

MAR 20050005: WEST CENTRAL

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GRAYMONT WESTERN CANADA INC.

**2004 EXPLORATION AND FIELDWORK
AT THE BASELINE RIDGE
METALLIC AND INDUSTRIAL MINERALS PERMIT,
WEST-CENTRAL ALBERTA**

Metallic and Industrial Mineral Permit
9301010011

Geographic Coordinates

52°09' to 52°19' N
115°29' to 115°40' W

NTS Sheets 83 B/03, B/04, B/05

2005 04 05

by

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1.

SUMMARY

During September, 2004, the northern part of Clearwater Range, west of Rocky Mountain House and within Metallic and Industrial Minerals (MAIM) Permit 9301010011, was explored for high-quality carbonate rocks. Paleozoic and Mesozoic carbonate units were examined and measured at more than five locations along Clearwater Range at Baseline Ridge, Ram River and Tawadina Ridge. Exploration conducted in 2004 was a follow-up to previous exploration conducted at Baseline Ridge in 2001 and 2002.

Carbonate units within the Carboniferous Banff and Rundle assemblages were examined and their stratigraphic thicknesses recorded. Approximately 68 m of the Rundle Assemblage was examined at Baseline and Tawadina ridges. Additionally, 3 m of the Banff Assemblage was examined at Fall Creek. In total, approximately 70¾ m of strata was examined from more than 78 m normal thickness measured.

Isolated intervals of Rundle Assemblage examined near the northwest end of Tawadina Ridge consisted of lime mudstone with occasional fossils. Both the Rundle and Banff assemblages were examined at Fall Creek, near the north end of MAIM Permit 9301010011. The upper Banff Assemblage comprised a micritic, thinly-bedded lime mudstone, while the overlying Rundle Assemblage was composed of fossiliferous packstone to wackestone.

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. A magnetic declination of $18\frac{1}{2}^{\circ}$ east was used. Where bedding has been obscured by structure, stratigraphic thicknesses were calculated using orientations from adjacent units. Where more than one bedding orientation was measured, the mean orientation is used.

2.

INTRODUCTION

During the fall of 2004, Dahrouge Geological Consulting Ltd. conducted exploration for high-quality carbonate lithotypes within west-central Alberta, on behalf of Graymont Western Canada Inc. This assessment report describes the exploration conducted within MAIM Permit 9301010011, which encompasses the northern part of Clearwater Range of the Alberta foothills. This report includes information on the geology and structure of more than four stratigraphic sections examined during September, 2004; as well as, an interpretation of the results. This work was authorized by Bob Robison, Manager of Geologic Services for Graymont Western U.S. Inc.

3. GEOGRAPHIC SETTING

MAIM Permit 9301010011 of Graymont Western Canada Inc. encompasses the northern parts of Clearwater Range. It includes lands to the northwest of the quarry of Prairie Creek Quarries Ltd. on Baseline Ridge to Ram River and Tawadina Ridge, within west-central Alberta (Figs. 3.1 and 3.2). The quarry of Prairie Creek Quarries Ltd. is approximately 10 km from the south end of Baseline Ridge.

The northern part of Clearwater Range lies within Prairie Creek and Ram-Clearwater Resource Management areas (Alberta Forestry and Wildlife 1986 and 1988), and is mostly within Multiple Land Use Zone 5. The northern parts of Baseline Ridge along Ram River, Fall Creek and Prairie Creek are within Critical Wildlife Land Use Zone 2 (Fig. 6.1).

3.1 LOCATION AND ACCESS

Parts of Baseline Ridge north of Prairie Creek are 50 km southwest of Rocky Mountain House (Fig. 3.1) along secondary highway 752. About 1 km east of Baseline Ridge an unimproved gravel road branches to the north from highway 752. About 1½ km along this road is a "T" intersection where the west fork leads to the Prairie Creek Quarry and the east fork to the northeastern flank of Baseline Ridge. Approximately 2½ km along the eastern fork, erosion bars make the road passable only to all-terrain vehicles (ATV's). The road then continues to the northwest for over 10 km to Chelsea Creek. Access to the western flank of Baseline Ridge is via an 11 km gravel road that branches northwest from secondary highway 752 to Fall Creek. From Fall Creek, bush trails and cut lines provide ATV access to various portions of the property.

Ram River and Tawadina Ridge, within the northern parts of Clearwater Range, are accessible via secondary highway 752 and north on an improved gravel road 25 km southwest of Rocky Mountain House. The gravel road continues to the west and northwest for approximately 40 km to a private, all-weather logging road belonging to Sunpine Forest Products Ltd. The Sunpine road continues to the southeast for approximately 32 km to secondary highway 752; both the north and south ends of the road are barred by gates. A network of logging roads and cutlines that branch from or cross the Sunpine road provide good access to the Ram River and Tawadina Ridge areas.

3.2 TOPOGRAPHY AND VEGETATION

MAIM Permit 9301010011 is within the Eastern-Slope Montane Forest Ecological Region of the Alberta Foothills. The property is comprised of a series of northwest-trending ridges and valleys where elevations range from approximately 1180 m along Ram River to almost 2000 m atop Baseline Ridge. The property is cut by a number of easterly trending tributaries of the Ram River drainage basin, including, from south to north, Fall Creek, Ram River and Tawadina Creek.

Vegetation is dominantly Aspen, Lodgepole Pine and White Spruce with lesser amounts of Douglas Fir. Areas of lower relief, particularly along Fall Creek, have extensive meadows with sparse stands of Black Spruce and thick undergrowth, with local muskegs and swamps. Above treeline and along the rocky slopes, vegetation is restricted to alpine foliage and grasses.

