MPH

85-338-13671

2/86

RECONNAISSANCE GEOLOGICAL MAPPING
AND
ROCK SAMPLING
AFT, RODEO CLAIMS
ALBERNI MINING DIVISION, B.C.
NTS 92F/2 LAT. 49°01'N LONG. 124°39'W
FOR
LADYSMITH MINERALS LTD.
MAY 22, 1985

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

SUMMARY

Exploration work consisting of limited geological mapping and rock and silt sampling for geochemical analysis was carried out on portions of the Aft and Rodeo claims in February 1985 by MPH Consulting Limited. The Aft and Rodeo claims, owned by Ladysmith Minerals Ltd., and located near the headwaters of Corrigan Creek in the Alberni Mining Division, are underlain by rocks of Jurassic Island Intrusions, and, on the Rodeo claim, by rocks of the Bonanza Group, also of Jurassic age.

The WWW and Corrigan Creek Mines, both past-producers of Au from quartz veins in Island Intrusions granodiorite and diorite, are located adjacent to the Aft claim. In the Rodeo claim, three showings are known; two Au-quartz veins and a Cu-Mo stockwork. Rock sampling on the Rodeo claim located a zone of anomalous Cu. Silt sampling in the stream draining this zone indicates that the anomaly may increase in strength downstream.

A three-phase geological exploration program designed to systematically and thoroughly explore the economic potential of the Aft and Rodeo claims is recommended. Phase I is to consist of 10 days of geological mapping, rock sampling, and prospecting covering both claims at an estimated cost of $23,000. If warranted by Phase I results, Phase II is recommended to consist of detailed, geological, geochemical, and geophysical work on grids established over target areas located during Phase I. Phase II field work is estimated to take 15 days to complete at a cost of $43,500. Contingent upon favourable results from Phase II, Phase III will consist of detailed IP and/or EM surveys and trenching, mapping, and sampling, followed by diamond drilling.

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LIST OF ILLUSTRATIONS

LADYSMITH MINERALS LTD.

GENERAL LOCATION MAP
AFT, RODEO CLAIMS

ALBERNI MINING DIVISION

Project No: V 196	By: T. N.
Scale: 1 : 8 000 000	Drawn: J. S.
Drawing No: 1	Date: MAY, 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 Mr. T. Schorn of Ladysmith Minerals Ltd. dated May 7, 1985 on the Aft and Rodeo claims on February 17, 22, and 23, 1985.

Work carried out to fulfill assessment work requirements included reconnaissance geological mapping and rock and silt sampling for geochemical analysis. Thick snow cover of up to 1 m or more severely limited outcrop exposure and made access very difficult.

2.0 LOCATION, ACCESS, TITLE

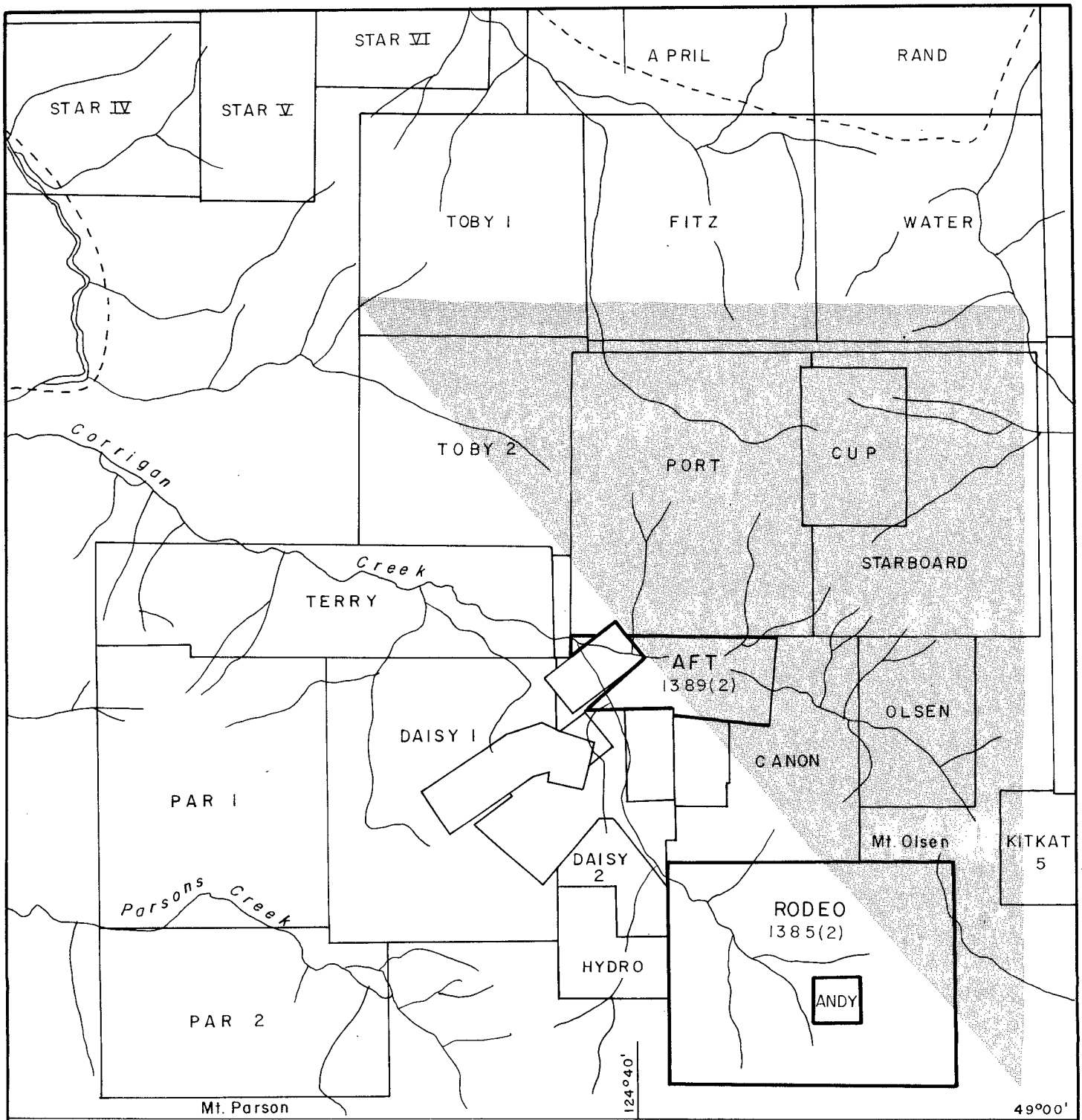
The Ladysmith Minerals Ltd. Aft and Rodeo claims are located 24 and 27 km south-southeast, respectively, of Port Alberni. The Aft claim is located in the Corrigan Creek valley and on the northwest slopes of Mount Olsen, centred at approximately 49°02.1'N latitude, 124°39.7'W longitude. The Rodeo claim is located at the headwaters of Corrigan Creek between Mount Olsen and Logan Peak, centred at approximately 49°00.8'N latitude, 124°38.6'W longitude. Both claims are located in the Alberni Mining Division of British Columbia and are both located on NTS mapsheet 92F/2. (Figures 1 and 2)

Access to the claims is provided by the all-weather gravel Bamfield Road from Port Alberni to the MacMillan Bloedel Corrigan Main road which follows Corrigan Creek and runs through portions of both claims. An overgrown, abandoned railway grade provides foot access to the central part of the Aft claim. Approximately 1 km before the Rodeo claim boundary is reached, the Corrigan Main road is gated by a private landholder. Beyond this point the road is washed out and overgrown and is only suitable for foot access. The slopes of Mount Olsen and Logan Peak are very steep to precipitous, making a helicopter necessary for access to higher parts of the Rodeo claim.

