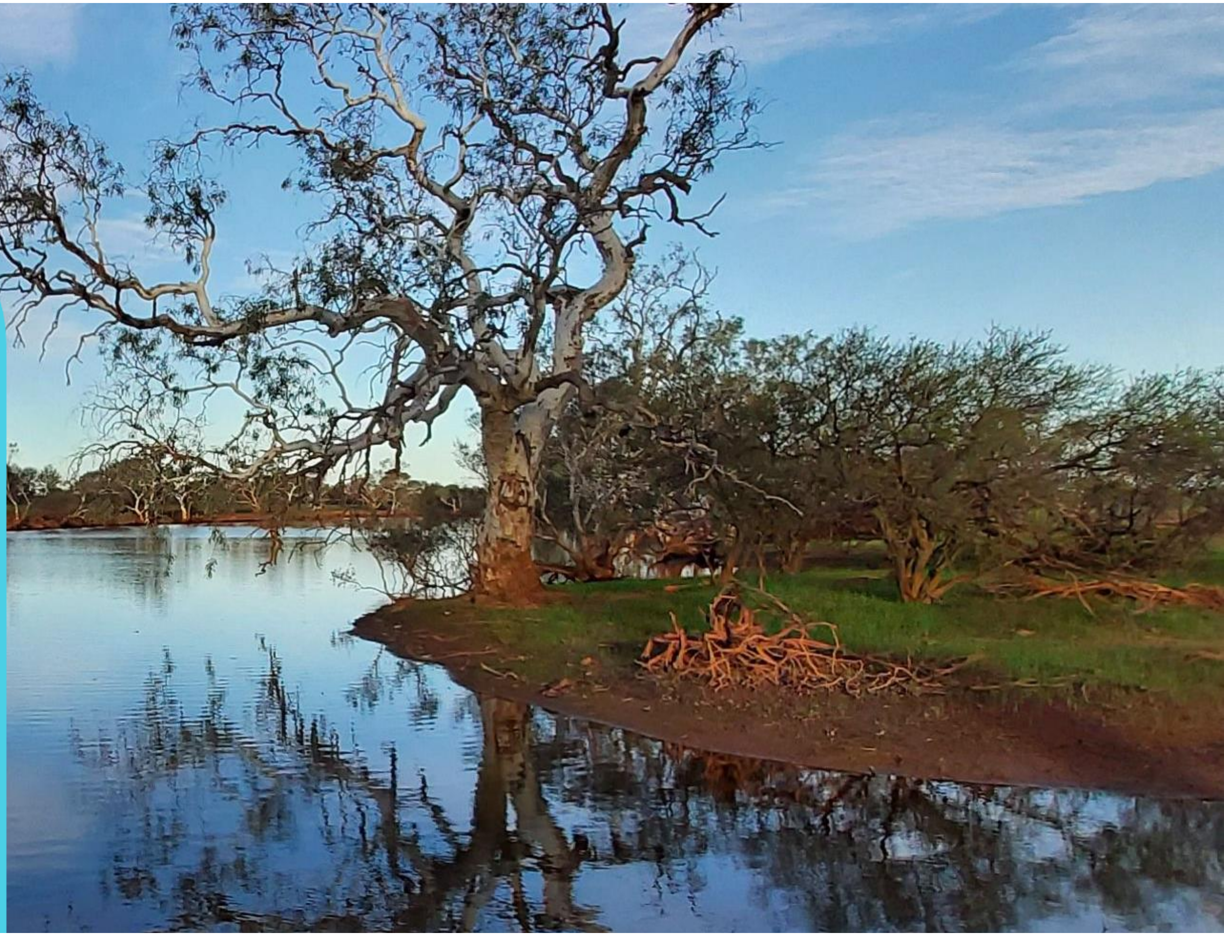
DESERT METALS
Limited

Rare Earth Elements
Nickel | Copper | Gold
Narryer Terrane, Western Australia

Investor Presentation

October 2022



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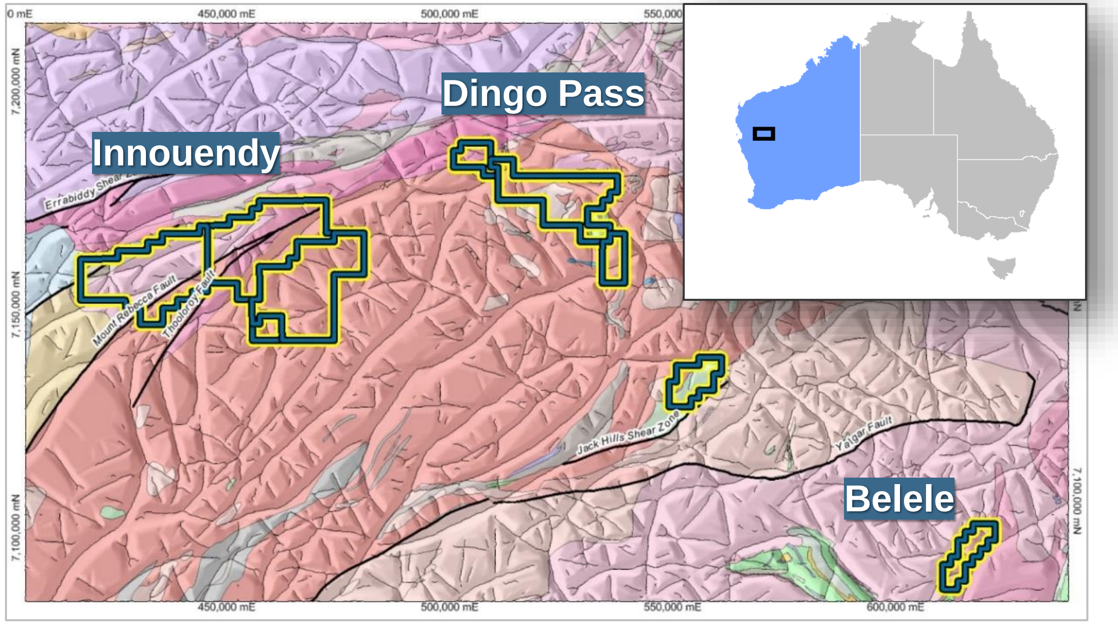
Competent Person Statement

The information in this announcement that relates to Exploration Results is based on, and fairly represents, information and supporting documentation prepared by Dr Rob Stuart, a competent person who is a member of the Australasian Institute of Mining and Metallurgy. Dr Stuart has experience which is relevant to the style of mineralization and type of deposit under consideration and to the activity which he is undertaking to qualify as a competent person as defined in the 2012 Edition of the Joint Ore Reserves. Dr Stuart is a related party of the Company, being a Director, and holds securities in the Company. Dr Stuart has consented to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

Desert Metals ASX:DM1

Desert Metals has a full pipeline of mineral projects in Western Australia including:

- Recent discovered clay hosted Rare Earth Elements at Innouendy
- Nickel-Copper-PGE prospects along the craton margin at Innouendy and Dingo Pass
- Copper-Gold prospects along the Carbar shear at Belele
- Multiple early stage multi-commodity projects



GSWA 500k bedrock geology over gravity derived shaded structure, exposed major faults annotated.

