MAMMOTH
GEOLOGICAL LTD.

Box 5250, Port Hardy, B.C. V0N 2P0
Phone and Fax: (604) 949-5197

1996 EXPLORATION PROGRAM

DUMP PROPERTY

Nanaimo Mining Division
Vancouver Island, B.C.

By: R.Tim Henneberry, P.Geo.
March 14, 1997

SUMMARY

The Dump property was identified and acquired as part of regional exploration and assessment program undertaken on the north Island Quatsino limestone bands. A white limestone was located, projected to have use as both industrial fillers and 2 inch minus landscape stone.

The Dump property consists of the Dump 1-2 two-post mineral claims. The property is road accessible, located 40 kilometres south of Port McNeill. A maintained logging skirts the north end of the property, with branch roads accessing most of it.

A two stage marketing assessment/ bulk sample and diamond drilling program is recommended. The market assessment will consist of obtaining 10 kg, 2 inch minus white limestone samples and displaying them to Island gravel and limestone supply firms. Upon a favorable interest level (and perhaps trial orders), a small 500 ton bulk sample is proposed to provide crushed, 2 inch minus white limestone for initial jobsite tests. On-going chemical and optical analyses will provide brightness and impurity data on fresh, unweathered limestone. The cost of this phase is estimated at $14,830.

The second stage will consist of diamond drilling for reserves and for testing the chemical and optical properties with depth. This 1500 foot (452 metre) program is estimated at $65,750.

Phase I - Market Assessment	$1,650
Phase II - 500 Ton Bulk Sample	$13,180
Phase III - Diamond Drilling	$65,750

TOTAL BUDGET FOR DUMP PROPERTY	**$80,580**

Positive results from the drilling will initiate a preliminary feasibility study on a white limestone quarrying operation.

The 1996 sampling program cost $1,100.00

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INTRODUCTION

The purpose of this report is to document the 1996 exploration program on the Dump property. The exploration target is limestone for industrial filler applications or landscape applications.

After preliminary sampling was completed in 1995, a cross-stratigraphy traverse was made in 1996, to sample the limestone exposures at regular intervals. These samples were analyzed for their optical properties as well as for their impurities.

Initially, this property was examined for dimension stone as part of a regional exploration program. The fractured nature of the outcrops left little potential for dimension stone. The white color of the stone, however, may be appropriate for landscape stone. The white Dump limestone may also be suitable for industrial filler applications.

GENERAL BACKGROUND ON THE CARBONATE INDUSTRY

Geology - (Condensed from Carr et al, 1994).

Carbonate rocks form about 15% of the earth's sedimentary crust, predominantly as limestone and dolomite or their metamorphosed equivalents, marble. Most limestones of economic importance were partially or wholly biologically derived from seawater and accumulated in a relatively shallow marine environment. Environment of deposition is important because it determines the economically significant characteristics of the carbonate deposit. Limestones formed in high energy zones generally contain little non-carbonate material and hence may be a source of high purity carbonate material. Micrites (very fine-grained carbonate muds), which accumulate in zones of low energy, are more likely to be diluted by clay and silt size non-carbonate material. Carbonate rocks are highly susceptible to postdepositional alteration and modification.

The principle carbonate rocks used by industry are limestone and dolomite. Limestones are sedimentary rocks composed mostly of the mineral calcite ($CaCO_3$). Dolomites are sedimentary rocks composed mostly of the mineral dolomite [$CaMg(CO_3)_2$].

Impurities in carbonate rock vary considerably in type and amount but are important from an economic standpoint only if they affect the usefulness of the rock. The most common impurity is clay, followed by chert, silica and organic matter. Color, an important property of carbonate rocks, can be a rough guide to purity, but it can also be misleading. Most high purity limestones are shades of light brown to grey to white.

Mining

Limestone and dolomite are high volume, low-value commodities, with production cost control being the critical element in any quarry operation. Mining is predominantly done from open pit quarries, though large scale underground operations due exist.

Carbonate rocks are quarried in 47 of the 50 United States and in all provinces in Canada except Saskatchewan. They are mined from rocks of almost every age in the geological time scale. (Carr et al, 1995).

Carbonate Rock Production in British Columbia for 1986 and 1987 (tonnes * 1000)
(From Fischl, 1992)

Company	Location	1986	1987	Location	1986	1987
	Limestone			Dolomite		
Holnam West Materials Ltd.	Texada Island	1,149.8	1,907.5			
Ashgrove Cement West Inc.	Texada Island	1,046.5	1,046.3			
Imperial Limestone Ltd.	Texada Island	173.8	140.9			
Lafarge Canada Inc.	Texada Island	341.4	0.0			
Lafarge Canada Inc.	Kamloops	126.9	155.3			
Steel Brothers Canada Ltd.	Marble Canyon	146.1	194.6			
Northrock Industries	Dahl Lake	25.4	30.0			
Quesnel Readi-mix Cement Co.	Purden Lake	10.0	0.0			
International Marble & Stone Co Ltd.	Lost Creek	7.1	6.6			
International Marble & Stone Co Ltd.	Benson Lake	9.9	13.2			
International Marble & Stone Co Ltd.				Crawford Creek	27.7	31.9
Mighty White Dolomite Ltd.				Rock Creek	8.0	8.0
Totals		**3,036.8**	**3,494.4**	**Totals**	**35.7**	**39.9**

Limestone and dolomite are currently produced from a few locations throughout the province for a variety of uses. Most of the limestone production originates from Texada Island, while most of the dolomite production comes from Crawford Creek, east of Kootenay Lake. (Fischl, 1992).

Processing - (Condensed from Fischl, 1992).

Carbonate rocks generally do not undergo a milling process. Processing, though dependent on end uses, generally involves some type of crushing and size sorting by screening.