Claim information is summarized below:

Claim	Record No.	Units	Anniversary Date	Year Recorded
Aft	1389(2)	8	Feb. 25, 1986	1982
Rodeo	1385(2)	20	Feb. 25, 1986	1982

Both claims are owned by Ladysmith Minerals Ltd. The northeast corner of the Rodeo claim and the eastern half of the Aft claim lie in an area to which Imperial Metals Corp. owns the base metal rights under an option from Fording Coal Ltd. (Figure 2)



LEGEND

Base metal rights held by Imperial Metals Corp.

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LADYSMITH MINERALS LTD.

CLAIM MAP
AFT, RODEO CLAIMS

ALBERNI MINING DIVISION

Project No:	V 196	By:	T. N.
Scale:	1 : 50 000	Drawn:	J. S.
Drawing No:	2	Date:	MAY, 1985.

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3.0 PREVIOUS WORK

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

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.

No other previous work has been recorded on the Aft claim. On the Rodeo claim a Cu-Mo stockwork showing in Island Intrusions granodiorite (Andy claims or Arland's Showing) was explored by Noranda Exploration Co. Ltd. from 1964-70. Noranda carried out silt sampling, soil sampling; EM, magnetometer, and IP surveys; and drilled 19 diamond drill holes totalling 7333 feet. No results of any of the work are available. In 1970 the property was made up of 66 claims; today only one claim is in good standing--the Andy 22 claim. It occurs within the boundaries of the Rodeo claim (Figure 2).

The Golden Slipper and Golden Rule claims were operated in 1899 and 1900 on the present Rodeo claim. A limited amount of work was done on quartz(?) vein(s) carrying values of $17.50 to $40.00 in gold, silver, and copper (1900 values). There is no record of any work since 1900 on the Au-quartz veins or since 1970 on the Cu-Mo stockwork.

See the Mineral Occurrence section (4.8) for further information on the Andy, Golden Slipper, and Golden Rule.

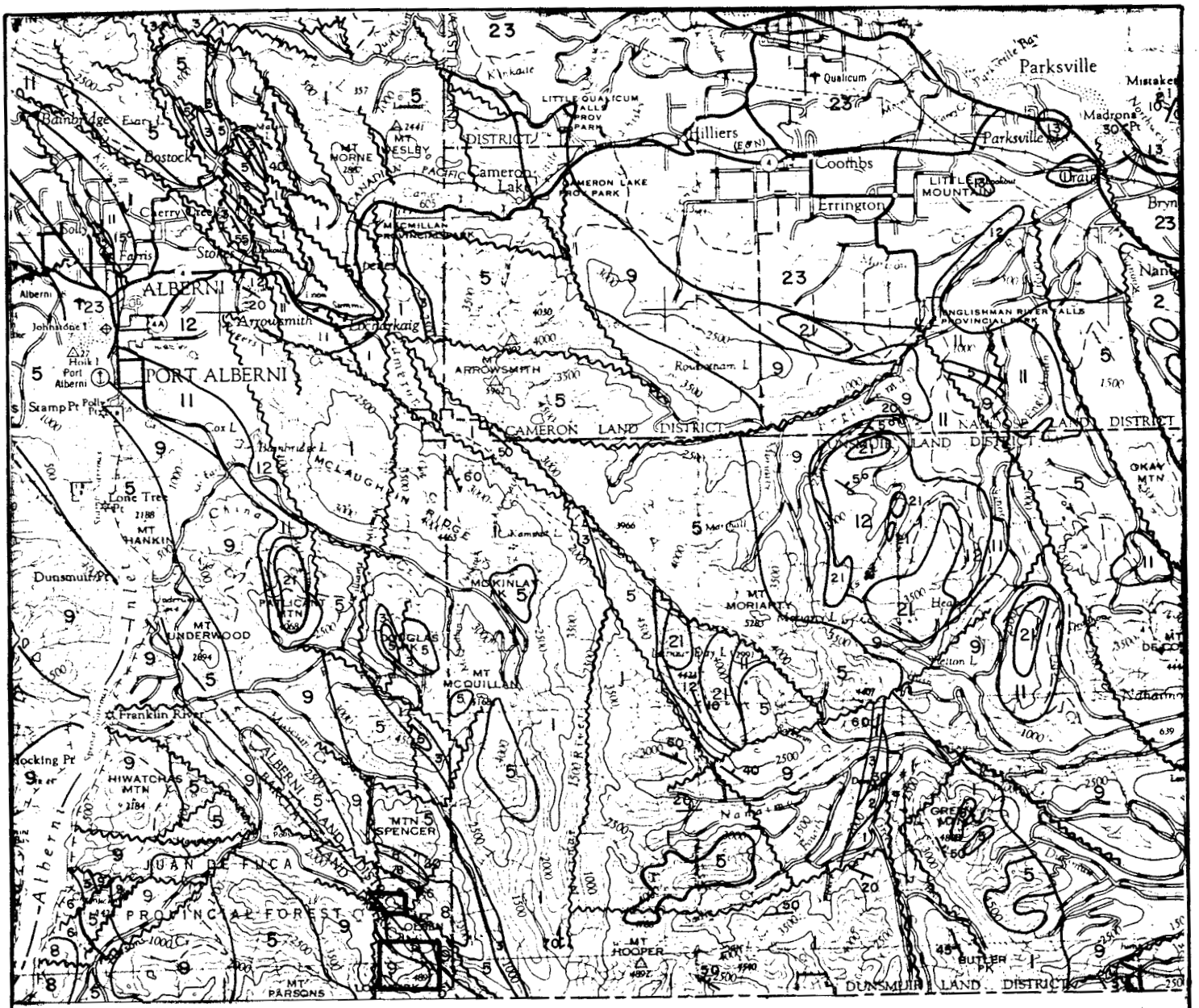
4.0 GEOLOGY

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. Jurassic Bonanza Group volcanics are present in moderate amounts in the southern part of the area. 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



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.

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LADYSMITH MINERALS LTD.

REGIONAL GEOLOGY MAP
AFT, RODEO CLAIMS

ALBERNI MINING DIVISION

Project No:	V 196	By:	T. N.
Scale:	1:250,000	Drawn:	J. S.
Drawing No:	3	Date:	MAY, 1985.

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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.

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 88 km northwest of the Aft and Rodeo claims. There, volcaniclastic rocks consisting dominantly of rhyodacitic or rhyolitic tuff, lapilli tuff, breccia, and some

quartz porphyry and minor mafic flows and argillite (Upper Myra Formation) are host to Westmin Resources' Myra, Lynx, Price, and H-W massive sulphide (Cu-Zn-Pb-Au-Ag-Cd) deposits.

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

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

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

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

4.2 Vancouver Group

The Karmutsen Formation volcanic rocks (Unit 5) overlie the Buttle Lake Formation limestone paraconformably to form the base of the

Vancouver Group. They are the thickest and most widespread rocks on Vancouver Island. The formation, which is well exposed south-east of Port Alberni, consists mainly of dark grey to black pillowed basalt, massive basalt and pillow breccia. Flows are commonly aphanitic and amygdaloidal. Pillowed volcanics generally occur toward the base of the section.

