

**American Rare Earths Limited** 

(ASX : ARR) (OTCQB : ARRNF)

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

**Chris Gibbs** 

Managing Director and CEO

**Geoff Hill** 

Non-Executive Director & Deputy Chairman

**Keith Middleton** 

Non-Executive Director

**Denis Geldard** 

Non-Executive Director

Clarence McAllister

Non-Executive Director

Mel Sanderson

Non-Executive Director

**Sten Gustafson** 

Non-Executive Director

**Wayne Kernaghan** 

**Company Secretary** 

**Capital Structure** 

Ordinary Shares on Issue 391,868,882

American Rare Earths Limited

ARBN 003 453 503

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### 21 January 2022

# **December 2021 Quarterly Activities Report Highlights**

- La Paz Project: The company's flagship project continues to move forward as planned with the goal to significantly increase the 170 million tonne JORC Resource. Drill permits were approved for the new southwest area of the project with a target estimate of 742 to 928 million tonnes with 350 to 400 TREO. The exploration target is additive to the existing JORC resource. Plans were finalised and drilling commences in early February 2022.
- Halleck Creek Project: The exploration team finalised and announced the maiden drill program. The project has the potential to contain more resources than La Paz. Approximately 308 to 385 million tonnes of rare earths mineralised rocks were identified as an exploration target with an average TREO Grade of 2330 ppm to 2912 ppm. Permits were approved and drilling is scheduled to commence in Q1, 2022.
- The Company completed a capital raise in December with Fidelity International, raising approximately A\$6.1M before fees. Fidelity is renowned for its long-term focus and ESG credentials. The strategic placement gives Fidelity an initial 9.9% stake in the company. This is a major show of confidence by an esteemed institutional investor in our growth plans, while on a more practical level it enables us to accelerate development of our projects.
- US based leadership established relationships with three key researchers seeking funding from the US Defense Agency 's (DARPA) new Rare Earth Element (REE) bioengineering program.
- The Company successfully applied and was approved by the Financial Industry Regulatory Authority (FINRA) for its common shares to be trading on the United States OTC markets "QB" level.
- The Company's cash position as of 31 December was A\$8,165,662
- The Company holds 6,000,448 COB shares worth A\$2,970,222, at a COB closing price of A\$0.495 on 31 December 2021.
- The Company also holds a five-year A\$3M Promissory Note (PN) with Cobalt Blue Holdings (COB).
- The Company strengthened leadership and increased US presence;
  - Two US based Non-Executive Directors joined the Board, Ms Melissa Sanderson, and Mr Sten Gustafson.
  - Mr Chris Gibbs joined the Company as Managing Director and CEO.
  - Mr Noel Whitcher commenced as Chief Financial Officer

American Rare Earths Limited (ASX: ARR, OTCQB: ARRNF) (the Company) is pleased to provide the following activities report for the December 2021 Quarter.

#### **Environmental, Social & Governance (ESG)**

During the quarter and year to date there were zero safety, health and/or environment incidents.

ESG is a key focus at American Rare Earths and is central to what we do. We are committed to building an ESG centric culture, working with our people and the wider stakeholder community to build a positive and more sustainable future. There is a growing demand from the people we work with and expectations from all stakeholders to be more sustainable and socially responsible. We are shaping the future for American Rare Earths, but also the next generation.

During the quarter we were delighted to welcome Melissa Sanderson to the Board. Mel brings a wealth of experience to the Company and will play a key role helping us shape our ESG strategy and governance. Mel's 30-year international career has spanned diplomacy and mining. She 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, public relations, and social responsibility programs. She also served the United States of America as a senior diplomat in the US Department of State.

## Exploration Drilling Planned for La Paz Southwest and Exploration Target of 742 - 928 Million Tonnes Projected

Favourable results from two core holes drilled in March 2021 drilled in the La Paz Southwest provided an opportunity to develop an additional exploration drilling program in the area. ARR developed a modest eight (8) hole exploration program to determine the extent of REE mineralisation across the large La Paz Southwest area. The widely spaced core holes will be drilled in various rock types, previously showing favourable TREO mineralisation in surface samples. Seven holes will be drilled to approximately 100 metres with one to a depth of 200 metres to locate the regional water-table depth and determine if REE mineralisation continues at depth.

