



# QUARTERLY REPORT

Quarter ending 31 March 2022

## ISSUED CAPITAL

56,310,100 shares on issue

## 52WK SHARE PRICE RANGE

\$0.155 – \$0.27

## MARKET CAPITALISATION

\$11.3 million (@ \$0.20)

## BOARD

### Allan Kelly

Executive Chairman

### Marion Bush

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 (Ni-Cu-PGE)

## MIRAMAR RESOURCES LTD

ACN 635 359 965

ABN 34 635 359 965

ASX code: M2R

Unit 1, 22 Hardy Street

South Perth WA 6151

PO Box 810

South Perth WA 6951

T (08) 6166 6302

E [info@miramarresources.com.au](mailto:info@miramarresources.com.au)

[miramarresources.com.au](http://miramarresources.com.au)

## Highlights

### › Gidji JV (80%)

- RC drilling confirmed Marylebone geology matches Paddington mine sequence
- Identified nickel sulphide potential in Highway U/M unit
- Detailed UAV magnetic surveys completed
- Results from Gidji JV December 2021 aircore drilling pending

### › Preparations made for lake diamond drilling at Glandore East

### › EM survey outlined multiple late-time anomalies at Mt Vernon

### › Multiple pegmatites identified at Lang Well Project

### › \$2.1M cash and investments at end of Quarter

**Miramar Resources Limited** (ASX:M2R, Miramar or “the Company”) is pleased to provide a summary of activities completed during the Quarter ending 31 March 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 the Eastern Goldfields and Gascoyne regions of WA whilst waiting for results from the Gidji JV aircore drilling campaign conducted in December 2021.

*“A section of stratigraphic RC drilling at Gidji confirmed the geological sequence at Marylebone mirrors that of the large Paddington gold deposit, whilst investigation of historical auger data highlighted a third parallel target at Highway,” Mr Kelly said.*

*“We have also identified the potential for nickel sulphide mineralisation at Gidji, related to the Highway Ultramafic unit,” he added.*

*“We also flew a detailed EM survey at the Mt Vernon target, which highlighted a number of late-time anomalies related to Proterozoic dolerite sills and historic PGE soil anomalies,” he said.*

*“The Company has also begun planning for aircore drilling at Whaleshark and identified multiple pegmatite occurrences at Lang Well which could indicate significant REE and/or Lithium potential,” Mr Kelly said.*

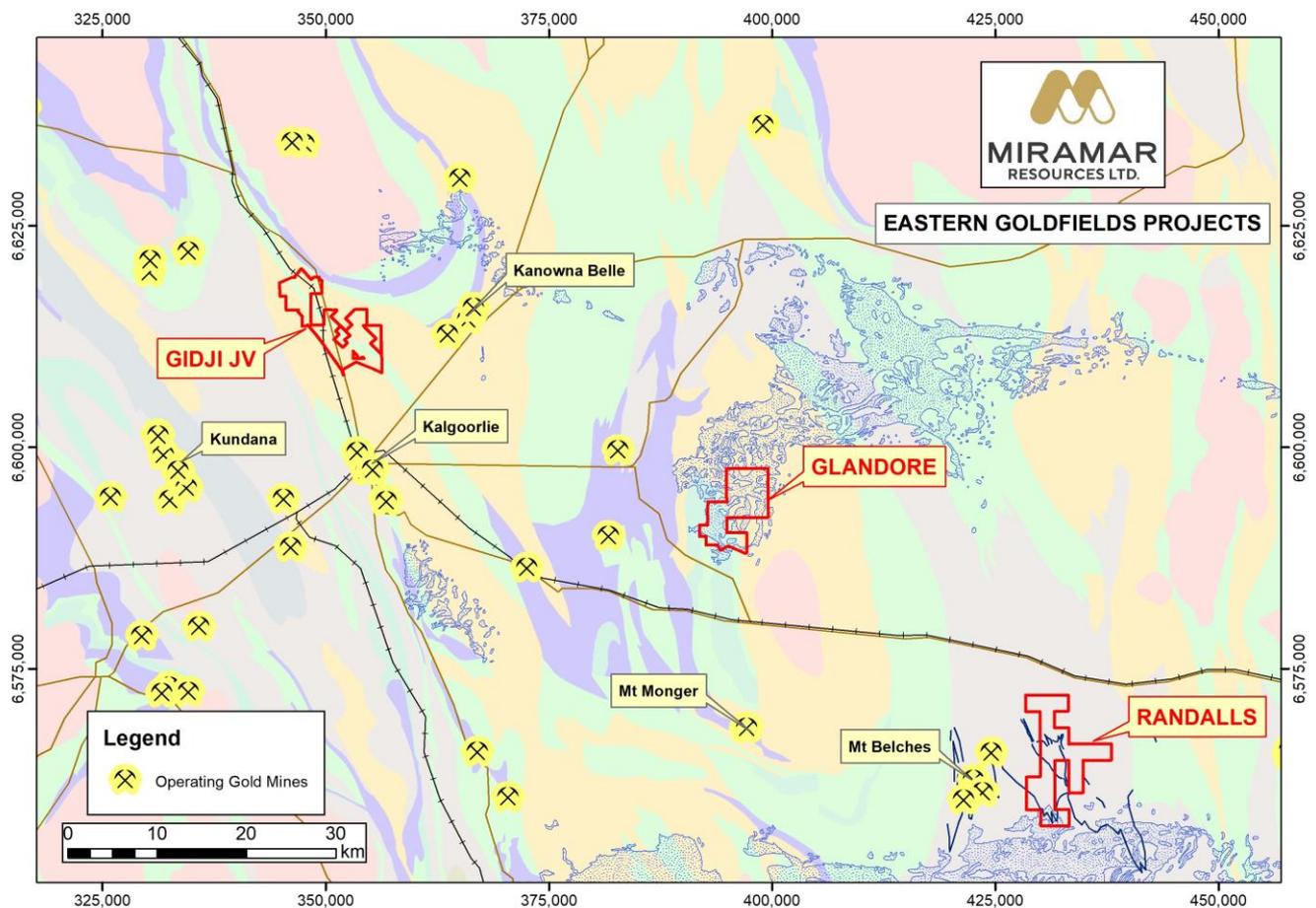


EXPLORATION

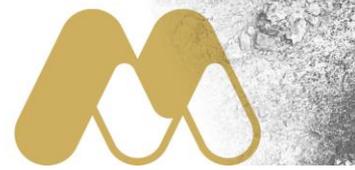
EASTERN GOLDFIELDS PROJECTS

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. Eastern Goldfields Projects showing proximity to existing gold operations.*



### Gidji JV (Miramar 80%)

The Gidji JV Project is located within a major regional structure, the “Boorara Shear Zone”, approximately 15km north of Kalgoorlie. The Project had been underexplored despite proximity to numerous gold deposits and processing plants.

The Company has been actively exploring the Gidji JV Project since listing on the ASX in October 2020, resulting in the identification of several new targets which could host a significant gold discovery.

During the Quarter, the Company completed a number of activities at Gidji including:

- Identified a third new gold target at “Highway” following a review of historical auger data
- Completed a stratigraphic RC drill section to determine the geology of the Marylebone target
- Modelled geophysical data over “The Jog” target
- Completed a targeting exercise for nickel sulphides related to the “Highway Ultramafic”
- Completed detailed UAV magnetic surveys over the Boorara North and Marylebone targets

### December 2021 aircore drilling

At the end of the Quarter the Company was waiting on assay results from the 10,000m aircore programme. Subsequent to the end of the Quarter, the Company received all outstanding aircore results.

### Highway target

Following recognition of the Blackfriars target, parallel to Marylebone, the Company revisited historical data in the vicinity, including a project-wide auger sampling dataset. The data revealed a large Au-As anomaly parallel to the newly identified Blackfriars target and straddling the Goldfields Highway.

The main part of the newly identified “Highway” target has not been tested by historical or recent drilling however two historic aircore holes at the western and northern edges of the target (PKAC527 and PKAC034 respectively) both intersected 4m @ >0.5g/t Au.

In addition, a number of aircore holes completed by Miramar at the southern end of the target, testing the Piccadilly target, increase in grade in a north westerly direction towards the main part of the auger anomaly.

### Stratigraphic RC Drilling

Whilst waiting for the aircore results, the Company completed a number of RC holes over the Marylebone target. The primary aim of the drilling was to provide information about the bedrock geology of the Marylebone target due to the lack of existing deep holes.

The main component of the programme was a “fence” of 50 metre-spaced RC holes drilled across the Boorara Shear Zone in the centre of the Marylebone target (Figure 2).

The drilling confirmed that the local geology of the Marylebone target closely follows the geological sequence at the Paddington gold deposit, approximately 10km along strike to the northwest.

The Boorara Shear Zone appears as a zone of deeper weathering, and more abundant quartz veining, between holes GJRC012 and GJRC009. The gap between GJRC009 and GJRC011 is due to a pipeline.