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

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

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

4.3 Bonanza Group

The Bonanza Group (Unit 8) stratigraphy varies considerably from place to place, as it represents parts of several different eruptive centres of a volcanic arc. Basaltic, rhyolitic, and lesser andesitic and dacitic lava, tuff, and breccia with intercalated beds and sequences of marine argillite and greywacke make up the Bonanza Group. In the area south of Mount Spencer and

south of Corrigan Creek it consists of light coloured andesite to latite breccia, tuff, and flows with minor greywacke, argillite, and siltstone. The Bonanza volcanics are considered to be extrusive equivalents of the Island Intrusions and to be of Early Jurassic age.

4.4 Nanaimo Group

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

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

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

Interbedded coarse clastic conglomerate, pebbly sandstone and arkosic sandstone of the Extension-Protection Formation (Unit 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 Bonanza Group volcanic rocks are characterized by transitional zones of gneissic rocks and migmatite although contacts with Karmutsen Formation volcanic rocks are sharp and well defined. Skarn zones are reported at the contact of Island Intrusion rocks with Quatsino Formation limestone and less frequently with Buttle Lake Formation limestone.

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

4.6 Structure

The Buttle Lake Arch, Cowichan-Horne Lake Arch and Nanoose Uplift are north-northwesterly trending axial uplifts and are believed

to be the oldest structural elements in south central Vancouver Island. Uplifting occurred before the late Cretaceous, and possibly before the Mesozoic (Muller and Carson, 1969). Sicker Group volcanic and sedimentary rocks occur at the core of these uplifts.

Asymmetric southwest verging anticlinal structures characterized by subvertical 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 Intrustions. 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.

Six past producing mines occur in the Port Alberni area. The Thistle Mine produced 2,760 oz Au, 2,120 oz Ag and 681,425 lbs Cu from 6,920 T of ore. It was originally considered to be a skarn deposit (J.S. Stevenson, 1944; D.J.T. Carson, 1968). Disseminated and massive sulphide mineralization occurs as lenses and bands within pyritic quartz-sericite schist and at the contact of quartz-sericite schist with chloritized mafic volcanic rocks (Sicker Group). Disseminated sulphide mineralization occurs throughout the host rocks. The deposit is now believed to be of syngenetic-volcanogenic origin. Recent work by Westmin Resources Ltd. (1983, 1984) has located 16 significant Cu and/or Au occurrences over a strike length of 4.6 km grading up to 0.49 oz Au/ton over 7 feet. Nine diamond drill holes intersected numerous anomalous concentrations of Au, although no ore grade Au-Cu was intersected over mining widths. The Thistle Mine is located 10 km north of the Rodeo 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 11 km and 18 km, respectively, north of the Rodeo claim.

The Black Panther Mine is a quartz vein deposit hosted by a shear zone in Sicker Group andesite and diorite located 9 km north of the Rodeo 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' produciton 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 2 km northwest of the Rodeo claim, adjacent to the Aft claim.

Significant mineral occurences in the area of the Aft and Rodeo claims are summarized in the Mineral Occurrences section (4.8) below.

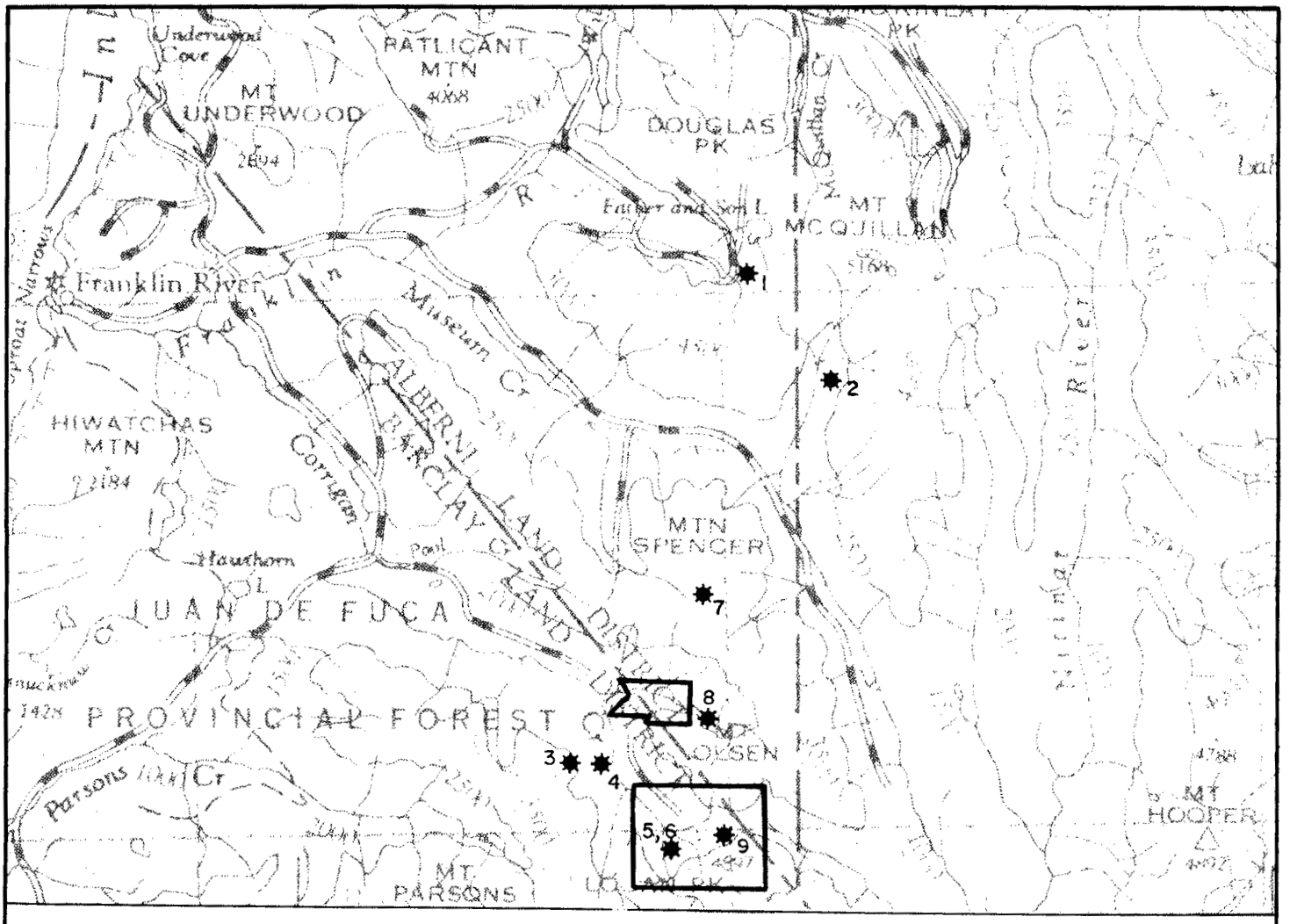
4.8 Mineral Occurrences

4.8.1 Gold Occurrences

1. 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



GOLD OCCURRENCES

1. Thistle
2. Black Panther
3. WWW
4. Corrigan Creek
5. Golden Slipper
6. Golden Rule

OTHER OCCURRENCES

7. Cup
8. Mt. Olsen
9. Andy

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MINERAL OCCURRENCE LOCATION MAP

AFT, RODEO CLAIMS

Project No:	V 196	By:	T. N.
Scale:	1:125 000	Drawn:	J. S.
Drawing No:	4	Date:	MAY, 1985.

