MAR 20040003: WEST CENTRAL

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GRAYMONT WESTERN CANADA INC.

2003 EXPLORATION AND FIELDWORK WITHIN THE NORDEGG METALLIC AND INDUSTRIAL MINERALS PERMIT WEST-CENTRAL ALBERTA

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

2004 04 16

by

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1. SUMMARY

During August and September, 2003 parts of Brazeau Range north of North Saskatchewan River, near 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 39 locations along Brazeau Range between North Saskachewan River and Nordegg, and north of Nordegg. The 2003 exploration was a follow-up to previous exploration conducted along Brazeau Range during the summers of 1994, 1995 and 1997.

Carbonate units within the Devonian Mt. Hawk, Alexo and Palliser formations, and within the Carboniferous Banff and Rundle assemblages were examined and their stratigraphic thicknesses recorded. About 12¼ m of the Mount Hawk Formation was examined near Nordegg. In total, more than 78 m of the Palliser Formation and 41½ m of the Banff Assemblage was examined along Brazeau Range. In addition, more than 541 m of the Rundle Assemblage was examined at more than 37locations. In total approximately 672 m of strata was examined from more than 1446¼ m normal thickness measured.

From north to south massive, mottled, lime mudstone 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 various thicknesses of coarse-grained grainstone, wackestone and lime mudstone, with lesser packstone. Lime mudstones within Mount Hawk Formation and dolomites of the Alexo Formation were considered to be of too low quality for further consideration.

As a previous assessment report (Pana and Dahrouge, 1998) includes descriptions of geographic setting, history and previous investigations, most of that information is not repeated here. 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 18½° 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 2003, 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 39 stratigraphic sections examined during August and September, 2003; as well as, an interpretation of the results. Peter Darbyshire, Vice President and General Manager for Graymont Western Canada Inc. authorized this work.

3. GEOGRAPHIC SETTING

Metallic and industrial minerals permit 9396010038 encompasses the northern part of Brazeau Range near Nordegg, Alberta. Nordegg, with year-round facilities is located 79 km west of Rocky Mountain House on Highway 11 (Fig. 3.1).

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.

TABLE 4.1 DESCRIPTION OF METALLIC AND INDUSTRIAL MINERALS PERMIT 9396010038

Comm. Date	Expiry Date	Land Description (Tp-RW5)	Size (Ha)
Permit Area (Fig. 4.1)			
Jan. 17, 1996	Jan. 17, 2004	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)	3,218

* Part lying outside land use zone 8
° Part lying outside land use zone 4

TABLE 4.2 LOCATIONS EXAMINED IN 2003

Section Number	Location	Samples	Strat. Thick. (m)*	Measured Thick. (m)°
	Brazeau Range, North of Nordegg			
2003-01	Northwest of North Knob	7	~13¼	~212¼
2003-02	Northeast of North Knob	5	12¾	293¾
2003-03	North Flank of North Knob	15	<29¼	~197¾
2003-04	North Flank of North Knob	20	~56¼	~56¼
2003-05	West Flank, North Knob	5	~7¾	10
2003-06	North Knob	4	~7¾	<24¼
2003-07	Southeast of North Knob	3	3	~7
Isolated	North Knob	3	4½	4½
2003-08	SSW of Little Shunda Mountain	8	~16¼	~50¾
2003-09	Flat Iron, South of Little Shunda Mountain	6	12¾	12¾
2003-10	Flat Iron, South of Little Shunda Mountain	9	15	16
2003-11	Flat Iron, South of Little Shunda Mountain	5	8	9¼
2003-12	South of Little Shunda Mountain	5	~12¾	~12¾
2003-13	Northwest Flank of Shunda Mountain	2	~4½	~4½
Isolated	Shunda Mountain	3	~6½	~6½
2003-14	West of Shunda Mountain	7	4	4
Isolated	Southwest of Shunda Mountain	1	~4¼	~4¼
	Brazeau Range, South of Nordegg			
2003-15	Along Highway 16	4	12¼	24¼
2003-19	East of Nordegg Quarry	8	18½	20¼
2003-20	East of Nordegg Quarry	15	36¾	60¼
2003-21	East of Nordegg Quarry	9	~20½	~21½
2003-22	South of Nordegg Quarry	14	32¾	32¾
2003-25	South of Storm Mountain	12	23¾	24¾
2003-26	South of Storm Mountain	11	25½	25½
2003-28	South of Grizzly Creek	10	25½	33½
2003-29	South of Grizzly Creek	17	39¼	43¼
2003-30	Near North End of Dipslope Mountain	13	29½	34
2003-31	Near North End of Dipslope Mountain	9	13¾	15¼
2003-32	Northwest of Peak of Dipslope Mountain	6	17¼	17¾
2003-33	West Flank of Dipslope Mountain	6	13½	13½
2003-34	Northwest of Peak of Dipslope Mountain	10	30¾	32¾
2003-35	Peak of Dipslope Mountain	7	17¾	24¾
2003-36	Southeast of Peak of Dipslope Mountain	7	18¾	18¾
2003-37	South of Peak of Dipslope Mountain	10	29½	29½
2003-38	South of Peak of Dipslope Mountain	5	14	14
2003-39	South of Peak of Dipslope Mountain	7	~30	~30
Isolated	West Flank of Dipslope Mountain	3	~3½	~3½
	TOTALS:	291	672½	1446¼

* Stratigraphic thicknesses are examined thicknesses.

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

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 original area of MAIM permit 9396010038 totalled 8,716 hectares (Fig. 4.1). Based on exploration conducted between 1994 and 1997, the permit area has been reduced to 3,218 hectares (Pana and Dahrouge, 1998). Given the 2003 exploration expenditures of $40,233.26 (Appendix 1, Section 4.3), the entirety of MAIM permit 9396010038 will be maintained (Table 4.1).

4.2 2003 EXPLORATION

Between August 21 and 30, and September 15 and 23, 2003 parts of Brazeau Range within MAIM Permit 9396010038 were examined by Dahrouge Geological Consulting Ltd. on behalf of Graymont Western Canada Inc. for high-quality carbonate rocks. Carbonate outcrops were examined at more than 39 locations (Appendix 2; Fig's.6.1 and 6.2; Table 4.2). A total of 291 samples representing about 672½ m of strata were collected from more than 1446¼ m of strata examined.

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 (Appendix 1); hence, total available assessment credits are $64,497.55. These expenditures are allocated to MAIM permit 9396010038 as follows:

Assessment Period	Expiry Date	Required Expenditures	Assigned Expenditures
Years 7 and 8	2004-01-17	$48,270	$48,270
Years 9 and 10	2006-01-17	$48,270	$16,228
		Total:	$64,498

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 manufacture 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 Front Ranges of the Rocky Mountains, the Upper Devonian Fairholme Group was transgressivelly 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 the 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, which are 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 Exhaw 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	
		[1] Livingstone	Turner Valley
			Shunda
			Pekisko
	Banff Assemblage	Banff	
		Exshaw	
Upper Devonian		[1] Palliser	
		Alexo	
	~ Fairholme Group°	Southesk	Mount Hawk
		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).
[1] Current 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 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. 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 have been repeated along several major thrust faults. Displacements along these faults are interpreted to be tens of kilometres. 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 Mount Hawk Formation, Palliser Formation, Banff Assemblage and Rundle Assemblage were examined and measured along Brazeau Range, north of North Saskatchewan River (Fig's. 6.1 and 6.2). During August and September, 2003, 291 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 (Appendix 2). A solution of 5% HCl was used to assess the quality of the limestone from the measured sections in the field. The 291 intervals represent a stratigraphic thickness of about 672½ m and were collected from an investigated stratigraphic thickness that exceeds 1446¼ m.

6.2 STRATIGRAPHY

Where Highway 11 crosses Brazeau Range, about 12¼ m of the upper part of the Mount Hawk Formation of the Fairholme Group was examined (Appendix 2). It consists of black, cryptocrystalline lime mudstone with argillaceous partings. Some beds are mottled brownish-black with a nodular appearance. It is overlain by several meters of argillaceous limestone and dolomitic limestone of attributed to the Alexo Formation.

The Palliser Formation is exposed within the core of Brazeau Anticline about 10 to 12 km northwesterly from Highway 11. Where examined, the upper most 30 m of the Palliser Formation consist of mottled, microcrystalline, lime mudstone to wackestone; with some interbeds of finely crystalline dolomite. Further south it is exposed along the Highway 11 road cut, 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 that is 91 m thick on Coliseum Mountain (Douglas, 1956; Fig. 7.1).

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. 6.1 and 6.2) from Brazeau Range follow :

Location	Reference	Thick. (m)
Shunda Mountain	Douglas (1958)	32½
Nordegg Lime Quarry*	Matthews (1960)°	~50¾
Dizzy Creek*	Erdman (1950)	51¾

* South of North Saskatchewan River
° *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 2). 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 consists of thin-bedded, microcrystalline, dolomite and dolomitic breccias.

6.2 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 (Fig's. 6.1 and 6.2). 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. ...

