

## **AMERICAN RARE EARTHS LIMITED 2021 ANNUAL GENERAL MEETING**

### **CHAIRMAN'S ADDRESS**

Ladies and Gentlemen welcome to the 2021 Annual General Meeting of American Rare Earths Limited.

It is my pleasure to report to you today on your Company's 2021 financial and operational results.

American Rare Earths Limited reported an operating after-tax loss of \$258,920.

As of 30 June 2021, our cash balance increased by over 100% to \$3.7m, up from \$1.4m. Our total assets also increased by 48% from \$6.7M to \$9.9M while total liabilities fell 4.4% from \$412,676 to \$395,071.

We conducted a successful capital raise of \$2.4 million to help fund further exploration for the La Paz Rare Earths Project in Arizona, USA. Your directors are incredibly pleased with the results of the exploration activities at La Paz, which involved a sampling program in December 2020 and a drilling campaign in March 2021, conducted by Timberline Drilling Inc.

Significantly, the nine diamond core holes drilled at La Paz not only confirmed the 2011 maiden resource but, more interestingly, the discovery of additional rare earth mineralisation to the southwest of the resource area, that with further drilling, could be a new ore body.

The drilling results were important due to the assay analysis and the completion of metallurgical test work which in August enabled us to announce an improved JORC 2012 classified resource estimate of 170.6 million tonnes of Total Rare Earth Elements ("TREE") at an average grade of 391ppm.

The new resource estimate represented a 33.1% increase in total resource tonnes of 42.4Mt to 170.6Mt and a 5.2% increase in overall TREE grade from 372 ppm to 391ppm. The Indicated Resource estimate increased by 117%, from 16.2Mt to 35.2Mt. The new resource estimates include 4.4 million kg of Scandium Oxide.

What is also exciting are the higher grades intersected in the La Paz resource area of up to four times the depth of the previous maiden resource, with mineralisation remaining open at depth and along the strike, indicating the potential for a much larger deposit.

From a corporate perspective, your Company continued pursuing the strategic goal of increasing our portfolio of rare earth projects with acquisitions in the US and Australia.

The acquisition of the Laramie Rare Earths project in Wyoming, announced in August 2020, was completed in June 2021, when the project was renamed the Halleck Creek Rare Earths

project. The second acquisition was the Searchlight Rare Earths project in Nevada in May 2021.

The Company's US-based rare earth projects are in mining-friendly jurisdictions, with La Paz and Searchlight projects situated approximately 320km and 32km from Mountain Pass, currently the only operating and processing rare earths mine in the USA. Halleck Creek is based to the Northeast in the mining friendly jurisdiction of Wyoming

In Australia, American Rare Earths Limited acquired the Scandium Mineral Rights at the Split Rocks project in Western Australia from Zenith Minerals Limited, providing us with a two-year option after spending \$10,000 in exploration.

Your directors are delighted with the portfolio of rare earth assets assembled so far and are particularly excited with the prospects of the flagship La Paz Rare Earths project. We believe there is potential for La Paz to be developed into the largest, rare earths project in North America.

Shortly, our Managing Director Mr Chris Gibbs will provide a presentation to shareholders highlighting further details on the Company's exploration activities at La Paz and our other newly acquired projects.

But, before his presentation, I would like to remind shareholders of the significance of the US Executive Orders signed in 2020 and 2021, aimed to increase the US domestic production and processing of Critical Minerals.

The US government provides significant funding for R&D that create tax incentives to encourage more rare earth exploration and mining projects in the US. These initiatives are positive for American Rare Earths, hopefully generating further investor interest in the Company's exploration plans.

On behalf of the Board, I want to thank our former Managing Director, Mr Keith Middleton, for guiding the Company for the past financial year. I also thank my fellow Directors and all our staff and consultants for their contributions during the same period.

Finally, I thank all our shareholders for their continued loyalty and support, especially those attending our Annual General Meeting today.

Ladies and Gentlemen, thank you again.

**CREAGH O'CONNOR AM**

**Chairman**





# Investor Presentation

**American Rare Earths Ltd**

ASX: ARR OTC: ARRN

November 2021



# Disclaimers and Forward Looking Statements



## Disclaimers

This presentation contains forward-looking statements that involve subjective judgement and analysis and accordingly, are subject to significant uncertainties and risks, many of which are outside the control of, and are unknown to, American Rare Earths ("ARR"). In such circumstances, the forward-looking statements can be identified by the use of forward looking words such as "may", "will", "expect", "intend", "seek", "estimate", "believe", "continue" or other similar words.

No representation, warranty or assurance is given or made in relation to any forward-looking statement by ARR or its representatives. In addition, no representation, warranty or assurance is given in relation to any underlying assumption or that any forward-looking statements will be achieved. Actual future events may vary materially from the forward looking statements and the assumptions on which the forward-looking statements are based. Accordingly, presentation readers are cautioned not to place undue reliance on such forward looking statements as a result of the uncertainties.

ARR wishes to caution readers that these forward-looking statements are based on economic predictions and assumptions on reserves, mining method, production rates, metal prices and costs (both capital and operating) developed by ARR management in conjunction with consultants.

This presentation and the forward-looking statements made in this presentation, speak only as of the date of the presentation.

Accordingly, subject to any continuing obligations under the Corporations Act and the Australian Securities Exchange Listing Rules, ARR disclaims any obligation or undertaking to publicly update or revise any of the forward-looking statements in this presentation, whether as a result of new information, or any change in events, conditions or circumstances on which any such statements is based.

## Competent Person Statement

The information in this report that relates to Exploration Results is based on information compiled by Mr. Jim Guiling. Mr. Guiling is a Member of a Recognised Overseas Professional Organisation included in a list promulgated by the ASX (SME Registered Member of the Society of Mining, Metallurgy and Exploration Inc). Mr. Guiling is Principal of independent consultants World Industrial Minerals LLC. Mr. Guiling has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking 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. Guiling consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

The information in this document that relates to Mineral Resource Estimate is based on information provided by Mr Alfred Gillman. Mr. Gillman is Principal of the independent consultant firm Odessa Resources Pty Ltd. Mr. Gillman is a Fellow and Chartered Professional of the Australian Institute of Mining and Metallurgy (AUSIMM) and has sufficient experience which is relevant to the style of mineralisation 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 JORC Code. Mr. Gillman consents to the inclusion in the report of the matters based upon the information in the form and context in which it appears.

The mineral resources disclosed in this presentation are compliant with NI 43-101 standards which are close to the JORC Code in their key definitions. La Paz mineral resources can therefore be quoted as "qualifying foreign estimates" according to ASX listing rules.

ARR confirms it is not aware of any new information or data that materially affects the information included in the original market announcement, and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. ARR confirms that the form and context in which the Competent Person's findings presented have not been materially modified from the original market announcement.



American Rare Earths (ARR) is an exploration company focused on the development of its Rare Earth and Scandium assets, which have the potential to be some of the largest rare earth deposits in the United States.

Our mission is to supply Critical Materials for Renewable Energy, Green Tech, Electric Vehicles, National Security, and a Carbon-Reduced Future

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# Investment Highlights



## Scale

Large, diverse & growing mineral deposit suite potential  
>1 Billion tonnes of mineralized ore

One of the largest in North America

## Cleaner & Greener

Negligible Thorium  
Collaborating on disruptive renewable, sustainable processing with US partners

## Leadership

Diverse, experienced US leadership & technical team  
Track record of achievement

## Quality

High volumes of magnet metals (Nd/Pr) and Scandium

1 of 5 classified US REE deposits in development

## Value

Modest market capitalization & healthy cash position

Pure play Rare Earths exploration company

## Location

Mining friendly jurisdictions of AZ, WY, & NV

World-class infrastructure and workforce for high-efficiency open-cut mining

## US Gov Engagement

Co-Applicant to DOD and DOE R&D projects supporting US supply chain strategy

# Experienced Leadership and Technical Team



## Australia

### **Creagh O'Connor – Chairman**

Creagh has approximately 40 years experience as a chief executive and board member for public and private companies. During this time, he has been involved in managing Australian and international oil, gas and mineral projects.

