



Advancing the Charley Creek Rare Earths Project

Corporate Presentation August 2022

enova
mining | limited

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Critical metals for a sustainable future

Our Company



Our team



Dato' Sia Hok Kiang

Non-executive Chairman

Mr Dato' Sia is Managing Director of the successful Malaysian private mining company, Malaco Mining Sdn. Bhd. He is a graduate of the University of Malaya in Applied Geology, an economic geologist with more than 30 years world-wide experience.



Eric Vesel

Executive Director / CEO

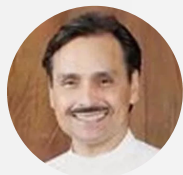
Mr Vesel is a qualified Mining Engineer with 35 years professional experience in the mining industry. He was formerly Chief Operating Officer for Avocet Mining PLC and has worked for both small and large mining companies in Australia, Namibia, Papua New Guinea, Indonesia, CIS and Malaysia.



Stan Wassylo

Non-executive Director

Stan has extensive experience in the resources sector and has 46 years' experience in businesses servicing the sector, in logistics, shipping, infrastructure, project construction, contract management and marketing.



Harun Halim Rasip

Non-executive Director

Mr Rasip is a Chartered Accountant who previously established Halim Rasip Holdings Sdn Bhd ("HRH") Group. During his time as Chairman and Managing Director, he planned, funded and developed the Lumut Port in the Straits of Malacca. He is currently the President Director of P.T. Tanah Laut Tbk., a Company listed on Bursa Efek Indonesia and based in Jakarta.

Corporate Overview

Share Price	Shares On Issue	Market Capitalisation
\$0.016	367.2m	5.9m
T20 Shareholding	Cash	Debt
90%	10K	Nil