Desert Metals Rare Earth Element Discovery

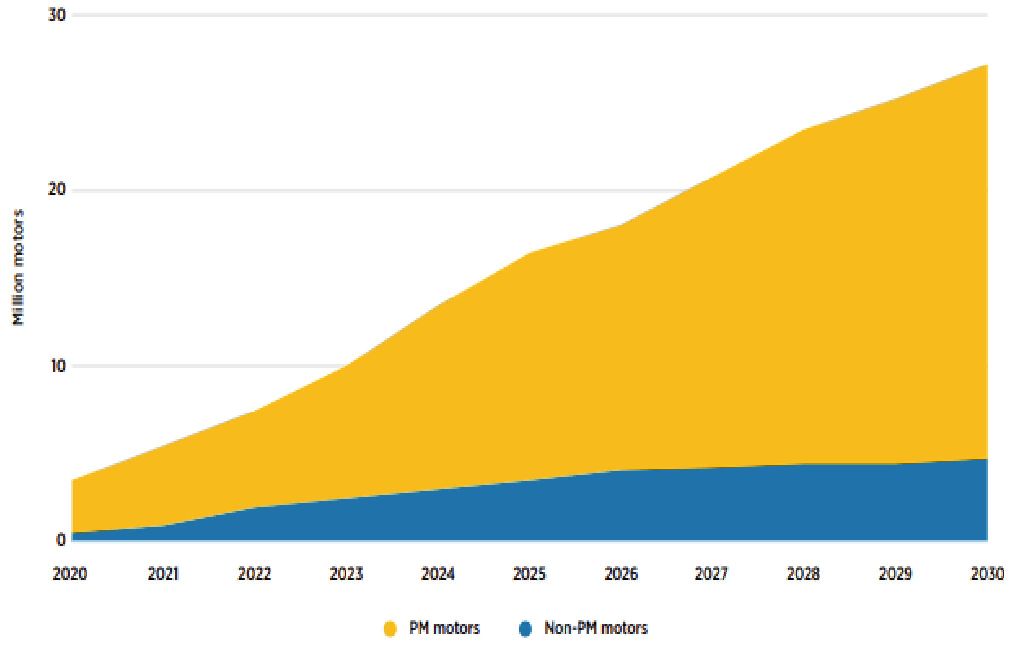
- Analysis from the recent drilling program at the Innouendy project in WA confirmed a significant clay-hosted rare earth discovery
- Desert Metals holds over 1,600 km^2 in an emerging new REE province
- TREO intersections within the clay at Innouendy appear to be thick (8-48m) and relatively continuous
- Step out drilling traverses across 20km of strike length have intersected both thick clays and large volumes of mafic and ultramafic rock
- Large extent of untested target area for potentially globally significant clay REE mineralisation
- Excellent recoveries from limited testing to date
- Assays remain pending for an additional 11,617m

Electrification - Critical Minerals Supply will need to Increase

Electrification and the global energy transition is substantially raising demand for certain minerals and metals.

- Solar and wind power generation, grid expansion and electromobility (motors and batteries) will be the main drivers for critical minerals
- For many materials, the additional quantities are not that significant compared with total consumption; for example, copper and nickel
- Some materials – such as rare earth elements and lithium – have historically had few significant uses therefore the effect of growth in demand can, in relative terms, be very significant

Projections for rare earth permanent magnet use in electric vehicles, 2020-2030

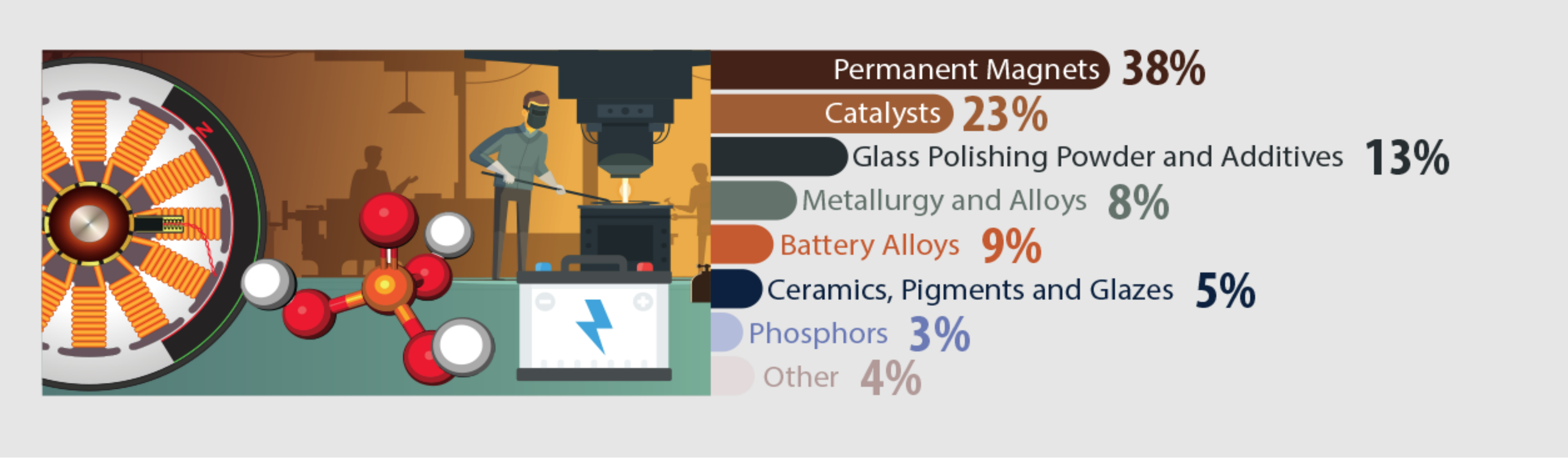


Source: Adapted from Onstad, 2021.

Note: Estimates of motors used in battery and fuel cell electric vehicles. Permanent magnet (PM) motors are axial flux permanent magnets and surface-mounted permanent magnets. Non-PM motors are of the current-excited wound synchronous and induction types.

