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DOCUMENTATION
IN SUPPORT OF
APPLICATIONS FOR CROWN LAND
BONANZA LAKE AREA, VANCOUVER ISLAND

LEO D'OR MINING INC.

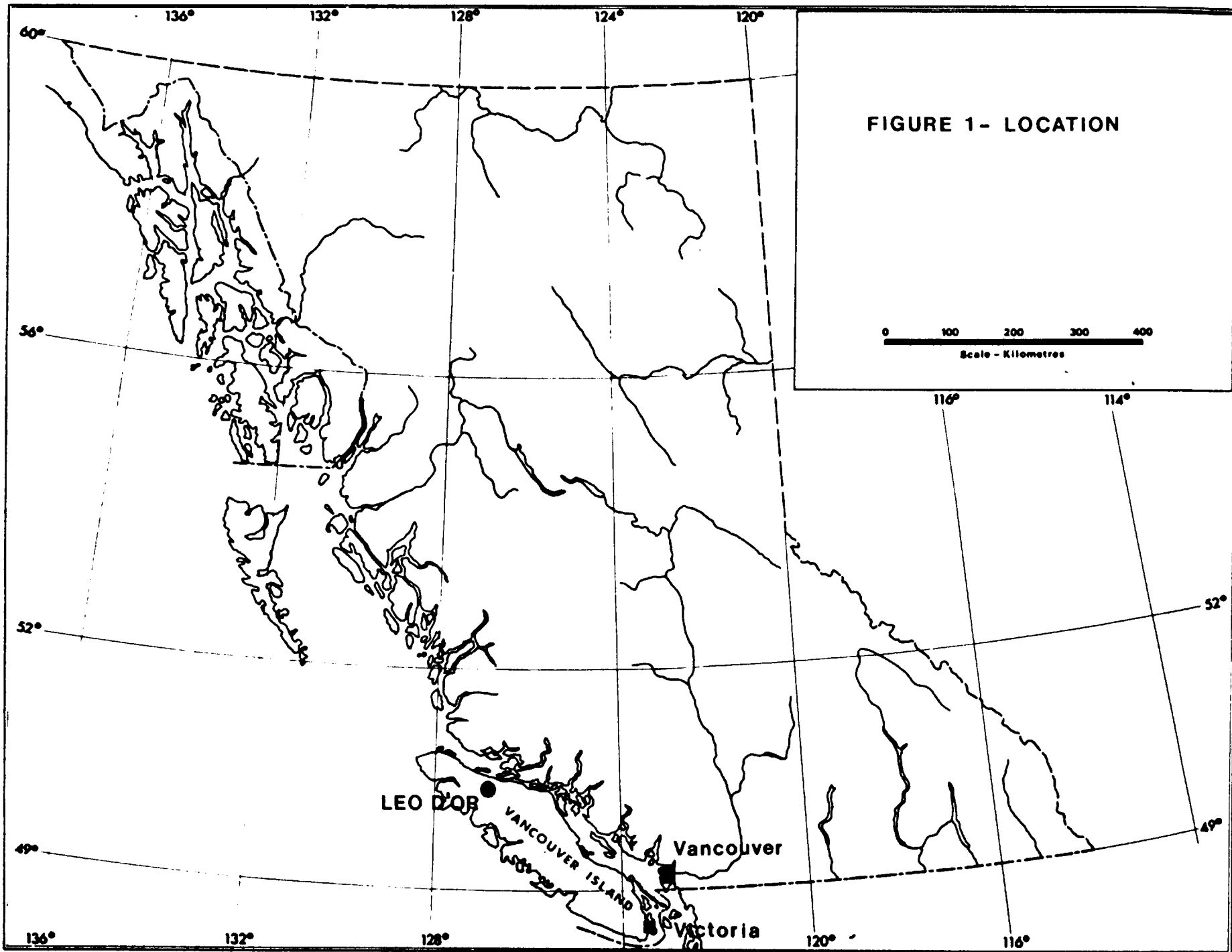
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TABLE OF CONTENTS

	Page
INTRODUCTION	1
LOCATION AND ACCESS	1
CURRENT PROPERTY	2
PHYSICAL SETTING	2
HISTORY	3
1993 WORK PROGRAM	5
PROPERTY GEOLOGICAL SETTING	7
ATEAS SELECTED FOR APPLICATIONS FOR CROWN LAND	9
Area C	9
Area B	10
Area A	12
DRAFT MANAGEMENT PLAN	13
General Statement	13
Future Plans	14
Drainage Control Measures	15
Planned Production	15
Markets	16
REFERENCES	18
APPENDIX I - Applications for Crown Land	19
APPENDIX II - BC Hydro Correspondence	20
APPENDIX III- 1993 Geological Report	21

List of Figures

	Following Page
Figure 1 - Location	Frontispiece
Figure 2 - Location - Leo D'Or Mineral Claim	1
Figure 3 - Leo D'Or Mineral Claim	2
Figure 4 - Leo D'Or Mineral Claim - Geology	Appendix III
Figure 4a- Geology - Leo D'Or Property	7
Figure 5 - Proposed Areas for Licenses of Occupation Pocket	"
Figure 6 - Survey Plan - Location of Improvements	"
Figure 7 - Section A - Bonanza Lake Marble	14



INTRODUCTION

This report has been prepared to provide information in support of three applications for Crown Land filed by the writer as agent for Leo D'Or Mining Inc. on January 14, 1994.

