



Middle Island Resources Limited  
ACN 142 361 608  
Suite 1, 2 Richardson Street  
West Perth WA 6005  
PO Box 1017  
West Perth WA 6872  
Tel +61 (08) 9322 1430  
Fax +61 (08) 9322 1474  
info@middleisland.com.au  
www.middleisland.com.au

**Middle Island Resources Ltd**  
ACN 142 361 608  
**ASX code : MDI**  
**[www.middleisland.com.au](http://www.middleisland.com.au)**

**Capital Structure:**  
122,418,222 ordinary shares

**Cash & Investments**  
\$5.343 million (as of 31 December 2022)  
No debt

**Directors & Management:**  
**Peter Thomas**  
Non-Executive Chairman  
**Brad Marwood**  
Executive Director  
**Bruce Stewart**  
Non-Executive Director  
**Rudolf Tieleman**  
Company Secretary

**Contact:**  
Brad Marwood  
Office: +61(8) 9322 1430  
[brad@middleisland.com.au](mailto:brad@middleisland.com.au)

## ASX Release – 1 February 2023

### BARKLY COPPER-GOLD SUPER PROJECT

### Update-Logging and Geophysics

- Iron Oxide Copper-Gold (IOCG)-style alteration and sulphide occurrences (pyrite) recorded in all holes (CWDD001, CWDD002, CWDD004 and CWDD007) drilled at the Crosswinds Prospect
- All 4 holes intersected either highly metamorphosed and altered sediments, or granites which have been iron-flooded, and in parts silica flooded
- All holes show IOCG-style alteration affinity which represent a technical success in selection of the drilling location
- Further geophysical models have been obtained from open-source data which have been geophysically forward modeled to help in defining the bottom of the Georgina basin sediments
- Open file seismic sections have been used to identify large scale basin faults that propagate into the underlying basement sediments which may have been utilised as fluid flow pathways
- First set of assays have been received, are being incorporated into the companies database and will be interpreted in due course, and reported to the market once all assayed have been reviewed
- All open file holes on, and in the vicinity of MDIs tenements (plus an additional 1,200 holes), are being incorporated into the company's database so a regional alteration and geological model can be built to aid in further drill targeting
- 40,000 line-kilometers of aerial geophysics have been flown by the Company over the last year



## Introduction

Further to its ASX announcements of 2 June<sup>1</sup>, 10 August<sup>2</sup>, and 13 September<sup>3</sup>, Middle Island Resource (**MDI** or the **Company**) (ASX: MDI) has completed the review of drill hole CWDD001 at the Crosswinds prospect. That drill hole, along with 3 others, comprised the Company's initial drill program at the Barkly Copper-Gold Project in the Northern Territory.

All holes drilled within the first drill program were drilled at the Crosswinds Prospect, which in late 2020<sup>4</sup>, was identified as a surface occurrence of malachite (copper carbonate). On discovering this copper occurrence, a number of samples were taken and spot pXRF results returned between 24.8% and 76.25% Cu with a composite chip sampling assay (Table 1) of 130m at 0.76% Cu returned from Intertek<sup>4</sup>.

