

MAR 20060001: NORTH BRAZEAU

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MAR 17 2006
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GRAYMONT WESTERN CANADA INC.
2005 EXPLORATION AND FIELDWORK
WITHIN THE NORDEGG
METALLIC AND INDUSTRIAL MINERALS PERMIT,
NORTH BRAZEAU

PART B

Metallic and Industrial Mineral Permit
9396010038

Geographic Coordinates

52°23' N to 52°33' N
115°53' W to 116°14' W

NTS Sheets 83 B/5, C/8 and C/9

Owner of MAIM Permit	9396010038 Graymont Western Canada Inc. 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
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Date Submitted:	May 12, 2006

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1.

SUMMARY

During July, 2005, parts of Brazeau Range, north and south of Nordegg and within Metallic and Industrial Mineral (MAIM) Permit 9396010038, were explored for high-quality carbonate rocks. Paleozoic carbonate units were examined and measured at more than 20 locations along Brazeau Range between North Saskatchewan River and Nordegg, and north of Nordegg. The 2005 exploration was a follow-up to previous exploration conducted along Brazeau Range during the summers of 1994, 1995, 1997, and 2003. The 2005 exploration expanded upon previously explored sections and located outcrops in more remote parts of the permit.

Carbonate units within the Devonian Palliser Formation, and within the Carboniferous Banff and Rundle assemblages were examined and their stratigraphic thicknesses recorded. In total, more than 55 m of the Palliser Formation and 40 m of the Banff Assemblage was examined along Brazeau Range. In addition, more than 250 m of the Rundle Assemblage was examined at 18 locations. In total approximately 351¼ m of strata was examined from more than 492¾ m of normal thickness measured.

From north to south along Brazeau Range, massive, mottled, lime mudstones within the upper part of the Palliser Formation are transitional to vuggy, tan to brown dolostone. Limestone units within the Banff Formation are generally less than several meters thick. The Rundle Assemblage includes variable thicknesses of coarse-grained grainstone, wackestone and lime mudstone, with lesser packstone.

As a previous assessment report (Pana and Dahrouge, 1998) includes detailed descriptions of geographic setting, history and previous investigations, the majority of that information is not repeated herein. Structural measurements were obtained at stations throughout the property. 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 summer of 2005, Dahrouge Geological Consulting Ltd. on behalf of Graymont Western Canada Inc. conducted exploration for high-quality carbonate lithotypes within west-central Alberta. This assessment report describes the exploration conducted within metallic and industrial minerals permit 9396010038, which encompasses the northern parts of Brazeau Range of the Alberta Foothills. It includes information on the geology and structure of more than 20 stratigraphic sections examined during July 2005, as well as an interpretation of the results. Bob Robison, exploration manager for Graymont Western U.S. Inc., authorized this work.

3.**GEOGRAPHIC SETTING AND ACCESS**

MAIM permit 9396010038 encompasses the northern part of Brazeau Range near Nordegg, Alberta. Nordegg, with year-round facilities, is located 85 km west of Rocky Mountain House on Highway 11 (Fig. 3.1).

The southern part of MAIM Permit 9396010038 is accessible via Forestry Trunk Road 734 which branches south and north from Highway 11, just west of Nordegg. North of North Saskatchewan River an ATV trail that branches from the Forestry Trunk Road follows the river easterly towards Dipslope Mountain. The area south of Highway 11 can also be accessed by heading south along the main street of Nordegg, which adjoins with a new lease road that leads to Eagle Ridge (Fig. 4.3). The northern part of MAIM Permit 9396010038 is accessed by traveling 12 km north from Highway 11 along Forestry Trunk Road 734. Logging roads and cut blocks provide access to Shunda Mountain. Access to the property is by four-wheel-drive vehicle, all-terrain vehicle, or by foot.

Climate is sub-alpine with average summer temperatures of 20° to 25°C and winter temperatures of -15° to -20°C, with extremes of 30°C and -40°C. Rainfall averages about 35 cm per year with maximum snowfall in December and January which averages 35 to 45 cm.

Several creeks, mountains, and other features presently without names on published maps have been assigned informal names in this report to facilitate references to geographic locations.

4. PROPERTY, EXPLORATION AND EXPENDITURES

4.1 METALLIC AND INDUSTRIAL MINERALS PERMIT 9396010038

In early 1996, Graymont Western Canada Inc. (nee: Continental Lime Ltd.) acquired metallic and industrial minerals (MAIM) permit 9396010038 to cover Paleozoic limestones near Nordegg, Alberta (Table 4.1 and Fig. 4.1). The permit is divided into two parts by quarrying leases, and by Land Use Zones 4 and 8, as designated by the Alberta Eastern Slopes Policy (Alberta Forestry, Lands, and Wildlife, 1988).

The reduced area of MAIM permit 9396010038 is 3,218 hectares (Fig. 4.1). The permit was reduced based on the exploration completed between 1994 and 1997 (Pana and Dahrouge, 1998). Given exploration expenditures of \$44,777.73 for 2005 (Appendix 1, Section 4.3), the entirety of MAIM permit 9396010038 will be maintained (Table 4.1).

TABLE 4.1 DESCRIPTION OF METALLIC AND INDUSTRIAL MINERALS PERMIT 9396010038

Record Date	Expiry Date	Land Description (Tp-RW5)	Size (Ha)
Permit Area (Fig. 4.1)			
Jan. 17, 1996	Mar. 17, 2006	39-14W5 (Sections: 35NE,L7,L8)	
		40-14W5 (Sections: 2SE,NW,L3,L5,L6,L10,L15; 10SE,NW, L3,L5,L6,L9,L10,L15; 11L3,L4; 15L3,L4,L5; 16NW,L5,L6,L7,L8,L9,L10,L15; 17L7,L8,L9,L16; 19N; 20NW,L1,L2,L7,L10,L15; 30L2,L3)	
		40-15W5 (Sections: 24L9,L16; 25L1,L5,L6,L7,L8,L9S, L10S; 26L6P*,L7,L8)	
		41-15W5 (Sections: 3L2,L3,L4P°,L5,L6,L7,L11,L12,L13; 4L9,L13,L14,L15,L16; 5L16; 7NE,L8,L14; 8S,L10,L11,L12; 9S,10L4,L5; 18S,L11,L12,L16; 19SE,L9,L10,L13,L14,L15; 30L4)	
		41-16W5 (Sections: 13NW,L1,L6,L7,L8,L9,L10,L15; 23L1,L8,L9,L14,L15,L16; 24SW,N,L2,L7,L8; 25SW,L1,L2,L7,L11,L12; 26S,L9,L10,L11,L12; 27SE,L9,L10)	
			3218

* Part lying outside land use zone 8

° Part lying outside land use zone 4

TABLE 4.2 LOCATIONS EXAMINED IN 2005

Section Number	Location	Intervals	Strat. Thick. (m)*	Measured Thick. (m)°
Brazeau Range, North of Nordegg				
2005-01	Northeast of North Knob	3	6¼	6¼
2005-02	Northwest of Little Shunda	7	13¾	13¾
Isolated	Northeast of North Knob	1	1¾	1¾
2005-03	Northeast of North Knob	8	30	30
2005-04	West of Little Shunda	4	12¾	12¾
Brazeau Range, South of Nordegg				
2005-05	Railway, West of Martin Creek	7	14¾	26¼
2005-06	Northwest of Storm Mountain	9	22½	25½
2005-07	North of Eagle Ridge	9	30½	35¾
2005-08	North of Eagle Ridge	8	20½	24½
2005-09	Southwest of Nordegg Lookout	9	21½	21½
2005-10	Southwest of Nordegg Lookout	3	7½	7½
2005-11	Northeast of Eagle Ridge	5	3	~23
Isolated	Northeast Flank of Eagle Ridge	5	6¼	6¼
2005-12	Northeast Flank of Eagle Ridge	9	17¾	17¾
2005-13	East of Storm Creek	10	28	28
2005-14	East on Branch of Storm Creek	9	18	18
2005-15	Northwest of Dipslope Mountain	11	28	33
Isolated	Dipslope Mountain	2	5¼	5¼
2005-16	Dipslope Mountain	6	15¼	15¼
2005-17	South of Dipslope Mountain	5	11	86¼
2005-18	South of Dipslope Mountain	2	5	5
2005-19	South of Dipslope Mountain	6	15	32½
2005-20	South of Dipslope Mountain	2	1¼	1¼
2005-21	South of Dipslope Mountain	4	15¾	15¾
TOTALS:		144	351¼	492¾

* Stratigraphic thicknesses are examined thicknesses.