### **Geoffrey Hill – Deputy Chairman and Non-executive Director**

Geoff was a director of ARR from 1989 to June 2014, then re-joined the board in August 2015. He has extensive experience in the identification and implementation of mergers and takeovers and has acted for a wide range of corporate clients in Australia and overseas.

### **Keith Middleton – Non-Executive Director**

Keith is a corporate advisor and director of ASX listed companies specialising in the Australian and International resource sector. He has extensive experience in financial analysis, risk management, major capital works expenditure, corporate governance and ESG regulations. Keith has accountability for strategy formulation, project evaluation and investor presentations. He is a former director of Redbank Copper.

### **Denis Geldard – Non-Executive Director**

Denis has over 40 years technical and operational experience in mineral exploration and project development in Australia and internationally. He has over 20 years' experience in the Heavy Mineral Sands industry with companies such as Western Titanium Ltd, Associated Minerals Consolidated and Iluka Resources.

### **Chris Gibbs – Managing Director and Chief Executive Officer**

Chris has over 28 Years experience in the resource sector within Australia, Canada, USA, South America, Africa and Europe. He is an innovative leader with a proven track record for implementing organisational change and delivering business results. Vice President of Argonaut Gold since 2018 and previous leadership roles with Centerra Gold, Barrick Gold, Placer Dome and Millennium Chemicals.



## USA

### **Clarence McAllister – Non-Executive Director (ARR)**

Clarence has over 30 years of international experience in engineering and construction and has been the Chairman of the Board of Western Rare Earths since 2020 and of La Pa Rare Earth LLC prior to that. He is also the Founder and Chief Executive Officer of Fortis Engineers, a world-class electrical and mechanical engineering firm based in Phoenix, Arizona.

### **Dwight Kinnes CPG – Chief Technical Officer**

Dwight has over 35 years' experience as a technical geologist, specializing in resource modeling, working on mining projects across the US, Canada, Indonesia, Thailand, Columbia, and Australia. Prior to joining ARR, he spent 17 years as President/Principal Consultant at Highland GeoComputing, LLC focusing on resource development, mine production geology and technical database solutions.

### **Sten Gustafson – Non-Executive Director (WRE)**

With 25+ years of experience in the global natural resources sector, particularly oilfield services, exploration, refining, production, and marketing, Sten is a Senior natural resources industry executive and board member, as well as a former investment banker and corporate and securities attorney.

### **Melissa Sanderson - Non-Executive Director (WRE)**

Her International career has spanned diplomacy and mining for 30+ years. Mel is adept at cross-cultural communication and brings leadership experience in inclusivity and diversity issues. At global mining leader Freeport-McMoRan, Mel sited, staffed, and ran a corporate office focused on government and public relations, as well as social responsibility programs. She served our nation as a senior diplomat in the U.S. Department of State.

### **Marty Weems – CEO & Director (WRE)**

He brings a proven track record of impact and awards with venture-backed startup businesses plus Fortune 500 experience that includes technology, healthcare, and education. Organizational success resulting in winning the 2016 President's (POTUS) "E" Award for Export Excellence and being recognized as a Fast Company Magazine "Most Innovative" company three separate years. His business experience spans across 5 continents and more than 20 countries.



# Corporate Information

(ASX: ARR; OTC: ARRNF)

## Offices

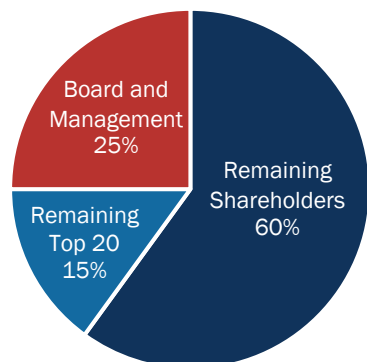
Sydney	NSW, AU
Denver	CO, USA
Laramie	WY, USA
USA HQ	2410 W Royal Palm Rd
Phoenix	AZ, USA

## Capital Structure (USD)

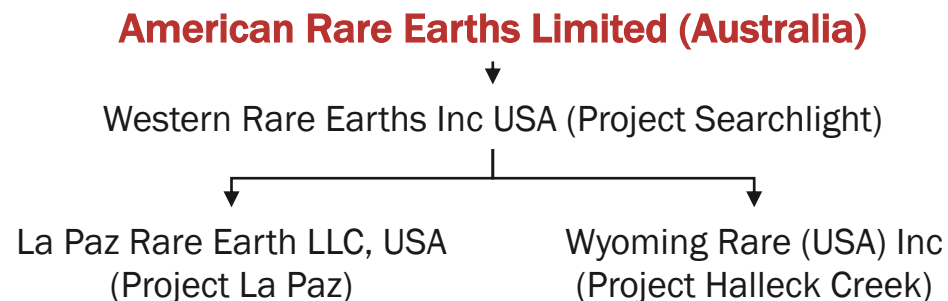
Price	\$0.13
52 week range	\$0.05 - \$0.17
Ordinary Fully Paid Shares	349.5m
Avg Volume	1,535,059
Market Cap	\$45.4m
Cash	\$2.18m

