GEOLOGICAL AND GEOCHEMICAL REPORT ON 1987 ASSESSMENT WORK

SOGNIDORO CLAIM

Victoria Mining Division
48°57'N Lat. 124°04'W Long.
NTS 92C/16E

for

CANAMIN RESOURCES LTD.

September 21, 1987

B.Y. Thomae, B.Sc. T.G. Hawkins, P.Geol.

SUMMARY

The Sediment-Sill unit of the Paleozoic Sicker Group largely underlies the Sognidoro property, with a large altered intrusive body of Jurassic? age in the northwest portion. Folded sediments occur in the western portion with mainly chloritic schists in the eastern portion of the claim. Diabasic to basaltic sills? occur within these units. A regional northwesterly trending fault passes along uppermost Rheinhart Creek.

The McDougall quartz vein occurs in the central claim area, conformable to schistosity within chlorite schists. The vein pinches and swells along its northwesterly strike for 265 m to a maximum of about 5.6 m apparent thickness. Chalcopyrite, pyrite, local bornite, azurite and malachite staining occurs within the veins. Gold occurs sporadically, with samples collected this year containing up to 3200 ppb (assay: 2.5 g/t (0.073 oz/ton)) Au, 4.7 ppm Ag and 8022 ppm Cu.

Two conformable brick red jasper 'horizons' within chlorite schist are exposed at approximately 850 m and 760 m elevations east of the McDougall vein. They are exposed over at least 25 m widths, and contain finely disseminated and massive magnetite lenses. Abundant quartz veinlets cut this unit. Pyrite and chalcopyrite occur locally with the quartz veinlets and jasper.

Grab samples of the jasper horizon contained up to 1000 ppb (assay: 0.72 g/t (0.021 oz/ton)) Au, 2.9 ppm Ag, 5075 ppm Cu and 130 ppm Mo.

A splay fault may explain the truncation of the quartz vein and the occurrence of two jasper lenses. If the jasper horizon has been displaced in a right lateral sense then the McDougall vein may have also been displaced in the same direction.

A quartz-carbonate zone within diabase containing galena, sampled on the western extent of the property returned 4590 ppm Pb. The large altered intrusive body contained 538 ppm Cu from a grab sample of hematite and Fe-oxide stained rock.

Silt samples collected from a major creek near the western extent of the property returned up to 50 ppb Au and 1.3 ppm Ag. Creeks draining the jasper horizons returned up to 120 ppb Au, 1.2 ppm Ag, 199 ppm Cu, 76 ppm Pb and 275 ppm Zn. Concentrations of these elements increase toward the jasper horizon.

Further exploration on the property is recommened, in search for structurally controlled gold mineralization within upper Sicker Group rocks exposed on the Sognidoro claim. A soil geochemical survey, additional geological mapping and prospecting is recommended to be followed up by VLF-EM and magnetometer surveys. An IP survey is also recommended to delineate areas of sulphide concentration along conductive trends. Coincident VLF, IP and geological/geochemical targets can then be drilled.

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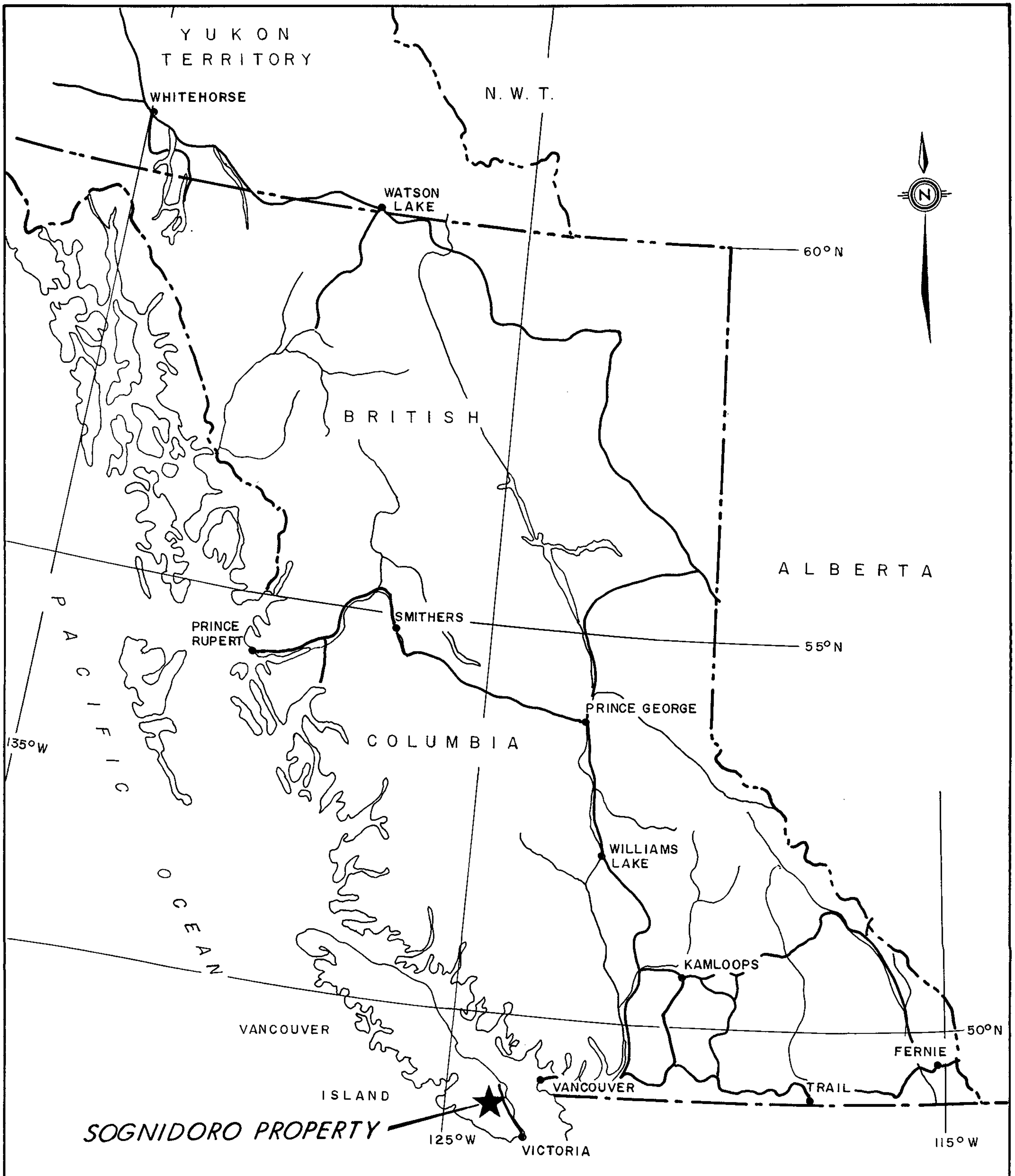


CANAMIN RESOURCES LTD.

GENERAL LOCATION MAP
SOGNIDORO PROPERTY
VICTORIA MINING DIVISION

Project No:	V 269	By:	B. T.
Scale:	1 : 8 000 000	Drawn:	J. S.
Drawing No:	1	Date:	SEPTEMBER, 1987

MPH Consulting Limited

1.0 INTRODUCTION

This report is based on field work and research carried out by the author, an assistant and a geological technician of MPH Consulting Limited, from July 23 to July 28, 1987, at the request of Mr. Stephen Quin of Canamin Resources Ltd.

The work included 1:5000 scale geological mapping, prospecting and rock sampling, silt sampling and minor soil sampling. Previous work in the area has been integrated with results from this program to provide a preliminary evaluation of the economic potential of the property.

2.0 PROPERTY LOCATION, ACCESS, TITLE

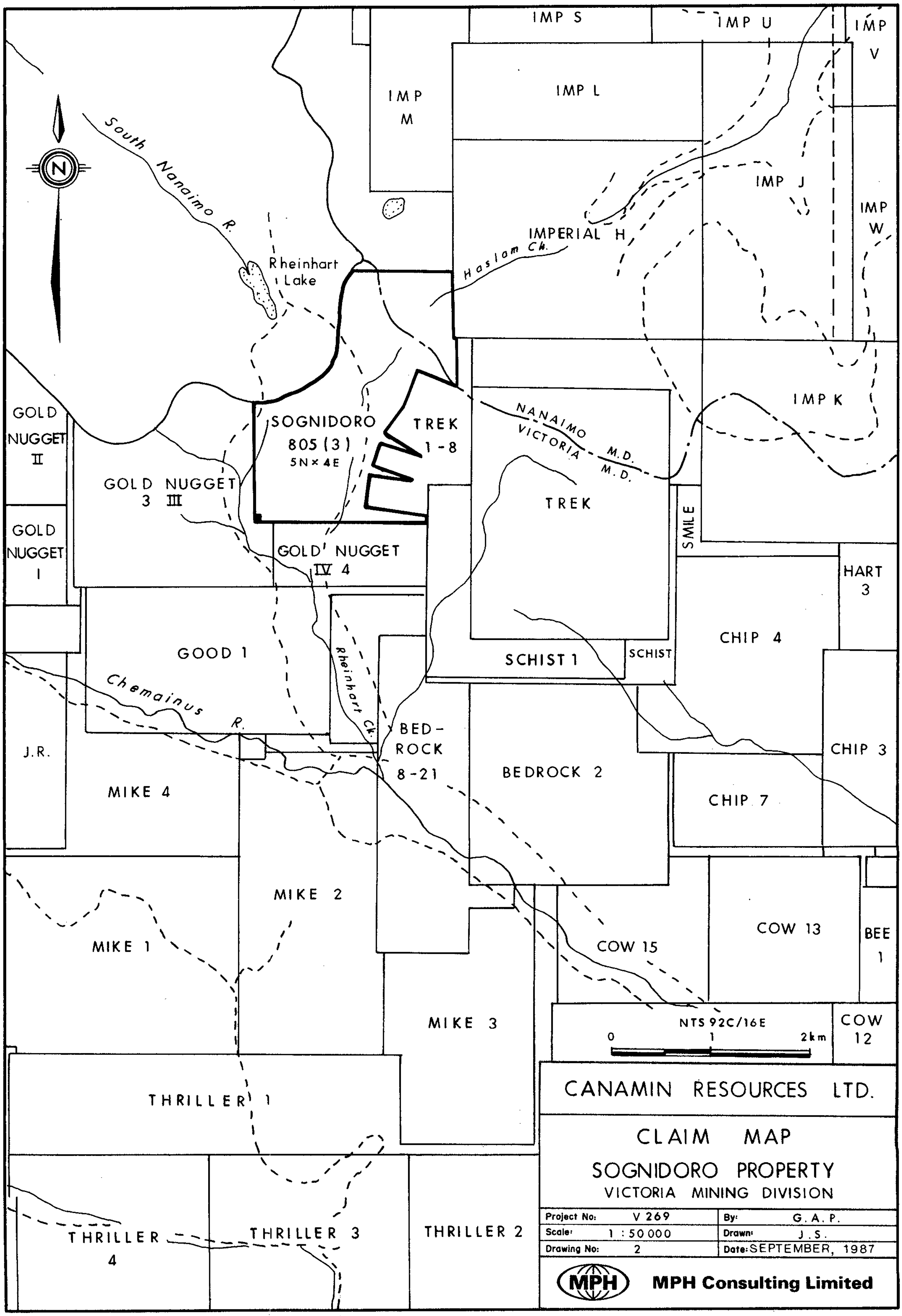
The Canamin Resources Ltd. Sognidoro property comprises the Sognidoro 20 unit claim, located approximately 27 air km northwest of Chemainus, B.C., south of Rheinhart Lake.

The Sognidoro claim lies mainly within the Victoria Mining Division, straddling the Nanaimo Mining Division to the northeast. The Nanaimo District Watershed boundary is located in the northwest corner of the claim reducing the size somewhat. The southeastern portion of the Sognidoro claim apparently overstakes the Trek 1-8 two post claims (Trek Resources). The claim is centred at approximately 48°57'N latitude, 124°04'W longitude on NTS mapsheet 92C/16 (Figures 1, 2).

Access to the property is via the MacMillan Bloedel all-weather logging road from Chemainus, along the Chemainus River, through the Copper Canyon Gate, past the logging camp, to the Rheinhart Lake road turnoff for a distance of 33 km, then approximately 4.8 km north along the Rheinhart Lake road to the property. Some areas are currently actively being logged. Other areas have been recently logged and replanted; mature forest stands from approximately 750 m elevation and up, on the eastern side of the property.

Claim	Record No.	Units	*Anniversary Date	Year Registered
Sognidoro	805(3)	20	March 18, 1988	1983

* Does not include work done for this program.


IMP S
IMP U
IMP V
IMP M
IMP L
South Nanaimo R.
IMP J
IMP W
IMPERIAL H
Haslam Ck.
Rheinhart Lake
IMP K
GOLD NUGGET II
SOGNIDORO 805 (3) 5N×4E
TREK 1-8
NANAIMO M.D.
VICTORIA M.D.
GOLD NUGGET 3 III
TREK
SMILE
GOLD NUGGET I
GOLD NUGGET IV 4
HART 3
CHIP 4
GOOD 1
Rheinhart Ck.
SCHIST 1
SCHIST
Chemainus R.
BED-ROCK 8-21
CHIP 3
J.R.
BEDROCK 2
MIKE 4
CHIP 7
MIKE 2
COW 13
BEE 1
MIKE 1
COW 15
NTS 92C/16E
0
1
2km
COW 12
MIKE 3
THRILLER 1
CANAMIN RESOURCES LTD.
CLAIM MAP
SOGNIDORO PROPERTY
VICTORIA MINING DIVISION
Project No: V 269
By: G.A.P.
Scale: 1 : 50 000
Drawn: J.S.
Drawing No: 2
Date: SEPTEMBER, 1987
THRILLER 4
THRILLER 3
THRILLER 2
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A (1:50,000) scale map available through MacMillan Bloedel shows the logging roads and locations of the gates. It is necessary to obtain permission and a key from the MacMillan Bloedel office in Chemainus to enter the Copper Canyon Gate and permission from the Nanaimo Watershed committee to access the northern roads on either side of Rheinhart Lake.

3.0 PREVIOUS WORK

The present Sognidoro property (20 units) was staked in 1983 by Mr. E. Specogna for Canamin Resources Ltd.

B.C. Minister of Mines reports dated 1918 and 1924 mention a 90 m (300') adit driven into a jasperoidal belt of schistose siliceous rock, containing magnetite, chalcopyrite, pyrrhotite and pyrite. Four samples from the adit returned up to 2.06 g/t (0.6 oz/ton) Ag, 2% Cu and trace amounts of Au.

In 1983, a preliminary soil geochemical survey was conducted by Zastavnikovich (1984) to identify the most useful trace elements for sulphide and gold mineralization on the property, and to trace possible mineralized structures. Results from the analyses were up to 655 ppb Au, 220 ppm Cu, 235 ppm As, 50 ppm Pb, 275 ppm Zn, 2.3 ppm Ag from just below the gossanous area on the west side of the creek. Gold concentrations appear to be very erratic, due to glacial placering effects. He concluded that geochemical sampling over the property was very effective.

In 1984, McDougall (1984) sampled the quartz vein exposed in the central claim area. Mineralization includes chalcopyrite, pyrite, minor sphalerite and galena. The highest assays from the sampling are 7.3 g/t (0.214 oz/ton) Au and 32 g/t (0.92 oz/ton) Ag. Gold appears to be erratic. McDougall also reported that sampling of the hanging wall of 'Pit B' returned up to 27.9 g/t (0.815 oz/ton) Au and a large sample of the vein at this location contained 0.51 g/t (0.015 oz/ton) Au.

In early 1987, M. Specogna completed two trenches, a 0.9 km grid and a blazed trail to the adit. VLF-EM and magnetometer surveys were carried out around the jasper horizon although the data was unavailable at the time of this report.

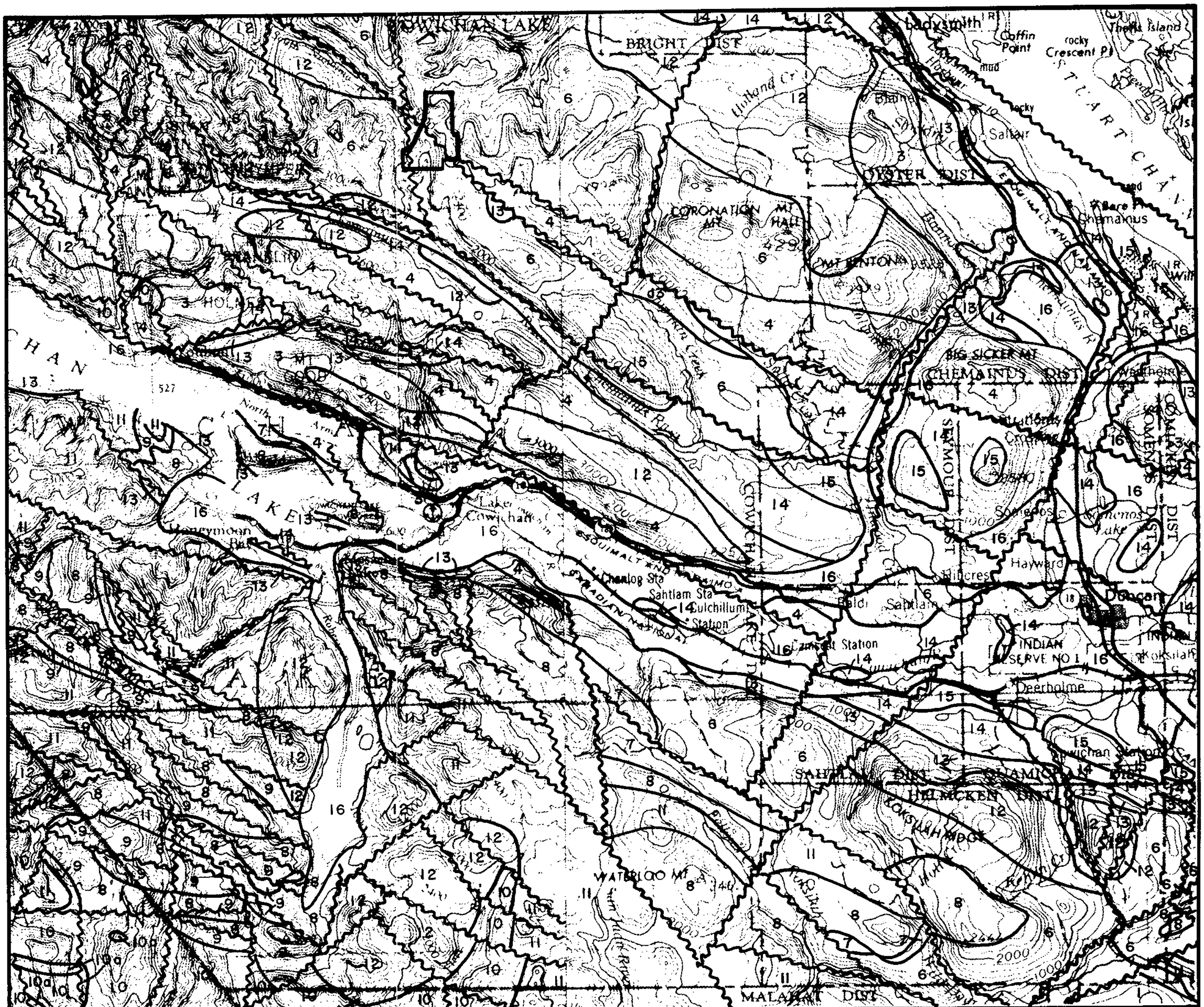
4.0 REGIONAL GEOLOGY

The Duncan to Cowichan Lake area is underlain by a west-northwest trending belt of Paleozoic Sicker Group rocks intruded by various bodies of Jurassic Island Intrusions and overlain by Triassic Karmutsen Formation basaltic rocks and Cretaceous Nanaimo Group sediments (Figure 3). Recent government geological mapping has been carried out over the Cowichan Lake area, by a number of geologists and compiled with previous work by J.T. Fyles, A. Sutherland Brown and P. Cowley (N.W.D. Massey, 1987).

