

Preliminary Geological Report

on the

M-21 Claim Group

Situated on

Texada Island

Nanaimo Mining Division

British Columbia

Latitude 49°45'N Longitude 124°35'W

N.T.S. 92F/15E

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
7414
NO. _____

Field Work - June 4th to June 12th, 1979

Report by

H. E. Madeisky, Geologist
July, 1979
Delta, B. C.



Cochrane Consultants Limited
4882 Delta St., Delta, B.C. V4K 2T8 946-9221
Geotechnical Consulting / Exploration Services

geology
geophysics
geochemistry

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INTRODUCTION

The M-21 group of mineral claims on Texada Island (Nanaimo Mining Division) is owned by Longbar Minerals Ltd., a wholly owned subsidiary of Aquarius Resources Ltd. Having acquired the responsibility to maintain the M-21 group in good standing, Aquarius Resources carried out field work to that effect between June 4th and June 12, 1979.

The report that follows, is an account of the work performed and the data collected. It is submitted to complete the requirements of the "notice of assessment work" for the M-21 group, filed on behalf of Longbar Minerals Ltd., on June 15, 1979.

Background information, and on-site field orientation was provided by Mr. D.R. Cochrane, P.Eng., and by Mr. Jon Stewart, Vice-President, Aquarius Resources Ltd., as outlined in Appendix IV.

