85-410 5186

13723

REPORT ON 5186
RECONNAISSANCE MAPPING, ROCK SAMPLING
AND
GEOCHEMICAL SILT SAMPLING

CANON AND OLSEN CLAIMS

ALBERNI MINING DIVISION, B.C.
NTS 92F/2
49°03'N LAT. 124°38'W LONG.
FOR
NEXUS RESOURCE CORPORATION
MAY 15, 1985

T. NEALE, B.Sc. T.G. HAWKINS, P.Geol.

## SUMMARY

The Canon and Olsen claims are located approximately 23 kilometres south-southeast of Port Alberni in the Alberni Mining Division. The claims are underlain primarily by Upper Triassic Karmutsen Formation mafic volcanics and Middle to Upper Jurassic Island Intrusive dioritic rocks. The northeastern part of the Olsen claim is underlain by rocks of the Upper Triassic Quatsino Formation and possibly the Lower Jurassic Bonanza Group.

An 8 cm wide pyritiferous quartz vein returning assay values of 2.63 oz Au/T and 1.89 oz Ag/T was discovered during reconnaissance geological mapping, sampling and prospecting of the property. A 16 cm wide chip sample of altered diorite bounding the quartz vein returned values of 0.068 oz Au/T and 0.25 oz Ag/T. A second gossanous zone hosted within the diorite, and situated approximately 100 m upslope from the high grade quartz vein returned values of 0.012 oz Au/T and 0.43 oz Ag/T. These showings may be part of or adjacent to the previously known Mount Olsen showing which returned assay values of 1.52% Cu, 0.5 oz Ag/T and 0.02 oz Au/T.

A second type of mineralization consisting of a small massive sulphide lens found in Karmutsen volcanics, was discovered by MPH Consulting Limited in 1983. A grab sample assayed 13,200 ppm Cu, 260 ppm Zn, 180 ppb Au, 40 ppm Ag.

Numerous high grade quartz vein showings occur surrounding the Canon-Olsen property. These include the WWW Mine, Corrigan Creek Mine, the Golden Slipper, and the Golden Rule.

Geological and economic considerations indicate good potential for the property to host additional high grade quartz veins, and possibly massive sulphide mineralization.

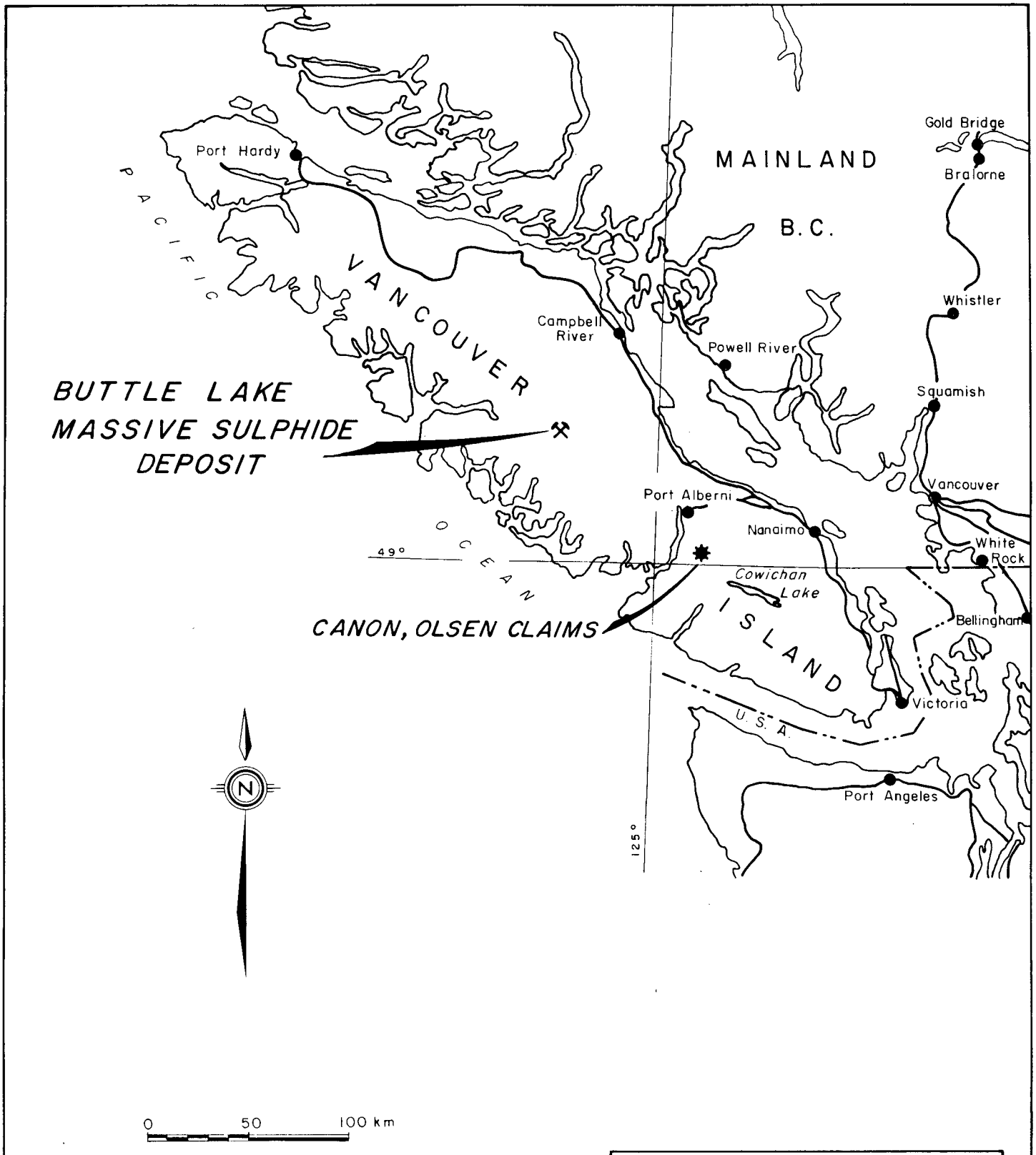
A three-phase, high grade quartz vein/massive sulphide exploration program is recommended. Phase I consists of prospecting, geological mapping, and rock sampling over the entire property with soil sampling on grids over showings and/or geologically favourable horizons. The estimated total cost of Phase I exploration is $36,800.

A Phase II follow-up work program will consist of trenching, detailed geological mapping and rock sampling, and VLF-EM and proton magnetometer surveys over anomalous grid areas at an estimated cost of $21,800.

If warranted, a Phase III program consisting of an IP survey, trenching, and diamond drilling is recommended at an estimated combined cost of $130,000.

TABLE OF CONTENTS

# LIST OF ILLUSTRATIONS




NEXUS RESOURCE CORPORATION

LOCATION MAP

CANON, OLSEN CLAIMS

ALBERNI MINING DIVISION

| | | | |
|---|---|---|---|
| Project No: | V 202 | By: | T. K. |
| Scale: | 1 cm = approx. 26 km | Drawn: | J. S. |
| Drawing No: | 1 | Date: | MAY, 1985. |

MPH Consulting Limited

## 1.0 INTRODUCTION

This report represents the compilation of field work performed by MPH Consulting Limited for assessment purposes on the Canon and Olsen claims from April 17 to April 21, 1985 at the request of Nexus Resource Corporation.

The work involved reconnaissance geological mapping, and rock and stream sampling throughout most areas of both claims. The entire property was covered by approximately 0.2-1.5 metres of snow, thereby restricting access and limiting outcrop exposure. Furthermore, silt sampling was difficult because some of the mountain streams were non-existent or the water flow was too turbulent to allow the settling of the finer silts and clays.

A total of 17 rock samples and 8 stream samples was taken and geochemically analyzed for Au, Ag, Cu, Pb and Zn.

## 2.0 PROPERTY LOCATION, ACCESS, TITLE

The Canon and Olsen claims are located approximately 23 km south-southeast of Port Alberni on the NTS mapsheet 92F/2, at latitude 49°02'N and longitude 124°38'W in the Alberni Mining Division of British Columbia (Figure 1).

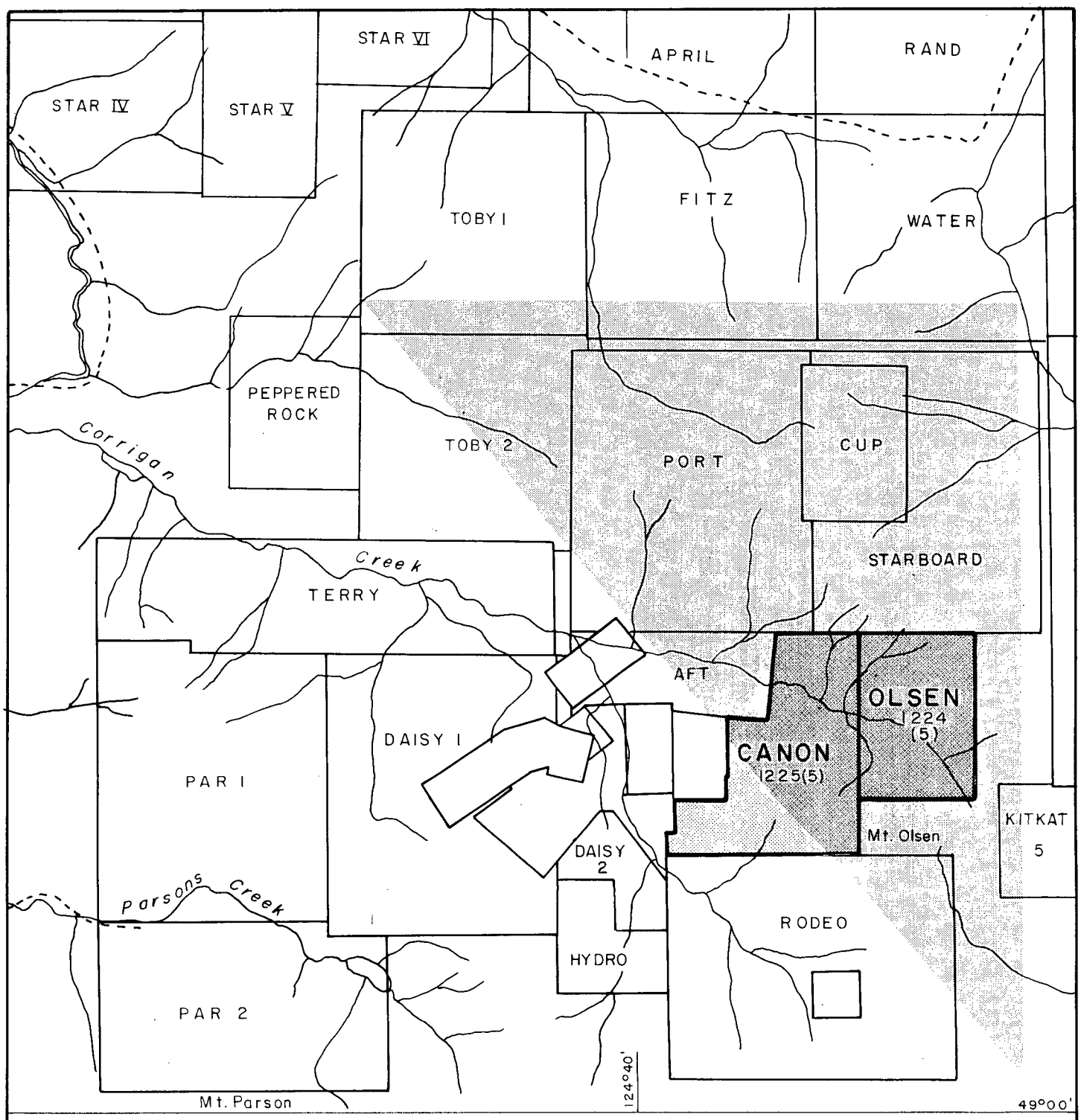
Access to the property is gained by following the north-south Port Alberni-Bamfield road to the Corrigan Creek Road. Approximately 5 km up the Corrigan Creek Road, an old overgrown railway grade provides foot access to the Canon claim. The southwestern corner of the Canon claim may be reached by foot from the Corrigan Creek road at a point another 2 km along the road from the old railway. No roads occur on either of the claims. Access to the highest parts of the claims is by helicopter.

