

Kamaka Resources Ltd.
6074, 45A Avenue, Delta, B.C. V4K 1M7 (604) 940-1591

LOG NO:	SEP 13 1993	RD
ACTION:	return from amendment March 10/94	
FILE NO:		

**REPORT
ON THE
MATSIU CREEK PROPERTY**

VANCOUVER MINING DIVISION
BRITISH COLUMBIA

RECEIVED
AUG 20 1993
Gold Commissioner's Office
VANCOUVER, B.C.

N.T.S.: 92K/12W
Latitude: 50° 43' N
Longitude: 125° 49' W

FILMED

For

Barry Furneaux and Associates

209 East Fern Road,
Qualicum Beach, B.C.
Canada, V9K 1R1

By

Peter G. Dasler, M.Sc., P. Geo.

August 9, 1993

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

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SUMMARY

The Matsiu Creek property, located on tidewater in Knight Inlet, B.C. is a potential supplier of "black granite" dimension stone.

The property has a history for the production of multicoloured marble, and a medium grained, blue-grey hornblende diorite named "Katherine Blue." The present quarry has had limited development, but shows potential for significant volume increases, along with increases in stone quality.

The current "granite" quarry is disrupted by minor hairline stringering, which is thought to be caused because of its location close to the edge of the intrusive block. A traverse east of the existing quarry showed an extensive area of apparently unblemished stone.

The historic marble production was derived from a series of narrow adits, approximately 2km from the Inlet, and at an elevation of 350 metres. The rock is apparently an inlier of sediments within the Coast range batholith. The current access is difficult, and the adits are small and unusable for production. There does not appear to be commercial viability for this marble.

A work programme of site clearing, power washing, blasting and drilling is recommended for the "granite" quarry area. A budget of \$104,614 is included in this report for the work.

INTRODUCTION

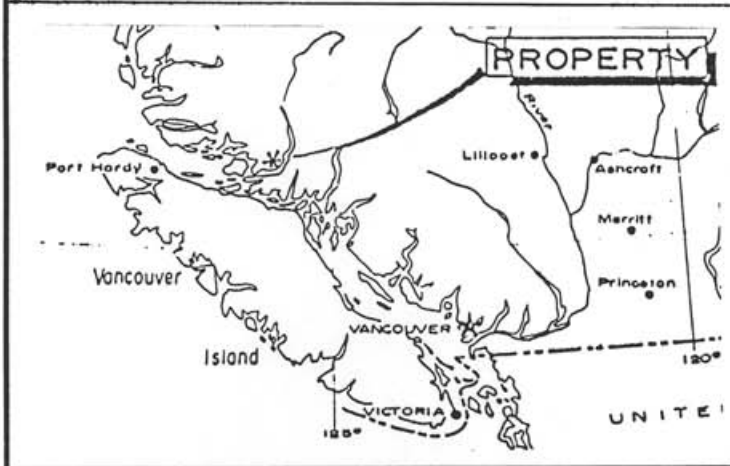
At the request of Mr Furneaux the author carried out a preliminary survey of the "granite" and marble showings on the Matsiu Creek property.

Both the "granite" and marble showings have been worked, on a very small scale in the past, for ornamental stone. The workings are dormant, and have been so for at least 5 years.

The inspection and mapping was carried out on July 27 and 28 1993. A small camp was set up near the mouth of Matsiu creek, and traverses were made up the valley to each of the sites. A quantity of the granite was airlifted out to Campbell River for further study and sales samples.

LOCATION AND ACCESS

The Mitsiu property occupies the east side of the Matsiu valley in a rectangular block, 1km wide and 2km long, with its southern limit approximately 400 metres from the shore of Knight Inlet. The



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MATSIU CREEK PROPERTY

LOCATION MAP

KAMAKA RESOURCES LTD.

Scale: AS SHOWN 1 Date: August 1993

centre of the property is on NTS map sheet 92K/12W, approximately 50° 43'N and 125° 49'W. The property is approximately 250 kilometres northwest of Vancouver.

Access to the property is by helicopter or float plane from Port Hardy or Campbell River, or by boat from Campbell River or Kelsey Bay, (closer location). There is no moorage facility at the Matsiu creek mouth, and wind often causes the area to be marginal for float plane landings. On the current visit a helicopter from Campbell River was used for the arrival (approx 30min), and a Cessna 185 float plane on the return trip.

The BC Ministry of Forests have recently completed a roadway on the west side of Matsiu creek, and contract logging is expected to commence in the near future.

