



18 November 2022

TZMI Congress Presentation

Please find attached a copy of the presentation by the Managing Director of Astron Corporation Limited, Tiger Brown, that is to be given at the TZMI Congress in Singapore today, 18 November 2022.

This announcement is authorised for release by the Managing Director of Astron.

About Astron

Astron Corporation Limited (ASX: ATR) is an ASX listed company, with over 35 years of experience in mineral sands processing technology and downstream product development, as well as the marketing and sales of zircon and titanium dioxide products. Astron's prime focus is on the development of its large, long-life and attractive zircon assemblage Donald Mineral Sands and Rare Earth Project in regional Victoria. Donald has the ability to represent a new major source of global supply in rare earths & mineral sands. The company conducts a mineral sands trading operation based in Shenyang, China and owns and operates a zircon and titanium chemicals and metals research and facility in Yingkou, China, which includes a mineral separation facility processing mineral concentrate products into final products. Astron also owns and has the rights to a dunal mineral sands deposit, the Niafarang Mineral Sands Project, in Senegal.



A New Generation of Critical Minerals Development

Commercialisation of the Donald Mineral Sands Project



Astron Corporation Limited (ASX:ATR)
TZMI Conference – November 2022

Disclaimer

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COMPETENT PERSONS STATEMENT

The information in this document that relates to Exploration Results and Mineral Resources for the Donald Project is based on information first reported in previous ASX announcements by the Company, as listed in this notice. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the estimates in the original announcements continuing to apply and have not materially changed. The information in this notice that relates to the estimation of the Ore Reserves is based on information compiled by Mr Pier Federici, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy and Australian Institute of Geoscientists. Mr Federici is a full-time employee of AMC Consultants Pty Ltd and is independent of Donald Mineral Sands Pty Ltd (DMS) (being the Company's wholly owned subsidiary) and the Company, the owner of the Donald Project Mineral Resources. Mr Federici has sufficient experience that 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'.

The information in this document that relates to the estimation of the Mineral Resources is based on information compiled by Mr Rod Webster, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy and Australian Institute of Geoscientists. Mr Webster is a full-time employee of AMC Consultants Pty Ltd and is independent of the Company and DMS, the owner of the Donald Project Mineral Resources. Mr Webster has sufficient experience that 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'. The Company confirms that the form and context in which the Competent Persons' findings are presented have not materially modified from the relevant original market announcement.

The information in this document that relates to the metallurgical performance and outcomes of testwork is based on information compiled by Mr Ross McClelland, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Mr McClelland is the principal metallurgist and director of Metmac Services Pty Ltd. Mr McClelland has been involved with the metallurgical development of the Wimmera-style mineral sands resources for more than 30 years. He has provided metallurgical consultation services to DMS for more than 7 years. He qualifies as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. The Company confirms that the form and context in which the Competent Persons' findings are presented have not been prematurely modified from the relevant original market announcement.

Astron Corporation – Company Snapshot



Defined strategy to create and deliver shareholder value - multiple value horizons

Extensive experience (30 years+) in mineral sands industry - downstream processing & marketing

Astron's (ASX:ATR) prime focus is on the delivery of shareholder value through the phased development of the Donald Rare Earth and Mineral Sands Project in Victoria.

Donald - globally significant, long-life supply of rare earths and mineral sands products.

Advanced evaluation & approvals stage
Feasibility Study expected Q1 2023

ASX Code

ASX:ATR

Shares/CDIs on Issue

126.5M

Share Price¹

A\$0.56

Market Capitalisation¹

A\$70.8M

Net Assets²

A\$85.5M

Material, high-value rare earth component ~50% of revenue

Favourable market conditions for supply/demand for both rare earth & mineral sands

