

ARIS SUMMARY SHEET

District Geologist, Vancouver

Off Confidential: 94.10.21

ASSESSMENT REPORT 23070

MINING DIVISION: Nanaimo

PROPERTY: Ton
LOCATION: LAT 50 31 10 LONG 126 54 00
UTM 09 5598274 648871
NTS 092L10W

CAMP: 030 Nimpkish Area

CLAIM(S): Ton 1-6

OPERATOR(S): Henneberry, R.T.

AUTHOR(S): Henneberry, R.T.

REPORT YEAR: 1993, 24 Pages

COMMODITIES

SEARCHED FOR: Dimension Stone

KEYWORDS: Triassic, Quatsino formation, Limestones, Marble, Dimension stone

WORK

DONE: Prospecting

4

**MAMMOTH
GEOLOGICAL LTD.**

Box 14, Coal Harbour, B.C. V0N 1K0
Telephone: (604) 949-5197 Facsimile: (604) 949-5198

**SUMMARY OF OBSERVATIONS
AND
EXPLORATION RECOMMENDATIONS
FOR THE
TON PROPERTY**

Nanaimo Mining Division
Vancouver Island, B.C.

LOG NO:	OCT 27 1993	RD.
ACTION:		
FILE NO:		

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

23,070

By: R.Tim Henneberry, P.Geo
October 16, 1993

SUMMARY

The Quatsino limestones at the north end of Vancouver Island have received little attention as a source of dimension marble in the past. These limestones have the potential to provide dimension stone marble for use as marble facings (vener) and marble tiles. A compilation completed by the author in 1991 identified several areas where a concentrated exploration program has an excellent chance of locating quarriable marble reserves.

One of the areas identified was the northern section of the **East Band**. The Ton Property was staked to cover part this occurrence. The limestone located ranged from a dirty grey-white to a dense massive black. The massive black and the unsampled white are of particular interest.

Based on these preliminary observations, a success contingent four phase exploration program is recommended as outlined below:

Phase I	\$15,036
Phase II	\$23,776
Phase III	\$67,275
Phase IV	\$253,518

TOTAL BUDGET	\$359,605

Phase I will consist of mapping and sampling of the claims. Phase I is estimated to cost \$15,036.

Phase II will consist of excavator trenching and blasting estimated at \$23,776.

Phase III will be the diamond drilling program. A number of shallow 100-200 foot holes (total 1500 feet) will be drilled at an estimated cost of \$67,275.

Phase IV, the pre-production bulk test, will include test quarrying of several rough quarry blocks, approximately 8 ft. X 8 ft. X 6 ft each. This phase will also include permitting and engineering required to put the quarry into production. Phase IV is estimated to cost \$253,518.

The total exploration program is anticipated to cost \$359,605.

TABLE OF CONTENTS

INTRODUCTION	3
LOCATION, ACCESS	5
CLAIM OWNERSHIP	7
REGIONAL GEOLOGY	9
QUATSINO FORMATION	11
East (Bonanza) Band	13
Ton Property	15
DISCUSSION	17
CONCLUSIONS AND RECOMMENDATIONS	18
REFERENCES	19
STATEMENT OF QUALIFICATIONS	20
STATEMENT OF COSTS	21
COST ESTIMATES	22
SAMPLE DESCRIPTIONS	23

LIST OF FIGURES

1. Vancouver Island Marble Project Location	4
2. Claim Location	6
3. Geology of Vancouver Island	8
4. East Band	12
5. Preliminary Property Geology	14

INTRODUCTION

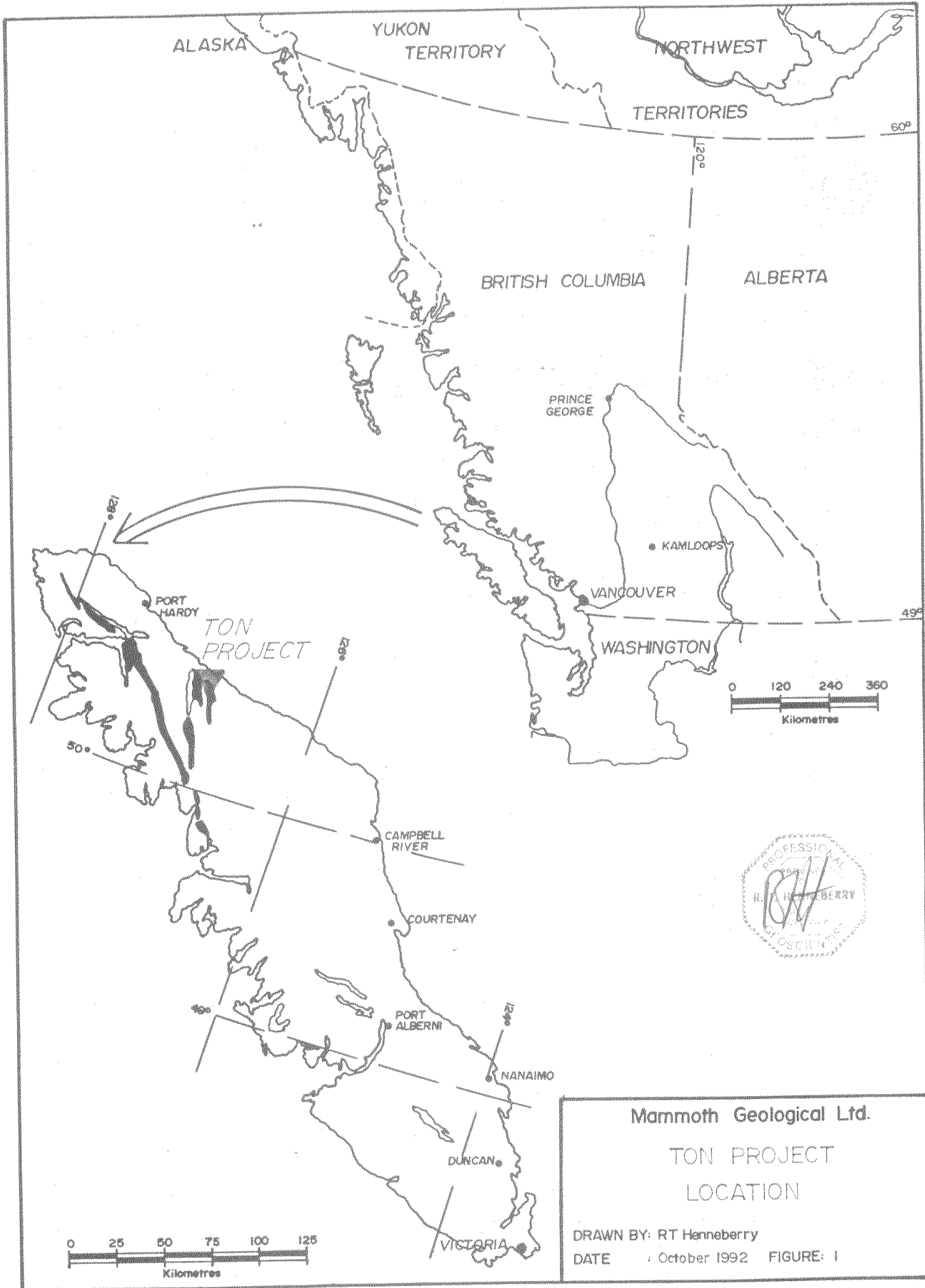
The purpose of this report is to document the observations made of the marble on the Ton Property. A preliminary examination was made on October 24, 1992. This consisted of mapping along an overgrown logging road cutting through the centre of the claim group. Recommendations for further exploration have also been presented.

