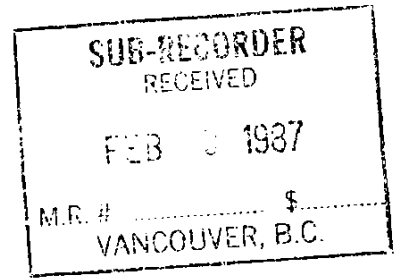


86-971-15855
10/87



GEOLOGICAL REPORT ON THE

AOK

MINERAL CLAIM

Nanaimo Mining Division

N.T.S. 92 F/1 E

Latitude 49° 11' N

Longitude 124° 27' W

UTM 41200 E, 5449000 N

by

Richard Gosse, D.I.C.

(owner/operator)

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

15,855

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1. Introduction

This report briefly describes the geology and mineralization at the AOK mineral claim (record number 2270) within the Nanaimo Mining Division. The AOK claim was examined by M. Sawiuk M.Sc. and the author from October 7 to 9, 1986.

The purpose of the examination was to determine the potential for epigenetic gold-silver-copper mineralization similar to that located 1.5 km northwest of the AOK claim that is hosted within structural breaks that extend southeastward and underlie the AOK claim.

2. Location and Access

The AOK claim is situated on the eastern slope of Okay Mtn. about 18 km southeast of Parksville on Vancouver Island (Fig.1). The claim lies within the coverage of NTS sheet 92F/1E at approximately 49° 11' north and 124° 12' west.

The area is easily reached by travelling 12 km south along the Nanoose Creek access road from MacMillan Bloedel's Northwest Bay Division Headquarters on Highway 19 between Parksville and Nanaimo.

3. Geology of the Okay Mtn. Area

The Okay Mtn. area is underlain by volcanic and sedimentary rocks of the pre-Devonian Myra Formation and the Upper Triassic Karmutsen Formation (Muller, 1980). The two formations were juxtaposed by Tertiary block faulting along a major structural break that forms the southwest margin of the Nanoose Uplift. The rocks are sheared and metamorphosed to greenschist facies with a foliation corresponding to the dominant northwesterly structural grain impressed upon Vancouver Island. Lower Jurassic plutonic rocks (Island Intrusions; Carson, 1972) and sedimentary outliers of the Upper Cretaceous Nanaimo Group are exposed nearby (Fig.2).

