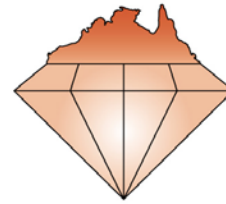




**TOP END URANIUM**



**North  
Australian  
Diamonds  
Limited**

ABN 86 009 153 119

## **YAMBARRA PROJECT ANNUAL REPORT**

**SUBMITTED BY**

**NORTH AUSTRALIAN DIAMONDS LIMITED  
AND  
TOP END URANIUM LIMITED**

**23<sup>rd</sup> September 2008 – 22<sup>nd</sup> September 2008**

**Date:** 13<sup>th</sup> May 2009

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North Australian Diamonds Limited  
Top End Uranium Limited

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This annual report outlines exploration activities undertaken by North Australian Diamonds Limited (NADL) on Exploration Licence EL 1923, between the 23<sup>rd</sup> September 2007 and 22<sup>nd</sup> September 2008. This period represents year six of the licences. The main focus of NADL's exploration is the discovery of diamondiferous kimberlite pipes. In addition the potential of the licence to host uranium deposits is also of interest.

The EL's are 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.

NADL had scheduled work clearance meetings with traditional owners and the NLC for August and September. The NLC cancelled the meetings and as yet have not rescheduled new meeting dates. Therefore no access was permitted for field activities.

## 1.0 INTRODUCTION

This annual report outlines exploration activities undertaken by North Australian Diamonds Limited (NADL) on Exploration Licence EL 1923, between the 23<sup>rd</sup> September 2006 and 22<sup>nd</sup> September 2007. This period represents year five of the licences. The main focus of NADL's exploration is the discovery of diamondiferous kimberlite pipes. In addition the potential of the licence to host uranium deposits is also of interest.

## 2.0 LOCATION AND ACCESS

The EL 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 provided as Figure 1.

## 3.0 TENURE

Ashton Mining Limited (AML) applied for the exploration licence in the late 1970's and early 1980's. The licence areas are within the Daly River – Port Keats Aboriginal Land Trust and due to veto restrictions imposed by the traditional owners under the Aboriginal Land Rights Act (NT) 1976, the licences were not granted until 23<sup>rd</sup> September 2002. Tenement schedule is outlined in Table 1 below.

Table 1: Tenement Schedule for Yambarra EL's.

Name	Application Date	Grant Date	No Blocks	Area (sq km)	Holder
EL 1923	2/06/1977	23/09/2002			Ashton Mining Ltd

SEL applications replaced

<b>Name</b>	<b>Application Date</b>	<b>Grant Date</b>	<b>Number of Blocks</b>	<b>Area (sqkm)</b>	<b>Holder</b>
SEL 26954	18/09/2008	-	148	450.43	Ashton Mining
SEL26956	18/09/2008	-	500	1653.27	Ashton Mining
SEL26958	18/09/2008	-	480	1571.44	Ashton Mining
SEL26959	18/09/2008	-	500	1662.21	Ashton Mining
SEL26960	18/09/2008	-	500	1607.56	Ashton Mining

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## **4.0 PHYSIOGRAPHY**

### **Geomorphology**

The geomorphology of the project area may be divided into five divisions: Lateritised mesa surfaces, Uplands, Escarpments and dissected hills, Elluvial lowlands and Flood plains.

The Lateritised mesa surface has developed on a thin sheet of Cretaceous sedimentary rocks. This sheet was once very extensive but is now reduced to isolated plateau and outlying remnant mesas. A thicker soil profile (than on other units) developed on this surface supports a tall, dense eucalypt forest.

The Mesa escarpments, Uplands and dissected hills form the ground between the mesa surfaces and lowlands. The escarpments form the flanks of mesa and usually consist of a small scarp topping a steep, talus-strewn slope. The dissected hills are formed on Early - Middle Proterozoic igneous, sedimentary and metamorphic rocks. The soils developed are dominantly skeletal and support sparse open woodland and hardy grasses.

