85-325 - 13670

MPH

2/86

RECONNAISSANCE GEOLOGICAL MAPPING
AND
ROCK SAMPLING
TAN CLAIM
VICTORIA MINING DIVISION
LATITUDE 49°05.7'N, LONGITUDE 124°34.5'W
NTS 92F/2
FOR
LODE RESOURCE CORPORATION
APRIL 30, 1985

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

SUMMARY

Exploration work consisting of reconnaissance geological mapping and rock sampling for geochemical and whole rock analysis was carried out on a portion of the Tan claim during February 1985. The work carried out represents partial completion of the work program recommended by House (1984).

Geological mapping outlined four rock types: tuff, agglomerate, flows, and cherty/argillaceous rocks. The volcanics were identified in the field as andesites, but whole rock geochemical analyses indicate that they are of basaltic composition. Lithogeochemical results were generally low, with all samples under 10 ppb Au; only 2 samples contained over 0.1 ppm Ag; Cu, Pb and Zn results range up to 114 ppm, 66 ppm, and 105 ppm, respectively. A source for the Au anomalies discovered by House (1984) was not located. Computer evaluation of whole rock analyses, however, indicates that alteration factors favourable for volcanogenic gold and/or base metal mineralization are widespread in the area sampled.

A 10-day Phase I program of geological mapping, rock sampling, and prospecting over the entire claim is recommended at an estimated cost of $18,300. Phase II work consisting of follow-up geological mapping, soil sampling, and VLF-EM and magnetometer surveys on grids established over target areas located during Phase I is recommended, contingent upon favourable Phase I results. The remainder of House's (1984) recommended soil and silt sampling is to be incorporated into Phase II. If warranted by Phase II results, a program of detailed IP and/or EM surveys, trenching, rock sampling and geological mapping over anomalous grid areas followed by diamond drilling is recommended.

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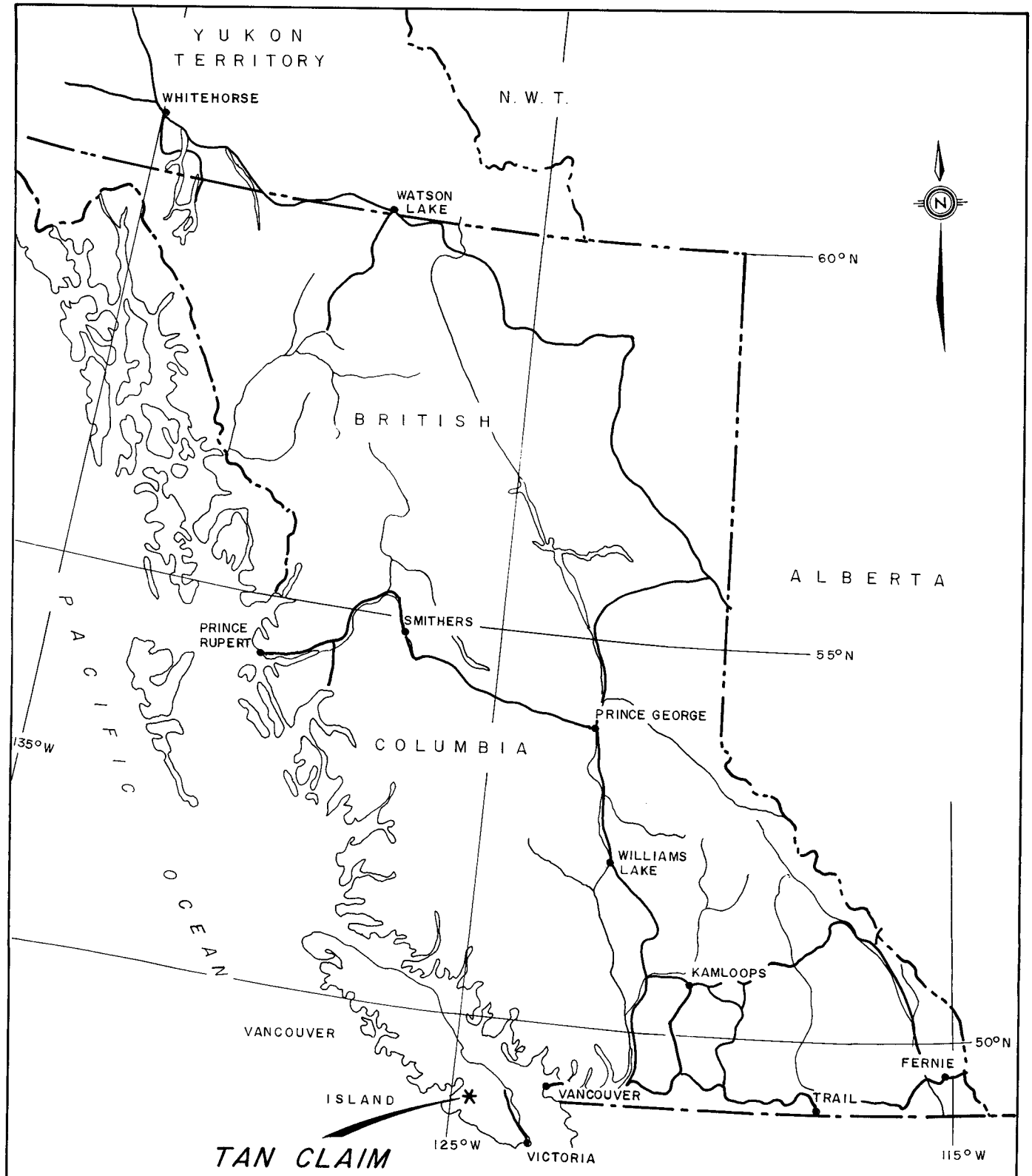

LODE RESOURCE CORPORATION

GENERAL LOCATION MAP
TAN CLAIM

VICTORIA MINING DIVISION

Project No:	V 194	By:	T. N.
Scale:	1 : 8 000 000	Drawn:	J. S.
Drawing No:	1	Date:	APR. 1985.

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1.0 INTRODUCTION

This report represents the compilation of geological fieldwork carried out by MPH Consulting Limited at the request of Lode Resource Corporation on the Tan claim on February 20 and 21, 1985.

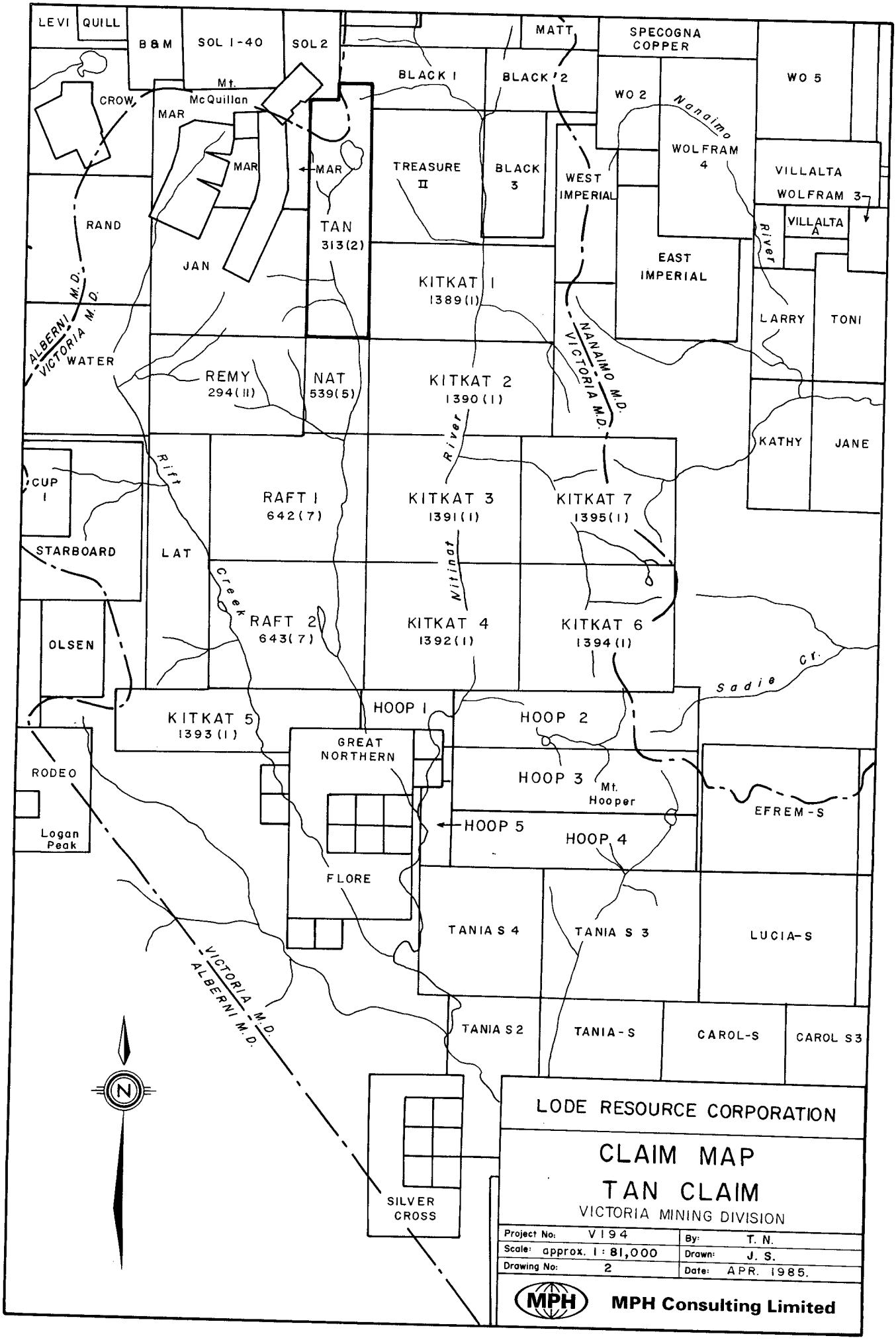
Work carried out to fulfill assessment work requirements included reconnaissance geological mapping and rock sampling for lithogeochemical analysis. The assessment work carried out represents partial completion of the work recommended by House (1984). Thick snow cover of up to 1 m or more severely limited outcrop exposure and made it impossible to carry out any soil sampling as recommended by House (1984).

2.0 LOCATION, ACCESS, TITLE

The Lode Resource Corporation Tan claim is located 24 km south-east of Port Alberni at the headwaters of the middle fork of the Nitinat River in the Victoria Mining Division of British Columbia. The claim is centred at 49°05.7'N latitude, 124°34.5'W longitude on NTS mapsheet 92F/2 (Figures 1 and 2).