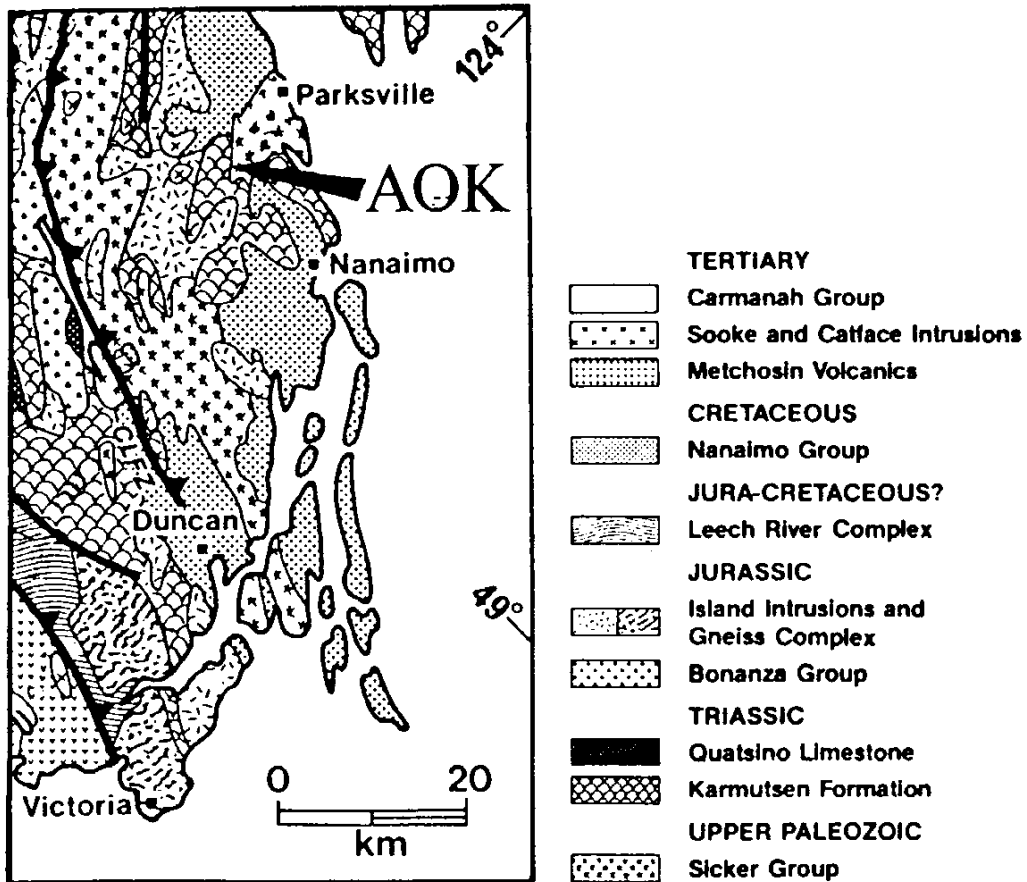


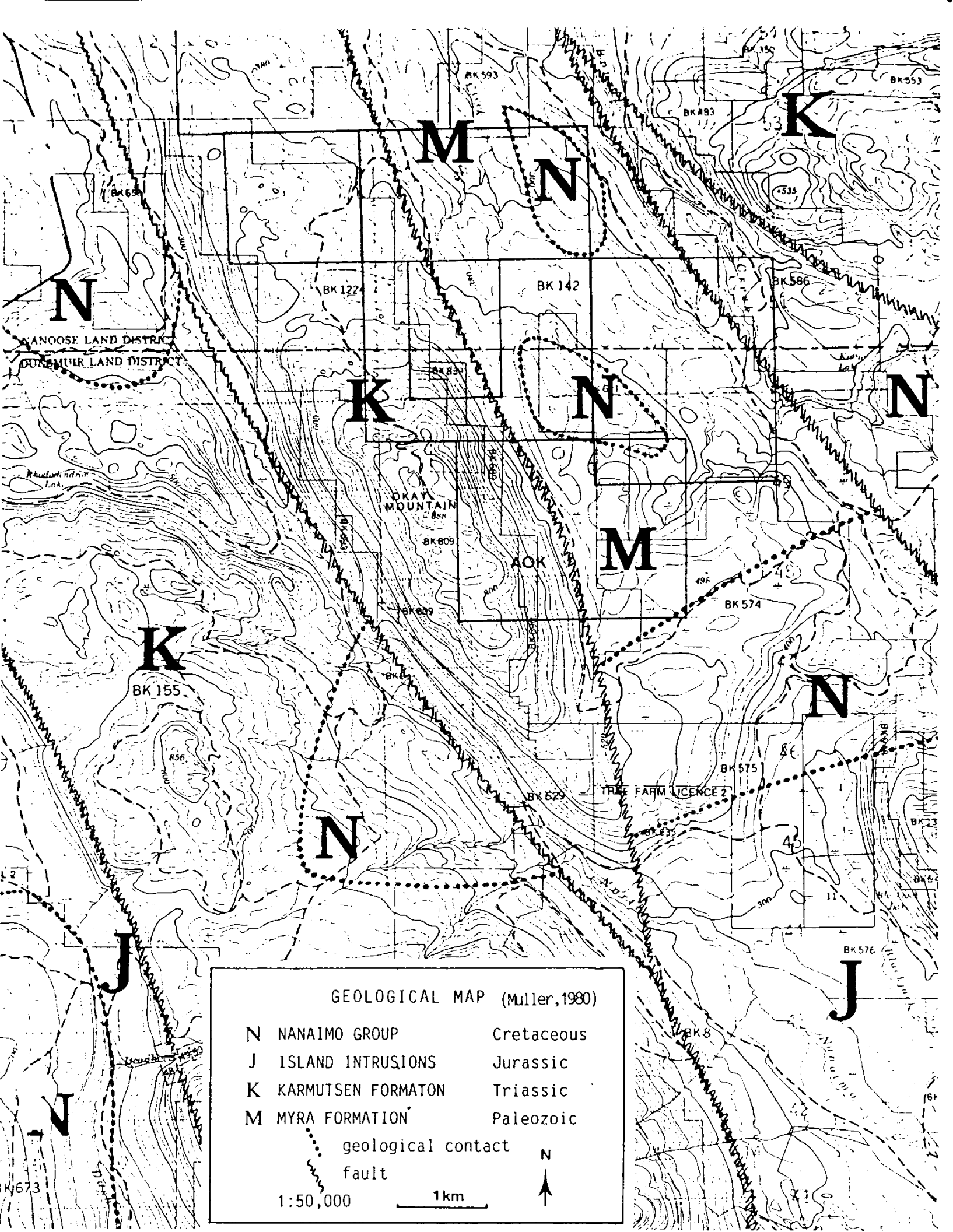
Fig.1. Location of AOK claim and geology of southeast Vancouver Island (after J.E. Muller, from Geology, Nov. 1985).