As of 12 October 2021 ARBN: 003453 503

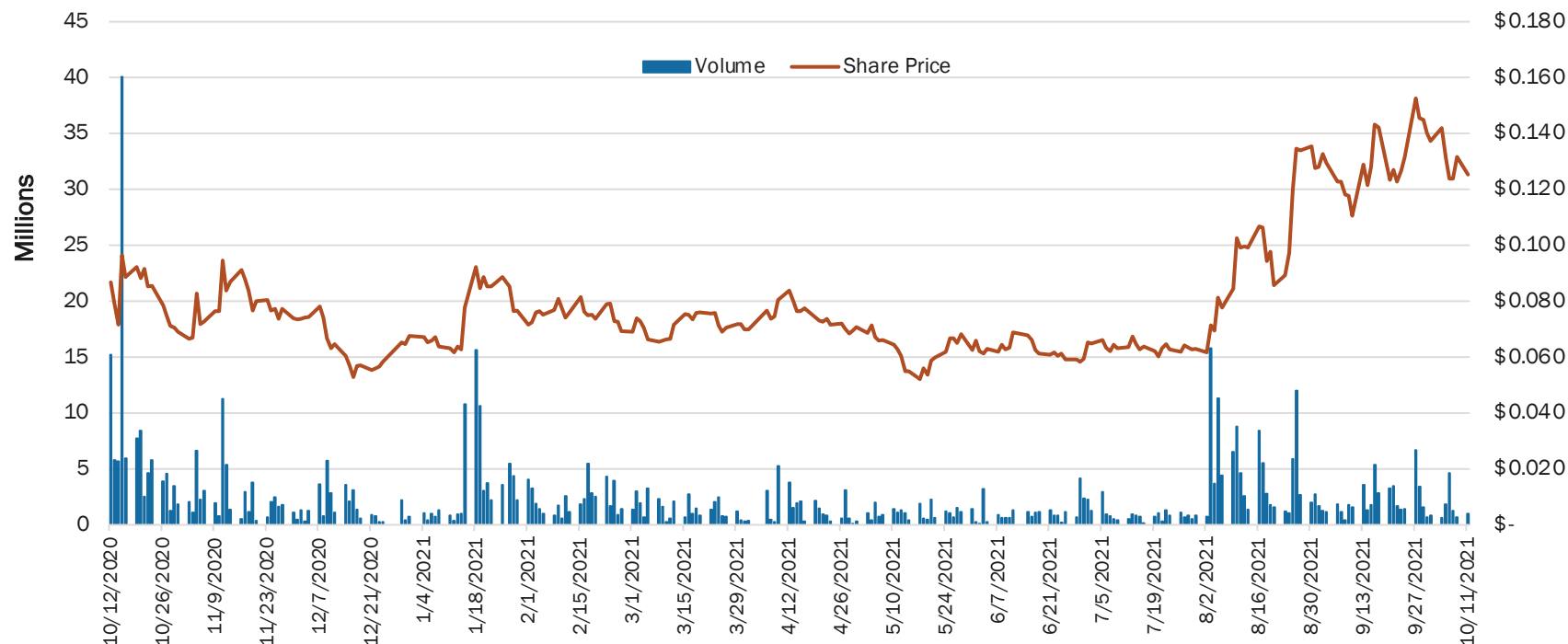
## Shareholder Breakdown



## Ownership Structure

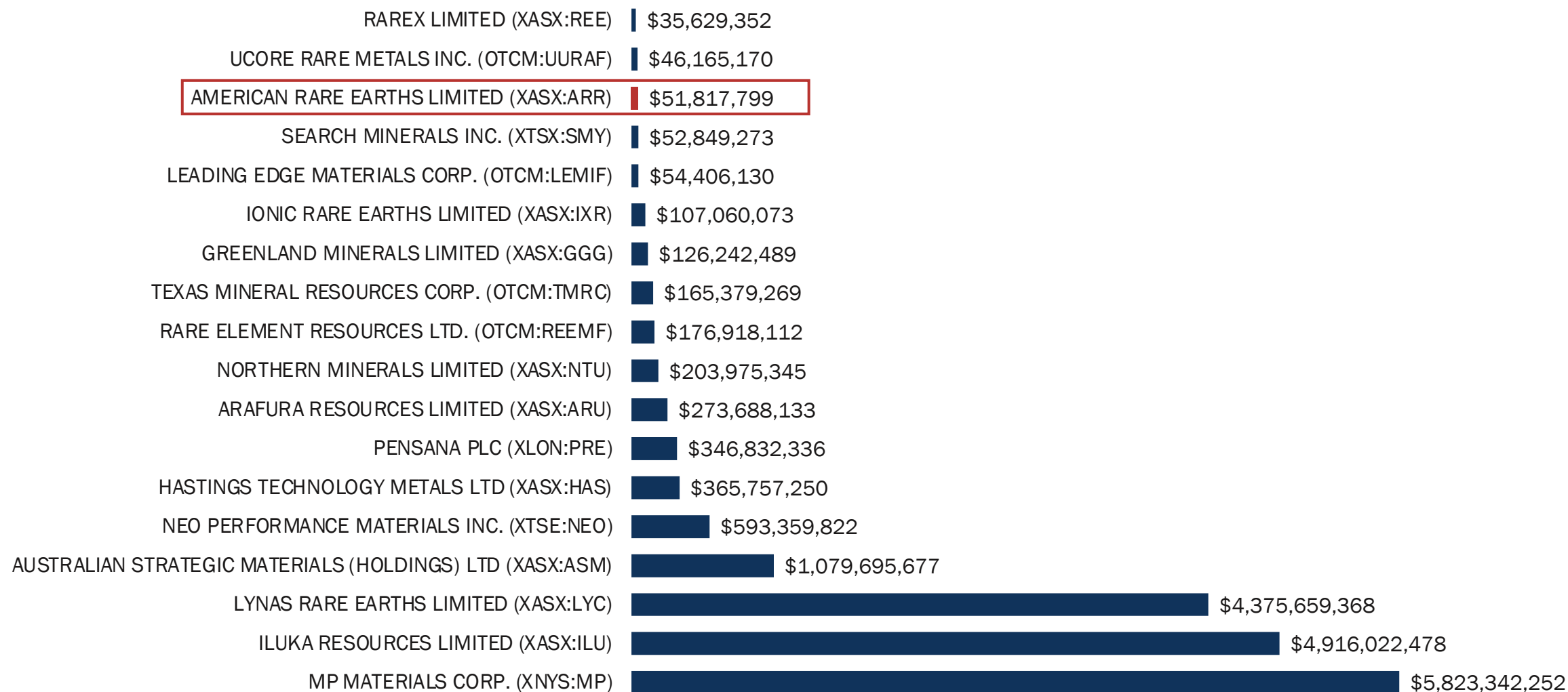


## Share Price History (USD)





# Peer Group Market Cap\* in USD



\* Source Data from Refinitiv, MSN Money and Bing 22 October 2021

“

Tech industry braces for skyrocketing rare earth prices.  
Surging demand and U.S.-China tensions make life tough  
for hardware makers.

[asia.nikkei.com/Business/Technology](https://asia.nikkei.com/Business/Technology)

”



# Magnet and Scandium content are key value drivers, given high prices

## Relative Oxide Prices (10/2021)\*

Element	US\$/ kg
<b>Scandium (Sc)</b>	<b>\$1,004.00</b>
Lanthanum (La)	\$1.35
Cerium (Ce)	\$1.30
<b>Praseodymium (Pr)</b>	<b>\$99.45</b>
<b>Neodymium (Nd)</b>	<b>\$95.60</b>
Samarium (Sm)	\$2.31
Europium (Eu)	\$29.68
Gadolinium (Gd)	\$39.70
<b>Terbium (Tb)</b>	<b>\$1,341.00</b>
<b>Dysprosium (Dy)</b>	<b>\$421.00</b>
Holmium (Ho)	\$151.00
Erbium (Er)	\$31.22

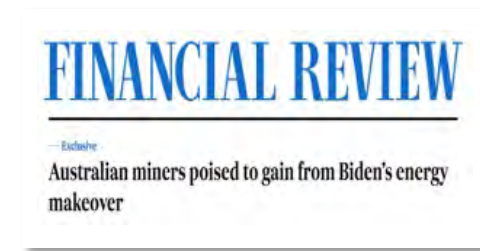
Of the basket of REEs, Nd & Pr, Dy & Tb are the most leveraged to applications synonymous with the 'green revolution' i.e. EVs and wind turbines

\* Disclaimer: Total kg x \$/kg is not a reliable indicator of valuation.  
Source www. <https://giti.sg/> and <https://baiinfo.com/>