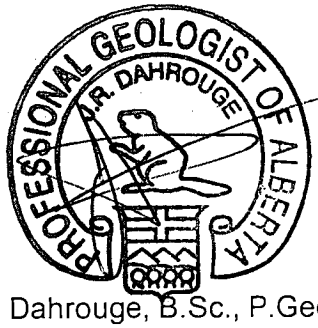
The main structural elements southeast of Nordegg are the same as those north of Highway 11, namely Brazeau Anticline and splays from Brazeau Thrust. Although mostly asymmetrical near Storm Mountain (Fig's. 6.1 and 6.2), parts of the Brazeau Anticline are symmetrical with dip slopes of 23° to 38° in 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 9301010011, exposures of the Palliser Formation, Mt. Hawk Formation, Banff Assemblage and Rundle Assemblage were examined along the northern part of Brazeau Range, near Nordegg, Alberta. A total of 291 discrete intervals were measured and described in detail, representing approximately 672½ m of stratigraphy out of a total investigated thickness of more than 1446¼ m.

Carbonate intervals within the upper parts of the Mt. Hawk and Palliser formations were examined at several locations at Brazeau Range. The upper 16¼ m of the Devonian Mt. Hawk formation generally consist of argillaceous, lime mustone. The upper part of the Palliser Formation consists of massive mottled lime mudstones north of Highway 11, that are 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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2004 04 16

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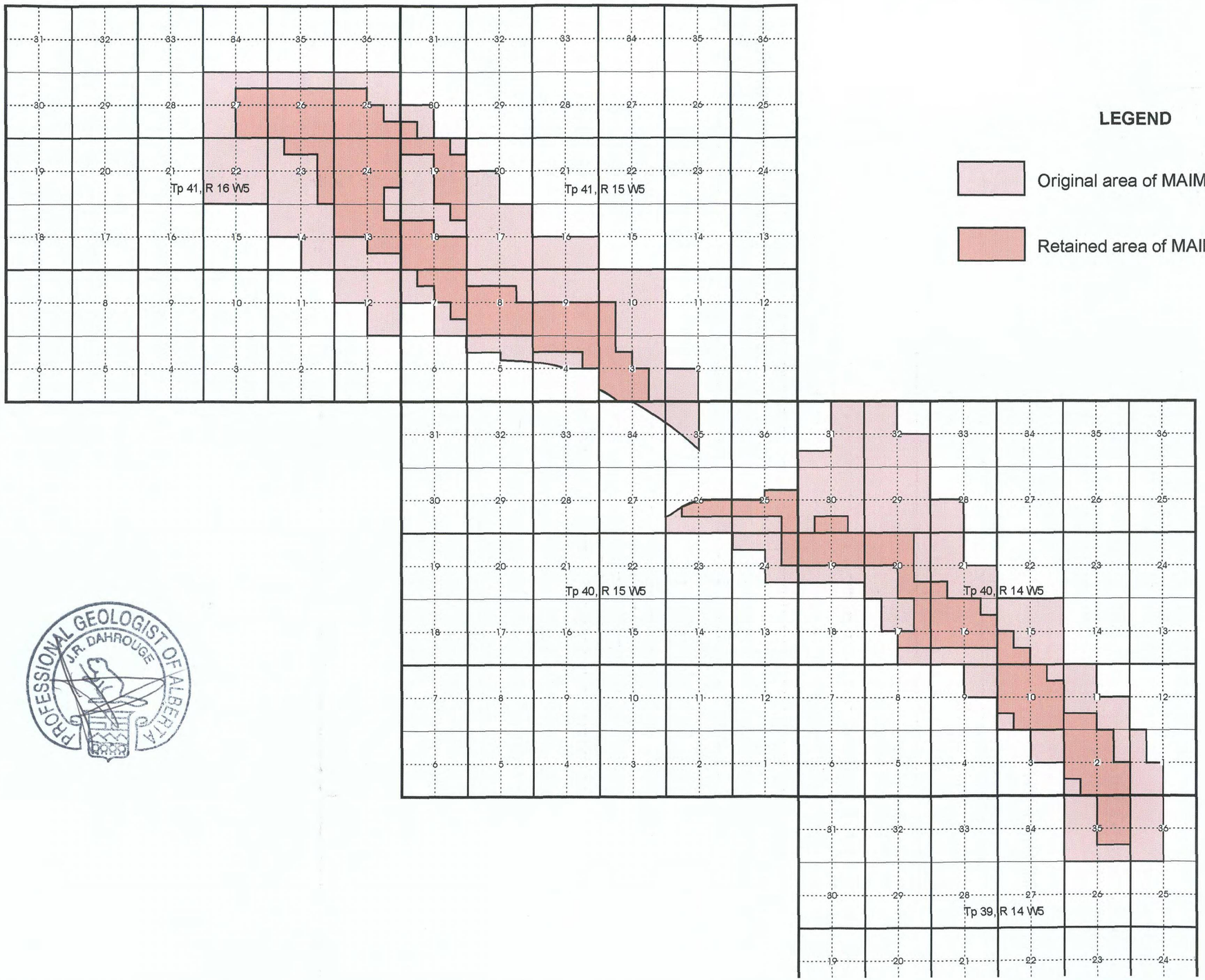
WEST-CENTRAL ALBERTA

Fig. 3.1 Location Map

100 0 100 200
KILOMETRES



LEGEND

Original area of MAIM Permit # 9396010038 (8716 ha.)

Retained area of MAIM Permit # 9396010038 (3218 ha.)

PROFESSIONAL GEOLOGIST OF ALBERTA
J.R. DAHROUGE

GRAYMONT WESTERN CANADA INC.

DAHROUGE GEOLOGICAL CONSULTING LTD.
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WEST CENTRAL ALBERTA

Fig. 4.1 Location of Metallic and Industrial Minerals Permit # 9396010038

WM 2004.04

APPENDIX 1: ITEMIZED COST STATEMENT FOR METALLIC AND INDUSTRIAL MINERALS PERMIT 9396010038 OF GRAYMONT WESTERN CANADA INC.

a) Personnel

J. Dahrouge, B.Sc., P.Geol. (Geologist)

15.0	days	field work and travel between August 21 to 30, Sept. 15, and Sept. 20 to 23, 2003	
6.3	days	preparations for field, organizing, supervising and preparing report	
21.3	days	[redacted]	$ [redacted]

W. McGuire, (Draftsman, Field Assistant)

5.4	days	compiling field data, drafting, preparing figures and maps	
5.4	days	[redacted]	$ [redacted]

B. Gonek, B.Sc. (Geologist)

14.0	days	field work and travel between August 21 to 30, Sept. 15, and Sept. 20 to 22, 2003	
1.3	days	compiling field data, determine specific gravities, prepare figures, assist with report writing	
15.3	days	[redacted]	$ [redacted]

R. Wolbaum, B.Sc. (Geologist)

15.0	days	field work and travel between August 21 to 30, Sept. 15, and Sept. 20 to 23, 2003	
5.3	days	organize and ship samples	
20.3	days	[redacted]	$ [redacted]

S. Robson, B.Sc. (Field Assistant)

15.0	days	field work and travel between August 21 to 30, Sept. 15, and Sept. 20 to 23, 2003	
2.8	days	preparations for field	
17.8	days	[redacted]	$ [redacted]

R. Vega, (Assistant)

42.5	days	data entry	
42.5	days	[redacted]	$ [redacted]

$ 26,677.25

b) Food and Accommodation

59 man-days @ $48.761322	accommodations (motel)	$ 2,876.92
59 man-days @ $41.580186	groceries and meals	$ 2,453.23

$ 5,330.15

APPENDIX 1: CONTINUED

c) Transportation				
ATV:	Quad and Trailer Rental (~~12~~ 13 days @ $147.125000)	$ 1,912.63		
	Quad Rental (~~12~~ 13 days @ $135.355000)	$ 1,759.62		
Helicopter:	Helicopter Charter	$ 2,087.53		
Vehicles:	Truck Rental 1855 km @ $0.385000	$ 714.18		
	4x4 Sports Utility Truck 2298 km @ $0.495000	$ 1,137.51		
	Fuel	$ 40.02		
			$	7,651.47
d) Instrument Rental	n/a			
e) Drilling	n/a			
f) Analyses	n/a			
g) Report	Reproduction and assembly	$ 79.75		
			$	79.75
h) Other				
	Base map(s) and map reproductions	$ 470.80		
	Courier, postage and shipping	$ -		
	Field supplies	$ -		
	Long distance telephone	$ 23.84		
			$	494.64
Total			$	40,233.26

I, Jody R. Dahrouge, hereby certify that the costs outlined above were expended for the assessment of metallic and industrial minerals permits 9396010038.

[redacted]

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

Commissioner for Oaths

JACK LAMOUREUX
COMMISSIONER FOR OATHS
COMMISSION EXPIRES
MAY 21, 2005

APPENDIX 2: DESCRIPTIONS OF THE 2003 STRATIGRAPHIC SECTIONS WITHIN MAIM PERMIT 9396010038 NEAR NORDEGG

Note: Stratigraphic thicknesses are based on measured attitudes of bedding, as listed below, with appropriate interpolations. Attitudes are strike and dip. UTM coordinates are NAD83. Examined intervals are listed in order from stratigraphic top to bottom.

Abbreviations: Mt. Hawk - Mount Hawk Formation; AL - Alexo Formation; Pal - Palliser Formation; Exshaw - Exshaw Formation; Banff - Banff Assemblage; and RA - Rundle Assemblage.