The marble potential of the Quatsino Formation of northern Vancouver Island was examined in considerable detail by the author in 1991/1992 (Henneberry, 1992). The purpose of this research was to identify potential marble resources within the Quatsino Formation on the northern part of Vancouver Island.

As part of the 1992 report, all outcroppings of Quatsino Formation were identified on 1:250,000 geology maps (primarily Muller, 1977). The Minfile Index and Assessment Report Index were scanned for any reports that contained information on the limestones, regardless of the primary focus of the report. This information was then compiled and combined to form descriptions of general locations within the limestone related to Minfile occurrences.

Individual 1:250,000 maps of each of the three prominent bands of Quatsino Limestone were plotted and rough outlines of the location of the block of property associated with each of the Minfile Report Summaries bands were plotted. Potential exploration targets and unstaked marble resources were then identified.

The Ton property covers part one of the targets identified.



LOCATION, ACCESS

The area of interest is the northern section of Vancouver Island, between latitudes 49° 45' and 50° 45' and longitudes 126° 30' and 127° 55'. Topography ranges from Sea Level to 1050 metres, with valleys generally less than 300 metres.

The climate on the north island is relatively mild. The summers are warm and generally dry, while the winters are cool and wet. Snow will accumulate on the higher peaks, but generally the valley bottoms and lower hills are clear for year round work.

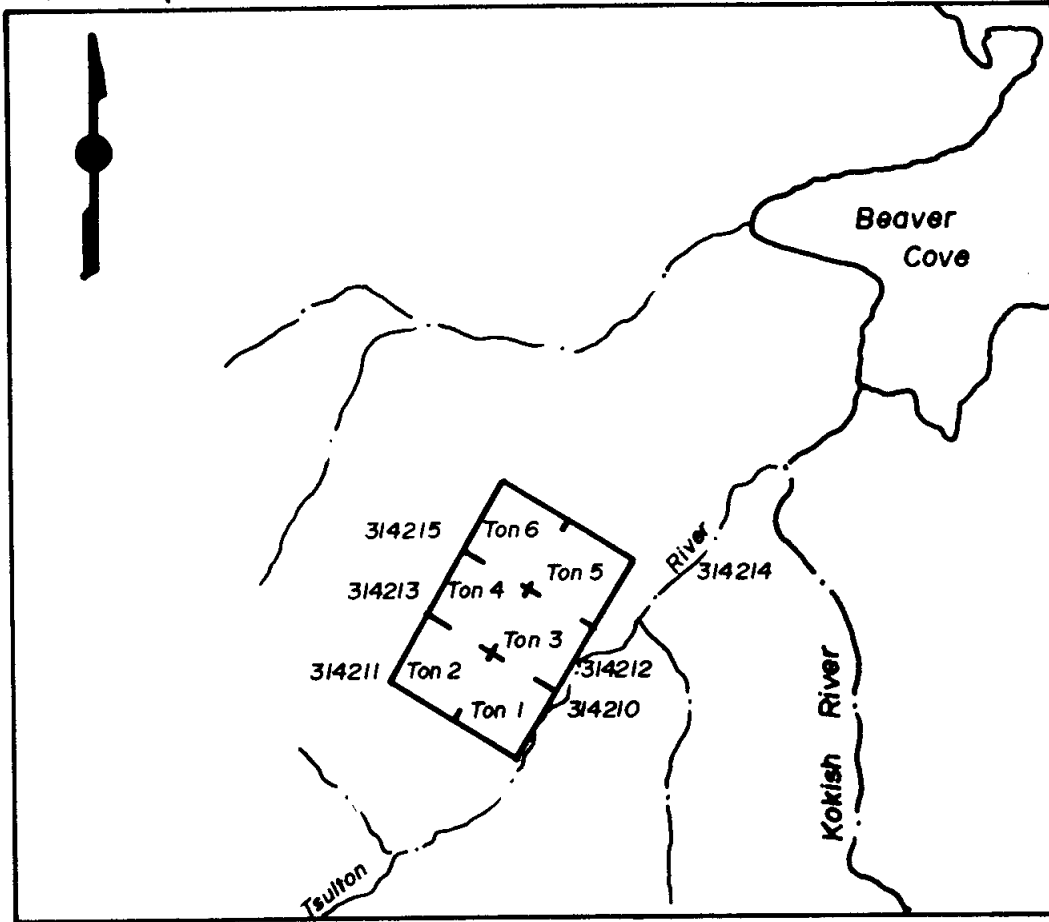
There are several towns and lesser communities in the map area where accommodation and lodging can be readily obtained, including Port Hardy and Port McNeill. The Island Highway cuts through much of the map area. Numerous logging roads will provide access to most of the Quatsino Limestone in each of the three bands, the most notable exception being the Hisnet Inlet area at the extreme south of the West Band.

There are numerous lakes, creeks and streams where water for diamond drilling is readily obtainable. Heavy duty equipment for trenching and road-building will be accessible locally, in either Port Hardy or Port McNeill.