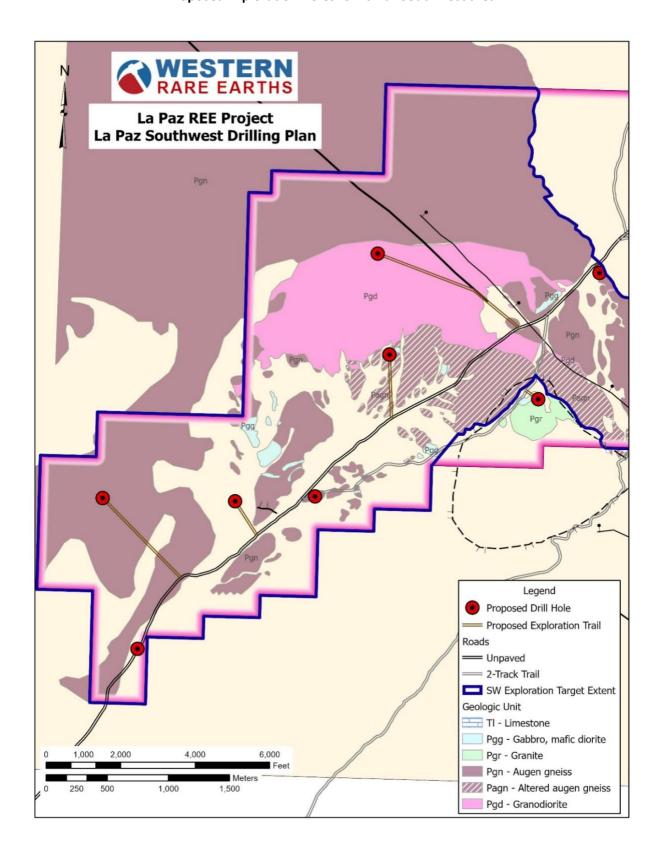
ARR exploration permits were applied for in September 2021 and approved in December 2021. Drilling in the La Paz Southwest is set to commence in early February 2022. Additional exploration plans are currently in development.

Using existing geological data in the La Paz Southwest area, ARR compiled an exploration target summary with a range of approximately 742.5-928.1 million tonnes (see table 1 below). Estimated in-place TREO grade ranges from approximately 350-400 ppm and an in-place estimated range of Scandium Oxide of approximately 20-24.5 ppm.

Table 1 - La Paz Southwest Exploration Target Estimate

Rock Type		olun	ne cu m)	Density (g/cc)			onnage onnes)	TRE	/era O Gi ppm	ade	-		REO kg)	Sc Oxi	vera and de G (ppn	ium irade			ndium illion
Augen Gneiss	42.8	-	53.5	2.68	114.6	-	143.3	350	-	400	40.1	-	57.3	20	-	24.5	2.3	-	3.5
Mylonitic Gneiss	234.3	-	292.8	2.68	627.9	-	784.8	350	-	400	219.7	-	313.9	20	-	24.5	12.6	-	19.2
<b>Grand Total</b>	277.0	-	346.3	2.68	742.5	-	928.1	350	-	400	259.9	-	371.2	20	-	24.5	14.8	-	22.7

#### Proposed Exploration Holes for La Paz Southwest area



## Maiden Exploration Core Drilling Planned for Halleck Creek with a 308 - 385 Million Tonne Exploration Target Defined

In June and July of 2021, a surface sampling program totalling 197 samples were collected from the Halleck Creek project area with favourable and significant results showing an average Total Rare Earth Oxide (TREO) value of 3,187 ppm and a noteworthy, combined Nd and Pr average of 702 ppm. The results also showed that the Red Mountain Pluton is Light Rare Earth Oxide (LREO) dominant, with an average of 2,836 ppm.

Based on the results of surface samples, ARR developed a modest nine-hole exploration program. Five holes on Overton Mountain and four holes on Red Mountain, with a total length of approximately 825 metres, determine the regional extent of mineralised depth. The proposed core hole will range between 75 and 100 metres in depth.

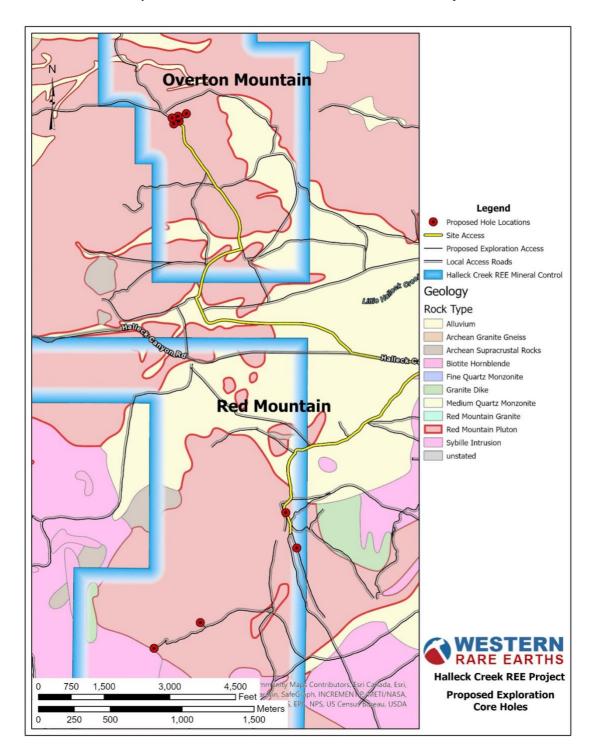
ARR built conceptual volumetric models covering the Overton Mountain and Red Mountain claim areas. The volumetric models were developed to estimate the volume of material within the claim areas and evaluate surface sample grades exceeding TREO of 2,500 ppm.

An Exploration Target with a range of approximately 307.8 - 384.7 million tonnes as estimated using the parameters listed above. The average estimated TREO grade ranges from 2,330 - 2,912ppm (see Table 2 below).