Products

Rare Earths, Zircon, Titania

Project Location

Wimmera Region, Victoria, Australia

1. Share price and market capitalisation as at 16 November 2022
2. Based on June 2022 Audited Accounts

Flyover of Donald Project Test-Pit

Donald Project – Global Tier 1 Resource

Zircon Rich Heavy Mineral Assemblage



Project Mineral Resource¹

2.4 Bt

@ 4.8% Heavy Minerals (HM%)
using 1% cut-off and VHM Resource

In-Situ Zircon Resource

22.1 Mt

Largest undeveloped zircon resource globally

Project Ore Reserve²

602 Mt

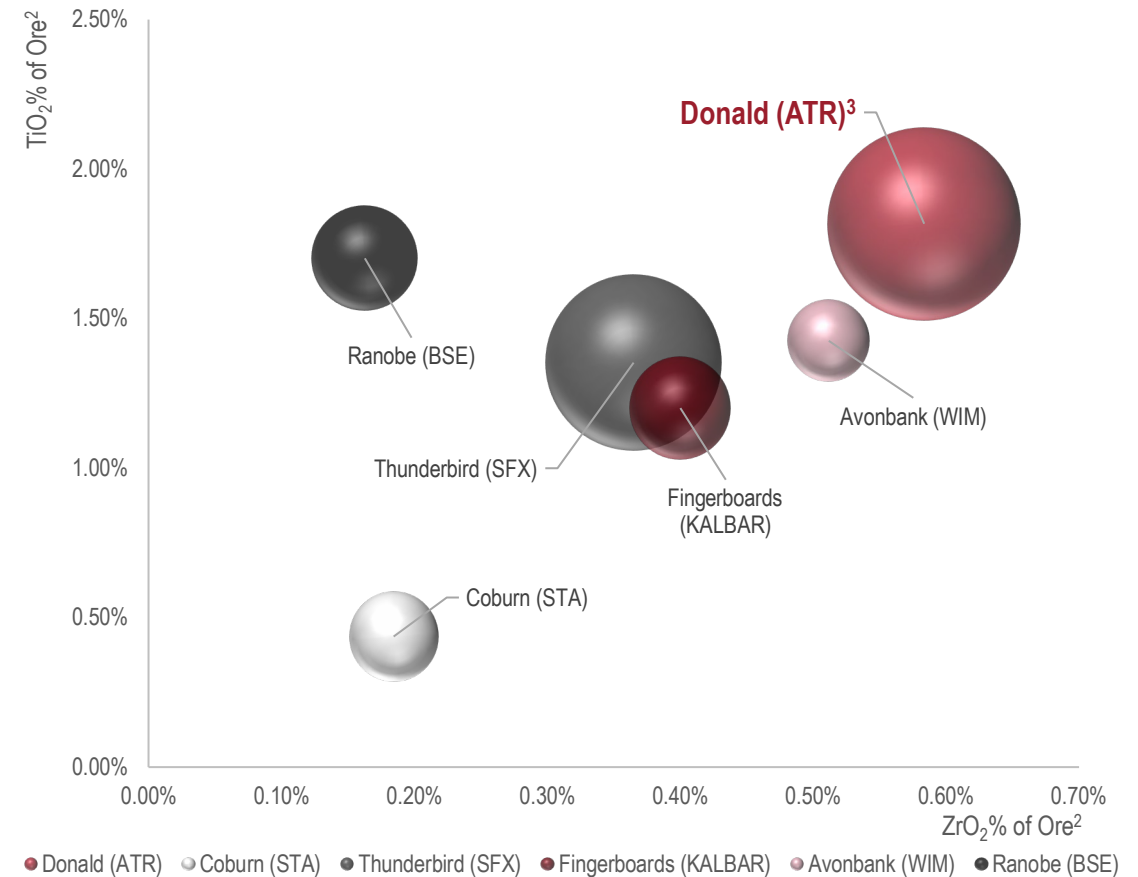
@ 4.8% Heavy Minerals (HM)
using 1% Cut-off

In-Situ Zircon Reserve

5.4 Mt

Equivalent of **5 years** of global supply

Relative In-situ Resource & Grade of Ti & Zr of the Donald Project



Note: Selected prospective developing mineral sands projects with available mineral resource data, based on publicly available information. Metallurgical assemblages are converted from optical assemblages. ZrO₂% is calculated as a percentage of overall ore. TiO₂% converted using ilmenite TiO₂% of 55%, Leucocene TiO₂% of 72.5%, and Hi-Ti/Rut TiO₂% of 90%. Bubble size denotes overall size of zircon-equivalent resource.