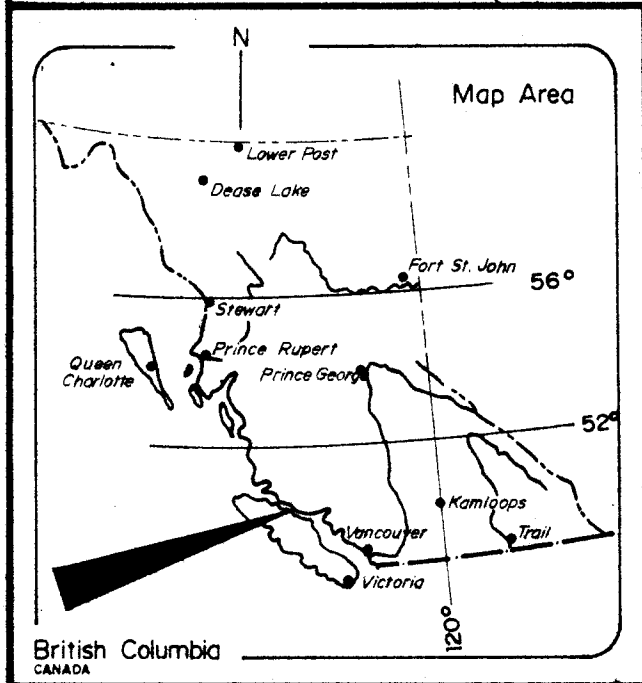
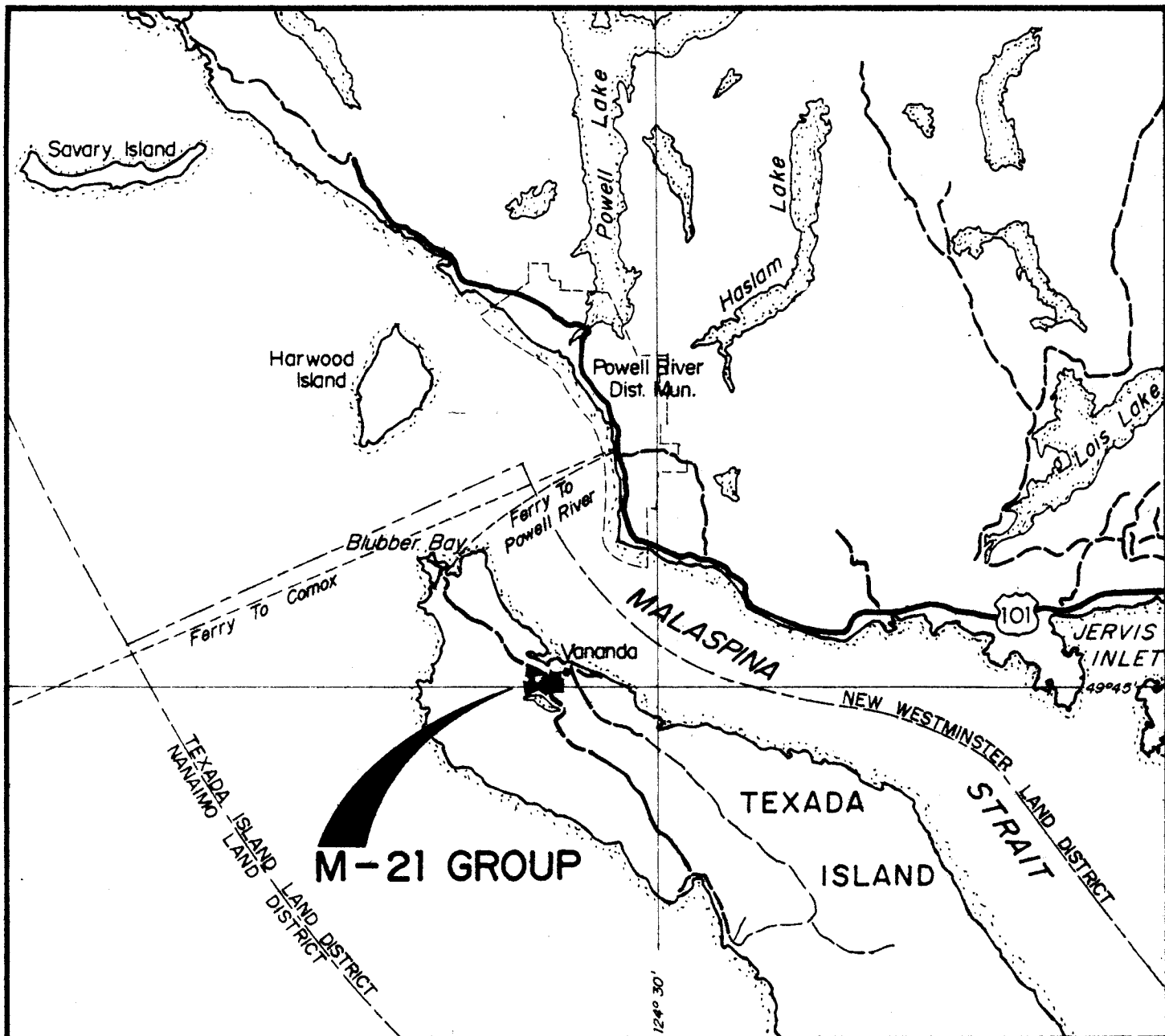


LOCATION AND ACCESS

The claims of the M-21 group cover a part of the town of Vananda on Texada Island, and lie just SW of it. That is approximately 120 km away, northwest from downtown Vancouver. Road access from Vancouver is north along highway 101 to Powell River, then by ferry to Blubber Bay on Texada Island, and from there by road to Vananda. It should be noted that, inspite of the proximity to Vancouver, it takes the better part of a day to reach the property. It is much faster to fly from Vancouver International Airport to Gillies Bay (Airwest runs a daily schedule) and from there take a car to Vananda, some 8 miles north.

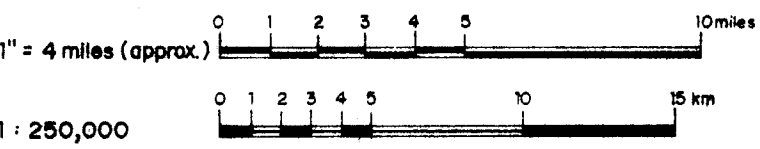
The exact location of the M-21 claims is easily recognized by the Texada Arms Hotel, which sits squarely on the Marble Bay Fraction of the group. Virtually all of the property is accessible by secondary roads, some dating back to the early part of this century. These are best traversed by means of four-wheel-drive vehicle, or on foot.