Fischl (1992) has described a chemical composition based classification system for British Columbia carbonate rocks, which needs to be outlined to follow the ensuing discussion on end uses:

Ultra high calcium limestone	+97 percent $CaCO_3$ (54.3% CaO)	
High calcium limestone	+95 percent $CaCO_3$ (53.2% CaO)	<2 percent $MgCO_3$ (0.96% MgO)
Calcium limestone	+95 percent $CaCO_3$	<10 percent $MgCO_3$ (4.79% MgO)
Magnesian limestone		<40 percent $MgCO_3$ (19.15% MgO)
Dolomitic limestone		+40 percent $MgCO_3$

The primary use of carbonate rock is the in British Columbia is in the manufacture of cement. Generally, high-calcium limestone is required for cement manufacture. Higher silica and alumina contents may be useful for manufacturing cement, but excessive amounts of alkalies cannot be tolerated, limited to less than 0.6%. Magnesia content cannot exceed 3 per cent.

Carbonate Rock Consumption in British Columbia for 1986 and 1987 (tonnes * 1000)
(From Fischl, 1992)

	1996	1997
Cement manufacture		
Domestic	1,282.8	1,051.1
Foreign	468.1	724.1
Lime manufacture		
Domestic	290.7	388.1
Foreign	395.9	584.5
Pulp and paper	129.4	165.1
Agriculture	19.1	27.0
Fillers (whiting)	31.7	31.3
Stucco dash	14.4	18.1
Crushed rock	283.1	328.5
Other		
Domestic	8.9	14.7
Foreign	149.7	142.5
Totals	**3,073.7**	**3,475.1**

Lime manufacture is another important use of British Columbia carbonate rock. Limestone used for lime manufacture must be at least high calcium in composition, with less than 2.5 percent MgO.

The pulp and paper industry consumes significant quantities of limestone to recover caustic soda in the pulping process. Limestone for the pulping process must be at least high calcium in composition, with less than 3.0 percent MgO.

Agricultural limestone is generally produced as a byproduct of major quarries, used to neutralize acidic conditions in soil. Limestone for this end use can range from high calcium to dolomitic in composition.

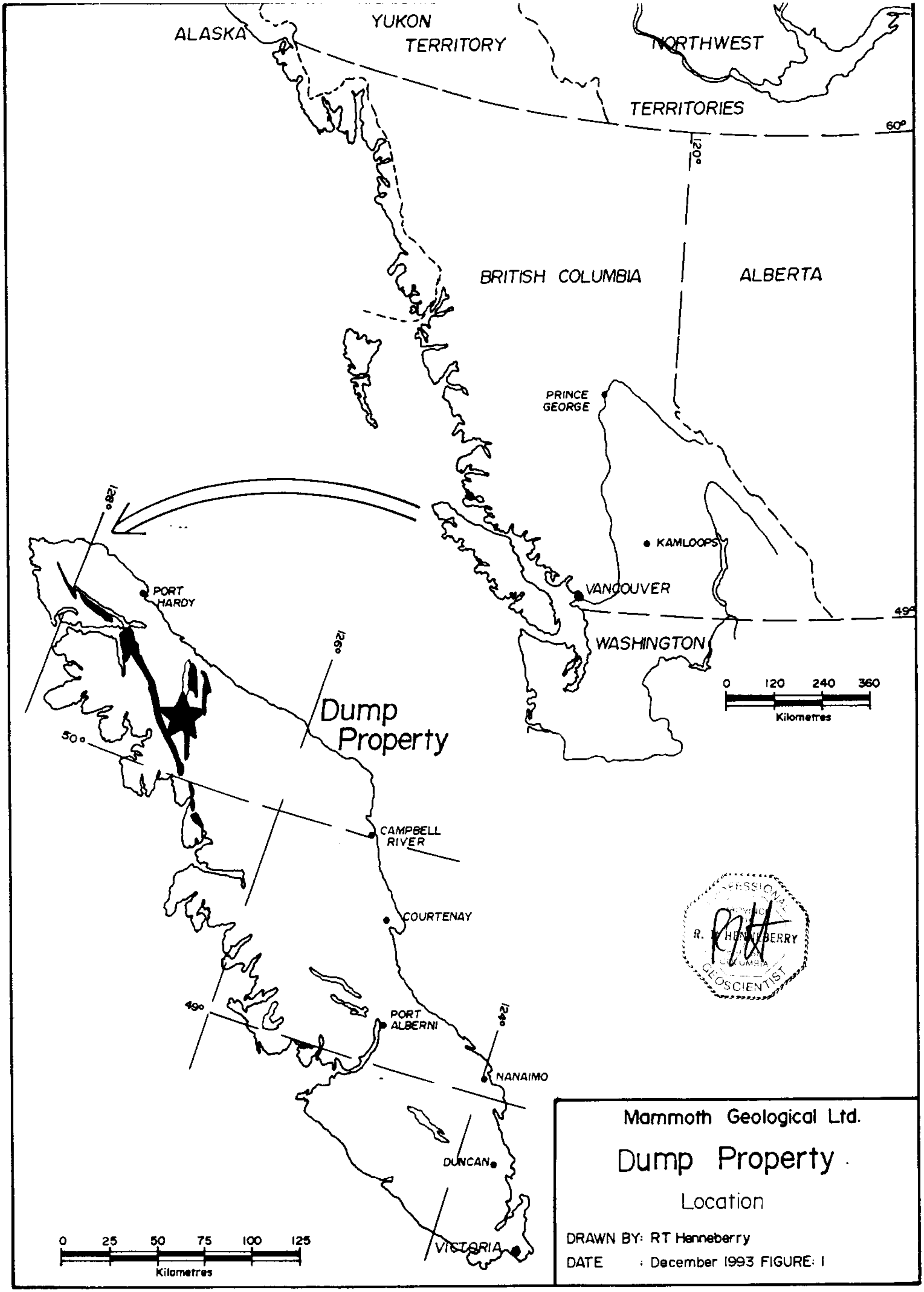
Carbonate rock is also used as fillers and extenders in paints and plastics, as chips and granules for architectural and decorative purposes and in the manufacture of glass. Limestone and dolomite for use in most fillers and extenders must have a brightness in excess of 85 percent (ideally 95 to 96 percent dry brightness in blue light), low iron contents and no silicates. Glass manufacturers require limestone with no more than 0.1 percent Fe_2O_3.

