MAR 20160005: PRAIRIE CREEK

A report on Limestone exploration on the Prairie Creek property near Rocky Mountain House.

Received date: April 11, 2016

Public release date: March 31, 2017

GRAYMONT WESTERN CANADA INC.

2015 EXPLORATION AND FIELDWORK WITHIN THE PRAIRIE CREEK METALLIC AND INDUSTRIAL MINERALS PERMIT, WEST-CENTRAL ALBERTA

PART B

Metallic and Industrial Minerals Permit
9306031167

Geographic Coordinates

52°08' N to 52°09' N
115°25' W to 115°27' W

NTS Sheet 83 B/03

Owner & Operator:	Graymont Western Canada Inc. 260, 4311 - 12 Street N.E. Calgary, Alberta T2E 4P9
Consultant:	Dahrouge Geological Consulting Ltd. 18, 10509 - 81 Avenue Edmonton, Alberta T6E 1X7
Author:	K. Krueger, B.Sc., Geo. I.T.
Date Submitted:	April 11, 2016

TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

PART C

1. SUMMARY

During August 2015, parts of Clearwater Range, west of Rocky Mountain House and within Metallic and Industrial Minerals (MAIM) Permit 9306031167, were explored for high-quality carbonate rocks. The 2015 exploration was a follow-up to previous exploration conducted in the area.

Access routes and outcrops were mapped, and a total of 11 rock samples were collected within the Prairie Creek Permit, representing approximately 29.5 m of stratigraphy. Samples were sent to a laboratory for whole-rock analysis.

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 (right-hand rule). A magnetic declination of 16°17' east was used. Where bedding was not evident, stratigraphic thicknesses were calculated using orientations from adjacent units. Where more than one bedding orientation was measured, the mean orientation is used.

2. INTRODUCTION

The 2015 exploration within the Prairie Creek Permit was conducted by Dahrouge Geological Consulting Ltd. (Dahrouge), on behalf of Graymont Western Canada Inc. (Graymont). This assessment report describes the exploration conducted within MAIM Permit 9306031167, which encompass parts of Clearwater Range of the Alberta Foothills. Bob Robison, exploration manager for Graymont Western U.S. Inc., authorized this work.

The objectives of the 2015 exploration were to expand on the previously explored areas, and to locate and better define carbonate units throughout the Property. This report includes information on the geology and quality of carbonates encountered while mapping and sampling outcrops within the permit area.

3. GEOGRAPHIC SETTING AND ACCESS

3.1 LOCATION AND ACCESS

MAIM Permit 9306031167 encompasses the northern parts of the Clearwater Range, south of North Saskatchewan River, within west-central Alberta (Fig. 3.1).

It includes land to the southeast of the quarry of Prairie Creek Quarries Ltd. within west-central Alberta (Fig. 3.2). The quarry of Prairie Creek Quarries Ltd. is approximately 1.5 km from the northernmost boundary of the Prairie Creek Property.

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

The northern parts of Clearwater Range, can be accessed from Rocky Mountain House by travelling approximately 55 km southwest along Secondary Highway 752 (Fig. 3.2).

Access to and throughout the Property is by truck, all-terrain vehicles, helicopter, and extensive hiking. Several logging roads and cut lines spurring off the main roads provide valuable ATV access throughout the property area.

3.2 INFRASTRUCTURE

Accommodations, food, fuel and other necessary services are available in Caroline and Rocky Mountain House. The local economy is primarily based on agriculture, forestry, and energy-based industries.

Rocky Mountain House, with a population of about 7,000, is accessed by traveling about 67 km west of Red Deer along the David Thompson Highway (Highway 11), and then 12 km north along Highway 22.

The village of Caroline is about 49 km from Rocky Mountain House, 37 km south along Highway 22 and 12 km east along Highway 54. Caroline has a population of about 550.

3.3 TOPOGRAPHY, VEGETATION AND CLIMATE

The Prairie Creek Permit is included in the Eastern-Slope Montane Forest Ecological Region, and lies within the Rocky-Clearwater District of the Alberta Forest Reserve. In the subalpine zone, vegetation consists of stunted subalpine fir and Englemann Spruce, and alpine foliage above the treeline. Vegetation in areas of rugged limestone outcroppings is generally sparse, and commonly consists of junipers, other low brush, and grasses. Below treeline, vegetation consists of dense stands of Aspen, Lodgepole Pine, White Spruce, and less frequent stands of Douglas Fir. Areas of lowest relief are covered with dense stands of Black Spruce and thick undergrowth, with local muskegs and swamps.

The Property is comprised of a series of northwest-trending ridges and valleys where elevations range from approximately 1,320 m along Clearwater River to about 2,200 m atop Marble Mountain. The Property is cut by a number of creeks, including Prairie Creek.

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

3.4 FIELD OPERATIONS

Field operations were conducted by a four-person geological crew from Dahrouge Geological Consulting Ltd., based in a hotel in Rocky Mountain House.

Transportation to and from the Property was by four-wheel-drive truck. Access throughout the Property was by truck and ATV's where possible, and by extensive hiking.

Garmin GPSmap 64S instruments were used to mark outcrop locations and record access information. Compasses were set at a magnetic declination of 16°17' east.

4. PROPERTY, EXPLORATION AND EXPENDITURES

4.1 PROPERTY SUMMARY

MAIM Permit 9306031167 (Prairie Creek) was acquired on March 30, 2006, to cover limestone exposures within Clearwater Range. The permit initially encompassed 5,688 hectares and adjoined to the north of the Corkscrew West Permit (Fig.'s 3.2 & 4.1). Following exploration conducted in 2007, the permit was reduced to 2,184 hectares. Exploration in 2009 resulted in a further reduction of the permit to its current area of 316 hectares.

Based on the 2015 exploration, the entirety of the Prairie Creek Permit will be retained (Section 4.3, Fig. 4.1).

4.2 2015 EXPLORATION SUMMARY

On August 6th, Dahrouge, on behalf of Graymont, conducted exploration for carbonate lithotypes within west-central Alberta. The work was undertaken to determine the location and extent of carbonate units in the permit area.