Claim information is summarized as follows:

| Claim Name | Record No. | Units | Anniversary Date | Year Registered |
|---|---|---|---|---|
| Canon | 1225 | 20 | May 6, 1986 | 1981 |
| Olsen | 1224 | 6 | May 6, 1986 | 1981 |

Both claims are owned by Nexus Resource Corporation. The claims were grouped as the Canon Group by Notice to Group #1085 on May 5, 1985.

Base metal rights to the Olsen claim and the northeastern portion of the Canon claim are held by Imperial Metals Corp. under option from Fording Coal Ltd. as this area lies within an area of the old E&N Land Grant which was not relinquished by the CPR (Figure 2).




LEGEND

Base metal rights held by Imperial Metals Corp.

N

NEXUS RESOURCE CORPORATION

# CLAIM MAP

## CANON AND OLSEN CLAIMS

ALBERNI MINING DIVISION

| | | | |
|---|---|---|---|
| Project No: | V 202 | By: | T. K. |
| Scale: | 1 : 50,000 | Drawn: | J. S. |
| Drawing No: | 2 | Date: | MAY, 1985. |

MPH Consulting Limited

## 3.0 PREVIOUS WORK

Government geological work in the area includes mapping by J.E. Muller and D.J.T. Carson (1969), and J.E. Muller (1977, 1980, 1982).

During the years 1963 to 1966, Gunnex Ltd. carried out a regional mapping program over a large portion of the E&N Land Grant, with limited prospecting and silt sampling. They compiled a list of all known mineral occurrences in the area and visited many of them. A grab sample of a quartz vein mineralized with chalcopyrite and pyrrhotite hosted by diorite (Olsen showing) assayed 1.52% Cu, 0.5 oz Ag/ton, and 0.02 oz Au/ton.

The property was visited on September 4, 1983 by MPH Consulting Limited to prepare a preliminary assessment for Nexus Resource Corporation. A number of rock samples was collected and lithogeochemically analyzed. Results included 250 ppb Au, 11.6 ppm Ag, and 500 ppm Cu from a quartz vein hosted by diorite and 13,200 ppm Cu, 260 ppm Zn, 180 ppb Au, 40 ppm Ag from a massive sulphide lens containing 10-20% chalcopyrite and up to 30% pyrite. The massive sulphide lens is 3 m by 0.5 m in size and is hosted by mafic volcanic rocks on top of Mount Olsen.

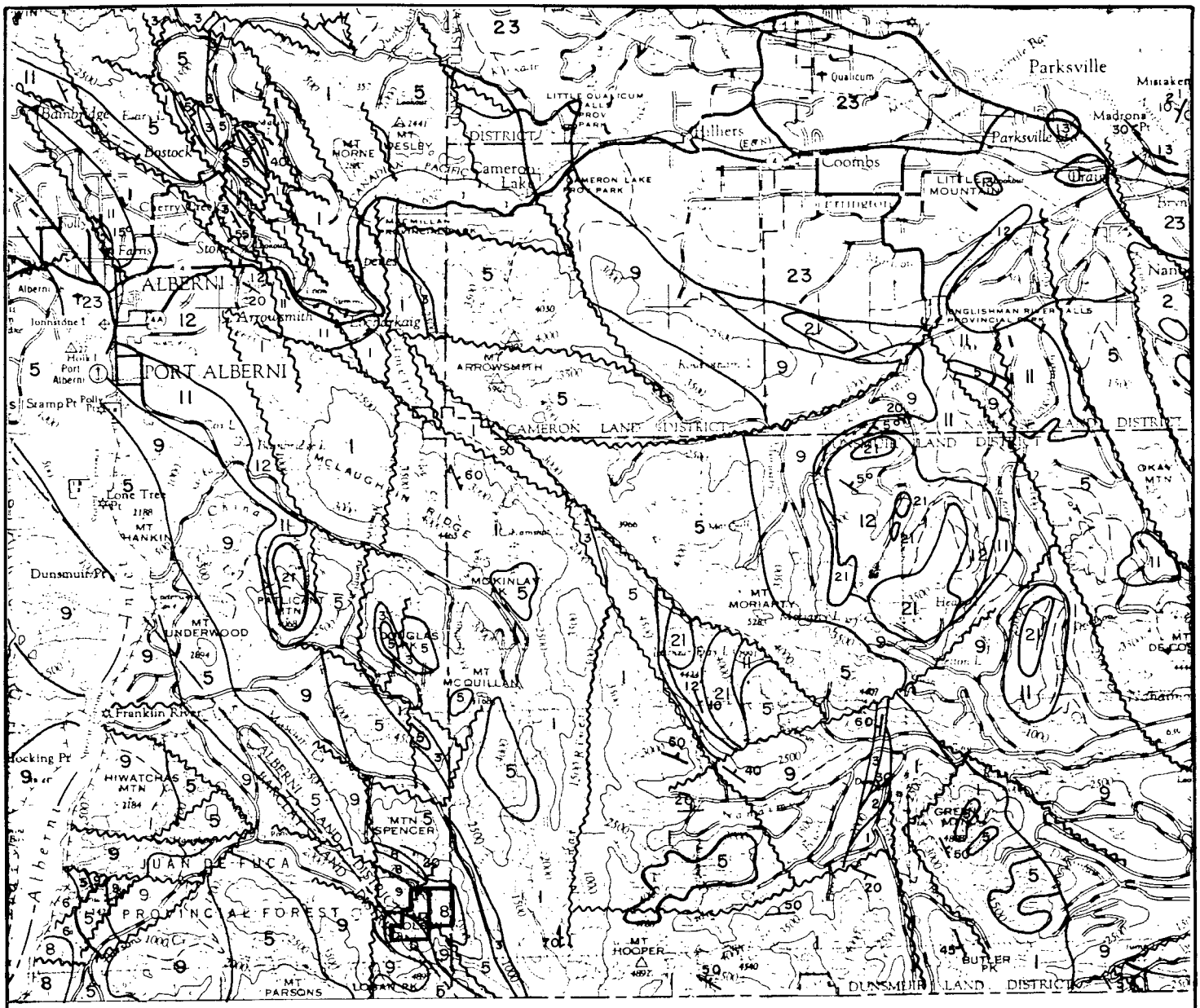
# 4.0 REGIONAL GEOLOGY

The Port Alberni-Nitinat River area is underlain predominantly by eugeosynclinal sequences of volcanic and sedimentary rocks from the Upper Paleozoic Sicker Group, the Triassic Vancouver Group and the Lower Jurassic Bonanza Group. These units were subsequently intruded by a variety of diorite to granodiorite rocks during Middle to Upper Jurassic times (Figure 3).

## 4.1 Sicker Group

The oldest rocks in the area are those of the Sicker Group. Muller (1980) proposed the following subdivision of the Group from youngest to oldest: Buttle Lake Formation, Sediment-Sill Unit, Myra Formation, and Nitinat Formation.

The Nitinat Formation (Unit 1) consists predominantly of basic volcanic rocks, most commonly flow-breccias, including some massive flows and rare pillow basalts or agglomerates. Locally, medium grained, generally massive basaltic tuff is interbedded with the flows. The flow-breccia is composed of fragments of basalt up to 30 cm in length containing uralite phenocrysts and black or white amygdules, both from 1 mm to more than 1 cm in size, in a matrix of finer grained, similar basalt(?). Thin sections show that the uralite is replacing diopside. Uralitized gabbroic rocks underlie and intrude the volcanics and are believed to represent feeder dykes, sills, and magma chambers to the volcanics. The Nitinat Formation may be distinguished from the similar Karmutsen Formation by the usual lack of pillow basalts, the abundance of uralite phenocrysts, the pervasive shear foliation, and lower greenschist or higher metamorphic grade.




## LEGEND

QUATERNARY

| | |
|---|---|
| 23 | Glacial and alluvial deposits |

TERTIARY

| | |
|---|---|
| 21 | Hornblende quartz diorite, leucoquartz monzonite, porphyritic dacite, breccia. |

UPPER CRETACEOUS
NANAIMO GROUP

| | |
|---|---|
| 13 | EXTENSION-PROTECTION FM.: sandstone, conglomerate, shale, coal. |
| 12 | HASLAM FM.: shale, siltstone, fine sandstone. |
| 11 | COMOX FM.: sandstone, conglomerate, shale, coal. |

MIDDLE TO UPPER JURASSIC

| | |
|---|---|
| 9 | ISLAND INTRUSIONS: biotite-hornblende granodiorite, quartz diorite. |

LOWER JURASSIC

| | |
|---|---|
| 8 | BONANZA GROUP: andesitic to latitic breccia, tuff, and lava; minor greywacke, argillite, and siltstone. |

UPPER TRIASSIC
VANCOUVER GROUP

| | |
|---|---|
| 6 | QUATSINO FM.: massive to thick bedded limestone, minor thin bedded limestone. |
| 5 | KARMUTSEN FM.: pillow-basalt and pillow breccia, massive basalt flows; minor tuff, volcanic breccia; Jasperoid tuff, breccia and conglomerate at base. |

TRIASSIC OR PERMIAN

| | |
|---|---|
| 4 | Gabbro, periodite, diabase. |

LOWER PERMIAN TO PENNSYLVANIAN
SICKER GROUP

| | |
|---|---|
| 3 | BUTTLE LAKE FM.: limestone, chert. |
| 2 | MYRA FM.: lower unit; argillite, greywacke, conglomerate, tuff, minor limestone. Upper unit; rhyodacite to rhyolite tuff, lapilli tuff, breccia lesser siliceous siltstone, argillite, quartz porphyry and mafic flows. |
| 1 | NITINAT FM.: basaltic uralite porphyry, agglomerate, pillow lava; greenschist. |

0 5 10 km

N

NEXUS RESOURCE CORPORATION

REGIONAL GEOLOGY MAP
CANON, OLSEN CLAIMS
ALBERNI MINING DIVISION

| | | | |
|---|---|---|---|
| Project No: | V 202 | By: | T. K. |
| Scale: | 1 : 250,000 | Drawn: | J. S. |
| Drawing No: | 3 | Date: | MAY, 1985. |

MPH Consulting Limited

The Myra Formation (Unit 2) unconformably overlies the Nitinat Formation. In the Nitinat-Cameron River area the Myra Formation is made up of a lower massive to widely banded basaltic tuff and breccia unit, a middle thinly banded pelitic albite-trachyte tuff and argillite unit, and an upper thick bedded, medium grained albite-trachyte tuff and breccia unit. In the lower unit, crudely layered, mottled maroon and green volcaniclastic greywacke, grit, and breccia are succeeded by beds of massive, medium grained dark tuff up to 20 m thick interlayered with thin bands of alternating light and dark, fine grained tuff with local fine to coarse breccias containing fragments of Nitinat Formation volcanics. The middle unit is comprised of a sequence of thinly interbedded, light feldspathic tuff (albite trachyte or keratophyre composition) and dark marine argillite which has the appearance of a graded greywacke-argillite turbidite sequence. In the upper part of the middle unit, sections of thickly bedded to massive black argillite occur. The upper unit contains fine and coarse crystal tuffs in layers up to 10 m thick, with local rip-up clasts and slabs of argillite up to 1 m in length as well as synsedimentary breccias of light coloured volcanic and chert fragments in a matrix of black argillite.

The type locality of the Myra Formation is Myra Creek, at the south end of Buttle Lake, about 90 km northwest of the Canon and Olsen claims. There, volcaniclastic rocks consisting dominantly of rhyodacitic or rhyolitic tuff, lapilli tuff, breccia, and some quartz porphyry and minor mafic flows and argillite (Upper Myra Formation) are host to Westmin Resources' Myra, Lynx, Price, and H-W massive sulphide (Cu-Zn-Pb-Au-Ag-Cd) deposits.

Muller (1980) estimated the thickness of the Nitinat Formation at about 2000 m and that of the Myra Formation at 750 to 1000 m. Both the Nitinat and Myra Formations were dated as Devonian and/or older by Muller (1980).