PHYSIOGRAPHY AND CLIMATE

The Knight Inlet area is mountainous fiord type country. The marble and "granite " sites are on the west slopes of Mount Catherine. These steep slopes contain narrow deeply incised creek valleys which run straight into the north-south flowing Matsiu creek.

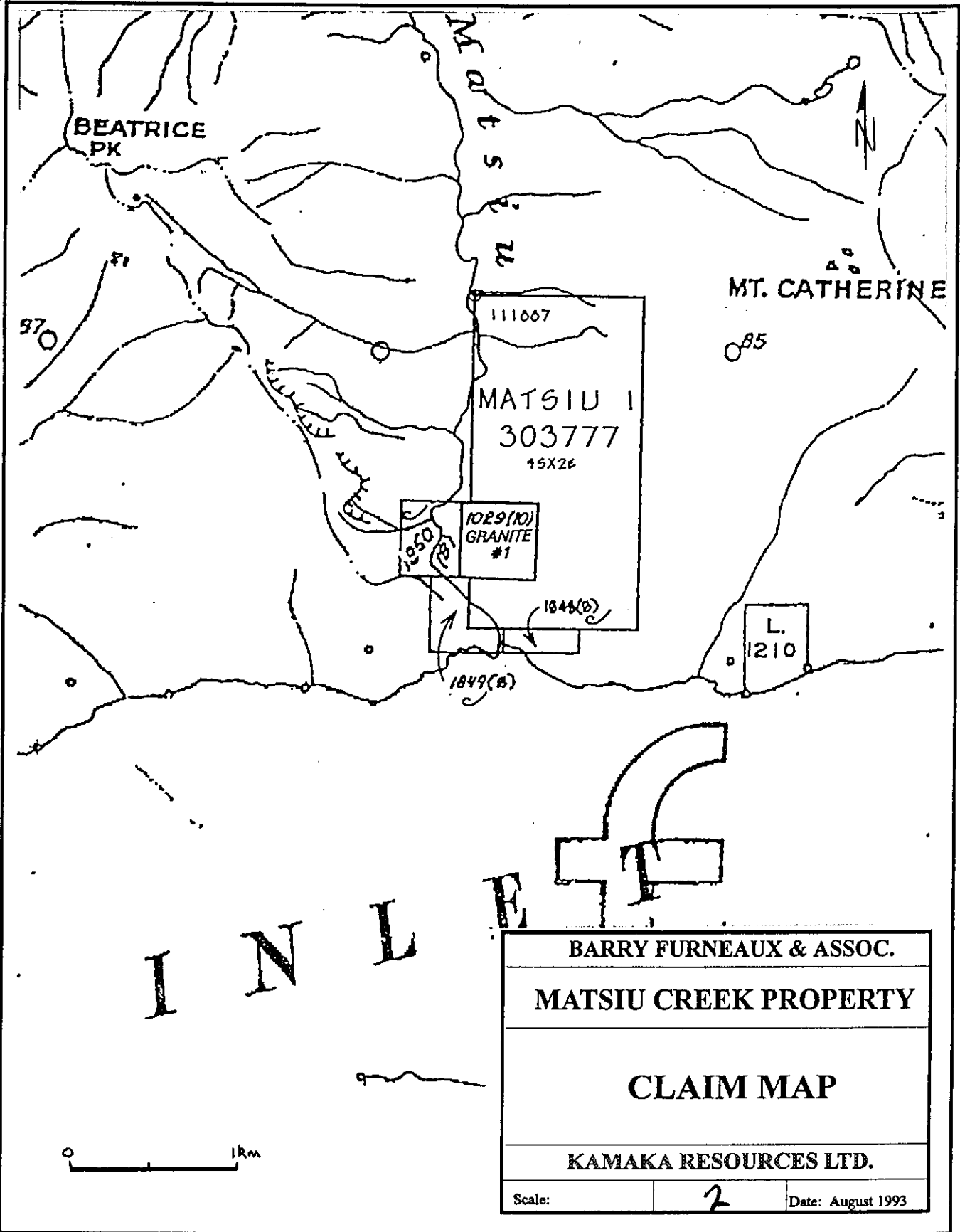
The area's climate is typical of the British Columbia Coast. Rainfall is moderate to heavy, with snow above 500 metres in mid winter. Logging and quarrying can be carried out throughout the area.

The property is moderately forested with fir, and cedar, although as mentioned, logging sales are currently underway. The immediate area of the "granite" has been cleared off in the past. The area around the adits on the marble showings has moderate regrowth of underbrush, but apart from some bluffs, the treed area is relatively easily accessed.

PROPERTY

The Matsiu property consists of one claim of eight units.

