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ANNUAL REPORT

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FOR

Exploration Licence 24851

South Bathurst, Tiwi Islands, Northern Territory

For period 29/07/2015 – 28/7/2016

Commodity: Mineral Sand

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TABLE OF CONTENTS

1.0	SUMMARY	4
2.0	INTRODUCTION	4
3.0	PHYSIOGRAPHY	5
4.0	TENURE	5
5.0	GEOLOGY AND GEOMORPHOLOGY	7
5.1	<i>Geology</i>	7
5.2	<i>Geomorphology</i>	7
6.0	PREVIOUS EXPLORATION	8
7.0	EXPLORATION	11
8.0	DISCUSSION & RECOMMENDATIONS	11
9.0	REFERENCES	11

FIGURES

Figure 1: Location of SE Bathurst Tenement Area.....	6
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TABLES

Table1: Tenement Details.....	5
Table 2: Summary of Exploration Activities.....	8

1.0 SUMMARY

This annual report covers EL24851 (the **Tenement**) located on the south coast of Bathurst Island, part of the Tiwi Islands, in the Northern Territory (see Figure 1). The tenement was purchased by MZI Resources Ltd (**MZI**) from Stirling Zircon Pty Ltd (**Stirling Zircon**) and was transferred to MZI on the 17th April 2014. Prior to the transfer MZI had been managing exploration on the tenement since 2009 on behalf of Stirling Zircon. The area is prospective for zircon and rutile rich mineral sands however suitable exploration areas must be outside of environmentally sensitive beach, mangrove and river zones.

During the reporting period no mineral sand exploration field work was completed due to decommissioning activities on ML27438 located on the north coast of Melville Island. During 2015/16 an exploration program was compiled and refined in order to drill test targets in EL24851 in conjunction with surrounding prospective areas. Unfortunately continued depressed mineral concentrate prices are affecting the ability of the company to raise funds and finance exploration in the Tenement.

In the next period a Mine Management Plan (**MMP**) will be submitted in order to allow exploration drilling to be undertaken in 2017/18 when funds are expected to be available. Logistical preparations will also commence to ensure safe and efficient operation of the program in what is expected to be a challenging environment. It is recommended tenement EL24851 be retained in the 2016/17 period.

2.0 INTRODUCTION

MZI purchased the Tiwi Island tenements and assets from Stirling Zircon, who had purchased the tenements from the receiver manager of Matilda Minerals in June 2009 following Matilda Minerals being placed into administration in late September 2008. The collapse of the wharf at Garden Point prevented Matilda Minerals from shipping out a large tonnage of concentrate and therefore the company could not meet its financial obligations and had little choice except to appoint an administrator to the company.

The islands are wholly within the Tiwi Island Aboriginal Land Trust administered by the Tiwi Land Council (**TLC**). Matilda signed an Agreement with the TLC on 19 December 2003, which set conditions for the exploration and mining development activity.

The tenement title transferred to MZI on the 17th April 2014. Prior to the transfer date MZI was managing the tenement under an Agreement with Stirling Zircon.

3.0 PHYSIOGRAPHY

The climate of the Tiwi Islands is tropical monsoonal, with warm dry winters and hot wet summers. The annual average rainfall is 1200mm – 1400mm in the eastern part of Melville Island to 1800mm – 2000mm in the north-west of Melville Island and north of Bathurst Island. The majority of the rain falls between December and April under the influence of the northwest monsoons. Temperatures range from a mean of 35°C to 21°C in summer, and 26°C to 18°C in winter.

The topography of the islands is characterised by relatively low relief, dominated by partially dissected plateau rising to 100m above sea level, interspersed with broad valleys, riverine lagoons and estuarine tidal flats. The coastline varies from more exposed low cliffs and beaches to large estuaries and extensive tidal flats.

The vegetation is consistent with a tropical savannah regime, dominated by dense eucalypt and acacia woodland in the hinterland and more prominent coastal fringe, while melaleuca (paperbark) forests predominate along the watercourses. Mangroves proliferate around tidal flats, while casuarina trees and pandanus palms fringe the coastline.

The tenement is located on a flat lying sand plains dissected by very minor seasonal billabongs and one metre rounded dunes in some inlets vegetated with melaleuca.