Commodity Exposure

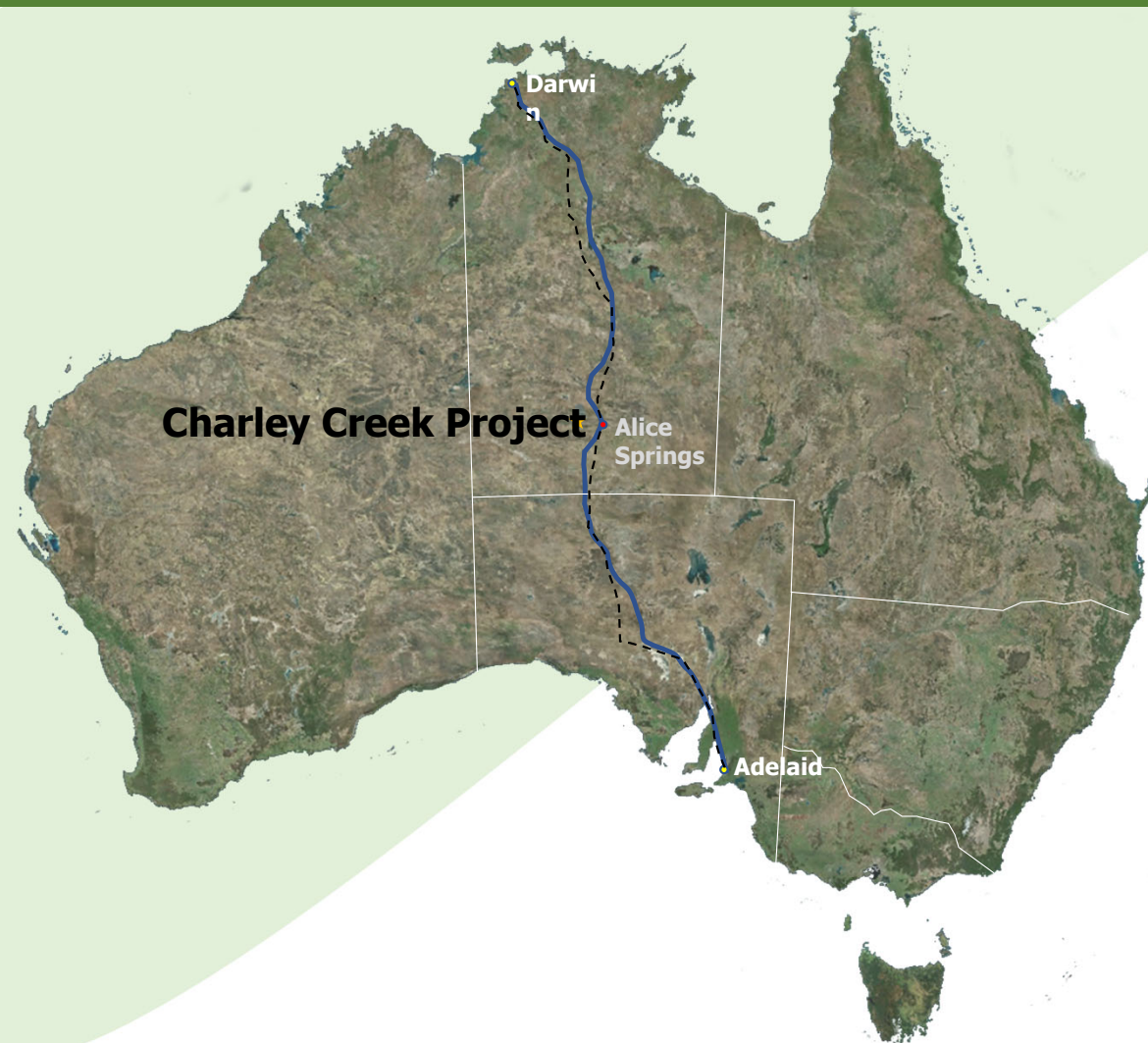
Rare Earth Minerals



Industrial Minerals

Ilmenite, rutile, zircon and aluminum

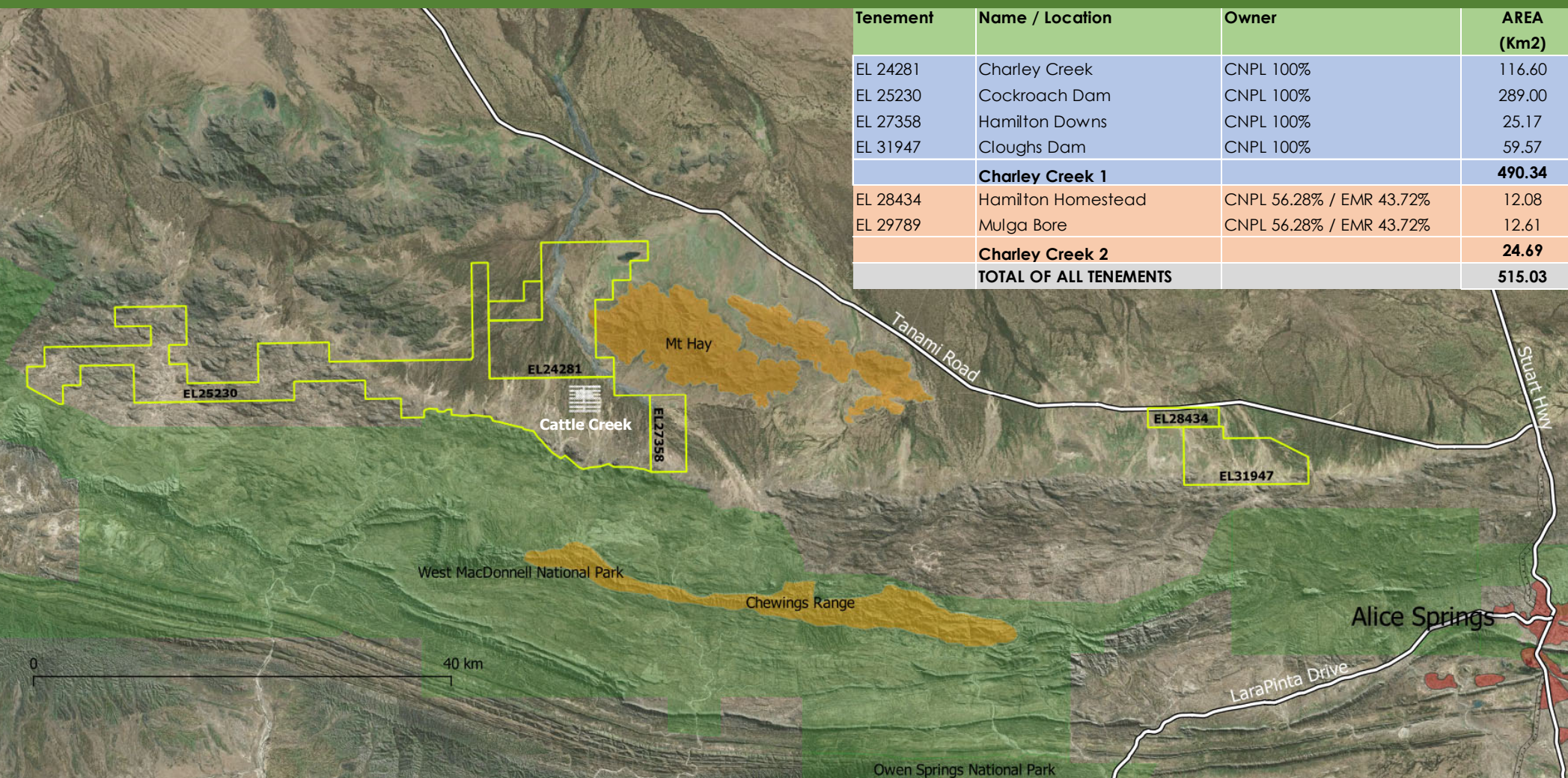
Charley Creek Project Overview



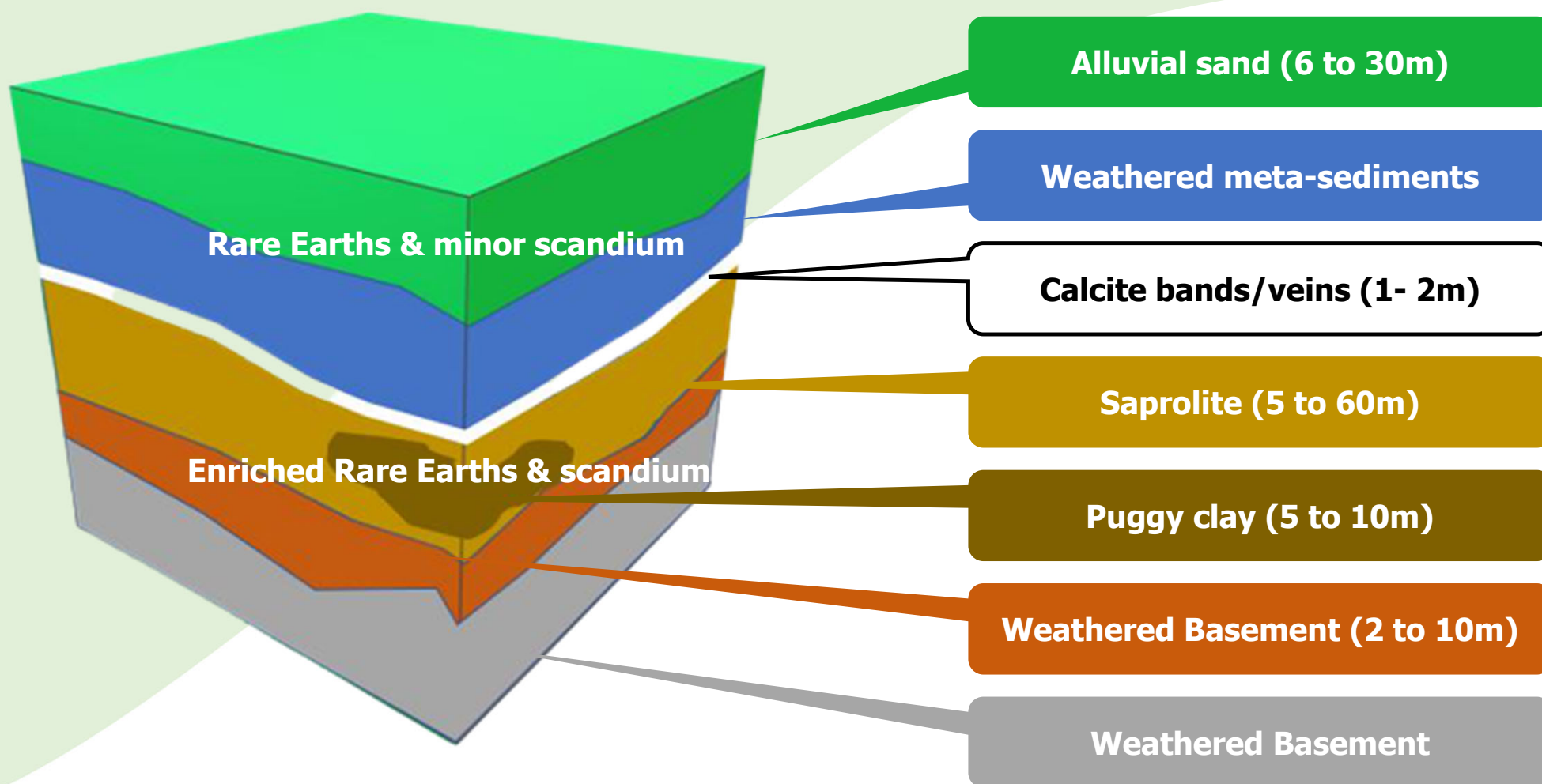
- ✓ Large rare earths and industrial mineral deposit within a 100% owned, 515km² tenement package
- ✓ Located in a tier-1, pro-mining jurisdiction
- ✓ In 2013 release of resource statement (2004 JORC)
- ✓ Near surface mineralisation, bulk tonnage mining potential
- ✓ Situated on open land nearby to rail and road transport network for export routing
- ✓ Extensive metallurgical testing and understanding
- ✓ Further exploration upside from under-explored areas, well understood regional prospects
- ✓ Growing demand for rare earth and mineral security by western governments