Access to the Ton Property is fair, with an overgrown, but usable logging road cutting through the claims. The Tsulton River borders the southern edge of the group.

The property consists of 6 two-post mineral claims encompassing an area 1.5 kilometres by 1 kilometre.

Claim map 92L/10W



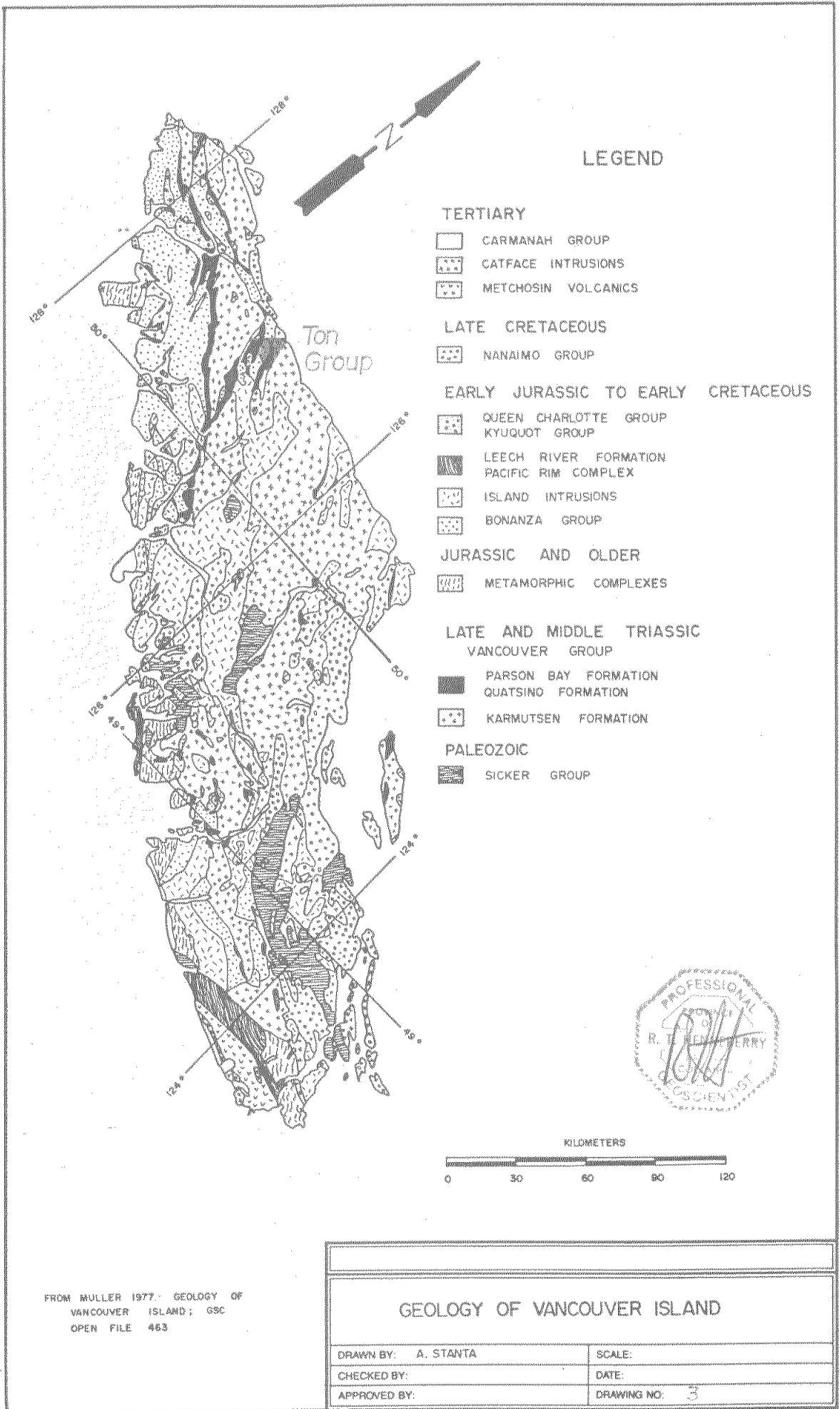
Mammoth Geological Ltd.
Ton Group
Claim Location

CLAIM OWNERSHIP

The Ton Property is located on Claim Sheet 092L/10W.

Claim	Record Number	Anniversary Date
Ton 1	314210	October 24, 1993
Ton 2	314211	October 24, 1993
Ton 3	314212	October 24, 1993
Ton 4	314213	October 24, 1993
Ton 5	314214	October 24, 1993
Ton 6	314215	October 24, 1993

The registered owner is R. Tim Henneberry of Mill Bay, B.C.



FROM MULLER 1977. GEOLOGY OF VANCOUVER ISLAND; GSC OPEN FILE 463

GEOLOGY OF VANCOUVER ISLAND

DRAWN BY: A. STANTA	SCALE:
CHECKED BY:	DATE:
APPROVED BY:	DRAWING NO: 3

REGIONAL GEOLOGY

The geology of the north end of Vancouver Island has been described by Muller et al (1974) and Muller et al (1980). The area lies in the Insular Belt of the Canadian Cordillera. The map area is chiefly underlain by the middle to upper Triassic Vancouver Group, overlain by the lower Jurassic Bonanza Group. The Vancouver Group is intruded by large and small bodies of middle Jurassic Island Intrusions and the related (?) Westcoast Complex, and overlain unconformably by remnants of a lower Cretaceous clastic wedge on the southwest side and similar upper Cretaceous beds on the northwest side of Vancouver Island. There are some small early Tertiary (Catface) intrusions also mapped. The region may be divided into several great structural blocks, separated mainly by important near-vertical faults and themselves fractured into many small fault segments.

The Vancouver Group is comprised of the lower Karmutsen Formation, middle Quatsino Formation and upper Parson Bay Formation. The Karmutsen Formation, the thickest and most widespread of the Vancouver Group formations, consists of basaltic pillow lavas, pillow breccias and lava flows with minor interbedded limestones, primarily in the upper part of the formation. Karmutsen rocks outcrop throughout the north part of Vancouver Island, primarily on the east side.

