## MAR 20060022: ELLSCOTT

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**Project Name: Ellscott** 

Permit Number(s): 9304070985

Permit Holder: Paradigm Canadian Diamonds Pty Ltd

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Date: 03/10/2006

Part B & C – Assessment Report

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#### 1 Introduction

Paradigm Canadian Diamonds Pty Ltd is the holder of the Ellscott project (exploration permit 9304070985) in central Alberta. Paradigm regards the area as prospective for diamond bearing kimberlite and exploration efforts have been focussed accordingly.

This report was prepared by Mr Bernard Rowe. Mr Rowe is an employee of Paradigm Geoscience and an exploration geologist with 17 years experience including seven years in diamond exploration with Ashton Mining Ltd. Ashton Mining was part-owner of the Argyle diamond mine in Western Australia until it was taken over by Rio Tinto. Mr Rowe holds a Bachelor of Applied Science (Honours) degree in Geology from the University of Ballarat, Australia and is a member of the Australian Institute of Geoscientists.

### 2 Summary

Paradigm Geoscience Pty Ltd conducted a regional structural study over Alberta to identify areas most prospective for diamondiferous kimberlite. Subsequent to the regional study, Paradigm Canadian Diamonds Pty Limited (PCDPL) applied for mineral tenure over seven target areas. Regional data sets covering the targets were acquired, processed and reviewed in order to further evaluate the targets and to plan appropriate field programs. A program of surface till sampling was undertaken on the Ellscott target. One sample contained a single grain of picroilmenite. Whilst mildly encouraging, the result is not clearly above background levels. Further work is proposed to more effectively test the project area and to identify discrete targets for drill testing.

### 3 Location

The Ellscott project is located 25km southeast of Athabasca and 20km east of Peryvale in central Alberta. The land is mainly used for agricultural purposes and road access is very good. A tenement location/index map is included in Appendix 1.

### 4 Geological Setting

Achaean basement rocks of the Hearne Sub-province (2.6-2.8Ga) are overlain by thick sequences of Phanerozoic sediments of the Western Canada Sedimentary Basin. In this area, the youngest of platform cover rocks belong to the Upper Cretaceous Belly River Group.

## 5 Work Completed

Initial work involved the acquisition, reprocessing and review of the following datasets to assist in planning field programs:

- Aeromagnetic data
- Bedrock geology (published maps)
- Quaternary geology (published maps)
- Quaternary isopachs
- Ice directions
- Topography
- Bore holes
- Kimberlite occurrences
- Indicator mineral data (mineralogy and mineral chemistry)

Aeromagnetic data was acquired from the Geological Survey of Canada for the S. Alberta (I) survey. The survey was flown in 1990 at a flying height of 1000m and a line spacing of 1600m. Appendix 2 shows an image of the first vertical derivative of the total magnetic field. Several circular anomalies (positive and negative) of interest are present and could be caused by pipe-like bodies. A magnetic kimberlite could easily be missed in an aeromagnetic survey with these parameters – wide line spacing and high flying height.

An examination of the bedrock geology showed that the area is underlain by Late Cretaceous Belly River Group at an elevation of 600m asl. Only kimberlites of the same age or younger than the Belly River Group are considered to be worthwhile targets. Kimberlites older than the Belly River Group will be difficult to locate by way of surface till sampling and will probably be too deep to be of economic importance.

Glacial deposits consist of hummocky ablation till of 10-50m thickness. Ice directions are evident from drumlins/flutes developed in sub-glacial till immediately to the west of the permit and from elongate ridges developed perpendicular to the ice direction in the hummocky till. The main ice-direction in the area is SSW and SW. The area was considered suitable for surface till sampling on the basis of the till being relatively thin (10-50m) and the presence of nearby sub-glacial till.

Whilst no kimberlites are known in the area, indicator minerals have been recovered and described by the Geological Survey of Canada (GSC) and the Alberta Geological Survey. A few indicator minerals have been recovered from till samples within 30km of the project area. One sample collected within the project area by the GSC contained a single grain of chromite. Whilst not a diagnostic feature, the chemistry of the chromite was not considered to be favourable.

