85-339

MPH

#13672

2/86

RECONNAISSANCE GEOLOGICAL MAPPING
AND
ROCK SAMPLING
PORT/STARBOARD GROUP
ALBERNI MINING DIVISION
LATITUDE 49°03'N, LONGITUDE 124°39'W
NTS 92F/2
FOR
LODE RESOURCE CORPORATION
MAY 21, 1985

T.G. Hawkins, P.Geol.
T. Neale, B.Sc.

SUMMARY

Exploration work consisting of reconnaissance geological mapping and rock sampling for lithogeochemical and whole rock analysis was carried out over portions of the Port/Starboard Group in February 1985 by MPH Consulting Limited.

The property is underlain by a northwest striking sequence of Buttle Lake limestone, Karmutsen mafic volcanics, Quatsino Formation limestone, and Bonanza Group volcanics intruded by Island Intrusions rocks in the southwest corner of the property. Mapping by MPH Consulting Limited showed that large xenoliths to rafts of partly "dioritized" andesite (altered Bonanza volcanics) are common within the tonalite and diorite of the Island Intrusions. A sinkhole was discovered in the Buttle Lake limestone. Lithogeochemical results were low; the highest results were: 10 ppb Au, 0.7 ppm Ag, 217 ppm Cu, 15 ppm Pb, and 99 ppm Zn. Computer processing of whole rock analyses did not locate any anomalous gold-related geochemical factors and only one sample was weakly anomalous in base metal-related geochemical factors.

As the work carried out covered only a small percentage of the property during winter conditions, a 12-day Phase I program of geological mapping, rock sampling, and prospecting covering the entire property is recommended at an estimated cost of $27,500. If warranted by the results of Phase I work, Phase II is recommended to consist of follow-up geological mapping, soil sampling, and VLF-EM and magnetometer surveys on grids laid out over target areas located by Phase I. The cost of Phase II is estimated to be $50,000 for an 18-day program. Phase III work, consisting of detailed IP surveys, trenching, rock sampling, and geological mapping over anomalous grid areas followed by diamond drilling is recommended at an estimated cost of $131,000, contingent upon favourable results from Phase II.

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GENERAL LOCATION MAP

PORT / STARBOARD GROUP

ALBERNI MINING DIVISION

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MPH Consulting Limited

1.0 INTRODUCTION

This report is completed at the request of Mr. T. Schorn, President, Lode Resource Corporation, of February 7, 1985 and represents the compilation of geological fieldwork carried out by MPH Consulting Limited on the Port and Starboard claims (Port/Starboard Group) on February 16, 24, and 25, 1985.

Work carried out to fulfill assessment work requirements included reconnaissance geological mapping and rock sampling for lithogeochemical analysis.

Thick snow cover of up to 1 m or more severely limited outcrop exposure and made access very difficult.

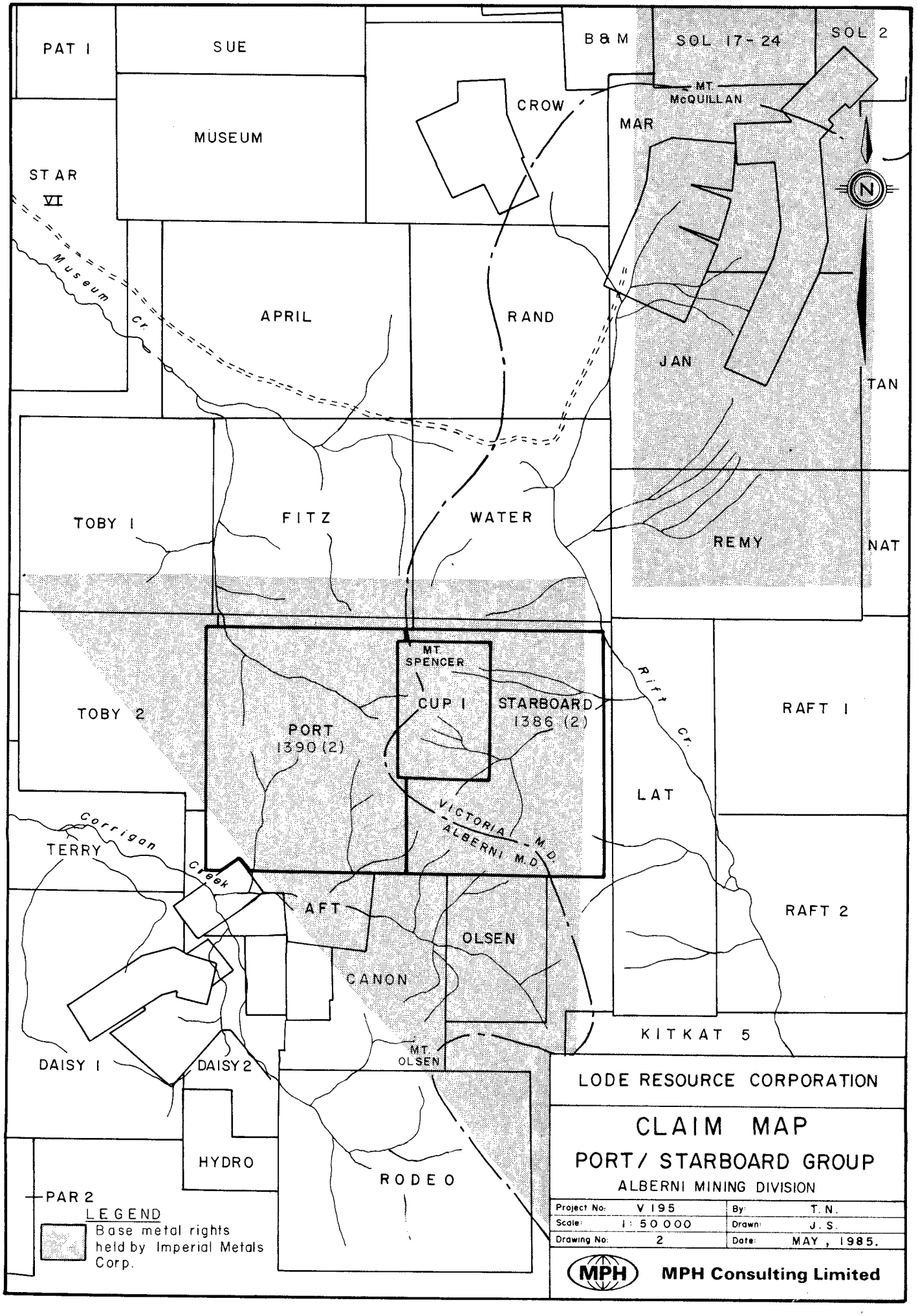
2.0 PROPERTY LOCATION, ACCESS, TITLE

The Port/Starboard Group is located 23 km southeast of Port Alberni on the southern slopes of Mt. Spencer in the Alberni Mining Division of British Columbia. The Starboard claim is located mainly within the Victoria Mining Division, but its LCP is within the Alberni Division. The claims are centred at about 49°03'N latitude, 124°39'W longitude on NTS mapsheet 92F/2.

Access to the northern part of the property is provided by the all-weather gravel Bamfield Road from Port Alberni to Franklin River, then by the Thistle Mine Road and Museum Road up Museum Creek. MacMillan Bloedel logging roads M1 and M3 give access to the northwestern and northeastern corners, respectively, of the claims. Access to the southern part of the property is via Bamfield Road to Corrigan Main, which passes within 200 m of the southwestern corner of the Port claim. There are no roads into the central part of the property. Access would be by foot or helicopter.

The Port and Starboard claims each consist of 20 units, have anniversary dates of February 26, 1986 and Record Numbers of 1390(2) and 1386(2), respectively. The claims were recorded in 1982, and are owned by Lode Resource Corporation. The Port and Starboard claims have been grouped as the Port/Starboard Group as of February 25, 1985.

Base metal rights for the area are held by Imperial Metals Corp. under option from Fording Coal Ltd. as this is one of the areas of the old E&N Land Grant that was not relinquished by the CPR (Figure 2).


PAT I
SUE
B & M
SOL 17-24
SOL 2
MT. McQUILLAN
CROW
MAR
MUSEUM
STAR VI
Museum Cr.
APRIL
RAND
JAN
TAN
TOBY I
FITZ
WATER
REMY
NAT
MT. SPENCER
CUP I
STARBOARD 1386 (2)
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TOBY 2
RAFT I
Rift Cr.
LAT
VICTORIA - ALBERNI M.D.
Corrigan Creek
TERRY
AFT
OLSEN
CANON
RAFT 2
KITKAT 5
MT. OLSEN
DAISY I
DAISY 2
HYDRO
RODEO
PAR 2
LEGEND
Base metal rights held by Imperial Metals Corp.
LODE RESOURCE CORPORATION
CLAIM MAP
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3.0 PREVIOUS WORK

Government geological work in the area includes mapping by C.H. Clapp (1912 and 1914), J.E. Muller and D.J.T. Carson (1969), and J.E. Muller (1977 and 1980).

A regional aeromagnetic survey flown by Hunting Survey Corp. Ltd. in 1962 included the Port/Starboard Group area.

During the years 1963 to 1966, Gunnex Ltd. carried out a regional mapping program over a large area of the E&N Land Grant, with limited prospecting and silt sampling. They compiled a list of all known mineral occurrences in the area and visited many of them. Silt sampling on the creeks draining the Port/Starboard Group returned anomalous THM results. No other work on the Port/Starboard Group ground is known. An extensive exploration program was carried out on the Mary Group (Cup claim), which is surrounded by the Port/Starboard Group, by Gunnex from 1964-66, and by others from 1967 to 1981 (see #13 in the Mineral Occurrences section).

4.0 REGIONAL GEOLOGY

The predominant rock units in the Port Alberni-Nitinat River area are the Upper Paleozoic Sicker Group rocks and the Lower Mesozoic Vancouver Group rocks. Both are eugeosynclinal sequences of volcanic and sedimentary rocks. Lesser amounts of the Upper Cretaceous Nanaimo Group and of intrusive rocks of various ages also occur (Figure 3).

4.1 Sicker Group

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

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

LEGEND

QUATERNARY

23	Glacial and alluvial deposits.

TERTIARY

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

UPPER CRETACEOUS
NANAIMO GROUP

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

MIDDLE TO UPPER JURASSIC

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

LOWER JURASSIC

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

UPPER TRIASSIC
VANCOUVER GROUP

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

TRIASSIC OR PERMIAN

4	Gabbro, periodite, diabase.

LOWER PERMIAN TO PENNSYLVANIAN
SICKER GROUP

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

0 5 10 km

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LODE RESOURCE CORPORATION

REGIONAL GEOLOGY MAP
PORT/STARBOARD GROUP

ALBERNI MINING DIVISION

Project No:	V 195	By:	T. N.
Scale:	1 : 250,000	Drawn:	J. S.
Drawing No:	3	Date:	MAY, 1985.

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

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

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

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

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

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

4.2 Vancouver Group

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

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

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

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

4.3 Bonanza Group

The Bonanza Group (Unit 8) is made up of interbedded lava, breccia, and tuffs ranging in composition from basalt to rhyolite with intercalated beds of marine argillite and greywacke. It is exposed south of Mount Spencer and south of Corrigan Creek and consists of light coloured andesite to latite breccia, tuff, and flows with minor greywacke, argillite, and siltstone. The Bonanza Group is considered to be of Lower Jurassic age.

4.4 Nanaimo Group

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

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

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

Interbedded coarse clastic conglomerate, pebbly sandstone and arkosic sandstone of the Extension-Protection Formation (Unit 13) are beach and deltaic sands. Minor shale and coal are reported.

4.5 Intrusive Rocks

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

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

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

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

4.6 Structure

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

Asymmetric southwest verging anticlinal structures characterized by sub-vertical southwest limbs and moderately dipping northeast limbs are reported at Buttle Lake and in the Cameron-Nitinat River area. Intense shearing and metamorphism to chlorite-actinolite and chlorite-sericite schist occurs in steep and over-turned limbs of folds. Overlying Buttle Lake Formation lime-stones are relatively undeformed except where they are thin.