Tenement Holdings

Tenement	Name / Location	Owner	AREA (Km2)
EL 24281	Charley Creek	CNPL 100%	116.60
EL 25230	Cockroach Dam	CNPL 100%	289.00
EL 27358	Hamilton Downs	CNPL 100%	25.17
EL 31947	Cloughs Dam	CNPL 100%	59.57
	Charley Creek 1		490.34
EL 28434	Hamilton Homestead	CNPL 56.28% / EMR 43.72%	12.08
EL 29789	Mulga Bore	CNPL 56.28% / EMR 43.72%	12.61
	Charley Creek 2		24.69
TOTAL OF ALL TENEMENTS			515.03



Charley Creek Geological Horizons (Simplified)



Alluvial Resources*

* As announced on ASX 15th April 2013

RESOURCE	Mass	Weighted Average TREO	Contained TREO	Contained Xenotime	Contained Monazite	Contained Zircon
	Tonnes	ppm	kg	kg	kg	kg
Cattle Creek Indicated Resource	249,900,000	280	69,900,000	17,600,000	97,200,000	124,650,000
Western Dam Indicated Resource	136,960,000	323	44,150,000	9,675,000	63,700,000	70,930,000
TOTAL INDICATED RESOURCES	386,860,000	295	114,050,000	27,275,000	160,900,000	195,580,000
Cattle Creek Inferred Resource	353,210,000	291	102,750,000	26,450,000	141,075,000	183,750,000
Western Dam Inferred Resource	65,232,000	282	18,350,000	4,240,000	26,160,000	36,230,000
TOTAL INFERRED RESOURCES	418,442,000	289	121,100,000	30,690,000	167,235,000	219,980,000

"This information was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported."

Rare Earths at Charley Creek

60
Nd

59
Pr

66
Dy

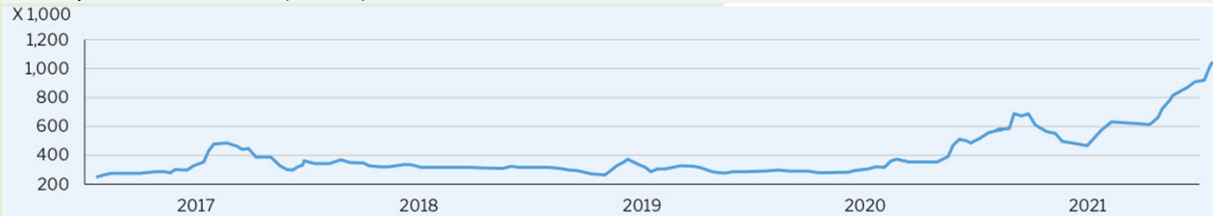
65
Tb

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- Focus on drilling Cattle Creek prospect, with most of the tenement area unexplored but highly prospective for mineralisation. Western Dam prospect awaits re-drilling,
- Near surface and simple orebody to underpin potential open pit bulk mining
- Preliminary test work demonstrates that valuable rare earths may be extracted via cost-effective gravity separation of the upper alluvial sands, and leaching from the saprolite clays
- **Further drilling, gravity concentration testing and leach testing is planned for 2022**
- **Resource upgrade and Scoping Study planned for 2023**
- **Well placed to leveraged demand for rare earths minerals from tier-1 western jurisdictions**

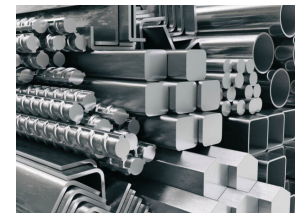
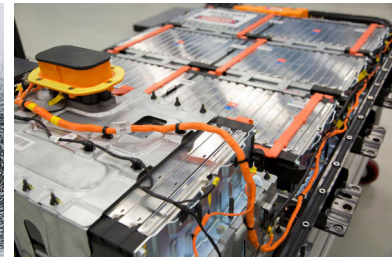
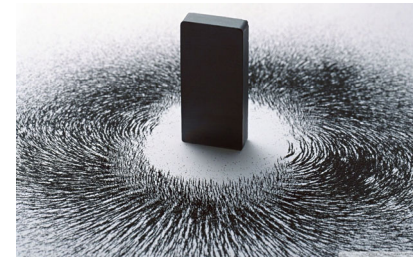
Neodymium Oxide Price (RMB/t)

