GRAYMONT WESTERN CANADA INC.

2005 GEOLOGIC MAPPING AND EXPLORATION NEAR VARNEY BAY

SOUTH OF RUPERT INLET, BRITISH COLUMBIA
(NANAIMO MINING DIVISION)

Claim Tenures 504479 and 505092

Geographic Coordinates
50° 34' N
127° 31' W

NTS Sheets 92 L/11 W and 92 L/12 E

Owner of Claim: Tenures 504479 and 505092
Ecowaste Industries Ltd.
190, 3025 - 12 Street N.E.
Calgary, AB, T2E 7J2

Operator: Graymont Western Canada Inc.
190, 3025 - 12 Street N.E.
Calgary, AB, T2E 7J2

Consultant: Dahrouge Geological Consulting Ltd.
18, 10509 - 81 Avenue
Edmonton, Alberta T6E 1X7

Authors: J. Dahrouge, B.Sc., P.Geol.
J. Tanton, B.Sc., Geol.I.T.

Date Submitted: April 6, 2006

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ILLUSTRATIONS

LIST OF APPENDICES

1. INTRODUCTION

Adjacent to Varney Bay on the south shore of Rupert Inlet on northern Vancouver Island, limestone of the Quatsino Formation outcrops along, and south of, two parallel north to northwest trending ridges. The claims which encompass these limestone occurrences were originally acquired by Ecowaste Industries Ltd. in October, 1993. In 1993, Stan Krukowski of Continental Lime Inc. completed a cursory examination of the claims. Subsequently, in 1994, eight holes were drilled within the south-central parts of the property. The property was abandoned, re-staked and surveyed by McElhanney Associates in 1997. An additional claim was staked in 2005, and the existing claims were converted to cell claims.

Between May 10 and 19, 2005, the Varney claims were examined by Dahrouge Geological Consulting Ltd. on behalf of Graymont Western Canada Inc. New logging roads were located and outcrops within the southern and eastern parts of the property mapped. A total of 107 discrete stratigraphic intervals from several locations were described. Information such as lithology, limestone quality, structural measurements and other geological observations were recorded. The exploration used Global Positioning Systems for mapping. The 2005 exploration followed up on exploration conducted by Dahrouge in 2002.

Throughout this report attitudes of bedding and other planar features are given as A°/B° SW, where A° is the azimuth of the strike and B° is the amount of dip in the direction indicated. Linear measurements are given as D°-C°, where C° is the azimuth of the trend and D° is the amount of plunge in the direction of C°. A magnetic declination of about 19° east was used. Where bedding could not be determined, stratigraphic thicknesses were calculated using orientations from adjacent units. Where more than one bedding orientation was measured, the mean orientation was used.

2. GEOGRAPHIC SETTING

2.1 LOCATION AND ACCESS

The Varney Bay limestone deposits are within the Insular Tectonic Belt along the northwestern part of Vancouver Island, British Columbia. The property lies along the southwest shore of Rupert Inlet about 30 km southwest of the town of Port Hardy and about 30 km west of Port McNeill (Fig. 2.1). Rupert Inlet outlets to the Pacific Ocean through Quatsino Narrows and Quatsino Sound.

From Port Hardy, the Varney Bay Property is reached by driving south on paved Highway 19 for about 22 km and then west on the gravel Rupert Main logging road (Fig. 2.2). At approximately 7 km, there is a junction where the southern Port Hardy Main logging road leads to the Varney Main logging road, which connects to spur road 510. Approximately 2 km along spur road 510 is a disused network of logging roads which provide access to and throughout the property.

The network of logging roads which traverse the Varney Bay Property are owned and maintained by Western Forest Products Ltd. (WFP). The current logging roads generally grade less than 8 per cent. Caution is necessary while travelling active logging roads, as the passing of large logging trucks commonly requires the use of pull-outs.

2.2 INFRASTRUCTURE

Accommodations, food and other necessary services are available in Port Hardy and Port McNeill, both about a 20 minute drive to the property.

Port Hardy, B.C. with a population of about 4,600, is about 450 km north of Victoria via Highways 1 and 19, and about 375 km by air from Vancouver (Fig. 2.1). Port Hardy is serviced by air daily from Vancouver; the local economy is primarily based on lumber, fishing and tourism. A government agents' office is located in Port Hardy.

Port McNeill, B.C. is located on Broughton Strait, about 40 km southeast of Port Hardy via Highway 19 (Fig. 2.1). It has a population of approximately 3,000 and is a service centre for the forestry and fishing industries.

The Ministry of Energy and Mines, Mines Branch regional office for the Nanaimo Mining Division, is located in Nanaimo, B.C. and the Gold Commissioner's office for the Nanaimo Mining Division is in Victoria, B.C.

2.3 GEOGRAPHIC NAMES, TOPOGRAPHY, VEGETATION AND CLIMATE

Within the west-central part of the Varney Bay Property is the northwest trending Varney Ridge, approximately 1,500 m in length. Its northern part is composed of a few knolls, Hill 6 and Hill 8, each up to 200 m across. The western part of the ridge forms a gentle slope to the shore of Rupert Inlet, while its eastern boundary is marked by a steep, cliff-forming slope. East of Varney Ridge are a number of low-lying areas. Elevations range from sea level along the shores of Rupert Inlet to 202 m at the crest of Varney Ridge.

About 1 km due east of the south end of Varney Ridge, is the northerly trending Lost Ridge. It exceeds 1,250 m length, reaches approximately 190 m elevation, and its western and eastern boundaries are marked by fairly steep slopes.

Much of the property, including Varney Ridge, has been clear-cut logged within recent years.

Areas logged within the last several years are now covered with decomposing slash and a thick cover of second growth. A buffer of mature forest remains along the shores of Rupert Inlet. Forest vegetation consists of Alder, Balsam, Cedar, Hemlock, Douglas Fir, Poplar and Spruce trees and varies from location to location. Within the mature forest, tree cover is widely spaced with fairly open undergrowth. Near impenetrable underbrush are formed locally by immature Cedar and Spruce in areas of recent logging.

The area is part of the coastal rainforest climatic zone with generally mild and wet conditions. Temperatures rarely exceed 25°C during summer months and rarely fall below -20°C during winter months. Precipitation is considered heavy throughout the region, with average annual amounts between 500 to 610 cm. Most precipitation occurs during winter months; however, heavy and prolonged rainfall during the summer is not uncommon.

Throughout this report informal names have been applied to previously unnamed creeks, ridges, and other local features to facilitate reference to geographic locations.

2.4 FIELD OPERATIONS

Field operations were conducted by a two-person crew based in a motel in Port McNeill, British Columbia. Transportation to the property was by four-wheel drive vehicle. Access throughout the property was by truck where possible, and by hiking.

Garmin 12 GPS instruments were used to mark mapping stations and record access information. Accuracy was primarily dependant on forest cover and proximity to sloped ridge faces, but averaged about 6 metres. A magnetic declination of 19° E was used.

3. PROPERTY

The Varney Bay Property was originally acquired by Ecowaste Industries Ltd. in October, 1993, and consisted of one 4-post claim and seven 2-post claims, Var 1 to 8. Four additional 2-post claims, Var 9 to 12, were staked in June, 1994. On April 22, 1997 claims Var 1 to 12 were abandoned and restaked with four 4-post claims, Varney 1 to 4. Subsequently, claims Varney 1 to 4 were converted to cell claims in 2005, and claim Varney 5 was acquired (Table 3.1, Fig. 3.1).

TABLE 3.1 **LIST OF MINERAL CLAIMS**

Claim Name	Tenure Number	Area (ha)	Record Date	Actual or Expected Expiry Date
Varney 5*	504479	369.637	January 21, 2005	January 21, 2006
	505092	780.001	January 28, 2005	April 29, 2013
		1149.638		

*Claims Varney 1-4 were converted to the current cell claim

4. HISTORY AND PREVIOUS INVESTIGATIONS

The earliest reported examination of the northern part of Vancouver Island dates back to the last century when Dawson (1887) assigned limestone units near Quatsino Sound to the Vancouver Group. Dolmage (1919) assigned the extensive limestone occurrences at Quatsino and Barkley sounds to the Quatsino Formation. Subsequent work by Gunning (1930, 1932, 1938a, 1938b) detailed the stratigraphy of the region and it was proposed that the Vancouver Group be subdivided, as follows: basal Karmutsen Volcanics, middle Quatsino Formation and upper Bonanza Group. The division was subsequently corroborated at other locations on Vancouver Island (Hoadley, 1953; and Jeletzky, 1970, 1976).

The Alice Lake - Benson Lake area was mapped by Jeffery (1962) at a scale of 1:63 360. Muller et. al. (1974) mapped the area as part of the Alert-Cape Scott map area at a scale of 1:250 000, which was subsequently revised by Roddick (1980). Detailed information on the geology and stratigraphy of the Varney Bay area was published by Northcote (1968), Muller et al. (1974) and Jeletzky (1976).

The earliest analyses of limestone from the northern part of Vancouver Island were reported by Goudge (1945). Compilation work by Fishl (1992) on limestone and dolomite in British Columbia includes a summary of available information on the northern part of Vancouver Island.

In 1993, Dr. Stanley Krukowski of Continental Lime Inc. examined several limestone prospects within southwestern British Columbia, and collected 23 high-calcium limestone samples. During the latter part of 1993, two groups of claims were staked; one group was located on the south side of Rupert Inlet at Varney Bay and the other on the northeast side of Nimpkish Lake. In May of 1994, eight drill holes totalling 1,073 m, were completed at the Varney Claims along Varney Ridge (Krukowski, 1994).

Between October 12 and 20, 2002, some 224 limestone samples were collected, representing a total of 562¼ m of stratigraphy. Accompanying the sample program, a ground magnetic survey was conducted along roads and a 1.6 km grid was cut. A total of 4.5 line-km were surveyed in order to assist in locating structures and intrusive rocks.

5. SUMMARY OF WORK

5.1 PURPOSE OF SURVEY

The work described herein was undertaken to determine and identify the location and extent of high quality carbonate units throughout the area, and to recognize the extent of intrusives, if any, that may adversely affect the quality of limestone within the Varney claims. Work concentrated on outcrops of the Quatsino Formation at Lost Ridge, and south-southeast of Varney Ridge to Marble River.

