



**MIRAMAR**  
RESOURCES LTD.

# QUARTERLY REPORT

Quarter ending 31 December 2022

## ISSUED CAPITAL

70,681,743 shares on issue

## 52WK SHARE PRICE RANGE

\$0.072 – \$0.26

## MARKET CAPITALISATION

\$5.7 million (@ \$0.08)

## BOARD

### Allan Kelly

Executive Chairman

### Marion Bush

Non-Executive Technical Director

### Terry Gadenne

Non-Executive Director

## PROJECTS

### Eastern Goldfields Projects

Gidji JV (80%)

Glandore

Randalls

### Murchison Projects

Lang Well

Lakeside

### Capricorn Orogen

Whaleshark

Bangemall

## MIRAMAR RESOURCES LTD

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## Highlights

### › Glandore

- Completion of initial diamond drilling campaign at Glandore East
- Four out of six effective drill holes intersected narrow high-grade gold mineralisation

### › Gidji JV (80%)

- Significant PGE results obtained from multiple aircore holes indicate nickel sulphide potential

### › Whaleshark

- Anomalous copper and IOCG pathfinders in several aircore holes
- REE results like those seen at Prominent Hill IOCG deposit

### › Other projects

- Aircore drilling at Randalls Project completed
- Large REE targets identified at Lang Well and Dooley Downs projects

**Miramar Resources Limited** (ASX:M2R, Miramar or “the Company”) is pleased to provide a summary of activities completed during the Quarter ending 31 December 2022.

Miramar’s Executive Chairman, Mr Allan Kelly, said the Quarter had been another busy one for the Company, with exploration activities conducted across several projects.

“In terms of exploration expenditure, the December Quarter was our biggest since listing just over 2 years ago,” he said.

“We are pleased with the multiple high-grade results from diamond drilling at Glandore East and look forward to following up this drilling in the new year,” he added.

“The Company is also excited by the increasing similarities between our Whaleshark copper-gold project and several large IOCG deposits,” he said.

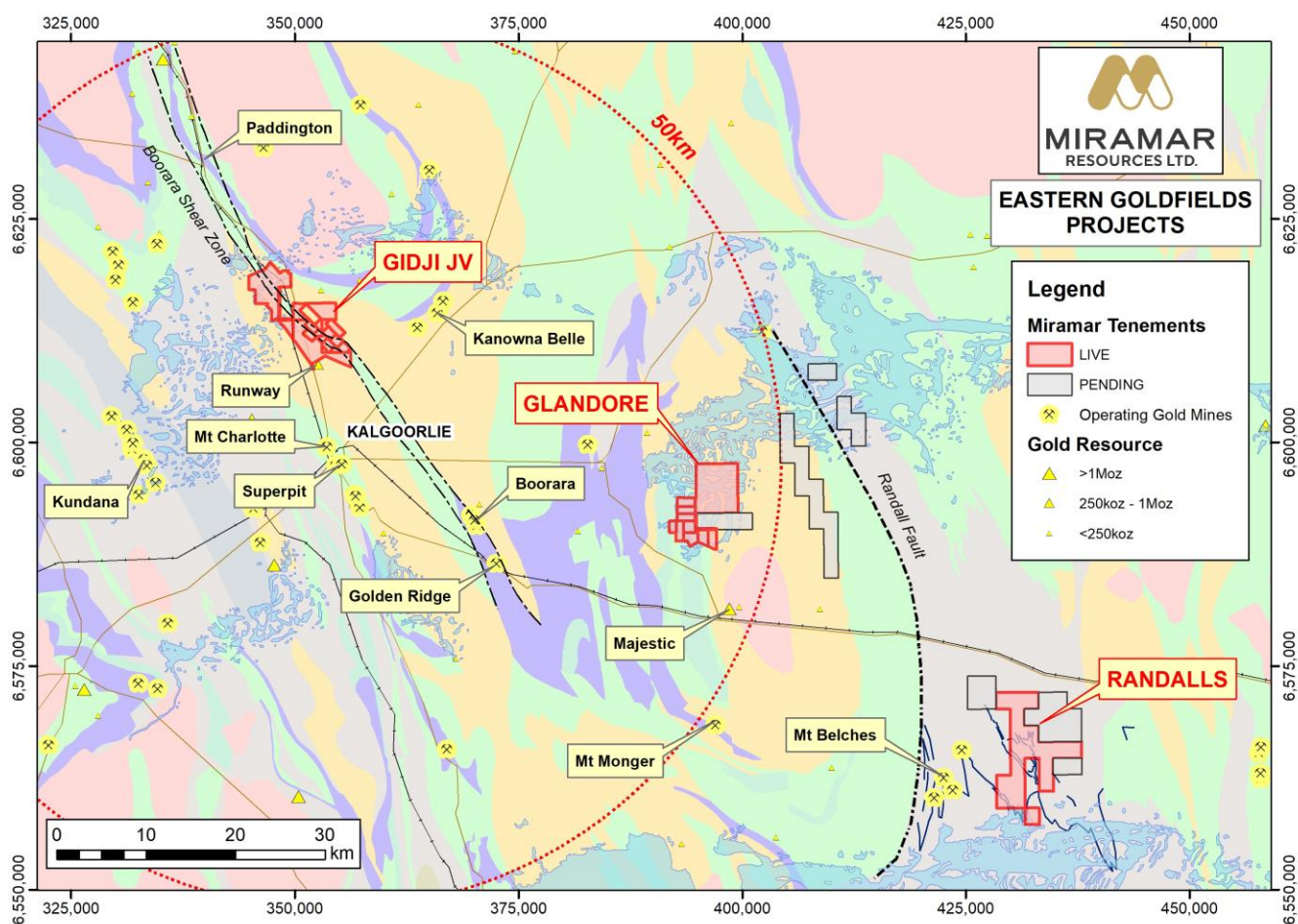


## EXPLORATION

### EASTERN GOLDFIELDS PROJECTS

Miramar has three projects in the Eastern Goldfields with the potential for new gold discoveries within proximity to existing mining and/or processing operations (Figure 1).

- **Gidji JV (80%)** – strategic land position within the Boorara Shear Zone, 15km north of Kalgoorlie
- **Glandore** – underexplored project with high-grade drill results 40km east of Kalgoorlie
- **Randalls** – Folded BIF adjacent to Silver Lake Resources' Mt Belches gold operations



**Figure 1.** Miramar's Eastern Goldfields Projects in relation to regional geology and gold operations.

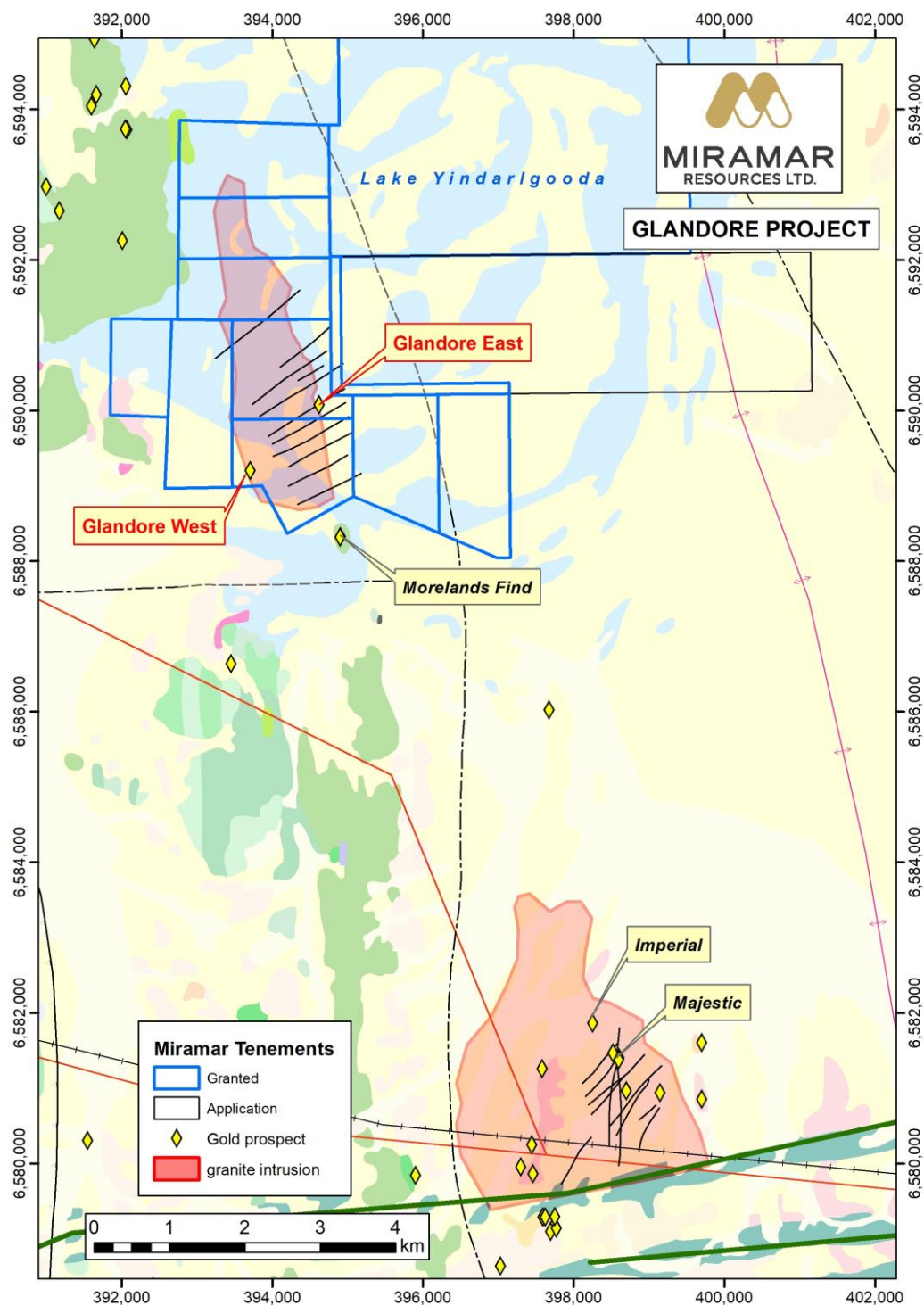


## Glandore

Miramar's 100%-owned Glandore Project is located approximately 40km east of Kalgoorlie, in the Eastern Goldfields region of WA.

