



**DEFENSE  
METALS**

# Delivering Critical Metals to Meet National Security + Green Technology Needs

OCTOBER 2024 CORPORATE PRESENTATION

[DEFENSEMETALS.COM](https://www.defensemets.com)

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TSX-V: **DEFN**  
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FSE: **35D**

**DISCOVERY**  
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# FORWARD-LOOKING STATEMENTS

This presentation includes certain statements that constitute “forward-looking information or statements” within the meaning of applicable securities law, including without limitation, the Company’s plans for its Wicheeda REE project, other statements relating to the technical, financial and business prospects of the Company, completing additional studies, complete pre-feasibility study on Wicheeda project, advancing the Wicheeda project, environmental studies, optimize pilot plants, completing project milestones in 2024 and onwards, expected timelines, and other matters. Forward-looking statements address future events and conditions and are necessarily based upon a number of estimates and assumptions. These statements relate to analyses and other information that are based on forecasts of future results, estimates of amounts not yet determinable and assumptions of management. Any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions or future events or performance (often, but not always, using words or phrases such as “expects” or “does not expect”, “is expected”, “anticipates” or “does not anticipate”, “plans”, “estimates” or “intends”, or stating that certain actions, events or results “may”, “could”, “would”, “might” or “will” be taken, occur or be achieved), and variations of such words, and similar expressions are not statements of historical fact and may be forward-looking statements. Forward-looking statements are necessarily based upon a number of factors that, if untrue, could cause the actual results, performances or achievements of the Company to be materially different from future results, performances or achievements express or implied by such statements. Such statements and information are based on numerous assumptions regarding present and future business strategies and the environment in which the Company will operate in the future, including the price of metals, anticipated costs and the ability to achieve goals, that general business and economic conditions will not change in a material adverse manner, that financing will be available if and when needed and on reasonable terms, and that third party contractors, equipment and supplies and governmental and other approvals required to conduct the Company’s planned exploration activities will be available on reasonable terms and in a timely manner. While such estimates and assumptions are considered reasonable by the management of the Company, they are inherently subject to significant business, economic, competitive and regulatory uncertainties and risks.

Forward-looking statements are subject to a variety of risks and uncertainties, which could cause actual events, level of activity, performance or results to differ materially from those reflected in the forward-looking statements, including, without limitation: (i) risks related to rare earth elements, and other commodity price fluctuations; (ii) risks and uncertainties relating to the interpretation of exploration and metallurgical results; (iii) risks related to the inherent uncertainty of exploration and cost estimates and the potential for unexpected costs and expenses; (iv) that resource exploration and development is a speculative business; (v) that the Company may lose or abandon its property interests or may fail to receive necessary licences and permits; (vi) that environmental laws and regulations may become more onerous and risks related to adverse weather or climate events; (vii) that the Company may not be able to raise additional funds when necessary; (viii) the possibility that future exploration, development or mining results will not be consistent with the Company’s expectations including risks relating to inaccurate geological, metallurgical and engineering assumptions; (ix) exploration and development risks, including risks related to accidents, equipment breakdowns, labour disputes or other unanticipated difficulties with or interruptions in exploration and development; (x) competition; (xi) the potential for delays in exploration or development activities or the completion of geologic reports or studies; (xii) the uncertainty of profitability based upon the Company’s history of losses; (xiii) risks related to environmental regulation and liability; (xiv) risks associated with failure to maintain community acceptance, agreements and permissions (generally referred to as “social licence”), including local First Nations and risks relating to the impact of Covid-19 or other viruses and diseases on the Company’s ability to operate (xv) risks relating to obtaining and maintaining all necessary government permits, approvals and authorizations relating to the continued exploration and development of the Company’s projects; (xvi) risks related to the outcome of legal actions; (xvii) political and regulatory risks associated with mining and exploration; (xix) risks related to current global financial conditions; and (xx) other risks and uncertainties related to the Company’s prospects, properties and business strategy. These risks, as well as others, could cause actual results and events to vary significantly. Factors that could cause actual results to

differ materially from those in forward looking statements include, but are not limited to, continued availability of capital and financing and general economic, market or business conditions, the loss of key directors, employees, advisors or consultants, adverse climate and weather conditions, increase in costs, equipment failures, risks relating to unanticipated operational difficulties (including failure of equipment or processes to operate in accordance with specifications or expectations, cost escalation, unavailability of materials and equipment, government action or delays in the receipt of government approvals, industrial disturbances or other job action, and unanticipated events related to health, safety and environmental matters), risks relating to inaccurate geological, metallurgical and engineering assumptions, decrease in the price of rare earth elements, the impact of Covid-19 or other viruses and diseases on the Company’s ability to operate, an inability to predict and counteract the effects of COVID-19 on the business of the Company, including but not limited to, the effects of COVID-19 on the price of commodities, capital market conditions, restriction on labour and international travel and supply chains, litigation, delayed results, failure of counterparties to perform their contractual obligations and fees charged by service providers. Investors are cautioned that forward-looking statements are not guarantees of future performance or events and, accordingly are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty of such statements. The forward-looking statements included in this presentation are made as of the date hereof and the Company disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as expressly required by applicable securities legislation. The Company has a limited history with no assurance of revenues; estimating mineral resources is risky; exploration and development is speculative and may not result in profitable mining operations; exploration, development, and mining requires substantial capital, resulting in significant financing risks and shareholder dilution. The key risks related to exploration in general are that chances of identifying economical reserves are extremely small. The scientific and technical content of this presentation has been reviewed and approved by Kris Raffle, P.Geol., a Technical Consultant of the Company and a Qualified Person as defined by National Instrument 43-101. Visit [www.sedarplus.ca](http://www.sedarplus.ca) for further information and disclosure on the for the Wicheeda Rare Earth Element Project, British Columbia, Canada and the Company.