**Table 1: Table of surface malachite sampling**

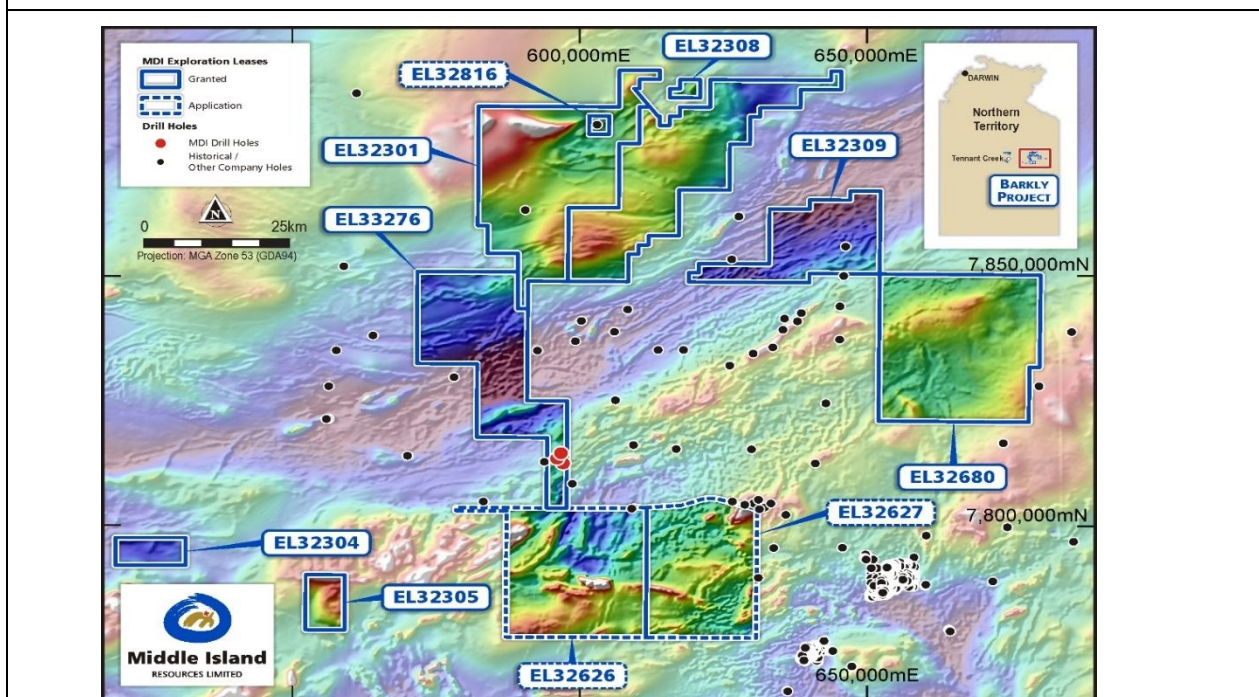
Project	Hole ID	Easting	Northing	RL	From	To	Int	Sample number	Cu_ppm	Cu_%
Crosswinds	BKTR-01	596938	7812812	230	0	20	20	12082035	6818.8	0.68
Crosswinds					20	40	20	12082036	9360.8	0.94
Crosswinds					40	65	25	12082037	6161.4	0.62
Crosswinds					65	130	65	12082038	7786.0	0.78

## Drilling

The 4 holes drilled all intersected IOCG alteration (pyrite  $\pm$  hematite  $\pm$  silica) which appears to be of an IOCG affinity. Figures 1 and 2 show the location of the holes along with MDIs tenements and Figure 4 shows some of the core samples from the holes drilled with examples of the aforementioned alteration.