Carbonate outcrops were examined and a total of 11 samples were collected (Fig. 4.2). Geological observations were recorded, including lithologic information, measurements of structural elements, and other pertinent details (Appendix 2). A solution of 10% HCl was used to assess carbonate quality in the field, and rock samples were shipped to Central Lab of Graymont Western U.S. Inc. in Utah for analyses (Appendix 3). In some instances, interval thicknesses were determined by measuring outcrops perpendicular to bedding, where it could be identified. Field maps were completed on 1:20,000 and 1:30,000 scale map sheets and concentrated on areas around Clearwater Range.

4.3 EXPLORATION EXPENDITURES

Expenditures for 2015 totaled $5,309.78. The entirety of the Prairie Creek (MAIM Permit 9306031167) Permit will be retained. Excess expenditures are to be assigned to future exploration periods.

Expenditures are allocated to MAIM Permit 9306031167 as follows:

MAIM Permit	Permit Area (ha)	Required Expenditures	Assigned Expenditures	New Expiry Date
9306031167	316	$4,740	$4,740	Mar. 30, 2018

5. REGIONAL GEOLOGY

5.1 STRATIGRAPHY

At Clearwater Range, carbonate lithologies are known to occur within both Paleozoic and Mesozoic sequences (Table 5.1, Fig. 5.1). Paleozoic limestones are described in the Upper Devonian Palliser Formation, Upper Devonian to Lower Carboniferous Banff Formation and the Lower Carboniferous Rundle Assemblage. The Paleozoic limestones encountered within Prairie Creek permit were from the Turner Valley, Shunda and Pekisko formations of the Rundle Assemblage, the Banff Formation of the Banff Assemblage, and the Palliser Formation. Mesozoic rocks of the Fernie Group have been noted within the permit area.

5.1.1 Palliser Formation

In west-central Alberta, the Upper Devonian 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 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 Assemblage.

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[c]	Southesk	Mount Hawk
		Cairn	
Cambrian		Pika	
		Eldon	
		Stephen	
		Cathedral	

*Compiled from MacKenzie 1969, Richards et al. 1994, Switzer et al., 1994., and Holter, 1994.
[c] Fairholme Group of MacKenzie (1969) is partly equivalent to the Woodbend Group (Switzer et al., 1994).
[1] Current limestone production (*from* Holter, 1994)

5.1.2 Banff Assemblage

In west-central Alberta, the Exshaw, Banff and Yohin formations comprise the Banff Assemblage (Richards et al. 1994). Only exposures of the Banff Formation appear within the Prairie Creek Permit. 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.

5.1.3 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). 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.

5.1.4 Fernie Group

The Fernie Group includes all but the uppermost Jurassic strata of western Alberta and eastern British Columbia. Although treated as a Group, the Fernie is divided into a number of members and informal units with uncertain mutual relations and continuity. The Fernie Group thickens gently and irregularly west and southwest.

Outcrops of the Fernie Group, noted within the Prairie Creek Permit, consist of large thicknesses of shale and calcareous sandstones with minor conglomerate.

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 kilometres. Within individual thrust sheets, regional-scale folds exhibit a spatial relation to their leading edges.

6. RESULTS

One day was spent checking property access and sampling carbonate outcrops. The 2015 exploration concentrated on defining stratigraphic unit locations and contacts within previously under-explored areas of the Prairie Creek Permit.

Carbonate lithologies of the Rundle Assemblage, Pekisko Formation and Shunda Formation, were examined and sampled within the Prairie Creek Permit (Fig. 4.2). A total of 11

discrete intervals were examined and sampled, representing approximately 29.5 m of stratigraphy (Appendix 2). Where bedding could not be identified, stratigraphic measurements were taken based on the previously determined regional trend or deduced from surrounding measurements where possible.

The majority of the outcrops visited in 2015 were within the Pekisko Formation. Analytical results were variable, presumably due to the fact that different members within the formation were sampled. The highest quality interval was Section 2015-01, which averaged 97.25% $CaCO_3$, 1.87% $MgCO_3$ and 0.41% SiO_2 over approximately 6 m (Fig. 4.2). Several other isolated intervals returned values in excess of 95% $CaCO_3$ over several metres; however, $MgCO_3$, and minor SiO_2 impurities were common in many intervals. Isolated sample 126855 averaged 98.70% $CaCO_3$, over approximately 3 m, while sample 126861 averaged 97.63% $CaCO_3$ over approximately 3 m. The lowest quality interval examined was Section 2015-03, which averaged 88.86% $CaCO_3$, 9.86% $MgCO_3$, and 0.60% SiO_2 over approximately 9.25 m. Overall, the Pekisko Formation has the greatest high-calcium limestone potential in the area.

One sample of Shunda Formation was collected during the 2015 exploration project. Sample 126860 averaged 87.10% $CaCO_3$, 11.36% $MgCO_3$, and 0.60% SiO_2 over 3.5 m. The Shunda Formation typically consists of low-quality, recessive, argillaceous mudstones, and is not considered a unit of interest.

The Turner Valley Formation consists of vuggy, light-tan-grey, fine-grained, dolomitic mudstone to wackestone. Previous exploration projects have revealed the Turner Valley Formation to have high-quality dolomite potential. No samples of the Turner Valley Formation were collected during the 2015 exploration project.

7. CONCLUSIONS

Stratigraphy of the Pekisko and Shunda formations was examined and measured along Clearwater Range, within MAIM Permit 9306031167. A total of 11 discrete intervals were sampled and described in detail. Based on the samples collected during the 2015 exploration and overall property assessment, the entirety of the Prairie Creek Permit will be retained.

Access roads and trails were noted, which provide access to most parts of the Property.

Future exploration will expand on previously conducted work in the area, confirming or re-defining past geological interpretations and determining the potential for high-calcium limestone and/or high-quality dolomite within the permit area. Drill-testing of the Pekisko and/or Turner Valley formations would also be beneficial.

8. REFERENCES

Dahrouge, J.R. (2000) Exploration for High-Calcium Limestone at Clearwater and Limestone Ranges of West-Central Alberta; Ass. Rpt. on MAIM Permits 9396020019 and 9398100125 for Continental Lime Ltd., Dahrouge Geological Consulting Ltd., 20 p., 10 fig., 5 app.

Dahrouge, J.R. (2002) 2001 Exploration for High-Calcium Limestone at Clearwater and Limestone Ranges of West-Central Alberta; Ass. Rpt. on MAIM Permits 9396020019 and 9398100125 for Graymont Western Canada Inc., Dahrouge Geological Consulting Ltd., 10 p., 8 fig., 4 app.