Interval Number	Unit	Strat. Thick. (m)	Description
Section 2003-1; About 500 m Northwest of North Knob (UTM 554189, 5823350)			
17221	RA	½	Dolostone, brown-tan weathered and fresh, uniform, some rusty stain along fractures; some secodary white carbonate veinlets/stringers
-	RA	81	covered
17126	RA	1½	Packstone, medium-grey weathered and fresh, medium- to coarse-grained, crinoids
-	Banff	75	covered
17128	Banff	<2¼	Mudstone, light-grey to tan weathered, black fresh, microcrystalline, sugary texture, black chert, calcite veins, grey dolostone nodules, attitude of beds 278°/88° E
-	Banff	32	covered
17127	Banff	6	Mudstone, black weathered and fresh, cryptocrystalline to microcrystaline, beds up to 2cm, interbedded chert (black) and chert nodules, calcite veining, attitude of beds 278°/88° E
-	Banff	11	covered
17130	Banff	1	Wackestone, grey to white-tan weathered, medium-grey fresh, microcrystalline to fine-grained, mottled, calcite stringers
17129	Banff	1	Mudstone, light-grey weathered, medium-grey fresh, cryptocrystalline, sugary texture, massive, calcite stringers
14527	Banff	1	Mudstone, dark- to medium-grey weathered, medium-grey fresh, sparse crinoids, peloids, and gastropods, nodules up to 2 cm, calcite veins
Section 2003-2; Creek Valley Northeast of North Knob			
17025	RA	~¾	Dolostone, grey-brown weathered and fresh, cryptocrystalline, pyro-bitumen staining interstitial and along cleavage planes
-	RA	92	covered
17024	RA	~1¾	Packstone, medium-grey weathered and fresh, fine-grained, peloids, crinoids
-	RA	43½	covered
17023	RA	~5¼	Wackestone, dark-grey weathered and fresh, fine-grained, attitude of beds 098°/82° S
-	RA-Banff	69½	covered
17022	Banff	5	Wackestone, dark-grey-brown weathered and fresh, microcrystalline, silty, interbedded nodular black chert, attitude of beds 094°/85° S
-	Banff	76	covered
17016	Banff	~1¼	Packstone, dark-grey weathered, dark-grey to black fresh, fine-grained, white sparry calcite veining, zones of brachiopods and crinoids, attitude of beds 096°/70° S
Section 2003-3; North Flank of North Knob			
17228	RA	~1¾	Wackestone, medium-grey weathered, light-grey fresh, medium to coarse-grained, scattered crinoid debris, beds <¼-½ m, attitude of beds 117°/32° W
-	RA	~¾	covered
17227	Banff	2	Lime Mudstone, brown to rusty-brown weathered, dark-grey fresh, fine-grained, platy, various fossils: bivalves crinoid debris, ¼ m of tan, weathered dolomite below, attitude of beds 110°/32° W
-	Banff	~135	covered
14526	Banff	2	Wackestone, dark-grey weathered, dark-grey-brown fresh, fine-grained, peloids and crinoids
-	Banff-Exshaw	~33	covered
14525	Pal	3	Grainstone, orange-grey-white weathered, light-grey fresh, fine-grained, tan veinlets, large brachiopods, few crinoids, peloids, pyrobitumen
14524	Pal	2	Dolomitic mudstone, tan-grey weathered, tan fresh, fine-grained, thin slaty cleavage
14523	Pal	2	Mudstone, dark-grey-brown weathered and fresh, fine-grained, tan veinlets throughout, crumbly appeareance, massive
14522	Pal	2	Mudstone, dark-grey-brown weathered and fresh, fine-grained, tan veinlets throughout, crumbly appeareance, massive

APPENDIX 2: CONTINUED

Interval Number	Unit	Strat. Thick. (m)	Description
Section 2003-3; continued			
14521	Pal	2	Mudstone, dark-grey-buff weathered, dark-grey-brown fresh, fine-grained, sparse crinoid and brachiopod debris, sparry calcite, attitude of beds 111°/52° SW
14520	Pal	2	Dolomitic Mudstone, grey-tan weathered, light-grey to buff fresh, very fine to fine-grained
14519	Pal	2	Mudstone, buff weathered, dark- to medium-grey fresh, fine-grained, sparce crinoid debris
14514	Pal	2¾	Mudstone, brown-grey fresh, medium-grey weathered with buff patches, very fine to fine-grained, well bedded
14515	Pal	2	Mudstone, as above
14516	Pal	1½	Mudstone, as above
14517	Pal	1	Mudstone, grey-brown to black weathered and fresh, fine- to very fine grained, calcite veining, interbedded, attitude of beds 110°/25° SW
14518	Pal	1	Mudstone, grey-buff weathered, dark-grey fresh, fine- to very fine grained
Section 2003-4A; North Side of North Knob			
17312	Pal	4	Lime Mudstone, light-grey weathered and fresh, very fine grained, massive, some satined vugs
17311	Pal	2½	Mudstone, light-grey to medium-tan-grey weathered, grey- to light-brownish-grey fresh, very fine grained, beds 1m, few wavy laminations, some dark-grey interbeds
17310	Pal	2½	Mudstone, light-grey to medium-tan-grey weathered, grey- to light-brownish-grey fresh, very fine grained, beds 1m, few wavy laminations, some dark-grey interbeds, attitude of beds 112°/25° W
17309	Pal	2	Dolomitic Limestone, tan-grey weathered, very light grey tan fresh, very fine grained, beds less than ½ m, wavy laminations
Section 2003-4B; North Side of North Knob (Partly equivalent to 2003-4B)			
-	Pal	4	inaccessible, not sampled
17314	Pal	3	Lime Mudstone, light-grey weathered, light-brownish-grey fresh, very fine grained, some secondary white calcite, some vugs with staining, massive (Possibly equivalent to 17312)
17313	Pal	3	Lime Mudstone, light-grey weathered, light-brownish-grey fresh, very fine grained, beds ½ - ¾ m (Possibly equivalent to 17311)
Section 2003-4C; North Side of North Knob			
17021	Pal	½	Wackestone, dark-grey weathered and fresh, abundant sparry calcite veins, light-brown on cleavage surfaces
-	Pal	(?)	covered
17020	Pal	2	Wackestone, black-grey weathered, dark-grey-brown fresh, fine-grained, slightly mottled, calcite veining, wavy laminations, some brachiopods, vugs up to 1½ cm, calcite filled
17019	Pal	~4¼	Wackestone, black-grey weathered, dark-grey-brown fresh, fine-grained, slightly mottled, calcite veining, wavy laminations, few brachiopods
-	Pal	(?)	covered
17018	Pal	1½	Wackestone, black-grey weathered, dark-grey-brown fresh, fine-grained, slightly mottled, calcite veining, wavy laminations
17017	Pal	3	Wackestone, black-grey weathered, dark-grey-brown fresh, fine-grained, slightly mottled, calcite veining, attitude of beds 120°/18° SW
Section 2003-4D; North Side of North Knob			
-	Exshaw	float	Shale, black and brownish-black
17323	Pal	1½	Lime Mudstone, light-grey weathered, dark-grey fresh with some brownish-grey mottles, micritic, some rusty-brown material in fractures, very thick bedded to massive, attitude of beds 090°/37° W
17322	Pal	4½	Lime Mudstone, as above
17321	Pal	~3¼	Lime Mudstone, as above, attitude of beds 123°/32° W
17320	Pal	3	Limestone, light-grey weathered, dark-grey fresh with some brownish-grey mottles, generally very thick bedded to massive, some secondary white calcite blebs and stringers
17319	Pal	~2¾	Limestone, mottled dark-grey weathered, medium-brown fresh, interbedded with medium-brown microcrystalline Dolomitic Limestone, beds 40 cm - ¼ m, vuggy
17318	Pal	1½	Lime Mudstone, light-grey weathered, light-brownish-grey fresh, micritic, massive, brownish mottles, attitude of beds 110°/32° W

