



Ministry of Energy and Mines
BC Geological Survey

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geochemical, Geological

TOTAL COST: \$3,807.90

AUTHOR(S): Andris Kikauka

SIGNATURE(S):

A. Kikauka

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): _____

YEAR OF WORK: 2020

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5804076

PROPERTY NAME: Black Marble

CLAIM NAME(S) (on which the work was done): 1037637 Black Marble

COMMODITIES SOUGHT: High calcium marble

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: _____

MINING DIVISION: Nanaimo

NTS/BCGS: 092L 10W , 092L.056

LATITUDE: 50 ° 30 ' 57.6 " LONGITUDE: 126 ° 54 ' 12.6 " (at centre of work)

OWNER(S):

1) W E Pfaffenberger

2) _____

MAILING ADDRESS:

4-4522 GORDON POINT DR, VICTORIA BC V8N 6L4

OPERATOR(S) [who paid for the work]:

1) same

2) _____

MAILING ADDRESS:

same

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):

Area underlain by weakly metamorphosed, stratified N & NW trending Upper Triassic Quatsino, Karmutsen Fm (Vancouver Grp) shallow dipping marble is cut by Early-Middle Jurassic granodiorite, the most competent marble outcrops 50-150 meter proximal to intrusive contacts. Marble is generally white coarse grain, or black fine grain, or mixed black & white. Mapping has defined a North and South Zone whereby 2 areas approximately 50 X 100 meters area are considered potential sites for marble quarrying

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 4596, 8285, 12764, 15230, 23070, 23616, 30481, 33646, 35814

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping	1:5,000 20 hectares	1037637	2,355.90
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock	3 samples prep 31, ALS ME-XRF06 whole rock	1037637	1,452.00
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST:	3,807.90

NTS 92 L 10/W, TRIM 092L.056

LAT. 50 30' 59" N

LONG. 126 53'42" W

GEOLOGICAL & GEOCHEMICAL
REPORT ON MINERAL TENURE 1037637
BLACK MARBLE CLAIM
BEAVER COVE, B.C.

Nanaimo Mining Division

by

39,114

Andris Kikauka, P.Geo.
4199 Highway 101, Powell R, B.C.
V8A 0C7

May 11, 2020

TABLE OF CONTENTS AND LIST OF FIGURES

page #

1.0 SUMMARY	1
2.0 Introduction	2
3.0 Location, Access, & Physiography	2
4.0 Property Status	3
5.0 Beaver Cove (& Area) Property History	4
6.0 Regional Geology	7
7.0 2020 Field Program	10
7.1 Scope & Purpose	10
7.2 Methods and Procedures	10
7.3 Property Geology	10
7.4 Rock Sample Geochemistry	12
8.0 Discussion of Results	12
9.0 Conclusions & Recommendations	14
References	15
Certificate and Date	
Itemized Cost Statement	

LIST OF FIGURES

Fig.1 Black Marble Claim General Location Map

Fig.2 Black Marble Claim Mineral Tenure Location Map

Fig.3 Regional Geology 1:20,000 scale

Fig. 4 Black Marble Claim Outcrop Mapping and Rock Samples Google Earth

Fig. 5 Black Marble Claim South Zone Outcrop Mapping and Rock Samples Google Earth

Fig. 6 Black Marble Claim North Zone Outcrop Mapping and Rock Samples Google Earth

Fig 7 Geological Mapping, Rock Chip Sampling, Potential Quarry Sites & Topography

Fig 8 South Zone Geological Mapping, Rock Chip Sampling & Topography

Fig 9 North Zone Geological Mapping, Rock Chip Sampling & Topography

APPENDIX A Geochemical Whole Rock XRF Analysis Certificates

APPENDIX B Geochemical Methods and Procedures

APPENDIX C Outcrop Mapping descriptions

APPENDIX D Rock Chip Sample descriptions

APPENDIX E Minfile Description

1.0 SUMMARY

The Black Marble mineral property is located approximately 19-21 kilometers ESE of Port McNeill, BC and covers an area of 246.6 hectares (MTO ID # 1037637, Fig 2). Marble layers and beds are part of the Upper Triassic Quatsino Formation (Vancouver Group) and are cut by a minor amount of 0.5-2.5 meter wide dykes/sills related to emplacement of Early-Middle Jurassic diorite, quartz diorite, granodiorite, and granite. The Black Marble claim features the North and South high calcium marble zones, located between 100-300 meters elevation, and are readily accessible by year-round access roads (1000 Main, and Holdsworth Mountain Road), and contain competent, quarry-able, large, block marble outcrops. Upper Triassic Quatsino Formation is of economic interest because of high calcium marble present on the subject property. Limestone has been metamorphosed to marble on the property over a 2 kilometer strike length. Marble is relatively pure and most of the marble is high calcium (> 97% CaCO₃, and < 3% impurities (clay minerals, mica, quartz, and Fe oxides).

Marble layers and beds have a 30-120 meter range of thickness, and a relatively shallow dip (with a northerly component). Outcrops of black and white coloured, high calcium marble are exposed on the subject property between 50-300 meter (164-984 feet) elevation. The North Zone features high purity marble. White coloured marble from North Zone (rock chip samples 20BM-2, & 3) returned geochemical whole rock analysis of 53.2-54.1% CaO. The South Zone features rock chip sample 20BM-1 returned geochemical whole rock analysis of 55.6% CaO. South Zone black marble outcrop (rock sample 20BM-1) forms a solid, competent 6-10 meter relief exposure (with high rock quality designation, i.e. cliff forming) of white and black marble. The South Zone where cliff forming marble is exposed has potential for large (2.4 X 2.4 X 1.8 m) block marble extraction (abrasive carbide coated wire-saw & guide hole-quarry methods). The marble beds which form small cliffs with approximately 3-15 m relief (e.g. location of rock chip 15BM-5) have potential to provide dimension stone marble for use as marble facings (vener) and marble tiles. There is also a demand for large block (2.4 X 2.4 X 1.8 meters) blocks that can be quarried from competent marble, e.g. South Zone (Fig 7 & 8).

The sugary medium to coarse grain texture of both white and black coloured marble causes reflectance of calcite cleavage faces (and minor fine grain mica), when the rock is played in light. Reflectance (polish-ability) increases when slab samples were wet polished with 600 grit emery paper. A smooth and polished finish of marble results in high gloss finish reflectance, which was confirmed by mechanically smoothing of slab samples with wet 600 grit emery paper. Highly polished, sugary medium to coarse grain marble slab samples, resulted in 'Starry Night' texture of polished marble slabs. Competent (i.e. high rock quality designation) is suitable for dimension stone tiles, architectural stone, and veneer. High calcium marble with a bright white colour can be crushed and processed to produce 'whiting', a powder used as a colouring agent and filler in paint, putty, plastics, grout, cosmetics, paper and other manufactured products. The whole rock geochemistry is considered high purity, 'high calcium marble' suitable for industrial applications.

Sub-hedral to euhedral calcite crystals become larger as the marble is subject to higher grades of metamorphism. As marble approach intrusive rock contact aureoles, calcite crystals become larger. A small portion of the north half of the South Zone (approximate location 648, 575 E,

5,598,150 N, elev 200 m), can be traced northwest to exposures in road-cuts where an Early-Middle Jurassic granodiorite is cut by a late stage NW trending fault zone (approximately 3 m wide, 1% clay, dipping 29 degrees NE, location 648,484 E, 5,598,260 N, elev 250 m).

High calcium marble of the Quatsino Formation of northern Vancouver Island is considered viable for commercial development. Evaluation of marble in considerable detail is recommended and summarized as a 2 phase program:

TOTAL BUDGET for Phase 1-2 \$100 K

Phase I- Excavator trenching and blasting estimated at \$34 K.

Phase II- Diamond drilling program. A number of shallow 30-60 m deep core drill holes (total 500 m) to be drilled at an estimated cost of \$64 K.

Contingent on results, further bulk testing to include quarrying of several rough quarry blocks, approximately 8 ft. X 8 ft. X 6 ft (2.4 X 2.4 X 1.8 m) each. Phase 3 would also include permitting, marketing, logistics and engineering required for production and lease.

2.0 INTRODUCTION

The purpose of this report is to document geological mapping, geochemical whole rock analysis geochemical analysis of the marble on the subject property, as well as interpretation of geological mapping data. Geological and geochemical fieldwork consisted of mapping along recently upgraded logging roads located in the centre of the property and sampling the main outcrops of economic interest.

Geological mapping of the Black Marble Project covers approximately 20 hectares and covers several smaller zones potential economic zones (approximately 1 hectares in area, North & South Zones) of high calcium black and white recrystallized limestone of Upper Triassic age Quatsino Fm. Geochemical sampling of 3 rock chip samples (across widths of 200 cm), from the North & South Zones indicate the presence of high calcium marble in outcrop. This is considered as high purity, high calcium marble and highly desirable for industrial applications.

3.0 LOCATION, ACCESS, & PHYSIOGRAPHY

There are several towns and lesser communities in the map area where accommodation and lodging are readily obtained, including Port Hardy and Port McNeill. Numerous logging roads will provide access to most of the Quatsino recrystallized limestone. Topography ranges from 50-600 meters (164-1,968 feet), with valleys generally less than 60 meters above sea level (along the Tsulton R valley). 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 stay clear for year round work.

Access to the property is gained by driving south from Port McNeil along B.C. Highway 19 (Island Highway) for a distance of 14 km, and then turning east onto the Englewood-Kilpala access road. A series of branch logging roads provide access to most parts of the claim group. The Black Marble 1037637 property occupies a portion of the transition between the lowlands of Vancouver Island's northeast coast and the rugged mountain ranges (Mount Holdsworth) to the south. Much of the property is a southeast facing hill with an average slope of 12°. The drainage has a trellis pattern but creeks can be expected to flow usually during run-off periods due to the limestone bedrock. The claim is within TFL 37 owned by Western Forest Products (WFP), who operate numerous camps, the largest being Woss where the Forestry Engineering office is located. A unique feature of TFL 37 is the still operating logging railway, which transports logs to the sorting and shipping facility at Beaver Cove.

4.0 PROPERTY STATUS

CLAIM OWNERSHIP

The Black Marble mineral property is located on Claim Sheet 092L 10/W, BCGS 092L.056, Nanaimo Mining Division. The registered 100% owner of the property is William Pfaffenberger (FMC 143363).

TABLE I
List of Claims

Claim Name	MTO ID #	Issue Date	Good to Date*	Area (hectares)	Owner 100%
Black Marble	1037637	2015/JUL/31	2022/MAR/20	246.559	143363

* after application of assessment work documented in this report.

Mineral title in British Columbia is acquired by locating claims in the prescribed manner as outlined in the Mineral Act. Title is maintained by filing appropriate assessment work in the amount of \$5 per ha for the first 2 years and \$10 per ha for year 3 & 4, \$15 per ha for year 5-6, and \$20 ha thereafter. Under the present status of mineral claims in British Columbia, the consideration of industrial minerals requires careful designation of the products end use. An industrial mineral is a rock or naturally occurring substance that can be mined and processed for its unique qualities and used for industrial purposes (as defined in the *Mineral Tenure Act*). It does not include "Quarry Resources". Quarry Resources includes earth, soil, marl, peat, sand and gravel, and rock, rip-rap and stone products that are used for construction purposes (as defined in the *Land Act*). Construction means the use of rock or other natural substances for roads, buildings, berms, breakwaters, runways, rip-rap and fills and includes crushed rock. Dimension stone means any rock or stone product that is cut or split on two or more sides, but does not include crushed rock.

5.0 BEAVER COVE (& AREA) PROPERTY HISTORY

The Black Marble Property lies within the northern section of the East (Bonanza) Band of the Quatsino recrystallized limestone. The description of the east band from the 1991 report is given below: Eastern (Bonanza) 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 a localized Pb-Zn skarn hosted occurrence located in close proximity to the Black Marble property North Zone. This base metal skarn occurrence is associated with a rhyolite dyke, MINFILE: Lorena 2, 092L 221 (Fig 3). Pods of skarn hosted mineralization consists of massive pyrite-sphalerite-galena and minor scheelite (up to 0.5 per cent) occurring in a brecciated zone and associated with the rhyolite dikes which cross-cut the Quatsino Fm. In 1979, a 1 metre channel sample yielded 11.3 per cent combined lead-zinc with grab samples assaying up to 50.3 per cent combined lead-zinc (Assessment Report 8285). In 1986, a grab sample assayed 31.2 grams per tonne silver, 0.206 per cent cadmium and greater than 1 per cent lead and zinc, respectively (Assessment Report 15230). In 1972, Lorena Mines completed a program of rock and soil sampling. In 1979 and 1980, Skidagat Exploration completed a program of geological mapping, minor blasting, rock sampling and prospecting on the area as the Ren 1-4 claims. In 1984 and 1986, Granada Exploration completed programs of soil sampling and prospecting on the area as the Nimrod claims.

