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GEOLOGICAL LTD.

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SUMMARY OF THE TON PROPERTY

Nanaimo Mining Division

92L/10W

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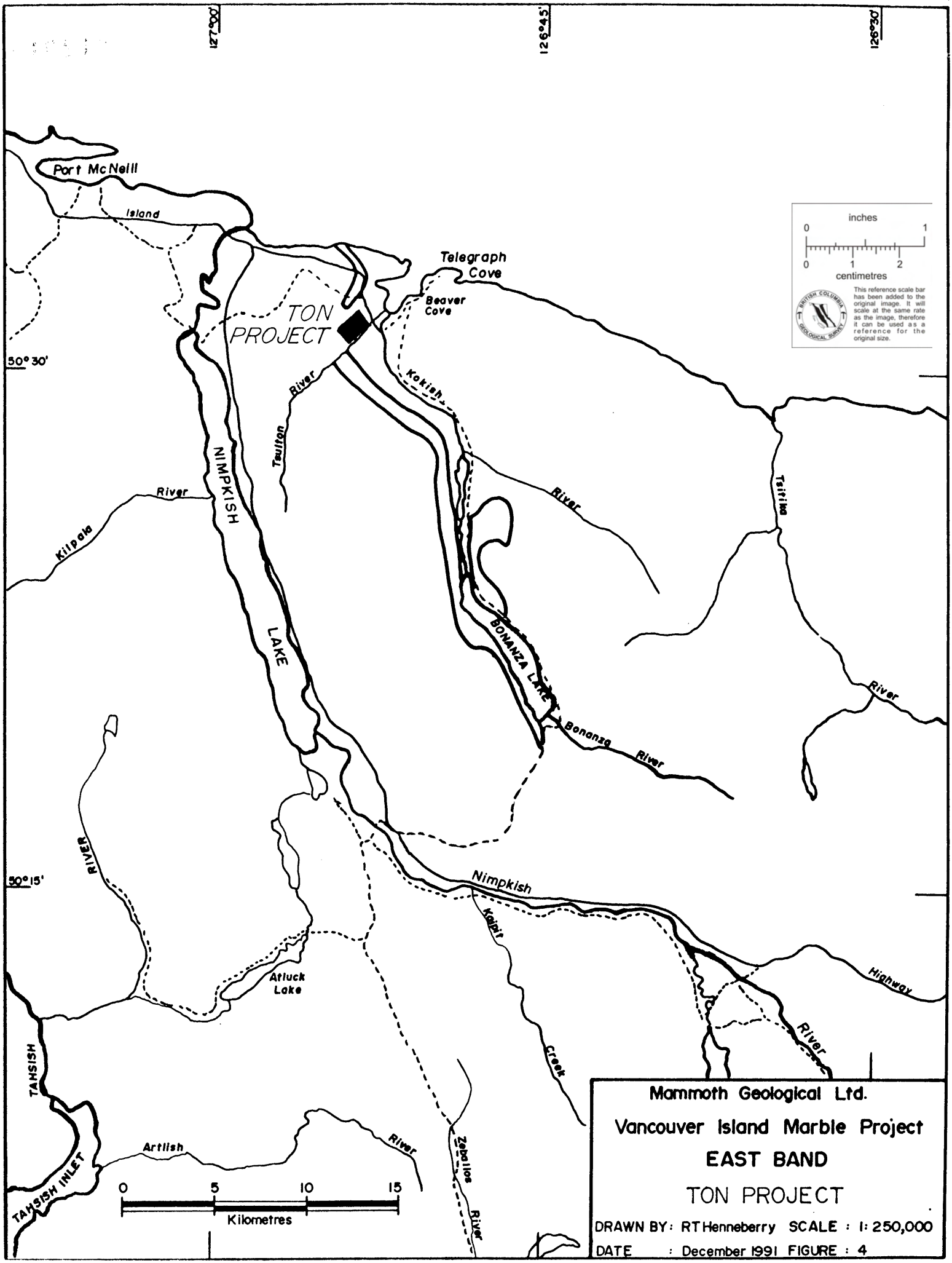
President
743-1406 or 743-4127