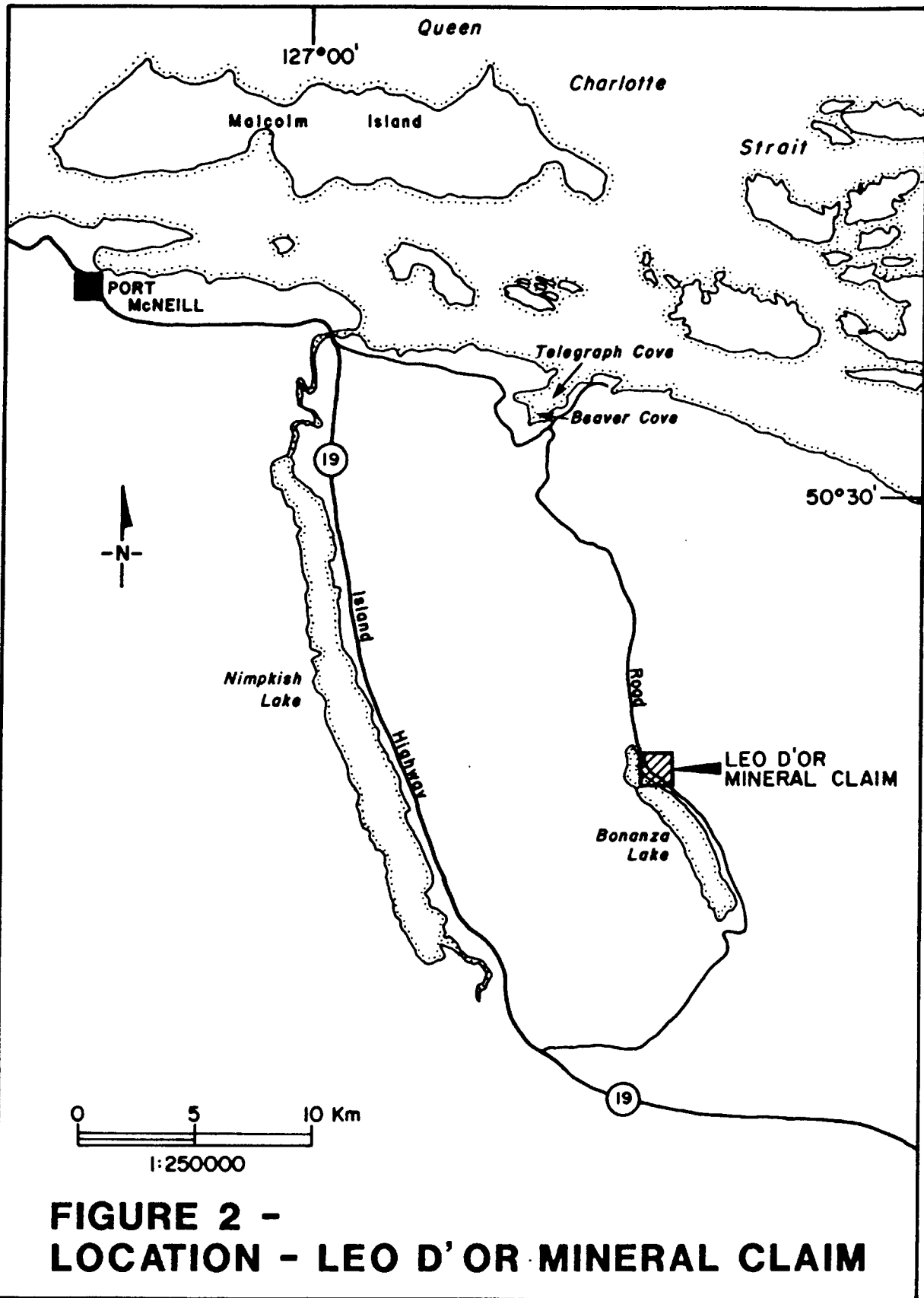
The three areas, for which applications have been filed, are within the boundaries of a mineral claim owned by the Company and situated at Bonanza Lake on northern Vancouver Island. Copies of these applications are included in this report as Appendix I.

The purpose of the applications is to allow for development of quarry resources, namely marble as dimension stone. By-product calcite resources would be subject to provisions of the Mineral Tenure and Mines Acts.

LOCATION AND ACCESS

The applications for Crown Land are within the Leo D'Or mineral claim which covers a 225 hectare area on northern Vancouver Island (Figure 1). The Legal Corner Post of the claim, at latitude $50^{\circ}23.8'$ North and longitude $126^{\circ}48.2'$ West in NTS map-area 92L/7W, is adjacent to the northeast shore of Bonanza Lake 30 km southeast of Port McNeill (Figures 2 and 3).