4.0 TENURE

This report covers the following tenement:

Table 1 Tenement Details

Tenement number	Date granted	Tenure Location	Blocks	Commitment -current year	Expenditure
EL24851	29/07/2008	South Bathurst	12	\$17,000	\$4,000 as per expenditure report prev. submitted

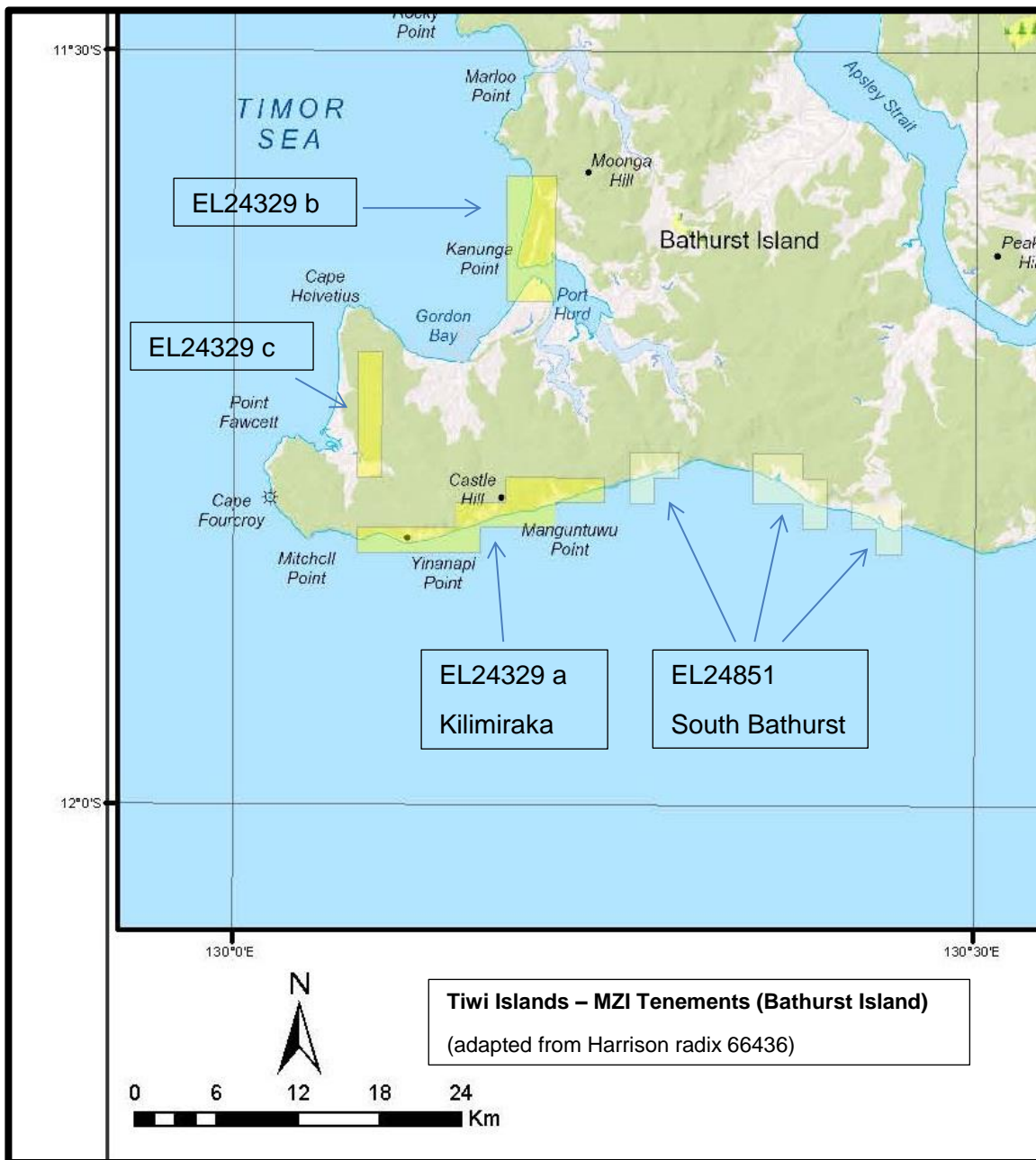


Figure 1: Location of EL24851 South Bathurst Tenement Areas

5.0 GEOLOGY AND GEOMORPHOLOGY

5.1 Geology

The oldest rocks exposed on Bathurst and Melville Islands are represented by the Upper Cretaceous Moonkina Member. This formation consists of fine to very fine sub-labile sandstone, along with interbedded claystone, grey carbonaceous mudstone and siltstone, of shallow marine to deltaic derivation. The Moonkina Member is exposed at the base of coastal cliffs, particularly along the southern coastline of Bathurst and Melville Islands, and in lower lying portions of the hinterland (Hughes, 1977).