**Figure 1**

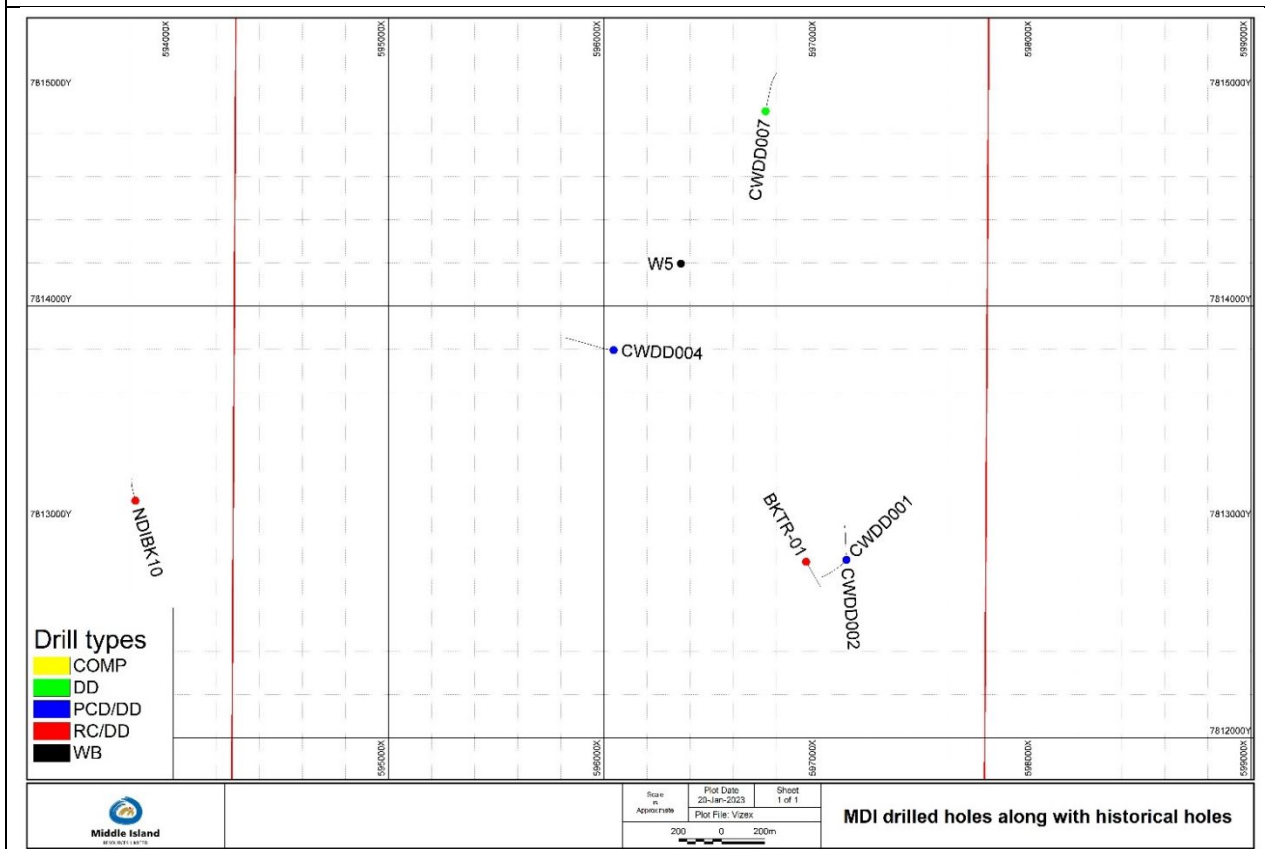
**Filtered magnetic anomaly image (tmi-rtp NW shade) showing regional drill holes as black dots and MDIs holes as red dots.**





**Figure 2**

**Local map showing MDIs drill holes along with the composite sample traverse<sup>4</sup>**



**Table 2**

**Details of drill holes**

Project	Hole ID	Easting	Northing	RL	Pre collar depth	Depth	Azimuth	Dip
Crosswinds	CWDD001	597125	7812820	240	15.00	808.62	225	-80
Crosswinds	CWDD002	597125	7812821	240	148.90	550.30	355	-70
Crosswinds	CWDD004	596045	7813795	335	120.78	811.00	270	-70
Crosswinds	CWDD007	596750	7814900	335	0.00	855.50	360	-75

Shown below is a basic break down of the geology of each of the holes. All holes intersected the Georgina Basin at the top of the hole, transitioning into the Helen Springs Volcanics which has an age range of around 511Ma<sup>6</sup> and then transitioning into the Alroy Formation towards the bottom of the hole. Basement Alroy Formation lithologies consist of a thick sequence of red to green to blue sandstones through to red to purple siltstones and mudstones and white to cream limestones which are cut by varying amounts of carbonate, quartz and hematite veins. Three out of the four holes drilled also intersected metasediments/metasedimentary schists that have been subject to high metamorphic grades creating large amounts of secondary biotite along with shear planes and intense foliation (hole CWDD007 did not intersect foliated metasediments due to the interpretation of them being stoped out by mafic units). Further down the holes from these meta-sediments in the first three holes (hole CWDD007 excluded) intersected medium grained red to white/cream granites, whereas hole CWDD007 intersected fine to medium grained Mafics.