Historic drilling at the "Glandore East" target previously intersected high-grade gold mineralisation, up to **6m @ 29.8g/t Au**, at the contact between a layered mafic sill and a later granitoid intrusion (Figure 2).

The scale and geological setting of the Glandore Project is similar to the Majestic and Imperial deposits further to the south.



*Figure 2. Glandore Project showing main targets.*



## Diamond drilling

During the Quarter, the Company completed an initial lake diamond drilling campaign at the “Glandore East” target.

The drilling targeted the multiple NE-trending structures beneath a very large aircore gold footprint and where limited historic diamond drilling had intersected high-grade gold up to **6m @ 29g/t Au**.

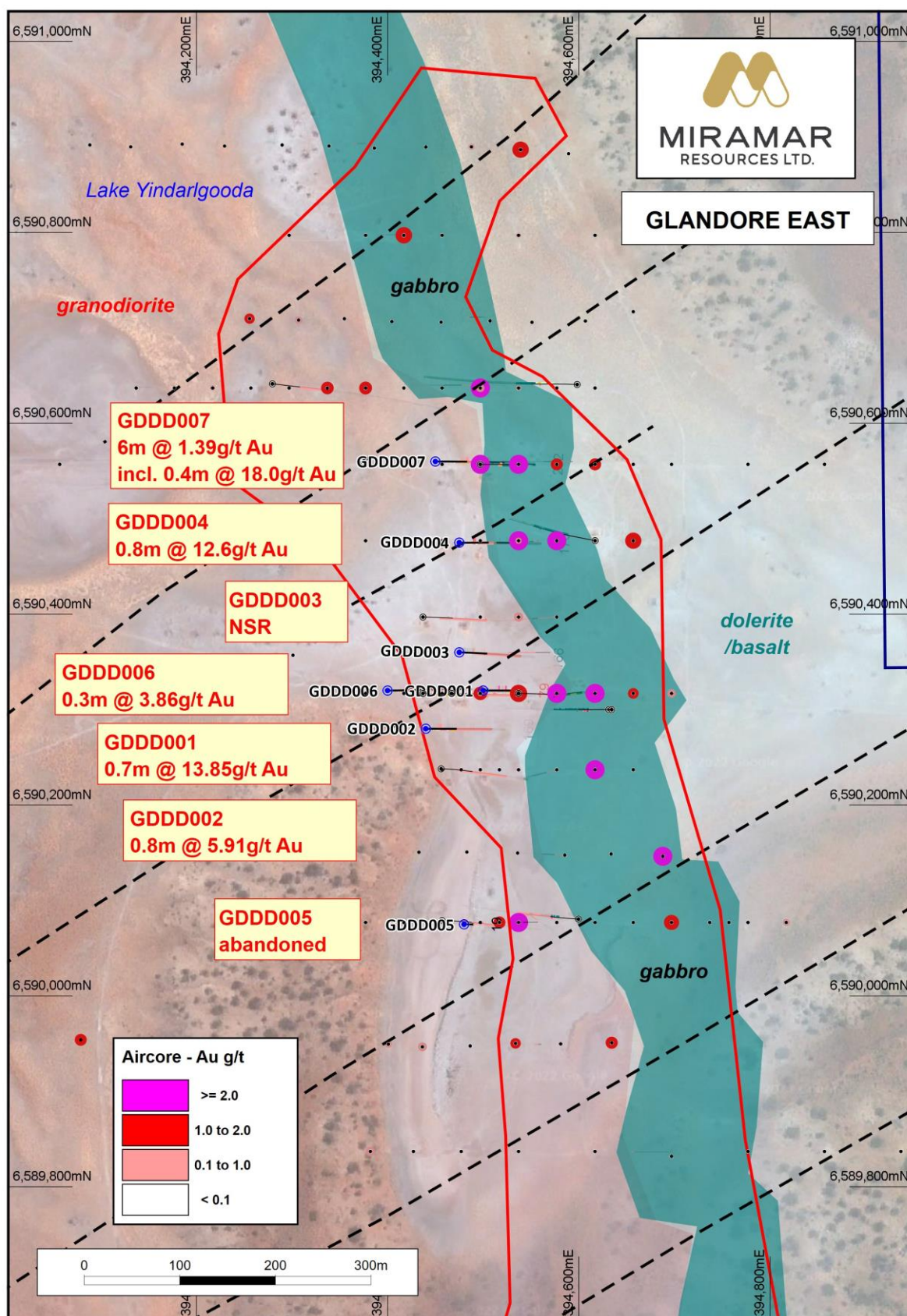
The initial drilling programme at Glandore East confirmed the presence of primary gold mineralisation within multiple northeast-trending structures, with four out of the six effective holes successfully intersecting bedrock gold mineralisation beneath the extensive supergene gold layer.

A summary of significant results from the first programme are shown in Figure 3 and Table 1 below.

**Table 2.** Glandore East diamond drilling information.

Hole ID	Easting	Northing	RL	Dip/Azimuth	EOH Depth	Intersection
<b>GDDD001</b>	394500	6590320	321	-60/090	78.66	<b>0.7m @ 13.85g/t Au</b>
<b>GDDD002</b>	394440	6590280	324	-60/090	169.06	<b>0.8m @ 5.91g/t Au</b>
GDDD003	394475	6590360	320	-60/090	166.00	NSR
<b>GDDD004</b>	394475	6590475	322	-60/090	176.00	<b>0.8m @ 12.6g/t Au</b>
<i>GDDD005</i>	<i>394480</i>	<i>6590075</i>	<i>322</i>	<i>-60/090</i>	<i>18.5</i>	<i>abandoned</i>
<b>GDDD006</b>	394400	6590320	324	-60/090	217.10	0.3m @ 3.86g/t Au
<b>GDDD007</b>	394450	6590560	324	-60/090	202.30	<b>6m @ 1.38g/t Au Incl. 0.4m @ 18.0g/t Au</b>

The Company is planning to conduct more detailed magnetic surveys over the granite/mafic contact to help refine the position of the northeast trending structures for further drilling.



*Figure 3. Glandore East target showing recent drilling results.*



### Gidji JV (80%)

#### Boorara North aircore drilling

During the previous Quarter, the Company completed a programme of aircore drilling over the Boorara North target.

A total of 191 holes were completed on a 200m x 50m grid across the 4-kilometre strike of the Boorara Shear Zone within the target. Hole depths ranged from 3m to 90m.

Assay results were received during the Quarter and were disappointing when compared with aircore drilling results from the Marylebone, Blackfriars and Highway targets further to the south.

The most significant result was from **GJAC884**, which returned **4m @ 0.37g/t Au** from 20-24m in weathered ultramafic towards the western end of the drill line (Figure 4).

No further gold-focussed work is planned for this target at this stage however, following completion of a heritage survey, RC drilling is planned for the "Lake" target, where historic RC drilling intersected significant gold mineralisation which is open at depth and along strike.

#### PGE re-assays

Following completion of the Boorara North aircore drilling programme, samples from selected aircore holes were taken and sent for re-analysis of gold, platinum (Pt) and palladium (Pd) by a 50g fire assay.

Several significant results for Pt and/or Pd were obtained which may indicate the potential for the discovery of nickel sulphide mineralisation related to the various ultramafic units (Figure 5).

Following interpretation of these initial results, a further batch of 640 aircore samples with anomalous Ni and Cu were sent for re-assay of Au, Pd and Pt.

Results from the second phase of re-assaying were pending at the end of the Quarter.