Drilling intersected porphyritic basalt, equivalent to either the “Paddington Volcanics” or the “Victorious Basalt”, and a sequence of sedimentary and ultramafic rocks within the wider shear zone.

Gold assays repeated the supergene gold anomalism seen in the aircore drilling but did not intersect significant bedrock gold mineralisation on this cross section.

It appears both the “Paddington Dolerite” and “Panglo Mafic” mafic intrusive units are present, with GJRC008 intersecting 3m @ 1.16g/t Au directly above the Panglo unit, and quartz veining present at the contact between the interpreted Paddington Dolerite and the interpreted Mt Corlac Ultramafics.

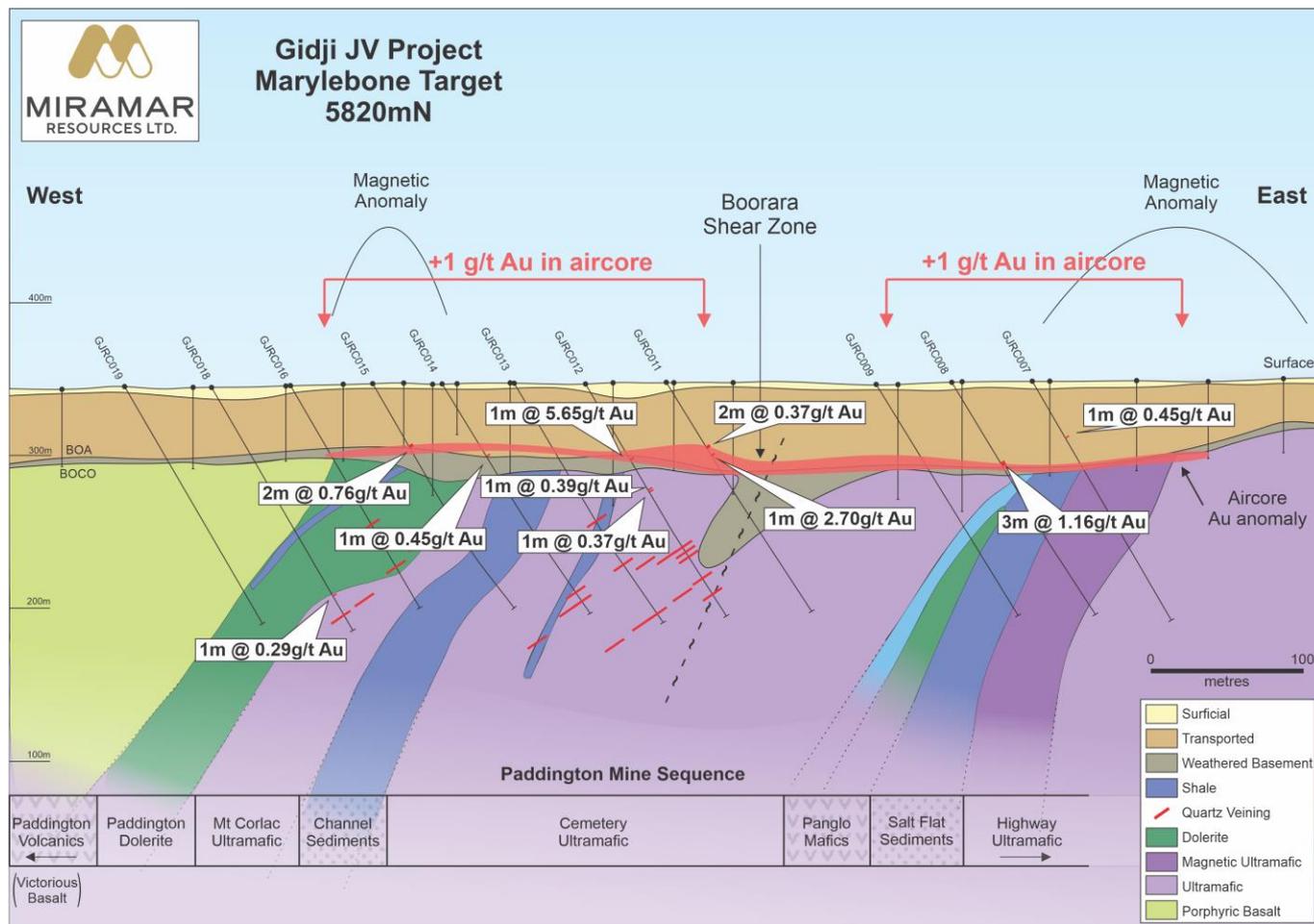


Figure 2. Marylebone RC cross section showing comparison with Paddington geology.

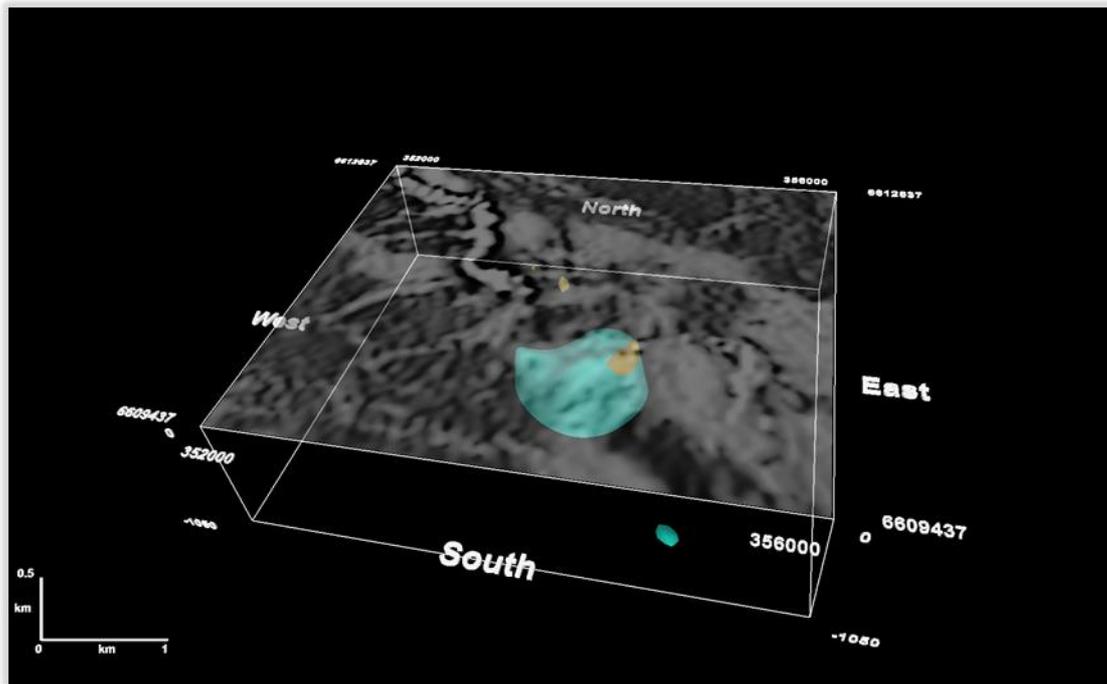
**The Jog**

The Company received the results of modelling of geophysical data over “The Jog” target which is located at the southern end of the Gidji JV Project.

The Jog is characterised by a large flexure within the Boorara Shear Zone, interpreted to represent a major dilational jog. Magnetite destruction within the mafic and ultramafic rocks of the Boorara Shear Zone is coincident with an obvious gravity anomaly interpreted to represent an intrusive body at depth.

The model, constructed by Core Geophysics from open file gravity data, shows a 3.5mgal anomaly caused by a dense body approximately 1km x 600m in size and coming to within 150m of the surface (Figure 3). The gravity anomaly has never been drilled.

The Company has submitted an EIS application to test this target with a series of RC and/or diamond holes.



*Figure 3. Geophysical model of The Jog target showing dense body (blue shape) at approximately 150m below surface.*

### Nickel sulphide targets

The Company has conducted a review of new and historic drilling data over the Gidji JV Project with a focus on the potential for nickel sulphide mineralisation.

The Gidji JV Project contains approximately 10km of strike of various ultramafic units, including the “Highway Ultramafic” which hosts the “Scotia” and “Saints” nickel sulphide deposits further to the north.

Outcrop of this unit is minimal due to transported overburden and the Gidji Paleochannel which crosscuts the Boorara Shear Zone. Historical drilling across this unit is sporadic, shallow and lacking in multi-element data.

In contrast, Miramar routinely analyses for a multi-element suite by aqua-regia and ICPMS as part of its aircore drilling, whilst bottom of hole samples are also analysed by a “total” digest.

A cluster of highly anomalous Ni and Cu results are seen where the magnetic signature of the Highway Ultramafic is strongest, which may indicate the thickest part of the sequence (Figure 4). This is despite the presence of approximately 50m of transported cover in this area. The highest Ni and Cu results also occur in an area of structural complexity where NE-trending faults crosscut the earlier stratigraphy.