4. Geology and Mineralization of the AOK Claim

4.1 Myra Formation

Sicker Group rocks comprise argillaceous and pyritic grey to black rusty shales. The unit is strongly foliated with a cleavage of 135° to 155° with dips varying between vertical and 72° SW. It is unknown whether this foliation developed by ductile shear strain associated with the NW fault or as an axial plane schistosity. Two sets of vertical fractures 45° to 65° and 170° were observed.

Brecciated and silicified sediments were found in outcrop in three locations along the major NW fault that divides the claim in two. Angular fragments of shale and chert 5 to 10 cm in diameter are contained in a matrix of quartz and minor carbonate. Bull quartz subcrop 1 metre wide



GEOLOGICAL MAP (Muller, 1980)

- | | | |
|---|---------------------|------------|
| N | NANAIMO GROUP | Cretaceous |
| J | ISLAND INTRUSIONS | Jurassic |
| K | KARMUTSEN FORMATION | Triassic |
| M | MYRA FORMATION | Paleozoic |

..... geological contact

~~~~~ fault

1:50,000

1km



was found above the interpreted fault zone. Samples collected from the three areas did not contain either silver or gold.

At one location a lense-shaped pod of pyrite 20 cm in length and 6 cm in width was found within a zone of rusty and sheared shale a metre in length and 15 cm in width. The pod of pyrite appears weakly banded (parallel to the foliation) and contains cross-cutting veinlets of pyrite 1 to 2 mm in width. Due to the small size of the occurrence, the pod was not sampled.

#### 4.2 Karmutsen Formation

The Karmutsen Formation is well-exposed on the eastern slope of Okay Mtn. and comprises pillowed and columnar basalt interbedded with 2 to 5 m thick horizons of chert and possible siliceous tuff. Both the chert and tuff are finely banded and contain up to 2% disseminated pyrite. The entire sequence is folded about an axis plunging 25° to 45° at 285° and the strike and dip of the two limbs are 16°/45° SW and 030°/70° NW.

Numerous quartz-carbonate, carbonate and epidote veinlets to veins (5 cm to 1 mm in width) occupy fractures in the basalt that parallel the NW structure (varying between 130° and 175° with dips from vertical to 60 W). Less common are vertical to steeply-north dipping quartz-pyrite filled fractures and shears 1 cm to 1 m in width that strike 075°. Two samples from these narrow shear zones contained .46 and .33 oz/t Ag.

#### 4.3 Nanaimo Group

Extensive exposure of flat-lying conglomerate was found to cover much of the eastern half of the claim. The conglomerate consists of moderately well-sorted subangular fragments of various rock types including a conspicuous white porcelaneous chert. The conglomerate is interpreted as an eastward thickening wedge of Nanaimo Group basal conglomerate unconformably overlying Myra Formation sediments.

## 5. Conclusions and Recommendations

Epigenetic Au-Ag-Cu mineralization is hosted by sheared and brecciated Myra Formation sedimentary rocks within a 10 m wide fault zone that trends southeast along the eastern edge of Okay Mtn. Results of this program show this structure and possibly several subparallel structures continue south and underlie the AOK claim.

This type of mineralization represents a Mesozoic analogue of the volcanic associated vein and shear zone gold mineralization found in Archean greenstone belts. It is currently thought that these deposits formed by the precipitation of gold and associated elements scavenged by hydrothermal fluids expelled during the greenschist-amphibolite metamorphic transition. The generation of hydrothermal convection cells, accelerated metamorphic dehydration and the addition of magmatic fluids may be important in areas of plutonic activity.