4.1 Wark-Colquitz Gneiss Complex

Wark Gneiss (Unit 1) consists of irregularly foliated to massive biotite-hornblende diorite and quartz diorite, while Colquitz Gneiss (Unit 2) consists of well foliated biotite-hornblende quartz diorite to granodiorite. The dark, mafic Wark and light, felsic Colquitz gneisses may be intimately interlayered locally. The Colquitz Gneiss was originally thought to intrude the Wark Gneiss, but is now considered to be a paragneiss derived from volcaniclastics. Migmatization of the gneisses, as interpreted from K-Ar dating, occurred during Early Jurassic plutonism that produced the Island Intrusions. It may be that the Paleozoic Sicker Group is the protolith of the Wark and Colquitz Gneisses, but zircon dating appears to indicate older Paleozoic or even Precambrian material (Muller, 1981).

The Wark-Colquitz Gneiss Complex is exposed in the vicinity of Victoria, where it forms the basement of the Insular Belt.



QUATERNARY

16	Glacial and alluvial deposits.

UPPER CRETACEOUS

Nanaimo Group

15	Extension - Protection Fm.: sandstone, conglomerate; minor siltstone, shale, coal.
14	Haslam Fm: shale, siltstone, minor sandstone.
13	Comox Fm.: sandstone, conglomerate, minor siltstone, shale, coal.

JURASSIC

Lower to Middle Jurassic

12	Island Intrusions: granodiorite, quartz diorite

Lower Jurassic

11	Bonanza Group: basaltic to rhyolitic tuff, breccia, flows, sills, and dykes; minor argillite, greywacke.

UPPER PALEOZOIC AND ? OR TRIASSIC AND JURASSIC

10	Westcoast Complex: quartz diorite, diorite, tonalite, amphibolite, agmatite; minor metavolcanic and metasedimentary rocks. 10a: recrystallized limestone, skarn.

TRIASSIC

Middle ? and Upper Triassic

Vancouver Group

9	Quatsino Fm.: limestone
8	Karmutsen Fm.: pillow basalt, breccia, tuff; minor flows.

PALEOZOIC

Sicker Group

PENNSYLVANIAN AND PERMIAN

7	Buttle Lake Fm.: limestone, chert, greywacke, argillite.

PENNSYLVANIAN AND MISSISSIPPIAN

6	Sediment - Sill Unit: argillite, greywacke, chert, diabase sills.

LOWER DEVONIAN AND OLDER

5	Saltspring Intrusions: meta-granodiorite, meta-quartz porphyry, quartz-sericite schist.
4	Myra Fm.: well bedded felsic tuff and breccia, argillite, rhyodacite in flows and sills, minor basic tuff, quartz-sericite schist, phyllite, massive sulphides.
3	Nitinat Fm.: pillow lava and breccia of augite (uralite) porphyry, basic tuff; minor chlorite - actinolite schist.

LOWER PALEOZOIC (OR YOUNGER ?)

2	Colquitz gneiss: quartz - feldspar gneiss
1	Wark gneiss: massive and gneissic metadiorite, metagabbro, amphibolite.

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CANAMIN RESOURCES LTD.

REGIONAL GEOLOGY MAP

SOGNIDORO PROPERTY

VICTORIA MINING DIVISION

Project No:	V 269	By:	T. N.
Scale:	1 : 250 000	Drawn:	J. S.
Drawing No:	3	Date:	SEPTEMBER, 1987

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4.2 Sicker Group

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

The **Nitinat Formation** (Unit 3) consists predominantly of mafic volcanic rocks, most commonly flow-breccias or agglomerates including some massive flows, and rare pillow basalts. 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 phenocrysts of uralitized pyroxene as well as amygdules, both from 1 mm to more than 1 cm in size, in a matrix of finer grained, similar basalt(?). Thin sections show pale green amphibole (uralite) is replacing clinopyroxene. Uralitized gabbroic to dioritic 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 abundance of uralite phenocrysts, a usual lack of pillow basalts, lack of dallasite alteration between pillows (characteristic of the Karmutsen) locally pervasive foliation, and lower greenschist or higher metamorphic grade. However, in some areas the distinction is still difficult (in which case whole rock analyses may be useful).

The **Myra Formation** (Unit 4) overlies the Nitinat Formation, possibly with minor unconformity. 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 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 comprises 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.

Mapping by Fyles (1955) in the area north of Cowichan Lake located a thick sequence of mainly massive green volcanics (Nitinat Formation), overlain by a marker unit consisting of a sequence of thin bedded, cherty tuffs with several metres of coarse breccia containing fragments of amygdaloidal volcanics between it and the Nitinat Formation. Overlying the marker unit are grey to black feldspathic tuffs and argillaceous sediments and minor breccias. Muller (1980a) considers the marker unit to correspond to the lower unit of the Myra Formation, while the overlying unit of tuffs and sediments is correlated with the middle unit "and probably contains the upper ... unit as well."

In the Sicker Mountain area, the Myra Formation is more pervasively deformed and consists of well bedded, mainly felsic tuff and breccia interbedded with black argillite and some greywacke. The rocks have been converted to quartz-chlorite-sericite schist in steep and overturned isoclinal folds. Breccia fragments are commonly epidotized. The "Tyee Quartz Porphyry" is a porphyritic rhyolite containing quartz eyes to 5 mm that occurs partly as cross cutting sills and partly as flows(?) within the Myra Formation. Tyee Quartz Porphyry is related to the Saltspring Intrusions.

The type locality of the Myra Formation is Myra Creek, at the south end of Buttle Lake, about 160 km northwest of Duncan. 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 Ltd.'s Myra, Lynx, Price, and H-W massive sulphide (Cu-Zn-Pb-Au-Ag-Cd) deposits.

Muller (1980a) estimated the thickness of the Nitinat Formation at about 2000 m and that of the Myra Formation at 750 to 1000 m. Fyles' (1955) work indicates a thickness of at least 1500 m for the Nitinat Formation, and at least 1000 m for the Myra Formation in the Cowichan Lake area. Both the Nitinat and Myra Formations were dated as Devonian and/or older by Muller (1980a).

The **Saltspring Intrusions** (Unit 5) are fine to medium-grained, light coloured metamorphosed granite or granodiorite which lacks the speckled appearance of most other intrusive rocks on Vancouver Island. Indistinct gneissic foliation and agmatitic structures occur pervasively. The Saltspring Intrusions have gradational contacts with the Tyee Quartz Porphyry of the Myra Formation and are considered to be comagmatic with it. Dating of the Saltspring Intrusions reveals an initial age of latest Silurian. The Saltspring Intrusions are exposed mainly on Saltspring Island, and do not extend westward into the regional geology map area.

The **Sediment-Sill Unit** (Unit 6) is transitional between the Myra and Buttle Lake Formations. The upper and lower contacts are poorly defined. Thin bedded, turbidite-like, much silicified or cherty massive argillite and siltstone are interlayered with diabasic sills. The sediments show conspicuous dark and light banding on joint surfaces. The sills consists of a fine-grained, greenish black matrix containing feldspar phenocrysts up to more than 1 cm, commonly clustered in rosettes up to few centimetres in diameter, producing a very distinctive "flower porphyry" appearance. Subophitic texture may also be visible in hand specimen. The sediments are dated as Mississippian in age whereas the sills are believed to represent feeders to Triassic Karmutsen volcanics.

The **Buttle Lake Formation** (Unit 7) 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.

In the area southeast of Cowichan Lake, the Buttle Lake Formation consists of laminated, calcareous grey siltstone and black argillite containing lenses of coarse-grained calcarenite, minor massive beds or crinoidal limestone about 1 m thick, and lenses and nodules of chert. The section was described by an earlier worker as mainly interbedded chert and limestone (Yole in Muller, 1980a).

The Buttle Lake Formation is up to 466 m thick (approximately 300 m thick southeast of Cowichan Lake). The age of the formation, on the basis of fossil dating, appears to be Middle Pennsylvanian, is possibly as young as Early Permian (Muller, 1980a) This has been confirmed by recent dating work by Brandon and others (1986), including isotopic as well as conodont ages, which indicate that rocks of the Buttle Lake Formation are early Middle Pennsylvanian (Atokan) through Early Permian (probably Sakmarian) in age.

4.3 Vancouver Group

The **Karmutsen Formation** (Unit 8) volcanic rocks paraconformably overlie the Buttle Lake Formation limestone 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 in the area of El Capitan Mountain, consists mainly of dark grey to black, or dark green, tholeiitic pillow basalt, massive basalt, and pillow breccia. Flows are commonly aphanitic, feldspar porphyritic, and amygdaloidal. Pillow lavas generally occur toward the base of the section.

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

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** is widespread in the area south of Cowichan Lake. The limestone is black to dark grey and fine-grained to microcrystalline. Coarse-grained marble occurs in the vicinity of intrusive rocks. Most of the economic skarn deposits on Vancouver Island are hosted by Quatsino limestone. Thin bedded limestone also occurs in the formation. Fossils indicate an age of Upper Triassic (Muller and Carson, 1969).

The **Parsons Bay Formation** (Unit 9) overlies Quatsino limestone, or locally, Karmutsen volcanics. It is composed of interbedded calcareous black argillite, calcareous greywacke and sandy to shaly limestone. The Quatsino and Parsons Bay Formations are considered to represent near and offshore basin facies, respectively, in the quiescent Karmutsen rift archipelago (Muller, 1981).

4.4 Westcoast Complex

The **Westcoast Complex** (Unit 10) comprises a variety of plutonic and metamorphic mafic crystalline rocks, including amphibolite, diorite, and quartz diorite with homogeneous, agmatitic or gneissic textures. Dioritic or agmatitic bodies underlying or intruding the Nitinat Formation are included. Metamorphosed Karmutsen Formation and/or Sicker Group rocks grade locally into the complex and are believed to be its protolith, having been migmatized in Early Jurassic time. The mobilized granitoid portion of the complex is believed to be the source of the Island intrusions and, indirectly, the Bonanza Group volcanics (Muller, 1981, 1982). Small bodies of recrystallized limestone found within the complex are believed to be derived mainly from the Quatsino Formation, and to a lesser extent from the Buttle Lake Formation.

4.5 Bonanza Group

The **Bonanza Group** (Unit 11) stratigraphy varies considerably in a vertical and horizontal sense, 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 sequences of marine argillite and greywacke make up the Bonanza Group. In the area south of Cowichan Lake, the volcanics are described as dark brown, maroon, and yellow grey massive tuff, volcanic breccia, and massive or plagiophyric flows (Muller, 1982). The Bonanza volcanics are considered to be extrusive equivalents of the Island intrusions and to be of Early Jurassic age.

4.6 Island Intrusions

Exposures of **Island Intrusions** (Unit 12) consisting mainly of 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 abundantly with Buttle Lake Formation limestone.

4.7 Nanaimo Group

Upper Cretaceous Nanaimo Group sedimentary rocks occurring throughout the area overlie Paleozoic Sicker Group rocks with profound unconformity. Extensive exposures occur in the Chemainus and Cowichan River valleys. The formations present comprise the basal portions of the Nanaimo Group.

The **Comox Formation** (Unit 13) consists mainly of quartzo-feldspathic, cross-bedded beach facies sandstone and lesser conglomerate. Numerous intercalations of carbonaceous and fossiliferous shale and coal are characteristic.

The **Haslam Formation** (Unit 14) is a nearshore 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** are beach and deltaic sands. Minor shale and coal are reported.

4.8 Structure

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

Asymmetric southwest-verging, northwest-trending antiformal fold structures characterized by subvertical southwest limbs and moderately dipping northeast limbs are reported at Buttle Lake, in the Cameron-Nitinat River area, and north of Cowichan Lake. Well-developed foliation developed during metamorphism to chlorite-actinolite and chlorite-sericite schist in steep and overturned limbs of folds. Folding may have occurred prior to intrusion of Triassic(?) mafic sills along axial planar surfaces in folded Sediment-Sill unit rocks. Evidence from K-Ar dating also suggests Jurassic folding. Buttle Lake Formation limestones are relatively undeformed in some places, although in others, as in the Chemainus River Canyon, they are highly deformed, along with other Sicker Group rocks (Brandon and others, 1986). 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 (Muller, 1980a).

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 in some areas, such as the north side of the Chemainus River valley, placing Sicker Group rocks above Nanaimo Group rocks. These faults have been traced for up to 100 km. Such structures may represent large scale underthrusting from the southwest, in a regime of long-term semi-continual northeast-southwest compression. Nanaimo Group sediments are tilted up to at least 60° from paleohorizontal where they are overlying folded Sicker Group rocks with angular unconformity such as on the south side of the Chemainus River Valley. Minor late northeasterly trending tear-faults and block faults offset northwest-trending faults in the Cowichan Valley and Saltspring Island areas.

4.9 Economic Setting

The Sicker Group, and to a lesser extent, the Vancouver Group of volcanics, 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 area.

At Buttle Lake, approximately 140 km northwest of the Sognidoro property, the Myra Formation hosts Westmin Resources' volcanogenic massive sulphide deposit. Initially discovered in 1917, it was not recognized as a volcanogenic deposit until the late 1960's. Ore minerals including sphalerite, chalcopyrite, galena, tetrahedrite-tennantite, minor bornite and covellite are hosted by pyritic, rhyolitic to rhyodacitic volcanic and pyroclastic rocks of the Myra Formation.

Proven reserves of the Lynx (open pit), Price and Myra deposits are 926,600 t grading 1% Cu, 0.9% Pb, 7.4% Zn, 2.26 g/t (0.06 oz/ton) Au, 89.1 g/t (2.6 oz/ton) Ag (1983). Published reserves of the H-W mine are 13,901,000 t averaging 2.2% Cu, 5.3% Zn, 0.3% Pb, 2.40 g/t (0.07 oz/ton) Au and 37.7 g/t (1.1 oz/ton) Ag (Walker, 1983). In the 3 years 1980 to 1982, there were 811,987 t of ore milled, producing 7,306,880 kg Cu, 43,706,118 kg Zn, 6,455,040 kg Pb, 1,740,000 g (56,000 oz) Au, 78,630,000 g (2,528,000 oz) Ag, and 58,500 kg Cd.

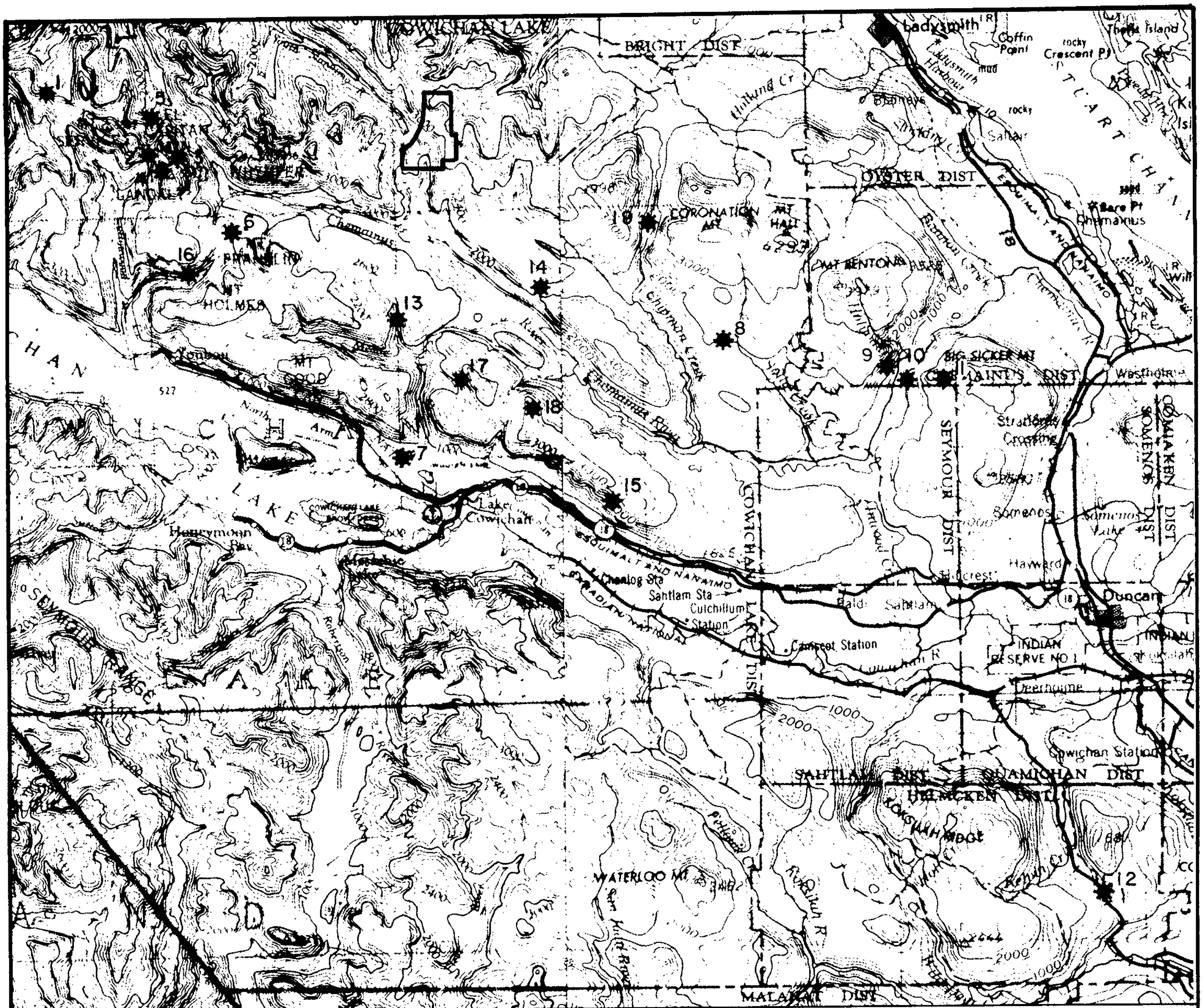
Another volcanogenic massive sulphide deposit in the Sicker Group is the Twin J Mine near Duncan on Mount Sicker, 26 km southeast of the Sognidoro property. Two parallel orebodies, 46 km apart, each containing pyrite, chalcopyrite, sphalerite and minor galena in a barite quartz-calcite gangue and chalcopyrite in quartz, occur in schists believed to have been derived from acidic volcanics (Myra Formation).

Total production from 1898 to 1964 was 277,400 tonnes producing 1,383,803 g (44,491 oz) Au, 29,066,440 g (934,522 oz) Ag, 9,549,590 kg Cu and 20,803,750 kg Zn with at least 164,590 kg Pb and 4.5 kg Cd.