Calculating the “Kambalda Ratio” for the same dataset highlights two >1km long parallel zones of strongly anomalous Ni and Cu when normalised against Cr and Zn respectively. The “Kambalda Ratio” is used to discriminate potentially mineralised channel sequences from barren sheetflow facies.

Maximum MgO in hole (converted from Mg assayed by aqua-regia) increases towards the eastern side of the Highway Ultramafic indicating the potential for a preserved basal contact.

The Highway Ultramafic is located adjacent to the Scotia Basalt which forms the footwall sequence to the nickel sulphide mineralisation at Auroch Minerals Limited’s Saints nickel deposit further north.

Following receipt of all outstanding drill results, the Company will investigate the potential for infill drilling and EM surveys.

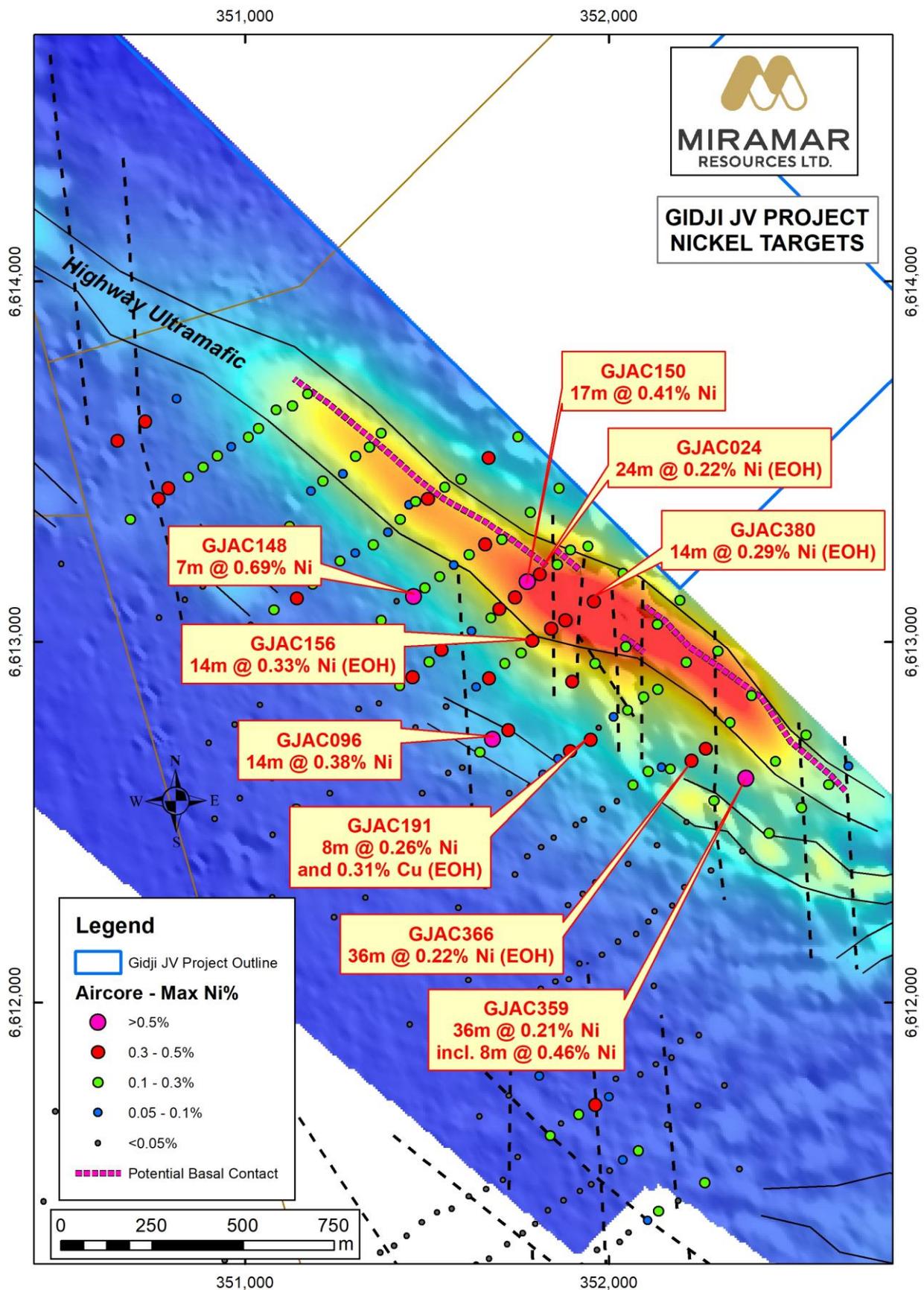
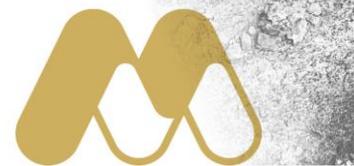


Figure 4. Significant Ni and Cu results (pre-December 2021 drilling) associated with the Highway Ultramafic.



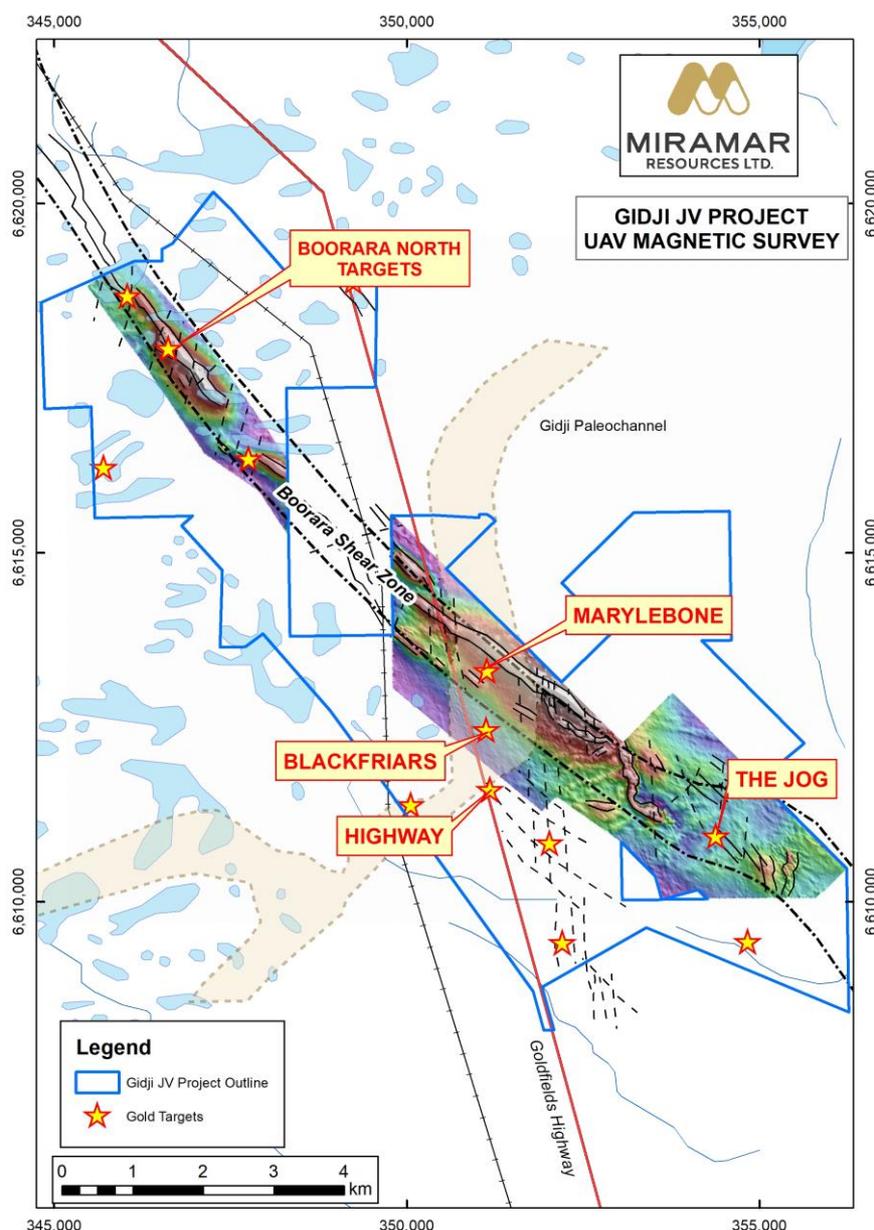
### UAV Magnetic Survey

The Company recently commissioned a detailed UAV magnetic survey over the Boorara North target and is currently in the process of obtaining heritage approvals which will allow for first pass aircore drill testing of this highly prospective gold and/or nickel target.

This 4km long segment of the Boorara Shear Zone, which is mostly covered by lakes and associated surficial deposits, has been poorly tested with shallow drilling.

In addition, the Company commissioned a new detailed UAV magnetic survey over the southern portion of the Project where the pervasive blanket of transported material makes ground magnetic survey data susceptible to near-surface features.

The new magnetic data, collected on 25m spaced lines and with a sensor height of 25m, has provided a substantially improved data set compared with both the regional magnetic data and the ground magnetic survey data (Figure 5).



