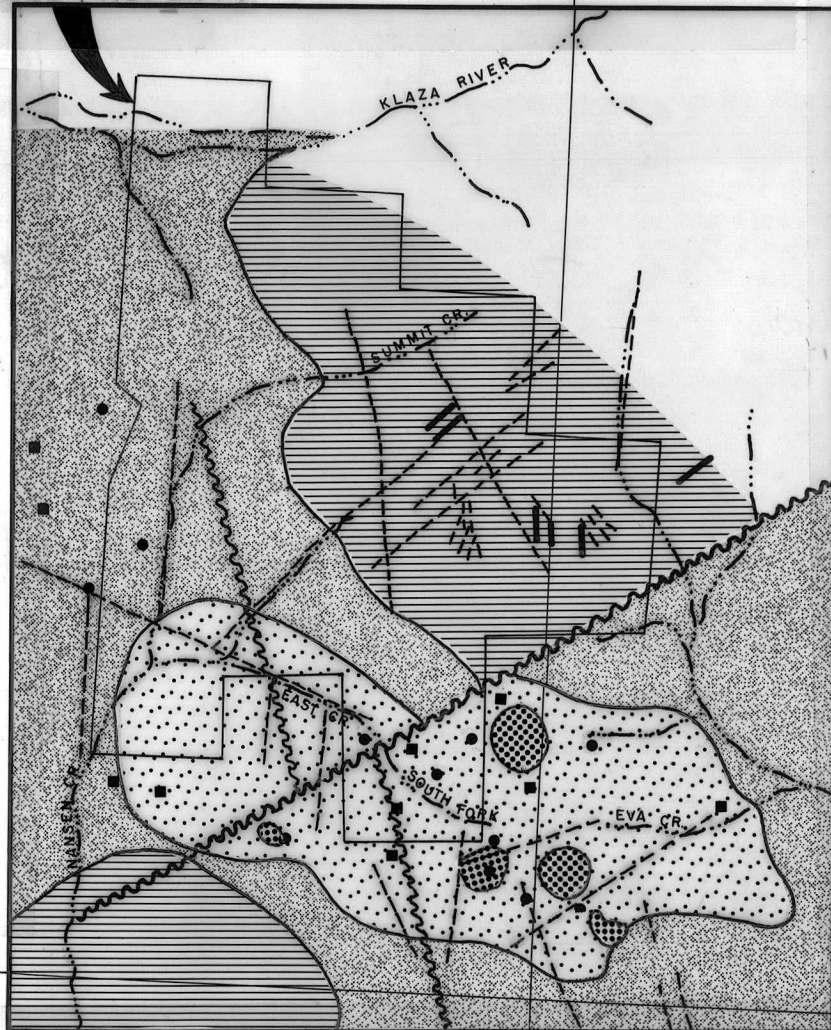


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WHITEHORSE MINING DISTRICT; YUKON TERRITORY	
DISTRICT GEOLOGY	
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DATE: APRIL, 1986	FIGURE: 5

(After: Saager & Blanconi, 1971)

ETZEL PROPERTY

137° 10'













(After: Dickenson & Lewis, 1972)

62° 05'

0 1 2 3 kilometres

LEGEND

-  Rhyodacite Breccia Pipe
-  Rhyodacite Porphyry
-  Granodiorite
-  MT. NANSEN GROUP
Andesite Porphyry
-  Fault
-  Air Photograph Lineament
-  Geological Contact
-  Volcanic Dykes
-  Percussion Drill Hole
-  Diamond Drill Hole