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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 (550 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 p.38, Map 49-1963

8) Gunnex #10

9) Minfile 92F083

10) Nexus Resource Corporation; News Release dated November 1983

2. Black Panther (Nitinat) Au, Ag, Pb, Zn, Cu

Geology:

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

Economic Features:

The shear zone has been traced for at least two miles but the best mineralization is at the Black Panther workings where quartz lenses are one inch to three feet thick and up to 40 feet long. Four samples containing "heavy sulphides" from the 2700 and 2790 adits assayed from 2.30 to 2.88 oz Au/ton (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.

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.

References:

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

2,3) GCS P68-50, p.38, Map 49-1963

4) Gunnex #14

5) Minfile 92F084

3. WWW Au, Ag, Pb, Cu

Geology:

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

Economic Features:

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

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

No. 3 vein measures 308 feet long by 2 to 14 inches wide. A channel sample assayed 1.3 oz Au/T, 0.9 oz Ag/T over 14 inches (1935). Grab samples assayed 7.25 oz Au/T, 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:

1899-1942: A total of 116.6 T of ore was mined yielding 471 oz Au, 500 oz Ag, 2420 lb Pb, and 537 lb Cu.

History:

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

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

1940's: Various; prospecting, sampling.

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

References:

1) MMAR 1868-1132, 1899-607, 1906-198, 1921-206, 1922-228, 1926-295, 1927-341, 1930-291, 1932-203, 1933-250, 1935-F49, 1940-27, 1941-27

2) GEM 1970-289, 1974-172

3) BCDM Bull 1 p.132

4) AR 2771

5) GSC P68-50 p.38
Map 1963-49

6) The Miner October 1935

7) Minfile 92F141

4. 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 WWW Mine?).

History:

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

1970: John Cotowick; limited mining operations.

Comments:

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

References:

1) MMAR 1944-59

2) GSC P68-50 p.38
Map 49-1963

3) Minfile 92F085

5. Golden Slipper Au, Ag, Cu

Geology:

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

Economic Features:

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

History:

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

References:

1) MMAR 1899-785, 1900-920
2) GSC Map 1963-49
3) Minfile 92F149

6. Golden Rule Au, Ag, Cu

Geology:

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

Economic Features:

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

History:

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

References:

1) MMAR 1899-785, 1900-920
2) Minfile 92F218

4.8.2 Other Occurrences

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

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

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

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

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

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

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

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

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

History:

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

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

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

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

References:

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

2) MMAR 1966-75, 1967-76

3) GEM 1976-E111

4) AR 6134, 8177

5) GSC P68-50 p.38

6) Minfile 92F207

8. Mount Olsen Cu, Ag, Au

Geology:

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

Economic Features:

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

History:

Undated: Unknown; old workings reported in the area.

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

References:

1) Minfile 92F381

9. Andy (Arland's Showing) Cu, Mo

Geology:

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

Economic Features:

No results reported from any of the work done.

History:

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

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

References:

1) MMAR 1895-654, 1966-76, 1967-76, 1968-104

2) GEM 1969-220, 1970-289

3) Minfile 92F217

5.0 1985 ASSESSMENT WORK

Work carried out by MPH Consulting Limited in February 1985 on the Aft and Rodeo claims consisted of limited rock sampling, geological mapping, and silt sampling. Heavy snow cover on both claims prevented any systematic exploration. A total of 6 rock samples was collected on the Aft claim and a total of 12 rock samples and 4 very coarse silt samples was collected on the Rodeo claim. Both the rock and silt samples were analyzed by atomic absorption for Au, Ag, Cu, Pb, and Zn. A geological map was compiled from GSC mapping augmented by the limited observations made during the course of field work.

5.1 Geology (Figure 5)

5.1.1 Aft Claim

Muller (1980) has mapped the Aft claim as being entirely underlain by Island Intrusions granodiorite. Mapping by MPH Consulting Limited essentially confirms Muller's work. Most of the outcrops seen on the claim are of tonalite or diorite. The rocks are mainly fine-grained and very mafic-rich. In some outcrops xenoliths of partly resorbed andesite(?) occur. The presence of andesitic xenoliths and/or rafts in the intrusive rocks probably accounts for the high mafic content. One large (50 m by 30 m) outcrop of fine-grained andesite was also located. It is thought to represent a raft of Bonanza(?) volcanics within the Island Intrusions. It appears then, that while the Aft claim is underlain by Island Intrusions rocks they are highly altered by the presence of a large number of partly re-melted andesitic xenoliths to rafts of Bonanza Group(?) volcanics.

5.1.2 Rodeo Claim

Muller (1980) has mapped the Rodeo claim as being underlain by Island Intrusions granodiorite intruding Bonanza volcanics. Only the northwestern corner of the claim was accessible in February. In that area of the claim, MPH mapping located tonalite of the Island Intrusions and hornfelsed basalt of the Bonanza Group. Island Intrusions rocks contain xenoliths of Bonanza volcanics similar to the Aft claim. Dark grey, fine-grained, hard basalt (Bonanza volcanics) is believed to have been hornfelsed by the nearby intrusives. Dioritic dykes(?) are common within the hornfelsed basalts. Hornfelsed basalts are commonly somewhat magnetic and contain up to 7% fine disseminated pyrite (and/or pyrrhotite?). Locally, the basalt contains 10-60% rounded feldspar phenocrysts (porphyroblasts?).

The basaltic Bonanza volcanics are shown by Muller (1980) to be underlain at shallow depth by Island Intrusions rocks which is the probable source of the abundant diorite dykes and the heat to hornfels the volcanics.

Known mineralization on the Rodeo claim includes porphyry Cu-Mo on the Andy claim and Au-bearing quartz veins on the old Golden Slipper and Golden Rule claims. Both types of mineralization are believed to be hosted by Island Intrusions rocks but deep snow cover prevented any inspection of the areas in which they occur.

5.2 Geochemistry

A total of 6 rock samples from the Aft claim and 12 rock and 4 silt samples from the Rodeo claim was collected and analyzed for Au, Ag, Cu, Pb, and Zn. Brief rock sample descriptions and Ag, Cu, Pb, and Zn results are included in Appendix II. There was insufficient -80 mesh material in silt samples 016 and 020, therefore the -40 mesh material was analyzed. The results may, therefore, be somewhat lower than an analysis of -80 mesh material would yield.

All Au values were below the lower detection limit of 10 ppb. On the Aft claim, results for Cu ranged from 18 to 112 ppm, for Ag from 0.2 to 0.4 ppm, for Zn from 54 to 108 ppm, and for Pb from 2 to 44 ppm. Sample TN-J is strongly anomalous in Pb (44 ppm) and above background in Zn (108 ppm).