APPENDIX 2: CONTINUED

Interval Number	Unit	Strat. Thick. (m)	Description
Section 2003-4D; continued			
17317	Pal	4	Lime Mudstone, as above
17316	Pal	4½	Lime Mudstone, brown-grey weathered with mottles, dark-grey fresh, some secondary white calcite stringers, beds ¼-½ m
17315	Pal	3	Lime Mudstone, light-brownish-grey weathered, dark-grey fresh, very fine grained, beds <¼-½ m
Section 2003-5; West Flank of North Knob			
17226	RA	1	Grainstone, light-grey weathered, medium-grey fresh, coarse-grained, rare belmenite, bivalve, scattered crinoid debris and pellets; massive (same stratigraphic interval as 17225)
17225	RA	1	Crinoidal Grainstone, medium-grey weathered, medium-grey to brownish-grey fresh, coarse-grained, massive, scattered outcrops, atttidue of beds 125°/32°W
17224	RA	4	Lime Mudstone to Wackestone, light-grey weathered, dark-grey to brownish-grey fresh, fine-grained, few scattered out crops only, scattered pellets and crinoids
17223	RA	~1¼	Lime Mudstone, light-grey weathered, dark-grey to brownish-grey fresh, fine-grained, beds <¼ m, rare crinoid oscicle
-	RA	~2¼	covered
17222	Banff	½	Lime Mudstone, light-brown-grey weathered, dark-grey fresh, very fine to fine-grained, fissile, bivalves to 2-4cm, across, probably silty, attitude of beds 120°/32°W
Section 2003-6; Southwest Facing Dip Slope of North Knob			
17229	RA	~3	Wackestone, light-grey weathered, medium- to dark-grey fresh, fine- to medium-grained, few pellets mostly near top, beds ¼-½ m
-	RA	~13½	covered
17230	RA	~3	Wackestone, light-grey weathered and fresh, medium-grained, attitude of beds 121°/39° W, Banff Fm below - Lime Mudstone, brown to tan-grey weathered, dark-grey fresh, fine-grained, attitude of beds 105°/40° W
-	RA	~¼	covered
17232	RA	~¾	Wackestone, light-grey weathered and fresh, medium- to coarse-grained, some bivalves, pellets, crinoid debris
17231	RA	~1¼	Wackestone, light-grey weathered and fresh, medium- to coarse-grained, scattered rubbly out crops, some bivalves, pellets, crinoid debris, attitude of beds 122°/29° SW
-	RA	~½	covered
-	Banff	2	Lime Mudstone, brown to tan-grey weathered, dark-grey fresh, platy, fossiliferous, argillaceous, attitude of beds 105°/40°SW
Section 2003-7; Southeast Ridge of North Knob (UTM 555157, 5822594)			
17326	RA	1	Lime Mudstone, light-brownish-grey weathered, medium-brownish-grey fresh, ocsicles and scattered pellets to 2mm; top ¼ m Pelletal Grainstone, light-grey with grains 2-3mm, crumbly, deeply weathered
-	RA	~2¼	covered
17325	RA	~¾	Lime Mudstone, light-brownish-grey weathered, medium-brownish-grey fresh, with ocsicles and scattered pellets to 2mm
-	RA	~1¾	covered
17324	RA	~1¼	Crinoidal Grainstone, light-grey weathered and fresh, attitude of beds 133°/31° W
Isolated Samples on North Knob			
17327	(?)	-	silicified rocks; possiblly volcanic, very odd as location appears to be outcrop
17328	RA	3	Lime Mudstone, grey weathered, medium-brownish-grey fresh, micritic to very fine grained, generally massive
17329	RA	1½	Crinoidal Grainstone, tan to light-grey weathered surface, grains to 2mm, beds 1m, attitude of beds 167°/14° W

APPENDIX 2: CONTINUED

Interval Number	Unit	Strat. Thick. (m)	Description
Section 2003-8; Saddle about 800 m SSW of Peak of Little Shunda Mountain (UTM 556246, 5822333)			
17013	RA	~4¾	Wackestone, grey weathered, medium-grey fresh, fine- to medium-grained, abundant corals bottom ½ m of section
17012	RA	~4¾	Wackestone, grey weathered, medium-grey fresh, fine- to medium-grained, attitude of beds 123°/19° SW
-	RA-Banff	~7¾	covered
17011	Banff	<1¼	Wackestone, grey-brown weathered, dark-grey fresh, microcrystalline to fine-grained, fine-buff wavy veinlets, attitude of beds 142°/15° SW
-	Banff	~12½	covered
17010	Banff	~¼	Mudstone, brown weathered, dark-brown-black fresh, microcrystalline, attitude of beds 113°/16° S
-	Banff	~6¾	covered
17009	Banff	1	Crinoidal Grainstone, dark-grey weathered and fresh, coarse-grained, some thin beds of medium-grained Packstone, some light-grey chert
-	Banff	~7½	covered interval spans the subcrop and grab samples of 17007, 17008
17008	Banff	~¾	Packstone, white-beige weathered, light-grey fresh, fine- to medium-grained, chert nodules, brachiopods and crinoids, crumbly thin beds, subcrop, attitude of beds 100°/12° S
17007	Banff	~1½	Mudstone, buff-brown weathered, dark-brown fresh, microcrystalline
17006	Banff	~2¼	Lime Mudstone, top part: brown weathered and fresh, very fine grained; middle part: medium-grey weathered and fresh, vuggy; bottom part: dark-grey weathered and fresh, cryptocrystalline to microcrystalline, attitude of beds 123°/13° SW
Section 2003-9; Northern Part of Flat Iron on South Flank of Little Shunda Mountain (UTM 556422, 5822337)			
17220	RA	1¾	Grainstone, grey weathered and fresh, medium- to coarse-grained, beds <¼ m, some brownish weathered (dolomitic?) mottles
17219	RA	2½	Wackestone with few interbeds of Grainstone, grey weathered, light-brownish-grey fresh, massive, attitude of beds 137°/17° W
17218	RA	3	Wackestone and Lime Mudstone, interbedded, grey weathered, medium-brownish-grey fresh, fine- to medium-grained, massive
17217	RA	2	Wackestone to Grainstone, interbedded, light-grey weathered, medium to brownish-grey fresh, medium-grained, generally massive, few stylolites, scattered crinoids debris
17216	Banff	2	Wackestone and Lime Mudstone, interbedded, grey weathered, light brownish-grey fresh, fine-grained, abundant rugose corals, limemud beds ½-¾ m, attitude of beds 120°/18° W
17215	Banff	1½	Lime Mudstone, grey weathered, medium-brownish-grey fresh, fine-grained, grades up to Wackestone, partly recessive
Section 2003-10; East Edge of Flat Iron on South Flank of Little Shunda Mountain (UTM 556478, 5822207)			
17214	RA	~1¼	Lime Mudstone to Wackestone, grey-brownish weathered, light-grey fresh, fine-grained, abundant brown mottling, secondary dark sparry calcite-dolomite, some crinoid debris
17213	RA	2	Wackestone, grey weathered, greyish-brown fresh, medium-grained, top ¼ m is Wackestone to Grainstone, with crinoid osscicles, few scatlered rugose corals
17212	RA	1½	Wackestone to Lime Mudstone, grey weathered, greyish-brown fresh, medium-grained, few thin intervals of calc-grainstone, beds 10-25 cm
17211	RA	2½	Wackestone, grey weathered, greyish-brown fresh, medium-grained, few thin intervals of grainstone, beds 10-25 cm, attitude of beds 140°/16° W
17210	RA	2	Lime Mud/Wackestone, grey weathered and fresh, fine- to coarse-grained, Mudstone grades up to Wackstone-Grainstone, beds less than ¼ m, scatlered rugose corals
17209	RA	~¼	Wackestone, as above, outcrop is about 50 per cent covered, attitude of beds 150°/21° W
17208	RA	1½	Wackestone, brown weathered, very light grey fresh, medium-grained, vuggy, rugose coral marker as per sec. 95-1, beds ¾m, abundant fossils, rugose and colonial corals, abundant crinoid debris upward
17207	RA	½	Wackestone to Grainstone, brownish-grey weathered, medium-grey fresh, crinoids
-	RA	1	covered
17206	RA	3½	Lime Mudstone to Wackestone, grey weathered, medium-brownish-grey fresh, few interbeds (<½m) of calc-grainstone (medium-grained), few crinoid oscicles, rugose corals and other fossile debris, beds ¼-½m, attitude of beds 115°/15° S. *Sample 17205 is about ½ m stratigraphically above 17206

APPENDIX 2: CONTINUED

Interval Number	Unit	Strat. Thick. (m)	Description
Section 2003-11; Central Part of Flat Iron on South Flank of Little Shunda Mountain (556436, 5822042)			
17205	RA	1¼	Lime Mudstone to Wackestone, grey weathered, light-grey fresh, fine- to very fine grained, beds ~¼m, few scattered crinoid oscicles
-	RA	~1¼	covered
17204	RA	3	Grainstone, light-grey weathered, medium-grey fresh, coarse-grained, beds <¼m, top ¾m with crinoids, bryozoans, rugose corals, attitude of beds 161°/14°. Sample 17204 stratigraphically equivalent to samples 17202-3, and lower ¾ m of 17201
17203	RA	1	Lime Mudstone to Wackestone, brownish-grey weathered, dark-grey fresh, very fine grained, few rugose corals, beds to ¼m, uppermost part of section is peloidal
17202	RA	1	Grainstone, medium-grey weathered and fresh, coarse-grained, abundant crinoid debris, beds 1-25cm, some sections crumbly brown sucrosic, deeply weathered, fetid odor, attitude of beds 161°/26° W
17201	RA	~1¾	Grainstone, brownish-grey weathered, medium-brownish-grey fresh, coarse-grained, rare vugs with secondary white calcite, crinoid oscicles, scattered ruguse corals, beds <¼m, some patches of brown mottling in upper ¼ m, attitude of beds 125°/05° SW
Section 2003-12; About 1000 m South of Little Shunda (UTM 556307, 5822274)			
17004	RA	~2¾	Packstone, grey weathered, dark-grey-brown fresh, fine- to medium-grained, attitude of beds 120°/18° SW
17005	RA	~2¾	Packstone, grey-brown weathered, dark-grey fresh, fine- to medium-grained, increasing fossiles at base of section, abundant rugose corals, crinoids and chaincorals
17001	RA	2½	Grainstone, buff weathered, dark-grey fresh, fine- to medium-grained, massive beds
17002	RA	3	Grainstone, as above, attitude of beds 142°/18° SW
17003	RA	~1¾	Packstone, grey-brown weathered, dark-grey fresh, fine- to medium-grained, peloids
Section 2003-13; Northwest Flank, Shunda Mountain (UTM 557981, 5822145)			
14530	RA	<2¼	Mudstone, medium-grey weathered, dark-grey fresh, fine-grained, interbeds of medium-grey crinoidal grainstone, attitude of beds 310°/18° NE
14529*	RA	-	Grainstone, medium-grey weathered and fresh, medium- to coarse-grained, crinoids, gastropods, peloids, nautiloids, brachiopods, sparry calcite
14528	RA	2½	Crinoidal Grainstone, light-grey weathered, medium-grey fresh, medium- to coarse-grained, rugose corals prominent in upper ½ m, attitude of beds 298°/25°NE
Isolated Samples on Little Shunda Mountain			
17330	RA	¾	Wackestone, brown weathered, light-brownish-grey fresh, few beds of Grainstone, grains 2-3mm, some scattered crinoids, pellets, attitude of beds 134°/30° W
17015	RA	1½	Grainstone, medium-grey weathered and fresh, medium-grained, abundant corals, attitude of beds 290°/30° E
17014	RA	~4¼	Crinoidal Grainstone, grey-white weathered, medium-grey fresh, medium-grained, attitude of beds 287°/18° E
Section 2003-14; West of Shunda Mountain (UTM 557026, 5820594)			
17233	RA	1	Wackestone, light-grey weathered and fresh, pellets, occasional crinoid
17239	RA	¼	Grainstone, medium-grey weathered, light-grey fresh, coarse-grained, crinoids, attitude of beds 118°/21° W
17236	RA	¼	Lime Mudstone, brown-buff to rusty-buff weathered; light-grey to light buff-grey fresh, fine-grained, rust lined fractures, some secondary carbonate veinlets/stringers, small vugs
17235	RA	¼	Lime Mudstone, tan-grey weathered, medium- to dark-grey fresh, very fine to fine-grained, massive, some secondary calcite stringers, attitude of beds 142°/22° SW
17234	RA	½	Wackestone, medium brownish-grey weathered, grey fresh, fine- to medium-grained, some secondary sparry calcite, beds 10 cm
17237	Banff	1	Grainstone, medium-grey-brown weathered, light-grey fresh, coarse-grained, beds 10-25cm, attitude of beds 130°/10° W
17238	Banff	¾	Lime Mudstone, brown weathered, dark-grey fresh, very fine to fine-grained, platy beds, attitude of beds 124°/16° W