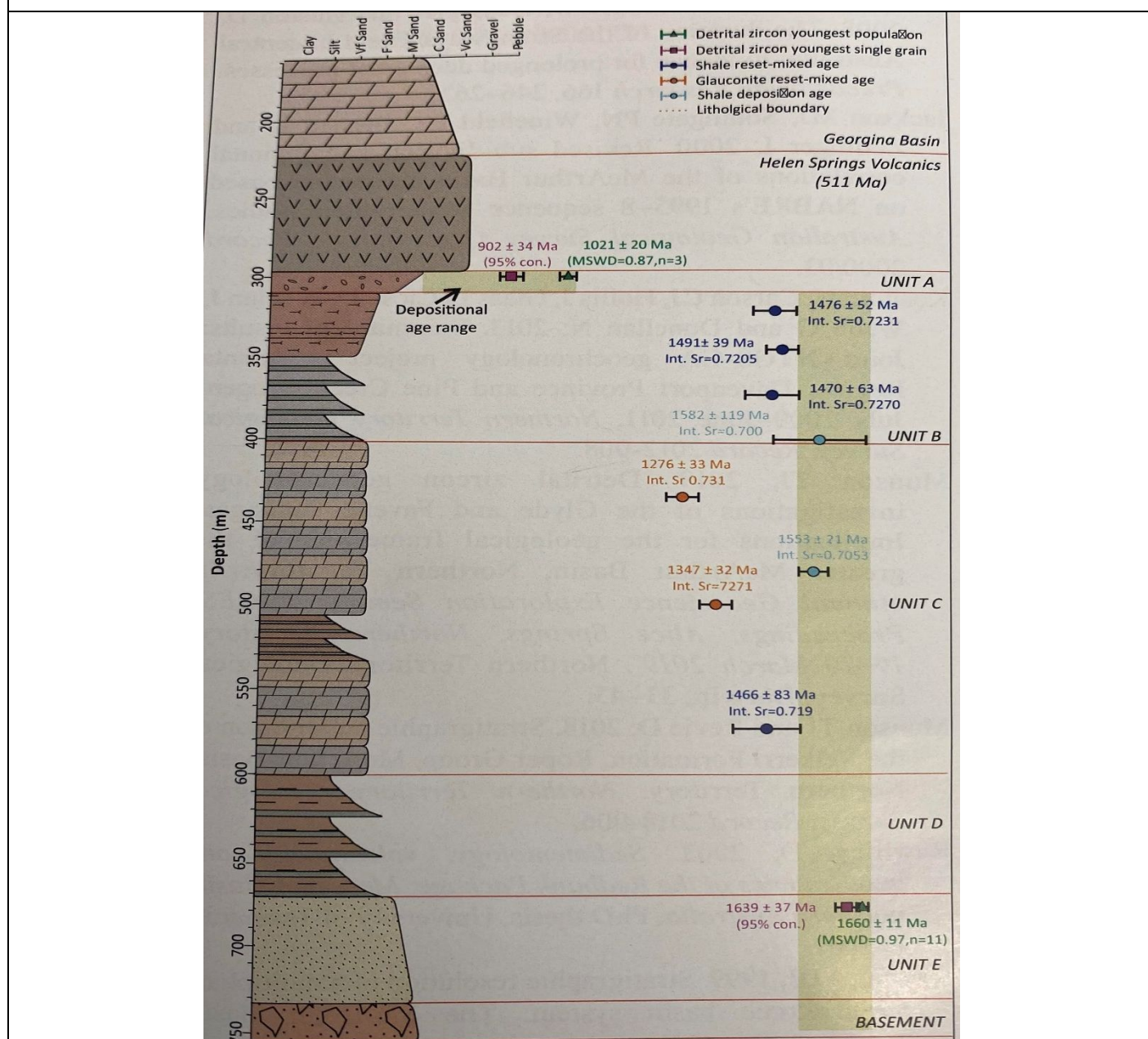
Approximately 2km ESE of MDI's holes is a government hole, NDIBK10, which has been drilled into the same rocks that were identified in MDI's holes. Age dating has been undertaken on this hole and Figure 3 shows a graphical log with age ranges in the relevant positions of sampling. As can be seen, the Helen Springs volcanics



have an age range of approximately 511Ma - the hole then transitioned in the underlying sediments with a maximum deposition age (U-Pb in Zircons) of above and below the unit A unconformity yielding ages of  $902 \pm 34$  Ma (unit A) and  $1649 \pm 37$ Ma (unit E) respectively, based on youngest concordant zircon grains. This age dating indicates that the thin Unit A is Neoproterozoic (1000-500Ma) and likely represents a continuation of the Pre-Cambrian part of the Georgina basin in this area whereas the sediments represent sedimentation in the Meso and Paleoproterozoic (1000-2500Ma). Further detailed knowledge of the bottom of the 500 million-year-old Georgina Basin allows gravity and magnetic targets to be truncated at the contact with the underlying sediments (circa 1.3-1.8 billion years old) removing noise from the signatures and thus allowing for better target generation of the airborne geophysics undertaken.