Access to the claim is via the paved Nitinat Main Road of Crown Forest which may be reached from either Port Alberni or Youbou. Approximately 6.4 km north of the logging company gate, Road BR20 branches to the west, crossing the Nitinat River and follows the middle fork about 8 km north to the Tan claim. Several logging roads give good access to the southeastern part of the claim. The southwestern part has no roads and consists of steep talus slopes and cliffs. The northern half of the claim straddles the divide between China Creek and the middle fork of the Nitinat River. Access to the northern Tan claim is by helicopter or possibly by foot from the end of BR20.

The Tan claim is 16 units in size, has an anniversary date of February 25, 1986 and was registered in February, 1980. The record number is 313(2). The Tan claim is owned by Clive Ashworth and is optioned by Lode Resource Corporation from Nexus Resource Corporation.


LEVI
QUILL
B&M
SOL 1-40
SOL 2
MATT
SPECOGNA COPPER
BLACK 1
BLACK 2
WO 2
WO 5
Nanaimo
Mt. McQuillan
CROW
MAR
MAR
MAR
TREASURE II
BLACK 3
WEST IMPERIAL
WOLFRAM 4
VILLALTA WOLFRAM 3
VILLALTA A
River
RAND
TAN 313(2)
JAN
EAST IMPERIAL
KITKAT 1 1389(1)
M.D.
ALBERNI M.D.
VICTORIA M.D.
WATER
LARRY
TONI
REMY 294(11)
NAT 539(5)
KITKAT 2 1390(1)
NANAIMO M.D.
VICTORIA M.D.
KATHY
JANE
Rift
River
CUP 1
RAFT 1 642(7)
KITKAT 3 1391(1)
KITKAT 7 1395(1)
STARBOARD
LAT
Creek
Nitinat
RAFT 2 643(7)
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KITKAT 6 1394(1)
OLSEN
Sadie Cr.
KITKAT 5 1393(1)
HOOP 1
HOOP 2
GREAT NORTHERN
HOOP 3
Mt. Hooper
RODEO
Logan Peak
HOOP 5
HOOP 4
EFREM-S
FLORE
TANIA S 4
TANIA S 3
LUCIA-S
VICTORIA M.D.
ALBERNI M.D.
TANIA S 2
TANIA-S
CAROL-S
CAROL S3
N
SILVER CROSS
LODE RESOURCE CORPORATION
CLAIM MAP
TAN CLAIM
VICTORIA MINING DIVISION
Project No: V194
By: T. N.
Scale: approx. 1:81,000
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Drawing No: 2
Date: APR. 1985.
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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 located a conspicuous north-south magnetic high along the crest of the ridge immediately west of the Tan claim.

During the years 1963 to 1966, Gunnex Ltd. carried out a regional mapping program over a large portion of the E&N Land Grant, with limited prospecting and silt sampling. They compiled a list of all known mineral occurrences in the area and visited many of them. Most of the creeks draining the ridge west of the Tan claim returned anomalous Total Heavy Metal values but no follow-up work was done by Gunnex on these creeks. The Tan claim was staked in 1980 to cover part of the anomalous area.

Lode Resource Corporation has carried out an extensive exploration program on the Black Panther property, adjacent to the Tan claim on the west. One of the areas investigated in detail is the Summit Lake area, adjacent to the northwest corner of the Tan claim. Trenching of the mineralized quartz veins near Summit Lake was first carried out in the late 1930's. Lode Resource Corporation carried out detailed grid soil sampling, channel sampling of the old trenches and drilled 5 diamond drill holes totalling 726.34 m (locations of drill holes marked on Figure 5). Diamond drilling intersected "significant gold and some associated silver values" (in quartz veins?) hosted by interbedded volcanics and sediments believed to be of the Myra Formation. Increased sulphide contents in holes SL80-4 and SL80-5

were believed to have possible significance with respect to volcanogenic massive sulphide mineralization.

Work done by Lode Resource Corporation on the Tan claim in 1984 consisted of a geochemical silt sampling program. Above background or anomalous Cu, Zn, or Au results were returned from nearly all of the creeks draining the west side of the claim while Pb and Ag values were low. This confirms the results of the Gunnex Ltd. survey. One creek draining the east side of the Tan claim returned an anomalous Au value.

A program of detailed soil sampling, geological mapping, and lithogeochemical sampling was recommended for the area of the anomalous Au sample on the east side of the claim. The anomalous area on the west side of the claim was recommended to be covered by detailed silt and soil sampling and by geological mapping.

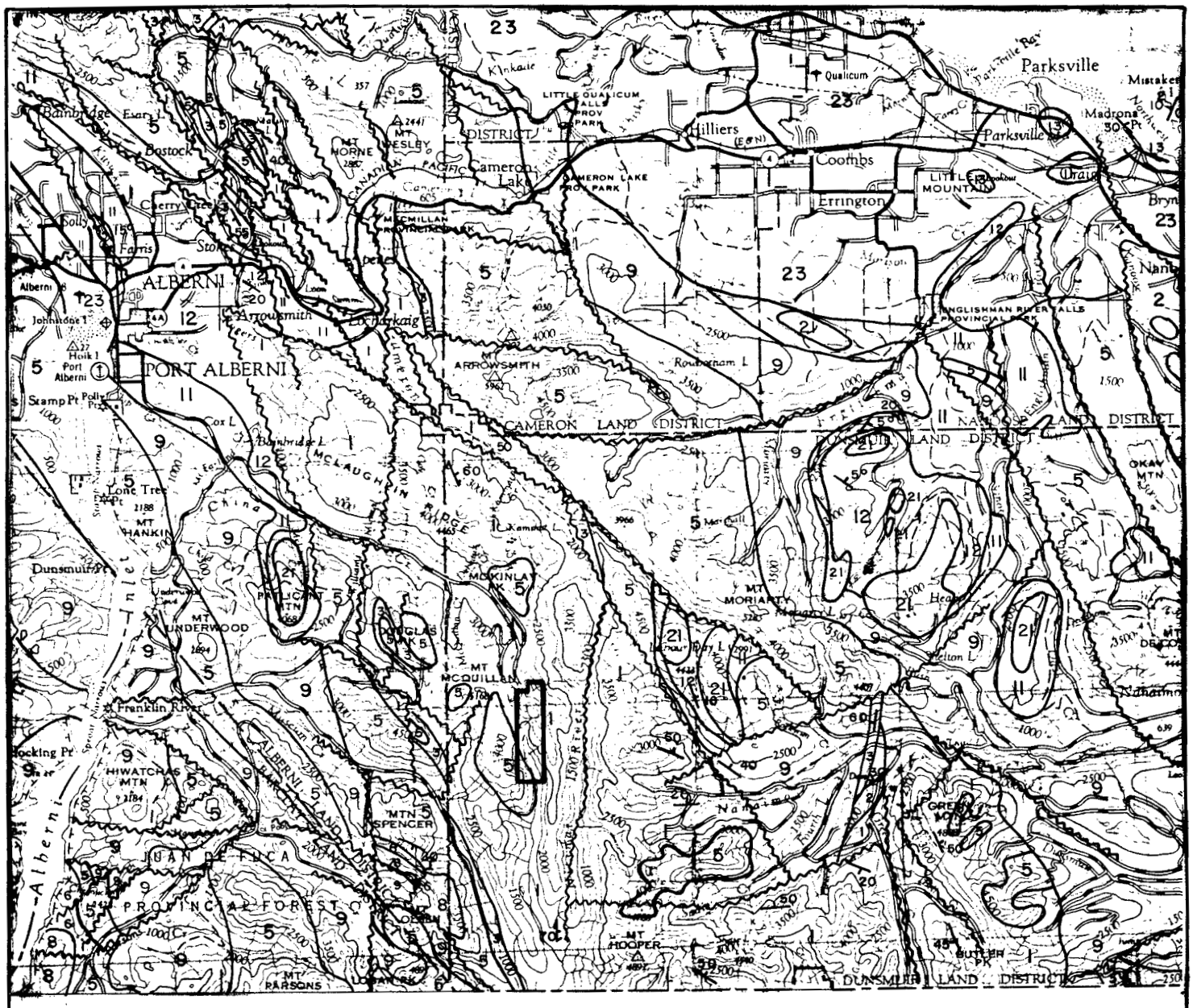
4.0 REGIONAL GEOLOGY

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
TAN CLAIM

VICTORIA MINING DIVISION

Project No:	V 194	By:	T. N.
Scale:	1 : 250,000	Drawn:	J. S.
Drawing No:	3	Date:	APR. 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 100 km northwest of the Tan claim. 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 overturned limbs of folds. Overlying Buttle Lake Formation limestones are relatively undeformed except where they are thin.

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

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

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

4.7 Economic Setting

The Sicker Group, and to a lesser extent, the Vancouver 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., first discovered in 1917 although not recognized as volcanogenic until the late 1960's, 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.

Proven reserves of the Lynx (open pit), Price and Myra deposits are 1,021,400 T grading 1% Cu, 0.9% Pb, 7.4% Zn, 0.06 oz Au/T, 2.6 oz Ag/T (1983). Published reserves of the H-W zone are 15,232,000 T averaging 2.2% Cu, 5.3% Zn, 0.3% Pb, 0.07 oz Au/T and 1.1 oz Ag/T (Walker, 1983). In the 3 years 1980 to 1982, there were 895,048 T of ore milled producing 16,109,000 lbs Cu, 96,356,000 lbs Zn, 14,231,000 lbs Pb, 56,000 oz Au, 2,528,000 oz Ag and 129,000 lbs Cd.

Another volcanogenic massive sulphide deposit in the Sicker Group is the Twin J Mine near Duncan on Mount Sicker, about 65 km

southeast of the Tan claim. Two parallel orebodies, 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 305,770 tons producing 44,491 oz Au, 934,522 oz Ag, 21,053,360 lb Cu and 45,864,654 lb Zn with at least 362,854 lb Pb and 10 lb Cd.

A recent significant development has been the announcement by Aberford Resources that a diamond drillhole intersected 26.2 feet (true thickness) of mineralization grading 3.01% Zn, 0.1 oz Au/T, 1.97 oz Ag/T, 0.68% Cu, 0.45% Pb on their Lara property, 55 km southeast of the Tan claim. The Lara property is underlain by felsic volcanics of the Myra Formation.

Six past producing mines occur in the Port Alberni area. The Thistle Mine produced 2,760 oz Au, 2,120 oz Ag and 681,425 lbs Cu from 6,920 T of ore. It was originally considered to be a skarn deposit (J.S. Stevenson, 1944; D.J.T. Carson, 1968). Disseminated and massive sulphide mineralization occurs as lenses and bands within pyritic quartz-sericite schist and at the contact of quartz-sericite schist with chloritized mafic volcanic rocks (Sicker Group). Disseminated sulphide mineralization occurs throughout the host rocks. The deposit is now believed to be of syngenetic-volcanogenic origin. It is located 4 km west of the Tan claim.