## Market & Industry Data

The information contained herein includes market and industry data that has been obtained from third party sources, including industry publications. The Company believes that its industry data is accurate and that its estimates and assumptions are reasonable, but there is no assurance as to the accuracy or completeness of this data. Third party sources generally state that the information contained therein has been obtained from sources believed to be reliable, but there is no assurance as to the accuracy or completeness of included information. Although the data is believed to be reliable, the Company has not independently verified any of the data from third party sources referred to in this presentation or ascertained the underlying economic assumptions relied upon by such sources. Not for Distribution; No Offering This is for information purposes only and may not be reproduced or distributed to any other person or published, in whole or part, for any purpose whatsoever. This does not constitute a general advertisement or general solicitation or an offer to sell or a solicitation to buy any securities in any jurisdiction. Such an offer can only be made by prospectus or other authorized offering document. This presentation and materials or fact of their distribution or communication shall not form the basis of, or be relied on in connection with any contract, commitment or investment decision whatsoever in relation thereto. No securities commission or similar authority in Canada or any other jurisdiction has in any way passed upon the adequacy or accuracy of the information contained herein. You should not rely upon this document in evaluating the merits of investing in our securities or for understanding our business.



## MEMBER COMPANIES

**AQUITAINE**  
METALS

**CopperEx**  
RESOURCES

**DEFENSE**  
METALS

**ER** ELEMENTAL  
ALTUS  
ROYALTIES

**K2**  
GOLD

**KODIAK** COPPER

**PROSPECTOR**  
Metals Corp.

**VALORE**  
METALS CORP

# DISCOVERY GROUP

EXPLORE • DISCOVER • DEVELOP

An alliance of public companies, individually managed and focused on the advancement of **global mineral exploration** and mining projects, with a proven track record of generating shareholder value.

### MEMBERS BENEFIT FROM:

- Integral Industry Relationships
- Increased Company Profile
- Significant Capital
- Proven Technical & Management Talent
- High-Quality Deal Flow

FOUNDED IN  
**2002**

**\$2.6+ Billion**  
IN M&A ACTIVITY

**\$1+ Billion**  
IN EQUITY RAISED

### RECENT SUCCESSES

**GREAT BEAR**  
RESOURCES

**\$1.8B**

ACQUIRED BY **Kinross Gold** IN 2022

**KAMINAK**  
GOLD CORPORATION

**\$520M**

ACQUIRED BY **Goldcorp** IN 2016

**GREAT BEAR**  
ROYALTIES

**\$200M**

ACQUIRED BY **Royal Gold** IN 2022

**NORTHERN**  
EMPIRE  
RESOURCES CORP

**\$117M**

ACQUIRED BY **Coeur Mining** IN 2018

# INVESTMENT HIGHLIGHTS

- **High-Quality Asset**  
100% owned Wicheeda rare-earth project, with potential to be a globally significant producer
- **Excellent Accessibility**  
Project accessible by road, with proximity to rail and power infrastructure, and access to a major deep-sea port
- **Technically Strong Project**  
Open pit project with favorable, conventional metallurgy
- **Experienced Technical Team**  
Working with industry-leading partners (SGS, SRK Consulting, APEX Geoscience, Hatch)



# EXPERIENCED MANAGEMENT + BOARD



**Dr. Luisa Moreno,**  
Ph.D.

## President + Director

Dr. Luisa Moreno is a Physics Engineer, with a PhD in Materials Science and Mechanics from Imperial College London, UK. She is known as a leading analyst in rare earths and has published several reports and articles for the investment community. She is an officer and Director of several green materials and technology companies.

### **Guy de Selliers, Executive Chairman**

Over his 45-year career, Guy has been involved in innumerable transactions across a multitude of sectors spanning all continents, including as both an advisor and principle within, equity, debt, M+A and political risk insurance. His experience includes his involvement with SNIM in Mauritania, as well as acting as an advisor to Rio-Tinto on the Simandou project. He was a strategic and financing adviser for the development of the Anaklia Port, and a project finance advisor for the US\$ 4bn limited recourse financing for Oyu Tolgoi, alongside many others.

### **Alex Heath, CFA, ICD.D Senior VP, Corporate Development and Interim CFO**

Alex has a B.Com. with honours from the University of British Columbia and is a CFA Charterholder. He spent eight years with Salman Partners including as a Vice-President of Investment Banking focused on mining financings and merger and acquisition transactions. In 2019, he joined Discovery Group as Strategic Advisor, Corporate Development & Investor Relations. Mr. Heath is also a director of several public mining issuers.

### **Dale Wallster Director**

Dale is a prospector and geologist with over 40 years' experience in North American mineral deposit exploration. As President and founder of Roughrider Uranium Corp., Dale and his team are widely credited for the discovery of Hathor's Roughrider deposit. In January of 2012 Rio Tinto plc acquired Hathor for CAD\$650MM.