High calcium limestone has been examined on the Bob claims at the south end of Bonanza Lake and the Nimrod1 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 described this limestone band as the Quatsino limestone, consisting of white to grey crystalline limestone. 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 (AR 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 (AR 06267). 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 (AR 19023). McCammon (1968) 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 (AR 17760). McCammon (1968) described the limestone as fairly uniform white and dark-grey streaked, sugary textured crystalline marble with grains as much as 118 inch in diameter. A 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 #I560 is a fine grained, glistening, white crystalline limestone with faint cloudiness in light tints. Sample #I561 is a white marble of the same fine grain as #1560, but very delicately lined with blue coloured vein material. 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, high-calcium limestone, forming part of a belt 700 yards wide. Most of the limestone is white and has a sugary texture, but bands of fine-grained, blue limestone are interbedded with 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. 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 114 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 is described as massive to thickly bedded (314/14SW), medium grey in color, and locally cryptocrystalline (AR 12764). Jointing is perpendicular to bedding and coated with calcite. 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 toward the intrusive contact. It has been intruded by andesitic to rhyolitic dykes 0.5-2.0 m wide (AR 08285). Other than the 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. Black Marble claim

1037637 is located in the northern section of the East Band. The claim overlies a 2 kilometer strike length of high calcium marble outcrops that range from 10-125 m in width.

Previously, the Black Marble claim area was examined by Achermann and Duncan G. Ogden for Industrial Fillers and by David Coffin for Vanguard Consulting between June 15 and 19, 1988. A short diamond drilling program was conducted to the west of the property between August 2 and August 10, 1988. Some regional geological mapping was completed by Howard Brown for Pleuss Stauffer in 1984. Previous work for high brightness filler CaCO₃ including limited diamond drilling that was done for Industrial Fillers (Pleuss Stauffer, OMYA) in the late 1980's. The claims are partly underlain by intrusive rocks and a belt of variably altered, Quatsino recrystallized limestone. High brightness (up to 91.21%) and high purity (up to 56% CaO, equivalent to 99.68% CaCO₃) have been obtained from preliminary sampling to the south.

In 1992 and 1994, Mammoth Geological completed geological mapping of the Ton 1-6 claims. Detailed geology identifies a distinct blue coloured marble as a specialty dimension stone.

Work in 2001-2012 carried out by Homegold Resources (Smiley Property) shows that the area mapped along the Mainline logging road is a complex sequence of bleached white limestone to black graphite limestone intruded by a series of small dioritic dykes and sills. Future work recommended by Homegold includes detail geological mapping along zone 100m wide from intrusive contact, and reconnaissance magnetometer lines throughout the property to identify the presence of blind intrusive bodies or dykes and along the intrusive contact to test for higher brightness calcium carbonate.

WFP Logging owns a private deepwater dock facilities at Beaver Cove. In the past the Kelsy Bay-Beaver Cove Ferry used the ramp and the Nimpkish Iron operation also loaded barges at Beaver Cove.

In 2015, Fundamental Resource Corp acquired the Black Marble mineral property and performed geochemical sampling and mapping. Descriptions of rock chip samples taken in 2015 from Black Marble Claim are listed as follows:

ID	Colour	Easting NAD 83	Northing NAD 83	Elev (m)	Sample Type	Lithology
BM-1	Black	648574	5597982	178	Rock chip	Marble
BM-2	White	648602	5598022	175	Rock chip	Marble
BM-3	White	648568	5598093	200	Rock chip	Marble
BM-4	White	649302	5598663	107	Rock chip	Marble
BM-5	White	648277	5597575	174	Rock chip	Marble
BM-6	White	649208	5598703	127	Rock chip	Marble
BM-7	Black	649069	5598645	123	Rock chip	Marble
BM-8	Black	649030	5598862	203	Rock chip	Marble

ID	Bed strike	Bed dip	Width (cm)	Comments
BM-1			200	black, med grain marble, massive
BM-2			200	pearl white, med grain marble, massive
BM-3	113	22 N	200	pearl white, overlain by black med grain marble
BM-4			200	pearl white, med grain marble, massive
BM-5			200	pearl white, med grain marble, massive
BM-6			200	pearl white, med grain marble, massive
BM-7			200	black, med grain marble, massive
BM-8			200	black, med grain marble, massive

ID	CaO %	MgO %	Al ₂ O ₃ %	Fe ₂ O ₃ %	SiO ₂ %	MnO ₂ %	Na ₂ O %	K ₂ O %	SO ₃ %	Na ₂ O %
BM-1	51.7	1.27	0.34	0.26	8.74	0.03	<0.01	0.06	0.08	<0.01
BM-2	51.2	2.47	0.44	0.52	4.59	0.02	<0.01	0.31	0.69	<0.01
BM-3	54	1.03	0.17	0.1	2.51	0.03	<0.01	0.1	0.2	<0.01
BM-4	55.7	0.09	0.05	0.11	0.61	0.03	<0.01	0.01	0.19	<0.01
BM-5	55.2	0.08	0.07	0.11	0.86	0.04	<0.01	0.01	0.12	<0.01
BM-6	55.3	0.07	0.06	0.1	0.74	0.02	<0.01	0.02	0.15	<0.01
BM-7	55.1	0.1	0.13	0.05	1.25	0.01	<0.01	0.01	0.01	<0.01
BM-8	50.9	2.15	0.28	0.14	8.43	0.01	<0.01	0.04	0.08	<0.01

Outcrops of black and white coloured, high calcium marble are exposed on the subject property between 50-300 meter (164-984 feet) elevation. The North Zone features high purity marble. White and black coloured marble from North Zone (rock chip samples BM-4, 6, & 7) returned geochemical whole rock analysis of 55.1-55.7% CaO. The South Zone features rock chip sample BM-5 (white colour) with geochemical whole rock analysis of 55.2% CaO. This outcrop (rock sample BM-5) forms a solid, competent 6-10 meter relief exposure (with high rock quality designation, i.e. cliff forming) of white and minor black marble. A total of 4 out of 8 samples (sample numbers BM-4-7, consisting of 3 white & 1 black coloured sample) averaged 55.33% CaO, 0.08% MgO, 0.86% SiO₂, 0.07% Al₂O₃, 0.09% Fe₂O₃, and 0.07% P₂O₅. The whole rock geochemistry of samples BM-4 to BM-7 are considered high purity, 'high calcium marble' suitable for industrial applications.

6.0 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 Early-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 to the east. 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 medium grain marble. The formation is in gradational contact with the overlying Parson Bay Formation by an increase in layers of calcareous pelites. Quatsino carbonate 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 recrystallized limestone. Parson Bay rocks outcrop sporadically overlying the Quatsino Fm. 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 elastic 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 following list of lithologies are rock types present on Black Marble 1037637 property:

Lithology Legend

- EMJgd Early-Middle Jurassic Island
Plutonic Complex, granodiorite
- IJBca Lower Jurassic Bonanza Fm
Calc-alkaline volcanics
- UTrVP Upper Triassic Parson Bay Fm,
Vancouver Group, limestone,
marble, slate, siltstone, argillite
- UTrVQ Upper Triassic Quatsino Fm,
Vancouver Group, limestone,
marble, calcareous sediments
- UTrVK Upper Triassic Karmutsen Fm,
Vancouver Group, basalt

The network of large scale faults are present 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. The Quatsino Formation limestones are the main focus of the marble exploration. The larger, massive beds of limestone are white to black in color and distinctly crystalline. Exceedingly fine-grained beds form a small percentage of the sequence. Siliceous or cherty varieties are rare as well. The Quatsino Formation consists almost entirely of recrystallized 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 (graphitic) 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. The formation 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). Recrystallized limestone obtains a thickness of 500 to 1000 feet (152.4-304.8 m) in the Nimpkish Lake Quadrangle. The limestone becomes darker and argillaceous towards the top of the formation. (Gunning, 1930).

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, as from Beaver Cove to Bonanza Lake, it could be extracted in blocks sufficiently large for ordinary structural purposes. 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. Additional limestone occurrences extend along the south shore of Holberg Inlet.

7.0 2020 FIELD PROGRAM

7.1 SCOPE & PURPOSE

Upper Triassic Quatsino Formation is of economic interest because of high calcium marble present on the subject property for the purpose of 'value added' industrial end use. Limestone has been metamorphosed to marble on the property over a 2 kilometer strike length. Marble is relatively pure and most of the marble is high calcium > 97% CaCO₃, and < 3% impurities (e.g. clay minerals, mica, quartz, and Fe oxides). Rock chip sampling and geochemical whole rock analysis is intended to identify rock types present, and geological mapping is intended to identify relevant textures, structures and alteration minerals present. Geological mapping and surveying is intended to locate outline of outcrops, and geological features present (bedding, faults, fractures, jointing, lithology, alteration, rock quality designation).

7.2 METHODS & PROCEDURES

A total of 3 rock chip samples were taken across 2 meter intervals along exposures of bedrock near Tsulton River in the Beaver Cove high calcium marble zones (Fig 4-9). Rock chip samples were taken with rock hammer and chisel and consist of acorn to walnut sized bedrock pieces for a total weight ranging from 1.2 to 1.5 kgs. Sample material was placed in marked poly ore bags and shipped to ALS Minerals, North Vancouver.

ALS Minerals crushed better than 70% passing a 2 mm screen split and pulverized rock chip samples Prep-31, Appendix B). A split of 250 grams is pulverized to better than 85% passing a 75 micron screen. The sample pulp is analyzed using ALS Minerals ME-XRF-06 (XRF-26) Li borate flux major oxide whole rock geochemical analytical methods.

Geological mapping was carried out over 20 hectares of exposed bedrock. Geological structure such as bedding and fault orientation as well as lithology changes were noted and mapped at a scale of 1:10,000 (Fig 7), and at a scale of 1:5,000 (Fig 8 & 9).

7.3 PROPERTY GEOLOGY

Geological mapping identified stratbound marble layers and lenses that striking west-northwest and dipping shallow north-northeast. The dominant fault structures appear to be northwest and northeast oriented, and likely related to emplacement of Mid-Jurassic age Island Plutonic Complex intrusive rocks. The marble (recrystallized limestone) of the Quatsino Formation is extensive throughout the local area as lenses along a 4 kilometer strike length that extends 2 km south-southeast of the subject property. The Black Marble (MTO ID 1037637) mineral property features high calcium marble hosted in the Quatsino Formation.

The writer performed fieldwork consisting of geochemical sampling magnetometer surveying and geological mapping on the property. Fieldwork was carried out Jan 21-23, 2020. Technical work is recorded in this assessment report, and reported as MEM Event number 5804076. Geochemical sampling was carried out on exposed surface bedrock. A total of 3 rock chip samples were collected from surface outcrop. Rock chip samples were analyzed by ALS

Minerals, North Vancouver, BC, using Li Borate fusion, whole rock analysis ME-XRF-06 (XRF26).

Geological mapping of approximately 20 hectares (Fig 7-9) identified a dense, fine-medium grain black & white coloured marble. There were also pearl white marbles (variably mottled grey), both coarse (2-4mm) and banded (re-crystallized textures). A pink-brown coloured granite/granodiorite was seen in roadcuts near center of property, and the intrusive separates the North and South Zones (@ 120-250 meters elevation). The marble in the area of the logging road (150-200 meters elevation) is close to contacts with a dull pink to dark grey granodiorite to granite.

Descriptions of outcrop 1-9 geological mapping of Black Marble Claim are listed as follows:

Outcrop	Colour	Easting NAD 83	Northing NAD 83	Elev (m)	Lithology
1	White	648126	5597383	168	Marble
2	White, minor mottled grey	648185	5597432	170	Marble
3	White, minor mottled grey	648298	5598651	163	Marble
4	Black, minor white	648480	5597884	171	Marble
5	Black, minor white	648502	5597945	183	Marble
6	White, minor mottled grey	648630	5598089	167	Marble
7	Black, minor white	649019	5598629	159	Marble
8	Black, minor white	648931	5598708	173	Marble
9	White	649300	5598690	135	Marble

Outcrop	And dyke strike	And dyke dip	Fault strike	Fault dip	Bedding strike & dip
1	45	85 SW			
2			45	88 SW	105 & 15 N
3					
4					
5	48	82 NW			78 & 17 N
6					36 & 18 NW
7	31	80 NW			
8	36	77 SE			71 & 20 N

Outcrop	Comments	Texture	Competence (high RQD)
1	pearl white, med grain marble, massive	1-2 mm fine to med grain	Good-Excellent
2	pearl white, cliff-forming marble, massive (creek)	1-2 mm fine to med grain	Good-Excellent
3	pearl white, med grain marble, massive	1-2 mm fine to med grain	Good-Excellent
4	black, minor white, fine to med grain marble, massive	1-4 mm fine to coarse grain, sugary	Excellent
5	black, minor white, marble, (8 X 12 m borrow pit dug)	1-4 mm fine to coarse grain, sugary	Excellent
6	pearl white, med grain marble, massive	1-4 mm fine to coarse grain, sugary	Excellent
7	black, minor grey-white & white marble, massive	1-4 mm fine to coarse grain, sugary	Excellent
8	black, minor white, fine to med grain marble, massive	1-4 mm fine to coarse grain, sugary	Excellent
9	pearl white, med grain marble, massive	1-2 mm fine to med grain	Good-Excellent

Outcrop adjacent to andesite (And) dykes are weakly brecciated and cut by white carbonate microveinlets. Grey marble contains approximately 5% grey-white carbonate streaks and minor clay mineral clots (1-15 cm), and higher Al₂O₃ content (e.g. sample 20BM3 from outcrop 7). Locally, the outcropping marble bedrock is relatively flat lying with shallow, north dipping metamorphic layering (pseudo-strata). The flat-lying marble layers are cut by faults and andesite sub-volcanic dykes (NE trending and steeply dipping). Tensional (infill) andesite dykes and extensional fault structures are age-related to Early-Middle Jurassic Island Plutonic Complex.