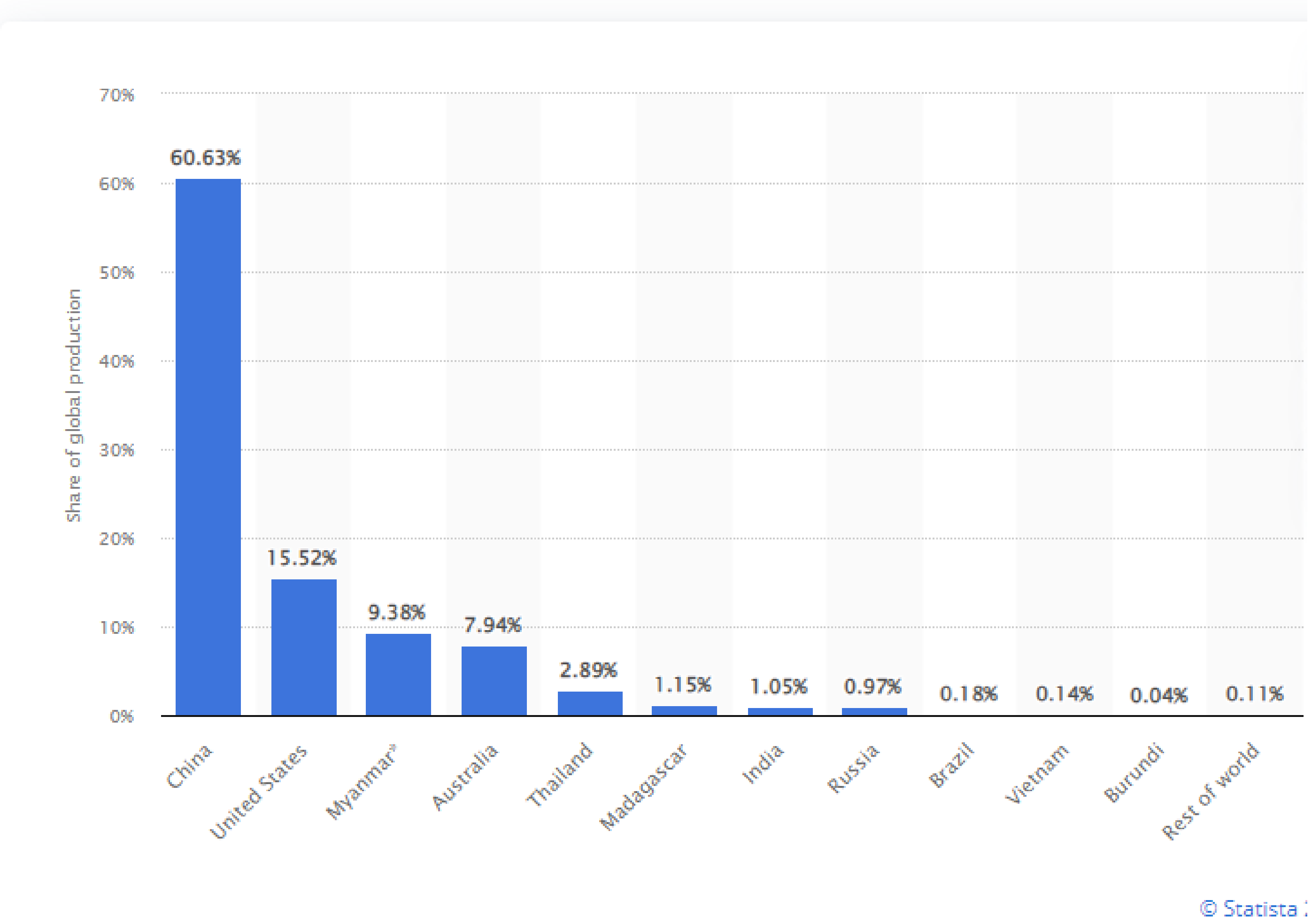
Rare earth elements uses

- The sudden REE boom reflects these elements' unique optical and magnetic properties (Adler and Müller, 2014)
- Roskill (2021) reports that rare earth permanent magnets, the largest single end use, accounted for 29% of total demand in 2020
- By 2030, magnets are predicted to constitute approximately 40% of total demand
- Demand for key magnetic REEs may far exceed supply by the end of this decade (Alves Dias et al., 2020; Barrera, 2021)



Source: https://www.nrcan.gc.ca/our-natural-resources/minerals-mining/minerals-metals-facts/rare-earth-elements-facts

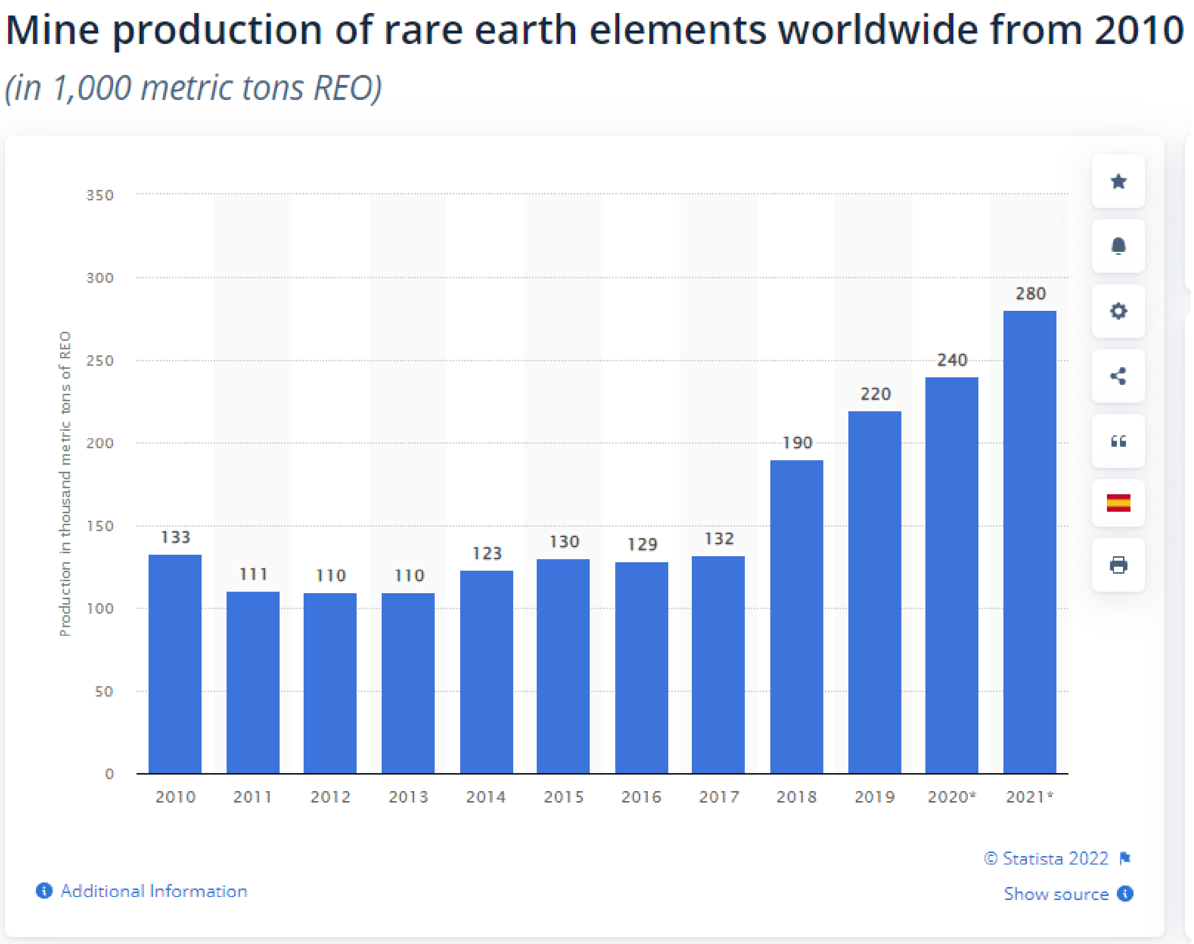
Production- Rare Earth Elements



- China produced more than half of the total global rare earth oxide in 2021- 168,000 tonnes
- Australia's production comes from Lynas Mt Weld mine in Western Australia

https://www.statista.com/statistics/270277/mining-of-rare-earths-by-country/

Production- Rare Earth Elements



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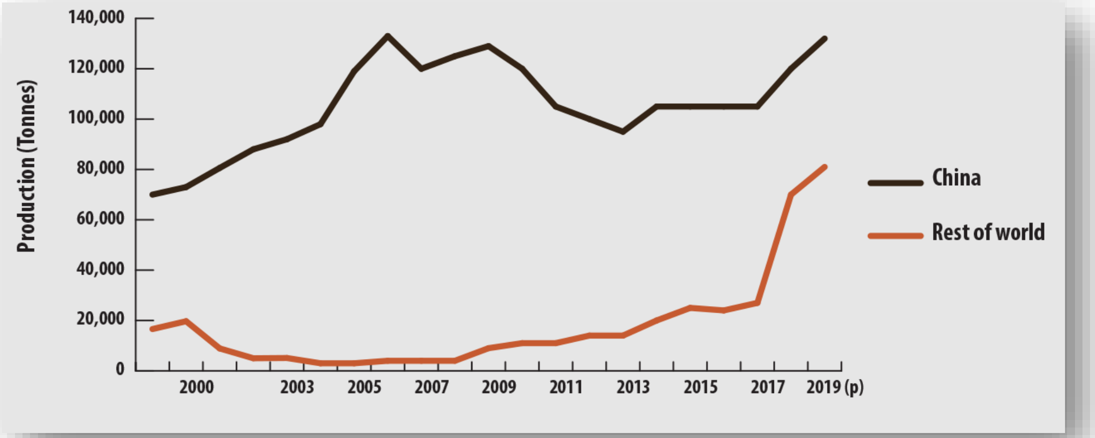


- Production of rare earth elements more than doubled between 2010 and 2021 from 133,000 tonnes in 2010, to an estimated 280,000 tonnes in 2021.
- The United States was the world's largest supplier of REEs until the emergence of China in the mid-1990s.
- China was virtually the world's sole REE supplier until 2012, when the US producer Molycorp Inc. and the Australian company Lynas Rare Earths Ltd. started commercial production.