### **Suzanne Rich Folsom Director**

Suzanne's career includes senior corporate executive roles at ACADEMI, as the EVP, General Counsel, and Chief Compliance Officer, at AIG, as the Deputy GC and Chief Regulatory & Compliance Officer, and at the World Bank where she was the Counselor to the President and Director of the Department of Institutional Integrity.

### **Martin Cronin Director**

Previously, he spent over 20 years in international diplomacy with the British Government with appointments primarily in the Middle East and South Asia. Following a posting as British Consul-General to Western Canada, Martin settled in British Columbia and joined the private sector, serving as CEO and Director of several private and public companies in the public safety and defence sectors. Martin is former Honorary Colonel of a Canadian Army Primary Reserve Regiment.

### **Ted Kavanagh Director**

Director of Metals & Mining Finance, Americas for Société Générale until his retirement in 2021, where he originated and executed corporate and project finance facilities, marketed metals implemented foreign exchange hedging and trading lines, and provided related advisory services. From 1991 to 2013, he acted in a similar capacity for a series of banks including Standard Bank of South Africa, HSBC Securities (USA) Inc., HSBC Securities (Canada) Inc., Republic National Bank of New York, and Mase Westpac Inc.

### **Kristopher J. Raffle, P.Geo. NI 43-101 Qualified Person**

Kristopher is a Partner and Principal Geologist with the leading geologic consulting firm, APEX Geoscience Ltd., with over 20 years of international exploration experience. He is a Director and QP of several publicly listed mineral resource companies.

### **John Goode, P.Eng. Metallurgical Consultant**

John has undertaken many programs testwork, engineering and economic evaluations of existing and proposed REE recovery operations including Chinese separation plants, Avalon Rare Metal's Thor Lake project; Quest's Strange Lake project; Search Minerals Foxtrot deposit; and Polymetal/Vostok's Tomtor REE-Nb-Sc project in Siberia.

### **John Robins, P.Geo., Strategic Advisor**

John Robins is a professional geologist, prospector and entrepreneur with over 35 years of experience in the mining industry. In 2022 he was the recipient of the AME's Murray Pezim Award for his significant contribution to the financing of exploration and development projects over the last 20 years. He was also awarded the Spud Huestis Award in 2008 for having made significant contributions to mineral exploration in British Columbia and Yukon.