The Sediment-Sill Unit contains thinly bedded to massive argillite, siltstone, and chert with interlayered sills of diabase. It is transitional between the Myra and Buttle Lake Formations. It is not mapped within the report map area.

The Buttle Lake Formation (Unit 3) consists of a basal green and maroon tuff and/or breccia overlain by coarse grained crinoidal and calcarenitic limestone, fine grained limestone with chert nodules and some dolomitic limestone. Lesser amounts of argillite, siltstone, greywacke, or chert may also be present.

The Buttle Lake Formation is up to 466 m thick. The age of the formation, on the basis of fossil dating appears to be Middle Pennsylvanian, but could possibly be as young as Early Permian (Muller, 1980).

## 4.2 Vancouver Group

The Karmutsen Formation volcanic rocks (Unit 5) overlie the Buttle Lake Formation limestone paraconformably to form the base of the Vancouver Group. They are the thickest and most widespread rocks on Vancouver Island. The formation, which is well exposed southeast of Port Alberni, consists mainly of dark grey to black pillowed basalt, massive basalt, and pillow breccia. Flows are

commonly aphanitic and amygdaloidal. Pillowed volcanics generally occur toward the base of the section.

Conglomerate containing clasts of Sicker Group rocks and jasperoid tuff form basal sections in the Nitinat-Horne Lake area.

Karmutsen Formation rocks are generally relatively undeformed compared to Sicker Group rocks and are dated Upper Triassic and older.

Massive to thick bedded limestone of the Quatsino Formation (Unit 6) occurs south of Mount Spencer. The limestone is black to dark grey and fine grained to micro-crystalline. In the vicinity of intrusive rocks, coarse grained marble is recognized. Thin bedded limestone also occurs in the formation. Fossils indicate an age of Upper Triassic (Muller and Carson, 1969).

## 4.3 Bonanza Group

The Bonanza Group (Unit 8) stratigraphy varies considerably from place to place, as it represents parts of several different eruptive centres of a volcanic arc. Basaltic, rhyolitic, and lesser andesitic and dacitic lava, tuff, and breccia with intercalated beds and sequence of marine argillite and greywacke make up the Bonanza Group. The Bonanza volcanics are considered to be extrusive equivalents of the Island Intrusions and to be of Early Jurassic age.

## 4.4 Nanaimo Group

Upper Cretaceous Nanaimo Group sedimentary rocks are scattered throughout the area. Extensive exposures occur near Port Alberni, Patlicant Mountain, and south and northwest of Mount Moriarty. The formations present comprise the basal portions of the Nanaimo Group.

The Comox Formation (Unit 11) consists mainly of quartzofeldspathic, cross-bedded beach facies sandstone and lesser conglomerate. Numerous intercalations of carbonaceous and fossiliferous shale and coal are characteristic.

The Haslam Formation (Unit 12) is a near shore littoral depositional facies unit characterized by massive bedded fossiliferous sandy shale siltstone and shaly sandstone.

Interbedded coarse clastic conglomerate, pebbly sandstone and arkosic sandstone of the Extension-Protection Formation (Unit 12) are beach and deltaic sands. Minor shale and coal are reported.

## 4.5 Intrusive Rocks

Gabbro, Peridotite, Diabase (Unit 4). Mafic and ultramafic rocks of Triassic or Permian age are scattered throughout the area. A large band is exposed approximately 8 km north of Port Alberni.

Although mapped as intrusive, some of these rocks may be basal flow units of the Karmutsen Formation.

Island Intrusions (Unit 9). Exposures of mainly quartz diorite and lesser biotite-hornblende granodiorite occur throughout the area and are assigned an age of Middle to Upper Jurassic. Intrusive contacts with Sicker and Bonanza Group volcanic rocks are characterized by transitional zones of gneissic rocks and migmatite although contacts with Karmutsen Formation volcanic rocks are sharp and well defined. Skarn zones are reported at the contact of Island Intrusion rocks with Quatsino Formation limestone and less frequently with Buttle Lake Formation limestone.

Tertiary (Catface or Sooke) Intrusions (Unit 21). Sills and stocks of mainly hornblende-quartz diorite and dacitic hornblende-feldspar porphyry plus lesser leucocratic quartz monzonite intrude Nanaimo Group sedimentary rocks and Sicker Group rocks in the area.

## 4.6 Structure

The Buttle Lake Arch, Cowichan-Horne Lake Arch and Nanoose Uplift are north-northwesterly trending axial uplifts and are believed to be the oldest structural elements in south central Vancouver Island. Uplifting occurred before the late Cretaceous, and possibly before the Mesozoic (Muller and Carson, 1969). Sicker Group volcanic and sedimentary rocks occur at the core of these uplifts.

Asymmetric southwest verging anticlinal structures characterized by sub-vertical southwest limbs and moderately dipping northeast limbs are reported at Buttle Lake and in the Cameron-Nitinat River area. Intense shearing and metamorphism to chlorite-actinolite

and chlorite-sericite schist occurs in steep and overturned limbs of folds. Overlying Buttle Lake Formation limestones are relatively undeformed except where they are thin.

Vancouver Group units are not as intensely folded; gentle monoclinal and domal structures have been mapped. However, Karmutsen Formation volcanic rocks locally conform to the attitude of underlying Myra and Buttle Lake Formations (J.E. Muller, 1980).

Some early Mesozoic faulting occurred in the area prior to emplacement of Island Intrusions. Middle to Upper Jurassic intrusive activity (Island Intrusions) occurred along northwesterly trends.

Extensive west-northwest trending faulting occurred during the Tertiary and is best illustrated by large displacements of Nanaimo Group sediments. The north trending Alberni Valley fault is traced over 45 miles and displaces a section of Karmutsen Formation approximately 5,000 feet (Muller and Carson, 1969).

## 4.7 Economic Setting

The Sicker Group, and to a lesser extent the Vancouver and Bonanza Groups, have been explored intermittently since the 1890's for gold and base metal mineralization.

Until recently, deposits of copper and gold-silver in quartz veins and shear zones hosted by mafic to intermediate volcanic rocks and base metal plus gold-silver skarn deposits were the most widely

recognized economic and subeconomic metal concentrations in the Port Alberni area. Placer mining for gold was carried out during the 1940's in various localities, especially in the China, Mineral and Corrigan Creeks area.

Situated on the eastern part of the Canon claim is the Mount Olsen showing (Cu, Ag, Au). Chalcopyrite and pyrrhotite mineralization occurs in a quartz vein hosted by diorite belonging to the Island Intrusions. A grab sample assayed 1.52% Cu, 0.5 oz Ag/T and 0.02 oz Au/T. A grab sample from an old trench on top of Mount Olsen, consisting of massive sulphides returned values of 13,200 ppm Cu, 180 ppb Au, 40.0 ppm Ag, 260 ppm Zn and trace lead.

Other nearby related mineral occurrences are the WWW Mine, Corrigan Creek Mine, the Black Panther Mine and the Black Lion Showing.

Both the WWW Mine ('limited' production of Au-Ag) and the Corrigan Creek Mine (116 T of ore grading 4.0 oz Au/T, 4.3 oz Ag/T, 0.23 % Cu, 1.1% Pb) are past producers consisting of quartz vein deposits hosted by diorite and granodiorites (Island Intrusions), and are located 2.0-2.5 km west of the Canon claim.

The Black Panther Mine is a quartz vein deposit hosted by a shear zone in Sicker Group andesite and diorite located 7 km north of the Canon-Olsen claims. Production of 1,890 T of ore yielded 509 oz Au, 953 oz Ag, 12,319 lbs Pb, 498 lbs Cu and at least 4,478 lbs Zn. The Black Lion showing, situated 6 km northeast of the property is geologically similar to the Black Panther. A grab sample assayed 1.2 oz Au/ton.

The only other presently producing mine on Vancouver Island is the Island Copper deposit of Utah Mines Ltd., a porphyry copper deposit in which disseminated chalcopyrite, molybdenite and pyrrhotite mineralization is hosted by brecciated basaltic to andesitic pyroclastic rocks of the Bonanza Group. The deposit, which occurs near Port Hardy in the northern part of Vancouver Island, is intruded by quartz and quartz-feldspar porphyry. Total estimated reserves in 1970 were 280 million tons grading 0.52% Cu, 0.029% Mo.

Six past producing mines occur in the Port Alberni area. The Thistle Mine produced 2,760 oz Au, 2,120 oz Ag and 681,425 lbs Cu from 6,920 T of ore. It was originally considered to be a skarn deposit (J.S. Stevenson, 1944; D.J.T. Carson, 1968). Disseminated and massive sulphide mineralization occurs as lenses and bands within pyritic quartz-sericite schist and at the contact of quartz-sericite schist with chloritized mafic volcanic rocks (Sicker Group). Disseminated sulphide mineralization occurs throughout the host rocks. The deposit is now believed to be of syngenetic-volcanogenic origin. It is located 7.5 km north of the Canon-Olsen claims.

The Havilah Mine (1,046 T produced 259 oz Au, 1,404 oz Ag) and the Vancouver Island Gold Mine (483 T produced 384 oz Au, 52 oz Ag) are quartz vein deposits hosted by andesite and andesite tuff of the Sicker Group and are located 10 km and 17 km, respectively, north of the Canon-Olsen claims.

The other three past-producers are the Black Panther, WWW, and Corrigan Creek Mines, discussed above.

Significant base metal and gold deposits and occurrences in the Canon-Olsen area are summarized below, and illustrated on Figure 4.

## 4.8 Mineral Occurrences

### 1. Mount Olsen Showing (Cu Ag Au)

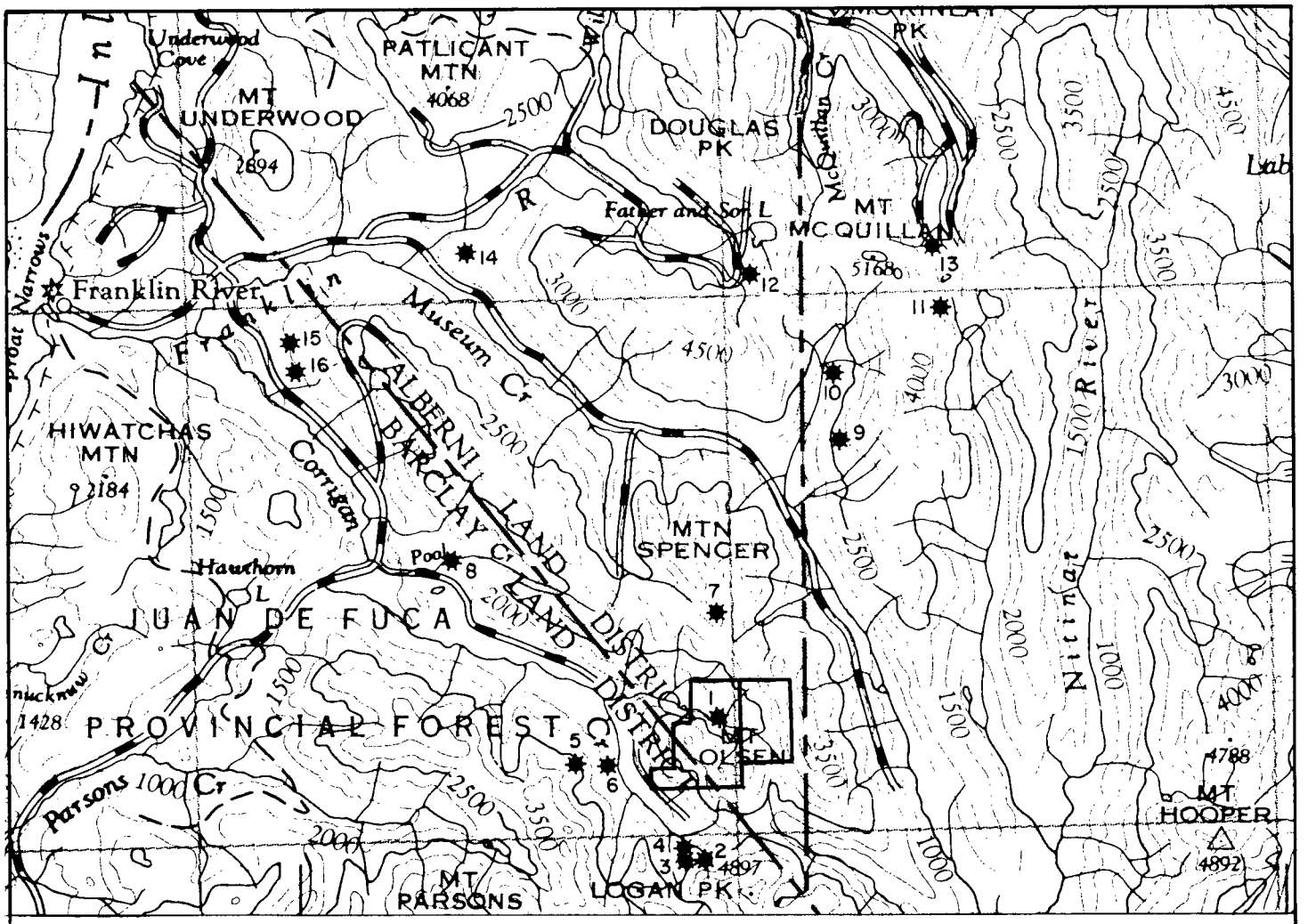
Location:
Situated on the Canon Claim, north of Mount Olsen

Geology:
Chalcopyrite and pyrrhotite mineralization occur in a 2 ft wide quartz vein within dioritic rocks close to a contact with Vancouver Group volcanic rocks.