**Figure 3**

**Simplified stratigraphic log showing depth compared to all age results from sedimentary rocks, and depositional windows established from results. MSWD = Mean Squared Weighted Deviates: Int. Sr=Initial 87Sr/86Sr ratio with no ingrown radiogenic component: Con=Concordant: N=Number of analyses**

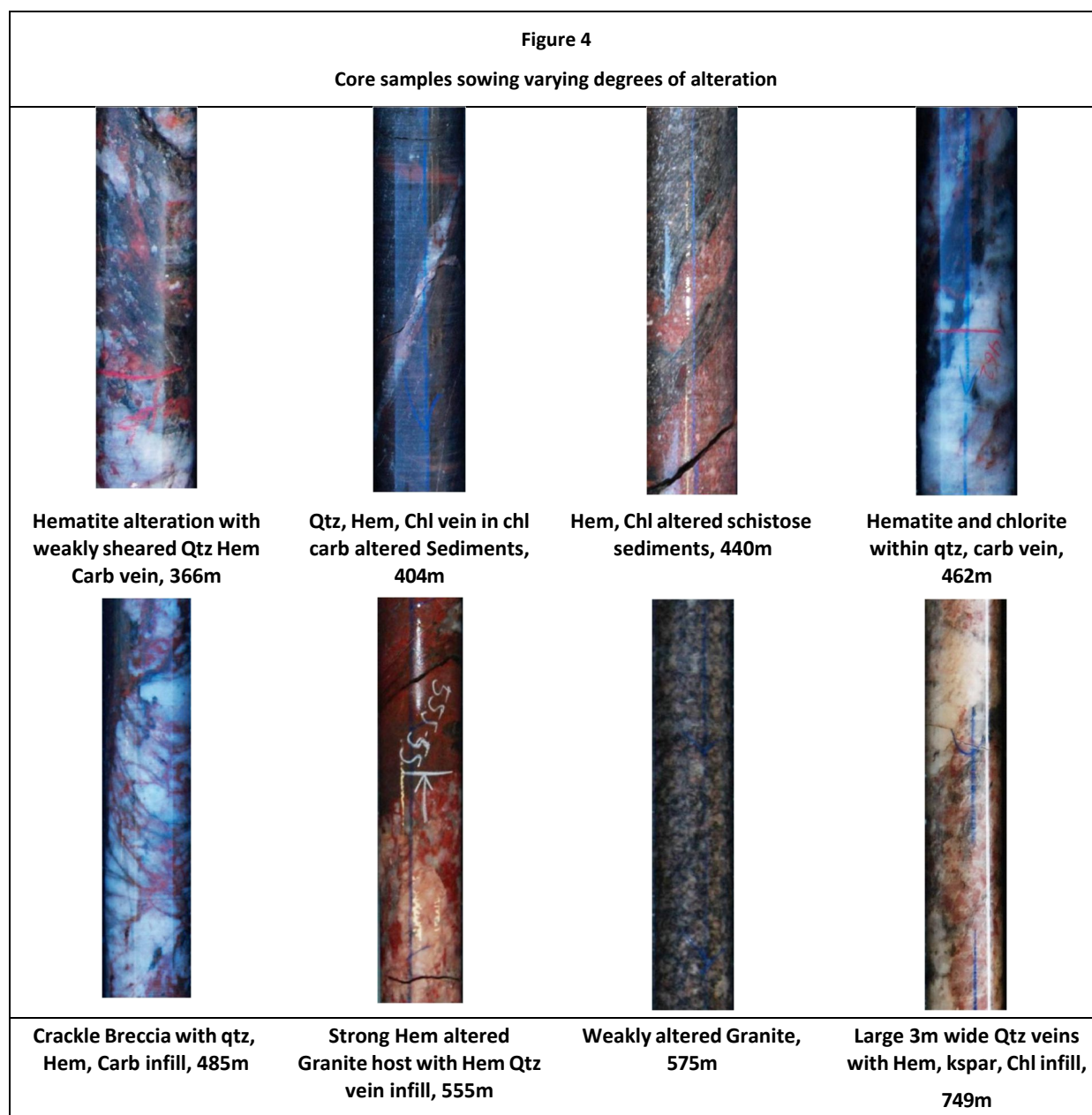




The occurrence of hematite-flooded, meta-sedimentary and volcanic units and the age range of rock units in the area Cross Winds prospect is considered by MDI to be of IOCG affinity, and is another positive result from the Company's reconnaissance drill program at the Barkly copper-gold project.