Access to the topographically lower, northwestern part of the claim is by Provincial highway 19 and paved road to



**FIGURE 2 -
LOCATION - LEO D'OR MINERAL CLAIM**

Beaver Cove and from there by Fletcher Challenge Main Road South (Figure 2). Total road distance from Port McNeill is approximately 45 km.

Higher elevations, in the southeastern part of the claim are accessible by helicopter. Two helipads were constructed on Onyx Hill and a 3.3 km trail into this area from the end of a logging road was flagged and surveyed in 1991 (Figure 5).

CURRENT PROPERTY

The Leo D'Or mineral claim consists of 9 mineral claim units in the Nanaimo Mining Division as shown on Figure 3. Details of the claim are as follows:

<u>Claim Name</u>	<u>Record Number</u>	<u>Units</u>	<u>Date of Record</u>
Leo D'Or	229934	9	June 10, 1985

The mineral claim is registered in the name of Massoud Shariatmadari, president of Leo D'Or Mining Inc., and is in current good standing until June 10, 2002.

PHYSICAL SETTING

The southwestern half of the Leo D'Or claim covers a fairly steep (35°) slope extending from Bonanza Lake (270 metres above sea level) to an elevation of about 760 metres or 2,500 feet (Figures 3, 4a, 5 - note that elevations are in

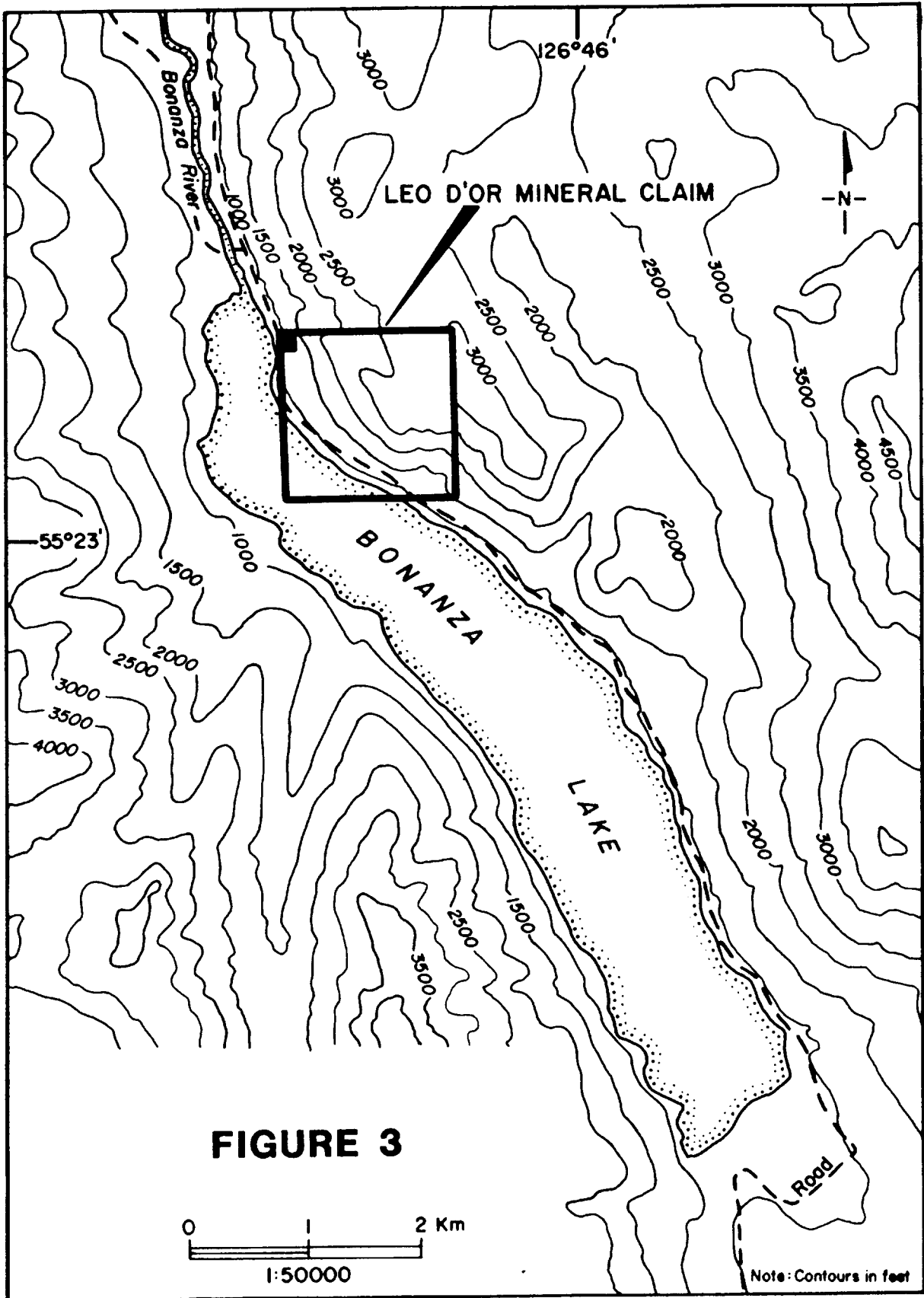


FIGURE 3

Imperial units). The area between the road along Bonanza Lake and 550 metres elevation has been clear-cut logged and bedrock is well exposed throughout this area.