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

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

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

4.7 Economic Setting

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

Until recently, deposits of copper and gold-silver in quartz veins and shear zones hosted by mafic to intermediate volcanic rocks and base metal plus gold-silver skarn deposits were the most widely recognized economic and subeconomic metal concentrations in the Port Alberni area. Placer mining for gold was carried out during the 1940's in various localities, especially in the China, Mineral and Corrigan Creeks area.

The volcanogenic massive sulphide deposits of Westmin Resources Ltd. occur at Buttle Lake, approximately 70 km northwest of the Port Alberni area. Four zones of mineralization consisting of the ore minerals sphalerite, chalcopyrite, galena, tetrahedrite-tennantite plus minor bornite and covellite, are hosted by pyritic rhyolitic to rhyodacitic volcanic and pyroclastic rocks of the Myra Formation. Combined reserves of the 4 zones are 16.25 million tons grading 5.5% Zn, 2.1% Cu, 0.3% Pb, 0.07 oz Au/ton, and 1.2 oz Ag/ton.

The Myra Formation also hosts the Twin J Mine, 65 km southeast of the Port/Starboard Group, which produced 305,149 tons of ore containing 40,014 oz Au, 840,472 oz Ag, 21,344,332 lb Cu, 45,864,654 lb Zn, 418,716 lb Pb, and 2600 lb Cd.

Six past producing mines occur in the Port Alberni area. The Thistle Mine produced 2,760 oz Au, 2,120 oz Ag and 681,425 lbs Cu from 6,920 T of ore. It was originally considered to be a skarn deposit (J.S. Stevenson, 1944; D.J.T. Carson, 1968). Disseminated and massive sulphide mineralization occurs as lenses and bands within pyritic quartz-sericite schist and at the contact of

quartz-sericite schist with chloritized mafic volcanic rocks (Sicker Group). Disseminated sulphide mineralization occurs throughout the host rocks. The deposit is now believed to be of syngenetic-volcanogenic origin.

Recent work by Westmin Resources Ltd. (1983, 1984) has located 16 significant Cu and/or Au occurrences over a strike length of 4.6 km grading up to 0.49 oz Au/ton over 7 feet. Nine diamond drill holes intersected numerous anomalous concentrations of Au, although no ore grade Au-Cu was intersected over mining widths. The Thistle Mine is located 5 km north of the Port/Starboard Group.

The Havilah Mine (1,046 T produced 259 oz Au, 1,404 oz Ag) and the Vancouver Island Gold Mine (483 T produced 384 oz Au, 52 oz Ag) are quartz vein deposits hosted by andesite and andesite tuff of the Sicker Group located 6 km and 13 km, respectively, north of the Port/Starboard Group.

The Black Panther Mine is a quartz vein deposit hosted by a shear zone in Sicker Group andesite and diorite located 4.5 km north of the Port/Starboard Group. Production of 1,890 T of ore yielded 509 oz Au, 953 oz Ag, 12,319 lbs Pb and at least 4,478 lbs Zn and 498 lbs Cu.

Other past producers in the area include the 3-W Mine ('limited' production of Au-Ag) and the Corrigan Creek Mine (116 T of ore grading 4.0 oz Au/T, 4.3 oz Ag/T, 0.23% Cu, 1.1% Pb), both quartz vein deposits hosted by diorite and granodiorites (Island Intrusions) and both located 1 km southwest of the Port/Starboard Group.

Widespread Cu-Zn±Au-Ag mineralization occurs on the Cup claim, hosted by Karmutsen Formation volcanics and Quatsino Formation limestone. Extensive exploration since Gunnex Ltd. discovered

the showing in 1964 (known then as the Mary Group) has outlined at least 5 showings with grades of up to 5.57% Cu, 28.9 oz Ag/ton, 0.33 oz Au/ton, 6.03% Zn. The Cup claim occurs within the boundaries of the Port/Starboard Group.

Significant base metal and gold deposits and occurrences of the Sicker Group in the Port Alberni to Mount Spencer area and of the Vancouver Group, Bonanza Group, and Island Intrusions in the vicinity of the Port/Starboard Group are summarized below (Figure 4).

4.8 Mineral Occurrences

1. Vancouver Island Gold; (Victoria, L.205G; Alberni, L.206G; Missing Link, L.214G; Alberni Consolidated) Au, Ag, Cu

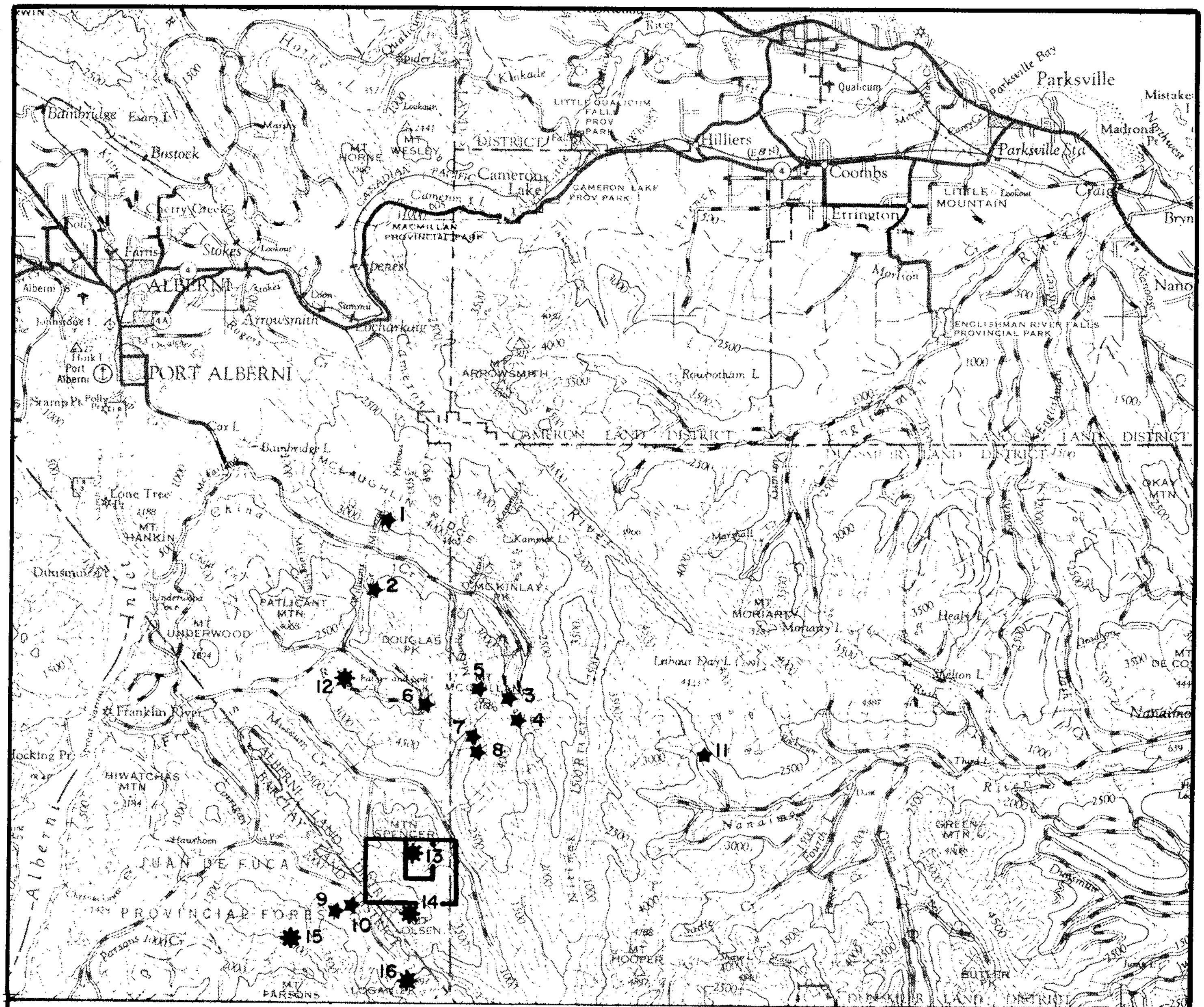
Geology

The area is underlain by highly altered massive, tuffaceous, slightly porphyritic, and amygdaloidal andesites of the Sicker Group. Three main quartz veins follow well developed shears and contain a small amount of pyrite and some free gold. As well, a 40 foot wide shear zone has been extensively altered by ankerite, quartz stringers, occasional pyrite veinlets, and kaolinitization.

Economic Features

Recorded production in 1896, 1898, 1933-36 and 1939 totals 483 tons of ore yielding 384 oz Au, 52 oz Ag and 194 lb Cu.

The Mac vein is traced for 250 feet and ranges from 3 to 18 inches wide, averaging 5 to 6 inches. Sixty-three samples taken over the 250 feet averaged 6 inches in width and 3.69 oz Au/ton. The highest assay was 20 oz Au/ton. A 40 ton



GOLD DEPOSITS AND OCCURRENCES

1. Vancouver Island Gold Mine
2. Regina
3. Golden Eagle
4. B & K
5. Havilah
6. Thistle
7. Black Panther
8. Black Lion
9. 3-W
10. Corrigan Creek
11. Villalta

OTHER OCCURRENCES

12. Upper Franklin R.
13. Mary Group
14. Mt. Olsen Cu Showing
15. Parsons Creek
16. Arland's Showing

N

0 5 10 km

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MINERAL OCCURRENCE LOCATION MAP PORT / STARBOARD GROUP

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shipment from the Mac vein returned 2.9 oz Au/ton and 0.5 oz Ag/ton (Ref. 1-1934).

The Belcher vein is exposed discontinuously for 950 feet and ranged from almost nothing to 4 feet in width, averaging 6 to 12 inches in the upper adit. Gold content is reported to be low except in the shaft and stope workings. Recent sampling results show from 0.003 to 0.29 oz Au/ton and from 0.06 to 0.10 oz Ag/ton over 5 foot lengths (Ref. 3).

The Dunsmuir vein is exposed in trenches for about 400 feet and ranges up to 10 inches in width. No assays are reported (Ref. 1-1936).

The Waterfall vein is exposed for 108 feet and is 3 inches to 2.5 feet wide. Gold assays were low in sampling done by Vancouver Island Gold Mines Ltd., except for two samples which ran 1.4 oz Au/ton over 3 inches and 11.8 oz Au/ton over 6 inches (Ref. 1-1934). This illustrates the very spotty nature of free gold distribution.

Seventy-nine chip samples taken from the carbonatized shear zone by the BCDM assayed from nil to 0.16 oz Au/ton over widths of 5 and 10 feet (Ref. 1-1936).

A 1934 BCDM report stated that there is a possible relationship between bands of sediments and gold mineralization, as the gold values in the Mac vein are concentrated just above a bed of argillaceous sediments and are low below that.

History

1895: Alberni, Chicago, Warspite, Victoria claims staked; dispute over ownership.

1896: Alberni Consolidated Mining Co.; won dispute, shaft at 40 feet and a tunnel being driven, two tons of ore shipped from a smaller vein (Dunsmuir?) uphill from main vein, open cut on 8-30 inch vein on Chicago claim.

1897-98: An English company built a 10 ton per day 8 stamp mill and only made two clean-ups. Results unknown.

1933-39: Vancouver Island Gold Mines Ltd. (NPL); R.W. Williams leased the reverted Crown Grants in 1933 and turned them over to Vancouver Island Gold Mines. Numerous open cuts were made, 5 adits totalled 1,905 feet including various raises, etc. on the quartz veins and 2 adits totalling 277 feet and 12 strippings were made on the carbonatized shear zone. A total of 403 tons of ore was mined. In 1936 a 35 ton pilot mill was built, but only milled a few tons of ore before the operations were ceased due to operating difficulties. In 1939 some rehabilitation work was done in the Mac adits and 48 tons of ore were shipped.

1964: Gunnex Ltd.; visited property, some sampling. Mapping planned for 1966.

1973-74: Keywest Resources Ltd.; (Sam Group) sampling in Belcher adits, prospecting, geological mapping on surface and underground.

1976: Western Mines Ltd.; (Tasha-Shannon and Rupert-Dog claim groups) reconnaissance geological mapping and soil sampling.

