



North  
Australian  
Diamonds  
Limited  
ABN 86 009 153 119

## **Annual Exploration Report – Year 2**

### **Exploration Licence EL27237**

30<sup>th</sup> March 2010 to 29<sup>th</sup> March 2011

***Holder:*** North Australian Diamonds Limited  
***Reporting Period:*** 30<sup>th</sup> March 2010 to 29<sup>th</sup> March 2011  
***Sheet Reference:*** Mt Marumba (SD 53-06) 1:250,000  
***Due Date:*** 29<sup>th</sup> April 2011

Author: Tom Reddicliffe  
Date: 29th April 2010  
Report No: 11-020  
Copies To: Dept. of Resources - NT  
NADL Office

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**TABLE OF CONTENTS**

<b>LIST OF FIGURES .....</b>	<b>i</b>
<b>SUMMARY .....</b>	<b>Error! Bookmark not defined.</b>
<b>1.0 INTRODUCTION.....</b>	<b>1</b>
<b>2.0 LICENCE HISTORY .....</b>	<b>1</b>
<b>3.0 LICENCE DETAILS.....</b>	<b>1</b>
<b>4.0 PHYSIOGRAPHY .....</b>	<b>1</b>
4.1 GEOMORPHOLOGY .....	1
4.2 GEOLOGY.....	2
4.3 GEOPHYSICS.....	2
<b>5.0 PREVIOUS EXPLORATION .....</b>	<b>3</b>
<b>6.0 EXPLORATION COMPLETED DURING CURRENT REPORTING PERIOD.....</b>	<b>3</b>
<b>7.0 EXPLORATION EXPENDITURE.....</b>	<b>3</b>
<b>8.0 PROPOSED PROGRAMME AND BUDGET FOR 2010-2011 .....</b>	<b>4</b>
<b>9.0 REFERENCES.....</b>	<b>5</b>

**LIST OF TABLES**

Table 1 Licence Details

Table 2 Sample Details

**LIST OF FIGURES**

Figure 1 Licence Location Map

**SUMMARY**

*This report details diamond exploration activity carried out by North Australian Diamonds Limited (NADL) over Exploration Licence EL27237 for the period 20<sup>th</sup> January 2010 to 19<sup>th</sup> January 2011. This period represents Year 2 of the licence. The licence has been granted and is currently held by NADL.*

*The licence is located on the North Australian Craton within a region that has tectonic and structural similarities with known kimberlite occurrences including the Merlin Kimberlite Field and Abner Range discovery.*

## 1.0 INTRODUCTION

This report details exploration activity carried out by North Australian Diamonds Limited (NADL) over Exploration Licence EL27237 for the period 20<sup>th</sup> January 2010 to 19<sup>th</sup> January 2011. This period represents Year 2 of the licence. The target for exploration within the licence is diamond bearing kimberlite intrusives.

## 2.0 LICENCE HISTORY

The licence EL27237 was first applied for by TEU and granted in 2009.

## 3.0 LICENCE DETAILS

EL27237 is located on the Mt Marumba (SD53-06) 1:250,000 and Annie Creek (5871) 1:100,000 map sheets. A location map is shown in Figure 1.

*Table 1: Licence Details*

Project Name	Licence No	Grant Date	Expiry Date	Blocks	Area (km <sup>2</sup> )
Arnhem Land	EL27237	30/3/2009	29/3/2015	8	14.58

## 4.0 PHYSIOGRAPY

### 4.1 Geomorphology

Two major physiographic subdivisions occur within the project area, the Arafura Fall, where the drainage system direction is towards the Arafura Sea and the Gulf Fall, where the drainage system direction is towards the Gulf of Carpentaria.

EL27237 is situated approximately 160m above sea level and contains an extensive drainage network suitable for traditional stream gravel sampling and bulk gravel sampling. A northeast-southwest oriented drainage divide occurs in the southeast portion of the licence and separates dissected hilly country of the Arafura Fall from similar terrain of the Gulf Fall. Alluvial floodplains occur in the central northern most part of the licence.

## 4.2 Geology

The licence is located within the North Australian Craton on the tectonically stable Arnhem Shelf, that part of the northwestern McArthur Basin characterised by comparatively mild deformation.