- **CWDD001**
  - 0 - 21.17m clay
  - 21.17 – 37.80m Siltstone
  - 37.80 – 100.00m Limestone
  - 100.00 – 141.10m Siltstone/sandstone
  - 141.10 – 205.27m Limestone
  - 205.27 – 230.40m Basalt
  - 230.40 – 275.80m Sandstones/Siltstones
  - 275.80 – 499.10m Foliated meta-sediment
  - 499.10 – 808.62m Granite
- **CWDD002**
  - 0 – 18.00m clay
  - 18.00 – 22.00m Limestone
  - 22.00 – 30.00m Siltstone
  - 30.00 – 201.60m Limestone
  - 201.60 – 211.40m Siltstone
  - 211.40 – 237.50m Basalt
  - 237.50 – 297.35m Sandstones/Siltstones
  - 297.35 – 417.95m Granite
  - 417.95 – 418.63m Meta Sediment
  - 418.63 – 550.30m Granite
- **CWDD004**
  - 0.00 – 1.00m Clay
  - 1.00 – 19.00m Limestone
  - 19.00 – 43.00m Siltstone
  - 43.00 – 219.68m Limestone
  - 219.68 – 223.00m Shale
  - 223.00 – 293.50m Basalt
  - 293.50 – 604.27m Sandstone/Shale
  - 604.27 – 622.90m Granite
  - 622.90 – 641.00m Meta Sediment
  - 641.00 – 643.75m Granite
  - 643.75 – 644.10m Meta Sediment
  - 644.10 – 694.70m Granite
  - 694.70 – 703.00m Granite and Granodiorite
  - 703.00 – 740.00m Granite
  - 740.00 – 761.10m Granite and Granodiorite
  - 761.10 – 811m Granite
- **CWDD007**
  - 0.00 – 22.50m Clay
  - 22.5 – 38.30m Siltstone
  - 38.30 – 42.00m Sandstone
  - 42.00 – 213.25m Limestone
  - 213.25 – 218.90m Sandstone
  - 218.90 – 293.90m Basalt
  - 293.90 – 313.50m Sandstone
  - 313.50 – 443.50m Shale
  - 443.50 – 516.66m Limestone/Sandstone
  - 516.66 – 735.00m Sandstone
  - 735.00 – 855.50m Mafics intrusives

Please note that holes 3,5 and 6 have not been drilled.



## Geophysics

As mentioned previously in this, and previous announcements, over 40,000 line-kms of aerial geophysics have been flown over the Barkley project. This survey has shown that the geology, magnetics and gravity is not as simple as first thought, opening up interesting possibilities in identifying and locating IOCG deposits.

The aerial survey undertaken by MDI in 2022<sup>5</sup> highlighted numerous areas of magnetic and gravity features interpreted to be large “blind” batholithic granites which contain iron sulphide mineralisation.