The Havilah Mine (1,046 T produced 259 oz Au, 1,404 oz Ag) and the Vancouver Island Gold Mine (483 T produced 384 oz Au, 52 oz Ag) are quartz vein deposits hosted by andesite and andesite tuff of the Sicker Group and are located 2.5 km and 10 km, respectively, northwest of the Tan claim.

The Black Panther Mine is a quartz vein deposit hosted by a shear zone in Sicker Group andesite and diorite located 2 km west of the Tan claim on the adjacent Mar claim. 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 9 km southwest of the Tan claim.

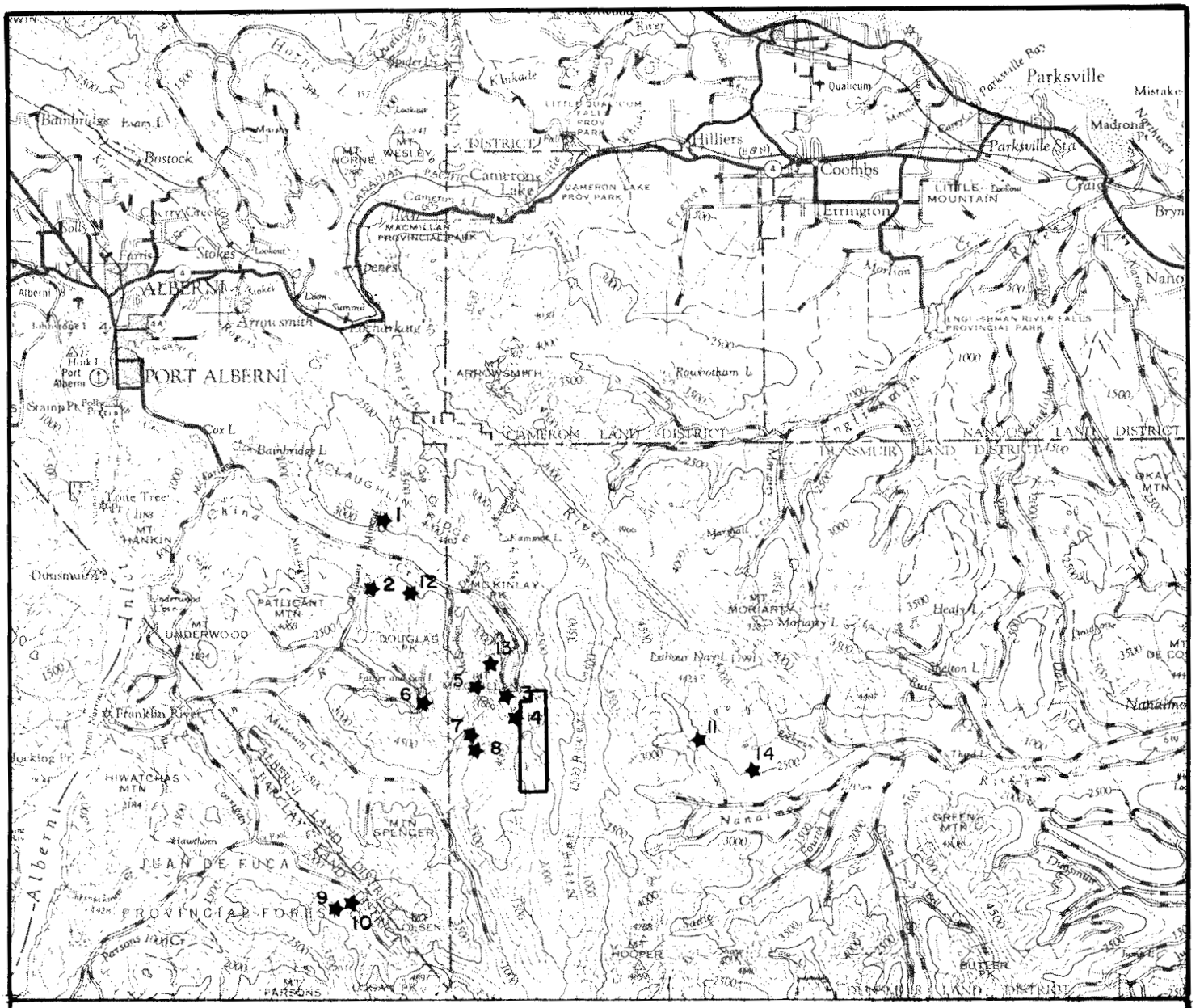
Numerous precious/base metal bearing quartz veins occur in the area north and west of the Tan claim. In addition to the Black Panther Mine, the High Grade Vein, Middle Vein, Black Lion, Lakeview, B & K, and Golden Eagle are all located within 2.5 km of the Tan claim. Descriptions of these veins and other significant base metal and gold deposits and occurrences of the Sicker Group in the Port Alberni to Nitinat River area 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.



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. Bank Group
13. Sol
14. Skarn

N

0 5 10 km

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MINERAL OCCURRENCE LOCATION MAP TAN CLAIM

Project No:	V 194	By:	T. N.
Scale:	1 : 250,000	Drawn:	J. S.
Drawing No:	4	Date:	APR. 1985.

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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 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 topography. 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. Bank Group Cu, Ag, Au, Pb

Geology

Pyrite, chalcopyrite, and minor galena occur in quartz veins oriented 020/20-40W in sheared and fractured "metamorphic rock." Western Mines Ltd. mapped the area as being underlain by dacite tuffs and breccia interbedded with andesite flows. Muller (1980) mapped the rocks as Nitinat Formation volcanics.

Economic Features

A grab sample from the dump assayed tr Au, 1 oz Ag/T, 3.2% Cu. The mineralized zone is reported to be at least 10 feet wide and several hundred feet long. An isolated EM conductor was located by the 1981 airborne survey in the general vicinity of the Bank Group.

History

1917: James Dryden, I.B. Atkinson; several open cuts, 25' shaft, a caved adit.

1976: Western Mines Ltd.; the Bank Group was covered by the Tasha claim. Geological mapping.

1981: McQuillan Gold Ltd., Oliver Resources Ltd., Jan Resources Ltd.; airborne VLF-EM and mag survey included the Bank Group area.

References

MMAR 1917-247
EBC 1976-E111
AR 6153, 9126
Minfile 92F167

13. Sol Cu, Mo, Zn

Geology

A widespread area of low-grade Cu mineralization occurs in an area of Sicker Group massive to tuffaceous andesite intruded by Jurassic diorite and by narrow Tertiary rhyolite or quartz-feldspar porphyry dykes or sills. Mineralization consists of abundant pyrite and pyrrhotite disseminations and fracture fillings in three zones, with minor chalcopyrite and local minor molybdenite or sphalerite occurring mainly in NE trending fractures and quartz veinlets within the iron sulphide zones. Most of the mineralization occurs either in andesite near diorite, or adjacent to and within the Tertiary intrusives.

Economic Features

Soil sampling located three anomalous zones up to 1200' long by 1200' wide by 1000' high. Mineralization was subsequently located in all three zones. A large IP anomaly was also located. Disseminated pyrite with traces of chalcopyrite was the only mineralization intersected in the 1977 drill program. No assays are reported. A pyritic

quartz vein (possibly related to the Havilah [#5] mineralization) assayed 0.07 oz Au/T, 2.5 oz Ag/T, 0.24% Cu, 1.95% Pb, 1.1% Zn over 15".

History:

1973-77: Cominco Ltd.; mapping, soil sampling, trenching, several IP/resistivity surveys, 3 BQ DDH for 1485'.

1981: O.G. MacDonald; mapping, soil and rock sampling.

1981: McQuillan Gold Ltd., Oliver Resources Ltd., Jan Resources Ltd.; airborne VLF-EM and mag survey included the southern part of Sol.

References

GEM 1974-172

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

AR 5354, 6138, 6643, 7600, 9126, 10194

Minfile 92F385

14. Skarn Group (Kar, Toni) Cu, Zn, Ag, Au, Pb, Fe

Geology

A sequence of Sicker Group basaltic to andesitic volcanics overlain by chert and cherty tuff, limey sediments and Buttle Lake Formation limestone are all intruded by a diorite-granodiorite stock, converting the limestone to marble, and the limey sediments and to a lesser degree, the volcanics, to garnet-epidote-actinolite-minor diopside-phlogopite-quartz-calcite-vesuvianite skarn. The skarn contains lenses, layers, veinlets, patches of chalcopyrite, minor pyrite, sphalerite, magnetite, specularite, some pyrrhotite; and narrow veins and irregular pods of magnetite with minor chalcopyrite, pyrite, specularite, sphalerite. By 1979 workers believed that in addition to skarn mineralization, exhalative volcanogenic mineralization might exist.

Economic Features

The skarn zone outcrops over a distance of 1800' with an average width of 500'. Drilling located additional skarn zones. Assays from DDH's include: 2.1% Cu over 47.5'; 0.59% Cu, 0.62% Zn, 6.31 oz Ag/T, tr Au over 8.5'; 0.91% Cu, 0.0001 oz Au/T, 0.41 oz Ag/T over 61' and 3.72% Cu, 0.01% Pb, 0.12% Zn, 0.0023 oz Au/T, 1.56 oz Ag/T over 15'. Surface assays range up to 6' of 0.32 oz Au/T, 2.6 oz Ag/T, 1.82% Cu, 2.53% Zn.

History

1962: Hunting Survey Corp.; regional aeromag survey, discovered showing during follow-up mapping.

1963-65: Gunnex Ltd.; mapping, trenches, pits; rock, soil, and silt sampling; mag, EM, SP surveys; prospecting, 6 DDH for 3562'.

1968(?): D.J.T. Carson; detailed mapping.

1977-80: Westmount Resources Ltd.; vector pulse EM, 8 NQ DDH for 2091'.

1985: Westmount Resources Ltd.; optioned property to Goldbrae Developments Ltd. Geophysics, geology, geochemistry, extensive DD'g planned.

References

MMAR	1965-239
EBC	1977-E109
AR	6585, 7834, 8487
Carson	1968, pp. 111-127
Minfile	92F182

5.0 1985 ASSESSMENT WORK

Work carried out by MPH Consulting Limited in February 1985 was confined to the area at the end of road BR20 which House (1984) recommended for follow-up work due to the presence of anomalous gold contents in a soil sample and in a silt sample from the area. House recommended that the area be covered by detailed soil sampling, geological mapping, and lithogeochemical sampling on a grid. Heavy snow cover precluded any grid work in February 1985, therefore only the roadcut rock exposures were examined. A total of 25 rock samples was collected and lithogeochemically analyzed by atomic absorption for Au and by 30 element ICP. Ten of the rock samples were also subjected to whole rock analysis. Whole rock analyses were processed by computer. A geological map was compiled from field observations, GSC mapping, and whole rock results.

5.1 Geology (Figure 5)

The Tan claim is mapped by Muller (1980) as being entirely underlain by Nitinat Formation mafic to intermediate volcanics. A narrow, elongate, dyke-like (?) body of Jurassic Island Intrusions granodiorite is mapped just southwest of the southwest corner of the Tan claim. House (1984) reports that Myra Formation rocks have been mapped in the Summit Lake area adjacent to the northwest corner of the Tan claim.

