GEOLOGICAL REPORT

on the

KO MINERAL CLAIMS

for

CREAM SILVER MINES LTD. (NPL) and BELMORAL MINES LTD. (NPL)

FARO, Y.T. WHITEHORSE MINING DIVISION

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

$ 6081.67

Resident Geologist or
~~Resident Mining Engineer~~

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act

Commissioner of Yukon Territory

F. Holcapek, P.Eng., Vancouver, B.C.

October 24, 1973

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1-00 INTRODUCTION

The KO mineral claims were located during February, 1973 and are a relocation of claims held formerly by Tay River Mines Ltd. (NPL). The reason for relocating was the proximity of the area to the Faro orebody and the belief that a potential exists to locate economic minerals in a similar geological environment.

The geological mapping executed was guided by the following considerations:

a) To locate the favourable phyllitic schist, the host rock at the Faro deposit,

b) Search for possible areas of leaching and alteration - the Faro deposit has an envelope of up to 300 feet wide of leached white alteration,

c) Delineate, if possible, the stratigraphic sequence on the property.

The work was executed by personnel of Agilis Engineering Ltd. and consisted of chaining and flagging of old cat lines, chain and compass survey of claim posts and geological mapping at the scale of 1 inch = 400 feet using the cat lines for ground control. A two man crew, under the supervision of the writer, spent 2 weeks to complete the program. Mr. Tom Smart, geologist, completed the geological mapping.

1-20 History: Exploration within the Ross River - Faro Region started with the discovery of the Vangorda Creek deposit in 1953. Regional work consisting of prospecting and investigation of airborne magnetic anomalies lead to the staking of the Swim Lake deposit in 1963. The Faro deposit was found by a combination of regional prospecting, geochemical sampling and geophysical surveys in 1965.

The discovery of the Faro deposit initiated a staking rush. The A and KEN groups of claims of Tay River Mines were located at this time.

Work completed on the claims consisted of geochemical, magnetic, electromagnetic and geological surveys. A grid consisting of 400 foot lines and 200 foot stations was established by caterpillar during this period for ground control. The A and KEN claims lapsed during February 1973 and were restaked as the KO mineral claims.

Cream Silver Mines Ltd and Belmoral Mines Ltd. hold the property jointly.

1-30 Property: The KO 1-36 mineral claims are located in the Whitehorse Mining Division, eleven miles northwest of Faro Townsite, and consist of the following mineral claims:

Claim Name	Record Number
KO 1-4	Y67951-Y67954
KO 5-12	Y67957-Y67964
KO 13-14	Y67955-Y67956
KO 15-26	Y67965-Y67076
KO 27-34	Y67979-Y67986
KO 35-36	Y67977-Y67978

The claim survey completed on the property shows that a large portion of the central part of the claim group is completely overstaked, hence only 2/3 of the claims are valid.

2-00 GEOGRAPHY

2-10 Location and Access: The KO 1-36 mineral claims are located eleven miles northwest of the town of Faro and two miles southeast of the Faro Mine open pit.

The centre co-ordinates of the property are 62° 20'N latitude, and 133° 20'W longitude.

Access to the property is by road from Whitehorse to Ross River, a distance of approximately 220 miles and from there to Faro; or by Northward Airlines from Whitehorse to Faro (town) and then by road to the property, for a distance of eleven miles. A cat trail leads to the southwestern corner of the property, a distance of about 1.5 miles north of the Faro road.

2-20: Physiography: The property lies along the western flank of Mt. Mye. Slopes on the property are in general gently westerly with the lines parallel to the topography. The southern and eastern portion of the property is more rugged, and creeks cut deeply into bedrock.

Maximum relief in the property area is 2000 feet, elevations range on the property from 4000 feet to 5500 feet, with only a small portion of the group lying above timber line.

2-30 Climate and Vegetation: Vegetation on the property consists essentially of stunted spruce and minor balsam at lower elevations, willows and buckbrush (arctic birch) are common in open areas or along swampy sections. Above timberline, approximately 5000 foot elevation, buckbrush and alpine meadows are common.

Temperatures vary from a high of 80°F during summer months to a low of 60° below zero during the winter. Snow can be expected to cover the ground from mid October to mid May.

3-00 GEOLOGY

3-10 Regional Geology:

The Anvil-Faro area has been mapped by the Geological Survey of Canada and is described in G.S.C. Bulletin 208 by D. J. Templeman-Kluit.