4. PROPERTY, EXPLORATION AND EXPENDITURES

4.1 MAIM PERMIT 9301010011

In early 2001, Graymont Western Canada Inc. acquired MAIM Permit 9301010011, west of Rocky Mountain House, Alberta. This permit covers Paleozoic limestones along the northern part of Clearwater Range at Baseline Ridge and Tawadina Ridge (Fig. 3.2).

The original area of the permit totalled 5,888 hectares. Based upon the 2001 and 2002 exploration, the permit was reduced to 2,832 hectares (Table 4.1, Fig. 3.2). Given the 2004 exploration expenditures of \$8,429.70, the entirety of MAIM Permit 9301010011 will be maintained (Table 4.1, Section 4.3).

TABLE 4.1 DESCRIPTION OF MAIM PERMIT 9301010011

Permit	Comm. Date	Expiry Date	Land Description	Size (Ha)
9301010011 (Original)	Jan. 15, 2001	Jan. 15, 2003	37-11W5 (Sections 17; 19-21; 29-31) 37-12W5 (Sections 25; 35; 36) 38-12W5 (Sections 1-3; 9-14; 23-26)	5,888
9301010011 (Reduced)	Jan. 15, 2003	Jan. 15, 2005	37-11W5 (Sections 19L16; 20N,SE,L6; 21; 29; 30N,SE,L3,L5,L6; 31) 37-12W5 (Sections 25NE,L7,L8,L11,L14; 35L16; 36N,SE,L3,L6) 38-12W5 (Sections 1SW,L2,L11-13; 2N,SE; 3L9,L15,L16; 9L8,L9,L16; 10SE,NW,L3,L5, L6,L9,L10,L15; 11L1-L5; 12L4,L6,L11,L14; 13NE,L3,L6,L13,L14; 23NE,L1,L7,L8,L14; 24L2-L5; 26SW,L2,L7,L11,L12)	2,832

Report deadline is April 15, 2005 plus 30 days

4.2 2004 EXPLORATION

From September 17 to 19, 2004, parts of MAIM Permit 9301010011 were explored for high-quality carbonate rocks by Dahrouge Geological Consulting Ltd., on behalf of Graymont Western Canada Inc. Carbonate outcrops were examined at more than five locations (Appendices 2A and 2B, Table 4.2, Fig. 6.1). A solution of 5% HCl was used to assess quality in the field. A total of 32 intervals representing approximately 70¾ of stratigraphy were examined from more than 78 m normal thickness investigated.

4.3 EXPLORATION EXPENDITURES

During 2004, exploration expenditures totalled \$8,429.70. Additional excess expenditures of \$25,515.94 were carried forward in 2001 and 2002; therefore, total applicable expenditures are \$33,945.64. These expenditures are allocated to MAIM Permit 9301010011 as follows:

Assessment Period	Expiry Date	Required Expenditures	Assigned Expenditures
Years 3 and 4	2005-01-15	\$28,320.00	\$28,320.00
Years 5 and 6	2007-01-15	\$28,320.00	\$ 5,625.64
	Total:		\$33,945.64

TABLE 4.2 LOCATIONS EXAMINED AND MEASURED IN 2004

Section Number	Location	Measured Intervals	Strat. Thick. (m)*	Measured Thick. (m)°
<u>TAWADINA RIDGE</u>				
Isolated Samples	West Flank, Tawadina Ridge	4	3¼	3¼
	SUBTOTALS:	4	3¼	3¼
<u>BASELINE RIDGE</u>				
BL2004-01	Fall Creek, South side	8	19¼	19¼
BL2004-02	Fall Creek, South side	6	16	19¼
BL2004-03	Lick Creek	4	4¼	4¼
BL2004-04	Lick Creek	10	28	31½
	SUBTOTALS:	<u>28</u>	<u>67½</u>	<u>74¾</u>
	TOTALS:	32	70¾	78

* Stratigraphic thicknesses are examined thicknesses.

° Measured thicknesses are total investigated thicknesses, including covered and inaccessible intervals.

5. REGIONAL GEOLOGY

The areas of MAIM Permit 9301010011 examined in 2004 were previously mapped according to NTS map sheet by the following officers of the Geological Survey of Canada:

<u>NTS Map Sheet</u>	<u>Reference</u>
83 B/3 W½	Henderson (1945)
83 B/4 E½	Henderson (1946)
83 B/5 E½	Erdman (1945, 1950)
83 B/5 W½	Erdman (1950)

At Clearwater Range, carbonate lithologies are known to occur within both Paleozoic and Mesozoic sequences. Paleozoic limestones are described in the Upper Devonian Palliser Formation, Upper Devonian to Lower Carboniferous Banff Formation and the Lower Carboniferous Rundle Assemblage. Mesozoic carbonate rocks are known to occur in the Nordegg Member of the Fernie Group.

Descriptions of the stratigraphy of the Banff and Rundle assemblages, in Section 5.1 herein, are from a prior assessment report by Pana and Dahrouge (1998). Detailed accounts of regional stratigraphy are available in Stott and Aitken (1993), Mossop and Shetsen (1994), Halbertsma (1994), and Richards et al. (1994).