**Figure 5.** Gidji JV Project showing new UAV magnetic survey data (TMI-RTP over 2VD).



**Glandore (Miramar 100%)**

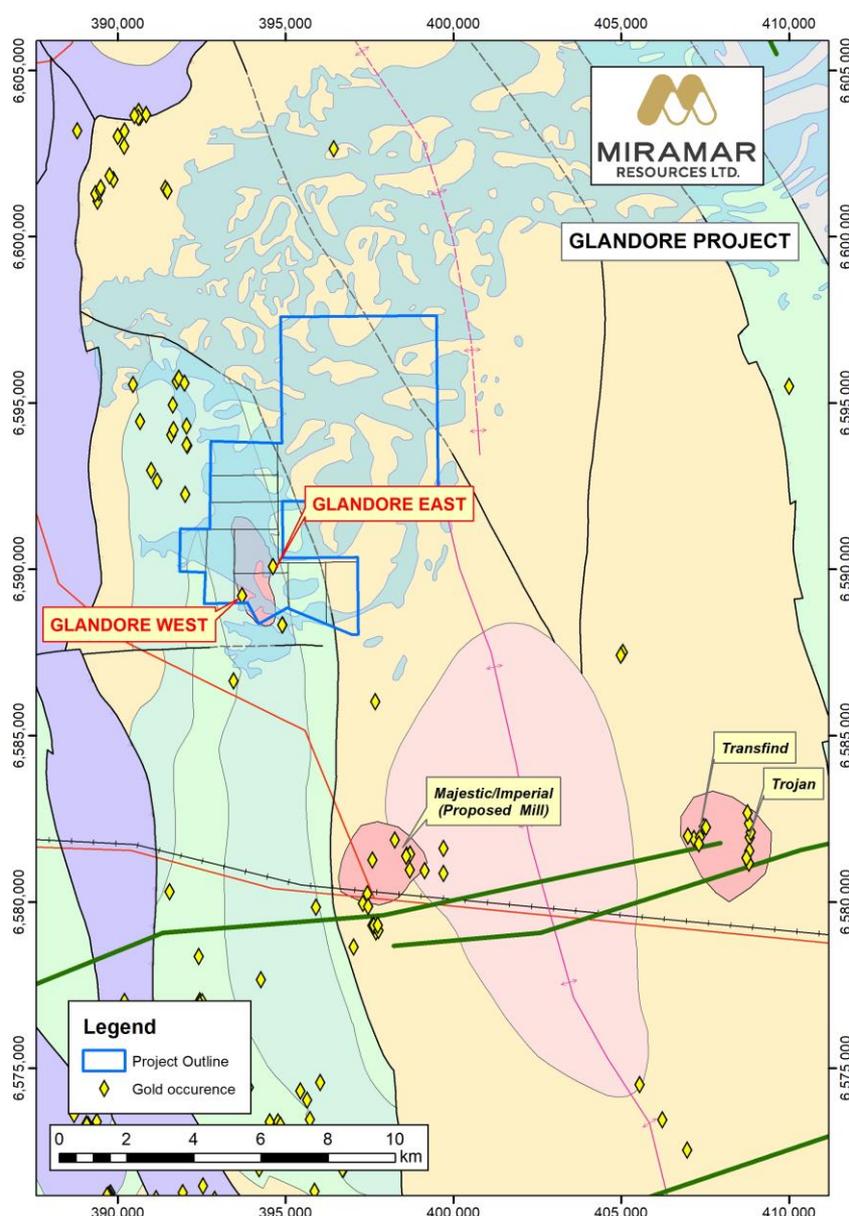
The Glandore Project is located within the Eastern Goldfields, approximately 40km east of Kalgoorlie, Western Australia and covers approximately 42 square km. The Project consists of 10 Prospecting Licences and one Exploration Licence, all of which are granted.

The highest priority southwestern part of the project is underlain by a layered mafic sill which has been intruded by a later granodiorite pluton, like that seen at the Majestic and Trojan deposits to the south and southeast respectively (Figure 6).

Historic aircore drilling outlined gold anomalism on the eastern side of the granodiorite and limited diamond drilling in 2005 returned significant results including **4m @ 44.3g/t Au** (Figure 7).

Miramar completed a substantial land and lake aircore drilling programme in 2021 which extended this anomalism to the west and north.

During the Quarter, the Company prepared for diamond drilling at Glandore East in the June Quarter.



*Figure 6. Glandore Project showing regional geology and gold occurrences.*

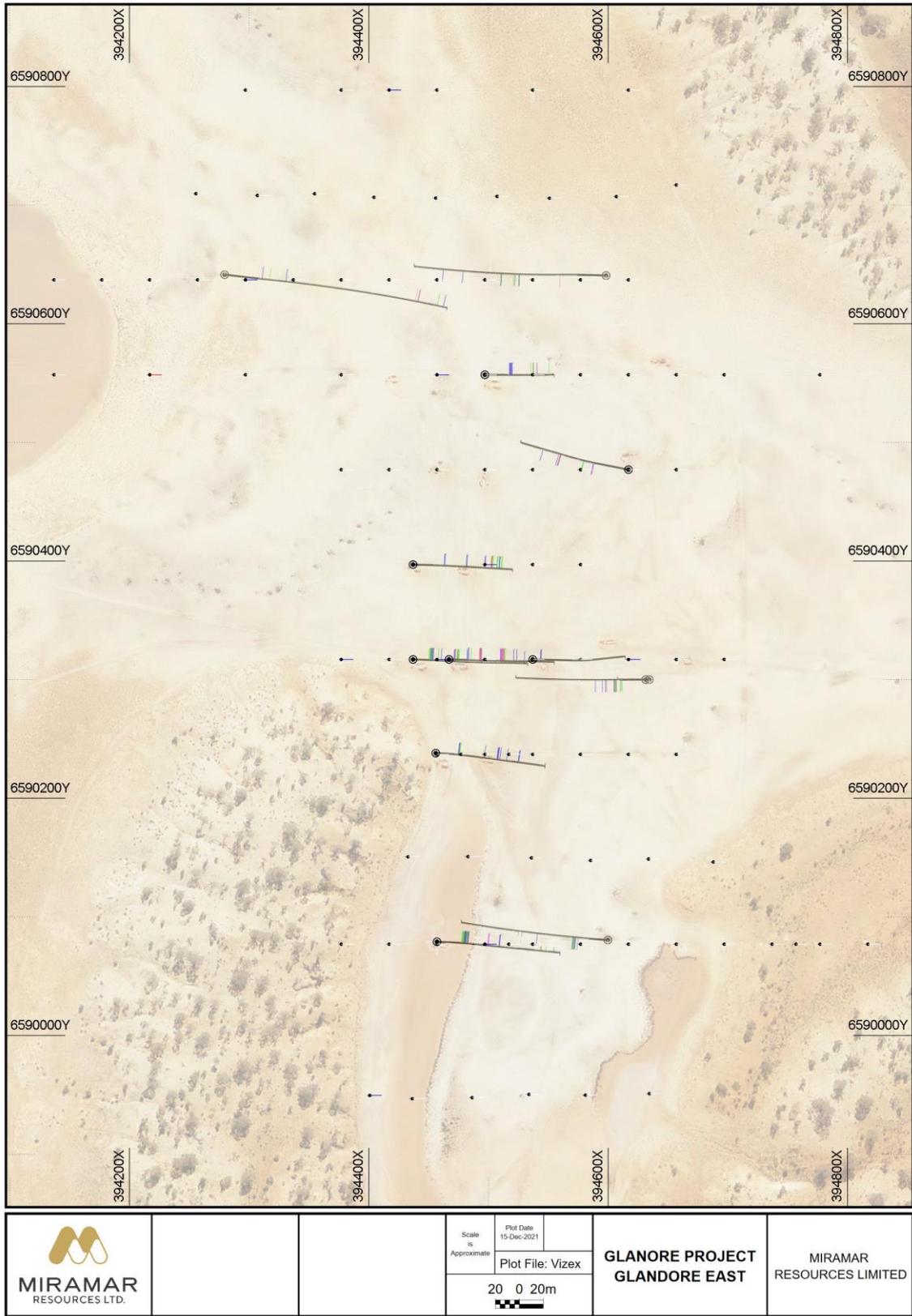
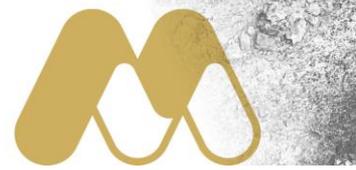
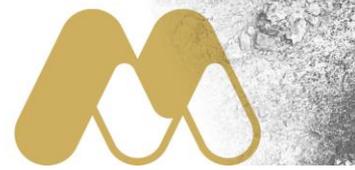


Figure 7. Glandore East target showing previous drilling.