On the Lara property (12 km southeast of the Sognidoro property), Abermin Corp, has traced the polymetallic volcanogenic massive sulphide Coronation and Coronation Extension Zones over a strike length of over 1500 m and to depths of 245 m. Average grades are 5.1 g/t Au, 111.4 g/t Ag, 0.81% Cu, 1.32% Pb, and 5.79% Zn over an average thickness of 3.9 m. A 162 m long high-grade zone within the Coronation Zone averages 8.2 g/t (0.24 oz/ton) Au, 229.7 g/t (6.69 oz/ton) Ag, 1.5% Cu, 3.1% Pb, and 14.9% Zn over an average thickness of 3.4 m. Recent exploration has located other similar horizon(s) up to 2.4 km long parallel to the Coronation Zone in the northern part of the property. The mineralized zones are hosted by felsic volcanics of the Myra Formation.

To the southeast of the Sognidoro claim, on the neighbouring Trek claims, economic though limited in quantity, Sicker Group schists are located along the regional fault which passes through the Sognidoro claim along upper Rheinhart Creek (Zastavnikovich, 1983). Drilling during September 1985 by Trek Resources Ltd. explored a schistose unit exposed along a road. The vertical hole was drilled to 122.5 m and significant mineralization was not encountered (Poloni, 1985).

Several additional mineral occurrences are located in the area north of Cowichan Lake within the Sicker Group (Figure 4). Details of the history, geology, extent of these occurrences and references are included in the following section (Mineral Occurrences).



GOLD OCCURRENCES

1. Amore
2. Cottonwood
3. El Capitan
4. Paint Pot
5. Silver Leaf
6. Comego
7. Meade Ck.
20. Sognidoro

BASE METAL OCCURRENCES, DEPOSITS

8. Lara
9. Pauper
10. Copper Canyon
11. Twin J
12. King Solomon
13. Candy
14. Pogo

OTHER OCCURRENCES

15. Hill 60
16. Rocky
17. Meade
18. Stanley Creek
19. Lady

N

NTS 92C

CANAMIN RESOURCES LTD.

MINERAL OCCURRENCES LOCATION MAP

SOGNIDORO PROPERTY

VICTORIA MINING DIVISION

Project No:	V269	By:	T. N.
Scale:	1 : 250 000	Drawn:	J. S.
Drawing No:	4	Date:	SEPTEMBER, 1987

MPH Consulting Limited

4.10 Mineral Occurrences and Deposits

1. Amore Au Ag Zn Pb Mo

Geology:

The property is underlain by volcaniclastic and sedimentary rocks of the Myra Formation, overlain by Karmutsen Formation basalts which are both intruded by Island Intrusions diorite. The mineralization occurs in shears and quartz veins within silicified felsic Sicker Group rocks in the northern portion of the Amore property.

Mineralization Features:

In the northern section of the property a sulphide-rich quartz vein 3 to 30 cm wide lies in a shear zone in silicified and carbonatized Sicker Group rocks. The main sulphides found in this vein are sphalerite, pyrite, pyrrhotite and galena. Assays for gold from this vein range from 10 to 680 g/t (0.3 to 20 oz/ton) Au. It should be noted that the 20 oz/ton is an approximate figure calculated from the Au returned from an approximate 2 ton shipment of ore. Further to the south on the east side of McKay Creek soil anomalies of up to 71,000 ppb Hg have been reported.

History:

1908:	BCDM reports initial discoveries of molybdenite.
1918 & 1922:	BCDM reports more work uncovered rosettes and seams of molybdenite in host granodiorite and some adit and trenching work.
1964:	Gunnex Ltd.; carried out limited stream and soil sampling with geological mapping.
1968:	Cominco conducted regional work.

1978:	E. Specogna staked Amore claims.
1979:	Aquarius Resources Ltd.; trenched and drilled gold bearing quartz vein at north end of property. Best assay 18 g/t (0.52 oz/ton) Au over 31 cm.
1981:	Aquarius Resources Ltd.; completed soil and silt geochem survey along logging road at the western boundary of the Amore claim.
1984:	Restaked by M. Specogna.
1985:	Soil and silt geochemical program run by M. Specogna revealed Hg anomaly on east side of McKay Creek.
1986:	Canamin Resources Ltd.; prospecting and soil sampling reported.
1987:	MPH Consulting Limited for Canamin Resources Ltd.; assessment work consisting of soil and stream sampling, lithogeochemistry and geological mapping at 1:500 scale.

References:

BCDM	1908, 1918, and 1922
AR	7187, 7908
Minfile	92C117

2. Cottonwood Au Co Cu Ag

Geology:

A shear zone in Karmutsen Formation(?) basalt contains lenses of quartz and patches or lenses of massive pyrite, pyrrhotite, arsenopyrite, chalcopyrite with some coatings of erythrite. Most often the sulphides are very heavily oxidized. Smaltite has also been reported.

Mineralization Features:

A 0.6 m sample assayed 6.8 g/t (0.2 oz/ton) Au, 20.6 g/t 0.60 oz/ton) Ag. A erythrite-coated sample assayed 2.64 g/t (0.077 oz/ton) Au, 1.37 g/t (0.04 oz/ton) Ag, 4.7% Co, nil Ni; while a sample of pyrite believed to have the appearance of niccolite assayed trace Au, trace Ag, 2.5% Cu, 1.1% Co, nil Ni. The shear zone has been traced for at least 150 m and is up to 9 m wide, of which up to 1.8 m is mineralized.

History:

1927-29:	Douglas, Lomas, Miller; drove upper and lower adits, 2 smaller adits, 2 open cuts.
1985:	Dayton Developments Corp.; (Capitan claim) no work recorded.

References:

MMAR	1927-338, 1928-365, 1929-370
BCDM	Bull. 37, p. 63
Carson	1968, p. 133
Minfile	92C020

3. El Capitan Au Cu Ag

Geology:

A shear zone which follows the south wall of a 3 m wide hornblende porphyry dyke cutting massive porphyritic basalt or andesite of the Karmutsen Formation contains heavily oxidized pyrite, chalcopyrite in quartz stringers. Locally, shearing and mineralization is also present on the north side of the dyke. Heavy oxidation is reported to extend at least 30 m below the surface.

Mineralization Features:

Surface showings assay up to 148.8 g/t (4.34 oz/ton) Au, with 104 ppm Ag and 2.38% Cu. The best assay from Adit 1 in 1955 was 14.4 g/t (0.42 oz/ton) Au, 10.3 g/t (0.3 oz/ton) Ag, over 0.6 m. Sampling in 1979 in Adit 1 averaged 141.3 g/t (4.12 oz/ton) Au, 44.2 g/t (1.29 oz/ton) Ag, 2.16% Cu over an average width of 0.62 m (6 samples). Assays of up to 140.6 g/t (4.1 oz/ton) Au over 0.15 m, 120 g/t (3.5 oz/ton) Ag over 0.1 m, and 13.1% Cu over 0.15 m are reported from Adit 2. At the face of Adit 2 the vein has split into 3 smaller branches. A weighted average over 2.6 m is 16.5 g/t (0.48 oz/ton) Au. A quartz-chalcopyrite vein found southwest of the main zone in 1979 averaged 0.86 g/t (0.025 oz/ton) Au, 20.9 g/t (0.61 oz/ton) Ag, 5.37% Cu over an average of 0.3 m (2 samples). VLF-EM did not locate any anomalies, even over the known mineralized zones.

History:

1925:	First staked.
1927-30:	El Capitan Syndicate; stripping, drove Adits 1, 2 and a 1.8 m tunnel.
1932-35:	Lomas and Powell; drove Adit 3
1979:	Trans Pacific Ventures Ltd.; (Cap claim) VLF-EM, sampling old workings.
1985:	Dayton Developments Corp.; rock sampling, soil sampling, trenching, geological mapping, silt sampling.
1986:	MPH Consulting Limited for Dayton Developments Corp.; rock sampling, soil sampling, geological mapping (1:5000).

References:

MAR	1927-337, 1928-364, 1929-370, 1930-289, 1932-202, 1933-249, 1934-F1, 1935-F52
EBC	1979-126
AR	7832
BCDM	Bull. 1, p. 131, Bull. 37, p. 61, Special Report #39, 1937

Carson	1968, p. 133
Minfile	92C019

McIntyre, J.F.; Engineering Report, El Capitan Gold Property, ..., for Strongbow Resources Corp., May 30, 1983

Private File Information

4. Paint Pot Au Cu Ag

Geology

A 0.61 m wide vein of oxidized pyrite, chalcopyrite occurs in a shear in Karmutsen Formation(?) andesite.

Mineralization Features:

An assay of 4.63 g/t (0.135 oz/ton) Au, 51.4 g/t (1.5 oz/ton) Ag, 6.1% Cu over 0.61 m is reported. The vein can be seen extending up a cliff for at least 30 m.

History:

1930-31:	Martin Smith; a short tunnel driven on the vein.
1932:	J.E. Fletcher & Assoc.; no work recorded.
1985:	Dayton Developments Corp.; no work reported.

References:

MMAR	1930-289
BCDM	Bull. 1, p. 132
Minfile	92C043

5. Silver Leaf Au Ag Cu

(Located within Nanaimo Watershed)

Geology:

Four northeasterly trending, steeply dipping, quartz-filled shear zones in Karmutsen Formation(?) massive basalt or andesite host the mineralization for the showing. The mineralization consists of lenses of massive fine-grained pyrite, chalcopyrite, pyrrhotite, minor arsenopyrite up to 1.5 m wide in a gangue of quartz, calcite and sheared basalt.

Mineralization Features:

Assays from the southern workings range from nil to 39.1 g/t (1.14 oz/ton) Au, trace to 171 g/t (5.0 oz/ton) Ag, 2.3% to 17.5% Cu over widths of up to 1.4 m. Assays from the northern workings range from trace to 41.83 g/t (1.22 oz/ton) Au, trace to 6.86 g/t (0.2 oz/ton) Ag, 2.5% to 7.2% Cu over widths of up 1.2 m. A "vein" 15.2 m north of the southern workings assayed 21.6 g/t (0.63 oz/ton) Au, 16% Cu. A mineralized zone is also reported to occur about 305 m south of the south end of the workings. Two or more shears may intersect downhill from the workings.

History:

1911:	Silver Leaf claims staked.
1923:	No. 1 adit driven.
1945:	Nos. 2 and 3 adits driven.
1963-64:	Gunnex Ltd.; rock sampling undertaken, highest assay 42 g/t (1.22 oz/ton) Au, 7 g/t (0.2 oz/ton) Ag.

References:

MMAR	1919-224, 1921-215, 1922-243, 1926-323, 1927-348, 1928-371, 1930-302, 1937-F33
	Bull. 1, 1932, p. 136
	Bull. 37, 1955, pp. 63-65 (Fyles, J.T.)
Minfile	92C021

6. Comego (Cascade, Kitchener, Widow Group, Anne)
Au Cu Mo W Ag Zn Fe

Geology:
The area is underlain by Sicker Group bedded cherts, cherty tuffs, agglomerates, and andesites intruded by a gabbro-diorite sill, a quartz diorite stock, and feldspar porphyry dykes. Three types of mineralization are found in the Sicker rocks: 1) garnet-actinolite-quartz-calcite-epidote-chlorite skarn often containing magnetite, chalcopyrite, pyrite, pyrrhotite, local molybdenite, scheelite, sphalerite, tetrahedrite, rare bornite and arsenopyrite occurring in cherty tuff near the contact of the gabbro-diorite sill; 2) rusty weathering quartz-carbonate stringers in a shear zone containing finely disseminated molybdenite, pyrite, chalcopyrite, tennantite, local bornite and magnetite; and 3) quartz veins associated with the skarn zones containing masses of chalcopyrite, pyrite, and molybdenite.

Mineralization Features:
The main skarn zone is 30 m wide by 90 m high by possibly 500 m long. Best assays are 14.1 g/t (0.4 oz/ton) Au over 1 m, 27.4 g/t (0.8 oz/ton) Ag over 4.6 m, 8.3% Cu over 6 m, 1.3% Mo over 4.6 m, 0.32% WO_3 over 1 m. The best DDH intersection was 0.69 g/t (0.02 oz/ton) Au, 10.3 g/t (0.3 oz/ton) Ag, 0.5% Cu over 7.3 m. Assays from the quartz-carbonate zones are all very low. The quartz-molybdenite vein(s) are 1.5 m wide, 15 m long. Samples over 1.5 m averaged 1.3% Cu, 4.6% Mo, whereas a 2 m sample assayed 1.2 g/t (0.03 oz/ton) Au, 21.25 g/t (0.6 oz/ton) Ag, 2.2% Cu, 0.28% Mo, 0.32% WO^3.

History

1902-06:	G. Lawrence; (Cascade) open cut, stripping, 2 pits.
1919:	L.A. Sherk; (Kitchener Group) several open cuts and 4 short adits existed on the property.
1920's:	The consolidated Mining and Smelting Co. of Canada Ltd.; test work, drove a short adit.
1948-55:	Duncan Powell and others; unspecified work.
1964:	O.G. MacDonald; blasted 5 pits, soil sampling, mag survey.
1969-70:	Hibernia Mining Co. Ltd.; (Anne) soil sampling, mapping, JEM survey.
1971:	Tagus Syndicate; mapping 7 DDH for 500 m.
1980-81:	DRC Resources Corp.; mapping, soil, and rock sampling.
1985:	DRC Resources Corp.; no work reported.

References:

MMAR	1906-211, 1919-239, 1931-163, 1948-158-161
GEM	1969-223, 1970-290, 1971-230
AR	641, 1949, 2167, 2849, 8283, 10102
BCDM	Bull. 37, p57
Carson	1968, pp. 128-130
Minfile	92C018
TML	1985 #056

7. Meade Creek Au

Geology:

Placer gold deposit. Fine gold was found from bedrock to 6 m above high water level.

Mineralization Features:

It is reported that results of up to 40 colours from one pan occurred. Total production is not recorded.

History:

1950: J.S. Ford, R.S. Nilson and Associates; unspecified work.

References:

MMAR 1950-204
Minfile 92C057

8. Lara Au Zn Ag Cu Pb

Geology:

The property is underlain mainly by Myra Formation intermediate to felsic volcanics and pyroclastics on the south limb of a gently westerly plunging anticline. Argillite units, locally graphitic, are associated with felsic tuffs. Three tuffaceous-sedimentary intervals containing pyrite and lesser amounts of sphalerite, chalcopyrite, and galena have been traced for up to 6.3 km along strike. The two northern horizons contain only minor base metals, but the southern horizon contains the Coronation Zone, Coronation Extension, and Road Showing. The Coronation Zone as outlined by drilling is stratiform and dips 60-65° to the north. The Coronation Extension is believed to occur at a higher stratigraphic level than the Coronation Zone.

Mineralization Features

The pyritic horizons range from 25 cm to 10 m in thickness and are traceable by IP, VLF-EM, and soil geochemistry. The Coronation Zone and Coronation Extension together have been outlined for a total of about 1500 m along strike and to depths averaging about 150 m. The width varies from about 1.5 to 8.2 m, averaging about 6.2 m. The Coronation Zone is open along strike on both ends. Average grades of 4.54% Zn, 4.11 g/t (0.1 oz/ton) Au, 92.6 g/t (2.7 oz/ton) Ag, 0.79% Cu, and 0.83% Pb have been announced from 17 of the 80 or more drill holes on the property. Individual intersections include: 3.6 m of 7.30 g/t (0.2 oz/ton) Au, 275 g/t (8.0 oz/ton) Ag, 9.22% Zn, 1.16% Cu, 2.53% Pb; 2.99 m of 4.53 g/t (0.1 oz/ton) Au, 108.7 g/t (3.2 oz/ton) Ag, 5.87% Zn, 1.26% Cu, 2.48% Pb. A trench on the Coronation Zone above the discovery drill hole exposed massive sulphides grading 24.58 g/t (0.7 oz/ton) Au, 513.6 g/t (14.9 oz/ton) Ag, 43.01% Zn, 8.30% Pb, 3.04% Cu over 3.51 m.

A recent news release shows that eight diamond drill holes have traced massive sulphides in the Coronation Zone over a strike length of 162 m. Average values from an interval of 3.4 m width were 8.23 g/t (0.24 oz/ton) Au; 229.72 g/t (6.7 oz/ton) Ag; 14.9% Zn; 3.1% Pb; 1.5% Cu.

Also, late last year, an area located 2134 m north of the Coronation Zone, tested by four diamond drill holes, shows anomalous horizons of 4.66% Zn; 0.31% Cu; 0.50% Pb with anomalous Au and Ag over narrower widths. The rock sequence containing the horizons has a strike length greater than 2438 m. $1 million has been budgeted for the 1987 exploration program.

History:

1966-67:	Cominco Ltd.; (Tot/Rum property) IP, resistivity, soil sampling
1978:	UMEX Inc.; (Elk, Mouse groups) soil sampling, mapping, mag, EM16, shootback EM
1981-82:	Laramide Resources Ltd.; (Silver 2 claim) soil sampling, IP, VLF-EM
1983-86:	Aberford Resources Ltd.; (Lara) extensive geophysics, geological mapping, geochemical surveys, trenching, EM survey, at least 80 DDH, prospecting.

References:

EBCR	1978-E124
AR	7384, 10116, 11123
MER	1983, p30
NM	Feb 7, Aug 8, 1985; June 2, Aug 18, 1986; Jan. 19, 1987.
	Abermin Corporation - Information Booklet; Dec 30, 1985
VS	1986: Jan 24, Jan 28, May 26, Aug 5, Aug 13.
VMR	February, 1987.

9. Pauper Cu Au Ag Zn

Geology:

The area is underlain by steeply dipping sericite and quartz augen-sericite schist of the Sicker Group cut by Sicker diorite and gabbro sills and dykes. The mineralization consists of semi-massive to coarsely disseminated pyrite-chalcopyrite and is apparently stratabound, as it is concentrated in two 10 m wide horizons. Whole rock and trace element geochemistry indicates that the host rocks are intermediate, calc-alkaline, volcanic arc type (i.e. Kuroko-style setting).

Mineralization Features:

The pyritic zone is 18.3 m wide. Assays include 2% Cu over 18.3 m; trace Au, 34 g/t (1 oz/ton) Ag, 7.5% Cu from ore from the adit; and trace Au, 6.9 g/t (0.2 oz/ton) Ag, 8% Cu from a showing 91 m south of the adit. A DDH drilled about 800 m west of the adit in 1978 cut 3 m of 0.192% Cu, 0.08% Zn, 3.77 g/t (0.11 oz/ton) Ag, 0.14 g/t (0.004 oz/ton) Au.

History:

1890's:	Originally staked.
1903:	Henry Fry; Pauper (L.31G) Crown Granted.
1919:	E.J. Palmer, L. Levensaler; open cut, 15.2 m adit with 15.2 m crosscut at end.
1924:	J.P. Tomlinson; Pauper (L.31G) re-Crown Granted.
1927:	E.F. Miller & Associates; no work reported early 1960's: Sharron Copper Co.; IP Survey, 6 DDH.
1975-79:	Imperial Oil Ltd./Esso Minerals Canada Ltd.; (Mons 1/Brent 1) airborne EM survey; EM, mag, SP, soil sampling, mapping, 1 DDH for 93 m.
1985:	Esso Resources Canada Ltd.; no work reported.

References:

MMAR	1903-250, 1923-274, 1924-368, 1927-339
EBC	1978-E121
AR	6548, 7323
Carson	1968, p. 159
Minfile	92B040
P. Holbek	B.Sc. Thesis, UBC, May 1980

Comments:

The Pauper was included in a much larger property worked on by Esso from 1977-79. See Oak (P14). Carson (1968) stated that this occurrence is very similar to pyritic zones formed near massive sulphide deposits and that it is found in quartz-sericite chlorite schist similar to those of Twin J and Western Mines.

