

22 February 2023

## 2023 DRILLING CAMPAIGN COMMENCED AT MANGAROON (100%)

### HIGHLIGHTS

- The Yin Ironstone Complex is comprised of 43km of REE mineralised ironstones which include:
  - 3km containing a JORC 2012 Mineral Resource (“Resource”) of 14.36Mt @ 1.13% TREO with a Resource intensity of 4.8Mt/km (ASX 28 Dec 2022); and
  - 40km containing a JORC 2012 Exploration Target (“Exploration Target”) of 50-100Mt at 0.9-1.3% TREO with a Resource intensity of 1.25-2.5Mt/km and a grade range of 1.13% TREO +/- 20%.
- RC drilling has commenced at Yin to continue growing the existing Resource. This will be followed by first pass drilling along the Yin Exploration Target.
- First pass, wide spaced discovery drilling will also recommence at the C1-C7 carbonatites in order to rapidly build on the early successes of 2022.
- Assays from the remaining 66 holes drilled at the C1-C5 carbonatites in 2022 will be announced during the March 2023 quarter. Additional updates and assays from drill programs at Mangaroon will be ongoing in 2023.
- Metallurgical test work results and Resource upgrades will also be announced throughout 2023.

Dreadnought Resources Limited (“Dreadnought”) is pleased to announce RC drilling has commenced at the 100% owned Mangaroon project, located in the Gascoyne Region of Western Australia.

RC drilling is currently underway at Yin which will build upon the current Resource as well as testing the Exploration Target along strike.

A second RC rig and a diamond rig will commence in March 2023. The RC rig will focus on first pass, wide spaced drilling of the C1-C7 carbonatites. The diamond rig will provide ongoing support for Resource upgrades, metallurgical testwork and geotechnical studies. These systematic drill programs have the potential to rapidly add significant Resources.

Dreadnought’s Managing Director, Dean Tuck, commented: “After an extremely successful 2022 drilling program, we are



*excited to be back on site for what will be a busy year for Dreadnought as we seek to make additional discoveries and to rapidly grow Resources. After a short break, the team is ready to deliver on both the ironstones and carbonatites as we build the wider Gifford Creek Ferrocarbonatite Complex into a world class rare earth and critical metals region. We will have ongoing newsflow on our progress throughout 2023.”*

**Figure 1: Photo of Dreadnought’s Sam Buseti and Luke Blais at YNRC130, the first drill hole of the 2023 program.**



## **SNAPSHOT - MANGAROON RARE EARTHS**

### **Mangaroon is 100% Owned by Dreadnought**

#### **Genuine Scale Potential Already at Yin Ironstone Complex**

- Initial independent Yin Inferred Resource of 14.36Mt @ 1.13% TREO (ASX 28 Dec 2022) covers only 3km of 43km of strike and is based on only 2.5 months of RC drilling (11,907m).
- Exploration Target of 50-100Mt at 0.9-1.3% TREO estimated for the top 150m of the Yin Ironstone Complex.
- First tranche of long-term incentives now triggered with balance on track to be triggered at JORC Resource of at least 30Mt @ >1% TREO by 31 December 2024.

#### **Significant, Step-Change, Growth Potential Beyond Yin Ironstone Complex**

- C1-C7 carbonatites are shaping up as the regional source of REE – initial drill program expands C1-C5 to ~6.5kms in strike length x 1km wide.
- C6 Carbonatite located ~25kms south of C1-5 and C7 is situated over a crustal scale structural splay of the Lyons River Fault and has a geophysical similarity to other globally significant carbonatite intrusions such as Mt Weld, Araxa and Ngualla

#### **High-grade, Multi-Metal Potential Including REE (Neodymium, Praseodymium), Phosphorus, Niobium, Titanium & Scandium (REE-P<sub>2</sub>O<sub>5</sub>-Nb<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>-Sc)**

- Yin, like the Yangibana REE project controlled by the ~\$380M Hastings Technology Metals Ltd (ASX.HAS), (“Hastings”) is globally unique due to the high proportion of NdPr as a total of the rare earth oxides (“NdPr:TREO” ratio).
- Six coherent zones of REE-P<sub>2</sub>O<sub>5</sub>-Nb<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>-Sc successfully identified within the C1-C5 carbonatites with a ~600m x 550m zone of REE-P<sub>2</sub>O<sub>5</sub>-Nb<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>-Sc mineralisation now confirmed at the C3 discovery.