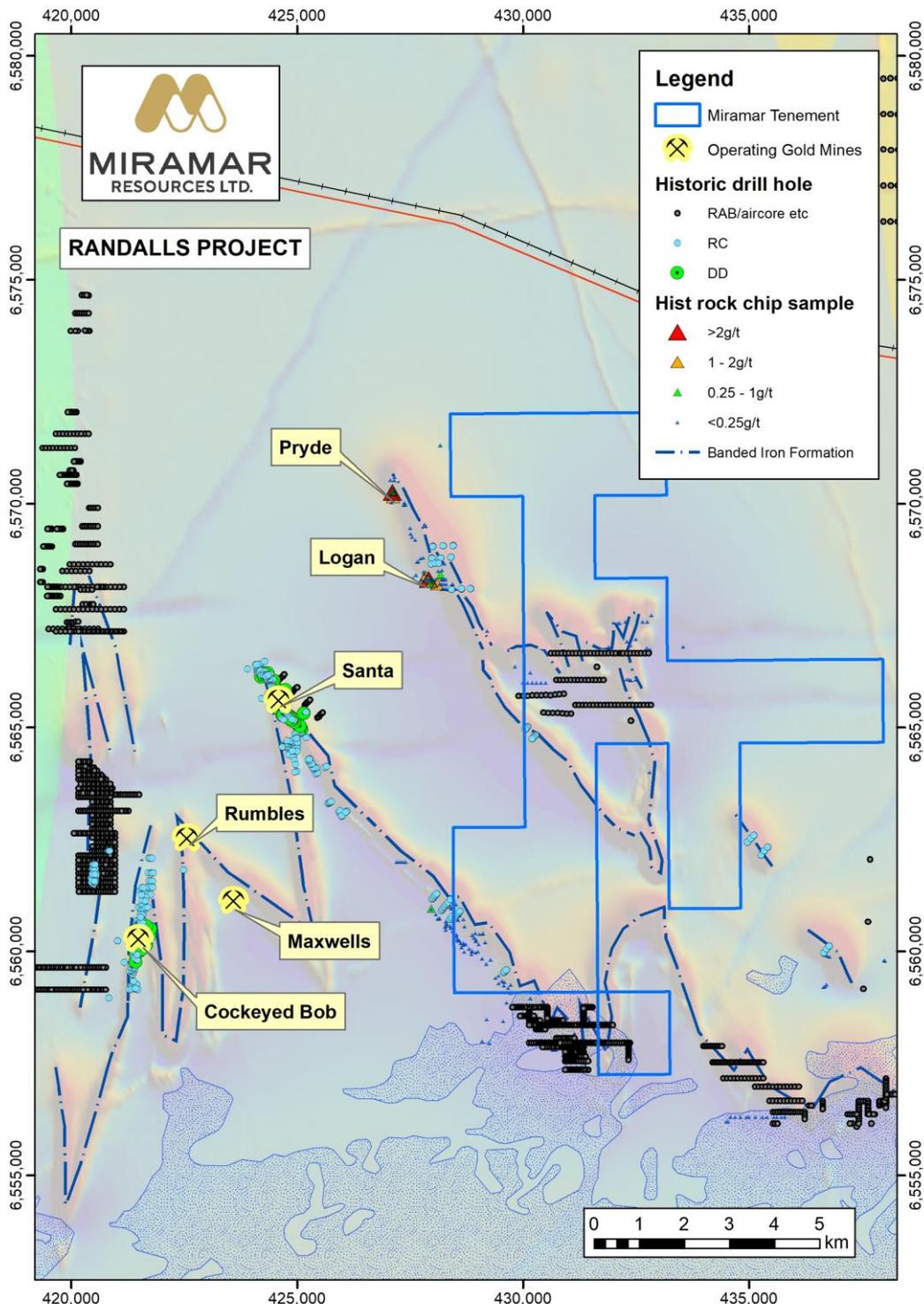


**Randalls (Miramar 100%)**

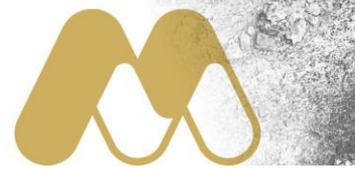
The Randalls Project is located immediately east of Silver Lake Resources Limited's Maxwell's and Cockeyed Bob gold mines, approximately 70km east of Kalgoorlie (Figure 8).

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 is currently planning for reconnaissance aircore drilling during the first half of 2022.



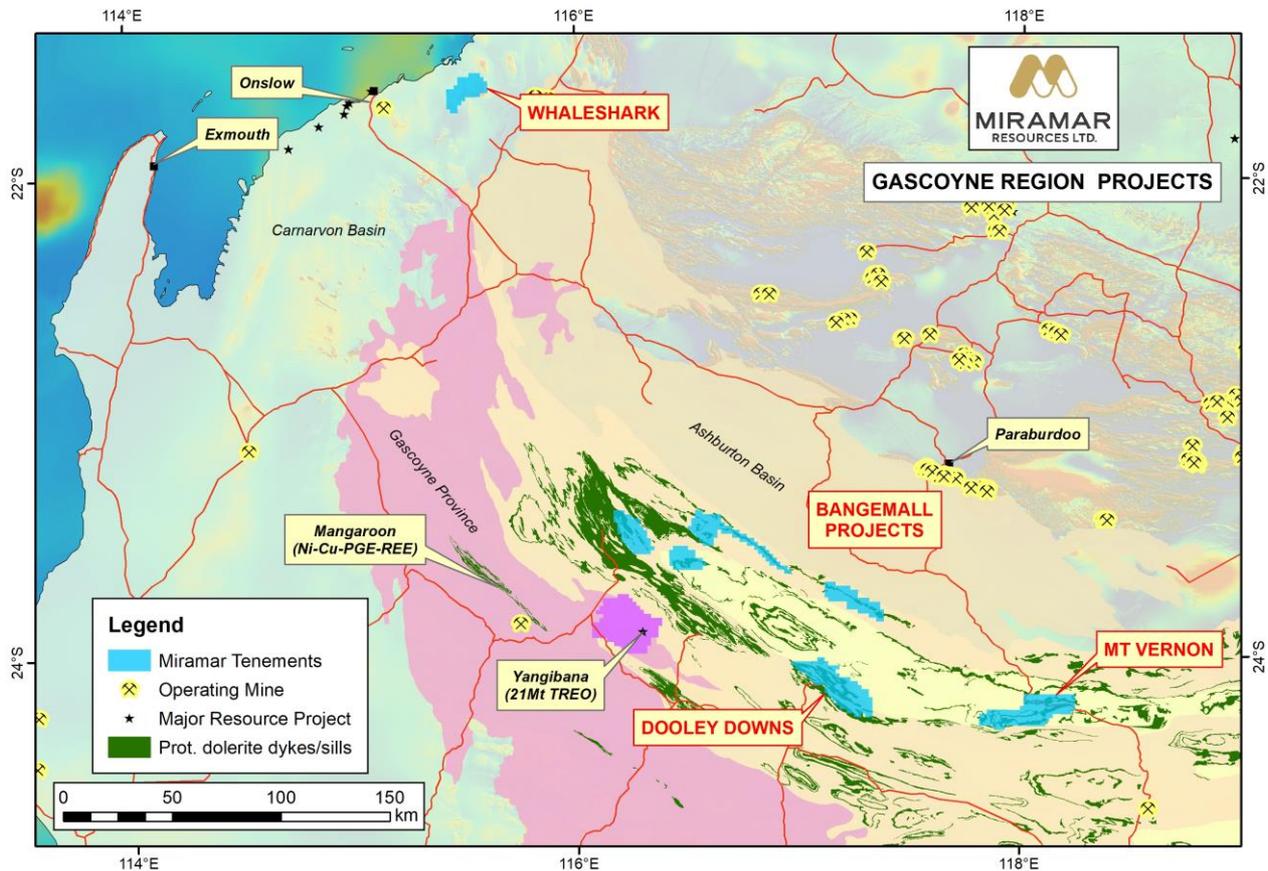
**Figure 8.** Randalls Project showing proximity to Silver Lake Resources gold operations.