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

4.2 2005 EXPLORATION

The work described herein was undertaken to determine and identify the location and extent of high quality carbonate units throughout the area. More remote areas not previously visited were the primary focus of the 2005 exploration.

Between July 7 and 20, 2005 parts of Brazeau Range within MAIM Permit 9396010038 were examined by Dahrouge Geological Consulting Ltd. for high-quality carbonate rocks. Work was completed on behalf of Graymont Western Canada Inc. Carbonate outcrops were visited north and south of Nordegg, at more than 20 locations (Appendix 3; Fig's.4.2 and 4.3; Table 4.2). A total of 144 separate intervals were examined, covering a total stratigraphic thickness of 492¾ m.

Field maps were completed on 1:10,000 and 1:20,000 scale map sheets and concentrated on areas along Dipslope Mountain, the western part of Little Shunda Mountain, and north of Eagle Ridge (Figs. 4.2 and 4.3).

Geological observations were recorded, including lithologic information, measurements of structural elements, and other pertinent details (Appendix 3). In some instances, interval thicknesses were determined by measuring outcrops perpendicular to bedding, where it could be identified. A solution of 6% HCl was used to assess carbonate quality in the field.

Transportation between Nordegg and the property was by a rented four-wheel-drive truck. Access throughout the property was by truck and ATV's where possible, and otherwise by extensive hiking and climbing.

4.3 EXPLORATION EXPENDITURES

Between 1994 and 1997, exploration expenditures not including G.S.T. totalled \$98,027.35, which resulted in an excess credit of \$24,264.29, allocated to the assessment period 'Years 7 and 8', for MAIM Permit 9396010038. Additional expenditures of \$40,233.26 were incurred in 2003; hence, total available assessment credits are \$64,497.55. Credit for the current assessment period, years 9 and 10, are \$16,227.55. Expenditures for 2005 were \$44,777.73 (Appendix 1); therefore, total available assessment credits are \$61,005.00. An excess credit of \$12,735.00 will be applied to years 11 and 12. Expenditures are allocated to MAIM permit 9396010038 as follows:

Assessment Period	Expiry Date	Required Expenditures	Assigned Expenditures
Years 9 and 10	2006-01-17	\$48,270	\$48,270
Years 11 and 12	2008-01-17	\$48,270	\$12,735

5. REGIONAL GEOLOGY

In west-central Alberta, Paleozoic limestones are known to occur within the Middle Cambrian Eldon Formation, the Upper Devonian Mount Hawk Formation, the Upper Devonian Palliser Formation, the Upper Devonian to Lower Carboniferous Banff Assemblage, and the Lower Carboniferous Rundle Assemblage (Table 5.1). The Palliser Formation, at both Exshaw and Cadomin, supplies limestone for the manufacturing of cement (Holter, 1994).

Descriptions of the stratigraphy of the Palliser Formation, the Banff Assemblage and the Rundle Assemblage in Section 5.1 herein, are from a prior assessment report by Pana and Dahrouge (1998). A detailed review of the regional stratigraphy is provided by Stott and Aitken (1993),

Mossop and Shetsen (1994), Halbertsma (1994), and Richards et al. (1994).

5.1 STRATIGRAPHY

5.1.1 Mount Hawk Formation

Along the Front Ranges of the Rocky Mountains, the Upper Devonian Fairholme Group was transgressively deposited on eroded Upper Cambrian strata, and consists of two carbonate reef formations, the Cairn and the overlying Southesk formations (Table 5.1). Both are replaced basinward by the laterally equivalent argillaceous beds of the Flume, Maligne, Perdrix, and Mount Hawk formations (Mountjoy et al., 1992).

The Upper Devonian Southesk Formation at its type section on Mount Dalhousie, near the confluence of Southesk and Brazeau rivers, is 161 m thick and divided into the Peechee, Grotto, and Arcs members (MacKenzie, 1966; Mountjoy et al., 1992). To the west, it thins into argillaceous dolomites and dolomitic shales of the Mount Hawk Formation.

Where Highway 11 crosses Brazeau Range, the upper part of the Mount Hawk Formation consists of cryptocrystalline, black, medium-bedded, argillaceous limestone (Douglas, 1956).

5.1.2 Palliser Formation

In west-central Alberta, the Lower to Middle Famennian Palliser Formation consists mainly of outer shelf and basinal carbonates of the Sassenach Basin (Halbertsma, 1994). The Palliser Formation is divisible into the Morro and overlying Costigan members, separated by an unconformity. The Morro Member comprises a lithologic suite dominated by carbonates with significant lateral facies variations. The Costigan Member consists of open-marine fossiliferous limestones and shales, with local evaporitic sedimentation. Within the Foothills and Front Ranges of Alberta, limestones of the Palliser Formation vary from less than 180 m to more than 270 m in thickness (Holter, 1976).

The Palliser Formation is overlain by shales of the Exshaw Formation, and siliciclastics and carbonates of the Banff Formation.

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

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

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

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

¹Current limestone production (from Holter, 1994)

5.1.3 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, the Lower to Upper Tournaisian Banff Formation unconformably overlies the Exshaw. The Banff Formation is a heterogeneous association of carbonates and fine-grained siliciclastics deposited on poorly differentiated carbonate platforms. Westward, the uppermost Banff Formation grades laterally into the Rundle Assemblage.

5.1.4 Rundle Assemblage

The Lower Carboniferous Rundle Assemblage extends from 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.

5.2 STRUCTURE

In Front Ranges and Foothills of west-central Alberta, Paleozoic and Mesozoic strata are repeated along several major thrust faults. Displacements along these faults are interpreted to be tens of kilometers. Within individual thrust sheets, regional-scale folds exhibit a spatial relation to their leading edges. Near Nordegg, the main structural discontinuity is the northwest- to southeast-trending Brazeau Thrust. The leading edge of the thrust sheet is folded into the asymmetrical to recumbent Brazeau Anticline.

6. PERMIT GEOLOGY

6.1 MEASURED SECTIONS

Carbonate lithologies of the Palliser Formation, Banff Assemblage and Rundle Assemblage were examined and measured along Brazeau Range, north of North Saskatchewan River (Fig's. 4.2 and 4.3). During July, 2005, 144 discrete intervals were examined at the locations listed in Table 4.2. Where bedding could not be identified, stratigraphic measurements were taken based on the previously determined regional trend or deduced from other measurements where possible (Appendix 3). A solution of 6% HCl was used to assess quality of limestone from measured

sections in the field. The 144 intervals represent a stratigraphic thickness of about 351¼ m and were collected from an investigated stratigraphic thickness that exceeds 492¾ m.

