



Tiwi Resources Pty Ltd

Annual and Final Report

FOR

Exploration License EL24329
Tiwi Islands Northern Territory
For period 24/01/22 – 23/01/23

Tiwi Resources Pty Ltd

ACN 054667051

12/25 Rosewood Cres, Leanyer, NT 0812

PO Box 40245, Casuarina NT 0811

Phone: (08) 89411162

Report Author: Murray Knyvett

murray.knyvett@tiwilandcouncil.com

TABLE OF CONTENTS

1. Summary	3
2. Copyright Statement	3
3. Introduction	3
4. Physiography	4
5. Tenure	4
6. Exploration Activities	4
7. Conclusion and Justification for Surrender	6
8. References	9

List of Figures

1. Tenement Location Map	5
2. Location of EL24329	6
3. Location of surrendered blocks for EL24329	7

1. SUMMARY

This annual and final report covers EL24329 for the period 24/01/22 to 23/01/23 with the due date of 27th March 2023.

Exploration work has been performed within EL24329 in previous reporting periods with the target commodity being heavy mineral (HM) containing a suite of Zircon, rutile, leucoxene and ilmenite. Although there was heavy mineral present, it was at a marginal economic percentage. There has also been interest in the area for sand extraction, however this would be dependent on a significant volume of the dune system being available.

In the final reporting year, Tiwi Resources Pty Ltd, with the support of the Tiwi Land Council, conducted a LiDAR survey of the area with traditional owners. A cultural site survey was also conducted within the area although this work was not fully completed. The LiDAR survey provided essential information about the volume of sand within individual sections of the dune system. From this survey, it was clear that individual sections of sand dune did not contain economic volumes of sand and that any future project would likely need to include much of the area. The assessment also concluded that large areas contained within the target area were within environmental buffers and important cultural areas that were unsuitable for mining.

2. COPYRIGHT STATEMENT

This document and its contents are the copyright of Tiwi Resources Pty Ltd. The document is for submitting to the Department of Industry Tourism and Trade of the Northern Territory, as part of the tenement reporting requirements of the Minerals Titles Act 2010. Tiwi Resources Pty Ltd authorises the Department of Industry Tourism and Trade to copy and distribute the report and associated data.

3. INTRODUCTION

Tiwi Resources Pty Ltd acquired all Tiwi Island titles that were previously held by Matilda Zircon Limited with the official transfer of titles on 25th of February 2020. For many years, mining companies have explored the Tiwi Islands for different resources with consent from traditional landowners through the Tiwi Land Council (TLC).

The Tiwi traditional landowners, with the support of the Tiwi Land Council saw an opportunity to become directly involved in mining activities on their own land when the title holder Matilda Zircon Limited was placed into administration.

A desktop review of previous work for all titles that were obtained, found that most areas that were identified as containing economic resources, were within environmental buffers

and could not be considered for mining. All other areas that had been assessed were not considered economic, with the exception of the Kilimaraka sand dune system.

Site assessments were conducted to identify areas that Tiwi landowners consider to be culturally valuable. Blocks that were identified as having marginal mining potential and high cultural value were relinquished.

The remaining blocks were assessed to understand the total volume of sand within each of the dune system. Further cultural mapping was also conducted to better understand cultural exclusions from the total available areas. This assessment found that after environmental and cultural exclusions were applied, no single dune area appears to be viable for mining in isolation. Therefore, the majority of the dune system would be required for any mining to be economic.

4. **PYSIOGRAPHY**

The climate of the Tiwi Island is typical wet and dry tropics. The Tiwi islands have the highest average wet season rainfall in the Northern Territory with between 1200-2000mm or rainfall annually. The highest average rainfall occurs between December and April driven by the northwest monsoon flow while the warm, dry winters are driven by a cooler easterly air flow.

The vegetation of the islands is dominated by tropical savannah woodland with pockets of coastal vine thicket, mangrove systems and areas of tropical floodplain bordered by melaleuca forests. Casuarina and Pandanus palms are the dominant species along the coastline adjacent to the beach areas.

The topography of the Tiwi Islands is characterized by relatively low relief, rising to approximately 100m above sea level. The low-lying areas inland include monsoonal swamps and floodplain along the rivers and creeks with extensive tidal flats towards the coast.

5. **TENURE**

Tenement Number	Date Granted	Date Expiry	Blocks Surrendered
EL24329	24/01/05	23/01/23	18

6. **EXPLORATION ACTIVITIES**

Exploration activities for the reporting year were limited to a LiDAR survey of the dune system within EL24329 to understand the total volume of sand that is contained within each area. Following consultation with the community, environmental and cultural buffers and exclusions were established. The LiDAR volume surveys were modelled to provide potential

available sand volumes from each of the dune areas. The estimated available areas are still subject to further environmental and cultural buffers so the estimated available volumes should be considered as an absolute maximum with further reductions almost certain. It appears to be extremely unlikely that all areas identified below would be open to further exploration or mining due to the cultural and environmental significance of this area.

LiDAR Survey Results

Area	Volume (cubic metre)
Area 1	44,306,278.0
Area 2	47,633,170.0
Area 3	32,770,652.0
Area 4	10,864,031.0
Area 5	8,967,342.6
Area 6	6,560,259.5
Total	151,101,733.1



Areas of EL24329 that were surveyed to understand total volumes of sand.