5.2 2005 EXPLORATION

Between May 10 and 19, 2005, a total of 107 discrete intervals were measured and described in detail, representing approximately 259½ m of stratigraphy out of a total investigated thickness of 378¼ m. Geological observations were recorded, including lithologic information, measurements of structural elements, and other pertinent details (Appendix 2). Interval thicknesses were determined by measuring outcrops perpendicular to bedding, where it could be identified. At locations where bedding could not be accurately identified, stratigraphic thicknesses were calculated using orientations from adjacent units, or the previously determined regional trend. Sections VB2005-01 through VB2005-07, VB2005-09, and the majority of the isolated intervals, were from the area southeast of Varney Ridge; section VB2005-08 was at Lost Ridge (Fig. 5.1).

Field maps were completed on 1:5000 scale map sheets and concentrated on areas along Lost Ridge, the south part of Varney Ridge and the southern portion of the property, where recently developed logging roads exposed limestone outcrops (Fig. 5.1). Encountered logging roads on the property were investigated and mapped.

TABLE 5.1 **LOCATIONS EXAMINED IN 2005°**

Section	Total Stratigraphic Thickness (m)	Covered Stratigraphic Thickness (m)	Examined Stratigraphic Thickness (m)
VB2005-01	59½	19¾	39¾
VB2005-02	22¼	16¼	6
VB2005-03	10¼	0	10¼
VB2005-04	20¼	2	18¼
VB2005-05	17	3	14
VB2005-06	26½	10¾	15¾
VB2005-07	45¼	19¾	25½
VB2005-08	84¼	20	64¼
VB2005-09	41¾	27¼	14½
Isolated Intervals	51¼	0	51¼
Totals:	378¼	118¾	259½

° See Appendix 2 for detailed descriptions; thicknesses are approximate.

6. REGIONAL GEOLOGY

The Insular Belt of the Pacific Margin comprises several discrete terranes of different origin, the largest of which are Alexander and Wrangellia terranes (Gabrielse et al., 1991). Wrangellia is a complex of Paleozoic through Cenozoic volcanic arc, oceanic, and clastic wedge assemblages comprising the modern Pacific Continental Margin from Vancouver Island northward to Queen Charlotte Islands. It is disrupted by northwest trending dextral transcurrent faults, west verging thrust faults, plutonic rocks and anticlinoria.

Within the Insular Belt of southwestern British Columbia, limestone has been quarried in commercial quantities from the Mount Mark Formation of the Sicker Group and the Quatsino Formation of the Vancouver Group (Table 6.1). Parts of the Parsons Bay Formation are reported to contain some thin intervals of limestone, but it has not produced commercial quantities. Only the stratigraphy of Quatsino Formation is discussed herein. Accounts of the regional stratigraphy of the other units listed in Table 6.1 are available in Hoadley (1953), Muller et al. (1974) and Muller (1980).

TABLE 6.1 **STRATIGRAPHY OF THE NORTHERN PART OF VANCOUVER ISLAND ***

Period	Stratigraphic Unit			
	Group	Formation	Lithology	Approx. Thick. (m)
Tertiary	-	Tertiary Volcanics and Sediments		305
	-	Tertiary Intrusions	quartz diorite	-
Cretaceous	Nanaimo		clastics, coal	125
	Queen Charlotte		clastics, coal	305 - 1050
	-	Longarm Formation	clastics	60 - 400
	-	Pacific Rim Sequence	clastics	-
Jurassic	-	Island Intrusions	granitic intrusives	-
	Vancouver	Bonanza	volcanics	305 - 5650
Triassic		Harbledown	clastics and tuffs	
		Parsons Bay[1] - Sutton	calcareous clastics and limestone	305 - 710
		Quatsino[2]	limestone	30 - 750
		Karmutsen	volcanics	3000 - 6100
		Sediment Sill Unit	clastics and volcanics	750
Pennsylvanian	Buttle Lake[°]	Mount Mark (Buttle Lake)	limestone	215

[*] Modified after Muller et al. (1974) and Fischl (1992)
[°] Formerly of the Sicker Group (Massey and Friday, 1988)
[1] Equivalent to the Sutton Formation of western Vancouver Island (Jeletzky, 1970)
[2] In part, previously mapped as Sutton Formation on southern Vancouver Island and equivalent to the Marble Bay Formation of Texada Island (Fischl, 1992)

6.1 STRATIGRAPHY OF THE QUATSINO FORMATION

The Upper Triassic Quatsino Formation of the Vancouver Group paraconformably overlies and is interbedded with volcanic and limestone litho-types of the Karmutsen Formation. The Karmutsen Formation includes basaltic and andesitic flows, tuffs, agglomerates, and breccias, with minor interbedded limestone (Hoadley, 1953). It is widely exposed along the southwest Pacific margin and is up to 6,100 m thick (Muller et al., 1974).

Extensive outcrops of the Quatsino Formation are known from Texada and Vancouver islands. Within the northern part of Vancouver Island the formation outcrops along three parallel belts. They are segmented by faults and intruded by granitic stocks and batholiths of the Jurassic Island plutonic suite (Fishl, 1992). The most extensive of the three belts is the discontinuous western Quatsino-Tlupana belt. Within the western belt, the Quatsino Formation attains a maximum thickness of 760 m at a location immediately south of Alice Lake (Fischl, 1992).

Within northern Vancouver Island, the Quatsino is divisible into lower and upper parts (Hoadley, 1953; Muller et al., 1974; and Jeletzky, 1976). The lower part, with highly variable thickness (Table 6.2), is characterized as a predominately thick-bedded to massive, brownish-grey, or light-grey to medium-grey, crypto- to microcrystalline limestone (Muller et al., 1974; Jeletzky, 1976) with some chert and a few thin interbeds of andesite or basalt (Hoadley, 1953).

The upper part of the Quatsino Formation consists of thin- to medium-bedded, medium-grey to brownish-grey limestone with interbeds and laminations of black calcareous siltstone. Inclusions, interbeds, layers and laminations of brownish-grey, dark-grey or black chert are common. Upwards, laminations and interbeds of calcareous black shale increase in frequency and thickness. Toward the top of the unit the limestone is increasingly dark-grey or black, due to increasing quantities of carbonaceous matter (Hoadley, 1953). Bedding and color banding is distinctive and well preserved. Locally, the upper part contains abundant ammonites and pelecypods (Muller et al., 1974).

TABLE 6.2 MEASURED THICKNESS OF THE QUATSINO FORMATION FROM THE NORTHERN PART OF VANCOUVER ISLAND

Location	Quatsino Formation *		
	Lower Part Approx. Thick. (m)	**Upper Part** Approx. Thick. (m)	**Location Description**
Western Belt			
Alice Lake	488	302	- immediately south of Alice Lake
Klaskino	25	49	- along north side of Klaskino Inlet (50°18'50", 127°51'50")
Central Nimpkish Belt			
Tsulton Property°	~ 135	-	- opposite halfway Islands on Nimpkish Lake
Eastern Belt			
Beaver Cove	76 +	140	- along a tributary of Tsulton River south of Beaver Cove (50°29'50", 126°53'20")

* Modified after Muller et al. (1974)
° After Coffin and Soux (1988)

6.2 ISLAND INTRUSIONS

Within the northern part of Vancouver Island, Jurassic dykes, sills, stocks, and batholiths are widespread. The Island Intrusions (Eastwood, 1965) which have invaded all rock types are medium- to coarse-grained and range in composition from gabbro to quartz monzonite. Typically elongate in a northwesterly direction, they form narrow 3 km to 8 km wide northwesterly trending belts separated by Upper Triassic volcanic and sedimentary rocks (Hoadley, 1953). The intrusive belts are up to 80 km in length and show a pronounced decrease in size towards the western part of Vancouver Island. Localized recurrent folding of the Quatsino Formation along northwest axes was accompanied by emplacement of andesitic sills and dykes (Carlisle, 1972). According to Hoadley (1953, p. 37),

> "The fact that the lineation is more or less parallel with the general fold structure of the invaded rocks indicates that the intrusions were associated with orogenic disturbances, and that they were intruded at about the time the invaded rocks were folded. They were probably guided in part by contemporaneous faults."

Intense metamorphism associated within the emplacement of large-scale batholiths and stocks is common. Most bodies exhibit well developed agmatitic intrusive breccias within marginal zones. Within a few kilometres of the intrusive bodies, limestone lithotypes can be strongly contorted, fractured, jointed, cut by numerous dykes, and altered to calc-silicate minerals. Skarn mineralization is common; however, it rarely results in the complete alteration of limestone bodies (Eastwood, 1965).

Smaller stocks, sills, and dykes genetically related to the Island Intrusions generally exhibit limited metamorphism and sharp contacts with the surrounding country rock. However, these intrusive bodies are most abundant within the contact aureole of the larger batholiths.

6.3 TERTIARY INTRUSIONS

Small Tertiary stocks to medium intrusive bodies, commonly as dykes, sills and small plutons, are exposed throughout the entire length of Vancouver Island. These rocks vary widely in size, texture, and mineralogical composition and include medium- to coarse-grained granite porphyry, diorite porphyry, gabbro and finer-grained dacitic rocks. Jeletzky (1976) terms the intrusives the 'Sooke Intrusions', Massey and Friday (1988) the "Catface Intrusions", while Muller and Carson (1969) discuss "Tertiary Intrusions".

According to Hoadley (1953), the Tertiary Intrusions are most commonly dark-green to black, diabase dykes which vary in width from a few centimetres up to 5 m. Furthermore (Hoadley, 1953, p. 36),

> "where these dykes occur in Vancouver Group rocks they are almost impossible to distinguish in the field from dykes associated with the Triassic volcanic rocks."

Near Port Alberni, Massey and Friday (1988) note that these intrusives occur as dykes up to 3 m wide and are commonly found along fault zones, which may have acted as conduits for emplacement.

6.4 STRUCTURE

The northern part of Vancouver Island is transected by north to northwest trending anticlinoria flanked by steep normal or strike-slip vertical faults that trend northwest to west-northwest. These principal faults delineate several structurally disconnected fault blocks with variable orientations and different levels of exposed stratigraphy. The principal fault blocks are characterized by a multitude of close-spaced major and minor faults that predominate in north, northeast, northwest and east to west directions (Jeletzky, 1976). The principal fault blocks are broken into innumerable smaller, irregular-shaped blocks that may measure down to only a few square metres.

According to Muller (1967, p. 83), the area east of Quatsino Sound

> "consists of tilted blocks separated by two or three sets of normal faults, trending northwest, north and northeast."

Jeletzky (1976) terms the area south and southwest of Rupert Inlet as the Quatsino Fault Block. Its northwestern boundary is defined by the regionally significant northwest striking Holberg fault, which passes immediately to the northeast of Varney Bay. The eastern part of the fault block, which exposes strata of the Quatsino Formation east of Varney Bay, is strongly upthrown relative to adjacent blocks, forming a faulted section of a northwest-striking and southwest-dipping homocline.