Structurally competent beds of limestone, or more importantly marble, can be used for dimension stone. Waste product from these operations can also be considered for use as landscape stone.

Demand

According to Fischl (1992), the consumption of limestone and dolomite is expected to increase in a number of areas in the near future. The province's mining industry will be relying on limestone to control acid mine drainage and to neutralize waste cyanide. The pulp and paper industry is expected to consume increasing amounts.

Temanex Consulting Inc. (1994) in a report on industrial mineral opportunities in British Columbia pulp and paper forecast an increase from 300,000 to 750,000 tonnes per annum for pigments in the Western North American paper industry. The pigments they describe are kaolin and calcium carbonate. The carbonate is used as a coater and filler in alkali paper processes.



Mammoth Geological Ltd.

Dump Property

Location

DRAWN BY: RT Henneberry

DATE : December 1993 FIGURE: 1

LOCATION, ACCESS

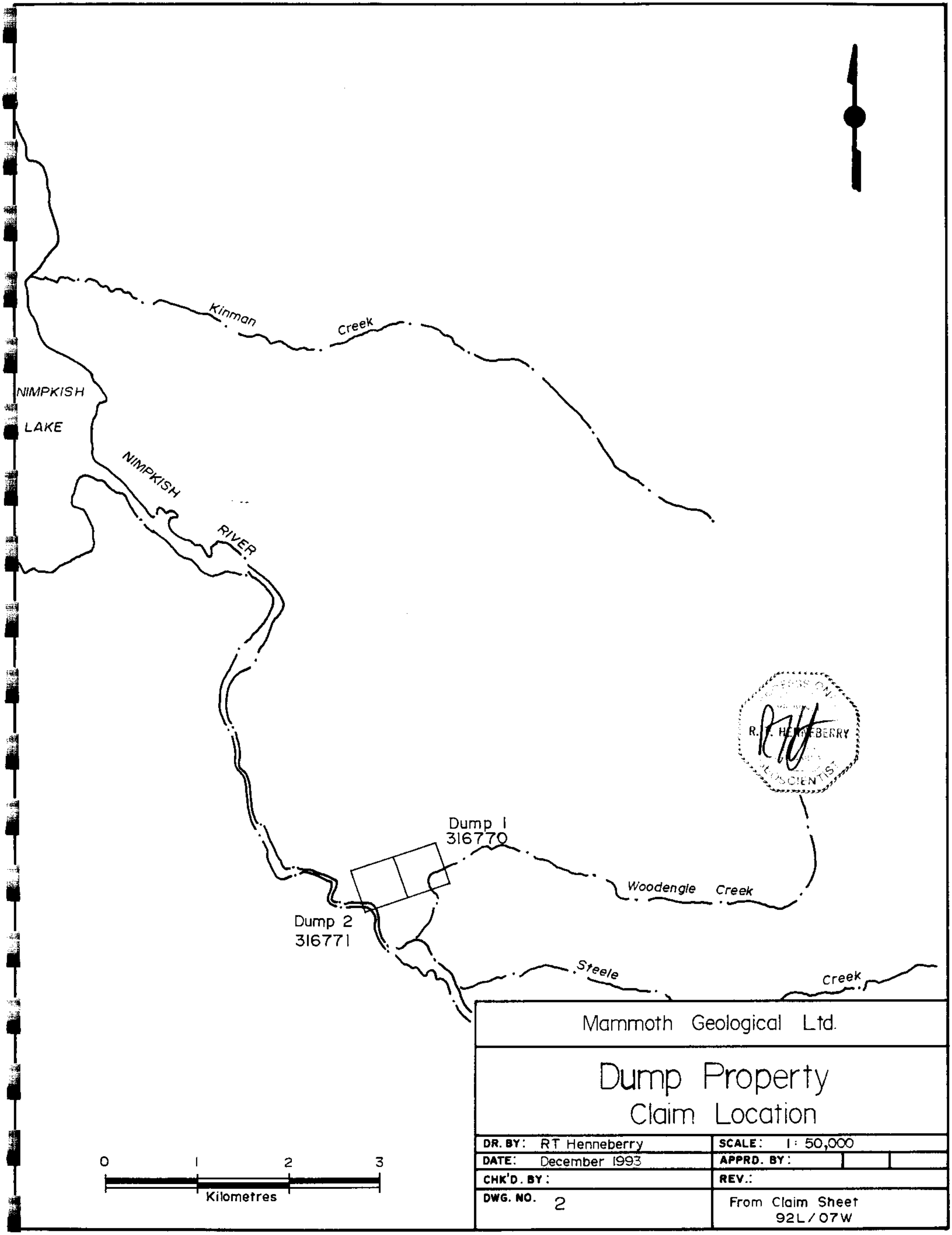
The area of interest is the northern section of Vancouver Island, between latitudes 49° 45' and 50° 45' and longitudes 126° 30' and 127° 55'. Topography ranges from Sea Level to 1050 metres, with valleys generally less than 300 metres. There are numerous lakes, creeks and streams where water for diamond drilling is readily obtainable. Heavy duty equipment for trenching and road-building will be accessible locally, in either Port Hardy or Port McNeill.

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, Port McNeill and Woss. The Island Highway cuts through much of the map area. The numerous logging roads of Canadian Forest Products, Fletcher Challenge Canada and Canadian Pacific Forest Products provide access to different claim groups.

The Dump property lies on NTS Sheet 092L/07W, 40 kilometres south of Port McNeill. Access is 40 kilometres south along Island Highway to Zeballos Road, then 0.5 kilometres along this road to the property. The status of the property is immature second growth.