The Quatsino Formation overlies the basalts. The lower part of the Quatsino Formation consists of thick bedded to massive, brown-grey to light grey, grey to white weathering, fine to microcrystalline, commonly stylolitic limestone. The upper part is thin to thick bedded, darker brown and grey limestone, with fairly common layers of shell debris. The formation is in gradational contact with the overlying Parson Bay Formation by an increase in layers of calcareous pelites. Quatsino limestone outcrops as three narrow belts on the north part of Vancouver Island.

The Parson Bay Formation consists of a series of interbedded silty limestones and calcareous shales and sandstones, and occasional beds of pure limestone. Parson Bay rocks outcrop sporadically overlying the Quatsino limestone.

The Bonanza Group overlies the Vancouver Group. Bonanza Group rocks are primarily a Jurassic assemblage of interbedded lava, breccia and tuff with compositions ranging from basalt through andesite and dacite to rhyolite, deposited in a volcanic island arc environment. The Bonanza Group outcrop primarily on the west side of northern Vancouver Island.

The Westcoast Complex is a heterogeneous assemblage of amphibolite and basic migmatite with minor metasedimentary and metavolcanic rocks of greenschist metamorphic grade. The Westcoast Complex outcrops in a loosely defined belt on the west coast of Vancouver Island.

Granitoid batholiths and stocks of the Island Intrusions underlie large parts of Vancouver Island. These intrusions range in composition from quartz diorite and tonalite to granodiorite and granite.

The Cretaceous clastic wedge includes the Queen Charlotte and Nanaimo Groups. These groups consist of cyclical successions of sandstone, conglomerate and shale, with interbedded coal in the Nanaimo Group. These rocks outcrop around Quatsino Sound.

Small intrusive stocks of early Tertiary age and of general quartz dioritic composition are known in many parts of Vancouver Island. These rocks are generally massive, light colored, fine to medium grained equigranular to locally porphyritic granitoid rocks. They are commonly regularly and closely jointed.

The network of faults displayed on the north end of Vancouver Island appears to be the superposition of two or more fracture patterns, each with a characteristic directions and of different age and origin.

QUATSINO FORMATION

The Quatsino Formation limestones are the main focus of the marble exploration. The larger, massive beds of limestone are white to grey in color and distinctly crystalline. Exceedingly fine-grained beds form a small percentage of the whole and siliceous or cherty varieties are likewise sparingly developed (Gunning, 1930). The Quatsino formation consists almost entirely of limestone, with a few thin flows of andesite or basalt. The limestone is fine to coarsely crystalline, and ranges from white to black, with various intermediate colors. Towards the base, it tends to be exceedingly fine grained, and grey and brownish or buff colors are characteristic. Midway of the formation the colors are predominantly white or grey, but towards the top the limestone becomes dark grey to black, due to a varying quantity of carbonaceous matter, and the formation grades upward into argillites and impure limestones of the overlying Parson Bay Formation. Even at the top, however, light grey or even white beds are interbedded with the darker varieties. The bedding, as represented by colour banding, is generally well preserved in the upper part of the formation but in the lower part, where white to brownish grey and buff colors predominate, it is poorly preserved. In the upper part, too, the beds are generally thin, thicknesses of 1/2 inch and less being common and more than 2 or 3 feet uncommon. The formation as a whole is dominantly a high-calcium limestone (Hoadley, 1953).

Within a mile or two of bodies of the Coast Intrusions, the limestone may be highly contorted and extremely jointed and fractured, cut by many acidic dykes, and partly to completely skarnified (Hoadley, 1953).

In the vicinity of Kathleen and Alice lakes, the lower portion of the limestone contains small interbeds of lava and above it lies a mixed series of argillites, quartzites and volcanics in which there are small beds of argillaceous limestone. White to dark grey limestones occur at several places on Nimpkish Lake. The limestones are recrystallized and somewhat faulted. (Gunning, 1930), and obtain a thickness of 500 to 1000 feet in the Nimpkish Lake Quadrangle. The limestone becomes darker and argillaceous towards the top of the formation. (Gunning, 1932a).

The limestone in the Zeballos area is medium to coarsely crystalline and, owing to extensive recrystallization, has lost all evidence of bedding. On weathered surfaces the limestone is grey, but on freshly broken surfaces it ranges from white to cream (Stevenson, 1950).