## Supply Crisis Looms

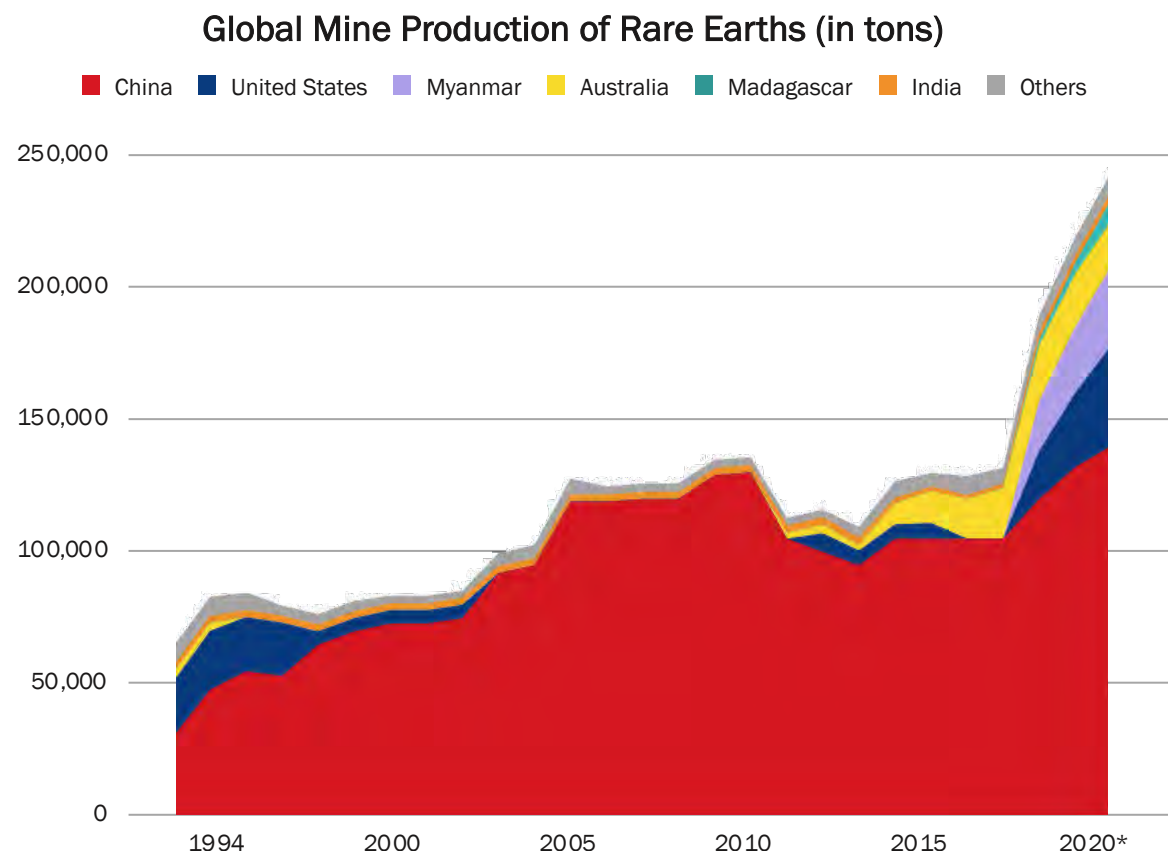


**Two Presidents have signed four executive orders to drive REE production**



# Competing with China

## China's Rare Earth Monopoly is Diminishing



Documented production only, some estimations

\* Estimates

Source: <https://www.statista.com/chart/18278/global-rare-earth-production/>

## Climate Action requires Critical Minerals

- An estimated USD \$30 trillion is required to decarbonize the planet
- New REE Mines and Processing plants are being developed
  - Government regulation in place to help secure rare earths

## America is looking to find

- Alternative supplies to China
- Secure supplies that limit any impact from trade wars
- Socially sustainable sources to Chinese supply

## “Green” Bio-Engineered extraction and purification of REE

- Environmental , Social and Governance (ESG) criteria being applied to support sustainable investing and enhance long term value creation
- Engaged with leading researchers of renewable, non-toxic, bio-engineered technologies in extraction and purification of REEs
- Collaborative supporter of work by members of the Department of Energy (DOE) Critical Materials Institute
- We remain focused on providing a mixed Rare Earth Concentrate for processing, separation and purification
- Refining capability is advancing as our projects develop



# Total Addressable Market

Rare earth metals market expected to hit **~\$9.6 billion by 2026**; registering a **12.3% CAGR\***

- Rare Earth magnets are found in more than 90% of E-vehicle motors
- E-Vehicles are driving explosive growth
  - magnets for power trains expected to grow 15x in the next decade
  - forecast to account for ~50% of Rare Earth (NdFeB) magnet demand
- Supply gap will require multiple 'Lynas-size' projects to fill gap

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The global **Scandium Oxide** market is expected to reach **139.3m USD** by the end of 2026, **growing at a CAGR of 10.2% during 2021-2026\*\***

[www.marketwatch.com](http://www.marketwatch.com), 2021\*\*

”



Electric Vehicles



Off-Shore Wind Turbines



Refrigeration air  
conditioners

Sources:

\* <https://www.marketsandmarkets.com/Market-Reports/rare-earth-metals-market-121495310.html>

\*\* <https://www.marketwatch.com/press-release/scandium-oxide-market-2021-growth-analysis-share-and-consumption-by-regional-data-investigation-and-growth-demand-by-regions-with-impact-of-domestic-and-global-market-2026-2021-10-04>

# Key Projects – Five Deposits Across Three Project Areas

## Searchlight, NV

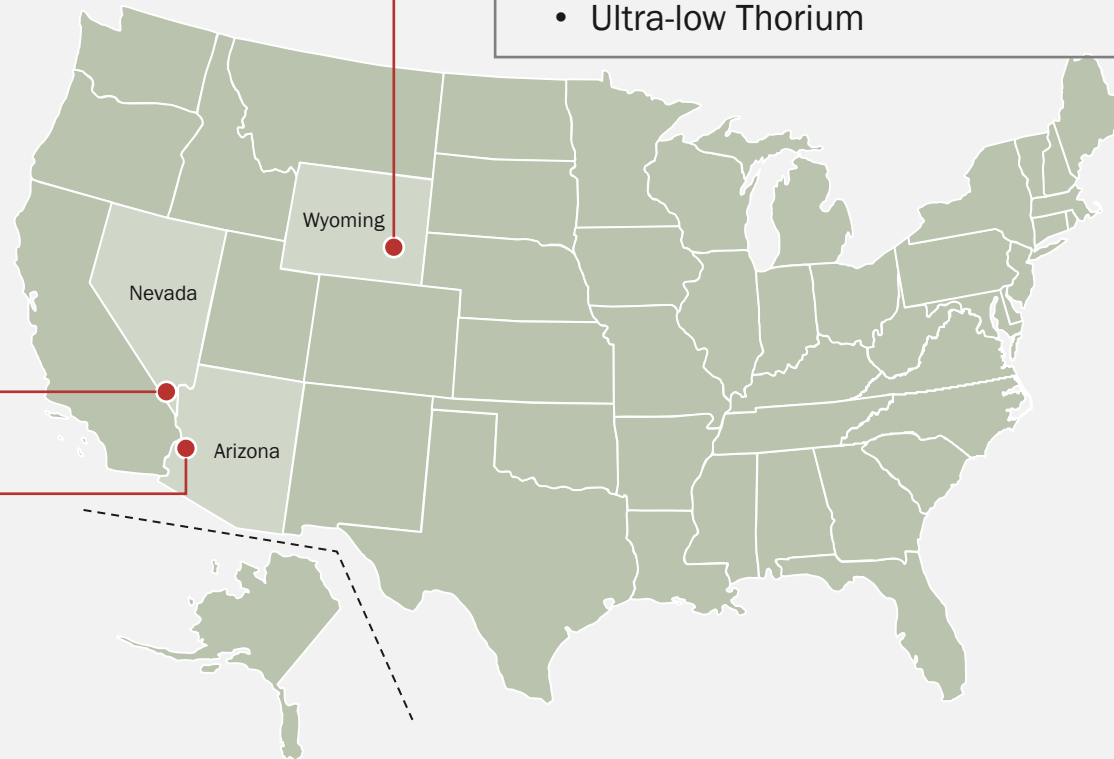
- <30km from only producing REE mine in US
- Initial sampling encountered substantial grades of heavy and magnet REE
- Exploration planning underway

## 2 Halleck Creek, WY

- Surface sampling shows high grade REEs >3000ppm avg TREO
- Maiden drill program being prepared
- Ultra-low Thorium

## 1 La Paz, AZ

- Largest US Exploration Target in development
- Priority Project
- High volume Magnet Metals (Nd,Pr) & Scandium
- Negligible Thorium



## High value Magnet REEs

60  
**Nd**  
Neodymium

59  
**Pr**  
Praseodymium

66  
**Dy**  
Dysprosium

65  
**Tb**  
Terbium

21  
**Sc**  
Scandium

62  
**Sm**  
Samarium



# La Paz REE + Scandium Project

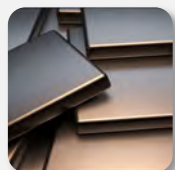
- La Paz is ARR's priority REE project and was acquired in 2019
- Exploration Target of 742-928 million tonnes added to the JORC Compliant Resource of 170.6 million tonnes
- Developing scoping and economic studies for IRR and NPV estimates due in 2022