3-11 Stratigraphy: The sedimentary and metamorphic units exposed along the southern flank of the Anvil Range have been subdivided as follows:

Cretaceous	Anvil-Batholith - porphyritic, medium-grained biotite quartz monzonite and granodiorite.
Pennsylvanian and Permian	Anvil Range Group - greenish grey, pale green and brick red argillaceous chert, argillaceous tuff, massive green basalts.
Hadrynian and Ordovician	Chlorite, muscovite quartz phyllites, locally graphitic or calcareous, grades to and includes staurolite - garnet - biotite - muscovite schists, includes locally fine-grained foliated amphibolite.
Hadrynian and Cambrian	Thinly laminated biotite - garnet - biotite - muscovite schist, foliated amphibolites and light grey coarsely crystalline marble.

3-12 Metamorphism: The metamorphic rocks, Pre-Devonian in age, exposed show mineral assemblages characteristic of the Pyrenean type of regional metamorphism.

The mineral assemblages are characteristic of the green-schist - and almandine amphibolite facies of regional metamorphism. The metamorphic isograds, as defined by characteristic minerals of facies of metamorphism, outlined an area centered about the Anvil Batholith. There is

however, a transgression of metamorphic isograds by the granitic contact. The structural setting suggests that the intrusion of the Anvil Batholith arched the regional metamorphosed rocks, creating the concentric arrangement.

The regionally metamorphosed unit shows effects of super-imposed contact metamorphism.

3-13 Structural Geology: The main structural element within the area consists of at least one stage of regional folding on which the Anvil Arch is super-imposed. Although the general structural setting appears to be quite simple, the internal structure of the metamorphic rocks is fairly complex.

The major faulting in the area is a northwesterly trending zone amplified by the Rose Creek and Vangorda Creek faults, believed to be part of the Tintina Trench and the extension of the Rocky Mountain Trench. Lateral displacement has not been measured along these fault zones but appears to be in the order of several miles.

3-14 Economic Geology:

There are three ore deposits known in the area, the Vangorda Creek deposit, discovered in 1953, the Swim Lake deposit (1965) and the Faro deposit (1965). The deposits contain an aggregate of 80 million tons of lead - zinc - silver with minor values in copper and gold.

All of these deposits occur within the Cambrian (?) phyllite of unit 3. The mineralization is concordant with the foliation of the enclosing rocks. The orebodies are lense-like in outline and mineralogically similar.

Each is surrounded by a halo of whitish bleached phyllite. This feature can possibly be used as a guide to look for concealed or blind ore bodies, within the region. During the exploration of these deposits it was found that only geochemical and gravity surveys produced positive results. Electrical exploration tools, electromagnetic, self-potential and induced polarization surveys, produced numerous anomalies caused by the terrain or graphitic schists.

Magnetic surveys produced positive anomalies on the Swim Lake deposit, no response on the Vangorda Creek deposit, and inconclusive results on the Faro deposit. Although pyrrhotite is a major component of the sulfide mineralization, the deeper burial combined with the flat-lying configuration accounts for lack of response for total magnetic or vertical magnetic field surveys.

3-20 Property Geology: The property was mapped by Tom Smart, geologist, under the supervision of the writer, at a scale of 1 inch = 400 feet using a 400 foot by 200 foot grid for ground control.

All rocks were examined in the field with the aid of a hand lense and hence names applied to rocks are field names only.

During the mapping, it was found necessary to use exposures due to frost heaval and in some areas float distribution to outline the general trend of individual units. Rock exposure on the property is less than 20% of the total area.

3-21 Stratigraphy: The property is underlain by a sequence of regional metamorphic rocks intruded by the Anvil Batholith of quartz monzonitic to granodioritic composition.

3-22 Cretaceous-Anvil Batholith: porphyritic, biotite quartz monzonite and granodiorite:

The main outcrop area of the intrusive rocks is in the northern part of the claim group. The granitic rocks form rough, rocky outcrops of well jointed blocks. The rocks are grey to yellowish to cream in colour, of equigranular texture and contain prominent biotite. It is locally porphyritic with twinned orthoclase phenocrysts up to two inches long.

Granitic dykes and sills have been found within the southeastern part of the claim group. The dykes are seldom more than one foot thick and intruded calc-silicate skarns interbedded with biotite schist. In general, the trend of the dykes is at a 10° - 15° angle to the foliation of the intruded schistose bands. Off shooting and interfingering of the dykes could be observed along the contact.

Along the northern part of the claim group, adjacent to the main intrusion, quartz feldspar veining within the biotite schist and development of hornfels along the intrusive contact, has been observed in several places.

3-23 Hydrian and Cambrian (?): This is a sequence of regional metamorphic rocks and similar to the overlaying Hydrian-Ordovician sequence. The criteria to correlate this unit with the older sequence is the presence of interbedded calc-silicate skarns with biotite or chlorite schists and phyllites.