On the Rodeo claim, rock sample results for Cu ranged from 12 to 272 ppm, for Ag from 0.2 to 1.2 ppm, for Zn from 16 to 158 ppm, and for Pb from 2 to 34 ppm. The most notable feature is a zone of anomalous Cu results in the area of samples BH-1 to 6 (pyritic Bonanza volcanics intruded by dioritic dykes). Silt samples taken from the stream draining this area contain anomalous Cu and Ag results (480 to 780 ppm Cu, 0.6 to 3.0 ppm Ag). The silt samples become more anomalous in a downstream direction indicating that a strongly mineralized zone may lie in the area sampled, possibly under overburden.

Sample TN-B is anomalous in Ag and weakly anomalous in Cu, while sample 9105 is anomalous in Ag and weakly anomalous in Zn.

6.0 RECOMMENDED WORK PROGRAM

6.1 Plan

The Aft and Rodeo claims are underlain largely by rocks of the Island Intrusions which host several showings near or on the claims. Except for government regional mapping and some surface work on the Andy, Golden Slipper, and Golden Rule claims, little systematic exploration work has been carried out on the Aft and Rodeo claims.

The Phase I program is therefore designed to thoroughly and systematically explore both the Aft and Rodeo claims with geological mapping, rock sampling, and prospecting. Known showings will be located and sampled with a view to finding extensions and/or similar showings elsewhere on the claims. Geological mapping and prospecting will be carried out over the entirety of both claims to confirm or correct the previous regional mapping and to locate any surface showings or favourable structures.

If Phase I results warrant a follow-up program on one or both of the claims, Phase II will consist of detailed geological mapping and sampling, soil sampling, and VLF-EM and magnetometer surveys on flagged grids established over the target areas outlined in Phase I. Grid lines are to be spaced 100 m apart with soil sampling and geophysical readings taken at 25 m intervals along the lines. Close-spaced soil sampling is necessary, as a narrow mineralized quartz vein could be overlooked with coarser sampling densities.

Phase III work, if warranted by the results of Phase II, will consist of detailed IP and/or EM surveys and trenching, rock sampling, and geological mapping over anomalous grid areas, followed by diamond drilling.

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

5.2 Budget

PHASE I

Mobilization/Demobilization			$ 500
Personnel			
Geologist	10 days @ $325	$3,250	
Assistants/Prospectors (2)	10 days @ $250	5,000	
			8,250
Support Costs			
Camp Costs	30 man days @ $ 40	1,200	
4WD Truck	10 days @ $ 90	900	
Communications	10 days @ 25	250	
Miscellaneous Supplies		250	
			2,600

Analyses			
100 Rocks (Au, Ag, Ba, ICP) @ $17.35		$1,735	
20 Rocks (Whole Rock) @ 32.00		640	
			$ 2,375
Consulting/Supervision			
4 days @ $450		1,800	
Expenses		400	
			2,200
Report Writing			
Geologist	6 days @ 325	1,950	
Drafting	40 hrs @ 18	720	
Materials		500	
			3,170
			19,095
Administration (15% on $7,095)			1,064
			20,159
Contingency (15%)			3,024
	Total, say		$23,000
			=======
PHASE II			
Mobilization/Demobilization			$ 750
Personnel			
Geologist	15 days @ $325	$4,875	
Soil Samplers/Geophysical Technicians (3)	15 days @ 200	9,000	
			13,875
Support Costs			
Camp Costs	60 man days @ 40	2,400	
4WD Truck	15 days @ 90	1,350	
Communications	15 days @ 25	375	
Miscellaneous Supplies		500	
			4,625

Equipment Rental			
Base Station Magnetometer and Magnetometer			
	15 days @ $150	$2,250	
VLF-EM Receiver	15 days @ 25	375	
			2,625
Analyses			
450 Soil Samples (Au, Ag, Cu, Pb, Zn)			
	@ 8.30	3,735	
60 Rocks (Au, Ag, Ba, ICP)	@ 17.35	1,041	
20 Rocks (Whole Rock)	@ 32.00	640	
			5,416
Consulting/Supervision			
5 days @ $450		2,250	
Expenses		500	
			2,750
Report Writing			
Geologist	10 days @ 325	3,250	
Geophysicist	1 day @ 450	450	
Drafting	70 hrs @ 18	1,260	
Materials		1,000	
			5,960
			36,001
Administration (15% on $13,551)			2,033
			38,034
Contingency (15%)			5,705
	Total, say		$43,500

PHASE III

IP and/or EM Survey (includes linecutting, camp, report)	5 days @ $2,000	$10,000

Trenching (including drill, powder, assaying samples, geological mapping)		$ 8,000
Diamond drilling (including camp, geologist, assaying samples, report)	500 m @ $150	75,000
		93,000
Administration (15% on, say, $75,000)		11,250
		104,250
Contingency (10%)		10,425
	Total, say	$114,500