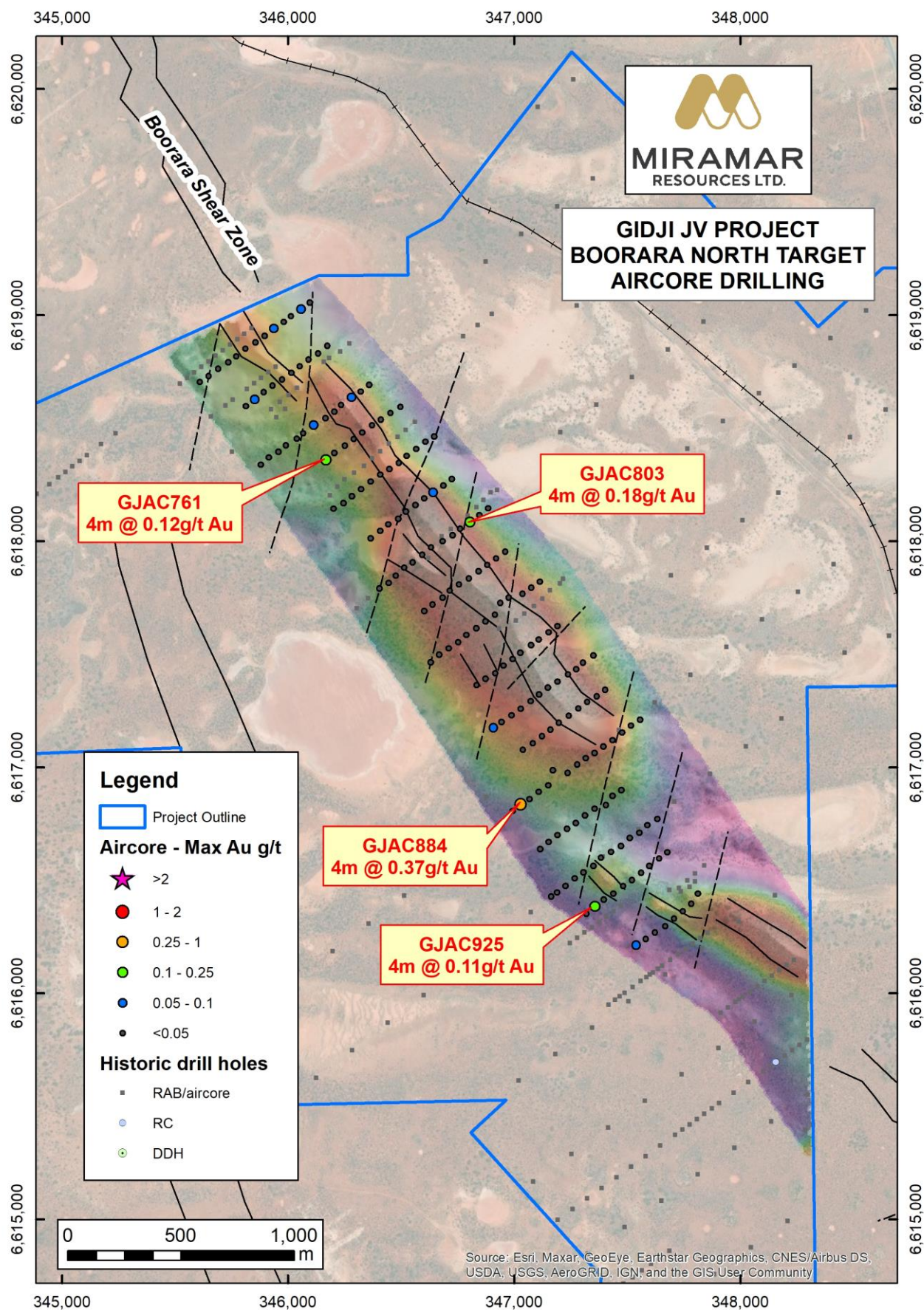


Figure 4. Boorara North aircore drilling results over UAV magnetic image.

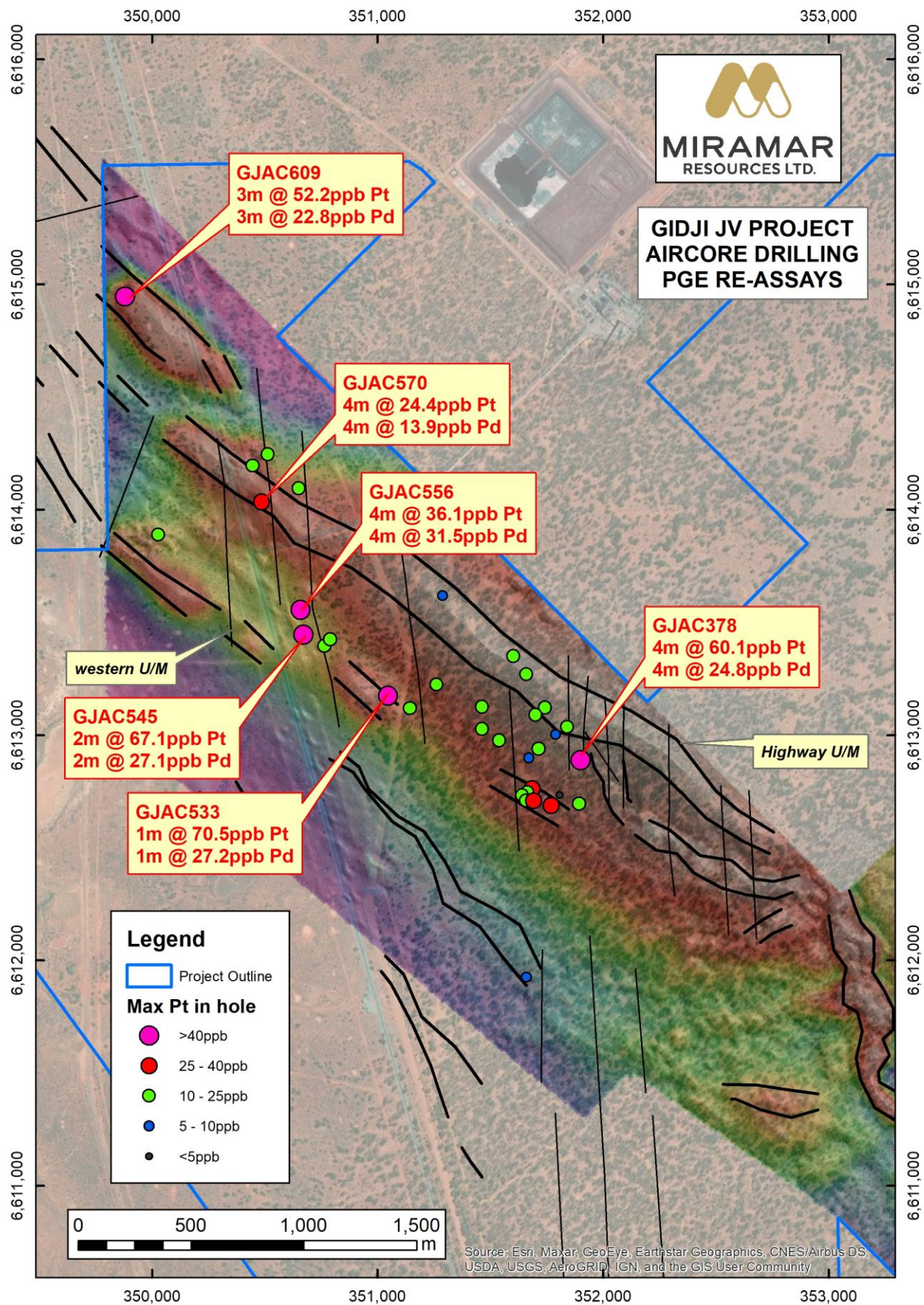
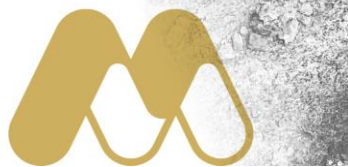


Figure 5. Pt and Pd results for selected aircore holes over UAV magnetic image.



Randalls

The Randalls Project is located immediately east of Silver Lake Resources Limited's Maxwell's and Cockeyed Bob gold mines, approximately 70km east of Kalgoorlie.

The Project consists of a single Exploration Licence (E25/596) and covers the same folded Banded Iron Formation and sediments that host the gold mineralisation currently being mined by Silver Lake.

The Company completed an aircore drill programme comprising 30 holes on two drill traverses, testing folded hinges in the Banded Iron Formation (Figure 6).

No significant results were obtained from this programme.

The Company submitted applications for six new Exploration Licences over newly vacant ground surrounding and to the north of the Randalls Project (Figure 7).