Mapping carried out by MPH Consulting Limited located mainly basaltic pyroclastic rocks of the Nitinat Formation. In the field, the rocks were identified as andesites, but whole rock analyses reveal their basaltic compositions. The rocks can be subdivided into four types: a) basalt tuff; b) basalt agglomer-

ate; c) basalt flows; and d) chert and/or argillite. In the area of the property mapped, the rocks occur in two northwest trending bands. A band consisting of mainly tuff occurs to the southwest while a band of agglomerate with lesser interbedded tuff and occasional flows occurs to the northeast. Cherty rocks appear to be restricted to lenses within tuffs.

The basalt tuffs range from very fine-grained to very coarse-grained, grading into agglomeratic rocks. The tuffs consist of angular, commonly somewhat siliceous (dacitic?) fragments from <1 mm to 2 cm in a dark green matrix which commonly contains black uralite phenocrysts up to 8 mm. Locally, uralite phenocrysts may also occur in the clasts. Some outcrops are weakly to moderately pervasively carbonatized. Quartz veinlets to 2 mm thick are fairly common. In the area of samples 9128 and 9129 abundant irregular quartz veins up to 1.5 cm, and locally, abundant calcite veinlets up to 3 mm cut the tuff. Minor disseminated pyrite is widespread with occasional local concentrations of up to 3% pyrite.

The basalt agglomerates are coarser equivalents of the tuffs. Clasts of dacitic (?) material up to 15-20 cm occur in a fine tuffaceous matrix. The clasts commonly contain black uralite (± green pyroxene) phenocrysts up to 12 mm in size and are lighter in colour than the matrix. Pyrite grains are occasionally found at the core of, or rimming, uralite crystals. In one outcrop the clasts were of andesite or basalt and contained chlorite-filled amygdules (9114). The matrix contains variable amounts of uralite and/or pyroxene crystals (0-20%) and may locally contain up to 10% disseminated pyrite.

Basalt flows are medium green, massive, fine-grained and contain black uralite phenocrysts up to 8 mm in quantities up to 10% and up to 1% disseminated pyrite, commonly in aggregate clumps up to 1.5 mm across.

Chert and cherty tuffs occur as lenses (or perhaps rip-up clasts) in fine basalt tuffs. The lenses are up to 1 m wide by 4 m long, while a tabular clast of banded chert 0.8 m thick by about 8 m long and a round boulder (?) of chert about 3 m in diameter are located at 9129. The cherty rocks are commonly extensively quartz veined (up to 50% of the rock) while the surrounding basalt is generally not. At 9130 a layer of banded chert about 10 m thick containing up to 2% disseminated pyrite is found. Thin bands of argillite and/or cherty argillite in the order of 3 cm thick occur at or near outcrops with chert.

The presence of cherty rocks may be an indication that Myra Formation rocks are locally present in this area.

5.2 Lithogeochemistry

A total of 25 rock samples was collected and analyzed by atomic absorption for Au and by 30-element ICP. Brief rock sample descriptions and Ag, Cu, Pb, Zn results are listed in Appendix II. Full ICP results are included in Appendix III.

Visual inspection of the results reveals that no distinctive correlation can be made with any element when comparing rock types. All gold values were below the lower detection limit of 10 ppb. Silver values are all low and insignificant. Samples 9124, 9127 and 9128, which are considered to be tuffs, have values ranging from 104-114 ppm copper, which are weakly anomalous. A sample of agglomerate (9110) contains 66 ppm lead, which is approximately 5-6 times background, and 12 ppm Sb, about 6 times background. Sample 9126, taken from a thin cherty argillite horizon within basalt tuff has anomalous arsenic and phosporus values of 11 ppm and 0.35%, respectively, while another cherty-tuff sample (9117) has an anomalous barium value of 51 ppm

(ICP values for Ba are generally considered to be rather inaccurate, however). The amounts of Mn, Ba, Cu, V, Zn, and Co in the samples increases from northeast to southwest while Cr and Ni contents decrease. Mn, Ba, and Cr show the strongest "zonation." Little or no pattern is discernible for other elements.

Rock sampling in the area of the silt and soil samples anomalous in Au collected by House (1984) failed to locate mineralization which might explain the anomaly. Whole rock geochemical analyses, however, tend to indicate good potential for volcanogenic Au mineralization and some potential for volcanogenic base metal mineralization.

5.3 Whole Rock Geochemistry

Ten 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.

The rocks as classified by the Jensen, Irvine-Baragar, and SiO_2 methods are mainly tholeiitic to calc-alkaline basalts. The TiO_2 classifications are mainly dacitic which may tend to indicate that the other methods have been "fooled" by alteration and that the rocks were actually originally intermediate in composition and have been altered to mafic compositions.

Nine of the ten samples were evaluated as containing anomalous base metal-related geochemical factors while five contain

anomalous gold-related geochemical factors. Only one sample is indicated to come from a geological environment favourable for base metal mineralization but five of the samples contain hydrosilicate alteration minerals and are therefore from favourable environments for Au mineralization.

Sample 9123, a moderately carbonatized lapilli tuff is the most anomalous sample. It is from an environment favourable for gold mineralization and contains both base metal and gold-related anomalous geochemical factors. Samples 9114 and 9128 are also moderately anomalous in one or both of gold and base metal factors.

6.0 RECOMMENDED WORK PROGRAM

6.1 Plan

The Tan claim is primarily underlain by basaltic pyroclastic rocks of the Nitinat Formation and possibly partially underlain by Myra Formation volcanics and sediments in the Summit Lake area. Numerous sub-economic precious/base metal-bearing quartz veins are known within 2.5 km of the Tan claim, to the north and west. House and Sawyer (1984) indicate that the Summit Lake area may host massive sulphide mineralization in Myra Formation rocks.

Phase I exploration will consist of geological mapping, rock sampling, and prospecting covering the entire claim. Geological mapping will be used to define and delineate the various rock units, especially the Myra Formation. Rock sampling and prospecting will serve to locate surface showings and may assist in geological mapping. Whole rock geochemical analyses will be used as an aid in naming rock types and in locating alteration haloes surrounding mineralized zones.

Contingent upon favourable results from Phase I, Phase II is to consist of detailed geological mapping, soil sampling, and VLF-EM and magnetometer surveys on grid(s) located over target areas outlined in Phase I. Phase II will incorporate the recommendations for silt and soil sampling made by House (1984). Grid(s) are to be established at right angles to strike with flagged lines 50 m apart. Soil samples and VLF-EM and magnetometer readings are to be taken at 25 m intervals along the grid lines. Close-spaced sampling is necessary as the mineralized quartz veins tend to be narrow and might be missed on a coarser grid.

If warranted by Phase II results, Phase III will consist of trenching, rock sampling, and detailed geological mapping and IP/EM surveys over anomalous grid areas, with diamond drilling to follow.

The following detailed cost estimates are for Phase I and II geological, geochemical, and geophysical work. A rough cost estimate for Phase III is also provided; the detailed Phase III budget and schedule will depend upon Phase I and II results.

6.2 Budget

Phase I

Mobilization/Demobilization		$ 300
Personnel		
Geologist 10 days @ $325	$ 3,250	
Assistant/Prospector 10 days @ $250	2,500	5,750
Support Costs		
Camp Costs 20 man days @ $40	$ 800	
4WD Truck 10 days @ $90	900	
Communications 10 days @ $25	250	
Helicopter 5 hours @ $400	2,000	
Miscellaneous Supplies	250	3,800
Analyses		
75 Rocks (Au, Ag, Ba, ICP) @ $17.40	$ 1,305	
20 Rocks (Whole Rock) @ $32.00	640	1,945

Consulting/Supervision		
2 days @ $450	$ 900	
Expenses	200	1,100
Report Writing		
Geologist 4 days @ $325	$ 1,300	
Drafting 20 hours @ $18	360	
Materials	300	1,960
		14,855
Administration @ 15% (on $6,905)		1,036
		15,891
Contingency @ 15%		2,384
	Total, say	$ 18,300

Phase II

Mobilization/Demobilization		$ 600
Personnel		
Geologist 20 days @ $325	$ 6,500	
Soil Samplers/Geophysical Technicians (3) 20 days @ $200	12,000	18,500
Support Costs		
Camp Costs 80 man days @ $40	$ 3,200	
4WD Truck 20 days @ $90	1,800	
Communications 20 days @ $25	500	
Helicopter 10 hours @ $400	4,000	
Miscellaneous Supplies	500	10,000

Equipment Rental		
Magnetometer 20 days @ $75	$ 1,500	
VLF-EM Receiver 20 days @ $25	500	2,000
Analyses		
750 Soil (and silt) Samples (Au, Ag, Cu, Pb, Zn) @ $8.30	$ 6,225	
60 Rocks (Au, Ag, Ba, ICP) @ $17.40	1,044	
15 Rocks (Whole Rock) @ $32.00	480	7,749
Consulting/Supervision		
4 days @ $450	$ 1,800	
Expenses	400	2,200
Report Writing		
Geologist 8 days @ $325	$ 2,600	
Geophysicist 1 day @ $450	450	
Drafting 50 hours @ $18	900	
Materials	1,000	4,950
		45,999
Administration @ 15% (on $20,649)		3,097
		49,096
Contingency @ 15%		7,364
	Total, say	$ 56,500

Phase III

IP and/or EM Survey 14 days @ $2,000 (includes linecutting, camp, report)		$ 28,000
Trenching (including drill, powder, assaying samples, geological mapping, bulldozer)		15,000
Diamond drilling 550 m @ $165 (including camp, geologist, assaying samples, helicopter support, report)		90,750
		133,750
Administration @ 15% (on, say, $100,000)		15,000
		148,750
Contingency @ 10%		14,875
	Total, say	$163,500

6.3 Schedule

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

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

TABLE 1

PHASE I PROJECT SCHEDULE
TAN CLAIM

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

TABLE 2

PHASE II PROJECT SCHEDULE
TAN CLAIM

7.0 CONCLUSIONS

1. The Tan claim is underlain mainly by Nitinat Formation basaltic pyroclastics and probably partially underlain by Myra Formation rocks.

2. Geological mapping and sampling carried out in the area of soil and silt samples anomalous in Au failed to locate mineralization to explain the anomalies.

3. Whole rock analyses indicate that alteration factors favourable for volcanogenic gold and/or base metal mineralization are widespread in the area sampled.

4. Drill results from holes SL80-4 and SL80-5 indicate that the Tan claim has the potential to host massive sulphides within the Myra Formation (House and Sawyer, 1984).

5. The Tan claim also has the potential to host an economic quartz vein deposit as numerous veins grading up to 6 oz Au/T; 3.7 oz Ag/T; with minor Cu, Pb, Zn contents are located within 2.5 km of the north and west boundaries of the claim.