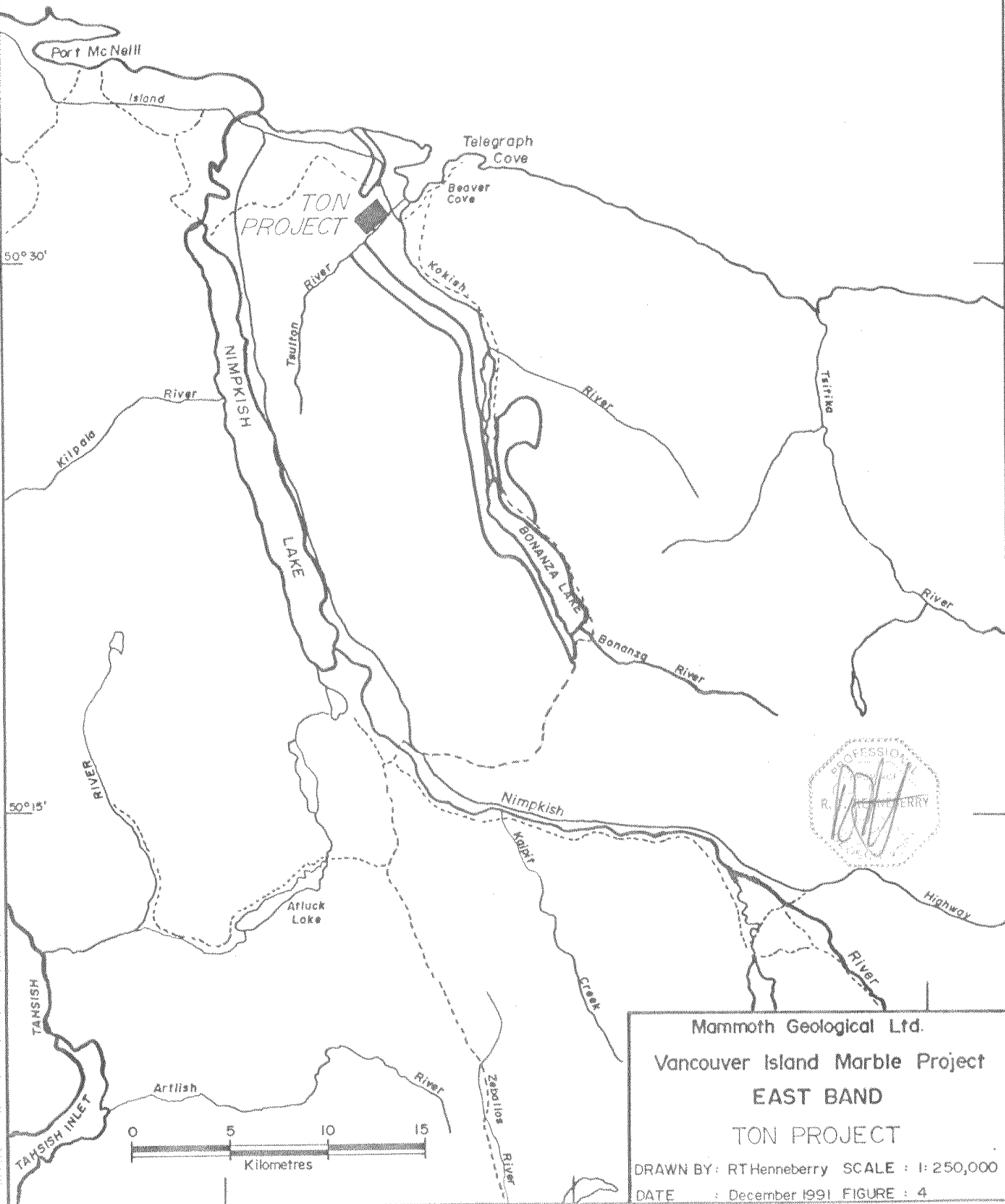
The limestone outcropping along Nimpkish Lake (Central Band) is too jointed in many places to serve as a building stone, but where the beds are least deformed and well removed from intrusions, as from Beaver Cove to Bonanza Lake, it could be extracted in blocks sufficiently large for ordinary structural purposes. However, there is an inexhaustible supply of limestone suitable for fluxing purposes in smelting operations, a favourable location for an open-pit operation being on the east side of Tahsis Inlet, 1 mile north of Mozino Point (Hoadley, 1953).

Limestone outcrops in three relatively narrow discontinuous bands of varying lengths on the north end of Vancouver Island (McCammon, 1968). The East Band reaches from the hill just west of Beaver Cove southeast across Tsulton River to Bonanza Lake and down the west side of the lake to its west end. The Centre Band extends from 5 kilometres south of Port McNeill southeast to 15 kilometres past the south end of Nimpkish Lake. The West Band extends from west of Nahwitti Lake southeast to Tlupana Inlet. A additional limestone occurrence extends along the south shore of Holberg Inlet.

127°00'

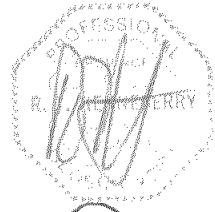
126°45'

126°30'



50°30'

50°15'



Mammoth Geological Ltd.
 Vancouver Island Marble Project
EAST BAND
TON PROJECT
 DRAWN BY: RTHenneberry SCALE : 1: 250,000
 DATE : December 1991 FIGURE : 4

The Ton Property lies within the northern section of the East (Bonanza) Band of the Quatsino Limestone. The description of the east band from the 1991 report is given below.

Eastern (Bonanza) Band.

The eastern most band stretches from tidewater on the eastern side of Vancouver Island at Beaver Cove to south of the south end of Bonanza Lake. There has been very little mineral exploration associated with this band, except for the Bob claims at the south end of Bonanza Lake and the Nimrod/ Rem claims just below Beaver Cove.

This band has been the most explored for limestone and marble. The potential of the north end of this band has been known since the turn of the century. The outcropping along Tsulton River has been documented by both Parks (1917) and Gouge (1944) as well as the Annual Report for 1904.

Gunning (1932a) described this limestone band as the Quatsino limestone, attaining a thickness of 500 to 1000 feet, consisting of white to grey crystalline limestone.

The bulk of it has been recently staked, primarily by Industrial Fillers.

Southern End.

Exploration of the south end of the band has been undertaken for both base metals (Bob) and limestone (Tsino).

The limestone mapped on the Tsino Claims has been described as black to buff weathering, fine to medium grained, white to light grey in color. The east central area of the claims is underlain by coarse grained marble, being composed of intergrown and poorly formed calcite crystals. Fine grained light grey to dark grey calcite rich limestone has also been mapped (AsR 19025). Drilling intersected light grey to white, fine grained subhedral to anhedral, completely crystalline marble. There are mottled light grey to medium grey patches in the white marble (AsR 06267).

The fracture density and jointing patterns have not been documented.

Central Section.

Exploration efforts have been concentrated on the Bonanza, Leo D'or and Doro claims, in a relatively confined area in the centre of the band. There has been an adit driven to assess the industrial potential of the limestone on the Doro Claim. There is presently one quarry being planned on the Leo D'or Claim.

The limestone on the western half of Bonanza Claims has been described as black to buff weathering, fine to medium grained, white to light grey in color. The east central area is partly underlain by coarse grained marble, composed of intergrown and poorly formed calcite crystals. Fine grained light grey to dark grey calcite rich limestone has also been mapped (AsR 19023). McCammon (1968) took two samples from this area, samples 28 and 29. He mapped the limestone as a lower, white and grey fine grained limestone, a higher darker limestone with dolomitic beds and an upper black limestone containing scattered 2-6 inch lenses of black chert and many fossils.

The limestone on the eastern half of the Bonanza Claims is divided into an upper, medium to dark grey member and lower, light grey to white member. The upper member occasionally contains silica blebs. The lower member is fairly coarse grained were recrystallized and has thin beds of dark grey cherty or pyritic material (AsR 17760). McCammon (1968) described the limestone as fairly uniform white and dark-grey streaked, sugary textured crystalline marble with grains as much as 1/8 inch in diameter. He took two samples #30 and #31.

An 65 metre long horizontal adit was driven in to the lower limestone during 1983-1984 on the Doro Claim. The adit intersected a bed of massive, white, fine-grained (1-2 mm), crystalline limestone with occasional greyish streaks and mottled bands. (Geological Fieldwork 1985)

The fracture patterns and jointing density has not been documented for these claims.