5.1 STRATIGRAPHY

5.1.1 Banff Assemblage

In west-central Alberta, the Exshaw, Banff and Yohin formations comprise the Banff Assemblage (Richards et al. 1994). The Upper Famennian to Lowermost Tournaisian Exshaw Formation is dominated by fine-grained siliciclastics deposited in an euxinic basin to shallow-neritic environment. In general, it is unconformably overlain by the Lower to Upper Tournaisian Banff Formation, which is a heterogeneous association of carbonates and fine-grained siliciclastics deposited on poorly differentiated carbonate platforms. At Baseline Ridge, the Banff Formation is estimated to be between 182¾ and 213¼ m thick (Henderson, 1945). Westward, the uppermost Banff Formation grades laterally into the Rundle Assemblage.

5.1.2 Rundle Assemblage

The Lower Carboniferous Rundle Assemblage extends from the MacKenzie Mountains in the Arctic south through the Peace River Embayment to southeastern British Columbia. In west-central Alberta, it comprises shallow-marine platform and ramp carbonates which prograded westward over

deeper water shales and carbonates of the Banff Assemblage. The lower Rundle Assemblage is subdivided into the transgressive carbonate Pekisko Formation, and two regressive successions of restricted-marine carbonates and subordinate anhydrite assigned to the Shunda and Turner Valley formations (Richards et al. 1994). In southern Alberta, the Pekisko grades laterally into the uppermost Banff Formation. The Turner Valley Formation extends from east-central British Columbia to southwest Alberta. According to Richards et al. (1994), the Turner Valley Formation thickens to the southwest and for most of its length is 50 m to 120 m thick. The type section near Turner Valley is 152 m thick and divisible into four beds.

Earlier work by Douglas (1958), and MacQueen and Bamber (1968) indicate that the eastern peritidal sequences of the uppermost Pekisko, Shunda and lower Turner Valley grade south and southwestward into the more open-marine sequence of the Livingstone Formation (Table 5.1). The upper Rundle Assemblage includes the transgressive Mount Head Formation.

TABLE 5.1 **GENERALIZED PALEOZOIC STRATIGRAPHY**
OF FOOTHILLS AND FRONT RANGES, WEST-CENTRAL ALBERTA*

System or Subsystem	Stratigraphic Unit	
	Assemblage	Formation
	Group	
Lower Carboniferous	Rundle Assemblage	Mount Head
		1 Livingstone
		Turner Valley
		Shunda
		Pekisko
Upper Devonian	Banff Assemblage	Banff
		Exshaw
		1 Palliser
		Alexo
Fairholme Group ^o	Southesk	Mount Hawk
	Cairn	
Cambrian		Pika
		Eldon
		Stephen
		Cathedral

*Compiled from MacKenzie 1969, Richards et al. 1994, Switzer et al., 1994., and Holter, 1994.

^o Fairholme Group of MacKenzie (1969) is partly equivalent to the Woodbend Group (Switzer et al., 1994).

¹ Current limestone production (from Holter, 1994)

5.2 STRUCTURE

According to Dahrouge (2000):

"The main structural elements within the region include, from southwest to northeast, McConnell Thrust, Burnt Timber Thrust and Fallentimber Thrust. Displacements on these faults are interpreted to be tens of kilometres to the northeast. Within Clearwater River basin, Fallentimber Thrust is apparent as a series of minor splays that converge several kilometres to the northwest, west of Baseline Ridge. Fallentimber thrust-sheet is divided into three structural units, from southwest to northeast these are: Limestone Mountain Anticlinorium, Bread Creek Synclinorium and Marble Mountain Anticlinorium (Ollerenshaw, 1968). Fold axes within these structures are arranged en echelon and fold profiles vary from symmetrical to asymmetrical, and overturned."

6. PERMIT GEOLOGY

6.1 MEASURED SECTIONS

Paleozoic carbonate units of the Banff and Rundle assemblages were examined and measured along the northern part of Clearwater Range at Baseline Ridge and Tawadina Ridge (Fig. 6.1). During 2004, 32 discrete intervals were examined at the locations listed in Table 4.2, by chipping outcrops perpendicular to bedding. Where bedding could not be identified, chips were taken in directions appropriate to topography with stratigraphic thickness deduced from other measurements where possible (Appendices 2A and 2B). A solution of 5% HCl was used to assess quality in the field. The 32 intervals represent a stratigraphic thickness of about 70¾ m and were collected from an investigated stratigraphic thickness that exceeds 78 m.

6.2 STRATIGRAPHY

During the 2004 exploration, four isolated, poorly exposed, intervals were examined on the west flank, near the north end, of Tawadina Ridge. The intervals of Rundle Assemblage were typically tan to grey, lime mudstone, with varying grain sizes and occasional fossils.

At Fall Creek, within the Baseline Ridge area, 2¾ m of the Banff Assemblage were examined. It consists of thin-bedded, micritic, tan lime mudstone with occasional brachiopods. The overlying Rundle Assemblage was composed of 7 m of packstone, which in turn was overlain by 9 m of wackestone. The packstone unit was grey, crumbly and contained peloids and crinoids. The wackestone was grey-brown, coarse-grained, thick-bedded and contained peloids and crinoids.

South of Fall Creek, at Lick Creek, over 32 m of Rundle Assemblage was examined. The lower portion was generally composed of lime mudstone with interbeds of grainstone and the upper composed of grainstone with lesser amounts of wackestone and lime mudstone. The lime mudstone was typically finer-grained, thick-bedded and grey-tan to grey-brown in colour. The grainstone was grey- to grey-brown, coarse-grained, with brachiopods, peloids, crinoids and beds greater than ¼ m.