Dahrouge, J.R. (2005) 2004 Exploration and Fieldwork at the Limestone Mountain Metallic and Industrial Minerals Permit, West-Central Alberta; Ass Rpt. on MAIM Permit 9398100125 for Graymont Western Canada Inc., Dahrouge Geological Consulting Ltd., 9 p., 4 fig., 4 app.

Dahrouge, J.R. and Halferdahl, L.B. (1995) 1994 and Early 1995 Exploration for High-Calcium Limestone in West-Central Alberta, unpublished rpt. for Continental Lime Ltd., Halferdahl and Associates Ltd., 53 p., 67 fig., 24 app.

Dahrouge, J. and Tanton, J. (2006) 2005 Exploration and Diamond Drill Program at the Corkscrew Mountain Property, West-Central Alberta; Ass Rpt. on MAIM Permits 9396020019 and 9305090646 for Graymont Western Canada Inc., Dahrouge Geological Consulting Ltd., 10 p., 4 fig., 3 app.

Dahrouge, J. and Tanton, J. (2006) 2006 Exploration and Fieldwork at the Limestone Mountain and Corkscrew Mountain Metallic and Industrial Minerals Permits, West-Central Alberta; Ass. Rpt. on MAIM Permits 9398100125 and 9396020019 for Graymont Western Canada Inc., Dahrouge Geological Consulting Ltd., 9 p., 4 fig., 1 app.

Dahrouge, J.R. and Wolbaum, R. (2003) 2003 Exploration and Fieldwork at the Corkscrew Mountain Metallic and Industrial Minerals Permit, West-Central Alberta; Ass. Rpt. on MAIM Permit 9396020019 for Graymont Western Canada Inc., Dahrouge Geological Consulting Ltd., 8 p., 4 fig., 3 app.

Dahrouge, J.R. and Wolbaum, R. (2005) 2004 Exploration and Fieldwork at the Baseline Ridge Metallic and Industrial Minerals Permit, West-Central Alberta; Ass. Rpt. on MAIM Permit 9301010011 for Graymont Western Canada Inc., Dahrouge Geological Consulting Ltd., 11 p., 3 fig., 3 app.

Douglas, R.J.W. (1958). Chungo Creek map-area, Alberta; Geol. Surv. Can. Paper 58-3.

Douglas, R.J.W. (1956). Nordegg, Alberta; Geol. Surv. Can. Paper 55-34.

Erdman, O.A. (1950). Alexo and Saunders map-areas, Alberta; Geol. Surv. Can. Mem. 254.

Halbertsma, H.L. (1994). Devonian Wabamun Group of the Western Canada Sedimentary Basin, in Geological Atlas of the Western Canada Sedimentary Basin. Mossop, G.D and Shetsen, I. (compilers); Can. Soc. Petr. Geol. and Alberta Res. Coun., p. 221-250.

Holter, M.E. (1976). Limestone resources of Alberta; Alta. Res. Coun. Econ. Geol. Rept. 4.

Holter, M.E. (1994). A Review of Alberta Limestone Production, Marketing, Distribution and Future Development Possibilities. Alta. Geol. Surv., EUB, Open File Rept. 1994-15., 95 p., 57 figs.

Klarenbach, J. and Kluczny, P. (2009) 2009 Exploration and Fieldwork within the Clearwater Group Metallic and Industrial Minerals Permits, West-Central Alberta; Ass. Rpt. on MAIM Permits 9396020019, 9398100125, 9305090646, and 9306031167 for Graymont Western Canada Inc., Dahrouge Geological Consulting Ltd., 17 p., 7 fig., 3 app.

Kluczny, P. and Tanton, J. (2008) 2007 Exploration and Fieldwork within the Clearwater Group Metallic and Industrial Minerals Permits, West-Central Alberta; Ass. Rpt. On MAIM Permits 9305090646, 9306031167, 9396020019, and 9398100125 for Graymont Western Canada Inc., Dahrouge Geological Consulting Ltd., 14 p., 3 fig., 3 app.

Kluczny, P. and Krueger, K. (2012) 2012 Exploration and Fieldwork within the Clearwater Group Metallic and Industrial Minerals Permits, West-Central Alberta; Ass. Rpt. On MAIM Permits 9398100125, 9305090646 and 9310060379 for Graymont Western Canada Inc., Dahrouge Geological Consulting Ltd., 15 p., 4 fig., 3 app.

MacKenzie, W.S. (1966). Upper Devonian Stratigraphy in the Vicinity of Mountain Park, Alberta, in Eighth Ann. Field Trip Guidebook, Edm. Geol. Soc., p.19-29.

Mackenzie, W.S. (1969). Stratigraphy of the Devonian Southesk Cairn carbonate complex and associated strata, eastern Jasper National Park, Alberta. Geol. Surv. Bull. 184.

MacQueen, R.W., and Bamber, E.W. (1968). Stratigraphy and facies relationships of the Upper Mississippian Mount Head Formation, Rocky Mountains and Foothills, southwestern Alberta; Bull. Can. Petr. Geol., v. 16, p. 225-287.

Mossop, G.D. and Shetsen, I. (1994). Geological Atlas of the Western Canada Sedimentary Basin, G.D. Mossop and I. Shetsen (comps.); Can. Soc. Petr. Geol. and Alberta Res. Coun.

Ollerenshaw, N.C. (1968) Preliminary Account of the Geology of Limestone Mountain map-area, Southern Foothills, Alberta; GSC Paper 68-24.

Poulton, T.P., Christopher, J.E., Hayes, B.J.R, Losert, J., Tittemore, J. and Gilchrist, R.D. (1994) Jurassic and lowermost Cretaceous strata of the Western Canada Sedimentary Basin; Chapter 18 Geological Atlas of the Western Canada Sedimentary Basin.

Richards, B.C., Barclay, J.E., Bryan, D., Hartling, A., Henderson, C.M. and Hinds, R.C. (1994). Carboniferous strata of the Western Canada Sedimentary Basin in Geological Atlas of the Western Canada Sedimentary Basin. G.D. Mossop and I. Shetsen (compilers), Can. Soc. Petr. Geol. and Alberta Res. Coun., p. 221-250.