#### **Potentially Attractive Mining Proposition**

- Broad zones of shallow dipping mineralisation with parallel lodes and Resource intensity of ~4.8Mt/km make for a potentially attractive mining proposition.

#### **Positive Metallurgy Results**

- Initial metallurgical test work from Yin performed well, achieving a recovery of 92.8% at a concentrate grade of 12.3% Nd<sub>2</sub>O<sub>3</sub> and an average 40% TREO.
- REE at Yin is predominantly hosted in monazite which is amenable to commercial processing.
- Significant metallurgical study from 16 diamond holes drilled at Yin underway – results expected April/May 2023.

#### **Analogous to a Globally Unique, Commercially Viable Development 25kms Away**

- Yangibana is located only 25kms to the northeast of Yin and currently has a Resource\* of 29.93Mt @ 0.93% TREO with 0.32% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub> (34% NdPr:TREO).
- Yangibana is under construction and development with first production planned for 2024.

#### **Global Strategic Imperative Driving Rare Earth Growth & Prices**

- Supply chain security and low carbon transition are imperatives against a backdrop of heightened geopolitical tension.

*\*HAS.ASX: 11 Oct 2022 Drilling along 8km long Bald Hill-Fraser’s trend increases indicated resources by 50%; 15 Dec 2022 Potential identified to significantly expand Yangibana Resource Base*



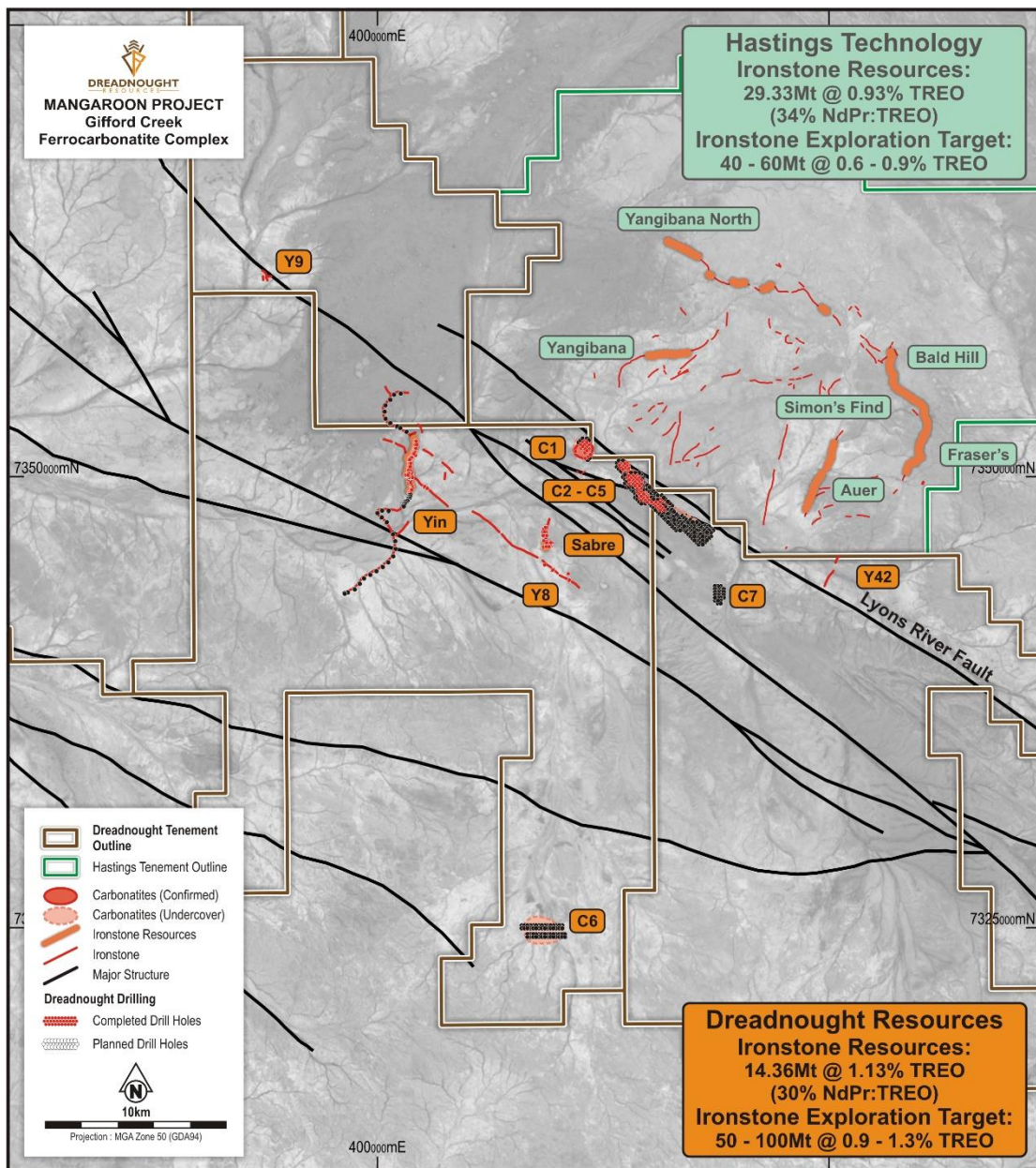
**Commencement of 2023 Mangaroon Rare Earth Drilling Program (E09/2448, E09/2450, E09/2535: DRE 100%)**