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ETZEL PROPERTY

WHITEHORSE MINING DISTRICT; YUKON TERRITORY

PROPERTY GEOLOGY

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NTS: 115-1-3

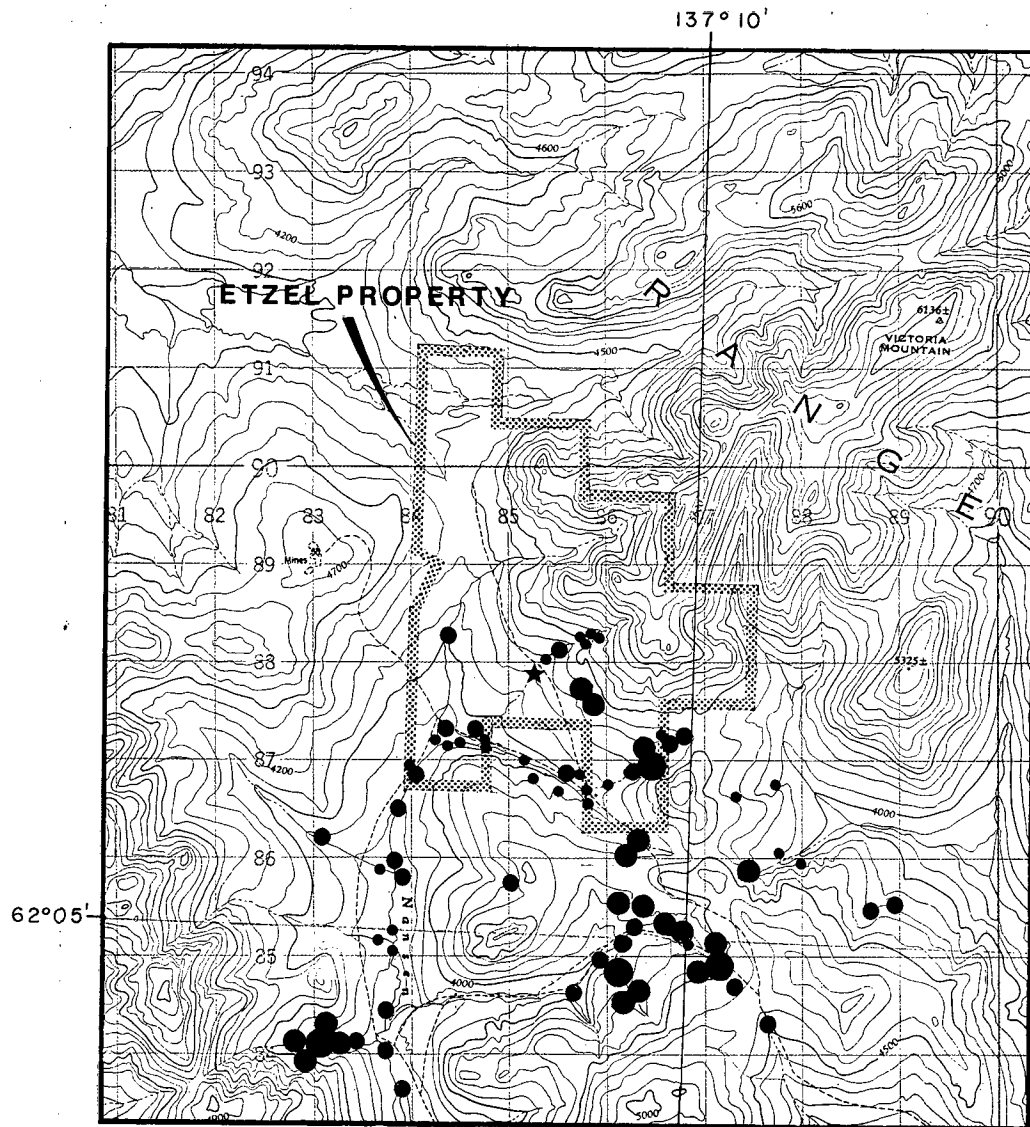
DATE: APRIL, 1986

FIGURE: 6

porphyry complex (Figure 5). Recent work at the Brown McDade property has demonstrated that wide hydrothermal alteration zones flanking these vein-dyke systems contain persistent low-grade gold and silver values. BYG Natural Resources Inc. reports drill indicated open pit reserves totalling 800,000 tonnes at an average grade of 0.23 ounces gold per ton and 2.0 ounces silver per ton (George Cross Newsletter, 1986).

PROPERTY GEOCHEMISTRY

A 1970 stream sediment survey outlined a number of multi-element anomalies on the southwest-facing slope of Victoria Mountain (Bianconi and Saager, 1971). Figure 7 shows silver values; anomalous lead, zinc and antimony values shows a positive correlation with the highest silver values. The samples were not analyzed for gold. Five km to the south, galena, sphalerite, boulangerite and stibnite are associated with precious metals mineralization at the Webber, Huestis and Brown McDade vein prospects (Campbell, 1965). Follow-up surveys by Area Exploration Corporation confirmed the geochemically anomalous zones on Victoria Mountain. A bedrock source was not identified. The anomaly area is underlain by Mt. Nansen volcanics and minor porphyry dykes. A number of air photograph lineaments are present. Four samples of quartz \pm sericite float collected in the anomaly area (Figure 7) on October 25, 1985 by Mr. M. Phillips, Manager - Whitehorse Office, Archer, Cathro & Associates (1981) Limited returned gold values between 0.010 and 0.028 ounces per ton. Silver values ranged from 0.05 to 0.80 ounces per ton (pers. comm., 1986). Phillips described the samples as being similar in appearance to mineralization at the Webber prospect (Figure 5).