APPENDIX 2: CONTINUED

Interval Number	Unit	Strat. Thick. (m)	Description
Isolated Sample Southwest of Shunda Mountain			
17131	RA	~4¼	Mudstone, light-brown weathered, black fresh, fine-grained, thin well bedded, calcite veins perpendicular to beds, crinoid bed, section coarsens up to medium-grey Packstone, attitude of beds 082°/27° S
Section 2003-15; Along Highway 11(UTM 566440, 5816060)			
-	Pal	-	Dolomite, brown weathered and fresh, beds ¼-¾ m
-	AL	7	Dolomitic Limestone, black-brown weathered, black fresh, beds ~¼ m
-	AL	1	Argillaceous Wackestone, black weathered and fresh, platy, shaly partings
14637	Mt. Hawk	~2¾	Mudstone, black weathered and fresh, fine- to very fine grained, black-grey (dolomitic) mottles, slightly nodular appereance, beds less than 10-20 cm, some thin argillaceous partings, few scattered brachiopods
14636	Mt. Hawk	3½	Mudstone, as above
14635	Mt. Hawk	~2¾	Mudstone, as above, attitude of beds 140°/07°SW
-	Mt. Hawk	4	covered
14634	Mt. Hawk	~3¼	Mudstone, black weathered and fresh, very fine grained, beds generally less than 10-20 cm, slightly argillaceous, attitude of beds 125°/04°W
Section 2003-19; Dipslope East of Nordegg Quarry			
14544	RA	2	Wackestone, medium- to light-grey weathered, medium-grey fresh, fine-grained, peloids
-	RA	~1¾	covered
14545	RA	~1¾	Mudstone, dark-grey weathered and fresh, fine-grained
14546	RA	3	Wackestone, grey-buff weathered, light- to medium-grey fresh, medium-grained, crinoid debris, increased peloids in middle of section
14547	RA	1	Mudstone, light-grey weathered and fresh, fine-grained, peloids
14548	RA	4	Dolomitic Packstone to Grainstone, light- to medium-grey weathered and fresh, coarse-grained, crinoid and peloid debris, vuggy
14549	RA	2	Grainstone, light-grey to white weathered, light-grey fresh, medium- to coarse-grained, peloids
14550	RA	2	Grainstone, medium-grey weathered and fresh, medium-grained, crinoids, peloids
14551	RA	~2¾	Mudstone, medium- to dark-grey weathered and fresh, fine-grained, massive, attitude of beds 168°/10° W
Section 2003-20; Dipslope East of Nordegg Quarry			
17355	RA	2	Grainstone, light-grey to light-brownish-grey weathered and fresh, massive, crinoids, some grains 3-4 mm
17354	RA	3	Wackestone coarsaning up to Grainstone, light-grey weathered, brownish-grey fresh, massive
17353	RA	~¾	Lime Mudstone, light-grey weathered, medium-brownish-grey fresh, micritic to very fine grained, massive, several small anhydrite or fluorite crystals
-	RA	5	covered
17352	RA	~2¼	Wackestone, medium-brownish-grey weathered and fresh, grains to 2-3mm, massive
17351	RA	~2¾	Lime Mudstone, medium-brown-grey weathered and fresh, microcrystalline to very fine grained, massive
17350	RA	~3¼	Wackestone, brownish-grey fresh, light-grey weathered, some grains to 2mm, beds generally ¼ to ½ m, attitude of beds 145°/9° W
17349	RA	1	Dolomitic Wackestone, medium- to dark-grey fresh, microcrystalline, few grains to 4mm, scattered crinoid debris, attitude of beds 129°/11° W
17348	RA	~2¼	Grainstone, light-grey weathered, medium-grey fresh
-	RA	1½	covered
17347	RA	~1¾	Wackestone to Grainstone, light-grey weathered, light-brownish-grey to light-grey fresh, coarse-grained, massive, partly covered
17346	RA	4	Wackestone to Grainstone, as above
17345	RA	4	Lime Mudstone, light-grey to medium-brownish-grey, microcrystalline to very fine grained, coarsens up to Pelletal Wackestone with some grains to 2-3mm, massive, few scattered pellets, attitude of beds 129°/11° W
-	RA	17	covered
14543	RA	2	Packstone, medium- to light-grey weathered, medium-grey fresh, fine- to medium-grained, interbedded with grainstone
14542	RA	2	Dolomitic Limestone buff weathered, medium-grey fresh, fine-grained, crinoid fragments

APPENDIX 2: CONTINUED

Interval Number	Unit	Strat. Thick. (m)	Description
Section 2003-20; continued			
14541	RA	~3¾	Peloidal Packstone, light-grey weathered, medium-grey fresh, medium-grained, dark peloids
14540	Banff	2	Mudstone, brown-black fresh, grey-black to brown weathering, thin interbeds of dolomitic limestone, calcite spar, wavy laminae, attitude of beds 170°/15° W
Section 2003-21; East End of Dipslope East of Nordegg Quarry			
14531	RA	~3¼	Peloidal packstone, buff weathered, medium-dark-grey fresh, fine- to medium-grained, interbedded with Grainstone, attitude of beds 263°/11° E
14532	RA	~2	Packstone, light- to dark-grey weathered, medium-grey fresh, medium-grained, peloids and brachiopods
14533	RA	~2¾	Packstone, medium- to light-grey weathered, medium-grey fresh, fine- to medium-grained, interbedded with Grainstone, attitude of beds 096°/08°S
14534	RA	3	Lime Dolostone, medium- to light-grey weathered and fresh, fine-grained, some crinoid fragments
14535	RA	1½	Grainstone, medium-grey weathered and fresh, fine- to medium-grained, interbedded with Packstone, beds ½ m to massive
14536	RA	3	Crinoidal Grainstone, medium-grey weathered, light-grey fresh, medium- to coarse-grained
14537	RA	3½	Peloidal Wackestone, light- to medium-grey mottled weathered, medium-grey fresh, medium- to fine-grained, thin Dolomite beds at base of section, light-grey-buff, mottled
-	Banff	1	covered
14538	Banff	½	Mudstone, black weathered and fresh, fine-grained, thinly bedded with zones of brachiopods, nodular
14539	Banff	1	Mudstone, grey-green to black-fresh, grey-brown weathering, fine-grained
Section 2003-22; Cliffs South of Dipslope East of Nordegg Quarry			
17344	RA	2	Limestone, tan weathered, very dark grey fresh, microcrystaline to cryptocrystaline, recessive
17343	RA	1½	Lime Mudstone, brown weathered, medium-brownish fresh, very fine-grained to microcrystalline, thin bedded with some fine laminations, few scattered crinoid osicles
17342	RA	1½	Lime Mudstone, light-grey weathered, medium-brownish fresh, microcrystaline to very fine grained, massive, beds ¾ m
17341	RA	2½	Lime Mudstone, light-grey weathered, medium-brownish-grey fresh, microcrystalline to Wackestone with scattered pellets, crinoids and other grains to 2-3mm, beds ½ m to massive
17340	RA	3½	Lime Mudstone, as above
17339	RA	3½	Crinoidal Grainstone, light-grey weathered, light-brownish fresh, coarse-grained, scattered pellets, beds less than ¼ to ¾ m, fining up to Wackestone, attidude of beds 145°/16° W
17338	RA	~2¼	Pelletal Wackestone, light-grey weathered, medium-brownish-grey fresh, scattered crinoid debris, beds ¼ to ¾ m
17337	RA	3½	Pelletal Grainstone, light-grey weathered, medium-brownish-grey fresh, scattered crinoid debris, beds ¼ to ¾ m
17336	RA	~2¼	Lime Mudstone, light-grey to light-tan-grey weathered, light-brown-grey fresh, microcrystaine, interbeds of limemud and vuggy dolomite, recessive, partly covered
17335	RA	2	Dolomite, buff weathered and fresh, microcrystaline, vuggy, abundant secondary white calcite filling vugs, recessive partly covered
17334	RA	1½	Pelletal Grainstone, light-grey weathered and fresh, scattered crinoid debris
17333	RA	~2¼	Pelletal Grainstone, light-grey weathered and fresh, scattered crinoid debris, top ¼ m Lime Mudstone, light-brownish-grey, grains less than 3-5mm, beds ¼-½ m
17332	RA	~2¼	Grainstone, light-grey weathered; light-brownish-grey to medium-grey fresh, crinoidal, beds ¼ to ¾ m
17331	RA	~2¼	Wackestone, light-grey weathered and fresh, coarse-grained, scattered crinoid debris, beds ¾ m to massive, attitude of beds 134°/12° W
Section 2003-25; South of Storm Mountain (UTM 569694, 5811961)			
17251	RA	3	Wackestone to Lime Mudstone, light-grey weathered, brownish-grey fresh, fine-grained, beds ¼ to ½ m
17250	RA	~1¼	Wackestone to Lime Mudstone, light-grey weathered, brownish-grey fresh, fine-grained, beds ¼ to ½ m, few thin interbeds of black chert to 2 cm