Rare Earth Oxide Prices

Rare earth oxide prices

PRODUCT (OXIDE)	(% PURITY)	USD/KG		
		2017	2018	24 DECEMBER 2021
Scandium	99.990	4 600	4 600	836
Yttrium	99.999	3	3	11.9
Lanthanum	99.500	2	2	2
Cerium	99.500	2	2	1.5
Praseodymium	99.500	65	63	140
Neodymium	99.500	50	50	143
Samarium	99.500	2	2	4.5
Europium	99.990	77	53	32
Gadolinium	99.999	37	44	76.2
Terbium	99.990	501	455	1 720
Dysprosium	99.500	187	179	452

Note: Products are listed in order of atomic number. Prices depend on purity; data on similar purities from different sources have been combined. The source for the data on scandium is Stanford Metals Corporation. The source for all other elements is Argus Media Group – Argus Metals International. The source of the December 2021 data is ISE (2021).

Clay versus Hard Rock REE

Summary of leaching technologies in primary rare earth elements production

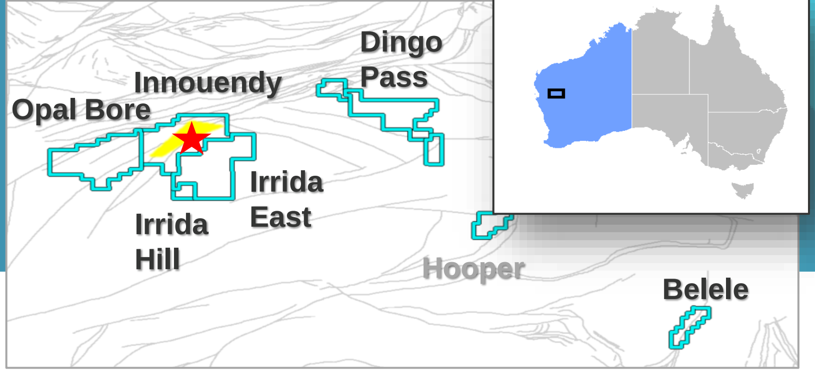
MINERAL	PROCESS/STEPS	REE YEILD	REMARKS	STATUS
BASTNAESITE	I. Hydrochlorid acid (HCl) leaching to remove non REE carbonate II. Calcination of esidue to form rare earth oxide	85-90%	• The oldest way to producte bastnaesite concentrates.	Outdated
	I. Digestion with nitric acid (HNO_3) or sulphiric acid (H_2SO_4)	98%	• Acid choice depends on further processing: solvent extraction to nitric acid (HNO_3) precipitation to sulphiric acid (H_2SO_4)	Outdated
	I. Roast at 620°C to drive of carbon dioxide (CO_2) II. 30% HCl leach	-	• Cerium+III oxidises to cerium+IV during roasting → will not leach REE fluorides • Residue is marketable	Outdated
	I. Alkine conversion rare-earth metal-fluoride REF_3 to rare-earth hydroxide $RE(OH)_3$ II. 30% HCL leach	-	• Process can be preceded with hydrochlorid acid leach to extract REE carbonates before alkaline conversion.	In use
	I. Sulphiric acid roast II. Sodium chloride solution leach III. Precipitation as sodium double sulphates	-	• Precipitates are converted to chlorides for further purification with solvent extraction.	In use
MONAZITE	I. Digestion in hot sulphiric acid (H_2SO_4)	-	• Process conditions determine what is leached: only light REE or light + heavy REE + thorium	Outdated
	I. Digestion in hot 60-70% sodium hydroxide II. Washing residue with hot water III. Leach with mineral acid of choice	98%	• Cerium cannot be leached if manganese is present • Thorium is leached together with REE • Trisodium phosphate (Na_3PO_4) is marketable by-product	In use
	I. Heat under reducing and sulphidising atmosphere with calcium chloride ($CaCl_2$) and calcium carbonate ($CaCO_3$) II. Leach with 3% HCl	89%	• Requires no fine grinding • Thorium does not leach, remains in residue as thorium dioxide (ThO_2) • No manganese problem	In use
IRON CLAY	I. Salt leach with ammonium sulphate $(NH_4)_2SO_4$	80-90%	• Targets physisorbed REE through cation exchange	In use
	I. Leach with saltwater	40%	• Inefficient but cheap process	Research & development
	I. Acid leach with strong acid (pH<1)	100%	• Dissolves entire clay • Incurs significant additional costs	Not used

Source: Peelman *et al.*, 2014.

Advantages of clay deposits	Clay REE	Hard Rock REE
Project location Geographic distribution of resources and production	Dominated by Asia, specifically China and Myanmar	Mainly China, also projects in Australia and the U.S. of America
Element composition Rare earth element assemblage and concentration	Both light (Nd and Pr) and heavy (Tb and Dy) rare earth elements typically exist	Predominately light rare earth elements (Nd, Pr)
Extraction intensity Relative operating costs	Low	High
Exploration dynamics Cost and time	Inexpensive aircore drilling into soft sedimentary material for swift exploration	Costly, hard rock diamond drilling required for slower, expensive exploration
Mine development Capital expense	Low Shallow deposits, progressive mining and rehabilitation	High Large open pit with large operating fleet and costly closure
Processing Style and environmental impact	Simple, proven, low acid metallurgy with inert tailings and solvent recycling	Complex metallurgy, high temperatures and pressures, strong acids and often radioactive tailings

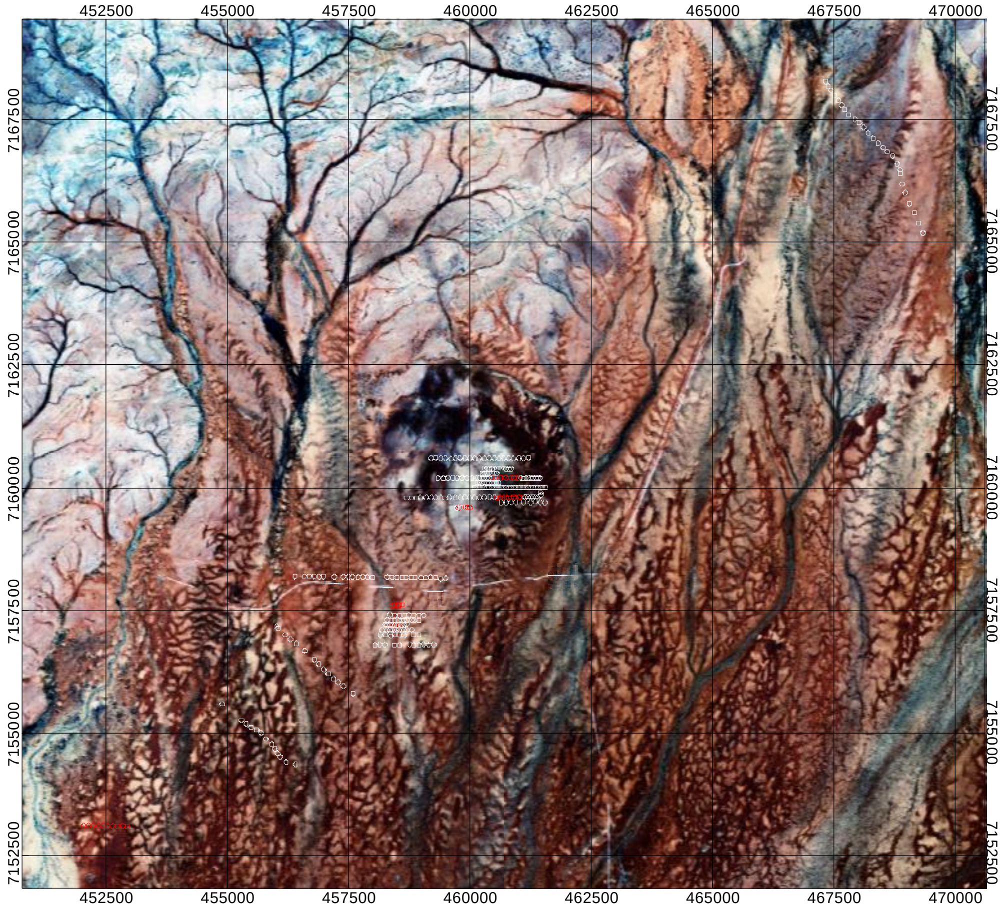
Source : od6metals.com.au

Innouendy Rare Earth Elements



- Desert Metals is advancing its Significant Clay hosted Rare Earth Element Discovery at Innouendy