The Elluvial lowlands form over sedimentary, granitic and metamorphic rocks which are largely concealed by elluvium. The lowlands are characterized by open woodland and perennial grasses.

The Flood plains are extensively developed in the western half of the project area. The plains remain wet well into the dry season and are vegetated by swamp grasses and stands of Melaleuca. Extensive mud and salt tidal flat are also present adjacent to the Fitzmaurice River and the Joseph Bonaparte Gulf.

### **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 Finnis 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 Finnis River Group were intruded successively by the Early Proterozoic Muarra-Kamangee Granodiorite and Peppimenarti Granite.

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Sediments of the Middle Proterozoic Fitzmaurice Group unconformably overly the Early Proterozoic units. Middle Proterozoic intrusives of both basic (Murrenija 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.

### **Previous Investigations**

Prior to 2002 the Yambarra project area had not been subjected to diamond exploration activity. Bureau of Mines and Resources records show only preliminary geological surveys were carried out in the late 1950's and 1960's. Since 2002, Rio Tinto has undertaken diamond exploration involving the following;

#### Year 1 - 2003

- ⌚ 220 helicopter gravel and stream sediment samples – first pass low density sampling that recovered high numbers of indicator minerals and lesser amounts of diamonds.
- ⌚ 55 rock chip samples – sampling Murrenija Intrusion for base-metal anomalies that did not report anomalous results. ⌚ Reviewed available airborne magnetic and thematic mapper data that identified ten targets for follow-up.

#### Year 2 - 2004

- ⌚ 38 helicopter gravel and stream sediment samples that continued to recover significant numbers of indicator minerals.
  - ⌚ Based on sample results and locations, Rio Tinto Exploration Pty Ltd (RTE) has preliminary interpreted that diamonds may be shedding from the unconformity between the Cretaceous and Proterozoic sediments.
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⌚ Interpretation of mineral chemistry that points to a crustal source for the indicator minerals. Year 3 -

2005

- ⌚ No on-ground exploration.
- ⌚ Exploration focus shifted to Bauxite exploration on coastal licences (not part of this project area) until remaining licences are granted.
- ⌚ Numerous magnetic targets remain untested. These targets are mostly within

Cretaceous sediments.

Year 4 - 2006

No on-ground diamond exploration.

Year 5 - 2007

No on-ground diamond exploration.

## **5.0 EXPLORATION COMPLETED DURING REPORTING PERIOD**

NADL had scheduled work clearance meetings with traditional owners and the NLC for August. The outcome was positive and the tenements are now approved for immediate work.

Office studies undertaken during the current reporting period included the following.

- Review of available open file company reports and RTE data
- Review of publicly available geological, geophysical and remote sensing data
- Review of NTGS diamond database
- Review of uranium potential of the EL

A detailed airborne geophysical survey was completed over the granted tenements with subsequent ground investigation of any identified anomalies.

The review of the EL to potentially host uranium mineralization was conducted both internally and externally utilizing the services of an external consultant. This work is still in progress and will be reported in the next annual report.

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## 6.0 EXPENDITURE STATEMENT

The exploration expenditure attributed to the Yambarra EL's during the current reporting period is listed below.

Table 2: Summary of Expenditure within Yambarra EL's

Tenement	Amount (\$)
EL 1923	\$39,952

Expenditure can be broken down into the following ;

Admin & Reporting	\$12,103
Logistics	\$8,015
Land Use Payments	\$5,492
Contractors	\$14,342

## 7.0 PROPOSED WORK PROGRAM

The initial focus of the proposed work program will include ground follow-up of anomalies previously identified by Airborne survey taken in 2007 using remote sensing methods and ground investigation of sample sites that have recovered kimberlite indicator minerals.

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## **8.0 REFERENCES**

Mining Management Plan for Yambarra Project - Authorisation No. 0153-01. 12<sup>th</sup> April 2007.

North Australian Diamonds Limited.

NTGS Strike website 2007.