<u>Name</u>	<u>Tenure No.</u>	<u>Units</u>	<u>Expiry</u>	<u>Recorded Owner</u>
Matsiu 1	303777	8	Sept.6 1993	B. Furneaux



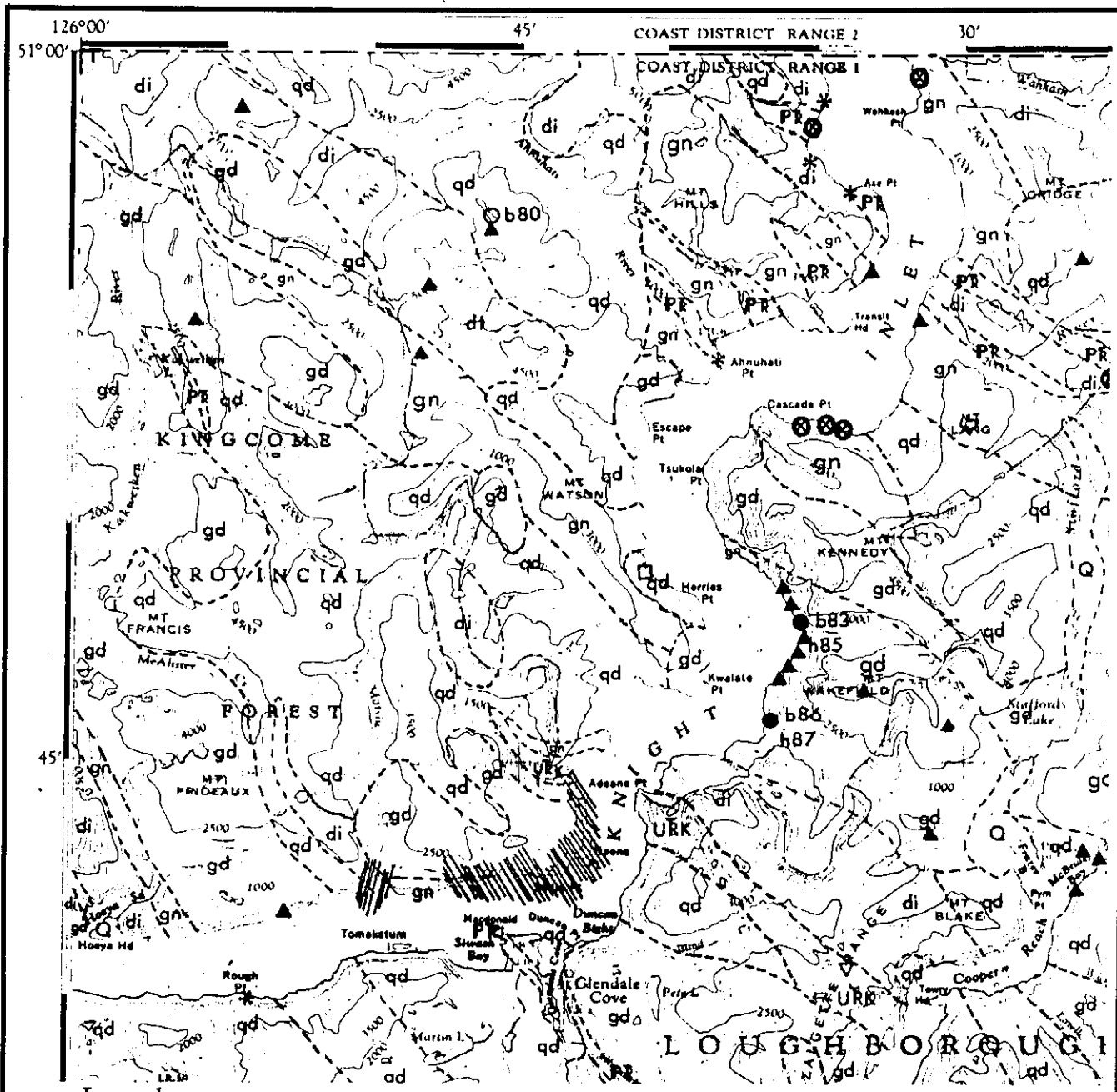
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MATSIU CREEK PROPERTY

CLAIM MAP

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Scale: 2 Date: August 1993



Legend

- gd granodiorite
- qd quartz diorite
- gb gabbro
- di diorite
- gn quartz monzonite
- Ttk Upper Karmutsen/flows/minor lst/pillows
- Ptr Amphibolite schist, quartzite,
- //// dyke swarm

from Roddick GSC OF 480

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MATSIU CREEK PROPERTY	
REGIONAL GEOLOGY	
KAMAKA RESOURCES LTD.	
Scale: 1:50,000	3
Date: August 1993	

HISTORY

The property was originally investigated as a copper prospect in the vicinity of the marble deposits.