Area	Volume After Exclusions (cubic metre)
Area 1	29,949,268.0
Area 2	34,507,882.0
Area 3	0 (All excluded)
Area 4	7,185,588.0
Area 5	4,811,633.0
Area 6	2,950,789.0
Total	79,405,160.0

When the previous title holder MZI, was placed into administration, Tiwi Resources were formally recognized as the holder of these titles in January 2020.

A review of previous work was focused on drilling and mining results to understand the potential for the development of future mining. Deposits, that were assessed as having potential for heavy mineral extraction were located within the environmental buffer zones. Environmental buffer zones include 200m from the high tide mark of turtle nesting beaches, 100m from any mangroves, 50m from wetlands, 20m from any coastal vine thicket and 100m from any Masked Owl nesting trees.

The area contained within EL24329 has been extensively drilled previously with several heavy mineral deposits located. All the deposits that were drilled, fall within the environmental buffer zones and are not considered to be accessible for mining.

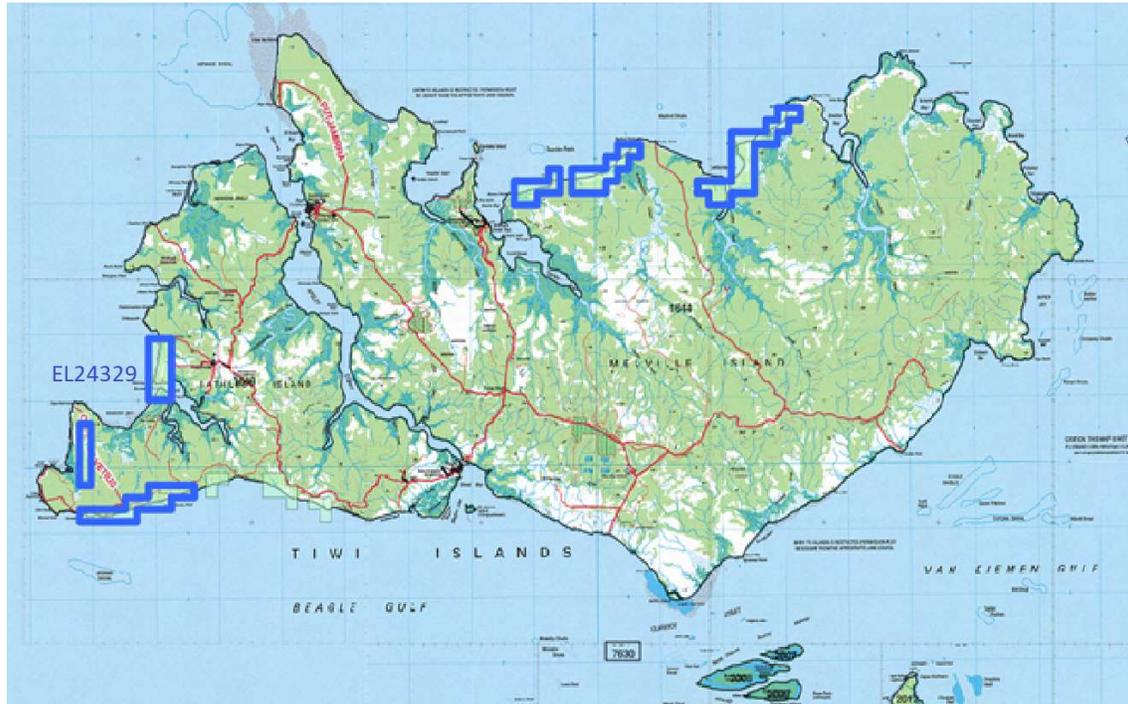
A site assessment of the area known as Wangati on the northern side of Port Hurd was conducted with Tiwi traditional owners in the dry season of 2020. The site assessment identified the area as being culturally significant as a hunting, fishing and camping location. Active turtle nesting was observed along the entirety of the beach confirming previous assessments by MZI that a 200m environmental buffer zone would be required. This buffer zone contains all the previously identified heavy mineral deposit at Wangati beach.

7. CONCLUSION AND JUSTIFICATION FOR SURRENDER

The area contained within the previously relinquished blocks of EL24329 has been drilled with all known heavy mineral deposits falling within environmental buffer zones. Wangati beach is culturally significant to the Tiwi landowners who use the area for hunting, fishing and camping. The remaining blocks within the dune system on the south western coast of Bathurst Island contain significant volumes of sand, however a large portion of this sand falls within cultural and environmental exclusion buffers. One of the largest areas (Area 3) is completely excluded due to the cultural significance of the lake on the northern side. The

combination of a resource that is of low percentage for heavy minerals, lying within environmental buffer zones and in an area of cultural importance, make it very unlikely to be developed further and has therefore been surrendered.

Figure 1. Tenement Location Map



EL24329 Located on Bathurst Island



(Image by NTG Strike)

Figure 3. Location of surrendered blocks for EL24329 (blue)



(Image by NTG Strike)

8. REFERENCES

CR19930253, CR19940255, CR19940453, CR19950479, CR20060089, CR20060097, CR20070127, CR20080124, CR20080528, CR20080712, CR20090331, CR20090783, CR20090880, CR20091157, CR20100177, CR20100270, CR20100871, CR20101120, CR20110179, CR20110884, CR20111122, CR20120338