6.2 STRATIGRAPHY

The Palliser Formation is exposed within the core of the Brazeau Anticline about 10 to 12 km northwesterly from Highway 11. Where examined, the uppermost 30 m of the Palliser Formation consists of mottled, microcrystalline, lime mudstone to wackestone, with some interbeds of finely crystalline dolomite. Further south, it is exposed in a road cut along Highway 11, just south of Coliseum Mountain. Along the southern part of Brazeau Range, the upper parts of the Palliser Formation appear increasingly dolomitic.

According to Pana and Dahrouge (1998), the overlying Banff Formation consists of a lower recessive unit of calcareous shales and cherty argillaceous limestone, 83 m thick at Shunda Creek Gap, and an upper resistant unit of fine-grained, medium-bedded, limestone and dolomite with crinoid remnants, 91 m thick on Coliseum Mountain (Douglas, 1956).

According to Erdman (1950, p. 11), the overlying Rundle Assemblage

“outcrops as a peripheral strip around the Brazeau Range, and forms an almost continuous dip-slope on the southwestern flank... The lowest member is a massive, light-weathering, coarse-grained limestone”.

Previously measured thicknesses of the lower part of the Rundle Assemblage (Fig's. 4.2 and 4.3) from Brazeau Range are as follows :

Location	Reference	Thickness (m)
Shunda Mountain	Douglas (1958)	32½
Nordegg Lime Quarry*	Matthews (1960) ^o	~50¾
Dizzy Creek	Erdman (1950)	51¾

* South of North Saskatchewan River

^o cf Holter (1976)

At Brazeau Range, the lower part of the Rundle Assemblage consists of light- to medium-grey and medium-greyish-brown, fine- to medium-grained, thick-bedded to massive, lime mudstone, wackestone and grainstone (Appendix 3). Examined thicknesses of limestone units ranged from less than a few meters up to about 40 m; they are partly determined by the present erosional surface. Overlying units generally consist of thin-bedded, microcrystalline dolostone and dolomitic breccias.

6.3 STRUCTURE

As previously indicated by Pana and Dahrouge (1998; p. 11),

“North of Nordegg the main structural elements within Brazeau Range include Brazeau Anticline, and Coliseum Fault, which is a splay from the Brazeau Thrust... North of Highway 11 the asymmetrical Brazeau Anticline trends northwesterly; one limb dips gently to moderately to the southwest and the other steeply northeast to overturned. Local faults and folds are present on both limbs. ...

The main structural elements southeast of Nordegg are the same as those north of Highway 11, namely Brazeau Anticline and splays from Brazeau Thrust. Although mostly asymmetrical near Storm Mountain, ... parts of the Brazeau Anticline are symmetrical with dip slopes of 23° to 38° in the southwest limb that decrease to the west. Steep dip-slopes are present at lower elevations in the northeast limb. Erdman (1950) mapped a second order northwest-trending syncline and a northwest-trending anticline within the northeast limb. Southeasterly to North Saskatchewan River the southwest limb forms dip slopes with moderate dips at higher elevations, particularly on Dipslope Mountain, and gentler dips at lower elevations.”

7.

CONCLUSIONS

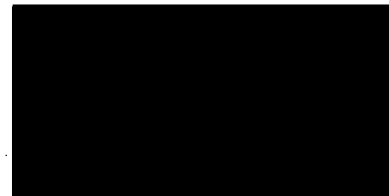
Within MAIM Permit 9396010038, exposures of the Palliser Formation, Banff Assemblage and Rundle Assemblage were examined along the northern part of Brazeau Range, near Nordegg, Alberta. A total of 144 discrete intervals were measured and described in detail, representing approximately 351¼ m of stratigraphy out of a total investigated thickness of 492¾ m.

Carbonate intervals within the upper parts of the Palliser Formation were examined at several locations at Brazeau Range. The upper part of the Palliser Formation is comprised of massive, mottled lime mudstones north of Highway 11, increasingly dolomitic to the south.

At Brazeau Range, the lower part of the Rundle Assemblage consists of interbeds of lime mudstone, wackestone and grainstone. Locally, rapid facies changes result in interbeds of variably dolomitic limestone and dolomite.



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May 12, 2006

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APPENDIX 1: ITEMIZED COST STATEMENT

a) <u>Personnel</u>			\$ 30,090.54
b) <u>Food and Accommodation</u>			
	56 man-days @ \$ 69.44 accommodations and meals	\$ 3,888.89	
	56 man-days @ \$ 37.52 groceries and other	\$ 2,101.25	
			\$ 5,990.14
c) <u>Transportation</u>			
	Vehicles: Rental for 4x4 Sports Utility Vehicle	\$ 2,318.23	
	ATV Repairs	\$ 363.56	
	ATV Rental(s)	\$ 3,837.02	
	Fuel	\$ 413.28	
	Mileage	\$ 472.71	
			\$ 7,404.80
d) <u>Instrument Rental</u>	n/a		
e) <u>Drilling</u>	n/a		
f) <u>Analyses</u>	n/a		
g) <u>Report</u>	Reproductions and assembly	\$ 93.50	\$ 93.50
h) <u>Other</u>			
	Courier and Shipping	\$ 44.00	
	Field Equipment and Supplies	\$ 56.31	
	Long distance telephone	\$ 39.14	
	Software Rental	\$ 470.80	
	Plots	\$ 588.50	
			\$ 1,198.75
<u>Total</u>			<u>\$ 44,777.73</u>

APPENDIX 2: 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.

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**APPENDIX 3: DESCRIPTIONS OF THE 2005 STRATIGRAPHIC SECTIONS
WITHIN MAIM PERMIT 9396010038 NEAR NORDEGG**

Notes: Stratigraphic thicknesses are based on measured attitudes of bedding listed below, with appropriate interpolations. Attitudes are strike and dip. Measured sections are listed in order from stratigraphic top to bottom. UTM coordinates are NAD83. Section locations are shown on Figs. 4.1 and 4.2.

Abbreviations: Pal - Palliser Formation; Banff - Banff Assemblage; RA - Rundle Assemblage; Fernie - Fernie Formation