7. PROPERTY GEOLOGY

7.1 STRATIGRAPHY

At least three unique lithological units are recognized at the Varney claims, including volcanic rocks of the Karmutsen Formation, and carbonate lithotypes of the upper and lower Quatsino Formation.

The Karmutsen Formation comprises incompletely metamorphosed basaltic and andesitic flows, tuffs, agglomerates and breccias with minor interbedded limestone (Hoadley, 1953). At Varney Bay, the Quatsino Formation is divisible into upper and lower parts (Hoadley, 1953; Muller et al., 1974; and Jeletzky, 1976). The lower part occupies much of Varney Ridge, Lost Ridge, and the area south of Varney Ridge for about 900 m (Fig. 5.1). It consists of grey to light-brownish-grey, massive, microcrystalline limestone with interbeds of laminated mudstone, dolomitic limestone and dolomite (Section 7.2). The upper part of the Quatsino Formation, which occurs along the shores of Rupert Inlet and the area about 1.2 km north of Marble River, includes brownish-grey, microcrystalline, massive limestone with interbeds, laminations and irregular masses of black chert.

In contrast to other localities underlain by the Quatsino Formation within the northern part of Vancouver Island, differentiating between primary bedding and secondary structures was possible at most outcrops at the Varney Bay Property. Also, a number of laminated dolomitic marker horizons with distinct lithological characteristics were recognized, which facilitated stratigraphic correlation and structural analysis (Fig. 5.1).

Although prevalent in other areas of Vancouver Island, dykes and sills of the Jurassic and Tertiary suites of intrusive outcrops are generally absent on the property; however, five of the eight drill holes completed during 1994, intersected sill or dyke up to two metres thick, just above the Quatsino - Karmutsen contact. It is described as a dacite or diabase and is porphyritic in some of the drill core (Krukowski, 1994). Associated alteration includes haloes to several metres of thermal recrystallization and thin zones of skarnification adjacent to the contact. Based on the descriptions (Krukowski, 1994), the igneous rock is interpreted to be a late stage mafic (andesite - basalt) volcanic sill or flow related to the Karmutsen Formation.

The region is covered by a veneer of unconsolidated glacial sediments which range in thickness from nil to several metres. Surficial weathering has resulted in a weathering profile, which varies from a few centimetres up to several metres thickness. Many of the erosional (topographic) features appear elongate along the pre-existing structural trend. Locally, the bedrock surface is highly irregular and subsurface cavities or caves are probable.

7.2 LITHOLOGY

Although the Quatsino Formation is generally described as a thick succession of monotonous massive, brownish-grey, microcrystalline limestone, a number of different lithologies have been observed at Varney Bay, both within prior drilling (Krukowski, 1994) and during the more recent field work (Appendix 2). Within the lower part of the Quatsino Formation, a number of different lithologies have been observed, including:

- massive impure limestone with some weakly laminated to shaly interbeds, and some thin interbeds of basic dykes, sills or Karmutsen volcanics;
- massive limestone, with few semi-continuous interbeds of slightly dolomitic and dolomitic limestone. It is generally light- to dark-brown or grey, cryptocrystalline to microcrystalline

with rare laminated mudstone beds and rare fossil debris; and
- banded dolomite, dolomitic limestone and limestone, with some laminated dolomite beds from a few centimetres to a few metres thick.

Within the upper part of the Quatsino Formation, similar lithologies were observed, including brownish-grey, microcrystalline, massive limestone with interbeds, laminations and irregular masses of black chert. In general, the concentrations of black chert observed within the upper part of the Quatsino Formation, were not observed within its lower parts (Appendix 2).

7.3 STRUCTURE

In past exploration programs, structural elements have been collected from carbonate units on the Varney Bay Property, with concentration on Varney Ridge. At Varney Ridge, orientations of different categories of planar elements are relatively consistent, and distinguishing between primary bedding and secondary structural features is possible in the field. Where unequivocally determined, original bedding (So) possess a moderate dip, whereas secondary structure such as joints or cleavage (S1) are steeply dipping to near vertical. Most outcrops show evidence of deformation with one or more of the above mentioned planar structures.

In 2002, a statistical analysis of the orientation data collected along Varney Ridge was completed (Dahrouge, 2002); the detailed data is not included in this report.

At Varney Ridge, the Quatsino Formation forms a northwest-southeast trending homocline that has been deformed by later tectonic events including folding and faulting. Bedding measurements were relatively consistent along the ridge with a mean orientation of 151°/40° SW. Bedding measurements that deviated from the mean tended to be near structural zones and may have been slightly rotated. Folding is evident at Varney Ridge in the main fracture cleavage (S1) with a mean orientation of 032°/81° SE. Subsequent relaxation from the compressional folding event resulted in the east-west trending faults and joint surfaces. One west-trending, near vertical fracture surface was outlined that roughly paralleled a series of interpreted faults. Another outlined joint set at Varney Ridge was a north-trending fracture surface, cross-cutting all other planar elements and steeply dipping to the east. The north-trending joint set is likely related to major north-northwest trending faults that mark the contact between the Quatsino Formation and Karmutsen Volcanics along the eastern margin of Varney Ridge.

Structural measurements in 2005 were collected from carbonate units on Lost Ridge and the area southeast of Varney Ridge (Appendix 2, Fig. 5.1). A statistical analysis of the measured orientation data was completed by plotting poles to measured planes in a Schmidt (equal angle) stereographic projection (Fig's. 7.2 and 7.3). Statistical analyses are employed to provide mean orientations of the planar elements and differentiate separate tectonic (superimposed) surfaces. Overall, bedding measurements group within a well-defined cluster in both focus areas. The sections southeast of Varney Ridge have a mean bedding orientation (n=38) of 178°/38° SW (Fig. 3.2). The Lost Ridge sections indicate a mean bedding orientation (n=9) of 163°/39° W (Fig. 3.3).

Based on measurements and stereographic plots, two distinguishable structural elements are notable in the southern section. One joint set is evident with a mean orientation (n=6) of 079°/79°S, and a well-defined cluster is produced by fault plane plots with a mean orientation (n=4) of 010°/51° W. The observed fault planes may be related to the major fault that offset the Lost Ridge and southerly sections towards the northeast. A sinistral strike-slip fault, east of Varney Ridge, has been interpreted (Fig. 5.1); however, much more work is required to accurately determine the structural relationship between Varney Ridge and the two recently explored areas.

8. DISCUSSIONS AND CONCLUSIONS

Fieldwork conducted during 2005 at the Varney claims largely expanded the previously determined extent of high-quality carbonate lithotypes. New logging roads were mapped and 107 discrete intervals were measured and examined, representing a total investigated thickness of 378¼ m.

The recently examined outcrops at Lost Ridge and southeast of Varney Ridge are comparable to limestone outcrops found at Varney Ridge. It has visible bedding and no surficial evidence of dykes or sills in either area. The limestone at Lost Ridge is generally light-grey weathered, tan-grey or medium-grey fresh, micritc, and well fractured with minor calcite veining. The limestone in the area southeast of Varney Ridge is more variable but is commonly tan- or brownish-grey and medium-grey weathered, tan- and medium-grey fresh, micritic to fine-grained, and generally well fractured with abundant calcite.

Structural measurements were obtained from the two recently examined areas. Bedding in both areas is relatively consistent, averaging 163°/39° W at Lost Ridge and 178°/38° SW in the southern section. Jointing and other tectonic surfaces are common throughout the property, evident of faulting and folding.

Continued exploration is required to determine structural relationships, constrain the lithological contacts, and further outline the stratigraphic thicknesses of limestone units throughout the property.

J. Tanton, B.Sc., Geol. I.T.

PROFESSIONAL GEOLOGIST OF ALBERTA
J.R. DAHROUGE

Jody Dahrouge, B.Sc., P.Geol.

Edmonton, Alberta
April 6, 2006

9. REFERENCES

Carlisle, D. (1972) Bute Inlet Map-Area, Vancouver Island, British Columbia (92 K) *in* Report of Activities, Part A: April to October, 1971, Paper 72-1, Part A, p. 21-23.

Coffin, D. and Soux, C. (1988) Diamond drill program on Tsulton Property, Nanaimo Mining Division, British Columbia; B.C. Min. Energy, Mines Petr. Res. assessment report 17759, 10 p., 5 fig.

Dahrouge, J. (2002) Geologic Mapping and Magnetometer Survey on the Varney Claims, South of Rupert Inlet, British Columbia; B.C. Min. Energy Mines Petr. Res., Ass. Rpt. 27219, 16 p., 15 fig., 5 appendices.

Dawson, G.M. (1887) Report on a geological examination of the northern part of Vancouver Island and adjacent coasts; Geol. Surv. Can., Ann. Rept. 1886, v. 2, Pt. B, p. 1-107.

Dolmage, V. (1919) Quatsino Sound and certain mineral deposits of the west coast of Vancouver, Island, British Columbia; Can. Dept. Mines, Geol. Surv., Sum. Rept. 1918, Pt. B, p. 30-38.

Eastwood, G.E.P. (1965) Replacement Magnetite on Vancouver Island, British Columbia; Economic Geology, v. 60, p. 124-148.

Fishl, P (1992) Limestone and dolomite resources of British Columbia; B.C. Min. Energy, Mines Petr. Res., Min. Res. Div., Geol. Surv. Branch, Open File 1992-18.

Gabrielse, H., Monger, J.W.H., Wheeler, J.O., and Yorath, C.J. (1991) Part A. Morphogeological belts, tectonic assemblages and terranes; in Chapter 2 of Geology of the Cordilleran Orogen in Canada, H. Gabrielse and C.J. Yorath (ed.); Geol. Surv. Can., Geology of Canada, No. 4, p. 15-28.

Goudge, M. F. (1945) Limestones of Canada, their occurrence and characteristics, part V, Western Canada; Can. Dept. Mines Res., Bur. Mines No. 811, p. 114-117.

Gunning, H.C. (1930) Geology and mineral deposits of the Quatsino-Nimpkish Area, Vancouver Island; Can. Dept. Mines, Geol. Surv. Sum. Rept. 1929, Pt. A, P. 94-143.

Gunning, H.C.(1932) Preliminary report on the Nimpkish Lake Quadrangle, Vancouver Island, B.C.; Can. Dept. Mines, Geol. Surv. Sum. Rept. 1931, Pt. A, P. 22-35.