6.3 STRUCTURE

The northern portions of Clearwater Range, including Baseline Ridge, are along the leading edge of the Seven Mile Creek Thrust plate, the northwest continuation of the Fallentimber Thrust Sheet (Dahrouge and Smith, 2003). Seven Mile Creek Thrust plate, bordered to the east by the Baseline Thrust, is an assemblage of folded and faulted Paleozoic and Jurassic strata (Dahrouge and Halferdahl, 1995). North of Prairie Creek, along Clearwater Range, the relevant structural elements, from west to east include the northwesterly trending prairie Creek Anticline with its axis along Baseline Ridge, the northerly trending Baseline Syncline, the northerly trending Baseline Anticline with its axis along the east flank of Baseline Ridge and Tawadina Ridge, and Baseline Thrust, which marks the eastern boundary of Clearwater Range.

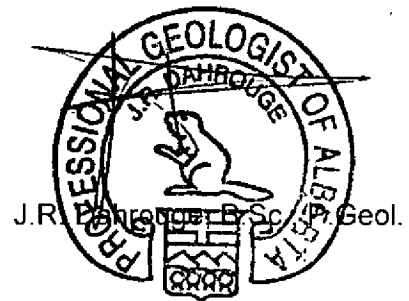
In general, Prairie Creek Anticline is nearly symmetrical, upright with fairly steeply dipping limbs that has undergone no major tilting. In the Fall Creek area, the Prairie Creek Anticline plunges very slightly to the northwest (Dahrouge and Smith, 2003). Baseline Anticline, to the east, is asymmetrical with the east limb nearly vertical and the west limb dipping at a more shallow angle (Dahrouge and Smith, 2003, after Erdman, 1950).

7. CONCLUSIONS

Within MAIM Permit 9301010011, exposures of the Banff and Rundle assemblages were examined along the northern part of Clearwater Range at Baseline and Tawadina ridges. A total of 32 discrete intervals were measured and described in detail, representing approximately 70% of stratigraphy out of a total investigated thickness of more than 78.

Where examined, the poorly exposed Rundle Assemblage at Tawadina Ridge is composed of lime mudstone, with occasional fossils. The Banff Assemblage at Baseline Ridge was a brown lime mudstone, with few brachiopods. The overlying Rundle Assemblage is a good quality grey lime mudstone to fossiliferous grainstone, with varying grain and bed sizes.

[REDACTED]
R. Wolbaum, B.Sc., Geol. I.T.



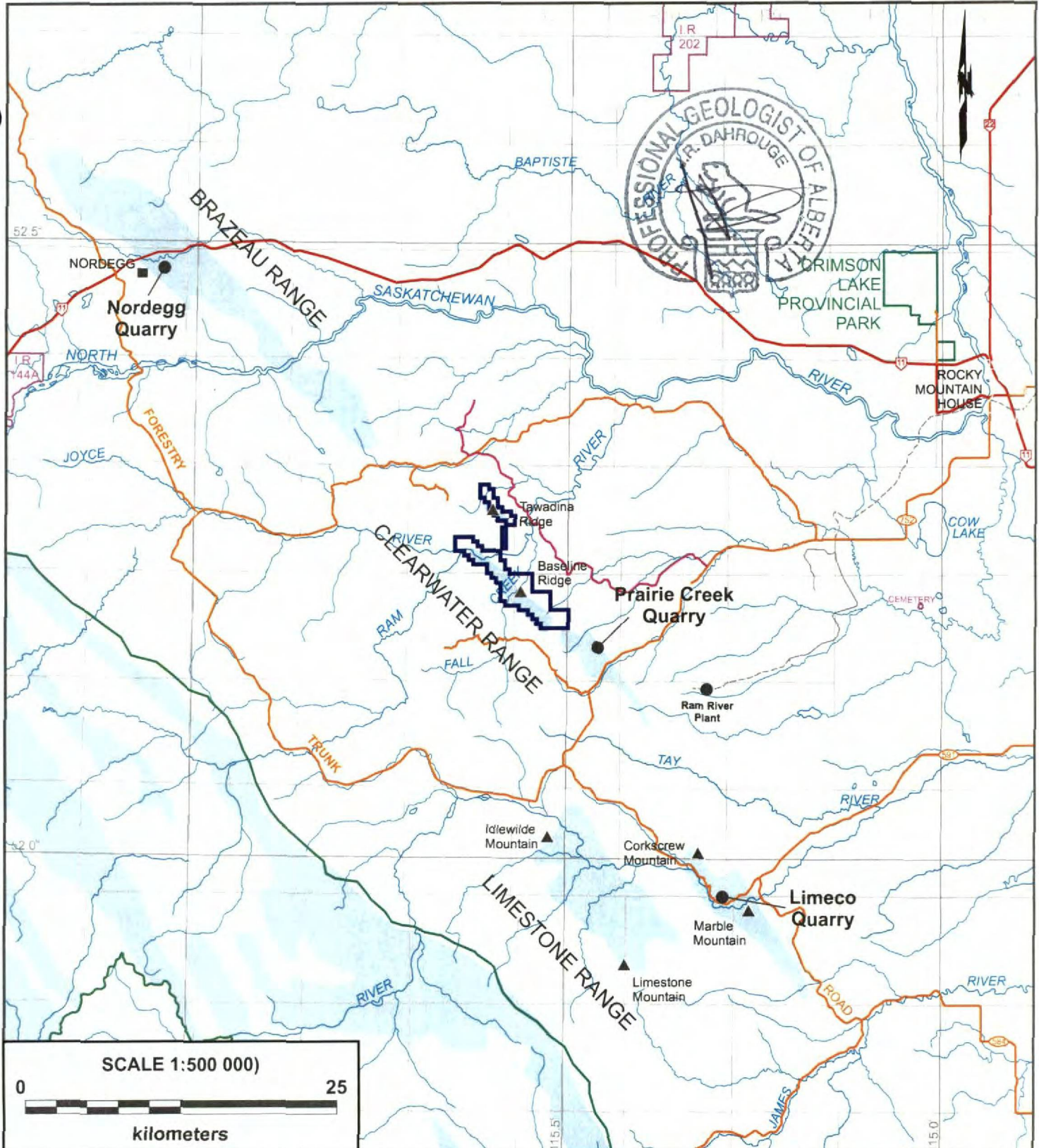
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LEGEND & SYMBOLS