Economic Features:
A grab sample assayed 1.52% Cu, 0.5 oz Ag/T, 0.02 oz Au/T.

History:
Undated: Unknown; old workings reported in the area.
1963-1965: Gunnex Ltd.; mapping, prospecting

References:
Minfile 092F381




1. Mount Olsen Showing (Cu, Ag, Au)
2. Andy (Arland's Showing; Cu, Mo)
3. Golden Slipper (Au, Ag, Cu)
4. Golden Rule (Au, Ag, Cu)
5. WWW (Au, Ag, Cu)
6. Corrigan Creek Mine (Au, Ag, Cu, Pb)
7. Mary Group Occurrence (Cu, Zn, Pb, Ag, Au)
8. Starlight (Au)
9. Black Lion (Au, Ag)
10. Black Panther (Au, Ag, Pb, Zn, Cu)
11. B and K (Au, Ag,)
12. Thistle (Au, Ag, Cu)
13. Golden Eagle (Au)
14. B D Q (Au, Ag, Cu)
15. Cor 6 (Cu, Au)
16. Star of the West (Au, Cu, Zn)

NEXUS RESOURCE CORPORATION

MINERAL OCCURRENCE LOCATION MAP

CANON, OLSEN CLAIMS

| | | | |
|---|---|---|---|
| Project No | V 202 | By | T. K. |
| Scale: | 1 : 125 000 | Drawn: | J. S. |
| Drawing No: | 4 | Date: | MAY, 1985. |

MPH Consulting Limited

## 2. Andy (Arland's Showing) (Cu Mo)

Location:

1 km south-southwest of the Canon-Olsen claims.

Geology:

Chalcopyrite, minor molybdenite, pyrrhotite and pyrite are associated with quartz hornblende veinlets in fracture fillings and disseminations in a stockwork structure in granodiorite.

Economic Features:

No results reported from any of the work done.

History:

Undated: Unknown; an adit was driven to intersect the Cu-Pb-Zn occurrence.

1964-70: Noranda Exploration Co. Ltd.; Prospecting, silt sampling, soil sampling, EM, mag, IP, 19 DDH for 7333'.

References:

1) MMAR 1895-654, 1966-76, 1967-76, 1968-104
2) GEM 1969-220, 1970-289
3) Minfile 092F217

## 3. Golden Slipper Au Ag Cu

Location:

Approximately 1.5 km southwest of Mount Olsen.

Geology:

Not reported, however the area is currently mapped as being underlain by diorite (Island Intrusives).

Economic Features:

Ore is reported to have carried an average value of $40.00 (1900 dollars) per ton in gold, silver and copper.

History:

1899-1900: C. Soll, H. McCoy, H.S. Cow; 16' shaft and 40' tunnel.

References:

1) MMAR 1899-785, 1900-920
2) GSC Map 1963-49
3) Minfile 092F149

4. Golden Rule (Au Ag Cu)

Location:

1.5 km southwest of the Canon claim.

Geology:

Not reported, however the area is currently mapped as diorite (Island Intrusives).

Economic Features:

A galena bearing vein, 2.5 ft in width is exposed, having an average value of $17.50 per ton in gold, silver and copper (1900 dollars).

History:

1899-1900: H.S. Law; no work reported.

References:

1) MMAR 1899-785, 1900-920
2) Minfile 092F218

5. WWW (Au Ag Pb Cu)

Location:

2 km west of Canon-Olsen property.

Geology:

Tongues of granodiorite alternate with masses of hybrid diorite; both rock types have been cut by feldspar porphyry dykes. Two quartz veins occupy fissures and contain pockets of pyrite, galena, and sphalerite. Another quartz vein is a mineralized gouge zone that does not everywhere contain quartz.

Economic Features:

No. 1 vein measures 300 feet long by 4 to 10 inches wide and is exposed in one adit, four open cuts. A channel sample near the adit assayed 6 oz Au/T, 4 oz Ag/T over 4 inches (1935).

No. 2 vein measures 160 feet long by 8 inches wide. A channel sample assayed 7.3 oz Au/T, 5.3 oz Ag/T over 10 inches (1935).

No. 3 vein measures 308 feet long by 2 to 14 inches wide. A channel sample assayed 1.3 oz Au/T, 0.9 oz Ag/T over 14 inches

(1935). Grab samples assayed 7.25 oz Au/T; and 0.18 oz Au/T, 0.2 oz Ag/T (1964).

Production:

1899-1941: A total of 116 T of ore was mined, yielding 471 oz Au, 500 oz Ag, 2424 lb Pb, and 538 lb Cu.

History:

1898-1899: Various owners; staking, prospecting, one adit driven.

1930-1935: Franklin River Gold Mines Ltd.; development, some mining.

1940's: Various; prospecting, sampling.

1963-1964: Gunnex Ltd.; prospecting, sampling.

References:

1) MMAR 1898-1132, 1899-607, 1906-198, 1921-206, 1922-228, 1926-295, 1927-341, 1930-291, 1932-203, 1933-250, 1935-F49, 1940-27, 1941-27

2) GEM 1970-289, 1974-172

3) BCDM Bull 1 p132

4) AR 2771

5) GSC P 68-50 p38
Map 1963-49

6) The Miner Oct. 1935

7) Minfile 092F141

## 6. Corrigan Creek Mine (Au Ag Cu Pb)

Location:

1.5 km west of the Canon-Olsen claims.

Geology:
Sulphide bearing quartz veins occur in granodiorite and diorite.

Economic Features:
The vein measures 1,000 feet long by 2 inches to 2 feet wide. The best grab sample assayed 1.7 oz Au/T, 3.99 oz Ag/T (1970). A grab sample taken by MPH assayed 18,000 ppb Au, 3,060 ppm Pb, 12,000 ppm Zn, 11.2 ppm Ag.

Production:
1899-1935: 116 T of ore grading 4 oz Au/T, 4.3 oz Ag/T, 0.23% Cu, 1.1% Pb (reported by W.G. Stevens and Associates Ltd.; 1970 part of WWW Mine?).

History:
1899-1935: Various; some development, mining (part of WWW Mine?).
1970: John Cotowick; limited mining operations.

Comments:
The property was visited by MPH workers in September, 1983. An adit was found approximately 500 m west of Corrigan Creek, north-east of Mount Olsen. A sample of mineralized dump material assayed 18,000 ppb Au, 3060 ppm Pb, 12,000 ppm Zn, 11.2 ppm Ag.

References:
1) MMAR 1944-59
2) GSC P68-50 p.38
Map 49-1963
3) Minfile 092F085

7. Mary Group Occurrence (Cu Zn Pb Ag Au)

Location:
2 km north of the Canon-Olsen claims, south of Mount Spencer.

Geology:
Chalcopyrite, bornite, malachite, pyrrhotite plus sphalerite mineralization occurs in quartz veins, sheared andesite (Vancouver Group) and feldspar porphyry plus skarn in Vancouver Group limestone (Quatsino Formation).

Economic Features:
Five main zones of mineralization. Showing 1 is 200 feet long by 50 feet wide; best channel sample assayed 0.33% Cu over 3 feet.

Showing 2 is 1 foot wide; a grab sample assayed 1.2% Cu, 0.58 oz Ag/T.

Showing 3, mineralized skarn, is approximately 10 feet wide; the best grab sample assayed 0.45% Cu, 3.3% Zn, 0.34 oz Ag/T. The best channel samples assayed 2.61% Zn, 0.29% Cu over 5 feet; 2.23% Zn, 0.33 oz Au/T over 2 feet; and 6.03% Zn, 0.59% Cu over 2.5 feet.

Showing 4 is 16 feet long by 15 feet vertical; Cu, Zn assays were low.

Showing 5, massive pyrrhotite, minor chalcopyrite is 60 feet long by 4 to 6 feet wide; a grab sample from a 1 foot wide quartz vein assayed 2.72% Cu, 6.22% Pb, 0.65% Zn, 28.9 oz Ag/T; a grab sample

of massive pyrite in quartz assayed 0.20 oz Au/t, 25.3 oz Ag/T.

Gold Valley Resources Ltd. reports surface assays of up to 5.57% Cu over 23 feet.

The Summit Pass Mining Corp. report of 1979, apparently based largely on Cominco's work, mentions the following mineralization: a zone 200-400' wide by 1200 feet long with disseminated to massive pyrrhotite, pyrite, and chalcopyrite to 2 feet thick along fractures and joint surfaces; pods and disseminations of chalcopyrite and pyrrhotite in discontinuous lenses in a zone 50 feet by 1000 feet; and massive sulphides (Cu-Ag-Mo) in narrow veins in volcanics; plus five other lesser mineralized zones. As well, Gunnex's DDH 66-7 is reported as having cut 81 feet averaging 1.22% Cu and 0.066% $MoS_2$ from 151 to 232 feet.

History:

1964-66: Gunnex Ltd.; prospecting, detailed mapping, trenching and pitting, soil sampling, magnetometer, EM, SP, IP surveys, 8 AX DDH totalling 3064 feet.

1967: Cominco Ltd.; geological mapping, horizontal loop EM, magnetometer, 4 AX DDH totalling 1503', 5 Winkie DH totalling 411'.

1976: Gold Valley Resources Ltd.; 3 DDH totalling 852'.

1979-81: Summit Pass Mining Corp.; prospecting, summary of previous work.

References:

1) GCNL Aug. 20, 1976; Jan. 19, 1977

2) MMAR 1966-75, 1967-76

3) GEM 1976-E111
4) AR 6134, 8177
5) GSC P 68-50 p38
6) Minfile 092F207

## 8. Starlight (Au)

Location:
Approximately 4 km west-northwest of the Canon claim.

Geology:
Fine-grained free gold is associated with galena which is finely disseminated through extensively altered diabase. The orebody consists of quartz, pyrite, galena and calcite.

Economic Features:
A large sample assayed $40.00 per ton in gold (1895 dollars, i.e. about 2 oz Au/T). The orebody is reported to have been exposed (by blasting?) for a width of 7 feet without any well defined walls.

History:
1895: Unknown; blasting(?)

References:
1) GSC Map 1963-49
2) MMAR 1895-653
3) Minfile 092F216

## 9. Black Lion (Au Ag)

Location:

6 km northeast of the Olsen claim.

Geology:

Quartz stringers containing pyrite, galena and gold, occur in a carbonatized shear zone which follows an andesite-diorite contact.

Economic Features:

Quartz-sulphide stringers 1 to 1.5 feet wide occur in altered andesite. The best grab sample assayed 1.2 oz Au/T. Grab sample assays ranged from 0.27 to 0.43 oz Au/T (1941).

History:

1941: Bralorne Mines Ltd.; prospecting, open cuts.

1942-64: Some diamond drilling is reported to have been done sometime during this period.

1964-65: Gunnex Ltd.; silt sampling and prospecting in the general area.

