

Partial Relinquishment Report

EL 25976

11th May 2007 to 10th May 2013 Northern Territory, Australia

Holder: Merlin Diamonds Limited

Operator: Merlin Diamonds Limited

Reporting Period: 11th May 2007 to 10th May 2013

Sheet Reference: Milingimbi 1:250,000 (SE53-02)

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SUMMARY

This annual report outlines exploration activities undertaken by Merlin Diamonds Limited on the relinquished portion of Exploration Licence 25976 between the 11th May 2007 and 10th May 2013.

EL 25976 is located on the Milingimbi (SD53-02) 1:250,000 geological mapsheet and the Cadell (5772) and Blyth River (5872) 1:100,000 topographic map sheets. The Licence has an irregular shape resulting from 'no-go areas' defined by Traditional Owners during the anthropological surveys.

Exploration activities that have been undertaken on the relinquished area of EL25976 included the collection of 9 heavy mineral samples and 1 geochemical sample.

The sample results were not considered to be of significance to retain the relinquished ground. The retained portion hosts a uranium anomaly associated with a volcanic unit that will be further explored.

1.0 INTRODUCTION

This report details exploration activity carried out by Merlin Diamonds Limited (MDL) and Top End Minerals (TEM) over the relinquished portion of Exploration Licence 25976 for the period 11th May 2007 to 10th May 2013. The target for exploration within the Licence is diamonds and uranium.

2.0 LOCATION AND ACCESS

EL 25976 is located on the Milingimbi (SD53-02) 1:250,000 geological mapsheet and the Cadell (5772) and Blyth River (5872) 1:100,000 topographic map sheets. The Licence has an irregular shape resulting from 'no-go areas' defined by Traditional Owners during the anthropological surveys.

3.0 LICENCE DETAILS

Exploration Licence was granted on 11th May 2007 for a period of six years. The license was reduced in size during April of 2010 following a partial surrender of 48 blocks. A Waiver of Reduction was submitted in 2012 retaining 46 blocks. A compulsory Area Reduction was submitted in 2013 with the Licence retaining 22 blocks. The Licence details are included in Table 1 below and a location map is shown as Figure 1.

Table 1: Licence Details for EL25976

Project Name	Licence No	Application Date	Grant Date	Expiry Date	Blocks	Holder		
Arnhem Land	EL 25976	11/11/1998	11/05/2007	10/05/2013	22	Merlin Diamonds Limited		

4.0 GEOLOGY

Geomorphology

Two major physiographic subdivisions occur within the project area, the Arnhem Land Plateau, which is dominated by sub-horizontal Palaeoproterozoic sandstone and volcanics, and the Arafura Fall, which comprises gently undulating country covered by Cainozoic sands and ferricrete. The Arnhem Land Plateau merges gradually with the Arafura Fall from approximately 170m above sea level to approximately 50m above sea level within the Licence. The Licence contains plateaux that are drained by tributaries to Imimbar Creek, which itself is located within EL 25976.

Geology

The Licence is located predominantly within the North Australian Craton on the tectonically stable Arnhem Shelf, that part of the northwestern McArthur Basin characterised by comparatively mild deformation. The northern parts of the Licence host sediments of the Arafura Basin, which is post-McArthur Basin.

The oldest rock unit is the Palaeoproterozoic Gumarrirnbang Sandstone of the Kombolgie Subgroup of the Katherine River Group. Northeast-trending linear dunes with wavelengths up to 60m and crests up to 3.5m have developed within the Gumarrirnbang Sandstone. The Marlgowa Sandstone (of Kombolgie Subgroup) overlies the Gumarrirnbang Sandstone to the south in EL 25976. A northeast-northwest conjugate joint set has developed on the above sandstone units and vertical to sub-vertical dolerite dykes of undetermined age intrude the sediments and volcanics of the Katherine River Group and occur generally as infill to north-east trending faults and joints. The dykes are evident on the aeromagnetic image. The Gilruth Volcanic Member occurs as an interpreted topographic bench in EL 25976 conformably separating the underlying Gumarrirnbang Sandstone from the overlying Marlgowa Sandstone. It is not observed in outcrop but is evident in the uranium channel on the radiometric image. It is described as a 5m thick band of tuffaceous siltstone, tuff, banded jasper and amygdaloidal and vesicular basalt.