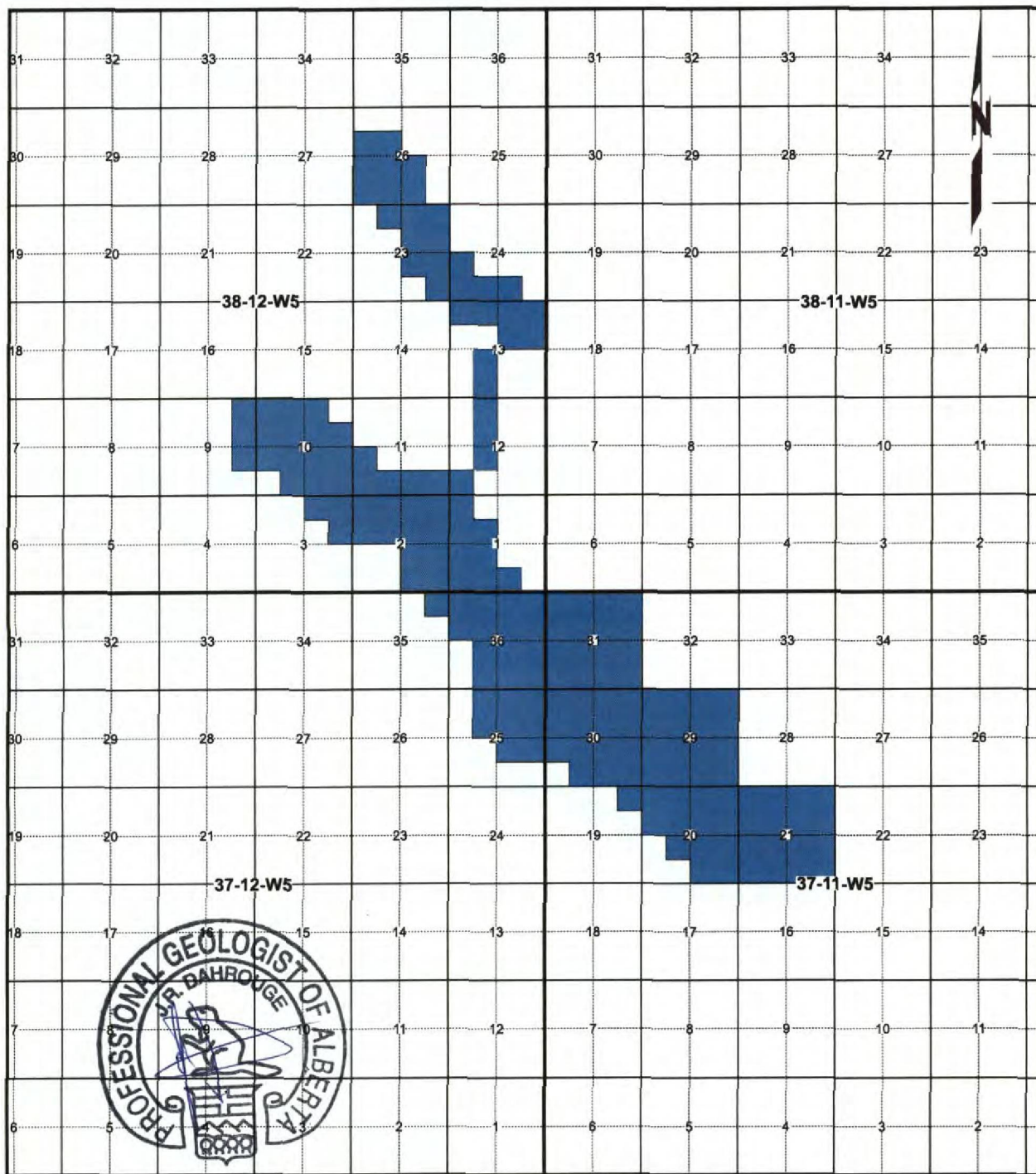
	Paleozoic limestone-bearing units (locations approximate)		Highway
	MAIM Permit 9301010011 of Graymont Western Canada Inc.		Secondary Road
	Park or protected area		Private Road
	Reserve or restricted zone		Railway
			Industrial Use/Quarry
			Mountain peak

GRAYMONT WESTERN CANADA INC.
 DAHROUGE GEOLOGICAL CONSULTING LTD.
 EDMONTON, ALBERTA


CLEARWATER & LIMESTONE RANGES

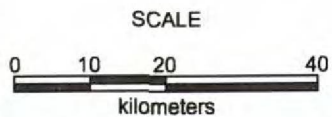
Fig 3.1: Location Map

RW 2005.02



MAIM Permit 9301010011

 Active permit area: 2,832 ha
Graymont Western Canada Inc.



GRAYMONT WESTERN CANADA INC.