Interval	Formation Member	Strat. Thick. (m)	Description
Section 2005-01: About 700m Northeast of North Knob (UTM 555338E, 5823411N)			
18783	Banff ?	3	Dolomitic Lime Mudstone , as 18782
18782	Banff ?	3	Dolomitic Lime Mudstone , massive, medium-grey and tan weathered, medium-grey with tan/brown blobs fresh, very fine grained to micritic, calcite veinlets 3-5cm by 2mm, weak to moderate reaction with HCl, thinly bedded, attitude of bedding 202°/68°
18781	Banff ?	¼	Dolomitic Mudstone , massive, dark-grey weathered, medium- to dark-grey fresh, fine-grained to micritic, calcite veinlets, little to no reaction with HCl
Section 2005-02: About 600m Northwest of Little RA (UTM 555900E, 5823420N)			
18788	RA	4	Grainstone , medium-grey weathered, medium-grey and brown fresh, coarse-grained, calcite crystals at 2mm, moderate reaction with HCl, attitude of bedding 188°/80°
18789	RA	4	Grainstone , as 18788, coarse-grained calcite flakes, moderate reaction with HCl, attitude of bedding 226°/sub-vertical
18790	RA	4	Grainstone , as 18789
18787	RA	½	Dolomitic Lime Grainstone , light- to medium-grey weathered, dark-grey fresh, coarse-grained, moderate reaction with HCl, beds >20cm thick, attitude of bedding 312°/14°
18786	RA	½	Dolomitic Grainstone , light-grey to creamy in spots weathered, medium-grey with tan/brown fresh, medium-grained, very poor to no reaction with HCl, beds 1-5cm thick, attitude of bedding 316°/33°
18785	RA	½	Dolomitic Lime Mudstone , medium-grey weathered, medium- to dark-grey with tan blobs fresh, micritic matrix, coarse-grained calcite veinlets 1cm by 1cm, very poor reaction with HCl, attitude of bedding 352°/18° ?
18784	Banff ?	¼	Dolomitic Lime Mudstone , dark-grey and brown weathered, medium-grey fresh, micritic, poor to moderate reaction with HCl
Isolated Sample: About 650m Northeast of North Knob (UTM 555354E, 5823299N)			
17940	Banff	1¼	Grainstone , alternating beds 1-4cm thick; brown weathered, dark-brown-grey fresh, fine-grained limestone and light-brown and grey weathered, dark-grey fresh, fine-grained dolomitic siliceous limestone, no reaction with HCl, attitude of bedding 357°/90°
2005-03: Northeast of North Knob (UTM 555455E, 5823196N)			
17941	Pal	4¼	Grainstone , light-grey with pinkish mottling weathered, medium-grey with pinkish blobs (anhydrite?) fresh, fine-grained, few small vugs filled with orange/rusty material, beds 2-5cm thick, attitude of bedding 007°/86°
17942	Pal	3½	Grainstone , as 17941, more fine-grained to micritic, moderate reaction with HCl, beds 3-10cm thick
17943	Pal	4	Grainstone , as 17942, minor calcite veining, some beds up to 40cm thick
17944	Pal	3¼	Grainstone , as 17943, attitude of bedding 002°/90°
17945	Pal	4½	Mudstone , as 17944, mottled light-grey, tan and dark-grey weathered, medium-grey fresh, very fine grained to micritic, beds 6-30cm thick
17946	Pal	3¾	Mudstone , as 17945, medium- to dark-grey fresh, fine-grained, beds 12-30cm thick, attitude of bedding 002°/88° overturned
17947	Pal	4¼	Mudstone , as 17946, microcrystalline to very fine grained, a bit more calcite veining, beds up to 15cm thick
17948	Pal	2½	Mudstone , as 17947

APPENDIX 3: CONTINUED

Interval	Formation Member	Strat. Thick. (m)	Description
Section 2005-04: About 675m West of Little RA (UTM 555845E, 5823168N)			
17949	Pal	3½	Grainstone , grey-weathered, medium-grey fresh with reddish patches, fine-grained, beds 5-30cm thick
17950	Pal	2¼	Grainstone , as 17949, light- to medium-grey weathered, no red patches, beds up to ¾m thick, attitude of beds near the base 017°/25°
17951	Pal	3½	Mudstone , as 17950, medium-grey fresh, micritic to fine-grained, beds 3-75cm thick, attitude of bedding 027°/27° and 036°/22°
17952	Pal	3½	Mudstone , grey weathered, medium- to dark-grey fresh, more calcite veining up to ½mm thick, beds 10-30cm thick
Section 2005-05: 1.5km West of Martin Creek along abandoned railway (UTM 565809E, 5815054N)			
21520	Pal	2	Dolomite , as 21519, some areas of tan fresh, more calcite blobs/veins 2mm by 2cm
21519	Pal	2	Dolomite , medium- to dark-grey weathered and fresh, less brown flecks, calcite veins 0.5mm by 5-10mm, attitude of bedding 242°/12°
21518	Pal	1½	Dolomite , as 21517, calcite blobs 1-2mm, no HCl reaction except on calcite
21517	Pal	1¾	Dolomite , medium-grey weathered and fresh, brown flecks, medium-grained, vugs 2mm-4cm, small calcite blobs, poor to no reaction with HCl
-	Pal	9½	covered
17985	Pal	3	Mudstone , dark-brown and grey weathered and fresh, very fine grained to microcrystalline, beds 10-30cm thick
17986	Pal	2	Mudstone , as 17985, few small vugs up to 1mm wide, attitude of bedding 220°/07°
-	Pal	2	offset
17987	Pal	2½	Mudstone , dark-brown and grey weathered and fresh, vuggy, very poor reaction with HCl, beds 5-15cm
Section 2005-06: Northwest of Storm Mtn. (UTM 567580E, 5813320N)			
17980	RA	1	Packstone , medium-grey weathered and fresh, fine- to coarse-grained, abundant crinoids, beds up to 15cm thick
17979	RA	3	Grainstone , as 17978
17978	RA	3	Grainstone , light-grey weathered and fresh, generally finer grained (grains up to 1mm), beds up to 30cm thick
17977	RA	3¼	Grainstone , massive beds, light-grey weathered and fresh, coarse-grained, few thinner medium- to dark-grey beds
-	RA	3	offset
17976	RA	1¼	Wackestone , as 17975, light-grey weathered and fresh, very slight hint of brown on weathered, grains up to 1½mm, a few thin beds of fine vuggy limestone
17975	RA	2¾	Wackestone , as 17974, beds only 20-30cm thick
17974	RA	2	Wackestone , as 17973, beds 1m thick, attitude of bedding 202°/09°
17973	RA	3¼	Packstone , as 17972, abundant crinoids, beds up to ¾m thick are coarser grained with crinoids, otherwise finer grained beds
17972	RA	3	Wackestone to Packstone , light-grey weathered, very light grey fresh, very coarse grained, abundant crinoids, fetid odour, beds up to 60cm thick, attitude of bedding 204°/09°
Section 2005-07: About 1.2km North of Eagle Ridge (UTM 568472E, 5813175N)			
17961	RA	4¼	Grainstone , as 17960, more fine-grained (<1mm grains)
17960	RA	2½	Grainstone , as 17959
17959	RA	2¾	Grainstone , as 17958, slightly better cemented, grains up to 1½ mm
	RA	3¼	offset
17958	RA	4½	Grainstone , as 17957, light-grey weathered and fresh, very coarse grained, crinoid-rich, some brachiopod fossils, poorly cemented, beds up to 1m thick, attitude of bedding 212°/18°
	RA	1	offset
17957	RA	2¾	Grainstone , as 17956
	RA	1	offset
17956	RA	3	Grainstone , as 17955, light-grey matrix, poorly cemented, beds ¾m thick