6. Further exploration work consisting of geological mapping and sampling, follow-up grid geochemistry, geophysics, and geology, and eventually trenching, detailed geophysics and geology, and diamond drilling is warranted on the Tan claim.

8.0 RECOMMENDATIONS

1. It is recommended that volcanogenic massive sulphide and gold (±base metal)-bearing quartz vein deposits be considered the exploration targets on the Tan claim.

2. It is recommended that the Summit Lake area of the claim be particularly thoroughly explored as it is an area of known mineralization, and that any veins or other showings located be well sampled in order to gain a better understanding of their geochemical nature for use in exploring the rest of the claim.

3. Whole rock geochemistry is recommended to be used extensively as a means of outlining areas of alteration which may surround mineralized zones.

4. Phase I work consisting of geological mapping, rock sampling, and prospecting covering the entire claim is recommended at an estimated cost of $18,300.

5. Contingent upon favourable results from Phase I, Phase II is recommended to consist of detailed geological mapping, soil sampling, and VLF-EM and magnetometer surveys on grids over target areas located during Phase I at an estimated cost of $56,500.

6. It is recommended that the soil and silt sampling programs recommended by House (1984) be incorporated into Phase II.

7. Phase III work consisting of trenching, rock sampling, and detailed geological mapping and IP/EM surveys over anomalous grid areas followed by diamond drilling is recommended at an estimated cost of $163,500, if warranted by results of Phase II.

Respectfully submitted,
MPH Consulting Limited

T. Neale, B.Sc.

T.G. Hawkins, P.Geol.

April 30, 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.
April 30, 1985

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APPENDIX I

List of Personnel

and

Statement of Expenditures

MPH

List of Personnel
and
Statement of Expenditures

The following expenses have been incurred on the Tan claim for the purposes of mineral exploration on the dates of February 20 and 21, 1985.

Personnel		
T. Neale, B.Sc. Geologist		
4 days @ $325	$1,300.00	
W.G. Hoiles Assistant		
2 days @ $250	500.00	
T.G. Hawkins, P.Geol.		
2 hours @ $80	160.00	$1,960.00
Equipment Rental		
Truck 2.5 days @ $68		170.00
Snowmobiles 2.5 days @ $82 (x2)		410.00
Expenditures		
Meals and Accommodation	148.46	
Transportation (gas, ferries)	77.57	
Supplies	22.15	
Analyses 25 @ $11.95 (Au, ICP)	298.75	
10 @ $20 (whole rock)	200.00	
Report Costs (drafting, typing, copying)	647.24	
Miscellaneous (phone)	6.99	
	1,401.16	
Administration @ 15%	210.17	1,611.33
		$4,151.33

APPENDIX II

Rock Sample Descriptions
and
Lithogeochemistry Results

Rock Sample Descriptions and Lithogeochemistry Results

Sample No.	Description*	Ag	Cu	Pb	Zn
9106	Andesite Lapilli Tuff: soft, very fine-grained, dark green matrix with about 15% angular fragments to at least 2 cm. Fragments are lighter green than matrix and quite siliceous. Matrix contains 20-25% black phenocrysts or crystal shards (uralite). No pyrite noted.	0.1	65	4	56
9107	Andesite Lapilli Tuff: fine-grained, light to dark green tuff with occasional angular fragments to 5 mm. Quite heavily iron stained; no pyrite noted. Locally the rock is more siliceous - silicification or dacitic clasts.	0.1	57	7	61
9108	Andesite Flow: medium to light green, fairly hard, locally rather brecciated (tuffaceous?); black uralite phenocrysts up to 8 mm long about 10% of rock; pyrite disseminated in aggregate clumps to 1.5 mm about 1%; black chlorite coatings on fracture surfaces.	0.1	76	9	62
9109	Silicified Andesite: medium green andesite heavily quartz veined. Quartz veins are "composite" - built up in several layers with vuggy horizons between layers. Veins up to at least 5 cm thick including up to 50-70% highly silicified andesite. Minor CO_3 present locally with quartz. Rusty, no pyrite noted. Black chlorite fracture coatings.	0.2	44	7	42

*Field descriptions. Whole rock analyses reveal the volcanics to be basaltic.

Sample No.	Description*	Ag	Cu	Pb	Zn
9110	Andesitic Agglomerate: andesite lapilli tuff matrix, with fragments to 10 cm or more of light bluish green dacite with 15-20% black uralite phenocrysts from <1 mm-7 mm. Some of the larger phenocrysts have pyrite crystals in their core to 1 mm in size. Up to 10% pyrite disseminated in matrix in irregular patches to 2 mm. Matrix weakly carbonatized. Occasional thin (1-2 mm) quartz veins.	0.1	71	66	60
9111	Coarse Andesite/Dacite Lapilli Tuff: similar to 9110 but fragments make up 75-85% of 9111 and somewhat finer-grained. Pyrite disseminated in patches to 3 mm about 1-3%. Cut by pale green quartz (-epidote?) veins to 12 mm and by vuggy calcite veinlets to 3 mm.	0.1	85	11	55
9112	Andesite Flow: medium green, massive; irregular fracture, numerous possible clast outlines suggest perhaps this is a lapilli tuff - sample taken from outcrop of interbedded tuffs and flows(?); up to 1% pyrite disseminated in patches to 1 mm; occasional black uralite phenocrysts.	0.2	85	11	67
9113	Andesite Agglomerate: medium green, fine to medium-grained tuffaceous matrix with greenish grey clasts of andesite/dacite containing 10% uralite, pyroxene phenocrysts. Minor disseminated pyrite flakes in matrix.	0.1	93	11	56

*Field descriptions. Whole rock analyses reveal the volcanics to be basaltic.

Sample No.	Description*	Ag	Cu	Pb	Zn
9114	Andesite Agglomerate: amygdaloidal andesite clasts in andesite lapilli to crystal tuff matrix. Black uralite and green pyroxene crystals to 5 mm common in matrix, also fairly frequent irregular white quartz bodies (vug fillings?). Weakly carbonatized. Amygdules in clasts are chlorite-filled. No pyrite noted.	0.1	88	6	58
9115	Andesite Agglomerate: light greenish grey clasts with 10-20% black uralite phenocrysts to 12 mm and about 1% small (1 mm) reddish specks (hematitic?). Minor pyrite disseminated, commonly associated with, or at the core of, uralite phenocrysts. Red-purple specks occur in the tuffaceous matrix as well. Weak HCl reaction.	0.1	88	8	100
9116	Andesite Flow: fine-grained, dark grey green, massive; locally rather siliceous for andesite; very weak HCl reaction; minor disseminated fine pyrite.	0.1	98	11	105
9117	Chert and Cherty Tuff: pale green cryptocrystalline chert interbedded with light green, very hard, fine-grained cherty tuff. Cherty tuff contains spheroids of pale greenish white feldspar-quartz aggregates up to 10 mm. Rock coated with thin CO_3 film on all surfaces. Rusty specks <1 mm about 1-2% in cherty tuff layers, occasional areas with some red hematitic specks too.	0.1	10	2	28

*Field descriptions. Whole rock analyses reveal the volcanics to be basaltic.

Sample No.	Description*	Ag	Cu	Pb	Zn
9118	Andesite Agglomerate: moderately rusty; abundant black (Mn?) stain; minor quartz veining to 2-3 mm. No pyrite noted.	0.1	63	6	65
9119	Andesite Agglomerate: cut by irregular, vuggy calcite vein about 2-15 mm wide; minor disseminated pyrite; pyritic-looking flakes on some pyroxene crystals - possibly mica.	0.1	82	8	63
9120	Quartz - CO_3 Vein: about 2 cm wide, very irregular; cuts andesite lapilli tuff; weathers orangey-green.	0.1	16	4	12
9121	Ribbon Quartz Vein: some rust stain, no pyrite noted; 1.5 to 2.5 cm thick; abundant vuggy cavities up to 2 x 8 mm; cuts andesite lapilli tuff. About 40% of sample is wallrock.	0.1	26	9	31
9122	Andesite Lapilli Tuff: coarse-grained; clasts up to at least 3 cm; clasts pale blue-greenish grey with 10-15% black uralite phenocrysts frequently with thin pyrite (?) films on cleavage surfaces; pyrite about 0.5% or less.	0.1	72	10	62
9123	Andesite Lapilli Tuff: fine to medium grained; clasts up 1 cm; moderate HCl reaction - sparse calcite blebs <1 mm in matrix; no pyrite noted.	0.1	94	5	72
9124	Andesite Tuff: fine-grained; pervasively carbonatized; medium green grey, fairly soft; no pyrite noted; sample taken from near a 15 m wide fault zone.	0.1	104	9	68

*Field descriptions. Whole rock analyses reveal the volcanics to be basaltic.

Sample No.	Description*	Ag	Cu	Pb	Zn
9125	Cherty Tuff, Chert, Andesite Tuff: all 3 rock types interbedded in layers 1-15 mm thick; pale green to medium green grey banded appearance; very minor pyrite occurring as flakes to 2 mm on fracture surfaces; thin CO_3 coatings on fracture surfaces; quartz ± CO_3 veinlets to 8 mm thick are abundant cross-cutting the more siliceous parts. Cherty rocks occur in tabular "chunks" within fine-grained andesite tuff. Similar to 9117?	0.1	72	10	71
9126	Black Cherty Argillite: occurs in a 2 cm thick band in siliceous, highly altered and weathered (andesite?) lapilli tuff. Argillite ranges from black chert to black argillite. No pyrite noted, abundant goethite stain. Sample is at least 50% tuff.	0.1	46	14	97
9127	Andesite Tuff: very fine-grained - could be a flow; medium greenish grey, rather hard for andesite; pervasively carbonatized; <1% pyrite in specks and patches to 2 mm noted in one piece.	0.1	110	8	82
9128	Andesite Tuff: fine-grained, medium grey; cut by numerous irregular quartz veinlets (and lesser calcite veinlets) up to 3 mm. Very minor pyrite in cubes to 1 mm associated with veining.	0.1	114	8	80

*Field descriptions. Whole rock analyses reveal the volcanics to be basaltic.

Sample No.	Description*	Ag	Cu	Pb	Zn
9129	Andesite Tuff: fine-grained, medium green grey, soft; occasional agglomeratic clasts of porphyritic andesite from 2-15 cm; cut by many irregular quartz veins, blobs, etc. to 1.5 cm; minor disseminated pyrite, one area about 5 x 5 cm with patches to 4 mm of brown tarnished pyrite film. Sample is from an outcrop with chert clasts up to 8 m long.	0.1	85	9	84
9130	Chert: banded medium to dark grey chert and light grey argillite in layers 1 mm - 1 cm or more; chert layers commonly brecciated; locally up to 1-2% pyrite disseminated in cubes to 2 mm.	0.1	91	9	71

*Field descriptions. Whole rock analyses reveal the volcanics to be basaltic.