Part of the Dump claims cover an old gravel pit / garbage dump at the Anutz Reload.



Mammoth Geological Ltd.

Dump Property
Claim Location

DR. BY: RT Henneberry	SCALE: 1 : 50,000
DATE: December 1993	APPRD. BY:
CHK'D. BY:	REV.:
DWG. NO. 2	From Claim Sheet 92L/07W

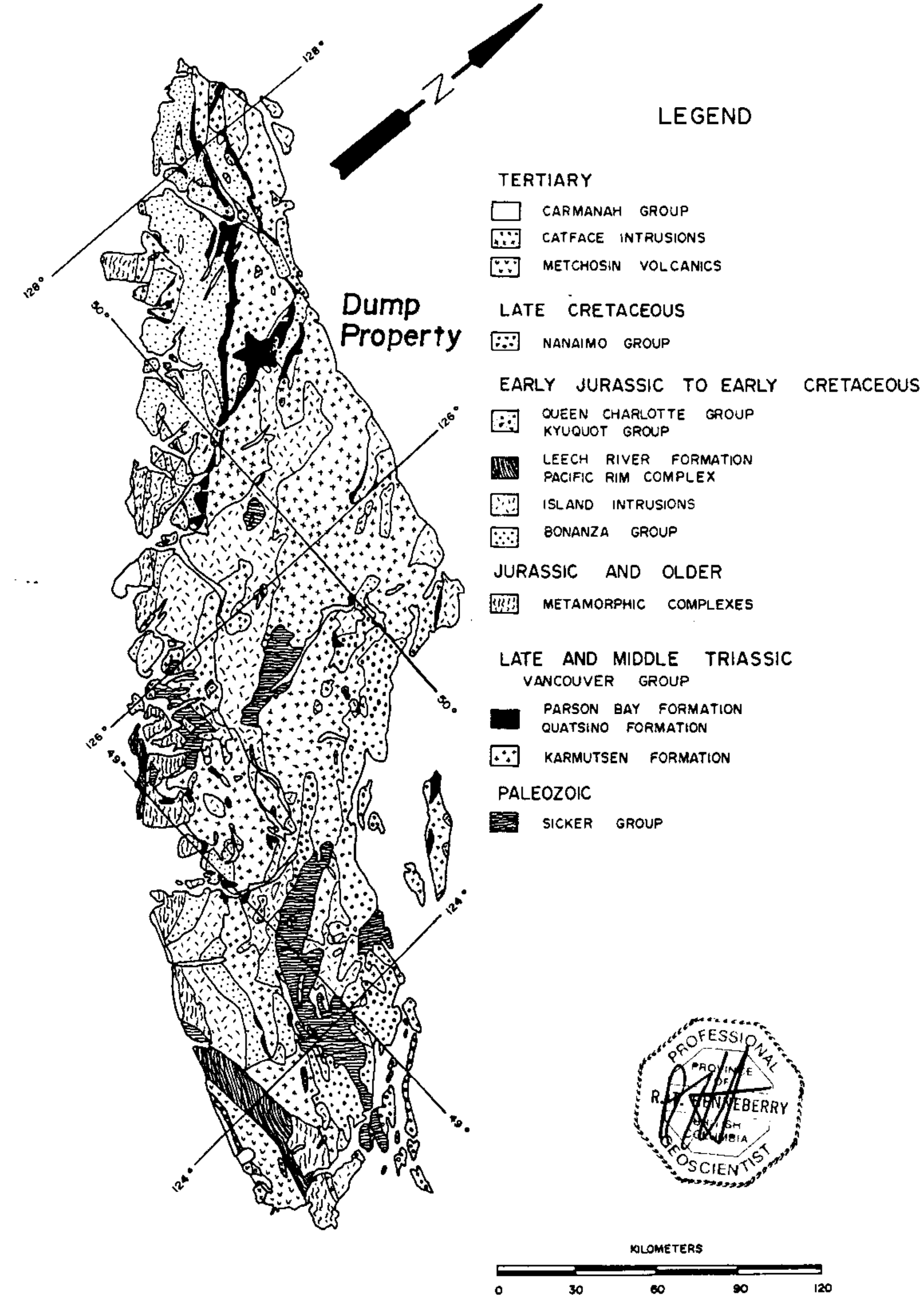
CLAIM HOLDINGS

The Dump property comprises a total of 2 units, covering a prominent ridge and a semi-continuous outcropping of white limestone. The two units encompass an area 500m by 1000 m at the south end of the Centre Band of the Quatsino Limestone.

Name	Record Numbers	Anniversary Date
Dump 1	316770	March 31, 1998 *
Dump 2	316771	March 31, 1998 *

* pending approval of 1996 assessment credits

The claims are presently registered to Lou D. Straith of Campbell River, B.C..



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

Mammoth Geological Ltd.	
GEOLOGY OF VANCOUVER ISLAND	
DRAWN BY: A. STANTA	SCALE:
CHECKED BY:	DATE: December 1993
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 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 as three narrow belts on the north part of Vancouver Island.