Gunning, H.C. (1938a) Preliminary geological map, Nimpkish, East Half, British Columbia; Can. Dept. Mines, Geol. Surv. Paper 38-2.

Gunning, H.C. (1938b) Preliminary geological map, Nimpkish, West Half, British Columbia; Can. Dept. Mines, Geol. Surv. Paper 38-3.

Hoadley, J.W. (1953) Geology and mineral deposits of the Zeballos-Nimpkish Area, Vancouver Island, British Columbia; Geol. Surv. Can., Mem. 272, 82 p.

Jeffery, W.G. (1962) Preliminary Geological Map, Alice Lake-Benson Lake (part of 92L), B.C. Min. Energy and Mines.

Jeletzky, J.A. (1970) Mesozoic stratigraphy of northern and eastern parts of Vancouver Island, British Columbia *in* Report of Activities, April to October 1969; Geol. Surv. Can., Paper 70-1A, p.209-214.

Jeletzky, J.A. (1976) Mesezoic and ?Tertiary rocks of Quatsino Sound, Vancouver Island, British Columbia; Geol Surv. Can., Bull. 242, 243 p.

Krukowski, S. (1994) Diamond Drilling Project of VAR Property; B.C. Min. Energy, Mines Petr. Res. Ass. Rpt. 23730, 11p., 5 fig..

Massey, N.W.D. and Friday, S.J. (1988) Geology of the Alberni - Nanimo Lakes Area, Vancouver Island *in* B.C. Min. Energy, Mines, and Petr. Res., Geological Fieldwork, 1988, p. 61-74.

Muller, J.E. and Carson, D.J.T. (1969) Geology and mineral deposits of Alberni Map-Area, British Columbia (92F); Geol. Surv. Can. Paper 68-50, 52 p.

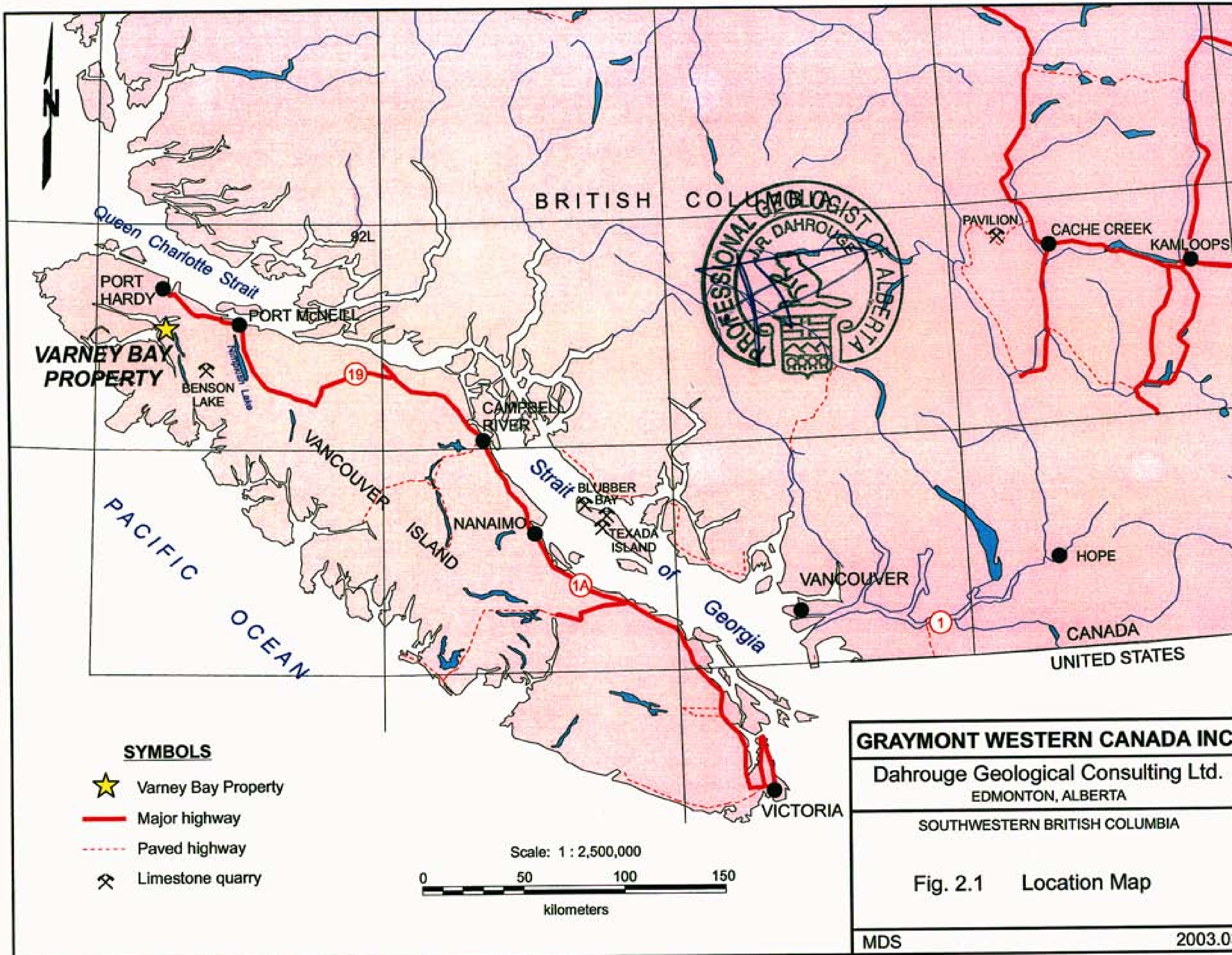
Muller, J.E., Northcote, K.E., and Carlisle, D. (1974) Geology and mineral deposits of the Alert-Cape Scott map-area Vancouver, Island, British Columbia; Geol. Surv. Can., Paper 74-8, 77 p.

Muller, J.E., Northcote, K.E., and Carlisle, D. (1980) The Paleozoic Sickler Group of Vancouver Island, British Columbia; Geol. Surv. Can., Paper 79-30, 22 p.

Northcote, K.E. (1968) Geology of the Port Hardy - Coal Harbour Area; *in* Annual Report of the Min. of Mines and Petr. Resources, 1968; B.C. Dept. Mines, p. 84-87.

Northcote, K.E. (1970) Rupert Inlet - Cape Scott Map Area; *in* Geology, Exploration and Mining in British Columbia, 1970; B.C. Dept. Mines and Petr. Res., p. 254-258.

Roddick, J.A. (1980) Geology, Alberta Bay - Cape Scott, British Columbia, 1:250 000; Geol. Surv. Can., Map 1552A.



GRAYMONT WESTERN CANADA INC.

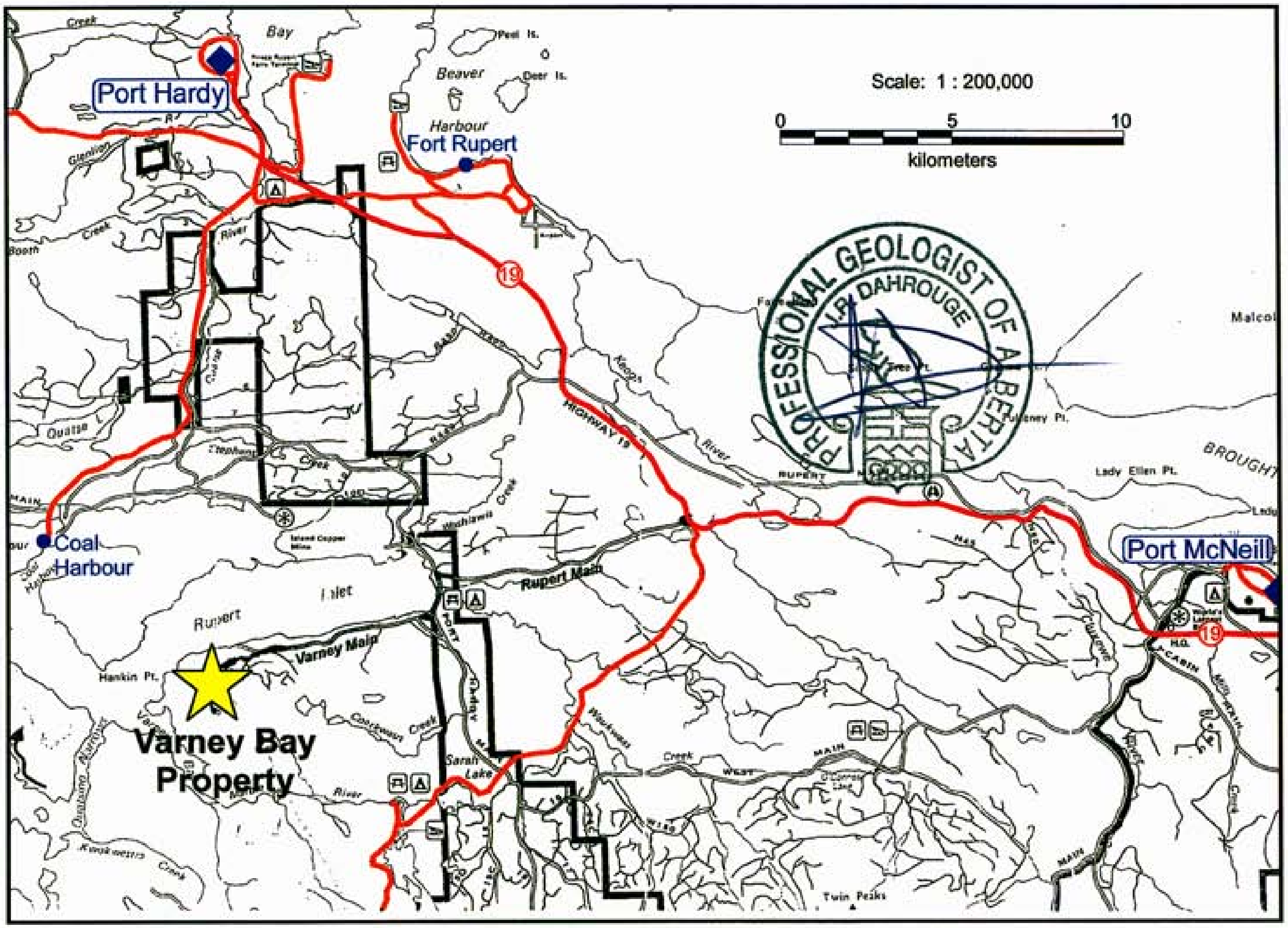
Dahrouge Geological Consulting Ltd.
EDMONTON, ALBERTA