Prior to 1920 the ground was held by the Princess Copper Mining Co.. They established trails, several open cuts and adit tunnels. This exploration was directed at sparse widely separated sulphide mineralization in skarn and marble.

In 1928 Cambria Copper took over the search, and before abandoning the property, completed tunnel # 1 to 100 feet, #2 to 410 feet, # 3 to approx 40 feet, and the upper tunnel to 15 feet.

In 1966 the property was acquired by PBM Exploration for exploration of the marble deposit.

In 1969 Knight Inlet Resources Ltd was formed to develop the marble deposits. Work was carried out intermittently over the following years. A later associated company was Kellard Marble.

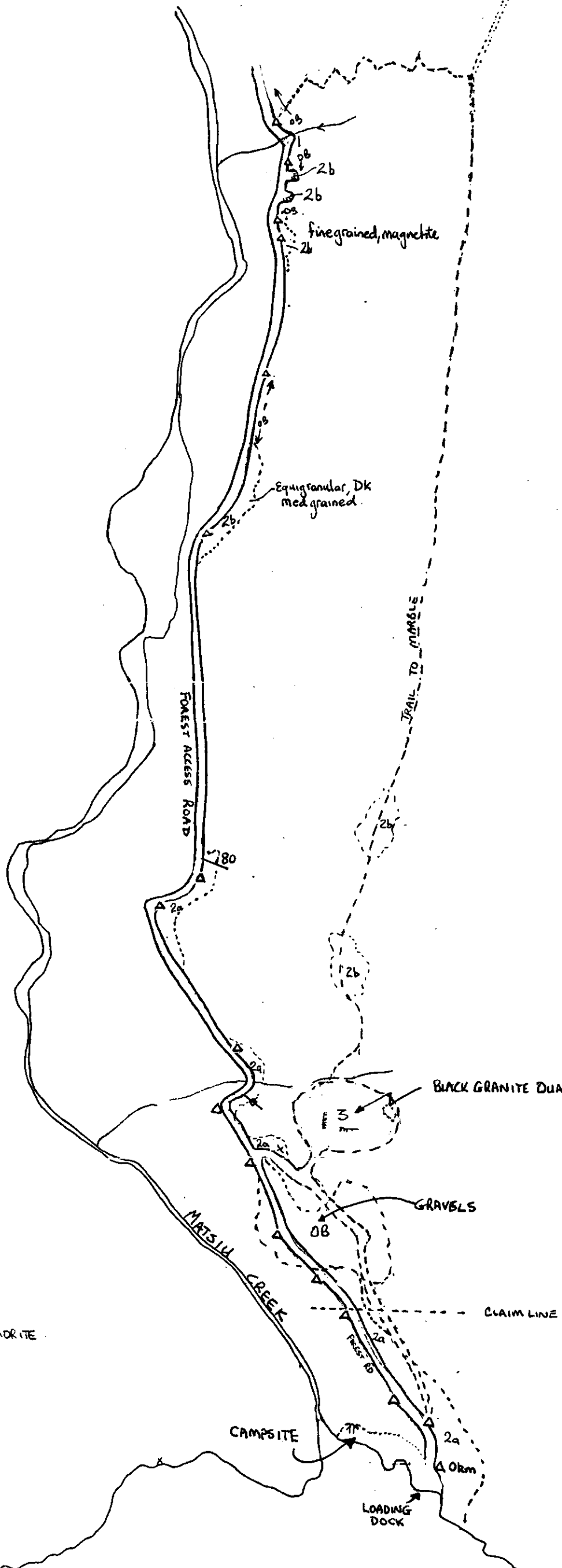
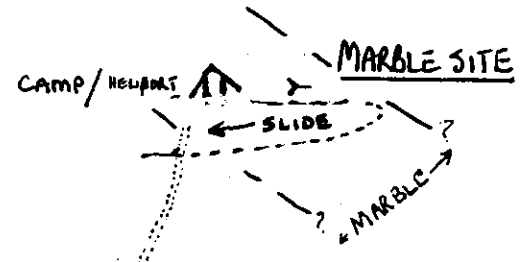
In the early 1980's the "granite" deposit was found near at the lower end of the access road to the marble deposits. Intermittent development of the "granite" quarry area was carried out until the death of Mr Kelly Robertson.