**Table 2 – Halleck Creek Exploration Target Estimates** 

Study Area	Area Volume In-Place Tonnage (ha) (million cu m) (million tonnes)		_	Average TREO Grade (ppm)			Mass TREO (million kg)						
Overton Mountain	115	28.3	-	35.4	75.9	-	94.9	2,551	-	3,189	194	-	303
Red Mountain	149	86.5	-	108.2	231.9	-	289.9	2,258	-	2,822	524	-	818
Total	264	114.8	-	143.6	307.8	-	384.7	2,330	-	2,912	717	-	1,120

#### **Proposed Drill Hole Locations for the Halleck Creek Project**



Feedstock supplied to researchers seeking funding from US Defense Agency's (DARPA) new REE bioengineering program

During the quarter the company announced that its 100% wholly owned subsidiary and US business unit, Western Rare Earths is supplying feedstocks (mineralised rocks or ore) to researchers who are seeking funding from the Defense Advanced Research Projects Agency's (DARPA) new Rare Earth Elements (REE) bioengineering research program.

For more than a year, we have quietly cultivated supportive relationships with top researchers in the REE processing field. The company is excited by the opportunity to contribute to securing US domestic supply chains of rare earths, and doing so in innovative, environmentally responsible and cost-effective ways. This program is perfectly congruent with our Environmental and Sustainability goals. REEs are critical to the renewable energy, reduced carbon future and success in this program using our uniquely non-radioactive feedstocks could make the researcher's jobs easier and eliminate the need to manage radioactive waste.

DARPA is encouraging US scientists to engineer a new REE supply chain by utilising bioengineering or "biomining" approaches through the Environmental Microbes as a Bio-Engineering Resource (EMBER) program. Biomining is more environmentally friendly than the toxic processing method synonymous with the Chinese REE industry. In addition to its benefits to the environment, the advantage of biomining is that it will facilitate domestic REE separation and purification. This is the critical path to lessen US vulnerability to and dependence on China.

The United States has only one active REE mine, which is in Mountain Pass, Calif., and has operated intermittently since the 1960s but still depends on China for processing. Given these domestic gaps, securing a U.S. based REE supply chain is a longstanding bipartisan priority, with the DOD leading the charge. This focus, coupled with multiple presidential executive orders, has resulted in hundreds of millions of dollars in funding support through the Department of Energy (DOE) and DOD.

Currently, EMBER has attracted dozens of world-class researchers working to revolutionise the rare earth industry. The Company is providing some of the very few mineral deposit feedstocks that qualify for use in the program. The Company's feedstocks from La Paz and Halleck Creek are unique in that they are both non-radioactive and give access to almost all 17 metals in a single source.

Unlike most other REE mineral deposits, these feedstocks from La Paz and Halleck Creek are not plagued with the radioactive element Thorium. The company has provided REE mineralised ore to three research teams, including researchers from national laboratories and elite American "Research One" universities applying to the EMBER program.

Finally, the Company is providing some in-kind donations of its staff's services to the research teams. In return for its participation and support of this program, the company expects two primary benefits: the research teams may be able to help the company isolate the most effective and environmentally friendly extraction methods for its REE mineralised ore; and we expect rights to use any new technology developed by the teams it is supporting, potentially saving the company money in the future by domestically processing, separating, and purifying rather than offshoring to China.

#### ARR undertakes detailed mapping and geochemical sampling of the Halleck Creek Project

In October 2021, ARR geologists collected 121 surface geochemical samples from the Halleck Creek project area. 92 samples were collected from the Overton Mountain resource area, and 21 samples were collected from the Red Mountain resource area. Additional mapping and sampling are planned for Red Mountain when the project area becomes more accessible after winter. ARR geologists updated geological maps for each area. The samples were submitted to ALS labs for detailed REE analysis. Additionally, 8 samples were analysed for whole rock analysis. ARR will present the results of the REE analyses when they become available from the laboratory.

#### ARR completes detailed mapping and geochemical sampling of the La Paz Project

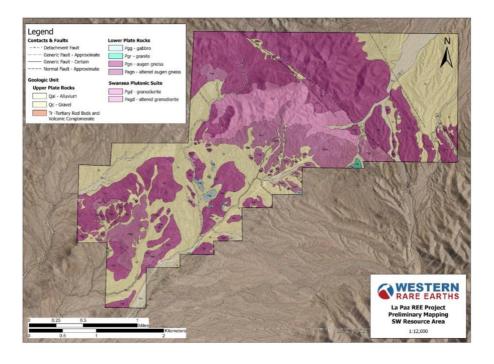
In December 2021, ARR geologists collected 352 surface geochemical samples from the La Paz project area. 181 samples were collected from the north-eastern resource area, and 171 samples were collected from the south-western resource area. Detailed surface mapping of exposed rock

units was performed at the same time. ARR geologists updated geological maps for each area (see maps below). The samples were submitted to ALS labs for detailed REE analysis. Additionally, 10 samples were analysed for whole rock analysis. ARR will present the results of the REE analyses when they become available from the laboratory.