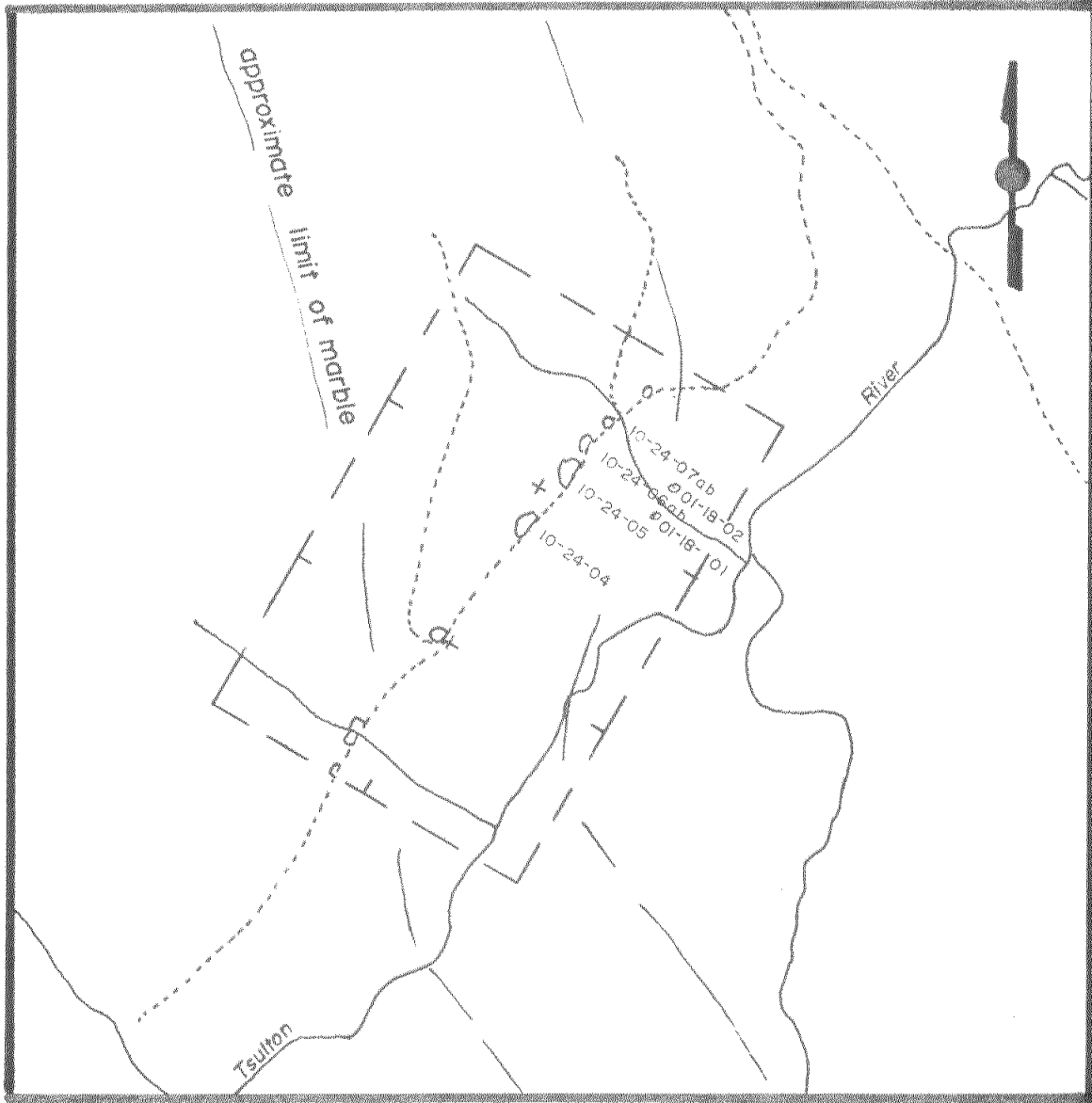
Northern End.

Exploration efforts on the northern end of the belt have been confined to the area proximal to the Tsulton River Valley. The marble in this area has been described by four different government geologists. A base metal exploration program undertaken to the north of the Tsulton River, mapped the limestone as well.

The first examination was made in 1904. On the north side of Tsulton Creek about a mile from salt water, there is a 200 foot high marble bluff, extending about 1/2 mile up the creek. Samples of this marble are of a bluish color, and the stone is somewhat granulated on the surface (AR 1904).

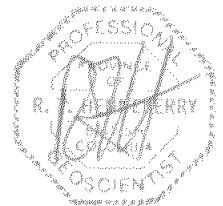
Parks (1917) also examined this exposure, taking two samples. Sample #1560 is a fine grained, glistening, white crystalline limestone with faint cloudiness in light tints. Sample #1561 is a white marble of the same fine grain as (1560), but very delicately lined and veined with blue. Parks thought that in both grain and color this was one of the most desirable marbles observed.

Gouge (1944) examined this exposure describing it as white and blue, fine-grained, heavily bedded high-calcium limestone, forming part of a belt 700 yards wide (NW/SW steep). Most of the limestone is white and has a sugary texture, but bands of fine-grained, blue limestone are interbedded with the white. The most obvious impurities are occasional small nodules of quartzite or of chert, and in places thin dykes of pale green igneous rock are present.



LEGEND

- Creek
- - - Road
- Outcrop
- 10-24-04 Sample location



Mammoth Geological Ltd.
 TON PROJECT
 PRELIMINARY GEOLOGY

McCammon (1968) examined the same exposure (Samples 22, 23) as well as exposures to the south (Samples 24,25). He described the limestone at the Tsulton River as varying from white to white and grey streaked with black. Most is fine-grained, but near the intrusive grains are as much as 1/4 inch in diameter. Sample 22 is of the sugary white variety. Sample 23 is also a creamy white sugary rock. The limestone to the south (samples 24, 25) is grey to white, partly fine grained, and partly sugary white marble with grains 0.2 mm in diameter. A very dark grey to black, fine grained limestone with scattered fossil remains was also noted.