The northeast quarter of the claim features more subdued topography rising to a maximum elevation of 900 metres (3,000 feet) along the eastern claim boundary. Old growth forest cover, with locally thick underbrush, is broken by small swamps and several creeks.

The dominant topographic feature on the mineral claim is Onyx Hill in the east-central claim area which is bounded by +100 metre high cliffs (Figures 3,5).

HISTORY

The present mineral claim was located in 1985 following the identification of marble by Massoud Shariatmadari, president of Leo D'Or Mining Inc. Work since that time has included prospecting and preliminary geological mapping (Game,1986; Devlin and Rychter,1987) and the collection of samples for chemical and physical analyses.

Klohn Leonoff Ltd. (Broughton and Bruce,1988) undertook detailed geological mapping of a 400 x 150 metre (6 hectare) area in the northwestern part of the mineral claim in early 1988. This work, completed on behalf of a predecessor company, White Marble Mountain Corporation, included

petrographic studies and X-Ray diffraction analyses of 12 rock samples collected during this program. A short access road was constructed into this area in early 1991.

Leo D'Or Mining Inc. entered into a an option/joint venture agreement with Harvard Capital Corporation in July, 1991 for the purpose of carrying out further investigation of the property. Work completed by Harvard during a three month period included the drilling of eight vertical holes totalling 213.5 metres within a 240 x 170 metre area on Onyx Hill in the east-central claim area (Figure 4).

A light-weight Prospector 89 diamond drill, supplied by Hydracore Drills Ltd., was transported to a camp area at the south end of Onyx Hill by helicopter. Helicopter support was also used for most of the drill moves.

195 metres of JKT 48-size drill core (almost identical to BQ-size) was recovered from six of the holes drilled; holes 1 and 1A were lost in overburden at 9.5 metre depths. Hole depths ranged from 9.5 to 63.1 metres. Drill cores are stored in the camp area and at the various drill sites on Onyx Hill (Figure 4).

Additional 1991 work included surveying of drill hole locations and preliminary surveying of an access road route to Onyx Hill from the end of existing logging roads by

McElhanney Engineering Services Ltd.(Figure 5).

One short diamond drill hole was completed in the northwestern claim area near the BC Hydro powerline in 1992.

1993 WORK PROGRAM

Investigative test work undertaken in the northwestern claim area in 1993, pursuant to Section 10 of the Mines Act, included a first phase geological mapping program of the entire claim area at a scale of 1:5000 and the completion of several short diamond drill holes in the northwestern claim area.

Most of the 1993 program was directed to the feasibility of extracting large marble blocks from the northwestern claim area utilizing large diamond wire and belt saws designed for quarry work. This phase of the program is subject to provisions as specified by Sections 1(1), 19(4) and 36(1) of the Mineral Tenure Act.

Campsite development, a short distance above the Bonanza Lake road in the northwestern claim area (Figure 5), began May 24,1993 and three portable trailers were moved to the site one week later. The camp is subject to Permit Q-8-25 issued by the Nanaimo office of Ministry of Energy Mines and Petroleum Resources July 5,1993.

Improvements to the site, in addition to the camp,

consisted of access road construction, storage areas for equipment and cut marble blocks and the placement of a water line between Bonanza Lake and a storage tank in the principal work area (Figure 6). Areas were stripped of vegetation and overburden to facilitate cutting of marble blocks.

By early December, 23 marble blocks had been extracted. Eleven of these measured 1.5 x 1.5 x 3 metres (18.5 tonnes); the remainder were 1.8 x 1.8 x 2.4 metres (22 tonnes). One of the larger blocks was shipped by rail to Quebec for further testing and ten blocks have been reportedly shipped recently to a British Columbia firm.

An average crew of 13 was employed during the work season and equipment on site in early December included:

- 1 Michigan 475-C Loader
- 1 Peregrini TD55 Diamond Wire Saw
- 1 W.E. Meyers Diamond Belt Saw
- 1 Ingersoll Rand 700 cfm truck-mounted Compressor
- 1 Caterpillar 100 psi Compressor
- 1 Caterpillar 160 kw Generator
- 1 Caterpillar 100 kw Generator
- 1 Caterpillar 22kw Generator
- 1 Large Air Mattress (to wedge blocks)
- 3 vehicles
- 1 Hydracore Diamond Drill
- 4 Cobra Hand Drills
- Fuel Tanks
- 3 Portable Trailer Units - 10' x 10' x 40'
- 10' x 14' x 40'
- 10' x 40' x 80'

PROPERTY GEOLOGICAL SETTING

Vancouver Island makes up the southern part of the Insular belt, the westernmost tectonic subdivision of the Canadian Cordillera. The southern Insular belt consists of Wrangellia terrane dominated by Paleozoic and Mesozoic volcanic-plutonic complexes which are overlain on the east coast of Vancouver Island by clastic sedimentary rocks of Cretaceous age. Tertiary basic volcanic rocks are prevalent in the south island area and granitic intrusions of equivalent age are widespread along the west coast.