**GASCOYNE REGION PROJECTS**

Miramar has two projects within the Proterozoic Capricorn Orogen, in the Gascoyne region of Western Australia (Figure 9):

- **Whaleshark** – potential IOCG targets under Carnarvon Basin sediments
- **Bangemall** – multiple tenements over areas prospective for Ni-Cu-PGE (+/-REE) mineralisation



*Figure 9. Location map for Miramar's Gascoyne region projects.*



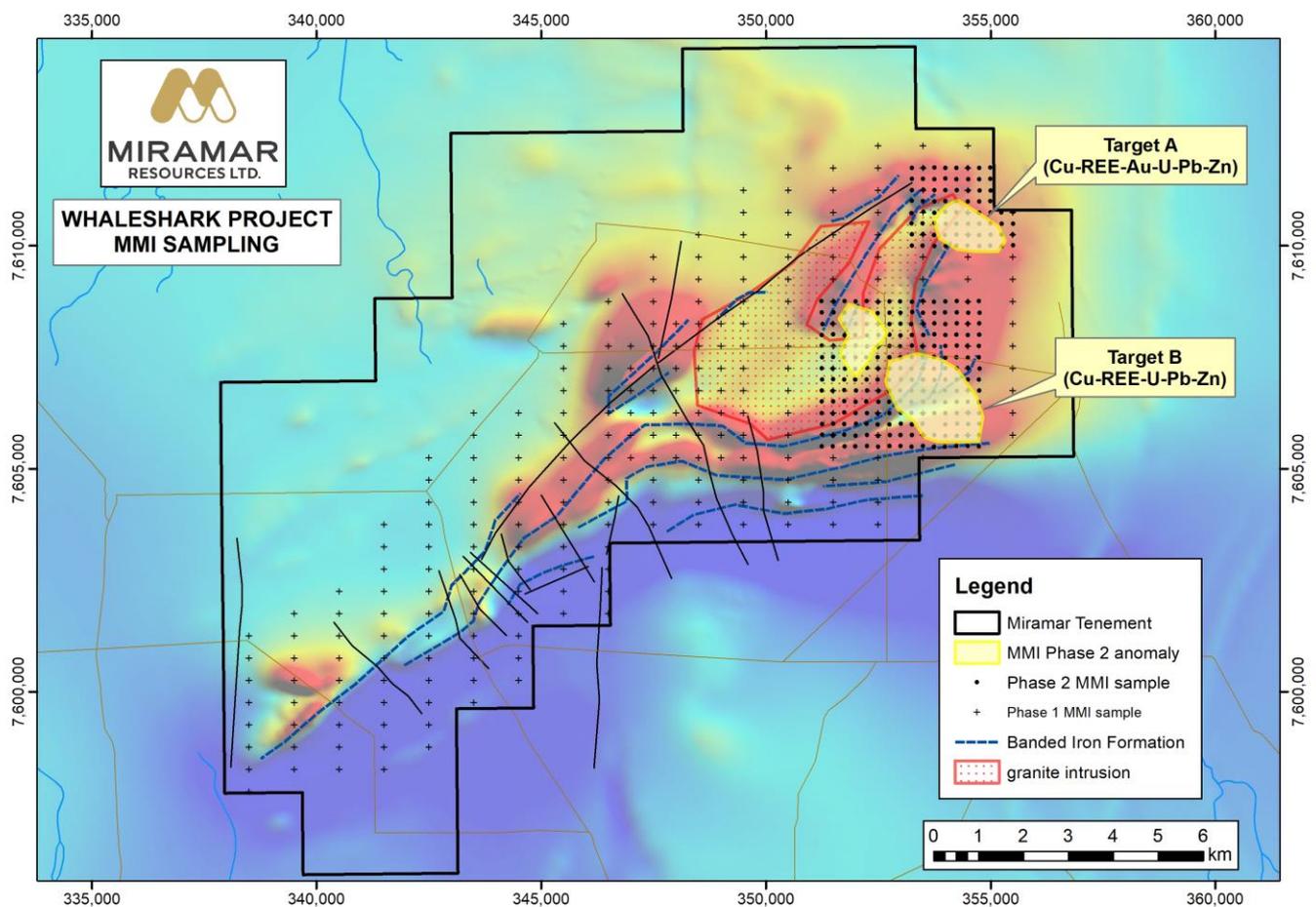
**Whaleshark (Miramar 100%)**

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

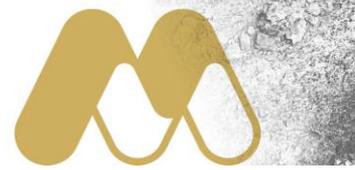
The Project is located within the north-western extension of the Proterozoic Capricorn Orogen and is characterised by a folded Banded Iron Formation (BIF) complex, under 40 to 120m of Carnarvon Basin sediments, which has been intruded by a granitoid.

The Project has potential for BIF-hosted Au and Iron Oxide Copper Gold (IOCG) mineralisation.

Since listing, the Company has identified two large areas of surficial Cu-U-REE geochemical anomalism, using the Mobile Metal Ion (MMI) analytical technique (Figure 10), which the Company plans to test with shallow grid aircore drilling in mid-2022.



*Figure 10. Whaleshark Project showing summary of MMI anomalism over magnetic image.*



**Bangemall Ni-Cu-PGE Projects (Miramar 100%)**

The Bangemall Project tenements cover a number of major crustal-scale structures in the Proterozoic Capricorn Orogen.

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 like that seen in the Albany-Fraser Province (e.g. Nova-Bollinger), the West Musgraves (e.g. Nebo-Babel) and the giant Voisey Bay and Norilsk deposits.

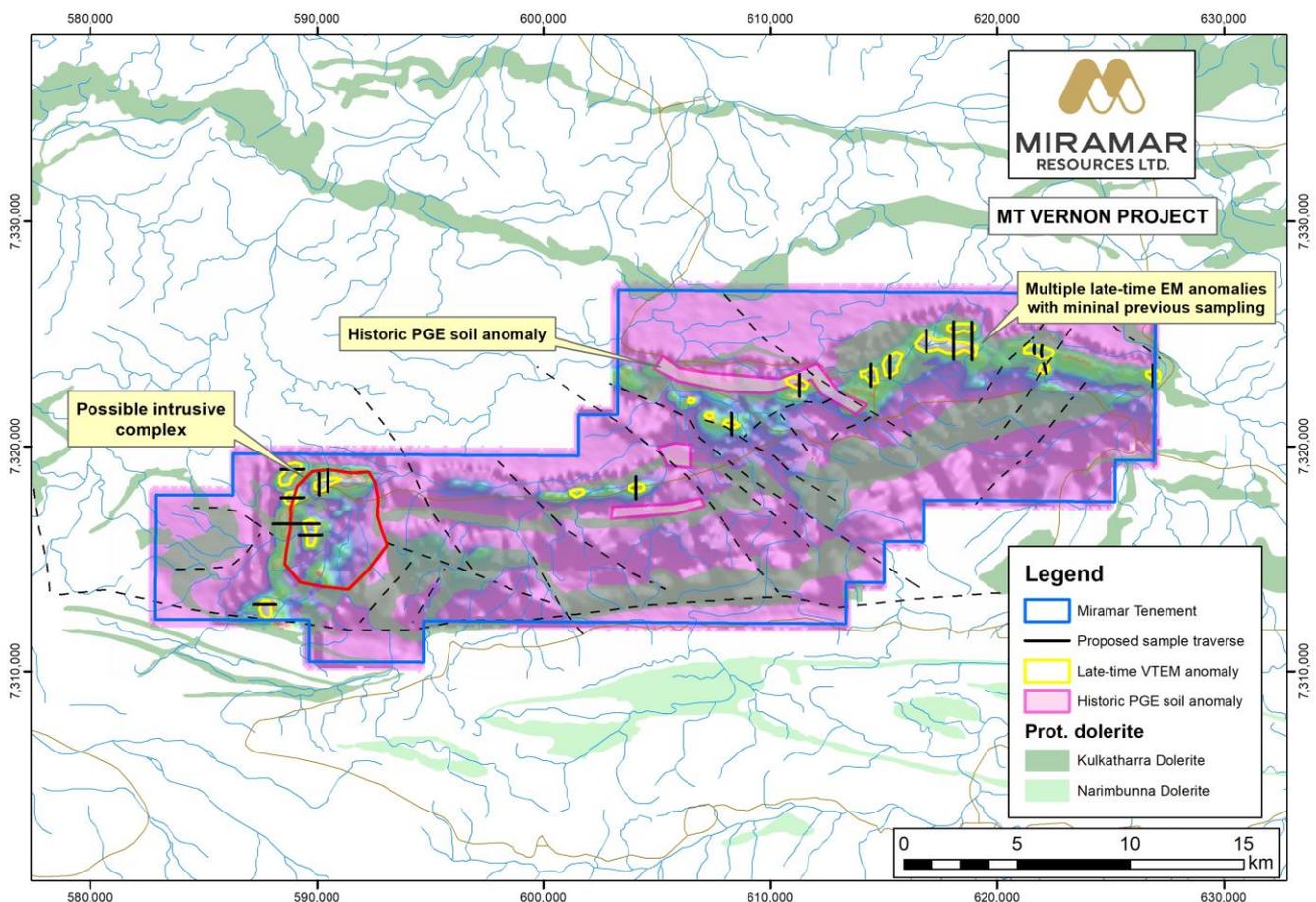
The Bangemall Projects consists of six Exploration Licence applications and two granted Licences covering:

- Major crustal-scale faults - confirmed by seismic traverses
- Proterozoic-aged dolerite dykes/sills with the same age as the West Musgraves
- Regional-scale stream sediment Ni-Cu-Pt-Pd anomalism from GSWA sampling
- EM conductors identified by regional airborne surveys

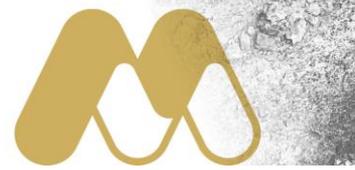
The area has seen significant prior exploration for manganese and Cu-Pb-Zn, but minimal exploration for Ni-Cu-PGE's. The area has also seen a recent resurgence in exploration for REE's.