- Significant Total Rare Earth Oxide (TREO) intercepts include:
  - 20m @ 2139ppm from 16m (**incl 4m @ 4376ppm**) hole 27
  - 8m @ 2734ppm from 24m (**incl 3m @ 4104ppm**) hole 80
  - 12m @ 1404ppm from 8m (incl 4m @ 2786ppm) hole 25
  - 20m @ 1187ppm from 28m (incl 4m @ 2428ppm) hole 4
  - 20m @ 1195ppm from 28m (incl 4m @ 2185ppm) hole 5
  - 21m @ 1176ppm from 4m (incl 12m @ 1490ppm) hole 136
  - 16m @ 1347ppm from 28m (**incl 8m @ 2085, incl 4m @ 2791**) hole 130
  - 48m @ 665ppm from 20m (incl 8m @ 1209ppm) hole 70
  - 28m @ 965ppm from 12m (incl 16m @ 1255ppm) hole 140
  - 28m @ 855ppm from 4m (incl 8m @ 1311ppm) hole 137
  - 28m @ 607ppm from 44m (incl 8m @ 1122ppm) hole 69
  - 8m @ 1429ppm from 20m (**incl 4m @ 2040ppm**) hole 138
  - 8m @ 1325ppm from 12m (incl 4m @ 1771) hole 134
  - 8m @ 1111ppm from 12m (incl 4m @ 1674ppm) hole 77
  - 8m @ 1051ppm from 12m (incl 4m @ 1270ppm) hole 78
  - 8m @ 1020ppm from 32m (incl 4m @ 1125ppm) hole 72



Location of aircore and RC holes at Innouendy.

Red collars previously reported, white collars from current program with analysis pending.

Current drilling program extends across greater than 20km.

Background image Sentinel RGB =432 ternary image.

Innouendy Rare Earth Elements

- First assay results from the initial 1,128m of a 12,745m aircore and RC drilling program have been received and confirm the presence of thick - and continuous rare earths mineralisation lying close to surface and indicating a potentially significant mineralised system
- Clays which host the mineralisation start close to surface and have been intersected up to 80m thick in parts. Step out drilling traverses have intersected the prospective horizon across a strike length greater than 10km
- Assays remain pending for a further 11,617m.
- The mineralisation assayed to date is showing encouraging grades over significant widths from close to surface.
- The drill program extends over a 20km area. Once all assays are compiled, a more expansive drill program will test the extent of this new discovery and move towards defining a resource.
- Encouragingly, 8m thick intercepts of greater than 1100ppm TREO are still encountered at the Cattle Yard nickel prospect ~4km to the southwest suggesting potential for significant lateral extent to the clay hosted mineralisation.

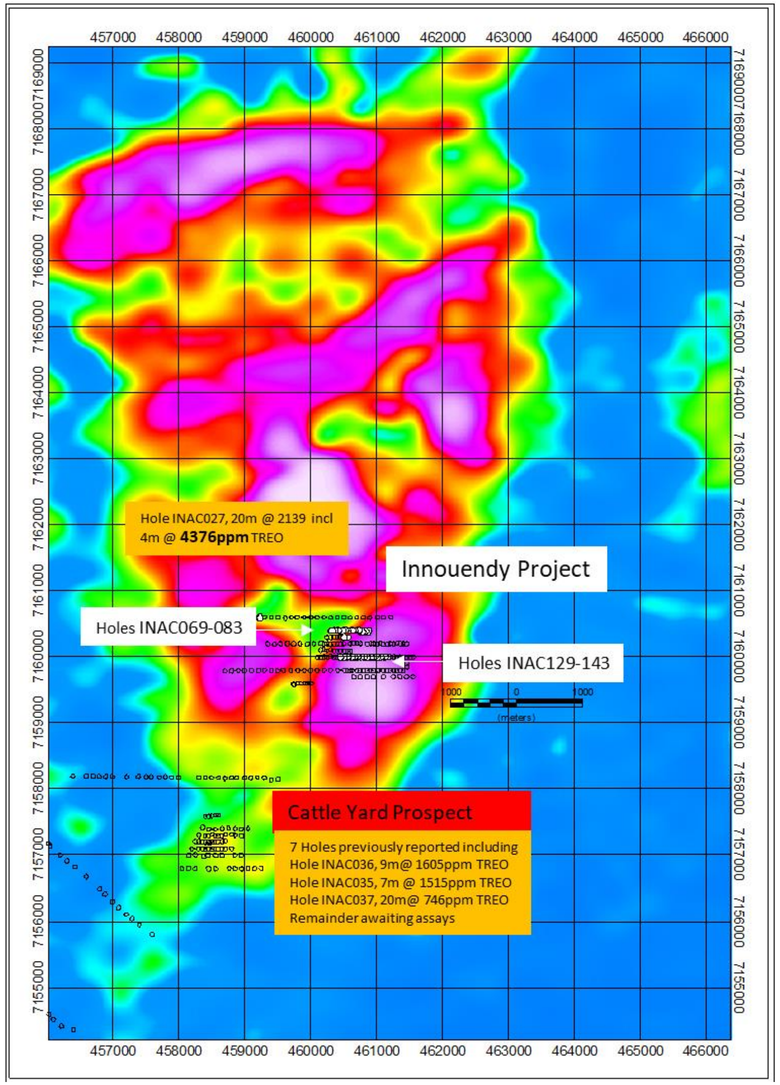


Figure 1. *Assays reported from holes INAC 069-083 and INAC129-143 shown with white background (See Figure 2 for sections).*

Assays are pending for all other holes apart from the partial sampling previously reported.

Background Image- Radiometric thorium count from airborne spectrometer.

Primary minerals containing rare earth elements often contain thorium.

Radiometric thorium, along with early time EM data, can be used in the targeting process to help identify thick clays with the potential for high-grade ionic rare earths.

Innouendy Rare Earth Elements

- Selected samples analysed by Lithium borate fusion, ICP-MS finish were re-analysed by weak acid (Aqua Regia) digest to test the level of REE's that can be easily leached.

- Recoveries were particularly good (>80%) for the high-grade zones of high value REE's (ASX:DM1 15 June 2022) and confirm the economic significance of the thick high-grade intersections.

- Development scenarios would likely be lower capex given the ease of extracting the minerals via simple leach.