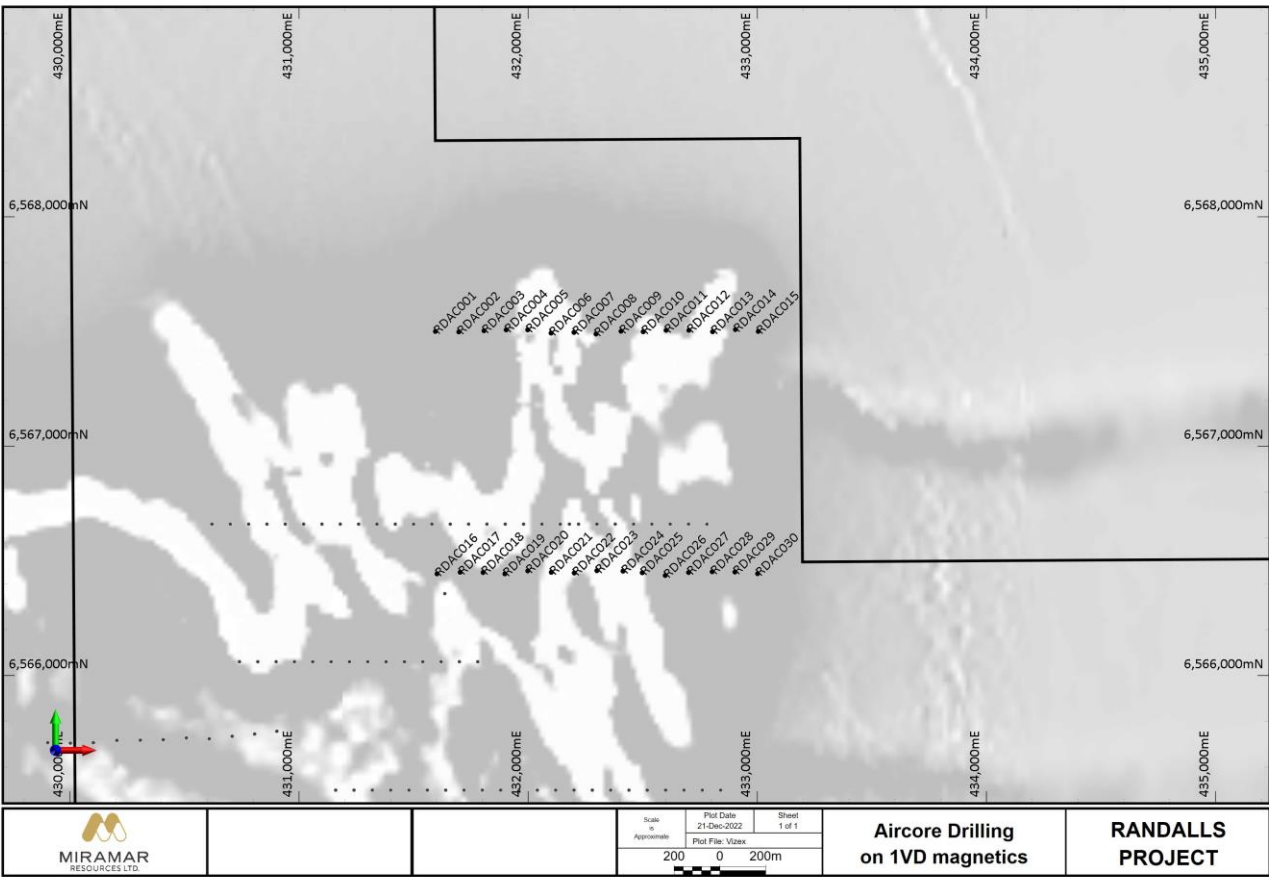


Figure 6. Randalls Project showing aircore drill holes over 1VD magnetic image.

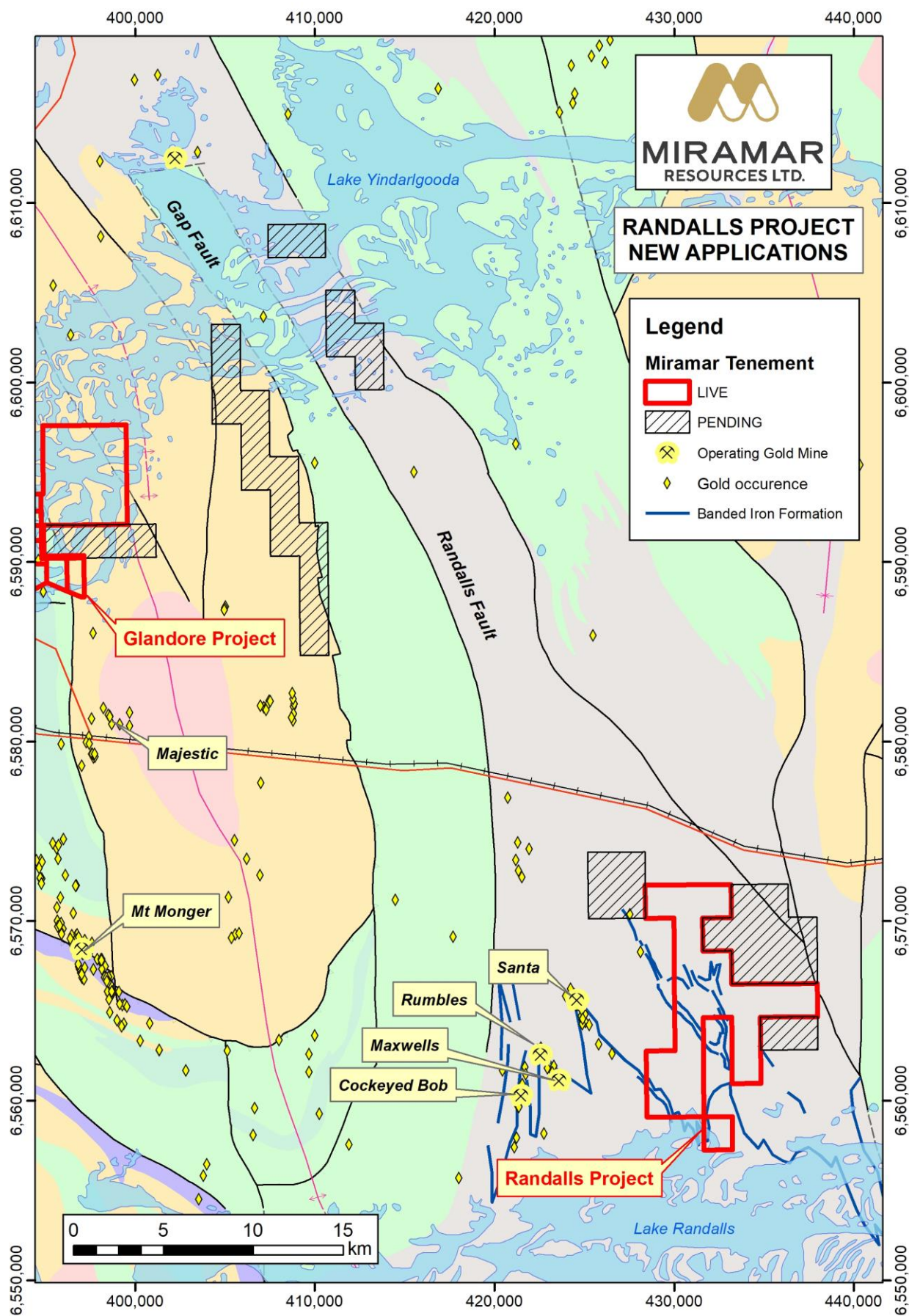


Figure 7. Randalls Project showing new applications.



## GASCOYNE REGION PROJECTS

Miramar has two projects within the Proterozoic Capricorn Orogen: the Whaleshark copper-gold project and multiple tenements making up the Bangemall Project (Figure 8).

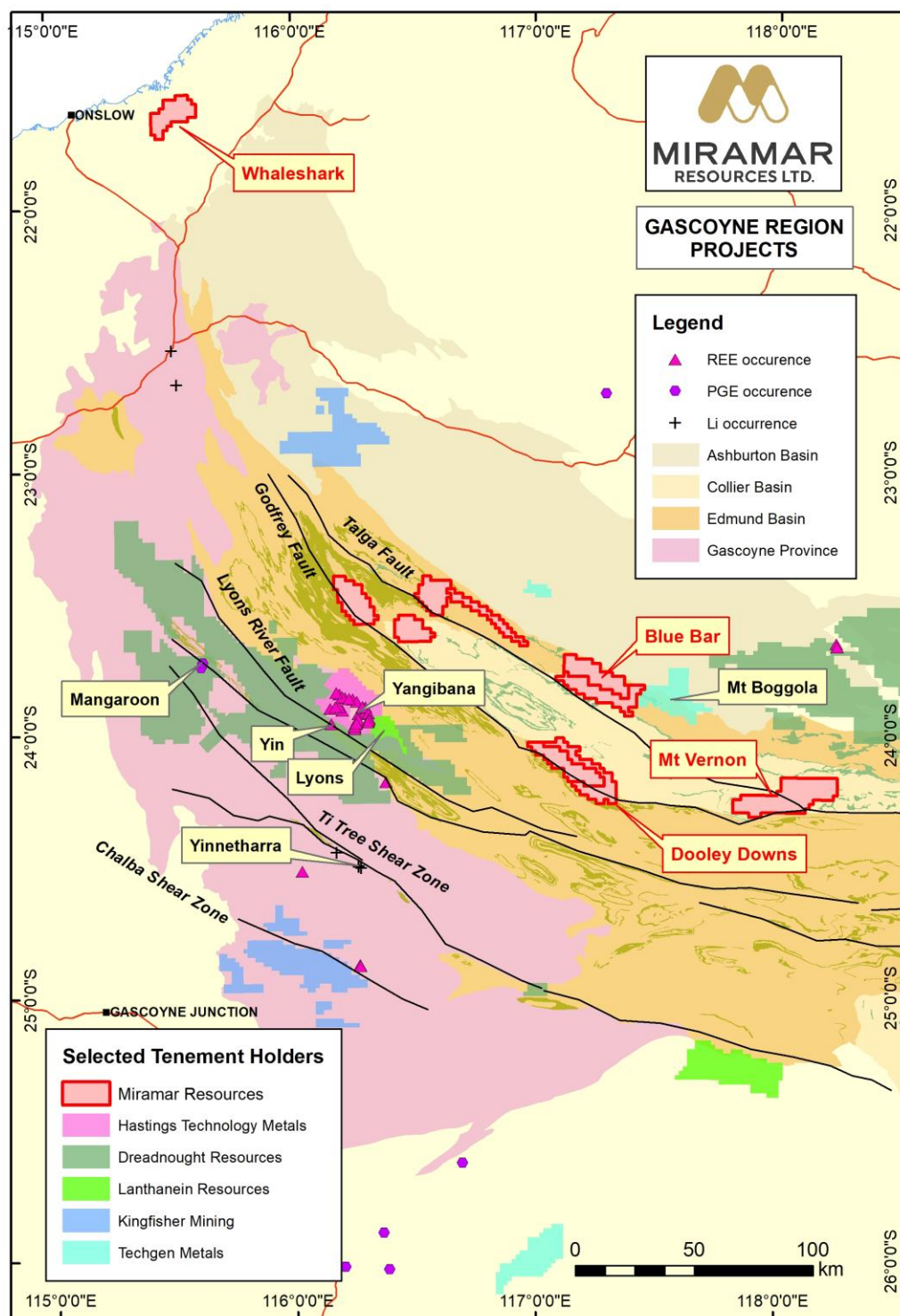


Figure 8. Miramar's Gascoyne region projects.