Switzer, S.B., Holland, W.G., Christie, S.D., Graf, G.C., Hedinger, A.S., McAuley, R.J., Wierezbicki, R.A and Packard, J.J. (1994). Devonian Woodbend-Winterburn Strata of the Western Canadian Sedimentary Basin in Geological Atlas of the Western Canada

Sedimentary Basin. G.D. Mossop and I. Shetsen (compilers), Can. Soc. Petr. Geol. And Alberta Res. Coun., p. 165-202.

Stott, D.F. and Aitken, J.D. (1993). Sedimentary Cover of the Craton in Canada, D.F. Stott and J.D. Aitken (ed.); Geol. Surv. Can. Geology of Canada, no. 5, pp. 202 - 271.

9. STATEMENT OF QUALIFICATIONS

I, Kelly Krueger, residing at [redacted] do hereby certify that:

- I am a geologist of Dahrouge Geological Consulting Ltd., Suite 18, 10509 - 81 Ave., Edmonton, Alberta, T6E 1X7.
- I am a 2012 graduate of the University of Alberta, Edmonton, Alberta with a B.Sc. in Geology.
- I have practiced my profession as a geologist continuously since 2012.
- I am a registered Geologist-in-Training with the Association of Professional Engineers and Geoscientists of Alberta, member M96506.
- I hereby consent to the copying or reproduction of this Assessment Report following the one-year confidentiality period.
- I am a co-author of the report entitled "2015 Exploration and Fieldwork within the Prairie Creek Metallic and Industrial Minerals Permit, West-Central Alberta" and accept responsibility for the veracity of technical data and results.

Dated this 11th day of April, 2016.

[redacted]

Kelly Krueger, B.Sc., Geo.I.T.

APEGA M96506

ITEMIZED COST STATEMENT FOR THE 2015 EXPLORATION WITHIN THE PRAIRIE CREEK METALLIC AND INDUSTRIAL MINERALS PERMIT

a) Personnel

[redacted] geologist							
0.03	days			office	Project supervision budgeting, bookings, ship samples		
0.03	days	@	$ 990.00			$ 32.32	
[redacted] geologist							
0.23	days			office	Project supervision budgeting, bookings, ship samples		
0.23	days	@	$ 795.00			$ 181.70	
[redacted] geologist							
1.00	days			field	Field management, geological mapping and rock sampling (Aug 12)		
0.80	days			office	Field preparations, budgeting, bookings		
1.80	days	@	$ 520.00			$ 933.92	
[redacted] assistant							
1.00	days			field	Geological mapping and rock sampling (Aug 12)		
0.81	days			office	Field preparations, data entry, GIS compilation		
1.81	days	@	$ 475.00			$ 859.31	
[redacted] assistant							
1.00	days			field	Geological mapping and rock sampling (Aug 12)		
0.14	days			office	Field preparations, data entry, GIS compilation		
1.14	days	@	$ 350.00			$ 398.68	
[redacted] assistant							
1.00	days			field	Geological mapping and rock sampling (Aug 12)		
0.00	days			office	Field preparations, data entry, GIS compilation		
1.00	days	@	$ 350.00			$ 350.00	
[redacted] receptionist							
0.03	hours			office	Logistics, shipping		
0.03	hours	@	$ 42.00			$ 1.26	
							$ 2,724.87

b) Food and Accommodation

3	man-days	@	$ 169.43	accommodations	$ 508.30	
4	man-days	@	$ 60.50	meals	$ 242.00	
						$ 750.30

c) Transportation

4x4 Truck Rental	$	203.30
ATV (1) and trailer - Pioneer rentals	$	322.43
ATV (3) - Dahrouge owned	$	352.62
Taxi	$	4.23
Fuel	$	82.57
		$ 965.15

d) Instrument Rental

Radio (2)	$	6.72	
SPOT Locators (2)	$	8.40	
GPS (2)	$	8.40	
			$ 23.51

e) Drilling n/a

f) Analyses

Central Lab of Graymont Western U.S. Inc.
(11 rock chip samples)

11	samples	@	$ 4.50	preparation fee	$ 49.50	
11	samples	@	$ 25.00	sample analysis	$ 275.00	
						$ 324.50

g) Other

Prints, photocopies, logistics	$	2.57	
Misc. Supplies	$	20.02	
Courier	$	16.15	
Software Rental (GIS)	$	-	
			$ 38.74

Total	$ 4,827.07
Administration (10%)	$ 482.71
Total + Administration	**$ 5,309.78**

[redacted]

K. Krueger, B.Sc., Geo. I.T.

Edmonton, Alberta
March 30, 2016

APPENDIX 2: 2015 SAMPLE DESCRIPTIONS AND ASSAY RESULTS FROM THE PRAIRIE CREEK PROPERTY

DAHROUGE GEOLOGICAL CONSULTING LTD.

GRAYMONT

Notes: Stratigraphic thicknesses are based on measured attitudes of bedding listed below, with appropriate interpolations. Attitudes are strike and dip (right-hand rule). Sections are listed in numerical order of samples, which does not necessarily represent stratigraphic order. Most samples consist of chips at 30 cm intervals. UTM coordinates are NAD83, Zone 11N. Section locations are shown in Figure 4.2.
Stratigraphy Abbreviations: Mpk - Mississippian Pekisko Formation; Msh - Mississippian Shunda Formation