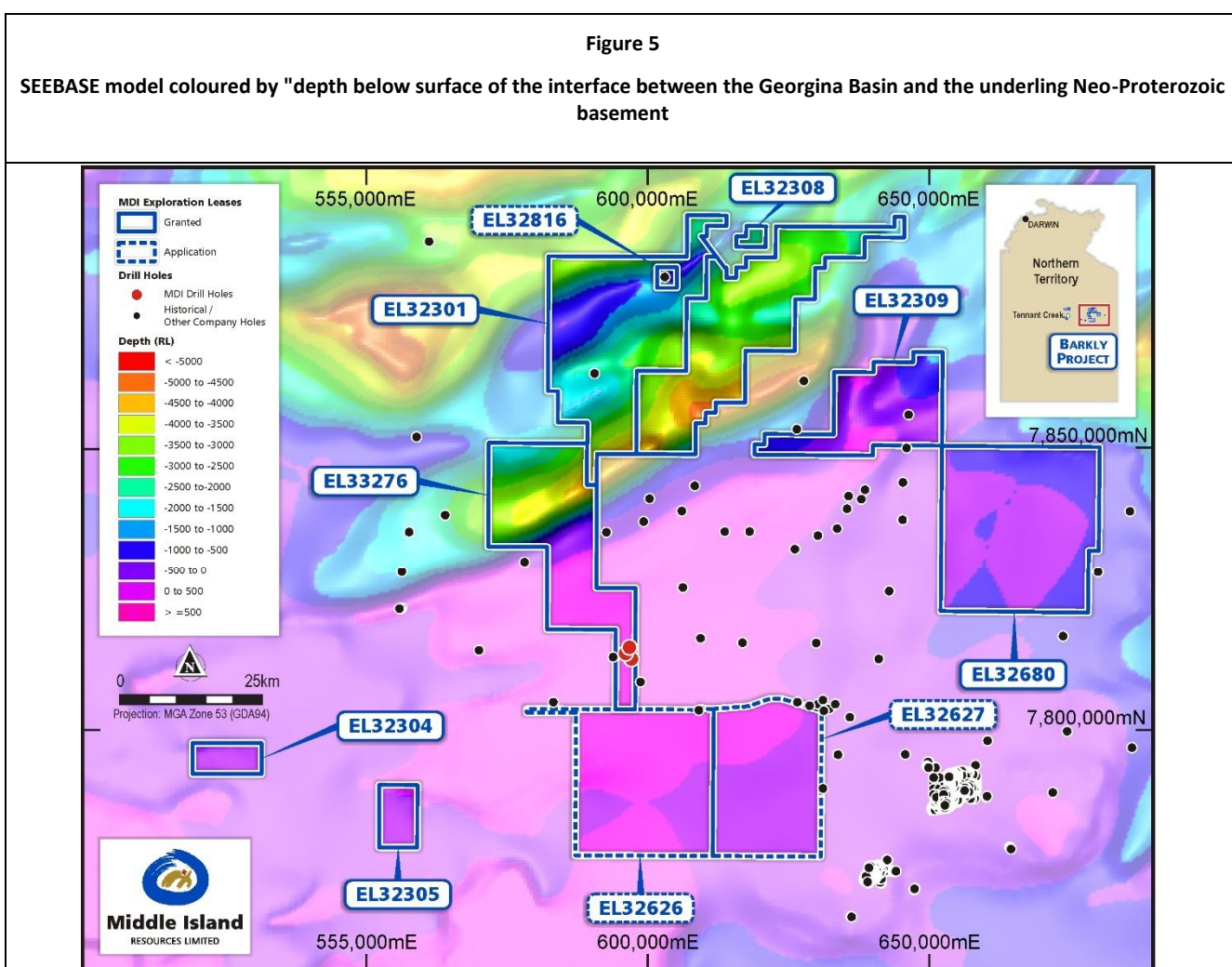
An internal review of the geophysical surveys highlighted that the gravity and magnetic features appear to extend from the basement geology (Red sediments, metamorphic sediments and schists) into the overlying unmetamorphosed and structurally unchanged Georgina basins sand/silt and limestones. Southern Geoscience has been given the task of downloading the open file SEEBASE survey which is a NT Government survey that takes into account geological mapping, regional and local geophysical surveys, be that IP, magnetics, gravity or seismic surveys, both 2D and 3D, deep petroleum well, shallower water wells along with government funded drilling to ascertain the depth of the recent (~500Ma) cover over the greater Georgina Basin. This SEEBASE survey has been downloaded and a 3D model generated to ascertain the base of the Georgina Basin/underlying



basement lithologies. Figure 5 shows a 3D representation of the Georgina Basin/underlying basement contact and, as can be seen, most of the basement contact within the tenure owned by MDI is within 500m of the current land surface.

The next step is to collate all of the open file drilling data along with open file Seismic data in the region and correlate this SEEBASE surface to validate its surface. Once this has been done, the aerial survey undertaken by MDI will be remodeled using this basement/basin isosurface as a hard boundary to ascertain if the gravity and or magnetic features are present within the basin cover or the basement geology. This will produce Total Magnetic Intensity and spherical Cap Bouguer gravity 3D models and once this has been done, the highest priority targets will be ascertained and cross referenced with known drill holes in the vicinity to ascertain if the anomalies are due to batholithic granites which can then be ranked lower or are due to an unknown source which could potentially be IOCG mineralisation.