The Oenpelli Dolerite occurs as an intrusion to the Marlgowa Sandstone in the southern parts of the EL 25976 and is described as continental tholeitic magma. In the northern parts of the Licence younger sediments of the Arafura Basin crop out including the Neoproterozoic Buckingham Bay Sandstone and overlying Raiwalla Shale. The unconformity between the Arnhem Shelf units and the Arafura Basin units is covered by Cainozoic sands and soils and does not crop out within the Licence. The youngest sediments include Quaternary sands, silts and gravels that occur within recent drainage channels.

Geophysics

Airborne regional data was acquired in the early 1990's during surveys contracted to the NTGS and include the 'Milingimbi' survey. Magnetic and gamma-ray spectrometry datasets were collected along east-west flight lines 500m apart 100m above the ground.

Magnetic data clearly highlights prominent features such as faults and several mapped dolerite dykes. The radiometric data, in particular the uranium channel highlights the Gilruth Volcanic Member as discussed above.

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 and in particular detection of kimberlite pipes.

No company geophysical surveys have been completed over the Licences other than several lines of airborne spectrometry acquired by DBAE during 1971 in their search for uranium. The data acquired was total radiometric count collected on flight lines 2 miles apart at a height of 300 feet. No anomalies were identified. DBAE have completed aeromagnetic surveys over adjoining Licences (historic) that identified numerous kimberlite targets, however no kimberlites were discovered.

5.0 EXPLORATION UNDERTAKEN DURING THE REPORTING PERIOD

Exploration activities that have been undertaken in the relinquished area of EL25976 included the collection of 9 heavy mineral samples and 1 geochemical sample. Although there were some positive results returned by some of the samples these were not considered significant. The retained portion of the tenement hosts an anomalous uranium feature associated with a volcanic unit and is to be further explored. Data and geochemical results for these samples are shown in Figure 2 and in Tables 2 and 3.

6.0 CONCLUSION

The sample results were not considered to be significant to retain the ground. The retained portion of the tenement hosts an anomalous uranium feature associated with a volcanic unit and is to be further explored.

7.0 REFERENCES

Reddicliffe, T. (2009) Combined Annual Exploration Report EL 10229 and EL 25976 for the Period 11th May 2008 to 10th May 2009 Report No 09-025, North Australian Diamonds Ltd.

Reddicliffe, T. (2010) Combined Annual Exploration Report EL 10229 and EL 25976 for the Period 10th May 2009 to 9th May 2010, Ref: 10-010, North Australian Diamonds Ltd.

Reddicliffe, T. (2011) Annual Report EL25976 for the Period 10th May 2010 to 9th May 2011, Ref: 11-031, North Australian Diamonds Ltd.

Kammermann, M. (2012) Annual Report for Exploration Licence 25976 for the Period 11th May 2011 to 10th May 2012, Ref: 12-035, Merlin Diamonds Ltd.

Table 2. HMA Sample Data

SAMPLE	TYPE	TENEMENT	EASTING	NORTHING	DATUM	ZONE	RESULTS
09-020-007	STREAM	EL25976	442760	8590173	GDA94	53	POSITIVE
09-020-008	STREAM	EL25976	449309	8587189	GDA94	53	POSITIVE
09-020-013	STREAM	EL25976	442296	8581835	GDA94	53	NEGATIVE
09-020-014	STREAM	EL25976	437845	8580849	GDA94	53	NEGATIVE
09-020-018	STREAM	EL25976	443501	8577511	GDA94	53	NEGATIVE
09-020-019	STREAM	EL25976	440539	8577077	GDA94	53	NEGATIVE
09-020-020	STREAM	EL25976	436345	8577693	GDA94	53	POSITIVE
09-020-021	STREAM	EL25976	434347	8581313	GDA94	53	NEGATIVE
09-020-022	STREAM	EL25976	435187	8583023	GDA94	53	NEGATIVE
10-107-002	GEOCHEM	EL25976	449327	8587157	GDA94	53	N/A

Table 3. Geochemical Sample Data

ELEMENTS	Au	As	Ве	Bi	Се	Со	Cu	La	Мо	Na	Pb	Pd	Pt	Th	U	v	Zn
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION	0.002	10	0.1	0.01	0.01	0.1	1	0.01	0.1	20	5	0.002	0.005	0.01	0.01	2	1
METHOD	FA25/OES	A/OES	A/MS	A/MS	A/MS	A/MS	A/OES	A/MS	A/MS	A/OES	A/OES	FA25/OES	FA25/OES	A/MS	A/MS	A/OES	A/OES
10-107-002	Х	х	0.3	0.08	15.45	1.4	7	7.18	0.9	44	Х	Х	Х	3.44	0.94	9	Х