# FINANCIAL SNAPSHOT

## CAPITAL STRUCTURE as of October 2024

Shares Outstanding 258.6M

Warrants  
9.3M

Options  
23.1M

**Fully  
Diluted  
M** **291.1**

# THE CRITICAL ROLE OF RARE EARTH ELEMENTS - APPLICATIONS

## AGRICULTURE

- Farm equipment motors
- Fertilizers

## AUTOMOTIVE

- Electric Vehicle Motors
- Catalytic converters

## AEROSPACE/ DEFENSE

- Plane Motors
- Submarines
- Guidance equipment
- Thermal barrier coatings

## CHEMICALS/ CATALYSTS

- Optical-quality glass
- Air pollution control

## HEALTHCARE

- MRI scanners
- CT scanners

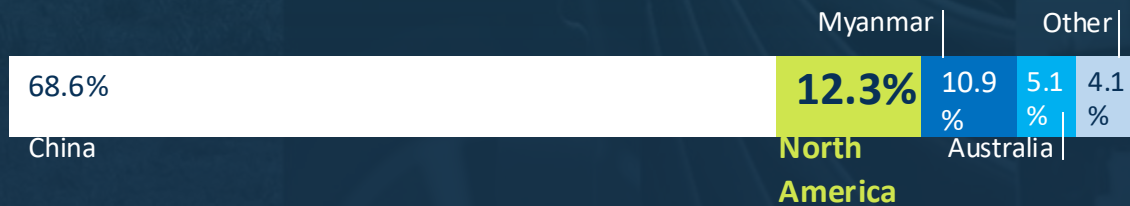
## ELECTRONICS

- Computer screens
- Smartphones
- Batteries
- Hard drives

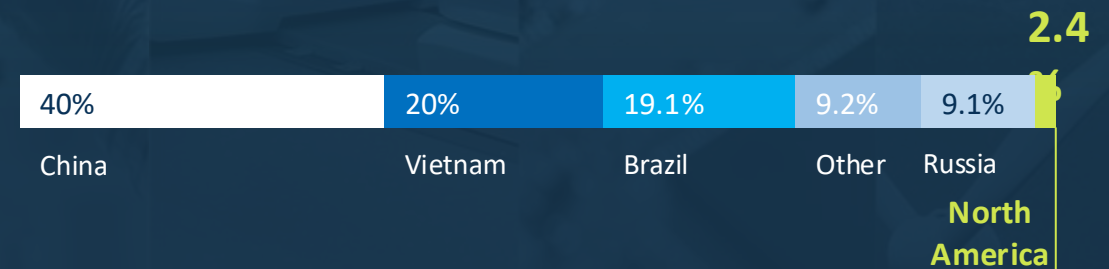
## POWER GENERATION

- Wind turbines
- Other power generators

## Rare Earth Elements 2023 Global Production



## Rare Earth Elements 2023 Global Reserves



# MINE TO MAGNET – RARE EARTH SUPPLY CHAIN

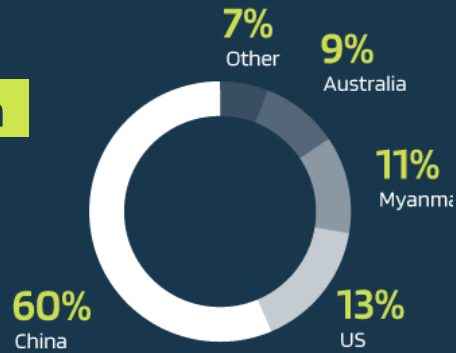
China Dominates Every Step of the Rare Earth Supply Chain:  
From Mining and Beneficiation, to Smelting and Producing NdFeB Magnets



## Step 1

### Mining & Beneficiation

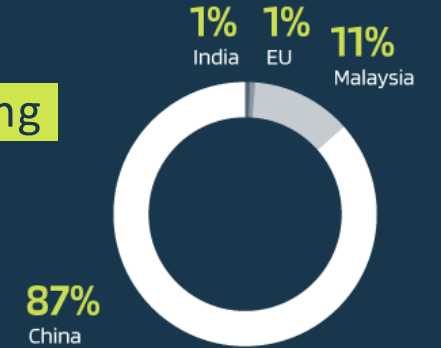
- Bastnasite
- Monazite



## Step 2

### Refining and Metal Making

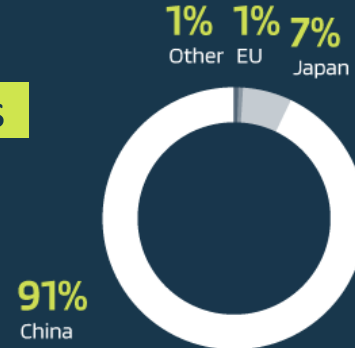
- Rare Earth Oxide
- Rare Earth Metal
- Rare Earth Alloy



## Step 3

### Downstream Materials

- Permanent Magnet Material
- Catalyst Material
- Hydrogen Storage Material
- Polishing Material
- Traditional Manufacturing



## Step 4

### Industry Applications

- Electric Vehicles
- Wind Power
- Consumer Electronics
- Military Applications
- Nickel Hydrogen Batteries
- Glass Additives
- Ceramic Glazing
- Metallurgical Machinery





# LEADING NORTH AMERICA'S SUPPLY CHAIN

Targeting  
**25,000 tonnes REO,**  
 ~10% of current  
 global production<sup>1</sup>

		Supply Chain		
		Mining & Mineral Upgrade	Cracking	Separation
Production (tonnes REO)	Country	Ore Conc	Mixed Chemical Conc	Separate Oxides
140,000	China	China	China	China
38,000	United States	United States	China	China
30,000	Myanmar	Myanmar	Myanmar, China	China
<b>25,000</b>	<b>WICHEEDA</b>	<b>CANADA</b>	<b>PFS UNDERWAY</b>	<b>TO BE STUDIED</b>
17,000	Australia	Australia	Malaysia	Malaysia, China
3,000	India	India	India	India
2,700	Russia	Russia	Estonia	Estonia
4,000	Madagascar	Madagascar	China	China
2,000	Thailand	Thailand	Thailand	Thailand
1,000	Brazil	Brazil	Brazil	Brazil
1,000	Vietnam	Vietnam	Vietnam	Vietnam
500	Burundi	Burundi	China	China

1 ) Source: USGS Rare Earth Mineral Commodity Summary, 2021



# WICHEEDA PROJECT PRODUCTION POTENTIAL

CURRENT NEODYMIUM MINERAL RESOURCE ESTIMATED AT WICHEEDA,  
CAN PRODUCE ENOUGH MAGNETS TO CREATE  
ONE OF THE POSSIBILITIES BELOW:

2,688,172

Electric vehicles



8,065

Wind turbines\*



32,258,065

Inverter air conditioners



537,634

Industrial robots



1,344,086

Energy-efficient elevators



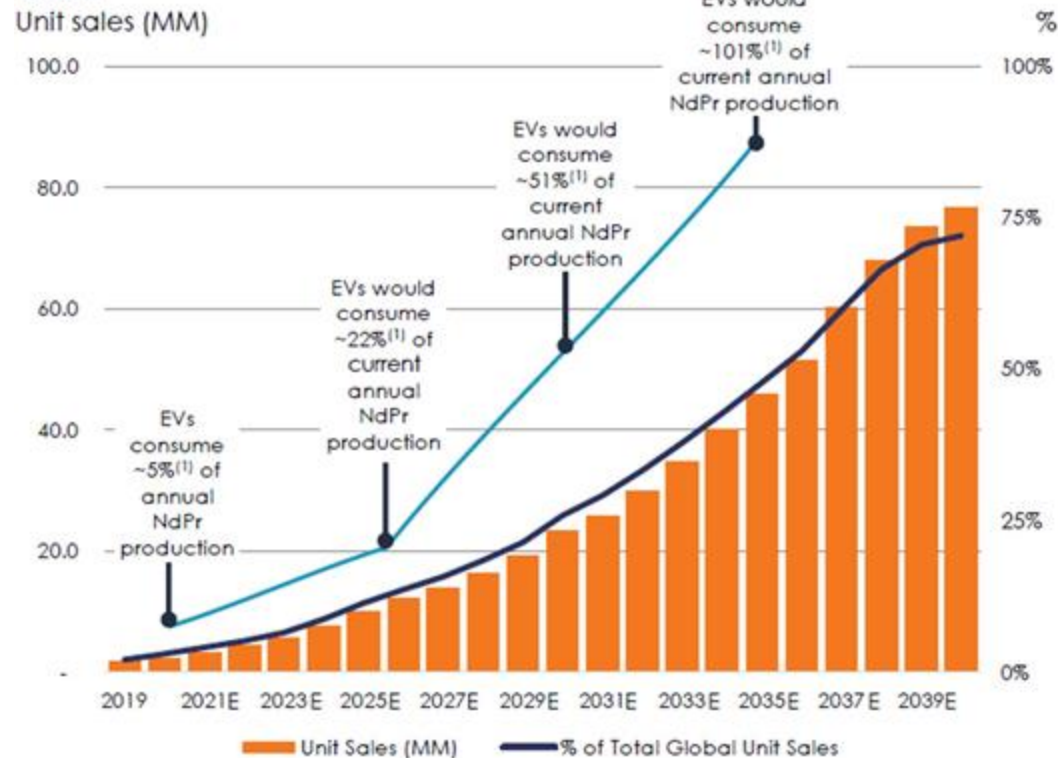
\*Assuming a wind turbine requires 250–650 kg of NdFeB magnet to produce 1MW electrical energy and the average size of onshore turbine is around 2.5-3 MW and average size of offshore wind turbine is 3.6 MW°



# ELECTRIC VEHICLES

## A Driver for Rare Earth Demand

Global Electric Vehicle Units Sales / % of Global Total Vehicle Unit Sales



Source: MP Materials, Morgan Stanley, CRU



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- An electric vehicle (EV) uses 1kg to 3kg of neodymium-iron-boron (NdFeB) magnets in standard drivetrain motors
- NdFeB magnets are in 93% of all electric vehicles. Tesla, GM, Ford, VW, Hyundai, Toyota and others build vehicles using these magnets
- Every ten million new EVs require ~10,000 tonnes of additional neodymium or ~20% of current annual global supply. Over 70 million electric vehicles are expected to be sold when internal-combustion-engine vehicles are phased out

# STRATEGIC LOCATION

- Strategically positioned 80 km from Prince George and accessible from a major forestry service road, which connects to **Highway 97**
- The 100% owned 8,301-hectare Wicheeda deposit, has power transmission lines, a gas pipeline and a major rail line nearby
- Prince George, British Columbia, is a mining centre, with a skilled workforce
- **Port of Prince Rupert is 500km to the west and accessible by rail and road**



**PRINCE RUPERT PORT, EXPANSION PLANNED BY 2024**



**PRINCE GEORGE TRAIN YARD**



# MINERAL RESOURCE

The 2023 MRE comprises a 6.4 million tonne Measured Mineral Resource, averaging 2.86% **(TREO)**<sup>1</sup>; 27.8 million tonne Indicated Mineral Indicated Resource, averaging 1.84% TREO; and 11.1 million tonne Inferred Mineral Resource, averaging 1.02% TREO, reported at a cut-off grade of 0.5% TREO