5.3 Schedule

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

Table 1 - Phase I Project Schedule - Aft, Rodeo Claims

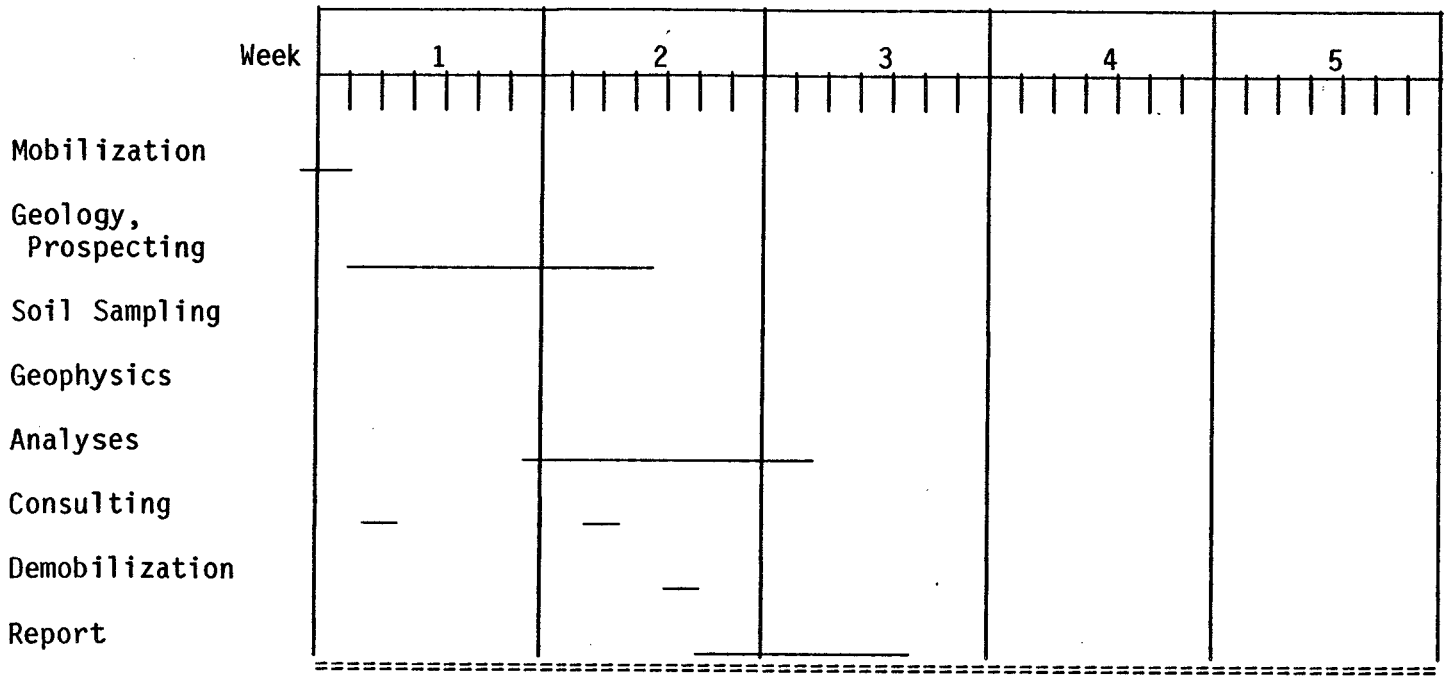
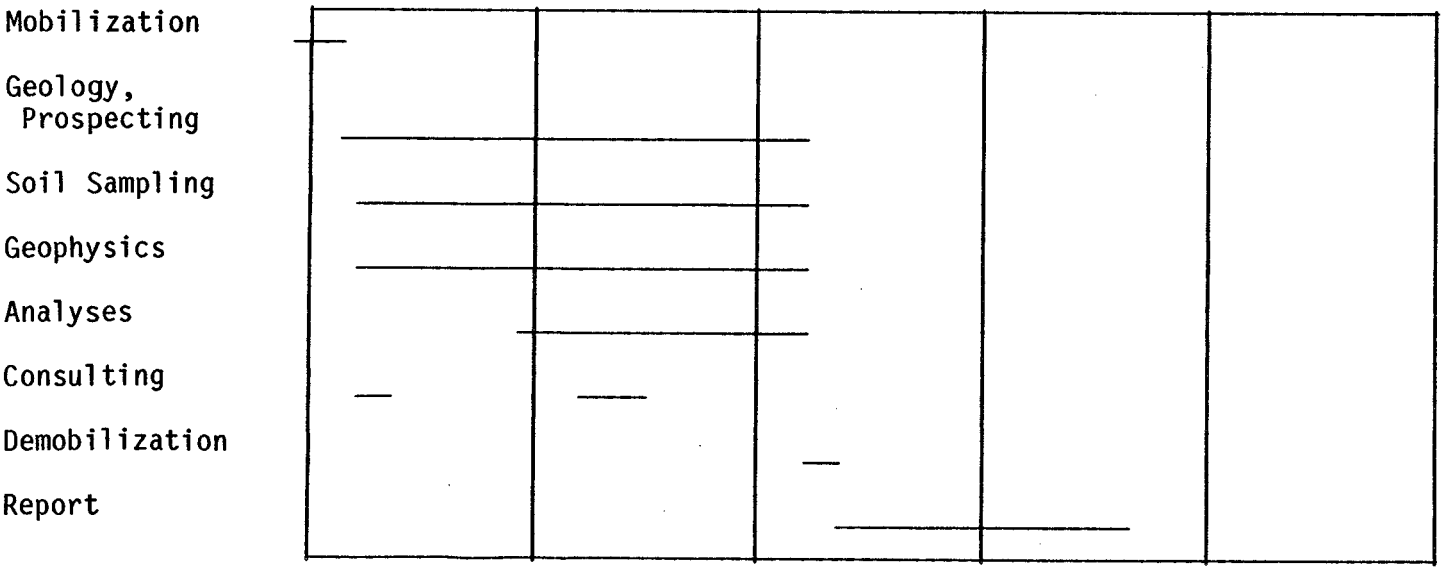


Table 2 - Phase II Project Schedule - Aft, Rodeo Claims



7.0 CONCLUSIONS

1. The Aft claim is underlain by Island Intrusions tonalite containing abundant xenoliths and/or rafts of altered Bonanza volcanics.

2. The Rodeo claim is underlain by Island Intrusions tonalite containing xenoliths of Bonanza volcanics and by Bonanza basaltic volcanics underlain by tonalite at a shallow depth.

3. Known mineralization occurring on or near the claims includes two Au-bearing quartz veins and a Cu-Mo stockwork in Island Intrusions on the Rodeo claim; the Mt. Olsen Cu showing in Bonanza volcanics near the Rodeo claim; and the WWW and Corrigan Creek Au mines in Island Intrusions adjacent to the Aft claim.

4. Corrigan Creek is an ex-producer of placer gold.

5. Rock sampling located a zone anomalous in Cu on the Rodeo claim. Silt sampling indicates that a richer zone may lie downstream.

6. Further work involving a systematic program of geological mapping and sampling, prospecting, geochemistry, and geophysics, followed by detailed geophysics, trenching, and diamond drilling is required to fully assess the economic potential of the claims.

8.0 RECOMMENDATIONS

1. It is recommended that before any further work is carried out, Imperial Metals Corp. be approached with regards to the areas of the Aft and Rodeo claims to which it holds the base metal rights.

2. A 10-day Phase I program to consist of geological mapping, rock sampling, and prospecting covering all areas of both the Aft and Rodeo claims is recommended at an estimated cost of $23,000.

3. It is recommended that the Golden Slipper and Golden Rule Au-bearing quartz veins be located, mapped, and sampled. Information on the Andy Cu-Mo stockwork should also be obtained if possible (diamond drill hole logs, etc.).

4. It is recommended that the zone of anomalous Cu results on the Rodeo claim (samples BH-1 to 6) and the area downstream indicated by silt sampling to be even more anomalous be followed up with detailed mapping and sampling.

5. Phase II geological mapping and sampling, soil sampling, and VLF-EM and magnetometer surveys on grids over targets located by Phase I; and Phase III detailed geophysical surveys and trenching on anomalous grid areas followed by diamond drilling

are recommended at estimated costs of $43,500 and $114,500, respectively. Phases II and III are each to be contingent upon favourable results from the previous phase of work.

Respectfully submitted
MPH Consulting Limited

T. Neale, B.Sc.

PROFESSIONAL GEOLOGIST ALBERTA
T.G. Hawkins
LICENSED TO PRACTISE

T.G. Hawkins, P.Geol.

May 22, 1985

CERTIFICATE

I, T. Neale, do hereby certify:

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

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

3. That the opinions, conclusions, and recommendations contained herein are based on field work on the claims in February 1985, library research work, and my experience in the area.

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

T. Neale, B.Sc.

Vancouver, B.C.
May 22, 1985

REFERENCES

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

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

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

Muller, J.E. 1977: Geology of Vancouver Island (West Half); G.S.C. Open File 463.

1980: The Paleozoic Sicker Group of Vancouver Island, British Columbia; G.S.C. Paper 79-30.

Neale, T. 1984: Compilation of Mineral Occurrences of the Sicker Group, Vancouver Island, British Columbia; for MPH Consulting Limited.

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

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

APPENDIX I

LIST OF PERSONNEL
AND
STATEMENT OF EXPENDITURES

MPH

LIST OF PERSONNEL
AND
STATEMENT OF EXPENDITURES

The following expenses have been incurred on the Aft and Rodeo claims for the purposes of mineral exploration on the dates of February 17, 22, and 23, 1985.