## Legend Contacts & Faults Detachment Fault Contact - Approxim Geologic Unit **Upper Plate Rocks** Qal - Alluvium Qc - Gravel Tbs- Tertiary Sands and Conglomerates **Lower Plate Rocks** Pgn - Augen gneiss sea Plutonic Suite Pagd - altered granodiorit Pgd - Granodiorite RARE EARTHS La Paz REE Project

**Updated Geologic Map of the La Paz Northeast Area** 

**Updated Geologic Map of the La Paz Southwest Area** 



#### **Tenement Schedule**

Listings of tenements held by ARR and its subsidiaries as of 31 December 2021 for each project are shown in Annexures 1 to 3. Several new tenement claims for the La Paz project were lodged and paid for, but the documentation was not yet finalised at the end of the quarter by the BLM Office. Similarly, several new tenement claims lodged and paid for the Halleck Creek project were yet to be finalised by the BLM Office. These new tenement claims are therefore shown as pending in the relevant project Annexures.

#### **Advanced Metallurgical and Mineral Processing Program**

The success of the preliminary metallurgical and magnetic separation testwork conducted earlier in the year resulted in recommendations by the Company's technical team and Wood experts for a more advanced metallurgy and mineral processing program to be undertaken. The advanced program continued during the period at the Nagrom Laboratories in Perth, Western Australia using 500kg of selected 2021 diamond drill core from the La Paz resource area. The aim of the program is to:

- Significantly improve on the preliminary program results
- Develop an advanced mineral processing and metallurgy flow sheet; and
- Produce a pre-leaching concentrate of 5,000ppm TREE or greater along with an associated upgrade of Scandium

Work is progressing well, and the results are expected to provide necessary information to undertake a preliminary economic evaluation (PEA) to further advance the La Paz project.

#### **Split Rocks Project Scandium Mineral Rights**

In November 2021, ARR elected to exercise its rights to withdraw from the agreement with Zenith Minerals Limited (Zenith) to acquire the Scandium Mineral Rights over the Split Rocks Project, as part of a strategic plan to focus the Company's resources on the development of its critical minerals projects in North America and Australia.

The Company's withdrawal from the agreement was effective 26 November 2021.

#### **Investment in Cobalt Blue Holdings Limited (COB)**

At the end of the quarter, ARR held 6,000,448 COB shares worth A\$2,970,222 at a COB closing price of A\$0.495 on 31 December 2021. The Company also held a A\$3M Promissory Note (PN) interest-free for years one to three with interest payable in arrears at 6% per annum for years four and five. The PN is currently in year two and secured over title to tenements.

ARR also holds rights to a Net Smelter Return (NSR) royalty of 2% on all cobalt production from the Thackaringa Project, which was sold to Cobalt Blue Holdings Limited in February 2020.

Since the end of the December quarter, ARR has sold 2,000,448 COB Shares for gross consideration of \$1,036,133.

#### **Corporate**

During the December 2021 Quarter:

Mr Chris Gibbs joined the company on November 1<sup>st</sup>, to take up the position of Managing Director and CEO of the Company. Chris joins ARR from Argonaut Gold and 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. He succeeds Mr Keith Middleton in the role. Keith transitioned to a Non-Executive Director role but will continue his active support of the company on investor relations, strategic matters and business development through a transition period reaching into 2022.

Mr Noel Whitcher joined the company on November 1<sup>st</sup>, to take up the position of CFO. Noel joins ARR from Leigh Creek Energy and has over 18 years' experience as a finance professional in the government, resources and energy sectors in Australia and the UK.

Ms Melissa Sanderson joined the ARR Board as a Non-Executive Director. Mel, based in the USA, brings with her experience gained from an international career that 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.

The Company successfully applied for its common shares to be trading on the OTC Markets, "QB" level, a US trading platform operated by the OTC Markets Group in New York. The Company intends to also apply to the Depository Trust Company ("DTC") for DTC eligibility which would greatly simplify the process for North American investors trading the Company's common shares.

A significant capital raise was undertaken with Fidelity International Limited in December 2021. Under the raise a total of 39,150,000 shares were issued at a purchase price of A\$0.148 per share, which raise additional capital of A\$5,794,000. Fidelity is renowned for its long-term focus and ESG (environmental, social and governance) credentials. The strategic placement gives Fidelity an initial 9.9% stake in the company. This is a major show of confidence by an esteemed institutional investor in the company's growth plans while on a more practical level it enables the company to accelerate the development projects.

A total of 3,207,778 shares were issued due to the exercise of options. 2,957,778 options were exercised at A\$0.15 each, which raised additional capital of A\$443,666 and 250,000 options were exercised at A\$0.06 each, which raised additional capital of A\$15,000.

#### **Further Highlights:**

- Exploration Expenditure of A\$313,370 was incurred.
- The Company's cash position as of 31 December 2021 was A\$8,165,662; and
- A total of 1,500,000 shares were issued following shareholder approval to Mr Chris Gibbs during the period.
- A total of 16,500,000 options were issued with a strike price of A\$0.20 during the period.
- A total of 2,350,000 unlisted share were issued during the period under an employee incentive scheme.

#### Subsequent events:

Mr Sten Gustafson joined the ARR Board as a Non-Executive Director. Sten, based in the USA, currently serves as the Chief Executive Officer and a director of Pyrophyte Acquisition Corp. (NYSE: PHYT), a SPAC focused on companies that provide products, services, equipment, and technologies that support a variety of energy transition solutions. Mr. Gustafson is a highly experienced energy service industry executive, investment banker, and corporate securities attorney. With over 25 years of experience in the global energy sector, Mr. Gustafson has advised on over 100 corporate transactions around the world for over \$100 billion of transaction value.