The 2023 drilling campaign has commenced at Mangaroon involving discovery and Resource extension drilling at Yin and the REE-P<sub>2</sub>O<sub>5</sub>-Nb<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>-Sc C1-C7 carbonatites.

The 2023 drilling campaign at Yin will be comprised of:

- First pass, wide spaced discovery drilling on the Exploration Target;
- Extensional drilling to grow the current Resource; and
- Infill drilling to deliver upgraded Resources from Inferred to Measured and/or Indicated.

A second RC rig and a diamond rig will commence in March 2023. The RC rig will focus on first pass, wide spaced drilling of the C1-C7 carbonatites to finish discovery drilling which was only partially completed in 2022. The diamond rig will provide ongoing support for Resource upgrades, metallurgical testwork and geotechnical studies.



**Figure 2: Plan view of the Gifford Creek Ferrocarbonatite Complex (i.e. including Yangibana) over an orthoimage highlighting currently defined Resources and showing the location of currently planned drill holes (black dots) over Yin and the C1-C7 carbonatites. Additional drill holes will be planned across the ironstone complex including at Y8, Y9, Y42 and Sabre.**

### Technical Discussion on First Pass Yin Drill Program

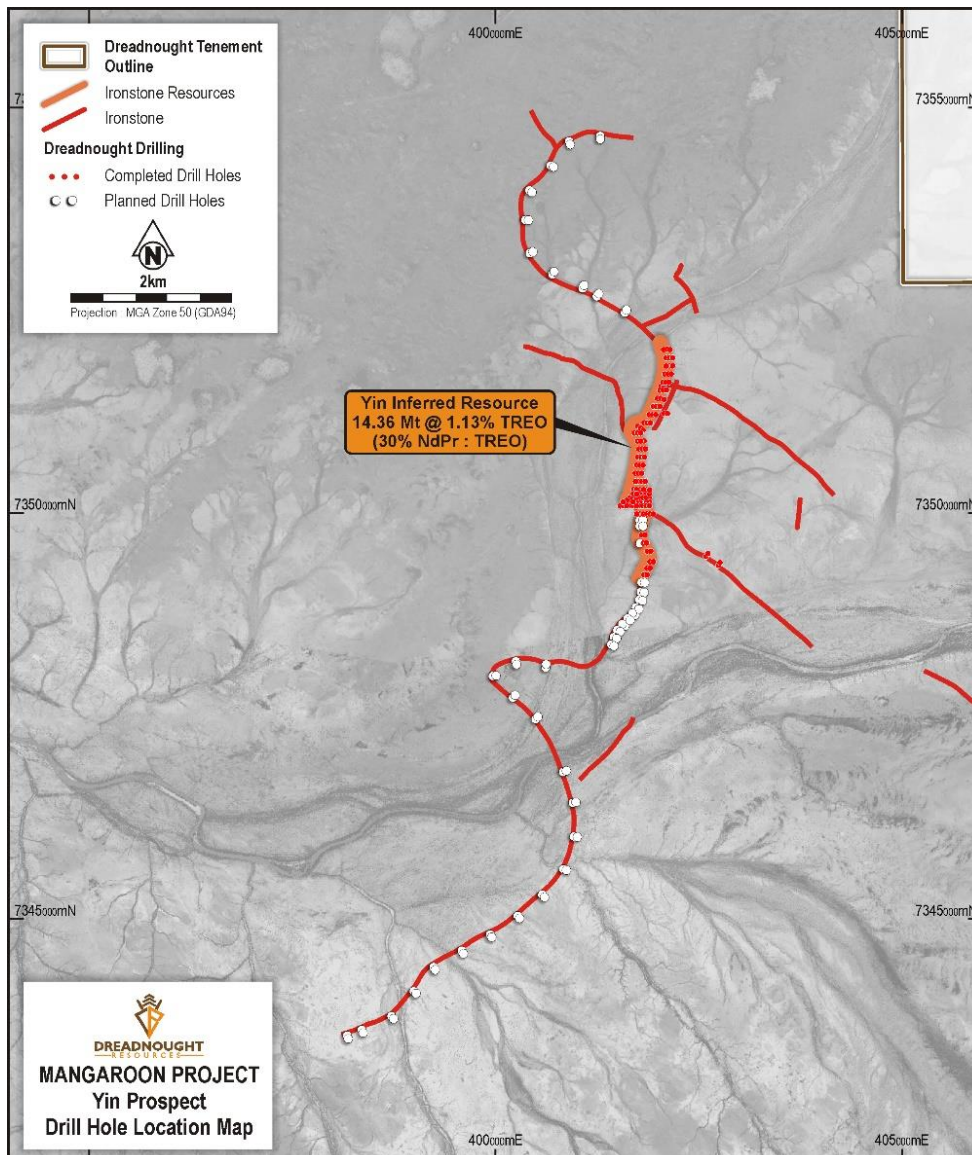
The outcropping REE ironstones have a distinctive radiometric signature and appear as gossanous iron rich outcrops visible in ortho-imagery. From June to September 2021, Dreadnought announced the identification of the Yin ironstones using wide spaced 1990s government radiometric data and modern ortho-imagery.