PPM. Ag. IN STREAM SEDIMENTS

- 0-0.9
- 1.0-1.9
- 2.0-2.9
- 3.0+

★ QUARTZ FLOAT



KILOMETRES



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ETZEL PROPERTY

WHITEHORSE MINING DISTRICT; YUKON TERRITORY

**PROPERTY GEOCHEMICAL
MAP**

BY: J.P. FRANZEN/d.w.

NTS: 115-1-3

DATE: APRIL, 1986

FIGURE: 7

CONCLUSIONS AND RECOMMENDATIONS

The 1,125 hectare ETZEL property is centered on a major porphyry system in the Mount Nansen District, Yukon Territory. Porphyritic rocks elsewhere in the district are associated with significant precious metals mineralization. The ETZEL porphyry system contains widespread hydrothermal alteration.

There is little bedrock exposure on the ETZEL property. An earlier work program returned anomalous base and precious metals values in stream sediment samples. Anomaly signatures are similar to those associated with known precious metals occurrences. Several samples of quartz float from the anomaly area contain elevated levels of gold and silver. A bedrock source for this float has not been identified.

Geological features on the ETZEL property indicate that the prospect has potential for gold-silver mineralization. The writer recommends a two stage work program to test the potential of the ETZEL property. The first stage would include grid layout, soil geochemistry and VLF-EM surveys.

Stage 1 Proposed Program

1. Layout an initial 100 m x 25 m control grid. The grid should cover those areas drained by streams containing anomalous metals values. Contingent upon geochemical and geophysical results, grid fill-in to 50 m x 25 m may be required in selected areas.
2. Complete a soil geochemical survey. Downslope dispersion of metal values should allow for an initial sampling program on 100 m x 50 m centres. Fill-in to 50 m x 25 m may be required to properly define target zones. Samples should be analyzed for lead, gold and silver. A geochemical orientation survey at the Huestis, Webber and Brown McDade properties is warranted.

3. A VLF-EM survey should be completed with readings taken along individual lines at 25 m intervals. This method has been successfully used, elsewhere in the district, to trace precious metals bearing vein structures through overburden-covered areas. A geophysical orientation survey at the Huestis, Webber and Brown McDade properties is warranted.

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

COST ESTIMATE OF PROPOSED WORK PROGRAM

Stage 1 (Engineer - 10 field days and Three Assistants - 40 field days)

GRID LAYOUT - 50 km	
Labour Cost	\$ 4,000
SOIL GEOCHEMISTRY - 1500 samples	
Labour Cost	5,000
Analytical Cost	10,000
VLF-EM SURVEY	
Labour Cost	4,000
Equipment Rental	500
TRUCK RENTAL - FUEL	2,000
CAMP SUPPORT	
130 man days	4,000
GEOCHEMICAL	
Rock Samples	1,000
ENGINEER	
Field Labour Cost	4,000
Report Labour Cost	2,000
REPORT SUPPORT	2,000
TRANSPORTATION	4,000
EQUIPMENT	
Field Supplies	2,000
<u>CONTINGENCIES (12%)</u>	<u>5,500</u>
Stage 1 Total	\$ 50,000
Stage 2 (Contingent on results of Stage 1)	
BULLDOZER TRENCHING	
200 hours	\$ 35,000
DIAMOND DRILLING	
750 metres	115,000
<u>SUPERVISION, SUPPORT, TRANSPORTATION, CAMP, REPORT, ETC.</u>	<u>50,000</u>
Stage 2 Total	\$ 200,000
GRAND TOTAL Stages 1 and 2	<u>\$ 250,000</u>

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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 Pearl Resources Ltd. and 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 ETZEL property or Pearl Resources Ltd.
6. Permission is hereby granted to Pearl 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.
April 20, 1986

J.P. Franzen, P.Eng.