References

1) MMAR 1895-650, 1896-6, 1897-566, 1898-1132, 1943-F2-4, 1936-F25-30, 1944-148

2) GEM 1973-230, 1974-173

3,4) AR 4915, 6153

5,6) GSC P68-50 p38
Map 1963-49

7) Gunnex #6
8) Minfile 92F079

2. Regina (L.55G) Au, Ag, Cu

Geology

Lenses and veinlets of quartz with pyrite, chalcopyrite, some galena, and Au and Ag values occur in shears in silicified and pyritized Sicker Group andesite. Some reports also mention sphalerite in the quartz. Another type of showing occurs in highly silicified and leached pyritic, ankeritic andesite which contains gold values.

Economic Features

The quartz lenses and silicified zones vary up to 2 feet in width but the mineralized portions appear to be very discontinuous. A grab sample of quartz with considerable pyrite, chalcopyrite and galena from the dump assayed at 0.66 oz Au/ton, 14.0 oz Ag/ton (Ref. 1-1944). A large, highly oxidized bulk sample from the carbonatized zone assayed 0.64 oz Au/ton, trace Ag (Ref. 1-1944). A sample from 20 tons of ore on the dump (possibly hand sorted) in 1930 returned $3.60 Au/ton, 5 oz Ag/ton, 5.0% Cu (Ref. 1-1930). A grab sample from 40 tons of high grade hand-picked ore on the dump in 1964 assayed 0.02 oz Au/ton, 1.8 oz Ag/ton, 2.57% Cu, 1.98% Pb and 9.01% Zn (Ref. 7).

History

1898: Alberni Gold Development Syndicate; granted Crown Grants L.54, 55, 57.

1930: E. Maralia; an open cut and an incline shaft a few feet deep. Twenty tons of ore from this work on a dump.

1944: E. Marillia; no recent work. Five adits totalling 288 feet, a 30 foot incline shaft, 2 open cuts, and a 5

foot pit at the entrance to one of the adits exist. All probably date back to the late 1890's.

1964-65: Gunnex Ltd.; visited the workings, sampling, prospecting in the general area.

1976: Western Mines Ltd.; (Tasha) geological mapping 1:14,400, soil sampling.

References

1) MMAR 1898-1197, 1930-291, 1944-148-150
2) EBC 1976-111
3) BCDM Bull 1 p132
(Special Report #5, 1936)
4) AR 6153
5,6) GSC P68-50 p38
Map 1963-49
7) Gunnex #7
8) Minfile 92F078

3. Golden Eagle (L.198G) Au

Geology

A vein of ribbon-quartz cuts a small intrusion of feldspar porphyritic diorite and contains pyrite, minor sphalerite, galena, chalcopyrite and arsenopyrite (about 10% total sulphides) and gold values. Sicker Group volcanics and bedded cherts occur in the area.

Economic Features

The vein varies from a few inches to 8 feet, averaging about 3.5 feet in width and has been traced in outcrop for 400 feet along strike and 325 feet vertically. An assay of $56 Au/ton, 3 oz Ag/ton and 1% Cu is reported and assays of up to $103 Au/ton are reported to have been obtained in 1894 (Ref. 1-1899). A tunnel 500 feet below the surface showing never intersected the vein despite being driven

1,500 feet beyond the estimated intersection point of 600 feet.

History

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

1893-1902: Various individuals and/or companies; 4 adits totalling 205 feet in upper workings, an adit driven at a lower level to avoid snowslides from 1896-1902 reached 2,100 feet without intersecting mineralization, "development work" of an unspecified nature.

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

References

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

2) AR 10194

3,4) GSC P68-50 p38
Map 49-1963, 17A

5) Gunnex #12

6) Minfile 92F080

4. B and K, Lakeview Au, Ag

Geology

Many widely scattered narrow quartz veins containing pyrite and minor galena, sphalerite and chalcopyrite with Au and Ag values occur in andesite tuffs and flows, basalt and local black chert; often in shear zones. A zone of strongly carbonatized andesite 6 to 25 feet wide contains minor

pyrite, galena and sphalerite in narrow veinlets. In the southern workings, veins are surrounded by a strong ankeritic carbonate alteration zone.

Economic Features

A vein near the north end of the workings varies from 1 to 6 inches to a 6 foot stringer zone in width. Assays of 2.56 and 2.26 oz Au/ton are reported (Ref. 1-1944).

No assays are reported from the carbonatized zone. Many other quartz veins, from a hairline to 8 inches wide, for which no assays are available, occur within an area about 1,250 feet long.

The airborne geophysics survey located a magnetic anomaly and isolated EM conductors at the Lakeview workings.

History

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

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

1979-84: Lode Resource Corporation; detailed soil sampling, channel sampling old trenches, 5 DDH for 726 m, airborne EM/mag.

References

1) MMAR 1944-151

2,3) GSC P68-50 p38
Map 49-1963

4) Gunnex #13

5) Minfile 92F081

5. Havilah (King Solomon, Storm, Red Rose, Spike, Sol 14)
Au, Ag, Cu, Pb, Mo

Geology

Sicker Group andesite is intruded by Jurassic diorite and by Tertiary hornblende-feldspar and quartz-feldspar porphyry stocks, dykes and sills. Ribbon-quartz veins and lenses containing abundant pyrite, sphalerite and galena and lesser chalcopyrite and arsenopyrite occur in shears in the andesite. Occurs on the same shear zone as Black Panther (#7 below) and Black Lion (#8 below).

Economic Features

The recorded production in 1936 and 1939 totals 1,046 tons yielding 259 oz Au, 1,404 oz Ag, 4,243 lb Cu and 12,676 lb Pb. There are three main veins.

The Gillespie vein is the lowest. It is 3 to 34 inches wide and has been traced for 650 feet in 5 trenches. Most of the production came from the Gillespie vein. Assays range up to 0.4 oz Au/ton, 2.2 oz Ag/ton, 0.4% Pb and 0.30% Zn over widths from 4 to 63 inches (Ref. 1-1936, 1944). Some oxidized samples taken over 1 foot assayed as high as 7 oz Au/ton and 3 oz Ag/ton. Average grade of the ore shipped from the Gillespie vein was 0.235 oz Au/ton and 1.28 oz Ag/ton (Ref. 1-1939). The vein was faulted off in two of the three adits and could not be rediscovered.

The Alberni vein consists of a 10 foot wide by about 70 feet long zone of intense shearing containing 1 to 3 lenticular quartz veins 4 to 24 inches wide. Assays of 3.66 oz Au/ton and 5.2 oz Ag/ton over 4 inches and 1.8 oz Au/ton and 2.3 oz Ag/ton over 20 inches are reported (Ref. 9).

The McQuillan vein was prospected with a 57 foot adit. It ranges up to 8 inches in width. Assays of up to 1 oz Au/ton over 8 inches and 1.6 oz Ag/ton over a different 8 inches, are reported (Ref. 9).

A fourth vein on the easterly side of the cirque 1 to 2 feet wide assayed 0.16 oz Au/ton and 0.6 oz Ag/ton from an oxidized 2 foot sample (Ref. 9).

History

1893: First mentioned in MMAR (King Solomon).

1895: An open cut on the McQuillan(?) vein.

1936-44: Havilah Gold Mines Ltd.; claims staked in 1934 and 1936 by Walter Harris. In 1936, 7 tons of ore were mined from the upper showings (Alberni and McQuillan veins). In 1938-39, 2,072 feet of drifting, crosscutting and raising on three levels on the Gillespie vein resulted in production of 1,039 tons of ore. Diamond drilling and prospecting were also carried out. A high-line tram was built to transport ore and supplies between the base camp and the mine. Little if any work was done after 1939.

1947: Nitinat Mines Ltd.; owned the ground.

1964: Gunnex Ltd.; silt sampling in McQuillan creek drainage, rock sampling wherever mineralization was observed.

1974-77: Cominco Ltd.; geological mapping 1:4800, soil sampling, trenching, several IP and resistivity surveys.

References

1) MMAR 1893-1080, 1895-652, 1936-F30, 1939-88, 1944-G153

2) GEM 1974-172

3) EBC 1975-E95, 1976-E111, 1977-E110

4-6) AR 5354, 6138, 6643

7,8) GSC P68-50 p38
Map 49-1963, 17A
9) Gunnex #11
10) Minfile 92F082

6. Thistle (L.91G) Au, Ag, Cu

Geology

The mine area is underlain mainly by mafic volcanic and volcaniclastic rocks of the upper(?) Myra Formation (Ref. 10). The orebodies are reported to occur in two shear zones, 130 feet apart within a 200 foot wide band of limestone. The limestone is extensively altered to "diopside rock" composed of fine grained diopside, and is partly underlain by and surrounded on three sides (NE, SE, SW) by fine grained diorite. Strong faults located along the orebodies extend downward beyond the known ore limits (Ref. 8).

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

Economic Features

Production from 1938 to 1942 amounted to 6,920 tons of ore which contained 2,760 oz Au, 2,120 oz Ag and 681,425 lb Cu. The ore apparently occurs in lenses ranging from less than an inch up to at least 18 by 25 feet with much faulting cutting lenses off.

Assays from 2.71 to 10.2% Cu, 0.226 to 1.22 oz Au/ton and 0.15 to 1.33 oz Ag/ton over apparent true thicknesses of 15 cm to 4 m are reported from chip sampling. The Panther Road showing, 1.4 km SE of the Thistle Mine, assayed at 900 ppm Cu, 0.490 oz Au/ton and 0.05 oz Ag/ton.

History

1896: First staked.

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

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

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

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

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

1941-42: Vancouver Island Diamond Drilling and Exploration Co.; 1,789 tons of ore mined, shut down July 25, 1942.

1944: The workings existing on the property included four adits totalling 527 feet, an 18 by 25 foot stope 60 feet long, two glory holes totalling about 6,000 cubic yards and several open cuts. Owned by United Prospectors Ltd., but no work done since 1942.

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

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

1965: Vananda Explorations Ltd.; magnetometer, SP and geochemical surveys, 4 diamond drill holes totalling 1,745 feet.

1979: Kargen Development; linecutting, soil sampling.
1982: McQuillan Gold; airborne EM and magnetometer surveys, soil sampling, rock sampling, trenching, EM survey.
1983-84: Westmin Resources Ltd.; geological mapping, rock sampling (for assay, whole rock geochem and thin sections) and prospecting.

References

1) MMAR 1899-778, 1901-1097, 1902-307, 1927-340, 1928-366, 1930-291, 1939-40,88, 1940-73, 1941-71, 1942-66, 1944-154-157, 1965-238
2-5) AR 8088, 9126, 10237, 11064
6,7) GSC P68-50 p38
Map 49-1963
8) Gunnex #10
9) Minfile 92F083
10) Nexus Resource Corporation; News Release dated November 1983

7. Black Panther, High Grade Vein, Middle Vein Au, Ag, Pb, Zn, Cu

Geology

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

The High Grade Vein is a quartz-carbonate filled shear zone in Nitinat Formation andesite which was later brecciated

and injected with quartz, sulphides, and precious metals. A carbonatized zone is associated with the shear.

The Middle Vein consists of a quartz-carbonate vein on the hangingwall side of a 2 m wide feldspar-hornblende andesite porphyry dyke. Both the dyke and vein are located in a fault zone that can be traced for at least 1 km. House and Sawyer (1984) believe that it may be an extension of the Golden Eagle vein.

Economic Features

The Black Panther shear zone has been traced for at least two miles but the best mineralization is at the Black Panther workings where quartz lenses are one inch to three feet thick and up to 40 feet long. Four samples containing "heavy sulphides" from the 2700 and 2790 adits assayed from 2.30 to 2.88 oz Au/ton (Ref. 1-1944). A 1964 assay from the dump is reported as 1.16 oz Au/ton, 2.1 oz Ag/ton, 0.14% Cu and 1.73% Pb (Ref. 4).

Production in 1947, 1948 and 1950 totalled 1890 tons which yielded 509 oz Au, 953 oz Ag, 498 lb Cu and 12,319 lb Pb and at least 4,478 lb Zn.