10. Copper Canyon Au Ag Au (Zn Pb)

Geology:

The area is underlain by schistose Sicker Group volcanics including quartz-sericite schist, chlorite schist, and rhyolite porphyry, intruded by diorite (of the Island Intrusions?). A band 120 m to 180 m wide contains five mineralized zones; two on its southern side and three on its northern side. Disseminated to massive pyrite and minor chalcopyrite occur in a quartz vein; in a quartz vein in a shear zone; and in schist with no associated quartz vein. The schists are reported to be more siliceous and less foliated than at the Twin J mine. Unlike the Twin J, there is no barite associated with the mineralization.

Mineralization Features:
Assays reported include 10.2% Cu from a grab sample from a minor showing south of the Copper Canyon adit; trace Au, 17.1 g/t (0.5 oz/ton) Ag, trace Cu over 3 m in the Victoria adit; and 1.71 g/t (0.05 oz/ton) Au, 54.9 g/t (1.6 oz/ton) Ag, 6.77% Cu, 0.01% Pb, 0.06% Zn (location unreported). The mineralized lenses have a maximum width of 1.8 to 2.1 m. One 1.8 m zone is composed of 0.3 to 0.6 m of massive mineralization and 1.2 to 1.5 m of disseminated and veinlet mineralization. The Copper Canyon adit followed a lens for 41 m before losing it due to faulting or folding. An EM conductor 3 to 4.5 m wide by 335 m long with coincident Cu-Pb-Zn soil geochemical anomalies has been outlined on the Copper Canyon claim.

Production in 1904, 1905 and 1907 came from the Victoria claim and totalled 109 tonnes yielding 93 g (3 oz) Au, 3421 g (110 oz) Ag, and 4346 kg Cu.

History:

1897:	P.J. Pearson (Copper Canyon) 30 m tunnel.
1901-02:	Mounts Sicker and Brenton Mines Ltd.; tunnel on Copper Canyon lengthened to 94 m, various crosscuts and a raise/shaft added; 46 m tunnel drive on Victoria; various test pits on all claims, short adits on Klondyke, Susan claims.
1971-73:	Viva Ventures Ltd.; VLF-EM, LF-EM, shootback EM, mag, seismic, IP, resistivity, SP, gravity, soils, mapping.

1977:	J.R. Deighton; mapping, soil and silt sampling.
1978:	Kinneard, Loring, Whittles; VLF-EM, mapping.
1979:	UMEX Inc.; mapping, EM, mag, soil sampling, 1 DDH for 145 m on Klondyke.
1985:	Canamera Explorations Ltd.; soil sampling, IP, trenching, 3 DDH for 306 m.

References:

MMAR	1897-567, 1898-1148, 1901-1118, 1902-239, 252, 1905-216, 250, 1907-154, 221, 1920-222, 1928-365
GEM	1971-225, 1973-224
EBC	1977-E104 (Margie-Susan), 178-E102, 1979-122
AR	3099, 4626, 6599, 6600, 6972, 7183, 7435
Minfile	92B086, 004
NM	Aug. 22, 1985

11. Twin J (Lenora, Tyee, Richard III)

Zn Cu Au Ag Pb Cd Ba

Geology:

The area is underlain by Sicker Group andesitic flows and cherty tuffs with minor sediments, metamorphosed to quartz-sericite, quartz-chlorite, and chlorite schists which are intruded by sills, dykes, and irregular masses of gabbro-diorite. The two main orebodies occur 46 m apart in strongly dragfolded parts of a schist "panel", often close to the contact of a band of graphitic schist and bounded by an intrusive sodic rhyolite porphyry. Within the orebodies, two types of ore are found. Barite ore is a fine-grained mixture of pyrite, chalcopyrite, sphalerite, and minor galena in a barite-quartz-calcite gangue. It is frequently banded, with chalcopyrite-pyrite and sphalerite layers. Quartz ore consists mainly of quartz and chalcopyrite and occurs in long lenticular masses within barite ore and the host schists.

Mineralization Features:

The North orebody is 520 m long by 0.3 to 3 m wide by 37 m downdip. The South orebody is 640 m long by 6 m or more wide by 46 m downdip. Total recorded production from 1898 to 1964 amounts to 276,831 tonnes of ore containing 1,244,555 g Au, 26,141,200 g Ag, 9,681,576 kg Cu, 20,803,748 kg Zn, 189,925 kg Pb, and 1179 kg Cd. Reserves are reported as 317,520 tonnes grading 1.6% Pb, 6.6% Zn, 4.11 g/t (0.12 oz/ton) Au, and 140.6 g/t (4.1 oz/ton) Ag as of 1971.

History:

1897-1927	Operated as three separate mines: **Lenora**, (Lenora - Mt. Sicker Mining Co.), **Tyee** (Tyee Copper Mining Co.) and **Richard III** (Richard III Development Co. Ltd.). Most of the production came in the period from 1900 to 1907.
1928-29:	Pacific Tidewater Mines Ltd.; joined the three mines underground (**Lenora, Tyee, Richard III**)
1939-40:	Sheep Creek Gold Mines Ltd.; diamond drilling, trenching, underground development
1942-47:	Twin J Mines Ltd.; 125 tpd concentrator, mining from 1943 to May 1944 and mid-1946 to September 1947 (mainly from Lenora)
1949-52:	Vancouver Island Base Metals Ltd.; mining 1951 to January 1952 (mainly from Lenora)
1964:	W. Howden; mined 151.5 tonnes from **Lenora**, grade not reported
1967-70:	Mt. Sicker Mines Ltd.; 7 DDH for 123 m, mapping, trenching
1972:	Ducanex Resources Ltd.; 5 DDH for 914 m, mapping, shootback EM
1973-74:	Dresser Industries Inc.; 8 DDH for 1676 m, IP, soils
1978-80:	SEREM Ltd.; 7 DDH for 1236 m, mapping, soils, mag, EM
1983-86:	Corporation Falconbridge Copper/Peppa Resources Ltd.; geological mapping, DDH's, sampling, mag, EM 37, IP

References:

MMAR	1928-365, 1931-164, 1935-G46, 1936-F63, 1939-90, 1940-74, 1942-70, 1943-69, 1944-67, 1946-191, 1947-183, 1949-224, 1950-180, 1951-199, 1952-214, 1964-168, 1967-79, 1968-107
GEM	1969-224, 1970-291, 1972-240, 1974-163
EBC	1978-E119
AR	1104, 1714, 3741, 3950, 3951, 4904, 5164, 6996, 7714, 7814, 7875, 8168, 8264
CIMM	Structural Geology of Canadian Ore Deposits, 1948, p.48
CMH	1972/73
TML	1984, #042, 064, 136, 192, 195
Minfile	92B001, 002, 003

12. King Solomon (L.17G, L. 152, L. 157; Kokisilah)
Cu Ag Zn Pb Fe (Au)

Geology:

The main deposit consists of a 6.1 m thick body of massive pyrrhotite-pyrite(-chalcopyrite), oriented 030/35° southeast and hosted by intensely shattered, highly epidote-altered cherty tuff to basaltic chert at or near the base of the Buttle Lake Formation. The tuff contains pyrrhotite disseminated, in fracture fillings, and in massive pods or lenses to at least 12 cm by 20 cm. A strongly altered rhyolite dyke(?) intrudes the tuff about 7 m from the massive orebody. An adit was driven approximately along the dyke contact. A second orebody occurs above the main one (King Solomon upper workings; Limestone orebody). It consists of complexly interlayered chert and epidote skarn with 15% pyrite and chalcopyrite disseminations and fracture fillings, in complex contact with a porphyritic dacite intrusive and trends about 135/45-50° northeast.

Mineralization Features

The first 6.1 m to 9.1 m of the main orebody away from the dyke is richer, averaging 4% to 5% Cu, while the outer 4.6 m to 6.1 m of the deposit is lower grade, averaging about 2% Cu. The main orebody is 91.4 m long by 6.1 m to 21.3 m wide. A 29.0 m crosscut intersected ore averaging 5% Cu for the first 12.2 m while the last 16.8 m contained heavy Fe, Cu mineralization. A 7.6 m shaft connected to a 21.3 m drift and a 6.1 m open cut on the "limestone orebody" were all in ore, averaging 5% Cu in the shaft and 4% Cu elsewhere. The limestone orebody is generally lower grade than the main orebody. Au and Ag contents averaged $1.50 ton in both deposits (1938 prices).

The main crosscut tunnel was driven 45.7 m below and subparallel to the main orebody, never intersecting ore; a zone from 45.7 m to 207.3 m runs 0.5% to 2.5% Cu, trace Au (stringer zone below massive sulphides?). Geophysical surveys located weak, short coincident magnetic and VLF-EM anomalies over the old workings. Reserves were estimated at 226,750 t (250,000 tons) of 1.4% Cu or 286,612 t (316,000 tons) of 0.83% Cu in the late 1950's and early 1960's.

Production

1904-05,07:	245 t (270 T) ore; 6376 g (205 oz) Ag, 17,974 kg (39,626 lb) Cu (25.71 g/t (0.75 oz/T) Ag, 7.34% Cu).
1912:	274.8 t (303 T) picked ore averaged over 5% Cu.

History:

1903-07:	Maclay, Ryan; Mining
1909:	James Humes; granted Crown Grant L. 17G
1913-14:	King Solomon Copper Mining Co.; drove lower adit 167.6 m (550')

1956-60:	Cellardor Mines Ltd.; (King Solomon, Blue Bell-#11, and other claims), surface work, SP, dewatered old workings, 13 DDH for 640 m (2100'), enlarged lower adit for more than 121.9 m (400').
1983-85:	Reward Resources Ltd.; geological mapping (1:2000, 1:5000), magnetometer surveys, rock sampling, VLF-EM soil sampling.
1986:	Reward Resources Ltd; geological mapping (1:2500), IP surveys, diamond drilling.

References:

MMAR	1903-210, 1904-253, 1905-216, 1907-155, 1908-164, 1909-278, 1913-290, 1914-386, 1916-312, 1923-272, 1928- 363, 1959-140, 1960-116
GEM	Mem. 96, pp371-377
Minfile	92B015

13. Candy Cu

Geology

Fractured and sheared Sicker Group andesite and basalt host quartz veins containing chalcopyrite and pyrrhotite.

Mineralization Features:

Results not reported.

History:

1969:	Four Square Exploration Ltd.; silt sampling, trenching.
1985:	Utah Mines Ltd.; (Thriller property), no work reported.

References:

GEM	1969-223
Minfile	92C076

14. Pogo Zn Pb Cu (Ag)

Geology:

Pyrrhotite, pyrite, chalcopyrite, sphalerite, and galena occur disseminated and on fracture planes in a fractured, fine-grained diabase sill which intrudes black cherty argillite of the Sicker Group (Sediment-Sill Unit). The mineralization occurs at a synclinal fold axis where the sill is "pinched" as it crosses from the west limb to the east limb. A second showing 1370 m southeast of the main showing contains Zn-Pb-Cu mineralization in a rusty shear zone in a diabase sill.

Mineralization Features:

The best assays from the main showing are 0.42% Zn over 3 m and 0.48% Pb, 0.09% Cu, trace Ag, each from different 1.5 m samples. A grab showing from the second showing assayed 0.72% Zn, 0.17% Pb, 0.13% Cu.

History:

1964:	E.M. Wilson; mapping, rock sampling.
1985:	JBC Resources Ltd.; mapping, rock sampling
1986:	International Cherokee Development/Angle Resources; geological mapping, trenching, soil sampling, VLF-EM.

References:

AR	566
Minfile	92C074

15. Hill 60 (L.12G, L.13G) Mn

Geology:

Thinly banded green, cream, and red cherty Sicker Group chert and cherty tuff with local lenses of red jasper host lenses of rhodonite. A few thin mafic dykes cut the cherty tuff near the main workings. The rhodonite was heavily oxidized to a depth of about 4.6 m in the main workings. A type of yellow manganese garnet occurs locally in chert. Chalcopyrite and bornite are reported to occur disseminated in rhodonite and jasper.

Mineralization Features:

The main open pit is about 18.3 m long, 6 m to 9 m wide and 4.6 m to 6 m deep. A 539 tonne shipment averaged 50% Mn, 19% SiO_2. Assays range from 15.88% to 57.15% Mn with the average of 25 samples being 43.09% Mn over 1.19 m. The average Al_2O_3 content of 17 samples was 1.02%. Other thinner, smaller, less oxidized lenses of rhodonite (presumably including the Striker occurrence reported by Cowley (1979) occur in an area about 335 m long by 105 m wide. This is the only Mn deposit in the Sicker Group known to have been significantly oxidized, a condition which is necessary to make rhodonite into Mn ore. Total production in 1919 and 1920 was 1135 tonnes; Mn content was not reported.

History:

1918:	Dickie, Wood, Service, Douglas; discovered showing, stripping and cuts.
1919-24:	British Columbia Manganese Co. Ltd. (NPL); mining in 1919 and 1920. Constructed an aerial tramway, but no work performed since 1920.
1939:	Dominion-Provincial Mining Training Project; cleaned out and extended trenches, trenching and stripping on new occurrences.

References:

MMAR 1918-296, 1919-237, 1924-368
BCDM Bull. 37, p. 67
GSC P72-53; P64-37, p. 19; EGS 12
Canadian Rockhound February 1966, p. 7
Canadian Munition Res. Comm. Final Report, 1920, pp. 91, 95
Minfile 92B027
Cowley, P. Correlation of Rhodonite Deposits on Vancouver Island and Saltspring Island, British Columbia; UBC B.Sc. Thesis, 1979

16. Rocky (Widow Creek, Cottonwood) Mn

Geology:

Lenses of rhodonite and brown manganese carbonate (rhodocrosite) thinly coated with oxides, lie parallel to bedding in tightly folded cherty tuff and jasper of the Sicker Group. Locally, rhodocrosite forms up to 50% of the Mn mineralization.

Mineralization Features:

Manganese occurs in an area less than 30 m by 15 m. Two other minor occurrences are reported within 790 m of Rocky. The deposit is reserved for the use of rockhounds on a non-commercial basis. No assays are reported.

History:

Known at least as early as 1920. A few shallow open cuts on the main occurrence are the only work reported.

References:

GSC EGS12, p. 117
BCDM Bull. 37, p. 68
Canadian Munition Res. Comm. Final Report, 1920, p. 92
Minfile 92C113

17. Meade Mn

Geology:

Lenses containing rhodonite and manganese garnet occur in red and white Sicker Group cherty tuff. The lenses are very thinly coated with oxides.

Mineralization Features:

The lenses are up to 0.9 m thick and are believed to be more or less continuous between the two exposures in open cuts 61 m apart.

History:

Known at least as early as 1939. The only work reported consists of two shallow open cuts.

References:

BCDM Bull. 37, p. 68
Manganese Deposits of Cowichan Lake, H. Sargent, 1939
Manganese Occurrences in B.C., H., Sargent, 1956
Minfile 92C115

18. Stanley Creek (Lookout Locality, Chem A) Mn

Geology:

Two irregular lenticular masses of rhodonite lie parallel to bedding in Sicker Group cherty tuff.

Mineralization Features:

The lenses are a several centimetres to 0.3 m wide and about 6 m long. A microprobe analysis by Cowley (1979) revealed 42.25% MnO content.

History:

Known at least as early as 1939. No physical work on the occurrence is reported.

References:

GSC	P72-53, p. 56
BCDM	Bull. 37, p. 68
Manganese Deposits of Cowichan Lake, H. Sargent, 1939	
Minfile	92C116
Cowley, P.	Correlation of Rhodonite Deposits on Vancouver Island and Saltspring Island, British Columbia; B.Sc. Thesis, UBC, 1979

19. Lady A, Lady C Fe

Geology:

The Lady A deposit consists of 2 lenses of taconite in cherty Sicker Group sediments while the Lady C consists of a single lens of taconite. The taconite is composed of bands of extremely fine-grained magnetite and minor specularite and hematite in grey chert and red jasper. Jasper is more common at Lady C.

Mineralization Features:

The A deposit outcrops over a strike length of 107 m and is up to 18.3 m wide. Drilling revealed an average thickness of less than 9.1 m.

The C deposit is exposed for 53.3 m along strike and has an apparent thickness of approximately 15 m. Limited drilling revealed a thickness of 45.7 m or more (holes were stopped before reaching the hanging wall) locally and down dip extent of at least 61 m. Average grades of the 4 holes ranged from 9.5% to 30.5% Fe.

The fineness of the magnetite could prove a problem in the magnetic separation process.

Reserves of the Lady A deposit are roughly estimated at 326,600 t grading 25% Fe, based on diamond drilling results. The Lady C deposit is believed to be larger than the Lady A but insufficient drilling has been done to draw definite conclusions.

History:

1953:	Ladysmith Development Ltd.; 12 DDH for 390 m on Lady A and 4 DDH for 204 m on Lady C.
1985:	Anna Maria Joyce (Ermelina claim); no work reported.
1986:	Rafael Resources optioned the 12 Ermelina claims.

References:

MMAR	1956-135
BCDM	Bull. 37, p. 13
Carson	1968, pp. 101-102
Minfile	92B029, 033

20. Sognidoro Au Ag Cu Pb

Geology:
The Rheinhart Lake area is underlain by the Sediment-Sill Unit of the Sicker Group. Mineralization occurs in two main zones on the property both within chlorite schists. The first zone consists of Au, Ag and Cu bearing jasper lenses(?) around the 840 m elevation on the east side of the property. The second zone is a Au, Ag, Cu bearing quartz vein up to 1.2 m wide which can be traced for 265 m along strike, (McDougall Vein) at the 670 m elevation. Another quartz vein exposed over 2 m at 730 m elevation contains pyrite and chalcopyrite.

Mineralization Features:

The jasper contains magnetite, pyrite and minor chalcopyrite. Assays from the jasper horizon returned 0.27 g/t (0.008 z/ton) Au, 3.4 g/t (0.1 oz/ton) Ag, 0.939% Cu and 0.72 g/t (0.021 oz/ton) Au (1987 samples), 1.49 g/t (0.043 oz/ton) Ag, 0.04% Cu. The McDougall quartz vein samples have returned values ranging from 0.03 to 37.51 g/t (0.0009 to 1.09 oz/ton) Au and 0.3 to 31.5 g/t (0.009 to 0.918 oz/ton) Ag, 0.8% Cu and 0.46% Pb.

History:

1917:	Department of Mines survey of Anita (Sognidoro) claims.
1983-84:	Canamin Resources Ltd.; soil sampling, rock sampling.
1984:	E. Specogna; trenching.
1985-87:	Canamin Resources Ltd.; prospecting, rock sampling.
1987:	MPH Consulting for Canamin Resources Ltd.; geological mapping, silt and soil sampling, rock sampling.

References:

MMAR 1918-227
TML 1984, #066, 140
VS Apr. 24, 1985
MER 1984 p. 30
Canamin Resources Ltd.; report to shareholders, July 1, 1983.
EBC 1985-C129
AR 11401, 13568
Lisle Apr. 24, 1987

5.0 1987 ASSESSMENT WORK

From July 23 to July 28, 5 days were spent conducting geological field work on the Sognidoro property headed by the author, with the aid of an assistant and a prospector/geological technician. The work consisted of geological mapping, prospecting and rock sampling at a scale of 1:5000; it concentrated in the area around the quartz vein and the jasper horizon. A total of 43 rock samples were collected and analyzed for Au by A.A. and for 30 elements by ICP at Rossbacher and Acme Labs, respectively. Rock sample descriptions with selected results and certificates of analysis are included in Appendices II and III, respectively.

