MAR 20120015: NORTH PEACE RIVER

North Peace River - A report on frac-sand exploration in the Peace River area, northern Alberta.

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2011 EXPLORATION AND FIELDWORK WITHIN THE PEACE RIVER METALLIC AND INDUSTRIAL MINERALS PERMITS, NORTHWESTERN ALBERTA

PART B

Metallic and Industrial Minerals Permits
9309080651, 9309080652 & 9309080653

Geographic Coordinates

56°14' N to 56°29' N
117°04' W to 117°20' W

NTS Sheet 84 C/06

Owner and Operator:	MAIM Permits 9309080651, 9309080652 & 9309080653 877384 Alberta Ltd. 18, 10509 - 81 Ave Edmonton, Alberta T6E 1X7
Consultant:	Dahrouge Geological Consulting Ltd. 18, 10509 - 81 Avenue Edmonton, Alberta T6E 1X7
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Date Submitted:	September 25, 2012

TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

PART C

LIST OF FIGURES

1. SUMMARY

During July, 2011, parts of the Peace River permit group, directly north of Peace River, Alberta and within Metallic and Industrial Minerals (MAIM) permits 9309080651, 9309080652 and 9309080653, were explored for clean, silica-rich sandstone that could potentially meet frac sand criteria.

The 2011 exploration consisted of mapping access routes and outcrops from a helicopter. After a suitable landing spot was identified, one outcrop of sandstone was examined. High water levels and wet conditions prevented further outcrops from being examined and/or sampled.

2. INTRODUCTION

The 2011 exploration within the Peace River Property was conducted by Dahrouge Geological Consulting Ltd. (Dahrouge), on behalf of 877384 Alberta Ltd. This assessment report describes the exploration conducted within MAIM permits 9309080651, 9309080652 and 9309080653, which parallel Peace River north of the town of Peace River, Alberta. Jody Dahrouge, president of 877384 Alberta Ltd., authorized this work.

The main objective of the 2011 exploration was to identify and map sandstone outcrops on the property that could potentially meet the API frac sand criteria of low acid solubility, high roundness, sphericity, and crushability. A secondary objective was to locate and map access routes for future exploration programs.

3. GEOGRAPHIC SETTING AND ACCESS

3.1 LOCATION AND ACCESS

MAIM Permits 9309080651, 9309080652 and 9309080653 encompass areas north of the town of Peace River, including areas both east and west of Peace River, within northwestern Alberta (Fig.'s 3.1 & 3.2).

Access to and throughout the property area is by truck, all-terrain vehicle, helicopter, and hiking. Parts of the property may also be accessed by boat, although water levels/conditions may restrict this access. Several secondary roads and cut lines spurring off the main roads will provide valuable ATV access throughout the property area.

3.2 INFRASTRUCTURE

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

Peace River, with a population of about 6,800, is accessed by traveling about 488 km northwest of Edmonton, or by travelling about 200 km northeast of Grande Prairie along Highway 2.

3.3 TOPOGRAPHY, VEGETATION AND CLIMATE

The Peace River Property is included in the Peace Lowland-Boreal Transition Ecoregion. The general area is categorized ecologically as an aspen parkland. Vegetation in the area consists of aspen, balsam poplar, lodgepole pine, and white and black spruce. Areas of lowest relief are covered with dense stands of black spruce and thick undergrowth, with local muskeg and swamp.

The property is cut by a northeast-trending section of the Peace River, where elevations range from approximately 360 m along the river to about 540 m atop the highest plateau. The property is also cut by a number of smaller watercourses, including Pats Creek and Carmon Creek.

Climate is dry-continental with average summer temperatures of 20° to 22°C and winter temperatures of -18° to -21°C, with extremes of 37°C and -50°C. Rainfall averages about 29 cm per year; snowfall averages 119 cm with the majority falling in December and January.

3.4 FIELD OPERATIONS

Field operations were conducted by a four-person crew from Dahrouge Geological Consulting Ltd. and Rokmaster Resources Corp., based in a hotel in Peace River. Transportation to and from the property was by helicopter (contracted from Peace River).