GEOLOGY

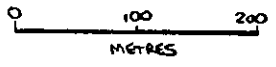
Knight Inlet is located within the Coast range batholith, a granitic mass 80 to 150 kilometres wide, which extends the full length of the British Columbia coast. In various locations there are inclusions of older rocks trapped within the batholith. The latter have been altered by tremendous heat and pressure by the intrusive rock of the batholith. The original constituents have been recrystallized and otherwise changed. This is particularly evident in the band of limestone, at the northern marble showing on the Matsiu claim, which has been converted to a hard, compact, multicoloured marble. This limestone is a continuation of the Karmutsen formation rocks shown on the regional geology map.

The "granite" quarry rock appears to be a phase of the coast batholith, in contact with a belt of metasediments, and as is shown on the regional geology map to extend some distance to the east.

The quarry has previously marketed rock as "Catherine Blue Granite". The rock is a blue-grey hornblende diorite. It is medium grained (1-5mm) which is darkened by euhedral phenocrysts of hornblende and biotite. The groundmass consists of blue-grey plagioclase and comprises approximately 50% of the rock (Hora 1982). There is minor epidote in the groundmass (<1%), present as tiny pale green grains. The sharp contrast between the light and dark minerals in the rock provides an attractive patterning. Pyrite (<1%) is also found locally, but it appears to be



- KEY
- x Bedding
 - 1 MARBLE
 - 2a METASEDIMENTS / GRESSIC DIORITE
 - 2b EQUIGRANULAR, DK MED GRAINED
 - 3 DIORITE / QTZ DIORITE
 - Δ SURVEY STATION



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MATSIU CREEK PROPERTY	
MATSIU CREEK SURVEY with GEOLOGY	
KAMAKA RESOURCES LTD.	
Scale: AS SHOWN	Date: August 1993

generally unreactive, as surfaces are unstained.

The rock in the present quarry is of fairly consistent and even composition. White reported a gradual darkening over a 40 metre interval, however this is not obvious. There are several series of quartz and quartz-feldspar filled joints (up to 2mm, but generally, 1mm) which obliquely cut the present quarry face. They are most obvious on the weathered surface, and appear insignificant on the quarry face. The joints are irregular, sometimes bunched, but generally widely spaced (1-5 m).

Traverses to the east of the present quarry face showed medium grained similar hornblende diorite extending over 90 metres to the east. Outcrop is only intermittent across this distance, however there appears to be few (if any) veinlets cutting the diorite to the east. Some blasting has been attempted 40 metres to the southeast of the quarry face, and again the product is uniform blue-grey diorite.

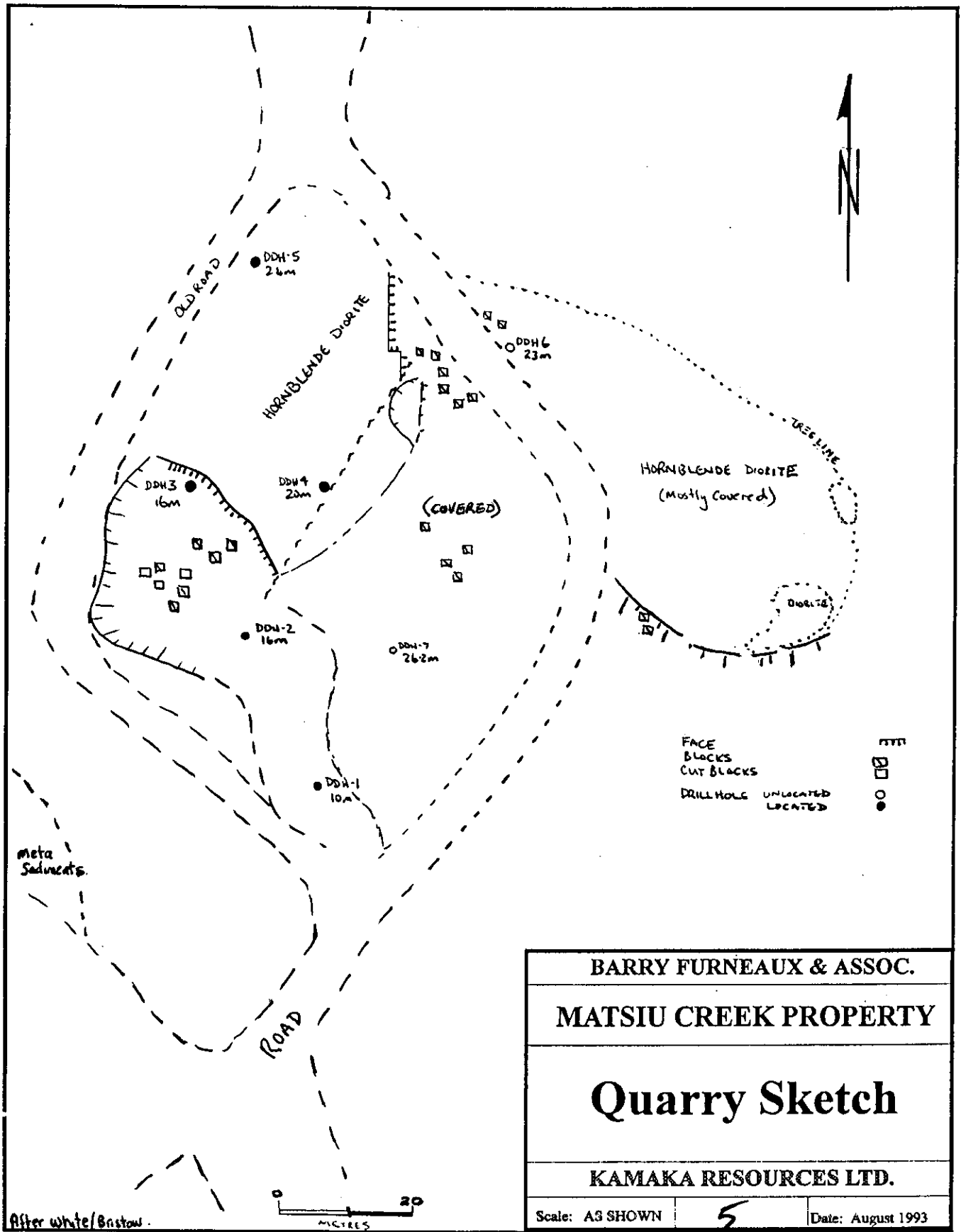
Seven diamond drill holes were reported by White for the area of the working face. These holes (HQ size) were identified during the present survey. A reserve of 62,500 cubic metres of diorite was outlined by the drilling, which extended between 10 and 26.3 metres depth. This volume is equivalent to a block 50m X 50m X 25m deep. This is consistent with the surface outcrop of the present quarry area.