1. Astron Corporation's Mineral Resource Information derived from ASX announcement, 7 April 2016, *Donald Mineral Sands Project – Mineral Resource Update*.
2. See Astron Corporation's ASX announcement on 18 Feb, 2021, Donald Project Ore Reserves Update

Donald Project - Globally Significant Rare Earth Resource



Rare Earth Mineral Rich Assemblage

Total contained in-site monazite resource of **2.0 Mt.** One of the largest in Australia.

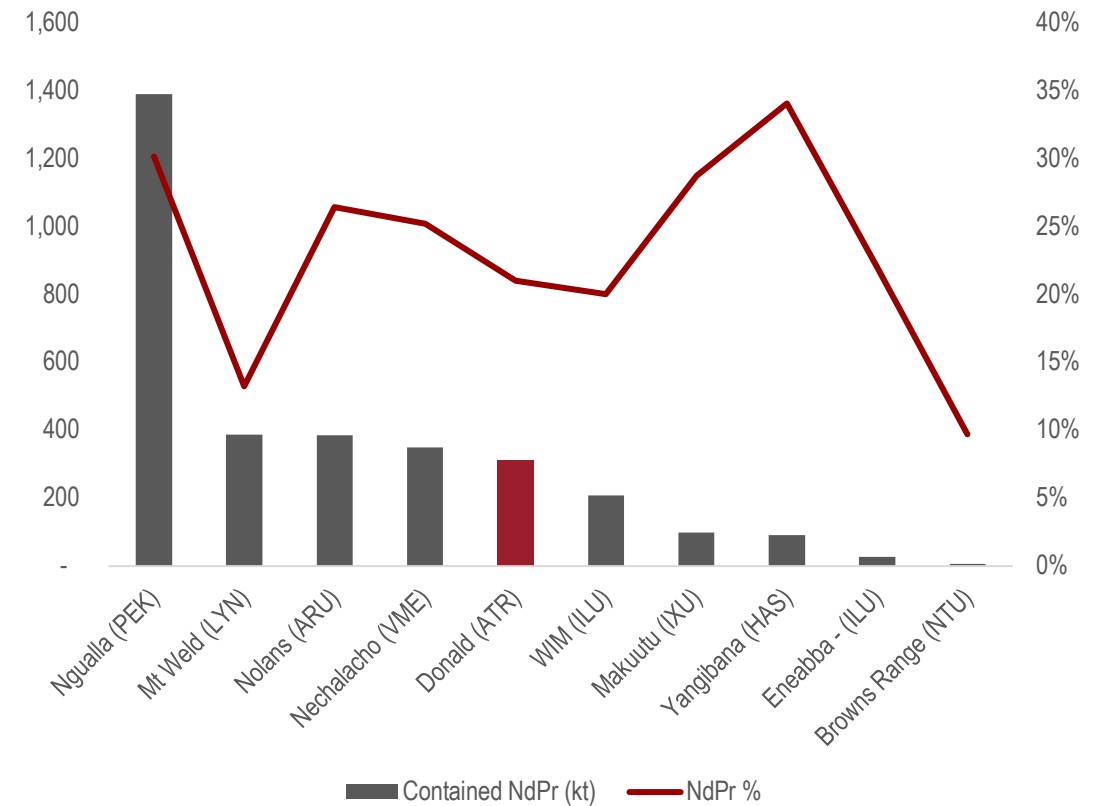
Expected Mine Life of **40+ years**, has the potential to be a pivotal source of Nd/Pr in both the short and long term

Donald project in-situ monazite Ore Reserves of **0.4 Mt.** Equivalent Nd/Pr reserves equivalent to 1.4 years of global demand, potential for further delineation.