Since the end of the December quarter, ARR has sold 2,000,448 COB Shares for gross consideration of A\$1,036,133.

Since the end of the December quarter, a further 1,252,778 shares were issued due to the exercise of options at A\$0.15, which raised A\$187,917 for the Company. A further 250,000 shares were issued due to the exercise of options at A\$0.06, which raised A\$15,000 for the Company.

#### CEO Outlook and Summary of Company Activities for the March 2022 Quarter

It's our vision to create the next major rare earth and critical minerals business and play a key role helping to restore the supply chain of these critical materials to the United States of America.

It's no secret that the US government recognises the threat from China and the need to "onshore" these materials and reduce the national security and supply chain risks. Two Presidential Orders and bi-partisan legislation is promoting domestic upstream and downstream production of rare earths, with this including the provision of US\$800 million for research and development. More recently a bi-partisan piece of legislation was introduced in the US Senate that would force defence contractors to stop buying rare earths from China by 2026 and use the Pentagon to create a permanent stockpile of the strategic minerals. With US projects and US leadership presence, American Rare Earths is well positioned to grow the company and be at the forefront of the US Rare Earth industry transformation.

For the past two years the US team have been working diligently with various R&D partners to establish our presence with a number of the rare earth innovation efforts. We are pleased to announce that our 100% wholly owned subsidiary and Business Unit, Western Rare Earths, has been named a Team Member of the Critical Materials Institute, partner to a Department of Defence R&D project. CMI is a public/private partnership funded by the US Department of Energy, led by the Ames Laboratory. Team members include universities, national laboratories and private companies.

It's our vision to be more than just a mining company but rather a technology leader in this space: vertically integrated and one day producing the rare earth metals that are critical to our future. It's our strategy to not only focus on developing our rare earth mining projects that have some of the cleanest ore in the world but to work collaboratively with R&D leaders building processing and refining capability, using new, disruptive, green and clean technologies that will provide critical minerals for future generations. Becoming a member of the Critical Minerals Institute is one small step in the pursuit of our vision and the journey that lays ahead. Being a member of the CMI provides the opportunity to drive R&D, option license technology for deployment, and provide input to CMI research programs.

To achieve our vision, we are adopting a "Book End" strategy under the umbrella of ESG to create shareholder value and reduce time to market. Working concurrently to close the supply chain gap the company will be;

- 1. Developing our major projects through all stages of mine development to produce a rare earth concentrate,
- 2. Working with R&D leaders and partners to develop processing and refining capability to produce a metal product.

The company is extremely well capitalised to deliver on its strategic initiatives and the next twelve months is shaping up to be a transformational year. As we work towards our vision to become the next major Rare Earth and Critical Minerals Company, our focus for the next quarter includes:

- Drilling at the La Paz Project's new Southwest area with the goal to significantly increase the 170 million tonne JORC Resource. Drilling commences early February 2022.
- Commencing the maiden drill program at Halleck Creek and continue exploration activities. Subject to weather conditions, the drilling will commence in Q1 2022.
- Planning additional drilling and permitting for the Halleck Creek resource drill program.
- Continuing the Metallurgical Testing to advance the La Paz Project. While the entirety of the extensive work program will carry well into calendar Q2 of 2022, the Company expects to share some data in the coming quarter.

- Working collaboratively with the US Department of Energy project partners, the Critical Minerals Institute (CMI). Continue work with research teams and providing feedstock to approved funding programs, including researchers from US national laboratories and elite American 'Research One' universities applying to the EMBER program.
- Develop a stakeholder engagement and management plan. Proactively engaging with all stakeholders surrounding our projects to ensure they are consulted on our projects in a timely, accurate and relevant manner.

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

Chris Gibbs

Managing Director and CEO

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, OTCQB: ARRNF, FSE: 1BHA) 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 China's market dominance of a global rare earth market expected to balloon to US\$20 billion by the mid-2020s. The Company's mission is to supply Critical Materials for Renewable Energy, Green Tech, Electric Vehicles, National Security, and a Carbon-Reduced Future. Chris Gibbs is the Managing Director and CEO of American Rare Earths Limited. Western Rare Earths (WRE) is the wholly owned US subsidiary of the Company. ARR owns 100% of the world-class La Paz rare-earth Project, located 170km northwest of Phoenix, Arizona. As a large tonnage, bulk deposit, La Paz is potentially the largest, rare-earth deposit in the USA and benefits from containing exceptionally low penalty elements such as radioactive thorium and uranium. ARR plans to deliver its first Preliminary Economic Assessment for La Paz by the end of 2022 and is working with leading USA research institutions. La Paz's mineral profile is incorporated into emerging US advanced rare earth processing technologies. In early February 2022, the company will commence further drilling at the La Paz project to explore lateral and vertical extent in new southwest area. Approximately 742 - 928 million tonnes of Rare Earths mineralised rocks are identified as an exploration target in the La Paz Rare Earths project's southwest area with an average TREO Grade of 350 - 400ppm and Scandium Oxide grade of 20 - 24.5ppm. The new exploration Target is additive to the La Paz Rare Earth projects recently upgraded 170MT Resource. ARR acquired a second USA REE asset in the Searchlight Rare Earths Project in the first half of 2021. In June 2021 ARR acquired a third USA REE asset, the Halleck Creek Project in Wyoming. With permits in hand the maiden exploration drilling program is planned for Q1 2022. The exploration deep drilling will provide initial mineralisation, lithology and fresh rock core material for metallurgical and process testing. Approximately 308 to 385 million tonnes of rare earths mineralised rocks were identified as an exploration target for the Halleck Creek project area with an average TREO Grade of 2,330 ppm - 2,912 ppm. Initial surface sampling of the Overton Mountain area conducted in 2018 revealed average Total Rare Earth Oxide (TREO) values of 3,297 ppm, average Heavy Rare Earth Oxide (HREO) values of 244 ppm, and average Magnetic Rare Earth Oxide (MREO) values of 816 ppm.