The limestone to the north (the Nimrod Claims) is described as massive to thickly bedded (314/14SW), medium grey in color, and locally cryptocrystalline (AsR 12764). Jointing is perpendicular to bedding and coated with calcite and pyrite. The limestone grades upward into a darker more argillaceous limestone with interbeds of chert and chert nodules. The limestone has been locally recrystallized in patches of "off-white" marble, along with certain beds near the contact with the intrusives being selectively recrystallized to marble. The bedding orientation becomes more erratic and steeper dipping toward the intrusive contact. It has been intruded by andesitic to rhyolitic dykes 0.5-2.0 m wide (AsR 08285).

Other than the repeatedly examined exposure on the Tsulton River, little documentation exists for fracture patterns and jointing density. The potential of the Tsulton River exposure has been described by Parks (1917) and Gouge (144). Parks (1917) thought there was much stone available, large blocks could be procured in places and the marble itself was of a very desirable variety.

Ton Property

The Ton claims lie in the northern section of the **East Band**. The claims overlie the outcrops sampled by Parks (1917), Goudge (1944) and McCammon (1968), though we did not get to examine the showing itself. Our sampling was confined to the logging road 500 metres north of this exposure.

The preliminary mapping identified a dense black marble (Samples 10-24-05,-07B). There were also "dirty" grey white marbles, both coarse (2-4mm) and banded. A dull pink-brown granite was also noted. The marble in the area of the logging road is in close contact with a dull pink to dark grey granodiorite to granite.

Samples 10-24-05 and 10-24-07B are of a fine-grained (<1mm) dense black marble. Sample -05 is weakly brecciated and cut by white carbonate microveinlets. Sample -07B contains approximately 1/2% (2-4mm) white carbonate clots.

Parks (1917) described a fine grained, glistening, white crystalline limestone with faint cloudiness in light tints, as well as a white marble of the same fine grain but very delicately lined and veined with blue. Parks thought that in both grain and color this was one of the most desirable marbles observed.

The exposures examined were along a logging road. The outcrops were broken, likely due to blasting. The fractures did not have carbonate or limonite on them, indicating they may be man-made. The property is overlain by 2nd generation forest. The Tsulton River borders the southern boundary of the claims, a ready source of water for diamond drilling.

DISCUSSION

The marble noted in the brief examination of the Ton Property is interesting. The black polishes to a nice finish, while the unsampled white is also very interesting. The structural competency of the marble appears to be reasonable at this early stage, as clay, limonite or carbonate were not noted on the fractures, indicating they were likely man-made.

A staged four phase exploration program is recommended for the Ton claims. At the conclusion of each stage, a report will be presented and the project will be evaluated before continuing.

The first stage is an initial program of detailed mapping. The purpose of the mapping is to assess the structural potential of the marble, including fracture patterns and joint densities as well as lithologic descriptions. Several polished sections should be made to judge the suitability of the marble for facings and tiles. Some thin section work should also be completed.

A second phase program of trenching and blasting is required, especially if there are no road cuts in the marble. The purpose is to obtain some "fresh" blocks for polished sections and thin sections, again to judge the suitability of the marble for its intended use.

At this point a preliminary assessment of potential quarry sites would identify sites for further exploration. A program of diamond drilling would assess the sites and narrow the choices for the final quarry site(s). From the drill core, data on fracture patterns and joint densities would be obtained, as well as data on color and impurity variations. The entire length of the core should be cut and polished giving a third dimensional view of the suitability of the marble for facings and tiles.

The final phase will consist of pre-production stripping to clear the quarry site of overburden and quarrying of 10-20 rough blocks at least 8 ft. X 8 ft. X 6 ft (2.4m X 2.4m X 1.8m). These rough blocks will be processed into facings and tiles to ensure output from the quarry will meet the specifications required for marble facings and/or marble tiles. Once the actual quarry site(s) has been designated, an engineering study, a calculation of reserves and a permitting program is required to get the quarry set up for initial production.

CONCLUSIONS AND RECOMMENDATIONS

The marble located on the Ton Property has potential use as both tiles and face finished slab. The black and unsampled white varieties are of particular interest. A staged four phase exploration program is recommended for the Ton Property.

Phase I will consist of property mapping, and sampling for polished and thin sections. Mapping will concentrate on locating outcrops, on lithologic descriptions and on fracture patterns and joint densities. Sample specimens will be cut and polished to evaluate the potential of the marble. Estimated cost of Phase I is \$15,036.

Phase II will consist of excavator trenching. The "fresh" marble obtained will be cut and polished for further evaluation of the marble potential of the claims. Cost of Phase II is estimated at \$23,776.

Phase III will be the 1500 foot diamond drilling program. A number of shallow 100-200 foot holes will be drilled on possible quarry sites to evaluate color, impurities, consistency, width and depth of the marble. Fracture patterns and joint densities will also be recorded. The entire length of core should be sawn in half and polished. Phase III cost is estimated at \$67,275.

Phase IV is basically the pre-production test. This phase includes the stripping and clearing of the quarry site. It also includes the test mining of several rough quarry blocks. The test blocks should be roughly 8 ft. X 8 ft. X 6 ft. (2.4m X 2.4m X 1.8m). The purpose of the test mining is first to ensure blocks of this size can be successfully quarried and secondly to ensure these blocks can be successfully processed into marble facings and/or tiles, and third to ensure the facings and tiles produced meet the product specifications. Phase IV also includes the necessary permitting and engineering of the final quarry site(s) as well as the outlining of reserves. Phase IV cost is estimated at \$253,518.

Phase I	\$15,036
Phase II	\$23,776
Phase III	\$67,275
Phase IV	\$253,518

TOTAL BUDGET	\$359,605

REFERENCES

British Columbia Department of Mines Annual Reports: AR 1905 pp.248-251.

British Columbia Ministry of Energy Mines and Petroleum Resources Assessment Reports:
(Referenced in text as AsR 00000).

06267 08285 12764 17760 19023 19025

British Columbia Ministry of Energy Mines and Petroleum Resources Geological Fieldwork
1985. Paper 1986-1.

Goudge,M.F. (1944). Limestones in Canada. Part V, British Columbia. Canada Department of
Mines and Resources. Mines Branch Publication No. 811. pp.124-142.