During 2022, Dreadnought identified 43km of mineralised ironstones at Yin as well as the REE-P<sub>2</sub>O<sub>5</sub>-Nb<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>-Sc C1-C7 carbonatites.

In December 2022, Dreadnought defined an initial, independent, Inferred JORC Resource of 14.36Mt @ 1.13% TREO (ASX 28 Dec 2022) over only 3km of the 43km of mineralised ironstones.

With only 7% of the 43kms of ironstones drilled to date, there remains significant potential to add to the initial Resource at Yin. In February 2023, an Exploration Target of 50-100Mt at 0.9-1.3% TREO was estimated for the top 150m of Yin.

The 2023 ironstone drilling program aims to extend the initial Resource and to convert portions of the Exploration Target to Resource.



**Figure 3: Plan view of the initial planned drilling (white dots) over 16kms of the Yin ironstones over an ortho-image which will extend the current resource and convert portions of the Exploration Target to Resource. Additional drill holes to be planned.**



## Technical Discussion on the Carbonatite Drill Program

Carbonatite intrusions are known globally to host several different commodities including rare earths, niobium, titanium, phosphate and scandium often as different mineralised bodies within the same intrusion. Great examples of this include Mt Weld in Australia, Ngualla in Tanzania, Bayan Obo in China and Araxa in Brasil. We also know that a world class deposit like Mountain Pass in California can fit into a relatively small footprint (700m x 150m).