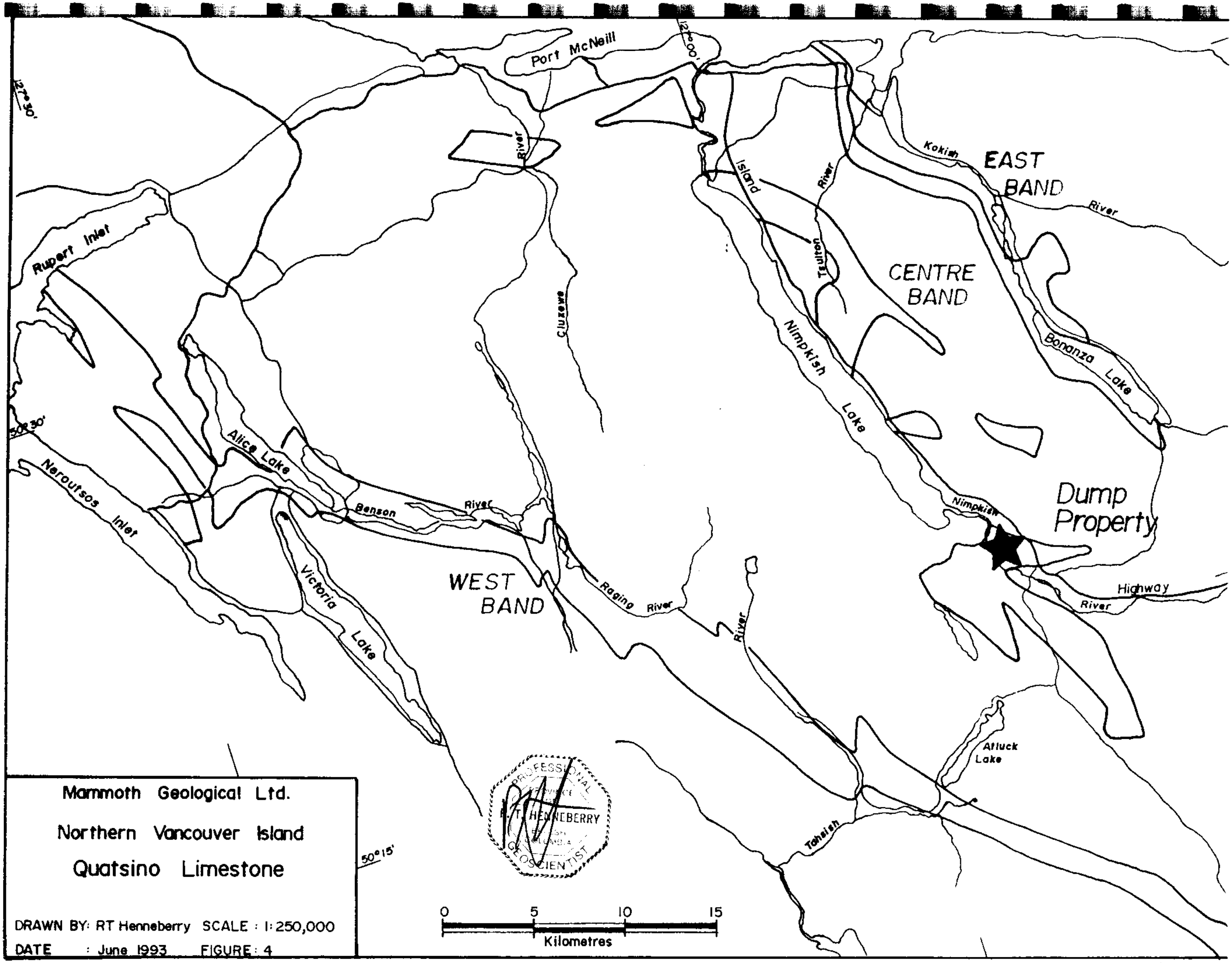
The Parson Bay Formation consists of a series of interbedded silty limestones and calcareous shales and sandstones, and occasional beds of pure limestone. Parson Bay rocks outcrop sporadically overlying the Quatsino limestone.

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. Island Intrusions outcrop in a belt through the central section of Vancouver Island.

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.



Mammoth Geological Ltd.

Northern Vancouver Island

Quatsino Limestone

DRAWN BY: RT Henneberry SCALE : 1:250,000

DATE : June 1993 FIGURE: 4

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 super position 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 centimetres being common and more than 60-100 centimetres uncommon. The formation as a whole is dominantly a high-calcium limestone (Hoadley, 1953).

Within 1-3 kilometres 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).

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.

The limestone from the East Band is generally grey-white to white in color with occasional beds of dark black. Structurally, this band is fairly competent in certain sections. Large blocks for dimension stone could be quarried from these locations.