The High Grade Vein has been exposed in open cuts for 400 m and is 13-20 cm wide. Assays of up to 5.98 oz Au/ton, 3.74 oz Ag/ton over 15 cm are recorded. The average of 28 samples taken over a 75 m section of the vein is 0.319 oz Au/ton, 0.368 oz Ag/ton. Drilling in 1980 yielded values of up to 0.68 oz Au/ton, 0.32 oz Ag/ton over 15 cm. Values from 1983 drilling were somewhat lower but still encouraging.

Surface assays from the Middle Vein range up to 0.548 oz Au/ton, 0.71 oz Ag/ton over 1.5'.

History

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

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

1941: Pioneer Gold Mines of B.C. Ltd.; drove the 2700 (Main) adit and the 2450 adit (about 1,200 feet of drifting, crosscutting and raising), 1,631 feet of diamond drilling.

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

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

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

1979-84: Lode Resource Corporation; prospecting, soil and silt sampling, rock sampling, geological mapping, 15 DDH, trenching, airborne mag/EM.

References

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

2,3) GSC P68-50 p38
Map 49-1963

4) Gunnex #14

5) Minfile 92F084

House and Sawyer: Report on Property Exploration Programs in the Mt. McQuillan-Mt. Spencer Area...; for Lode Resource Corporation, May 31, 1984.

8. Black Lion Au, Ag

Geology

Similar to Black Panther (#7 above), as the Black Lion is on the southerly extension of the same shear zone as Black Panther. Zones of quartz-sulphide (pyrite, galena, gold values) stringers are found in a strongly carbonatized zone 10 inches to 9 feet wide with local evidence of strong shearing.

Economic Features

Open cuts exposed the "vein" for 175 feet with another exposure located 1,300 feet to the south. The quartz-sulphide stringer zone is 12 to 18 inches wide. A sample of quartz and sulphides assayed 1.2 oz Au/ton. Samples of quartz-sulphide stringers and carbonatized country rock ranged from 0.27 to 0.43 oz Au/ton. The carbonatized rock itself assayed at trace to 0.03 oz Au/ton (Ref. 1-1944, Ref. 4).

History

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

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

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

1979-84: Lode Resource Corporation; prospecting, soil and silt sampling, rock sampling, airborne mag/EM.

References

1) MMAR 1944-159

2,3) GSC P68-50 p38
Map 49-1963

4) Gunnex #15

5) Minfile 92F085

9. 3-W Mine Au, Ag

Geology

Three quartz veins mineralized with pyrite, sphalerite and galena occur in granodiorite and diorite.

Economic Features

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

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

No. 3 vein measures 308 feet long by 2 to 14 inches wide. A channel sample assayed 1.3 oz Au/T, 0.9 oz Ag/T over 14 inches (1935). Grab samples assayed 7.25 oz Au/T, 5.3 oz Ag/T; 1.86 oz Au/T, 2.0 oz Ag/T; and 0.18 oz Au/T, 0.2 oz Ag/T (1964).

Production to 1935: Small shipments of ore were made.

History

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

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

1940's: Various, prospecting, sampling.

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

10. Corrigan Creek Mine Au, Ag, Cu, Pb

Geology

Sulphide bearing quartz veins occur in granodiorite and diorite.

Economic Features

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

Production 1899-1935: 116 T of ore grading 4 oz Au/T, 4.3 oz Ag/T, 0.23% Cu, 1.1% Pb (reported by W.G. Stevens and Associates Ltd.; 1970 part of 3-W Mine?).

History

1899-1935: Various; some development, mining (part of 3-W Mine?).

1970: John Cotowick; limited mining operations.

Comments

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

11. Villalta Au, Zn, Cu, Ag, W, Fe

Geology

Extensive areas of powdery to massive hematite carrying Au values, believed to represent a weathered massive sulphide horizon, occur at the top of a limestone horizon (Buttle Lake Formation?) in a well-developed paleokarst topog-

raphy. Gold showings are also reported to occur in bands of chert and massive sulphide within the limestone, in massive sphalerite at the contact of limestone and underlying argillite, in pyrite stringers in argillite, in shears, and in quartz veins.

Economic Features

The hematite is at least 100 feet wide by 360 feet "down-dip" by up to 46 feet thick. Diamond drilling assays include 3.676 oz Au/ton, 0.56 oz Ag/ton, 7.65% Zn, 0.76% Cu over 1 foot, and 2.29% Zn, 0.41 oz Ag/ton, 0.033 oz Au/ton over 26 feet.

A 1200 cubic foot bulk sample taken in 1982 returned 0.20 (oz/ton?) Au, 0.30 (oz/ton?) Ag, 0.47% Cu, 0.53% Fe. Reserves are reported as approximately 200,000 tons indicated at 0.1 to 0.2 oz Au/ton with "minor" base metals content. (August 18, 1981)

History

1976-79: E. Specogna; discovered mineralization, trenching, soil, rock sampling, 3 packsack DDH for 46'.

1980-81: Canamin Resources Ltd.; mapping, trenching, sampling, 15 NQ, BQ DDH for 6255'.

1982: Asarco Exploration Co. of Canada Ltd.; geochemical, geophysical surveys, bulk sampling, stripping.

1983: Canamin Resources Ltd.; geochemical survey.

1984: Falconbridge Ltd.; airborne geophysics, at least 4 DDH, geochem.

References

EBC	1977-E109, 1978-E126, 1979-128
AR	7792, 8458, 10789
BCDM	Geological Fieldwork 1980, pp. 112-114
TML	1984, #066, 140, 180

NM Aug. 2, 1984
Canamin Resources Ltd.; Report to Shareholders dated April 9, 1982
Minfile 92F384

12. Upper Franklin River Occurrences Cu

Geology

Chalcopyrite and malachite occur within quartz stringers and epidotized shears in andesite (Vancouver Group).

Economic Features

One zone measures a few feet long by 2 feet wide; a grab sample assayed 1.74% Cu. Another zone is 5 to 6 feet wide. Grab samples assayed 2.75% Cu and 1.42% Cu.

History

1963-1965: Gunnex Ltd.; ground magnetometer survey, soil sampling, prospecting.

13. Mary Group Occurrences (Cup) Cu, Zn, Pb, Ag, Au

Geology

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

Economic Features

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

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

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

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

Showing 5, massive pyrrhotite, minor chalcopyrite is 60 feet long by 4 to 6 feet wide; a grab sample from a 1 foot wide quartz vein assayed 2.72% Cu, 6.22% Pb, 0.65% Zn, 28.9 oz Ag/T; a grab sample of massive pyrite in quartz assayed 0.20 oz Au/T, 25.3 oz Ag/T.

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

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

History

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

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

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

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

References

AR 6134, 8177, 9292

14. Mount Olsen Copper Showing Cu, Ag, Au

Geology

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

Economic Features

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

History

Undated: Unknown; old workings reported in the area.

1963-1965: Gunnex Ltd.; mapping, prospecting.

15. Parsons Creek Occurrence Cu, Ag, minor Au

Geology

Numerous narrow quartz veins (4 to 14 inches) mineralized with considerable chalcopyrite occur in sheared andesite and volcanic breccia (Vancouver Group volcanics).

Economic Features

Seven mineralized veins cover a strike length of 3,000 feet. The best channel samples were 13.57% Cu, 0.8 oz Ag/T, 0.04 oz Au/T over 0.5 feet, 6.58% Cu, 32.39 oz Ag/T, 0.01 oz Au/T over 1.5 feet. A grab sample of massive chalcopyrite assayed 13.08% Cu, 1.15 oz Ag/T, 0.01 oz Ag/T (1966).

History

1930's-1940's: Unknown; prospecting, pitting, adits.

1965-1966: Gunnex Ltd.; stripping, trenching, channel sampling, silt sampling, prospecting.

16. Arland's Showing Cu, Mo, Pb, Zn

Geology

Copper and molybdenum mineralization occur in altered sheared sulphide-rich diorite and within quartz veins hosted by diorite.

Feldspar porphyry and aplite dykes are also mineralized. Cu-Pb-Zn mineralization is reported in a quartz vein south of the Cu-Mo showing.

Economic Features

Assays not reported.

History

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

1964-1965: Noranda Exploration Co. Ltd.; prospecting, silt sampling.

5.0 1985 EXPLORATION PROGRAM

Work carried out by MPH Consulting Limited in February 1985 on the Port/Starboard Group was confined to the northeastern corner of the Starboard claim and the southwestern corner of the Port claim due to poor accessibility caused by heavy snow cover of 1-2 m depth. The northwestern corner of the Port claim was also visited, but no outcrops could be located under the snow. A total of 19 rock samples was collected and analyzed for Au by atomic absorption and by 30-element ICP. Six of the rock samples were selected for whole rock analysis. Whole rock analyses were evaluated by computer.

Attempts were made to collect silt samples from the streams draining the property, but the steep gradient of the streams and the deep snow prevented effective sampling. Only 1 very coarse sandy sample was obtained. It was analyzed by atomic absorption for Au and by 30-element ICP.

A geological map was compiled from field observations, GSC mapping, and whole rock analysis results.

5.1 Geology (Figure 5)

The Port/Starboard Group is mapped by Muller (1977) as being underlain by a succession of Sicker Group Buttle Lake Formation rocks, Karmutsen Formation mafic volcanics, Quatsino Formation limestone, and Bonanza Group volcanics intruded by a tongue of a large body of Island Intrusions granodiorite in the southwest corner of the group.

Mapping by MPH Consulting Limited in the southwest corner of the group confirms Muller's mapping. Most of the outcrops examined were of tonalite or diorite. Lesser amounts of altered andesitic rocks were also located. Andesitic rocks generally have a "dioritized" appearance and intrusives commonly are mafic-rich. It appears that this area represents a contact zone between Bonanza volcanics and Island Intrusions, with xenoliths or rafts of slightly to highly altered volcanics in a mass of altered intrusives. Pale green to pale bluish grey quartz-epidote stringers to veins are fairly common in both intrusives and volcanics. Quartz veinlets often crosscut the quartz-epidote veins. Very minor amounts of disseminated pyrite occur in both rock types. Two outcrops of a very distinctive coarse-grained hornblende diorite containing 35-45% hornblende crystals up to 1 cm long and up to 1% disseminated pyrite ± pyrrhotite in irregular masses to 6 mm were located in the southwesternmost corner.

Mapping in the northeast corner of the group located mainly Buttle Lake Formation rocks. Medium grey, buff weathering massive to fairly thick bedded limestone is found along Roads M3 and M4. Numerous quartz stringers to 4 mm wide run perpendicular to bedding. On the Museum Creek Road in Rift Creek valley the limestone is black to dark grey (argillaceous) and contains 10% or less interbedded black chert and cherty argillite. Limestone occurs in beds 5-40 cm thick while chert occurs in layers to 8 cm. One 2 m thick layer of cherty argillite was also observed. Cherty layers weather rusty and contain local minor disseminated pyrite.

A sinkhole about 12-15 m in diameter was observed south of the end of Road M3. Mapping by House and Sawyer (1984) indicates that a layer of felsic volcanics overlies the Buttle Lake limestone to the southeast of the property. The upper contact of the

Buttle Lake limestone is therefore similar to that at the Villalta property, where weathered massive sulphides up to 46 feet thick grading 0.1-0.2 oz Au/ton occur at the top of the Buttle Lake limestone in a paleokarst topography overlain by rhyolite tuff.

A traverse up a streambed about 400 m south of the end of Road M3 located interbedded limestone, maroon argillite, and quartzite believed to also belong to the Buttle Lake Formation.

The contact with overlying Karmutsen Formation volcanics is believed to be located at about 720 m elevation in the creekbed. There was too much snow to get into the creekbed to examine the contact. Two outcrops of dark green, fine-grained andesitic volcanics were located north of the creek. On the basis of their stratigraphic position, their elevated Cu content, and whole rock classification as tholeiitic basalts, they are believed to belong to the Karmutsen Formation.

5.2 Lithogeochemistry

Results from all samples were low. All of the Au results were 10 ppb. All but 1 of the Ag results were 0.1 ppm; sample 9102 ran 0.7 ppm Ag. Results for Cu ranged from 4 to 217 ppm, for Pb from 2 to 15 ppm, and for Zn from 17 to 99 ppm. The two highest Cu results came from Karmutsen Formation rocks, which are known to have a high Cu background. Samples PS-1, PS-2, and PS-3 are each anomalous in U and Sr. Sample PS-3 is also somewhat anomalous in Mo, Ni, Mn, Th, and P. Samples 9101 and 9102 are anomalous in As. Rock sample descriptions and Ag, Cu, Pb, and Zn results are tabulated in Appendix II. ICP results are included in Appendix III.