SOUTHWESTERN BRITISH COLUMBIA

Fig. 2.1 Location Map

MDS 2003.03

F1



Notes

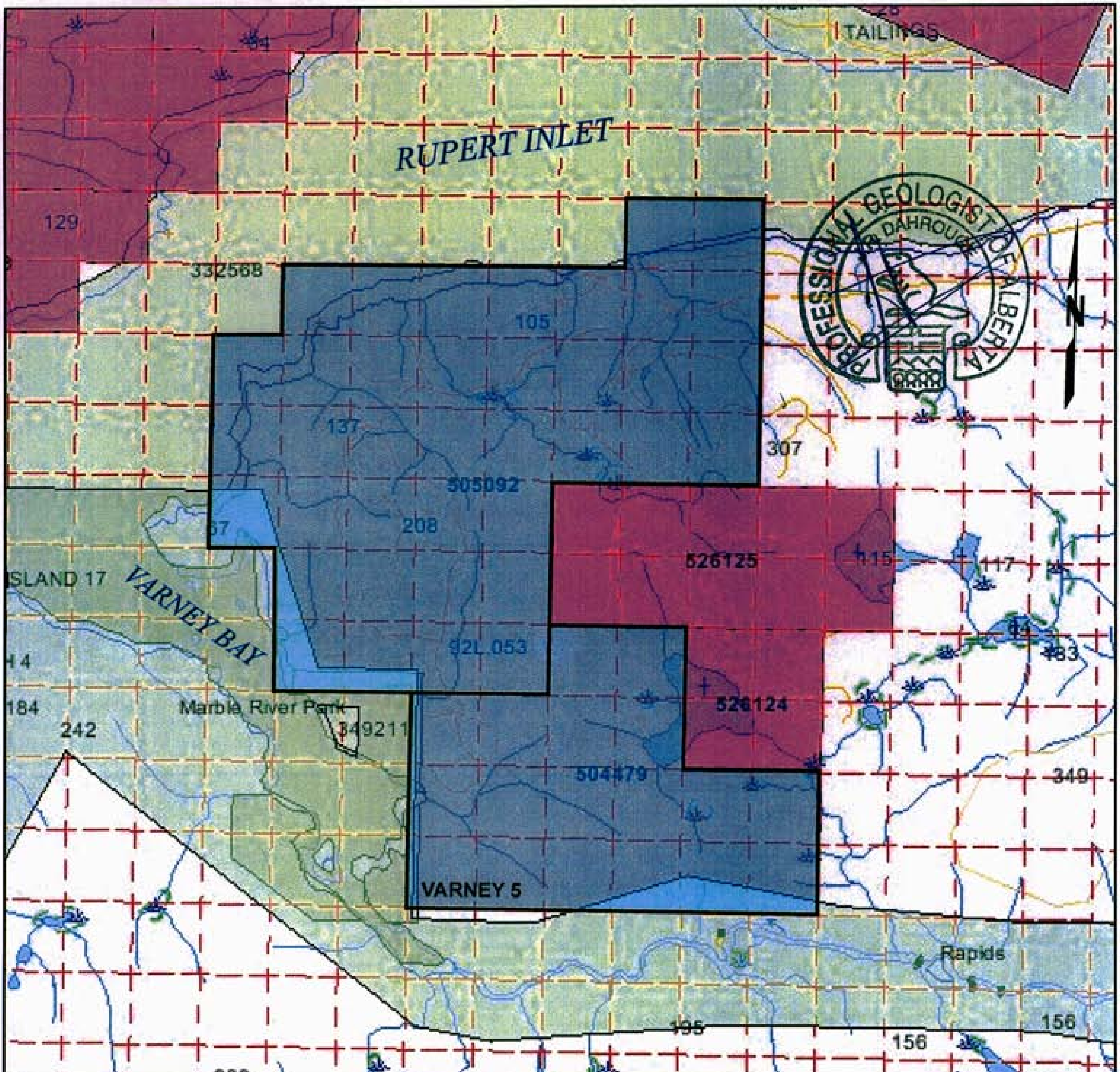
Modified after the Access Map of Canadian Forest Products Ltd., 1992.

LEGEND & SYMBOLS

- Major Highway
- Paved Road
- Secondary Road
- Logging Road
- Varney Bay Property
- Town
- Community

GRAYMONT WESTERN CANADA INC.	
Dahrouge Geological Consulting Ltd. EDMONTON, ALBERTA	
SOUTHWESTERN BRITISH COLUMBIA Fig. 2.2 Access Map	
MDS	2003.03

F2



LEGEND

- VARNEY BAY PROPERTY
- OTHER CLAIMS

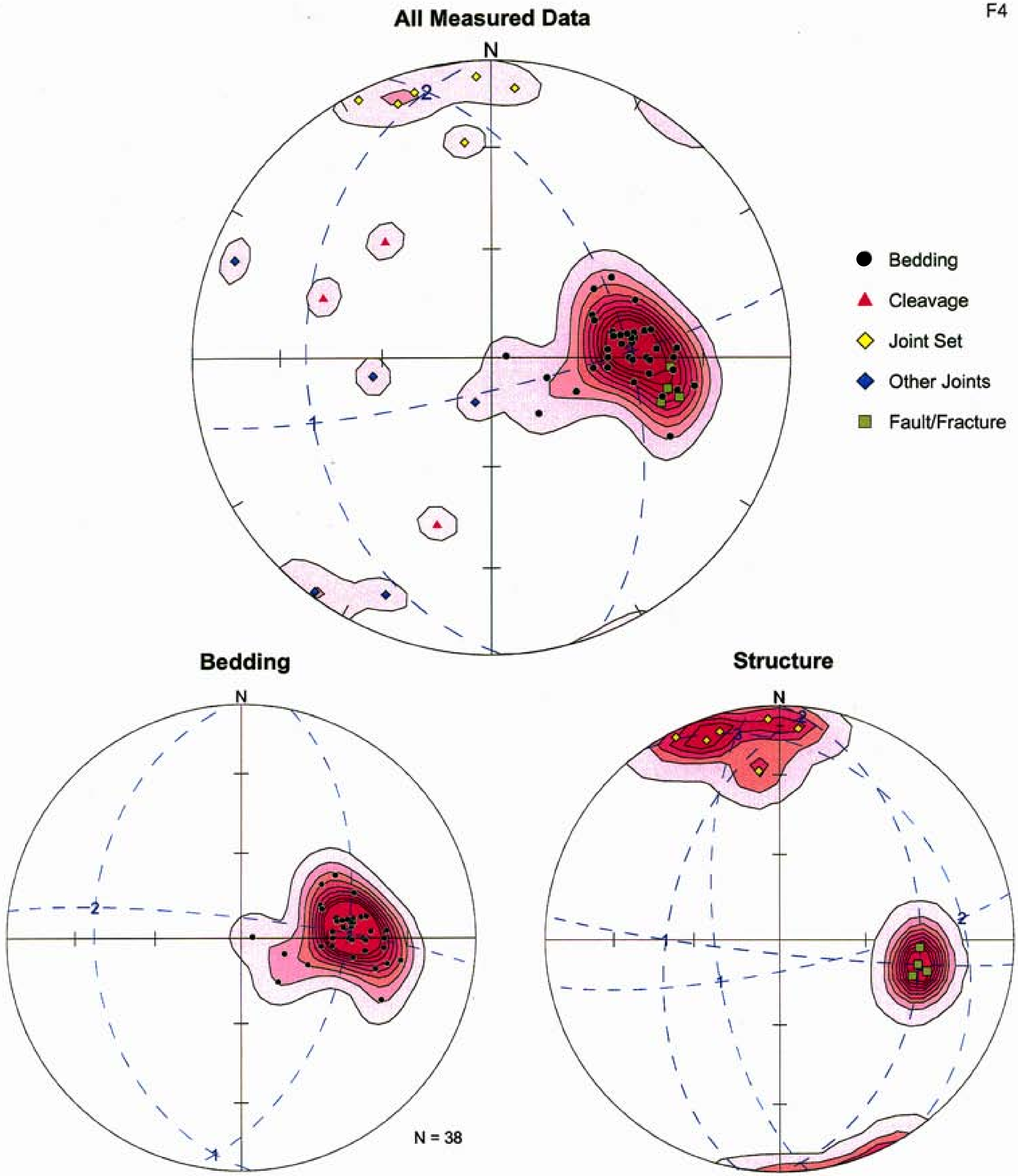
GRAYMONT WESTERN CANADA INC.