Personnel:			
T. Neale, B.Sc.			
3.25 days @ $325			$1,056.25
W.G. Hoiles, Assistant			
3 days @ 200			600.00
T.G. Hawkins, P.Geol.			
2 hrs @ 80			160.00
Equipment Rental:			
Truck	3 days @ $50		150.00
Snowmobiles	3 days @ 50(x2)		300.00
Expenditures:			
Meals and Accommodation		263.51	
Transportation (gas, ferries)		75.16	
Supplies		20.40	
Analyses			
4 @ $8.05 (Au,Ag,Cu,Pb,Zn--silts)		32.20	
18 @ 9.65 (Au,Ag,Cu,Pb,Zn--rocks)		173.70	
Report Costs (drafting, typing, copying)		515.57	
Miscellaneous (phone)		6.44	
		1,086.98	
Administration @ 15%		163.05	
			1,250.03
			$3,516.28

The proportion of the total amount spent on the two claims that is to be applied to the Aft claim is 28.6% (8/28) and to the Rodeo claim is 71.4% (20/28). The amount applied to the Aft claim is therefore $1005.66, and to the Rodeo claim, $2510.62.

APPENDIX II

ROCK SAMPLE DESCRIPTIONS
AND
GEOCHEMISTRY RESULTS

Rock Sample Descriptions and Geochemical Results - Aft Claim

Sample No.	Description	Ag ppm	Cu ppm	Pb ppm	Zn ppm
TN-F	Andesite: medium green grey, fairly hard, fine-grained; minor disseminated pyrite; cut by many thin to very thin (1 mm-<0.1 mm) quartz veinlets, possibly pervasively silicified. Float. Weathers whitish green.	0.2	112	2	64
TN-G	Tonalite + silicified Andesite: fine-grained; 20% quartz, 40% feldspar, 40% mafics, including abundant mafic phenocrysts to 5 mm. Andesite is medium green, very hard, fine-grained; contains 2% pyrite disseminated in cubes to 1 mm in an area about 1.5 x 0.5 cm. Contact between tonalite and andesite is sharp; 65% tonalite, 35% andesite.	0.2	54	4	48
TN-H	Tonalite: fine-grained, fairly hard; 10% quartz, 35% feldspar; 55% mafics; weak HCl reaction; very minor disseminated pyrite; out by several quartz and quartz-CO_3 stringers to 3 mm wide.	0.4	40	4	102
TN-I	Diorite/Tonalite: 10%(?) quartz, 35% feldspar, 55% mafics; fine-grained; locally contains up to 1% pyrite disseminated in irregular grains to 1 mm, minor disseminated pyrite is ubiquitous.	0.4	36	2	74
TN-J	Andesite: medium to dark green, fairly hard, fine-grained; cut by a moderate number of quartz-CO_3 stringers to 1.5 mm wide.	0.2	42	44	108
TN-K	Tonalite: 15% quartz, 30% feldspar, 55% mafics; kaolinitic, cut by fairly numerous quartz stringers to 3 mm in several directions; no pyrite noted.	0.2	18	2	54

Rock Sample Descriptions and Geochemical Results - Rodeo Claim

Sample No.	Description	Ag ppm	Cu ppm	Pb ppm	Zn ppm
TN-B	Tonalite: Approx. 25-30% quartz, 25% mafics, 45-50% plagioclase; medium-grained; contains <1% disseminated pyrite with up to 10% pyrite in cubes to 2 mm associated with irregular mafic-rich areas to several cm across (partly absorbed xenoliths?); weathers rusty. Pyrite also occurs in thin (1 mm) discontinuous stringers.	1.2	158	18	64
TN-C	Basalt: dark grey to black; hard (silicified?); contains 10-20% rounded feldspar phenocrysts to 1.5 mm; weakly magnetic; 1-5% disseminated pyrite, up to 25% pyrite in occasional thin (2-3 mm) quartz veinlets and on fracture surfaces. Occurs as xenoliths within tonalite of sample TN-B.	0.4	136	10	88
TN-D	Quartz feldspar vein: 15 cm wide; cuts Bonanza(?) volcanics of sample TN-E; White; sugary texture; 1% biotite flakes to 2 mm; one 2 mm speck of pyrrhotite noted. One area with banding between quartz "layers" 1 to >5 mm thick and feldspar "layers" about 5 mm thick. Weathers kaolinitic.	0.2	12	8	16
TN-E	Hornfelsed basalt??: dark grey, very hard, extremely hard to break, fine-grained; irregular areas of darker and lighter coloured rock 5-10 (or more) cm across; no pyrite noted except in minor amounts on some fracture surfaces; cut by fairly numerous white quartz stringers to 4 mm, some of which have medium grey cores to 2 mm.	0.2	12	6	68
BH-1	Hornfelsed basalt: dark greenish grey, hard, heavy, fine-grained; 40-50% pyrite on some fracture surfaces in thin films of crystals(?) to 1.5 mm; fairly abundant stringers of quartz 1-5 mm, commonly with minor associated pyrite; weathers very rusty.	0.8	240	10	80
BH-2	Diorite dyke and Hornfelsed Basalt: Diorite has 10% quartz, 45-50% plagioclase, 45% mafics, 0-2% disseminated pyrite with 30% pyrite on some fracture surfaces. Basalt is similar to sample BH-1 (same outcrop) but has has rounded to rectangular feldspar phenocrysts to	0.6	238	2	64

Sample No.	Description	Ag ppm	Cu ppm	Pb ppm	Zn ppm
	5 mm about 10-30% and has up to 1% disseminated pyrite near diorite contact and abundant pyrite coated fractures. Both rock types heavily rust stained. Sample is 30% diorite, 70% basalt.				
BH-3	Hornfelsed Basalt: dark greenish grey, hard, fine-grained, heavy; weakly to moderately magnetic; 2-7% fine disseminated pyrite (and/or pyrrhotite); few quartz stringers 1-5 mm; minor rust stain.	0.4	272	4	66
BH-4	Hornfelsed Basalt: medium to dark grey, hard; feldspar phenocrysts to 1 mm about 15-35% in fine-grained matrix; weakly magnetic; 1% disseminated pyrite (and/or pyrrhotite?) and 25-50% pyrite or fracture surfaces and in quartz stringers to 2 mm wide; very rusty weathering.	0.4	204	2	50
BH-5	Diorite and Dioritized Basalt: Diorite is fine-grained; 10% quartz, 35% feldspar, 55% mafics; little or no pyrite. Basalt is medium to dark grey, fine-grained, contains up to 40% or more feldspar phenocrysts (porphyroblasts?) near contact with diorite; fairly hard; moderately magnetic; 0-2% disseminated fine pyrite. Sample is about 60% basalt, 40% diorite; fairly rusty.	0.2	96	2	78
BH-6	Meta-basalt and diorite: similar to sample BH-5; 80% basalt, 20% diorite. Basalt weakly to moderately magnetic; heavy rust stain. Diorite has occasional quartz(-epidote?) veins to 2 cm.	0.8	188	34	66
9103	Dioritized Basalt: dark-greenish grey, hard, weakly magnetic; 40-60% feldspar phenocrysts to 1.5 mm in fine-grained mafic matrix; minor disseminated pyrite; minor rust stain.	0.4	22	6	64
9105	Basalt: fairly coarse-grained, fairly soft, locally weakly magnetic; no pyrite noted; 10-20% feldspar phenocrysts to 1 mm, 45-60% pyroxene (and/or biotite?) phenocrysts to 1 cm; cut by occasional quartz (± epidote) stringers to 4 mm wide. Possibly a fine-grained diorite.	1.2	32	4	158

Sample No.	Description	Ag ppm	Cu ppm	Pb ppm	Zn ppm
Silt Samples					
001	-80 Mesh	0.2	88	4	132
016	-40 Mesh	0.6	480	2	144
017	-80 Mesh	1.0	610	2	148
020	-40 Mesh	3.0	780	22	132