Garmin GPSmap 60Cx instruments were used to mark outcrop locations and record access information. Compasses were set at a magnetic declination of 17°51' east.

4. PROPERTY, EXPLORATION AND EXPENDITURES

4.1 PROPERTY SUMMARY

On August 26, 2009, 877384 Alberta Ltd. acquired MAIM Permits 9309080651, 9309080652 and 9309080653 to cover clean sandstones adjacent to Peace River (Fig.'s 3.2 and 4.1). The three permits cover the area directly north and adjacent to the town of Peace River, on both the east and west sides of Peace River.

Based on the 2011 exploration, portions of the Peace River Property will be released (Section 4.3, Fig. 4.1).

4.2 2011 EXPLORATION SUMMARY

In July 2011, Dahrouge Geological Consulting Ltd., on behalf of 877384 Alberta Ltd., conducted exploration for clean silica-rich sandstones near the town of Peace River, Alberta. The main objective of the 2011 exploration was to identify and map sandstone outcrops on the property that could potentially meet the API frac sand criteria of low acid solubility, high roundness, sphericity, and crushability. A secondary objective was to locate and map access routes for future exploration programs.

The Peace River Valley and smaller drainages were surveyed from a helicopter. Several outcrops were identified. Due to a lack of landing spots for the helicopter, only a single outcrop was examined (Appendix 2). High water levels and wet conditions limited further examination of outcrops.

4.3 EXPLORATION EXPENDITURES

Expenditures for 2011 totaled $22,849.61 (Appendix 1). MAIM permits 9309080652 and 9309080653 will be amended; the entirety of MAIM Permit 9309080651 will be released (Fig. 4.1). The reduced area of MAIM permits 9309080652 and 9309080653 (4,192 ha) will include:

MAIM Permit	Land Description (Mer-Rng-Twp:)	Reduced Size (ha)
9309080652	5-22-084: 01L1, L8, L9, L16 5-21-084: 06L4, L5, L12, L13; 07NE, L3, L4, L6, L7, L11, L14; 17L4-6, L11, L14; 18L1, L2, L8; 20NW, L2, L3, L5-7, L10, L15; 29L2, L3, L6, L7, L10, L11, L14, L15; 32L2, L3, L6, L7	784
9309080653	5-21-085: 10SE, L3, L4, L9; 11W, NE, L1, L7; 12SW, NE, L2, L7, L11, L13; 13S, NW, L9, L16; 14SE, L9, L16; 23L1; 24S, NE, L11, L12, L14; 25NE, L1, L3, L6, L8, L11; 36L9, L16 5-20-085: 18NW, L4, L5; 19W, 30W, L10, L15; 31NE, SW, L2, L7, L8, L12, L13 5-21-086: 01L1, L8 5-20-086: 05SW, L10-12, L14-16; 06S, NE, L11, L12, L14; 07SW, L9; 08SE, L5, L9, L12-L14, L16; 09L12, L13; 16W; 17E, L3, L6, L11, L14; 20E; 21W, L2, L7, L10, L15; 28L2, L4, L5, L7, L10, L12, L13, L15; 29L1, L8, L9, L16	3,408

Expenditures are to be allocated to MAIM permits 9309080652 and 9309080653 as follows:

MAIM Permit	Reduced Permit Area (ha)	Required Expenditures	Assigned Expenditures	New Expiry Date
9309080652	784	$3,920.00	$3,920.00	Aug. 26, 2013
9309080653	3,408	$17,040.00	$18,929.61	Aug. 26, 2013

5. REGIONAL GEOLOGY

5.1 DUNVEGAN FORMATION

The Dunvegan Formation is upper Cretaceous in age and is composed of interbedded fine-grained feldspathic sandstones and shales (Table 5.1; Bertrand, 1989). The unit is believed to have a marine origin and has a maximum thickness of 180 metres in the Peace River region.