Till sampling was undertaken in areas located between 4km and 10km down-ice (SW) of the target area. A total of eight individual samples of 15-20kg (-1mm

fraction) each were collected at intervals of between 500m to 1000m along roadside traverses perpendicular to the dominant ice direction. Neighboring samples were composited into three samples for processing. Most of the samples were collected from poorly compacted ablation till which appears to cover most of the area. All sites were positioned with GPS (+/- 10m). A sample location map is included as Appendix 3.

The samples were processed by SRC Geoanalytical Laboratories in Saskatoon to produce a heavy mineral concentrate from the 0.25mm-1.0mm fraction. The concentrates were then dispatched to Global Diamond Exploration Services in Perth, Western Australia for mineral observation. Sample locations and results are tabulated in Appendix 4 and a sample processing flow-sheet is included in Appendix 5.

#### 6 Results

One of the three composite samples returned a positive result. Sample EL002, a three site composite totaling 54kg, contained a single grain of picroilmenite. A single grain is not considered to be a significant result and may simply be a function of a background population. Two grains of chromite recovered from the same sample were considered to be non-kimberlitic based on grain morphology and shape. The area was found to be largely covered by ablation till and therefore surface sampling is not considered an effective means of testing local targets.

#### 7 Conclusions

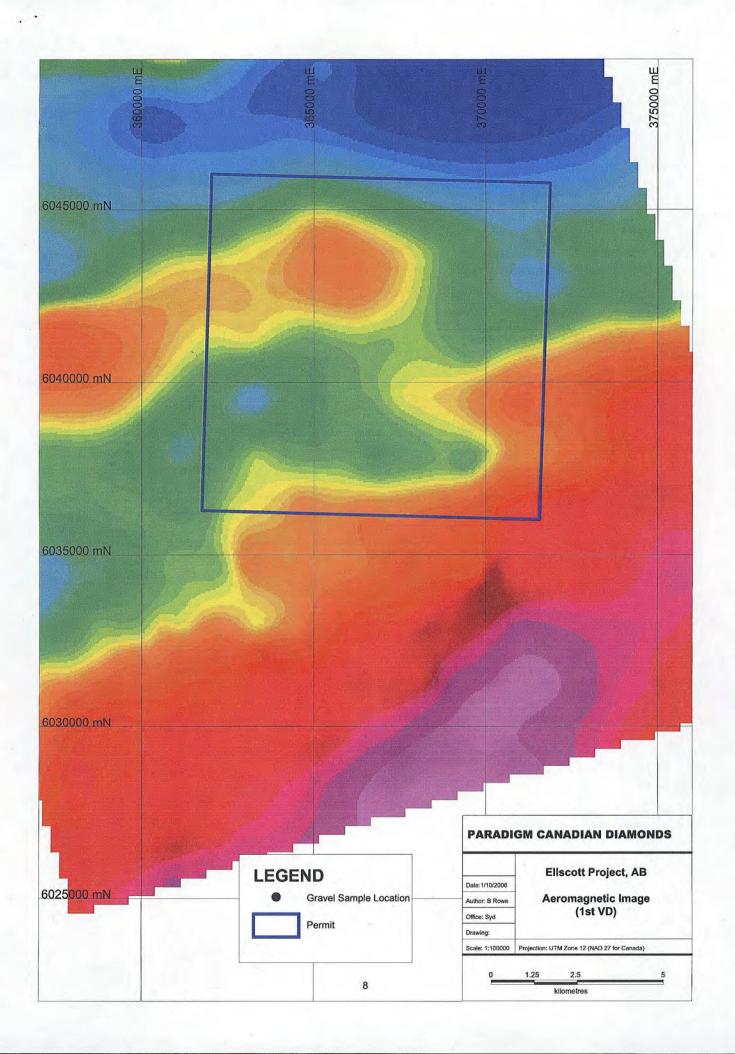
Surface till sampling has proven to be an ineffective means of testing for kimberlite within the Ellscott project area. Additional till sampling could be undertaken to better test the target area but it will require a means of sampling the sub-glacial till (eg, drilling). Several discrete magnetic anomalies within the project area are of interest and remain untested. The magnetic survey data lacks the resolution to be an effective test for magnetic kimberlites.