DAHROUGE GEOLOGICAL CONSULTING LTD.
EDMONTON, ALBERTA

CLEARWATER RANGE, ALBERTA

Fig. 3.2: MAIM Permit 9301010011

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.

R. Wolbaum 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.

**APPENDIX 2B: DESCRIPTIONS OF THE 2004 STRATIGRAPHIC SECTIONS
WITHIN MAIM PERMIT 9301010011, TAWADINA RIDGE**

Note: Stratigraphic thicknesses are based on measured attitudes of bedding, as listed below, with appropriate interpolations. Examined intervals are listed in order from stratigraphic top to bottom.

Abbreviations: Banff - Banff Assemblage; and RA - Rundle Assemblage

Sample	Unit	Strat. Thick. (m)	Description
Isolated Samples			
19401	RA	2	<u>Lime Mudstone</u> , tan-grey weathered, light-tan-grey fresh, fine- to coarse-grained, scattered crinoids, rugose corals, bedding not visible
19551	RA	¼	<u>Lime Mudstone</u> , dark-grey to tan weathered, grey-tan fresh, micritic, prominent fractures/cleavage, secondary calcite veining, rusty fractures, jagged, vuggy in places; poor, flat lying outcrop at top of ridge
19552	RA	¼	<u>Lime Mudstone - Wackestone</u> , grey weathered, grey-tan fresh, fine- to coarse-grained, occasional rusty fractures, crinoids, occasional pellet, good reaction to HCl
19553	RA	¾	<u>Wackestone - Lime Mudstone</u> , brown-grey weathered, grey fresh, medium- to coarse-grained, crinoids, brachiopods, massive

Sample	Unit	Strat. Thick. (m)	Description
Section BL2004-04: Lick Creek			
19563	RA	3	<u>Grainstone</u> , as per 19562, poor exposure, very rubbly, covered above
19562	RA	3	<u>Grainstone</u> , grey-tan weathered, medium-grey-brown fresh, brachiopods, crinoids, thick beds, smelly, crumbly, very porous
19561	RA	3	<u>Lime Mudstone</u> , grey-tan weathered, medium-grey-brown fresh, medium-grained, rubbly outcrop, excellent reaction to HCl, top 1 metre as per 19562
19560	RA	3	<u>Wackestone</u> , grey-tan weathered and fresh, medium-grained, peloids, occasional crinoids, beds greater than ¼ m, fractures
19559	RA	3	<u>Grainstone</u> , dark-grey weathered, grey fresh, coarse- to very coarse-grained, crumbly, massive, crinoids, peloids, smelly, attitude of beds 144°/67° NE
-	-	3½	covered
19558	RA	2	<u>Lime Mudstone</u> , tan-grey weathered, grey fresh, fine-grained, occasional crinoid, some secondary calcite, excellent reaction to HCl
19557	RA	3	<u>Lime Mudstone</u> , as per 19554, top ¼ m is coarser-grained, more peloids, crinoids
19556	RA	3	<u>Lime Mudstone</u> , as per 19554
19555	RA	2	<u>Lime Mudstone</u> , as per 19554
19554	RA	3	<u>Lime Mudstone</u> , tan-grey weathered, grey fresh, micritic, occasional pellet, blocky, steeply dipping, thick beds,

**APPENDIX 2A: DESCRIPTIONS OF THE 2004 STRATIGRAPHIC SECTIONS
FROM MAIM PERMIT 9301010011, BASELINE RIDGE**

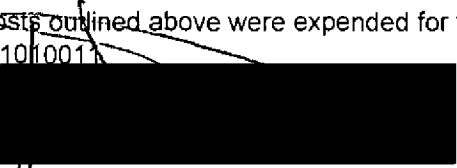
Note: Stratigraphic thicknesses are based on measured attitudes of bedding, as listed, with appropriate interpolations. Attitudes are strike and dip. Examined intervals are listed in order from stratigraphic top to bottom. Abbreviations: Banff - Banff Assemblage; and RA - Rundle Assemblage