TABLE 5.1 GENERALIZED CRETACEOUS STRATIGRAPHY OF PEACE RIVER AREA, NORTHWESTERN ALBERTA*

System or Subsystem	Stratigraphic Unit	
	Formation / Group	Member
Upper Cretaceous	Dunvegan	
Mid/Lower Cretaceous	Shaftesbury	
	Peace River	Paddy Cadotte Harmon

*Compiled from Bertrand (1989) and Lichtenbelt (1982).

5.2 SHAFTESBURY FORMATION

The middle/lower Cretaceous Shaftesbury Formation conformably underlies the Dunvegan Formation in the Peace River region, although only in locations that have not been eroded away

by the numerous river and/or stream channels (Table 5.1). It is divided into 2 members: an upper member of nodular, dark-grey fish scale-bearing marine shale, and a lower member of predominantly interbedded silty sandstone and shale (Hodgson, 1995). The Shaftesbury Formation is approximately 170 metres thick in the region.

5.3 PEACE RIVER FORMATION

The lower Cretaceous Peace River Formation conformably underlies the Shaftesbury Formation and is subdivided into 3 members (Table 5.1). It typically consists of greywacke, coal, shale and coarse to fine marine sandstone. Along Peace River, clean, silica-rich sandstones are known to occur within the uppermost subunit, the Paddy Member (Lichtenbelt, 1982). The Peace River Formation is approximately 60 metres thick in the region.

5.3.1 Paddy Member

The Paddy Member is the uppermost member of the Peace River Formation and overlies the upper Cadotte coal marker bed (Table 5.1; Lichtenbelt, 1982). It consists of very clean, uncemented sands with a maximum thickness of 17 m (Lichtenbelt, 1982). Historic drilling along Peace River determined that the Paddy Member (a strongly cross-bedded non-marine unit) was generally 35 metres below surface, and had an average thickness of 8 m (Bertrand, 1989).

The most distinguishing characteristic of this unit is the abundance of milky or smoky quartz and agate grains which are both very well-rounded and very well-sorted. These are not present in other units in the area (Lichntenbelt, 1982).

5.3.2 Cadotte Member

The Cadotte Member conformably underlies the Paddy Member and predominantly consists of shoreface-facies, coarse to fine-grained marine sandstone (Table 5.1). Isolated intervals of shale and conglomerate are also present (Hodgson, 1995). It typically forms prominent cliffs on both the east and west banks of Peace River, and has a maximum thickness of 35 m (Lichtenbelt, 1982). The uppermost interval of the Cadotte Member consists of a coal marker bed (Lichtenbelt, 1982).

5.3.4 Harmon Member

The lowermost member of the Peace River Formation is the Harmon Member (Table 5.1). It is predominantly composed of dark, fissile, non-calcareous marine shales and has a maximum thickness of 10 m.

6. RESULTS

Two days were spent identifying outcrops and mapping access routes along Peace River. The main objective of the 2011 exploration was to identify and map sandstone outcrops on the property that could potentially meet the API frac sand criteria of low acid solubility, high roundness, sphericity, and crushability. A secondary objective was to locate and map access routes for future exploration programs.

The outcrop examined in 2011 was described as interbedded coarse rusty sandstone and siltstone; the outcrop is interpreted to belong to the Dunvegan or Shaftesbury Formation, which overlie the Peace River Formation (Appendix 2). No outcrops of clean sandstone were identified in 2011; the Paddy Member is believed to outcrop at lower elevations that could not be reached at the time of the exploration program.

The property has excellent access, including a network of gravel roads that provide access to and throughout the property. In addition, lower elevations along Peace River could be accessed by boat, depending on river conditions.

7. CONCLUSIONS

Outcrops along Peace River were identified and access routes mapped within MAIM Permits 9309080651, 9309080652 and 9309080653. A single outcrop was examined and described in detail. Access roads and trails were noted, which provide access to most parts of the property by truck and/or ATV. The property may also be accessed by boat, although water levels and conditions must be considered beforehand.

Based on the 2011 exploration, portions of the Peace River Property will be released. Future exploration will consist of detailed outcrop examination and mapping, as well as the collection of samples for frac sand suitability testing.