Calc-Silicate Skarn

This rock type occurs over a wide area, but is best exposed along the western and south-western part of the property. In general, the calc-silicate rocks are intercalated with schists. Assuming these narrow bands are due to compositional differences within the original sediments, the trend of these bands would be concordant to the northwesterly bedding. In hand specimens the calc-silicate rocks show banding and lensing of mineral constituents. Under the hand lense, pale orange to brown bands and lenses contain small well-crystallized grossularite garnets set in a quartz matrix. Dark green bands within calc-silicates are most likely bands of fine grained diopside with quartz.

Close to the granitic contact, yellowish-white pyrite and small lenses of pyrrhotite, up to 1/4 inch long, parallel to the banding have been observed.

Schists and Phyllites

A sequence of interbedded biotite-chlorite schist and chloritic phyllites occupies the central portion of the claim group. Similar schists have also been mapped along the northern portion of the claim group. Thermal metasomatism expressed by the presences of hornfels is evident along the granite contact.

The muscovite-chlorite phyllitic schist has normally a silvery white lustre along fresh rock faces, but along weathered faces is usually rusty brown stained. The biotite schist is of brown colour and has often quartz folia up to 1/8 inch wide. More siliceous and hence harder schist varieties have been observed frequently.

Outcrops of these rock types are normally small and confined to low areas or along the cat lines. This feature is definitely caused by the softness and hence ease of weathering.

To obtain information regarding distribution of rock types over the property not only outcrops, but also frost heavals and in isolated area float distribution was mapped.

Greenstones

This rock type occurs on the property as small discontinuous bands and lenses within the schist and phyllites. In general, the rocks are massive, lack foliation, and are essentially a grey-green, fine-grained siliceous amphibolite. Jointing is well defined. Near the Faro ore deposit outcropping greenstone is reported to contain oriented actinolite.

3-24 Alteration and Sulfide Mineralization:
The only type of alteration found on the property is along the intrusive contact. Here, the biotite schist has been changed by contact metasomatism to a dark colored dense hornfels cut by quartz-feldspar veins.

Sulfides have been observed in several localities. Pyrite and pyrrhotite have been found associated with green and purple skarns south of the granite contact in small outcrops (72+00N, 6+00W). At 36+00N, 2+00E, loose quartzite blocks, of local derivation, contain veinlets and stringers of limonite in cavities, possibly after pyrite. At the same location, pyrite has been found associated with banded skarns.

Near 44+00N, 2+00W, a lump of heavy float, consisting of pyrite blueish grey quartz and a dark brown mineral, possibly tourmaline, was noted. No economic mineralization was found on the property.

4-00 GEOPHYSICAL SURVEY RESULTS - TAY RIVER MINES PROGRAM

During 1965 Tay River Mines completed a magnetometer survey - vertical field, and an electromagnetic-horizontal loop survey over the claim group.

4-10 Magnetometer Survey Results:
The results of the vertical field magnetic survey were inconclusive. Although several low order anomalies were indicated, the low intensity and erratic distribution does not allow reliable interpretation. Experience on the known ore deposits in the region suggest that magnetic surveys are not applicable to outline possible mineralized zones.

4-20 Electromagnetic Survey Results:

The horizontal loop electromagnetic survey results are also inconclusive. The main drawback of this method is its high sensitivity to topography and graphite content. The topographical features on the property although not steep, show enough elevation differences to affect the readings and hence make them unreliable.

5-00 INTERPRETATION

Geological mapping suggests by the presence of calc-silicate skarn interbedded with biotite schists and muscovite, chlorite phylitic schist, that the rock units underlying the KO mineral claims can be correlated with the Hydrian and (?) Cambrian, unit 2 of D.J. Templeman-Kluit (G.S.C. Bulletin 208). This unit is older than the phyllitic unit in which the ore deposits of the area occur.

The rocks strike apparently northwesterly, possible doming caused by the intrusion of the Anvil Batholith is suggested but the field mapping on the KO claims did not positively confirm it.

6-00 SUMMARY AND CONCLUSIONS

The KO mineral claims are underlain by calc-silicate skarn, biotite schist and muscovite-chlorite, phyllitic schist intruded by quartz monzonites and granodiorite of the Anvil Batholith.

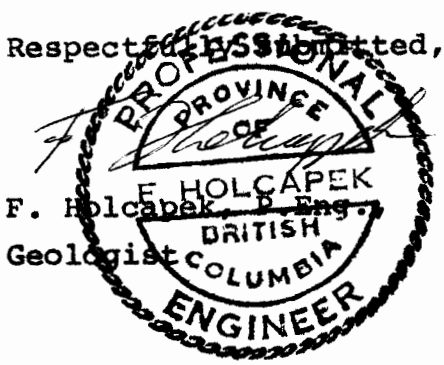
Hornfels has been found associated with the granite contact, produced by thermal metasomatism.