Heavy Rare Earths of **Dy, Tb** present in the ore body, as demonstrated in the company's extensive metallurgical evaluation¹

1. Xenotime content to be determined by 2022 drilling results, expected Q4 2022

Donald – Relative In-situ Rare Earth Resource & Grade^{2,3}



2. Selected ex-China producing and prospective rare earths projects with available resource data, based on publicly available information.
 3. For Donald, the total contained Nd/Pr is calculated by assuming Nd/Pr oxides accounting for 21% of the TREO contained in monazite. It is assumed that monazite contains 67% TREO.

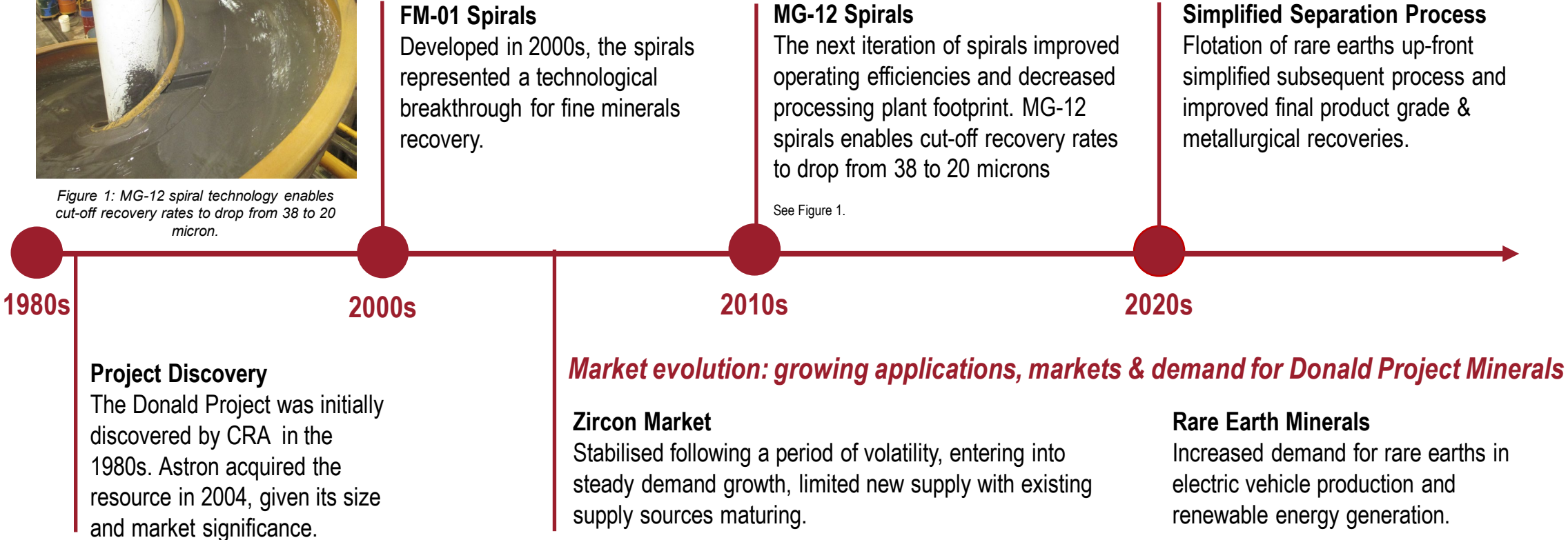
Donald Project Development Timeline

Technological innovations and market evolution cement Donald Project viability



Figure 1: MG-12 spiral technology enables cut-off recovery rates to drop from 38 to 20 micron.