The Moonkina Member is unconformably overlain by the Tertiary Van Diemen Sandstone, which dominates the geology of the Tiwi Islands. This formation comprises a friable, white to yellow, medium to coarse-grained quartzose sandstone with subordinate intercalations of grey carbonaceous mudstone and siltstone of fluvial to paralic derivation. The Van Diemen Sandstone broadly dips very gently to the north, becoming thicker in the process, with the unit exposed over a 60m vertical interval at Cape Van Diemen at the extreme north-western tip of Melville Island (Hughes, 1977).

Both the Moonkina Member and Van Diemen Sandstone are disconformably to unconformably overlain by unconsolidated Quaternary fluvial, paralic, deltaic and littoral deposits. The most economically significant of these are the Pleistocene age littoral quartzose sands associated with the paleo-shoreline. Holocene (recent) littoral deposits have accumulated along the present coastline, variously abutting or transgressing the Cretaceous, Tertiary and Pleistocene deposits (J.L. Baxter & Coxhell, 2009).

5.2 Geomorphology

The Van Diemen Sandstone dominates the geomorphology of both Bathurst and Melville Island, forming low partially dissected and lateritised plateau, which are frequently capped by ferruginous to bauxitic pisolitic laterite accumulations. Low red cliffs, nick points and platforms of Van Diemen Sandstone are developed along or adjacent to the more exposed portions of the coastline (Hughes, 1977).

In many instances the Tertiary sea cliffs are preserved from further erosion by accumulations of Pleistocene and/or Holocene littoral deposits. The Pleistocene sands are distinguishable from their Holocene counterparts by a mild orange, pink or red discoloration, and are invariably developed as one or more low amplitude, but strike persistent strandlines, with a wavelength characteristically in tens, rather than hundreds, of metres (J.L. Baxter & Coxhell, 2009).

The Holocene deposits generally appear to be cleaner and marginally finer grained than Pleistocene sands which incorporate a significant proportion of coquina and coralline debris. Along the north coast of the islands the present day beaches appear to have accumulated as strandlines directly against the Tertiary escarpment or as a composite strand plain successively comprising both the Holocene and Pleistocene deposits. Holocene dune

deposits transgress the older strandlines on several beaches that are more exposed to the prevailing north-westerly monsoonal winds (J.L. Baxter & Coxhell, 2009).

Heavy mineral (hm) sand accumulations are present within both the Pleistocene and Holocene strands. The immediate provenance of the hm is the Van Diemen Sandstone itself, which contains thin laminae of hm identical in composition to the mineral sands. The Pleistocene and Holocene deposits have therefore been subjected to two cycles of erosion and deposition, being originally derived from the Lower Proterozoic igneous and metamorphic complexes of the Pine Creek Geosyncline on the mainland to the south.

Heavy mineral accumulations, be they Pleistocene or Holocene, appear to be best developed immediately adjacent to the Tertiary Van Diemen Sandstone escarpment, with successive strandlines being considerably and progressively more depleted in hm away from the scarp. This preferential accumulation of hm immediately adjacent to the Van Diemen Sandstone headland or scarp can be readily witnessed in the present day environment near Cape Fourcroy, located at the extreme south-western tip of Bathurst Island. Here, although limited in extent, hm species represent the only sand on a wave-cut platform at the base of an extensive cliff of Van Diemen Sandstone.

Recent dating of the underlying shelly coquina at the Lethbridge deposit on Melville Island has recorded a carbon date of 2000 years old (Holocene).

6.0 PREVIOUS EXPLORATION

The following tables summarise exploration carried out by Matilda Minerals on the Tiwi Islands Exploration Licences in 2004-2008.