Bulk  
tonnage  
170Mt



Near surface  
resource &  
upside



High volumes of  
Magnet Metals:  
Nd, Pr, Dy, Tb



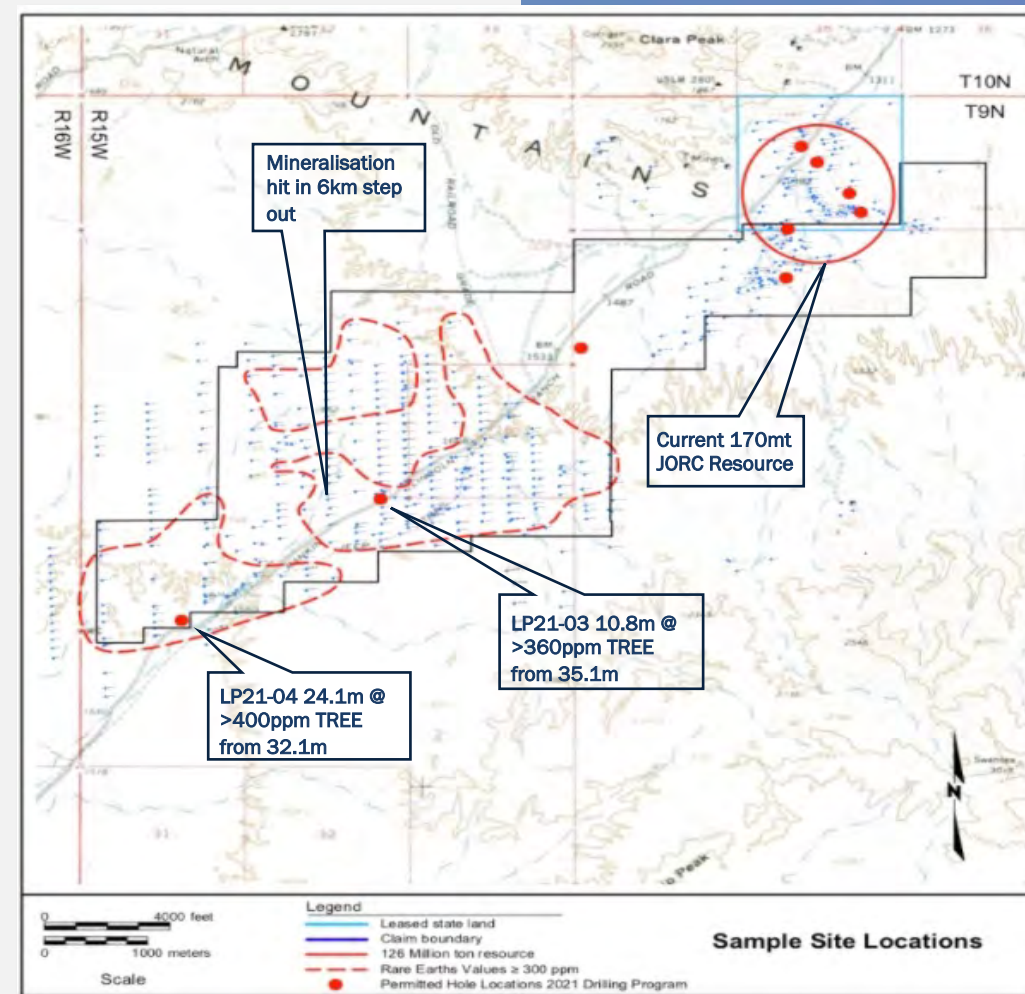
Extremely low in  
thorium



High volume of  
Scandium



Proximity  
to key  
infrastructure



# La Paz JORC Resources

Potentially one of the biggest deposits of rare earths and scandium in North America

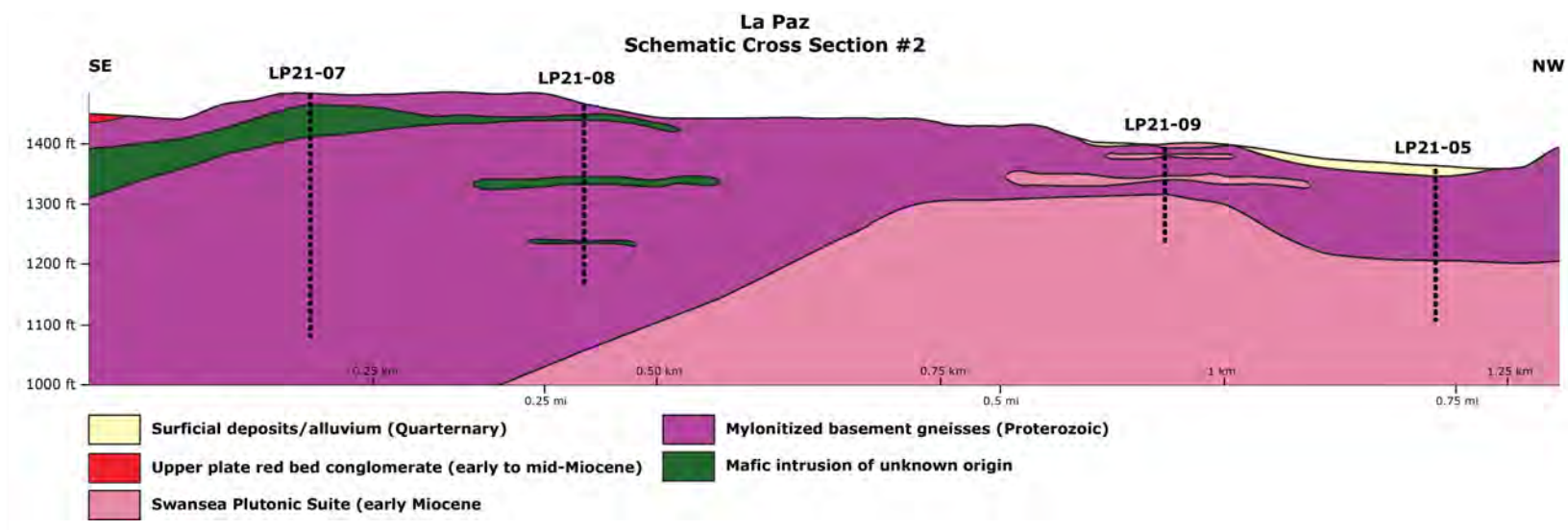
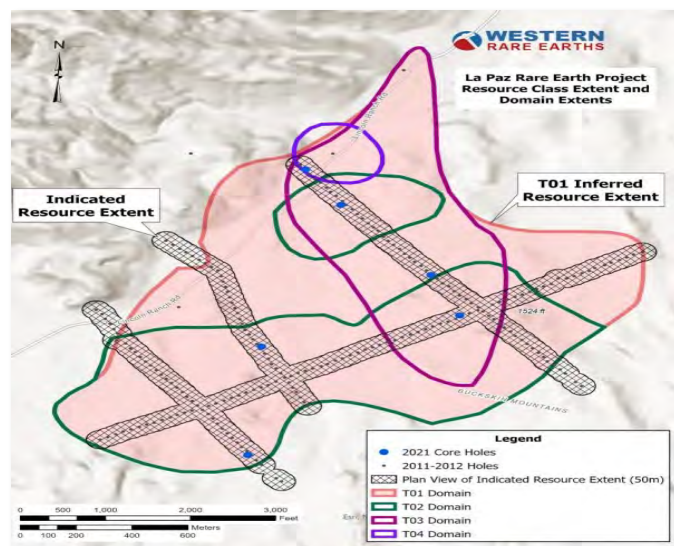
## 2021 drill campaign

- Increased resource estimate 33.1% to 170.6 MT @ TREO grade of 469ppm
- Indicated resource estimates more than doubled to 35.2MT
- New Resource includes 4.4 million kg of Scandium Oxide ( $\text{Sc}_2\text{O}_3$ )

Element	Oxide, ppm	Total Oxide (Kg)
<b>Scandium (Sc)</b>	<b>26</b>	<b>4,406,306</b>
Neodymium (Nd)	79.76	13,606,689
Praseodymium (Pr)	20.97	3,577,386
Dysprosium (Dy)	10.35	1,765,662
Terbium (Tb)	4.59	783,033
Samarium (Sm)	15.31	2,611,816

## JORC 2021 Estimated (TREO) Resources at La Paz

Class	Tonnage	TREO (ppm)	TREO (kg)
Indicated	35,161,600	459	16,144,347
Inferred	135,433,800	472	63,865,163
<b>Total</b>	<b>170,595,400</b>	<b>469</b>	<b>80,009,510</b>





# Resource Upside

## Multiple opportunities to substantially increase the JORC Resources at La Paz:

### Scope

Current Resource estimate encompass only 10.2% of project area hosting 170 million tonnes of mineralized ore with an average grade of 469 ppm TREO

Maiden Resource area open laterally and at depth

Additional mineralization discovery <4km to the Southwest resulting in an estimated Exploration Target ranging 742 to 928 million tonnes with 350 to 400 ppm TREO.