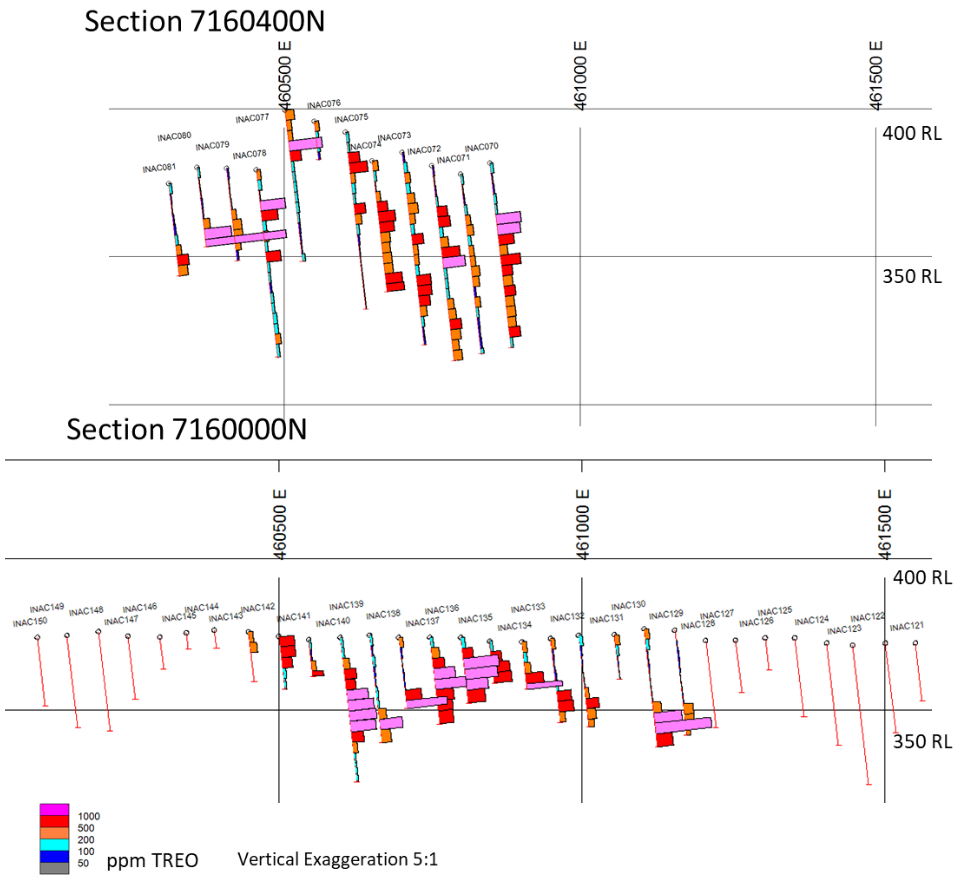
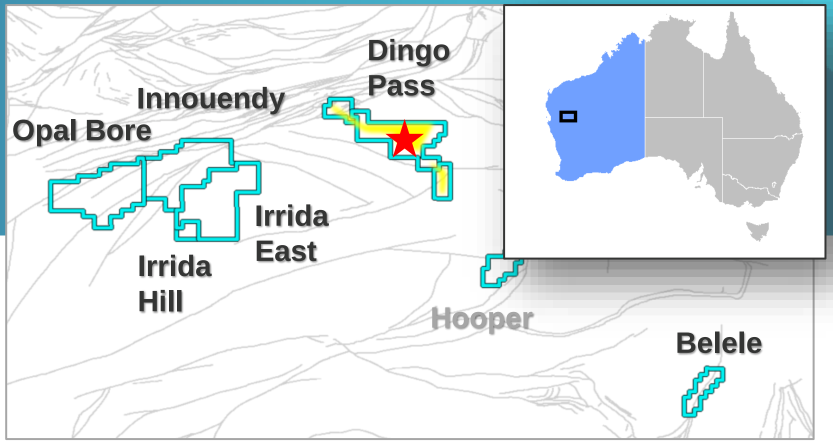


Figure 2. *Total Rare Earth Oxides from two sections of assays received to date. Red drill traces = assays not yet received. TREO intersections within the clay appear to be thick and relatively continuous from the limited results received.*

Dingo Pass Ni-Cu-PGE's



- Dingo Pass – just inboard of craton margin on major cross craton structure. Magnetic *dome* feature with a cluster of extremely high conductance EM targets and coincident soil anomalies [Ni, Cu, PGE's]
- An AEM survey flown in 2021 by the Company identified 8 target zones across the package
- Ground EM surveying subsequently confirmed very high conductance discrete bedrock targets
- Mapping identified that some rocks previously mapped as BIF were mafic intrusives
- Soil geochemistry highlighted anomalous Ni, Cu, PGE over the "dome" prospect
- Compelling story emerged → strong conductors, the right rocks, coincident anomalous soil geochemistry

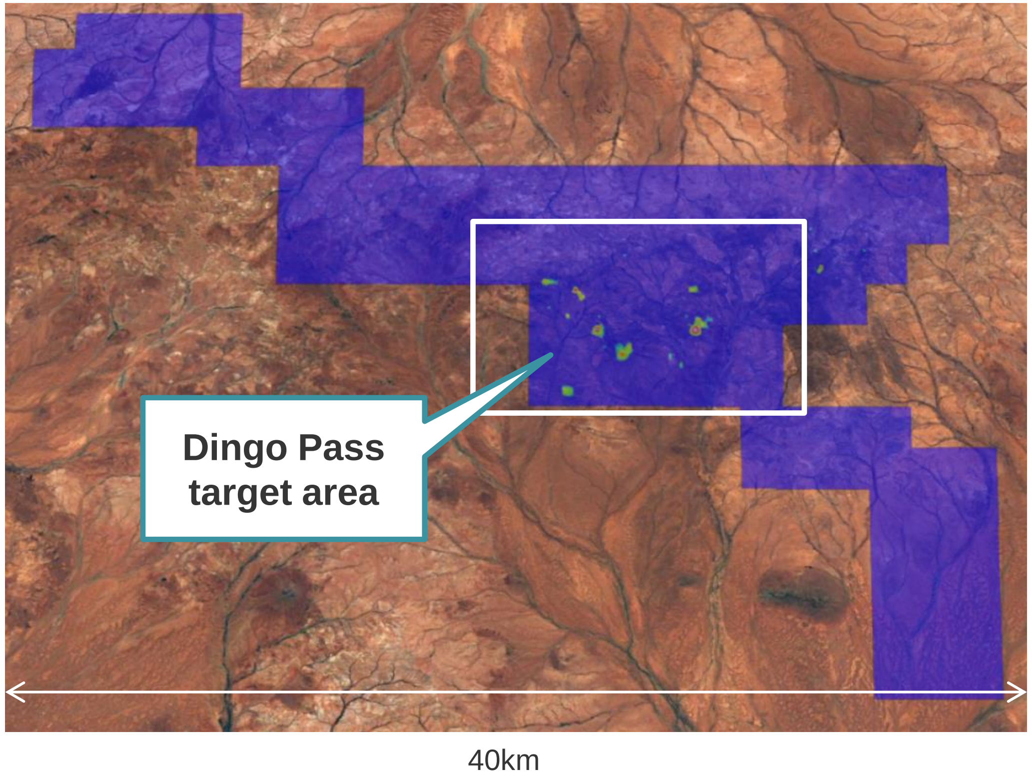
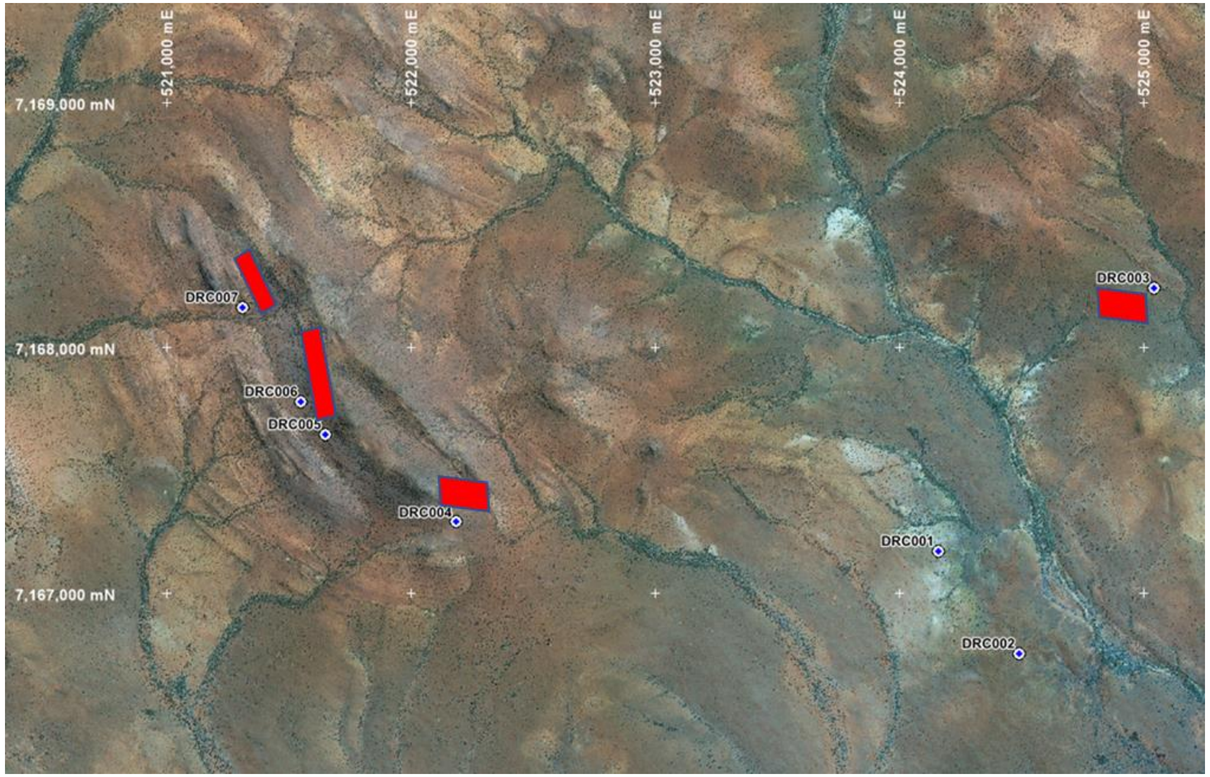


IMAGE: Semi-transparent Tau [time constant] image [EM derived] over aerial photo.
RED = high time constant [better conductor].