References:

1) MMAR 1944-147,159

2) GSC P 68-50 p38
Map 49-1963

3) AR 7857, 9639

4) Minfile 092F085

## 10. Black Panther (Au Ag Pb Zn Cu)

Location:

7 km northeast of the Olsen claim.

Geology:

Ribbon-quartz lenses containing variable amounts of sulphides, mainly pyrite with minor galena and sphalerite occur in a shear zone which follows the contact of andesite lava on the west and diorite breccia on the east. The wall-rock of the shear is strongly altered by ankeritic carbonate for widths of a few inches to 30 feet which locally is cut by numerous quartz stringers.

Economic Features:

The shear zone has been traced for at least two miles but the best mineralization is at the Black Panther workings where quartz lenses are one inch to three feet thick and up to 40 feet long. Four samples containing "heavy sulphides" from the 2700 and 2790 adits assayed from 2.30 to 2.88 oz Au/ton. A 1964 assay from the dump is reported as 1.16 oz Au/ton, 2.1 oz Ag/ton, 0.14% Cu, and 1.73% Pb.

Production in 1947, 1948, and 1950 totalled 1890 tons which yielded 509 oz Au, 953 oz Ag, 498 lb Cu, and 12,319 lb Pb, and at least 4478 lb Zn.

History:

1936: Claims first staked, upper adits driven shortly thereafter.

1939: Walter Harris; prospecting, drifting, cross-cutting (presumably those adits referred to above).

1941: Pioneer Gold Mines of B.C. Ltd.; drove the 2700 (Main) adit and the 2450 adit (about 1200 feet of drifting, crosscutting, and raising), 1631 feet of diamond drilling.

1944-48: Nitinat Golds Ltd. (became Nitinat Mines Ltd. in 1947); built a 25 ton flotation mill, mining, shipped 68.5 tons of concentrate.

1962: Hunting Survey Corp.; regional aeromagnetic survey, geological mapping at the workings.

1964-65: Gunnex Ltd.; visited the workings, took a rock sample.

References:

1) MMAR 1939-88, 1941-71, 1944-157, 1945-114, 1947-182

2) GSC P68-50 p38
Map 49-1963

3) Minfile 092F084

## 11. B and K (Au Ag)

Location:

7 km northeast of the Olsen claim.

Geology:

Many widely scattered narrow quartz veins containing pyrite, and minor galena, sphalerite, and chalcopyrite with Au and Ag values occur in andesite tuffs and flows, basalt, and local black chert; often in shear zones. A zone of strongly carbonatized andesite 6 to 25 feet wide contains minor pyrite, galena, and sphalerite in narrow veinlets. In the southern workings, veins are surrounded by a strong ankeritic carbonate alteration zone.

Economic Features:

The "high-grade" vein has been exposed in open cuts for 130 feet and is 5 to 8 inches wide. A sample assayed at 3.84 oz Au/ton, 3.2 oz Ag/ton, 0.06% Cu over 5 inches. This vein may be on Golden Eagle property.

A vein near the north end of the workings varies from 2 to 6 inches to a 6 foot stringer zone in width. Assays of 2.56 and 2.26 oz Au/ton are reported.

A sample from quartz nodules containing galena and pyrite from an open cut on two parallel shears, each 18 inches wide, ran 0.82 oz Au/ton and 0.7 oz Ag/ton.

No assays are reported from the carbonatized zone. Many other quartz veins, from a hairline to 8 inches wide, for which no assays are available, occur within an area about 1250 feet long.

History:

1938-40: Angus Beaton, Ed Keisig; staked claims, prospecting, 17 open cuts and trenches, stripping.

1964-65: Gunnex Ltd.; prospecting and silt sampling in the general area.

References:

1) MMAR 1944-151
2) GSC P68-50 p38
Map 49-1963
3) Gunnex #13
4) Minfile 092F081

## 12. Thistle (Au Ag Cu)

Location:

7.5 km north of the Canon-Olsen claims.

Geology:

The mine area is underlain mainly by mafic volcanic and volcaniclastic rocks of the upper(?) Myra Formation. The orebodies are reported to occur in two shear zones, 130 feet apart within a 200 foot wide band of limestone. The limestone is extensively altered to "diopside rock" composed of fine grained diopside, and is partly underlain by and surrounded on three sides (NE, SE, SW) by fine grained diorite. Strong faults located along the orebodies extend downward beyond the known ore limits.

The ore consists of chalcopyrite and some pyrite in a gangue of dirty grey calcite and a little quartz. Magnetite disseminated through much of the calcite is locally oxidized to hematite. Early workers considered this to be a replacement deposit; Carson (1968) believed it to be a type of skarn deposit; more recently it has been postulated that Thistle is a volcanogenic massive sulphide type of deposit.

Economic Features:

Production from 1938 to 1942 amounted to 6920 tons of ore which contained 2760 oz Au, 2120 oz Ag, and 681,425 lb Cu. The ore apparently occurs in lenses ranging from less than an inch up to at least 18 by 25 feet with much faulting cutting lenses off.

Assays from 2.71 to 10.2% Cu, 0.226 to 1.22 oz Au/ton, and 0.15 to

1.33 oz Ag/ton over apparent true thicknesses of 15 cm to 4 m are reported from chip sampling. The Panther Road showing, 1.4 km SE of the Thistle Mine, assayed at 900 ppm Cu, 0.490 oz Au/ton, and 0.05 oz Ag/ton.

History:

1896: First staked.

1899: A. Watson et al; lower adit (500 adit) driven 65 feet but hadn't intersected ore that was 6 to 8 feet wide on surface, upper adit (300 adit) driven 90 feet but also hadn't intersected an orebody. A pit on one of the surface showings.

1901: Alberni Gold and Copper Co. Ltd.; roadbuilding, development work.

1902: J.M. Watson; granted Crown Grant L.91G.

1927: A. Watson et al; a 25 foot tunnel with a 20 foot crosscut, all in ore (300A adit?).

1938-40: United Prospectors Ltd.; shipments of ore were made from open cuts and glory holes and the old dumps.

1941-42: Vancouver Island Diamond Drilling and Exploration Co.; 1789 tons ore ore mined, shut down July 25, 1942.

1944: The workings existing on the property included four adits totalling 527 feet, and 18 by 25 foot stope 60 feet long, two glory holes totalling about 6000 cubic yards, and several open cuts. Owned by United Prospectors Ltd., but no work done since 1942.

1962: Hunting Survey Corp.; regional aeromagnetic survey, geological mapping at the mine area.

1964-65: Gunnex Ltd.; visited the area, but no mapping done, silt sampling and prospecting in the general area.

1965: Vananda Explorations Ltd.; magnetometer, SP, and geochemical surveys, 4 diamond drill holes totalling 1745 feet.

1979: Kargen Development; linecutting, soil sampling.

1982: McQuillan Gold; airborne EM and magnetometer surveys, soil sampling, rock sampling, trenching, EM survey.

1983-84: Westmin Resources Ltd.; geological mapping, rock sampling (for assay, whole rock geochem, and thin sections), and prospecting.

References:

1) MMAR 1899-778, 1901-1097, 1902-307, 1927-340, 1928-366, 1930-291, 1939-40,88, 1940-73, 1941-71, 1942-66, 1944-154-157, 1965-238

2-5) AR 8088, 9126, 10237, 11064

6-7) GSC P68-50 p38
Map 49-1963

8) Gunnex #10

9) Minfile 092F083

10) Nexus Resource Corporation;
News Release dated November, 1983.

## 13. Golden Eagle (Au)

Location:

9.5 km northeast of the Olsen claim.

Geology:

Gold occurs in a vein of ribbon-quartz and pyrite with other minor sulphides in a small intrusion of feldspar porphyry.

Economic Features:

The vein varies from a few inches to 8 feet, averaging about 3.5

feet in width and has been traced in outcrop for 400 feet along strike and 325 feet vertically. An assay of $56 Au/ton, 3 oz Ag/ton, and 1% Cu is reported (1899), and assays of up to $103 Au/ton are reported to have been obtained in 1894. A tunnel 500 feet below the surface showing never intersected the vein despite being driven 1500 feet beyond the estimated intersection point of 600 feet.

History:

1892: The discovery of 2 quartz veins by prospectors searching for the source of the China Creek placer gold prompted the original claims to be staked.

1893-1902: Various individuals and/or companies; 4 adits totalling 205 feet in upper workings, an adit driven at a lower level to avoid snowslides from 1896-1902 reached 2100 feet without intersecting mineralization, "development work" of an unspecified nature.

1964-65: Gunnex Ltd.; prospecting and silt sampling in the general area. Also visited the lower adit and a showing near Summit Lake (B and K?) where rock samples were taken.

References:

1) MMAR 1893-1080, 1894-773, 1895-651, 1896-7, 556, 1897-566, 1898-1132, 1899-607, 779, 785, 1902-230, 1944-G150

2) AR 10194

3) GSC P68-50 p38
Map 49-1963, 17A

4) Gunnex #12

5) Minfile 092F080

## 14. BDQ (Au Ag Cu)

Location:

7 km northwest of the Canon claim.

Geology:

Not reported, however the area is mapped as diorite and quartz diorite (Island Intrusions).

Economic Features:

Production in 1940 amounted to 1 ton of ore yielding 2 oz Au, 5 oz Ag, and 24 lb Cu.

History:

Not known.

References:

1) MMAR 1940-A27
2) BCDM Index No. 3 to Publications of the BCDM p188
3) Minfile 092F348

## 15. COR 6 (Cu Au)

Location:

8.5 km northwest of the Canon claim.

Geology:

Quartz veins in biotite-granodiorite and Karmutsen volcanics carry chalcopyrite. Gossanous patches in the volcanics carry pyrite veinlets 3-6 mm in width.

Economic Features:

Assays range from 0.002-0.06 oz Au/T and from 0.02-0.21% Cu.

History:

1975-77: Focus Resources Ltd.; geological mapping (1:480 and 1:12,000), trenching.

References:

1) AR 5400, 6676

2 EBC 1975-E94, 1977-E109

3) Minfile 092F399

16. Star of the West (Au)

Location:

8 km northwest of the Canon claim.

Geology:

A drift follows a quartz carbonate vein striking 055°, dipping 40° SE, which varies in width from 0.15-1.0 m, and is hosted by Karmutsen volcanics. Sulphide mineralization is sparse along the vein, and consists of pyrite and chalcopyrite.

Economic Features:

The vein is 5 feet wide (1895 report). A one ton shipment returned $10 in Au (i.e. about 0.5 oz Au/T).

History:

1974-77: Focus Resources Ltd.; geological mapping (1:480 and 1:12,000), trenching.

References:


1) MMAR 1895-653, 1896-5, 1897-569, 1923-247, 1933-252
2) EBC 1975-E94, 1977-E109
3) BCDM Bull 1 p5
4) GSC Map 1963-49
5) AR 5400
6) Minfile 092F215

# 5.0 ASSESSMENT WORK COMPLETED

From April 17 to April 21, 1985, MPH Consulting Limited examined, sampled and mapped as much of the Canon and Olsen claims as was accessible by foot. A total of 17 rock samples (64478-64494) was collected and lithogeochemically analyzed for Au, Ag, Cu, Pb, and Zn. Rock sample descriptions and geochemical results are listed in Appendix II. In addition, 8 silt samples (8501-8508) were taken from mountain creeks and the main creek which flows westward into Corrigan Creek. Three rock samples which returned high Au values were fire assayed for Au and Ag as a check. Sample locations are found on the Property Geology Map (Figure 5).

## 5.1 Local Geology

The Canon-Olsen property has previously been mapped as being underlain mainly by Karmutsen Formation volcanics, Island Intrusive diorite, and thin wedges of Quatsino Formation limestones in addition to tuffs, breccias and flows of the Bonanza Group. Two northwest trending faults have been mapped in the northern part of the claims.

The Middle(?) to Upper Triassic Karmutsen volcanics appear to comprise a massive, extremely chloritized, slightly carbonatized unit containing small, thin lenses of carbonates. Some of the rocks contain an abundance of amygdules which are composed of calcite.