In the current survey an additional 80m X 40m area with similar quarrying potential was identified on the east side of the present quarry area (ie possibly a further 64,000 cubic metres). This area has been stripped of trees, but requires soil and brush removal. Large blocks of uniform diorite (.5m X.5m) were visible in tree roots on the edge of the clearing, indicating that the diorite intrusive probably extends for some distance further to the east. There is no outcrop visible within the treed area, however limited excavator work could easily establish further limits.

To the north of the quarry the diorite crosses a low swampy creek at 50 m, and after that for approximately one kilometre there is intermittent outcrop of mottled and "gneissic" diorite and assimilated sediments. On the forest roads to the west and southwest there is similar gneissic diorite and metasediments over a kilometre. It therefore appears that the present quarry may be within the western margin of a large block of diorite.

WORK PROGRAMME

The current survey was aimed at determining the potential for further "granite" on the Matsiu property. The new logging access was thought to offer opportunity for a large quarrying operation. The mapping traverse along the road, however showed that the valley follows a belt of metasediments, and that the intrusive lies to the east.



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MATSU CREEK PROPERTY	
Quarry Sketch	
KAMAKA RESOURCES LTD.	
Scale: A3 SHOWN	5
Date: August 1993	

After White/Bastow.

A traverse was made up the hillside from the lower forest road to the old access road to the adits on the marble occurrence. These are at an elevation of 350 m (1140 feet) , at the end of a narrow, and sometimes steep access track which was apparently put in the mid 1970's. The access track is sub parallel to the forest road, and extends 2 kilometres north from the diorite quarry access road.

A review of the marble quarry site quickly identified the significant access problems, and limitations for the economic removal of marble from the small (4ftX5ft) adits. The hillside is very steep, and moderately forested, with occasional bluffs. A helicopter pad had been built on the top of an old bunkhouse, however neither is usable. It is not realistic to consider the development of the marble to be economic at this time.

The extent of the diorite at the present quarry site was determined to have priority. The present quarry conforms largely to that reported by White (1988). The minor stringering in the rock appears to be the biggest drawback to the location. However if the present location of the quarry, at the margin of the diorite, is considered than there is a reasonable expectation that the stringering will decrease as one moves to the east. This hypothesis appears to hold true, as no stringering was noticed in the sparse outcrops approximately 90 metres to the east. This should be relatively easy to determine if an excavator was used to clear the surface, and some hand washing carried out. Drill holes under the eastern area would assist in determining the extent and quality of the rock.