Source: Refinitiv Datastream (Shanghai Metals Market)

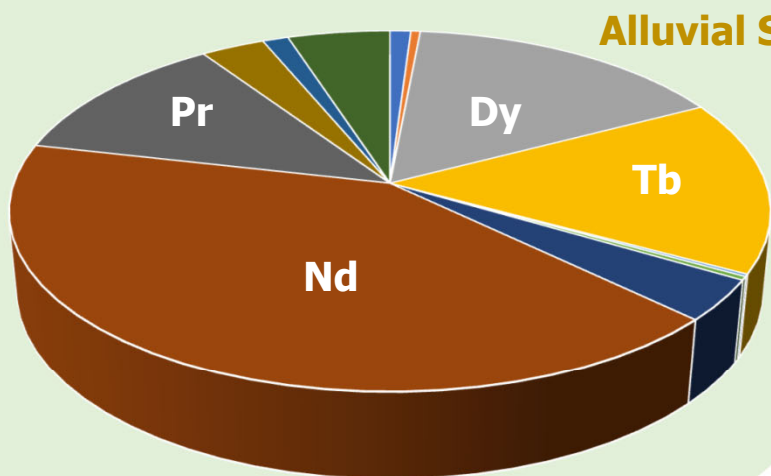


Praseodymium Neodymium Alloy Price (RMB/t)

Source: Refinitiv Datastream (Shanghai Metals Market)

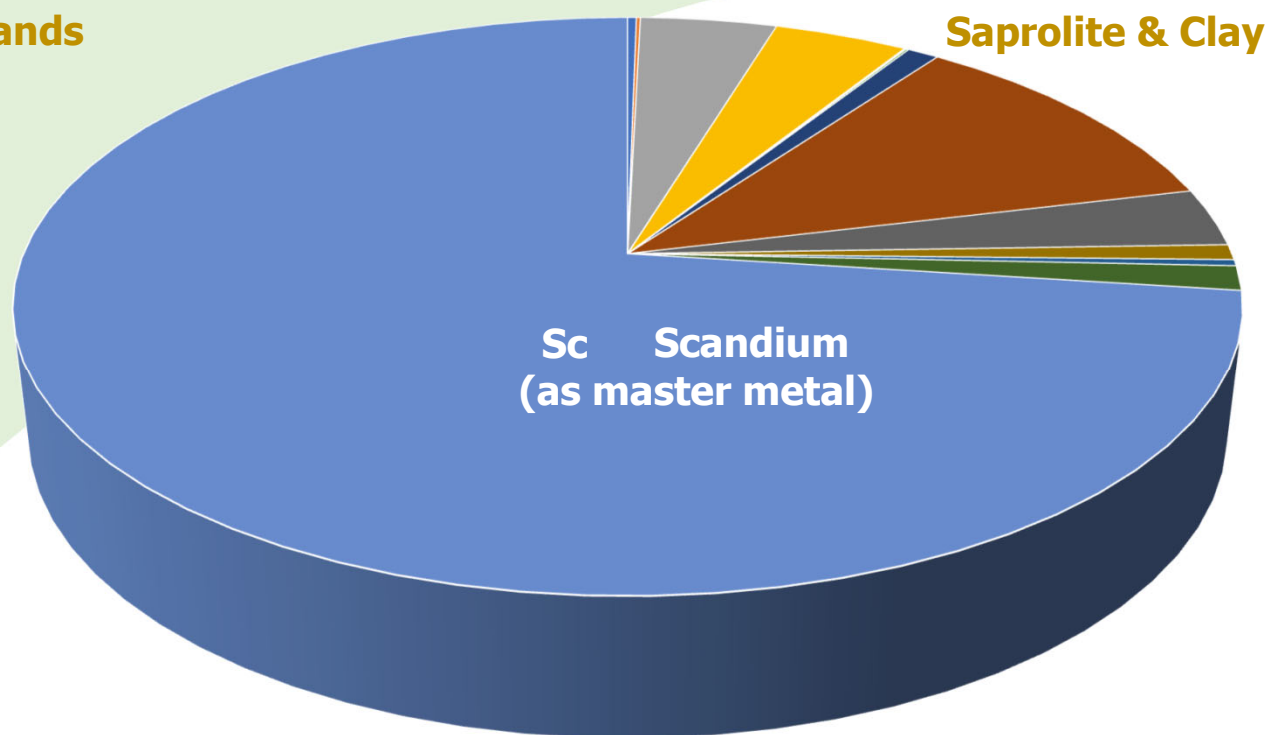


Charley Creek Basket Price (% value from REO & Sc)