Northern Vancouver Island, and in particular, the Port McNeill - Nimpkish - Bonanza Lakes area, includes most of the foregoing geological elements. Much of this area is underlain by late Triassic - early Jurassic Vancouver Group volcanics and sediments which are intruded by mid-Jurassic Island intrusions granitic rocks. Late Cretaceous clastic sediments are preserved along the Island east coast in the Suquamish Basin between Port Hardy and Port McNeill.

Late Triassic Karmutsen Formation basaltic flows and pyroclastic rocks of the Vancouver Group are the most widespread geological unit. These are overlain by Quatsino Formation carbonate-rich sediments, Parson Bay clastic sediments and by slightly younger (Lower Jurassic) Bonanza volcanics in the Nimpkish - Bonanza Lakes area.

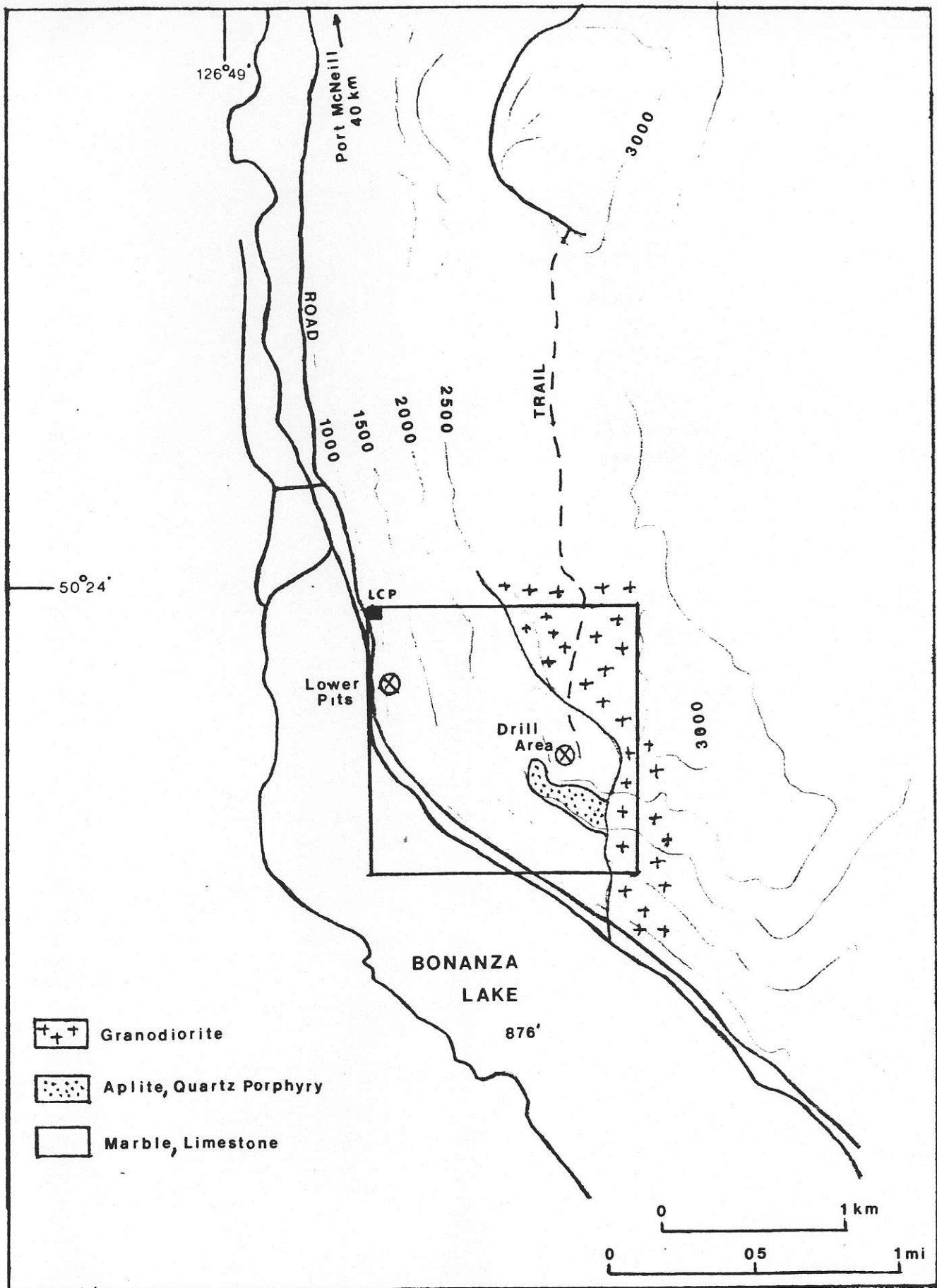


FIGURE 4a - LEÓ D'OR MARBLE PROPERTY

Quatsino Formation limestones are well exposed in the area bordering Bonanza Lake where they are intruded by an elongate mass of Island intrusions granitic rocks east of the lake. A north-northwest trending regional fault extends through Bonanza Lake.