DAHROUGE GEOLOGICAL CONSULTING LTD.
EDMONTON, ALBERTA

SOUTHWESTERN BRITISH COLUMBIA

Fig. 3.1
Property Map

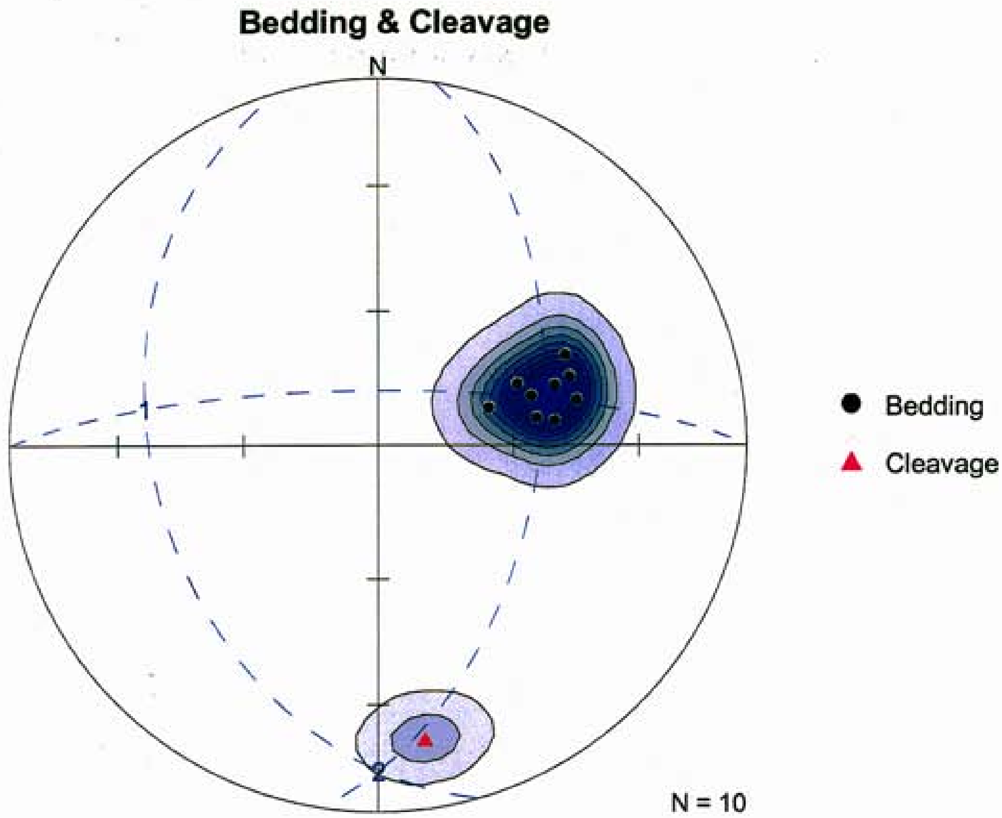
JT	Scale: 1 : 50,000	2006.03

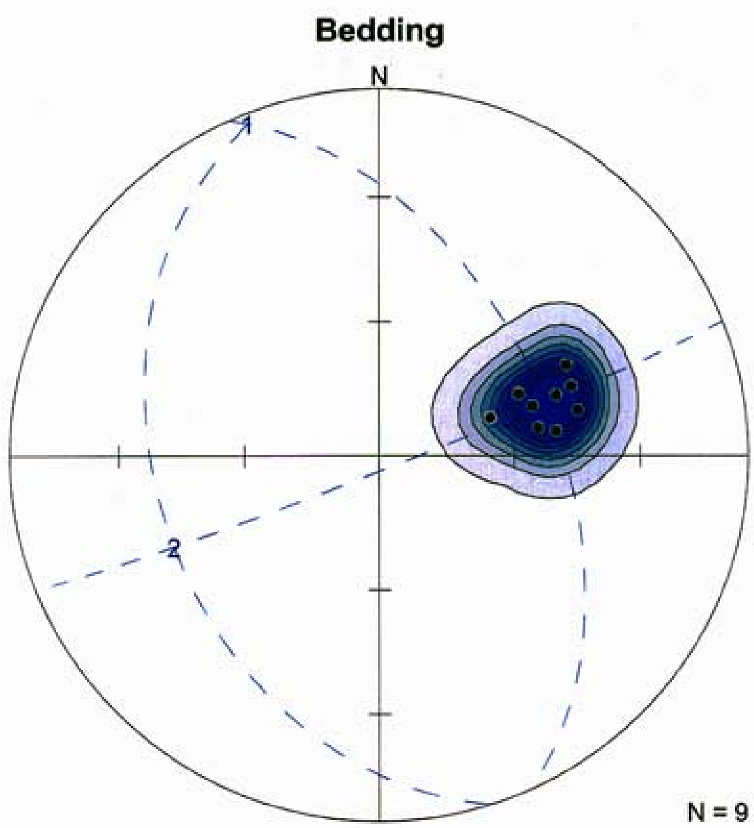


Mean Bedding Orientation: 178°/38° W

Mean Joint Set Orientation: 079°/79° S (n=6)
Mean Fault Plane Orientation: 010°/51° W (n=4)

Figure 7.1: Stereographic Projection of Poles to Planar Structural Elements Measured in Limestone Units near Varney Bay, South of Varney Ridge. (Equal Area Schmidt Net)





Mean Bedding Orientation: 163°/39° W

Figure 7.2: Stereographic Projection of Poles to Planar Structural Elements Measured in Limestone Units near Varney Bay, Lost Ridge. (Equal Area Schmidt Net)

APPENDIX 1: ITEMIZED COST STATEMENT

a) Personnel					
J. Dahrouge, geologist					
3.55	days		supervising and report preparation		
3.55	days	@	$ 518.95	$ 1,842.27	
W. McGuire, field assistant and draftsman					
12.00	days		drafting, preparing and plotting figures and maps, other		
10.00	days		field work and travel between May 10 to 19		
22.00	days	@	$ 476.15	$ 10,475.30	
J. Tanton, geologist					
8.25	days		preparations, report preparation, other		
10.00	days		field work and travel between May 10 to 19		
18.25	days	@	$ 363.80	$ 6,639.35	
D. Wilson, assistant					
8.00	hours		data entry, binding reports, photocopying, other		
8.00	hours	@	$ 19.26	$ 154.08	
					$ 19,111.00
b) Food and Accommodation					
20	man-days	@	$ 68.27 accommodations and meals	$ 1,365.32	
20	man-days	@	$ 40.79 groceries and other	$ 815.81	
					$ 2,181.13
c) Transportation					
	Flights:		Edmonton to Port Hardy (return)	$ 1,705.20	
	Vehicles:		Rental for 4x4 Sports Utility Vehicle	$ 834.79	
			Cab Fare	$ 72.60	
			Fuel	$ 171.01	
			Mileage	$ 45.54	
					$ 2,829.13
d) Instrument Rental			n/a		
e) Drilling			n/a		
f) Analyses			n/a		
g) Report			Reproductions and assembly	$ 52.80	
					$ 52.80
h) Other					
			Courier and Shipping	$ 299.77	
			Field Equipment and Supplies	$ 25.05	
			Long distance telephone	$ 46.69	
			Maps	$ 18.78	
			Miscellaneous	$ 24.89	
			Plots	$ 176.55	
					$ 591.73
Total					$ 24,765.79

APPENDIX 2: DESCRIPTIONS OF THE 2005 STRATIGRAPHIC SECTIONS AT VARNEY BAY

Notes: Bedding attitudes are strike and dip. Stratigraphic thicknesses are based on measured attitudes of bedding listed below, with appropriate interpolations. Measured sections are listed in order from stratigraphic top to bottom.

Section locations are shown on Fig. 5.1.

Interval	Strat. Thick. (m)	Description
VB2005-01		
14658	¾	**Dolomitic Limestone**, light-brownish-grey weathered, tan fresh, fine-grained, gritty texture near top, no reaction to HCl at top, less dolomitic downsection, poor reaction to HCl, black specks to 1 mm near bottom, calcite veining along fractures (3-4 mm)
14659	2¼	**Limestone**, light-brownish-grey weathered, some rusty weathering, light-tan-grey fresh, fine-grained, dull lustre, crumbly, breaks easily, black specks to 1 mm in lower metre, crinoids and shell fragments, calcite in veins and along fracture planes, good reaction with HCl, massive bedding, slickenlines throughout, calcite slickenfibres 58°-068°, joints 021°/81°SE and
offset	1¼	covered
14660	2½	**Dolomitic Limestone**, light-brownish-grey weathered, rusty along fractures, light-grey fresh, darker-grey downsection, micritic, crumbly, breaks easily, black specks and veining in upper metre, calcite veining, mottled light-tan dolomitized pockets (no reaction to HCl), crinoids,
offset	~7	covered
14661	3	**Limestone**, medium-grey weathered and fresh, micritic, thin sparse calcite veins, conchoidal fracture, ½-metre beds, crinoid ossicles and stems
offset	7¾	covered
14662	3	**Limestone**, medium-greyish-brown weathered, medium-grey fresh upper 1 m, tan-grey fresh lower 2 m, micritic, crumbly, 10-20 cm beds, thin sparse calcite veining, well jointed 114°/76° NE; beds 180°/43° W
14663	3¾	**Limestone**, medium-grey weathered and fresh, micritic, conchoidal fracture, large calcite crystals, rare, very small rugose coral, joints 127°/88° NE; approximate beds 006°/44° W
14664	3	**Limestone**, medium-grey weathered and fresh, micritic, uniform, crumbles easily, well fractured, calcite crystals and veining, slickenlines 51°-085°; beds 010°/53° W
offset	¾	covered
14665	¾	**Limestone**, medium-grey weathered and fresh, micritic, well fractured, easily broken, calcite veins to 1 mm, ½ m thick beds
offset	3	covered
14666	3	**Limestone**, medium-grey weathered and fresh, micritic, easily broken, few calcite veins to 2 mm thick, 30-50 cm thick beds, beds 180°/51° W
14667	3	**Limestone**, medium-grey-brown weathered, upper ¼ m brownish-grey fresh; medium-grey fresh below, micritic, thin calcite veinlets to ½ mm thick, very large solitary corals to 8 cm diameter at base of section, well fractured
offset	½	covered
14668	2¾	**Limestone**, light- to medium-grey weathered, medium- to dark-grey fresh, micritic, abundant calcite veins to 3 mm thick, slickenlines 08°-350° N, 15-30 cm thick beds, approximate beds 008°/58° W
14669	4	**Limestone**, medium-grey weathered and fresh, micritic, well fractured and bedded, beds 7-30 cm thick, beds 158°/43° SW
14670	1¾	**Limestone**, grey weathered and fresh, well fractured, numerous black chert nodules 4-10 cm diameter, white calcite veins to 3 mm thick, large rugose corals replaced by silica, beds 20-40 cm thick, beds 170°/43° W
14671	3	**Limestone**, medium-grey weathered and fresh, rusty weathering along fractures, micritic, few black patches of chert, beds 30-50 cm thick, well fractured, fracture cleavage 108°/49° N
14672	2¾	**Limestone**, light-brownish-grey weathered and fresh, rusty brown patches throughout weathered surface, beds 20-50 cm thick, variable joints 063°/87° SE and 070°/80° S