7.4 ROCK CHIP SAMPLE GEOCHEMISTRY

Geochemical analysis (sample 20BM-1 to 3) and rock sample descriptions are listed below:

ID	Colour	Easting NAD 83	Northing NAD 83	Elev (m)	Sample Type	Lithology	Lith Alteration
20BM1	Black	648511	5597948	182	Rock chip	Marble	low grade metamorphism
20BM2	White	649025	5598631	158	Rock chip	Marble	low grade metamorphism
20BM3	White	648939	5598712	174	Rock chip	Marble	low grade metamorphism

ID	Alteration	Width (cm)	Comments
20BM1		200	black, med grain marble, massive
20BM2		200	pearl white, med grain marble, massive
20BM3	Trace clay minerals	200	pearl white, overlain by black med grain marble

ID	CaO %	MgO %	Al ₂ O ₃ %	Fe ₂ O ₃ %	SiO ₂ %	MnO ₂ %	Na ₂ O %	K ₂ O %	SO ₃ %	Total %	LOI %
20BM1	55.6	0.27	0.09	0.09	1.19	0.01	<0.01	0.02	0.03	100.05	42.44
20BM2	54.1	0.53	0.14	0.06	3.48	0.01	<0.01	0.06	0.03	100.4	41.63
20BM3	53.2	0.91	0.52	0.25	6.35	0.02	<0.01	0.08	0.2	100.5	38.48

Outcrops of black and white coloured, high calcium marble are exposed on the subject property between 50-300 meter (164-984 feet) elevation. The North Zone features high purity marble. White and black coloured marble from North Zone returned geochemical whole rock analysis of 53.2-54.1 % CaO. The South Zone features rock chip sample 20BM-1 (black colour) with geochemical whole rock analysis of 55.6% CaO (>99% pure marble). This outcrop (rock sample 20BM-1) forms a solid, competent 6-10 meter relief exposure (with high rock quality designation, i.e. cliff forming) of white and minor black marble. The whole rock geochemistry of samples 20BM-1 to 3 are considered high purity, 'high calcium marble' suitable for industrial applications.

8.0 DISCUSSION OF RESULTS

The Black Marble claim features the North and South high calcium marble zones, located between 100-300 meters elevation, and are readily accessible by year-round access roads (1000 Main, and Holdsworth Mountain Road), and contain competent, quarry-able, large, block marble

outcrops. Upper Triassic Quatsino Formation is of economic interest because of high calcium marble present on the subject property. Limestone has been metamorphosed to marble on the property over a 2 kilometer strike length. Marble is relatively pure and most of the marble is high calcium (> 97% CaCO₃, and < 3% impurities (clay minerals, mica, quartz, and Fe oxides).

Marble layers and beds have a 30-120 meter range of thickness, and a relatively shallow dip (with a northerly component). Outcrops of black and white coloured, high calcium marble are exposed on the subject property between 50-300 meter (164-984 feet) elevation. The North Zone features high purity marble. The South Zone where cliff forming marble is exposed has potential for large (2.4 X 2.4 X 1.8 m) block marble extraction (abrasive carbide coated wire-saw & guide hole-quarry methods). The marble beds which form small cliffs with approximately 3-15 m relief (e.g. location of rock chip 15BM-5 have potential to provide dimension stone marble for use as marble facings (veneer) and marble tiles. There is also a demand for large block (2.4 X 2.4 X 1.8 meters) blocks that can be quarried from competent marble (e.g. South Zone rock sample BM-5, & slab sample S-110, Fig 4 & 5).

The sugary medium to coarse grain texture of both white and black coloured marble causes reflectance of calcite cleavage faces (and minor fine grain mica), when the rock is played in light. Reflectance (polish-ability) increases when slab samples were wet polished with 600 grit emery paper. A smooth and polished finish of marble results in high gloss finish reflectance, which was confirmed by mechanically smoothing of slab samples with wet 600 grit emery paper. Highly polished, sugary medium to coarse grain marble slab samples (S-101 to S-110), resulted in 'Starry Night' sparkle texture of polished marble slabs. Competent (i.e. high rock quality designation) is suitable for dimension stone tiles, architectural stone, and veneer. High calcium marble with a bright white colour can be crushed and processed to produce 'whiting', a powder used as a colouring agent and filler in paint, putty, plastics, grout, cosmetics, paper and other manufactured products. The whole rock geochemistry is considered high purity, 'high calcium marble' suitable for industrial applications.

Sub-hedral to euhedral calcite crystals become larger as the marble is subject to higher grades of metamorphism. As marble approach intrusive rock contact aureoles, calcite crystals become larger.

9.0 CONCLUSIONS & RECOMMENDATIONS

High calcium marble of the Quatsino Formation of northern Vancouver Island is considered viable for commercial development. Evaluation of marble in considerable detail is recommended and summarized as a 3 phase program:

TOTAL BUDGET for Phase 1-2 \$100 K

Phase I- Excavator trenching and blasting estimated at \$34 K.

Phase II- Diamond drilling program. A number of shallow 30-60 m deep core drill holes (total 500 m) to be drilled at an estimated cost of \$64 K.

Contingent on results, further bulk testing to include quarrying of several rough quarry blocks, approximately 8 ft. X 8 ft. X 6 ft (2.4 X 2.4 X 1.8 m) each. Phase 3 would also include permitting, marketing, logistics and engineering required for production and lease.

Phase 1 program of trenching and blasting is required. The purpose is to obtain some "fresh" blocks for polished sections to judge the suitability of the marble. A program of diamond drilling would assess possible 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.

Contingent on results, a 3rd phase will consist of pre-production stripping to clear 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. The marble located on the Black Marble mineral property has potential use as both tiles and face finished slab. The black and white (as well as blue) varieties are of particular interest.

10.0 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 AR 00000).

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. 8 1 1. pp. 124- 142.

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

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

Henneberry, R.T. (1993). Prospecting Report on the Ton Claims, AR 23,070

Hoadley, J.W. (1953). Geology and Mineral Deposits of the Zeballos-Nimkish Area, Vancouver 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-1021) 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.

CERTIFICATE AND DATE

I, Andris Kikauka, of 4199 Highway 101, Powell R, BC, am a self-employed professional geoscientist. I hereby certify that:

1. I am a graduate of Brock University, St. Catharines, Ont., with an Honours Bachelor of Science Degree in Geological Sciences, 1980.
2. I am a Fellow in good standing with the Geological Association of Canada.
3. I am registered in the Province of British Columbia as a Professional Geoscientist.
4. I have practiced my profession for thirty five years in precious and base metal exploration in the Cordillera of Western Canada, U.S.A., Mexico, Central America, and South America, as well as for three years in uranium exploration in the Canadian Shield..
5. The information, opinions, and recommendations in this report are based on fieldwork carried out in my presence on the subject property Jan, 2020 during which time a technical evaluation consisting of geological mapping and geochemical sampling data being documented.
6. I am employed as an independent consultant.
7. I am not aware of any material fact or material change with respect to the subject matter of this Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
8. I have a direct interest in Fundamental Res Corp and recommendations in this report serve only as guidelines and are not valid for NI 43-101 public financing.

Andris Kikauka, P. Geo.,



May 11, 2020



**ITEMIZED COST STATEMENT- BEAVER COVE
CLAIM NAME: BLACK MARBLE
MINERAL TENURE NUMBER 1037637
GEOLOGICAL & GEOCHEMICAL FIELDWORK DONE JANUARY 21-23, 2020
WORK PERFORMED ON MINERAL TENURE 1037637
NANAIMO MINING DIVISION, NTS 92L 10W (TRIM 092L 056)**

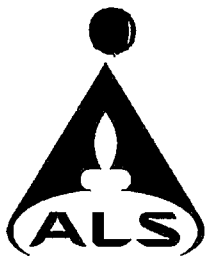
FIELD CREW:

A. Kikauka (Geologist) 3 days (surveying, mapping) \$ 1,890.00

FIELD COSTS:

Mob/demob/preparation	315.30
Meals and accommodations	229.50
Truck mileage & fuel	451.20
Fusion ICP AES geochemical analysis (3 rock samples)	171.90
Report	750.00

Total= \$ 3,807.90



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Plus Appendix Pages
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This copy reported on
26-MAR-2020
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APPENDIX A- Geochemical Whole Rock Analysis

CERTIFICATE VA20061898

Project: Black Marble

This report is for 3 Rock samples submitted to our lab in Vancouver, BC, Canada on 13-MAR-2020.

The following have access to data associated with this certificate:

ANDRIS KIKAUKA

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
LOG-22	Sample login - Rcd w/o BarCode
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize up to 250g 85% <75 um
DISP-01	Disposal of all sample fractions

ANALYTICAL PROCEDURES

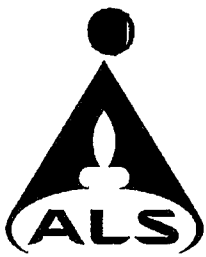
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ME-XRF26	Whole Rock By Fusion/XRF	XRF
OA-GRA05x	LOI for XRF	WST-SEQ

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:

Saa Traxler, General Manager, North Vancouver.



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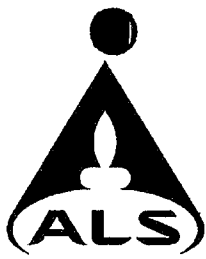
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Project: Black Marble

CERTIFICATE OF ANALYSIS VA20061898

Sample Description	Method Analyte Units LOD	WEI-21	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	
		Recvd Wt. kg	Al2O3 %	BaO %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SO3 %	SiO2 %	SrO %	TiO2 %
20BM-1		1.40	0.09	0.01	55.6	<0.01	0.09	0.02	0.27	0.01	<0.01	0.07	0.03	1.19	0.17	0.01
20BM-2		1.16	0.14	0.01	54.1	<0.01	0.06	0.06	0.53	0.01	<0.01	0.07	0.03	3.48	0.26	0.01
20BM-3		1.54	0.52	<0.01	53.2	<0.01	0.25	0.08	0.91	0.02	<0.01	0.10	0.20	6.35	0.32	0.02

***** See Appendix Page for comments regarding this certificate *****



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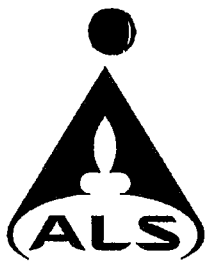
Page: 2 - B
Total # Pages: 2 (A - B)
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Finalized Date: 25-MAR-2020
Account: KIKAND

Project: Black Marble

CERTIFICATE OF ANALYSIS VA20061898

Sample Description	Method Analyte Units LOD	ME-XRF26	OA-GRA05x
		Total %	LOI 1000 %
20BM-1		100.05	42.44
20BM-2		100.40	41.63
20BM-3		100.50	38.48

***** See Appendix Page for comments regarding this certificate *****



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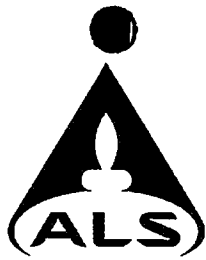
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Page: Appendix 1
Total # Appendix Pages: 1
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CERTIFICATE OF ANALYSIS VA20061898

	CERTIFICATE COMMENTS												
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CRU-31	CRU-QC	DISP-01	LOG-22										
ME-XRF26	OA-GRA05x	PUL-31	PUL-QC										
SPL-21	WEI-21												



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26-MAR-2020
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QC CERTIFICATE VA20061898

Project: Black Marble

This report is for 3 Rock samples submitted to our lab in Vancouver, BC, Canada on 13-MAR-2020.