8. REFERENCES

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Leckie, D.A. (1989) Sedimentology and sequences of the Paddy and Cadotte members along the Peace River. Canadian Society of Petroleum Geologists' field guide to: Second International Research Symposium on Clastic Tidal Deposits, August 22-25, Calgary, Alberta, 78, pp. 2.

Lichtenbelt, J.H. (1982) Geological Report on Peace River Industrial Sands Project; prepared for Peace River Industrial Resources, 24 p.

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.

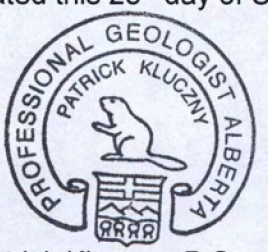
Stott, D.F. and Aitken, J.D. (1993) Sedimentary Cover of the Craton in Canada; D.F. Stott and J.D. Aitken (ed.); Geol. Surv. Can. Geology of Canada, no. 5., pp. 202 - 271.

9. STATEMENT OF QUALIFICATIONS

I, Patrick Kluczny, 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 2006 graduate of the University of Alberta, Edmonton, Alberta with a B.Sc. in Geology.
- I have practiced my profession as a geologist continuously since 2006.
- I am a registered Professional Geologist with the Association of Professional Engineers and Geoscientists of Alberta, member M81985.
- I hereby consent to the copying or reproduction of this Assessment Report following the one-year confidentiality period.
- I am the author of the report entitled "2011 Exploration and Fieldwork within the Peace River Metallic and Industrial Minerals Permits, Northwestern Alberta" and accept responsibility for the veracity of technical data and results.

Dated this 25th day of September, 2012.



Patrick Kluczny, B.Sc., P.Geol.

APEGA M81985

APPENDIX 1: COST STATEMENT FOR THE 2011 EXPLORATION WITHIN THE PEACE RIVER PERMITS

a) **Personnel**		$ 11,965.00
b) **Food and Accommodation**		$ 600.00
c) **Transportation**		$ 7,924.86
d) **Instrument Rental**		$ 20.00
e) **Drilling**	n/a	$ -
f) **Analyses**	n/a	$ -
h) **Other** (Software Rental, Overhead, Supplies, Courier & Shipping)		$ 262.51
Total		$ 20,772.37
Administration (10%)		$ 2,077.24
Total + Administration		**$ 22,849.61**

APPENDIX 2: 2011 OUTCROP DESCRIPTION

UTM coordinates are NAD83, Zone 11N. Outcrop location are shown in Figure 4.2.

Outcrop	Location		Strat. Unit	Strat. Thick. (m)	Description
	Easting	Northing			
PR-2011-01	487012	6245658	Dunvegan Fm. (?)	6	**Interbedded Sandstone and Siltstone**, light tan-grey, sub-rounded, well-sorted, approximately 75% coarse-grained, rusty sandstone and 25% siltstone, minor dark-grey shaly interbeds, outcrop is loosely consolidated, close proximity to river, minor oxide alteration, sub-horizontal bedding