During the Quarter, the Company flew a detailed EM survey over the "Mt Vernon" target which identified several late time EM anomalies associated with Proterozoic dolerite sills. There is limited previous surface sampling in these areas (Figure 11).

The Company is planning to conduct mapping and soil sampling traverses over a number of the EM anomalies in mid-2022.



**Figure 11.** Mt Vernon Target showing new EM anomalism and planned sampling traverses.



### MURCHISON REGION PROJECTS

Miramar has two exploration projects in the Murchison region within proximity of existing mining operations.

#### **Lang Well (Miramar 100%)**

The Lang Well Project consists of a single Exploration Licence covering a large, complexly folded remnant greenstone belt located between the Deflector, Golden Grove and Rothsay gold operations.

Historical rock chip sampling returned results from 0.10g/t up to 16g/t Au whilst subsequent auger drilling in 2010 identified several large +5km long gold +/-pathfinder anomalies which have not been drill tested.

The Company is planning for aircore drilling at Lang Well during 2022.

#### **REE and/or Lithium Potential**

A review of historic and government open file data has highlighted multiple pegmatite occurrences indicating the potential for Rare Earth Element (REE) and/or Lithium mineralisation at Lang Well.

Information extracted from Geological Survey of Western Australia datasets revealed at least 50 mapped pegmatite occurrences within the largely covered Lang Well Project, including a swarm of outcropping pegmatites over at least 7km of strike in the northern half of the Project (Figure 12).

The pegmatites occur in a sequence of granitic gneiss and mafic amphibolite that has been intruded by later Proterozoic dolerite dykes.

The only significant historical exploration across the Project comprised an auger sampling programme in 2009, however the samples were only analysed for a limited suite of elements, not including Li or REE's.

Significantly, there has been no recorded analysis of REE's or Lithium for any of the pegmatite occurrences or the auger sampling.

The auger sampling was followed up by a limited aircore programme in 2010 comprising 35 holes across three lines, two of which are outside the current Project tenement.

Hole BADAC33 intersected highly anomalous REE's including **4m @ 0.15%** Total Rare Earth Oxides (TREO) from 28-32. Holes 50m either side also had anomalous REE's.

No mineral exploration has been undertaken at Lang Well between 2010 and Miramar securing the ground in 2019.

Miramar plans to locate and resample the mapped pegmatites and analyse them for REE's and Lithium.

Subsequent to the end of the Quarter, the Company commenced a detailed UAV magnetic survey over the south-eastern portion of the Project.

#### **Lakeside (Miramar 100%)**

No work was completed as the Company waits for this tenement to be granted.

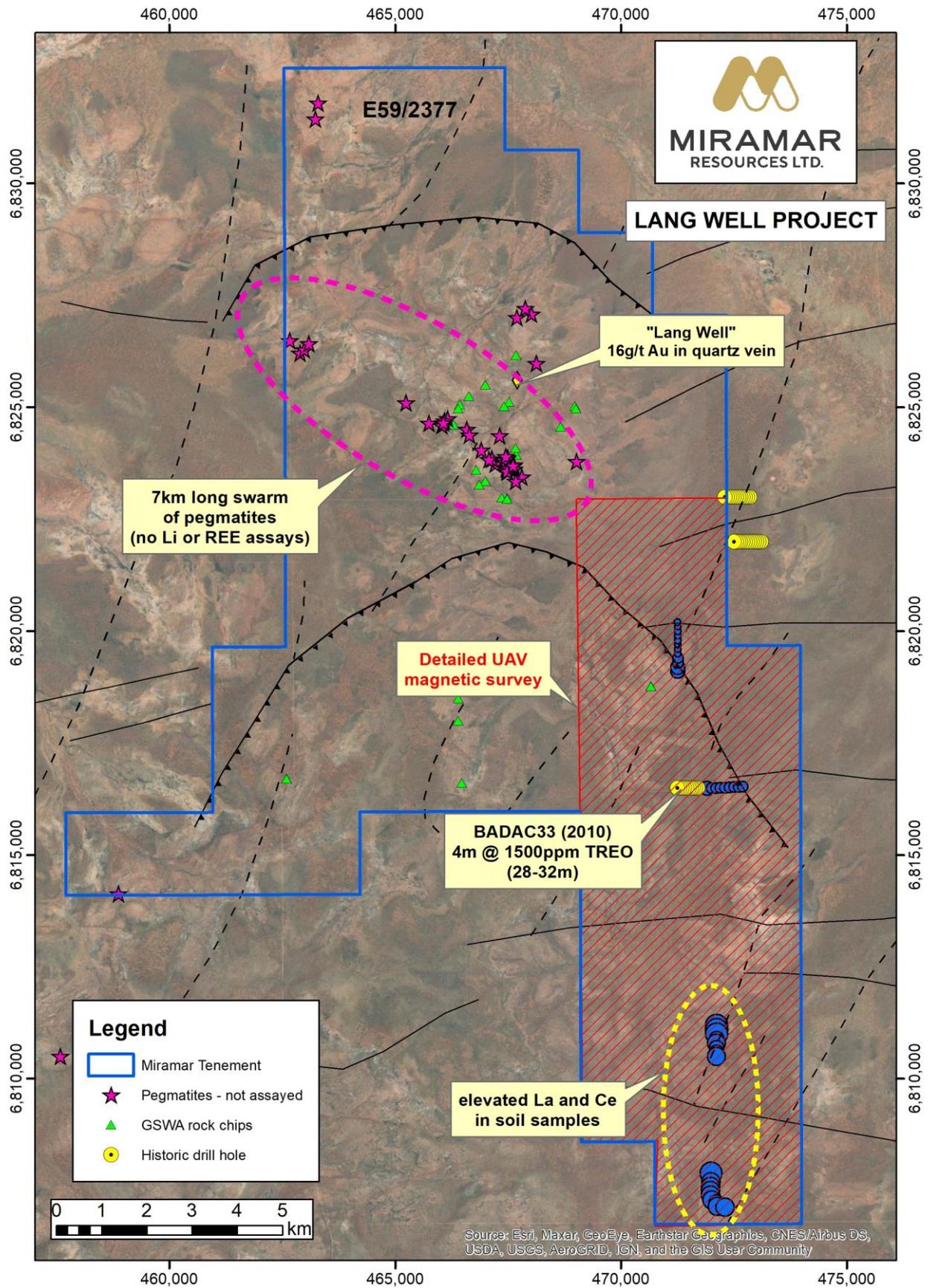
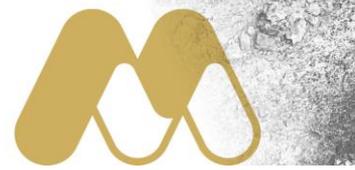


Figure 12. Lang Well Project showing pegmatites and other key data.



## CORPORATE

### Financial

The Company had cash and investments on 31 March 2022 of approximately **\$2.1 million**.

Related Party payments for the Quarter, as outlined in the Appendix 5B at section 6.1, totalled \$129,000 and include amounts paid to directors including salary, directors' fees and statutory superannuation.

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

### Capital Structure on 31 March 2022

Description	Number
<b>Fully paid ordinary shares at end of Quarter</b>	<b>56,310,100</b>
Unlisted options exercisable at \$0.20 on or before 22 October 2022	8,210,000
Unlisted options exercisable at \$0.48 on or before 6 January 2023	50,000
Unlisted options exercisable at \$0.25 on or before 9 October 2023	6,000,000
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 options exercisable at \$0.25 expiring 6 March 2024	450,000