**REE basket price
AUD\$80*/kg**

* Based on August pricing



■ Ce ■ La ■ Dy ■ Tb ■ Sm ■ Eu ■ Gd ■ Nd ■ Pr ■ Y ■ Er ■ Other ■ Sc

Sc master metal alloy price typically US\$100*/kg (@2% Sc)

* Discounted pricing based on scandium-alloy (US\$350/kg) taken from U.S. Geological Survey, Mineral Commodity Summaries, January 2022

Scandium at Charley Creek



Cost Effective and Scalable

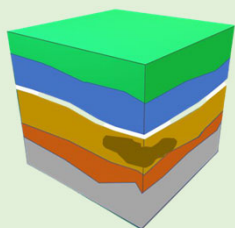
- ❑ Scandium is a low volume, high value product
- ❑ Potentially long mine-life due to depth of saprolite and extent of mineralisation
- ❑ Ideal conditions for low-cost mining, free-dig sands and silts
- ❑ Easily accessible to services from Alice Springs
- ❑ Opportunity to duplicate operation at adjacent prospects at Western Dam and Dad's Dam deposits

Resource

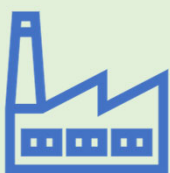
- ❑ Cattle Creek sufficient drill coverage to complete orebody, extensions are possible with more drilling
- ❑ Large zones of saprolite and clay with elevated Sc, REE and Al grades identified in model
- ❑ Cut-off/cut-over grades are expected to be low based on test work and current cost estimates

Processing

- ❑ Natural concentration of scandium into fines (<100 microns),
- ❑ Plans for on-site acid production facility will be efficient providing acid, tank heating and power co-generation
- ❑ Tests to date indicate fast leaching and high recovery of Sc using heated acid leach, further validation tests are needed,
- ❑ Low environmental impact expected due to abundance of calcareous material to neutralise leach tail



Enova Scandium Market Strategy



Market scandium oxide as superior aluminium alloy, partnering with manufacturers:

- ☐ as a substitute for manufacturers currently using titanium products
- ☐ requiring low failure rates for intricate casting
- ☐ for 3D additive printing media to produce, intricate, high tech, high performance parts
- ☐ for products requiring high performance materials; aerospace and hydrogen generation
- ☐ with exotic products and components, seeking exclusivity and marketing edge... motor vehicles



Market scandium oxide as superior aluminium alloy, partnering with material suppliers/custom smelter to:

- ☐ work with custom alloy producers to offer product to market
- ☐ create sample metals for key industry users and invite off-take participation
- ☐ exclusivity by partnering with off-take agreement



Certainty of supply and market pricing will encourage new industry use by:

- ☐ providing researchers with government support, for new green products using scandium
- ☐ encouraging industry to conduct R&D into high technology uses
- ☐ encouraging government to incentivise industry to assess product substitution or new uses

Cattle Creek Prospect – Next Steps

Completion of Operation Concept & Resource Statement (update)



- ☐ Initial focus on the flag-ship Cattle Creek Prospect where the resource is best defined
- ☐ To date project is under-valued due to on-going test work which limited news releases
- ☐ Updated resource release will allow the market to reappraise the assets
- ☐ Expectation for Enova share price to adjust favourably