AQUARIUS RESOURCES LTD. **M-21 GROUP**

Nanaimo Mining Division N.T.S. 92F Texada Island, B.C.



LOCATION MAP

FIG. 1

P.K.C. JULY / 79

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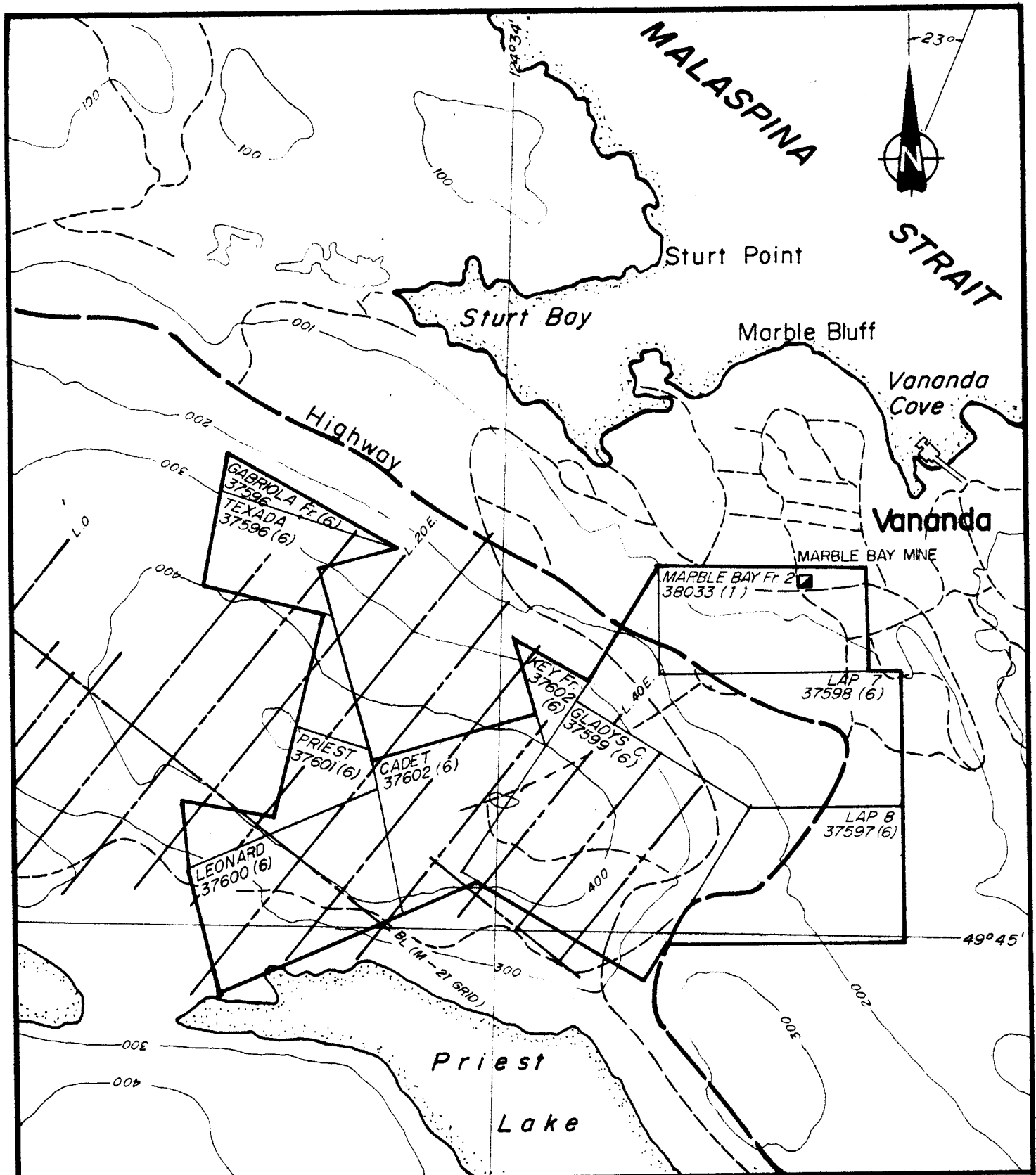
British Columbia
CANADA