A total of 21 silt samples was collected from the property as well as three B-horizon samples. These were also analyzed for Au (A.A.) and 30 elements by ICP with results included in Appendix III.

5.1 PROPERTY GEOLOGY

The Sognidoro property is underlain by the Sediment-Sill unit of the Paleozoic Sicker Group, intruded by a large body of Jurassic? clay and limonite altered intrusive in the northwestern portion of the property.

Previous geological mapping by Fyles (1955), described numerous intertonguing bands of Sicker Group sediments and diabase which he associated with the Triassic Karmutsen Formation in the upper Haslam Creek and Rheinhart Creek areas. Muller (1980) defined the Sediment-Sill unit as transitional between the Myra and Buttle Lake Formations. It comprises thinly bedded to massive argillite, siltstone and chert with interlayered diabasic sills. Muller also observed that the northern belt of Sicker Group rocks appeared more strongly deformed than the southern belt, composed largely of isoclinally folded rocks which have been converted to chlorite (-sericite) schists. A regional northwesterly trending fault apparently passes through the central Sognidoro property paralleling the upper part of Rheinhart Creek.

Recent geological mapping of the Cowichan Lake area by Massey (1987) does not extend as far north as the Rheinhart Lake area.

Geological mapping and prospecting was restricted to road cuts, the McDougall quartz vein, and the jasper horizon(s) (Figure 5). Most lithologies have been affected to some degree by metamorphism and alteration which has largely destroyed original textural features. This is especially true of the chloritic schists which appear to be altered diabasic rocks in places and the very gossanous intrusive unit.

To the northeast of Rheinhart Creek, chloritic schists are intruded by locally feldspar porphyritic diabasic to basaltic sills(?). Interlayered chert beds and the silicified jasper horizon(s) containing magnetite and hematite are roughly parallel to schistosity, which trends northwest with a moderate to steep northeasterly dip. This jasper horizon was mapped in two locations at the 850 and 760 m elevations, exposed over at least 25 m widths. The McDougall quartz vein, traced over 265 m in the central Sognidoro claim, occurs within chloritic schists parallel to schistosity. Faults following two creeks flowing south-westerly into Rheinhart Creek may explain the truncation of the quartz vein and the displacement of the jasper horizon in a right lateral sense. If this is the case, the quartz vein at the northwestern extent would also be displaced in the same direction by approximately 200 m, on the northwest side of the suggested fault.

Along the upper road, near the Trek claim boundary, chloritic schists are interlayered with phyllitic rock, locally limonitic banded chert and argillite with quartz lenses and veinlets throughout. To the south a large exposure of bedded? uniform, dark green to black, fine-grained basaltic tuff, appears faulted in at least three places. Quartz/carbonate veining occurs within this unit.

One day was spent mapping along road cuts in the southwestern portion of the Sognidoro claim. Bedded sediments, including chert, argillite, siltstone and volcaniclastic units, minor chlorite schists and phyllitic rocks are intruded by locally feldspar porphyritic diabasic sills. Large and small-scale folding occurs on the west side of the regional fault. Bedding varies; a north-northwest strike and moderately steep westerly dip is observed in the southern part of the property, a westerly strike with moderately steep north dip and then back to a northerly strike with a westerly dip near the watershed boundary in the central western Sognidoro claim. A large altered intrusive body occurs in the central western Sognidoro property trending up the hill into the watershed area.

Regional mapping shows this unit as part of the Island Intrusions, but it appears more felsic in hand sample. It is clay altered, locally siliceous, very limonitic with minor hematite staining. Alteration is intense thus making it difficult to determine orignal composition and texture. It is apparently truncated by the major fault in the Rheinhart Creek valley, as it has not been mapped on the eastern side of the property.

5.2 MINERALIZATION AND LITHOGEOCHEMISTRY

Mineralization observed on the Sognidoro property comprises pyrite, chalcopyrite, local bornite, azurite, malachite and chalcanthite within the McDougall vein. Pyrite, chalcopyrite, hematite and magnetite occur within the jasper horizons. Galena was observed in a quartz vein cutting a diabasic outcrop within the southerly flowing creek on the western side of the claim. Gold, silver, copper, minor molybdenum and lead are locally associated with these mineralized zones.

McDougall Quartz Vein

The McDougall quartz vein in the central Sognidoro claim traced over 265 m, appears as a "ledge" in places due to differential erosion. It strikes at 320° with a 70° northeast dip toward the southern extent with the dip shallowing to approximately 35° at the northern extent. The vein pinches and swells to a maximum apparent thickness of 5.4 m near the southern extent. It appears conformable to the general trend of the chloritic schists within which it occurs. Sulphide mineralization, though erratic, appears to increase in quantity toward the northern extent of the vein. As previously suggested, the vein may be fault truncated by a splay fault at the northern extent and the regional fault or another splay fault at the southern extent.

A detailed diagram of the sample locations and highlights of analyses is included as a series of insets on Figure 5. Samples across the quartz vein, hanging wall and footwall chloritic schist were collected at intervals of approximately 65 m along the vein trend and at the Pit "A" and Pit "B" locations.

The highest results from this year's sampling of the quartz vein are 3260 ppb Au (assay: 2.5 g/t (0.073 oz/ton) Au) from grabs taken along 1 m (sample 17815), from near the centre of the vein exposure. A grab of the quartz vein at Pit B contained 8022 ppm Cu and 4.7 ppm Ag (sample 17819). Arsenic concentrations up to 119 ppm (sample 17820) were returned from the quartz vein samples.

Chip samples of the hanging wall and footwall over at least 1 m intervals, perpendicular to schistosity and vein trend, were collected to determine the extent (if any) of mineralization in the wallrock. Hanging wall samples of chlorite altered schistose diabase from a 3 m chip sample, contained up to 299 ppm Cu (sample 17817), 142 ppm Zn (sample 17807), 0.3 ppm Ag, and 10 ppb Au. Footwall samples contained up to 30 ppb Au (sample 17809), 0.5 ppm Ag (sample 17806), and 455 ppm Cu (sample 17824). Wallrock samples are consistently higher than the quartz vein with respect to zinc concentrations. Cr concentrations within the McDougall quartz vein are up to 367 ppm (sample 17816).

Results indicate and confirm that gold occurs sporadically and is commonly associated with anomalous silver and copper concentrations. Elevated arsenic concentrations correlate to some degree with the higher gold concentrations. Wallrock samples returned elevated copper and local elevated gold concentrations.

Previous sampling in 1984 by Specogna, of the Pit B hanging wall reportedly returned 0.815 oz/ton Au, whereas a large quartz sample at Pit B returned 0.015 oz/ton Au. Another sample of oxidized 'honey-combed' quartz from Pit B contained 31 g/t (0.904 oz/ton) Au and 22 g/t (0.65 oz/ton) Ag. As previously recommended, (McDougall, 1984), trenching and bulk sampling of this vein and surrounding rock is necessary to obtain a reliable grade estimate. Prospecting for the quartz vein and/or quartz float should be undertaken to the northeast of the northern extent of the quartz vein as the vein may have been displaced along the suggested splay fault in a right lateral sense. A soil survey and geophysics may be effective in delineating this structure since overburden covers much of this area.

Iron Formation (Jasper, Magnetite Horizon)

Two conformable occurrences of jasper are located within chloritic schists in the central Sognidoro claim area. These occur at 850 m and 750 m elevations, exposed over 30 and 25 m widths, and along strike for 200 m and 50 m, respectively. These appear to be lenses but may be part of a continuous stratigraphic horizon which may have been displaced in a right lateral sense. Further mapping is necessary to draw this conclusion.

The microcrystalline jasper is brick red to scarlet red with metallic grey patches, and is cut by numerous quartz veinlets (hairline to 0.5 cm) which are clear to milky white. Fe-oxide and malachite stain occurs locally. Pyrite and chalcopyrite occur mainly in the quartz veinlets. Magnetite occurs in finely disseminated form and within lenses within the jasper. ICP results show greater than 50% Fe from a massive magnetite lens. As expected the jasper horizons are strongly magnetic and could easily be delineated with a magnetometer survey.

Six samples (grabs) of the upper jasper horizon (840 m) contained up to 1000 ppb Au (assay: 0.72 g/t (0.021 oz/ton) Au) (sample 17827), 2.9 ppm Ag, 5075 ppm Cu and 130 ppm Mo (sample 17840) and 337 ppm Ni from sample 17843 of a massive magnetite lens. The lower jasper horizon (750 m elevation) which is lithologically and structurally similar, contained up to 30 ppb Au, 0.5 ppm Ag, 192 ppm Cu, 140 ppm Mo, 2235 ppm Mn, 133 ppm Ni with insignificant amounts of lead and zinc from two grab samples (17829 and 17830).

In the western portion of the property, gold and silver concentrations within various lithological units are at background levels for the samples collected. However, a quartz-carbonate vein with blebs of galena (sample 17814) cutting a diabasic unit? within the creek contained 10 ppb Au, 1.2 ppm Ag, 327 ppm Cu and 4590 ppm Pb with only 31 ppm Zn. The gossanous, altered intrusive near the watershed boundary in the western Sognidoro claim area contained up to 538 ppm Cu (sample 17839). Pyrite was observed in hand specimen within most rock types.

5.3 SILT AND SOIL GEOCHEMISTRY

Silt sediment samples totalling 21, were collected at 100 m intervals along three creeks on the Sognidoro property (Figure 5). Fourteen samples were collected from a major southerly flowing creek in the western portion of the claim draining the gossanous intrusive unit to the north. Samples #100, #200 and #300 returned 50, 40 and 40 ppb Au concentrations, respectively. Samples #500 and #600 contained silver concentrations of 1.0 and 1.3 ppm, respectively. Copper, lead and zinc concentrations of up to 119, 51 and 149 ppm were returned from these silt samples.

Four silt samples were collected from the creek draining the 'upper jasper horizon' and three from the one to the south which is marked as a possible fault. The highest silt geochemical results from the creek draining the upper jasper horizon are 30 ppb Au, (sample 400E) 1.2 ppm Ag, 199 ppm Cu, 76 ppm Pb, 275 ppm Zn, and 3509 ppm Mn, from four samples. Three samples collected from the next major creek to the south contained concentrations of up to 120 ppb Au, 0.8 ppm Ag, 126 ppm Cu, 55 ppm Pb and 146 ppm Zn. From these results it is apparent that the higher Au, Ag, Cu, Pb and Zn concentrations occur in the proximity of the jasper horizon(s).

Three "B"-horizon soil samples were collected at 100 m intervals between the two creeks which were silt sampled. These are also plotted on Figure 5. Results are included in Appendix III. Highest concentrations are 0.5 ppm Ag, 5 ppb Au, 167 ppm Cu, 89 ppm Pb and 155 ppm Zn.

6.0 CONCLUSIONS

1. The Sognidoro claim is underlain mainly by chloritic schists on the eastern side of the property, and bedded, folded sediments on the west side, which are intruded by a very altered body of Island Intrusions? in the northwestern portion of the property. The area has been mapped as the Sediment-Sill unit of the Paleozoic Sicker Group. A regional northwesterly trending fault passes through the Sognidoro property along uppermost Rheinhart Creek.

2. The McDougall quartz vein was traced over 265 m along strike. Exposure width is up to 5.6 m, but the vein pinches and swells along its northwesterly strike. It occurs within and conformable to chloritic schistose diabase with an average strike of 320° with a northeast dip from 70° to 35°. It may be truncated by an easterly trending splay fault at the northern extent, and another splay fault on the regional northwesterly trending fault at the southern extent. The possibility that the vein has been displaced along this fault warrants further consideration and investigation.

3. Chalcopyrite, pyrite, local bornite, azurite and malachite staining is observed in the quartz vein. Gold, silver and copper concentrations of up to 3260 ppb (assay: 2.5 g/t (0.073 oz/ton) Au, 4.7 ppm Ag and 8022 ppm Cu were returned from quartz vein samples. Wallrock samples contained elevated copper and local elevated gold concentrations. Gold is apparently very sporadic and probably occurs in small 'pockets'.

4. Two conformable silicified jasper 'horizons' within chloritic schist may be parts of the same horizon which have been displaced (right lateral) along the splay fault. They are exposed over 25 m widths and are microcrystalline, brick red to scarlet red containing lenses of and finely disseminated magnetite. Abundant quartz veinlets cut this unit. Pyrite and chalcopyrite occur with the quartz veinlets and within the jasper.

5. Grab samples of the 'iron formation' contained up to 1000 ppb Au (assay: 0.72 g/t (0.021 oz/ton) Au) 2.9 ppm Ag, 5075 ppm Cu and 130 ppm Mo.

6. On the western side of the claim a quartz carbonate vein cutting chloritic diabase, containing blebs of galena returned 4590 ppm Pb. The altered gossanous intrusive body contained up to 538 ppm Cu.

7. Stream sediment samples collected on the Sognidoro property draining the gossanous intrusive unit contained up to 50 ppb Au and 1.3 ppm Ag. Sampling of the creeks draining the jasper horizons returned up to 120 ppb Au, 1.2 ppm Ag, 199 ppm Cu, 76 ppm Pb and 275 ppm Zn. It is apparent that concentrations of Au, Ag, Cu, Pb and Zn increase toward the jasper horizons.

7.0 RECOMMENDATIONS

The following recommendations are designed to follow up results of this and previous field work programs, and to establish additional exploration targets:

1. Detailed geological mapping of the entire property at 1:5000 scale using orthophotographs with contours as only the readily accessible areas were covered this year.

2. Prospecting for quartz vein float particularly north of the proposed splay fault, and additional jasper/iron formation zones.

3. A closely spaced flagged grid over the central and eastern portions of the claim also covering the regional fault and gossanous zone, with lines bearing perpendicular to the predominant structural trend and coincident lithologic strike. Soil samples are to be geochemically analyzed for Au, Ag, Cu, Pb, Zn, As and Mo.

4. Subsequent VLF-EM and magnetometer surveys conducted over the completed soil grid to delineate structural trends (faults) and other conductive zones. The magnetometer survey will help to determine the extent of the Fe-formation.

5. Geological mapping and prospecting of this grid, especially in the anomalous areas.

6. An IP survey to follow the VLF-EM and magnetometer surveys to delineate areas of sulphide concentrations along conductive trends.

7. Bulk sampling and trenching of the McDougall quartz vein to obtain a more reliable grade estimate to enable calculation of reserves.

8. Drilling may be recommended contingent upon results from this program.

Respectfully submitted,

MPH Consulting Limited

B.Y. Thomae

B.Y. Thomae, B.Sc.

T.G. Hawkins, P.Geol.

September 21, 1987

CERTIFICATE

I, Barbara Y. Thomae do hereby certify that:

1. I am a graduate in geology of the University of British Columbia (B.Sc. 1983).

2. I have practised as a geologist since 1980 for several major exploration companies.

3. The opinions, conclusions, and recommendations contained herein are based on field work and research conducted this year by myself and MPH Consulting Limited staff members.

4. I own no direct, indirect, or contingent interest in the area, the subject property, or shares or securities of Canamin Resources Ltd. or associated companies.

B.Y. Thomae

B.Y. Thomae, B.Sc.

Vancouver, B.C.
September 21, 1987

CERTIFICATE

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

1. That I am a Consulting Geologist with business offices at 2406 - 555 West Hastings Street, Vancouver, B.C. V6B 4N5.

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 sixteen 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 Sognidoro claim by MPH personnel under my supervision.

6. That I own no direct, indirect, or contingent interests in the area, the subject property, or shares or securities of Canamin Resources Ltd. or associated companies.

T.E. Gregory Hawkins, P.Geol.

Vancouver, B.C.
September 21, 1987

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Zastavnikovich, S. 1984 Geochemical Assessment Report on the Sognidoro Mineral Claim, Victoria Mining Division, for Canamin Resources Ltd., February 1984. (AR 11,401).

Appendix I

LIST OF PERSONNEL

and

STATEMENT OF EXPENDITURES

LIST OF PERSONNEL AND STATEMENT OF EXPENDITURES

FIELD COSTS: Personnel:

B.Y. Thomae, B.Sc., Project Geologist		
6 days @ $350	$2100.00	
G.A. Picken, B.Sc., Assistant Geologist		
6 days @ $250	1500.00	
B. Soles, Geological Technician		
3 days @ $175	525.00	
		$ 4,125.00
Equipment Rental:		
4 WD Truck 6 days @ $90	540.00	
Rock Saw 43 samples	43.00	
		583.00
Disbursements:		
Food and Accommodation	619.09	
Fuel Cost	44.52	
Transportation (Ferry, etc.)	33.66	
Laboratory Costs:		
43 rocks (Au, ICP) @ $14.00	602.00	
21 silts (Au, ICP) @ $13.30	279.30	
3 soils (Au, ICP) @ $11.85	35.55	
8 assays (Au) rerun @ $6.75	54.00	
Field Supplies	70.00	
Communications	15.00	
		1,753.12

REPORT COSTS: Personnel:

B.Y. Thomae, B.Sc.		
6 days @ $350	2100.00	
G.A. Picken, B.Sc.		
5 days @ $150 (office assistant)	750.00	
J.S. Getsinger, Ph.D.		
0.12 days @ $350	42.00	
T.G. Hawkins, P.Geol.		
0.5 days @ $500	250.00	
		3,142.00
Typing	375.00	
Drafting	412.00	
Copying Maps	40.82	
Report Copying	94.08	
Report Covers, Pockets, etc.	50.00	
		971.90
Administration @ 15% on disbursements of ($3308.02)		496.20
	Total	$11,071.22

Appendix II

ROCK SAMPLE DESCRIPTIONS

and

SELECTED LITHOGEOCHEMICAL RESULTS

Sample Number	Description	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Other ppm
17801	Location: End of trail, 760 m elevation adit(?) Sample Type: Float Rock Type: Jasper-magnetite massive Cut by numerous white-clear quartz veinlets and lenses to 1 mm width. Patchy, scarlet red with dark metallic grey, fine-grained magnetite. Limonitic Fe-oxide stain. Up to 35% magnetite, 20% quartz, 35% jasper. Strongly magnetic. Host rock mafic volcanic(?). Contains galena(?) and pyrite locally.	50	0.6	178	22	37	14.63% Fe
17802	Location: End of trail, 760 m elev. adit(?) at creek Sample Type: Grab of slumped block (wall rock?) Rock Type: Quartz-carbonate veins within chloritic schist Dark green to light green to black (areas of massive magnetite) with dark brown boxwork texture, some with drusy quartz in vugs. Abundant epidote alteration (10%). Strongly magnetic - magnetite 25%, quartz 10%, calcite 15%, up to 2% chalcopyrite, finely disseminated. Trace galena(?).	5	1.2	1188	5	122	6004 Mn 168 Sr
17803	Location: End of trail, 760 m elev. adit(?) Sample Type: Grab Rock Type: Chloritic schist Dark green to black, medium- to coarse-grained. Minor epidote alteration, black lenses of magnetite locally, overall not magnetic. Minor brown oxide stain.	5	0.1	8	12	187	2523 Mn