January 1993


127°00'
126°45'
126°30'
Port McNeill
Island
Telegraph Cove
Beaver Cove
TON PROJECT
50°30'
Kokish River
Toulton River
NIMPKISH LAKE
Kilpala River
Tsitika River
BONANZA LAKE
Bonanza River
River
50°15'
Nimpkish River
Kaipi Creek
Atluck Lake
Highway
TAHSISH INLET
Artlish River
Zeballos River
0 5 10 15
Kilometres
inches
0 1
0 1 2
centimetres
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
Mammoth Geological Ltd.
Vancouver Island Marble Project
EAST BAND
TON PROJECT
DRAWN BY: RT Henneberry SCALE : 1: 250,000
DATE : December 1991 FIGURE : 4

REGIONAL GEOLOGY

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 (veneer) and marble tiles. A compilation completed in 1991/1992 identified several areas where a concentrated exploration program has an excellent chance of locating quarriable marble reserves.

The Triassic Quatsino Formation overlies the Karmutsen 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 stylolithic 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 in three relatively narrow discontinuous bands of varying lengths on the north end of Vancouver Island. 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. An additional limestone occurrence extends along the south shore of Holberg Inlet.

The **Ton Property** lies within the northern section of the East Band of the Quatsino Limestone.

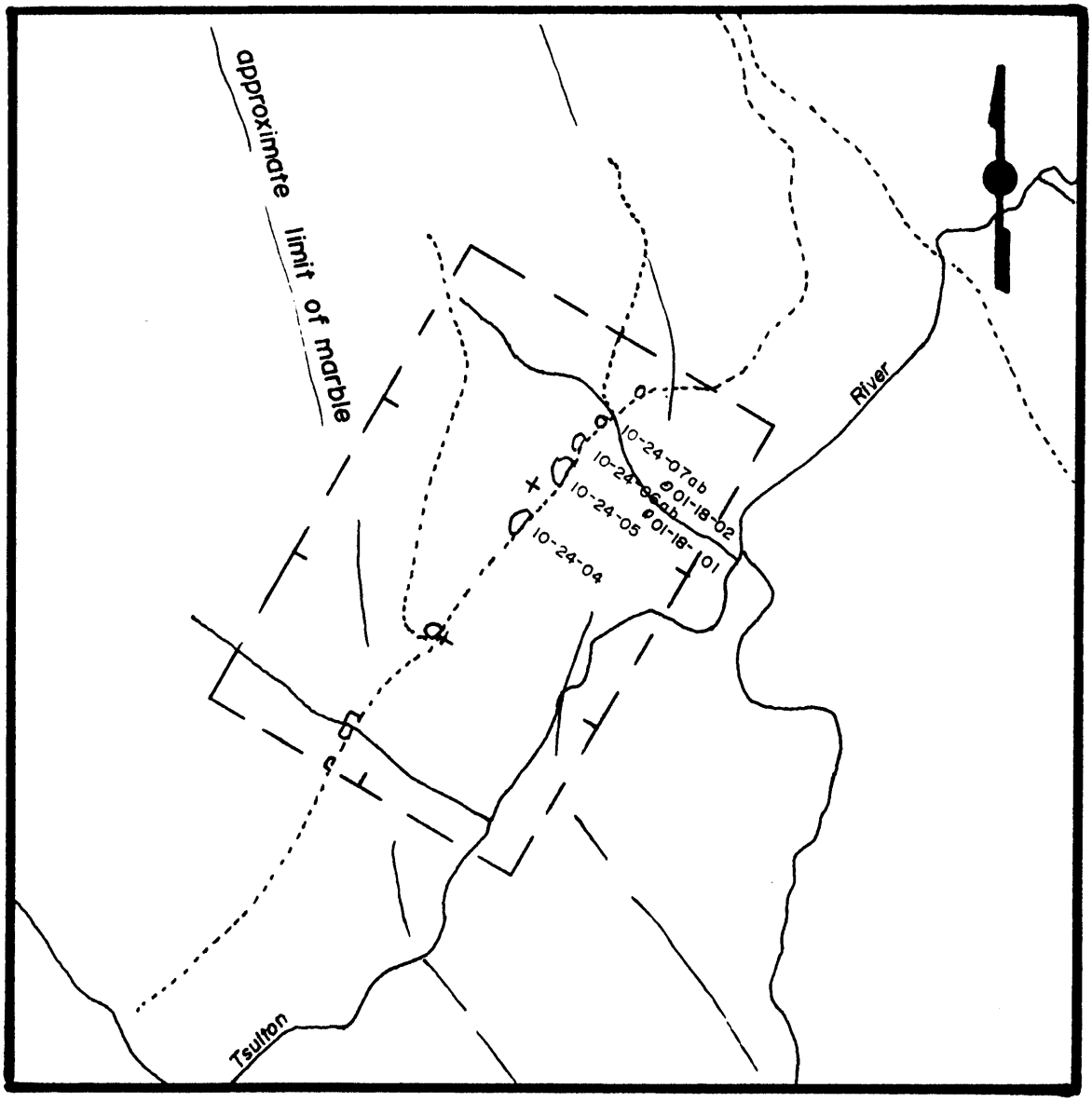
East Band

The East 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.



LEGEND

— Creek

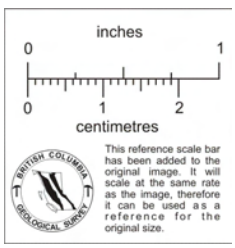
--- Road

Outcrop

10-24-04 Sample location

0 500 1000 1500

Metres



Mammoth Geological Ltd.

TON PROJECT

PRELIMINARY GEOLOGY

DRAWN BY: RTHenneberry SCALE: 1:20,000

DATE : October 1992 FIGURE: 5

PROPERTY GEOLOGY

One of the areas identified in the 1991/1992 compilation was the northern section of the **East Band**. The Ton Property was staked to cover part this occurrence.

The Ton Property is located 2 kilometres southwest of Beaver Cove. 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.

A preliminary examination of the Ton Property was made on October 24, 1992. This consisted of mapping along an overgrown logging road cutting through the centre of the claim group. The limestone located ranged from a dirty grey-white to a dense massive black. The massive black and the sugary white are of particular interest.

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

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). We briefly examined the area in January 1993. Most of 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.