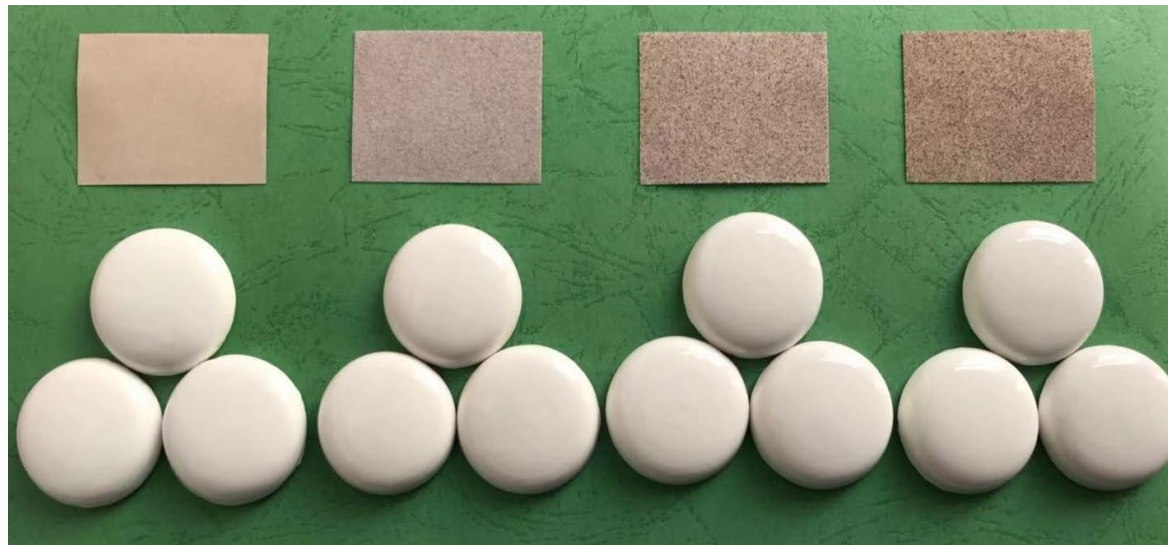
Historically, the commercial recovery of fine minerals has been seen as an impediment to the development of WIM-style deposits. Astron’s technology and extensive metallurgical testing over nearly 20 years has addressed these challenges.



Premium Zircon – Superior Attributes

Premium Zircon Product CIE Whiteness Test Results¹

Product testing conducted on Donald premium zircon, expected to represent over 85% of the zircon production stream, at Astron’s research facility in Yingkou, China. The results confirmed that Donald premium zircon rates favourably with competitors.



Donald Project

Competitor 1²

Competitor 2²

Competitor 3²

- For further information refer Astron ASX announcement, 12 May 2021, *Updated Donald Project Premium Zircon Test Results*.
- Competitor premium zircon products are selected from available products in China.

Product	L - Brightness	A – Red-Green Scale	B Yellow-Blue Scale
Donald Premium Zircon	94.84	0.12	3.86
Competitor Zircon 1	94.39	1.02	4.08
Competitor Zircon 2	93.57	0.86	3.82
Competitor Zircon 3	94.32	0.23	4.22

Notes:

- Results are measured on the CIE whiteness scale, L represents ‘brightness’, A represents ‘red-to-green’ scale, B represents ‘yellow-to-blue’ scale.
- The CIE system is used to characterise colour by a luminance parameter and two colour co-ordinates.
- Results were produced using a calibrated ‘brightness tester’ and standard deviation error can be expected.

Radioactivity Standards (Bq/Kg)	K-40	Ra-226	Th-232
Ceramics Requirements (CHN)	1*10 ⁵	1*10 ⁴	1*10 ³
Donald Premium Zircon	40	3348	894

Key Regulatory Approvals & Permits

Key Approval Requirement ¹	Completed	Date	Expiry
Environmental Effects Statement	✓	2008	N/A
Environmental Protection & Bio-diversity Conversation Approval	✓	Mar-09	2034
Cultural Heritage Management Plan	✓	Jan-14	Life of mine
Water Rights ²	✓	Jan-12	Jan-41
Radiation Licence ³	✓	Dec-20	Dec-23
Work Plan	Pending	Pending	Life of mine
Astron also holds land ownership of 1,451 Ha, of which, ~60% is on the granted Mining Licence, MIN 5532			

Notes

1. Environmental consultations with state regulators are on-going.
2. Water Rights include a 6.975 gigalitre water entitlement purchased from Grampians Wimmera Mallee Water in 2012 for **A\$17m**, sufficient for both Phase 1 and Phase 2. Astron retains the option to renew its water rights following the conclusion of current agreement.
3. Radiation Licence and Export Permits were first issued in 2014 and 2016 respectively, each have been renewed periodically. The company's export permit will need to be updated to align with updated final products specifications following the completion of the Feasibility Study and off-take agreements.