The oldest rocks in EL27237 are Mesoproterozoic age and include sandstones, quartzarenites and siltstones of the Roper Group. The sediments unconformably overly basement rocks, which do not crop out within the license area but are presumed to include the metasedimentary succession of the Pine Creek Geosyncline and associated igneous intrusives. Subvertical dolerite dykes of Proterozoic age are common and display two orientations:  $000^{\circ}$  and  $045^{\circ}$ .

The distribution of dykes is controlled by local and regional structures with many following shear zones and fracture sets.

A large part of the area is covered by Cainozoic soils comprised of residual soils of unknown thickness overlying bedrock.

## 4.3 Geophysics

Airborne regional data was acquired in the late 1980's and early 1990's during surveys contracted to the NTGS and include the 'Milingimbi', 'Marumba', and 'Mitchell Range' surveys. Magnetic and gamma-ray spectrometry datasets were collected along east-west flight lines spaced at 500m apart and flown at a height of 100m above the ground. Magnetic data clearly highlights prominent features such as faults and several mapped dolerite dykes that appear as bull's-eye anomalies. Review of the regional datasets did not identify any targets for immediate follow-up.

In addition regional gravity surveys were conducted by Australian Geological Survey Organization (AGSO). The gravity measurements are at 11 km station spacing and therefore do not provide useful information for near surface geological interpretation.

## 5.0 PREVIOUS EXPLORATION

A review of the Northern Territory Geological Survey (NTGS) database indicates that no exploration activity had been completed on EL27237. The closest diamond exploration to either licence includes five stream gravel samples collected adjacent to the northern boundary of EL3336 by DBAE in 2001, which reported negative results for diamonds and indicator minerals. More intense diamond exploration has been undertaken within 50km of the licence with numerous chromites, microdiamonds and pyropes recovered from stream gravel samples collected by Normandy Mining Limited, Stockdale Prospecting Limited (DBAE subsidiary) and DBAE. These results provide encouragement and highlight the potential for a kimberlite source to exist in the region.

Work during the reporting period 2009-2010 comprised of 2 loam samples. The samples were submitted to the company's wholly owned mineral processing laboratory in Perth. These samples returned a negative result.

## 6.0 EXPLORATION COMPLETED DURING CURRENT REPORTING PERIOD

Work completed during the current reporting period comprised of the collection of 1 stream gravel sample and after mineral processing at the company owned laboratory in Perth it has returned a negative result.

## 7.0 EXPLORATION EXPENDITURE

Exploration expenditure for the reporting period is summarised below and detailed on accompanying Expenditure Reporting forms submitted.

Exploration Expenditure	\$347.61
Additional Expenditure	\$14,040.84
<i>Total</i>	\$14,388.45

## **8.0 PROPOSED PROGRAMME AND BUDGET FOR 2011-2012**

Subject to the results from the follow-up samples currently being analysed, further follow-up loam sampling will be undertaken within EL27237.

## 9.0 REFERENCES

Haines P W, Rawlings D J, Sweet I P, Pietsche B A, Plumb K A, Madigan T L & Krassay A A. 1998. Blue Mud Bay SD53-07 1:250,000: Explanatory Notes, *Northern Territory Geological Survey, Darwin*.

Striker Resources, 2004. Arnhem Land Diamond Project Exploration Program. Internal Report 04-007.