5.3 Whole Rock Geochemistry

Six of the rock samples were selected for whole rock oxide analysis. The results were processed by computer. The computer program assigns rock names to the samples using 4 different classification systems and evaluates the geochemical factors that may indicate presence of alteration associated with volcanogenic base metal and/or gold mineralization. Whole rock analyses are included in Appendix III and computer evaluations are included in Appendix IV.

Samples PS-5 and PS-6 are classified as tholeiitic basalts, which tends to confirm that they belong to the Karmutsen Formation. The anomalous MgO residuals are believed to be spurious and to be due to the low SiO_2 values as the actual "anomalous" limits are a function of SiO_2 and TiO_2 combined.

The other 4 samples show wide variation in rock classifications from tholeiitic and calc-alkaline basalt and andesite to dacite. The fact that they occur as rafts or xenoliths in intrusive rocks and are extensively "dioritized" is probably responsible for such wide variations.

None of the samples contain anomalous gold-related geochemical factors. Only sample PSBH-D is weakly anomalous with respect to base metal-related geochemical factors.

6.0 RECOMMENDED WORK PROGRAM

6.1 Plan

The Port/Starboard Group is underlain by rocks of the Buttle Lake Formation, Karmutsen and Quatsino Formations, Bonanza Group, and Island Intrusions. Various types of mineralization occur in these rock types on nearby properties including: gold-bearing weathered massive sulphides at Villalta; copper (-gold-silver) mineralization in quartz veins on the Cup claim; and gold in quartz veins at the 3W and Corrigan Creek Mines. Apart from government regional geological mapping and silt sampling by Gunnex Ltd. in the 1960's little or no work has been carried out on the Port/Starboard Group.

Phase I, therefore, will consist of geological mapping, rock sampling, and prospecting over the entire property. Mapping will serve to confirm or correct the regional mapping and to delineate any favourable horizons or structures. Prospecting and rock sampling will locate showings and/or alteration zones surrounding mineralized zones. All rock samples will be lithogeochemically analyzed while volcanics will also be analyzed by whole rock methods for use in a computer program designed to aid in naming rock types and to locate alteration patterns indicative of volcanogenic massive sulphide mineralization.

If warranted by the results of Phase I, Phase II follow-up work will consist of detailed geological mapping and sampling, soil sampling, and VLF-EM and magnetometer surveys on flagged grids over target areas outlined by Phase I. Grid lines will be 100 m apart with soil samples and geophysical readings taken at 25 m intervals along the lines. Geophysical surveys will be used to outline mineralized zones and may also aid in locating structures such as faults.

Phase III work, contingent upon favourable results of Phase II, will consist of detailed IP surveys and trenching, rock sampling, and geological mapping over anomalous grid areas, followed by diamond drilling.

The following detailed cost estimates are for Phase I and Phase II geological, geochemical, and geophysical work. The cost estimate for Phase II does not include any provision for helicopter support, which may be necessary if a grid were to be established in an area of the property not accessible by foot. If helicopter support is necessary the cost of Phase II would increase by roughly $5,000. A rough cost estimate for Phase III is also provided; the detailed Phase III budget and schedule will be contingent upon the results of Phases I and II.

6.2 Budget

Phase I

Mobilization/Demobilization		$ 500
Personnel		
Geologist 12 days @ $325	$ 3,900	
Assistants/Prospectors (2) 12 days @ $250	6,000	9,900
Support Costs		
Camp Costs 36 man days @ $40	$ 1,440	
4WD Truck 12 days @ $90	1,080	
Communications 12 days @ $25	300	
Helicopter 4 hours @ $400	1,600	
Miscellaneous Supplies	250	4,670

Analyses		
120 Rocks (Au, Ag, Ba, ICP) @ $17.40	$ 2,088	
30 Rocks (Whole Rock) @ $32.00	960	3,048
Consulting/Supervision		
3 days @ $450	$ 1,350	
Expenses	300	1,650
Report Writing		
Geologist 5 days @ $325	$ 1,625	
Drafting 40 hours @ $18	720	
Materials	500	2,845
		22,613
Administration @ 15% (on $9,738)		1,461
		24,074
Contingency @ 15%		3,611
	Total, say	$ 27,500

Phase II

Mobilization/Demobilization		$ 750
Personnel		
Geologist 18 days @ $325	$ 5,850	
Soil Samplers/Geophysical Technicians (3) 18 days @ $200	10,800	16,650

Support Costs		
Camp Costs 72 man days @ $40	$ 2,880	
4WD Truck 18 days @ $90	1,620	
Communications 18 days @ $25	450	
Miscellaneous Supplies	500	5,450
Equipment Rental		
Magnetometer 18 days @ $75	$ 1,350	
VLF-EM Receiver 18 days @ $25	450	1,800
Analyses		
600 Soil Samples (Au, Ag, Cu, Pb, Zn) @ $8.30	$ 4,980	
80 Rocks (Au, Ag, Ba, ICP) @ $17.35	1,388	
25 Rocks (Whole Rock) @ $32.00	800	7,168
Consulting/Supervision		
5 days @ $450	$ 2,250	
Expenses	500	2,750
Report Writing		
Geologist 10 days @ $325	$ 3,250	
Geophysicist 2 days @ $450	900	
Drafting 70 hours @ $18	1,260	
Materials	1,000	6,410
		40,978
Administration @ 15% (on $16,128)		2,419
		43,397
Contingency @ 15%		6,510
	Total, say	$ 50,000

Phase III

IP Survey 7 days @ $2,000 (includes linecutting, camp, report)		$ 14,000
Trenching (including drill, powder, assaying samples, geological mapping)		10,000
Diamond drilling 500 m @ $165 (including camp, geologist, assaying samples, helicopter support, report)		82,500
		106,500
Administration @ 15% (on, say, $85,000)		12,750
		119,250
Contingency @ 10%		11,925
	Total, say	$131,000

6.3 Schedule

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

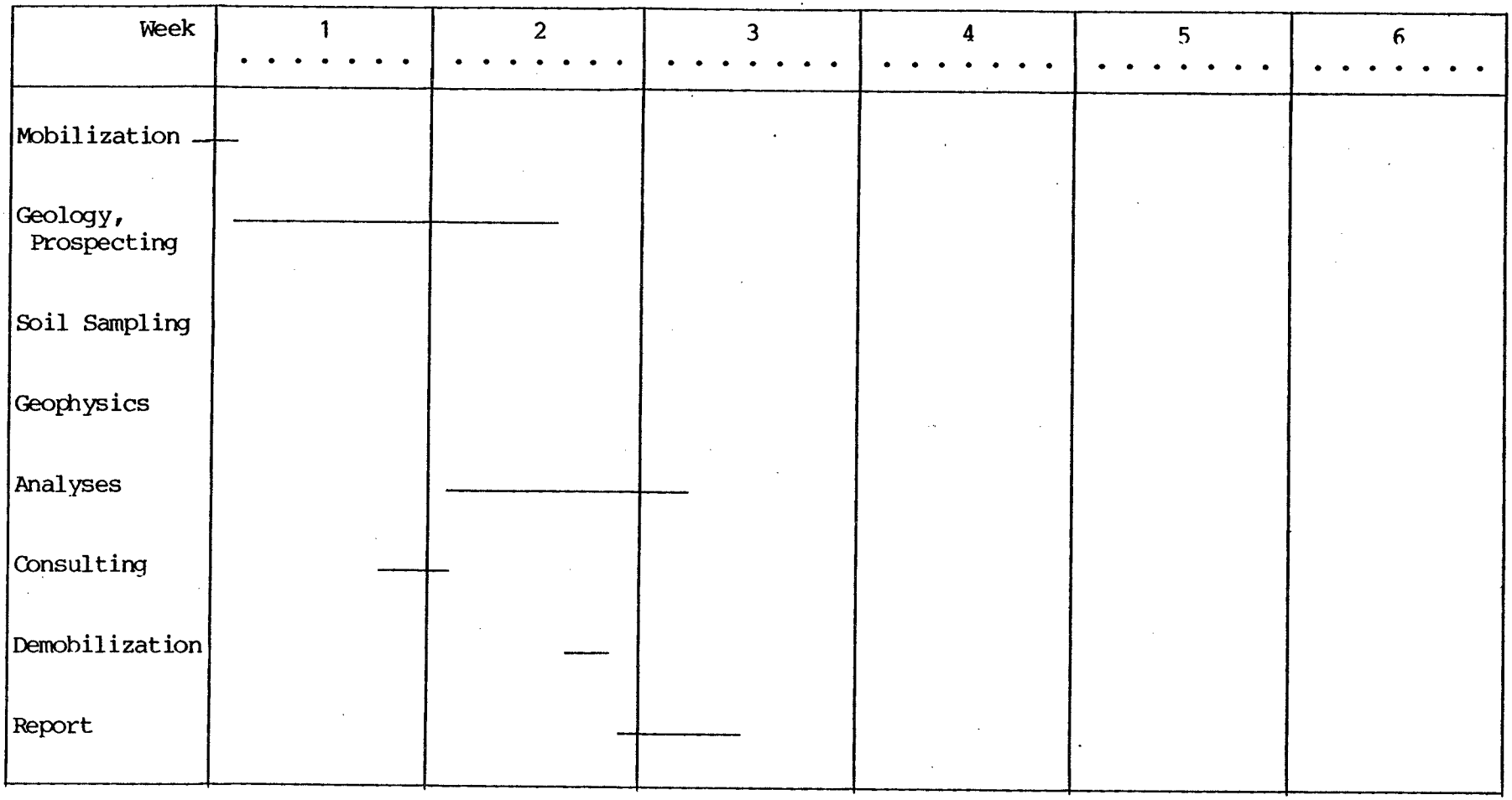

TABLE 1

PHASE I PROJECT SCHEDULE
PORT/STARBOARD GROUP

Week	1	2	3	4	5	6
Mobilization	—					
Geology, Prospecting	—	—	—			
Soil Sampling	—	—	—			
Geophysics	—	—	—			
Analyses		—	—	—		
Consulting	—	—				
Demobilization			—			
Report			—	—	—	

TABLE 2

PHASE II PROJECT SCHEDULE
PORT/STARBOARD GROUP

7.0 CONCLUSIONS

1. The Port/Starboard Group is underlain by a sequence of Pennsylvanian to Jurassic sediments, volcanics, and intrusives of the Buttle Lake Formation, Karmutsen and Quatsino Formations, Bonanza Group, and Island Intrusions.

2. The very limited amount of rock sampling carried out by MPH Consulting Limited did not locate any anomalies.

3. Island Intrusions rocks host Au-quartz veins at the 3W and Corrigan Creek Mines immediately to the southwest of the Port/Starboard Group, while Cu (-Au-Ag) mineralization occurs in Karmutsen volcanics on the Cup claim, within the Port/Starboard Group claim boundaries.

4. A sinkhole in Buttle Lake Formation and the existence of felsic volcanics overlying the Buttle Lake limestone to the southeast highlights the possibility of locating massive sulphide mineralization similar to that on the Villalta property.

5. The Port/Starboard Group lies in an area demonstrated to contain various types of mineralization. Anomalous THM results obtained by Gunnex Ltd. in 1963-66 in silt samples from streams draining the property were not followed up. The property warrants further exploration including geological mapping and sampling, follow-up grid geochemistry, geophysics, and geology, and eventually trenching, detailed geophysics and geology, and diamond drilling.

6. Base metal rights to most of the Port/Starboard Group are held by Imperial Metals Corp.

8.0 RECOMMENDATIONS

1. It is recommended that before any work is initiated, Imperial Metals Corp./Fording Coal Ltd. be approached with respect to base metal rights.

2. It is recommended that the primary exploration targets be Au-bearing quartz veins in Island Intrusions rocks, Villalta-style massive sulphides at the top of the Buttle Lake Formation, and Karmutsen Formation-hosted Cu (-Au-Ag) mineralization similar to the Cup claim.