The following have access to data associated with this certificate:

ANDRIS KIKAUKA

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PUL-QC	Pulverizing QC Test
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DISP-01	Disposal of all sample fractions

ANALYTICAL PROCEDURES

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Project: Black Marble

QC CERTIFICATE OF ANALYSIS VA20061898

Method Analyte Units LOD	ME-XRF26 Al2O3 %	ME-XRF26 BaO %	ME-XRF26 CaO %	ME-XRF26 Cr2O3 %	ME-XRF26 Fe2O3 %	ME-XRF26 K2O %	ME-XRF26 MgO %	ME-XRF26 MnO %	ME-XRF26 Na2O %	ME-XRF26 P2O5 %	ME-XRF26 SO3 %	ME-XRF26 SiO2 %	ME-XRF26 SrO %	ME-XRF26 TiO2 %	ME-XRF26 Total %
Sample Description	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
STANDARDS															
AMISO547 Target Range - Lower Bound Upper Bound															
BCS-512 Target Range - Lower Bound Upper Bound	0.06 0.03 0.08	<0.01 <0.01 0.02	30.7 29.8 31.4	<0.01 <0.01 0.02	0.03 <0.01 0.05	0.01 <0.01 0.02	21.5 20.9 22.2	<0.01 <0.01 0.02	0.11 0.06 0.12	<0.01 <0.01 0.02	0.01 <0.01 0.02	0.40 0.34 0.42	0.02 <0.01 0.05	<0.01 <0.01 0.02	52.86 97.99 102.00
OREAS 218 Target Range - Lower Bound Upper Bound	13.50 13.04 13.96	0.02 <0.01 0.04	9.95 9.73 10.45	0.03 <0.01 0.05	12.05 11.63 12.47	0.23 0.20 0.26	7.17 6.81 7.39	0.19 0.16 0.22	2.92 2.75 3.05	0.10 0.07 0.13	0.36 0.31 0.41	49.06 48.02 50.38	0.02 <0.01 0.03	1.12 1.04 1.20	96.88 <0.01 0.02
OREAS-45e Target Range - Lower Bound Upper Bound															
BLANKS															
BLANK Target Range - Lower Bound Upper Bound	<0.01 <0.01 0.02	<0.01 <0.01 0.02	<0.01 <0.01 0.02	<0.01 <0.01 0.02	<0.01 <0.01 0.02	<0.01 <0.01 0.02	0.01 <0.01 0.02	<0.01 <0.01 0.02	<0.01 <0.01 0.02	<0.01 <0.01 0.02	0.01 <0.01 0.02	99.96 <0.01 0.02	<0.01 <0.01 0.02	<0.01 <0.01 0.02	99.98 <0.01 0.02
BLANK Target Range - Lower Bound Upper Bound															
DUPLICATES															
ORIGINAL DUP Target Range - Lower Bound Upper Bound	1.19 1.19 1.16 1.22	<0.01 <0.01 <0.01 0.02	0.02 0.02 <0.01 0.03	0.01 0.01 <0.01 0.02	7.50 7.47 7.36 7.61	0.01 0.01 <0.01 0.02	0.08 0.09 0.07 0.10	0.01 0.01 <0.01 0.02	0.02 0.03 <0.01 0.04	0.02 0.02 <0.01 0.03	7.18 7.40 6.92 7.66	86.42 86.77 85.29 87.90	0.01 0.01 <0.01 0.02	0.60 0.60 0.58 0.63	105.80 106.35 105.00 107.15
ORIGINAL DUP Target Range - Lower Bound Upper Bound															



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Page: 2 - B
 Total # Pages: 2 (A - B)
 Plus Appendix Pages
 Finalized Date: 25-MAR-2020
 Account: KIKAND

Project: Black Marble

QC CERTIFICATE OF ANALYSIS VA20061898

Sample Description	Method Analyte Units LOD	OA-GRA05x LOI 1000 % 0.01
STANDARDS		
AMISO547		37.87
Target Range - Lower Bound		36.19
Upper Bound		40.02
BCS-512		
Target Range - Lower Bound		
Upper Bound		
OREAS 218		
Target Range - Lower Bound		
Upper Bound		
OREAS-45e		8.49
Target Range - Lower Bound		8.11
Upper Bound		8.99
BLANKS		
BLANK		
Target Range - Lower Bound		
Upper Bound		
BLANK		0.01
Target Range - Lower Bound		<0.01
Upper Bound		0.02
DUPLICATES		
ORIGINAL		3.34
DUP		3.30
Target Range - Lower Bound		3.23
Upper Bound		3.41

***** See Appendix Page for comments regarding this certificate *****



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Page: Appendix 1
Total # Appendix Pages: 1
Finalized Date: 25-MAR-2020
Account: KIKAND

Project: Black Marble

QC CERTIFICATE OF ANALYSIS VA20061898

	CERTIFICATE COMMENTS												
Applies to Method:	<p style="text-align: center;">LABORATORY ADDRESSES</p> <p>Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.</p> <table><tbody><tr><td>CRU-31</td><td>CRU-QC</td><td>DISP-01</td><td>LOG-22</td></tr><tr><td>ME-XRF26</td><td>OA-GRA05x</td><td>PUL-31</td><td>PUL-QC</td></tr><tr><td>SPL-21</td><td>WEI-21</td><td></td><td></td></tr></tbody></table>	CRU-31	CRU-QC	DISP-01	LOG-22	ME-XRF26	OA-GRA05x	PUL-31	PUL-QC	SPL-21	WEI-21		
CRU-31	CRU-QC	DISP-01	LOG-22										
ME-XRF26	OA-GRA05x	PUL-31	PUL-QC										
SPL-21	WEI-21												



APPENDIX B - Geochemical Methods

Sample Preparation Package

PREP-31

Standard Sample Preparation: Dry, Crush, Split and Pulverize

Sample preparation is the most critical step in the entire laboratory operation. The purpose of preparation is to produce a homogeneous analytical sub-sample that is fully representative of the material submitted to the laboratory.

The sample is logged in the tracking system, weighed, dried and finely crushed to better than 70 % passing a 2 mm (Tyler 9 mesh, US Std. No.10) screen. A split of up to 250 g is taken and pulverized to better than 85 % passing a 75 micron (Tyler 200 mesh, US Std. No. 200) screen. This method is appropriate for rock chip or drill samples.

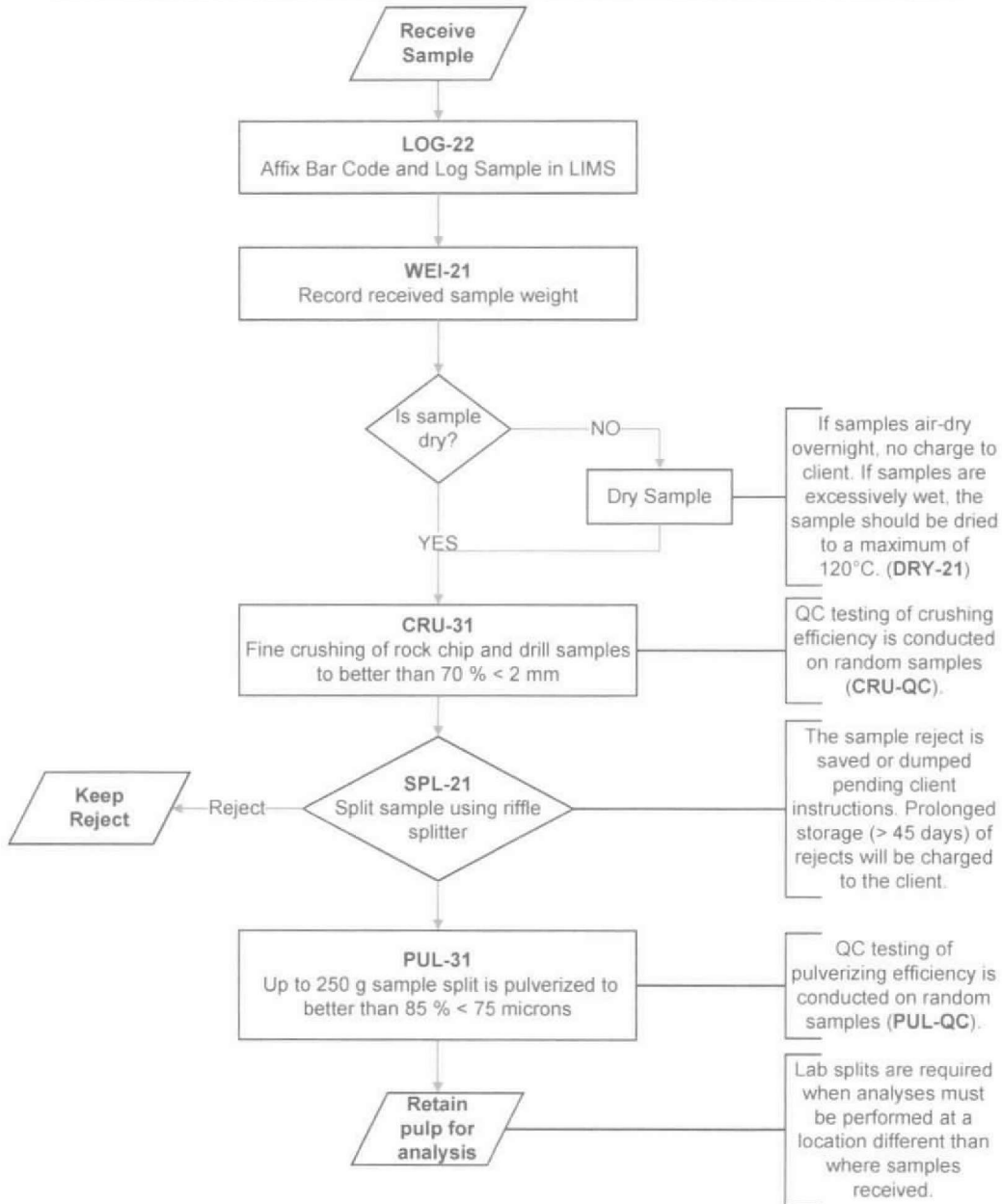
Method Code	Description
LOG-22	Sample is logged in tracking system and a bar code label is attached.
CRU-31	Fine crushing of rock chip and drill samples to better than 70 % of the sample passing 2 mm.
SPL-21	Split sample using riffle splitter.
PUL-31	A sample split of up to 250 g is pulverized to better than 85 % of the sample passing 75 microns.



Sample Preparation Package

Flow Chart -

Sample Preparation Package - PREP-31 Standard Sample Preparation: Dry, Crush, Split and Pulverize



WHOLE ROCK GEOCHEMISTRY

ME- XRF06

SAMPLE DECOMPOSITION

50% - 50% $\text{Li}_2\text{B}_4\text{O}_7$ - LiBO_2 (WEI- GRA06)

ANALYTICAL METHOD
X-Ray Fluorescence Spectroscopy (XRF)

A calcined or ignited sample (0.9 g) is added to 9.0g of Lithium Borate Flux (50 % - 50 % $\text{Li}_2\text{B}_4\text{O}_7$ - LiBO_2), mixed well and fused in an auto fluxer between 1050 - 1100°C. A flat molten glass disc is prepared from the resulting melt. This disc is then analysed by X-ray fluorescence spectrometry.

ELEMENT	SYMBOL	UNITS	LOWER LIMIT	UPPER LIMIT
Aluminum Oxide	Al_2O_3	%	0.01	100
Barium Oxide	BaO	%	0.01	100
Calcium Oxide	CaO	%	0.01	100
Chromium Oxide	Cr_2O_3	%	0.01	100
Ferric Oxide	Fe_2O_3	%	0.01	100
Potassium Oxide	K_2O	%	0.01	100
Magnesium Oxide	MgO	%	0.01	100
Manganese Oxide	MnO	%	0.01	100
Sodium Oxide	Na_2O	%	0.01	100
Phosphorus Oxide	P_2O_5	%	0.01	100
Silicon Oxide	SiO_2	%	0.01	100
Strontium Oxide	SrO	%	0.01	100
Titanium Oxide	TiO_2	%	0.01	100
Loss On Ignition	LOI	%	0.01	100
	Total	%	0.01	101

NOTE: Since samples that are high in sulphides or base metals can damage Platinum crucibles, a ME- ICP06 finish method can be selected as an alternative method.