APPENDIX 3: CONTINUED

Interval	Formation Member	Strat. Thick. (m)	Description
17955	RA	3¼	Grainstone , as 17954, grey weathered, light-grey fresh, very coarse grained, brachiopod and crinoid fossil up to 2mm diameter, beds up to ¾m, attitude of bedding 210°/17°
17954	Banff	4	Grainstone , as 17953, dark-grey-brown weathered and fresh, upper ¾m grey weathered and more massive
17953	Banff	3½	Grainstone , brown-black weathered, medium-brownish-grey fresh, very fine grained with some larger crystals up to 2mm, massive in lower 2m, moderate reaction with HCl
Section 2005-08: About 1km North of Eagle Ridge (UTM 568432E, 5813015N)			
21501	RA	3	Dolomitic Grainstone , as 18850
18850	RA	4	Dolomitic Grainstone , as 18849, light-grey fresh
18849	RA	3	Dolomitic Grainstone , as 18848, top of section lightens in color
-	RA	½	offset
18848	RA	¾	Dolomitic Grainstone , as 18847
18847	RA	4	Dolomitic Grainstone , light-grey weathered, medium-grey fresh, calcite blobs, many vugs or elongate burrows filled/replaced with black organic? material, very poor to no reaction with HCl, solitary rugose coral fossils
-	RA	2¼	offset
18846	RA	2¼	Dolomitic Grainstone , dissolution weathering with small scale (5mm) hummocks weathered, medium-grey fresh, fine-grained, very poor reaction with HCl
-	RA	1¼	offset
18845	RA	1½	Dolomitic Grainstone , as 18844, fine vugs, some infilled by calcite
18844	RA	2	Dolomitic Grainstone , massive, light- to medium-grey weathered, dark-grey fresh, fine-grained, calcite blobs (1mm scale), poor reaction with HCl
Section 2005-09: Martin Creek, Southwest of Nordegg Lookout (UTM 566825E, 5812625N)			
21510	Banff	3	Mudstone , as 21509, thinly bedded, moderate reaction with HCl
21509	Banff	2	Mudstone , as 21508, attitude of bedding 214°/11°
21508	Banff	3	Mudstone , interbedded, thin beds: dark-grey fresh, micritic, moderate reaction with HCl, beds 1-3cm thick; thick beds: massive, medium-grey fresh, blobs of calcite, poor reaction with HCl, beds 50cm thick
21507	Banff	2	Dolomitic Mudstone , as 21506, massive, poor or delayed reaction with HCl, beds 20cm thick, attitude of bedding 242°/12°
21506	Banff	2	Dolomitic Mudstone , as 21505, extensively weathered
21505	Banff	2	Dolomitic Mudstone , as 21504 missing 1m stratigraphic, tan weathered, medium-grey fresh, no reaction with HCl
21504	Banff	3	Mudstone , dark-grey weathered and fresh, micritic, thinly bedded, 50cm massive fine-grained bed in the middle of section
21503	Banff	2½	Mudstone , locally massive, medium-grey-brown weathered, dark-grey fresh, micritic, 1m bed on top of thinly bedded brittle rock, attitude of bedding 222°/10°
21502	Banff	2	Grainstone , light- to medium-grey weathered, light-grey to white fresh, coarse-grained calcite deposits, calcite veins 5mm across, moderate reaction with HCl on calcite, stronger reaction with HCl on the darker grey limestone near top of section, beds 50cm to 1m thick
Section 2005-10: Martin Creek, Southwest of Nordegg Lookout (UTM 566765E, 5812410N)			
21513	RA	2	Grainstone , as 21511
21512	RA	3½	Grainstone , as 21511
21511	RA	2	Grainstone , medium-grey weathered and fresh, moderate reaction with HCl, beds 1-2m thick
Section 2005-11: Northeast of Eagle Ridge (UTM 569450E, 5812475N)			
18797	RA	1½	Grainstone , light-grey weathered, medium-grey fresh, coarse-grained calcite crystals, moderate reaction with HCl, beds 10cm thick, attitude of bedding 226°/38°
18795	RA	(¼)	Mudstone , as 18794 (18793 - 95 probably sampled part of same bed as 18797 on dip-slope but represent <½ m stratigraphic total)

APPENDIX 3: CONTINUED

Interval	Formation Member	Strat. Thick. (m)	Description
18794	RA	(¼)	Mudstone , as 18793
18793	RA	(¼)	Mudstone , massive, light-grey weathered, medium- to dark-grey with brown flakes fresh, fine-grained, coarse-grained calcite
-	RA	20-25	offset
18796	RA	¾	Grainstone , light-grey weathered, medium-grey fresh, coarse-grained calcite crystals, black flecks, moderate reaction with HCl, attitude of bedding 220°/31°

Isolated Samples: Northeast Flank of Eagle Ridge (UTM 569215E, 5812390N)

18799	Fernie?	2	Dolomitic Grainstone , medium-grey weathered, dark-grey fresh, moderate reaction with HCl, beds 5cm thick, attitude of bedding 264°/10°
18800	Fernie?	2	Dolomitic Grainstone , as 18799
18791	Fernie?	1	Dolomitic Mudstone , light-grey weathered, dark-grey fresh, microcrystalline, beds 1-5cm thick
18798	RA	¼	Mudstone , light-grey weathered and fresh, micritic, poor reaction with HCl
18792	RA	1	Dolomitic Grainstone , massive, light-grey weathered, medium-grey fresh, coarse-grained calcite, fine vugs

Section 2005-12: Northeast flank of Eagle Ridge (UTM 569545E, 5812400N)

18826	RA	2	Grainstone , light-grey weathered, medium-grey fresh, excellent reaction with HCl, disarticulated crinoid fossils, attitude of bedding 220°/128°
18827	RA	1½	Grainstone , as 18826, coarse-grained, coarse calcite in veins (2mm by 2cm)
18828	RA	3	Grainstone , as 18827
18829	RA	1¾	Grainstone , as 18827
18830	RA	1½	Grainstone , as 18827, darker mottled weathered
18831	RA	2	Grainstone , as 18830, not as coarse as lower beds, some tan flecks
18832	RA	2	Grainstone , as 18831
18833	RA	2	Grainstone , as 18831
18834	RA	2	Grainstone , as 18831, attitude of bedding 200°/28°

Section 2005-13: East of Storm Creek (UTM 570870E, 5811295N)

17971	RA	3½	Wackestone , dark-greyish-brown weathered and fresh, gritty
17970	RA	4	Wackestone , medium- to dark-grey weathered and fresh, some medium- to dark-greyish-brown fresh surfaces, crinoids, alternating microcrystalline to medium-grained beds
17969	RA	3¼	Grainstone , as 17968
17968	RA	3¼	Grainstone , as 17967, brownish-grey weathered and fresh, more fine-grained, moderate HCl reaction
17967	RA	2½	Grainstone , as 17966, attitude of bedding 216°/13°
17966	RA	2¾	Grainstone , as 17962, very coarse grained, massive
17965	RA	¼	Grainstone , as 17962, slightly finer grained, harder, attitude of bedding 200°/15°
17964	RA	1¾	Grainstone , as 17962
17963	RA	3½	Grainstone , as 17962
17962	RA	3¼	Grainstone , light-grey weathered and fresh, coarse-grained, crinoidal, massive beds, fetid odor

Section 2005-14: East on a branch of Storm Creek (UTM 572085E, 5810125N)

18843	RA	2	Grainstone , as 18842
18842	RA	2	Grainstone , light-grey weathered, medium-grey fresh, excellent reaction with HCl, many coarse (1mm) calcite flecks, attitude of bedding 238°/27°
18841	RA	2	Grainstone , as 18840, nodules of calcite at 1-2mm, veinlets 2mm by 1cm, attitude of bedding 210°/31°
18840	RA	2	Grainstone , as 18839, nodules of calcite to 5mm
18839	RA	2	Grainstone , as 18838, calcite blobs
18838	RA	2	Grainstone , as 18835, more crystalline, attitude of bedding 242°/22°
18837	RA	2	Grainstone , as 18835