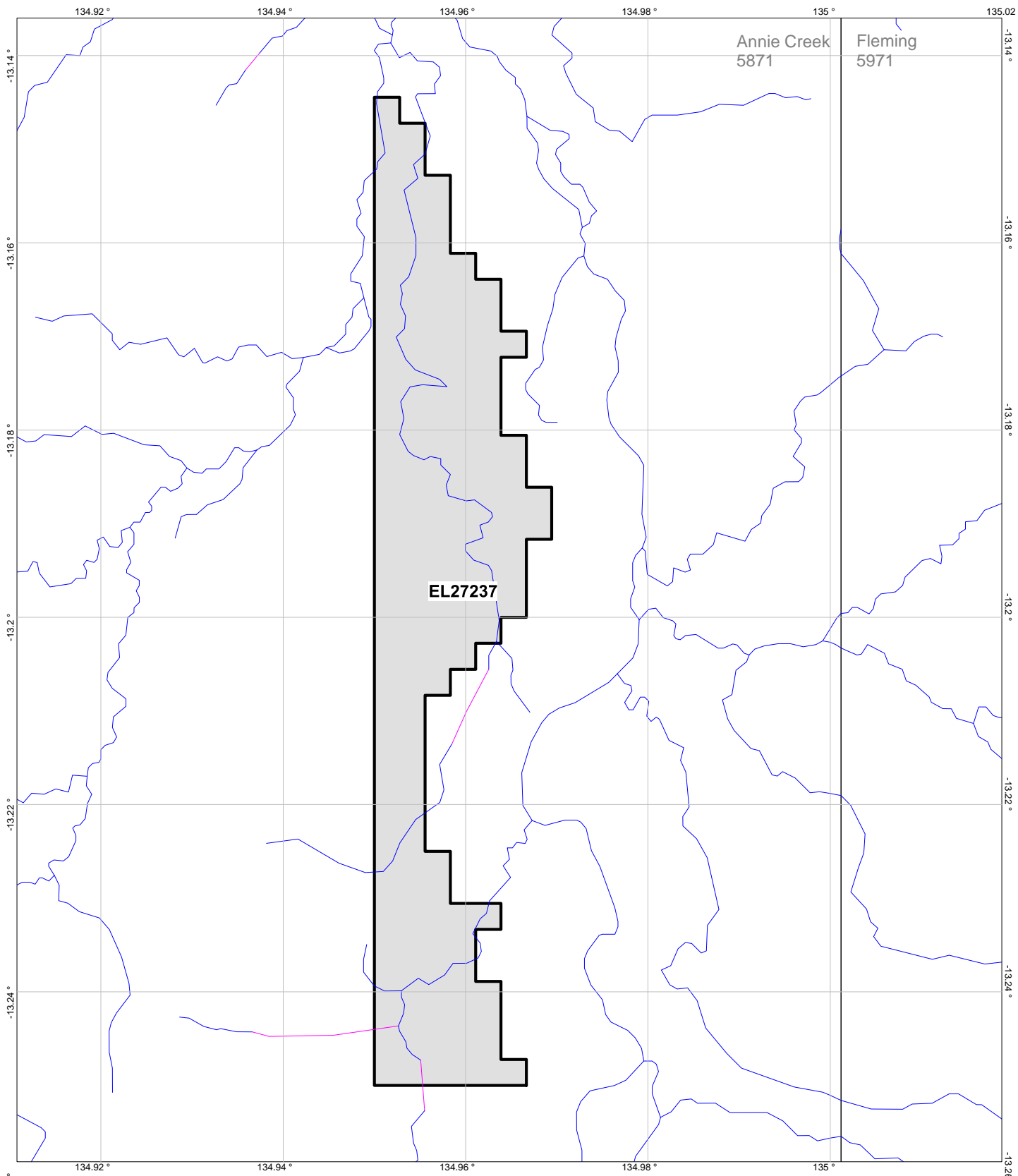
Sweet I P, Brakel, A T, Rawlings, D J, Haines, P W, Plumb, K A & Wygralak, A S, 1999, Mt Marumba SD53-06 1:250,000: Explanatory Notes, *Northern Territory Geological Survey, Darwin*.

Reddicliffe T H, 2008, North Australian Diamonds Annual Report, Internal Report, Australia.



Table 2. Sample Details

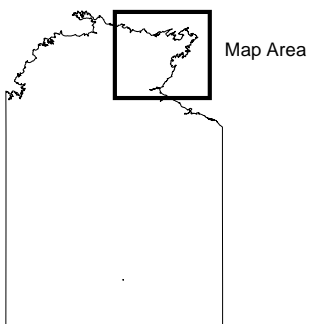
<b>SAMPLE</b>	<b>TYPE</b>	<b>TENEMENT</b>	<b>EASTIN G</b>	<b>NORTHIN G</b>	<b>DATU M</b>	<b>ZON E</b>	<b>RESULTS</b>	<b>CHROMITE</b>	<b>DIAMON D</b>
AL-026	STREAM	EL27237	495113	8546181	GDA94	53	NEGATIVE	0	0
AL-001	LOAM	EL27237	495085	8538415	GDA94	53	NEGATIVE	0	0
AL-002	LOAM	EL27237	495252	8536508	GDA94	53	NEGATIVE	0	0