APPENDIX C - Outcrop Mapping Descriptions

Outcrop	Colour	Easting NAD 83	Northing NAD 83	Elev (m)	Lithology
1	White	648126	5597383	168	Marble
2	White, minor mottled grey	648185	5597432	170	Marble
3	White, minor mottled grey	648298	5598651	163	Marble
4	Black, minor white	648480	5597884	171	Marble
5	Black, minor white	648502	5597945	183	Marble
6	White, minor mottled grey	648630	5598089	167	Marble
7	Black, minor white	649019	5598629	159	Marble
8	Black, minor white	648931	5598708	173	Marble
9	White	649300	5598690	135	Marble

Outcrop	And dyke strike	And dyke dip	Fault strike	Fault dip	Bedding strike & dip
1		45 85 SW			
2			45 88 SW		105 & 15 N
3					
4					
5	48 82 NW				78 & 17 N
6					36 & 18 NW
7	31 80 NW				
8	36 77 SE				71 & 20 N
9					

Outcrop	Comments	Texture	Competence (high RQD)
1	pearl white, med grain marble, massive	1-2 mm fine to med grain	Good-Excellent
2	pearl white, cliff-forming marble, massive (creek)	1-2 mm fine to med grain	Good-Excellent
3	pearl white, med grain marble, massive	1-2 mm fine to med grain	Good-Excellent
4	black, minor white, fine to med grain marble, massive	1-4 mm fine to coarse grain, sugary	Excellent
5	black, minor white, marble, (8 X 12 m borrow pit dug)	1-4 mm fine to coarse grain, sugary	Excellent
6	pearl white, med grain marble, massive	1-4 mm fine to coarse grain, sugary	Excellent
7	black, minor white, fine to med grain marble, massive	1-4 mm fine to coarse grain, sugary	Excellent
8	black, minor white, fine to med grain marble, massive	1-4 mm fine to coarse grain, sugary	Excellent
9	pearl white, med grain marble, massive	1-2 mm fine to med grain	Good-Excellent

APPENDIX D - Rock Sample Geochemistry & Descriptions

ID	Colour	Easting NAI	Northing N	Elev (m)	Sample Ty	Lithology
20BM1	Black	648511	5597948	182	Rock chip	Marble
20BM2	White	649025	5598631	158	Rock chip	Marble
20BM3	White	648939	5598712	174	Rock chip	Marble

ID	Lith Alteration	Width (cm)	Comments
20BM1	low grade metamorphism	200	black, med grain marble, massive
20BM2	low grade metamorphism	200	pearl white, med grain marble, massive
20BM3	low grade metamorphism	200	pearl white, overlain by black med grain marble

ID	CaO %	MgO %	Al2O3 %	Fe2O3 %	SiO2 %	MnO2 %	Na2O %	K2O %	SO3 %	Total %	LOI %
20BM1	55.6	0.27	0.09	0.09	1.19	0.01	<0.01	0.02	0.03	100.05	42.44
20BM2	54.1	0.53	0.14	0.06	3.48	0.01	<0.01	0.06	0.03	100.4	41.63
20BM3	53.2	0.91	0.52	0.25	6.35	0.02	<0.01	0.08	0.2	100.5	38.48

APPENDIX E - Minfile Description

[MINFILE Home page](#) [ARIS Home page](#) [MINFILE Search page](#) [Property File Search](#)

MINFILE Record Summary

MINFILE No 092L 221

[XML Extract / Inventory Report](#)

[Print Preview](#) PDF  - SELECT REPORT - 

File Created: 30-Nov-1988 by Wim S. Vanderpoll (WV)
Last Edit: 24-Jan-2014 by Karl A. Flower (KAF)

SUMMARY [Summary Help](#)

Name	LORENA 2, REN 1-4, NIMRON	NMI	092L10 Cu2
Status	Showing	Mining Division	Nanaimo
Latitude	050° 31' 12"	BCGS Map	092L056
Longitude	126° 53' 50"	NTS Map	092L10W
Commodities	Lead, Zinc, Silver, Cadmium, Tungsten	UTM	09 (NAD 83)
Tectonic Belt	Insular	Northing	5598561
		Easting	649062
		Deposit Types	K02 : Pb-Zn skarn
		Terrane	Wrangell, Plutonic Rocks

Capsule Geology

The Lorena 2 occurrence is located west of the Tsulton River, approximately 2.5 kilometres south west of the community of Beaver Cove.

The area is underlain by Upper Triassic Vancouver Group rocks comprised of Quatsino Formation limestones which overlie Karmutsen Formation volcanics. The Quatsino Formation limestone is cut by andesitic and porphyritic rhyolite dikes related to the Lower Jurassic Bonanza Group. Both the Vancouver and Bonanza Group rocks are intruded by granodiorite of the Jurassic Island Plutonic Suite.

Locally, mineralization consists of massive pyrite-sphalerite-galena and minor scheelite (up to 0.5 per cent) occurring in a brecciated zone and associated with the rhyolite dikes which cross-cut the Quatsino limestone.

In 1979, a 1 metre channel sample yielded 11.3 per cent combined lead-zinc with grab samples assaying up to 50.3 per cent combined lead-zinc (Assessment Report 8285). In 1986, a grab sample assayed 31.2 grams per tonne silver, 0.206 per cent cadmium and greater than 1 per cent lead and zinc, respectively (Assessment Report 15230).

The occurrence was original discovered in 1959 by a forestry engineer. In 1972, Lorena Mines completed a program of rock and soil sampling. In 1979 and 1980, Skidagata Exploration completed a program of geological mapping, minor blasting, rock sampling and prospecting on the area as the Ren 1-4 claims. In 1984 and 1986, Granada Exploration completed programs of soil sampling and prospecting on the area as the Nimrod claims.

Bibliography

EMPR ASS RPT [4596](#), [*8285](#), [12764](#), [*15230](#)
EMPR EXPL 1980-271; 1984-242; 1986-C279
EMPR GEM 1973-260
GSC MAP 4-1974
GSC OF 9; 170; 463
GSC P 69-1A; 70-1A; 72-44; *74-8; 79-30
Carson, D.J.T., (1968): Metallogenic Study of Vancouver Island with emphasis on the Relationship of Plutonic Rocks to Mineral Deposits, Ph.D. Thesis, Carleton University, Ottawa

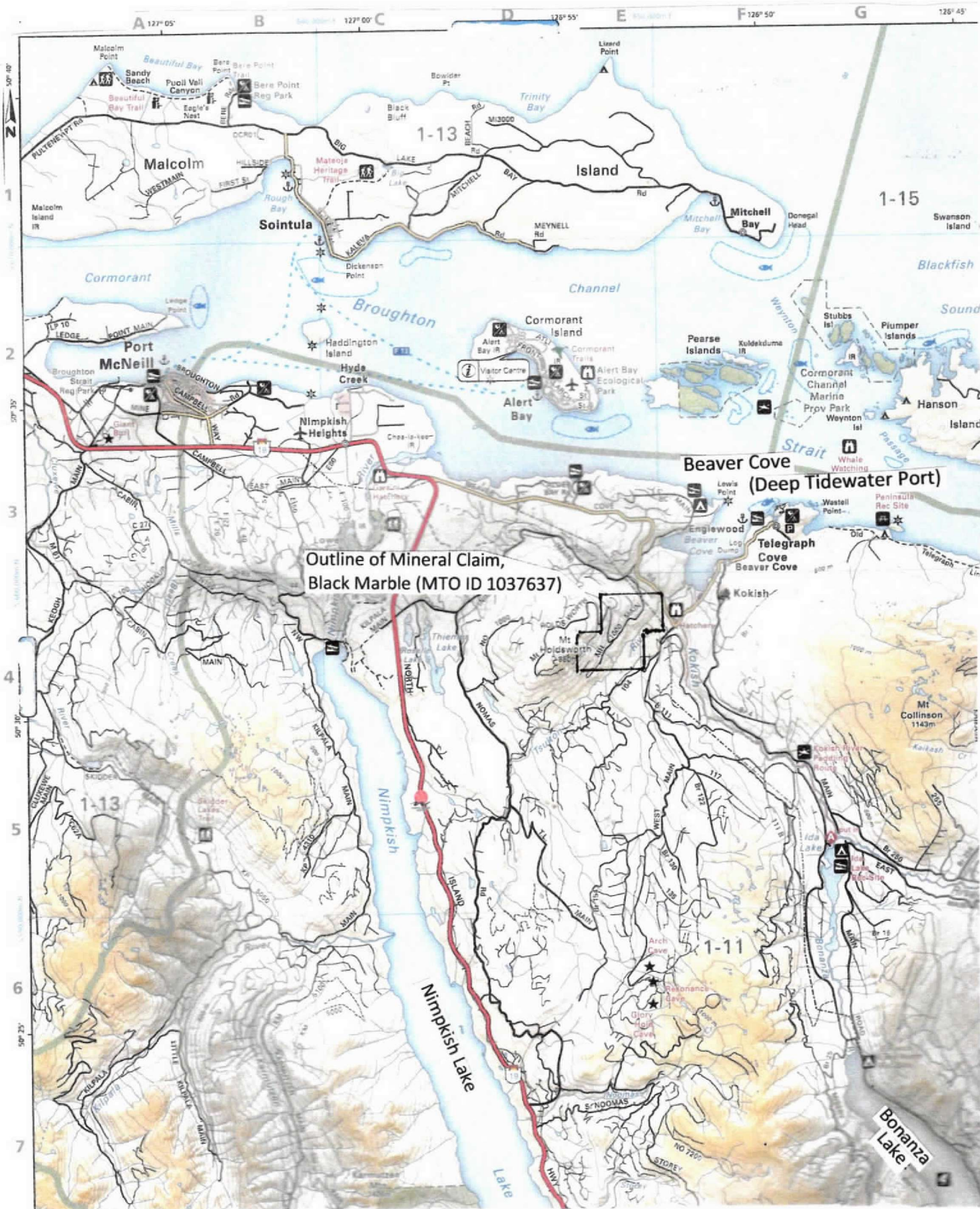


Fig 1 Black Marble (MTO ID 1037637) General Location
 Nanaimo Mining Division, NTS 092L 10/W BCGS 092L.056

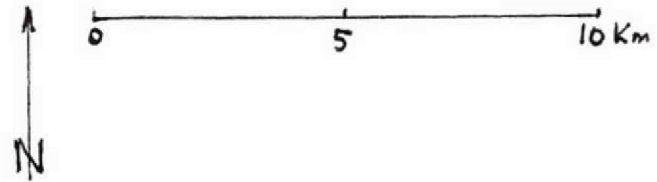


Fig 2 MTO Claim Map



Legend

Mineral Titles (MTO)

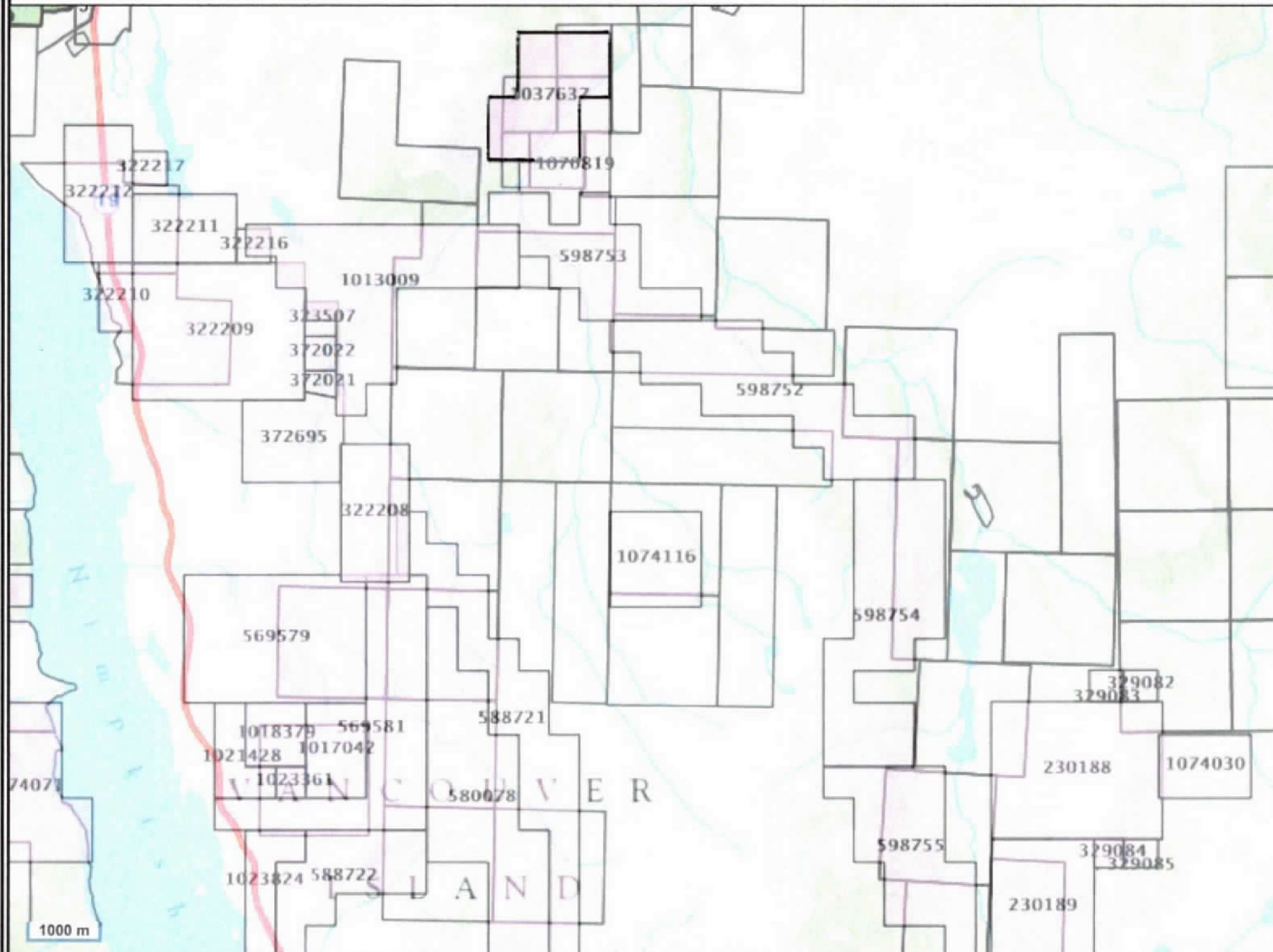
- MTO Grid
- Title (current)
 - LEASE
 - CLAIM
- Reserves
 - No Registration
 - Conditional
 - Heritage/Historic Site