APPENDIX 3: CONTINUED

Interval	Formation Member	Strat. Thick. (m)	Description
18836	RA	2	<u>Grainstone</u> , as 18835
18835	RA	2	<u>Grainstone</u> , medium-grey weathered, light- to medium-grey fresh, fine-grained matrix, coarse calcite crystals to 2mm, excellent reaction with HCl, beds 15-30cm thick
Section 2005-15: Northwest of Dislope Mtn. on branch of Dutch Creek (UTM 572670E, 5808600N)			
21521	RA	3	<u>Grainstone</u> , light- to medium-grey weathered, medium-grey with tan chunks fresh, coarse-grained, hairline calcite veins, sparkling calcite blobs 0.5mm wide, excellent reaction with HCl, massive beds 1-3m thick, attitude of bedding 214°/22°
21522	RA	3	<u>Grainstone</u> , as 21521, brown-grey fresh
21523	RA	2	<u>Grainstone</u> , as 21522, less brown/tan grains
21524	RA	2	<u>Grainstone</u> , as 21523
21525	RA	3	<u>Grainstone</u> , as 21523, very coarse grained, crinoid fossils?, purple mineral fluorite
21551	RA	2	<u>Grainstone</u> , as 21525, light-grey and brown fresh
21552	RA	3	<u>Grainstone</u> , as 21551
21553	RA	3	<u>Grainstone</u> , as 21551, finer grained, attitude of bedding 240°/27°
21554	RA	2½	<u>Grainstone</u> , as 21553, finer grained
21556	RA	2	<u>Grainstone</u>
-	Banff ?	5	<u>offset</u>
21555	Banff?	2½	<u>Grainstone</u>
Isolated Samples: Dipslope Mtn. (UTM 573631E, 5808188N)			
21526	RA	1¼	<u>Crinoidal Grainstone</u> , light-grey weathered and fresh, brown tinge on fresh, coarse-grained, moderate to strong reaction with HCl, crinoid fossils, fetid odour, beds up to ¾m thick, attitude of bedding 221°/30°, 236°/29°, 218°/24°, 218°/24°
21527	RA	4	<u>Crinoidal Wackestone/Packstone</u> , as 21526, medium-grey and brown fresh, very coarse grained, abundant crinoids, fetid odour, beds ¾-2m thick, attitude of bedding 210°/21°
Section 2005-16: Dipslope Mtn. (UTM 573740E, 5807635N)			
21528	RA	4¾	<u>Crinoidal Grainstone</u> , light-grey weathered, medium- to dark-grey fresh, coarse-grained, crinoids, darker and finer grained near top of sample, beds 10-20cm thick, attitude of bedding 227°/37°
21529	RA	1½	<u>Crinoidal Wackestone/Packstone</u> , as 21528, lower 1½m is massive, attitude of bedding 210°/39°
21530	RA	3½	<u>Crinoidal Wackestone/Packstone</u> , light-grey weathered, medium-grey to medium-brown-grey fresh, coarse-grained, abundant crinoids, massive 1½-2m beds
21531	RA	1¼	<u>Grainstone</u> , light-grey weathered, medium-grey-brown fresh, fine- to medium-grained, beds 15-30cm thick
21532	RA	3	<u>Grainstone</u> , continues below 21531, medium- to dark-grey weathered and fresh, grains up to 1mm in size, massive beds, attitude of bedding 200°/32°
21533	RA	1¼	<u>Mudstone</u> , as 21532, micritic to fine-grained
Section 2005-17: South of Dipslope Mtn. (UTM 574375E, 5806450N)			
18778	RA	2	<u>Dolomite</u> , as 18777, massive, light-grey weathered and fresh, fine-grained, little to no reaction with HCl
18777	RA	3	<u>Dolomite</u> , massive, light-grey weathered and fresh, very fine grained matrix, vugs filled with coarse-grained calcite, little to no reaction with HCl
-	RA	23	<u>offset</u>
18776	RA	2	<u>Dolomitic Lime Grainstone</u> , massive, tan and creamy grey weathered, fine-grained, small vugs, slight reaction with HCl
-	RA	51¼	<u>offset</u>
18779	RA	2	<u>Mudstone</u> , light- to dark-grey-brown weathered, dark-grey-brown fresh, fine-grained, platy, beds 5-15cm thick, attitude of bedding 209°/29°
-	RA	½	<u>offset</u>
18780	RA	2	<u>Mudstone</u> , massive, dark-grey weathered and fresh, fine-grained, micaceous calcite to 2mm, attitude of bedding 209°/38°

APPENDIX 3: CONTINUED

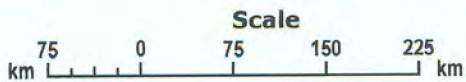
Interval	Formation Member	Strat. Thick. (m)	Description
Section 2005-18: South of Dipslope Mtn. (UTM 574464E, 5806223N)			
17932	RA	2½	Mudstone , light-grey and tan weathered, light-grey fresh, cryptocrystalline to fine-grained, moderate reaction with HCl
17933	RA	2½	Dolomitic Lime Grainstone , light-brown weathered and fresh, fine-grained, attitude of bedding 227°/42°
Section 2005-19: South of Dipslope Mtn. (UTM 574660E, 5806130N)			
17934	RA	1	Grainstone , light-grey weathered and fresh, coarse-grained, beds up to ¾m thick, fetid odor
-	RA	15	offset ~ 60 SE
17935	RA	3¾	Grainstone , light-grey weathered and fresh, medium- to coarse-grained, abundant fossil fragments, beds 10-20cm thick, attitude of bedding 243°/42°
17936	RA	1½	Grainstone , as 17935, beds up to 1m thick
17937	RA	4¼	Grainstone , as 17935, beds 4-50cm thick, attitude of bedding 235°/43°
-	RA	2¼	inaccessible part of cliff
17938	RA	1½	Grainstone/Mudstone , as 17937, massive, light-grey weathered and fresh, coarse-grained, lower metre dark-grey and micritic, attitude of bedding 237°/42°
-	Banff	2½	covered
17939	Banff	¾	Grainstone , brown weathered, medium- to dark-grey fresh, fine-grained, finely bedded, beds ½-3cm thick
Section 2005-20: South of Dipslope Mtn. (UTM 574460E, 5806090N)			
17931	RA ?	½	Grainstone , tan weathered, medium-grey fresh, fine-grained, finely bedded, beds few mm-2cm thick
17930	RA ?	¾	Grainstone , grey-weathered, medium-grey fresh, fine-grained, moderate reaction with HCl, well bedded, beds 1-8cm thick, attitude of bedding 229°/36°
Section 2005-21: South of Dipslope Mtn. (UTM 574625E, 5805932N)			
17926	RA	3¾	Wackestone , light-grey weathered and fresh, medium-grained, excellent reaction with HCl, beds 4-20cm thick, attitude of joints/cleavage 034°/38°, attitude of bedding: top 236°/42°, mid 249°/48°, base 236°/47°
17927	RA	4¾	Grainstone , medium-grey weathered and fresh, medium- to coarse-grained, excellent reaction with HCl, beds up to ½ m thick, attitude of bedding at base 244°/49°
17928	RA	4	Grainstone , as 17927
17929	RA	3¼	Grainstone , medium-grey weathered, light-brown-grey fresh, grains up to 2mm



Location of
MAIM Permit
9396010038



- LEGEND**
- Provincial capital
 - Other populated places
 - Trans-Canada Highway
 - Major road
 - International boundary
 - Provincial boundary