## Whaleshark

The Whaleshark Project is located 40km east of Onslow and consists of a single Exploration Licence, E08/3166 (Figure 9).

The Project is located within the north-western extension of the Proterozoic Capricorn Orogen and is characterised by a folded Banded Iron Formation (BIF) intruded by a granite and overlain by Cretaceous Carnarvon Basin sediments.

The average depth to basement across the Project is approximately 100m.

During 2021, Miramar completed two phases of surface geochemical sampling using the Mobile Metals Ions (MMI) technique which highlighted of several large Cu-Au-Ag-U-Mo and REE anomalies.

The combination of elements is suggestive of buried IOCG mineralisation related to the granite intrusion.

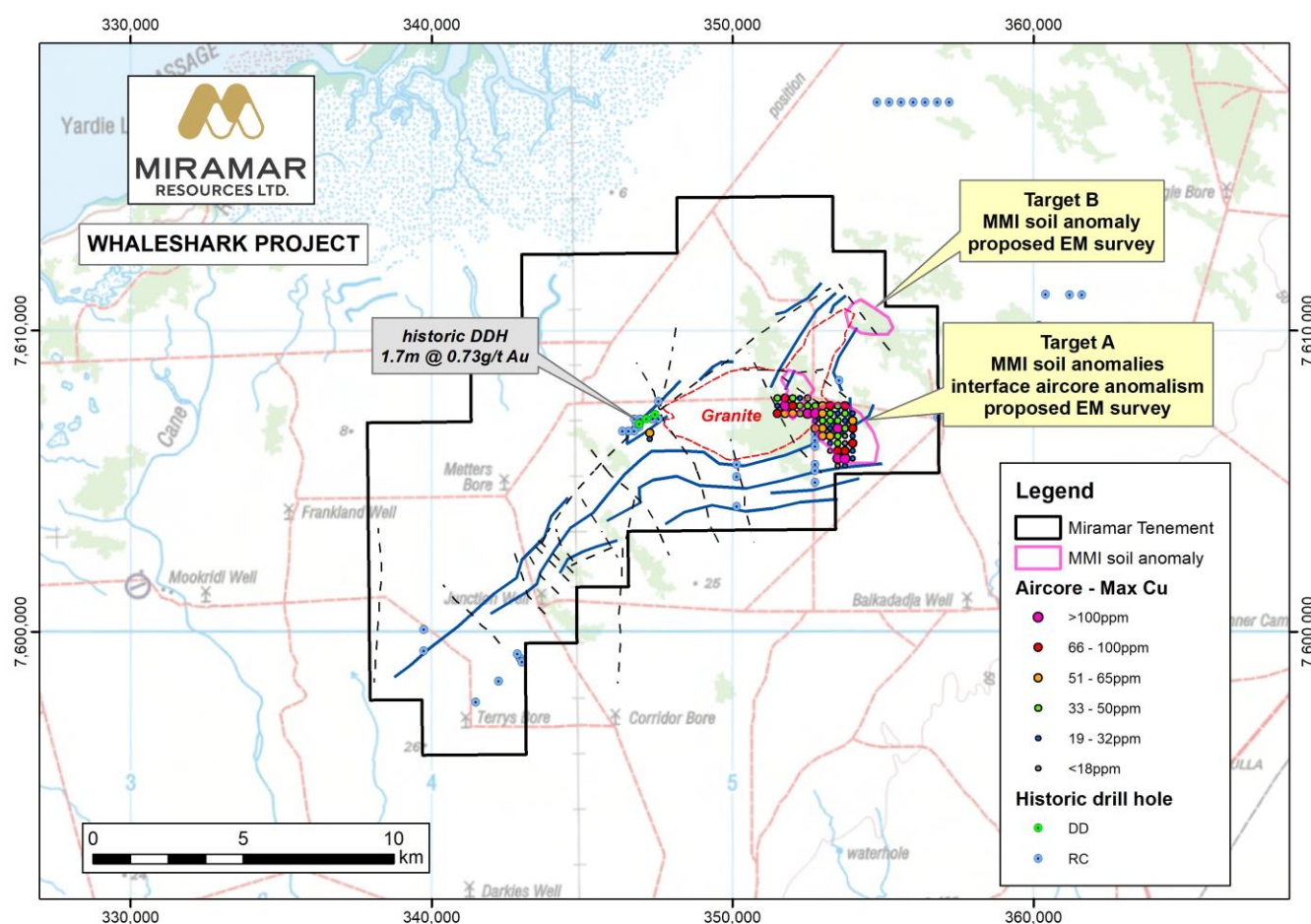


Figure 9. Whaleshark Project.

## Aircore drilling

During the Sept 2022 Quarter, the Company completed an initial programme of “interface” aircore drilling.

Holes were drilled on a 250m x 250m grid and targeted the unconformity between the Carnarvon Basin sediments and the underlying Proterozoic basement.

A total of 60 holes were completed, mostly across Target A' however the programme was shortened due to slow penetration rates and the discovery of potential heritage sites at the southern edge of the survey area.

Target B therefore remains untested at this stage.

Hole depths ranged from 25 to 147 metres, with basement intersected at depths from 20m to 126m.



A total of 8 holes did not reach basement, including 7 within Target A.

The drilling intersected silcrete and/or limestone, unconsolidated black mudstone and basal gravels, which commonly contain sulphides, before intersecting Proterozoic basement rocks including biotite granodiorite, biotite schist and occasional mafic rocks.

Sulphides, predominantly pyrite, were observed in the basement rocks in several holes.

In each hole, samples were taken from 4m above the unconformity to the end of hole and were assayed for a multi-element suite including copper and IOCG pathfinders such as gold, silver, uranium, molybdenum and rare earth elements (REE's).

Several anomalous and/or overlapping results were seen including in **copper** (up to **166.9ppm**), **gold** (up to **0.164ppm**), **cobalt** (up to **146.8ppm**), Mo (up to 16.3ppm), U (up to 18.62ppm) and tungsten (up to 335ppm).

Each of the interface anomalies is approximately 500m x 500m.

The highest copper and cobalt results occur adjacent to a discrete gravity anomaly in the “neck” of the granitoid intrusion. Results of this magnitude, for these elements, would not be expected from a granitoid, unless mineralised.

WSAC055 returned strongly elevated La and Ce from a granodiorite at the eastern edge of the survey.

The highest gold result, 1m @ 0.164ppm Au came from basal gravels in WSAC041, which is located towards the southern edge of the survey.

Based on a mineral deposit atlas compiled by James Cook University, the Whaleshark drilling results are comparable with results from a more comprehensive drill dataset over the large Ernest Henry IOCG deposit in Queensland.

### Comparison of REE results with known IOCG deposits

Along with copper and gold, IOCG deposits commonly contain anomalous REE's.

Researchers in South Australia showed that the REE's within the primary IOCG mineralisation at Prominent Hill and Carrapateena mostly occur within grains of monazite, a hard and relatively dense phosphate mineral that contains significant levels of REE's including Lanthanum (La), Cerium (Ce), Neodymium (Nd), Samarium (Sm) and Praseodymium (Pr).

Analysis of these monazite grains within primary IOCG mineralisation at both deposits showed elevated La and Ce with correspondingly low Yttrium (Y) and Thorium (Th) contents.

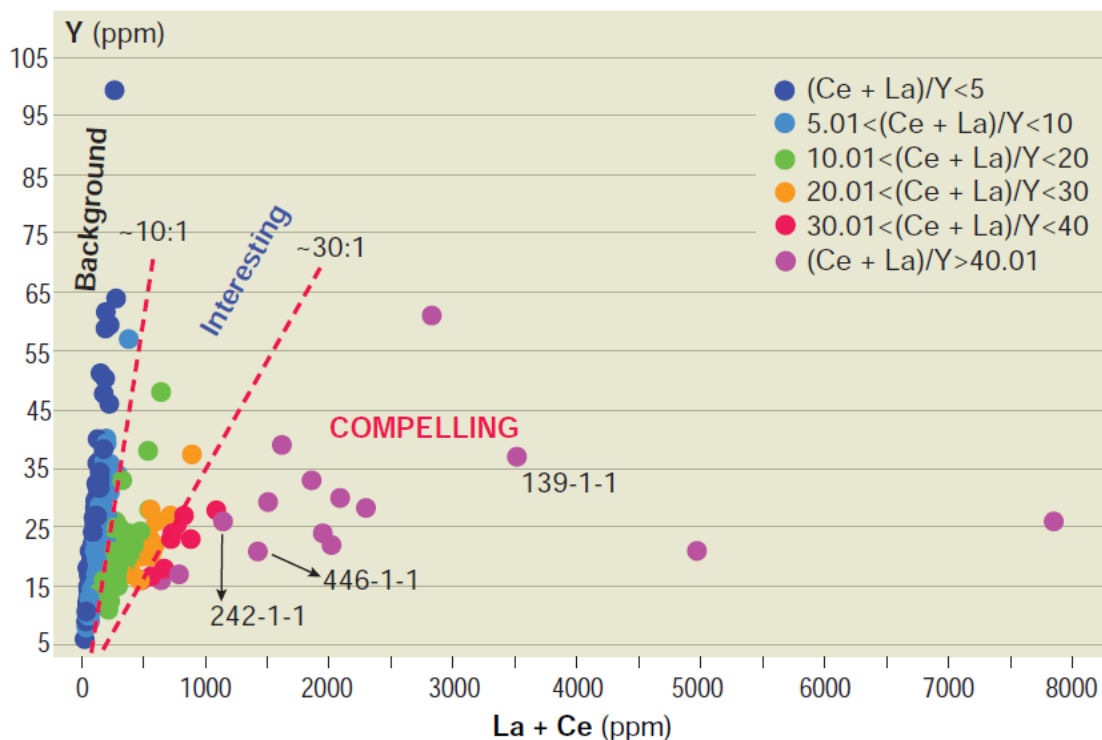
At Prominent Hill, the researchers extended the study by looking at geochemical data for the overlying sediments themselves and showed that high ratios of (La + Ce):Y and/or (La + Ce):Th outlined large anomalies above the footprint of the Prominent Hill IOCG deposit.