APPENDIX III

Certificates of Analysis

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 - V194 85-040 FILE # 85-0269 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
9106	2	65	4	56	.1	60	18	382	4.11	5	5	ND	3	21	1	2	2	62	1.17	.10	4	73	3.64	17	.06	8	3.03	.02	.05	13
9107	2	57	7	61	.1	42	18	377	4.65	2	5	ND	3	30	1	2	2	92	1.42	.09	3	107	3.99	12	.11	6	3.59	.02	.02	1
9108	1	76	9	62	.1	44	19	346	4.65	2	5	ND	2	29	1	2	2	81	1.15	.07	5	92	3.82	18	.08	5	3.30	.02	.05	1
9109	1	44	7	42	.2	31	13	268	3.09	5	9	ND	4	39	1	2	2	72	3.41	.08	2	69	2.07	4	.07	9	3.22	.01	.01	1
9110	2	71	66	60	.1	28	17	369	4.12	5	5	ND	3	31	1	12	2	86	1.39	.09	2	50	2.65	16	.07	5	2.76	.04	.03	3
9111	1	85	11	55	.1	43	17	309	3.78	3	5	ND	2	57	1	2	2	66	1.18	.10	2	76	3.42	13	.06	4	2.70	.02	.01	3
9112	2	85	11	67	.2	48	21	438	5.05	2	5	ND	3	23	1	2	2	91	1.01	.09	2	41	3.66	24	.07	3	3.20	.02	.03	1
9113	2	93	11	56	.1	49	18	683	4.17	4	5	ND	2	20	1	2	2	89	1.05	.12	2	53	3.98	12	.07	3	2.90	.03	.11	1
9114	1	88	6	58	.1	68	19	773	4.16	6	5	ND	3	20	1	2	2	93	1.38	.10	2	39	3.51	13	.17	4	2.75	.03	.04	1
9115	1	88	8	100	.1	69	20	563	4.22	4	5	ND	2	31	1	2	2	81	.92	.12	3	43	3.47	12	.08	5	2.67	.03	.03	1
9116	2	98	11	105	.1	11	21	1082	6.95	5	5	ND	4	12	1	2	2	158	1.65	.08	6	10	2.44	15	.09	13	3.33	.03	.03	1
9117	1	10	2	28	.1	12	5	320	1.77	4	5	ND	3	99	1	3	2	25	2.34	.06	3	54	.73	51	.03	2	1.09	.01	.12	1
9118	1	63	6	65	.1	59	20	665	4.43	2	5	ND	2	20	1	2	3	76	.95	.12	2	37	3.89	7	.08	14	2.90	.02	.03	1
9119	1	82	8	63	.1	60	21	552	4.72	2	5	ND	3	15	1	2	2	86	1.03	.12	2	34	4.02	8	.06	4	3.08	.02	.01	1
9120	1	16	4	12	.1	14	4	109	1.34	2	5	ND	3	11	1	2	2	82	4.06	.04	2	61	.54	2	.05	18	2.67	.01	.01	1
9121	1	26	9	31	.1	22	9	222	2.58	3	5	ND	2	13	1	2	2	42	2.65	.03	2	51	1.92	8	.04	4	2.81	.01	.01	1
9122	1	72	10	62	.1	44	19	526	4.82	2	5	ND	3	21	1	2	2	103	1.22	.08	2	84	3.84	25	.08	2	3.29	.04	.04	1
9123	1	94	5	72	.1	75	24	816	4.71	2	5	ND	2	22	1	2	2	81	.90	.10	2	46	3.41	10	.12	2	2.71	.02	.02	1
9124	2	104	9	68	.1	62	21	980	4.80	2	5	ND	4	80	1	2	2	142	3.10	.13	3	211	4.00	77	.02	2	3.31	.03	.03	1
9125	2	72	10	71	.1	35	12	722	3.96	5	5	ND	5	50	1	4	2	137	4.36	.11	3	80	2.02	11	.16	16	2.90	.04	.02	1
9126	2	46	14	97	.1	44	13	1028	5.89	11	5	ND	3	20	1	3	2	101	.77	.35	9	112	1.23	26	.01	2	2.28	.04	.07	1
9127	1	110	8	82	.1	23	19	1018	5.81	4	5	ND	3	21	1	2	2	124	1.86	.07	6	44	3.02	7	.10	8	3.45	.02	.01	1
9128	2	114	8	80	.1	11	17	1125	5.78	5	5	ND	3	15	1	2	2	159	1.60	.06	4	22	2.51	25	.18	3	3.37	.01	.07	1
9129	2	85	9	84	.1	12	19	918	6.41	4	5	ND	4	14	1	2	2	123	2.66	.07	5	14	2.67	6	.09	7	4.17	.02	.01	1
9130	1	91	9	71	.1	16	11	1132	4.41	5	5	ND	3	43	1	2	2	67	1.47	.06	2	29	1.67	22	.12	14	2.65	.04	.03	1
STD E	4	78	18	151	.5	37	6	292	2.60	2	5	ND	115	15	1	2	4	27	.58	.14	161	10	.57	179	.09	9	.84	.03	.56	1
STD C	19	60	40	132	7.0	70	27	1078	3.94	38	16	7	37	49	15	14	19	58	.48	.14	39	58	.88	177	.07	37	1.72	.06	.10	12

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, BC

PROJECT: V194
TYPE OF ANALYSIS: GEOCHEMICAL

CERTIFICATE#: 85040
INVOICE#: 5153
DATE ENTERED: 85-03-19
FILE NAME: mph85040
PAGE # : 1 A

PREFIX	SAMPLE NAME	PPB Au	% SiO2	% Al2O3	% Fe2O3	% MgO	% CaO	% Na2O	% K2O	% TiO2
T	9106	10								
T	9107	10	49.0	16.0	10.0	9.5	7.7	1.4	0.3	1.2
T	9108	10	47.0	16.7	10.4	10.0	8.3	1.2	0.7	1.4
T	9109	10								
T	9110	10	53.0	16.2	8.5	7.1	7.9	2.0	0.5	1.3
T	9111	10								
T	9112	10								
T	9113	10								
T	9114	10	51.0	14.0	8.4	10.2	9.0	1.4	2.6	1.0
T	9115	10								
T	9116	10	55.0	15.9	11.4	4.5	4.6	3.2	0.7	1.2
T	9117	10	80.0	7.1	3.8	1.6	5.1	0.1	1.0	0.1
T	9118	10								
T	9119	10								
T	9120	10								
T	9121	10								
T	9122	10	54.0	16.2	9.3	9.0	6.2	2.3	0.5	1.3
T	9123	10	49.0	14.3	9.4	11.0	8.2	2.7	1.1	1.2
T	9124	10								
T	9125	10	54.0	15.9	7.3	4.2	9.4	2.8	1.5	0.7
T	9126	10								
T	9127	10								
T	9128	10	57.0	16.0	9.6	4.6	6.5	0.9	2.2	0.9
T	9129	10								
T	9130	10								

CERTIFIED BY : 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 ST.,
VANCOUVER, BC

PROJECT: V194
TYPE OF ANALYSIS: GEOCHEMICAL

CERTIFICATE#: 85040
INVOICE#: 5153
DATE ENTERED: 85-03-19
FILE NAME: mph85040
PAGE # : 1 B

PREFIX	SAMPLE NAME	% MnO	% LOI
T	9106		
T	9107	0.1	5.8
T	9108	0.1	5.8
T	9109		
T	9110	0.1	4.5
T	9111		
T	9112		
T	9113		
T	9114	0.2	4.8
T	9115		
T	9116	0.2	4.5
T	9117	0.1	3.7
T	9118		
T	9119		
T	9120		
T	9121		
T	9122	0.1	5.2
T	9123	0.1	4.4
T	9124		
T	9125	0.1	6.2
T	9126		
T	9127		
T	9128	0.2	4.3
T	9129		
T	9130		

CERTIFIED BY : J. Rossbach

APPENDIX IV

Computer Evaluations of
Whole Rock Analyses

EVALUATION SUMMARY

SAMPLE	Base Metals EVALUATION			Gold EVALUATION			
9107	— ※※	-	-	+			
9108	— ※※	-	-	+			
9110	— ※	-	-	—			
9114	— ※※	-	-	+ ※※	-	-	
9116	— ※	-	-	—			
9117	+ ※	-	-	— ※※	-	-	
9122	— ※※	-	-	+			
9123	— ※※※	-	-	+ ※※	-	-	
9125	—			— ※※	-	-	
9128	— ※	-	-	— ※※※	-	-	

— "less favourable geologic environment"

\+ "favourable geologic environment"

※ anomalous geochemical factors present (10% of factors per symbol)

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>>>>>>>>>>>>>>>>>>9107 <<<<<<<<<<<<<<<<<<
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JENSEN CLASSIFICATION: Tholeiitic Magnesium Rich Basalt

IRVINE/BARAGAR CLASSIFICATION: Tholeiitic Basalt Alkaline

SiO2 CLASSIFICATION: Basalt (48.51% 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
3.03	-.08	-1.69	-1.71	-2.55	-.32	51.85
*******						

Discriminant Functions:

DF1	DF2	DF3	DF4	DF5
1.89	-5.55	-5.93	-2.01	.66

****************************** VOLCANOGENIC Au EVALUATION ******************************

*** Favourable wall rock is present ***

Na2O(R)	K2O(%)	Au	As	Fer. Index	CO2/CaO
-1.71	.30	10.00	2.00	1.66	.25 EST

Hydrosilicate alteration assemblage present

SS	RT	LATITUDE	DEPARTURE	COMMENTS
0.	0.	0.00	0.00	

SiO2	Al2O3	Fe2O3	FeO	CaO	MgO	Na2O	K2O
48.51	15.84	9.90	0.00	7.62	9.41	1.39	.30
TiO2	MnO	P2O5	LOI	CO2	Cr2O3	Zr	Sr
1.19	.10	0.00	5.74	0.00	0.00	0.00	0.00
Rb	Ba	W	U	Th	Cu	Zn	Pb
0.00	0.00	0.00	5.00	3.00	57.00	61.00	7.00
Ni	Au	Ag	S	As	Sb	X	Y
42.00	10.00	.10	0.00	2.00	2.00	18.00	92.00

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

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>>>>>>>>>>>>>>>>>>>>>9108 <<<<<<<<<<<<<<<<<<
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JENSEN CLASSIFICATION: Tholeiitic Magnesium Rich Basalt

IRVINE/BARAGAR CLASSIFICATION: Tholeiitic Basalt Alkaline

SiO2 CLASSIFICATION: Basalt (46.26% SiO2)

TiO2 CLASSIFICATION: Andesite

****

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

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

Residuals:

MgO	K2O	CaO	Na2O	Fe2O3	SiO2	TAAS
2.73	.40	-1.99	-1.63	-3.17	-.87	52.97
*******						

Discriminant Functions:

DF1	DF2	DF3	DF4	DF5
2.21	-5.79	-6.18	-2.74	-.21

****************************** VOLCANOGENIC Au EVALUATION ******************************

*** Favourable wall rock is present ***

Na2O(R)	K2O(%)	Au	As	Per. Index	CO2/CaO
-1.63	.69	10.00	2.00	1.62	.23 EST

Hydrosilicate alteration assemblage present

SS	RT	LATITUDE	DEPARTURE	COMMENTS			
0.	0.	0.00	0.00				
SiO2	Al2O3	Fe2O3	FeO	CaO	MgO	Na2O	K2O
46.26	16.44	10.24	0.00	8.17	9.84	1.18	.69
TiO2	MnO	P2O5	LOI	CO2	Cr2O3	Zr	Sr
1.38	.10	0.00	5.71	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	76.00	62.00	9.00
Ni	Au	Ag	S	As	Sb	X	Y
44.00	10.00	.10	0.00	2.00	2.00	19.00	81.00

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

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JENSEN CLASSIFICATION: Calc-Alkaline Basalt

IRVINE/BARAGAR CLASSIFICATION: Tholeiitic Basalt Alkaline

SiO2 CLASSIFICATION: Basalt (52.42% SiO2)

TiO2 CLASSIFICATION: Andesite

****

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

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

Residuals:

MgO	K2O	CaO	Na2O	Fe2O3	SiO2	TAAS
1.83	-.04	-.15	-1.51	-2.45	-.62	43.43
*******						

Discriminant Functions:

DF1	DF2	DF3	DF4	DF5
1.20	-6.11	-6.44	-2.32	-.38

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

Na2O(R)	K2O(%)	Au	As	Per. Index	CO2/CaO
-1.51	.49	10.00	5.00	1.47	.19 EST

SS	RT	LATITUDE	DEPARTURE	COMMENTS
0.	0.	0.00	0.00	

SiO2	Al2O3	Fe2O3	FeO	CaO	MgO	Na2O	K2O
52.42	16.02	8.41	0.00	7.81	7.02	1.98	.49
TiO2	MnO	P2O5	LOI	CO2	Cr2O3	Zr	Sr
1.29	.10	0.00	4.45	0.00	0.00	0.00	0.00
Rb	Ba	W	U	Th	Cu	Zn	Pb
0.00	0.00	0.00	5.00	3.00	71.00	60.00	66.00
Ni	Au	Ag	S	As	Sb	X	Y
28.00	10.00	.10	0.00	5.00	12.00	17.00	86.00

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

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>>>>>>>>>>>>>>>>>>>9114 <<<<<<<<<<<<<<<<<<
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JENSEN CLASSIFICATION: Tholeiitic Magnesium Rich Basalt

IRVINE/BARAGAR CLASSIFICATION: Calc-Alkaline Basalt Subalkaline

SiO2 CLASSIFICATION: Basalt (49.71% 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
3.95	2.11	-.12	-1.86	-3.77	1.85	55.17
*******	*******					

Discriminant Functions:

DF1	DF2	DF3	DF4	DF5
1.76	-7.03	-7.48	-3.60	.84

****************************** VOLCANOGENIC Au EVALUATION ******************************

*** Favourable wall rock is present ***

Na2O(R)	K2O(%)	Au	As	Per. Index	CO2/CaO
-1.86	2.53	10.00	6.00	1.05	.18
	*******				EST

· Hydrosilicate alteration assemblage present

SS	RT	LATITUDE	DEPARTURE	COMMENTS			
0.	0.	0.00	0.00				
SiO2	Al2O3	Fe2O3	FeO	CaO	MgO	Na2O	K2O
49.71	13.65	6.19	0.00	8.77	9.94	1.36	2.53
TiO2	MnO	P2O5	LOI	CO2	Cr2O3	Zr	Sr
.97	.19	0.00	4.68	0.00	0.00	0.00	0.00
Rb	Ba	W	U	Th	Cu	Zn	Pb
0.00	0.00	0.00	5.00	3.00	88.00	58.00	6.00
Ni	Au	Ag	S	As	Sb	X	Y
68.00	10.00	.10	0.00	6.00	2.00	19.00	93.00

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

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>>>>>>>>>>>>>>>>>>9116 <<<<<<<<<<<<<<<<<<
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JENSEN CLASSIFICATION: Calc-Alkaline Basalt

IRVINE/BARAGAR CLASSIFICATION: Tholeiitic Basalt Subalkaline

SiO2 CLASSIFICATION: Andesite (54.35% SiO2)

TiO2 CLASSIFICATION: Dacite

****

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

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

Residuals:

MgO	K2O	CaO	Na2O	Fe2O3	SiO2	FAAS
-.21	.07	-2.80	-.47	1.15	-.39	40.00

Discriminant Functions:

DF1	DF2	DF3	DF4	DF5
-.06	-1.99	-2.00	2.28	.01

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

Na2O(R)	K2O(%)	Au	As	Per. Index	CO2/CaO
-.47	.69	10.00	5.00	1.56	.33 EST

SS	RT	LATITUDE	DEPARTURE	COMMENTS
0.	0.	0.00	0.00	

SiO2	Al2O3	Fe2O3	FeO	CaO	MgO	Na2O	K2O
54.35	15.71	11.26	0.00	4.55	4.45	3.16	.69
TiO2	MnO	P2O5	LOI	CO2	Cr2O3	Zr	Sr
1.19	.20	0.00	4.45	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	98.00	105.00	11.00
Ni	Au	Ag	S	As	Sb	X	Y
11.00	10.00	.10	0.00	5.00	2.00	21.00	158.00

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

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JENSEN CLASSIFICATION: Calc-Alkaline Andesite

IRVINE/BARAGAR CLASSIFICATION: Tholeiitic Basalt Subalkaline

SiO2 CLASSIFICATION: Rhyolite (77.97% SiO2)

TiO2 CLASSIFICATION: Rhyolite

****

Rock is potash-rich vis-a-vis soda

************************ VOLCANOGENIC Base Metals EVALUATION ************************

Residuals:

MgO	K2O	CaO	Na2O	Fe2O3	SiO2	TAAS
.65	-.61	2.38	-2.96	1.03	6.29	33.33
					*******	

Discriminant Functions:

DF1	DF2	DF3	DF4	DF5
.50	-7.20	-7.73	.89	1.92
				*******

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

Na2O(R)	K2O(%)	Au	As	Fer. Index	CO2/CaO
-2.96	.97	10.00	4.00	1.21	.24 EST

SS	RT	LATITUDE	DEPARTURE	COMMENTS
0.	0.	0.00	0.00	

SiO2	Al2O3	Fe2O3	FeO	CaO	MgO	Na2O	K2O
77.97	6.92	3.70	0.00	4.97	1.56	.10	.97
TiO2	MnO	P2O5	LOI	CO2	Cr2O3	Zr	Sr
.10	.10	0.00	3.61	0.00	0.00	0.00	0.00
Rb	Ba	W	U	Th	Cu	Zn	Pb
0.00	0.00	0.00	5.00	3.00	10.00	28.00	2.00
Ni	Au	Ag	S	As	Sb	X	Y
12.00	10.00	.10	0.00	4.00	3.00	5.00	25.00

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

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>>>>>>>>>>>>>>>>>>>>9122 <<<<<<<<<<<<<<<<<<
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JENSEN CLASSIFICATION: Tholeiitic Magnesium Rich Basalt

IRVINE/BARAGAR CLASSIFICATION: Tholeiitic Basalt Alkaline

SiO2 CLASSIFICATION: Basalt (51.87% SiO2)

TiO2 CLASSIFICATION: Andesite

****

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

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

Residuals:

MgO	K2O	CaO	Na2O	Fe2O3	SiO2	TAAS
3.30 *******	-.04	-2.19	-1.23	-2.15	-.14	52.78

Discriminant Functions:

DF1	DF2	DF3	DF4	DF5
1.89	-5.68	-5.94	-1.30	1.37

****************************** VOLCANOGENIC Au EVALUATION ******************************

*** Favourable wall rock is present ***

Na2O(R)	K2O(%)	Au	As	Per. Index	CO2/CaO
-1.23	.48	10.00	2.00	1.63	.28 EST

Hydrosilicate alteration assemblage present

SS	RT	LATITUDE	DEPARTURE	COMMENTS
0.	0.	0.00	0.00	

SiO2	Al2O3	Fe2O3	FeO	CaO	MgO	Na2O	K2O
51.87	15.56	8.93	0.00	5.96	8.65	2.21	.48
TiO2	MnO	P2O5	LOI	CO2	Cr2O3	Zr	Sr
1.25	.10	0.00	5.00	0.00	0.00	0.00	0.00
Rb	Ba	W	U	Th	Cu	Zn	Pb
0.00	0.00	0.00	5.00	3.00	72.00	62.00	10.00
Ni	Au	Ag	S	As	Sb	X	Y
44.00	10.00	.10	0.00	2.00	2.00	19.00	103.00

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

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JENSEN CLASSIFICATION: Tholeiitic   Magnesium Rich Basalt

IRVINE/BARAGAR CLASSIFICATION: Calc-Alkaline   Basalt   Alkaline

SiO2 CLASSIFICATION: Basalt   (48.32% 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
4.42	.71	-1.30	-.41	-3.26	1.43	52.61
*******						

Discriminant Functions:

DF1	DF2	DF3	DF4	DF5
1.58	-6.05	-6.16	-2.41	1.63

***************************** VOLCANOGENIC Au EVALUATION *****************************

*** Favourable wall rock is present ***

Na2O(R)	K2O(%)	Au	As	Per. Index	CO2/CaO
-.41	1.08	10.00	2.00	1.09	.18
	*******				EST

Hydrosilicate alteration assemblage present

SS	RT	LATITUDE	DEPARTURE	COMMENTS
0.	0.	0.00	0.00	

SiO2	Al2O3	Fe2O3	FeO	CaO	MgO	Na2O	K2O
48.32	14.10	9.27	0.00	8.09	10.85	2.66	1.08
TiO2	**MnO**	**P2O5**	**LOI**	**CO2**	**Cr2O3**	**Zr**	**Sr**
1.18	.10	0.00	4.34	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	94.00	72.00	5.00
Ni	**Au**	**Ag**	**S**	**As**	**Sb**	**X**	**Y**
75.00	10.00	.10	0.00	2.00	2.00	24.00	81.00

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

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>>>>>>>>>>>>>>>>>>>>9125 <<<<<<<<<<<<<<<<<<
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JENSEN CLASSIFICATION: Calc-Alkaline Andesite

IRVINE/BARAGAR CLASSIFICATION: Calc-Alkaline Basalt Subalkaline

SiO2 CLASSIFICATION: Basalt (52.89% SiO2)