Annexure 1
American Rare Earths Limited Tenement Schedule as of 31 December 2021
La Paz, Arizona, USA

N	Mining tenements at the begin	nning of the qua	arter	_	ents acquired or during the quarter	Mining ten	Mining tenements held at the end of the quarter			
Serial Number	Claim Name	Claimant Name	Beneficial Interest %	Reference	Location	Serial Number	Claim Name	Claimant Name		
639 Acres	Exploration License 008- 120965-00	LA PAZ RARE EARTH LLC	100%	-	-	639 Acres	Exploration License 008- 120965-00	LA PAZ RARE EARTH LLC		
AZ101556959 - AZ101556965	LA PAZ-1 - LA PAZ-7	LA PAZ RARE EARTH LLC	100%			AZ101556959 - AZ101556965	LA PAZ-1 - LA PAZ-7	LA PAZ RARE EARTH LLC		
AZ101558159 - AZ101558165	LA PAZ-8 - LA PAZ-14	LA PAZ RARE EARTH LLC	100%			AZ101558159 - AZ101558165	LA PAZ-8 - LA PAZ-14	LA PAZ RARE EARTH LLC		
AZ101558166 - AZ101558178	LA PAZ-33 - LA PAZ-45	LA PAZ RARE EARTH LLC	100%			AZ101558166 - AZ101558178	LA PAZ-33 - LA PAZ-45	LA PAZ RARE EARTH LLC		
AZ101559358 - AZ101559378	LA PAZ-46 - LA PAZ-66	LA PAZ RARE EARTH LLC	100%			AZ101559358 - AZ101559378	LA PAZ-46 - LA PAZ-66	LA PAZ RARE EARTH LLC		
AZ101560374 - AZ101560379	LA PAZ-67 - LA PAZ-69	LA PAZ RARE EARTH LLC	100%			AZ101560374 - AZ101560379	LA PAZ-67 - LA PAZ-69	LA PAZ RARE EARTH LLC		
AZ101560377	LA PAZ-71	LA PAZ RARE EARTH LLC	100%			AZ101560377	LA PAZ-71	LA PAZ RARE EARTH LLC		
AZ101560378	LA PAZ-73	LA PAZ RARE EARTH LLC	100%			AZ101560378	LA PAZ-73	LA PAZ RARE EARTH LLC		
AZ101560379	LA PAZ-75	LA PAZ RARE EARTH LLC	100%			AZ101560379	LA PAZ-75	LA PAZ RARE EARTH LLC		
AZ101560380 - AZ101560389	LA PAZ-92 - LA PAZ-101	LA PAZ RARE EARTH LLC	100%			AZ101560380 - AZ101560389	LA PAZ-92 - LA PAZ-101	LA PAZ RARE EARTH LLC		
AZ101859569 - AZ101859589	LA PAZ-108 - LA PAZ-128	LA PAZ RARE EARTH LLC	100%			AZ101859569 - AZ101859589	LA PAZ-108 - LA PAZ-128	LA PAZ RARE EARTH LLC		
AZ101735180 - AZ101735200	LA PAZ-129 - LA PAZ-149	LA PAZ RARE EARTH LLC	100%			AZ101735180 - AZ101735200	LA PAZ-129 - LA PAZ-149	LA PAZ RARE EARTH LLC		
AZ101736380 - AZ101736400	LA PAZ-150 - LA PAZ-170	LA PAZ RARE EARTH LLC	100%			AZ101736380 - AZ101736400	LA PAZ-150 - LA PAZ-170	LA PAZ RARE EARTH LLC		
AZ101737338 - AZ101737358	LA PAZ-171 - LA PAZ-191	LA PAZ RARE EARTH LLC	100%			AZ101737338 - AZ101737358	LA PAZ-171 - LA PAZ-191	LA PAZ RARE EARTH LLC		
AZ101738345 - AZ101738365	LA PAZ-192 - LA PAZ-212	LA PAZ RARE EARTH LLC	100%			AZ101738345 - AZ101738365	LA PAZ-192 - LA PAZ-212	LA PAZ RARE EARTH LLC		