The survey concluded with collection of approximately 400 kg of "black granite" in large slabs and blocks. These were airlifted out from the site on the return trip by the mobilizing helicopter, and on one other side trip. Approximately 150 kg of the rock was brought to Vancouver for sawing and polishing, the remainder was left in storage at Campbell River.

A survey was made of loose blocks currently available at the quarry and on the beach at Matsiu bay. There are 24 pieces .5m square; one piece .5mX.5mX2.5m; one piece .5mX1mX1.5m; and one piece 1mX1mX1m in dimensions at the quarry face, and two further blocks 2mX1.5mX1m and 2.5mX1.25mX1m located at the beach site. According to the equipment operator who built the beach loading site, there are a number of other blocks in the site fill.

CONCLUSIONS

1. The marble deposits at Matsiu creek appear to be uneconomic because of their small size and access problems to the adits.
2. The "black granite" (hornblende diorite) quarry is situated near the western contact of a diorite intrusive which may form part of the Coast Intrusion. There is considerable

potential for increasing the extent of the quarry, and defining a large volume of clear stone.

3. The previous exploration on the property has provided good access to the quarry area, and cleared sufficient ground of forest for extensive exploration. It appears that current reserves of rock at the site are in excess of 125,000 cubic metres (to a depth of 25 m).
4. The existing quarry is opened up with a first bench approximately 10m in length. Development could continue at this face, or along a perpendicular cliff face located approximately 40 m to the southeast.
5. The newly constructed forest access road, and the roughed out loading area on the east side of Matsiu bay can accommodate a moderate quarrying operation at the current time.
6. The current inventory of large blocks on the property appear to be of commercial quality.

RECOMMENDATIONS

1. A ten day programme of excavator stripping and power washing is recommended for the area east of the current "granite" quarry.
2. The new surface exposure should be inspected in detail, and if of similar quality, or better, than the existing quarry area (vis a vis stringering/texture), should be drill tested.

BUDGET

The following detailed exploration budget is for the continued exploration of the Matsiu Creek Property, as detailed in recommendations in this report:

PHASE ONE

Mobilization (backload-fuel barge)	5,500	
Aeroplane	4 trips	1,500
Excavator 15 days @ \$1000	15,000	
Geologist 3 days @ \$340	1,020	
Assistants 15 days @ \$150	2,250	
Camp/Accommodation	2,000	
Vehicles	500	
Supplies	<u>1,0000</u>	
		28,770
Drilling		
MOB	10,000	
Surface Drilling 500 metres @ \$60/m	<u>30,000</u>	
	40,000	40,000
Sample prep/marketing	20,000	20,000
	Contingency 10%	<u>9,000</u>
	SUBTOTAL	97,770
	GST	<u>6,844</u>
	TOTAL	\$104,614

REFERENCES

- Allen, A.R. (1971) Report on the Marble Deposit of Knight Inlet Resources. Sept 24, 1971. Private Report.
- Hora, Z.D. (1982) Results of Physical tests on Knight Inlet Granite, Kellard Marble Inc. J,F, Bristow, Private Report.
- White G. V.(1989) Knight Inlet Granite Quarry. BCDM Report of Fieldwork, Geological Fieldwork 1987 Paper 1988-1.

CERTIFICATE OF QUALIFICATIONS

I, Peter G. Dasler, do hereby certify that:

1. I am a geologist and principal for Kamaka Resources Ltd. with offices at 6074, 45A Avenue, Delta, British Columbia.
2. I am a graduate of the University of Canterbury, Christchurch, New Zealand with a degree of M.Sc., Geology.
3. I am a Fellow of the Geological Association Of Canada, a Member, in good standing, of the Australasian Institute of Mining and Metallurgy, and a Member of the Geological Society of New Zealand and a registered Professional Geologist with the Province of British Columbia.
4. I have practised my profession continuously since 1975, and have held senior geological positions and managerial positions, including Mine Manager, with mining companies in Canada and New Zealand.
5. This report is based on my review of the Matsiu Creek Property, and from reports of Professional Engineers and others working in the area.



Peter G. Dasler, M.Sc., FGAC P. Geo.

August 9, 1993

STATEMENT OF COSTS

The following expenditures were incurred for exploration on the Matsiu Creek property in July and August 1993. The expenditures detail the costs for the survey trip and the removal of rock for testing and marketing. The technical costs for evaluation of these samples will be reported in a later assessment report.