Gunning,H.C. (1930). Geology and Mineral Deposits of Quatsino-Nimpkish Area, Vancouver
Island, British Columbia. Geological Survey of Canada Summary Report 1929A. pp.94A-143A

Gunning,H.C. (1932a). Preliminary Report of the Nimpkish Lake Quadrangle, Vancouver Is-
land, British Columbia. Geological Survey of Canada Summary Report 1931A. pp.22A-35A.

Henneberry,R.T. (1992). Marble Potential of the North End of Vancouver Island. Private Re-
port. 42p.

Hoadley,J.W. (1953). Geology and Mineral Deposits of the Zeballos-Nimpkish Area, Vancou-
ver Island, British Columbia. Geological Survey of Canada Memoir 272. 82p.

McCammon,J.W. (1968). Limestone Deposits at the North End of Vancouver Island. British
Columbia Ministry of Mines Annual Report for 1968. pp.312-318.

Muller,J.E. (1977). Geology of Vancouver Island. Geological Survey of Canada Open File 463.

Muller,J.E., K.E.Northcote and D.Carlisle (1974). Geology and Mineral Deposits of Alert -
Cape Scott Map-Area (92L-102I) Vancouver Island, British Columbia. Geological Survey of
Canada Paper 74-8. 77p.

Muller,J.E., B.E.B.Cameron and K.E.Northcote (1981). Geology and Mineral Deposits of
Nootka Sound Map-Area, Vancouver Island, British Columbia. Geological Survey of Canada
Paper 80-16. 53p.

Parks,W.A. (1917). Report on the Building and Ornamental Stones of Canada. Volume V.
Canada Department of Mines. Mines Branch Publication No. 452. pp.

STATEMENT OF QUALIFICATIONS

I, R. Tim Henneberry, am the principle of Mammoth Geological Ltd., a geological consulting firm with offices at #1 - 5745 Hardy Bay Road, Port Hardy, B.C. The mailing address is Box 14, Coal Harbour, B.C. V0N 1K0.

I earned a Bachelor of Science Degree majoring in geology from Dalhousie University, graduating in May 1980.

I have practiced my profession continuously since graduation.

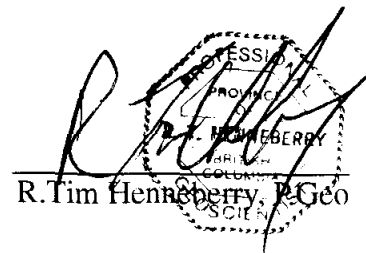
I am registered with the Association of Professional Engineers and Geoscientists in the Province of British Columbia as a Professional Geoscientist. I am also a Fellow of the Geological Association of Canada.

I staked and examined the Ton Property on October 24, 1992. I did some additional sampling on January 18, 1993. I am presently the owner of the Ton 1-6 mineral claims.

I am the principle of Mammoth Geological Ltd.

This report may be used for any purpose normal to the business of Mammoth Geological Ltd., provided no part is used in such a manner to convey a meaning different than that set out in the whole.

Dated this 20th day of October in the Town of Port Hardy, British Columbia.


R. Tim Henneberry, P. Geo

STATEMENT OF COSTS

Staking Day (October 24, 1993)	
Geologist	\$450.00
Vehicle	\$50.00
Sampling - 9 samples @ \$50.00	\$450.00
Report - 2 days @ \$450.00	\$900.00
Total Costs	\$1,850.00

COST ESTIMATES

Phase I - Mapping and Sampling (9 days)	
Field Costs (Geological and Supervision)	\$7,200
Support Costs (Room and Board, Vehicles)	\$1,800
Analysis Costs (Polished/Thin Sections)	\$1,375
Documentation (Reports)	\$2,700
Contingency (15%)	\$1,961

Phase I Budget **\$15,036**
Assuming successful completion of Phase I then:

Phase II - Trenching (7 days)	
Contractor Cost (Excavator)	\$7,500
Field Costs (Geological and Supervision)	\$5,600
Support Costs (Room and Board, Vehicles)	\$1,400
Analysis Costs (Polished/Thin Sections)	\$2,125
Documentation (Reports)	\$4,050
Contingency (15%)	\$3,101

Phase II Budget **\$23,776**
Assuming successful completion of Phase II then:

Phase III - Diamond Drilling (20 days)	
Contractor Cost (Excavator)	\$3,500
Contractor Cost (Diamond Driller)	\$24,000
Field Costs (Geological and Supervision)	\$16,000
Support Costs (Room and Board, Vehicles)	\$4,000
Analysis Costs (Polished/Thin Sections)	\$2,000
Documentation (Reports)	\$9,000
Contingency (15%)	\$8,775

Phase III Budget **\$67,275**
Assuming successful completion of Phase III then:

Phase IV - Pre-production Bulk Test (30 days)	
Contractor Cost (Excavator)	\$56,000
Contractor Cost (Quarry Crew)	\$77,700
Field Costs (Geological and Supervision)	\$24,000
Support Costs (Room and Board, Vehicles)	\$12,750
Permitting Costs	\$15,000
Sample Preparation	\$20,000
Documentation (Reports)	\$15,000
Contingency (15%)	\$33,068

Phase IV Budget **\$253,518**

TOTAL BUDGET **\$359,605**

SAMPLE DESCRIPTIONS

Sample 10-24-04

Dirty white marble with 5% (2-10mm mica flakes). Coarse grained (1-3mm).

Sample 10-24-05

Dense black fine grained marble. Weak wavy mottling. Microfractured with carbonate rehealing.

Sample 10-24-06a

Pink brown medium grained (1-2mm) granite. 5% (1-2mm) mafics, 20% quartz, 70% orthoclase and 5% (1-2cm) black xenoliths. Strongly fractured.

Sample 10-24-06b

Banded white to grey coarse grained (2-5mm) marble. Grey bands are 5-20 mm in width. Strongly fractured with limonite on fractures.

Sample 10-24-07

Mottled white black marble. Rusty mottled appearance.

Sample 10-24-07a

Medium grained (1-2mm) light grey to white marble. Weakly brecciated with carbonate microveinlet healing.

Sample 10-24-07b

Fine grained dense black marble. Minor microfracturing with carbonate rehealing. <1/2% white carbonate clots.

Sample 01-18-01

Sugary (4mm grain size), dirty white marble with faint blue veining. Minor limonite.

Sample 01-18-02

Sugary (1-2mm grain size), white marble with blue veining. Strongly fractured due to proximity to surface.