APPENDIX 2: CONTINUED

Interval Number	Unit	Strat. Thick. (m)	Description
Section 2003-25; continued			
17249	RA	2½	Wackestone to Lime Mudstone, light-grey weathered, brownish-grey fresh, fine-grained, beds <¼ to ½ m
17248	RA	2	Wackestone to Lime Mudstone, light-grey weathered, brownish-grey fresh, fine-grained, beds <¼ to ½ m
17247	RA	2	Wackestone, light-grey weathered, medium-brownish-grey fresh, fine-grained, scattered crinoid debris and pellets, beds ¼ to ½ m (offset ~50 m west along strike from 17248)
17246	RA	1	Lime Mudstone, light-grey-tan weathered, medium-brownish-grey fresh, fine-grained, beds few cm to ¼ m, attitude of beds 133°/9° SW
17245	RA	2	Lime Mudstone, light-grey weathered, medium brownish-grey fresh, beds ¼ to ½ m
17244	RA	~2¾	Crinoidal Wackestone, light-grey weathered, medium-brownish-grey fresh, fine- to medium-grained, beds ¼ to ½ m, scattered pellets, brachiopods, upper ¾ m lime-mud, attitude of beds 163°/12° W
17243	RA	2	Grainstone to Wackestone, light-grey weathered, medium-brownish-grey fresh, coarse-grained, crinoids, pellets, some tan-grey thin interbeds, vuggy
17242	RA	2	Grainstone, light-grey weathered, medium- to grey-brown fresh, coarse-grained, abundant crinoids, massive, scattered pellets
17241	RA	2½	Grainstone, light-grey weathered, medium- to grey-brown fresh, coarse-grained, abundant crinoids, massive, scattered pellets, attitude of beds 154°/9° SW
-	RA	1	covered
17240	RA	~¾	Grainstone, light-grey weathered and fresh, coarse-grained, crumbly texture, massive
Section 2003-26; South of Storm Mountain (UTM 569997, 5811750)			
17262	RA	2½	Lime Mudstone to Wackestone, light-grey weathered, medium brownish-grey fresh, very fine grained, beds ¼ to ¾ m, few scattered crinoids, attitude of beds 144°/9° SW
17261	RA	2	Lime Mudstone to Wackestone as above
17260	RA	2	Lime Mudstone to Wackestone as above
17259	RA	2	Lime Mudstone to wackestone, as above
17258	RA	2	Wackestone, as above
17257	RA	2	Wackestone, as above
17256	RA	~2¼	Wackestone, as above
17255	RA	2	Wackestone, light-grey weathered, medium-brownish-grey fresh, medium-grained, pellets; beds ¼-½ m
17254	RA	3½	Crinoidal Grainstone, light-grey weathered, medium-brownish-grey fresh, coarse- to fine-grained (at top of section), beds ¼-1 m, attitude of beds 119°/7° W
17253	RA	~1¼	Calc-Grainstone, light-grey weathered and fresh, coarse-grained, scattered crinoids, pellets and other debris, vugs, somewhat crumbly
17252	RA	4	Calc-Grainstone, light-grey weathered and fresh, coarse-grained, scattered crinoids, pellets and other debris, beds ¼-¾ m (base covered)
Section 2003-28; West Side of Dry Creek Bed South of Grizzly Creek			
17302	RA	2	Lime Mudstone, light-grey weathered, light brownish-grey fresh, very fine grained, beds <½ m, some buff-grey weathered mottles, attitude of beds 141°/31° SW
17303	RA	2	Lime Mudstone, as above
17304	RA	2½	Lime Mudstone, light-grey weathered, light brownish-grey fresh, fine-grained, beds ¼-½ m, some scattered pellets
17305	RA	3	Lime Mudstone, as above
17306	RA	3	Lime Mudstone, light-grey weathered and fresh, very fine grained, wavy laminae up to ½ cm thick in top ½ m, beds ¼-½ m
17307	RA	3	Lime Mudstone to Wackestone, light-grey weathered, light brownish-grey fresh, some scattered pellets
17308	RA	4	Wackestone, light-grey weathered and fresh, medium-grained, scattered pellets, beds ¼-1 m
-	RA	8	covered
14558	RA	2	Mudstone, light-grey weathered, medium-grey fresh, medium- to fine-grained, sparse peloids
14559	RA	2	Packstone, medium-grey weathered and fresh, medium-grained, peloids and crinoids, massive, crystal size increases at base of sample

APPENDIX 2: CONTINUED

Interval Number	Unit	Strat. Thick. (m)	Description
Section 2003-28; continued			
14560	RA	2	Packstone, medium-grey to buff weathered, medium- to dark-grey fresh, medium- to coarse-grained, peloids
Section 2003-29; Ridgetop East of Dry Creekbed South of Grizzly Creek (UTM 572001, 5810682)			
17279	RA	~2¼	Lime Mudstone, light-grey weathered, medium brownish-grey fresh, very fine grained, beds less than ¼ m; secondary white calcite stringers
17278	RA	~2¾	Lime Mudstone, as above
17277	RA	2	Lime Mudstone, as above
17276	RA	~2¼	Lime Mudstone, as above
17275	RA	~2¼	Lime Mudstone, as above
17274	RA	2½	Lime Mudstone, light-grey weathered, medium brownish-grey fresh, very fine grained, few vugs filled with tan carbonate, beds to ¼ m, few beds of Wackestone
17273	RA	2½	Lime Mudstone, light-grey weathered, medium brownish-grey fresh, very fine grained, wavy buff weathered beds to 10cm thick, beds 10-25cm
17272	RA	~2¾	Lime Mudstone and Wackestone, light-grey weathered, medium greyish-brown fresh, medium- to coarse-grained, interbedded, beds less than ¼ m, scattered pellets and crinoid debris, attitude of beds 129°/42° SW
-	RA	1	covered
17271	RA	~2¼	Wackestone, light-grey weathered, medium brownish-grey fresh, medium-grained, scattered pellets, beds ¼-½ m, attitude of beds 125°/45° SW
17270	RA	3	Wackestone, as above
17269	RA	3	Wackestone, light-grey weathered, medium-brownish-grey fresh, medium-grained, few scattered pellets, beds less than ¼ m
17268	RA	2½	Wackestone, light-grey weathered, medium-brownish-grey fresh, medium- to coarse-grained, massive, scattered crinoids and pellets
17267	RA	3	Crinoidal Grainstone, light-grey weathered, light- to medium-grey fresh, coarse-grained, rare scattered pellets, few thin interbeds of Wackestone, generally massive
17266	RA	3	Grainstone to Wackestone, light-grey weathered, light- to medium-grey fresh, medium- to coarse-grained, massive
-	Banff	3	covered
17265	Banff	~1¼	Wackestone, light-grey weathered, light-brownish-grey fresh, medium-grained, scattered crinoid debris, beds ¼-½ m
17264	Banff	~1¼	Dolostone, brown weathered, light brown-tan fresh, fine-grained, slightly porous, beds 10-25cm, attitude of beds 144°/40° W
17263	Banff	~¾	Lime Mudstone, light-grey weathered, medium brownish-grey fresh, micritic, beds ¾ m
Section 2003-30; Ridgeline Near North End of Dipslope Mountain (UTM 572215, 5810389)			
17301	RA	~¾	Lime Mudstone, as above
-	RA	1	covered
17300	RA	2½	Lime Mudstone, light-grey weathered with brownish mottles, medium brownish-grey fresh, very fine grained, beds 1m to massive, attitude of beds 135°/44° SW
-	RA	1	not sampled (inaccessible part of cliff)
17299	RA	1½	Lime Mudstone, as above
17298	RA	2	Lime Mudstone, as above with tan-grey mottles
17297	RA	2½	Lime Mudstone, as above
-	RA	~¼	covered
17296	RA	2	Lime Mudstone, as above
17295	RA	~2¼	Lime Mudstone, as above
-	RA	~¾	covered
17294	RA	~2¾	Lime Mudstone, light-grey weathered, medium brownish-grey fresh, very fine grained, scattered pellets and crinoids, beds ¼-¾ m, attitude of beds 132°/40° SW
-	RA	1½	covered
17293	RA	3	Wackestone, light-grey weathered and fresh, coarse-grained, beds 1m to massive, some scattered crinoids; rare rugose coral,
17292	RA	3	Wackestone, as above
17291	RA	3	Wackestone, as above