Phased Development – Multiple Value Horizons

Phase 1 - FY2024

1. 7.5 Mtpa Ore Throughput
 - REEC¹ ~9ktpa
 - HMC² ~250ktpa
 - ~\$350M Capex³
2. Defined timetable to development

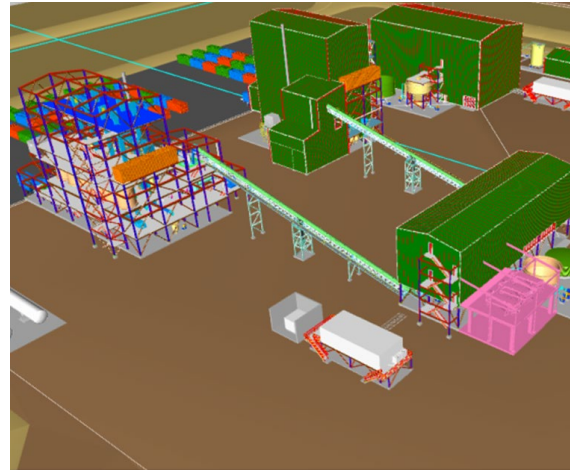
1. "REEC" Rare Earth Concentrate
2. "HMC" Heavy Mineral Concentrate
3. See ASX Announcement – 18 August 2022



Existing WCP Design

Phase 2 - FY2027+

1. Increase Throughput to 15 Mtpa
 - REEC ~17ktpa
 - HMC ~500ktpa
2. Further On-shore Processing (MSP)
3. Direct to end user markets
4. Subject to further approvals



Existing CUP Design

Phase 3 – FY2030+

1. Further increase of throughput
2. Downstream opportunities - potential Rare Earth Cracking Facility and/or Synthetic Rutile Plant



Donald Project - Phase 1

Timely, lowest risk path towards production, opportunity to scale using cashflow



Conventional shallow, dry mining approach. Low strip ratio¹ at 2.2:1 over life of mine, 1.9:1 over first four years of mining operations (Phase 1).



Proven conventional gravity based, using, demonstrated, well understood spiral technologies to produce HMC and flotation to produce the REEC.

Key Metrics²

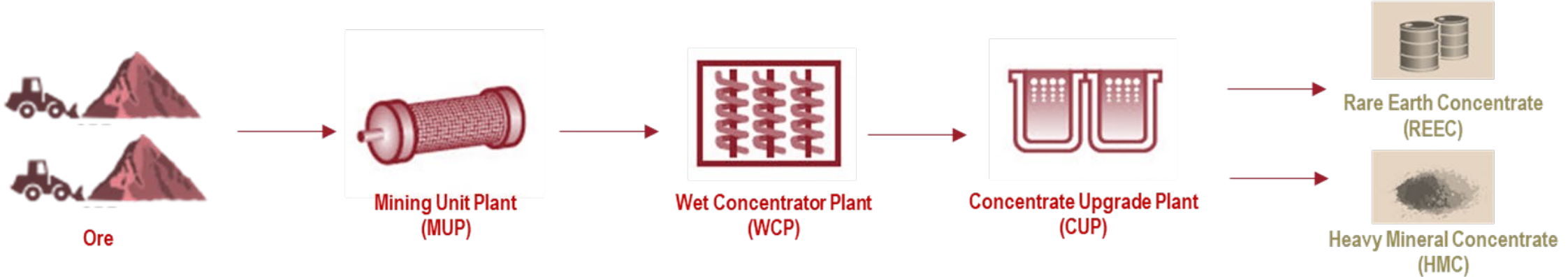
Revenue³	A\$286m p.a.
REEC (50%)	A\$143m p.a.
HMC (50%)	A\$143m p.a.
Capital Expenditure	~A\$350m
Total Capital Requirement	~A\$400m

Indicative Production Profile For Phase 1 Operation

On-Site Products	Avg. of first 5 years	Avg. over Phase 1
REEC	~9 ktpa	~8 ktpa
HMC	~285 ktpa	~250 ktpa

2. See ASX Announcement 18 Aug 2022, Donald Project Configuration Update
 3. Revenue estimated using assumed AUD/USD rate of \$0.70.