Principal geological elements of the Leo D'Or mineral claim are illustrated on Figure 4a. The claim area is mainly underlain by Quatsino Formation carbonate sediments which have been mainly converted to marble exhibiting a variety of textures and colours.

The presence of marble is due mainly to the contact metamorphic effects associated with an elongate, northwest trending, granitic pluton bordering the east side of Bonanza Lake. The northwest contact of this Island intrusion extends through the eastern part of the Leo D'Or claim (Figure 4a).

A thick quartz porphyry - aplite sill in the central property area is interpreted to be a late phase of the Island intrusions. Products of younger (Tertiary) igneous activity include numerous acid and basic sills and dykes. A comprehensive report on the geology of the property is contained in Appendix III.

AREAS SELECTED FOR APPLICATIONS FOR CROWN LAND

The 1993 geological mapping program was directed to the identification of areas of relatively massive marble units displaying a consistency of colour and texture.

Three areas within the northern half of the Leo D'Or mineral claim were identified as having potential for quarry sites. The marble units within these areas are relatively massive and exhibit a uniformity or consistency of colour and texture over appreciable areas. Limited chemical testing of samples from two of these areas indicate few impurities and calcium carbonate contents of 99.5%. Density of fracturing, jointing and karst development and the local incidence of acid and basic dykes should not preclude the extraction of marble blocks.

The three areas for which applications for Crown Land have been filed (Appendix I) are indicated as areas A, B and C on Figure 5. Area A, which includes the 1993 test area, is the most advanced and will be discussed in detail. Areas B and C require additional surface mapping and diamond drilling prior to being subjected to the levels of investigation that have been carried out within area A.

Area C

The few exposures of massive marble in this largely overburden-covered area (Figure 5) include a fine to medium-grained, pure white variety near the southwest corner and

alternating white to medium grey , medium-grained marble in the northern part of the area. The white variety is particularly impressive and fine-grained phases take a good polish.

This area requires detailed investigation of all bedrock exposures prior to drill testing. This work can be carried out on foot from the current area of investigation near the Bonanza Lake road; further development work could best be accessed by a swichback road from the blazed trail (and potential future road route) linking Onyx Hill with current Fletcher Challenge logging roads (Figure 5).

Area B

This area, which includes Onyx Hill (Figure 5), was partially tested by a reconnaissance short hole drilling program in 1991. The following comments are abstracted from a report on the 1993 geological mapping program (Appendix III).

Six vertical holes were drilled within a 250 x 150 metre area and over a vertical range of 100 metres. Medium-grained, faintly banded, light to medium grey marble was the dominant rock type encountered during the drilling program. This unit was seen to have gradational contacts with a creamy white to buff, medium-grained variety which commonly contains scattered 0.5- 1 cm calcite crystals. Drill hole lengths of

the two principal varieties of marble range from 1 to 10 metres which should be very close to true thicknesses considering the generally flat-lying nature of the sequence underlying Onyx Hill. One hole intersected a unique coarse grained, light grey marble consisting of 1-2 cm calcite crystals. A 4 metre section at the beginning of this hole contained the 10-15 cm epidote-garnet skarn bands. This and a 15 cm section in one other hole are the only occurrences of skarn seen to date on the property, a feature indicative of very few impurities in the original limestone.

The marble sequence underlying Onyx Hill is cut by a number of quartz porphyry and basic sills, some of which are at least 10 metres thick.

The frequency of fracturing and jointing seen in drill cores appears to be within acceptable limits for the extraction of marble blocks. Two chemical analyses of selected core samples of marble indicated few impurities and calcium carbonate contents of 99.14 and 99.51%.

Detailed geological mapping is recommended to precisely locate the quartz porphyry sills prior to additional drilling. Potential development work in Area B will require construction of a 3 km access road along the route of the flagged trail (Figure 5) from the end of current Fletcher Challenge logging roads.

Area A

Slightly less than half of this area, which includes the 1993 test area (Figure 5), was mapped in some detail by Klohn Leonoff several years ago (Broughton and Bruce, 1988 - see geological report - Appendix III). The following comments are based largely on this work.

Surface exposures within this area are weathered to some degree with some light orange iron-staining evident locally. The marble varies from creamy white to various shades of grey with some alternating white to light grey banding noted in the southern part of the area. Most of the marble is medium-grained with some finer grained, friable, dark grey units noted locally.