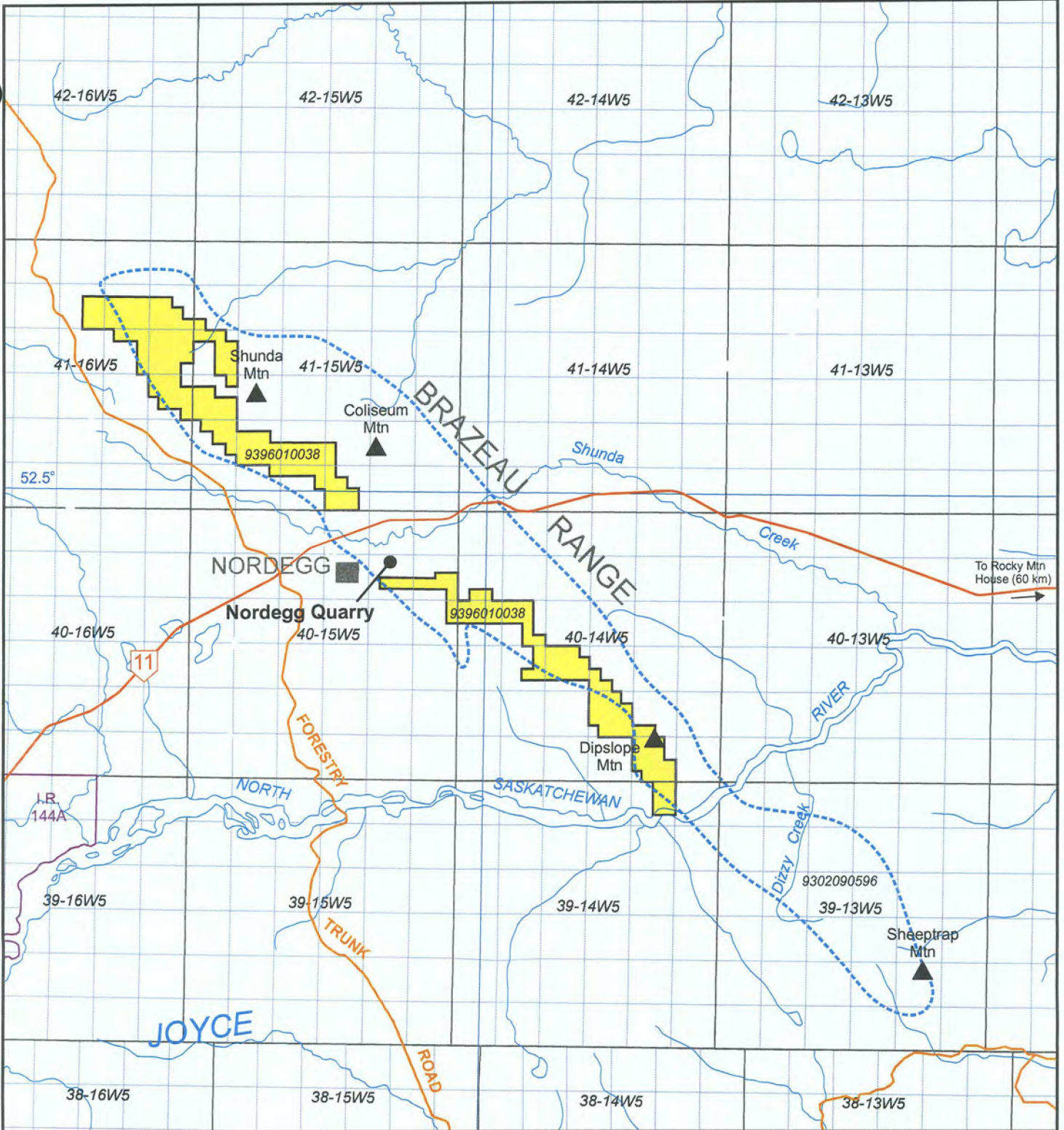
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
DAHROUGE GEOLOGICAL CONSULTING LTD.
Edmonton, Alberta

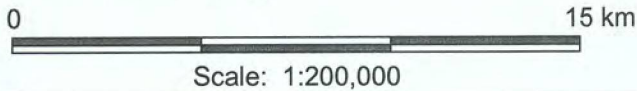
BRAZEAU RANGE,
WEST-CENTRAL ALBERTA

Fig. 3.1 Location Map



SYMBOLS

-  Paleozoic Limestone-bearing units (locations approximate)
-  Secondary Road
-  Rough Road
-  Railway

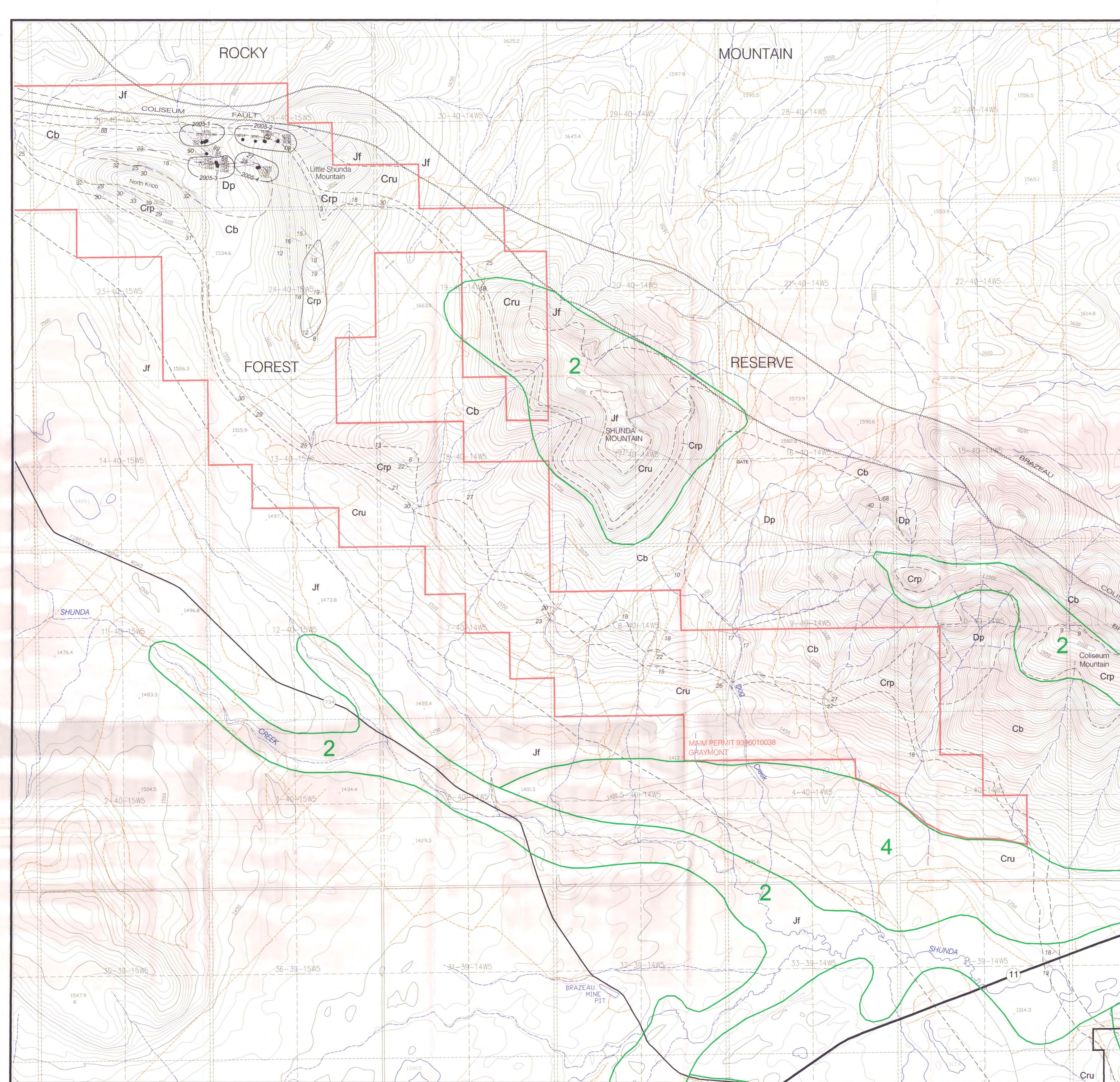


GRAYMONT WESTERN CANADA INC.