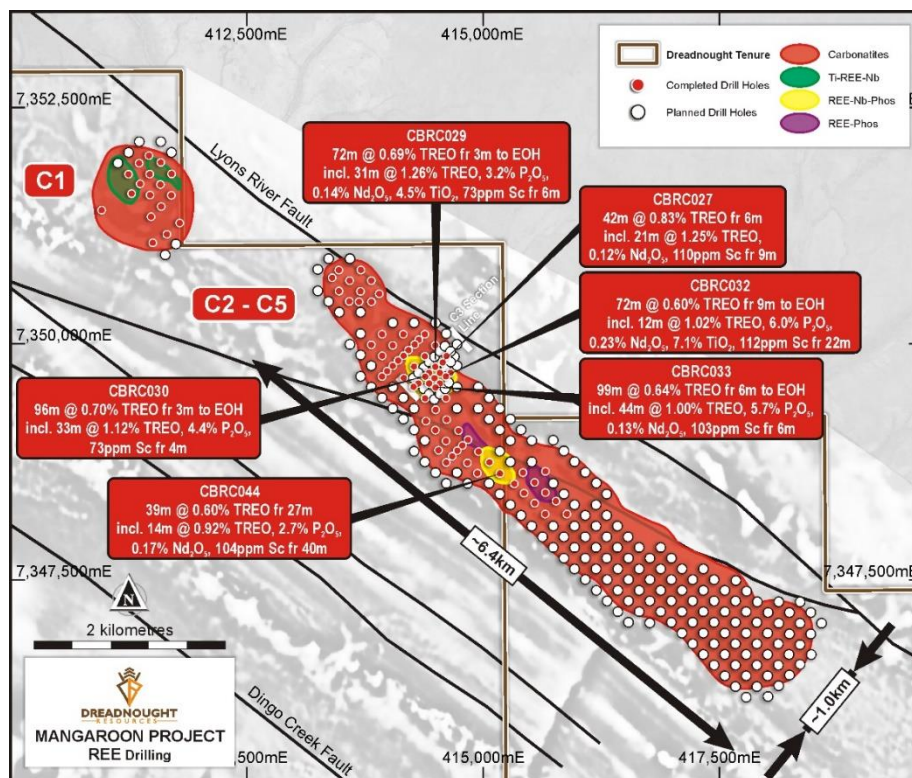
Since the C1-C7 carbonatites have minimal outcrop, a first-pass RC drilling program (~280 RC holes for ~20,000m) has been designed on a ~160m x 160m grid to drill through cover and into fresh rock. The objective of this program was to confirm the extent and complexity of the interpreted carbonatite intrusions, define zones of mineralisation and to better understand the cover regolith and depth of weathering.

In 2022 the carbonatite program was partially completed with 82 holes (7,813m) and delivered numerous successes including:

- identification of 6 coherent mineralised zones containing various minerals (including REE-P<sub>2</sub>O<sub>5</sub>-Nb<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>+Sc)
- delineation of an extensive 600m x 550m zone of mineralisation at C3 which remains open;
- intersection of thick mineralised zones of both weathered and fresh carbonatites;
- confirmation of multiple carbonatite and syenite intrusions, comprising a carbonatite-alkaline intrusive complex; and
- intersection of highly weathered carbonatites up to ~150m depth which could host residual mineralisation.

In addition to the first pass drilling, limited follow up drilling (7 RC holes for 1,135 and 1 diamond hole for 279.6m) were drilled on a ~80m x 80m spaced angled hole pattern targeting the ~600m x 550m mineralised zone at C3.

The 2023 carbonatite drilling program will define the extents of the mineralisation at C1-C7 leading to initial Resource estimation and vectoring into high-grade zones.