APPENDIX 2: CONTINUED

Interval Number	Unit	Strat. Thick. (m)	Description
Section 2003-30; continued			
17290	RA	3	Wackestone, as above, attitude of beds 121°/51° SW
17289	RA	~1¼	Crinoidal Grainstone, tan-grey weathered, light-grey fresh, coarse-grained, massive, porous, vuggy, crumbly, equivalent to 17283
Section 2003-31; Ridgeline Near North End of Dipslope Mountain (UTM 572340, 5810281)			
-	RA	1½	Interbedded Lime- and Dolo-Mudstone, beds <¼ m , recessive
17288	RA	1½	Grainstone to Wackestone, as above, but beds <¼ m, 1½ m of interbedded tan Dolostone/Lime Mudstone above
17287	RA	~1¾	Grainstone to Wackestone, as above
17286	RA	~2¼	Grainstone to Wackestone, light-grey weathered, light to medium-brownish-grey fresh, coarse-grained, generally massive
17285	RA	~2¼	Grainstone, light-grey weathered and fresh, coarse-grained, massive
17284	RA	~1¾	Grainstone to Wackestone, light-grey weathered, light- to medium-grey fresh, coarse-grained, beds less than ¾ m, genereally rubbly, some secondary white calcite; locally abundant jointing, some vuggy sections
17283	RA	~¾	Dolostone, brown weathered and fresh, very fine grained, recessive, rubbly zone, vuggy, interbeds of Calc-Grainstone
17282	RA	½	Calc-Grainstone, light-grey weathered and fresh, very coarse grained, tan material lining vugs, crumbly and deeply weathered; beds to ¼ m
17281	RA	2	Lime Mudstone, light-grey weathered, medium brownish-grey fresh, very fine grained, beds ¾ m, attitude of beds 145°/50° SW
17280	Banff	1	Dolostone, buff weathered, brown-grey fresh, fine-grained, some secondary coarse, white calcite blebs, rubble (subcrop)
Section 2003-32; Brazeau Range, 2km Northwest of Peak of Dipslope Mountain (UTM 572263, 5809636)			
14506	RA	2½	Mudstone, light-grey weathered and fresh, fine-grained
14505	RA	2	Mudstone, as above, attitude of beds 153°/20° SW
14504	RA	2½	Mudstone, medium-grey weathered and fresh, fine-grained, sparse crinoids and peloids
	RA	½	covered
14503	RA	~3¾	Peloidal Wackestone, light-grey weathered, medium-grey fresh, medium-grained, crinoids, peloids
14502	RA	~3¾	Peloidal Wackestone, light-grey weathered, medium-grey fresh, medium-grained
14501	RA	~2¾	Peloidal Wackestone, as above, attitude of beds 148°/27° SW
-	-	~6	inaccessible, not sampled
Section 2003-33; West Flank of Dipslope Mountain (UTM 572403, 5809475)			
14508	RA	2	Mudstone, medium-grey weathered and fresh, fine-grained, attitude of beds 138°/27° SW
14509	RA	2	Mudstone, medium-grey weathered and fresh, fine-grained
14510	RA	2¾	Peloidal Wackestone to Packstone, light-grey weathered and fresh, fine- to medium-grained, interbedded
14511	RA	2¾	Mudstone, medium-grey weathered and fresh, fine-grained, attitude of beds 152°/32° SW
14512	RA	2	Mudstone, medium-grey weathered, light-grey fresh, fine-grained, sparse peloids, attitude of beds 150°/24° SW
14513	RA	2	Mudstone, as above
Section 2003-34; 200 m Northwest of Peak of Dipslope Mountain (UTM 573680, 5808480)			
14619	RA	1½	Mudstone to Wackestone, light-grey weathered, medium- to dark-brownish fresh, medium-grained, few scattered pellets
14618	RA	2½	Wackestone, light-grey weathered, medium- to dark-brownish fresh, medium-grained, few scattered pellets, attitude of beds 125°/30° W
14617	RA	~2¼	Pelletal Wackestone, light-grey weathered, medium-brownish-grey fresh, coarse-grained, top ½ of section crumbly/deeply weathered
14616	RA	3	Packstone, light-grey weathered, medium-brownish-grey, medium-grained, pellets
14615	RA	2½	Lime Mudstone to Packstone, top ¼ m corase-grained Grainstone, light-grey weatherd and fresh, fine-grained, beds massive to ¾ m, some scattered pellets, attitude of beds 135°/32° W

APPENDIX 2: CONTINUED

Interval Number	Unit	Strat. Thick. (m)	Description
Section 2003-34; continued			
14614	RA	3	Lime Mudstone to Wackestone, light-grey weathered, medium-brownish-grey fresh, crinoid debris, scattered pellets, massive
14613	RA	4	Lime Mudstone to Wackestone, as above
14612	RA	4	Lime Mudstone to Wackestone, as above, attitude of beds 138°/49°W
14611	RA	4	Mudstone to Wackestone, light-grey weathered; medium-brownish grey fresh, fine-grained, some black pellets, masive
14610	RA	4	Mudstone to Wackestone, as above
-	RA	2	covered, probable Banff-RA contact at base of covered interval
Section 2003-35; Peak of Dipslope Mountain (UTM 574250, 5808225)			
-	RA	2½	not practical to examine this interval
14626	RA		Grainstone, medium-grey weathered and fresh, coarse-grained and crumbly, abundant scattered, crinoids, pellets, gastropods, beds less than ¼ m, some secondary white calcite
14625	RA	2	Wackestone, light-grey weathered; brownish-grey fresh, scattered pellets
14624	RA		Wackestone, light-grey weathered, medium- to dark-brownish-grey fresh, very fine grained, rare scattered crinoid debris, pellets to 2-3mm, attitude of beds 138°/41° SW
14623	RA	3	Mudstone, light-grey weathered, medium- to dark-brownish-grey fresh, very fine grained, generally massive, rare black oval pellets 1-2 mm
14622	RA	3	Wackestone, light-grey weathered, dark- to medium-brownish-grey fresh, lower ¼ m has aboundant scattered fossil debris, (crinoids, rugose corals); intervals of graded bedding with scattered crinoids and rugose corals; generally massive
14621	RA	2½	Wackestone, light-grey weathered, medium- to dark-brownish fresh, medium-grained, massive, scattered pellets
14620	RA	4	Wackestone to Mudstone, light-grey weathered, medium-brownish-grey fresh, massive
covered	RA	4½	Banff is assumed to below this covered interval
Section 2003-36; 250 m Southeast of Peak of Dipslope Mountain (UTM 574280, 5808275)			
14633	RA	2	Grainstone, light-grey weathered, brownish-grey fresh, coarse-grained, crinoids, pellets, some sections crumbly, deeply weathered, beds less than ½ m thick
14632	RA	2½	Mudstone to Grainstone, light-grey weathered, dark- to medium-brownish-grey fresh, very fine to coarse grained, pellets, coarsens up through the section
14631	RA	~3¼	Mudstone to wackestone, light-grey weathered, dark- to medium-brownish-grey fresh, very fine to fine-grained, scattered pellets 1-3mm, beds less thans ½ m
14630	RA	3½	Wackestone, light-grey weathered, medium- to dark-brownish-grey fresh, scattered pellets
14629	RA	3½	Mudstone to Wackestone, light-grey weathered, brownish-grey fresh, very fine grained, scattered oval pellets 1-2mm, beds less than ½-¼m
14628	RA	3	Mudstone, light-grey weathered, brownish-grey fresh, very fine grained, scattered oval pellets 1-2 mm, massive, very light to medium-grey mottles on some weathered surfaces, attitude of beds 145°/35° SW
14627	Banff	1	Mudstone, brown weathered, very dark-grey fresh, very fine grained, platy beds less than 15 cm, abundant organic stain
Section 2003-37; West Flank 600 m South of Peak of Dipslope Mountain (UTM 574352, 5807688)			
14977	RA	3	Mudstone to Peloidal Packstone,with interbedded fossiliferous grainstone, light-grey weathered and fresh, coarse-grained, crinoids, peloids, shell fragments, intergranular sparry calcite cement
14976	RA	3	Mudstone to Peloidal Packstone, medium-grey weathered and fresh, coarse-grained, abundant peloids, intergranular sparry calcite cement
14975	RA	3	Mudstone interbedded with Packstone, light-grey weathered, dark-grey turning to light-grey up section, medium-grained, preloids, crinoids, few vugs
14974	RA	3	Mudstone/Wackestone, dark-grey weathered, medium-grey fresh, medium-grained, peloids, fractured, attitude of beds 161°/21°SW
14973	RA	3	Grainstone, light-grey weathered, medium-grey fresh, coarse-grained, fines up to mudstone, crinoids, shell fragments, peloids, fetid odour, porous
14972	RA	3	Packstone, light-grey to white weathered, dark-grey fresh, coarse-grained, peloids, zone of recrystallization