DAHROUGE GEOLOGICAL CONSULTING LTD.
EDMONTON, ALBERTA

WEST-CENTRAL ALBERTA

Figure 4.1 MAIM Permit 9396010038

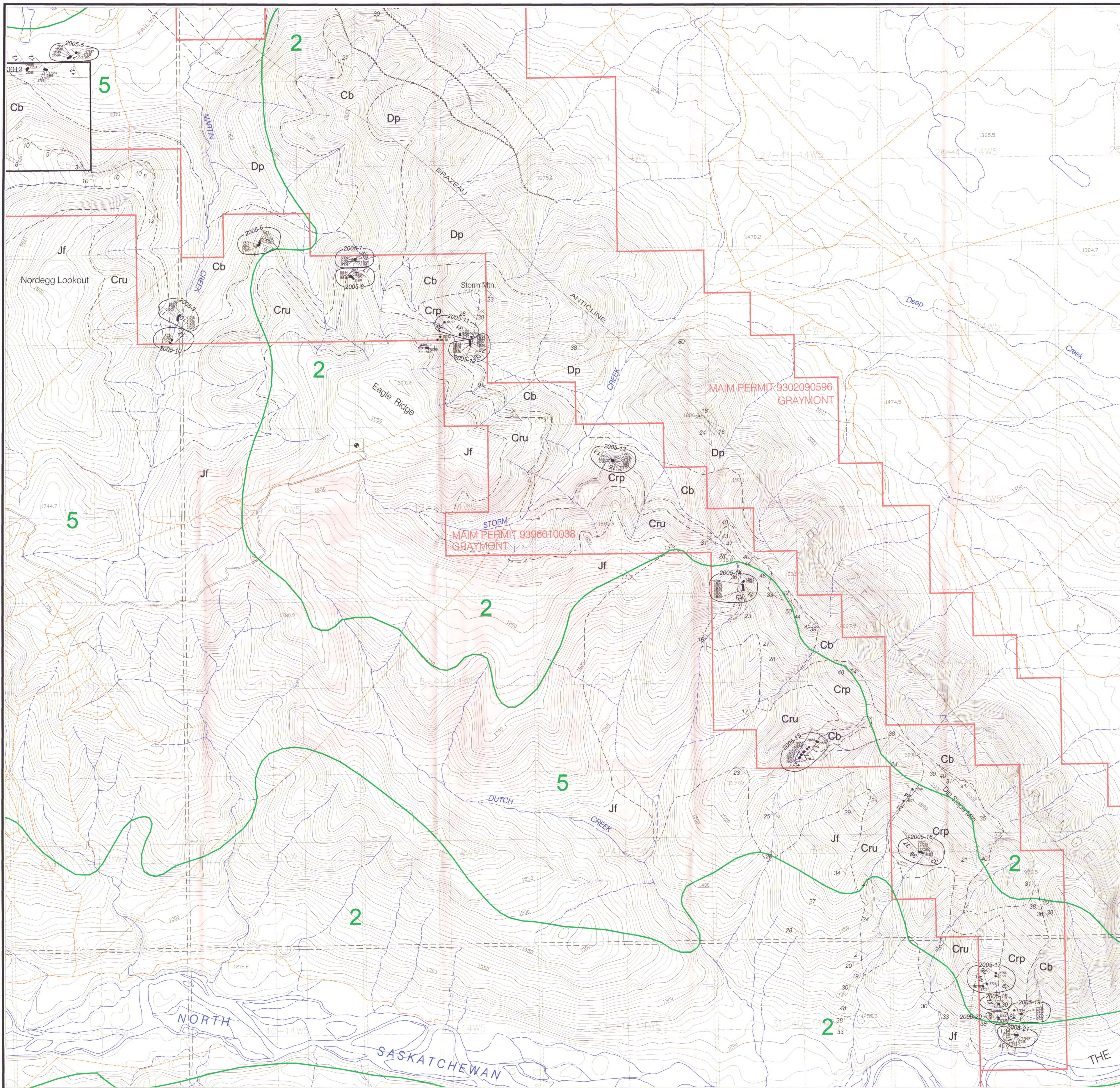


LEGEND AND SYMBOLS

- JURASSIC**
 Jf Fernie Formation: shale, sandstone, carbonates
- CARBONIFEROUS**
 Rundle Group
 Cru Turner Valley Formation: resistant, finely crystalline, vuggy dolomite; and Shunda Formation: recessive, thin-bedded, argillaceous limestone, fine dolomite, shale
 Crp Pekisko Formation: resistant, massive to thin-bedded, finely- to coarsely crystalline, fossiliferous limestone
- DEVONIAN**
 Cb Banff Formation: argillaceous and cherty limestone, fissile and calcareous shale
 Dp Palliser Formation: massive mottled limestone and dolomite, porous and vuggy dolomite, argillaceous limestone
 Da Aleo Formation: silty dolomite, sandstone, dolomite breccia
 Dm Mount Hawk Formation: brown cherty dolomite, dark grey argillaceous limestone
- Geological boundary
 Bedding (inclined, vertical, overturned, horizontal)
 Fault
 Synclinal axis (arrow indicates plunge)
 Anticlinal axis (arrow indicates plunge)
 Measured section with station numbers
 Elevation contour (interval: 10 m)
 Highway with number
 Trail or cut line
 MAIM Lease
 MAIM Permit
 Land Use Zone Boundary; Zone Number
 2 - Critical Wildlife 5 - Multiple Use
 4 - General Recreation 8 - Facility

- NOTES**
- 1) Base map compiled from 1 : 20 000 scale digital base maps 83C/8NE and 83C/9SE supplied by Spatial Data Warehouse Ltd., Calgary, Alberta.
 - 2) Geology modified after Erdman (1950), Douglas (1956, 1958), and Holter (1976).
 - 3) UTM grid is based on North American Datum, 1983 (NAD83); UTM grid zone: 11U.
 - 4) To accompany Assessment Report entitled '2005 Exploration and Fieldwork within the Nordegg Metallic and Industrial Minerals Permit, West-Central Alberta'.

REVISIONS		GRAYMONT WESTERN CANADA INC.	
BY	DATE	DAHROUGE GEOLOGICAL CONSULTING LTD.	
WM	1999.04	Edmonton, Alberta	
WM	2000.08	WEST-CENTRAL ALBERTA	
WM	2004.04	<p align="center">Figure 4.2 Nordegg Area (North Sheet)</p> <p align="center">Scale: 1:12,500</p>	
WM	2006.03		



LEGEND AND SYMBOLS

- JURASSIC**
 Jf Fernie Formation: shale, sandstone, carbonates
- CARBONIFEROUS**
 Rundle Group
 Cru Turner Valley Formation: resistant, finely crystalline, vuggy dolomite; and Shunda Formation: recessive, thin-bedded, argillaceous limestone, fine dolomite, shale
 Crp Pekisko Formation: resistant, massive to thin-bedded, finely- to coarsely crystalline, fossiliferous limestone
- DEVONIAN**
 Dp Palliser Formation: massive mottled limestone and dolomite, porous and vuggy dolomite, argillaceous limestone
 Da Alexo Formation: silty dolomite, sandstone, dolomite breccia
 Dm Mount Hawk Formation: brown cherty dolomite, dark grey argillaceous limestone
- Geological boundary - - - - -
 Bedding (inclined, vertical, overturned, horizontal) 30° \ 75° +
 Fault - - - - -
 Synclinal axis (arrow indicates plunge) +
 Anticlinal axis (arrow indicates plunge) -
 Measured section with station numbers 2005-14
 Elevation contour (interval: 10 m) 1450
 Highway with number 11
 Trail or cut line - - - - -
 MIM Lease 9496100002
 MIM Permit 9396010038
 Land Use Zone Boundary, Zone Number 2
 2 - Critical Wildlife 5 - Multiple Use
 4 - General Recreation 8 - Facility
 Gas Well •

- NOTES**
- 1) Base map compiled from 1 : 20 000 scale digital base maps 83C/8NE and 83C/8SE supplied by Spatial Data Warehouse Ltd., Calgary, Alberta.
 - 2) Geology modified after Erdman (1950), Douglas (1956, 1958), and Holter (1976).
 - 3) UTM grid is based on North American Datum, 1983 (NAD83); UTM grid zone: 11U.
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WM	1999.04	Edmonton, Alberta
WM	2000.08	
WM	2004.04	
WM	2006.03	

WEST-CENTRAL ALBERTA

Figure 4.3
Nordegg Area (South Sheet)

0 1 2 km
W.M. Scale: 1:12,500 1998.05