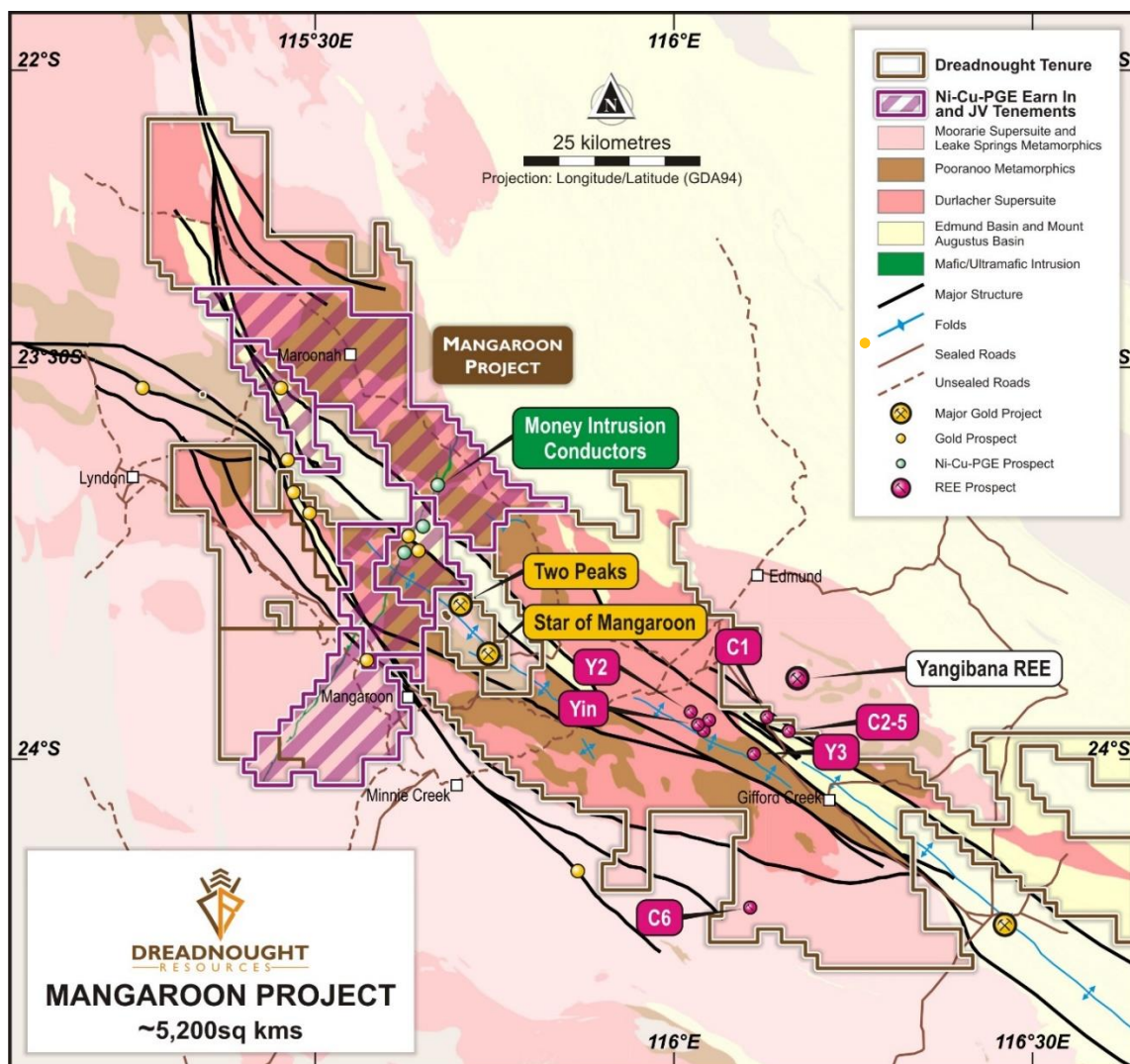
**Figure 4: Plan view of C1-C5 over a magnetic image showing the location of planned drilling (white dots) in relation to previous drilling and significant results.**

**Background on Mangaroon (E08/3274, E8/3178, E09/2384, E09/2433, E09/2473: FQM Earn-in)  
(E08/3275, E09/2370, E09/2448, E09/2449, E09/2450, E09/2467, E09/2478: DRE 100%)**

Mangaroon covers >5,300sq kms of the Mangaroon Zone in the Gascoyne Region of Western Australia. Part of the project is targeting Ni-Cu-PGE and is subject to an earn in with First Quantum Minerals Ltd (“FQM”) (earning up to 70%) – Figure 5. The region is host to high-grade gold mineralisation at the Bangemall/Cobra and Star of Mangaroon gold mining centres and the high NdPr:TREO ratio Yangibana REE deposits.