CLAIMS INFORMATION

<u>CLAIM NAME</u>	<u>RECORD NO.</u>	<u>EXPIRY DATE</u>	<u>EXPIRY DATE AFTER ASSESSMENT</u>
Cadet (L138)	37602	June, 1979	June, 1982
Key Fr. (L141)	37602	June, 1979	June, 1982
Gladys C (L135)	37599	June, 1979	June, 1980
Lap 8 Fr. (L530)	37597	June, 1979	June, 1982
Lap 7 Fr. (L529)	37598	June, 1979	June, 1982
Leonard (L136)	37600	June, 1979	June, 1982
Marble Bay Fr. (L157)	38033	Jan., 1980	Jan., 1983
Priest (L137)	37601	June, 1979	June, 1982
Texada (L132)	37596	June, 1979	June, 1982
Gabriola Fr. (L139)	37596	June, 1979	June, 1982

The current registered owner of the above detailed claims is Longbar Minerals Ltd., of Powell River, British Columbia. As per agreement Aquarius Resources Ltd., is carrying out and reporting the work done on the M-21 group.





CLAIMS MAP FIG. 2



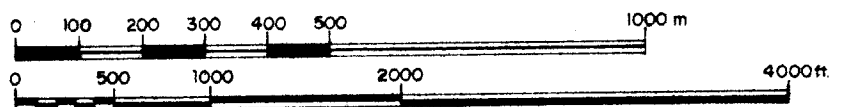
AQUARIUS RESOURCES LTD.

M · 21 GROUP

Nanimo Mining Division N.T.S. 92F / 15E Texada Island, British Columbia

1:12,000

1" = 1000'



P.K.C. JULY/79

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WORK DONE

1. Geological mapping along grid lines previously established on the property (Spring 1978).
2. Examination of old workings on the property.
3. Prospecting for native gold by panning eluvial material from oxidized (Gossan) zones.



GENERAL GEOLOGY

The overall geological setting of the northern quarter of Texada Island is presented as rather simple.

Mapped by R.G. McConnell in 1909 (G.S.C. Paper, 68-50, 1968) the area of interest is reported to be underlain by volcanic rocks in the west, which dip gently NE under a sequence of limestone that cover most of the northern quarter of the island. Both volcanics and limestone are intruded by dykes and stocks thought to belong to the middle Jurassic island intrusion. (Muller, 1968).

The volcanics are generally equated with the Upper Triassic Karmutsen volcanics found on Vancouver Island and the limestones are tentatively correlated with the Quatsino limestone also found on Vancouver Island. The volcanics are accepted as the oldest rocks in this area. The thickness of the sequence is not known.



The thickness of the limestone was estimated by McConnell (1914) to be somewhat in excess of 1000 feet. A large number of mineral occurrences have been prospected and worked in this area; essentially all of these are skarns. The intrusives into limestone are generally held to be the source of the mineralization. The structure of the area is not well defined, owing to a lack of bedding and often sedimentary information obscured by the recrystallization of the limestone.



GEOLOGY OF THE M-21 GROUP

About 75 percent of the area is covered by superficial deposits. The remainder is outcrop, usually in the form of NW trending glaciated ridges, and to a lesser extent, road cuts.

Lithology:

Three rock types were distinguished on the property. This is only a gross approximation of the species of rock actually present, but it is adequate for the purpose of this report.

1. Intrusives

Middle to Upper Jurassic dykes, stocks and sills of varying, but essentially dioritic composition, thought to belong to the Island Intrusions (Muller and Carson, 1968).