APPENDIX III

CERTIFICATE OF ANALYSIS

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

CERTIFICATE OF ANALYSIS

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

PROJECT: V196
TYPE OF ANALYSIS: GEOCHEMICAL

CERTIFICATE#: 85100
INVOICE#: 5215
DATE ENTERED: 85-05-20
FILE NAME: MPH85100
PAGE # : 1

RE IX	SAMPLE NAME	PPM Cu	PPM Ag	PPM Zn	PPM Pb	PPB Au
S	001	88	0.2	132	4	10
S	-40 MESH 016	480	0.6	144	2	10
S	017	610	1.0	148	2	10
S	-40 MESH 020	780	3.0	132	22	10
T	TN-B	158	1.2	64	18	10
T	TN-C	136	0.4	88	10	10
T	TN-D	12	0.2	16	8	10
T	TN-E	12	0.2	68	6	10
T	TN-F	112	0.2	64	2	10
T	TN-G	54	0.2	48	4	10
T	TN-H	40	0.4	102	4	10
T	TN-I	36	0.4	74	2	10
T	TN-J	42	0.2	108	44	10
T	TN-K	18	0.2	54	2	10
T	BH-1	240	0.8	80	10	10
T	BH-2	238	0.6	64	2	10
T	BH-3	272	0.4	66	4	10
T	BH-4	204	0.4	50	2	10
T	BH-5	96	0.2	78	2	10
T	BH-6	188	0.8	66	34	10
T	9103	22	0.4	64	6	10
T	9105	32	1.2	158	4	10

AFT CLAIM

RECEIVED MAY 2 2 1985

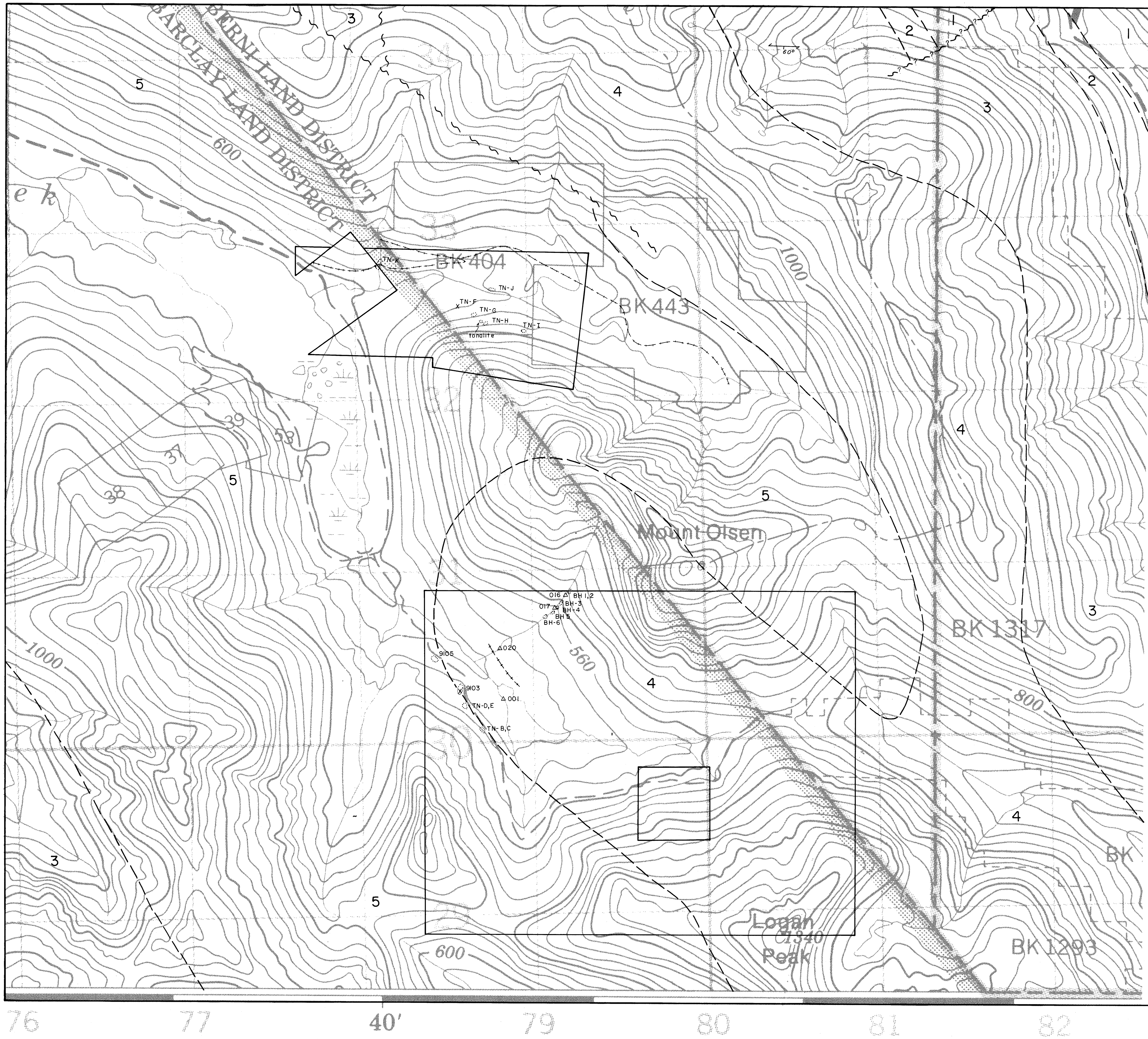
CERTIFIED BY : F. Rossbacher

APPENDIX IV

ABBREVIATIONS USED
IN
MINERAL OCCURRENCES REFERENCES

Abbreviations Used in Mineral Occurrences References

AR	B.C. Ministry of Energy, Mines, and Petroleum Resources Assessment Report
BCDM	British Columbia Department of Mines
Bull	Bulletin
EBC	Exploration in British Columbia; B.C. Ministry of Energy, Mines and Petroleum Resources
GCNL	George Cross News Letter
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
P	Paper



LEGEND

GEOLOGY (modified from GSC Open File 463)

LOWER TO MIDDLE JURASSIC

5	Island Intrusions: granodiorite, quartz diorite.

LOWER JURASSIC

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

MIDDLE ? AND UPPER TRIASSIC
Vancouver Group

3	Karmutsen Formation: pillow basalt, breccia, tuff; minor flows.
2	Felsic tuffs and / or volcanics.

Sicker Group
PENNSYLVANIAN AND PERMIAN

1	Buttle Lake Formation: limestone, chert, greywacke, argillite.

SYMBOLS

Claim boundaries

Abandoned railway line

Geological contact approximate

~~, ~?~ Fault, approximate, assumed

Approximate area of outcrop

X TN-G Rock sample location and number

Foliation

GEOLOGICAL BRANCH ASSESSMENT REPORT

13,671

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

22/05/85

LADYSMITH MINERALS LTD.

PROPERTY PLAN, GEOLOGY, AND ROCK SAMPLING

AFT, RODEO CLAIMS

ALBERNI MINING DIVISION, B.C.

Project No:	V 196	By:	T.N.
Scale:	1 : 10 000	Drawn:	J. S.
Drawing No:	5	Date:	MAY, 1985.

MPH Consulting Limited