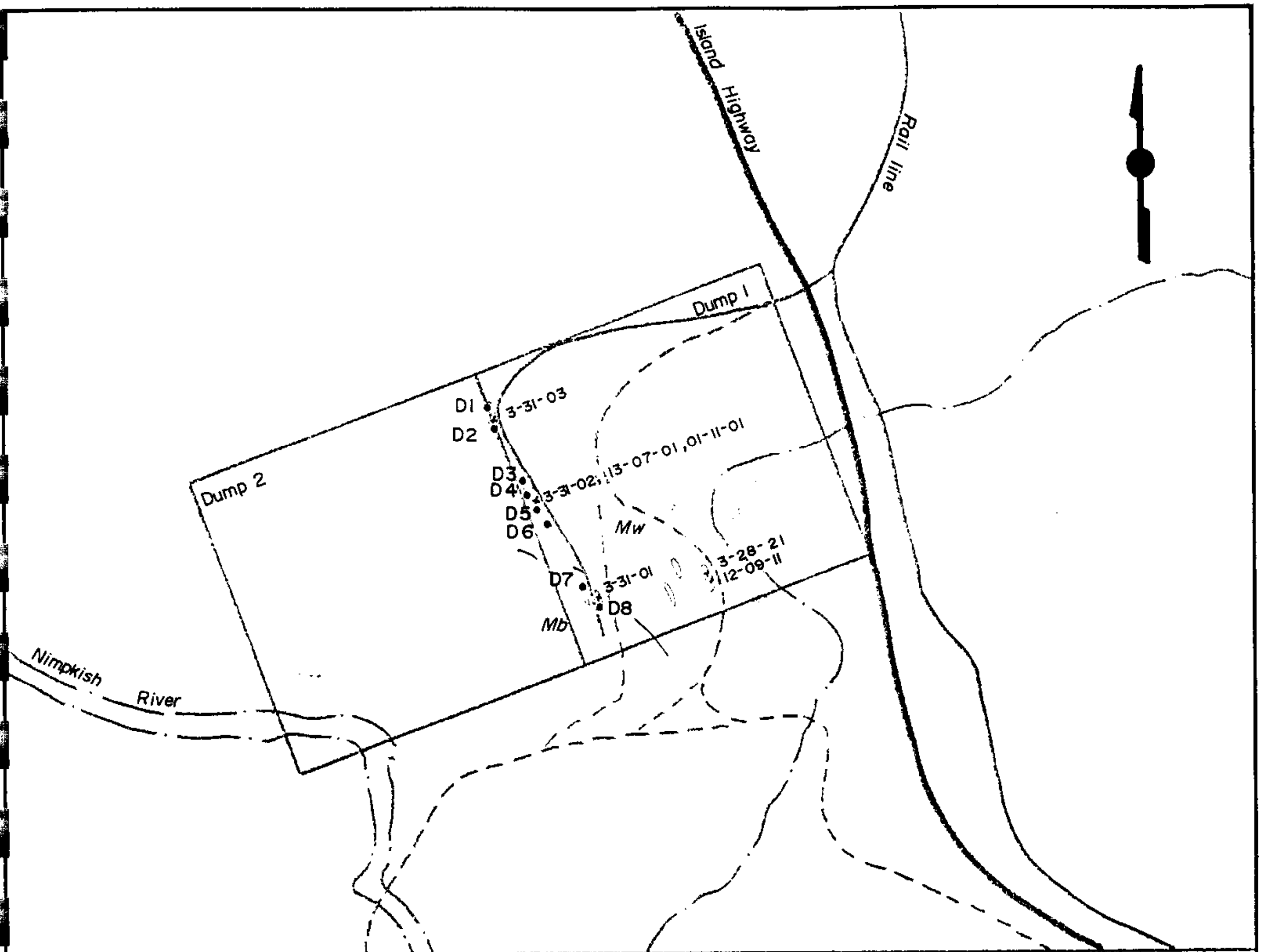
Several companies are exploring the East Band. On the north end of Bonanza Lake, Leo D'or Mining has established a quarry bench for dimension stone on the Leo D'or claim. Contiguous to the north, Industrial Fillers is exploring and holding the bulk of the ground (the Bonanza claims) for filler applications. These holdings include the old Doro adit, driven by IMASCO in the early 1980's to test the marble for industrial filler applications. Panorama Natural Stone Ltd. explored the Beaver property for dimension stone marble in the early 1990's.

The limestone from the Centre Band is generally medium grey to black or dark brown to black. The limestone becomes darker and argillaceous towards the top of the formation (Gunning, 1932a). White to dark grey limestones occur at several places on Nimpkish Lake where they are recrystallized and somewhat faulted and obtain a thickness of 150 to 300 metres (Gunning, 1930). Along the east side of Nimpkish Lake a section of "dirty" sugary grey white limestone was observed. Both Gunning (1930) and Hoadley (1953) consider the outcroppings along Nimpkish Lake too jointed in many places to serve as a building stone.

McMillan Bloedel continues to hold the old IM4 quarry at the north end of the Centre Band. This grey-white limestone was used for riprap at the McMillan Bloedel facility at Port McNeill. Ecowaste Management is exploring the band on the northeast shore of Nimpkish Lake for chemical lime. Industrial Fillers continues to hold the ground contiguous to the south of the Ecowaste ground for industrial fillers.

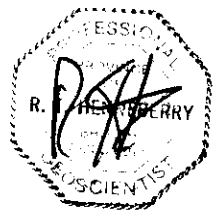
The limestone of the West Band is the most colorful of the three, ranging from light brown, through medium grey brown to dark grey, or dark brown to black. On Hisnet Inlet at the southern end of the band, quarrying of a dense, white-grey marble was undertaken at the turn of the century (Parks, 1917). Hoadley (1953) describes an "inexhaustible supply of limestone" along the east side of Tahsis Inlet. Further north in the Zeballos area, Stevenson (1950) described the limestone as medium to coarsely crystalline and, owing to extensive recrystallization, as having lost all evidence of bedding. On weathered surfaces the limestone is grey, but on freshly broken surfaces it ranges from white to cream. In the vicinity of Kathleen and Alice lakes, Gunning (1930) describes small interbeds of lava within the lower portion of the limestone with a mixed series of argillites, quartzites and volcanics in which there are small beds of argillaceous limestone lying above it.

Ecowaste Management is exploring a large section of the West Band south of Rupert Inlet for chemical lime. Several sites in the immediate Port Alice - Juene landing area were quarried by Western Forest Products for their pulp mill. International Marble and Stone Company is quarrying white limestone for industrial uses from a site at Benson Lake. Raging River Resources is also exploring for white limestone on claims contiguous to the Benson Lake Quarry. The Hisnet Inlet quarry is continually held by staking, but little exploration of significance has been undertaken.



LEGEND

Ad	Andesite dyke
Mw	White marble
Mb	Black marble
—·—	Creek
⬭	Outcrop
- - -	Road
3-31-01	Sample location
D1	1996 sample location



Mammoth Geological Ltd.	
Dump Property **Geology**	
DR. BY: RT Henneberry	SCALE: 1 : 10,000
DATE: January 1994	APPRD. BY:
CHK'D. BY:	REV.: March 1996
DWG. NO. 5	

PROPERTY GEOLOGY

The Dump property, lying in the Centre Band of the Quatsino Limestone, is completely underlain the limestone. Three limestones have been mapped, a fine-grained grey-white, a fine-grained white and a coarse-grained grey black, with the grey-white and white being the stones of interest. The property is marked largely by river deposits of gravel from the Nimpkish River, with small knobs of grey-white and white limestone protruding through the gravel. Bedding has been measured at 124/30-50SW. There is little documentation on thicknesses in this area.