The Island Intrusive diorite is a massive, medium-grained, equigranular rock comprised of plagioclase, hornblende, and/or quartz. A diorite porphyry unit was recognized in the south-western portion of the Canon claim. This unit contains plagio-clase and hornblende phenocrysts up to 5 mm in length set in a fine-grained to aphanitic groundmass. Intruding the diorite are aphanitic, pyritiferous rhyolitic dykes.

Quatsino limestones are present in the northeastern part of the Olsen claim. This unit is grey to black in colour and is comprised of microcrystalline carbonates. Randomly orientated carbonate fissures are common throughout the unit. A unit of pyritiferous cherty dolomite(?), sample 64484, bounded by grey-black limestone and Karmutsen volcanics, may be part of the Quatsino Formation.

Outcroppings of the Bonanza Group were not seen, however a large boulder of lapilli-crystal tuff(?), which may belong to the unit, was sampled on the Canon claim (sample 64478).

## 5.2 Mineralization

The property appears to contain two types of mineralization: 1) thin, sulphide bearing quartz veins, and 2) small massive sulphide lenses within the Karmutsen volcanics.

The Mount Olsen showing, situated on the Canon claim, consists of chalcopyrite and pyrrhotite mineralization within a 2 foot wide quartz vein hosted by dioritic rocks. A grab sample assayed 1.52%

Cu, 0.5 oz Ag/T and 0.02 oz Au/T. Due to deep snow cover and time restrictions, the Mt. Olsen showing was not re-located.

A thin, high grade quartz vein hosted by diorite was discovered by MPH Consulting Limited west of the Mount Olsen showing. The vein ranges from 5-10 cm in width and contains 40-60% massive euhedral pyrite. The altered wallrock contains pyrite, pyrrhotite, sphalerite and minor amounts of chalcopyrite and malachite.

Fire assay results from the quartz vein and adjacent altered wallrock are as follows:

| | Quartz Vein (8 cm width : #64491) | Altered Dioritic Wallrock (16 cm width : #64492) |
|---|---|---|
| Au | 2.63 oz/T | 0.068 oz/T |
| Ag | 1.89 oz/T | 0.25 oz/T |

The quartz vein returned geochemical results of 73,500 ppb Au, 42.5 ppm Ag, 22,600 ppm Zn, 760 ppm Pb, and 700 ppm Cu while the wallrock yielded values of 4300 ppb Au, 3.6 ppm Ag, 5600 ppm Zn, 42 ppm Pb and 472 ppm Cu.

A poorly exposed gossan zone was discovered approximately 100 m upslope from the high grade quartz vein. A grab sample of altered diorite with minor quartz veining contained 2-3% disseminated pyrite, and returned values of 110 ppb Au, 17.4 ppm Ag, 750 ppm Cu, 112 ppm Zn and trace amounts of Pb. This zone may represent the extension of the high grade quartz vein.

Rhyolite dykes ranging up to 1.5 metres in width containing 2-3% disseminated pyrite were discovered in close proximity to the quartz vein showings. Samples 64489 and 64493 returned low precious and base metal values.

Grab samples from various gossanous mafic volcanic float returned values up to 178 ppm Cu, 52 ppm Zn and trace amounts of Au, Ag and Pb.

A cherty dolomite(?) unit found on the Olsen claim containing 2-3% fine disseminated pyrite returned low precious and base metal values (64484).

A small massive sulphide lens hosted by Karmutsen mafic volcanics was uncovered by MPH Consulting Limited in 1983 on top of Mount Olsen. A grab sample containing chalcopyrite and pyrite assayed 13,200 ppm Cu, 260 ppm Zn, 180 ppb Au, and 40 ppm Ag.

## 5.3 Geochemical Silt Sampling

A total of 8 silt samples was collected and geochemically analyzed for Au, Ag, Cu, Pb and Zn by atomic absorption techniques.

Geochemical silt sample results indicate that samples 8506 and 8508 are moderately anomalous in zinc, and samples 8505 and 8502 have low to moderate anomalous copper values. These samples are located on the north side of the main creek.

Results from the high grade quartz vein indicate that high gold values (73,500 ppb) are correlative with high zinc (22,600 ppm) and low copper (700 ppm) values. Previous sampling by MPH Consulting Limited reveals that anomalous copper (13,200 ppm) and low zinc (260 ppm) values are characteristic of massive sulphide occurrences in the volcanics.

Although the area of anomalous silt samples is mapped as belonging to the Bonanza Group, it is covered by overburden, and therefore it might be considered as showing potential to host both types of mineral occurrences. However, due to the small number of silt samples, the results are somewhat speculative.

# 6.0 RECOMMENDED WORK PROGRAM

## 6.1 Description

The Canon and Olsen claims are primarily underlain by Karmutsen volcanics and Island Intrusion diorites.

Two past producing mines, the WWW and the Corrigan Creek Mine are situated 1.5-2.0 km west of the property. They consist of sulphide-bearing quartz veins in diorite, geologically identical to the newly discovered high grade quartz vein and the Mount Olsen showing. Work by MPH Consulting Limited in 1983 located a small massive sulphide lens hosted by the Karmutsen volcanics on top of Mount Olsen.

A three-phase exploration program is recommended to evaluate the potential of the sulphide-bearing quartz vein and massive sulphide occurrences.

Phase I will consist of detailed geological mapping, rock sampling, and prospecting over the entire property, with soil geochemistry on grid(s) over favourable areas. Due to the rugged terrain, access to some areas may be limited. A 15 line km grid will consist of a picketed baseline trending parallel to strike, and flagged grid lines 50 m apart. Soil sampling stations will be at 25 m intervals along the grid lines. Whole rock analysis and a petrographic study of selected rock samples may be used as an aid in classifying rock types. An estimated cost for the Phase I exploration program is $36,800.

If warranted by the results of Phase I, a Phase II follow-up program will consist of trenching, detailed geological mapping and sampling, and geophysical surveys (VLF-EM and proton magnetometer) over anomalous grid areas. Phase II is estimated to cost $21,800.

A Phase III program will consist of trenching and an IP survey, followed by diamond drilling at an estimated combined cost of $130,000. Phase III will be contingent upon favourable results and recommendations from the Phase II program.

A detailed budget and schedule for Phase I and Phase II exploration programs are outlined below.

## 6.2 Budget

**Phase I**

| | | | |
|---|---|---|---|
| Mobilization/Demobilization | | | $ 500 |
| Personnel: | | | |
| Geologist | 20 days @ $325 | $6,500 | |
| Assistant/Prospector | 20 days @ 250 | 5,000 | |
| | | | 11,500 |
| Support Costs: | | | |
| Camp Costs | 40 man days @ 40 | 1,600 | |
| 2WD Truck | 20 days @ 80 | 1,600 | |
| Helicopter | 3 hrs @ 400 | 1,200 | |
| Communications | 20 days @ 25 | 500 | |
| Supplies | | 500 | |
| | | | 5,400 |

| | | | | |
|---|---|---|---|---|
| Analyses: | | | | |
| 600 soil samples (Au Ag Cu Pb Zn) | | @ $ 8.30 | 4,980 | |
| 60 rocks (Au Ag Ba ICP) | | @ 17.35 | 1,041 | |
| 20 rocks (whole rock) | | @ 32.00 | 640 | |
| 10 thin sections | | @ 50.00 | 500 | |
| | | | | 7,161 |
| Consulting/Supervision: | | | | |
| Geologist | 2 days | @ $450 | $ 900 | |
| Expenses | | | 300 | |
| | | | | $ 1,200 |
| Report Writing: | | | | |
| Geologist | 7 days | @ 325 | 2,275 | |
| Drafting | 50 hrs | @ 18 | 900 | |
| Materials | | | 800 | |
| | | | | 3,975 |
| | | | | 29,736 |
| Administration (15% on $15,061) | | | | 2,259 |
| | | | | 31,995 |
| Contingency (15%) | | | say | 4,799 |
| | | Total, Phase I | say | $36,800 |

**Phase II**

| | | | | |
|---|---|---|---|---|
| Mobilization/Demobilization | | | | $ 500 |
| Personnel: | | | | |
| Geologist | 10 days | @ $325 | $3,250 | |
| Assistant/Prospector | 10 days | @ 250 | 2,500 | |
| | | | | 5,750 |

| | | | | | |
|---|---|---|---|---|---|
| Support Costs: | | | | | |
| Camp Costs | 20 man days | @ | 40 | $ 800 | |
| 2WD Truck | 10 days | @ | 80 | 800 | |
| Helicopter | 3 hrs | @ | 400 | 1,200 | |
| Communications | 10 days | @ | 25 | 250 | |
| Supplies | | | | 300 | |
| | | | | | $ 3,350 |
| Trenching Costs (drill rental, steel, powder, etc.) | | | | | 2,500 |
| Analyses: | | | | | |
| 50 rocks (Au Ag Ba ICP) | | @ | 17.35 | 867 | |
| 10 rocks (whole rock) | | @ | 32.00 | 320 | |
| | | | | | 1,187 |
| Consulting/Supervision: | | | | | |
| Geologist | 2 days | @ | 450 | 900 | |
| Expenses | | | | 300 | |
| | | | | | 1,200 |
| Report Writing | 5 days | @ | 325 | 1,625 | |
| Drafting | 40 hrs | @ | 18 | 720 | |
| Materials | | | | 700 | |
| | | | | | 3,045 |
| | | | | | 17,532 |
| Administration (15% on $9,257) | | | | | 1,389 |
| | | | | | 18,921 |
| Contingency (15%) | | | | | 2,838 |
| | | | Total, Phase II | say | $21,800 |

## 6.3 Schedule

The following tables are summaries of the estimated time requirements for Phases I and II. Phase III is estimated to require four weeks to complete.