Sample	Strat Unit	Strat Tkns (m)	Description	$CaCO_3$ (%)	$MgCO_3$ (%)	SiO_2 (%)	Al_2O_3 (%)	Fe_2O_3 (%)	SrO (ppm)	MnO (ppm)	P_2O_5 (ppm)
Isolated Samples											
126854 UTM 606985E, 5778471N	Mpk	1	**Strongly Dolomitic Lime Mudstone to Strongly Dolomitic Lime Wackestone**, medium brown-grey weathered and fresh, micritic to very fine-grained, fossils: fragment (indeterminate), rare; crinoid stem, rare; crinoid ossicle, rare, resistant, vuggy (open), weak fetid odour, moderate HCl reaction, structure(s): calcite veinlet, undetermined-scale, weak	88.88	10.46	0.46	0.100	0.130	311	72	50
126855 UTM 607075E, 5777968N	Mpk	3	**Lime Grainstone**, light grey to tan weathered, very-light brown to medium grey fresh, medium-grained to coarse-grained, fossils: fragment (indeterminate), rare; crinoid stem, abundant; crinoid ossicle, abundant, thickly-bedded, resistant, sucrosic, strong HCl reaction, structure(s): bedding (definite), local-scale, 325/5 NE; bedding (definite), local-scale, 319/9 NE	98.70	1.00	0.18	0.070	0.080	220	33	50
126861 UTM 607063E, 5777701N	Mpk	3	**Lime Grainstone to Lime Mudstone**, light grey to tan weathered, light grey to medium grey fresh, micritic to coarse-grained, fossils: fragment (indeterminate), rare; crinoid stem, abundant; crinoid ossicle, abundant, massive, resistant, weak fetid odour, strong HCl reaction	97.63	1.23	0.48	0.080	0.100	274	36	50
Section 2015-01 (UTM 607078E, 5778523N)											
126851	Mpk	2	**Slightly Dolomitic Lime Packstone to Slightly Dolomitic Lime Grainstone**, medium grey weathered, medium grey to light grey fresh, micritic to coarse-grained, fossils: crinoid stem, abundant; crinoid ossicle, abundant, thickly-bedded, resistant, vuggy (open), weak fetid odour, strong HCl reaction, structure(s): bedding (possible) 0/3 E	96.30	3.00	0.44	0.080	0.080	256	31	50
126852	Mpk	3	**Lime Packstone to Lime Grainstone**, medium grey weathered, medium grey to light grey fresh, micritic to coarse-grained, fossils: crinoid stem, abundant; crinoid ossicle, abundant, thickly-bedded, resistant, vuggy (open), weak fetid odour, strong HCl reaction	97.63	1.40	0.44	0.080	0.100	278	35	50
126853	Mpk	1	**Lime Mudstone**, medium brown-grey weathered and fresh, micritic to very fine-grained, resistant, weak fetid odour, weak HCl reaction, structure(s): calcite veinlet, undetermined-scale, weak	97.98	1.02	0.27	0.070	0.080	202	35	50
Section 2015-02 (UTM 607035E, 5777957N)											
126856	Mpk	3.5	**Strongly Dolomitic Lime Packstone to Strongly Dolomitic Lime Grainstone**, medium grey to tan weathered, medium grey to light grey fresh, medium-grained to coarse-grained, fossils: fragment (indeterminate), rare; crinoid stem, abundant; crinoid ossicle, abundant, thickly-bedded, strong fetid odour, strong HCl reaction, structure(s): bedding (definite), local-scale, 189/12 W	87.10	11.71	1.14	0.140	0.080	233	32	118
126857	Mpk	3.75	**Slightly Dolomitic Lime Packstone to Slightly Dolomitic Lime Grainstone**, medium grey to tan weathered, medium grey to light grey fresh, medium-grained to coarse-grained, fossils: fragment (indeterminate), rare; crinoid stem, abundant; crinoid ossicle, abundant, thickly-bedded, strong fetid odour, moderate HCl reaction, structure(s): bedding (undulatory), local-scale, 339/9 NE	95.84	2.38	0.64	0.090	0.140	267	40	50

Sample	Strat Unit	Strat Tkns (m)	Description	$CaCO_3$ (%)	$MgCO_3$ (%)	SiO_2 (%)	Al_2O_3 (%)	Fe_2O_3 (%)	SrO (ppm)	MnO (ppm)	P_2O_5 (ppm)
Section 2015-03 (UTM 607016E, 5777682N)											
126858	Mpk	3	**Strongly Dolomitic Lime Grainstone**, light grey weathered, light grey to medium grey fresh, medium-grained to coarse-grained, fossils: crinoid stem, abundant; crinoid ossicle, abundant, moderately-bedded to massively-bedded, resistant, vuggy (open), weak fetid odour, moderate HCl reaction, structure(s): fracture, local-scale, strong; bedding (undulatory), local-scale, 290/10 NE	85.67	13.66	0.55	0.100	0.110	211	41	50
126859	Mpk	2.75	**Slightly Dolomitic Lime Mudstone**, tan to light grey weathered, medium brown-grey fresh, micritic, moderately-bedded to massively-bedded, resistant, hard, vuggy (open), weak fetid odour, moderate HCl reaction, structure(s): bedding (undulatory), local-scale, 301/15 NE	94.59	3.79	0.64	0.080	0.100	275	37	50
126860	Msh	3.5	**Strongly Dolomitic Lime Mudstone to Strongly Dolomitic Lime Grainstone**, tan to light grey weathered, medium brown-grey to medium grey fresh, micritic to coarse-grained, argillaceous, very weak HCl reaction, structure(s): bedding (approximate), local-scale, 299/12 NE	87.10	11.36	0.60	0.080	0.080	208	33	50

APPENDIX 3: ANALYTICAL LABORATORY INFORMATION AND TECHNIQUES

Name and address of the Lab:

Graymont Western US inc, Central Laboratory.
670E 3900S. Suite 200, Salt Lake City, Utah, 84107

Statement of qualifications of the chemist:

Jared Leikam, B.S. in chemistry from the University of Utah, class of 2003. Jared started working for Graymont Western in Feb 2004 and has been working with the ICP spectrometer for one and a half years, under the direct supervision of Carl Paystrup (Lab Supervisor).

Sample preparation , procedures, reagents, equipment, etc.:

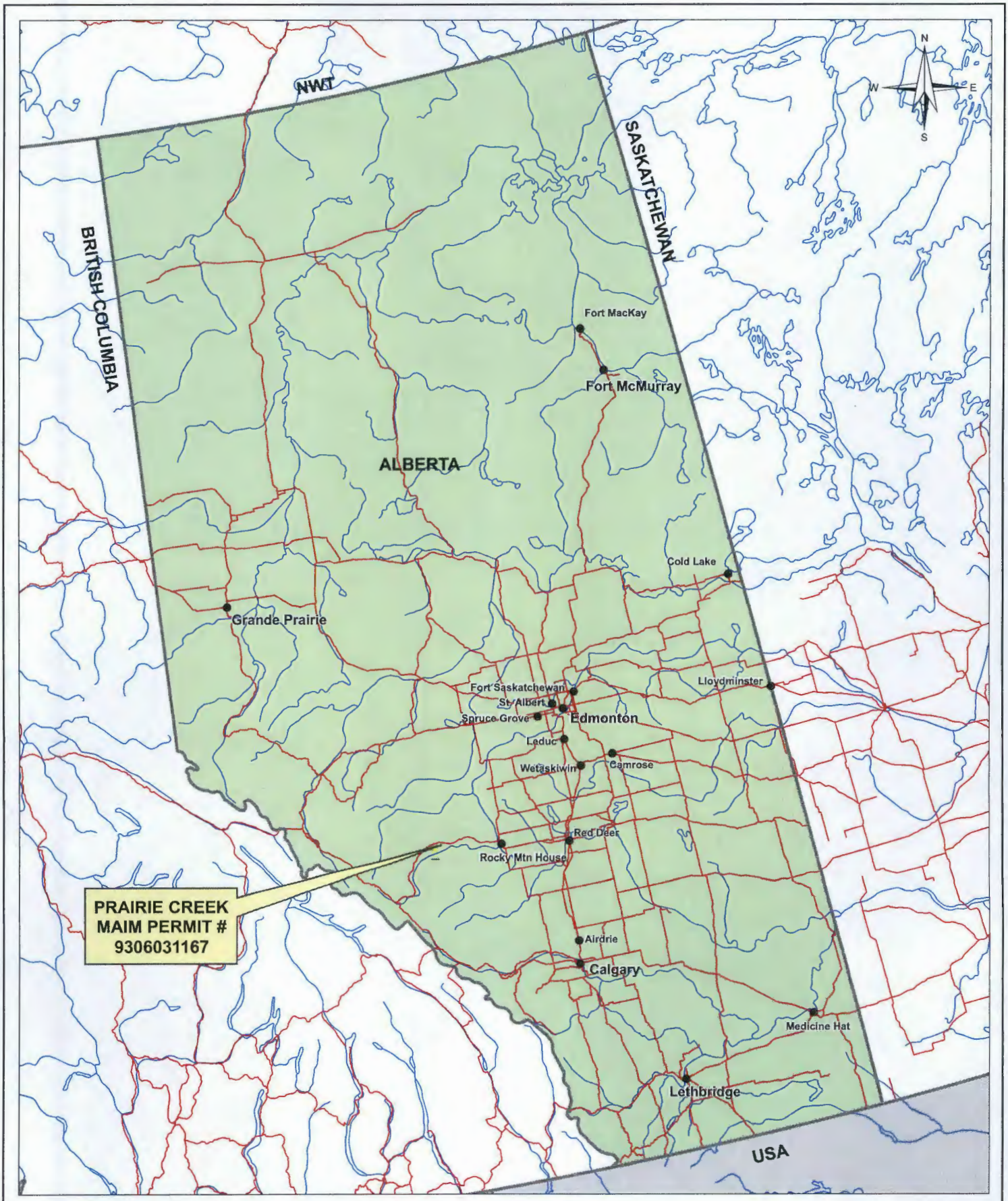
For the ICP sample preparation, 0.5 grams of the sample is mixed with 3g of lithium carbonate. The sample and the lithium carbonate are then fused together in a muffle furnace at 850C. After the fusion process the samples are dissolved in 1:1 HCl, a total of 40ml 1:1 HCl is used in the dissolving process. The samples are then diluted to 200ml and spiked with 10ppm Co. The cobalt is used as an internal standard. At this point the samples are ready for analysis on the Perkin Elmer, Optima 3000.

Mesh size fraction, split and weight of sample:

Upon receiving the samples, the prep room technician riffles and then splits the stone down to a manageable size (roughly 200g). The stone is then dried in an oven at 100C. Once the samples have been dried they get pulverized to a -200 mesh size. A split of this pulverized material is then sent for testing in the main part of the lab.

Quality control Procedures:

The ICP spectrometer is calibrated with two certified reference materials prior to analyzing a batch of samples. A batch typically contains 96 samples. Every 12th sample in a batch is a certified limestone reference sample. In addition to the 8 reference samples imbedded in the batch, there are 2 limestone reference samples analyzed at the beginning and at the end of the batch to ensure the accuracy of our Na and P numbers. Every element being analyzed in a sample is backed up by data from the certified reference materials. We also use an internal standard(10ppm Co) to further ensure the quality and accuracy of the analysis.



Legend

- Towns/Cities
- Major roads
- Rivers

Kilometres

0 250

1:5,500,000

Coordinate System: UTM NAD83, Zone 9N

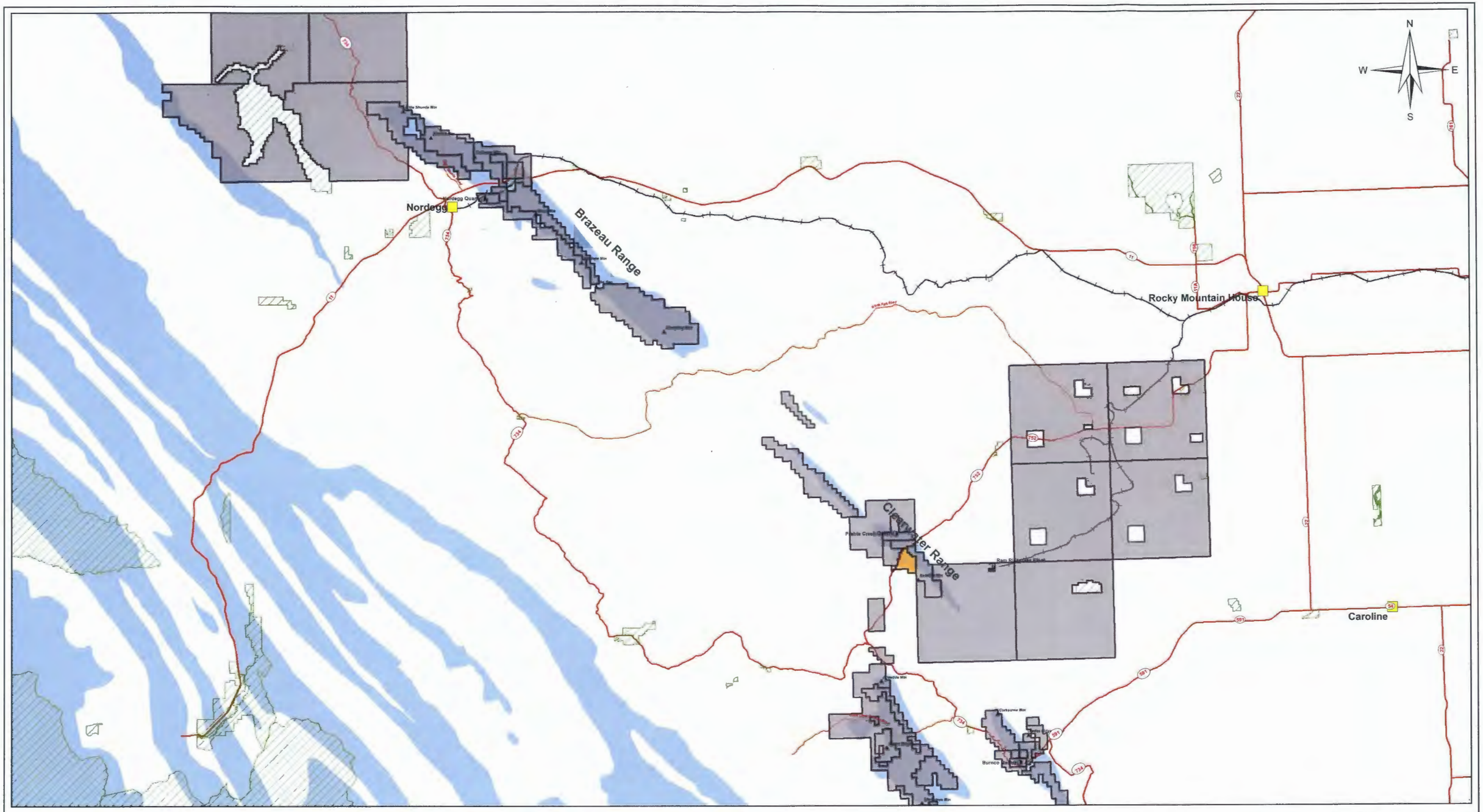
GRAYMONT WESTERN CANADA INC.