AZ101739385 - AZ101739391	LA PAZ-213 - LA PAZ-219	LA PAZ RARE EARTH LLC	100%			AZ101739385 - AZ101739391	LA PAZ-213 - LA PAZ-219	LA PAZ RARE EARTH LLC
AZ101924809 - AZ101924821	LA PAZ-220 - LA PAZ-232	LA PAZ RARE EARTH LLC	100%			AZ101924809 - AZ101924821	LA PAZ-220 - LA PAZ-232	LA PAZ RARE EARTH LLC
AZ101957743 - AZ101957763	LA PAZ-233 - LA PAZ-253	LA PAZ RARE EARTH LLC	100%			AZ101957743 - AZ101957763	LA PAZ-233 - LA PAZ-253	LA PAZ RARE EARTH LLC
AZ101958229 - AZ101958236	LA PAZ-254 - LA PAZ-261	LA PAZ RARE EARTH LLC	100%			AZ101958229 - AZ101958236	LA PAZ-254 - LA PAZ-261	LA PAZ RARE EARTH LLC
				AZ105263134 - AZ105263153	LA PAZ-262 - LA PAZ-281	AZ105263134 - AZ105263153	LA PAZ-262 - LA PAZ-281	LA PAZ RARE EARTH LLC

Annexure 2
American Rare Earths Limited Tenement Schedule as of 31 December 2021
Halleck Creek, Wyoming USA

Min	Mining tenements at the beginning of the quarter			Mining teneme during the	•	Mining tenements held at the end of the quarter			
Serial Number	Claim Name	Claimant Name	Beneficial Interest %	Reference	Location	Serial Number	Claim Name	Claimant Name	
WY101766644 - WY101766648	REX-1 - REX-5	Wyoming Rare (USA) Inc	100%			WY101766644 - WY101766648	REX-1 - REX-5	Wyoming Rare (USA) Inc	
WY105250218 - WY105250231	REX 10 - REX 23	Wyoming Rare (USA) Inc	100%			WY105250218 - WY105250231	REX 10 - REX 23	Wyoming Rare (USA) Inc	
				REX 25 - REX 43	Wyoming, USA	WY105260482 - WY105260501	REX 25 - REX 43	Wyoming Rare (USA) Inc	
WY105250232 - WY105250260	REX 44 - REX 72	Wyoming Rare (USA) Inc	100%			WY105250232 - WY105250260	REX 44 - REX 72	Wyoming Rare (USA) Inc	
0-43568 – 0-43571	Halleck Creek	Wyoming Rare (USA) Inc	100%			0-43568 - 0-43571	Halleck Creek	Wyoming Rare (USA) Inc	

Annexure 3
American Rare Earths Limited Tenement Schedule as of 31 December 2021
Searchlight, Nevada USA

Mining tenements at the beginning of the quarter				_	during the quarter  Mining tenements held at the end of the quarter			end of the quarter
Serial Number	Claim Name	Claimant Name	Beneficial Interest %	Reference	Location	Serial Number	Claim Name	Claimant Name
NV105228419 - NV105228498	T-01 - T-80	Western Rare Earth LLC	100%			NV105228419 - NV105228498	T-01 - T-80	Western Rare Earth LLC

## **Appendix 5B**

### Mining exploration entity or oil and gas exploration entity quarterly cash flow report

### Name of entity

American Rare Earths Limited	
ABN	Quarter ended ("current quarter")
83 003 453 503	31 December 2021

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers	-	2
1.2	Payments for		
	(a) exploration & evaluation	-	-
	(b) development	-	-
	(c) production	-	-
	(d) staff costs	(21)	(21)
	(e) administration and corporate costs	(366)	(929)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	-	-
1.5	Interest and other costs of finance paid	(5)	(9)
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	-	-
1.8	Other (provide details if material)	-	-
1.9	Net cash from / (used in) operating activities	(392)	(957)

2.	Ca	sh flows from investing activities		
2.1	Pay	yments to acquire or for:		
	(a)	entities	-	-
	(b)	tenements	-	-
	(c)	property, plant and equipment	-	-
	(d)	exploration & evaluation	(313)	(636)
	(e)	investments	-	-
	(f)	other non-current assets	-	-

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material): Lease payment	(16)	(33)
2.6	Net cash from / (used in) investing activities	(329)	(669)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	5,794	5,794
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	639	789
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(409)	(410)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	Net cash from / (used in) financing activities	6,024	6,173

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	2,941	3,701
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(392)	(957)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(313)	(669)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	6,024	6,173

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	(78)	(82)
4.6	Cash and cash equivalents at end of period	8,166	8,166

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	8,123	2,898
5.2	Call deposits	43	43
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	8,166	2,941

6.	Payments to related parties of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1 <sup>1</sup>	109
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-
Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.		

<sup>&</sup>lt;sup>1</sup>Reimbursement of expenses, payment of fees and consulting fees to current directors

7.	Financing facilities  Note: the term "facility' includes all forms of financing arrangements available to the entity.  Add notes as necessary for an understanding of the sources of finance available to the entity.	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
7.1	Loan facilities	-	-
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	3,000 <sup>2</sup>	-
7.4	Total financing facilities	3,000	-
7.5	Unused financing facilities available at quarter end 3,000		
7.6	Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		
	<sup>2</sup> \$3M five-year promissory note maturing 17 January 2025		

8.	Estimated cash available for future operating activities	\$A'000
8.1	Net cash from / (used in) operating activities (item 1.9)	(392)
8.2	(Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	(313)
8.3	Total relevant outgoings (item 8.1 + item 8.2)	(705)
8.4	Cash and cash equivalents at quarter end (item 4.6)	8,166
8.5	Unused finance facilities available at quarter end (item 7.5)	3,000
8.6	Total available funding (item 8.4 + item 8.5)	11,166
8.7	Estimated quarters of funding available (item 8.6 divided by item 8.3)	15.83
	Note: if the entity has reported positive relevant outgoings (i.e., a net cash inflow) in ite "N/A". Otherwise, a figure for the estimated quarters of funding available must be include	
8.8	If item 8.7 is less than 2 quarters, please provide answers to the following questions:	
	8.8.1 Does the entity expect that it will continue to have the current to	aval of not operating

8.8.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?