3. Phase I work is recommended to consist of geological mapping, rock sampling, and prospecting covering the entire property at an estimated cost of $27,500.

4. Whole rock geochemical analyses on volcanic rocks are recommended as a means of locating alteration patterns surrounding mineralized zones.

5. Phase II follow-up grid geological mapping and sampling, soil sampling, and VLF-EM and magnetometer surveys over target areas located by Phase I is recommended at an estimated cost of $50,000 if Phase I results warrant further exploration.

6. If justified by Phase II results, Phase III is recommended to consist of detailed geological mapping, trenching and sampling, and IP surveying over anomalous grid areas followed by diamond drilling at an estimated cost of $131,000.

Respectfully submitted,
MPH Consulting Limited

T. Neale, B.Sc.

T.G. Hawkins, P.Geol.

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

May 21, 1985

CERTIFICATE

I, T. Neale, do hereby certify:

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

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

3. That the opinions, conclusions, and recommendations contained herein are based on field work carried out on the claim in February, 1985 and on library research work.

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

T. Neale, B.Sc.

Vancouver, B.C.
May 21, 1985

REFERENCES

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

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

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

House, G.D. and J.P.B. Sawyer. 1984. Report on Property Exploration Programs in the Mt. McQuillan-Mt. Spencer Area, Victoria and Alberni Mining Divisions, Vancouver Island, B.C.; for Lode Resource Corporation, May 31, 1984.

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

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

Walker, R.R. 1983. Ore Deposits at the Myra Falls Minesite; Western Miner, May, 1983, pp. 22-25.

APPENDIX I

List of Personnel

and

Statement of Expenditures

List of Personnel
and
Statement of Expenditures

The following expenses have been incurred on the Port/Starboard Group of claims as defined in this report for the purposes of mineral exploration on the dates of February 16, 24, and 25, 1985.

Personnel		
T. Neale, B.Sc. Geologist 5.75 days @ $325	$1,868.75	
W.G. Hoiles Assistant 4 days @ $250	1,000.00	
S. Angus Assistant 2 hours @ $25	50.00	
T.G. Hawkins, P.Geol. 2 hours @ $80	160.00	$3,078.75
Equipment Rental		
Truck 3.5 days @ $68		238.00
Snowmobiles 3.5 days @ $82 (x2)		574.00
Expenditures		
Meals and Accommodation	223.68	
Transportation (gas, ferries)	80.58	
Supplies	20.40	
Analyses 16 @ $11.85 (Au, ICP)	189.60	
6 @ $20 (whole rock)	120.00	
4 @ $11.95 (Au, ICP)	47.80	
Report Costs (drafting, typing, copying)	462.70	
Miscellaneous (phone)	6.44	
	1,151.20	
Administration @ 15%	172.68	1,323.88
		$5,214.63

BK 365
BK 366
BK 367
BK 368
BK 1034
BK 1082
BK 1317
Mount Spencer
1460
BK 825
BK 404
BK 443
Mount Olsen
BK 111
TREE FARM LICENCE 20
Rifle
Creek
BERNI LAND DISTRICT
Aplitic dyke
9101
9102
PS-6
PS-5
PS-4
PS-2,3
PS-1
Sinkhole
Dacite float
Cu
Mafic-rich tonalite
Silt-002
PST-3
PSBH-B
PST-4,5
PST-2
PSBH-C
tonalite
PST-1
PST-6
hornblende diorite
PSBH-D,E
PSBH-A
1200
800
600
1000
280

LEGEND

GEOLOGY (modified from GSC Open File 463)

LOWER TO MIDDLE JURASSIC

8 — Island Intrusions: granodiorite, quartz diorite.

LOWER JURASSIC

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

MIDDLE ? AND UPPER TRIASSIC
Vancouver Group

6 — Quatsino Formation: limestone.

5 — Karmutsen Formation: pillow basalt, breccia, tuff; minor flows.

4 — Felsic tuffs and/or volcanics.

Sicker Group
PENNSYLVANIAN AND PERMIAN

3 — Buttle Lake Formation: limestone, chert, greywacke, argillite.

LOWER DEVONIAN AND OLDER

2 — Myra Formation: well-bedded felsic tuff and breccia, argillite, rhyodacite in flows and sills, minor basic tuff, quartz-sericite schist, phyllite, massive sulphides.

1 — Nitinat Formation: pillow lava and breccia of augite (uralite) porphyry, basic tuff, minor chlorite-actinolite schist.

SYMBOLS

- Claim boundaries
- M 1 — Logging roads with MacMillan Bloedel number
- Abandoned railway line
- Geological contact approximate
- Fault, approximate, assumed
- Approximate area of outcrop
- X PS-1 — Rock sample location and number
- Bedding, foliation

GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,672

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

To accompany Report by T.E. Gregory Hawkins, P.Geol. dated 21/05/85

LODE RESOURCE CORPORATION

PROPERTY PLAN, GEOLOGY, AND ROCK SAMPLING

PORT / STARBOARD GROUP

ALBERNI MINING DIVISION

Project No:	V 195	By:	T.N.
Scale:	1:10000	Drawn:	J.S.
Drawing No:	5	Date:	MAY, 1985.

MPH Consulting Limited

APPENDIX II

Rock Sample Descriptions
and
Lithogeochemistry Results

Rock Sample Descriptions and Lithogeochemistry Results

Sample No.	Claim	Description	Ag	Cu	Pb	Zn
9101	S	Cherty Argillite: black, hard; abundant rust stain; also some extremely weathered sandstone or tuff - very light in weight. Argillite is cut by orange-rust weathering, extremely weathered quartz (?) veinlets to 2 mm. Argillite is riddled with vesicle-like holes to 3 mm.	0.1	12	4	46
9102	S	Cherty Argillite: black, soft to hard; moderate rusty stain, minor disseminated fine pyrite. Argillite occurs interbedded in Buttle Lake limestone in layers to 8 cm.	0.7	25	15	57
PS-1	S	Maroon Argillite: dull purple-maroon; medium to hard; possibly weakly carbonatized; cut by quartz-CO_3 veins to 4 mm; fine-grained; slight phyllitic sheen in one spot.	0.1	4	5	52
PS-2	S	Quartzite: light grey; cut by abundant rusty stringers <1 mm of quartz-CO_3; minor disseminated pyrite in very fine grains; very fine-grained, nearly cherty. Occurs in layers or lenses to 6 cm thick in quartz-rich limestone and maroon chert.	0.1	34	5	26
PS-3	S	Maroon Argillite: similar to PS-1; some areas with very abundant chlorite (?) flakes growing (?) throughout the rock; somewhat limey; quite dense, heavy; cut by numerous quartz-CO_3 veinlets to 1 cm with occasional very minor pyrite.	0.1	13	9	38

Sample No.	Claim	Description	Ag	Cu	Pb	Zn
PS-4	S	Quartzite: pale greenish grey; rusty patches and fracture surfaces represent weathered quartz-CO_3 (siderite?) veinlets; hard; fine-grained; cut by abundant hairline rusty quartz-CO_3 stringers; some areas look a bit cherty.	0.1	4	2	17
PS-5	S	Andesite/Dacite: dark green, hard, fine-grained; heavily fractured; goethite stained; mildly carbonatized.	0.1	217	4	99
PS-6	S	Andesite: very fine-grained, soft, medium grey; CO_3 films on fracture surfaces; cut by quartz-CO_3 veinlets to 4 mm, chlorite stringers to 1 mm. No pyrite noted.	0.1	173	5	98
PSBH-A	P	Andesite: medium hard (silicification?), dense; dark grey fine-grained matrix with 10-20% dark green to black amphibole phenocrysts to 5 mm; weakly to moderately magnetic; no HCl reaction. Some areas (veins? agglomerate clasts?) of light olive green epidote-rich quartz-feldspar containing bladed crystals to 4 mm long by 1 mm wide. No pyrite noted.	0.1	57	6	88
PSBH-B	P	Diorite: fine-grained, occasional biotite flakes up to 5 mm long; 35-40% mafics, 50% plagioclase, 10-15% quartz. No pyrite noted.	0.1	14	6	54
PSBH-C	P	Diorite: medium-grained; 45% mafics, 50% plagioclase, 5% quartz. No pyrite noted. Occasional quartz stringers to 2 mm.	0.1	8	3	35

Sample No.	Claim	Description	Ag	Cu	Pb	Zn
PSBH-D	P	Andesite: very fine-grained, medium hard, dark green; shot through with abundant quartz stringers from 0.1-1.0 mm mainly subparallel one another; abundant black stain on fracture surfaces, minor rust stain; very minor disseminated pyrite; non-magnetic.	0.1	34	2	37
PSBH-E	P	Quartz Vein: one of several cutting PSBH-D. Pale greenish to bluish grey colour; heavily fractured - fractures resealed with quartz stringers; no pyrite noted.	0.1	6	2	22
PST-1	P	Tonalite: fine-grained; 10% quartz, 65-75% plagioclase, 15-25% mafics; mildly chloritized; local abundant disseminated fine rust specks to 3%, minor rusty patches on weathered surfaces.	0.1	9	5	58
PST-2	P	Andesite: very fine-grained, medium hard, dark green; occasional quartz stringers to 1 mm; some areas appear to be somewhat "dioritized" - quartz/feldspar blobs to 1 mm in an intrusive-textured groundmass. Very minor disseminated pyrite.	0.1	13	3	41
PST-3	P	Tonalite: medium-grained; 25% mafics, 65% plagioclase, 10% quartz; pale green quartz-epidote (-CO_3) veins to 4 mm fairly abundant; irregular patches of flaky pyrite up to 1 x 2 cm on fracture surfaces, minor rusty patches on outcrop surface.	0.1	34	7	37
PST-4	P	Quartz Vein: pale bluish grey, cut by fairly abundant quartz stringers <0.5 mm; no pyrite noted.	0.1	13	2	27

Sample No.	Claim	Description	Ag	Cu	Pb	Zn
PST-5	P	Dioritized Andesite: dark green, medium hard; vague intrusive texture with mafic and felsic "phenocrysts" visible on wet surface; cut by numerous pale green quartz-epidote stringers to 1 mm generally subparallel one another and occasional quartz stringers at right angles. No pyrite noted.	0.1	9	6	45
PST-6	P	Hornblende Diorite: fairly coarse-grained; 55% mafics (mainly hornblende, lesser biotite), 40-45% plagioclase, 0-5% quartz; abundant large hornblende crystals up to 1 cm long; 1% or less disseminated pyrite ± pyrrhotite in grains and irregular clumps to 6 mm long.	0.1	31	6	52
Silt Sample 002	P		0.1	42	9	79

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.
301-409 GRANVILLE STREET
VANCOUVER, B.C.

PROJECT: V 195
TYPE OF ANALYSIS: GEOCHEMICAL

CERTIFICATE#: 85041
INVOICE#: 5154
DATE ENTERED: MAR.20, 1985
FILE NAME: MPH85041
PAGE # : 1

PREFIX	SAMPLE NAME	PPB Au
T	9101	10
T	9102	10
T	PS -5	10
T	PS -6	10
T	PSBH-A	10
T	PSBH-B	10
T	PSBH-C	10
T	PSBH-D	10
T	PSBH-E	10
T	PST -1	10
T	PST -2	10
T	PST -3	10
T	PST -4	10
T	PST -5	10
T	PST -6	10
L	002	10

CERTIFIED BY : T. Rossbacher

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

CERTIFICATE OF ANALYSIS

TO : MPH CONSULTING LTD.
301-409 GRANVILLE STREET
VANCOUVER, B.C.

