



North  
Australian  
Diamonds  
Limited  
ABN 86 009 153 119

# **Annual Exploration Report – Year 1**

## **Exploration Licence SEL 26944**

30<sup>th</sup> April 2009 to 29<sup>th</sup> April 2010

***Holder:*** North Australian Diamonds Limited

***Operator:*** North Australian Diamonds Limited

***Reporting Period:*** 30<sup>th</sup> April 2009 to 29<sup>th</sup> April 2010

***Sheet Reference:*** Bauhinia Downs 1:250,000 (SE53-03)

***Due Date:*** 29<sup>th</sup> May 2010

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**TABLE OF CONTENTS**

<b>LIST OF FIGURES.....</b>	<b>ii</b>
<b>SUMMARY.....</b>	<b>1</b>
<b>1.0 INTRODUCTION.....</b>	<b>2</b>
<b>2.0 LICENCE DETAILS.....</b>	<b>2</b>
<b>3.0 GEOLOGY.....</b>	<b>2</b>
<b>4.0 PREVIOUS EXPLORATION.....</b>	<b>2</b>
<b>5.0 EXPLORATION COMPLETED DURING CURRENT REPORTING PERIOD.....</b>	<b>3</b>
<b>6.0 PROPOSED EXPLORATION FOR 2010-2011.....</b>	<b>4</b>
<b>7.0 EXPLORATION EXPENDITURE.....</b>	<b>4</b>
<b>8.0 PROPOSED PROGRAMME AND BUDGET FOR 2010-2011.....</b>	<b>4</b>
<b>REFERENCES.....</b>	<b>5</b>

**LIST OF TABLES**

Table 1	License Details
Table 2	Leviathan Down-Hole Survey Data

**LIST OF FIGURES**

Figure 1	SEL26944 Location Map
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## SUMMARY

*This report details exploration activity carried out by North Australian Diamonds Limited (NADL) over exploration licence SEL 26944 for the period 30<sup>th</sup> April 2009 to 29<sup>th</sup> April 2010. This period represents Year One of the licence.*

*The exploration licence is located on the Bauhinia Downs (SE53-03) 1:250,000 map sheet and the Glyde (6164) 1:100,000 sheet. Access to the licence is via a 64 kilometre formed gravel access track from the Carpentaria Highway to the Merlin Diamond Mine, the turn-off is approximately 6 kilometres south-west of the McArthur River Mine turn-off.*

*The licence has been subjected to mineral exploration since the 1960's when the Carpentaria Exploration Company explored for base metals. Historic diamond exploration including airborne geophysics and ground exploration was undertaken by CRA during the 1980's and Ashton Mining during the 1990's.*

*In April 2009, North Australian Diamonds submitted a proposal to the Northern Territory Government Geophysical and Drilling Collaboration for assistance funding for a diamond core drill program. The program comprised a single vertical diamond drill-hole (LV09-001) centred on the Leviathan Anomaly. The drill hole did not intersect the source rock for the Leviathan anomaly. Hence it can only be concluded that the source is either deeper or that it was missed*

*The total expenditure for the reporting period was \$72,099.*

## 1.0 INTRODUCTION

This report details exploration activity carried out by North Australian Diamonds Limited (NADL) over exploration licence SEL 26944 for the period 30<sup>th</sup> April 2009 to 29<sup>th</sup> April 2010. This period represents Year One of the licence.

## 2.0 LICENCE DETAILS

The exploration licence is located on the Bauhinia Downs (SE53-03) 1:250,000 map sheet and the Glyde (6164) 1:100,000 sheet. Access to the licence is via a 64 kilometre formed gravel access track from the Carpentaria Highway to the Merlin Diamond Mine, the turn-off is approximately 6 kilometres south-west of the McArthur River Mine turn-off. A location map is shown as Figure 1.

*Table 1: Licence Details*

Project Name	Tenement No	Grant Date	Expiry Date	Blocks	Area (km <sup>2</sup> )
Merlin Orbit	SEL26944	30/4/2009	29/4/2015	86	282.70

## 3.0 GEOLOGY

The exploration licence is located within the geomorphic region referred to as the Bukalara Ranges that consists of high level, dissected rocky plateau and ridges of resistant sediments. The licence also contains sand covered plateaux.