The researchers concluded “...the chemical signature of the orebody- and clast-derived monazite grains and criteria for whole rock geochemical data can be used to recognise the characteristic REE, Y and Th signature of hydrothermal monazite related to Prominent Hill mineralisation.”

They added that “These criteria have the potential to be used as a geochemical vectoring tool towards potential Prominent Hill-style IOCG mineralisation”. (Forbes et al 2016).

With those comments in mind, Miramar examined the REE results from the Whaleshark drilling and compared them with the data from Prominent Hill (Figures 10 and 11).

The similarities between the two datasets indicate a potential bedrock IOCG source at Whaleshark.



**Figure 10.**  $(La + Ce)/Y$  for samples above the Prominent Hill deposit (Forbes et al 2016).



**Figure 11.**  $(La + Ce)/Y$  ratios from Whaleshark aircore drilling samples.

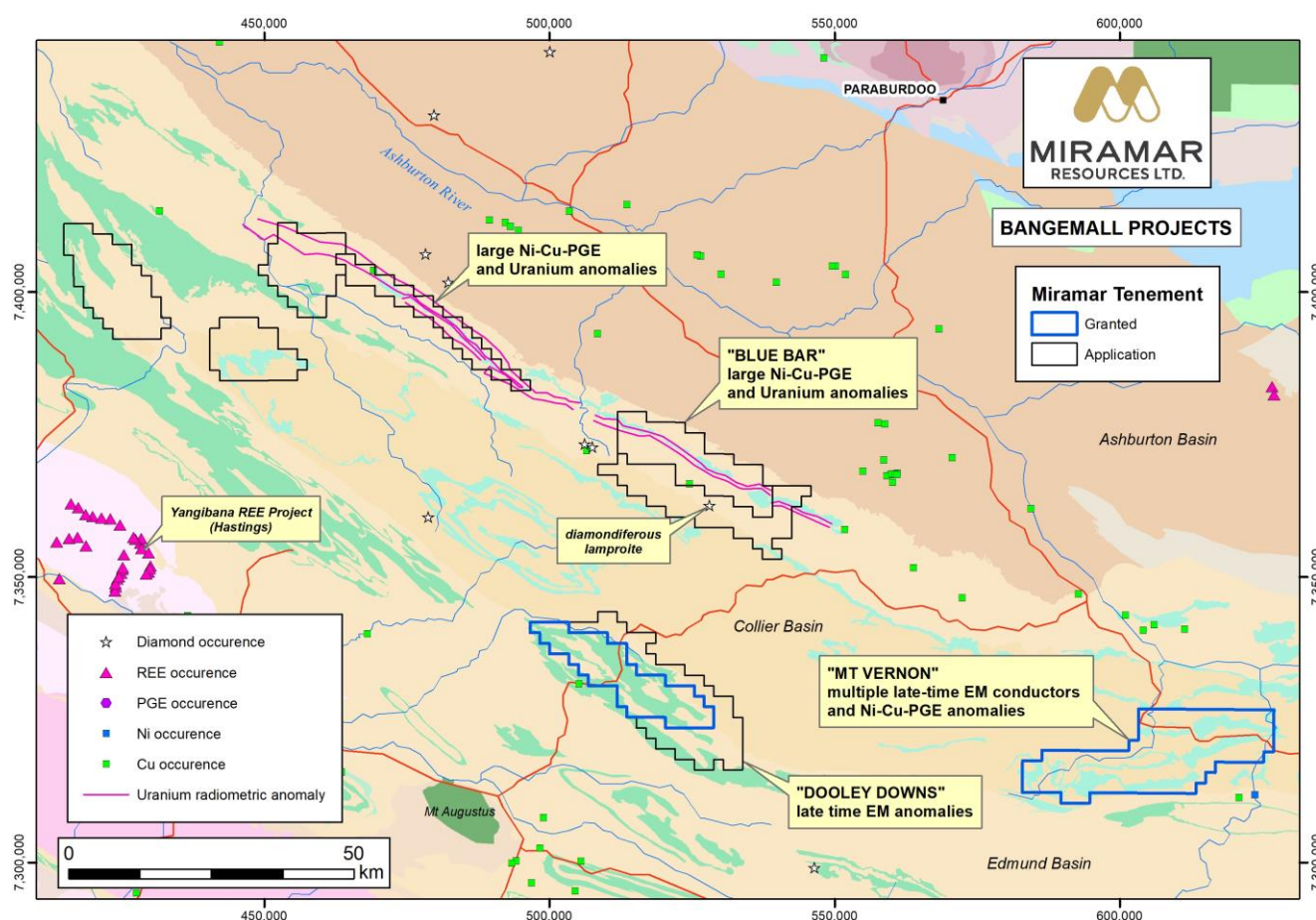
Given the promising results of the initial drilling campaign, the Company plans to conduct further work at Whaleshark in 2023, with the aim of refining bedrock targets for deeper drilling.



## Bangemall Projects

The Bangemall Projects cover a series of major crustal-scale structures in the Capricorn Orogen (Figure 12). The area has been highlighted by both the GSWA and Geoscience Australia as having high prospectivity for Proterozoic craton-margin style Ni-Cu-PGE mineralisation.

The area has seen significant prior exploration for manganese and Cu-Pb-Zn, but minimal exploration for Ni-Cu-PGE's. The area has also seen a recent surge in exploration for REE's.



**Figure 12.** Bangemall region projects showing targets.

## Dooley Downs

In late 2022, the Company commissioned a detailed airborne magnetic and radiometric survey across the Dooley Downs Exploration Licence, which highlighted a number of magnetic and/or radiometric features resembling igneous intrusions within the Edmund Basin.

A number of ovoid magnetic features, ranging in size from 600m x 600m to 6km x 2km, have been identified in the central and southeastern part of the Project (Figure 13).

The largest of the magnetic anomalies has previously been mapped as an anticline within sediments however the new magnetic data, along with a large radiometric anomaly suggests the presence of a buried intrusion.

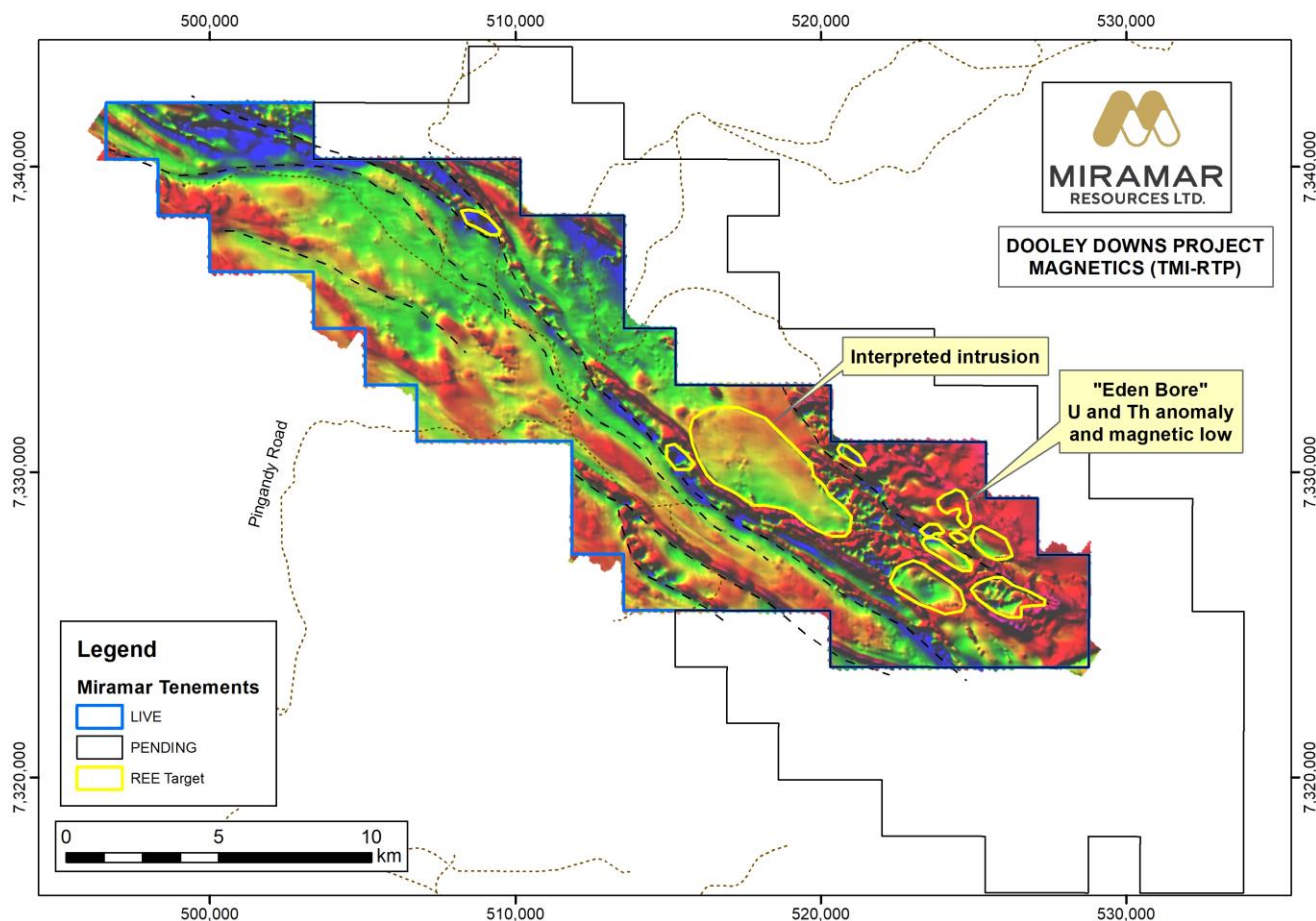
A number of smaller radiometric anomalies are seen in the southeast of the Project and are located within and/or on the margin of the intrusions interpreted from the magnetic data.