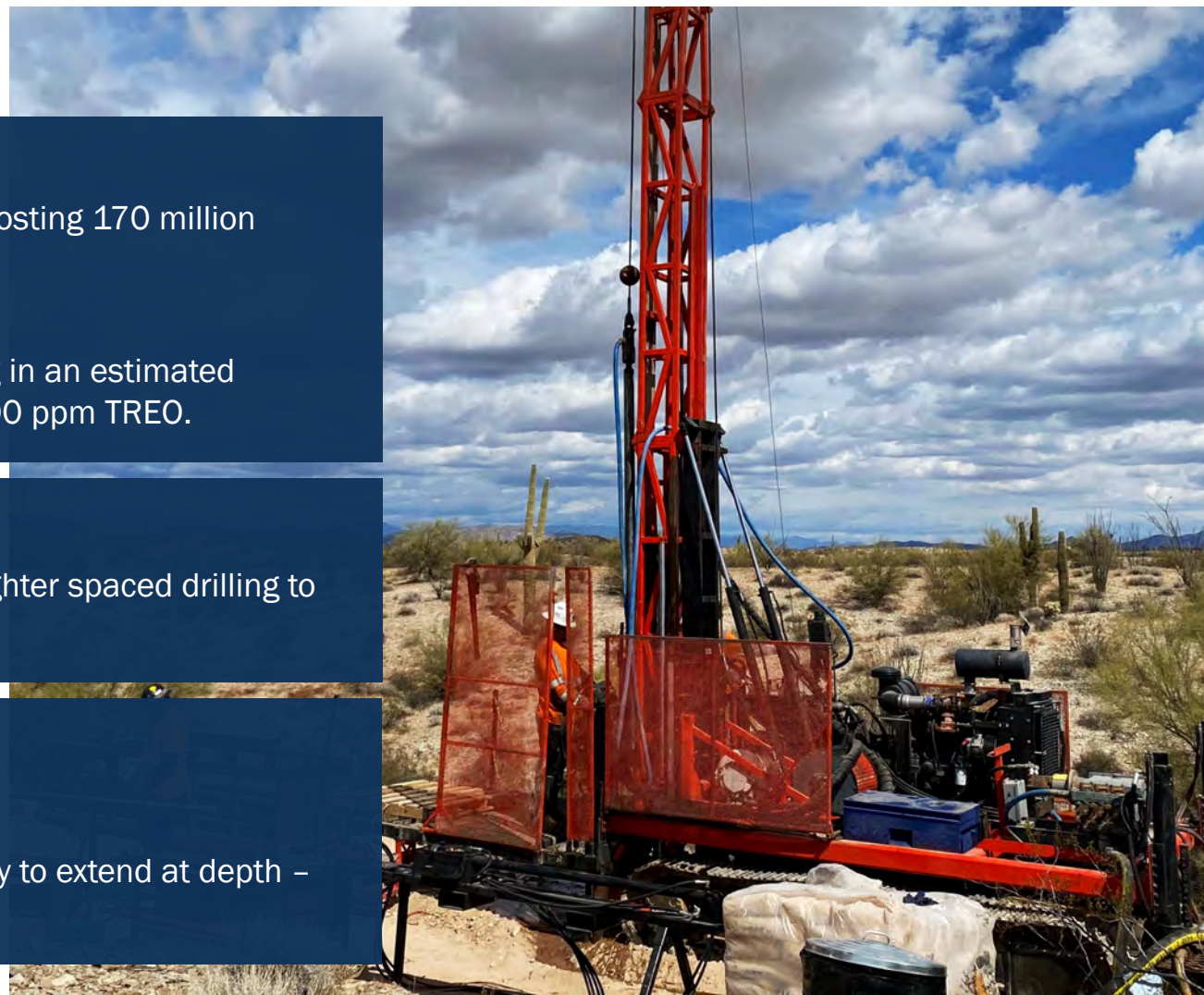
### Quality

Plan to increase Indicated portion of existing JORC Resource with tighter spaced drilling to convert from Inferred status

### Growth

Opportunities to increase drilling locations inside the boundary

>55% of the 206 drill holes ended in mineralisation thus opportunity to extend at depth – holes down to 200m are planned





# Metallurgy

- With high tonnage, metallurgy and processing is key to project economics
- Preliminary test work demonstrates that La Paz ore can be effectively concentrated using conventional magnetic separation, selective grinding and direct flotation
- Benefits to ARR include lower processing costs, and less chemical use while maximizing capture of finely ground mineralized material
- Advanced metallurgy and mineral processing work has commenced at Nagrom Ltd labs in Western Australia