Dingo Pass Ni-Cu-PGE's

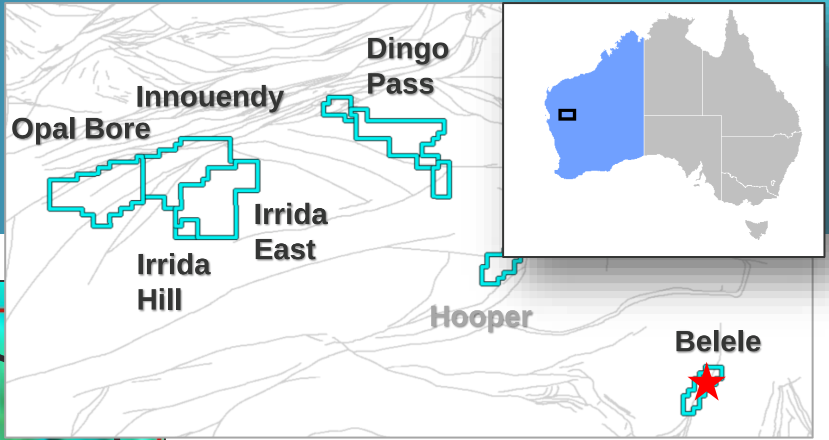
- Initial drilling did not intersect sufficient sulphides to explain the conductors at Dingo Pass.
- The targets are untested and still "live
- First drilling at Dingo Pass intersected metamorphosed mafic intrusions with traces of disseminated copper (Cu) and nickel (Ni) bearing sulphides, but not enough sulphide or other conductive rock to explain the anomalies (DM1:ASX release 15 June 2022).
- Downhole electromagnetic data (DHEM) has been completed to better define the conductors location
- Modelling of DHEM confirms the presence of very high conductance bodies and suggests they are off hole from the initial RC drilling. These will now be tested with both RC and diamond holes.

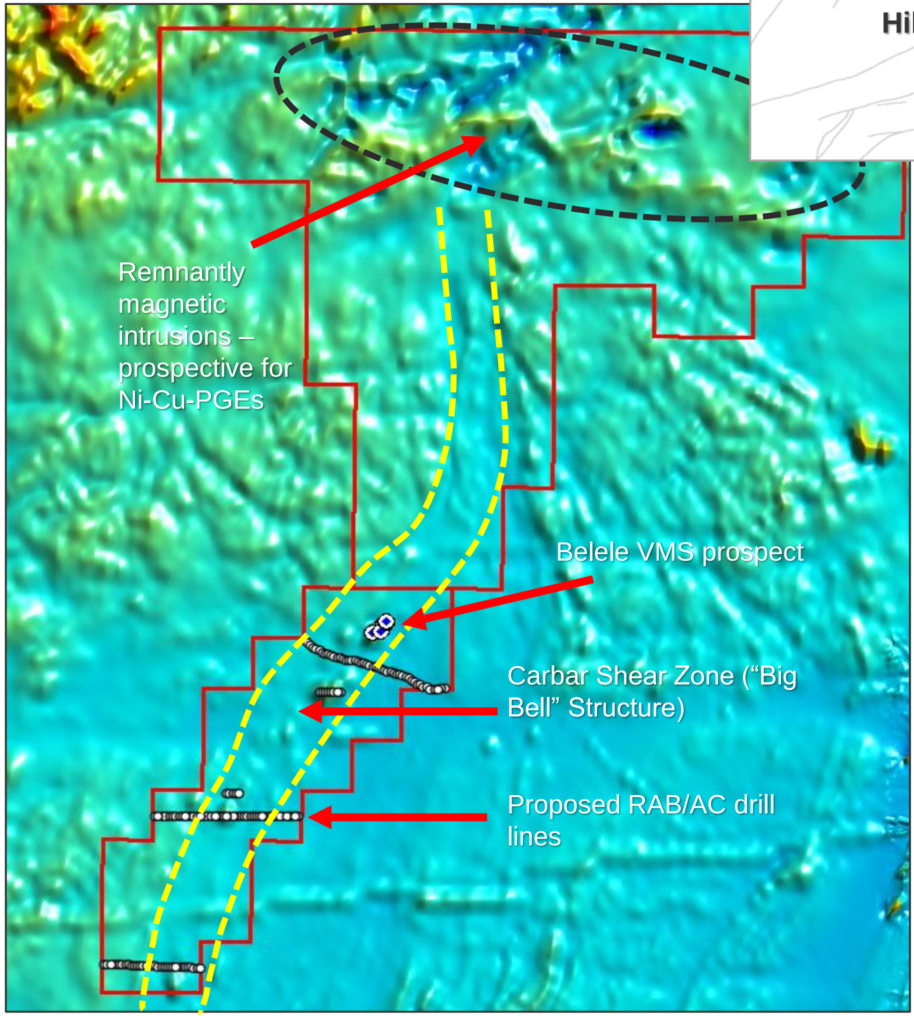


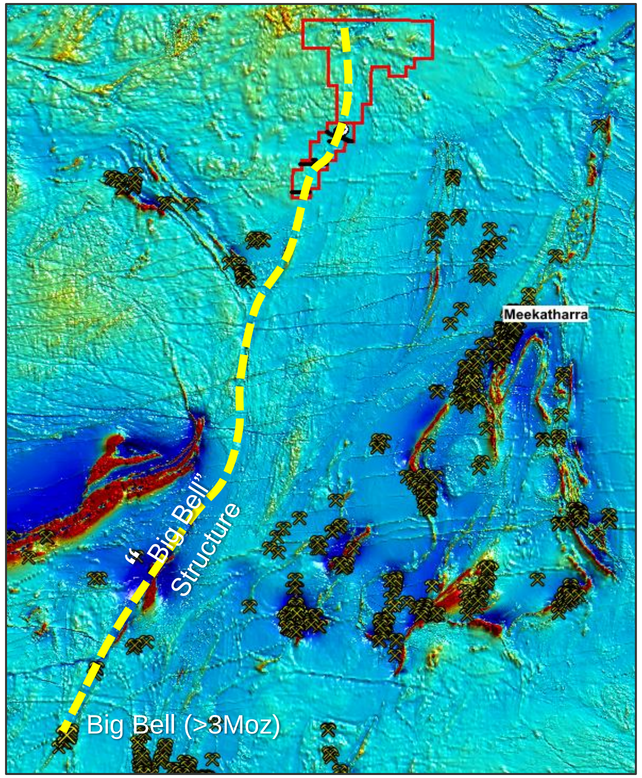
Dingo Pass Drill Hole Location Plan. Red squares - location of untested conductors modelled from DHEM

Belele Copper - Gold

- DM1's RC drilling confirmed presence of greenstone belt and shearing
- >30km strike of gold prospective sheared greenstone belt
- 100% concealed under shallow cover and entirely untested
- Potassic alteration, silicification and sulphide mineralisation consistent with Carbar Shear Zone and analogous to Big Bell style of alteration
- **150 hole, 12,000m RAB/AC, RC drilling POW approved** – will test 15km strike of Carbar Shear Zone
- ~1500 line km detailed magnetics survey required to refine targeting
- ~1000 line km EM survey required on northern tenement to test for VMS and Nickel massive sulphides