The grey-white limestone is exposed in the large gravel pit on the eastern side of the claim group. The main exposure is 40 metres long by 15 metres high by 10 metres wide. A second exposure is behind the first on the far side of a second gravel pit. In this location the limestone is intruded by a 2 metre thick andesite dyke, intruded along a bedding plane. The outcrop is grey-white in color and shows numerous zones of limonite, confined primarily to weathered surfaces and fractures.

The limestone is dense and coarsely crystalline (1-2mm). The color is almost a "dirty" white grey. The "dirty" look to the stone is likely due to impurities. There is 1/2% disseminated sulfides throughout the sample as 1-3mm crystals. There is also traces of limonite on some of the bedding planes. (Henneberry, 1993).

The white limestone, ranging from semi-massive to well-fractured, is exposed for 230 metres along the rail cut. Limonite is common on fractures, though little clay or carbonate has been noted.

This limestone is white-grey, dense and medium-grained. It is quite a bit lighter in color than the grey-white stone above. The sample is massive, though it is not homogeneous. There is 1/2% disseminated sulfide throughout the sample, ranging from 1-3mm.

Samples of each of these limestone were submitted for chemical analysis, with the results reported previously (Henneberry, 1996). The results, summarized below, lie within the acceptable range of low end filler applications:

Sample	Limestone	Brightness	$CaCO_3$	$MgCO_3$	Acid Insolubles
12-09-11	Grey-white	nd	95.72%	2.80%	3.71%
13-07-01	White-grey	96.0%	98.10%	0.32%	0.80%
01-11-01	White-grey	95.2%	96.20%	4.46%	0.97%

1996 Program

During 1996, a sub-cross sectional traverse was made to assess the industrial filler potential of the property. This program was carried out for ECC International as part of its evaluation of Mammoth Geological Ltd.'s northern Vancouver Island carbonate properties. These samples were tested for brightness and insolubles.

Sample	Brightness	Insolubles
D-1	90.8	0.66
D-2	90.5	0.98
D-3	90.5	0.82
D-4	89.2	1.20
D-5	89	1.84
D-6	90	1.10
D-7	90.1	1.41
D-8	89.7	1.58
1996 (composite)	90	1.20

These values are significantly lower than the composite sample taken in 1995 (Henneberry, 1996). They are, however, within the brightness range for industrial filler applications.

The limestone is fine-grained and white to light-grey in color. Only minor limestone rust is noted near surface.

MARKETING

The primary market for the limestone from the Dump property is in industrial applications and to a lesser extent, in landscape applications. The white color of the limestone and the brightness results suggest a potential market as industrial fillers. The insolubles and fracture limonite suggest lower end applications. The white color would also be suitable for crushed landscape stone.

The first stage of the marketing program is to ascertain product suitability. Initially, random 10 kilogram grab samples of $\pm$ 2 inch minus should be collected. These samples can than be forwarded to prospective industrial filler firms for testing. These samples could also be shown to landscape supply and gravel supply firms for comments on suitability. The key aspect of this phase of the marketing is to generate interest in the limestone, and to get the target firms to try the limestone.

The second stage will be a small scale bulk test of 500 to 5000 tons. The stone will be quarried, crushed and sent to the industrial filler plant for a full scale test. As well, a 200 to 500 ton sample can be supplied to landscaping firms for job site tests.

The other key aspect to be completed by this time is to establish transportation logistics. Small (<50 tons) tonnages can be trucked by Super B Trains, while samples of 500 tons or larger will need some type of mass transportation, likely water barge.

This information can than be compiled into a preliminary feasibility study to ensure the economics of the proposed operation are feasible.

Little of the marketing has been completed on the Dump property. A preliminary operations proforma to assess logistics has been completed. 10 kg samples for landscape applications have yet to be taken. Initially, the samples should be taken and shown to prospective landscape firms to initiate the marketing program.

DISCUSSION

The Dump property was originally acquired as a dimension stone target. Subsequent examination proved the marble to be too broken for dimension stone. Chemical and optical analyses completed on the limestone over the last two years yielded results within the limits acceptable for industrial filler applications.

The initial mapping and sampling has shown the limestone to be fairly consistent in brightness and color across stratigraphy. Further surface sampling will add little to the present state of knowledge of the property.

The next stage of exploration will be in the marketing area. A couple of ±10 kilogram grab samples of ±2 inch minus limestone should be taken. They can then be shown to landscape and gravel suppliers to generate preliminary interest and justify a small (±500 ton) bulk sample.

Diamond drilling can then be utilized to establish reserves and confirm brightness and chemical qualities to depth.

CONCLUSIONS AND RECOMMENDATIONS

The Dump property was identified and staked as part of a regional exploration and assessment program of the north Island Quatsino limestone bands. The white limestone is being explored as a potential source of both ± 2 inch minus landscape stone and white limestone for industrial filler applications.

Exploration to date has consisted of property mapping and sampling. Optical and chemical analyses has shown the limestone lies within the acceptable brightness and chemical range for industrial fillers.

The next stage of exploration will be a small marketing program. A random 10 kg sample of ±2 inch minus limestone should be taken. This sample can then be shown to suppliers to attempt to generate enough interest to justify a small (500 ton) bulk sample. This stone can then by supplied for some actual job site tests. As well, samples of this material can be submitted for chemical and optical analysis, to obtain initial readings below the zone of weathering. The cost of the stage is estimated at $14,830.

Successful conclusion of this phase will require a small diamond drilling program to obtain a preliminary reserve summary. The core will be analyzed at systematic intervals to depth to confirm the chemical and optical properties to depth. The cost of this 500 metre (1650 foot) is estimated at $65,750.

A decision on a detailed feasibility study for an eventual production decision can be made at the conclusion of this two phase exploration program.

Phase I - Market Assessment	$1,650
Phase II - 500 Ton Bulk Sample	$13,180
Phase III - Diamond Drilling	$65,750

TOTAL BUDGET FOR DUMP PROPERTY	**$80,580**

The cost of the 1996 sampling program is $1,100.