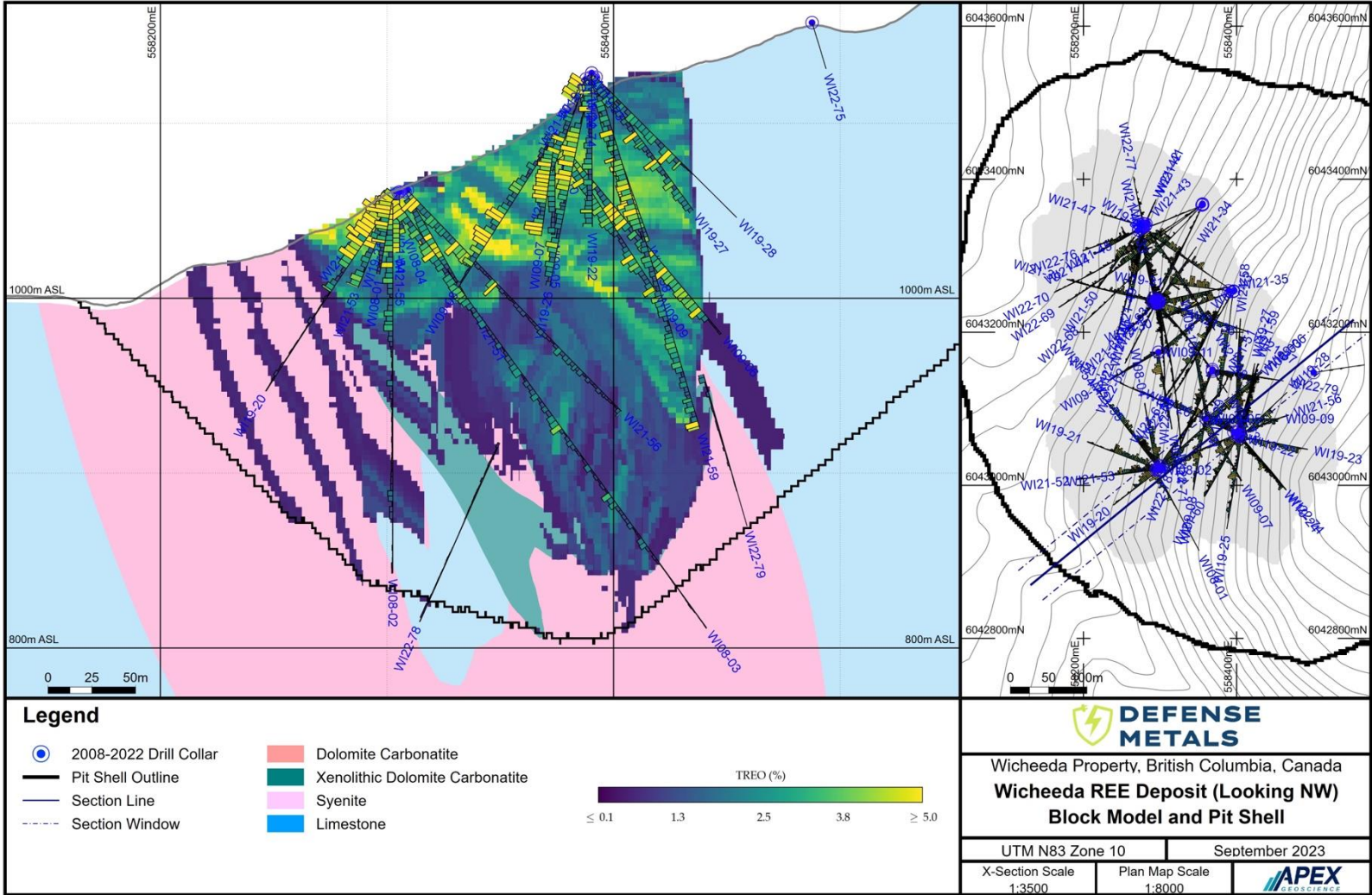
Category	Tonnes (Million)	Grade > Cutoff											
		TREO <sup>2</sup> (%)	TREO (kT)	CeO <sub>2</sub> (%)	La <sub>2</sub> O <sub>3</sub> (%)	Pr <sub>6</sub> O <sub>11</sub> (%)	Nd <sub>2</sub> O <sub>3</sub> (%)	Sm <sub>2</sub> O <sub>3</sub> (ppm)	Gd <sub>2</sub> O <sub>3</sub> (ppm)	Eu <sub>2</sub> O <sub>3</sub> (ppm)	Dy <sub>2</sub> O <sub>3</sub> (ppm)	Tb <sub>4</sub> O <sub>7</sub> (ppm)	Ho <sub>2</sub> O <sub>3</sub> (ppm)
Measured	6.4	2.86	183	1.39	1.00	0.11	0.31	312	139	63	35	12	4
Indicated	27.8	1.84	516	0.89	0.62	0.07	0.21	232	111	50	32	10	4
M+I	34.2	2.02	699	0.98	0.69	0.08	0.23	247	116	52	32	10	4
Inferred	11.1	1.02	113	0.50	0.31	0.04	0.13	166	91	38	35	9	5

1 )Total rare earth oxide, sum of 10 oxides: CeO<sub>2</sub>, La<sub>2</sub>O<sub>3</sub>, Nd<sub>2</sub>O<sub>3</sub>, Pr<sub>6</sub>O<sub>11</sub>, Sm<sub>2</sub>O<sub>3</sub>, Eu<sub>2</sub>O<sub>3</sub>, Gd<sub>2</sub>O<sub>3</sub>, Tb<sub>4</sub>O<sub>7</sub>, Dy<sub>2</sub>O<sub>3</sub> and Ho<sub>2</sub>O<sub>3</sub>)  
See Defense Metals News Release Dated September 12, 2023