Crown Land Layers (Tantalis)

- Land Act Survey Parcels - Tantalis - Legal Descriptions
- Label Text
- Land Act Survey Parcels - Tantalis - Outlined

Administrative Boundaries

- Historic Environment
 - Registered
 - Federal Jurisdiction
 - Legacy
- Local Regional Greenspaces - Outline
- Local and Regional Greenspaces
- Local Regional Greenspaces - Colour Filled
- Federal Transfer Lands - Outlined
- Federal Transfer Lands - Colour Filled
- National Parks - Outlined
- National Park
- National Parks - Colour Filled
- Conservancy Areas - Tantalis - Colour Filled
- Conservancy Areas



*This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION.*

Printed using the Mineral Titles Online (MTO) application.BCGS 092L.056, Nanaimo Mining Division

Center: 50°27'59", -126°52'54"
Scale: 1 : 135420
SRS: EPSG:3857
UTM Zone: 9


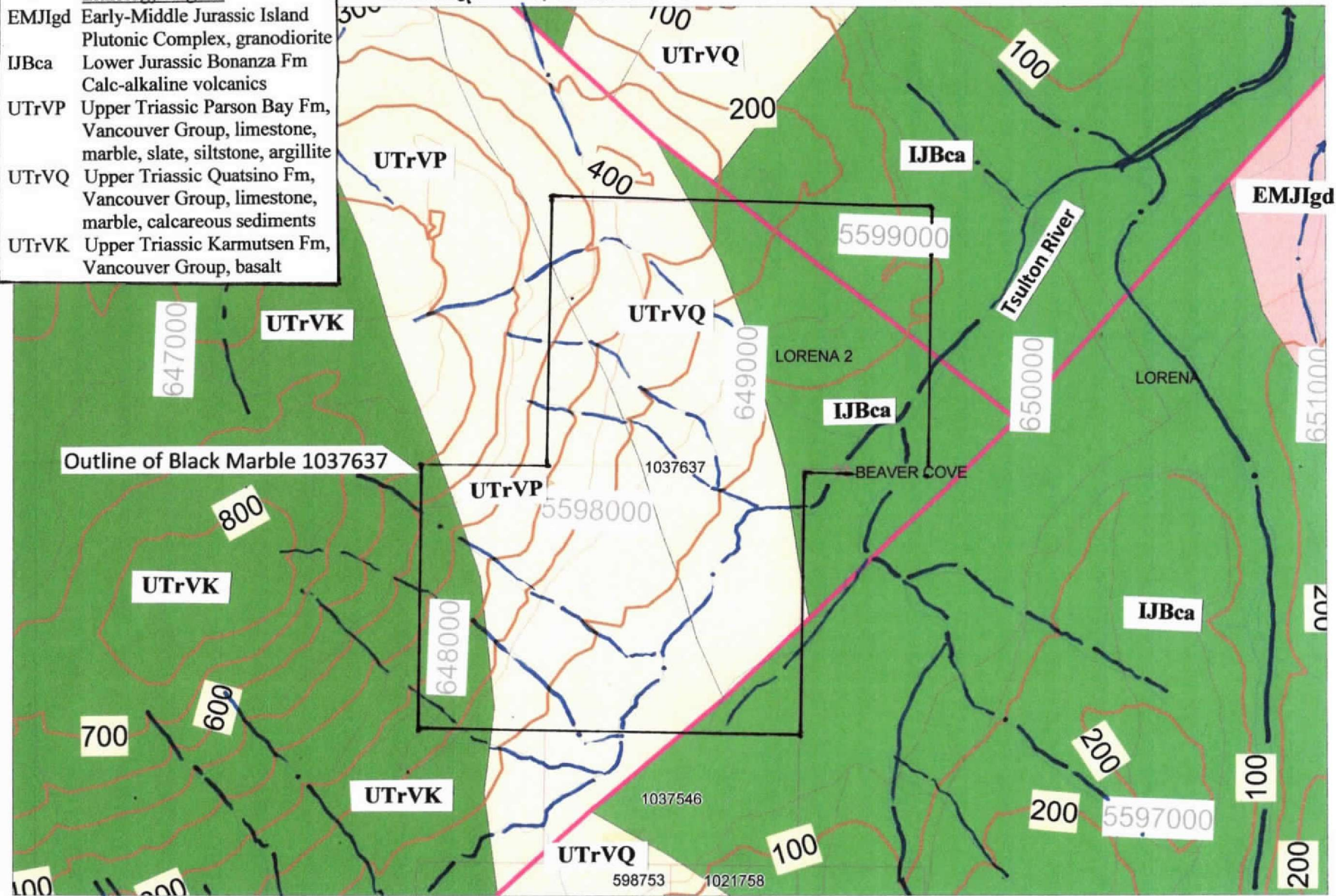


Fig 3 Black Marble 1037637 General Geology

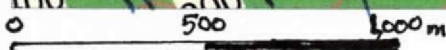
Contour Interval 100 m

SOURCE: BCGS

Lithology Legend	
EMJlgd	Early-Middle Jurassic Island Plutonic Complex, granodiorite
IJBca	Lower Jurassic Bonanza Fm Calc-alkaline volcanics
UTrVP	Upper Triassic Parson Bay Fm, Vancouver Group, limestone, marble, slate, siltstone, argillite
UTrVQ	Upper Triassic Quatsino Fm, Vancouver Group, limestone, marble, calcareous sediments
UTrVK	Upper Triassic Karmutsen Fm, Vancouver Group, basalt



Outline of Black Marble 1037637



SCALE 1 : 20,000

— Fault ←— Creek

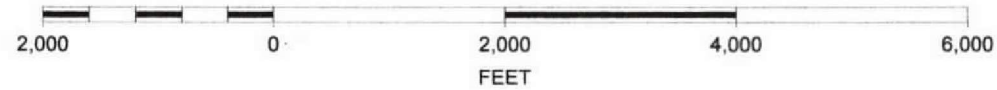


Fig 4 Outcrop mapping & Rock Samples

BCGS 092L.056, NTS 092L 10/W, Nanaimo Mining Division

Beaver Cove (deep tidewater port) 3 km

ID	Colour	Easting NA	Northing N	Elev (m)	Sample Typ	Lithology
20BM1	Black	648511	5597948	182	Rock chip	Marble
20BM2	White	649025	5598631	158	Rock chip	Marble
20BM3	White	648939	5598712	174	Rock chip	Marble

NORTH MARBLE ZONE

ID	Lith Alteration	Width (cm)	Comments
20BM1	low grade metamorphism	200	black, med grain marble, massive
20BM2	low grade metamorphism	200	pearl white, med grain marble, massive
20BM3	low grade metamorphism	200	pearl white, overlain by black med grain marble

ID	CaO %	MgO %	Al2O3 %	Fe2O3 %	SiO2 %	MnO2 %	Na2O %	K2O %	SO3 %	Total %	LOI %
20BM1	55.6	0.27	0.09	0.09	1.19	0.01	<0.01	0.02	0.03	100.05	42.44
20BM2	54.1	0.53	0.14	0.06	3.48	0.01	<0.01	0.06	0.03	100.4	41.63
20BM3	53.2	0.91	0.52	0.25	6.35	0.02	<0.01	0.08	0.2	100.5	38.48

Legend

- outcrop 1
- outcrop 2
- outcrop 3
- outcrop 5
- outcrop 6
- outcrop 7, 8 & 9
- R rock sample

5,598,000 N

648,000 E

oc6W, oc6E, OUTCROP 6

20BM1, oc5E

OUTCROP 5

oc5W, oc4E

oc4W, OUTCROP 4

SOUTH MARBLE ZONE

oc3E

oc3W, OUTCROP 3

oc2E

OUTCROP 2

oc1E, oc2W

OUTCROP 1

Tsulton River

Outcrop	Colour	Easting NAD 83	Northing NAD 83	Elev (m)	Lithology
1	White	648126	5597383	168	Marble
2	White, minor mottled grey	648185	5597432	170	Marble
3	White, minor mottled grey	648298	5598651	163	Marble
4	Black, minor white	648480	5597884	171	Marble
5	Black, minor white	648502	5597945	183	Marble
6	White, minor mottled grey	648630	5598089	167	Marble
7	Black, minor white	649019	5598629	159	Marble
8	Black, minor white	648931	5598708	173	Marble
9	White	649300	5598690	135	Marble

Outcrop	And dyke strike	And dyke dip	Fault strike	Fault dip	Bedding strike & dip
1		45 85 SW			
2			45 88 SW		105 & 15 N
3					
4					
5	48 82 NW				78 & 17 N
6					36 & 18 NW
7	31 80 NW				
8	36 77 SE				71 & 20 N
9					

Outcrop	Comments	Texture	Competence (high RQD)
1	pearl white, med grain marble, massive	1-2 mm fine to med grain	Good-Excellent
2	pearl white, cliff-forming marble, massive (creek)	1-2 mm fine to med grain	Good-Excellent
3	pearl white, med grain marble, massive	1-2 mm fine to med grain	Good-Excellent
4	black, minor white, fine to med grain marble, massive	1-4 mm fine to coarse grain, sugary	Excellent
5	black, minor white, marble, (8 X 12 m borrow pit dug)	1-4 mm fine to coarse grain, sugary	Excellent
6	pearl white, med grain marble, massive	1-4 mm fine to coarse grain, sugary	Excellent
7	black, minor white, fine to med grain marble, massive	1-4 mm fine to coarse grain, sugary	Excellent
8	black, minor white, fine to med grain marble, massive	1-4 mm fine to coarse grain, sugary	Excellent
9	pearl white, med grain marble, massive	1-2 mm fine to med grain	Good-Excellent