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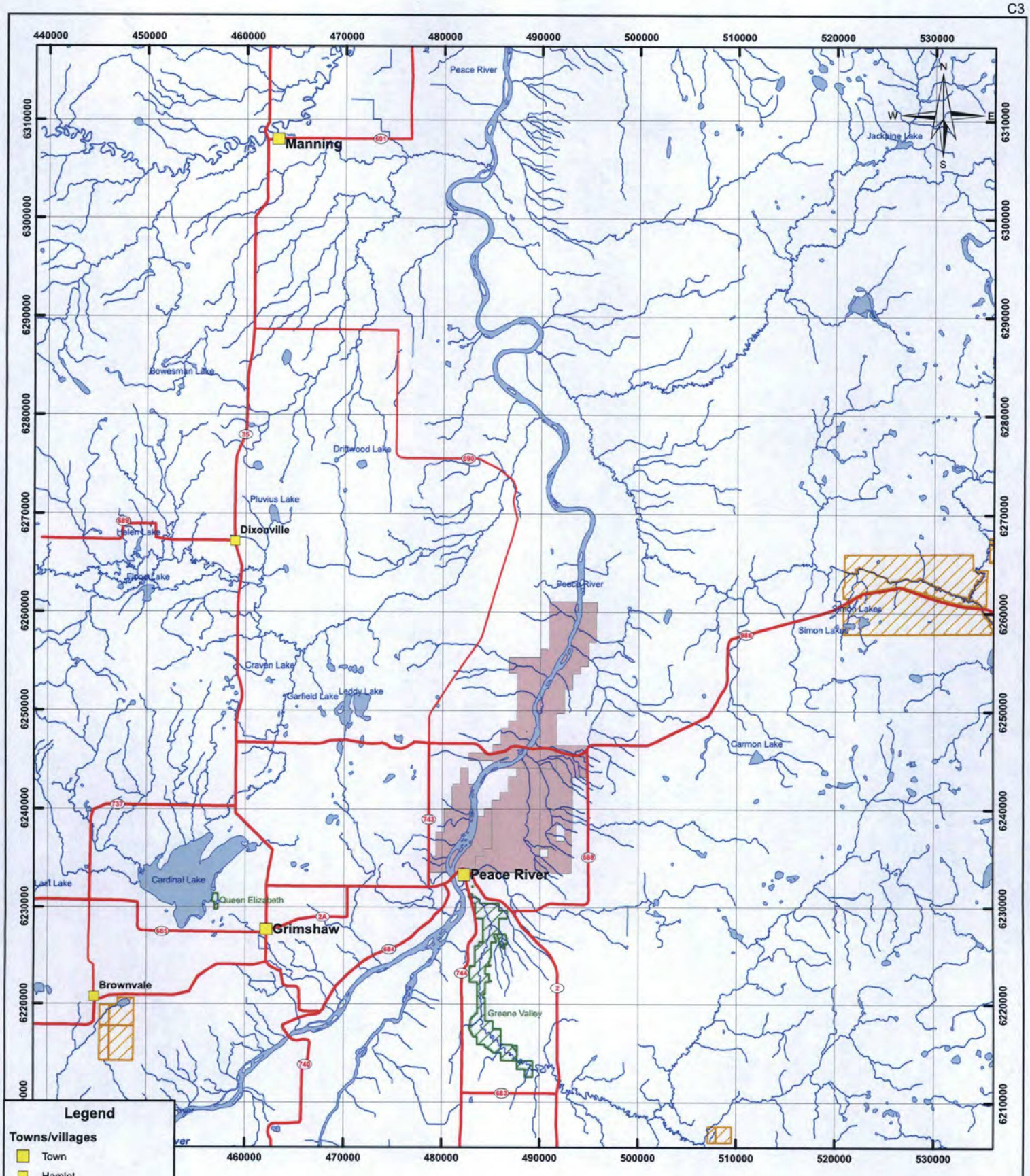
Edmonton, Alberta