Dreadnought has located outcropping high-grade gold bearing quartz veins along the Edmund and Minga Bar Faults, outcropping high-grade REE ironstones, similar to those under development at Yangibana, REE-P<sub>2</sub>O<sub>5</sub>-Nb<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>+Sc carbonatites and outcropping high tenor Ni-Cu-PGE blebby sulphides in the recently defined Money Intrusion.

In December 2022, Dreadnought delivered an initial independent Yin Resource of 14.36Mt @ 1.13% TREO covering only 3kms of the 43kms of strike within the Yin REE Ironstone Complex.



**Figure 5: Plan view map of Mangaroon showing the location of the FQM Earn-in and 100% DRE ground in relation to major structures, geology and roads.**



For further information please refer to previous ASX announcements:

- 11 June 2021 *High-Grade REE Ironstones Outcropping at Mangaroon*
- 19 July 2021 *High-Grade REE Ironstones Confirmed Over 2.5kms at Mangaroon*
- 24 September 2021 *Airborne Magnetic-Radiometric Survey Commenced at Mangaroon*
- 2 February 2022 *Rare Earths, Phosphate, Niobium & Zirconium Results from Mangaroon*
- 5 September 2022 *Thick Rare Earth Ironstones Confirmed at Sabre (Y3) Discovery*
- 17 October 2022 *Mineralised Carbonatites Discovered at C3 and C4*
- 23 November 2022 *Multiple, Large Scale REE-Nb-Ti-P Carbonatites*
- 13 December 2022 *Thick Mineralisation Continues at C3, 2022 Drilling Complete*
- 28 December 2022 *Initial High-Grade, Independent Resource Over 3kms at Yin*
- 27 January 2023 *Mineralised REE Ironstones increased by 13kms to 43kms*
- 13 February 2023 *REE Ironstone Exploration Target Defined*

#### **UPCOMING NEWSFLOW**

**February:** Results from Kimberley auger sampling (Tarraji-Yampi 80% and 100%)

**February:** Initial Resource for Metzke's Find Au (Central Yilgarn 100%)

**February:** Results of FLEM survey at the Money Intrusion (FQM JV/Earn-in)

**February-December:** Ongoing REE drilling results from Mangaroon (100%)

**February/March:** Results from Wombarella Heli-EM survey (Tarraji-Yampi 100%)

**March:** Financial statements 31 Dec 2022

**March:** Extraordinary General Meeting

**March / April:** Results of Central Yilgarn Nickel Review with Newexco

**4-6 April:** Presenting at Future Facing Commodities (Singapore)

**April:** Quarterly Activities and Cashflow Report

**April/May:** Metallurgical results from Yin Ironstone Complex (Mangaroon 100%)

**May:** REE Resource upgrades for Mangaroon 100%

~Ends~

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*This announcement is authorised for release to the ASX by the Board of Dreadnought.*



## INVESTMENT HIGHLIGHTS

### Kimberley Ni-Cu-Au Projects

Dreadnought controls the second largest land holding in the highly prospective West Kimberley region of WA. The main project area, Tarraji-Yampi, is located only 85kms from Derby and has been locked up as a Defence Reserve since 1978.

Tarraji-Yampi presents a rare first mover opportunity with known outcropping mineralisation and historic workings from the early 1900's which have seen no modern exploration.

Results to date indicate that there may be a related, large scale, Proterozoic Cu-Au-Ag-Bi-Sb-Co system at Tarraji-Yampi, similar to Cloncurry / Mt Isa in Queensland and Tennant Creek in the Northern Territory.