- (a) Diorite porphyrite dykes; evenly fine grained, dark grey to greenish rock, rarely exhibiting it's porphyritic texture in fresh specimens, weathered



surfaces show porphyritic texture, it is thought that plagioclase and, to a lesser extent, hornblende are the phenocrysts.

These dykes are the most recent intrusives in the area. They are emplaced along two directions NNW-SSE and E-W, the former probably being the direction of axial traces of the folded volcanic - limestone sequence, the latter being along tearfaults across these folds.

(b) Granodiorite: medium grained, light grey to greenish rock, occasionally porphyritic (plagioclase and hornblende phenocrysts), anhedral quartz and flecks of biotite, generally massive rock.

(c) Diorite: coarse to fine grained, dark grey to greenish rock, considerable variation in grain size is observable within individual stocks, plagioclase,



hornblende and biotite comprise the bulk of the rock, quartz is a minor constituent, magnetite is nearly always present, generally massive rock.

Except for epidote in chilled margins and chlorite on the surfaces of strong shears, the intrusives are virtually unaltered.

2. Limestones

Thought to be Triassic (McConnell, 1914) and called the Marble Bay formation, they are more or less completely recrystallized limestones of predominantly calcareous composition, varying from blue grey to white in colour, and from crypto-crystalline to saccharoidal in texture, the latter texture commonly coinciding with the lighter coloured rock.

Occasionally small specks, lenses and streaks of black chert are present.

In many places freshly broken pieces of limestone give off a noticeably putrid odour, presumably H_2S , giving rise to



to the speculation that the limestones are euxinic in origin. It has also been noted that some of the recrystallized limestone is uncommonly dense. These rocks comprise about 70 percent of the outcrop on the M-21 group.

3.

Volcanics

Called the Texada Porphyrites. They are thought to be coeval with the rocks of the middle - Upper Triassic Karmutsen group found on Vancouver Island (Muller et al 1968)

Augite porphyrite: green to grey, rusty weathering, medium to fine grained rock, augite and plagioclase comprising the groundmass, plagioclase laths being the phenocrysts where the rock is porphyritic. Where it is vesicular the vesicles are usually filled with calcite, chlorite and epidote (often all three). The porphyritic and vesicular variety often grade imperceptively into another, consequently the rock has been mapped as one unit.



The volcanics are pervasively altered, chief alteration products being chlorite and epidote.

The volcanics under-lye the SW portion of the M-21 claims group and dip NE under the limestones.



STRUCTURE

The structure of the area examined is difficult to assess. Apart from lack of outcrop, virtually all the bedding planes and often sedimentary features in the limestone have been obscured by the effects of recrystallization.

Similarly, the volcanics offer few clues to their original structure. It is thought that the volcanics are intrusive (McConnell, 1914) as well as extrusive. All contacts between limestone and volcanics observed on the property appear to be faulted and are thus of little use to establish the original juxtaposition of volcanics and limestones.

There are some places, unfortunately not on the property, where bedding can be seen (Blubber Bay area) and it appears that the limestone has shallow open folds trending and gently plunging NNW.



Both limestones and volcanics exhibit strong shearing (foliation) in a NNW direction, often faulted along the same direction. It is along this direction that most of the intrusives seem to be emplaced and are elongate. Faulting also occurs along a nearly N-W direction; some of the younger dykes seem to favour that direction.

Faulting in the area of the M-21 group is quite extensive, primarily parallel, sometimes across the direction of foliation. Magnitude and direction of the faulting is not yet known. No dragfolding was observed in or near fault zones.

The most prominent fault is the one that provides for the volcanic/limestone contact at the Gladys C workings, the contact W of the T.V. tower and the trench near the border with the Volunteer Crown Grant.

The other prominent fault runs nearly N-S, seen behind the Texada Arms Hotel and crossing the highway near the Dept. of Highways compound. It shows up as a siderite filled shearzone in Marble Bay limestones.