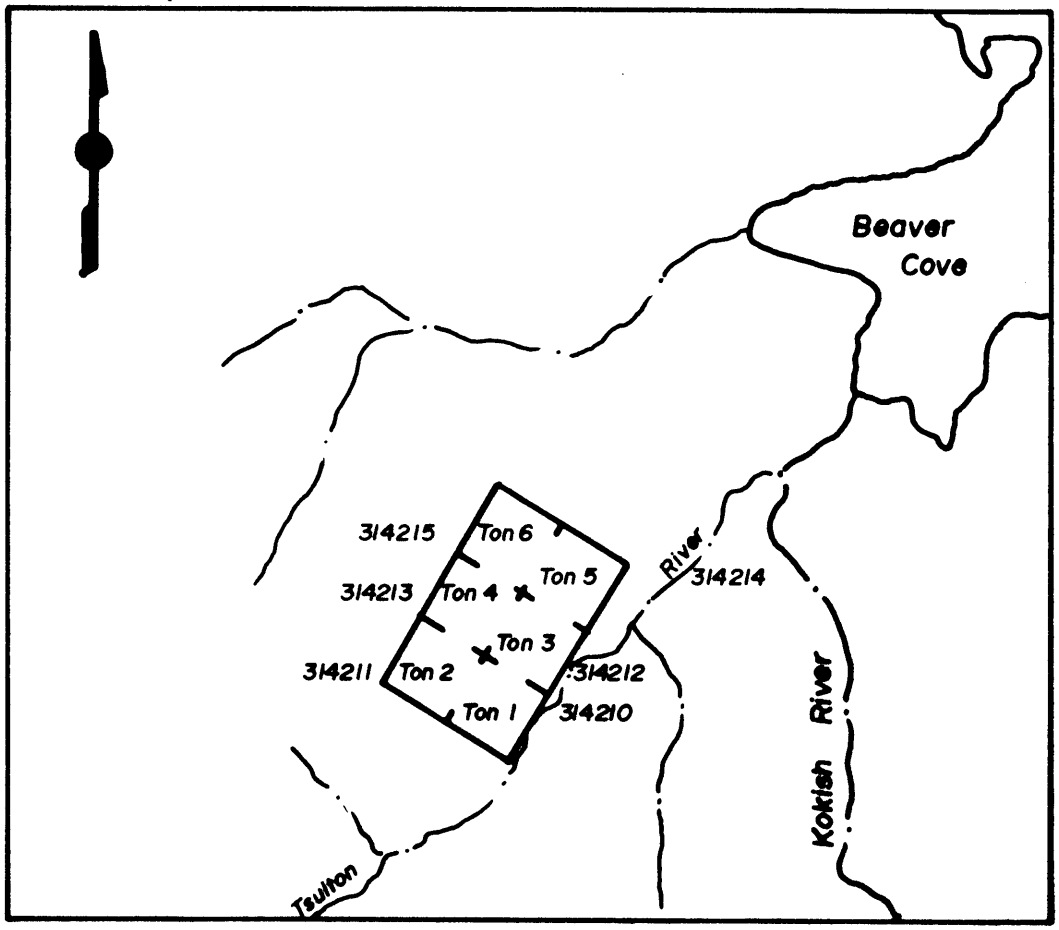
Samples 10-24-05 and 10-24-07B are of a fine-grained (<1mm) dense black marble. Sample -05 is weakly brecciated and cut by white carbonate microvein-lets. Sample -07B contains approximately 1/2% (2-4mm) white carbonate clots.

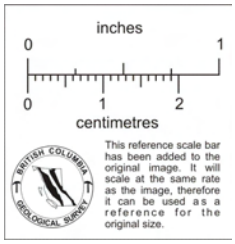
Parks (1917) described a fine grained, glistening, white crystalline limestone with faint cloudiness in light tints, as well as a white marble of the same fine grain but very delicately lined and veined with blue. Parks thought that in both grain and color this was one of the most desirable marbles observed.

We located the general area, samples 01-18-01 and 01-18-02. These samples are coarser, giving the rock (sample 01-18-01) a desirable sugary appearance. Sample 01-18-02 is fairly broken and heavily limonite stained.

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.

Claim map 92L/10W





Mammoth Geological Ltd.

Ton Group

Claim Location

DRAWN BY : RTHenneberry SCALE : 1:50,000

RECOMMENDATIONS AND BUDGET

The marble noted in the brief examination of the Ton Property is interesting. The black polishes to a nice finish, while the sugary 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.

The marble located on the Ton Property has potential use as both tiles and face finished slab. The black and sugary white varieties are of particular interest. A staged four phase exploration program is recommended for the Ton Property, with reports and recommendations required after every stage.

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 $33,264.

Phase II will consist of excavator trenching and blasting. 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 $42,636.

Phase III will be the 4000 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 $199,755.

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	**Phase II**	**Phase III**	**Phase IV**
Contractor Cost (Excavator)		$11,800	$10,500	$56,000
Contractor Cost (Compressor Crew)		$3,000		
Contractor Cost (Diamond Driller)			$102,500	
Contractor Cost (Quarry Crew)				$77,700
Field Costs (Geological and Supervision)	$15,750	$8,000	$32,000	$24,000
Support Costs (Room,Board, Vehicles)	$4,875	$2,525	$14,000	$12,750
Analysis Costs (Polished/Thin Sections)	$3,300	$4,250	$4,700	
Sample Preparation				$20,000
Permitting Costs				$15,000
Documentation (Reports)	$5,000	$7,500	$10,000	$15,000
Contingency (15%)	$4,339	$5,561	$26,055	$33,068
	$33,264	$42,636	$199,755	$253,518
TOTAL BUDGET				**$529,173**