

North Australian Diamonds Limited ABN 86 009 153 119

# **Annual Exploration Report – Year 2**

# **Exploration Licence SEL 26960**

23<sup>rd</sup> September 2010 to 22<sup>nd</sup> September 2011

Holder: Ashton Mining Limited.
Operator: North Australian Diamonds Limited
Reporting Period: 23<sup>rd</sup> September 2010 to 22<sup>nd</sup> September 2011
Sheet Reference: Cape Scott (SD 5207) & Port Keats (SD 5211) 1: 250,000
Due Date: 22<sup>nd</sup> October 2011

Author: M Kammermann Date: 22<sup>nd</sup> October 2011 Report No: 11-064 Copies To: Department of Resources, NT NADL

The contents of this Report remain the property of North Australian Diamonds Ltd. and may not be published in whole or in part, nor used in a company report without the written consent of the company.

#### TABLE OF CONTENTS

LIST OF FIGURESii				
SUMMARY1				
1.0	INTRODUCTION	2		
2.0	LICENCE DETAILS	2		
3.0	GEOLOGY	2		
5.0	EXPLORATION COMPLETED DURING CURRENT REPORTING PERIOD	3		
6.0	PROPOSED EXPLORATION FOR 2010-2011	3		
7.0	EXPLORATION EXPENDITURE	4		
8.0	PROPOSED PROGRAMME AND BUDGET FOR 2010-2011	4		
REFER	RENCES	5		

### LIST OF TABLES

Table 1License Details

## LIST OF FIGURES

Figure 1 SEL26960 Location Map

#### SUMMARY

This report details exploration activity carried out by North Australian Diamonds Limited (NADL) over Exploration Licence SEL 26960 for the period 23<sup>rd</sup> September 2010 to 22<sup>nd</sup> September 2011. This period represents Year Two of the Licence.

The tenement is located approximately 300km south-west from Darwin, in the Daly River Region of the Northern Territory on the Cape Scott (SD 5207) and Port Keats (SD 5211) 1:250,000 geological mapsheets in the Northern Territory.

In January of 2007 North Australian Diamonds Limited entered into a 'Farm-in Agreement' with Ashton Exploration Australia Pty Ltd, Ashton Mining Limited, and A.O. (Australia) Pty Ltd collectively know as the Rio Tinto Parties with respect to earning 100% ownership of the Yambarra Project area in the Northern Territory. An application was made by North Australian Diamonds on the 18<sup>th</sup> of September 2008 and the tenement was subsequently granted on the 23<sup>rd</sup> of September 2009.

Work undertaken during the reporting period has involved desktop research of historic exploration, preparation of work programs and reporting.

The total expenditure for the reporting period was \$5,615.35.

#### **1.0 INTRODUCTION**

This report details exploration activity carried out by North Australian Diamonds Limited (NADL) over Exploration Licence SEL 26960 for the period 23<sup>rd</sup> September 2010 to 22<sup>nd</sup> September 2011. This period represents Year Two of the Licence.

#### 2.0 LICENCE DETAILS

The tenement is located approximately 300km south-west from Darwin, in the Daly River Region of the Northern Territory on the Cape Scott (SD 5207) and Port Keats (SD 5211) 1:250,000 geological mapsheets in the Northern Territory. A location map is shown as Figure 1.

Table 1: Licence Details

Project Name	<b>Tenement No</b>	Grant Date	<b>Expiry Date</b>	Blocks	Area (km <sup>2</sup> )
Yambarra	SEL26960	23/09/2009	22/09/2013	500	1607.56

#### 3.0 GEOLOGY

The project area covers parts of three geological regions within the Northern Territory. These are; the Palaeoproterozoic Pine Creek Orogen, the Mesoproterozoic Victoria – Birrinduddu Basin and the Palaeozoic Bonaparte Basin.

The oldest rocks in the project area are the Early Proterozoic Hermit Creek Metamorphics, which comprise mostly schist and gneissic rocks. Early Proterozoic sediments of the Finniss River Group are inferred to overlie the Hermit Creek Metamorphics although the nature of their relationship is unclear. The Henschke Breccia, a massive breccia conglomerate is interpreted to be approximately synchronous with these units.

The Hermit Creek Metamorphics and Finniss River Group were intruded successively by the Early Proterozoic Muarra-Kamangee Granodiorite and Peppimenarti Granite.

Sediments of the Middle Proterozoic Fitzmaurice Group unconformably overly the Early Proterozoic units. Midldle Proterozoic intrusives of both basic (Murrenja Dolerite) and acid (Ti-Tree Granophyre) composition intrude the Fitzmaurice Group sediments.

Permian sediments of the Bonaparte Basin occur in the west of the project area. These sediments consist of quartzarenite, subarkose and mudstone with minor conglomerate and coal. Cretaceous rocks form an extensive unit within the project area. Friable, clayey, commonly ferruginous and mottled arenite is the dominant rock type. The youngest geological units in the project area include Cainozoic and Quaternary sediments comprised of colluvium, elluvium and alluvium. These units cover much of the bedrock.

The dominant structural features of the area are the extensive, regional transcurrent faults that are the northerly continuations of the major faults which define the Middle Proterozoic Fitzmaurice Mobile Zone and the Early Proterozoic Halls Creek Mobile Zone.

#### 5.0 **PREVIOUS EXPLORATION**

The licence is located on Aboriginal Land and access is dependent on the Northern Land Council arranging work clearance meetings with the Company and the Traditional Owners. There has been difficulty in arranging such work programs and as such NADL has been limited in its abilities to undertake ground based exploration activities. Work undertaken during the 2009-2010 reporting period involved additional processing of samples collected during previous work programs, additional review of geophysical datasets including the recently released NTGS Tempest data, helicopter site visit, desktop research of historic exploration, preparation of work programs and reporting.

# 6.0 EXPLORATION UNDERTAKEN DUREING THE CURRENT REPORTING PERIOD

The recovery of kimberlitic chromites and microdiamonds and in stream samples by previous explorers provides evidence for the presence of kimberlite, which is a source rock for diamonds. The company considers SEL26960 to be prospective for kimberlites and work will involve follow-up samples to the kimberlitic chromites and diamonds. The program will require the use of a helicopter. In addition, three 20 ton bulk gravel samples will be taken using a front end loader to test for the presence of commercial

size diamonds.

#### 7.0 EXPLORATION EXPENDITURE

Exploration expenditure for the reporting period amounted to \$5,615.35 and is detailed in the accompanying Expenditure Report.

#### 8.0 PROPOSED PROGRAMME AND BUDGET FOR 2010-2011

Administration and Support	\$5,000		
Collection of 50 helicopter-assisted stream gravel samples	\$40,000		
Collection of 3 x 20 ton bulk gravel stream samples	\$50,000		
Processing of samples for kimberlite indicator mineral recovery	\$40,000		
SEM microprobing of recovered chromites and interpretation of chemistry \$5,000			
Reporting and office administration	\$10,000		

Total	\$150,000
	φ±ε ο,οοι

## REFERENCES

Kammermann, M. (2007) Yambarra Annual Report, NADL Ref: 07-043, North Australian Diamonds Limited.