MINERALIZATION

Apart from pyrite which is present throughout nearly all the rocks on the property, the only economic minerals observed during the course of the mapping were in the old workings. The mineralization is localized in small patchy skarns developed in and near the NNW trending fault that bisects the property. It consists mainly of magnetite, sphalerite, some chalcopyrite and, to an even lesser extent, galena. Occasionally chalcopyrite is found in quartz stringers in the volcanics.

Magnetite is by far the most abundant economic mineral found.

Since the object of this investigation was to outline possible occurrences of native Au, all skarns were checked for Au by collecting weathered eluvial material, sieving and then panning it. The results were negative in all cases. The procedure was repeated (often several times) and met with the same result.



No samples were taken for assay since panning eluvial material from oxidized (gossan) zone is considered a sufficiently sensitive technique for detecting occurrences of native Au. (Personal communication, D. Cochrane, 1979).

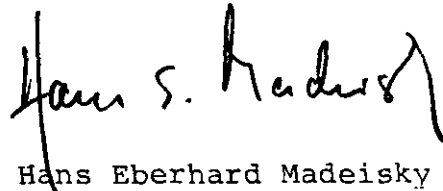


SUMMARY

The claims of the M-21 group on Texada Island was examined between June 4th and June 12th, 1979 for the purpose of locating occurrences of native Au. The area covered by the claims were also geologically mapped. The area was carefully prospected by employing the already described technique. As the work on these claims is part of a larger ongoing exploration programe in the area fielded by Aquarius Resources Ltd., the interpretation of the data collected here must remain confidential.



Respectfully submitted on
behalf of Longbar Minerals

A handwritten signature in cursive script, reading "Hans E. Madeisky". The signature is written in dark ink and is positioned above the typed name.

Hans Eberhard Madeisky
Geologist, Aquarius Resources Ltd.,
July, 1979



APPENDIX I

COSTS

PERSONNEL

Mr. H. E. Madeisky, Geologist, Aquarius Resources Ltd. June 4th to June 14th, 1979 11 days at \$120/day	\$ 1,320.00
Mr. D. R. Cochrane, P. Eng. Cochrane Consultants Ltd. June 4th to June 6th, 1979 3 days at \$200/day	600.00
Mr. J. A. Stewart, Prospector, Aquarius Resources Ltd. June 8th to June 10th, 1979 3 days at \$200/day	600.00
Mr. Jeff White, Helper, Aquarius Resources Ltd. June 5th to June 12th, 1979 8 days At \$75/day	600.00
Ms. P. K Chu, Draftsperson, Cochrane Consultants Ltd. June 13th to July 15th, 1979 55 hrs at \$13.50/hr	742.00
Mr. B. A. Cochrane, A.O.C.A., Manager, Cochrane Consultants various dates throughout project. 11 1/2 hrs at \$16/hr	184.00
	\$ 4,046.00

Cont'd.....



APPENDIX I (cont'd)

Balance forward\$ 4,046.00

Accomodation:

Lodging 276.50
 Meals 304.40

Vehicle Expenses

4 x 4 Rental; 11 days at \$25/day 275.00
 Fuel and Oil 33.25
 Ferries 44.40

Air Fare:

Vancouver to Powell River
 D. R. Cochrane, June 4, 1979 28.00

Reproduction:

Xerox and Diazo Prints 39.01

Typist

Mrs. G. Packer, 4 hrs at \$5.00/hr 20.00

Total.....\$ 5,066.56

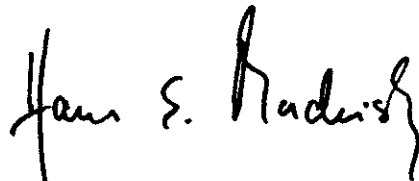


APPENDIX II

CERTIFICATE

I, Hans Eberhard Madeisky of the city of Vancouver, B. C., do hereby certify that:

1. I am an exploration geologist employed by Aquarius Resources Ltd., with an office at 4882 Delta Street, Delta, B. C.
2. I have studied geology and economics at El Camino College, Torrance, California (1965-67), U.S.C. (1966-67), Vancouver City College (1972), University of British Columbia, (1972-74, 1977-78).
3. I have practiced my profession since 1968 in British Columbia, Yukon, North West Territories, and Greece in the employ of companies like, Newmont Mines of Canada Ltd., Canadian Superior Exploration Ltd., and Dennison Mines Ltd.
4. I have no interest, direct or indirect in the securities of Longbar Minerals Ltd., nor Aquarius Resources Ltd., nor do I expect to acquire any such interests.



Hans Eberhard Madeisky

July, 1979

Delta, B. C.



APPENDIX III

BIBLIOGRAPHY

McConnell, R.G.

1908: Summary Report, G.S.C.

Muller and Carson,

1968: Paper 68-50, G.S.C.

Cochrane, D.R.

1978: Progress Notes, (private company report)

Cochrane, D.R.

1978: Geophysical, Geochemical Trenching
and Diamond Drill Program

B. C. Minister of Mines

1955: Index No. 3, Table 1



APPENDIX IV

PERSONNEL AND DATES WORKED

Mr. H. E. Madeisky, Geologist, Aquarius Resources Ltd.,

June 4 to June 14, 1979.

Mr. D. R. Cochrane, P.Eng., Cochrane Consultants Ltd.,

June 4 to June 6, 1979.

Mr. J. A. Stewart, Prospector, Aquarius Resources Ltd.,

June 8 to June 10, 1979.

Mr. Jeff White, Helper, Aquarius Resources Ltd.,

June 5 to June 12, 1979.

Ms. P. K. Chu, Draftsperson, Cochrane Consultants Ltd.,

June 13 to July 15, 1979.

