



American Rare Earths Limited

(ASX:ARR)

An Australian exploration company focused on the discovery & development of Rare Earths and Critical mineral resources in North America and Australia

Commodity Exposure

Rare Earth Elements in the USA

Heavy Mineral Sands and Cobalt in Australia

Directors & Management

Creagh O'Connor

Non-Executive Chairman

Keith Middleton

Managing Director

Geoff Hill

Non-Executive Director

Vice Chairman

Denis Geldard

Non-Executive Director

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Capital Structure

Ordinary Shares on Issue 338,058,326

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Drilling Commences at La Paz Scandium and Rare Earths Project

Highlights

- ❖ **First drilling in 9 years underway at La Paz**
- ❖ **World-class drilling team, Timberline Drillers, started drilling on March 13, 2021**
- ❖ **Exempted from Biden Administration moratorium**
- ❖ **Opportunity to further explore the high-potential geology**
- ❖ **Drilling to increase the resource size and average grade, and pave way for advanced metallurgical study**
- ❖ **Potential Scandium resource opportunity**

American Rare Earths Limited (ASX: "ARR") ("the Company") is pleased to provide the following exploration update from its wholly owned US subsidiary, Western Rare Earths, as it advances the La Paz Rare Earths Project.



Figure 1: Drilling at La Paz Rare Earths Project

Drilling started 13 March 2021

American Rare Earths Limited is pleased to announce that its 100% owned US subsidiary, Western Rare Earths (WRE), commenced drilling at the La Paz Scandium and Rare Earths Project on March 13, 2021.

The La Paz Project is a low-grade critical mineral target with the extraordinary advantage of its sheer volume, and possible opportunity for 1) simple concentration via magnetics, 2) ultra-low penalty element content (Thorium <7ppm), and 3) low cost of open-pit production. In addition, the project has the advantage of being in a Fraser Institute global Top 2 mining friendly jurisdiction, and is one of the very few mining asset classes referenced favorably by the Biden Administration. See Figure 1: Location of La Paz Scandium & Rare Earths Project in Arizona USA.

First drilling in 9 years at La Paz

Timberline Drillers has a world-class crew onsite along with consulting geologists to guide the work. WRE was able to commence drilling immediately due to its excellent preparation of drill pads and access roads while awaiting final permits. This presents a unique and helpful opportunity in this mining friendly jurisdiction.

This is the first drilling at the Project since 2012. In 2011 the maiden resource was established by the project predecessor, with 195 extremely shallow percussion holes drilled down to 30 metres. In 2020, this data was reviewed to confirm the previous defined resource, allowing ARR to announce the first formal JORC 2012 classified resource estimate of 128.2Mt @ 373.4ppm (0.037%) Total Rare Earth Elements (“TREE”) for the Company’s wholly owned La Paz Rare Earths Project in Arizona, USA (refer to ASX Release, 11 November 2020).

The new inventory description in Table 1 below is a straight conversion of the resource estimate with no change in actual classified mineralised volumes under either code. Mr Guilinger, who reviewed the La Paz Project, is a Competent Person (CP) under JORC 2012 and NI 43-101 standards. He is also head of Colorado-based independent consultants World Industrial Minerals LLC.

A few deeper core holes were drilled in the resource area in 2012, which has provided useful guidance for the potential opportunities in the 2021 drill campaign.

La Paz Resource Estimate 2012 JORC				
	Mt	Grade (%)	Contained REE (kg)	Contained REE (Mlbs)
Inferred	112	0.037	37,586,080	83.3
Indicated	16.2	0.037	5,436,558	12.1
Total	128.2	0.037	43,022,638	95.4

Table 1: La Paz Rare Earths Project JORC 2012 Classified Mineral Resource Estimate

Work project exempted from Biden Administration moratorium

On the day of inauguration of US President Joe Biden, the new Acting Secretary of the Interior called for a 60-day halt on grounding disturbing activity approvals on federal lands. This created some confusion within the Bureau of Land Management (BLM) around ongoing processing of the permit applications for the La Paz Scandium and Rare Earth Project drilling campaign. After internal deliberations by the relevant government agencies and inquiries by elected officials on behalf of WRE, the BLM permit application quickly received approval. This occurred while developers in the fossil fuel industry remain held up on ground disturbing activity approvals due to the moratorium by the new Administration.

Opportunity to follow the geology deeper

Upon close evaluation of all available data, a clear opportunity has emerged for cost effective, targeted expansion of the resource. The technical team is confident that the host rock is a visually identifiable gneiss. This will allow real time evaluation by the consulting geologist. As the core sampling advances in depth, each 3 metre section can be evaluated immediately. The geologist can then guide the drill crew to continue deeper into mineralised areas. Thus, the drill campaign will have the opportunity to 1) follow the geology deeper than the initially planned 61 metres depth, 2) better define the ore body and 3) potentially expand the resource.