**Table 1 - Phase I Project Schedule - Canon, Olsen Claims**

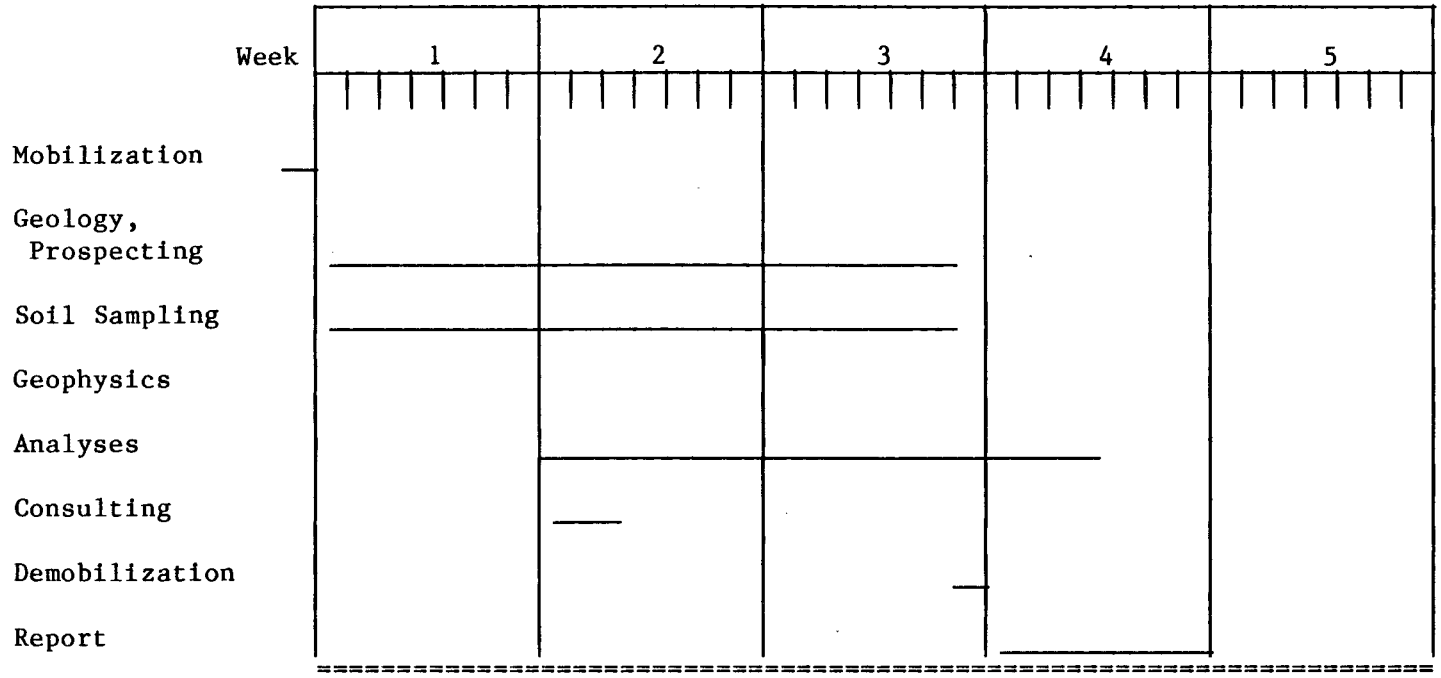
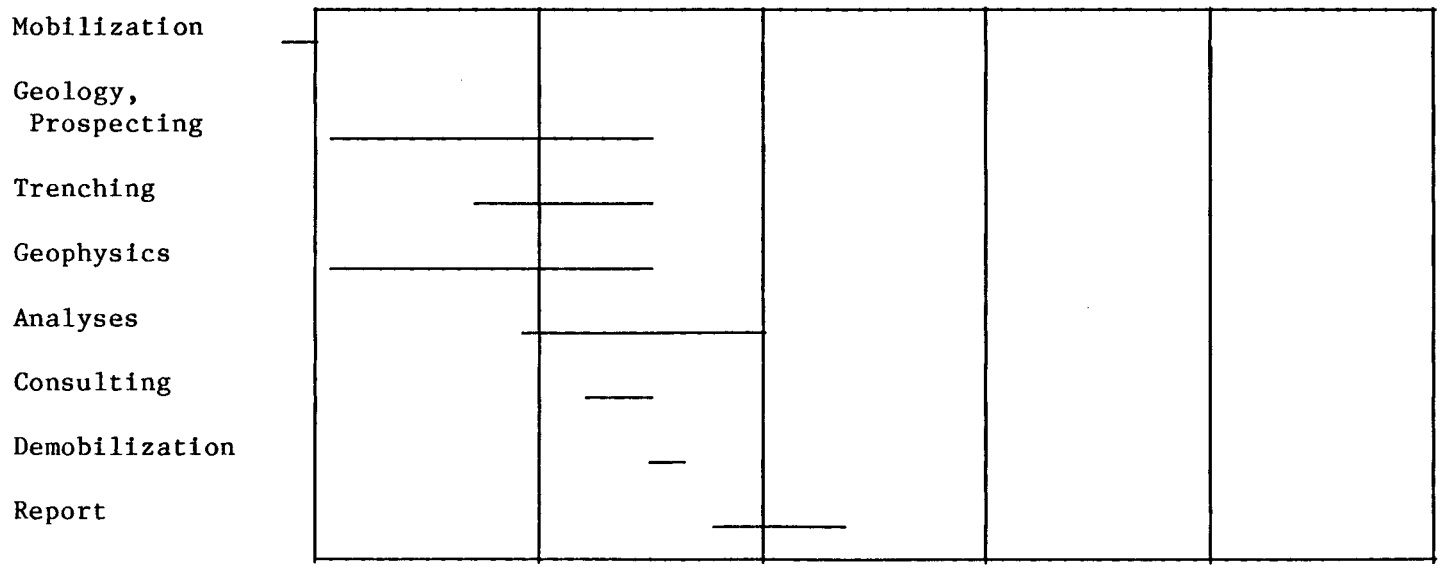



**Table 2 - Phase II Project Schedule - Canon, Olsen Claims**



## 7.0 CONCLUSIONS

1. A thin, high grade quartz vein was discovered west of Mount Olsen showing. Chip samples from the quartz vein and adjacent altered dioritic wallrock returned the following fire assay results:

| | Quartz Vein (8 cm) | Altered Diorite (16 cm) |
|---|---|---|
| Au | 2.63 oz/T | 0.068 oz/T |
| Ag | 1.89 oz/T | 0.25 oz/T |

2. A grab sample from a gossan zone taken 100 m upslope from the high grade quartz vein returned values of 110 ppb Au,17.4 ppm Ag, 750 ppm Cu, 112 ppm and 8 ppm Pb.

3. The Mount Olsen showing is a 2 foot wide quartz vein containing chalcopyrite and pyrrhotite. A grab sample assayed 1.52% Cu, 0.5 oz Ag/T and 0.02 oz Au/T.

4. Work by MPH Consulting Limited in 1983 discovered a small massive sulphide lens on top of Mount Olsen. A grab sample yielded values of 130 ppb Au, 42.0 ppm Ag, 13,200 ppm Cu, 260 ppm Zn and trace amounts of lead.

5. High grade Au-quartz veins appear to contain anomalously high zinc and low copper values. Massive sulphide occurrences in the Karmutsen volcanics are associated with anomalously high copper and low zinc values.

6. Numerous subeconomic quartz vein deposits occur to the west and south of the property. A total of 116 tons of ore was mined from the WWW Mine yielding 471 oz Au, 500 oz Ag, 538 lb Cu and 2424 lb Pb. The Corrigan Creek Mine produced 116 T of ore grading 4 oz Au/T, 4.3 oz Ag/T, 0.23% Cu and 1.1% Pb. Combined gold, silver and copper values from the Golden Slipper and Golden Rule showings are $40 and $17.50 per ton of ore, respectively.

7. Due to the limited number of silt samples taken, no definite conclusions can be drawn, however silt samples indicate that quartz-gold vein or massive sulphide mineralization similar to known showings may also occur on the north side of the main creek, under overburden.

8. The property has potential to host a number of other similar high grade quartz veins and massive sulphide occurrences.

9. Further exploration involving geological mapping, rock sampling, prospecting, and soil geochemistry plus follow-up ground geophysics, mapping and trenching is required to assess the economic potential of the property.

## 8.0 RECOMMENDATIONS

1. It is recomended that both precious/base metal quartz vein deposits and volcanogenic massive sulphide deposits be considered primary exploration targets.

2. An exploratory Phase I program is recommended to consist of geological mapping, rock sampling, and prospecting over the entire property with soil sampling on grids covering favourable areas such as the high grade quartz vein, Mt. Olsen showing, and massive sulphide lens. Phase I is estimated to cost approximately $36,800 and will require 20 days to complete field work.

3. If warranted upon the completion of Phase I, a Phase II follow-up program is recommended. It will consist of ground geophysics (VLF-EM and magnetometer), geological mapping and sampling, and trenching. This program is estimated to cost $21,800. The field work is estimated to require 10 days to complete.

4. Phase III work, if warranted by the results of Phase II, is recommended to comprise trenching, rock sampling, and an IP survey to be followed by diamond drilling, at an estimated combined cost of $130,000.

5. Before any work is performed on the property, it is recommended that Imperial Metals Corp. be approached with respect to the areas of the property to which they own the base metal rights.

Respectfully submitted,
MPH CONSULTING LIMITED

T. Neale, B.Sc.

PROFESSIONAL GEOLOGIST ALBERTA
T.G. Hawkins
LICENSED TO PRACTISE

T.G. Hawkins, P.Geol.

Vancouver, B.C.
May 15, 1985

# CERTIFICATE

I, T. Neale, do hereby certify:

1. That I am a graduate in geology of The University of British Columbia (B.Sc. 1978).

2. That I have practised as a geologist in mineral exploration for seven years.

3. That the opinions, conclusions, and recommendations contained herein are based on field work carried out on the property in April 1985

4. That I own no direct, indirect, or contingent interest in the area, the subject property, or shares or securities of Nexus Resource Corporation or associated companies.

T. Neale, B.Sc.

Vancouver, B.C.
May 15, 1985

# CERTIFICATE

I, T.E. Gregory Hawkins, do hereby certify:

1. That I am a Consulting Geologist with business offices at 301-409 Granville St., Vancouver, B.C. V6C 1T2.

2. That I am a graduate in geology of The University of Alberta, Edmonton (B.Sc. 1973), and of McGill University, Montreal, (M.Sc. 1979).

3. That I have practised within the geological profession for the past twelve years.

4. That I am a Fellow of the Geological Association of Canada and a Professional Geologist registered in the Province of Alberta.

5. That the opinions, conclusions and recommendations contained herein are based on field work carried out on the property in April 1985, and supervised by me.

6. That I own no direct, indirect, or contingent interests in the subject property, or shares or securities of Nexus Resource Corporation or associated companies.

PROFESSIONAL GEOLOGIST ALBERTA
T.E. Gregory Hawkins
LICENSED TO PRACTISE

T.E. Gregory Hawkins, P.Geol.

Vancouver, B.C.
May 15, 1985

# BIBLIOGRAPHY

Carson, D.J.T. 1968 Metallogenic Study of Vancouver Island with Emphasis on the Relationships of Mineral Deposits to Plutonic Rocks; Ph.D. Thesis, Carleton University

Clapp, C.H. 1912 Southern Vancouver Island; GSC Memoir 13

1914 Geology of the Nanaimo Map Area; GSC Memoir 51

Gunnex Ltd. 1966 Mineral Occurrences (Mines, Surface Workings, and Showings), E & N Land Grant, Vancouver Island, B.C.; internal company report

Muller, J.E. and Carson, D.J.T. 1969 Geology, and Mineral Deposits of Alberni Map-Area, British Columbia (92F); GSC Paper 68-50

Muller, J.E. 1977 Geology of Vancouver Island (West Half); GSC Open File 463

1980 The Paleozoic Sicker Group of Vancouver Island, British Columbia; GSC Paper 79-30

1982 Geology of Nitinat Lake Map Area, British Columbia; GSC Open File 821

Stevenson, J.S. 1945 Geology and Ore deposits of the China Creek Area, Vancouver Island, British Columbia; Annual Report of the Minister of Mines of the Province of British Columbia, 1944, pp A143-A161

Willoughby, N.O. and Hawkins, T.G. 1983 Preliminary Assessment and Recommended Work Program; Grizzly, China, McQuillan, Canon, Olsen Claims; Alberni Mining Division, British Columbia; for Nexus Resource Corporation. September 22, 1983

# APPENDIX I

## LIST OF PERSONNEL AND EXPENDITURES

MPH

## LIST OF PERSONNEL AND EXPENDITURES

The following expenses have been incurred on the Canon and Olsen claims for the purposes of mineral exploration between the dates of April 17 and April 21, 1985.