Work Plan



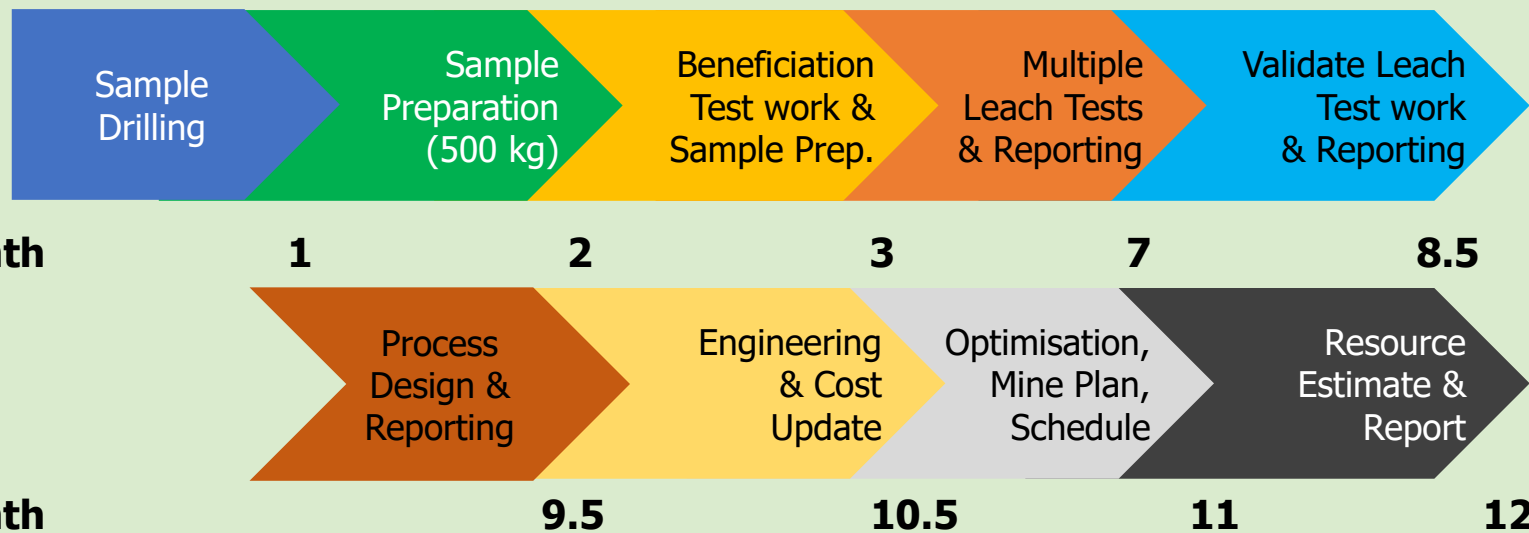
- ☐ Drilling for metallurgical samples for bulk sample process testing
- ☐ Alluvial Project : Bulk scale lab “Proof of Concept” test to :
 - ☐ validate method by demonstration; screening, sizing, grinding, gravity concentration
 - ☐ recover heavy concentrate for further analysis
- ☐ Cracking/leach concentrates, produce solutions for analysis and REE SX simulation
- ☐ Saprolite : Size beneficiation for leaching of ultra-fines, remove deleterious minerals and adsorption tests (SX and IX testing)
- ☐ hydrometallurgical leach testing and verification
- ☐ Pit optimisation and mine planning to ensure ore supply
- ☐ Process engineering to complete RPEEE and update/publish resource statement

Cattle Creek Project Work Plan

Alluvial Development Plan



Weathered Rock (saprolite/clay) Development Plan



Enova's Work Plan Budget



	Budget AUD\$	Months
Drilling/Sample preparation, freight and assaying	110,000	2
Gravity separation testing	65,000	1.5
Process concept engineering and costing review update	65,000	2
Resource model update, mine planning and reporting	35,000	1.5
Alluvial Sands Project Gravity Separation and Concentration Bulk Testing	260,000	7
Sample preparation and freight	10,000	2
Hydrometallurgical assessment (KL)	70,000	5
Hydrometallurgical test work verification (AUS)	40,000	1.5
Engineering/Competent person review	85,000	2
Mine planning and reporting	35,000	1.5
Saprolite/Clay Project Beneficiation and Leach Hydrometallurgy	240,000	12
Company Operations Corporate governance, tenements, admin. charges	200,000	12
Budget Total	700,000	12

Potential Operational Concept

Mining

- ☐ Open-pit free-dig mining (sand, silt, clay -> low cost)
- ☐ Bulk mining operation with low strip ratio

Two processes one operation

- ☐ **gravity plant** for alluvial sands
screen → deslime → cyclone classification → spirals concentration
- ☐ **leach plant** for weathered rock (saprolite & clays)
ultra-fines concentration → acid leaching

Refining

- ☐ Cracking of monazite/xenotime with on-site solvent extraction
- ☐ Separation of mixed rare earth concentrate to rare earth oxide group products