The plan for nine (9) drill holes, down to a minimum depth of 61 metres each, is 50% more than the six (6) holes originally announced by the Company. The expanded campaign allows for reconnaissance at depth in the new project areas southwest of the maiden resource. This may indicate the possibility that the ore body extends 5 kilometres or more as indicated by robust surface sample results similar to those in the maiden resource area. See attached map (figure 3) for drill hole locations and areas of surface samples similar to the resource area.

Drilling to increase the resource size and average grade

The company is focused on drilling deeper as it explores the opportunity to increase the resource size and average grade. As stated by Mr Guilinger (CP) in the the 2020 JORC 2012 compliant technical report Interpretations and Conclusions, “a detailed review of the previous drilling at different elevations indicates opportunity for more than 60 metres thickness of higher-grade Rare Earths values in the lower plate gneiss. Thus, the topography lends itself to the opportunity to substantially increase the resource by deeper drilling in the lower plate, where higher grade Rare Earths is prevalent. This analysis supports the plan for a core drilling campaign to 61 metre depths...”

Advanced metallurgical study

The core material will be fillet cut, photographed and assayed in 1.5m sections. 500kg of targeted core material will be forwarded to a world-class Rare Earths metallurgy lab for advanced metallurgy work. The primary metallurgy work will focus on utilising proven, economically viable processing. This work will establish a flow sheet that will be at the core of the Preliminary Economic Assessment the Company expects to publish in late 2021.

As pregnant leachate solution is produced in this process, new ultra-high efficiency processing technologies will be evaluated in parallel to the proven processes. The Company is encouraged by the peer reviewed, published research data that shows concurrent production of Scandium Oxide and all of the Lanthanide Rare Earths at 96% and 99% efficiency respectively, such as the Lanmodulin technology originating from Penn State University and being developed by Lawrence Livermore National Lab (LLNL).

The Company has reported its commitment to provide LLNL with feedstock for advanced research in support of the lab’s application for technology commercialisation funding from the US Department of Energy. This would result in published processing efficiency data specific to the feedstock from the La Paz Project and the Company’s Laramie REE Project.

In addition to the Lanmodulin technology and proven processes, the Company is evaluating a number of other promising new high efficiency separation technologies. Researchers working on multiple emerging technologies have expressed interest in the Company’s feedstocks due to ultra-low Thorium content; unique among US hardrock REE mining projects. As a result, the company expects to benefit from low or no cost evaluation of these technologies in the coming months.

Potential Scandium resource opportunity

Additionally, in the Recommendations section of the 2020 JORC 2012 compliant technical report, Mr Gulinger states that “Scandium values tend to be high also in areas of high ppm TREE, so the drilling will also likely identify a Scandium resource greater than 11ppm.” Therefore, the company will utilise the core drill assay results from this campaign to determine if a maiden resource of Scandium can be established, concomitant and additional to the Rare Earths resource estimate of 128.2Mt. Also, in the Interpretation and Conclusions section of the 2020 JORC 2012 compliant technical report, Mr Gulinger states that, “After the planned 2021 drilling program we expect to be able to upgrade the Rare Earths resource and separately establish a maiden resource for Scandium.”

Developing a new Scandium resource estimate in the United States is especially attractive to the Company for several reasons. According to the US Geological Survey’s 2021 Mineral Commodity Summaries publication: “Domestically, scandium was neither mined nor recovered from process streams or mine tailings in 2020. Limited capacity to produce ingot and distilled scandium metal existed at facilities in Ames, IA; Tolleson, AZ.” Notably, Tolleson, AZ is only 200km from the La Paz Project site. (See <https://pubs.usgs.gov/periodicals/mcs2021/mcs2021.pdf>)

Additionally, Scandium, along with Rare Earths, was identified by the US Government on its Final List of Critical Minerals pursuant to a 2017 Presidential Executive Order. This list targets “mineral commodities that are vital to the Nation’s security and economic prosperity. This dependency of the United States on foreign sources creates a strategic vulnerability for both its economy and military...” <https://www.federalregister.gov/documents/2018/05/18/2018-10667/final-list-of-critical-minerals-2018>



Figure 2:
Location of La Paz Scandium & Rare Earths Project in Arizona USA.