Personnel:

| | | |
|---|---|---|
| T. Kraft, B.Sc. | | |
| 5 days @ $300 | $1,500.00 | |
| T. Neale, B.Sc. | | |
| 4.5 days @ 325 (report writing) | 1,462.50 | |
| T.G. Hawkins, P.Geol. | | |
| 2 hrs @ 80 | 160.00 | |
| | | $3,122.50 |
| Truck Rental 6 days @ $67 | | 402.00 |

Expenditures:

| | | |
|---|---|---|
| Meals and Accommodation | 373.98 | |
| Transportation (gas, ferries) | 81.00 | |
| Analyses | | |
| 17 rock samples (Au Ag Cu Pb Zn) @ $9.65 | 164.05 | |
| 8 silt samples (Au Ag Cu Pb Zn) @ 8.05 | 64.40 | |
| 4 rock samples (Au Ag assay) @ 10.50 | 42.00 | |
| Drafting, blacklines | 316.09 | |
| Miscellaneous (phone, bus freight) | 20.54 | |
| | 1,062.06 | |
| Administration @ 15% | 159.31 | |
| | | 1,221.37 |
| Reports - 6 copies @ $70 | | 420.00 |
| | | $5,165.87 |

# APPENDIX II

## ROCK SAMPLE DESCRIPTIONS
## AND
## LITHOGEOCHEMICAL RESULTS

| Sample # | Description | Au ppb | Ag ppm | Cu ppm | Zn ppm | Pb ppm |
|---|---|---|---|---|---|---|
| 64486 | Diorite Porphyry: grab sample, 30-35% phenocrysts of plagioclase and hornblende, mesocratic. | 10 | 0.2 | 54 | 64 | 2 |
| 64487 | Cherty Mafic Volcanics: grab sample from boulder, 2-3% disseminated pyrite infilling thin fissures, abundant limonite on weathered surface. | 10 | 0.4 | 162 | 52 | 2 |
| 64488 | Mafic Volcanics: grab sample from small, 1 m long x 0.5 m wide gossanous zone, altered, abundant limonite on weathered surface, minor pyrite. | 10 | 0.2 | 140 | 40 | 2 |
| 64489 | Rhyolite: grab sample, 2-3% fine disseminated pyrite. | 10 | 0.2 | 42 | 34 | 2 |
| 64490 | Diorite Porphyry: grab sample, less than 1% disseminated fine pyrite. | 10 | 0.2 | 10 | 102 | 2 |
| 64491 | Quartz Vein: chip sample 8 cm wide, milky-sugary quartz, vuggy, vein is 1 m from rhyolite dyke, trending 48/65E, hosted by diorite, contains 40-60% massive euhedral pyrite. | 73500 | 42.5 | 700 | 22600 | 760 |
| 64492 | Altered Diorite: chip sample 16 cm wide (8 cm either side of quartz vein, 64491), abundant limonite on weathered surface, 3-5% disseminated euhedral pyrite, sphalerite, minor chalcopyrite and pyrrhotite. | 4300 | 3.6 | 472 | 5600 | 42 |
| 64493 | Rhyolite Dyke: grab sample, approximately 1-1.5 m wide; see 64489. | 10 | 0.2 | 22 | 202 | 2 |
| 64494 | Altered Diorite and Quartz Vein: grab sample, possible extension of 64491, abundant limonite on weathered surface, 2-3% disseminated pyrite, poorly exposed. | 110 | 17.4 | 750 | 112 | 8 |

# APPENDIX III

## CERTIFICATES OF ANALYSIS

# ROSSBACHER LABORATORY LTD.

2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3N1
TEL : (604) 299 - 6910

## CERTIFICATE OF ANALYSIS

O : MPH CONSULTING LTD.,
301-409 GRANVILLE ST.,
VANCOUVER, B.C.
ROJECT: V202
YPE OF ANALYSIS: GEOCHEMICAL

CERTIFICATE#: 85082
INVOICE#: 5197
DATE ENTERED: 85-05-01
FILE NAME: MPH85082
PAGE # : 1

| RE IX | SAMPLE NAME | PPM Cu | PPM Ag | PPM Zn | PPM Pb | PPB Au |
|---|---|---|---|---|---|---|
| S | 8501 | 112 | 0.4 | 86 | 8 | 10 |
| S | 8502 | 154 | 0.2 | 108 | 4 | 10 |
| S | 8503 | 116 | 0.4 | 92 | 2 | 10 |
| S | 8504 | 98 | 0.4 | 98 | 4 | 10 |
| S | 8505 | 172 | 0.6 | 86 | 2 | 10 |
| S | 8506 | 82 | 0.6 | 236 | 8 | 10 |
| S | 8507 | 148 | 0.4 | 118 | 4 | 10 |
| S | 8508 | 120 | 0.4 | 170 | 6 | 10 |
| T | 64478 | 10 | 0.2 | 72 | 2 | 10 |
| T | 64479 | 40 | 0.2 | 80 | 2 | 10 |
| T | 64480 | 510 | 0.6 | 70 | 2 | 10 |
| T | 64481 | 10 | 0.2 | 12 | 2 | 10 |
| T | 64482 | 178 | 0.2 | 92 | 2 | 10 |
| T | 64483 | 4 | 0.2 | 14 | 2 | 10 |
| T | 64484 | 78 | 0.2 | 74 | 2 | 10 |
| T | 64485 | 10 | 0.2 | 96 | 2 | 10 |
| T | 64486 | 54 | 0.2 | 64 | 2 | 10 |
| T | 64487 | 162 | 0.4 | 52 | 2 | 10 |
| T | 64488 | 140 | 0.2 | 40 | 2 | 10 |
| T | 64489 | 42 | 0.2 | 34 | 2 | 10 |
| T | 64490 | 10 | 0.2 | 102 | 2 | 10 |
| T | 64491 | 700 | 42.5 | 22600 | 760 | 73500 |
| T | 64492 | 472 | 3.6 | 5600 | 42 | 4300 |
| T | 64493 | 22 | 0.2 | 202 | 2 | 10 |
| T | 64494 | 750 | 17.4 | 112 | 8 | 110 |

CERTIFIED BY : F. Rossbacher

# Chemex Labs Ltd.

*Analytical Chemists • Geochemists • Registered Assayers*

212 Brooksbank Ave.
North Vancouver, B.C.
Canada V7J 2C1

Telephone:(604) 984-0221
Telex: 043-52597


## CERTIFICATE OF ASSAY

) : ROSSBACHER LABORATORY LIMITED

2225 SOUTH SPRINGER AVENUE
BURNABY, B.C.
V5B 3N1

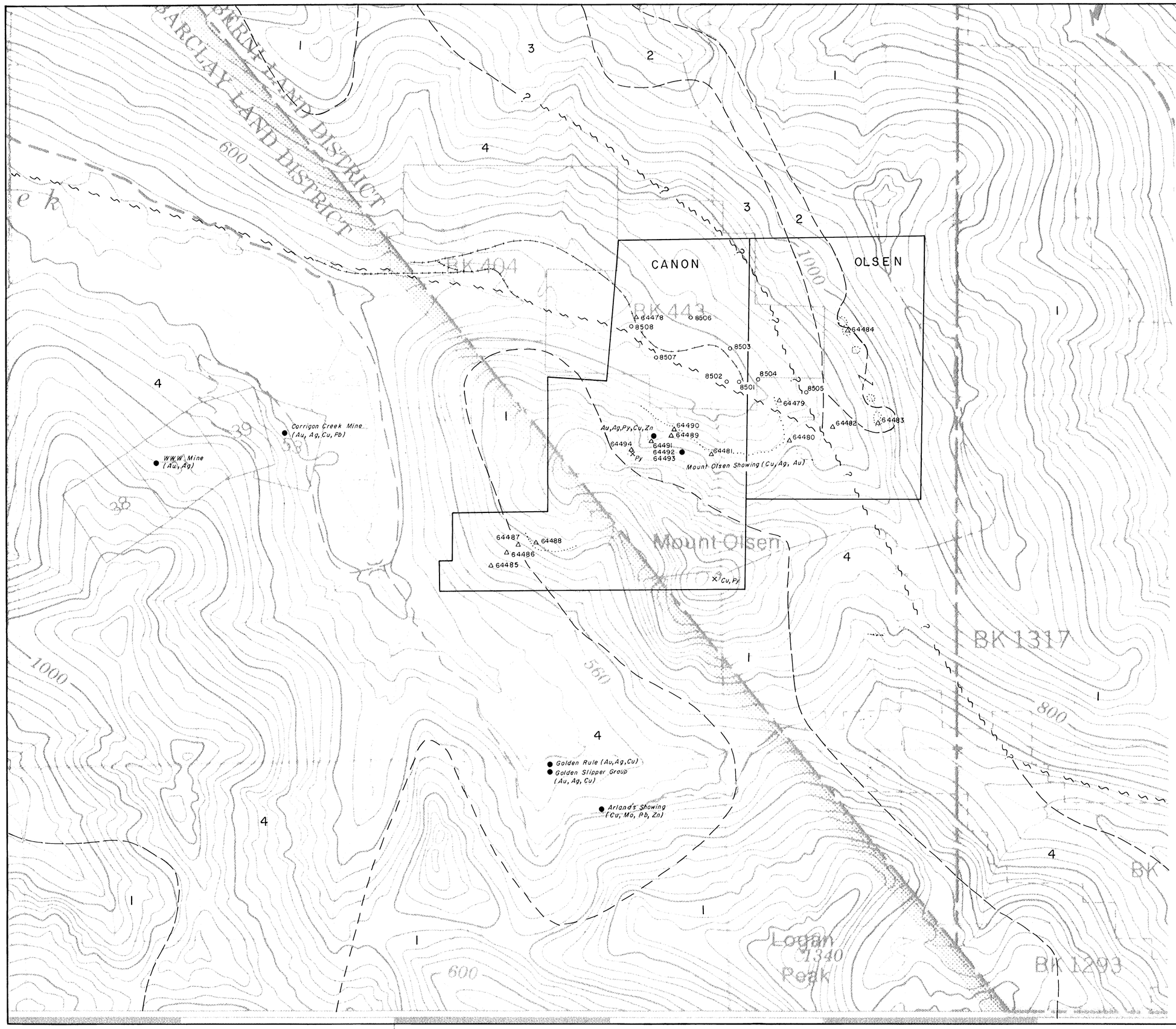
CERT. # : A8511791-001-A
INVOICE # : I8511791
DATE : 7-MAY-85
P.O. # : NONE
MPH PROJECT #V202

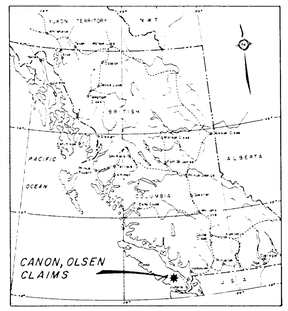
| Sample description | Prep code | Ag FA oz/T | Au FA oz/T | | | | |
|---|---|---|---|---|---|---|---|
| 64491 | 214 | 1.89 | 2.632 | -- | -- | -- | -- |
| 64492 | 214 | 0.25 | 0.068 | -- | -- | -- | -- |
| 64494 | 214 | 0.43 | 0.012 | -- | -- | -- | -- |

Stewart

Registered Assayer, Province of British Columbia

CTA




LOCATION MAP

## LEGEND

### GEOLOGY

JURASSIC

LOWER TO MIDDLE JURASSIC

| | |
|---|---|
| 4 | Island Intrusions; granodiorite, diorite, quartz diorite, diorite porphyry - minor rhyolite dykes. |

LOWER JURASSIC

| | |
|---|---|
| 3 | Bonanza Group: basaltic to rhyolitic tuff, breccia, flows, sills, and dykes, minor argillite, greywacke. |

TRIASSIC

MIDDLE ? AND UPPER TRIASSIC

Vancouver Group

| | |
|---|---|
| 2 | Quatsino Formation: limestone |
| 1 | Karmutsen Formation: pillow basalt, breccia, tuff; minor flows. |

### SYMBOLS

| | |
|---|---|
| — — — | Geological contact (approximate) |
| ——— | Claim boundary (approximate) |
| ⋯ | Outcrop boundary |
| +—+—+—+ | Old railroad |
| ~~ ~~ | Fault trace - assumed |
| △ 64480 | Rock sample, location and number |
| ○ 8501 | Stream sample, location and number |
| ●, × | Mineral occurrence (major, minor) |
| ⊥ | Schistosity (vertical) |
| Au | Gold |
| Ag | Silver |
| Cu | Copper |
| Pb | Lead |
| Zn | Zinc |
| Mo | Molybdenum |
| Py | Pyrite |

Contour interval 40 metres

| Sample No. | Description | *Au (ppb) | *Ag (ppm) | Cu (ppm) | Zn (ppm) | Pb (ppm) |
|---|---|---|---|---|---|---|
| 64491 | Quartz vein (8cm width) | 73500 (2.63) | 42.5 (1.89) | 700 | 22600 | 760 |
| 64492 | Altered dioritic wallrock (15cm width) | 4300 (0.068) | 3.6 (0.25) | 472 | 5600 | 42 |
| 64494 | Gossan zone in diorite | 110 (0.012) | 17.4 (0.43) | 750 | 112 | 8 |

*( ) Fire assay results in oz./t

To accompany Report by P.E. Gregory Hawkins P.Geol. dated 15/05/85

P.E. Gregory Hawkins

PROFESSIONAL GEOLOGIST ALBERTA LICENSED TO PRACTICE

NEXUS RESOURCE CORPORATION

# PROPERTY GEOLOGY

## CANON, OLSEN CLAIMS

ALBERNI MINING DIVISION, B.C.
92 F 2 E

| | | | |
|---|---|---|---|
| Project No: | V 202 | By: | T. K. |
| Scale: | 1 : 10 000 | Drawn: | J. S. |
| Drawing No: | 5 | Date: | MAY, 1985. |

MPH Consulting Limited