A high priority target has been identified where the strongest of the smaller radiometric anomalies is located over a circular magnetic low approximately 800m across.



The “Eden Bore” target appears to have the “classic” carbonatite signature consisting of a central magnetic low coincident with a Uranium and/or Thorium anomaly, surrounded by Potassium anomalism potentially related to peripheral fenite alteration.

Further ground geophysics and systematic mapping and sampling is planned.



**Figure 13.** Dooley Downs detailed magnetic survey data and targets.

## MURCHISON REGION PROJECTS

Miramar has two exploration projects in the Murchison region

### Lang Well

The Lang Well Project is located in the Murchison region of Western Australia, roughly halfway between the Deflector and Golden Grove mining operations.

In 2009, previous explorers at Lang Well identified several large auger anomalies in gold and Samarium (Sm), which was the only REE analysed at the time (Figure 14).

Limited follow-up aircore drilling in 2010 identified highly anomalous Lanthanum (La) and Cerium (Ce) results in several holes, with follow-up REE analysis of a single sample in BADAC33 returning 4m @ 1,500ppm TREO from 28-32m. No further REE analysis was conducted and no follow-up work completed.

The Company planned an initial aircore drilling campaign testing the area around BADAC33, which is expected to be completed in the first Quarter of 2023.

### Lakeside

No work was completed on this target as the Company waits on grant of the tenement application.

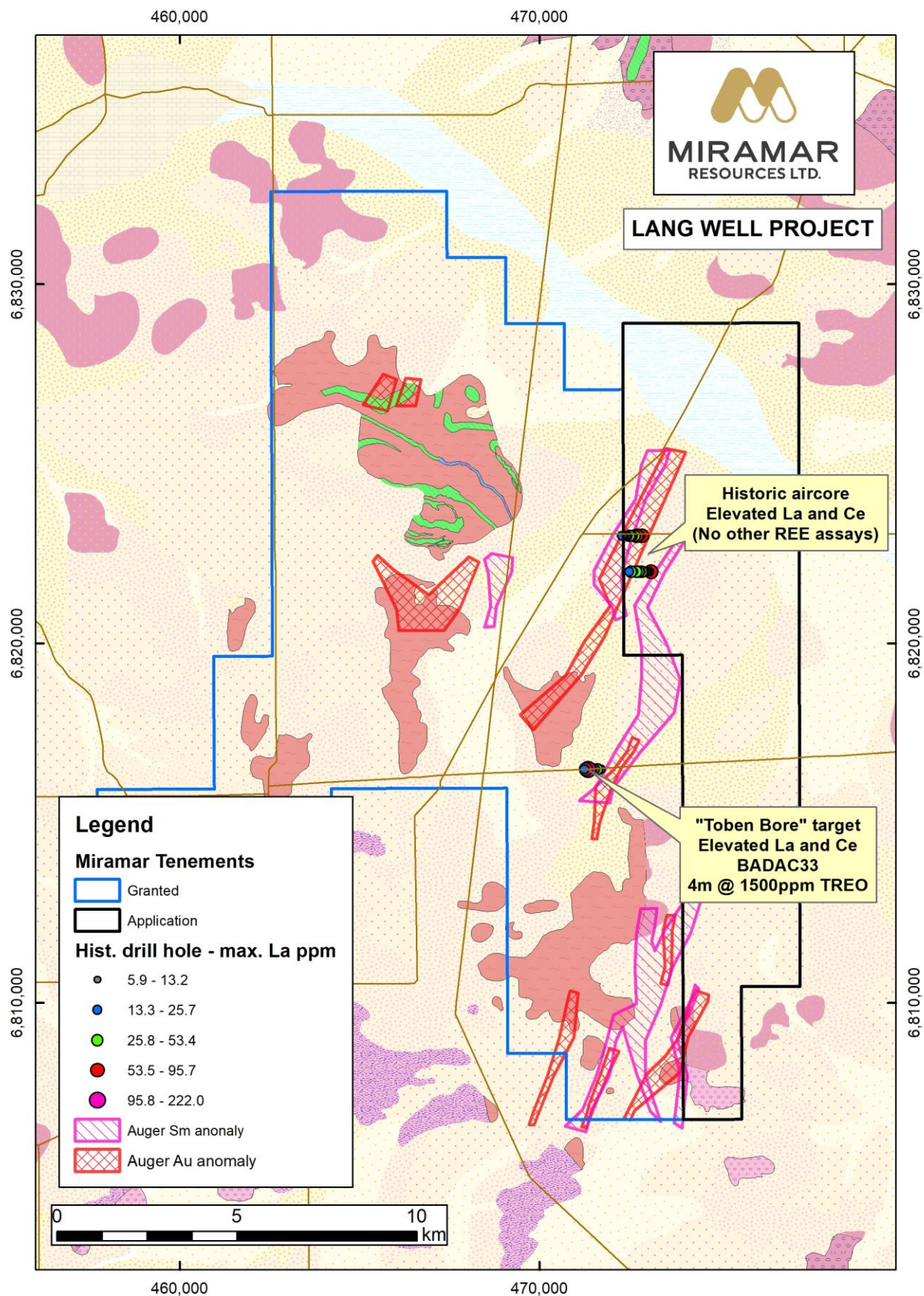
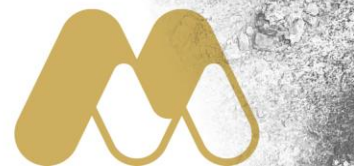


Figure 14. Lang Well Project showing GSWA outcrop geology, auger anomalism and historic drilling.



## CORPORATE

### Financial

The Company had cash and investments on 31 December 2022 of approximately \$600,000.

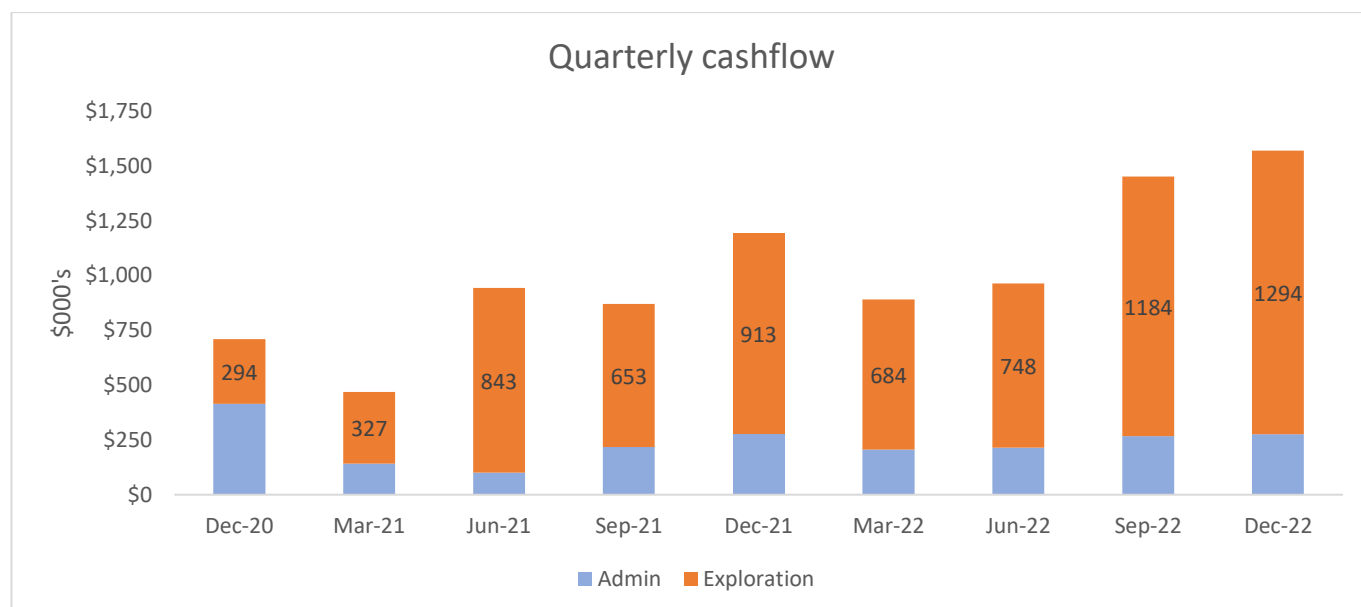
Related Party payments for the Quarter, as outlined in the Appendix 5B at section 6.1, totaled \$133,000 and include amounts paid to directors including salary, directors' fees and statutory superannuation.