Pyrite and pyrrhotite have been found as small lenses, stringers and disseminations within the calc-silicates near the contact. No economic minerals have been found on the property.

The rock underlying the property are correlative to the Hydrian Cambrian units underlying the host rocks of all known ore deposits in the area.

The potential of finding ore grade sulfide mineralization of the Faro type on the KO mineral claims is remote, unless the favourable chlorite phyllites of unit 3 can be found along the western and southwestern, overburden covered, portion of the claims.

Respectfully submitted,



F. Holcapek, P. Eng.,
Geologist

CERTIFICATE

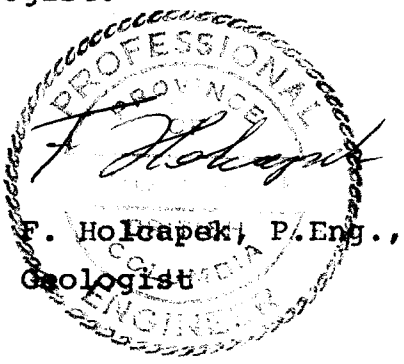
I, Ferdinand Holcapek of 92-10842 152nd Street, Surrey, British Columbia, do hereby certify that:

1. I am a graduate of the University of British Columbia, Vancouver, British Columbia, with a Bachelor of Science degree in Geology, 1969.

2. Since 1961 I have been engaged in Mining Exploration in British Columbia, Yukon Territory, North West Territories, Quebec, Nevada, Arizona and Australia.

3. I am a registered member, in good standing of the Association of Professional Engineers of British Columbia.

4. I am a consulting geologist.



F. Holcapek, P.Eng.,
Geologist

Vancouver, B.C.
October 24, 1973

REFERENCES

1. Geological Survey of Canada, Bulletin 208, Geology and Origin of the Faro, Vangorda and Swim Lake Concordant zinc-lead deposits, Central Yukon Territory, D.J. Templeman-Kluit.

2. Summary Report on the KO Claim Grou, Faro, Yukon Territory, A. Allan, P.Eng., February 1973.

3. Magnetometer Survey and Electromagnetic Survey Maps, Tay River Mines Ltd. (NPL).

4. Personal communication and field data Tom Smart, Geologist.

YUKON TERRITORY

BELMORAL MINES LTD. (NPL) &
CREAM SILVER MINES LTD. (NPL)

KO CLAIM GROUP

FARO AREA MAYO MINING DISTRICT, Y.T.

PROPERTY LOCATION MAP

SCALE IN MILES
50 0 50 100 150

140°00' 136°00' 132°00' 128°00' 124°00' 120°00'
68°00' 64°00' 60°00'
MACKENZIE BAY
FRANKLIN BAY
Inuvik
Arctic Red River
MACKENZIE R.
N.W.T. / Y.T.
ALASKA U.S.A. YUKON
PEEL R.
Norman Wells
Fort Norman
RIVER
Dawson
Keno Hill
Mayo
Stewart River
YUKON R.
PELLY R.
Ross River
S. NAHANNI R.
Fort Simpson
Snag
Carmacks
Kluane
Whitehorse
Carcross
Teslin
Fort Liard N.W.T.
BRITISH COLUMBIA

133°30'W 133°15'W 133°00'W 62°30'N 62°15'N
Anvil Creek
KO GROUP
ROSE MTN.
ROSE Creek
Pelly River
MOUNT MYE

SCALE: 1" = 4 MI.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
F. HOLUBAPEK

NOTE: North/south grid are all bulldozed

N

KO CLAIM BOUNDARY

LEGEND

GEOLOGY

Cretaceous		Biotite – muscovite – quartz monzonite (Anvil Batholith)
Early Palaeozoic or Late Precambrian		Biotite, sericite, chlorite and hornblende schists
		Calc-silicate rock (diopside, grossularite, tremolite, epidote)
		Altered intermediate volcanic rocks and tuffs

SYMBOLS

- Stream
- Road or grid line
- Outcrop
- Granitic sills
- Strike and dip, foliation
- Jointing, horizontal foliation
- bio., chl., ser., h.b., Biotite, chlorite, sericite, hornblende
- py., phy., hnfls., feld. Pyrite, phyllitic, hornfels, feldspar
- Inferred contact

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BELMORAL MINES LTD. (NPL) &
CREAM SILVER MINES LTD. (NPL)

KO CLAIM GROUP
FARO AREA MAYO MINING DISTRICT, Y.T.

GEOLOGY

SCALE IN FEET
0 400 800 1200 1600

AGILIS ENGINEERING LTD. OCTOBER, 1973