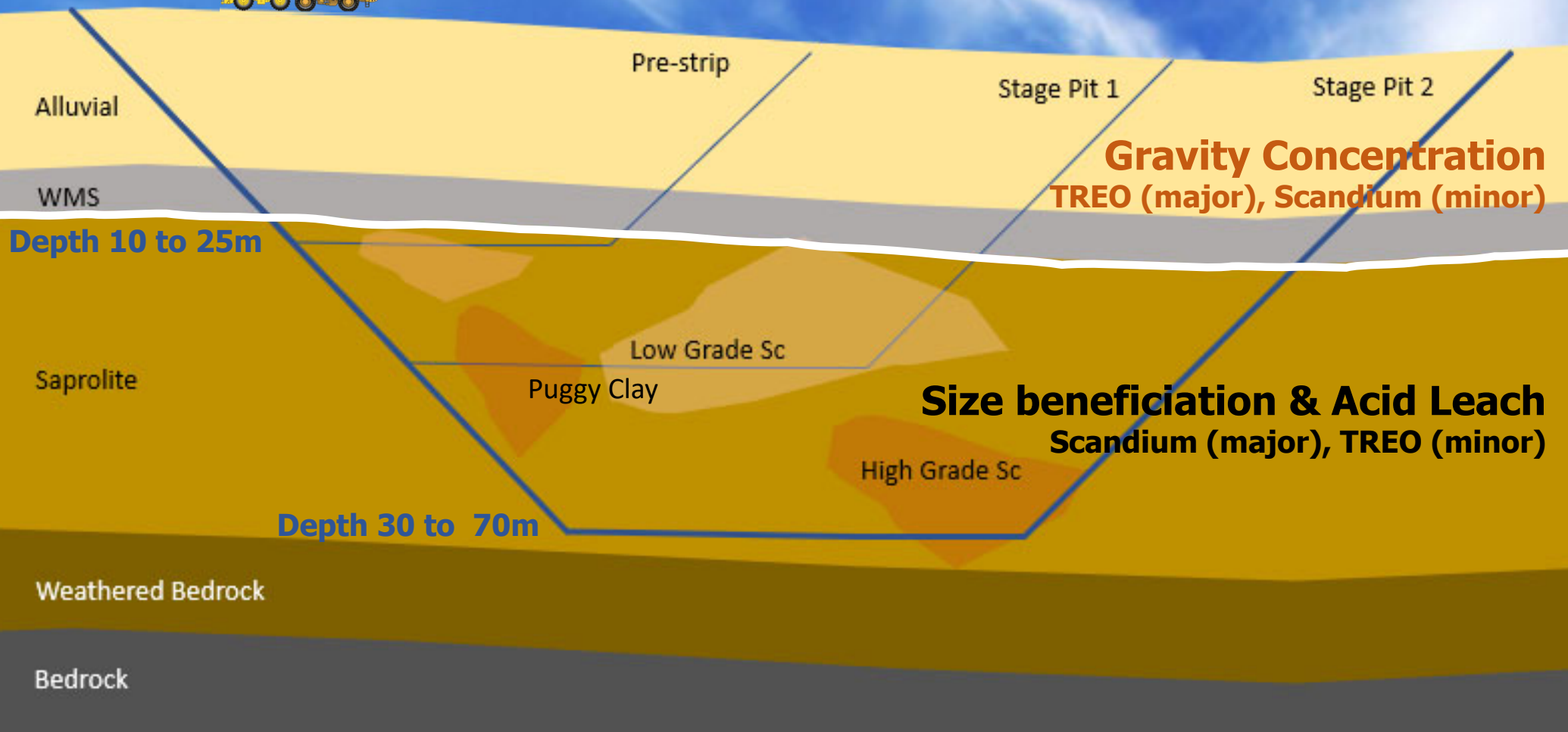
Identified Potential Products

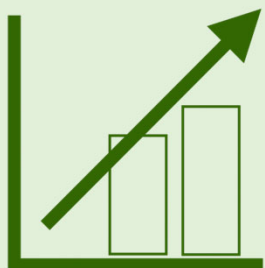
- ☐ Rare earth oxides :
- ☐ Scandium master metal :
- ☐ By-products (gravity concentration) :
- ☐ By-products (leaching circuit):

Light (Ce,La), Magnetics (Nd,Pr), SEG (Sm,Eu,Gd), Dy/Tb, Y Mix (Yb,Y,Lu,Ho,Er)
2% Sc / 98% Al
zircon, hafnium, rutile, ilmenite
alumina/HPA alumina



Mining & Process Concept





Demand and lack of supply

- ❑ Ever increasing world-wide demand for rare earth metals (**REE**),
- ❑ Scandium (**Sc**) commercial usage is gaining momentum,
- ❑ Enova provides an opportunity to lead the world's Sc market,
- ❑ Scarcity of supply of critical metals and increasing demand,
- ❑ Lack of companies with minerals to execute responsible and sustainable production,

Smart Metals



Technology

Availability = Development of new applications

- ❑ **REE** and **Sc** additives create materials with new high performance qualities for future technologies
- ❑ Electronics/electrical products need **REE** and **Sc** for efficiency and unique properties,
- ❑ **Sc** availability allows improved technology to be developed in green industries, such as hydrogen generation (SOFCs, RSOC and RFC)

Contact us

Eric Vesel

Executive Director

For any questions, head to our [investor hub](#)

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