NORTH OF PEACE RIVER
NORTH-CENTRAL ALBERTA

Fig. 3.1
Property Location

JS 2012.09



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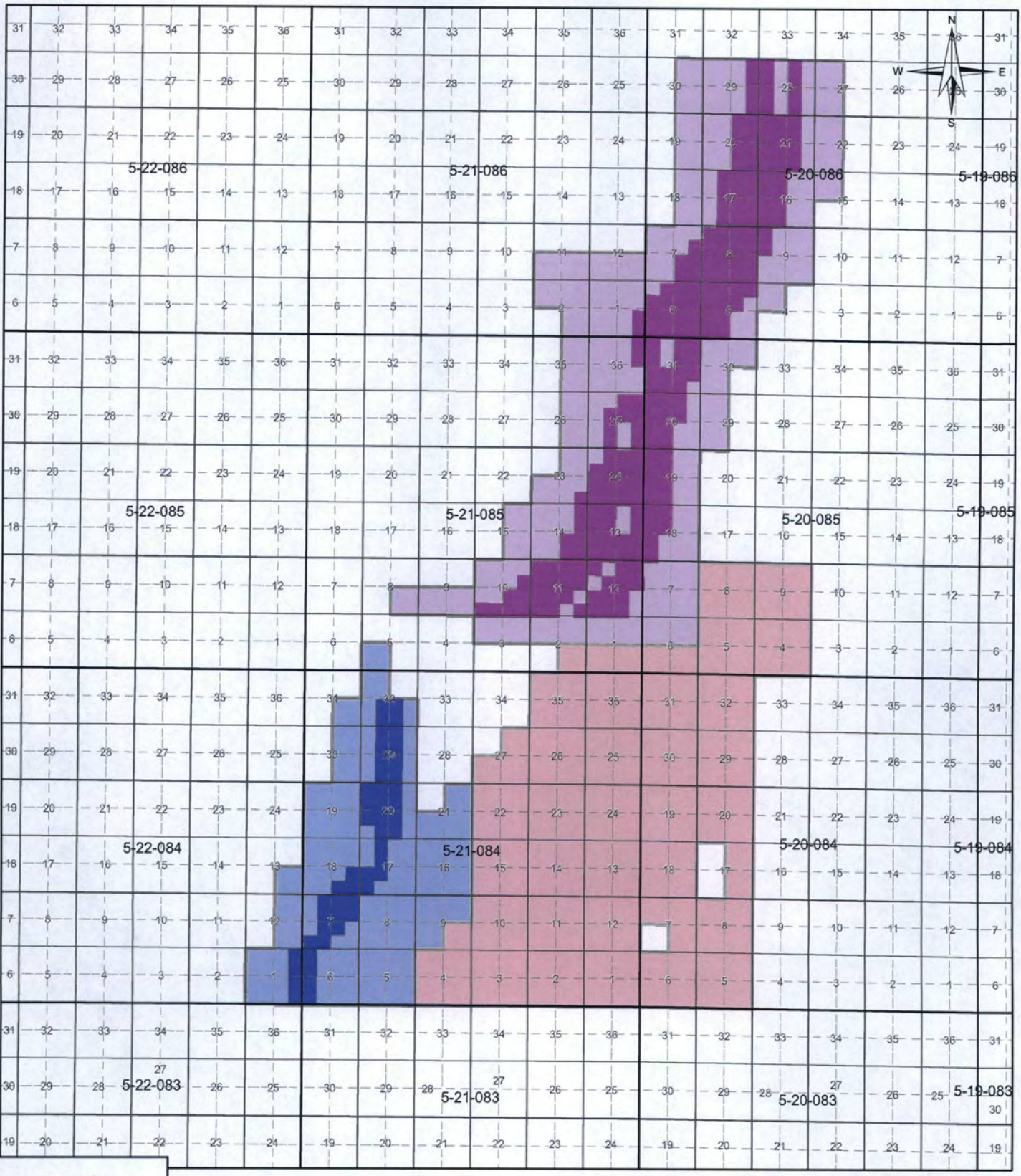
NORTH OF PEACE RIVER,
NORTH-CENTRAL ALBERTA

Fig. 3.2
Access Map

JS 2012.09



Legend

Land to Retain

- 9309080652 (784 ha)
- 9309080653 (3408 ha)