* Gold Assay

Sample Number	Description	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Other ppm
17804	Location: S extent of McDougall quartz vein, 32.6 m from upper road Sample Type: Chip across 1 m of hanging wall perpendicular to vein Rock Type: Chlorite-altered diabase(?) Dark green, very schistose. Manganese stain locally. Small quartz lenses and drusy quartz within Fe-oxide limonite-lined vugs.	5	0.3	176	15	113	
17805	Location: S extent of McDougall quartz vein, below sample 17804 Sample Type: Chip across 5.4 m vein width Rock Type: Quartz White, coarsely-crystalline to sugary texture, with light brown-tan stain on fractures, black manganese-oxide staining locally (pyrolusite). Up to 2% magnetite locally in lenses. Trace pyrite. Orangey-rusty Fe-oxide locally.	5	0.1	18	11	12	
17806	Location: S extent of McDougall quartz vein, below sample 17805 Sample Type: Chip across 1 m of footwall of quartz vein Rock Type: Foliated diabase(?) Dark green with lighter spots, medium to coarse-grained, very calcareous matrix, chlorite-altered. Moderately magnetic. Some Fe-oxide stain. Pyrite up to 1% locally.	5	0.5	242	20	89	

Sample Number	Description	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Other ppm
17807	Location: 75-80 m NW of S extent of McDougall quartz vein Sample Type: Chip over 0.3 m width of hanging wall perpendicular to quartz vein and schistosity Rock Type: Chlorite-schist(?) (diabase) Very weathered and altered, medium- to coarse-grained. Siliceous in places, brown to dark green in colour.	10	0.3	279	12	142	11.80% Fe
17808*	Location: 75-80 m along McDougall vein, below sample 17807 Sample Type: Chip across vein width 1 m Rock Type: Quartz White, with limonite-filled fractures, Fe-oxide hematite and minor manganese stain. Pyrite locally to 2%. Possible galena.	230 0.008 oz/ton (0.27 g/t) Au	0.2	213	14	10	108 As
17809	Location: 75-80 m NW of S extent of McDougall vein, below sample 17808 Sample Type: Chip across 1 m of footwall Rock Type: Chloritic schistose diabase Medium green, medium to coarse-grained, strongly magnetic, foliated, chlorite-altered, minor Fe-oxide stain. Up to 5% magnetite in coarse blebs.	30	0.4	226	15	127	10.16% Fe

Sample Number	Description	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Other ppm
17810	Location: 46 m along upper road from main road intersection Sample Type: Chip over 0.7 m Rock Type: Quartz Quartz zone (lensy) within shears in chlorite-altered schistose diabasic unit. Minor Fe-oxide stain, no visible sulphides. Powdery when broken.	5	0.1	50	7	36	354 Cr
17811	Location: 879 m along upper road from main road intersection Sample Type: Grabs along vein over approx. 2 m Rock Type: Quartz White, sugary texture, aphanitic to cherty in places. Limonite-filled fractures, minor clay alteration. Local pyrite and galena(?). Vein cuts chloritic schist unit.	180	0.1	13	27	28	599 Ba
17812	Location: 879 m along upper road from main road intersection Sample Type: Chip sample perpendicular to schistosity 1.2 m adjacent to vein Rock Type: Schistose cherty unit Pinkish buff, with secondary calcite euhedral up to 0.5 cm. Phyllitic sheen on surfaces up to 5% rusty gossanous limonite.	5	0.2	73	11	59	183 Sr 957 Ba

Sample Number	Description	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Other ppm
17813	Location: 918 m along upper road from main road intersection Sample Type: Grabs Rock Type: Mafic, bedded tuff Jointed, well-defined bands, fine to medium-grained, dark grey to greenish-black. Strongly magnetic (finely disseminated magnetite). Locally siliceous. Dendritic euhedral silvery sulphide (arsenopyrite?).	5	0.2	97	12	93	200 Ba
17814	Location: 518 m down creek in middle of creek Sample Type: Grabs from vein Rock Type: Quartz-carbonate vein within diabasic(?) unit Quartz is white, fairly fresh with calcite in fractures. White clay alteration, galena in coarse blebs up to 0.5 cm (2%). Country rock is strongly magnetic due to finely disseminated magnetite. Finely disseminated pyrite up to 1%. Dark brown gossan.	10	1.2	327	4590	31	
17815*	Location: 160 m from S most extent of vein near drill hole Sample Type: Grabs along strike 1 m Rock Type: Quartz vein Milky white, with malachite and chalcanthite on fracture surfaces. Very gossanous with black metallic mineral, botryoidal in places. Chalcopyrite locally, 3-5% copper sulphides and oxides. Hematite stain and specular hematite locally abundant, giving a reddish-pink colour to quartz vein.	3260 0.073 250 g/t	4.3	2188	11	37	99 As 325 Cr

Sample Number	Description	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Other ppm
17816*	Location: 160 m from S most extent of vein Sample Type: Chip over 1.5 m along strike of vein Rock Type: Quartz Milky white to translucent, with local Fe-oxide and hematite stain. Malachite in radiating platy crystals. Finely disseminated magnetite in small lenses, chalcopyrite up to 2% locally. Fractured with gossanous linings along fractures.	200 0.007 oz/ton (0.24 g/t) Au	1.5	3346	24	40	367 Cr
17817	Location: 190 m from S most extent of vein @ Pit B, 3 m across hanging wall Sample Type: Chip/Grab across 3 m Rock Type: Schistose diabase(?) Brownish-earthy, very weathered. Strongly magnetic with blebs of pyrrhotite up to 5%. Fresh surface is dark grey to black, chlorite-altered. Quartz veinlets and pods throughout. Calcareous matrix.	5	0.3	299	16	131	10.56% Fe
17818	Location: 190 m from S most vein exposure in Pit B Sample Type: Chip over exposed quartz vein 1.5 m Rock Type: Quartz vein Very fractured, dark brown and light rusty stain, malachite/chalcanthite stain, dark brown gossan. Pyrite up to 4% locally in lenses and on fractures mainly finely disseminated. Local bornite/azurite. Light hematite stain. Copper minerals up to 5%. Vein has vugs with gossanous linings.	90	0.7	952	4	8	305 Cr

Sample Number	Description	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Other ppm
17819*	Location: 190 m from S extent of vein exposure Pit B Sample Type: Grab Rock Type: Quartz Milky white to translucent, sugary texture with abundant chalcanthite/malachite stain (15% of surface). Chalcopyrite, bornite, and pyrite locally throughout. Clay alteration, minor hematite stain. Black to brown oxide staining locally. Sulphides up to 3%.	150 0.005 oz/ton (0.17 g/t) Au	4.7	8022	10	35	
17820*	Location: 190 m from S extent of vein exposure Pit B Sample Type: Grab Rock Type: Quartz Milky white to clear subtranslucent, abundant Fe-oxide on fractures and in large vugs. 'Honeycombe' texture with quartz crystals. Minor hematite stain. Chalcopyrite minor pyrite locally up to 5%. Much of the pre-existing sulphides have weathered/leached out.	130 0.005 oz/ton (0.17 g/t) Au	2.2	1179	10	8	119 As 334 Cr
17821	Location: 230 m from S extent of vein Sample Type: Chip over 1 m of hanging wall Rock Type: Schist Very fine-grained, light green with dark grey to black graphitic lenses. Pronounced schistosity. Calcareous matrix. Fe-oxide stain. Ankerite(?) alteration. Small quartz veinlets, hematite staining locally carry chalcopyrite up to 2%. Also vuggy quartz with Fe-oxide.	5	0.3	280	10	134	

Sample Number	Description	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Other ppm
17822	Location: Pit A at 230 m from S extent of quartz vein Sample Type: Chip across 0.7 m Rock Type: Quartz Milky white, with Fe-oxide in boxwork and on fractures. Chalcopyrite in blebs and chalcanthite up to 2%. Local 'honeycombe' texture.	60	1.3	1050	41	45	301 Cr
17823*	Location: Pit A at 230 m from S extent of quartz vein Sample Type: Grab Rock Type: Quartz Milky to translucent, well fractured with hematite and Fe-oxide stain on fractures and in vugs. Malachite/ chalcanthite stain over 5% of surface. Local chalcopyrite up to 2%. Slightly calcareous in fractures in area of malachite.	140 0.017 oz/ton (0.58 g/t) Au	3.7	2817	28	64	302 Cr
17824	Location: Pit A at 230 m from S extent of quartz vein Sample Type: Chip sample across footwall 0.5 m Rock Type: Diabase(?) Very fine-grained, dark grey to black, moderately schistose, siliceous locally, ankerite alteration within matrix. Locally strongly magnetic. Abundant Fe-oxide stain.	5	0.2	455	7	97	

Sample Number	Description	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Other ppm
17825	Location: 50 m across road from N extent of vein on W side of creek Sample Type: Small outcrop, grab Rock Type: Quartz vein 10 cm wide quartz vein, white to translucent, vuggy, coarsely crystalline with dark brown oxide(?) coatings on fractures and vugs. Local Fe-oxide stain and boxwork texture. Vein cuts chloritic schist unit.	5	0.1	22	6	38	338 Cr
17826	Location: 66 m up creek elevation 655 m Sample Type: Grab sample within chlorite schist Rock Type: Chert Grey, minor white alteration, recrystallized in places. Weakly to moderately schistose. Fe-oxide stain on fractures. Contains up to 10% fine to medium euhedral disseminated sulphide (pyrite, arsenopyrite?). Non magnetic. No reaction with HCl.	5	0.5	35	23	39	1832 Mn 490 Sr
17827*	Location: 760 m elev. at creek, at 305 m up creek Sample Type: Grab sample Rock Type: Jasper Horizon Scarlet red, to hematite red/dark grey mottled. Cut by clear quartz veinlets 1 mm wide, which contain cubic pyrite (secondary) also pyrite in fractures. Cubes up to 2 mm wide 7%, magnetite finely disseminated up to 12%. red jasper 25%. Also contains lens(?) or zone of massive pyrite cubes up to 1 cm long, also local lenses of massive magnetite. Total pyrite up to 15% in certain pieces. Strongly magnetic.	1000 0.021 oz/ton (0.72 g/t) Au	0.5	418	33	51	127 Ni 41.69% Fe

Sample Number	Description	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Other ppm
17828	Location: 760 m elevation at creek, at 305 m up creek Sample Type: Grab Rock Type: Quartz veins to 1 cm width cutting jasper/magnetite horizon Coarsely crystalline, clear to white, fractured. Fe-oxide stained, quartz vein cutting jasper-hematite/magnetite rock. No visible sulphides in quartz.	5	0.1	65	15	29	17.63% Fe
17829	Location: O/C is 20 m N of the creek Sample Type: Chips/Grabs over 12 m Rock Type: Jasper horizon Contains pieces of chlorite schist, jasper with magnetite in lenses, throughout, and quartz veinlets. Sulphides (pyrite) occur in lenses and on fracture surfaces. Fe-oxide stain on fractures.	20	0.5	192	20	96	140 Mo 133 Ni 2235 Mn
17830	Location: Same location as 17829 Sample Type: Grab Rock Type: Jasper magnetite/horizon Fine-grained, mottled scarlet red to light red-pink with dark grey swirly magnetite lenses and branches throughout. Cut by clear quartz veinlets. Fe-oxide stain on fractures. Pyrite (lenses) and finely disseminated up to 5%. Traces of chalcopyrite and bornite. Vuggy quartz in places.	30	0.3	83	16	34	94 Mo 11.40% Fe

Sample Number	Description	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Other ppm
17831	Location: At start of traverse, W part of property Sample Type: 1.2 m chip perpendicular to strike Rock Type: Laminated to bedded cherty(?) Fine-grained, silty tuff(?). Heavy alteration and Fe-oxide stain. Moderate schistosity. No visible sulphides.	5	0.1	54	9	52	196 Ba
17832	Location: 50 m from start of traverse, W part of property Sample Type: Grabs near fold axis(?) Rock Type: Banded chert Grey, green with interbedded cherty argillite black. Broken with abundant Fe-oxide stain on fractured surfaces. Contains up to 1% pyrite (mainly on fractures).	5	0.2	69	9	114	
17833	Location: 600 m from start of traverse Sample Type: 1.2 m chip across zone Rock Type: ? Brecciated, gouge from fault zone (steeply dipping) within schistose sediments. Contains some siliceous material, Fe-oxide stained.	5	0.2	19	10	65	
17834	Location: 20 m up from intersection R5E1A (left branch) Sample Type: 1.3 m chip Rock Type: Cherty zone Siliceous and gossanous, contains up to 4% pyrite in fine disseminations. Includes a schistose hematitic stained tuff. Near a mafic sill contact.	5	0.4	204	2	76	

Sample Number	Description	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Other ppm
17835	Location: 400 m up road past intersection (just past small road intersection) Sample Type: Grabs over 2 m zone, 20 cm wide zone Rock Type: Quartz White-grey-brown quartz, coarsely crystalline (1 cm length) with extremely powdery Fe-oxide gossanous vuggy opening. Branches from main vein into folded sediments. Honeycombe texture coarse and vuggy indicates pre-existing sulphides? Local trace pyrite. Minor azurite. Locally magnetic.	5	0.1	19	2	17	
17836	Location: Station 13 Sample Type: 1.3 chip perpendicular to siliceous tuff(?) lens Rock Type: Felsic, siliceous tuff bed Light grey to dark and rusty-brown in areas of oxidation. Very altered, moderately schistose. Heavy rusty, Fe-oxide stain on weathered surface. Sulphides in local lenses.	5	0.4	16	2	73	
17837	Location: Station 13 Sample Type: Chip over 0.88 m Rock Type: Chert Medium grey-green, with abundant pyrite blebby. Vuggy quartz veinlets locally 2 mm. Pyrite up to 3% in lenses and blebs, and on fractures. Trace(?) chalcopyrite. Very intense Fe-oxide (rusty) stain.	5	0.1	17	4	22	

Sample Number	Description	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Other ppm
17838	Location: 850 m along upper road past intersection Sample Type: Grabs from large gossanous zone Rock Type: Rhyodacite(?) intrusive unit Medium-grained, very siliceous. Clay-altered, heavy red to rusty Fe-oxide on fractures. Very heavy.	5	0.4	88	5	71	262 Sr 13.44% Fe
17839	Location: O/C at junction just E of pond Sample Type: Grabs from outcrop Rock Type: Feldspar, quartz, rhyodacite(?) intrusive Feldspars are clay-altered. Heavy Fe-oxide alteration in places. Hematite (purply stain) throughout. Chlorite-altered hornblende. No visible sulphides.	5	0.5	538	12	168	1727 Mn 12.44% Fe
17840	Location: 400 m up creek Sample Type: Grabs from outcrop of jasper horizon Rock Type: Jasper horizon Red/dark grey mottled jasper, strongly magnetic. Lenses of magnetite and branches (finely crystalline). Malachite and Fe-oxide limonite stain on fractures.	5	2.9	5075	30	23	130 Mo 13.14% Fe
17841	Location: 400 m up creek Sample Type: Grabs from outcrop at same jasper horizon Rock Type: Jasper horizon Same as 17840 with more af a quartz veinlet (hairline to 1 mm) stockwork which carries up to 5% chalcopyrite. Massive magnetite lenses locally.	5	0.4	536	18	25	17.98% Fe

MPH

Sample Number	Description	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Other ppm
17842	Location: 400 m up creek Sample Type: Grabs from outcrop of jasper horizon Rock Type: Jasper/magnetite horizon Large pieces of jasper/magnetite with abundant quartz veins up to 3 mm. Lenses to patches of massive pyrite possibly associated with the quartz, up to 10%.	5	0.1	208	10	48	17.68% Fe
17843	Location: 400 m up creek Sample Type: Grab of lens Rock Type: Massive magnetite Heavy, extremely fine-grained, dark grey to black with local red tiny spots of jasper. Very strongly magnetic.	80	0.2	15	18	70	25 Mo 337 Ni 50.24% Fe

Appendix III

CERTIFICATES OF ANALYSIS

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

CERTIFICATE OF ANALYSIS

TO : MPH CONSULTING LTD.
#2406-555 W.HASTINGS ST. (BOX 12092)
VANCOUVER B.C.
PROJECT: V 269
TYPE OF ANALYSIS: ASSAY

CERTIFICATE#: 87390.A
INVOICE#: 7898
DATE ENTERED: 87-08-17
FILE NAME: MPH87390.A
PAGE # : 1

PRE FIX	SAMPLE NAME	ORIG. PPB Au	RERUN oz/t Au
A	17808	230	0.008
A	17811	180	0.002
A	17815	3260	0.073
A	17816	200	0.007
A	17819	150	0.005
A	17820	130	0.005
A	17823	140	0.017
A	17827	1000	0.021

CERTIFIED BY : P. Rossbacher

RECEIVED AUG 1 8 1987

ROSSBACHER LABORATORY LTD.

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

CERTIFICATE OF ANALYSIS

TO : MPH CONSULTING LTD.
#2406-555 W.HASTINGS ST. (BOX 12092)
VANCOUVER B.C.
PROJECT: V 269
TYPE OF ANALYSIS: GEOCHEMICAL

CERTIFICATE#: 87390
INVOICE#: 7847
DATE ENTERED: 87-08-10
FILE NAME: MPH87390
PAGE # : 1

PRE FIX	SAMPLE NAME	PPB Au
A	17801	50
A	17802	5
A	17803	5
A	17804	5
A	17805	5
A	17806	5
A	17807	10
A	17808	230
A	17809	30
A	17810	5
A	17811	180
A	17812	5
A	17813	5
A	17814	10
A	17815	3260
A	17816	200
A	17817	5
A	17818	90
A	17819	150
A	17820	130
A	17821	5
A	17822	60
A	17823	140
A	17824	5
A	17825	5
A	17826	5
A	17827	1000
A	17828	5
A	17829	20
A	17830	30
A	17831	5
A	17832	5
A	17833	5
A	17834	5
A	17835	5
A	17836	5
A	17837	5
A	17838	5
A	17839	5

CERTIFIED BY : J. Rossbach

ROSSBACHER LABORATORY LTD.