PROJECT: V 195
TYPE OF ANALYSIS: GEOCHEMICAL

CERTIFICATE#: 85067
INVOICE#: 5177
DATE ENTERED: APRIL 15, 1985
FILE NAME: MPH85067
PAGE # : 1

RE IX	SAMPLE NAME	PPB Au
T	PS-1	10
T	PS-2	10
T	PS-3	10
T	PS-4	10

CERTIFIED BY : J. Rossbacher

ACME ANALYTICAL LABORATORIES LTD. 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 3-1-3 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.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: SOLUTION

DATE RECEIVED: MAR 1985 DATE REPORT MAILED: Mar 21/85 ASSAYER. D. Toye .DEAN TOYE OR TOM SAUNDRY. CERTIFIED B.C. ASSAYER

ROSSBACHER LABORATORY PROJECT - V195 85-041 FILE # 85-0270

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
9101	1	12	4	46	.1	19	3	238	.92	12	5	ND	2	3	1	2	2	10	.12	.06	9	53	.46	12	.01	2	.51	.01	.05	3
9102	1	25	15	57	.7	38	6	73	1.60	45	5	ND	2	13	1	4	2	7	.63	.05	5	30	.32	32	.01	2	.56	.02	.12	1
PS-5	2	217	4	99	.1	69	25	956	6.95	4	5	ND	4	26	1	2	2	163	1.32	.09	7	69	2.70	18	.29	2	3.26	.08	.01	1
PS-6	2	173	5	98	.1	70	23	954	6.42	2	5	ND	4	37	1	2	2	181	3.13	.07	6	90	2.71	12	.26	3	3.11	.07	.01	1
PSBH-A	1	57	6	88	.1	27	25	730	5.08	2	5	ND	5	128	1	2	2	98	1.40	.20	9	27	1.36	29	.10	3	2.14	.14	.04	1
PSBH-B	1	14	6	54	.1	10	9	460	3.10	2	5	ND	3	36	1	2	2	70	1.15	.09	2	17	1.20	56	.08	2	2.06	.10	.05	1
PSBH-C	1	8	3	35	.1	11	6	337	2.91	2	5	ND	3	74	1	2	2	88	1.34	.06	2	24	1.05	62	.06	2	2.44	.20	.05	1
PSBH-D	1	34	2	37	.1	30	8	434	2.27	2	5	ND	2	22	1	2	2	50	.74	.07	2	27	.96	31	.12	2	1.24	.08	.02	1
PSBH-E	1	6	2	22	.1	10	3	115	.87	2	5	ND	6	39	1	2	2	10	.46	.02	4	57	.28	160	.05	14	.70	.06	.02	1
PST-1	1	9	5	58	.1	9	8	562	3.41	2	5	ND	4	26	1	2	2	34	.53	.11	3	25	1.34	94	.09	2	1.85	.03	.03	1
PST-2	1	13	3	41	.1	12	11	472	3.64	3	5	ND	2	57	1	2	2	79	.89	.11	4	16	1.39	24	.07	2	2.28	.13	.02	1
PST-3	1	34	7	37	.1	9	8	378	3.26	3	5	ND	4	49	1	2	2	71	1.19	.12	6	22	1.27	102	.07	2	2.03	.12	.03	4
PST-4	1	13	2	27	.1	7	4	233	1.01	2	5	ND	6	18	1	2	2	8	.32	.03	5	43	.30	86	.04	2	.75	.06	.08	1
PST-5	1	9	6	45	.1	11	9	529	4.08	2	5	ND	4	63	1	2	2	98	2.26	.10	3	21	1.61	61	.08	2	2.93	.16	.05	1
PST-6	1	31	6	52	.1	12	14	453	3.50	4	5	ND	3	69	1	2	2	106	1.42	.08	2	24	1.28	80	.10	2	2.79	.15	.03	1
002	1	42	9	79	.1	29	19	932	4.24	4	5	ND	3	22	1	2	2	83	.56	.08	3	51	1.73	53	.08	2	2.32	.02	.02	1
STD-C(Client)	17	181	75	123	.4	56	8	185	1.10	9	5	ND	3	19	1	2	4	13	.39	.03	5	128	.38	82	.01	2	.22	.02	.04	6
STD C	20	60	40	132	7.4	70	27	1069	3.94	39	17	8	39	49	16	15	19	58	.48	.14	37	58	.88	177	.07	39	1.72	.06	.11	12

MPH

ACME ANALYTICAL LABORATORIES LTD. 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 3-1-3 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.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: PULP

DATE RECEIVED: APR 4 1985 DATE REPORT MAILED: Apr 8/85 ASSAYER: D. Toye DEAN TOYE OR TOM SAUNDRY, CERTIFIED B.C. ASSAYER

ROSSBACHER LAB. FILE # 85-0336 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
PS-1	2	4	5	52	.1	48	7	309	2.45	2	12	ND	3	89	1	2	2	21	8.53	.07	2	48	1.15	47	.01	3	.62	.03	.06	3
PS-2	2	34	5	26	.1	11	3	607	1.52	2	20	ND	3	129	1	2	2	21	9.58	.04	6	50	2.98	48	.01	3	.40	.01	.07	2
PS-3	3	13	9	38	.1	98	18	906	3.81	2	18	ND	5	137	1	3	3	48	8.01	.32	9	71	3.09	81	.04	6	1.25	.03	.13	1
PS-4	1	4	2	17	.1	35	5	156	1.74	3	5	ND	1	7	1	2	2	16	.60	.02	2	197	.50	13	.01	2	.70	.01	.03	2
STD C	20	60	45	132	7.2	70	27	1131	3.93	40	13	7	35	49	17	15	22	58	.48	.15	36	68	.88	177	.07	40	1.73	.06	.16	11

RECEIVED

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

CERTIFICATE OF ANALYSIS

TO : MPH CONSULTING LTD.,
301-409 GRANVILLE ST.,
VANCOUVER, B.C.

PROJECT: V195
TYPE OF ANALYSIS: ASSAY

CERTIFICATE#: 85068
INVOICE#: 5179
DATE ENTERED: 85-05-16
FILE NAME: MPH85068
PAGE # : 1

PREFIX	SAMPLE NAME	% SiO2	% Al2O3	% MgO	% Fe2O3	% CaO	% K2O	% Na2O	% TiO2	% MnO
A	PS-5	50.0	16.0	6.7	13.1	7.7	0.2	2.4	2.6	0.2
A	PS-6	51.0	14.5	5.6	11.4	8.2	0.1	2.0	2.2	0.2
A	PST-2	54.0	19.2	4.4	9.0	8.0	0.4	3.3	0.9	0.1
A	PST-5	52.0	18.6	5.2	9.2	8.4	0.7	2.7	0.9	0.1
A	PSBH-A	48.0	16.8	5.0	13.0	12.2	0.6	2.4	1.1	0.2
A	PSBH-D	51.0	14.2	6.7	12.8	9.6	0.4	2.9	1.8	0.2

CERTIFIED BY : _____

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PREFIX	SAMPLE NAME	% LOI
A	PS-5	4.7
A	PS-6	6.9
A	PST-2	2.3
A	PST-5	3.7
A	PSBH-A	2.4
A	PSBH-D	1.6

CERTIFIED BY : J. Rossbach

APPENDIX IV

Computer Evaluations of
Whole Rock Analyses

MPH

PS-5

JENSEN CLASSIFICATION: Tholeiitic Basalt

IRVINE/BARAGAR CLASSIFICATION: Tholeiitic Basalt Alkaline

SiO2 CLASSIFICATION: Basalt (48.26% SiO2)

TiO2 CLASSIFICATION: Basalt

---------- Volcanogenic base metals evaluation ----------

WARNING SiO2 content TOO LOW for accepted volcanogenic studies ***

Residuals:

MgO	K2O	CaO	Na2O	Fe2O3	SiO2	TAAS
.01	-.17	-1.97	-.75	.09	.09	40.58
********						

Discriminant Functions:

DF1	DF2	DF3	DF4	DF5
1.94	-2.18	-2.28	.86	-.76

---------- Volcanogenic Au Evaluation ----------

Na2O(R)	K2O(%)	Au	As	Per. Index	CO2/CaO
-.75	.19	5.00	4.00	1.43	.20 est

SS 0. RT 0. LATITUDE 0.00 DEPARTURE 0.00 COMMENTS

SiO2	Al2O3	Fe2O3	FeO	CaO	MgO	Na2O	K2O
48.26	15.44	12.64	0.00	7.43	6.47	2.32	.19
TiO2	MnO	P2O5	LOI	CO2	Cr2O3	Zr	Sr
2.51	.19	0.00	4.54	0.00	0.00	0.00	0.00
Rb	Ba	W	U	Th	Cu	Zn	Pb
0.00	0.00	0.00	5.00	4.00	217.00	99.00	4.00
Ni	Au	Ag	S	As	Sb	X	Y
69.00	5.00	.10	0.00	4.00	2.00	25.00	165.00

N.B.: ******** anomalous factor
N/A not available
est estimated

$ $
>>>>>>>>>>>>>>>>>>PS-6   <<<<<<<<<<<<<<<<<<
$ $

JENSEN CLASSIFICATION: Tholeiitic Basalt

IRVINE/BARAGAR CLASSIFICATION: Tholeiitic Basalt Alkaline

SiO2 CLASSIFICATION: Basalt (49.95% SiO2)

TiO2 CLASSIFICATION: Basalt

------------------------- Volcanogenic base metals Evaluation -------------------------

WARNING SiO2 content TOO LOW for accepted volcanogenic studies ***

Residuals:

MgO	K2O	CaO	Na2O	Fe2O3	SiO2	TAAS
-.44	-.34	-.77	-1.29	-.69	1.28	35.85
*******						

Discriminant Functions:

DF1	DF2	DF3	DF4	DF5
1.44	-3.26	-3.50	-.46	-1.70

------------------------------ Volcanogenic Au Evaluation ------------------------------

Na2O(R)	K2O(%)	Au	As	Fer. Index	CO2/CaO
-1.29	.10	5.00	2.00	1.34	.28
					EST

SS	RT	LATITUDE	DEPARTURE	COMMENTS
0.	0.	0.00	0.00	

SiO2	Al2O3	Fe2O3	FeO	CaO	MgO	Na2O	K2O
49.95	14.20	11.17	0.00	8.03	5.48	1.96	.10
TiO2	MnO	P2O5	LOI	CO2	Cr2O3	Zr	Sr
2.15	.20	0.00	6.76	0.00	0.00	0.00	0.00
Rb	Ba	W	U	Th	Cu	Zn	Pb
0.00	0.00	0.00	5.00	4.00	173.00	98.00	5.00
Ni	Au	Ag	S	As	Sb	X	Y
70.00	5.00	.10	0.00	2.00	2.00	23.00	181.00

N.B.: ******* anomalous factor
N/A not available
EST estimated

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>>>>>>>>>>>>>>>>>> FS6H-A <<<<<<<<<<<<<<<<<<
$ $

JENSEN CLASSIFICATION: Calc-Alkaline Basalt

IRVINE/BARAGAR CLASSIFICATION: Tholeiitic Basalt Alkaline

SiO2 CLASSIFICATION: Basalt (47.20% SiO2)

TiO2 CLASSIFICATION: Dacite

****

------------------------- Volcanogenic base-metals Evaluation -------------------------

WARNING SiO2 content TOO LOW for accepted volcanogenic studies ***

Residuals:

MgO	K2O	CaO	Na2O	Fe2O3	SiO2	TAAS
-1.88	.27	2.19	-.57	-.22	-.96	27.72

Discriminant Functions:

DF1	DF2	DF3	DF4	DF5
-1.82	-2.51	-2.59	-.45	-3.05

------------------------------ Volcanogenic Au Evaluation ------------------------------

Na2O(R)	K2O(%)	Au	As	Per. Index	CO2/CaO
-.57	.59	5.00	2.00	1.07	.07
					EST

SS	RT	LATITUDE	DEPARTURE	COMMENTS
0.	0.	0.00	0.00	

SiO2	Al2O3	Fe2O3	FeO	CaO	MgO	Na2O	K2O
47.20	16.52	12.78	0.00	12.00	4.92	2.36	.59
TiO2	MnO	P2O5	LOI	CO2	Cr2O3	Zr	Sr
1.08	.20	0.00	2.36	0.00	0.00	0.00	0.00
Rb	Ba	W	U	Th	Cu	Zn	Pb
0.00	0.00	0.00	5.00	5.00	57.00	88.00	6.00
Ni	Au	Ag	S	As	Sb	X	Y
27.00	5.00	.10	0.00	2.00	2.00	25.00	98.00