The oldest rocks that crop out over the licence are Palaeoproterozoic sediments of the McArthur Group. These occur within the south-central portion of the licence and also as inliers within the unconformably overlying Neoproterozoic Bukalara Sandstone in the central parts of the licence. Isolated outcrops of Cretaceous age, plant fossil-bearing silicified sandstone may occur in central areas within the licence. A thin outcrop of thinly bedded dolomitic siltstone with waterbeds of fine grained sandstone belonging to the Lynott Formation occurs in southern central areas of the licence. A thin intrusion of Dolomite (Reward Dolomite) extends from central into southern areas alongside prominent sandstone units. Youngest sediments include surficial deposits of gravel, silt, sand and ferricrete and occur within numerous drainages and on several plateaux within the licence.

## 4.0 PREVIOUS EXPLORATION

The licence has been subjected to mineral exploration since the 1960's when the Carpentaria Exploration Company explored for base metals. Historic diamond exploration including airborne

geophysics and ground exploration was undertaken by CRA during the 1980's and Ashton Mining during the 1990's.

## 5.0 EXPLORATION COMPLETED DURING CURRENT REPORTING PERIOD

In April 2009, North Australian Diamonds Limited submitted a proposal to the Northern Territory Government Geophysical and Drilling Collaboration for assistance funding for a diamond core drill program. The program comprised a single vertical diamond drill-hole (LV09-001) centred on the Leviathan Anomaly. May Drilling from Darwin undertook the contract using a track-mounted HD900 rig as part of a drill program associated with the Merlin Project. The rig was set-up on the drill-site on 2-Jul-2009 and the hole was completed on 16-Jul-2009. The survey data for this hole is outlined in table 2. The drill hole did not intersect the source rock for the Levithan anomaly. Hence it can only be concluded that the source is either deeper or that it was missed.

<b>Table 2: LV09-001 Down- Hole Survey Data</b>						
<b>Drill-Hole ID</b>	<b>Date</b>	<b>Depth (m)</b>	<b>Dip</b>	<b>Azimuth</b>	<b>Mag Intensity</b>	<b>Temp (deg C)</b>
LV09-001	4-Jul-09	30	-89.7	299.2	48,077	30
LV09-001	4-Jul-09	60	-89.9	90.8	48,059	29
LV09-001	5-Jul-09	90	-89.7	331.5	47,976	25
LV09-001	5-Jul-09	120	-89.6	300.2	48,199	36
LV09-001	5-Jul-09	150	-89.6	243.6	48,227	34
LV09-001	7-Jul-09	204	-89.4	278.0	48,243	37
LV09-001	8-Jul-09	252	-89.4	354.2	16,287	37
LV09-001	8-Jul-09	258	-89.8	231.2	48,187	35
LV09-001	9-Jul-09	300	-89.9	117.0	48,228	36
LV09-001	10-Jul-09	348	-89.7	212.9	48,262	38

LV09-001	11-Jul-09	402	-89.6	299.0	48,101	26
LV09-001	12-Jul-09	450	-89.5	289.3	48,201	35
LV09-001	13-Jul-09	500	-89.5	272.3	48,255	35
LV09-001	14-Jul-09	550	-89.5	306.2	48,267	39

## **6.0 PROPOSED EXPLORATION FOR 2010-2011**

Prior to undertaking further drilling it is recommended that a magnetic probe be run down the Leviathan anomaly hole with a view to determining a likely source.

## **7.0 EXPLORATION EXPENDITURE**

Exploration expenditure for the reporting period amounted to \$130,770 as per the breakdown below;

Administration and Support	\$12,100
Ground Exploration	\$59,999
<b>Total</b>	<b>\$72,099</b>

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

The proposed work program for next twelve months is described below;

Follow-up Drilling/ Sampling	\$50,000
Ground and Physical Survey	\$20,000
<b>Total</b>	<b>\$70,000</b>

## REFERENCES

Department of Mines and Energy, Northern Territory Geological Survey. Bauhinia Downs 1:250,000 Explanatory Notes. 1991.

2009, Reddicliffe, T.H., Rockett, G.M.I., *Leviathan Anomaly Drill Hole LV09-001, Report on the findings from Drill-hole LV09-001*, North Australian Diamonds Ltd and Northern Territory Geological Survey, Northern Territory, Australia