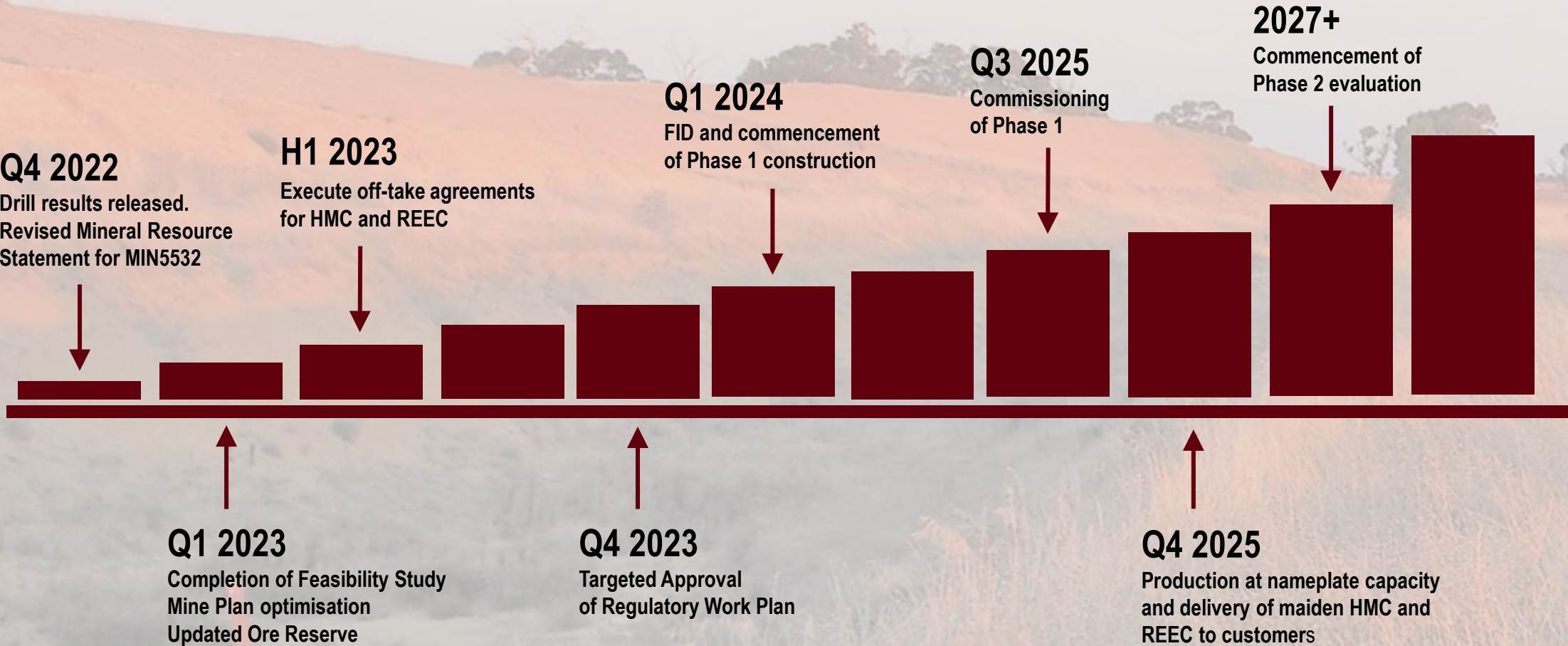
Simplified Process Flow Diagram



1. Strip ratio to be optimised pending drill results.

Donald Project Development Timeline

Key catalysts for progressive value realisation via Astron's defined execution strategy



Further information



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