Since Listing in October 2020, Miramar has maintained a high level of exploration expenditure, compared with administrative overheads, with exploration expenditure averaging approx. 75% of cashflow (Figure 15).

Refer to the Appendix 5B for an overview of the Company's financial activities during the Quarter.

### Capital Structure on 31 December 2022

Description	Number
<b>Fully paid ordinary shares</b>	<b>70,681,743</b>
Listed Options exercisable at \$0.25 on or before 18 July 2024	46,046,076
Unlisted options exercisable at \$0.25 on or before 9 October 2023	6,000,000
Unlisted options exercisable at \$0.25 on or before 6 March 2024	375,000
Unlisted options exercisable at \$0.25 on or before 18 July 2024	46,046,076
Unlisted options exercisable at \$0.20 on or before 26 June 2025	3,000,000
Unlisted options exercisable at \$0.27 on or before 3 November 2025	1,500,000
Unlisted performance rights expiring 30 June 2025	1,046,513



**Figure 15.** Quarterly Exploration expenditure versus overheads.



## Use of Funds<sup>1</sup>

Miramar provides the following disclosures required by ASX Listing Rule 5.3.4 regarding a comparison of its actual expenditure to date since listing on 21 October 2020 against the 'use of funds' statement in its Prospectus dated 4 September 2020.

Expenditure	Funds allocated under Prospectus	Actual to 31 December 2022	Variance
Vendor payments	\$282,500	\$282,500	0
Exploration	\$4,430,000	\$6,941,717	-\$1,961,552 <sup>2</sup>
Working capital	\$2,868,855	\$2,525,914	\$342,941
Cost of Offer	\$670,000	\$695,786	-\$25,786
<b>TOTAL</b>	<b>\$8,251,355</b>	<b>\$10,445,917</b>	<b>-\$2,194,562</b>

## Marketing and Investor Relations

During the Quarter, Miramar spoke to several online mining publications about the Company's recent results and planned exploration programmes.

Company representatives exhibited and presented at the following conferences:

- Southwest Connect, Busselton – 19-21 October 2022
- RIU Resurgence Conference – 23-24 November 2022

The Company has secured a speaking and exhibition spot for the RIU Explorers' Conference in February 2023.

## Overview of Objectives for 2023

- Complete aircore drill testing of REE target(s) at **Lang Well**
- Examine supergene gold potential and test bedrock gold and nickel targets at the **Gidji JV** Project
- Complete detailed magnetic survey and complete follow-up diamond drilling at **Glandore East**
- Bedrock testing of IOCG targets at **Whaleshark**
- Examine REE and/or Ni-Cu-PGE potential of **Bangemall Projects**
- Review the Company's current project portfolio

This announcement has been authorised for release by Mr Allan Kelly, Executive Chairman on behalf of the Board of Miramar.

**For more information on Miramar Resources Limited, visit the Company's website at [www.miramarresources.com.au](http://www.miramarresources.com.au), follow the Company on social media (Twitter @MiramarRes and LinkedIn @Miramar Resources Ltd) or contact:**

**Allan Kelly**  
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**Margie Livingston**  
Ignite Communications  
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<sup>1</sup> The Use of Funds table is a statement of current intentions. Investors should note that the allocation of funds set out in the table may change depending on a number of factors including the results of exploration, outcome of development activities, regulatory developments and market and general economic conditions.

<sup>2</sup> Includes proceeds from capital raising in May/June 2022.



### Competent Person Statement

The information in this report that relates to Exploration Targets or Exploration Results is based on information compiled by Allan Kelly, a “Competent Person” who is a Member of The Australian Institute of Geoscientists. Mr Kelly is the Executive Chairman of Miramar Resources Ltd. He is a full-time employee of Miramar Resources Ltd and holds shares and options in the company.

Mr Kelly has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity being undertaken to Qualify as a “Competent Person” as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Mr Kelly consents to the inclusion in this presentation of the matters based on his information and in the form and context in which it appears.

Information on historical exploration results for all Miramar’s projects, including JORC Table 1 and 2 information, is included in the Miramar Resources Limited Prospectus dated 4 September 2020.

Information on recent exploration results for all Miramar’s projects, including JORC Table 1 and 2 information is included in the relevant ASX announcements as shown in the following table.



ASX Releases during the Quarter (**bold type denotes market sensitive announcements**)

Date	Heading
3/10/2022	<b>Diamond occurrence &amp; uranium targets identified at Bangemall</b>
4/10/2022	<b>Visible Gold in Second Glandore East Diamond Hole</b>
4/10/2022	<b>Visible Gold in Second Glandore East Diamond Hole - Amended</b>
13/10/2022	Notice of Release of Escrow
19/10/2022	Investor Presentation
24/10/2022	Application for quotation of securities - M2R
25/10/2022	Change of Director's Interest Notices (AK, MB, TG)
25/10/2022	Notification of cessation of securities - M2R
31/10/2022	<b>Quarterly Activities Report</b>
31/10/2022	<b>Quarterly Cashflow Report</b>
3/11/2022	AGM Results
3/11/2022	AGM Presentation
3/11/2022	<b>Glandore East Assays Confirm More High-Grade Gold</b>
4/11/2022	Change of Director's Interest Notices (AK, MB)
4/11/2022	Notification regarding unquoted securities - M2R
7/11/2022	<b>Aircore Drilling Confirms IOCG Potential at Whaleshark</b>
14/11/2022	<b>Large REE Targets Identified at Dooley Downs</b>
23/11/2022	RIU Resurgence Presentation
1/12/2022	<b>High-Grade Gold in Step-Out Hole at Glandore East</b>
5/12/2022	<b>PGE Results Highlight Gidji JV Nickel Potential</b>
8/12/2022	<b>Gold Intersected in Deepest Glandore East Hole</b>
14/12/2022	<b>Whaleshark REE Results Upgrade IOCG Potential</b>
19/12/2022	<b>High-Grade Gold Intersection Extends Glandore East</b>



Tenement Schedule

Project	Tenement	Status	Beginning of Quarter	End of Quarter
Gidji JV	E24/225	Live	80%	80%
	E26/214	Live	80%	80%
	E26/221	Application	0%	0%
	E26/225	Live	80%	80%
	P24/5439	Live	80%	80%
	P26/4527	Live	80%	80%
	P26/4528	Live	80%	80%
	P26/4529	Live	80%	80%
	P26/4530	Live	80%	80%
	P26/4531	Live	80%	80%
	P26/4532	Live	80%	80%
	P26/4533	Live	80%	80%
	P26/4534	Live	80%	80%
	P26/4221	Live	80%	80%
	P26/4222	Live	80%	80%
Glandore	E25/544	Live	100%	100%
	P25/2381	Live	100%	100%
	P25/2382	Live	100%	100%
	P25/2383	Live	100%	100%
	P25/2384	Live	100%	100%
	P25/2385	Live	100%	100%
	P25/2386	Live	100%	100%
	P25/2387	Live	100%	100%
	P25/2430	Live	100%	100%
	P25/2431	Live	100%	100%
	P25/2465	Live	100%	100%
	E25/611	Application	0%	0%
Randalls	E25/596	Live	100%	100%
	E25/617	Application	0%	0%
	E25/622	Application	0%	0%
	E25/623	Application	0%	0%
	E25/624	Application	0%	0%
	E25/625	Application	0%	0%
	E25/626	Application	0%	0%
Lang Well	E59/2377	Live	100%	100%
	E59/2718	Application	0%	0%
Lakeside	E21/212	Application	0%	0%
Whaleshark	E08/3166	Live	100%	100%
Bangemall	E08/3176	Application	0%	0%
	E08/3177	Application	0%	0%
	E08/3195	Application	0%	0%
	E08/3196	Application	0%	0%
	E08/3284	Application	0%	0%
	E08/3498	Application	0%	0%
	E09/2484	Live	100%	100%
	E09/2647	Application	0%	0%
	E52/3893	Live	100%	100%



## About Miramar Resources Limited

Miramar Resources Limited is a WA-focused mineral exploration company with highly prospective gold exploration projects in the Eastern Goldfields, Murchison and Gascoyne regions of Western Australia.

Miramar listed on the ASX in October 2020, following a heavily oversubscribed IPO, and has a Board with a track record of successful discovery, development and production within Australia, Africa, and North America. Miramar's aim is to create shareholder value through the acquisition, exploration and monetisation of high-quality mineral assets.