Personnel

P. Dasler, Geologist	
2 days @ \$380/day	\$720.00
B. Furneaux, Geologist	
2 days @ \$380/day	720.00
L. Wheatley, Operator/Field Technician	
2.5 days @ \$270/day	675.00

Total Personnel**\$2,115.00****Disbursements**

Helicopter	1,774.00
Plane	300.00
Food & camp supplies	150.00
Misc freight etc \$48.13	48.13
Office, report & miscellaneous	500.00
	580.00
	<u>2,772.13</u>

Total Disbursements**2,772.13**

Disbursement Fees (15%)

415.82

SUBTOTAL

5,302.94

GST

371.00

TOTAL

\$5,674.14

APPENDIX 1

Marble deposit Review Allen 1971.

Throughout the marble there are a few bands and lenses of skarn and other impurities, particularly in the adit tunnels where small lamprophyre dykes were noted, and very small and limited streaks, fracture fillings and disseminations of pyrite, chalcopyrite, bornite, sphalerite, galena and pyrrhotite occur. For the most part, probably 80% of the marble zone is free of impurities.

The wall rocks are skarn, composed chiefly of garnet, epidote and calc-silicates; banded meta-diorite and metagranodiorite; and fine-grained siliceous rock containing considerable finely disseminated pyrite and pyrrhotite. Both walls of the marble zone are sharply defined. The marble and the wall rocks hold well and there is a minimum of caving in either the tunnels or on the steep surface exposures.

THE MARBLE ZONE

The marble zone strikes northwest, dips steeply southwest, and has been mapped in excess of 1,500 feet horizontally and 1,000 feet vertically. It appears to be a fairly uniform body 50 to 100 feet thick.

The best surface exposure is in the bed of Marble Creek 1,700 to 1,900 feet above sea level. There,

Starting on the hangingwall and proceeding up the creek bed to the footwall, the sequence is as follows:

Actual hangingwall contact not well exposed.
A narrow, probably 2-foot, zone of grey marble.
Ten feet of banded light grey, cream and brown marble with the one-inch to two-inch bands slightly curved but clearly defined.
Fifteen feet of blue marble.
Four feet of white marble.
Ten to twenty feet of brown, hard, compact skarn.
Thirty feet of white and light grey marble, with some bands of blue marble.
Four feet of white to light grey marble.
Footwall well exposed, dipping 80 degrees southwest, containing about one-half inch of black scaly fine-grained rock grading into hard metadiorite.

Between Marble Creek and the upper or number 4 adit there are numerous outcrops of marble. At the number four adit the zone is well exposed as follows:

On the hangingwall, 12 feet of skarn and marble overlain by hard grey altered metadiorite with narrow pink granitic phases.
Eight feet of fine-grained skarn made up chiefly of brown garnetiferous rock, and containing scattered narrow veins of quartz and sulphides. The adit is driven southeast 15 feet along the footwall of this zone.

Forty feet of gray, blue and white marble. The footwall is a grey metamorphic complex rock with what appear to be narrow elongated xenoliths of metadiorite, parallelling the contact. The contact is clearly defined and both the marble and footwall rocks are extremely competent.

There is an exposure of fine blue marble along with some white, in the number three trench close to the hangingwall of the zone 200 feet lower in elevation than the number 4 tunnel. The trench is 22 feet long and exposes only the surface 2 or 3 feet of the zone where it is noticeably affected by surface weathering.

Underground in the number two tunnel, which was directed southerly across the marble zone for about 400 feet, there is the following sequence from hanging to footwall:

A hard well-defined metadiorite wallrock. This lies against a fault zone, striking southeast and dipping 80 degrees to the northeast. On the footwall side of the fault there is six feet of skarn underlain by 5 feet of grey and white marble. This lies against a 12-foot zone of mixed skarn and metadiorite which shows a small amount of copper mineralization at the contact with what appears to be the actual massive marble zone.

The contact with an impure white and grey 20 foot band of marble appears to dip southwest at 45 degrees.

A band of about 30 feet of white marble and skarn.

A 20 foot band of white and light grey marble with 10 feet of skarn near the middle.

Twenty feet of blue marble.

Ten feet of white marble with some grey banding.

The footwall is a mixture of marble and skarn underlain by metadiorite and a flinty hard fine-grained rock with considerable disseminated pyrite.

The lowest or number one tunnel appears to be directed into and along the hangingwall of a narrow zone of grey, brown and cream banded marble. This grades into skarn and altered wall-rock for 30 feet and then into metadiorite.

Towards the footwall side there are narrow bands of marble and fine-grained siliceous rock with much disseminated pyrite for 40 feet, then a covered zone 50 feet wide, and Tunnel creek where the bedrock is granodiorite.

It would appear that the marble zone terminates a short distance below this number one tunnel.