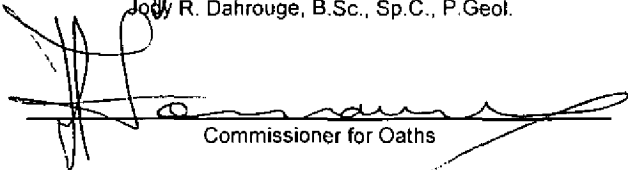
Sample	Unit	Strat. Thick. (m)	Description
Section BL2004-01: Fall Creek			
19458	RA	3	<u>Wackestone</u> , dark-grey weathered, dark-grey-brown fresh, very coarse-grained, crinoids, sugary, crumbly, thick-bedded to massive, excellent reaction to HCl
19457	RA	3	<u>Wackestone</u> , grey weathered, grey-brown fresh, coarse-grained, peloids, massive
19456	RA	3½	<u>Wackestone</u> , grey weathered, grey-brown fresh, medium-grained, peloids, beds greater than 5 cm, attitude of beds 164°/39° E
19455	RA	3	<u>Packstone</u> , as per 19454, less crumbly
19454	RA	2¼	<u>Packstone</u> , tan-grey weathered, grey-brown fresh, coarse-grained, crinoids, peloids, crumbly, smelly, wavy beds platy to 5 cm
19453	RA	1¾	<u>Packstone</u> , grey weathered, grey-white fresh, fine-grained matrix, grains to 2 mm, crinoids, peloids beds approximately ¼ m, crumbly, attitude of contact 139°/46° NE
19452	Bff	1	<u>Lime Mudstone</u> , tan weathered, dark-brown fresh, micritic, occasional brachiopod, smelly, very thin beds, platy, silty, colonial corals
19451	Bff	1¼	<u>Lime Mudstone</u> , brown-tan weathered, grey-brown fresh, micritic, occasional brachiopod, thin wavy beds, nodular, very good reaction to HCl
Section BL2004-02: Fall Creek			
19464	RA	3	<u>Lime Mudstone</u> , dark-grey weathered and fresh, fine- to medium-grained, crinoids, beds approximately 5 cm, attitude of beds 140°/28° E
-	-	2	covered
19463	RA	3	<u>Wackestone</u> , as per 19462, crumbly at top
19462	RA	3	<u>Wackestone</u> , medium-grey-tan weathered, grey fresh, medium-grained, crinoids, wavy beds approximately ¼ m
-	-	1¾	covered
19461	RA	2	<u>Lime Mudstone</u> , light-tan-grey weathered, grey fresh, fine- to medium-grained, crinoids, chert, beds less than ¼ m
19460	RA	2¼	<u>Grainstone</u> , tan-grey weathered, medium- to dark-grey fresh, medium-grained, crinoids, beds less than ¼ m
19459	RA	2¾	<u>Wackestone</u> , grey weathered, dark-grey fresh, fine-grained, wavy beds less than ¼ m, attitude of beds 318°/32° E
Section BL2004-03: Lick Creek			
19468	RA	2	<u>Wackestone</u> , grey-tan weathered, grey-brown fresh, fine- to coarse-grained, peloids, grainy in places, beds approximately ¼ m, smelly
19467	RA	*	<u>Lime Mudstone</u> , grey-tan weathered, grey-brown fresh, fine- to medium-grained, occasional peloid, fractures, scattered outcrop and subcrop between 19466 and 19468
19466	RA	1¼	<u>Wackestone</u> , grey weathered, grey-brown fresh, fine- to medium-grained, crinoids, beds approximately ¼ m, vertical fractures, very good reaction to HCl
19465	RA	1	<u>Wackestone</u> , grey weathered, grey-brown fresh, medium-grained, crinoids, peloids, massive, attitude of beds 167°/53° E

APPENDIX 1: CONTINUED

g) Report	Reproduction and assembly	\$ 37.95	\$ 37.95
h) Other	Base map(s) and map reproductions	\$ 110.00	
	Courier, postage and shipping	\$ 17.60	
	Field supplies	\$ 51.43	
	Long distance telephone	\$ 1.38	
			\$ 180.40
Total			\$ 8,429.70

I, Jody R. Dahrouge, hereby certify that the costs outlined above were expended for the assessment of metallic and industrial minerals permits 9301010011


 Jody R. Dahrouge, B.Sc., Sp.C., P.Geol.


 Commissioner for Oaths

JACK LAMOUREUX
 COMMISSIONER FOR OATHS
 COMMISSION EXPIRES
 MAY 21, 2005

**APPENDIX 1: ITEMIZED COST STATEMENT FOR METALLIC AND INDUSTRIAL
MINERALS PERMIT 9301010011 OF GRAYMONT WESTERN CANADA INC.**

a) Personnel

J. Dahrouge, B.Sc., P.Geol. (Geologist)			
<u>1.5</u>	days	supervising and preparing report	
1.5	days	@ \$ [REDACTED]	\$ [REDACTED]
W. McGuire, (Draftsman)			
<u>0.0</u>	days	compiling field data, drafting, preparing figures and maps	
0.0	days	@ \$ [REDACTED]	\$ -
R. Wolbaum, B.Sc. (Geologist)			
3.0	days	field work and travel between September 17 to 19, 2004	
<u>4.4</u>	days	organize data, report compilation	
7.4	days	@ \$ [REDACTED]	\$ [REDACTED]
N. McCallum, B.Sc. (Geologist)			
3.0	days	field work and travel between September 17 to 19, 2004	
<u>0.0</u>	days	preparations for field	
3.0	days	@ \$ [REDACTED]	\$ [REDACTED]
B. Perlitz (Assistant)			
3.0	days	field work and travel between September 17 to 19, 2004	
<u>0.5</u>	days	preparations for field	
3.5	days	@ \$ [REDACTED]	\$ [REDACTED]
J. Gokiert (Assistant)			
<u>3.0</u>	days	field work and travel between September 17 to 19, 2004	
3.0	days	@ \$ [REDACTED]	\$ [REDACTED]
			<u>\$ [REDACTED]</u>
			\$ 5,973.82

b) Food and Accommodation

12 man-days @ \$35.346667	accommodations (motel)	\$ 424.16	
12 man-days @ \$27.512500	groceries and meals	\$ 330.15	
		<u>\$ 754.31</u>	

c) Transportation

ATV:	Quad and Trailer Rental (3 days)	\$ 395.47	
	Quad Rental (3 days)	\$ 406.07	
Helicopter:	Helicopter Charter	\$ -	
Vehicles:	4x4 Truck Rental	\$ 569.89	
	Fuel	\$ 111.79	
		<u>\$ 1,483.22</u>	

d) Instrument Rental n/a

e) Drilling n/a

f) Analyses n/a

LEGEND AND SYMBOLS

JURASSIC AND CRETACEOUS

4 Undivided

CARBONIFEROUS Rundle Assemblage

3 Turner Valley Formation: dense and porous dolomite, argillaceous dolomite, limestone
Shunda Formation: silty dolomite, cherty and dolomitic limestone, shale, anhydrite
Pekisko Formation: finely to coarsely crystalline calcarenite, fine-grained dolomite