APPENDIX 2: CONTINUED

Interval	Strat. Thick. (m)	Description
VB2005-02		
14673	½	**Limestone**, subcrop within road, 2 thin bands at 170°; 0-0.9m: light-grey weathered, medium-grey fresh, micritic, calcite veins; 0.9-4.9 m: covered; 4.9-5.8 m: light-brownish-grey weathered and fresh, micritic, calcite veins; beds 170°/40° W
offset	16¼	covered
14674	5½	**Limestone**, light-brownish-grey weathered, light-grey to light-tan-grey fresh, very fractured, abundant calcite veins, slow to moderate reaction to HCl, few rugose corals replaced by silica
VB2005-03		
14679	2	**Limestone**, as 14677; beds 30-50 cm thick, fracture cleavage 020°/50° E, massive, beds 168°/34° W
14678	4½	**Limestone**, as 14677
14677	2	**Limestone**, light-grey weathered, medium-grey fresh, micritic, very well fractured, abundant calcite stringers in lower 1-1½ m, massive, rough bedding surface 177°/46° W
14676	1¾	**Limestone**, light-grey weathered, rusty weathering along fractures, medium-grey fresh, micritic, very well fractured, abundant white calcite veinlets and crystallization to 3 mm along fractures, massive, possible bedding 001°/44° W
VB2005-04		
14684	5¼	**Limestone**, as 14683; scattered discontinuous outcrop, limonitic staining along fractures, moderate to good reaction to HCl, abundant calcite veining to 2 mm thick, easily fractured
14683	2½	**Limestone**, light-tan-grey weathered and fresh, micritic, very well fractured, possibly slumped, moderate reaction to HCl; calcite veining and along fractures up to 1 mm
offset	2	covered
14682	3¾	**Siliceous Limestone**, rubbly outcrop; grey-brown weathered at base to grey weathered at top, slightly better reaction to HCl than 14680 and 14681
14681	4¼	**Siliceous Limestone**, as 14680; rusty orange-grey-green weathered, medium-greenish-grey fresh, slow reaction to HCl, few clear to black crystals
14680	2½	**Siliceous Limestone**, orange-brown weathered, light-grey fresh, very fractured, well faulted sub-parallel to bedding, very minor reaction to HCl, few large calcite crystals, calcite along fractures, orange-green mineral along fractures, ~1 m brecciated zone in middle of interval,
VB2005-05		
14688	2¾	**Limestone**, as 14687; no black specks, beds 174°/36° W and 170°/36° W
offset	3	covered
14687	3½	**Limestone**, light-grey weathered and fresh, very well fractured, breaks easily, abundant calcite veining, dark clear-grey crystals to 2 mm in lower 1 m, limonite staining, well bedded, beds 10cm - ½m thick, beds 129°/32° SW (possible slumping)
14686	3¼	**Limestone**, light-grey weathered, brownish-grey and medium-grey fresh, excellent reaction to HCl, abundant calcite veining, well bedded, 10cm - ½m beds, rough bedding surfaces 146°/40° SW and 146°/34° SW
14685	4½	**Limestone**, light-grey weathered and fresh, very well fractured, abundant calcite along fractures and random veining up to 3 cm thick, abundant limonite staining, good reaction to HCl, slickenlines 31°-350°
VB2005-06		
16055	2¾	**Limestone**, tan to medium-grey weathered, light-tan-grey fresh, cryptocrystalline, well fractured, good reaction to HCl, random calcite veinlets, brown and black crinoid ossicles, beds to 1m thick, massive, possible bedding 176°/32° W
offset	1½	covered

APPENDIX 2: CONTINUED

Interval	Strat. Thick. (m)	Description
16054	½	**Limestone**, brownish-grey weathered, light-tan-grey fresh, cryptocrystalline, beds up to 30 cm thick
offset	3	covered
16053	½	**Limestone**, brown weathered, tan-grey fresh, cryptocrystalline, well fractured, good reaction
offset	6¼	covered
16052	8¼	**Limestone**, as 16051; becomes darker-grey fresh up section, large calcite crystals, very coarse crinoid intervals abundant near top
16051	3¾	**Limestone**, grey weathered, tan-grey fresh, cryptocrystalline, numerous random white calcite veins, abundant crinoids, beds 174°/39° W
VB2005-07		
16066	1¾	**Limestone**, as 16065
offset	2½	
16065	1¾	**Limestone**, light-tan-grey weathered, tan-grey fresh, cryptocrystalline, well fractured, limonite staining on fractures, few calcite stringers to 1½ mm, massive
offset	3¼	
16064	5¾	**Limestone**, as 16063; light- to medium-grey weathered, very fractured, slickenlines 14°-357° on fault plane 003°/50° W, possible bedding 050°/20° NW
16063	¼	**Limestone**, medium-grey weathered, tan-grey fresh, well fractured, abundant calcite veins and nodules, minor limonite stains, variable beds 022°/25° NW and 020°/16° W
offset	8¼	
16062	1¾	**Limestone**, well fractured, beds 10-30 cm thick, possible bedding 174°/04° W, possibly footwall of fault 015°/49° W
16061	2½	**Limestone**, as 16060; massive, bedding indeterminate
16060	2¾	**Limestone**, as 16058; tan-grey fresh at base to medium-grey upsection, micritic, easily fractured, abundant white calcite veins, limonite staining
16059	3¼	**Limestone**, as 16058
16058	2	**Limestone**, as 16057; beds to ½ m thick, joint surfaces 074°/82° S and 083°/62° S, possible bedding 172°/39° W, 012°/54° W (fault?)
16057	2¾	**Limestone**, light-tan to medium-tan-grey fresh, micritic to cryptocrystalline, very fractured, abundant calcite along fractures, random calcite veining up to 2 mm numerous stringers of dolomite, large planar surfaces 014°/51° W, top surface of interval may be large fault surface 010°/50° W
offset	5¾	covered
16056	1	**Limestone**, greyish-brown weathered, tan-grey fresh, cryptocrystalline, well fractured, calcite veinlets, limonite staining along fractures
VB2005-08: Lost Ridge		
16074	1¼	**Limestone**, light-grey weathered, light-tan-grey fresh, micitic, well fractured, breaks easily, calcite veinlets
offset	11½	
16075	1¼	**Limestone**, light-grey weathered, mottled pinkish-grey fresh, very fractured
offset	1	
16076	1½	**Limestone**, light-grey weathered, mottled pinkish-grey fresh, micritic, well fractured
16077	3	**Limestone**, light-grey weathered, tan-grey fresh, micritic, hard, well fractured
16078	3¼	**Limestone**, light-grey weathered, tan-grey fresh, micritic to fine-grained, fractured, minor random calcite veinlets, beds to 1 m thick
offset	4¾	
16079	2½	**Limestone**, light-grey weathered, medium-tan-grey fresh, micritic, less fractured than 16078, few calcite veinlets, beds to 30 cm thick

APPENDIX 2: CONTINUED

Interval	Strat. Thick. (m)	Description
16080	2	**Limestone**, whitish-grey weathered, light-tan-grey fresh, micritic, hard, some calcite along fractures, beds 30cm - 1m thick
16081	2¾	**Limestone**, as 16080; possible bedding 154°/45°-51° SW
offset	2¾	
16082	2½	**Limestone**, as 16081; excellent reaction to HCl
16083	2¼	**Limestone**, light-grey weathered, medium-grey fresh, micritic, hard, moderate calcite veining, moderate reaction to HCl, thick-bedded, approximate bedding 162°/36° W
16084	3¼	**Limestone**, light-grey weathered, medium-grey fresh, micritic, brownish-grey weathering along fractures, abundant calcite veins to 3 mm
16085	2¾	**Limestone**, light-grey weathered, medium-grey fresh, micritic, few calcite veins to 1 mm, thick bedded
16086	3¼	**Limestone**, tan-grey weathered, medium-grey fresh, micritic, breaks easily, minor thin calcite veinlets, excellent reaction to HCl, thick bedded to ½ m thick, rough bedding surface 167°/46° W
16087	2½	**Limestone**, as 16086
16088	3	**Limestone**, as 16086; beds 172°/40° W at base
16089	2¾	**Limestone**, as 16086; minor thin calcite veinlets, cleavage 081°/70° N (joint surface?)
16090	3¼	**Limestone**, as 16089; beds 170°/36° W
16091	3¼	**Limestone**, as 16089; medium-tan-grey fresh, calcite crystals to 4 mm
16092	2½	**Limestone**, as 16091
16093	3¼	**Limestone**, as 16091; fractures easily, well bedded to ½ m thick, beds 160°/46° W
16094	3	**Limestone**, as 16093; darker grey fresh in lower 1½ m, minor calcite, well bedded 30-60 cm thick, beds at top 161°/42° W, beds at base 156°/34° W
16095	3¾	**Limestone**, as 16094; medium-tan-grey to medium-dark-grey fresh
16096	3¾	**Limestone**, as 16095; dark-grey fresh, random calcite veins to 2 mm, good reaction to HCl, rock crumbles more easily in lower 2 m, beds 161°/26° W (possibly slumped)
16097	1¾	**Limestone**, as 16096
VB2005-09		
16105	2	**Limestone**, as 16104; medium-grey fresh, calcite veins to 2 mm, limonite stain
16104	2¼	**Limestone**, tan weathered, medium-tan-grey to medium-grey fresh, micritic, fairly fractured, breaks easily, rusty orange stain along fractures
offset	1¼	
16103	2	**Limestone**, light-grey weathered, light-tan-grey fresh, minor but coarse calcite veinlets, thick bedded
offset	26	
16102	1	**Limestone**, rubbly subcrop, light-grey weathered, medium-grey fresh, micritic, abundant
16101	3	**Limestone**, rubbly outcrop/subcrop, light- to medium-grey fresh, micritic, breaks easily, moderate calcite veining
16100	4¼	**Limestone**, light-grey weathered, light-tan-grey fresh, cryptocrystalline, numerous random calcite veins to 2 mm wide, massive, beds 170°/38° W
Isolated Samples		
14651	1½	**Limestone**, dark-grey weathered, medium-tan-grey fresh, uniform color, micritic, minor calcite veining, beds 30cm - ½m thick, beds 180°/32° W
14652	½	**Limestone**, dark-grey weathered, medium-tan-grey fresh, uniform color, micritic, minor calcite veining, beds 30cm - ½m thick, approximate beds 004°/51° W