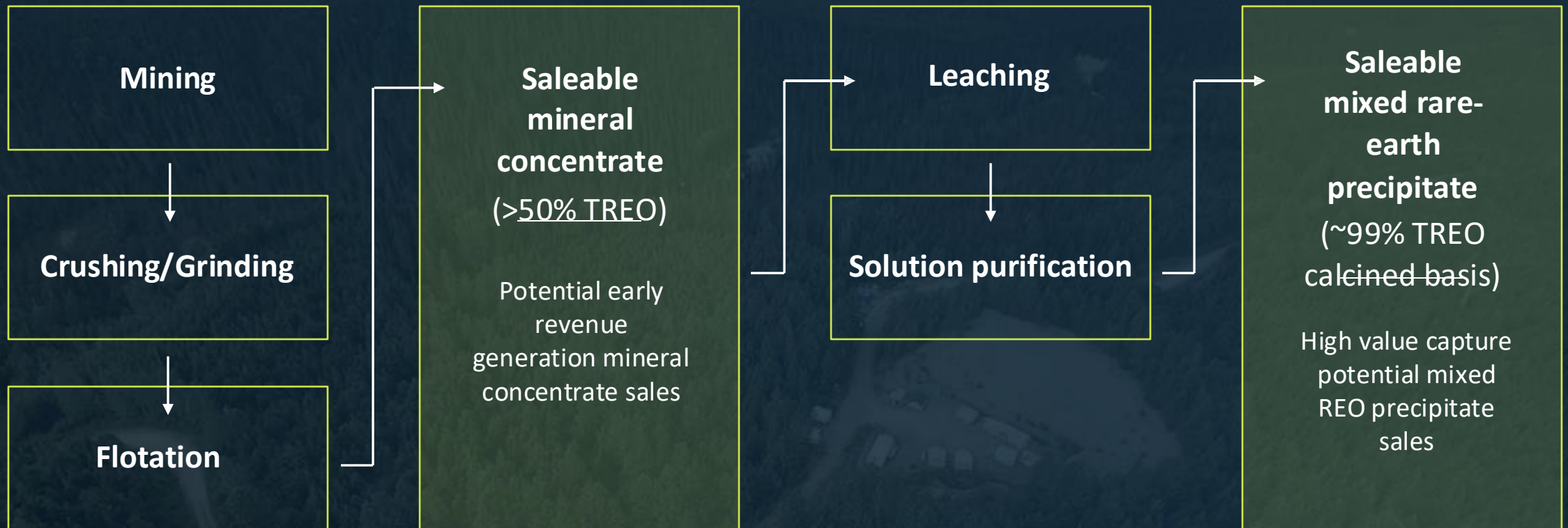


# RESOURCE BLOCK MODEL AND CONCEPTUAL PIT SHELL

High-grade rare earths at surface



# WICHEEDA FLOWSHEET



The flowsheet will be finalized with the PFS which is expected to be completed in H1-2024



# FLOTATION RESULTS

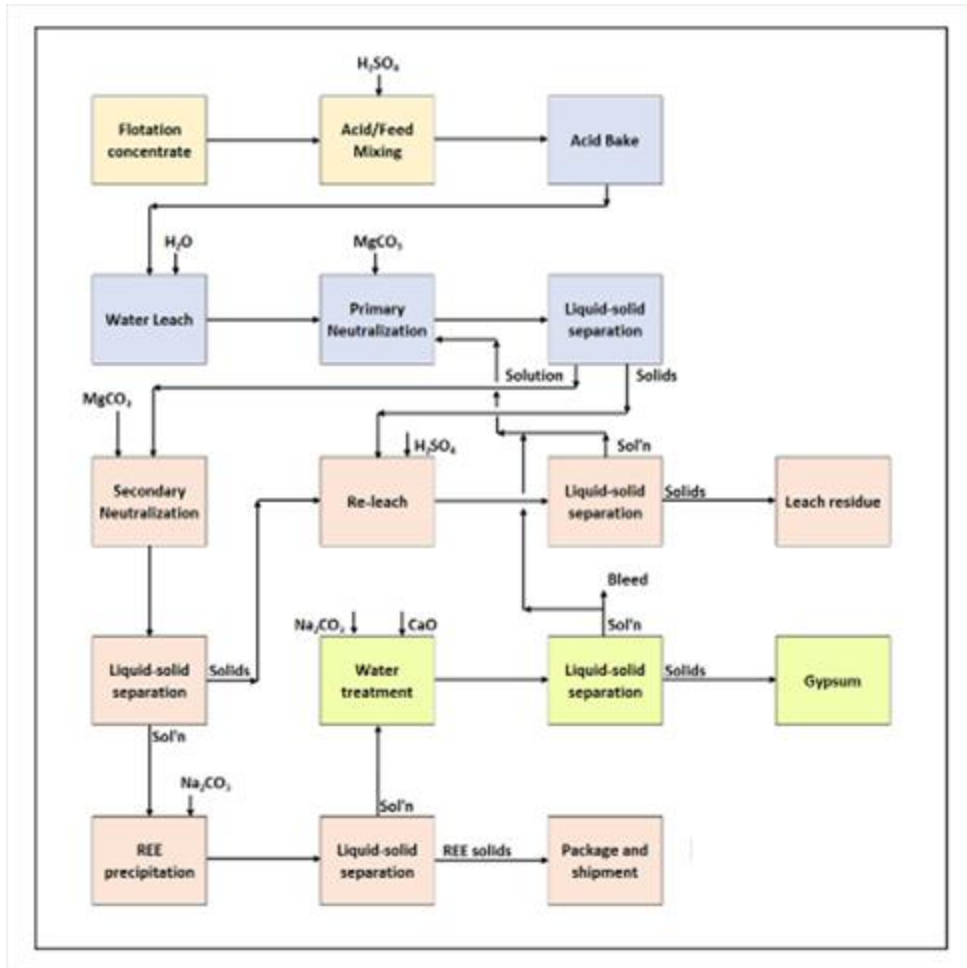
Feed grade versus recovery at variable target concentrate grades.  
Demonstrates high concentrate grade and recoveries across a range of feed grades.