Northeast and northwest-trending, steeply dipping joints and fractures are spaced several cm to 10 metres apart. Crevice karst is present throughout the area mapped with crevices up to 1 - 3 metres wide and 3 - 5 metres deep. Two caves along the road (geological map - Appendix III) have lengths of at least 8 and 25 metres.

1988 work identified a 160 x 100 metre area of massive, medium-grained, light grey to white marble. This is the area currently undergoing investigation to determine the feasibility of extracting marble blocks.

Petrographic studies and X-Ray diffraction analyses of

11 marble samples from this area indicate calcium carbonate contents of 99.5% with only minor traces of quartz, chlorite or muscovite present. Physical testing of two samples showed compressive strengths of 14,900 and 15,800 PSI.

A 1993 drill hole intersected alternating white to medium to dark grey, medium-grained, fairly massive marble cut by minor acid dykes or sills and one 2 metre core length of basic intrusive (Appendix III).

1993 test work in a relatively restricted area within Area A has demonstrated the feasibility of extracting large marble blocks. Precise limits of this prospective area require definition by way of detailed geological mapping and closely spaced diamond drill holes.

Area A is readily accessible from the Bonanza Lake road.

DRAFT MANAGEMENT PLAN

General Statement

Comments in this section are applicable to Area A as previously described, and specifically to the current test area and environs (Figure 5).

A detailed (1:500 scale) survey of this area as prepared by McElhanney Associates is included in this report as Figure 6. Note that the survey area has been tied into the mineral claim Legal Corner Post and that spot elevations along access

roads and the BC Hydro power line right-of-way are relative to the waterline dock on Bonanza Lake which has been assigned an arbitrary(?) elevation of 16.62 metres.

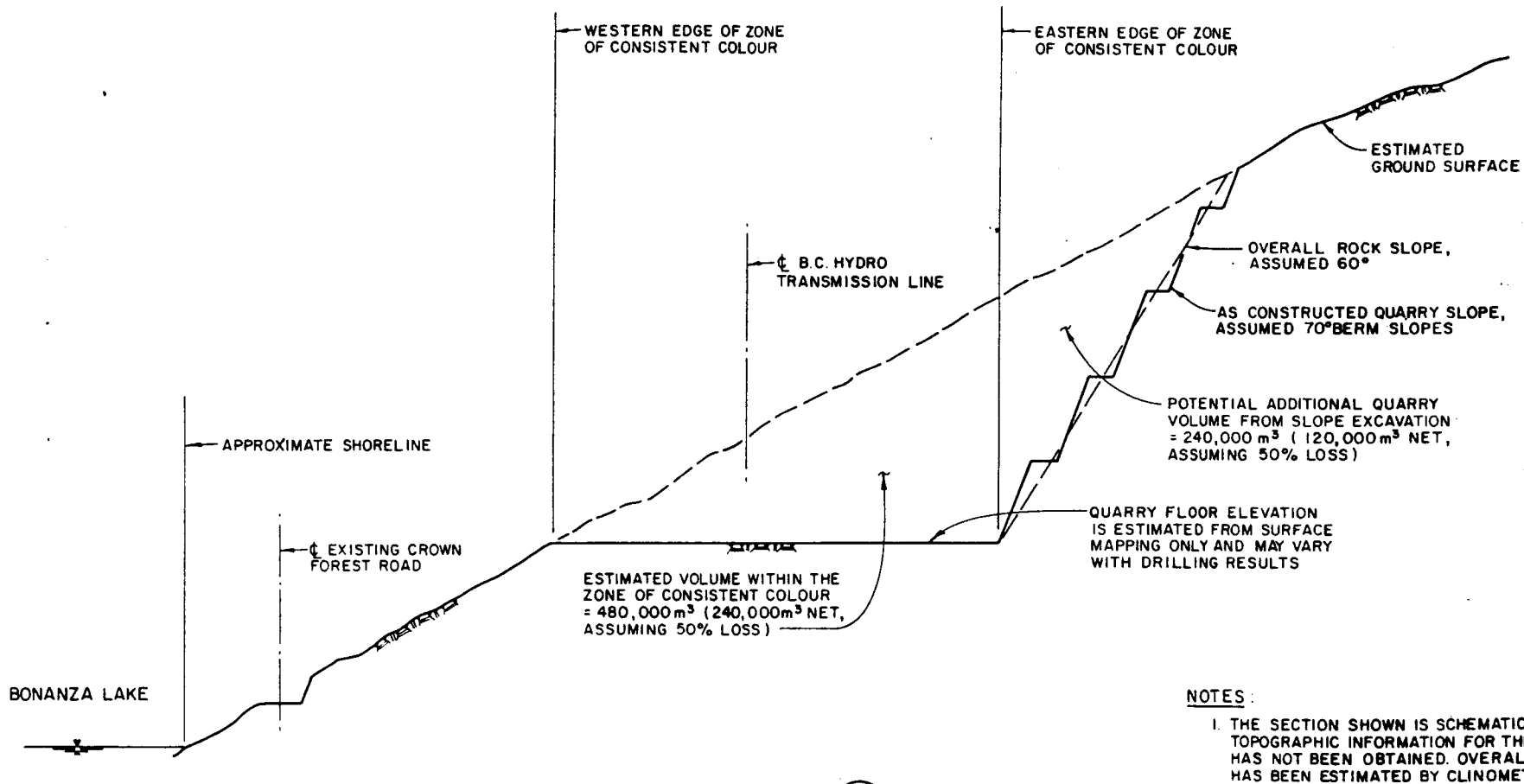
The 1993 program of extracting marble blocks was conducted in the area of the water storage tank north and east of the portable trailer units.