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

CERTIFICATE OF ANALYSIS

TO : MPH CONSULTING LTD.
#2406-555 W.HASTINGS ST. (BOX 12092)
VANCOUVER B.C.
PROJECT: V 269
TYPE OF ANALYSIS: GEOCHEMICAL

CERTIFICATE#: 87390
INVOICE#: 7847
DATE ENTERED: 87-08-10
FILE NAME: MPH87390
PAGE # : 2

PRE FIX	SAMPLE NAME	PPB Au
A	17840	5
A	17841	5
A	17842	5
A	17843	80
S	L 0+00S	5
S	L 1+00S	5
S	L 2+00S	5
L	# 000	5
L	# 100	50
L	# 200	5
L	# 300	5
L	# 400	40
L	# 500	40
L	# 600	5
L	# 700	5
L	# 800	5
L	# 900	5
L	#1000	5
L	#1100	10
L	#1200	5
L	A	5
L	100W	120
L	200W	5
L	300W	40
L	100E	10
L	200E	5
L	300E	5
L	400E	30

CERTIFIED BY : [signature]

RECEIVED AUG 11 1987

ACME ANALYTICAL LABORATORIES   852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6   PHONE 253-3158   DATA LINE 251-1011

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE CA P LA CR MG BA TI B W AND LIMITED FOR NA AND K. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: SOLUTION

PROJECT # V 269

DATE RECEIVED: AUG 8 1987   DATE REPORT MAILED: Aug 11/87   ASSAYER. D. Toye. DEAN TOYE, CERTIFIED B.C. ASSAYER

ROSSBACHER LABORATORY PROJECT-CERT #87390   File # 87-3105   Page 1

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM
AP 17801	9	178	22	37	.6	56	10	467	14.63	11	5	ND	1	2	1	2	2	191	.05	.028	2	153	.09	10	.01	2	.23	.01	.01	2
AP 17802	4	1188	5	122	1.2	51	46	6004	6.80	15	5	ND	1	168	1	3	2	75	5.80	.085	2	44	1.30	58	.14	2	1.91	.06	.04	2
AP 17803	2	8	12	187	.1	26	36	2523	7.61	2	7	ND	2	78	1	2	2	114	.78	.083	2	22	3.56	44	.32	3	3.92	.01	.05	1
AP 17804	3	176	15	113	.3	52	31	1109	8.46	16	5	ND	1	36	1	2	2	166	1.72	.052	5	66	2.68	81	.03	2	3.81	.01	.10	1
AP 17805	1	18	11	12	.1	8	3	208	.96	2	5	ND	1	3	1	2	2	11	.10	.003	2	208	.09	13	.01	2	.20	.01	.02	1
AP 17806	2	242	20	89	.5	45	24	940	7.35	32	5	ND	2	58	1	3	2	87	4.24	.057	5	56	1.35	78	.01	2	2.19	.01	.17	2
AP 17807	3	279	12	142	.3	34	39	1129	11.80	7	5	ND	2	11	1	2	2	269	.34	.072	8	54	2.27	110	.07	2	4.24	.02	.08	2
AP 17808	1	213	14	10	.2	8	4	87	2.81	108	5	ND	1	1	1	2	3	13	.02	.004	2	185	.08	17	.01	2	.26	.01	.02	1
AP 17809	2	226	15	127	.4	33	38	1312	10.16	32	5	ND	3	31	1	2	2	230	2.07	.082	6	21	2.36	68	.25	2	3.40	.01	.10	1
AP 17810	2	50	7	36	.1	22	9	1634	2.76	2	5	ND	1	8	1	2	2	35	.10	.023	6	354	.78	98	.01	2	1.51	.05	.06	2
AP 17811	1	13	27	28	.1	9	4	283	1.72	6	5	ND	1	54	1	2	2	13	1.60	.006	2	233	.35	599	.01	2	.20	.01	.03	1
AP 17812	1	73	11	59	.2	44	13	758	3.80	48	5	ND	1	183	1	3	2	50	5.59	.070	4	137	1.65	957	.01	3	.47	.05	.05	1
AP 17813	2	97	12	93	.2	19	14	1319	4.74	2	5	ND	1	22	1	3	2	120	.62	.045	2	60	1.40	200	.29	2	2.03	.05	.70	1
AP 17814	2	327	4590	31	1.2	33	17	454	2.93	37	5	ND	1	13	1	2	2	39	1.35	.017	4	183	.51	67	.04	2	.93	.01	.12	1
AP 17815	2	2188	11	37	4.3	9	3	71	2.39	99	5	4	1	1	1	2	2	18	.02	.001	2	325	.14	8	.01	2	.33	.01	.01	1
AP 17816	2	3346	24	40	1.5	21	9	156	2.28	28	5	ND	1	2	1	2	2	26	.03	.002	2	367	.25	17	.01	2	.55	.01	.02	2
AP 17817	2	299	16	131	.3	31	36	1038	10.56	5	5	ND	2	14	1	2	2	231	.58	.077	8	39	2.29	72	.04	2	3.89	.02	.06	1
AP 17818	1	952	4	8	.7	7	2	100	.94	57	5	ND	1	1	1	2	2	7	.05	.002	2	305	.03	6	.01	3	.09	.01	.01	1
AP 17819	2	8022	10	35	4.7	25	14	319	2.50	44	5	ND	1	4	2	6	4	10	.24	.002	2	256	.09	7	.01	2	.29	.01	.02	2
AP 17820	1	1179	10	8	2.2	13	2	71	1.86	119	5	ND	1	1	1	2	2	9	.02	.004	2	334	.02	7	.01	2	.08	.01	.01	1
AP 17821	2	280	10	134	.3	58	32	1286	8.06	2	5	ND	1	19	1	2	2	86	1.65	.052	5	89	1.66	92	.01	2	2.75	.01	.15	1
AP 17822	1	1050	41	45	1.3	11	4	261	1.52	9	5	ND	1	4	1	2	3	10	.10	.006	2	301	.11	10	.01	2	.25	.01	.02	2
AP 17823	2	2817	28	64	3.7	20	6	158	2.69	9	5	ND	1	2	1	2	2	15	.06	.004	2	302	.22	11	.01	2	.48	.01	.04	1
AP 17824	1	455	7	97	.2	49	27	1138	7.63	2	5	ND	2	55	1	2	2	172	2.11	.063	5	102	2.25	40	.01	2	3.01	.01	.05	1
AP 17825	1	22	6	38	.1	11	3	818	1.20	2	5	ND	1	3	1	2	2	10	.11	.012	2	338	.10	41	.01	2	.37	.01	.01	1
AP 17826	2	35	23	39	.5	12	14	1832	6.58	12	5	ND	3	490	1	2	2	13	7.65	.980	17	19	.82	36	.02	3	.63	.14	.37	1
AP 17827	24	418	33	51	.5	127	26	498	41.69	51	5	ND	4	7	1	2	2	331	.26	.111	3	111	.11	9	.01	2	.33	.01	.01	1
AP 17828	9	65	15	29	.1	50	14	256	17.63	2	5	ND	1	4	1	2	2	115	.12	.061	2	185	.11	13	.01	2	.27	.01	.01	6
AP 17829	140	192	20	96	.5	133	21	2235	11.93	35	5	ND	3	5	1	2	2	117	.13	.076	6	203	.86	27	.02	2	2.17	.01	.04	3
AP 17830	94	83	16	34	.3	78	16	590	11.40	69	5	ND	1	3	1	2	5	101	.08	.053	2	206	.23	8	.01	2	.56	.01	.02	3
AP 17831	1	54	9	52	.1	21	9	470	3.14	3	5	ND	1	4	1	2	2	49	.03	.014	4	114	.23	196	.01	4	.74	.02	.12	1
AP 17832	5	69	9	114	.2	43	13	506	3.68	5	5	ND	1	5	1	2	2	32	.03	.019	4	187	.63	134	.01	3	.92	.03	.02	1
AP 17833	2	19	10	65	.2	13	8	1199	4.32	18	5	ND	1	21	1	2	2	21	.76	.014	4	121	.26	107	.01	2	.35	.01	.04	1
AP 17834	4	204	2	76	.4	24	21	827	5.85	40	5	ND	4	53	1	2	2	89	1.65	.032	10	63	.80	159	.01	3	.52	.01	.08	2
AP 17835	1	19	2	17	.1	32	5	953	1.63	36	5	ND	1	2	1	3	2	18	.02	.007	7	195	.02	19	.01	2	.06	.01	.01	1
AP 17836	2	16	2	73	.4	6	1	431	2.19	7	5	ND	6	4	1	4	2	1	.02	.005	33	84	.07	91	.01	3	.68	.06	.19	1
AP 17837	1	17	4	22	.1	7	1	245	2.30	2	5	ND	4	8	1	4	3	1	.15	.004	28	78	.09	43	.01	4	.58	.04	.19	1
AP 17838	1	88	5	71	.4	37	11	1235	4.92	61	5	ND	1	262	1	5	3	66	13.34	.019	5	60	3.66	134	.01	2	.26	.26	.01	2
AP 17839	2	538	12	168	.5	4	26	1727	12.44	69	9	ND	3	36	1	10	3	47	1.08	.203	21	36	.87	103	.01	4	.67	.01	.09	2
STD C	18	57	38	131	7.5	71	28	938	3.93	40	21	7	38	50	19	17	21	58	.47	.090	38	61	.88	177	.08	37	1.85	.06	.17	12

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM
AP 17840	130	5075	30	23	2.9	24	4	75	13.14	2	5	ND	1	3	1	2	2	172	.07	.038	2	228	.02	5	.01	2	.03	.01	.01	6
AP 17841	14	536	18	25	.4	56	6	332	17.98	2	5	ND	1	4	1	2	2	245	.10	.042	2	228	.06	6	.01	3	.09	.01	.01	9
AP 17842	8	208	10	48	.1	39	12	846	17.68	18	5	ND	1	2	1	2	2	222	.07	.036	2	232	.16	15	.01	5	.80	.01	.01	1
AP 17843	25	15	18	70	.2	337	12	741	50.24	46	5	ND	4	11	2	2	20	252	.34	.162	5	14	.24	17	.02	2	.67	.01	.02	2
S 0+00S	1	167	6	135	.5	68	22	945	5.91	8	5	ND	2	21	1	3	2	117	.27	.069	8	126	1.33	171	.25	2	4.76	.02	.04	2
S 1+00S	1	137	5	155	.5	75	24	927	6.77	8	5	ND	2	25	1	2	2	122	.31	.074	8	141	1.54	175	.26	2	4.89	.02	.05	1
S 2+00S	1	86	8	123	.5	47	18	1064	5.51	11	5	ND	2	21	1	2	2	101	.32	.060	9	80	1.01	160	.21	2	3.28	.01	.04	1
L #000	1	75	27	121	.6	80	20	1433	4.40	16	5	ND	2	28	1	2	2	114	.77	.083	13	283	1.50	413	.18	2	2.88	.04	.11	1
L #100	1	110	27	198	.8	61	20	1566	5.52	46	5	ND	3	40	1	3	2	144	1.08	.090	12	157	1.28	684	.19	3	3.35	.06	.13	18
L #200	1	92	22	167	.5	76	23	2241	4.77	24	5	ND	2	37	1	2	2	115	1.06	.087	15	229	1.37	489	.16	3	3.07	.05	.11	1
L #300	5	79	24	129	.6	71	19	295	4.68	18	5	ND	2	11	1	2	2	150	.34	.050	22	236	1.41	214	.22	2	4.26	.03	.06	1
L #400	2	115	27	112	.6	63	17	913	4.32	16	5	ND	2	35	1	2	2	117	1.01	.072	10	167	1.16	502	.18	3	2.79	.07	.09	1
L #500	1	101	51	144	1.0	57	18	1112	5.21	32	5	ND	2	36	1	3	2	138	.94	.077	11	157	1.08	575	.18	4	3.26	.05	.13	3
L #600	1	66	10	80	1.3	42	14	561	6.92	16	5	ND	1	26	1	2	2	245	.81	.058	8	174	.82	337	.18	2	2.20	.05	.07	1
L #700	1	80	29	96	.4	49	15	806	4.30	18	5	ND	2	28	1	2	2	121	.80	.065	10	199	.99	379	.17	3	2.65	.06	.11	1
L #800	1	98	21	113	.6	48	18	977	5.86	19	5	ND	2	33	1	2	2	174	1.01	.066	11	177	1.02	376	.25	2	2.87	.06	.12	1
L #900	1	102	16	122	.4	53	18	835	5.44	22	5	ND	2	29	1	2	2	122	.81	.052	10	238	1.21	304	.22	3	2.65	.05	.11	1
L #1000	1	98	10	117	.2	47	20	933	6.56	26	5	ND	2	37	1	2	2	147	.81	.069	13	157	1.36	278	.23	3	2.76	.04	.13	1
L #1100	1	107	11	122	.4	54	20	1169	5.46	28	5	ND	2	31	1	2	2	125	.83	.075	13	133	1.23	362	.20	2	2.93	.04	.11	1
L #1200	1	95	9	111	.4	50	18	1019	5.18	27	5	ND	2	29	1	2	2	122	.78	.067	12	105	1.13	321	.19	2	2.66	.04	.09	1
L A	1	119	27	149	.5	52	20	1000	6.07	44	5	ND	2	26	1	2	2	153	.63	.055	12	259	.94	280	.23	4	2.47	.04	.10	1
L 100W	1	115	55	146	.8	26	17	2372	3.60	113	5	ND	2	48	1	2	3	44	1.48	.094	13	139	.92	156	.03	6	1.72	.01	.14	1
L 200W	2	114	41	108	.6	30	20	2561	4.23	14	5	ND	1	51	1	2	2	53	1.43	.106	13	156	1.09	174	.03	6	2.00	.01	.16	1
L 300W	4	126	44	123	.5	27	18	2704	3.76	19	5	ND	1	59	1	2	2	46	1.84	.118	15	101	.99	180	.02	6	1.84	.01	.13	1
L 100E	3	146	24	158	.7	45	18	2085	4.38	16	5	ND	1	46	1	2	2	71	1.44	.081	12	134	1.08	219	.08	4	2.50	.01	.07	1
L 200E	1	140	29	185	.7	50	19	2561	4.70	24	5	ND	2	31	1	2	2	66	.96	.097	17	83	1.06	218	.05	5	2.71	.01	.09	1
L 300E	3	199	76	275	1.2	69	22	3508	4.84	27	5	ND	2	38	1	2	2	67	1.17	.106	18	150	1.05	324	.04	5	2.92	.01	.09	1
L 400E	2	195	44	242	1.0	61	20	3018	4.63	22	5	ND	2	31	2	2	2	63	1.04	.090	16	88	1.11	225	.04	4	2.69	.01	.08	1
STD C	18	60	40	133	7.3	71	29	971	3.97	42	15	8	38	52	19	18	19	59	.48	.093	39	62	.88	179	.08	37	1.84	.06	.13	10

ACME ANALYTICAL LABORATORIES 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE 253-3158 DATA LINE 251-1011

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE CA P LA CR MG BA TI B W AND LIMITED FOR NA AND K. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: SOLUTION

PROJECT # V269

DATE RECEIVED: AUG 8 1987 DATE REPORT MAILED: Aug 11/87 ASSAYER. D.Toye... DEAN TOYE, CERTIFIED B.C. ASSAYER

ROSSBACHER LABORATORY PROJECT-CERT #87388 File # 87-3101 Page 1

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM
S L0 000N	1	83	10	107	.2	32	15	593	4.20	19	5	ND	3	25	1	2	2	74	.27	.041	17	29	.75	172	.13	5	3.91	.02	.09	1
S L0 050N	1	85	9	104	.3	35	16	427	4.18	22	5	ND	3	23	1	2	2	71	.23	.040	16	34	.75	165	.13	4	3.90	.02	.08	1
S L0 100NA	1	77	10	97	.4	31	15	417	3.96	20	5	ND	4	22	1	2	2	67	.24	.036	17	32	.72	153	.12	4	3.58	.01	.08	1
S L0 150N	1	89	6	116	.4	37	17	559	4.85	19	5	ND	3	25	1	2	2	80	.29	.045	16	40	.87	180	.15	3	4.20	.02	.09	1
S L0 200N	1	32	8	66	.1	18	8	394	3.93	14	5	ND	2	23	1	2	2	83	.29	.015	8	28	.62	118	.13	2	2.41	.01	.04	1
S L0 250N	1	32	7	65	.1	18	8	303	3.93	15	5	ND	2	19	1	2	2	80	.24	.013	7	25	.64	112	.12	2	2.38	.01	.03	1
S L0 300N	1	45	45	125	.2	24	14	382	3.73	14	5	ND	3	18	1	2	2	61	.25	.032	8	26	.54	112	.14	2	2.85	.01	.06	1
S L0 350N	1	37	9	116	.1	23	15	1910	3.38	13	5	ND	2	18	1	2	2	55	.26	.053	5	28	.49	202	.12	2	2.81	.01	.04	1
S L0 400N	1	33	6	110	.1	24	13	627	3.43	11	5	ND	2	19	1	2	2	61	.22	.048	6	29	.55	110	.14	2	3.23	.01	.04	1
S L0 450N	1	36	10	128	.1	28	14	831	4.08	13	5	ND	2	28	1	2	2	75	.35	.054	7	39	.73	122	.15	3	3.86	.01	.07	1
S L0 500N	1	70	2	80	.1	22	10	334	4.31	12	5	ND	2	25	1	2	2	81	.30	.042	7	37	.58	74	.14	2	3.29	.01	.04	1
S L0 550N	1	52	4	100	.1	23	11	380	5.00	15	5	ND	2	25	1	2	4	87	.29	.053	6	45	.74	57	.19	2	3.94	.02	.04	1
S L0 600N	1	56	6	102	.2	25	11	369	5.21	14	5	ND	2	23	1	2	2	89	.25	.056	6	47	.75	59	.20	2	4.21	.02	.05	1
S L0 650N	2	22	6	121	.1	18	8	371	4.09	42	5	ND	2	23	1	2	2	74	.30	.034	7	32	.62	82	.10	2	2.68	.01	.04	1
S L0 700N	1	24	4	114	.3	19	9	363	3.91	48	5	ND	3	23	1	2	2	71	.30	.028	8	29	.70	74	.12	2	2.64	.01	.03	1
S L0 750N	2	67	8	86	.3	25	10	405	4.60	25	5	ND	3	15	1	2	2	71	.23	.093	10	36	.78	47	.19	2	3.72	.02	.05	1
S L0 800N	2	50	11	105	.1	26	11	334	4.92	13	5	ND	2	14	1	2	2	76	.17	.068	5	34	.70	64	.15	2	3.53	.02	.03	1
S L0 850N	1	11	5	46	.1	5	3	420	2.57	5	5	ND	2	12	1	2	2	48	.18	.019	6	15	.25	47	.09	2	1.60	.01	.02	3
S L0 900N	1	44	9	67	.2	15	7	366	4.21	11	5	ND	2	11	1	2	2	73	.16	.027	5	21	.61	41	.22	2	2.57	.01	.03	1
S L0 950N	1	65	11	88	.1	26	10	341	5.53	12	5	ND	3	17	1	2	2	94	.15	.080	7	52	.74	66	.11	2	4.86	.02	.06	1
S L0 1000N	1	33	13	90	.3	18	13	865	3.77	7	5	ND	2	17	1	2	2	64	.24	.047	8	29	.62	70	.15	2	2.71	.01	.04	1
S L2W 000N	1	65	2	64	.1	27	13	421	3.93	13	5	ND	3	33	1	2	2	75	.46	.021	9	35	.99	102	.22	3	3.26	.02	.06	1
S L2W 050N	1	36	4	107	.2	23	13	666	3.50	12	5	ND	3	29	1	2	2	67	.36	.067	8	31	.63	146	.17	3	3.30	.01	.07	1
S L2W 100N	2	89	6	104	.2	22	13	600	5.00	36	5	ND	2	12	1	2	2	66	.14	.035	10	21	.75	161	.01	3	3.39	.02	.07	1
S L2W 150N	2	48	2	116	.1	24	12	721	3.91	7	5	ND	2	21	1	2	2	67	.26	.068	6	32	.63	150	.13	2	3.91	.01	.06	1
S L2W 200N	2	64	2	112	.4	34	14	828	3.95	14	5	ND	3	20	1	2	2	71	.25	.048	8	40	.78	175	.14	2	3.68	.02	.08	1
S L2W 250N	1	63	2	107	.2	33	14	810	3.88	16	5	ND	2	20	1	2	2	69	.23	.047	8	35	.76	179	.14	2	3.59	.02	.07	1
S L2W 300N	2	74	8	128	.3	39	17	944	4.64	19	5	ND	3	22	1	2	2	81	.28	.053	9	42	.91	198	.17	2	4.21	.02	.07	1
S L2W 350N	1	34	8	48	.1	17	9	225	3.91	11	5	ND	2	17	1	2	2	80	.20	.014	7	31	.49	74	.15	2	3.41	.01	.03	1
S L2W 400N	1	68	2	89	.3	26	10	479	3.62	16	5	ND	2	22	1	2	2	59	.22	.047	6	29	.58	96	.10	2	4.32	.02	.05	1
S L2W 450N	1	32	145	82	.1	19	9	662	3.04	19	5	ND	2	21	1	2	2	58	.24	.049	6	23	.37	90	.09	2	3.06	.02	.05	1
S L2W 500N	1	64	4	133	.1	31	14	899	3.96	21	5	ND	2	28	1	2	2	75	.28	.035	7	40	.77	106	.13	2	4.21	.02	.06	1
S L2W 550N	1	70	6	133	.3	32	15	812	4.06	13	5	ND	2	27	1	2	2	77	.27	.035	7	44	.82	106	.14	2	4.23	.02	.06	1
S L2W 600N	1	75	9	153	.2	37	17	974	4.72	23	5	ND	3	34	1	2	2	89	.35	.037	8	51	.95	119	.15	2	4.81	.02	.07	1
S L2W 650N	1	48	4	97	.1	71	19	467	4.95	8	5	ND	2	31	1	2	2	83	.47	.024	8	91	1.79	117	.17	3	3.71	.02	.07	1
S L2W 700N	1	38	13	131	.2	23	11	565	6.04	22	5	ND	3	24	1	2	3	104	.29	.079	7	47	.59	66	.16	2	3.70	.02	.06	1
S L2W 750N	1	45	6	128	.2	24	10	367	5.67	18	5	ND	2	23	1	2	2	99	.27	.067	7	46	.60	67	.18	3	3.88	.01	.06	1
S L2W 800N	1	38	18	118	.1	28	7	416	6.14	23	5	ND	2	14	1	2	2	114	.27	.105	7	42	.68	54	.25	2	3.87	.02	.03	1
STD C	19	59	40	132	7.5	71	28	954	3.97	42	24	8	39	51	19	18	22	59	.48	.089	39	61	.88	181	.08	38	1.84	.06	.13	13