Hand specimen of pervasive epidote (rare earth-rich allanite) mineralisation

## Results of simple magnetic concentration

TREE Grade  
up  
**216%**



Sc Grade  
up  
**90%**

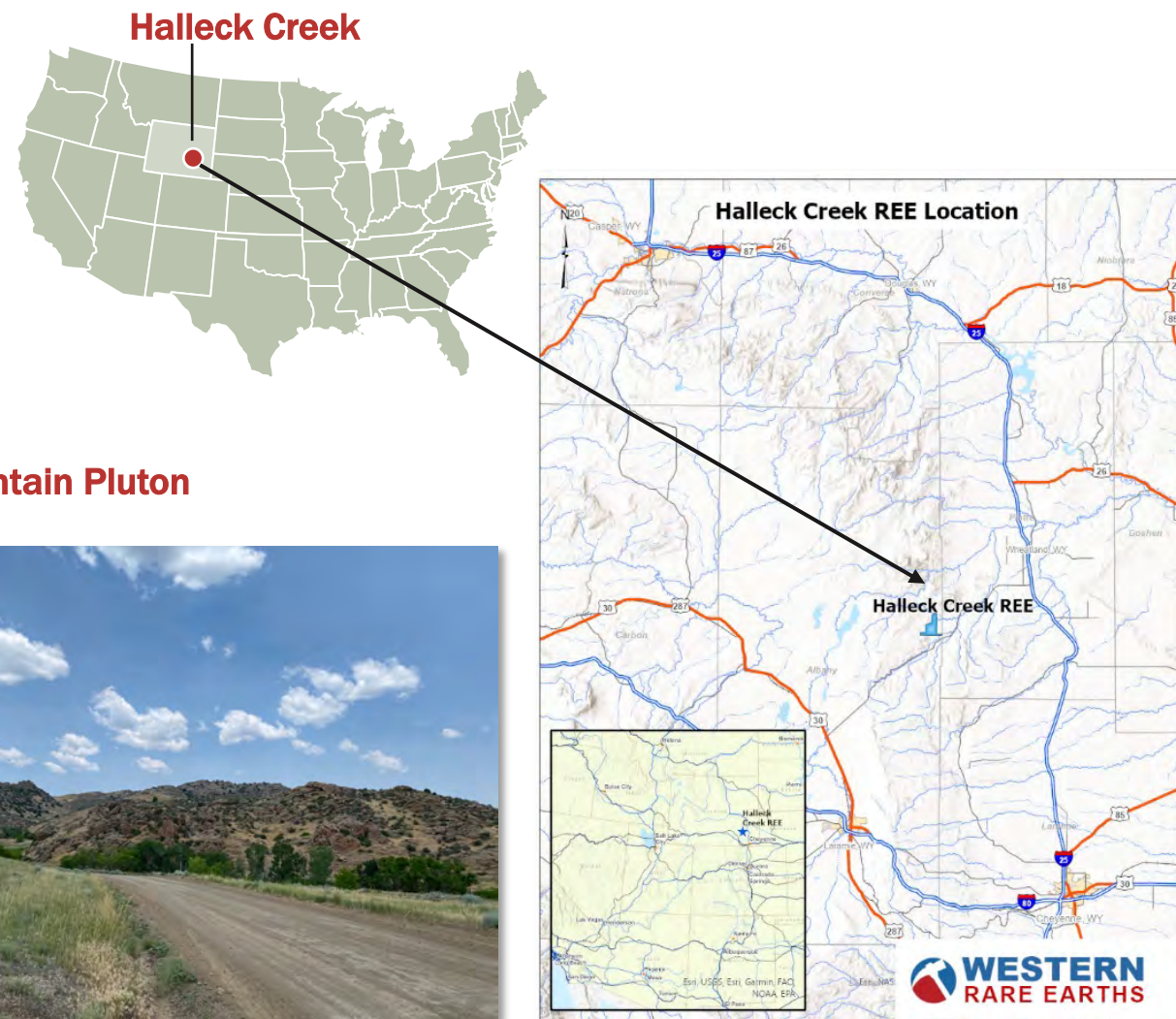


Ore Mass  
down  
**76%**

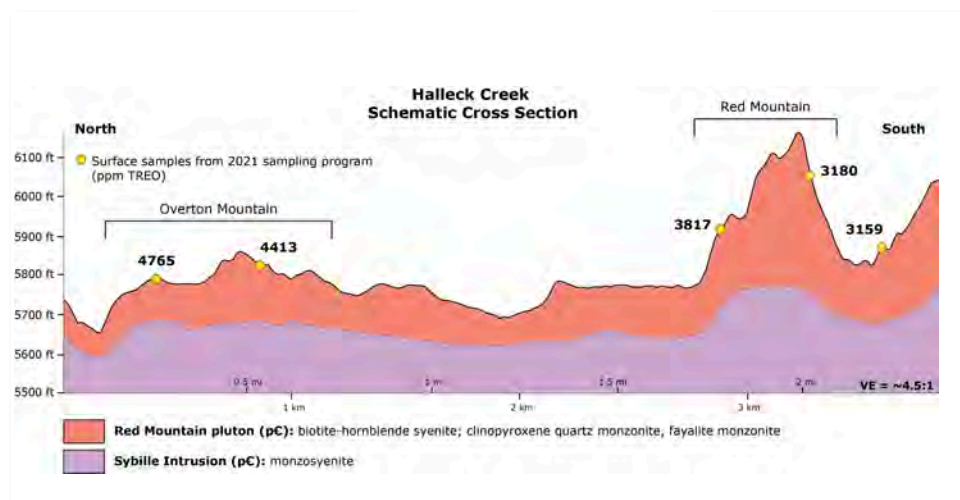


# Halleck Creek

- ARR has claims and leases totaling 1,257h at Halleck Creek, in close proximity to infrastructure
- 197 surface geochemistry samples across the Halleck Creek Red Mountain Pluton with avg grade 3187ppm TREO
- The highest-grade sample contained 6,731ppm TREO
- Preparing exploration permitting documents for initial exploration drilling program



## Schematic cross section at Halleck Creek



## Red Mountain Pluton





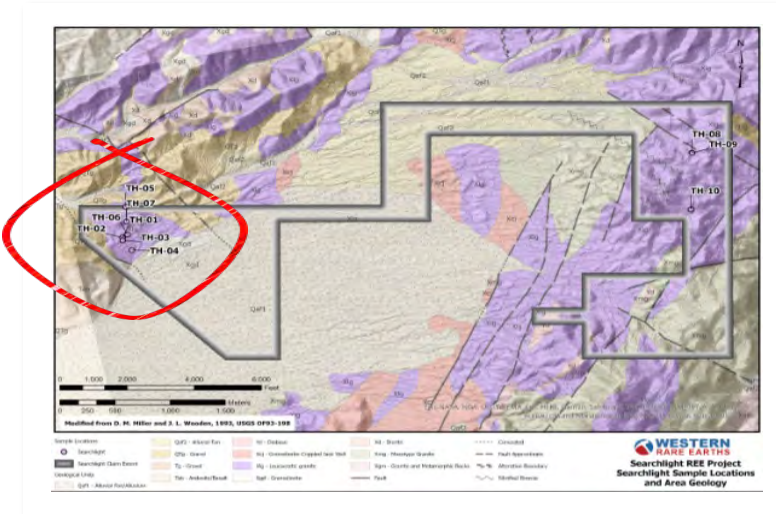
# Searchlight Project



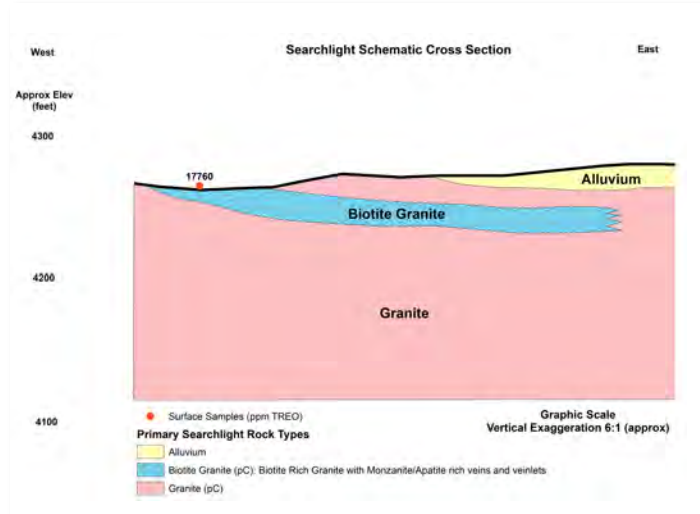
- High-grade REE exploration project located in Nevada, within ~30km of only operating US rare earths mine, Mountain Pass
- 80 contiguous unpatented lode mining claims, totaling 1620 acres
- Initial geological review and sampling program completed
- 10 surface geochemical samples collected with elevated REE grades identified including one sampling TREE of 14,800 ppm (1.48% REE) with NdPr present



## Sampling program at Searchlight Project



## Schematic cross section at Searchlight





# Upcoming Activity



With a portfolio of rare earths assets ARR is anticipating a high tempo of activity in the coming 18 months and beyond  
Key focus is completing PEA for La Paz but also completing initial drill program at Halleck Creek to identify maiden JORC Resource

Operational Activity	Nov	Dec	Q1 CY22	Q2 CY22	Q3 CY22	Q4 CY22	Q1 CY23
<b>La Paz</b>							
Complete Nagrom met testing							
Complete Scoping study							
New ore body drilling (SW area)							
Resource expansion drilling (depth & lateral) expansion, Geotech, H2O investigation							
Complete PEA							
<b>Halleck Creek</b>							
Secure drilling permits							
Maiden drill program							
Metallurgical study							
Resource drill program							
Maiden JORC Resource							
<b>Searchlight</b>							
Surface mapping and sampling							
Secure drilling permits							
Maiden drill program							
Metallurgical study							

# ESG – Positive Impact Through Responsibly Sourced Materials

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## 1 Ultra Low Thorium

Negligible penalty elements at La Paz reduces tailings risk & operating costs

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## 2 New Energy Reduced Carbon Future

Soaring demand outstripping supply of these constrained inputs for Wind power, EVs and Fuel Cells

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## 3 Renewable Energy

Responsible project power  
Solar (Arizona)  
Wind (Wyoming)

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## 4 Disruptive R&D Collaborations

Feedstock for US Government funded processing methodology R&D

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## 5 Socially Engaged

Robust social and stakeholder engagement

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## 6 Environmentally Aware

Implementing highest environmental standards

# Summary



**Scale**



**Quality**



**Broad  
Portfolio**



**Timing**



**Cleaner &  
Greener**



**Momentum**



**Value**



**Infrastructure  
Proximity**



**US Gov  
Engagement**



**Leadership**

**Chris Gibbs | Managing Director and CEO | [cgibbs@americanrareearths.com.au](mailto:cgibbs@americanrareearths.com.au)**