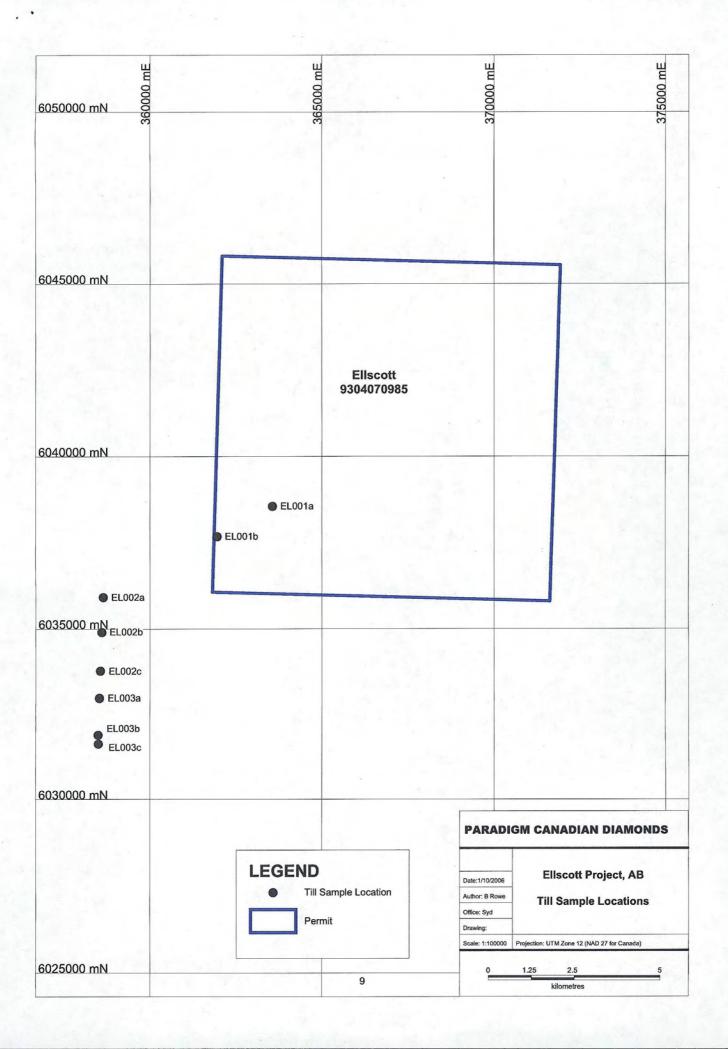
### 8 References

Dufresne MB, Eccles DR, Mckinstry B, Schmitt DR, Fenton MM, Pawlowicz JG and Edwards WAD, 1996. The Diamond Potential of Alberta. Alberta Geological Survey Bulletin No. 63, 1996.

# 9 Appendices (Part C)

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## Appendix 4 – Sample Data

SampleID	UTM Zone	Easting	Northing	Prospect	Туре	Sample Weight kg	Observed Weight g	Positive/ Negative	Pyrope	Picro	Chromite	Chrome Diopside
EL001a	12	363562	6038553	Ellscott	till	34.7	11.0	N				
EL001b	12	361956	6037680	Ellscott			4 44			3.5	1 2	
EL002a	12	358597	6034902	Ellscott	till	54.0	21.0	P		1		
EL002b	12	358597	6034902	Ellscott								
EL002c	12	358556	6033780	Ellscott	4	41 2						
EL003a	12	358493	6031887	Ellscott	till	52.3	19.0	N				
EL003b	12	358493	6031887	Ellscott								
EL003c	12	358502	6031628	Ellscott								

Appendix 5 - Sample Processing Flow Sheet