N.B.: ******* anomalous factor
N/A not available
EST estimated

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MPH

PSBH-D

JENSEN CLASSIFICATION: Tholeiitic Basalt

IRVINE/BARAGAR CLASSIFICATION: Tholeiitic Basalt Alkaline

SiO2 CLASSIFICATION: Basalt (50.40% SiO2)

TiO2 CLASSIFICATION: Basalt

Volcanogenic base metals Evaluation

WARNING SiO2 content TOO LOW for accepted volcanogenic studies ***

Residuals:

MgO	K2O	CaO	Na2O	Fe2O3	SiO2	TAAS
.84	-.06	.84	-.43	.57	1.44	36.22
********						

Discriminant Functions:

DF1	DF2	DF3	DF4	DF5
.08	-2.73	-2.73	1.65	.63

Volcanogenic Au Evaluation

Na2O(R)	K2O(%)	Au	As	Fer. Index	CO2/CaO
-.43	.40	5.00	2.00	1.02	.06 EST

SS	RT	LATITUDE	DEPARTURE	COMMENTS
0.	0.	0.00	0.00	

SiO2	Al2O3	Fe2O3	FeO	CaO	MgO	Na2O	K2O
50.40	14.03	12.65	0.00	9.49	6.62	2.87	.40
TiO2	MnO	P2O5	LOI	CO2	Cr2O3	Zr	Sr
1.78	.20	0.00	1.58	0.00	0.00	0.00	0.00
Rb	Ba	W	U	Th	Cu	Zn	Pb
0.00	0.00	0.00	5.00	2.00	34.00	37.00	2.00
Ni	Au	Ag	S	As	Sb	X	Y
30.00	5.00	.10	0.00	2.00	2.00	0.00	50.00

N.B.: ******* anomalous factor
N/A not available
EST estimated

MPH

$ $
>>>>>>>>>>>>>>>>>>PST-2 <<<<<<<<<<<<<<<<<<
$ $

JENSEN CLASSIFICATION: Calc-Alkaline Andesite

IRVINE/BARAGAR CLASSIFICATION: Calc-Alkaline Basalt Subalkaline

SiO2 CLASSIFICATION: Andesite (53.15% SiO2)

TiO2 CLASSIFICATION: Dacite

------------------------- Volcanogenic base metals Evaluation -------------------------

WARNING SiO2 content TOO LOW for accepted volcanogenic studies ***

Residuals:

MgO	K2O	CaO	Na2O	Fe2O3	SiO2	TAAS
-.65	-.17	.15	-.30	-1.72	-3.55	29.81

Discriminant Functions:

DF1	DF2	DF3	DF4	DF5
-1.01	-5.82	-5.86	-1.65	-2.50

------------------------------ Volcanogenic Au Evaluation ------------------------------

Na2O(R)	K2O(%)	Au	As	Fer. Index	CO2/CaO
-.30	.39	5.00	3.00	1.46	.10 EST

SS	RT	LATITUDE	DEPARTURE	COMMENTS			
0.	0.	0.00	0.00				
SiO2	Al2O3	Fe2O3	FeO	CaO	MgO	Na2O	K2O
53.15	18.90	8.86	0.00	7.87	4.33	3.25	.39
TiO2	MnO	P2O5	LOI	CO2	Cr2O3	Zr	Sr
.89	.10	0.00	2.26	0.00	0.00	0.00	0.00
Rb	Ba	W	U	Th	Cu	Zn	Pb
0.00	0.00	0.00	5.00	2.00	13.00	41.00	3.00
Ni	Au	Ag	S	As	Sb	X	Y
12.00	5.00	.10	0.00	3.00	2.00	11.00	79.00

N.B.: ******* anomalous factor
N/A not available
EST estimated

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>>>>>>>>>>>>>>>>>>>FST-5 <<<<<<<<<<<<<<<<<<
$$

JENSEN CLASSIFICATION: Calc-Alkaline Basalt

IRVINE/BARAGAR CLASSIFICATION: Calc-Alkaline Basalt Subalkaline

SiO2 CLASSIFICATION: Basalt (51.23% SiO2)

TiO2 CLASSIFICATION: Dacite

------------------------ Volcanogenic base metals Evaluation ------------------------

WARNING SiO2 content TOO LOW for accepted volcanogenic studies ***

Residuals:

MgO	K2O	CaO	Na2O	Fe2O3	SiO2	TAAS
-.41	.20	-.09	-.72	-2.27	-2.88	34.71

Discriminant Functions:

DF1	DF2	DF3	DF4	DF5
-.58	-6.00	-6.15	-2.32	-2.71

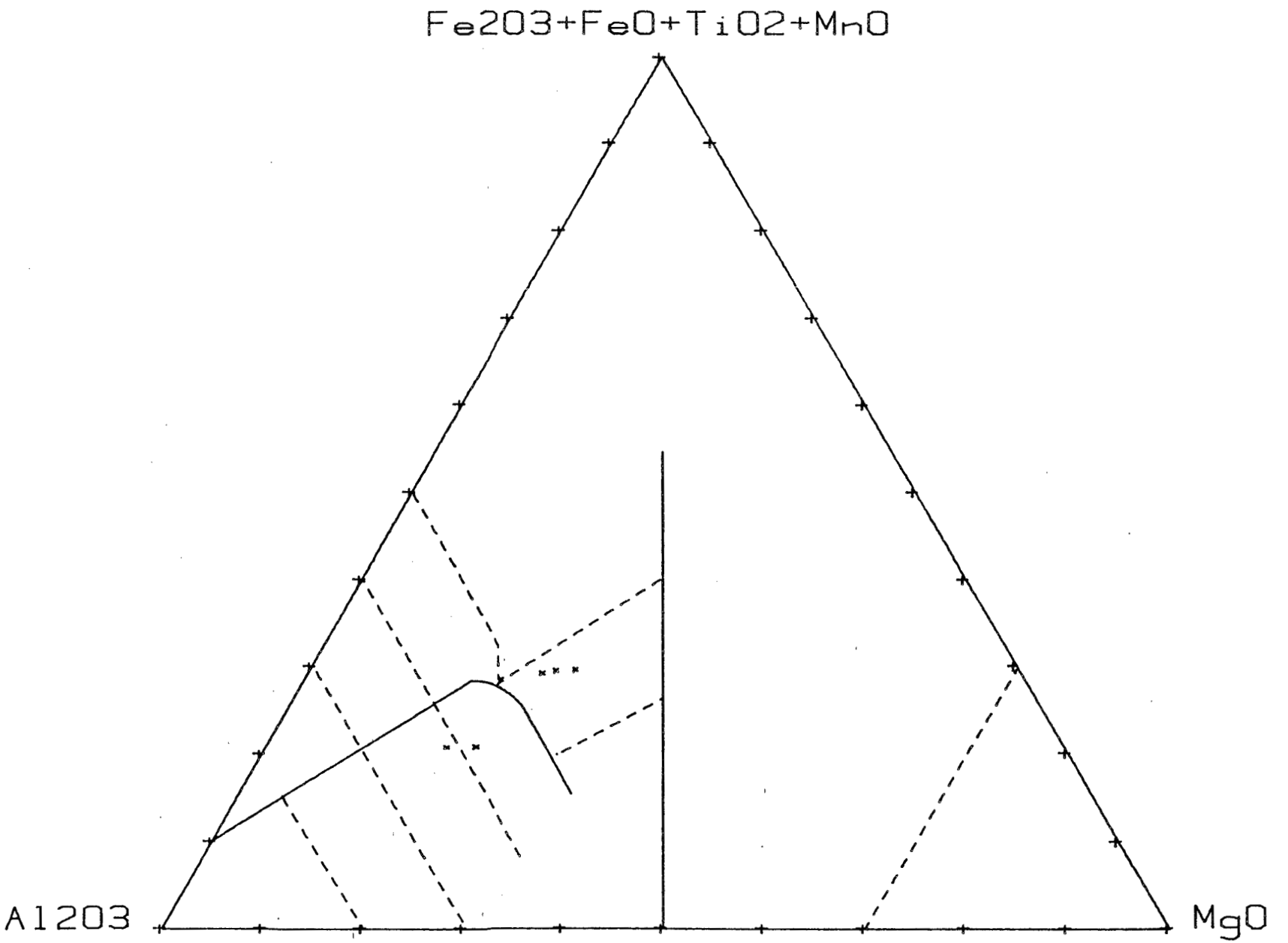
----------------------------- Volcanogenic Au Evaluation -----------------------------

Na2O(R)	K2O(%)	Au	As	Fer. index	CO2/CaO
-.72	.69	5.00	2.00	1.45	.15 EST

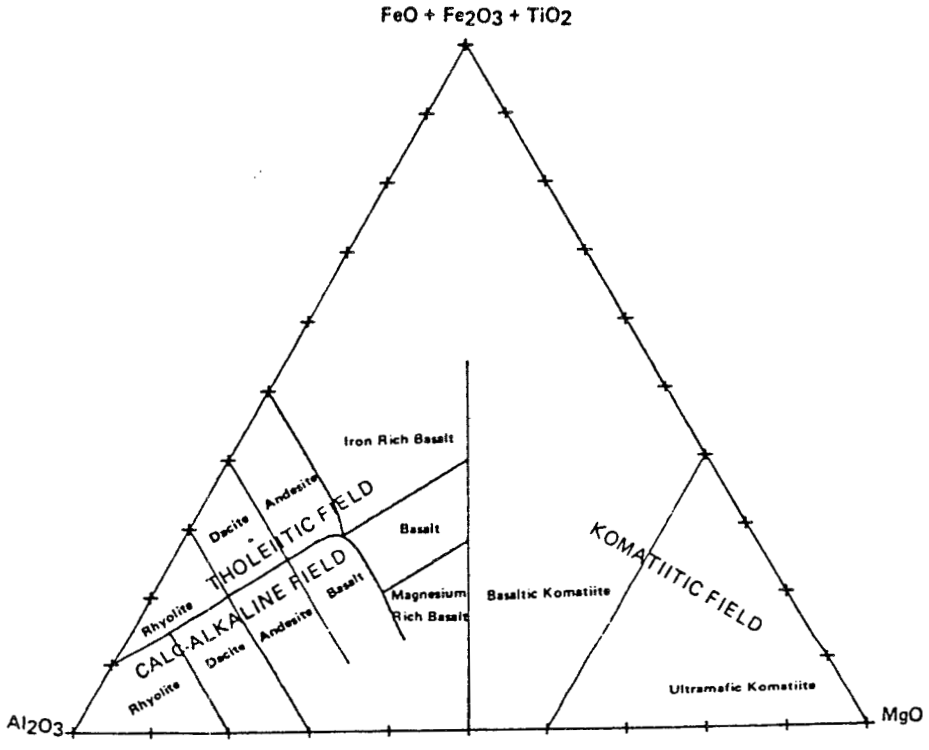
SS	RT	LATITUDE	DEPARTURE	COMMENTS
0.	0.	0.00	0.00	

SiO2	Al2O3	Fe2O3	FeO	CaO	MgO	Na2O	K2O
51.23	18.33	9.06	0.00	8.28	5.12	2.66	.69
TiO2	**MnO**	**P2O5**	**LOI**	**CO2**	**Cr2O3**	**Zr**	**Sr**
.89	.10	0.00	3.65	0.00	0.00	0.00	0.00
Rb	**Ba**	**W**	**U**	**Th**	**Cu**	**Zn**	**Pb**
0.00	0.00	0.00	5.00	4.00	9.00	45.00	6.00
Ni	**Au**	**Ag**	**S**	**As**	**Sb**	**X**	**Y**
11.00	5.00	.10	0.00	2.00	2.00	9.00	58.00

N.B.: ******* anomalous factor
N/A not available
EST estimated



JENSEN CATION PLOT



JENSEN CATION PLOT

APPENDIX V

Abbreviations Used in Mineral Occurrences References

ABBREVIATIONS USED IN MINERAL OCCURRENCES SECTION

AR	B.C. Ministry of Energy, Mines and Petroleum Resources Assessment Report
BCDM	British Columbia Department of Mines
Bull	Bulletin
Carson	Metallogenic Study of Vancouver Island with Emphasis on the Relationships of Mineral Deposits to Plutonic Rocks; D.J.T. Carson, Carleton University, Ph.D. Thesis, May, 1968
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
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