The unconformity between the overlying Helen Springs Volcanics and Neo-Proterozoic basement rocks was intersected in all four of MDI's holes ranging from 220m to 300m down hole. These four boundaries will be used to validate the SEEBASE survey, and if they do differ, will be used as a hard point whereby the SEEBASE survey can be updated to reflect the correct depth of basin cover at that point data.





## Next Steps

- Assays results are starting to arrive and once they have been uploaded to the database they will be reported to shareholders
- SEEBASE surface will be validated and then magnetics/gravity will be geophysically forward modeled to take this into account
- Taking into account the new magnetic and gravity features targets will be priorities and ranked for future drilling

## References

1. 2 June 2022 TWO DRILL READY TARGETS AT CROSSWINDS
2. 10 August 2022 MAIDEN DRILLING PROGRAM COMPLETED AT CROSSWINDS
3. 13 September 2022 MAIDEN CROSSWINDS DRILL PROGRAM SUCCESSFULLY COMPLETED
4. 23 December 2020 Breakthrough maiden copper discovery provides early encouragement for Barkly IOCG potential.
5. 27 April 2022 Barkly Copper-Gold Super Project Operations Update
6. Blades, M., Eta et. Dating and characterizing a newly discovered sedimentary basin in the East Tennant Region. AGES 2022 Proceedings, NT Geological Survey 2022.

## Comments from the Executive Director – Brad Marwood

*“The works completed over the past 12 months have provided a solid foundation for the identification of potential IOCG targets. These fundamental essential works have led to the location and orientation of the initial four drill holes, such that they are a proven technical success in identifying IOCG style mineralisation signatures in the basement sediments.*

*The open source data obtained includes modelling of the bottom of the Georgina Basin and bottom of the basalt layer. Through the identification of the depth of the Georgina Basin, MDI can target gravity and magnetic anomalies closer to the natural surface that will cost less to drill. This increases the cost efficiency of drilling priority targets.*

*Further detailed knowledge of the bottom of the 500 million-year-old Georgina Basin allows gravity and magnetic targets to be truncated at the contact with the underlying sediments (circa 1.3-1.8 billion years old) removing noise from the signatures and thus allowing for better target generation of the airborne geophysics undertaken.”*



**RELEASE AUTHORISED BY THE MDI BOARD:**

Contacts: +61 (8) 9322 1430 [info@middleisland.com.au](mailto:info@middleisland.com.au)

WEBSITE: [www.middleisland.com.au](http://www.middleisland.com.au)

**Forward Looking Statements**

Statements contained in this release, particularly those regarding possible or assumed future performance, costs, dividends, production levels or rates, prices, resources, reserves or potential growth of Middle Island, industry growth or other trend projections are, or may be, forward looking statements. Such statements relate to future events and expectations and, as such, involve known and unknown risks and uncertainties. Actual results and developments may differ materially from those expressed or implied by these forward looking statements depending on a variety of factors.

**Competent Person Statement**

The information in this report relates to historical mineral exploration results and is based on work reviewed and compiled by Mr. Stephen F Pearson, a Competent Person and Member of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Mr. Pearson has been contracted to the Company as Exploration Manager and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is undertaking 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. Pearson consents to the inclusion in this report of the information in the form and context in which it appears. The Australian Securities Exchange has not reviewed and does not accept responsibility for the accuracy or adequacy of this release. Cautionary Statement - Historical exploration results reported in this announcement are based on data reported in historical reports rather than data that has been produced by MDI; - Historical exploration results have not been reported in accordance with the JORC Code 2012; - A Competent Person has not done sufficient work to disclose the historical exploration work in accordance with JORC 2012; - It is possible that following further evaluation and/or exploration work that the confidence in the historical exploration results may be reduced when reported under JORC Code 2012; - Nothing has come to the attention of the acquirer that causes it to question the accuracy or reliability of the former owners' historical exploration results, but - The acquirer has not independently validated the former owners' historical exploration results and therefore is not to be regarded as reporting, adopting or endorsing those historical results.