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STATEMENT OF QUALIFICATIONS

I, R.Tim Henneberry, am the principle of Mammoth Geological Ltd., a geological consulting firm with offices at 9250 Carnarvon Road, Port Hardy, B.C. The mailing address is Box 5250, Port Hardy, B.C. V0N 2P0

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.

The Dump 1-2 claims (316770-316771) are registered to Lou Straith, an associate. I have a direct interest in these claims of 50%.

I supervised and assisted with the sampling program described in this report on May 11, 1996.

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 14th day of March in the Town of Port Hardy, British Columbia.

PROFESSIONAL PROVINCE OF R. T. HENNEBERRY BRITISH COLUMBIA GEOSCIENTIST

R.Tim Henneberry, P.Geo

STATEMENT OF COST

Dump Property

Project Manager	1/4 days	@	450.00 /day	$100.00
Optical analysis	1 samp	@	30.00 /sample	$30.00
Optical analysis	8 samp	@	30.00 /sample	$240.00
Chemical analysis	1 samp	@	30.00 /sample	$30.00
Documentation	2 days	@	350.00 /day	$700.00

Dump 1996 Property Costs **$1,100.00**

COST ESTIMATES

Phase I - Market Assessment (3 days)		
Personnel	$1,200	
Support	$450	
		$1,650
Phase II - 500 Ton Bulk Sample (6 days)		
Performance Bond	$2,500	
Personnel	$3,000	
Quarrying Equipment	$798	
Mobile Equipment	$4,000	
Explosives	$1,232	
Sundries	$1,650	
		$13,180
Phase III - Diamond Drilling (25 days)		
Equipment	$3,000	
Diamond Drilling	$31,000	
Supervision	$14,750	
Analysis	$12,000	
Documentation	$5,000	
		$65,750

Phase I - Market Assessment	$1,650
Phase II - 500 Ton Bulk Sample	$13,180
Phase III - Diamond Drilling	$65,750

TOTAL BUDGET FOR DUMP PROPERTY	**$80,580**

ASSAY CERTIFICATE

The following samples have been analyzed for their optical properties (brightness) at the ECC International Inc. lab at Sandersville, Georgia.

All samples are surface samples taken as outcrop exposures allowed, across stratigraphy. The limestone was white to light grey in color and fine-grained.

ECC International Inc.
380 Smyrna Church Rd.
P. O. Box 1018
Sandersville, Georgia 31082

Fax Cover Sheet

DATE:	September 3, 1996	TIME:	11:37 AM
TO:	Tim Henneberry Mammoth Geo	PHONE: FAX:	 604 949 5197
FROM:	Carl D. Forrester ECC International	PHONE: FAX:	912-553-5712 912-553-5797
RE:	Jim Purdy samples		

Number of pages including cover sheet:_2_ __
Message.Tim;this should be the info you need.CDf

CALCIUM CARBONATE

DUMP Y-74-96

D=NIMPKISH

NUMBER	SAMPLE	BRITE	L	a	b	x	y	z	Whiteness	Yellow	Insol	%<325
38	D-1	90.8	95.21	-0.32	2.94	88.86	90.84	102.19	73.79	5.6	0.66	90.2
39	D-2	90.5	95.04	-0.25	1.84	88.57	90.5	103.57	79.47	3.6	0.98	89
40	D-3	90.5	95.04	-0.1	0.98	88.65	90.51	104.95	84.15	2.1	0.82	88.8
41	D-4	89.2	94.35	-0.09	0.38	87.37	89.19	104.36	86.08	1	1.2	89.7
42	D-5	89	94.22	-0.16	1.37	87.1	88.95	102.51	80.54	2.8	1.84	83.9
43	D-6	90	94.77	-0.2	1.98	88.11	90	102.78	78.27	3.9	1.1	86.6
44	D-7	90.1	94.8	-0.2	1.69	88.16	90.06	103.29	79.85	3.4	1.41	92.1
45	D-8	89.7	94.62	-0.15	3.47	87.85	89.72	100.07	69.93	6.7	1.58	90.3
46	B-1	92	95.84	-0.29	0.65	90.05	92.03	107.28	87.4	6.7	0.93	83.1
47	B-2	91.1	95.34	-0.19	1.61	89.16	91.08	104.62	81.29	3.2	1.14	79.4
48	B-3	90.1	94.8	0.04	1.05	88.3	90.07	104.33	83.32	2.34	1.65	88.3
49	B-4	88.8	94.15	-0.13	2.09	86.99	88.82	101.22	76.54	4.2	1.02	89.6
50	B-5	92.3	95.97	-0.06	1.85	90.42	92.29	105.65	81.14	3.7	1.49	83.5
51	B-6	92.6	96.13	0.38	1.03	90.97	92.61	107.34	85.92	2.51	1.07	86.3
52	B-7	89.2	94.32	0.04	2.17	87.41	89.16	101.49	76.44	4.47	2.05	85
53	B-8	89.7	97.59	0.28	1.65	88.02	89.66	102.57	78.62	4.03	1.56	88.4
67	C-1	91	95.28	-0.03	1.93	89.14	90.96	103.95	79.4	3.92	2.44	90
68	C-2	91	95.26	-0.1	2.92	89.1	90.97	102.39	73.97	5.73	1.5	90.8
69	C-3	92	95.8	-0.09	2.07	90.08	91.96	104.9	79.61	4.11	2.01	92
70	C-4	87.65	93.53	-0.03	3.48	85.89	87.65	97.66	68.03	6.95	1.94	88.1
71	C-5	86.9	93.11	0.01	3.12	85.15	86.87	97.32	69.22	6.34	3.39	98.4
72	C-6	87	93.18	0.67	2.31	85.16	86.99	96.74	73.67	5.28	1.65	84.8
73	C-7	86.5	92.92	-0.11	2.52	84.75	86.53	97.87	72.09	5.11	2.68	91.9

DUMP SAMPLES

DUMP SAMPLES