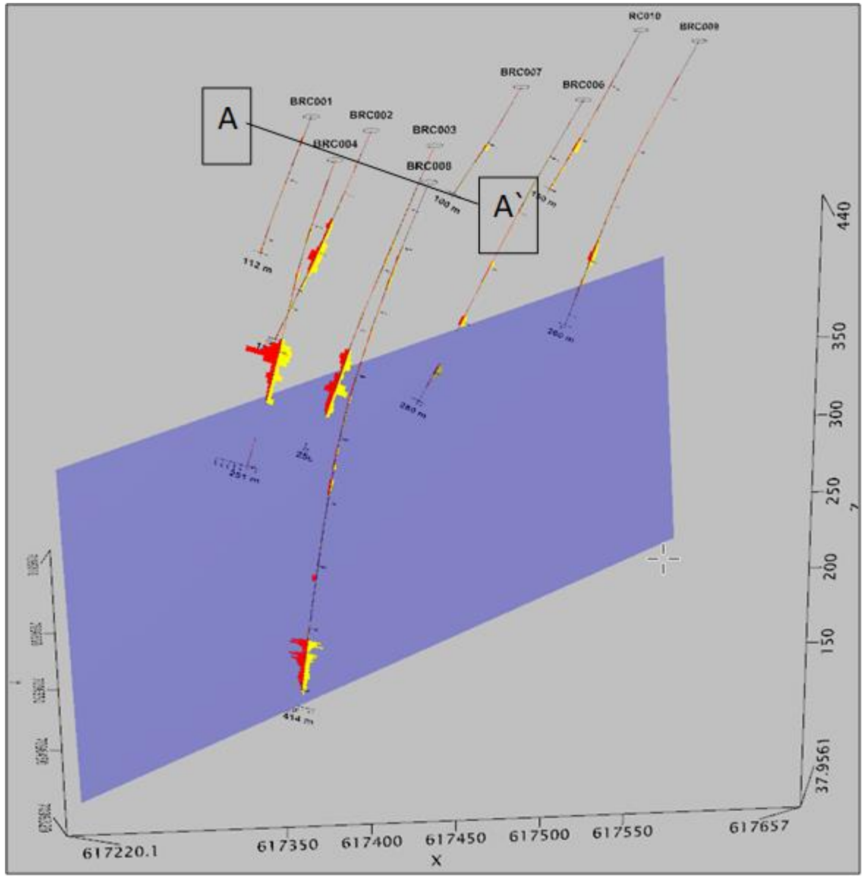






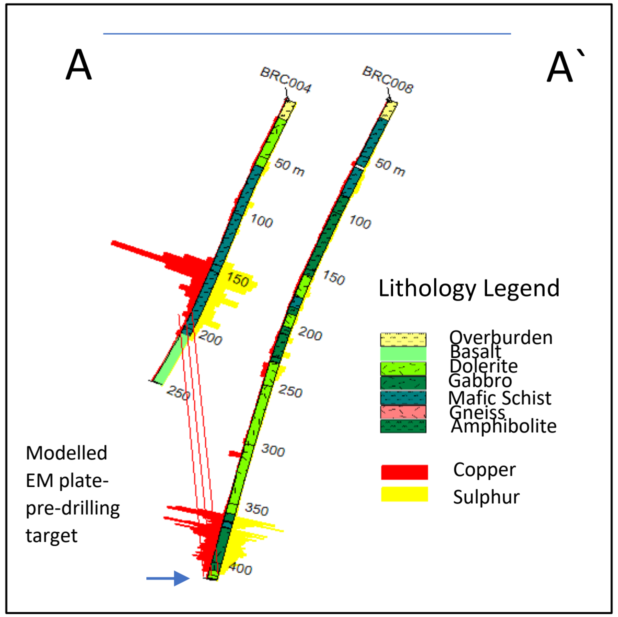
Belele Copper - Gold

- RC drilling confirmed the presence of the greenstone belt, shearing and conductive copper sulphide mineralisation
- The entire Belele license which is now known to be underlain by the Mingah Range Greeenstone Belt has become prospective for both VMS and orogenic style gold
- Additional conductive targets along the license



3D view looking North at Belele.

The conductive plate modelled from EM data is shown in purple. Copper intercepts in red, sulphide in yellow. There is a good correlation between the location of then modelled plate, sulphide mineralisation and copper grade. Section A – A` shown in Figure 2.



Hole 4 intersection

44m @ 0.14% Cu, from 140-184m, incl

12m @ 0.32% Cu, from 148-160m, incl

4m @ 0.51% Cu, from 152-156m

200ppm lower cut-off

Hole 8 intersection

40m @ 0.11% Cu, from 360-400m, incl

21m @ 0.14% Cu, from 360-381m

Corporate overview

Capital Structure

Share Price (18 October 2022)	*A$/share*	0.47
Shares on Issue	*m*	63m
Options on Issue	*m*	12.3m
Market Capitalisation	***A$m***	**29.6m**
Cash (30 June 2022)	*A$m*	3.01m
Debt (30 June 2022)	*A$m*	-
Enterprise Value	***A$m***	**26.6m**

Board of Directors

Mr Mark Stewart *Chairman*	Mr Stewart has over 30 years of international legal and commercial experience, particularly in the resources industry, in Africa, Asia, North America and Australia. He worked as an in-house lawyer for Anglo American plc (Anglo) for over ten years. Mr Stewart has broad commercial experience in the junior mining and resources sector, having worked for junior listed resource companies from 2003 to 2010, including roles as a Non-Executive Director, Managing Director and Chairman of several ASX listed resource companies. Mr Stewart holds a Bachelor of Journalism majoring in Journalism and Law from Rhodes University (South Africa) and a Bachelor of Laws from the University of Cape Town (South Africa). He is a member of the Australian Institute of Company Directors.
Dr Rob Stuart *Managing Director*	Dr Stuart is a geoscientist who has worked in mineral exploration for the last 25 years. He has successfully explored for precious and base metals as well as bulk commodities in Australia, North America, Africa, the Former Soviet Union and Asia. He has worked for listed junior explorers and major mining companies. Rob spent 5 years as Program Manager – Minerals Exploration at BHP Billiton where he managed regional exploration for Russia and Central Asia exploring for Copper, Nickel and Metallurgical coal. Prior to that he was Program Manager for near mine exploration at BHP Billiton / Nickel West in Western Australia.
Mr Tony Worth *Director*	Mr Worth is a geologist and business development consultant with 25 years experience. He has worked in Australia, Africa, North America and South America on a wide range of commodities and deposit styles. Mr Worth has a broad range of experience across all aspect of the minerals exploration industry, from target generation, exploration management, field programs implementation, through to commodity market analysis, joint venture negotiations and project acquisitions. Mr Worth is currently Exploration Group Consultant - New Business, with First Quantum Minerals. He has also held the position of Director of Alamar Resources Ltd
Mr Keith Murray *Non-Executive Director*	Mr Murray is a Chartered Accountant with extensive knowledge and experience built up over 40 years at General Manager level in audit, accounting, tax, finance, treasury and corporate governance. Mr Murray's experience in mining extends to the 1990's during which time he was Group Accounting Manager Corporate and Taxation, and joint Company Secretary for Eltin Limited, a leading Australian based international mining services company. Mr Murray is currently General Manager Corporate and Company Secretary for Heytesbury, the privately owned Holmes à Court family company group in Western Australia.

Desert Metals Outlook

- Defining a new clay hosted Rare Earth Element Discovery
- First mover status in emerging Ni-Cu province
- Focus on Innouendy, Dingo Pass and Belele projects
- Numerous secondary targets
- Substantial leverage to exploration success on any one project. Low number of shares on issue
- Highly technical and experienced Western Australian explorer

Contact us

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