### Mangaroon Ni-Cu-PGE JV & REE Au 100% Project

Mangaroon is a first mover opportunity covering ~5,300 kms located 250kms south-east of Exmouth in the vastly underexplored Gascoyne Region of WA. Part of the project is targeting Ni-Cu-PGE and is subject to a joint venture with First Quantum Minerals (earning up to 70%). The joint venture area contains outcropping high tenor Ni-Cu-PGE blebby sulphides in the recently defined Money Intrusion. Dreadnought's 100% owned areas contain outcropping high-grade gold bearing quartz veins including the historic Star of Mangaroon and Diamond's gold mines, along the Edmund and Minga Bar Faults and outcropping high-grade REE ironstones, similar to those under development at the Yangibana REE Project and seven carbonatite intrusions which may be the source of the regions rare earth mineralisation.

Dreadnought has delivered an initial JORC Resource over just 3kms Yin REE Ironstone Complex delivering 14.36Mt @ 1.13% TREO (30% NdPr:TREO Ratio) with an additional 27 strike kilometres to be tested in 2023.

### Bresnahan HREE and Au Project

Bresnahan is located ~125km southwest of Newman in the Ashburton Basin. The project comprises ~3,700 sq kms covering over 200kms strike along the Bresnahan Basin / Wyloo Group unconformity. Bresnahan is prospective for unconformity related heavy rare earth ("HREE") deposits similar to Browns Range HREE deposits and mesothermal lode gold similar to Paulsen's Au-Ag-Sb deposits along strike.

Prior to consolidation by Dreadnought, the Bresnahan Basin had only been explored for unconformity uranium with limited exploration for mesothermal gold. Bresnahan is a first mover opportunity to explore for unconformity HREE.

### Central Yilgarn Gold, Base Metals, Critical Minerals & Iron Ore Project

Central Yilgarn is located ~190km northwest of Kalgoorlie in the Yilgarn Craton. The project comprises ~1,600 sq kms covering ~150km of strike along the majority of the Illaara, Yerilgee and Evanston greenstone belts. Central Yilgarn is prospective for typical Archean mesothermal lode gold deposits, VMS base metals, komatiite hosted nickel sulphides and critical metals including Lithium-Caesium-Tantalum.

Prior to consolidation by Dreadnought, the Central Yilgarn was predominantly held by iron ore explorers and remains highly prospective for iron ore.







## **Cautionary Statement**

*This announcement and information, opinions or conclusions expressed in the course of this announcement contains forecasts and forward-looking information. Such forecasts, projections and information are not a guarantee of future performance, involve unknown risks and uncertainties. Actual results and developments will almost certainly differ materially from those expressed or implied. There are a number of risks, both specific to Dreadnought, and of a general nature which may affect the future operating and financial performance of Dreadnought, and the value of an investment in Dreadnought including and not limited to title risk, renewal risk, economic conditions, stock market fluctuations, commodity demand and price movements, timing of access to infrastructure, timing of environmental approvals, regulatory risks, operational risks, reliance on key personnel, reserve estimations, native title risks, cultural heritage risks, foreign currency fluctuations, and mining development, construction and commissioning risk.*

## **Competent Person's Statement – Exploration Results**

*The information in this announcement that relates to geology, Exploration Results and Exploration Targets was compiled by Mr. Dean Tuck, who is a Member of the AIG, Managing Director, and shareholder of the Company. Mr. Tuck has sufficient experience which is relevant to the style of mineralisation and type of deposit 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. Tuck consents to the inclusion in the announcement of the matters based on the information in the form and context in which it appears.*

*The Company confirms that it is not aware of any new information or data that materially affects the information in the original reports, and that the form and context in which the Competent Person's findings are presented have not been materially modified from the original reports.*

## **Competent Person's Statement – Mineral Resources**

*The information in this announcement that relates to Mineral Resources is based on information compiled by Mr Lynn Widenbar, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Widenbar is a full-time employee of Widenbar and Associates Pty Ltd. Mr Widenbar has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that is being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves'. Mr Widenbar consents to the inclusion in the announcement of the matters based on his information in the form and context that the information appears.*