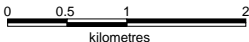


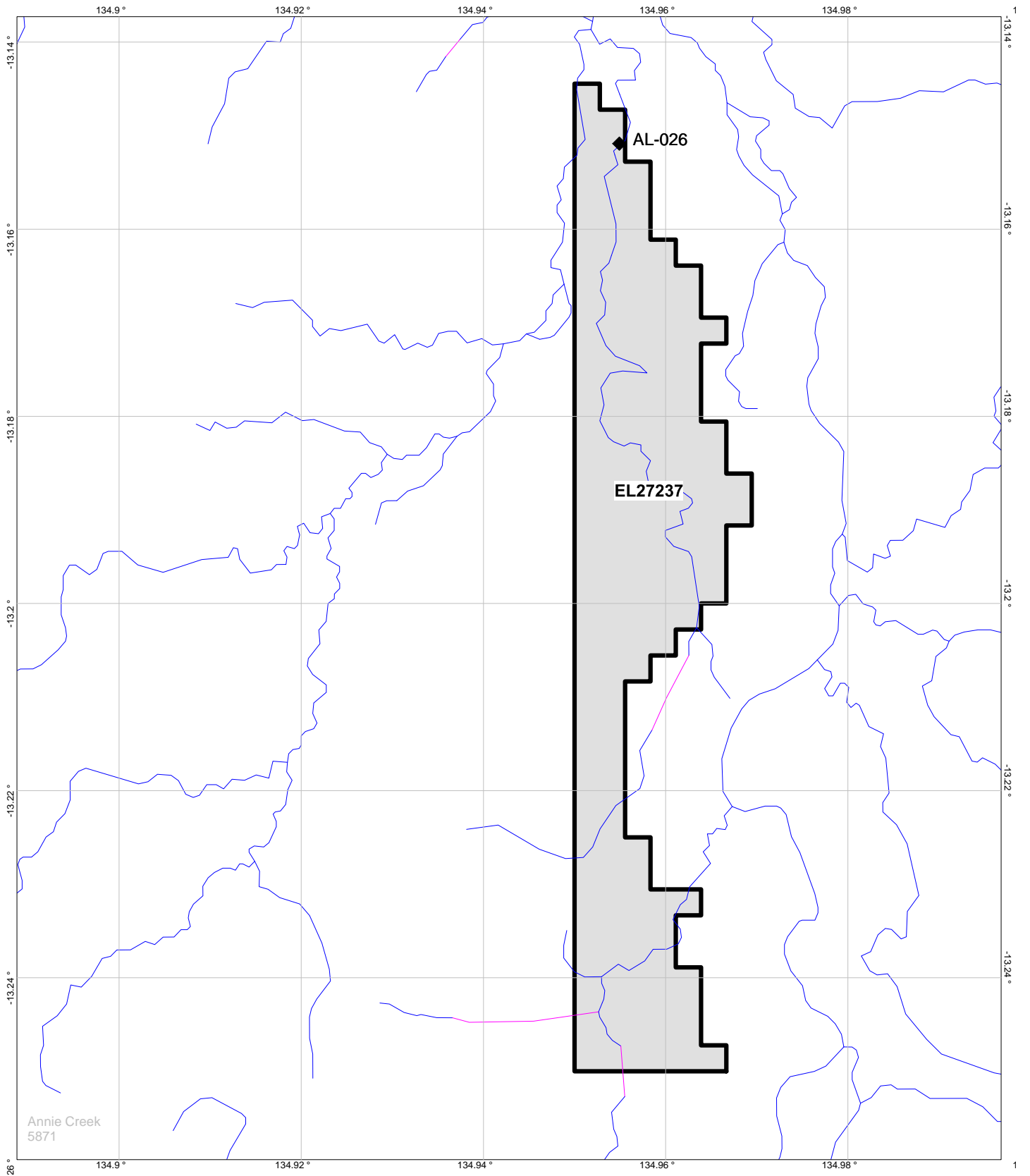
Annie Creek  
5871

Fleming  
5971

**EL27237**



<b>Legend</b>		<b>North Australian Diamonds Limited</b>	
	EL27237	<p><b>Figure 1</b> Location Map</p>	<p>Scale: 1:63360    Projection: Longitude / Latitude (Australia GDA94)</p>
	Drainage		
	100k Mapsheet		
		 <p>0    0.5    1    2 kilometres</p>	



<b>Legend</b> EL27237 Sample Drainage	<b>North Australian Diamonds Limited</b>	
	Date: 27/4/2011 Author: Office: Drawing:	<b>Figure 2</b> <b>Sample Locations</b>
Scale: 1:63360	Projection: Longitude / Latitude (Australia GDA94)	