Dahrouge Geological Consulting Ltd.
Edmonton, Alberta

PRAIRIE CREEK PROPERTY

Fig. 3.1
Location Map

KK 2016.03



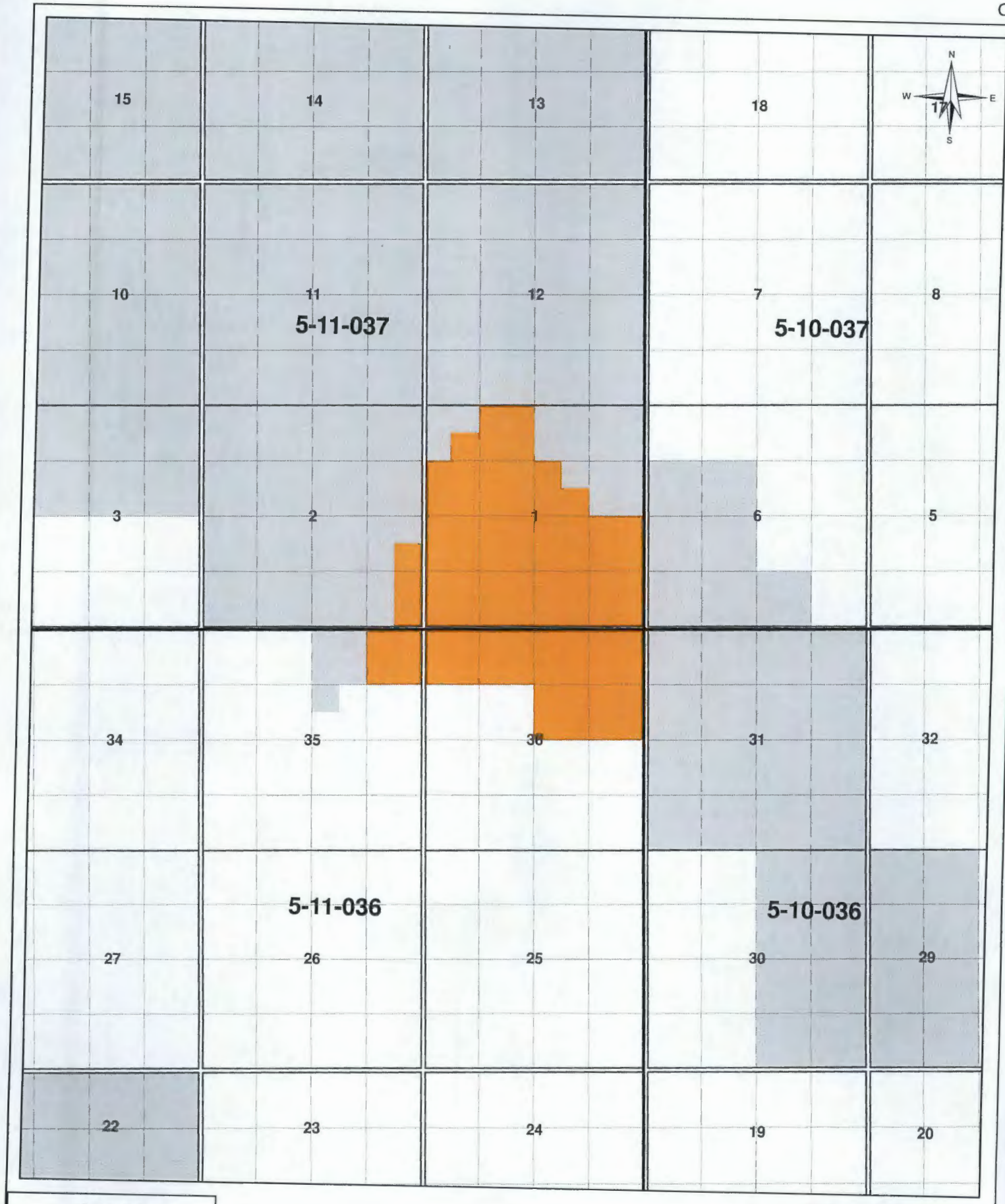
GRAYMONT WESTERN CANADA INC.

Dahrouge Geological Consulting Ltd.
Edmonton, Alberta

WEST-CENTRAL ALBERTA

Fig. 3.2
Access Map

PK 2016.03



Legend

MAIM Permits

- Permit # 9306031167 (316 ha)
- Others

Kilometres
0 1 2

1:35,000

Coordinate System: UTM NAD83, Zone 11N

GRAYMONT WESTERN CANADA INC.