	Variability Samples				
	Avg. Head Grade REO%	40% REO	45% REO	50% REO	55%REO
DC Samples (n=9)	3.3	85	81	77	71
DC-XE-SYN Blends (n=4)	2.5	80	77	75	68
XE-SYN Samples (n=10)	1.3	59	-	-	-

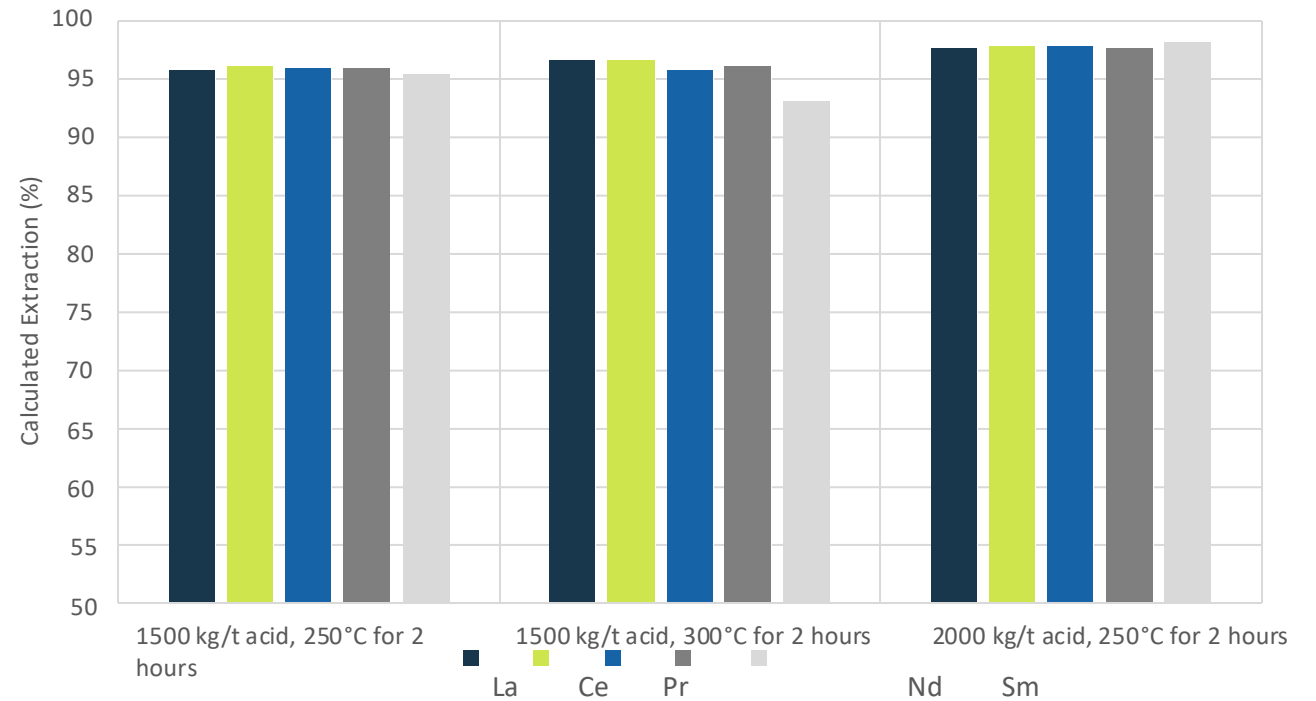




# HYDROMETALLURGY FLOWSHEET – Acid Bake, Preliminary Results



>95% recovery of Neodymium and Praseodymium from Flotation 50% Concentrate Into Leach Solution



# MINERALOGY AND HIGH-GRADE CONCENTRATE COMPARED TO GLOBAL PRODUCING DEPOSITS

Project	Stage	Grade (%TREO)	Flotation Concentration Grade and Recovery	Mineralogy	Annual Production
<b>Wicheeda Canada</b>	<b>PFS underway</b>	<b>2.02%<sup>1</sup></b>	<b>50% TREO, 60-80% recovery</b>	<b>Parasite/ Bastnaesite + Monazite</b>	<b>~25,000 tpy TREO est</b>
Mt. Pass (MP Materials, MP-NYSE) <sup>2,3</sup> USA	Producer	8%	60% TREO, 67% recovery	Bastnaesite	~40,000 tpy TREO
Mt. Weld (Lynas Corp., LYC-ASX) <sup>2,3</sup> Australia	Producer	7%	40% TREO, 70% recovery	Monazite	~20,000 tpy TREO
Bayan Obo <sup>2,3</sup>	Producer	6%	50% TREO, 60% recovery	Bastnaesite, Monazite	~50,000 tpy TREO
China Sichuan <sup>4</sup> China	Producer	3.7%	50% - 60% TREO	Bastnaesite	~ 30,000 TREO

1) See Defense Metals News Release Dated September 12, 2023

2) Verbaan, N., Bradley, K., Brown, N., and Mackie, S., 2015 A review of hydrometallurgical flowsheets considered in current REE projects. In: Simandl G.J. and Neetz, M. (Eds.). Symposium on Strategic and Critical Materials Proceedings.

November 13-14, 2015, Victoria, BC EMPR, BCGS Paper 2015-3, pp. 147-162

3) These are commercial operations, and the results of Defense Metals' current results are from controlled lab testing and are not comparable

4) Ling ZHI LI, Xiaosheng YANG, ERES2014



# PROJECT TIMELINE

## Completed in 2023:

Completed hydromet pilot plant  
Advanced environmental studies

Upgraded and Expanded Mineral Resource Estimate  
Started pre-feasibility study

## 2024 Plans



- Continue Environmental Baseline Studies

- Complete pre- feasibility study
- Start feasibility study



# DEFENSE METALS

## CONTACT

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