Google Earth

Image © 2020 CNES / Airbus

© 2020 Google

Image © 2020 Maxar Technologies

800 m

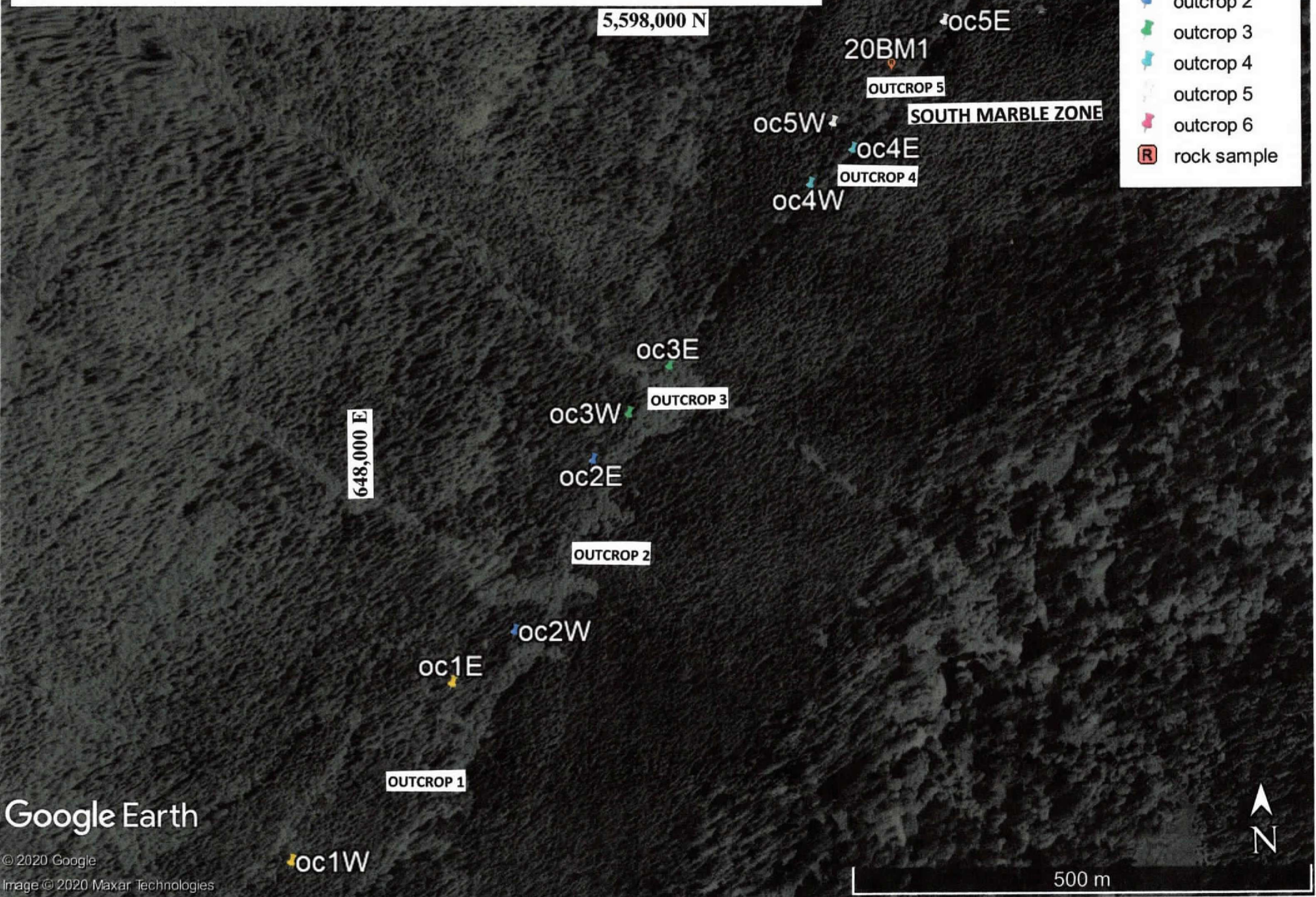


Fig 5 South Zone Outcrop mapping & Rock Samples

BCGS 092L.056, NTS 092L 10/W, Nanaimo Mining Division

Legend

- outcrop 1
- outcrop 2
- outcrop 3
- outcrop 4
- outcrop 5
- outcrop 6
- rock sample





Google Earth

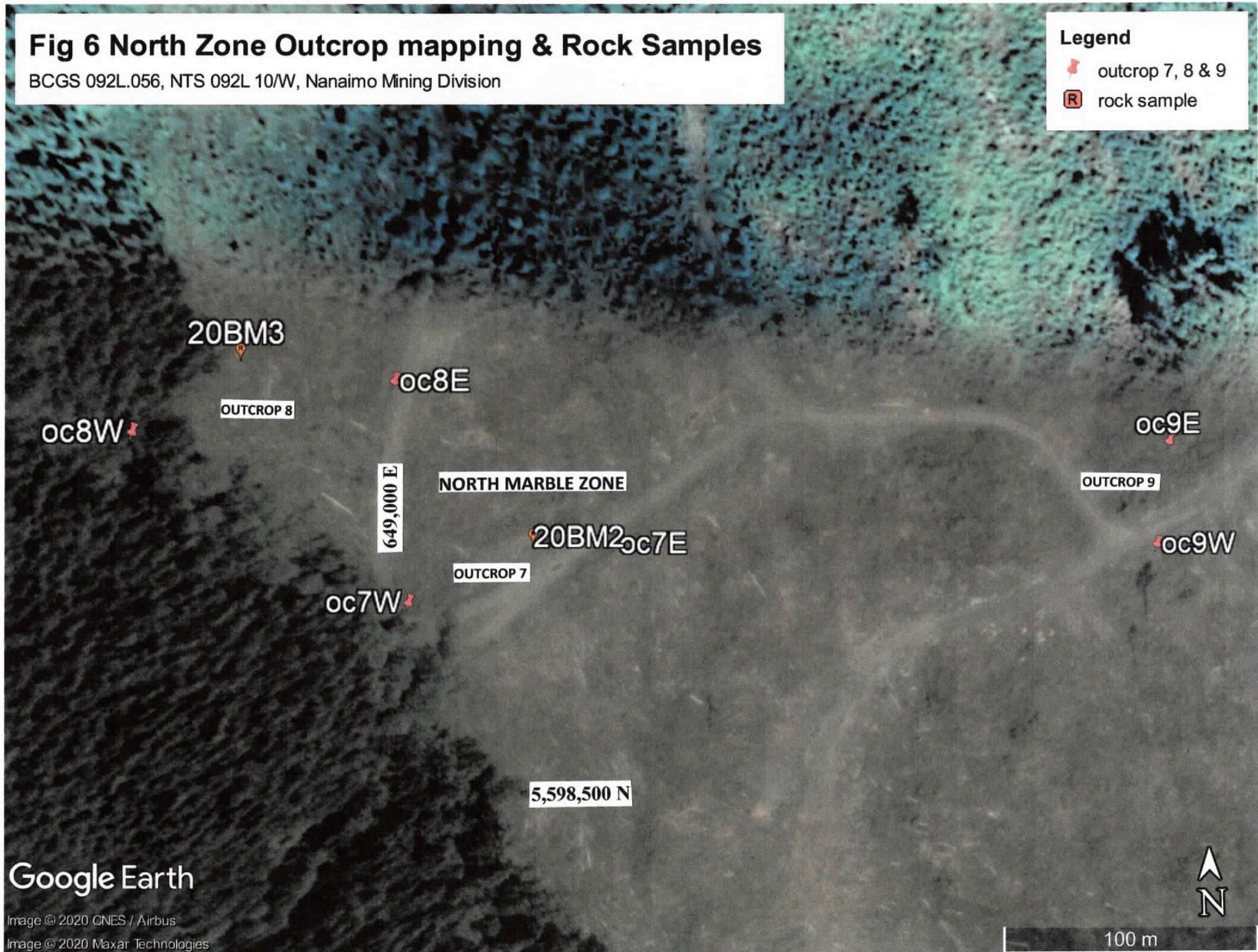
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Image © 2020 Maxar Technologies

Fig 6 North Zone Outcrop mapping & Rock Samples

BCGS 092L.056, NTS 092L 10/W, Nanaimo Mining Division

Legend

-  outcrop 7, 8 & 9
-  rock sample



Google Earth

Image © 2020 CNES / Airbus
Image © 2020 Maxar Technologies

100 m

Fig 7 Outcrop Mapping & Rock Samples (N & S Zones)

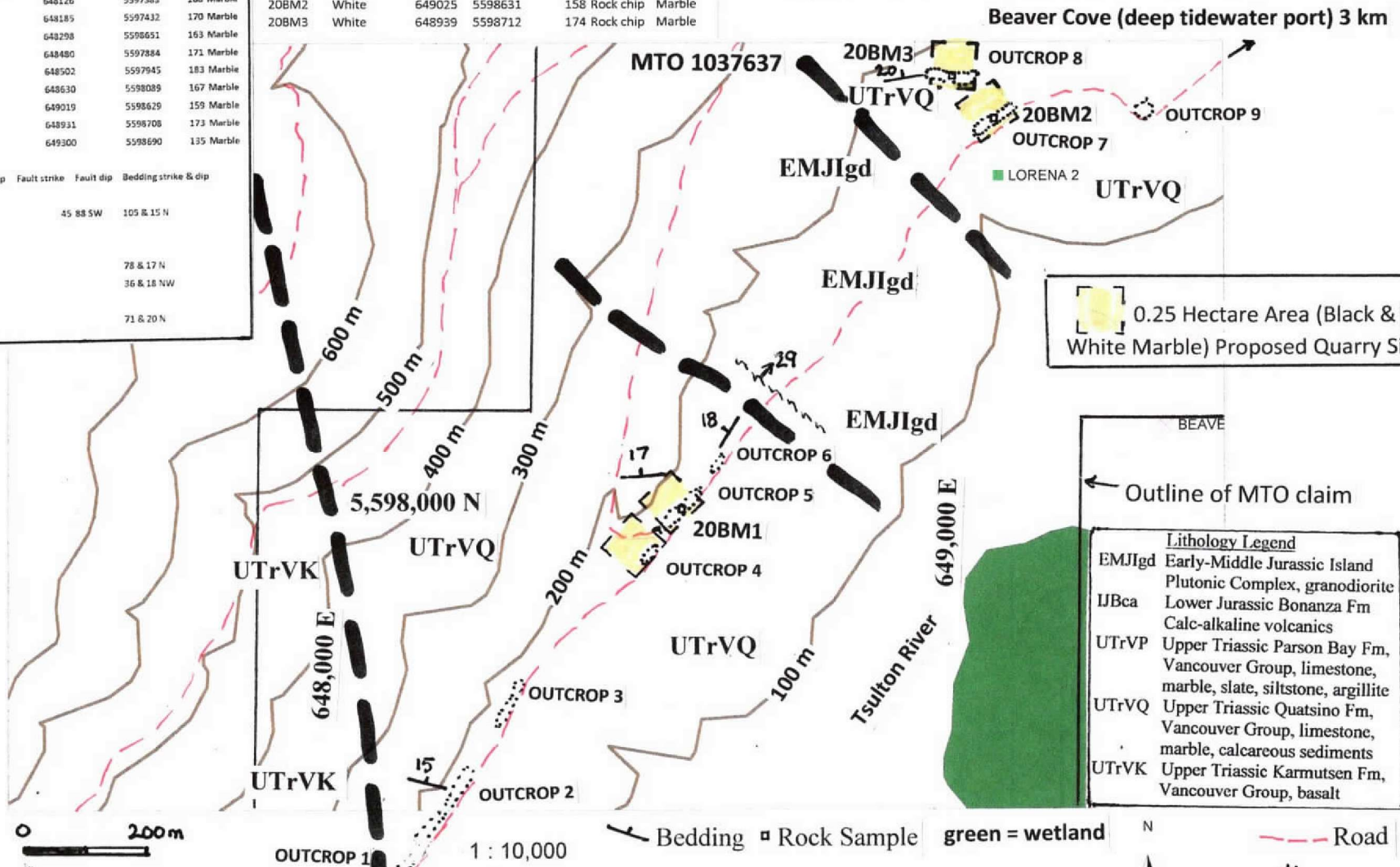
Nanaimo Mining Division, NTS 092L 10/W, BCGS 092L.056

ID	Lith Alteration	Width (cm)	Comments
20BM1	low grade metamorphism	200	black, med grain marble, massive
20BM2	low grade metamorphism	200	pearl white, med grain marble, massive
20BM3	low grade metamorphism	200	pearl white, overlain by black med grain marble

Outcrop	Colour	Easting NAD 83	Northing NAD 83	Elev (m)	Lithology
1	White	648126	5597383	168	Marble
2	White, minor mottled grey	648185	5597432	170	Marble
3	White, minor mottled grey	648298	5598651	163	Marble
4	Black, minor white	648480	5597884	171	Marble
5	Black, minor white	648502	5597945	183	Marble
6	White, minor mottled grey	648630	5598089	167	Marble
7	Black, minor white	649019	5598629	159	Marble
8	Black, minor white	648931	5598708	173	Marble
9	White	649300	5598690	135	Marble

Outcrop	And dyke strike	And dyke dip	Fault strike	Fault dip	Bedding strike & dip
1		45 85 SW			
2			45 88 SW		105 & 15 N
3					
4					
5	48 82 NW				78 & 17 N
6					36 & 18 NW
7	31 80 NW				
8	36 77 SE				71 & 20 N
9					

ID	Colour	Easting NA	Northing N	Elev (m)	Sample Ty	Lithology
20BM1	Black	648511	5597948	182	Rock chip	Marble
20BM2	White	649025	5598631	158	Rock chip	Marble
20BM3	White	648939	5598712	174	Rock chip	Marble



0.25 Hectare Area (Black & White Marble) Proposed Quarry Site

Lithology Legend

- EMJIgd Early-Middle Jurassic Island Plutonic Complex, granodiorite
- IJBca Lower Jurassic Bonanza Fm Calc-alkaline volcanics
- UTrVP Upper Triassic Parson Bay Fm, Vancouver Group, limestone, marble, slate, siltstone, argillite
- UTrVQ Upper Triassic Quatsino Fm, Vancouver Group, limestone, marble, calcareous sediments
- UTrVK Upper Triassic Karmutsen Fm, Vancouver Group, basalt