# Appendix

# Secure Supply Chain for Domestic Production



## World-Class Collaborations

Supporting National Labs and Research One university researchers with grant applications to DOE and the Critical Materials Institute

## DARPA EMBER Feedstock (DOD)

Qualifying feedstock provider named in proposals by three research teams applying to the EMBER program in the quest to disrupt an 80-year old toxic supply chain controlled by China

## “Green” Bio-Engineering

Engaged with leading researchers of renewable, non-toxic, bio-engineered technologies in extraction and purification of REEs

## Mining Friendly US Locations

Remote, domestic locations with established infrastructure in mining friendly jurisdictions

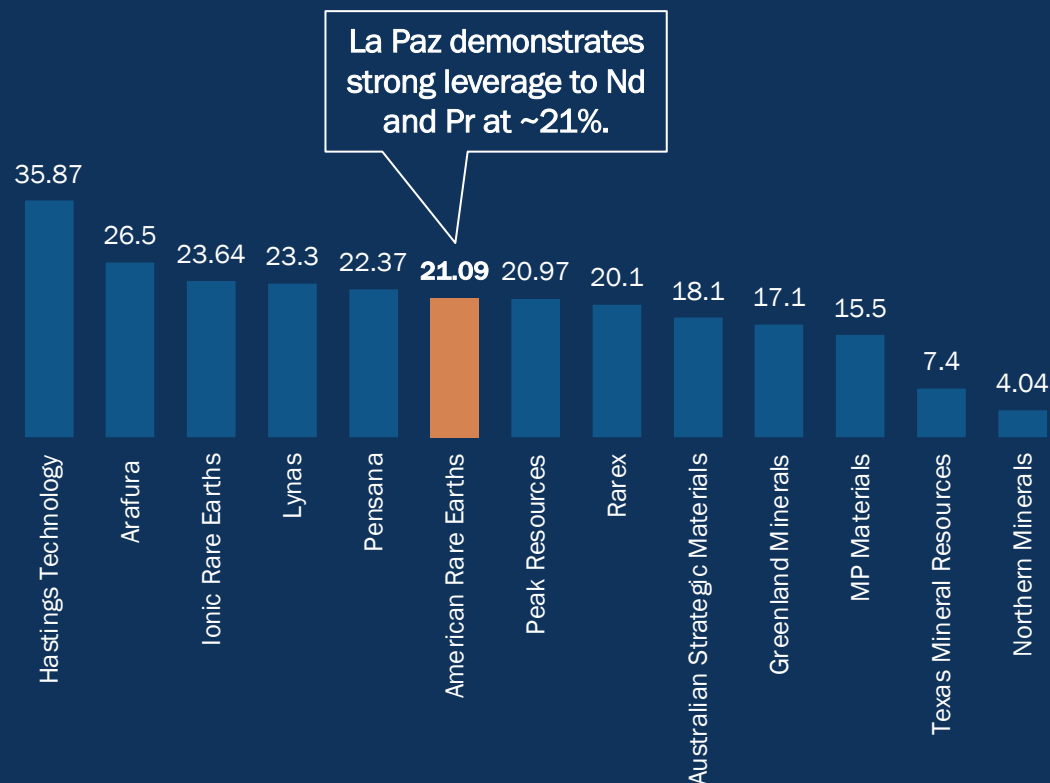
## Green Energy and Defense Supply Chains

Rapidly growing battery, electric and hydrogen vehicle producers, aerospace and semiconductor manufacturers in AZ represent potential in-State offtake partners

# High Value Magnet Metals

The material constraint to the reduced carbon future of EVs and Renewable Energy

## NdPr % of Total REO



Source: Taylor Collison analysis Feb 2021

“

US needs ten times the amount of rare earth metals it currently has to meet President Biden’s ambitious 2030 EV goals... it needs 20 to 25 times more to meet the burgeoning needs of the green economy — and the military... to the year 2050.

www.forbes.com, 2021\*

”



Electric Vehicles



Off-Shore Wind Turbines



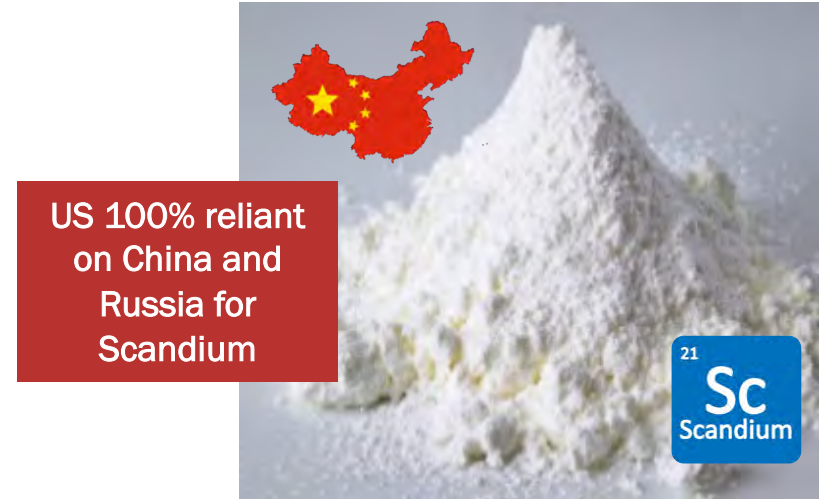
Refrigeration air conditioners

\* <https://www.forbes.com/sites/johnkoetsier/2021/09/29/us-needs-10x-more-rare-earth-metals-to-hit-bidens-electric-vehicle-goals/?sh=691f5c103e41>



# Scandium Upside

- La Paz latest JORC Resource included >4000tns of Sc Oxide – likely to grow
- Potential powerful boost to overall project La Paz economics
- Classified as a critical mineral scandium oxide is typically unavailable in any significant commercial quantity - Bloom Energy in California is the world's largest buyer
- Despite its scarcity and high cost, interest in scandium is high and multiple high value commercial uses have been developed
- The alloy of scandium into aluminum metal products can produce stronger, more corrosion resistant, heat tolerant, weldable aluminum products, amongst other uses



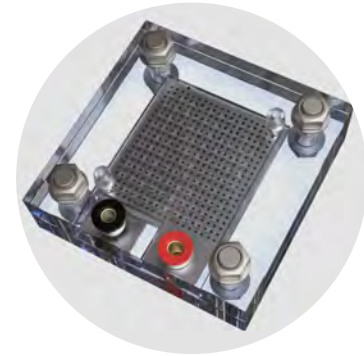
Aerospace industry



Shipbuilding



Lighting



Solid oxide fuel cells

# Lower Environmental Constraints

- La Paz Project has the lowest thorium levels of any US REE mineral deposit in development & <1% the level of Lynas' Mt Weld ore body
- Should allow for easier permitting, better social licence to operate & simplified tailings handling, saving capital & time
- Thorium is commonly associated with other REE deposits & is radioactive, complicating waste handling & a serious ESG issue

## REE Projects – Radioactive Element Comparison

Project	Jurisdiction	Owner	U308 ppm	Thorium ppm
<b>La Paz</b>	<b>US</b>	<b>American Rare Earths</b>	<b>1.2</b>	<b>6</b>
Mountain Pass	US	MP Materials	N/A	250
Bear Lodge	US	Rare Elements Resources	31	134
Bokan Mountain	US	Ucore Resources	77	155
Round Top	US	US Rare Earths/TMRC	37	179
Nolan's Bore	Australia	Arafura Resources	22	328
Mount Weld	Australia	Lynas	20	700

Source: Hallgarten & Co Feb 2021



The 800 Pound Gorilla in the room for rare earth sustainability in North America – thorium



“

It is exceptionally challenging to foresee how the supply side of the rare earth industry will be able to keep up with rapidly growing demand for magnet rare earths under any realistic scenario. The rapid demand growth of the 2020s will soon be dwarfed by the demand growth of the 2030s.

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Adamas Intelligence - Rare Earth Magnet Market Outlook to 2030