A simple cost-effective exploration program to test the precious metal potential of the favourable structures underlining the AOK claim should initially include prospecting and geophysics in favourable areas followed by trenching or soil sampling over conductive zones.

6. Bibliography

Assessment Reports; 764, 10372 and 11926.

Carson, D.J.T., 1972; The Plutonic Rocks of Vancouver Island, British Columbia: their Petrography, Chemistry, Age and Emplacement; G.S.C. paper 72-44.

Muller, J.E., 1980; The Paleozoic Sicker Group of Vancouver Island, British Columbia; G.S.C. paper 79-30.



APPENDIX I

Analytical Data



4200B - 10 STREET N.E.  
CALGARY, ALBERTA  
T2E 6K3  
PHONE: (403) 250-1901

09-JAN-87  
PAGE: 1 OF 1  
COPY: 1 OF 2

AUTHORITY: R. GOSSE

MR. RICHARD GOSSE,  
4992 ANGUS DRIVE,  
VANCOUVER, B.C. V6M 3M5

WORK ORDER: 3459D-87

\*\*\* FINAL REPORT \*\*\*

**GEOCHEMICAL LABORATORY REPORT**

SAMPLE TYPE: ROCK

| S A M P L E N U M B E R | FIRE ASSAY   |              |
|-------------------------|--------------|--------------|
|                         | AU<br>OZ/TON | AG<br>OZ/TON |
| A: 10421                | <0.003       | 0.003        |
| A: 10422                | <0.003       | 0.003        |
| A: 10423                | <0.003       | 0.01         |
| A: 10424                | <0.003       | 0.041        |
| A: 10425                | <0.003       | 0.037        |
| A: 10426                | <0.003       | 0.006        |
| A: 10427                | <0.003       | 0.035        |
| A: 10428                | <0.003       | 0.456        |
| A: 10429                | <0.003       | 0.326        |
| A: 10430                | <0.003       | 0.002        |

SIGNED: C. Douglas Read  
C. Douglas Read,  
LABORATORY MANAGER

FOOTNOTES:  
P=QUESTIONABLE PRECISION; A=INTERFERENCE; TR=TRACE; ND=NOT DETECTED;  
IS=INSUFFICIENT SAMPLE; NA=NOT ANALYZED; MS=MISSING SAMPLE

APPENDIX II

Statement of Costs

Cost Statement

|                                            |             |
|--------------------------------------------|-------------|
| Fees, R. Gosse @ \$200.00/day              | \$600.00    |
| Fees. M. Sawiuk @ \$250/day                | 750.00      |
| Vehicle Rental @ \$40.00/day               | 120.00      |
| Vehicle Expenses                           | 5.00        |
| Ferry Fares                                | 46.00       |
| MacMillan Bloedel Road Use Permit          | 20.00       |
| Field Equipment Rental @ \$8.00/person-day | 48.00       |
| Food                                       | 90.59       |
| Field Supplies                             | 5.30        |
| Analytical Expenses @ \$12.50/sample       | 125.00      |
| Report Preparation                         | 200.00      |
| Over-ride on Disbursements at 10%          | 65.99       |
| (excludes fees)                            |             |
|                                            | <hr/>       |
|                                            | \$2075.88   |
|                                            | <hr/> <hr/> |

APPENDIX III

Statement of Qualifications

STATEMENT OF QUALIFICATIONS

I, Richard R. Gosse, hereby certify that:

1. I am a consulting geologist with a business office at 4992 Angus Drive, Vancouver, B.C. V6M 3M5.
2. I am a graduate of Queen's University at Kingston (B.Sc. Hons, 1982) and of the Royal School of Mines, Imperial College of Science and Technology (M.Sc., D.I.C., 1984).
3. I am a Fellow of the Geological Society.
4. I have practised my profession as a geologist for five years.

Signed: Richard R Gosse  
Richard R. Gosse

Dated at Vancouver, B.C.  
this 1st day of February, 1987.

AMENDMENT

AOK GROUNDWORK MAP

July 17, 1986