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM
S L2W 850N	1	37	16	124	.4	15	8	578	5.29	8	5	ND	2	8	1	2	2	87	.25	.042	7	22	.74	43	.17	2	3.86	.02	.04	1
S L2W 900N	1	24	21	89	.3	11	6	458	4.17	9	5	ND	1	7	1	2	2	80	.22	.039	7	14	.54	36	.21	2	3.13	.01	.02	1
S L2W 950N	1	38	16	97	.2	18	14	800	4.24	10	5	ND	2	18	1	2	2	69	.26	.047	8	30	.70	74	.15	2	2.97	.02	.03	1
S L4W 000N	2	57	7	145	.1	20	13	875	3.93	16	5	ND	1	20	1	2	2	63	.23	.085	6	28	.52	182	.09	2	4.08	.02	.04	1
S L4W 050N	1	47	6	169	.3	24	14	716	3.36	16	5	ND	1	27	1	2	3	66	.35	.040	8	25	.65	154	.14	2	3.13	.02	.06	1
S L4W 100N	1	17	4	93	.1	15	9	620	2.38	6	5	ND	1	27	1	2	2	52	.38	.025	6	19	.47	117	.17	2	2.12	.01	.03	1
S L4W 150N	2	59	12	74	.2	24	13	597	3.77	15	5	ND	2	22	1	2	2	64	.28	.029	7	26	.79	109	.14	2	2.94	.02	.03	2
S L4W 200N	1	67	12	96	.1	25	11	1298	3.52	10	5	ND	1	18	1	2	2	61	.26	.066	5	22	.66	113	.14	2	2.77	.01	.03	1
S L4W 250N	1	37	7	108	.1	21	10	764	3.24	11	5	ND	1	15	1	2	2	49	.20	.068	6	29	.53	89	.11	2	2.75	.01	.03	2
S L4W 300N	1	31	8	148	.2	15	9	801	3.53	9	5	ND	2	23	1	2	2	63	.28	.025	8	19	.51	161	.08	2	3.22	.01	.06	1
S L4W 350N	1	23	9	111	.1	11	7	965	2.66	7	5	ND	1	16	1	2	2	47	.19	.030	6	12	.37	142	.05	2	2.27	.01	.03	1
S L4W 400N	1	59	4	84	.1	31	13	492	4.07	18	5	ND	1	22	1	2	2	74	.25	.033	6	34	.91	85	.11	2	3.07	.02	.03	1
S L4W 450N	1	95	6	78	.3	41	17	483	4.58	28	5	ND	4	23	1	2	2	90	.27	.040	12	44	.97	110	.20	3	4.57	.02	.07	1
S L4W 500N	1	90	2	66	.1	29	10	348	3.53	18	5	ND	1	18	1	2	3	72	.19	.033	5	30	.66	138	.18	2	4.67	.02	.03	1
S L4W 550N	1	82	11	63	.1	26	9	363	3.60	18	5	ND	1	17	1	2	2	73	.19	.033	4	31	.64	121	.18	2	4.21	.02	.02	1
S L4W 600N	1	77	8	60	.2	25	8	364	3.42	14	5	ND	2	16	1	2	2	70	.18	.032	4	25	.61	104	.17	2	3.99	.01	.02	1
S L4W 650N	1	30	10	117	.1	18	9	514	4.37	27	5	ND	2	17	1	2	2	75	.18	.082	5	32	.48	84	.14	2	2.85	.02	.02	1
S L4W 700N	1	29	12	113	.1	17	8	649	4.18	26	5	ND	2	15	1	2	2	72	.17	.086	5	25	.46	83	.14	2	2.61	.02	.02	1
S L4W 750N	1	26	7	108	.1	16	7	856	4.14	26	5	ND	1	14	1	2	2	69	.15	.077	5	27	.45	91	.13	2	2.36	.02	.01	1
S L4W 800N	1	48	11	120	.3	29	13	1005	4.60	14	5	ND	3	26	1	2	2	85	.32	.058	7	46	.65	108	.20	2	3.80	.02	.05	1
S L4W 850N	1	22	11	76	.1	16	7	291	4.28	15	5	ND	2	21	1	2	2	78	.27	.029	7	33	.47	93	.19	2	2.52	.01	.04	1
S L4W 900N	1	93	13	136	.2	35	17	1079	5.35	27	5	ND	3	19	1	2	2	82	.22	.089	7	38	.95	82	.16	2	4.05	.02	.04	1
S L4W 950N	1	103	16	150	.2	39	18	1081	5.60	24	5	ND	3	20	1	2	2	87	.23	.086	8	42	1.04	87	.18	2	4.27	.02	.04	1
S L4W 1000N	1	40	5	90	.2	26	11	330	4.56	10	5	ND	2	19	1	2	2	76	.22	.037	6	39	.56	104	.11	2	3.04	.02	.03	1
S L4W 1050N	1	39	6	91	.1	25	11	341	4.65	9	5	ND	2	19	1	2	2	78	.22	.038	6	39	.57	106	.12	2	3.03	.01	.04	1
S L2E 000N	1	36	2	85	.1	23	10	939	3.30	2	5	ND	2	20	1	2	2	57	.23	.026	7	32	.77	104	.11	2	2.80	.02	.04	1
S L2E 050N	1	86	10	90	.2	34	13	600	4.31	15	5	ND	2	14	1	2	2	72	.15	.059	6	38	.96	114	.15	2	3.64	.02	.05	1
S L2E 100N	1	35	7	53	.3	14	7	268	3.56	8	5	ND	2	12	1	2	2	66	.14	.020	5	23	.43	61	.11	2	2.13	.01	.02	1
S L2E 150N	1	36	5	88	.1	19	10	373	4.19	13	5	ND	2	13	1	2	2	69	.19	.034	5	25	.50	102	.12	2	2.51	.02	.02	2
S L2E 200N	1	94	8	130	.3	40	20	992	5.75	106	5	ND	2	20	1	2	2	105	.26	.036	12	34	.69	155	.08	3	3.35	.01	.04	1
S L2E 250N	1	77	5	113	.3	38	16	499	4.65	17	5	ND	2	19	1	4	2	89	.22	.055	7	48	.89	110	.18	2	3.71	.02	.05	1
S L2E 300N	1	61	4	110	.2	27	11	393	4.25	15	5	ND	1	18	1	2	2	80	.24	.079	6	35	.71	64	.15	2	2.82	.02	.03	1
S L2E 350N	1	60	8	116	.3	26	11	422	4.36	18	5	ND	2	19	1	2	2	83	.26	.088	6	38	.69	67	.17	2	2.91	.02	.02	1
S L2E 400N	1	52	2	115	.2	24	11	432	4.32	19	5	ND	2	18	1	2	2	83	.25	.084	6	32	.61	68	.16	2	2.79	.02	.03	1
S L2E 450N	2	28	5	237	.4	20	16	2552	2.43	13	5	ND	2	19	1	2	2	43	.29	.027	12	18	.40	154	.10	2	2.16	.01	.03	3
S L2E 500N	1	32	6	73	.1	14	6	217	3.86	32	5	ND	2	15	1	2	2	65	.19	.031	5	24	.43	70	.14	2	2.23	.01	.02	1
S L2E 550N	1	10	2	20	.1	2	1	68	1.90	7	5	ND	1	8	1	2	2	42	.07	.009	4	13	.10	23	.05	2	1.90	.01	.01	1
S L2E 600N	1	26	9	76	.8	10	7	272	3.00	10	5	ND	1	11	1	2	2	46	.15	.041	5	17	.25	51	.08	2	2.33	.01	.01	1
STD C	20	60	42	133	7.6	73	29	1020	3.99	38	20	7	39	52	19	17	20	60	.48	.091	39	61	.89	180	.08	37	1.84	.06	.15	15

ROSSBACHER LABORATORY PROJECT-CERT #87388 FILE # 87-3101

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM
S L2E 650N	1	69	9	118	.4	29	14	616	4.34	85	5	ND	3	6	1	2	2	54	.11	.086	4	24	.85	47	.09	2	2.82	.01	.02	1
S L2E 700N	1	15	18	63	.1	9	4	176	3.52	15	5	ND	2	8	1	2	2	55	.11	.031	2	13	.36	51	.08	2	1.58	.01	.01	1
S L2E 750N	1	18	10	83	.2	13	23	1609	2.78	25	5	ND	1	11	1	2	2	42	.26	.030	8	18	.50	77	.07	2	1.83	.01	.02	1
S L4E 000N	1	41	8	72	.2	25	11	386	3.45	22	5	ND	2	13	1	2	2	59	.24	.017	5	28	.80	95	.13	2	2.49	.01	.02	1
S L4E 050N	1	58	8	71	.1	24	11	464	3.55	16	5	ND	2	7	1	2	2	53	.11	.030	4	25	.71	91	.11	2	2.95	.01	.02	1
S L4E 100N	1	45	8	76	.1	24	11	461	3.45	15	5	ND	2	9	1	2	2	57	.12	.039	4	30	.69	89	.11	2	2.57	.01	.01	1
S L4E 150N	1	95	8	94	.2	43	19	470	4.65	14	5	ND	3	9	1	2	2	82	.12	.041	4	45	.84	113	.10	2	4.56	.02	.05	1
S L4E 200N	1	56	10	89	.3	20	10	509	4.28	11	5	ND	2	8	1	2	2	70	.08	.094	3	41	.53	59	.10	2	4.46	.02	.02	1
S L4E 250N	1	16	4	35	.1	8	3	205	2.51	8	5	ND	1	8	1	2	2	49	.11	.030	3	17	.21	38	.07	2	1.31	.01	.02	1
S L4E 300N	1	26	9	49	.1	8	4	274	2.76	11	5	ND	1	8	1	2	2	50	.10	.045	3	19	.20	45	.08	2	1.87	.01	.01	1
S L4E 350N	1	46	14	75	.2	28	22	2669	2.95	20	5	ND	3	16	1	2	2	55	.37	.035	10	24	.57	202	.10	3	2.46	.01	.03	1
S L4E 400N	2	133	15	210	.7	46	90	5157	5.03	159	5	ND	5	17	1	2	2	75	.49	.084	19	26	.56	219	.10	3	3.18	.01	.02	1
STD C	19	60	41	132	7.7	71	29	1019	3.97	39	22	8	39	52	19	16	20	60	.48	.094	39	60	.88	180	.08	36	1.84	.06	.13	13

Appendix IV

ABBREVIATIONS USED IN

MINERAL OCCURRENCES REFERENCES

ABBREVIATIONS USED IN MINERAL OCCURRENCES REFERENCES

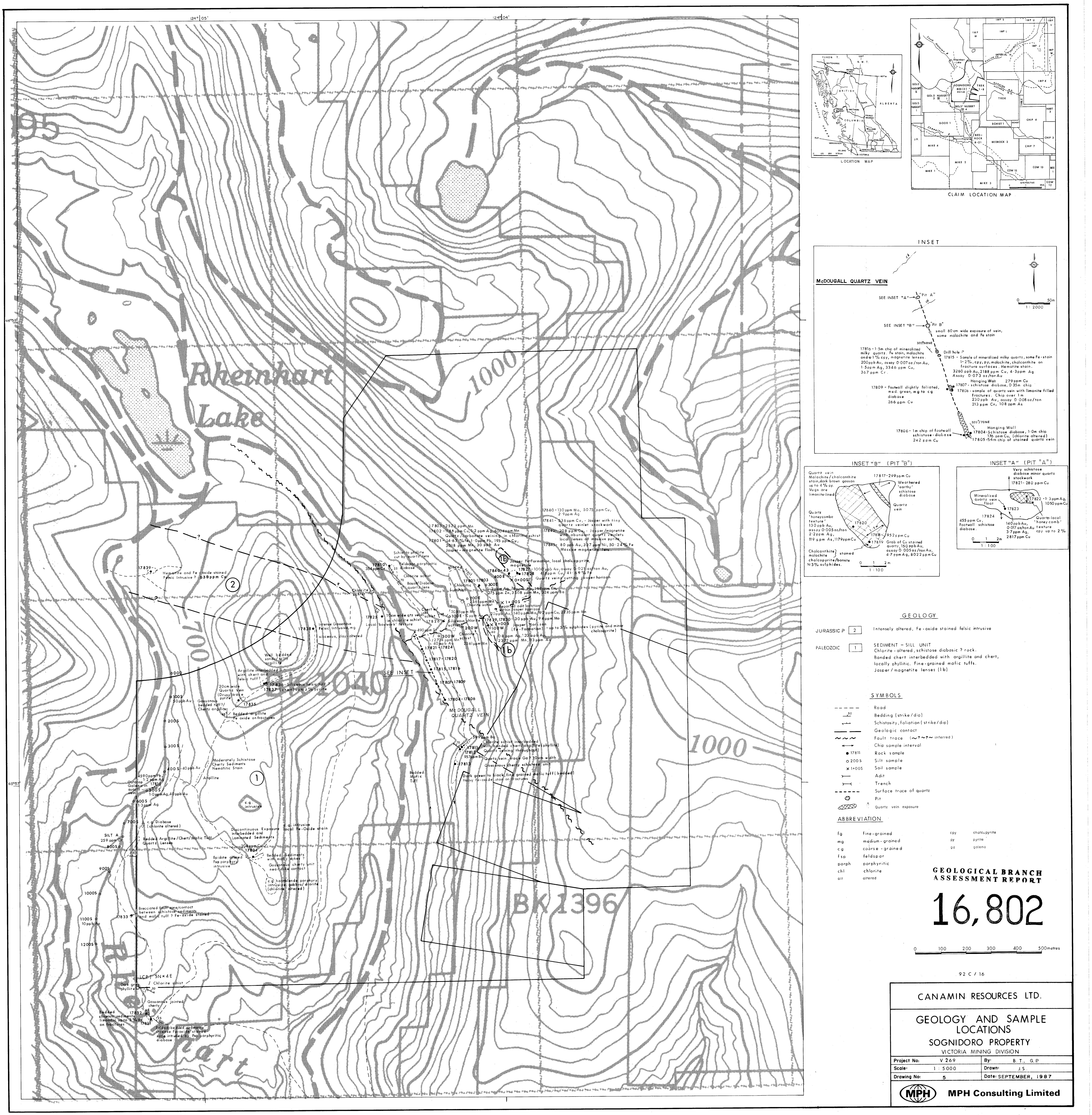
AR	B.C. Ministry of Energy, Mines, and Petroleum Resources Assessment Report
BCDM	British Columbia Department of Mines
Bull	Bulletin
CPOG	Canadian Pacific Oil and Gas
EBC	Exploration in British Columbia; B.C. Ministry of Energy, Mines and Petroleum Resources
GEM	Geology, Exploration and Mining in British Columbia; B.C. Department of Mines and Petroleum Resources
GSC	Geological Survey of Canada
Gunnex	Mineral Occurrences, E&N Land Grant, Vancouver Island, B.C.; Gunnex Ltd., 1966
MER	Mineral Exploration Review
Minfile	B.C. Ministry of Energy, Mines and Petroleum Resources Minfile, Feb. 2, 1984
MMAR	B.C. Ministry of Mines Annual Report
NM	Northern Miner
P	Paper
TML	Today's Market Line
VS	Vancouver Stockwatch

Appendix V

METRIC CONVERSION TABLE

Metric Conversion Factors

1 inch	=	25.4 millimetres	(mm)
		or 2.54 centimetres	(cm)
1 cm	=	0.394 inch	
1 foot	=	0.3048 metre	(m)
1 m	=	3.281 feet	
1 mile	=	1.609 kilometres	(km)
1 km	=	0.621 miles	
1 acre	=	0.4047 hectares	(ha)
1 ha	=	2.471 acres	
1 ha	=	100 m x 100 m = 10,000 m^2	
1 km^2	=	100 ha	
1 troy ounce	=	31.103 grams	(g)
1 g	=	0.032 troy oz	
1 pound (lb)	=	0.4536 kilogram	(kg)
1 kg	=	2.2046 lb	
1 ton (2000 lb)	=	0.90718474 tonne (0.9072)	(t)
1 tonne	=	1.1023 ton = 2205 lb	
1 troy ounce/ton (oz/t)	=	34.286 grams/tonne	(g/t)
1 g/t	=	0.0292 oz/ton	
1 g/t	=	1 part per million	(ppm)
1 ppm	=	1000 parts per billion	(ppb)
10,000 g/t	=	1%	



Rheinhart Lake
1000
700
1000
BK 1396
McDOUGALL QUARTZ VEIN
SEE INSET
LOCATION MAP
CLAIM LOCATION MAP
INSET
McDOUGALL QUARTZ VEIN
INSET "B" (PIT "B")
INSET "A" (PIT "A")
GEOLOGY
JURASSIC ? 2 Intensely altered, Fe-oxide stained felsic intrusive
PALEOZOIC 1 SEDIMENT – SILL UNIT
Chlorite-altered, schistose diabasic ? rock.
Banded chert interbedded with argillite and chert, locally phyllitic. Fine-grained mafic tuffs.
Jasper / magnetite lenses (1b)
SYMBOLS
Road
Bedding (strike/dip)
Schistosity, foliation (strike/dip)
Geologic contact
Fault trace (~?~?~ inferred)
Chip sample interval
17811 Rock sample
200S Silt sample
1+00S Soil sample
Adit
Trench
Surface trace of quartz
Pit
Quartz vein exposure
ABBREVIATION
fg fine-grained
mg medium-grained
cg coarse-grained
fsp feldspar
porph porphyritic
chl chlorite
alt altered
cpy chalcopyrite
py pyrite
ga galena
GEOLOGICAL BRANCH
ASSESSMENT REPORT
16,802
0 100 200 300 400 500 metres
92 C / 16
CANAMIN RESOURCES LTD.
GEOLOGY AND SAMPLE LOCATIONS
SOGNIDORO PROPERTY
VICTORIA MINING DIVISION
Project No: V 269
By: B. T., G. P
Scale: 1 : 5000
Drawn: J.S.
Drawing No: 5
Date: SEPTEMBER, 1987
MPH Consulting Limited