Outcrop	Comments	Texture	Competence (high RQD)
1	pearl white, med grain marble, massive	1-2 mm fine to med grain	Good-Excellent
2	pearl white, cliff-forming marble, massive (creek)	1-2 mm fine to med grain	Good-Excellent
3	pearl white, med grain marble, massive	1-2 mm fine to med grain	Good-Excellent
4	black, minor white, fine to med grain marble, massive	1-4 mm fine to coarse grain, sugary	Excellent
5	black, minor white, marble, (8 X 12 m borrow pit dug)	1-4 mm fine to coarse grain, sugary	Excellent
6	pearl white, med grain marble, massive	1-4 mm fine to coarse grain, sugary	Excellent
7	black, minor white, fine to med grain marble, massive	1-4 mm fine to coarse grain, sugary	Excellent
8	black, minor white, fine to med grain marble, massive	1-4 mm fine to coarse grain, sugary	Excellent
9	pearl white, med grain marble, massive	1-2 mm fine to med grain	Good-Excellent

ID	CaO %	MgO %	Al2O3 %	Fe2O3 %	SiO2 %	MnO2 %	Na2O %	K2O %	SO3 %	Total %	LOI %
20BM1	55.6	0.27	0.09	0.09	1.19	0.01	<0.01	0.02	0.03	100.05	42.44
20BM2	54.1	0.53	0.14	0.06	3.48	0.01	<0.01	0.06	0.03	100.4	41.63
20BM3	53.2	0.91	0.52	0.25	6.35	0.02	<0.01	0.08	0.2	100.5	38.48

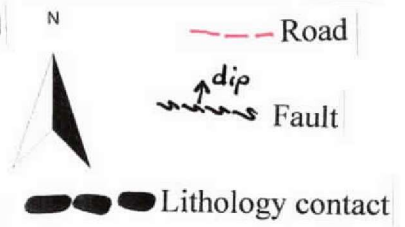


Fig 8 Outcrop Mapping & Rock Samples (S Zone)

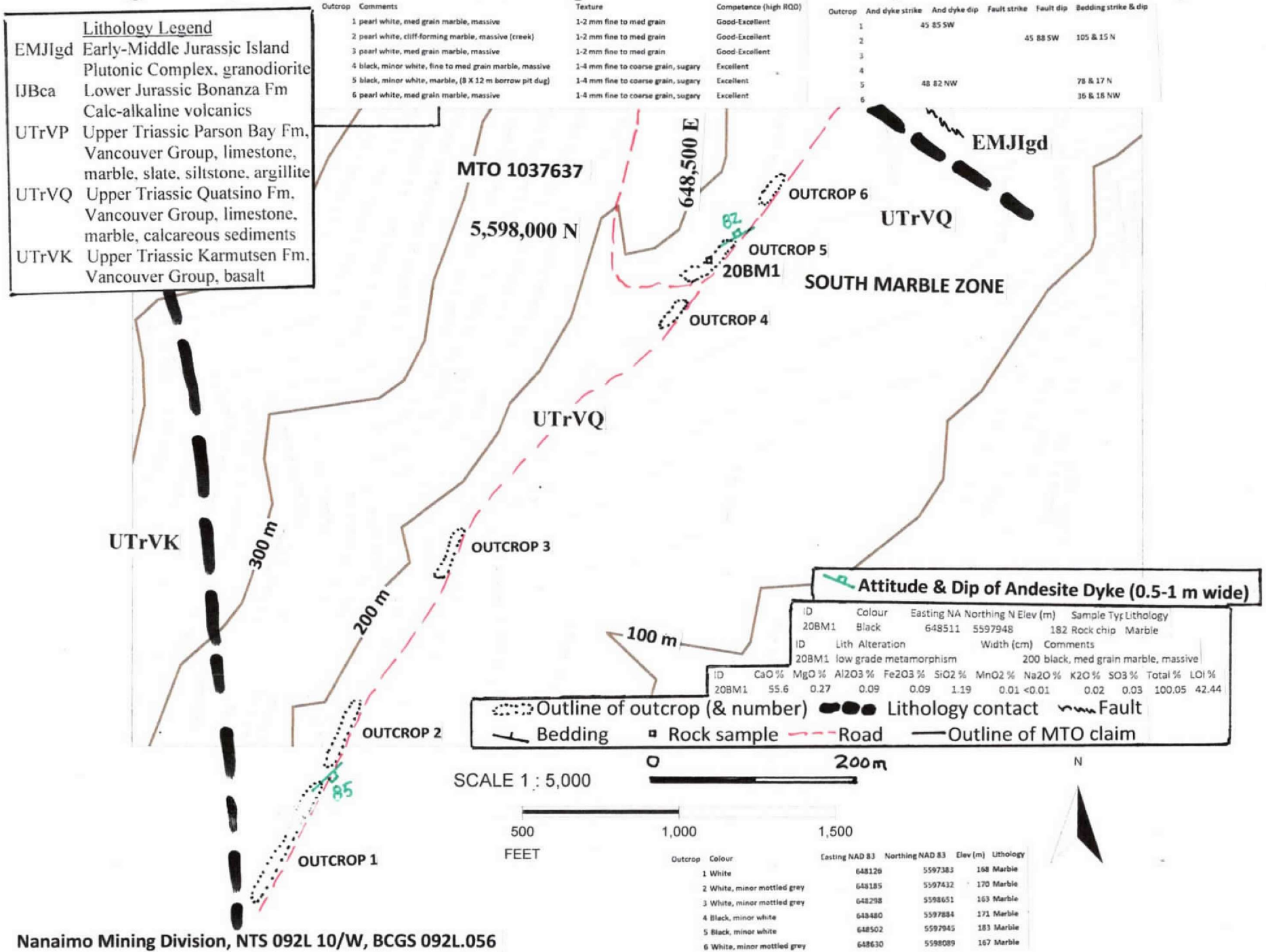
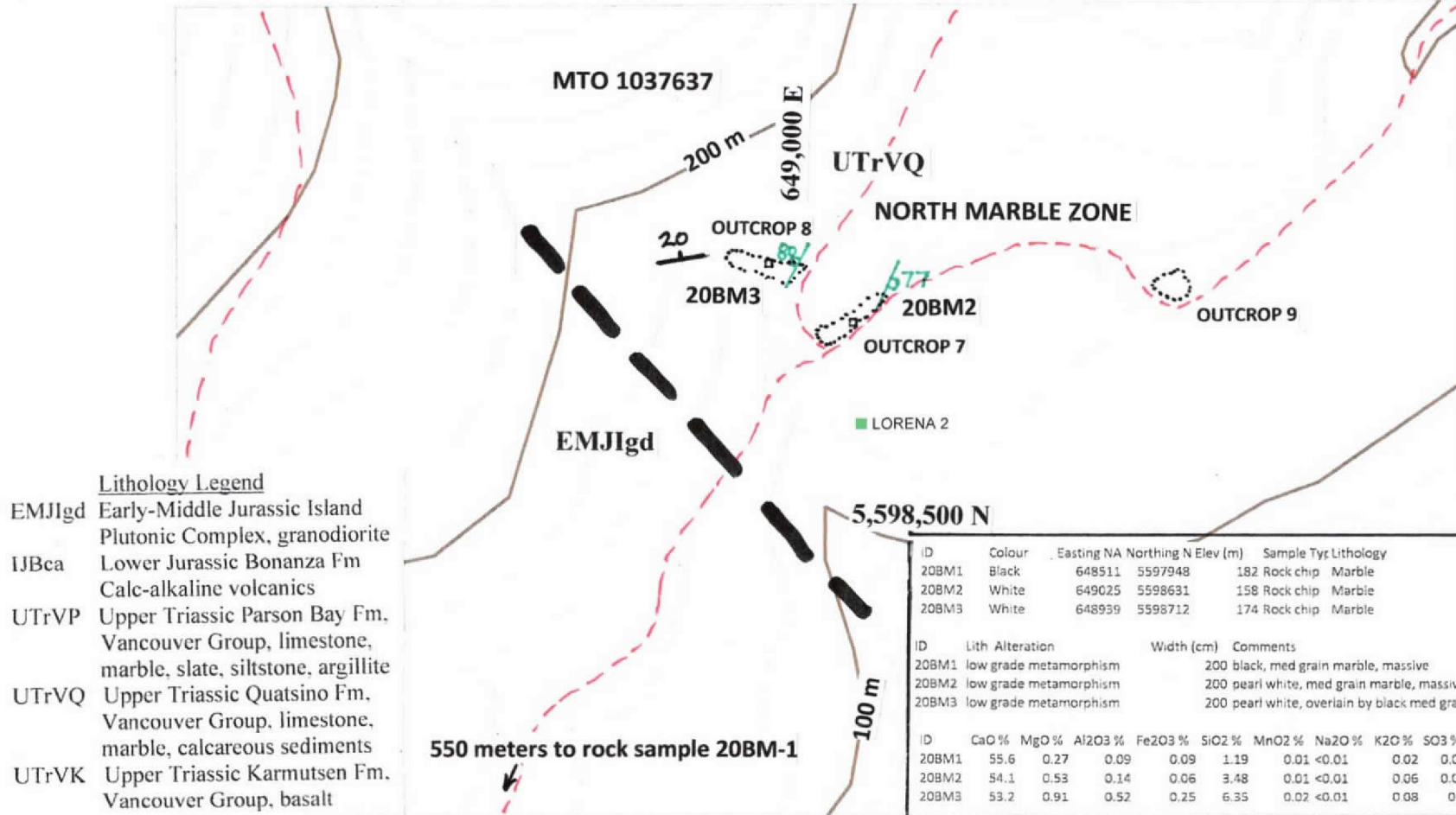


Fig 9 Outcrop Mapping & Rock Samples (N Zone)

Nanaimo Mining Division, NTS 092L 10/W, BCGS 092L.056

Outcrop	And dyke strike	And dyke dip	Fault strike	Fault dip	Bedding strike & dip	Outcrop Colour	Easting NAD 83	Northing NAD 83	Elev (m)	Lithology	Outcrop Comments	Texture	Competence (high RQD)
7	31 89 NW					7 Black, minor white	649019	5598629	159	Marble	7 black, minor white, fine to med grain marble, massive	1-4 mm fine to coarse grain, sugary	Excellent
8	36 77 SE				71 & 20 N	8 Black, minor white	648951	5598708	171	Marble	8 black, minor white, fine to med grain marble, massive	1-4 mm fine to coarse grain, sugary	Excellent
9						9 White	649300	5598690	135	Marble	9 pearl white, med grain marble, massive	1-2 mm fine to med grain	Good-Excellent



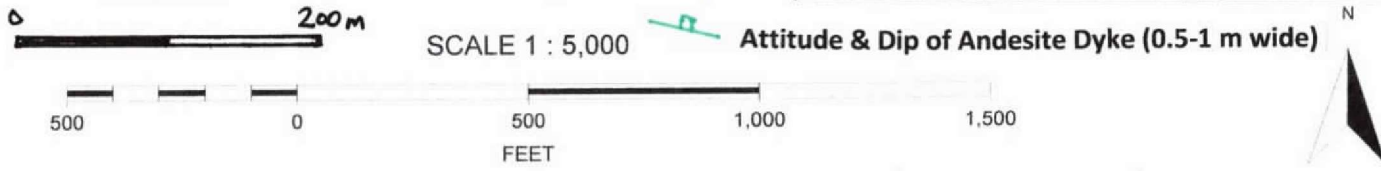
Lithology Legend

- EMJlgd Early-Middle Jurassic Island Plutonic Complex, granodiorite
- IJBca Lower Jurassic Bonanza Fm Calc-alkaline volcanics
- UTrVP Upper Triassic Parson Bay Fm, Vancouver Group, limestone, marble, slate, siltstone, argillite
- UTrVQ Upper Triassic Quatsino Fm, Vancouver Group, limestone, marble, calcareous sediments
- UTrVK Upper Triassic Karmutsen Fm, Vancouver Group, basalt

ID	Colour	Easting NA	Northing N	Elev (m)	Sample Typ	Lithology
20BM1	Black	648511	5597948	182	Rock chip	Marble
20BM2	White	649025	5598631	158	Rock chip	Marble
20BM3	White	648939	5598712	174	Rock chip	Marble

ID	Lith Alteration	Width (cm)	Comments
20BM1	low grade metamorphism	200	black, med grain marble, massive
20BM2	low grade metamorphism	200	pearl white, med grain marble, massive
20BM3	low grade metamorphism	200	pearl white, overlain by black med grain marble

ID	CaO %	MgO %	Al2O3 %	Fe2O3 %	SiO2 %	MnO2 %	Na2O %	K2O %	SO3 %	Total %	LOI %
20BM1	55.6	0.27	0.09	0.09	1.19	0.01	<0.01	0.02	0.03	100.05	42.44
20BM2	54.1	0.53	0.14	0.06	3.48	0.01	<0.01	0.06	0.03	100.4	41.63
20BM3	53.2	0.91	0.52	0.25	6.35	0.02	<0.01	0.08	0.2	100.5	38.48



- Outline of outcrop (& number)
- Bedding
- Rock sample
- Road
- Lithology contact
- Fault
- Outline of MTO claim