TiO2 CLASSIFICATION: Dacite

****

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

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

Residuals:

MgO	K2O	CaO	Na2O	Fe2O3	SiO2	IAAS
-.94	.91	1.39	-.78	-3.53	-.19	31.84

Discriminant Functions:

DF1	DF2	DF3	DF4	DF5
-1.11	-7.08	-7.28	-4.16	-4.07

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

Na2O(R)	K2O(%)	Au	As	Per. Index	CO2/CaO
-.78	1.47	10.00	5.00	1.08	.22 EST

SS	RT	LATITUDE	DEPARTURE	COMMENTS			
0.	0.	0.00	0.00				
SiO2	Al2O3	Fe2O3	FeO	CaO	MgO	Na2O	K2O
52.89	15.57	7.15	0.00	9.21	4.11	2.74	1.47
TiO2	MnO	P2O5	LOI	CO2	Cr2O3	Zr	Sr
.69	.10	0.00	6.07	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	72.00	71.00	10.00
Ni	Au	Ag	S	As	Sb	X	Y
35.00	10.00	.10	0.00	5.00	4.00	12.00	137.00

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

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>>>>>>>>>>>>>>>>>>>>9128 <<<<<<<<<<<<<<<<<<<<
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JENSEN CLASSIFICATION: Calc-Alkaline Basalt

IRVINE/BARAGAR CLASSIFICATION: Tholeiitic Basalt Subalkaline

SiO2 CLASSIFICATION: Andesite (55.77% 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
.22	1.48	-.56	-2.84	-.18	-.40	47.89
			*******			

Discriminant Functions:

DF1	DF2	DF3	DF4	DF5
.68	-4.00	-4.56	-.11	-.39

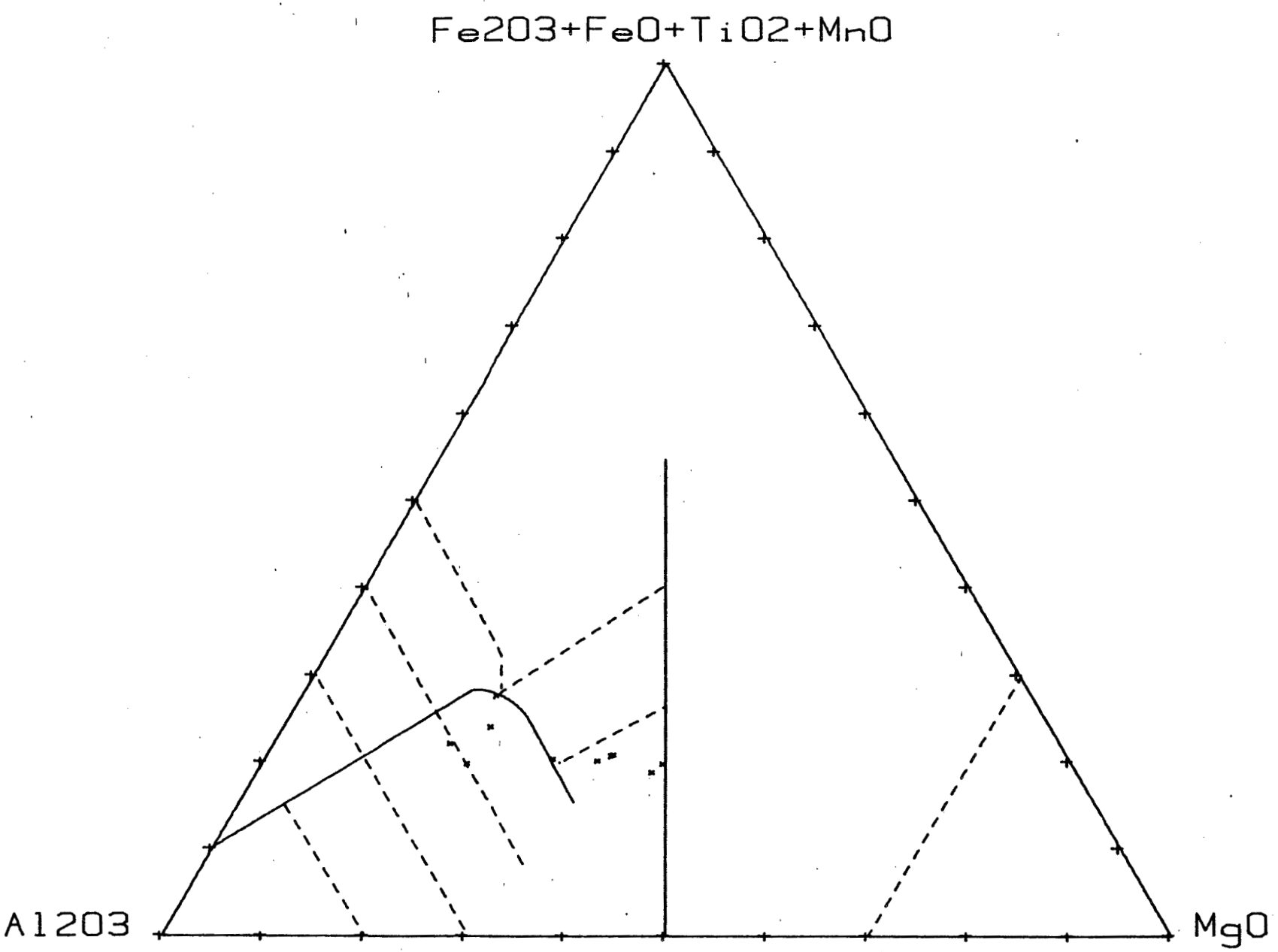
------------------------------ Volcanogenic Au Evaluation ------------------------------

Na2O(R)	K2O(%)	Au	As	Per. index	CO2/CaO
-2.84	2.15	10.00	5.00	1.64	.22
					EST

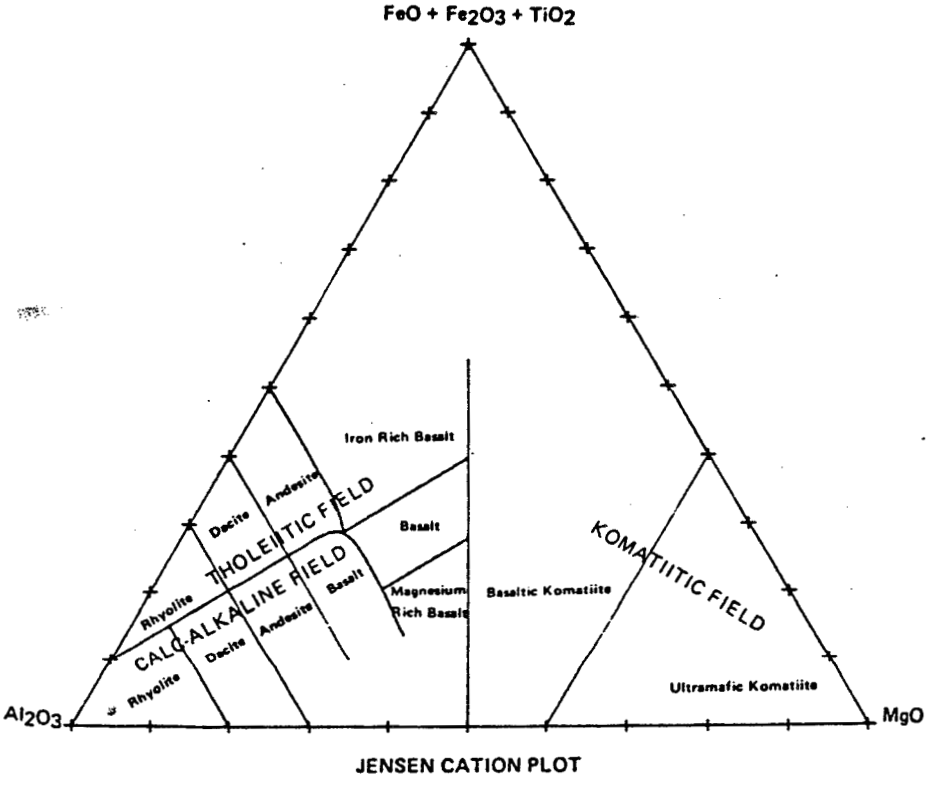
SS	RT	LATITUDE	DEPARTURE	COMMENTS
0.	0.	0.00	0.00	

SiO2	Al2O3	Fe2O3	FeO	CaO	MgO	Na2O	K2O
55.77	15.66	9.39	0.00	6.36	4.50	.68	2.15
TiO2	MnO	P2O5	LOI	CO2	Cr2O3	Zr	Sr
.88	.20	0.00	4.21	0.00	0.00	0.00	0.00
Rb	Ba	W	U	Th	Cu	Zn	Pb
0.00	0.00	0.00	5.00	3.00	114.00	80.00	8.00
Ni	Au	Ag	S	As	Sb	X	Y
11.00	10.00	.10	0.00	5.00	2.00	17.00	159.00

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

DDH'S SL 80-4,5

Lakeview

DDH'S SL 80-1,2,3

SUMMIT LAKE

1200

1?

ANGUS VEIN

X BBK

BLACK LAKE

BK 1319

1c 1d 1b 1c 1a 1b 1a 1d 1d 1a

9110 9109 9108 9107 9106 9111 9122 9117 9116 9115 9127 9114 9121 9120 9113 9112 9119 9118 9126 9125 9124 9128 9129 9130 9123

65° 80° 85°

1000

1

2

49°05'N

124°35'W

Road BR 20

N

LEGEND

GEOLOGY (modified from GSC Paper 79-30)

LOWER TO MIDDLE JURRASSIC

2 Island Intrusions: granodiorite, quartz diorite.

PALEOZOIC

Sicker Group
LOWER DEVONIAN AND OLDER

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

1a) basaltic tuff: fine to very coarse-grained, uralite phenocrysts to 8 mm common in matrix.

1b) basaltic agglomerate: clasts are generally more siliceous than the matrix, range up to 20 cm in size and commonly contain uralite phenocrysts to 12 mm.

1c) basaltic flows: fine-grained, massive, contain up to 10% uralite phenocrysts up to 8 mm in size.

1d) cherty tuffs, chert, argillite: light green chert to cherty tuffs sometimes with associated thin layers of black argillite.

SYMBOLS

- Geological contact (approximate)
- Bedding
- x 9121 Rock sample location and number
- Outcrop not sampled
- Road
- Diamond drill hole
- Claim boundary with Legal Corner Post

GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,670

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

[redacted]
30/04/85

LODE RESOURCE CORPORATION

PROPERTY PLAN, GEOLOGY, AND ROCK SAMPLING
TAN CLAIM
VICTORIA MINING DIVISION

Project No:	V 194	By:	T. N.
Scale:	1:5000	Drawn:	J. S
Drawing No:	5	Date:	APRIL, 1985.

MPH MPH Consulting Limited