Dahrouge Geological Consulting Ltd.
Edmonton, Alberta

PRAIRIE CREEK PROPERTY
WEST-CENTRAL ALBERTA

Fig. 4.1
Permit Map

KK 2016.03

606000

607000

5779000

5778000

N

W

E

S

752

PRAIRIE CREEK
9306031167

Section 2015-01
97.25% $CaCO_3$ over 6 m

Sample 126854
88.88% $CaCO_3$ over 1 m

Sample 126855
98.70% $CaCO_3$ over 3 m

Section 2015-02
91.62% $CaCO_3$ over 7.25 m

Section 2015-03
88.86% $CaCO_3$ over 9.25 m

Sample 126861
97.63% $CaCO_3$ over 3 m

Legend

2015 Samples

% $CaCO_3$

- 97 - 100
- 95 - 97
- 90 - 95
- < 90

Roads

- Main Road
- Maintained Road
- Stabilized Road
- Under Construction
- Abandoned Road
- Creek/stream

Geology

- Fold Axis
- Geologic Contact
- Topo Contour (20 m)

Mineral Tenures

- Prairie Creek Permit
- Others

Formation

- Cretaceous (undivided)
- Fernie Formation
- Turner Valley Formation
- Shunda Formation
- Pekisko Formation
- Banff Formation
- Palliser Formation

Kilometres

0 0.5 1

1:2,500

Coordinate System: UTM NAD83, Zone 11N

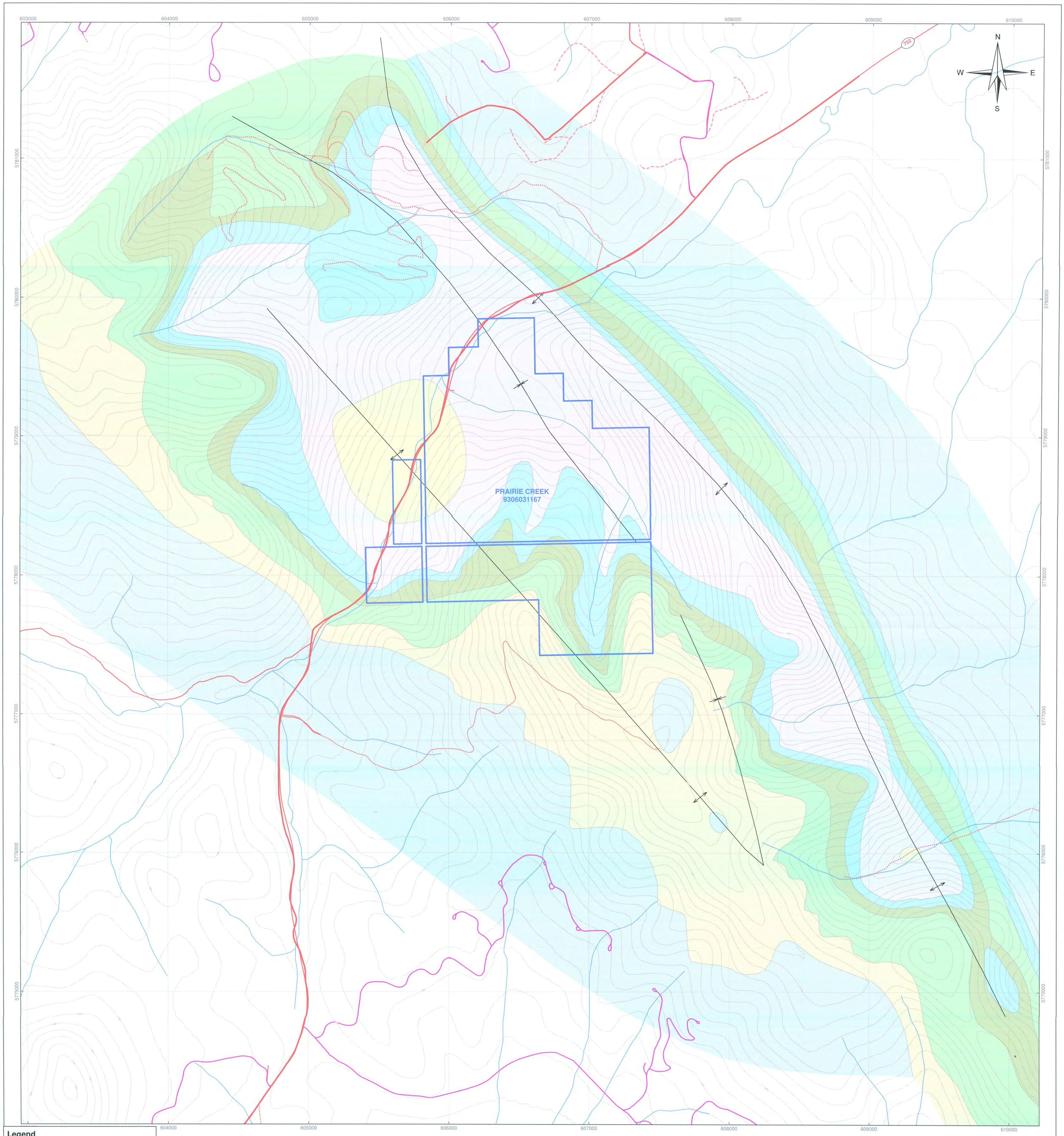
GRAYMONT WESTERN CANADA INC.

Dahrouge Geological Consulting Ltd.
Edmonton, Alberta

PRAIRIE CREEK PROPERTY
WEST-CENTRAL ALBERTA

Fig. 4.2
Geology and Sample Locations

KK 2016.03



Legend

Roads
- Main Road
- Maintained Road
- Stabilized Road
- Under Construction
- Abandoned Road

Geology
- Fold Axis
- Geologic Contact
- Topo Contour (20 m)

Formation
- Cretaceous (undivided)
- Fernie Formation
- Turner Valley Formation
- Shunda Formation
- Pekisko Formation
- Banff Formation
- Palliser Formation

MAIM Permits
- 9306031167

Kilometres
0 0.5 1 1.5 2

1:10,000

Coordinate System: UTM NAD83, Zone 11N

GRAYMONT WESTERN CANADA INC.

Dahrouge Geological Consulting Ltd.
Edmonton, Alberta

PRAIRIE CREEK PROPERTY
WEST-CENTRAL ALBERTA

Fig. 5.1
Regional Geology

KK 2016.03