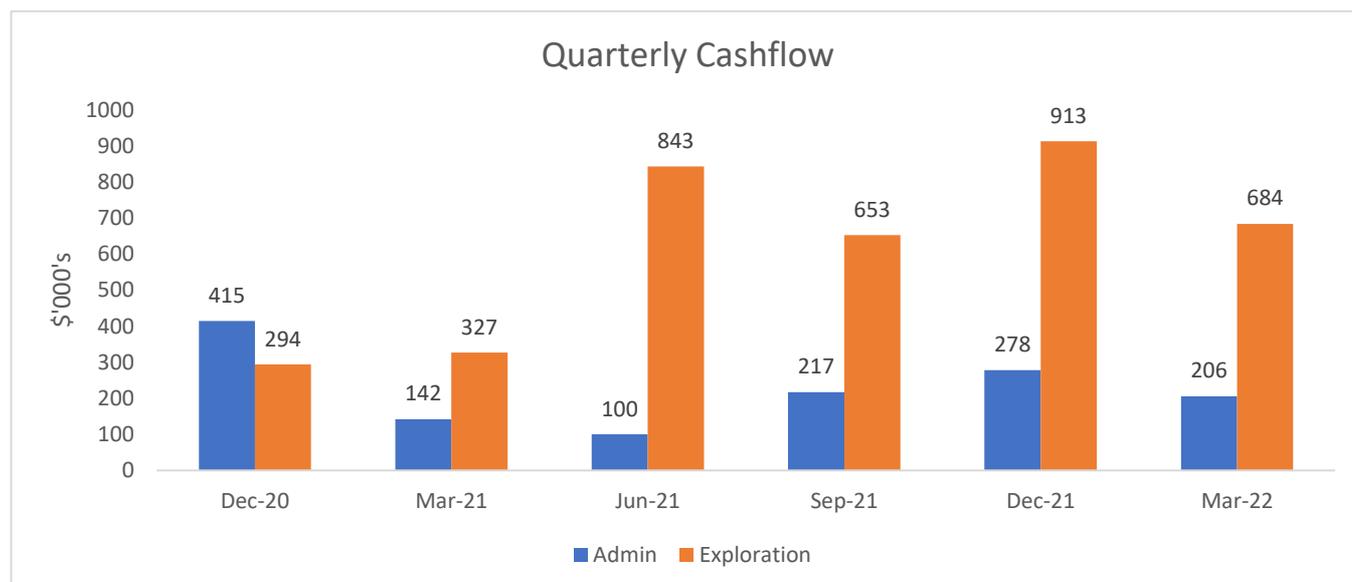
### Use of Funds<sup>1</sup>

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 22 October 2020 against the 'Use of Funds' statement in its Prospectus dated 4 September 2020.

Since listing in October 2020, cash outflow on exploration programmes has averaged around 75% of the Company's total cash outflow (Figure 13).

Expenditure	Funds allocated under Prospectus	Actual to 31 March 2022	%	Variance
Vendor payments	\$282,500	\$282,500	100	nil
Exploration	\$4,430,000	\$3,711,878	84	\$718,122
Working capital	\$2,868,855	\$1,494,061	52	\$1,374,794
Cost of IPO	\$670,000	\$695,785	104	-\$25,785
<b>TOTAL</b>	<b>\$8,251,355</b>	<b>\$6,184,224</b>	<b>75</b>	<b>\$2,067,131</b>

<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.



*Figure 13. Quarterly exploration expenditure vs admin costs since listing.*

### Marketing and Investor Relations

During the Quarter, Miramar conducted interviews with several mining publications and websites in relation to the Company's ongoing and planned exploration programmes.

Representatives of the Company attended and presented at the RIU Explorers Conference in Fremantle.

Miramar's Executive Chairman, Mr Allan Kelly, has been asked to be part of the guest speaker panel for the Paydirt "Unlocked" lunch on 28 April.

Miramar has been successful in securing a presentation spot and booth at the RIU Sydney Resources Roundup and the Gold Coast Investment Showcase in May and June 2022 respectively.

### Activities Planned for Quarter ending 30 June 2022

- **Gidji JV**
  - Aircore drilling of Blackfriars and Highway targets
  - Preparations for aircore drilling at Boorara North targets
- Lake diamond drilling at **Glandore East** target
- Initial aircore drilling at **Randalls**
- Sampling of **Lang Well** pegmatites
- Preparations for **Whaleshark** aircore drilling
- Sydney RIU Conference (3-5 May) and Gold Coast Investment Showcase 22-23 June)

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

### For further information, please contact:

Allan Kelly  
 Executive Chairman  
[info@miramarresources.com.au](mailto:info@miramarresources.com.au)

Margie Livingston  
 Ignite Communications  
[margie@ignitecommunications.com.au](mailto:margie@ignitecommunications.com.au)



## 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 refers to market sensitive announcements)

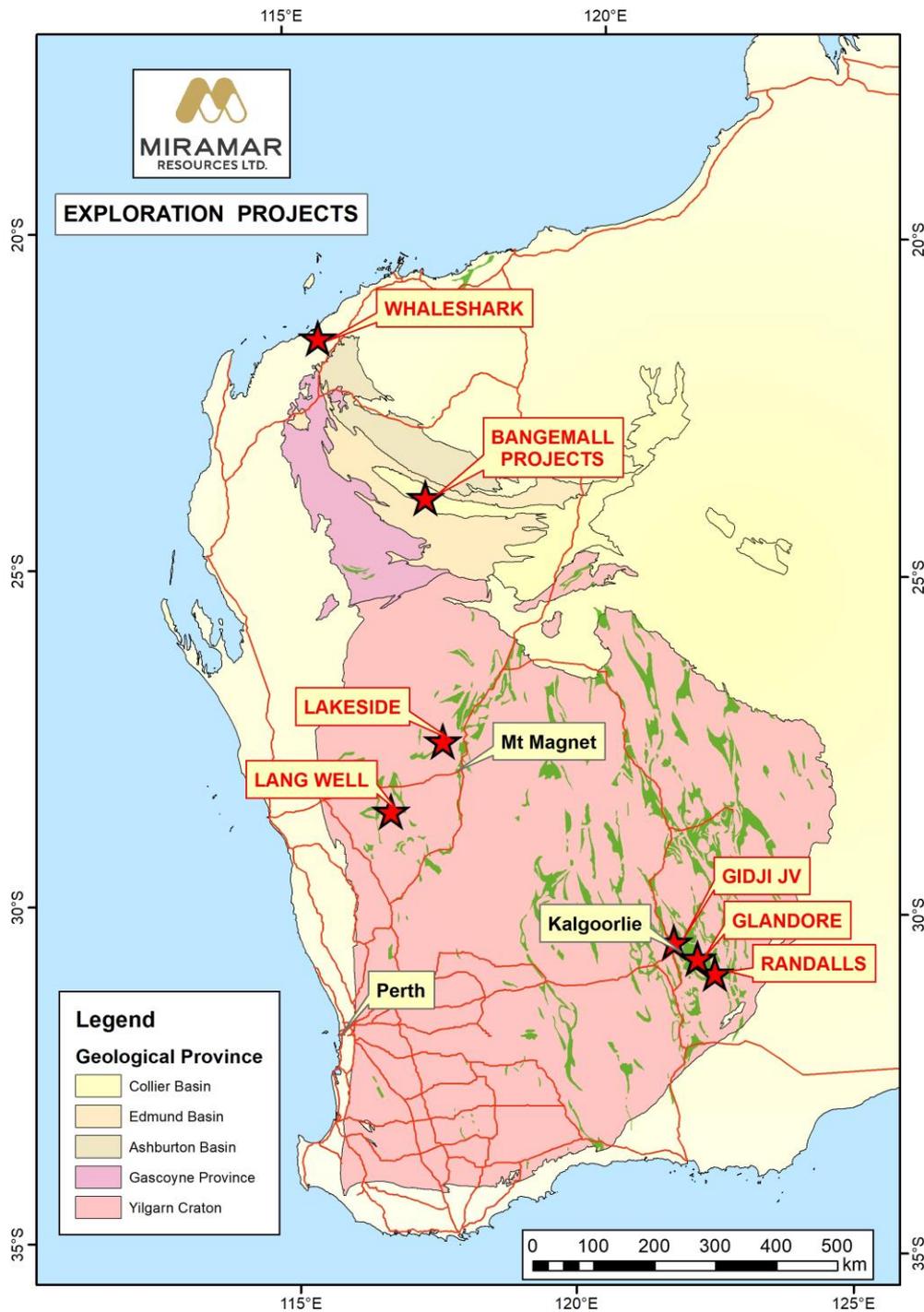
Date	Title
March 22, 2022	<i>Investor Presentation</i>
<b>March 10, 2022</b>	<b><i>Nickel Sulphide Targets Identified at Gidji JV</i></b>
March 9, 2022	<i>Half Year Report</i>
March 8, 2022	<i>Notification regarding unquoted securities – M2R</i>
<b>March 4, 2022</b>	<b><i>Gidji JV Project – Exploration Update</i></b>
February 16, 2022	<i>Investor Presentation</i>
<b>February 15, 2022</b>	<b><i>Glandore Results Upgrade Large Gold Footprint</i></b>
<b>February 3, 2022</b>	<b><i>Multiple Large EM Anomalies Identified at Mt Vernon</i></b>
February 1, 2022	<i>RC Drilling Underway at Marylebone</i>
January 27, 2022	<i>Quarterly Activities Report</i>
January 27, 2022	<i>Quarterly Cashflow Report</i>
<b>January 25, 2022</b>	<b><i>EM Survey Commenced at Bangemall Ni-Cu-PGE Target</i></b>
<b>January 10, 2022</b>	<b><i>New Target at Gidji JV Increases Camp-Scale Potential</i></b>



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.





Tenement Schedule

Project	Tenement	Status	Ownership	
			Start of Quarter	End of Quarter
Gidji JV <sup>2</sup>	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%
Randalls	E25/596	Live	100%	100%
Lang Well	E59/2377	Live	100%	100%
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%
	E09/2484	Live	100%	100%
	E09/2647	Application	0%	0%
	E52/3893	Live	100%	100%

<sup>2</sup> Remaining 20% held by Thunder Metals Pty Ltd