Table 2 – Summary of Exploration Activity 2004-2008

Exploration activity - 2004	Comments
Data compilation	Compilation of all previous exploration
Aerial photography and Digital Terrain Mapping	Stereo air photo coverage of the coastal plains at \pm 1:15000 scale DGPS surveying; production of orthophotos for Andranangoo Creek West and Lethbridge Bay West
Ground magnetic mapping	Andranangoo Creek West and Lethbridge Bay West
Helicopter-supported reconnaissance	Reconnaissance sampling – 153 EL 24330, EL24332, EL24333 and others
Air core drilling	Andranangoo Creek West – 171 holes - 669m Lethbridge Bay West – 172 holes - 895m
Modal analyses	Andranangoo Creek West – 7 Lethbridge Bay West – 5
Bulk sampling and metallurgical test work	1 x 1000kg ACW 1 x 1000kg LBW

Exploration activity – 2005	Comments
Ground magnetic mapping	Puwanapi; Wangati North; Wangati South, Atauini Point; Murrow Point, Deception Point; Brace Point; Kili Impini
Air core drilling 2787 holes – 9134.9 metres	Andranangoo Creek West - 1916 holes; 5827m Lethbridge Bay West - 98 holes; 313m Andranangoo Creek East - 248 holes; 723.5m Radford Point - 28 holes; 66.4m Lethbridge Bay South - 139 holes; 447m Cache Point – 30 holes; 90m Puwanapi – 310 holes; 1596m Wangati North – 18 holes; 72m
Reconnaissance sampling	584 auger holes; 243 sampling using a spade
Auguring (shell)	145 holes – 266.8 metres
Modal analyses of heavy mineral concentrates	Total = 27 Andranangoo Creek West – 18 Andranangoo Creek East – 4 Radford Point – 1 Goose Creek West – 1 Robinson Inlet East – 2 Lethbridge Bay South – 1
Costeaning	Andranangoo Creek West - 6 costeans
Bulk sampling and metallurgical test work	Andranangoo Creek West - BSA C-4 & BSA C-6
Ore Reserve/Resource estimation	Andranangoo Creek West and Lethbridge Bay West; Puwanapi
Surveying	Drill hole pick-up

Exploration activity – 2006-2008			Comments	
Prospect	Date	Number of holes	Sample # start	Sample # end
Andranangoo Creek East	June	28	13316	13343
Goose Creek East	May	1	13070	13070
Lethbridge Bay South	April	47	13000 13047	13024 13068
Lethbridge Bay South	June	164	13374	13537
Lethbridge Bay South	July	25	13639	13663
Lethbridge Bay South	July	99	14005	14103
Lethbridge Bay South	August	80 40	14104 17019	14183 17058
Robinson East	July	46	13593	13638
Totals		530		

Prospect	Date	Number of holes	Sample # start	Sample # end
Wangati North	July	228	13664	13891
		21	13912	13932
Atauini Point (Wangeroo)	July	64	13933	13996
Wangati South	July	20	13892	13911
One Tree Point	July	8	13997	14004
One Tree Point	Oct	19	17990	18008
Totals		360		

Note: not all Wangati North and Wangati South samples were analysed.

Prospect	Date	Number of holes	Sample # start	Sample # end
One Tree Point (Bathurst South)	Feb 2007	81	18283	18363
Totals		81		

All digital data has been previously provided to the department by Matilda Minerals. Reports presented by S. Milner (2007) contain details of exploration for many areas prior to 2007.

7.0 EXPLORATION

Exploration activity for the period was limited to the refinement of the drilling plan drafted in the previous reporting period. Refinements included the location of planned drill holes to allow for easier access on the larger dunes and the staggering of the drilling to allow for broad testing of the prospectivity of all dune systems along the southern coast of Bathurst Island in each stage of the program. This will allow a rapid determination of the prospectivity of the whole area including Kilimiraka and potential satellite deposits.

It is expected in the next exploration period a redrafted exploration MMP shall be submitted for approval and once approved the mineralisation of the dunes shall be assessed through a drilling program. Logistical planning for the exploration program will also be undertaken.

8.0 DISCUSSION & RECOMMENDATIONS

The area of the tenement is prospective for valuable heavy mineral sand deposits with a mineralogy dominated by zircon and rutile. The size of the sand bodies within the tenement qualify the dunes as a satellite deposit to a mining project at EL24329 subject to sufficient grade being present.

Based on the current interpretation of the potential of the tenement it is recommended the tenement is retained for a further 12 months and exploration activities are progressed.

9.0 REFERENCES

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