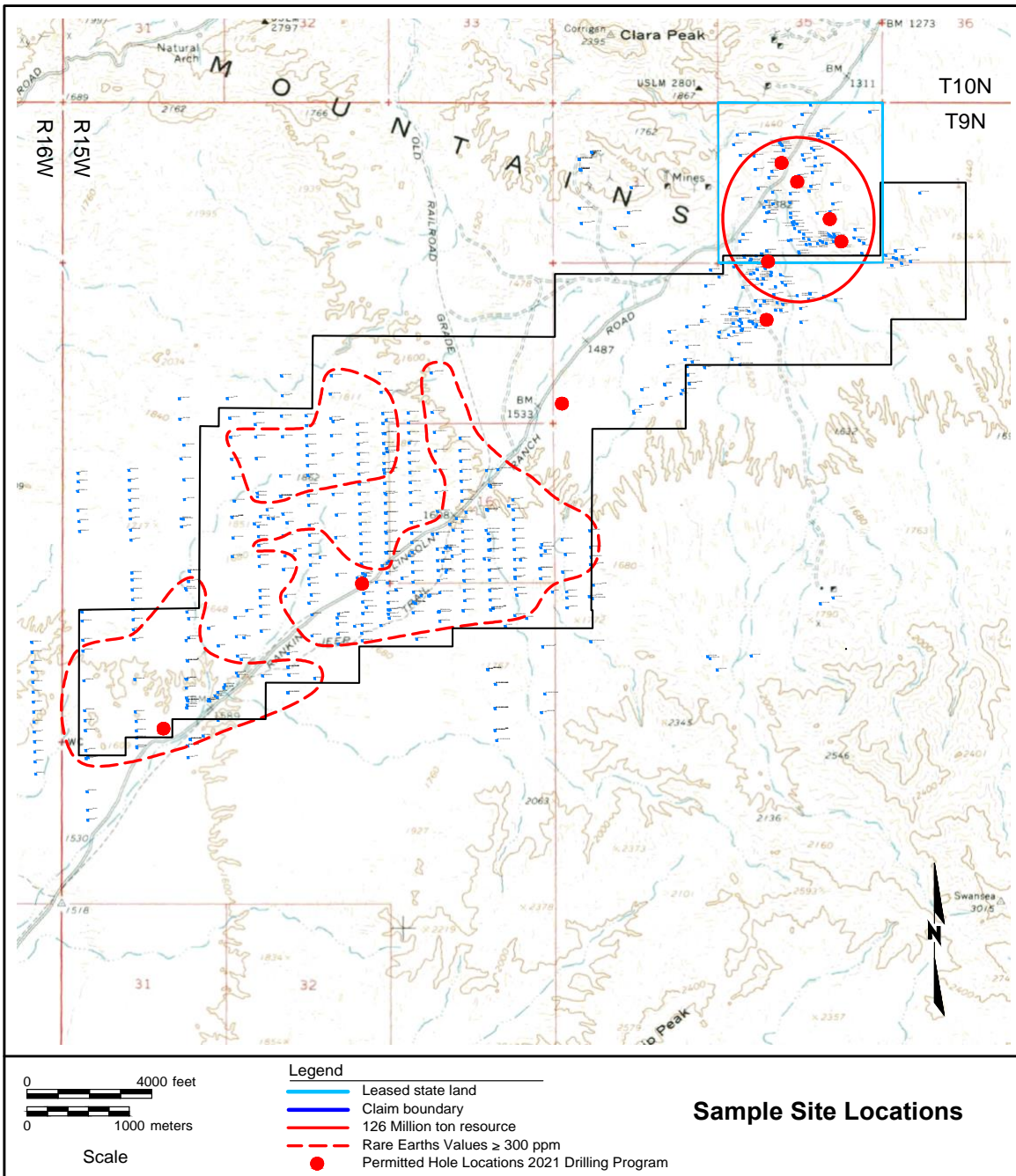


Figure 3: La Paz Proposed Drill Hole Locations

This market announcement has been authorised for release to the market by the Board of American Rare Earths Limited.

Keith Middleton
Managing Director

This ASX announcement refers to information extracted from market announcements, which are available for viewing on ARR's website <https://americanrareearths.com.au>

ARR confirms it is not aware of any new information or data that materially affects the information included in the original market announcements, 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 announcements.

Competent Persons Statement: The information in this report that relates to Exploration Results is based on information compiled by Mr. Jim Guilinger. Mr. Guilinger 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. Guilinger is Principal of independent consultants World Industrial Minerals LLC. Mr. Guilinger 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. Guilinger consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

About American Rare Earths

American Rare Earths Limited (ASX: ARR) is the only Australian company listed on the ASX with assets in the growing rare earth metals sector of the United States of America, itself emerging as an alternative international supply chain to counter China's market dominance of a global rare earth market expected to balloon to US\$20 billion by the mid-2020s. ARR owns 100% of the world-class La Paz rare earth project, located 170km northwest of Phoenix, Arizona. The project's highly shallow 2012 JORC resource (128.2Mt @ 373.4ppm (0.037%) Total Rare Earth Elements), is less than 30m below surface and is contained within just 525 acres of ARR's total La Paz footprint of 5,143 acres that points to potential resource upside. As a large tonnage, bulk deposit, La Paz is also potentially the largest, rare earth deposit in the USA and benefits from containing very low penalty elements such as radioactive thorium and uranium. ARR plans to deliver its first Preliminary Economic Assessment for La Paz in late 2021 and is working with leading USA research institutions to have La Paz's mineral profile incorporated into emerging US advanced rare earth processing technologies. ARR is also acquiring a second USA rare earth asset, the Laramie project in Wyoming. Transaction completion is due by mid-2021.