Mr. B. A. Cochrane, A.O.C.A., Manager, Cochrane Con-

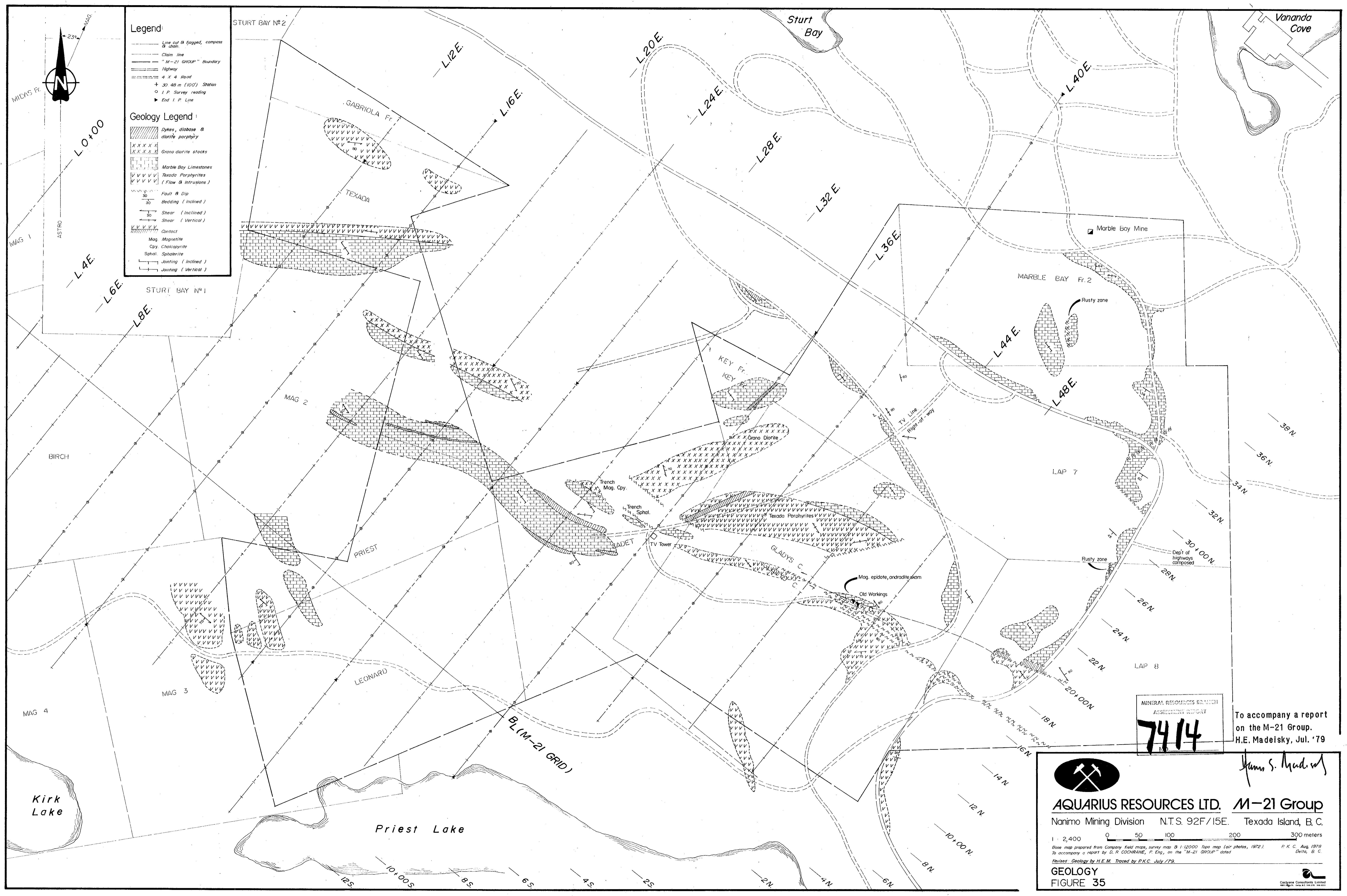
sultants Ltd., various

dates throughout project.

Mrs. G. M. Packer, Secretary, Cochrane Consultants Ltd.,

various dates throughout project.

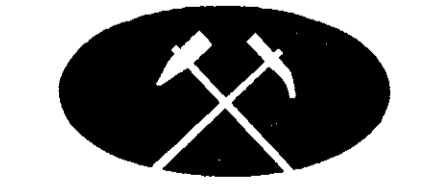




- Legend:**
- Line cut & fagged, compass & chain
 - Claim line
 - "M-21 GROUP" boundary
 - Highway
 - 4 x 4 Road
 - 30 x 48 m (100') Station
 - I.P. Survey reading
 - End I.P. Line
- Geology Legend:**
- Dykes, diabase & diorite porphyry
 - Granodiorite stocks
 - Marble Bay Limestones
 - Texada Porphyrites (Flow & Intrusions)
 - Fault & Dip
 - Bedding (Inclined)
 - Shear (Inclined)
 - Shear (Vertical)
 - Contact
 - Mag. Magnetite
 - Cpy. Chalcopyrite
 - Sphal. Sphalerite
 - Jointing (Inclined)
 - Jointing (Vertical)

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
7414

To accompany a report
on the M-21 Group.
H.E. Madeisky, Jul. '79



AQUARIUS RESOURCES LTD. M-21 Group

Nanimo Mining Division N.T.S. 92F/15E. Texada Island, B.C.

1:2,400 0 50 100 200 300 meters

Base map prepared from Company field maps, survey map B 112000 Topo map (air photos, 1972). R.K.C. Aug. 1978
To accompany a report by D.R. COCHRANE, P. Eng., on the "M-21 GROUP" dated Delta, B.C.

Revised Geology by H.E.M. Traced by P.K.C. July 1979.
GEOLOGY
FIGURE 35

Hans S. Madeisky