APPENDIX 2: CONTINUED

Interval Number	Unit	Strat. Thick. (m)	Description
Section 2003-37; continued			
14971	RA	2½	Grainstone with Packstone, medium-grey weathered and fresh, coarse-grained, vuggy sections with brown silty fill, crinoids, brachiopods, peloids
14970	RA	2½	Grainstone with Packstone, medium-grey weathered and fresh, coarse-grained, fossiliferous (crinoids, braciopods, peloids), attitude of beds 120°/40° SW
14968	RA	3	Wackestone, as above
14969	RA	3½	Wackestone, light-grey weathered, medium-grey fresh, fine-grained, peloids, few crinoids
Section 2003-38; Creekbed 1 km South of Peak of Dipslope Mountain (574131, 5807189)			
14978	RA	2½	Packstone to Grainstone, medium-grey weathered and fresh, coarse-grained, lots of peloids, crinoids, braciopods
14979	RA	2½	Packstone to Grainstone, as above
14980	RA	3	Grainstone, medium-grey weathered and fresh, medium- to coarse-grained, crinoids, peloids
14981	RA	3	Packstone/Wackestone, medium-grey weathered and fresh, medium-grained, peloids
14982	RA	3	Grainstone, as per 14980
Section 2003-39; Creekbed 1.4 km South of Peak of Dipslope Mountain (UTM 573935, 5806844)			
14989	RA	~2¾	Grainstone/Packstone, light-grey to tan weathered, medium- to light-grey fresh, coarse-grained, abundant peloids, shell fragments
14988	RA	~2¾	Packstone, light-grey to tan weathered, medium-grey fresh, medium-grained, peloids, crinoids
14987	RA	~2¾	Grainstone, tan weathered, light-grey fresh, crinoids, and peloids, some interbedded Mudstone, tan weathered, medium-grey fresh, medium- to coarse-grained
14986	RA	~2¾	Mudstone, tan weathered, medium-grey fresh, fine-grained, sparry calcite, few peloids
14985	RA	~4¾	Mudstone, light-grey-tan weathered, dark-grey fresh, fine-grained, few peloids
14984	RA	~3	Wackestone, light-grey weathered, dark-grey fresh, fine-grained, peloids, few shell fragments
14983	RA	~2¾	Mudstone, light-grey-tan weathered, medium-grey fresh, medium-grained, few peloids, attitude of beds 138°/22° SW
Isolated Samples on West Flank of Dipslope Mountain			
17150	RA	~1¼	Peloidal Wackestone, light-grey weathered, medium-grey fresh, fine-grained, attitude of beds 148°/33° SW
17149	RA	~2¼	Mudstone, light-grey weathered, medium-grey fresh, fine-grained, small vugs
14507*	RA	-	Peloidal Grainstone, medium-grey weathered and fresh, fine-grained, sparry calcite

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.

RANGE 16 | RANGE 15 | RANGE 14 W5

TOWNSHIP 41 | TOWNSHIP 40

ROCKY MOUNTAIN FOREST RESERVE

SHUNDA MOUNTAIN | Little Shunda Mountain | Coliseum Mountain | Quarry Hill | Nordegg

COLISEUM FAULT | BRAZEAU RANGE ANTICLINE | SHUNDA CREEK | BRAZEAU MINE PIT | Nordegg Lookout

MAIM PERMIT 9300040001

MAIM PERMIT 9396010038 GRAYMONT

MAIM PERMIT 9302090936 GRAYMONT

MAIM Lease 9400100012 GRAYMONT

MAIM Lease 9496100002 GRAYMONT

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
- Cb — Banff Formation: argillaceous and cherty limestone, fissile and calcareous shale

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)

Sample section with sample numbers 2003-7

Isolated sample with sample number

Location of cross-section B B'

Elevation contour (interval: 10 m) 1450

Highway with number 11

Trail or cut line

MAIM Lease 9496100002

MAIM Permit 9396010038

Land Use Zone Boundary; Zone Number 2

2 - Critical Wildlife
4 - General Recreation
5 - Multiple Use
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 "2003 Exploration and Fieldwork within the Nordegg Metallic and Industrial Minerals Permit, West-Central Alberta".

2004-0003

REVISIONS	
BY	DATE
WM	1999.04
WM	2000.08
WM	2004.04

GRAYMONT WESTERN CANADA INC.

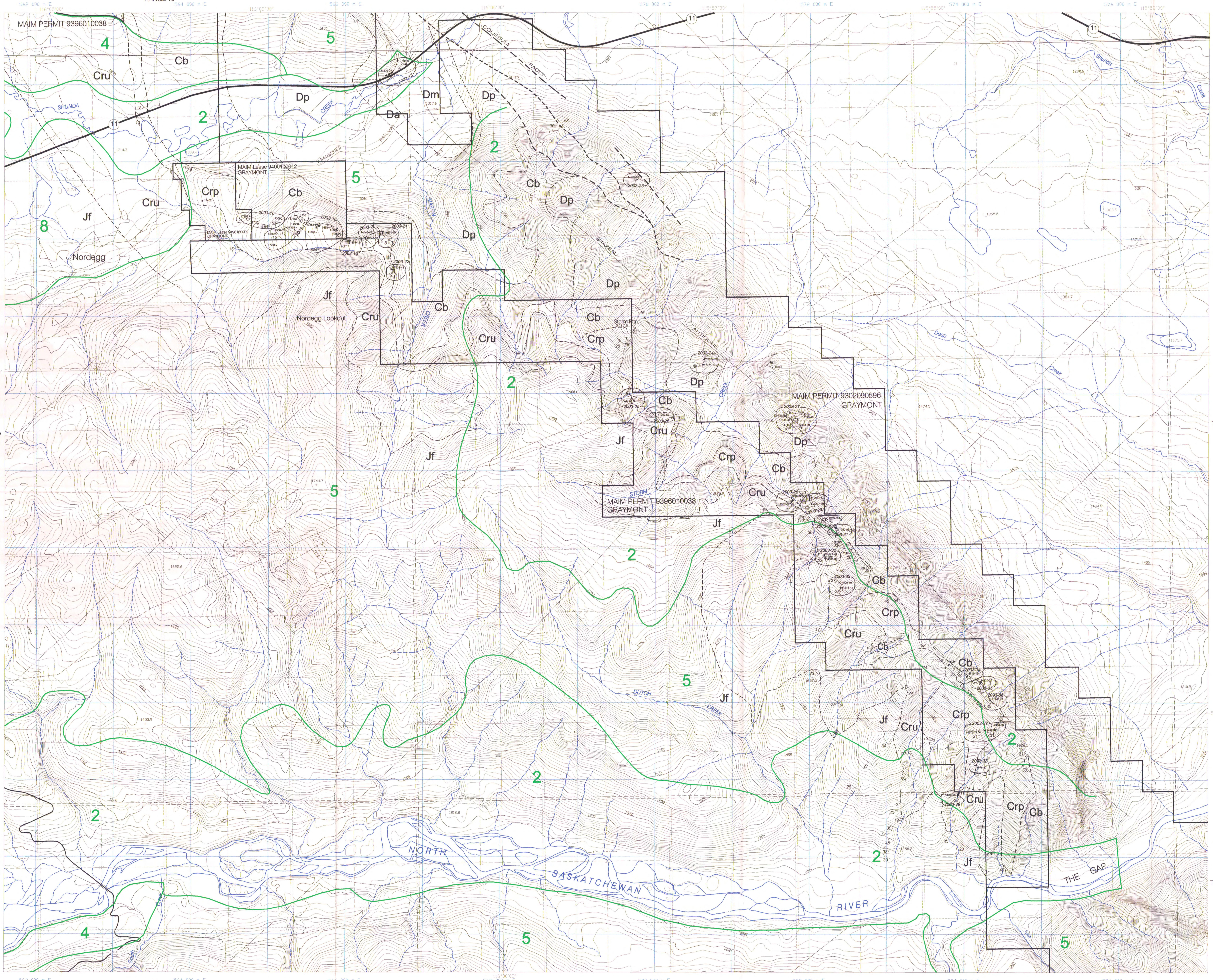
DAHROUGE GEOLOGICAL CONSULTING LTD.
Edmonton, Alberta

WEST-CENTRAL ALBERTA

Figure 6.1
Nordegg Area (North Sheet)

0 1 2 km
Scale

W.M. 1998.05



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

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)
Fault
Synclinal axis (arrow indicates plunge)
Anticlinal axis (arrow indicates plunge)
Sample section with sample numbers
Isolated sample with sample number
Location of cross-section — B B'
Elevation contour (interval: 10 m)
Highway with number — 11
Trail or cut line
MAIM Lease — 9496100002
MAIM Permit — 9396010038
Land Use Zone Boundary; Zone Number — 2

2 - Critical Wildlife
4 - General Recreation
5 - Multiple Use
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 "2003 Exploration and Fieldwork within the Nordegg Metallic and Industrial Minerals Permit, West-Central Alberta".

20040003

REVISIONS	
BY	DATE
WM	1999.04
WM	2000.08
WM	2004.04

GRAYMONT WESTERN CANADA INC.

DAHROUGE GEOLOGICAL CONSULTING LTD.
Edmonton, Alberta

WEST-CENTRAL ALBERTA

Figure 6.2
Nordegg Area (South Sheet)

0 1 2 km
Scale

W.M. 1998.05