APPENDIX 2: CONTINUED

Interval	Strat. Thick. (m)	Description
14653	2½	**Limestone**, dark-grey weathered, medium-tan-grey fresh, uniform color, micritic, minor calcite veining more common near top of section, delayed but strong reaction to HCl, beds 30cm - ½m thick, wavy bedding 157°/30° SW, 180°/38° W, 170°/34° W
14654	2½	**Limestone**, dark-grey weathered, medium- to dark-tan-grey fresh, moderately to strongly fractured, calcite crystals and veins to 1 mm, 3-10 cm spaced subhorizontal jointing 110°/13° N, 095°/80° S
14655	¼	**Limestone**, dark-grey weathered, medium-grey fresh, micritic, moderately to strongly fractured, thin calcite veining, possible bedding 001°/39° W
14656	1	**Limestone**, medium- to dark-grey weathered, medium-grey fresh, micritic, massive, jointing 087°/84° S
14657	3	**Limestone**, medium-brownish-grey weathered, dark-grey weathered at west end of section, light- to medium-grey fresh, uniform color, micritic, fractured, breaks easily, numerous calcite veins to 4 mm wide along vertical fractures, random calcite veinlets, good reaction to HCl,
14675	½	**Dolomitic Limestone**, light-grey-brown weathered, medium-brownish-grey fresh, micritic, abundant calcite, weak reaction to HCl
14689	3¾	**Limestone**, light-brownish-grey weathered, light-grey fresh, fractured, abundant calcite veining to 1 cm, beds 10 - 20 cm thick, possible bedding 013°/49° W and 177°/52° W
14690	½	**Limestone**, light-grey weathered, light-grey fresh, micritic, abundant white calcite veining, limonite staining, approximate bedding 165°-dipping west
14691	2¾	**Limestone**, small cliffside outcrop; medium-grey weathered, tan-grey fresh, micritic to cryptocrystalline, easily fractured, very minor calcite veining, beds 30cm - ¾m thick, very approximate bedding 006°/28° W and 005°/32° W
14692	1	**Limestone**, cliff side outcrop; medium- to dark-grey weathered, well fractured/jointed, easily broken, thin calcite stringers, limonitic staining at base, massive, variable joints 171°/33° E
14693	½	**Limestone**, as 14692
14694	1	**Limestone**, medium-grey weathered, light-tan-grey fresh, cryptocrystalline, massive
14695	2	**Siliceous Limestone**, brown weathered, fine-grained, sparks well when hit, limonite staining, thinly bedded, beds 10-20 cm thick
14696	1½	**Limestone**, light-brownish-grey weathered, gritty appearance, light-tan-grey fresh, fine-grained, well fractured, calcite veining, slow to moderate reaction to HCl
14697	1½	**Limestone**, medium-grey weathered, tan-grey fresh, micritic, well fractured, rubbly, rough bedding surface, possible bedding 024°/55° NW
14698	5¼	**Silty Limestone**, light-greyish-brown weathered, light- to medium-greyish-brown fresh, hard, well fractured, reacts to HCl along fractures, black specks/crystals, beds 170°/45° W
14699	½	**Silty Limestone**, as 14699
14700	2½	**Limestone**, light-brownish-grey weathered, light-tan-grey fresh, well fractured, rubbly, calcite stringers, excellent reaction to HCl
16067	¼	**Limestone**, medium- to dark-grey weathered, medium- to dark-grey fresh, micritic, thin calcite stringers, minor limonite staining or rusty weathering

APPENDIX 2: CONTINUED

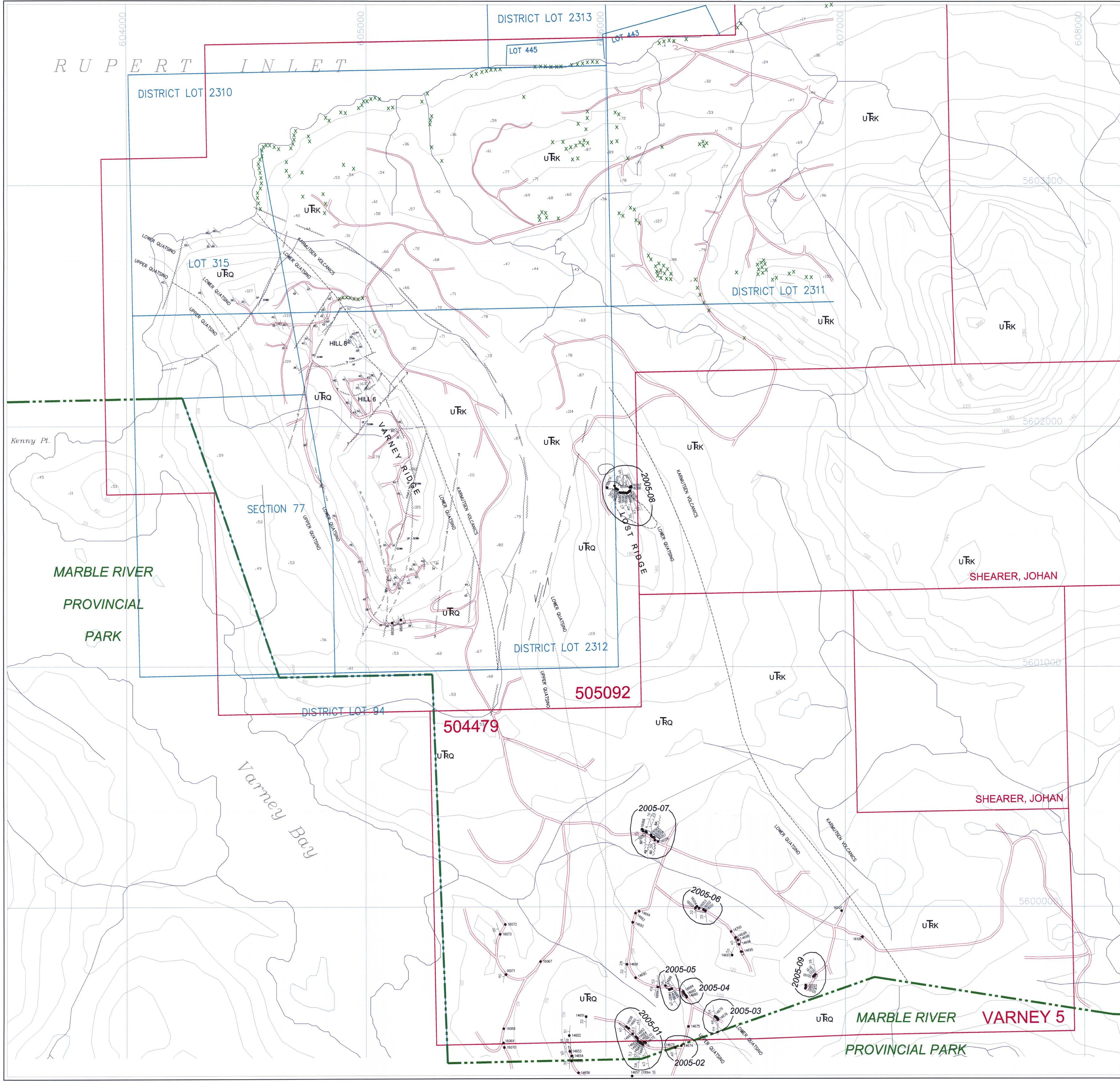
Interval	Strat. Thick. (m)	Description
16068	1½	**Silty Limestone**, dark-greyish-brown weathered, dark-grey fresh, rusty weathering along fractures, abundant calcite stringers, large chert nodules, immediate but minor reaction to HCl
16069	1½	**Limestone**, tan-grey and medium-grey weathered, patchy brownish hue fresh, cryptocrystalline, abundant calcite stringers, large chert nodules, moderate reaction to HCl, massive, fracture surface 048°/44° SE
16070	1	**Limestone**, as 16069; brown weathering along fractures, few calcite veins to ½ cm, good reaction to HCl
16071	2½	**Limestone**, subcrop?, light-grey weathered and fresh, medium crystalline, more micritic and medium-grey in lower 2 m, chips easily, light brown calcite along fractures, excellent reaction to HCl, beds ¾ m thick, possible bedding 010°/40° W
16072	¾	**Limestone**, light-tan-grey weathered and fresh, micritic, calcite veins to 2 mm, bedding not
16073	¼	**Limestone**, medium-grey weathered, tan-grey fresh, micritic, chips easily, possible bedding 160°/30° W
16098	3¼	**Limestone**, medium-grey weathered, medium-brownish-grey fresh, micritic, calcite veining, excellent reaction to HCl
16099	3¼	**Limestone**, as 16098
16106	1¼	**Limestone**, medium-tan-grey weathered and fresh, micritic, abundant calcite veins in fractures adjacent to massive white calcite vein (~30 cm wide, extending 8-10 m), individual calcite crystals to 5 cm
16107	1¼	**Limestone**, tan-grey weathered, medium-grey fresh, micritic, well fractured, abundant large calcite veins along fractures to 3 cm thick, abundant random calcite veinlets, abundant rusty staining and deposits along fractures, rock upsection is brecciated with large infilling calcite veins; fault zone

APPENDIX 3: STATEMENT OF QUALIFICATIONS

The field work described in this report was supervised by Jody Dahrouge.

J.R. Dahrouge is a geological consultant with Dahrouge Geological Consulting Ltd. based in Edmonton, Alberta. He obtained degrees in geology and computing science from the University of Alberta, Edmonton in 1988 and 1994, respectively. He has more than 10 years of experience in mineral exploration. He is a member of the Canadian Institute of Mining and Metallurgy and is registered as P. Geol. with the Association of Professional Engineers, Geologists, and Geophysicists of Alberta.

J. Tanton is a geological consultant with Dahrouge Geological Consulting Ltd. based in Edmonton, Alberta. She obtained a degree in geology from the University of Alberta, Edmonton in 2003 and has been employed in the mineral exploration industry since. She is registered as a Geol. I.T. with the Association of Professional Engineers, Geologists, and Geophysicists of Alberta.



LEGEND

QUATERNARY

Q — Glacial till, gravel, unconsolidated sediments

TERTIARY

Dacite dykes

LOWER JURASSIC
BONANZA GROUP

lJBV — Andesitic to rhyodacitic lava, tuff, breccia

UPPER TRIASSIC
VANCOUVER GROUP

uTRPB — Parsons Bay Formation: calcareous siltstone, shale, limestone, greywacke, conglomerate, breccia

uTRQ — Quatsino Formation: crystalline limestone

uTRK — Karmutsen Formation: basaltic lava, pillow lava, breccia, aquagene tuff, greenstone; minor limestone

SYMBOLS

Geological boundary (approximate, inferred)

Fault (approximate)

Bedding (inclined, horizontal)

Foliation (inclined)

Elevation contour (interval: 5 m)

Paved Road

Gravel Road

Trail or cut line

Isolated limestone outcrop (measured) — 14697

Measured section — 2005-09

Outcrop of volcanics

Mineral claim boundary

Lot boundary

NOTES

1) Topography compiled by McElhanney Land Surveys Ltd. from 1 : 15 000 scale air photos, taken in 1988.
2) Geology modified after Muller et al. (1974).
3) UTM grid is North American Datum, 1983 (NAD83); UTM grid zone: 9U.
4) See Appendix 2 for descriptions of measured sections.
5) To accompany report entitled "2005 Geological Mapping and Evaluation of Limestone Resources at the Varney Claims".

REVISIONS	
BY	DATE
WM	2003.05
WM	2005.10
WM	2006.03

GRAYMONT WESTERN CANADA INC.

Dahrouge Geological Consulting Ltd.
EDMONTON, ALBERTA

VARNEY BAY AREA, BRITISH COLUMBIA

Fig. 5.1
Geology and Locations of Measured Sections

0 200 400 Metres
Scale: 1:5000

WM 2002.10