Current Claim Boundaries

- 9309080653
- 9309080652
- 9309080651

Kilometres

0 2 4 6

1:150,000

Coordinate System: UTM NAD83, Zone 11N

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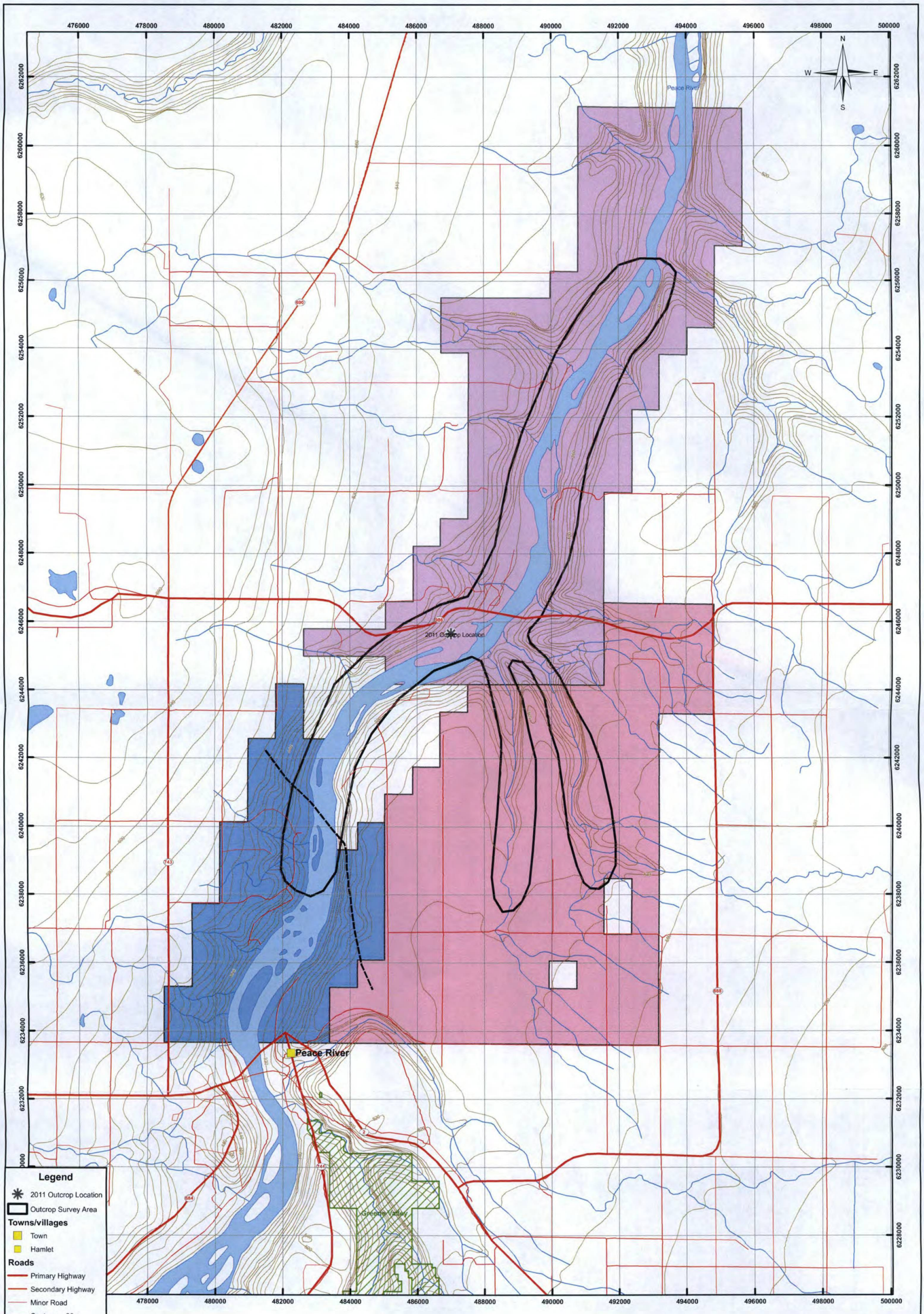
NORTH-CENTRAL ALBERTA

Fig. 4.1
Property Map

JS 2012.09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6246000
6244000
6242000
6240000
6238000
6236000
6234000
6232000
6230000
6228000
N
W
E
S
Peace River
690
986
2011 Outcrop Location
743
684
744
555
Peace River
Greene Valley
Legend
2011 Outcrop Location
Outcrop Survey Area
Towns/villages
Town
Hamlet
Roads
Primary Highway
Secondary Highway
Minor Road
Contours - 20m
Erosional Channel
River
Lake
Provincial Park
MAIM Permits
9309080653
9309080652
9309080651
Kilometres
0
2
4
6
1:100,000
Coordinate System: UTM NAD83, Zone 11N
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Fig. 4.2
2011 Exploration
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