2 Banff Formation: argillaceous and cherty limestone, fissile and calcareous shale

DEVONIAN

1 Palliser Formation: massive mottled limestone and dolomite, porous and vuggy dolomite, argillaceous limestone

Geological boundary (defined, approximate) -----

Fault (defined, approximate) -----

Bedding (inclined, overturned) -----

Observed outcrop -----

Synclinal axis (arrow indicates plunge) -----

Anticlinal axis (arrow indicates plunge) -----

Sample section with numbers -----

Isolated sample with number -----

Location of cross-section -----

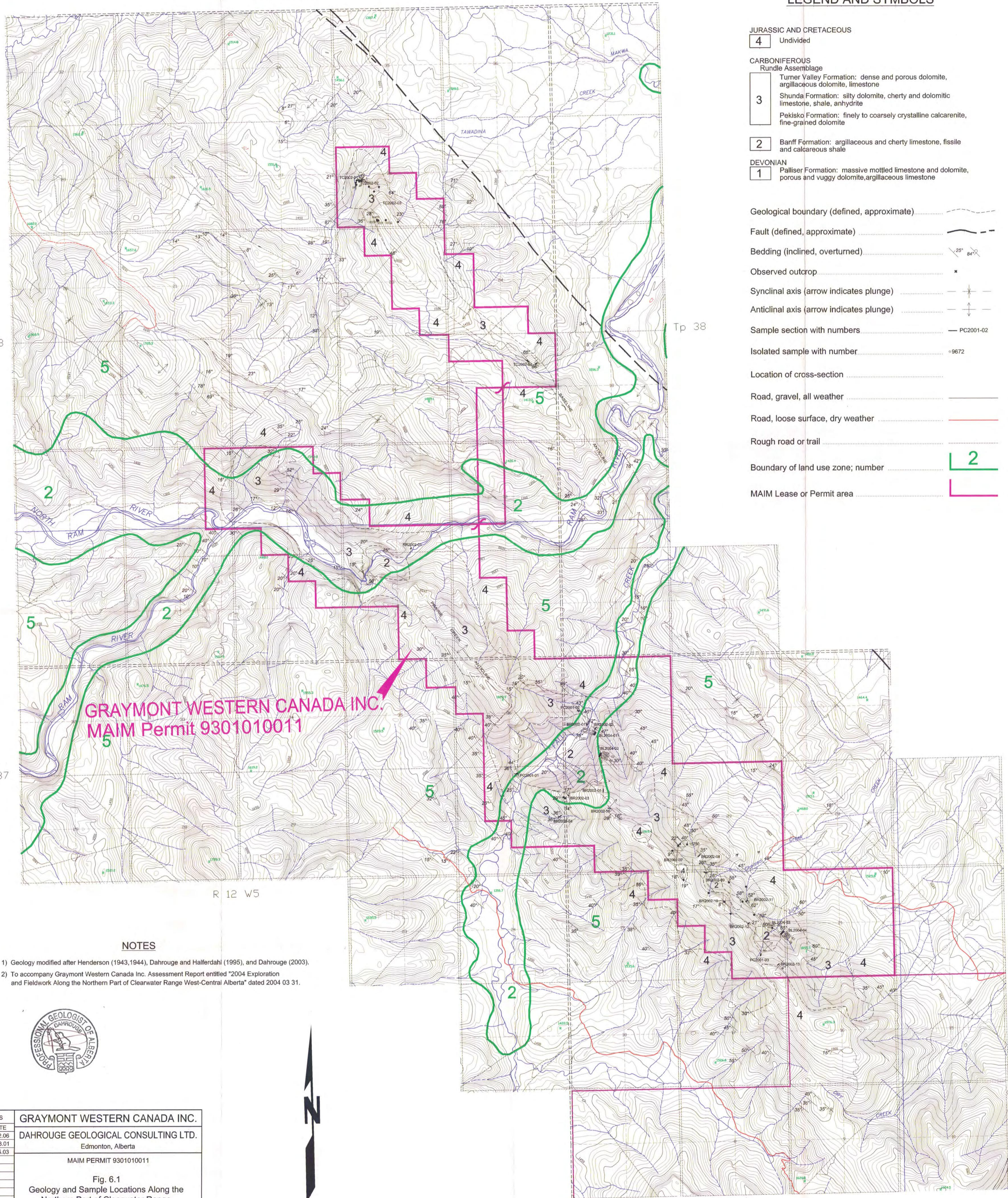
Road, gravel, all weather -----

Road, loose surface, dry weather -----

Rough road or trail -----

Boundary of land use zone; number -----

MAM Lease or Permit area -----



GRAYMONT WESTERN CANADA INC.
MAM Permit 9301010011

NOTES

- 1) Geology modified after Henderson (1943,1944), Dahrouge and Halferdahl (1995), and Dahrouge (2003).
- 2) To accompany Graymont Western Canada Inc. Assessment Report entitled "2004 Exploration and Fieldwork Along the Northern Part of Clearwater Range West-Central Alberta" dated 2004 03 31.



REVISIONS		GRAYMONT WESTERN CANADA INC.	
BY	DATE	DAHROUGE GEOLOGICAL CONSULTING LTD.	
WM	2002.06	Edmonton, Alberta	
WM	2003.01	MAM PERMIT 9301010011	
WM	2005.03	Fig. 6.1	
		Geology and Sample Locations Along the Northern Part of Clearwater Range	
		Scale: 1:25 000	
		2001.05	