Future Plans

It is anticipated that future development of the property will be within and/or immediately adjacent to the area shown on Figure 6. Permission has been obtained from BC Hydro to conduct work within the power line right-of-way (Appendix II).

Detailed geological mapping and diamond drilling will be required to adequately test potential areas prior to extraction of marble blocks which will be carried out utilising equipment on site as detailed in a preceding section of this report.

Klohn Leonoff Ltd. (Broughton and Bruce, 1988 - see Appendix III) identified a 160 x 100 metre site within and adjacent to the power line right-of-way in which the marble displays a consistency of colour and texture and which was considered amenable for quarry development. A conceptual cross-section, as prepared by Klohn Leonoff Ltd. (Figure 7), shows potential quarry slopes of about 60 degrees.



NOTES:
 1. THE SECTION SHOWN IS SCHEMATIC ONLY. TOPOGRAPHIC INFORMATION FOR THE SITE HAS NOT BEEN OBTAINED. OVERALL SLOPE HAS BEEN ESTIMATED BY CLINOMETER.


SECTION A
02



FIGURE 7

TO BE READ WITH KLOHN LEONOFF REPORT DATED APR. 8, 1988

AS A MUTUAL PROTECTION TO OUR CLIENTS AND THE PUBLIC AND OURSELVES ALL REPORTS AND DRAWINGS ARE SUBMITTED FOR THE CONFIDENTIAL INFORMATION OF OUR CLIENTS FOR A SPECIFIC PROJECT AND AUTHORIZED FOR USE AND OR PUBLICATION OF DATA STATEMENTS, CONCLUSIONS OR ABSTRACTS FROM OR RELYING ON OUR REPORTS AND DRAWINGS IS HEREBY DENIED WITHOUT OUR WRITTEN APPROVAL.

 KLOHN LEONOFF LTD. CONSULTING ENGINEERS	PROJECT BONANZA LAKE MARBLE	
	TITLE SECTION A	
CLIENT: WHITE MOUNTAIN MARBLE CORPORATION	DATE OF ISSUE APR 8 / 88 APPROVED PL	PROJECT No. PB 3942-01
		DWG. No. B-1003

Some 660,000 tonnes of material were estimated for this area of which 50% or 330,000 tonnes (ie - 15,000 22 tonne blocks) was considered to be recoverable in the form of marble blocks. "Waste" rock might be considered for calcite production.

It is not meant to be implied herein that this projected tonnage would necessarily be extracted from this particular site - other, nearby areas may prove to have marble reserves of better and/or different qualities upon further investigation.

Annual production from this area is currently estimated to be in the order of 7800 tonnes or 2800 cubic metres.

Drainage Control Measures

Fine rock cuttings and water from diamond wire and belt saws will be captured in settling ponds below the work areas. Karst development throughout much of the principal work area also provides for a natural disposal of waste water and rock cuttings.

A septic field has been installed for the present camp facilities.

Planned Production

It is proposed to extract marble blocks from Area A for the off-site production of slabs and tiles.

Standard marble slabs measure 2 x 2.5 metres and are 18

mm thick. Assuming loss due to breakage, etc. a 2 x 2 x 2.5 metre block should yield 80 slabs or 400 square metres of slabs per block.

Marble tiles are 30 cm x 30 cm x 9 mm. Assuming a 20% production loss, a 1.8 x 1.8 x 2.8 metre tile block should yield some 7700 tiles or 700 square metres of tiles per cut block.

Assuming a 240 day work year, it is anticipated that annual production from Area A could be in the order of 7800 tonnes. 75% of this production would consist of some 200 slab blocks with the remainder (80 blocks) in the form of blocks suitable for the production of tiles.

Markets

There is a growing world-wide demand for quality marble products. Demand currently exceeds declining supply capabilities of traditional producing areas in Italy and the northeastern United States. Canadian imports of marble amounted to C\$120 million in 1990 or nearly double the 1988 figure.

The Company is in receipt of numerous expressions of interest from both domestic and foreign buyers and as previously noted, one marble block was shipped to a Quebec plant for further testing and 10 blocks were recently delivered to a Vancouver Island firm.

Firms involved in the construction of residential and commercial properties in the Lower Mainland have also indicated interest in the product.

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APPENDIX I

Applications for Crown Land

APPENDIX II
BC Hydro Correspondence