Answer: N/A

8.8.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?

Answer: N/A

8.8.3	Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?
Answe	r: N/A
Note: wh	nere item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.

<sup>2</sup> \$3M five-year promissory note maturing 17 January 2025

#### **Compliance statement**

- This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date:	
	(Name of body or officer authorising release – see note 4)

#### Notes

- 1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
- If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, AASB 6: Exploration for and Evaluation of Mineral Resources and AASB 107: Statement of Cash Flows apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
- 3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
- 4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee e.g., Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
- 5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.

Section 1 Samplin	g Techniques and Data	
(Criteria in this sec	ion apply to all succeeding sections.)	
Criteria	JORC Code explanation	Commentary
	Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	Historical drilling: In 2011, the prospect was drill tested by 195 percussion drill holes ranging from 40' (13m) to 100' (30m depth) for a total of 18,805' (5,731)m. Drilling was completed on three parallel section lines across strike and one section line along strik with holes spaced 100' along section lines.
Sampling techniques		March 2021 Core Drilling: ARR drilled nine diamond core holes of HQ size ranging from 168 feet to 403 feet in depth with a total length of 2,238 feet (682 metres); six core holes were twins of select percussion holes drilled in 2011.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Representative 1kg samples were collected from each 5' (1.52m) interval of drilling
	Aspects of the determination of mineralisation that are Material to the Public Report.	
	In cases where 'industry standard' work has been done this would be relatively simple (e.g.,' reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.	A 250g sub-sample was pulverised to -75 microns and a 0.5g charge was assayed for REEO by ICP-MS using standard industry procedures at ALS Chemex, Reno, Nevada.
Drilling techniques	Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Historical drilling: A track mounted percussion rig was supplied by Dynamic Rock Solutions LLC, Salome, Arizona to drill 195 3.5" diameter percussion holes. Drilling began on 20 April 2011 and was completed on 31 May 2011. Hole depths varied from 40-100 with 142 out of 195 holes drilled to 100' depth. A total of 18,805' (5,731m) was drilled.

		March 2021 Core Drilling: Timberline Drilling, Inc. from Elko Nevada used a track mounted core rig to drill HQ diameter core holes. Six holes were in the La Paz Resource area and another three holes were drilled on the remainder of the property. See the Drill Hole Location Map. Drilling commenced on 11 March 2021 and concluded on 31 March 2021. Drill hole depths varied between 168 feet and 403 feet for a total length of 2,238 feet (682 metres).
	Method of recording and assessing core and chip sample recoveries and results assessed.	A sampling of ~200g per foot drilled to produce a composite~1kg sample for every 5' drill interval which is considered representative of each interval.
Drill sample	recoveries and results assessed.	March 2021 Core Drilling: Core recovery was 98% ±. Core material was sent to America Assay Labs, in Spark, Nevada for assay.
recovery	Measures taken to maximise sample recovery and ensure representative nature of the samples.	All drilling was carried out above the water table to minimise possible contamination.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	
	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	A representative sample of each 5' interval was retained in chip trays for logging. Geological logging is considered to have been logged to a level of detail appropriate to support Mineral Resource Estimates.
Logging	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Chip sample logging is qualitative in nature.
	The total length and percentage of the relevant intersections logged.	Drill holes were logged in full based on representative samples from every 5' interval.
		March 2021 Core Drilling: All core was geologically logged and photographed on site by qualified geologists.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	No core samples were collected in the 2011 drilling.

		7
		March 2021 Core Drilling: All core was shipped to American Assay Labs for further logging and testing. Additional samples were selected for metallurgical testing.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Percussion chips were collected in a bucket for every 5' interval. A representative 1kg sample from each 5' interval was prepared by the site geologist.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	All samples were dry. Sample preparation: 1kg samples split to 250g for pulverising to -75 microns. Sample analysis: 0.5g charge assayed by ICP-MS technique
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	The 1kg samples were delivered to an accredited laboratory for sample preparation and analysis
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	Sample preparation techniques are considered industry practice and are conducted at accredited external laboratory, all considered appropriate to the style of mineralisation and suitable for determining Mineral Resource Estimates.
		March 2021 Core Drilling: After logging, photographing, samples were boxed and securely banded for shipping to American Assay Labs. The lab performed assays, additional photography and cutting in preparation for studies and mineral processing and metallurgy. Chans of custody were always maintained.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	Sample analysis: A 250g split from each sample was pulverised to - 75 micron and a 0.5g subsample fused with lithium borate, then subjected to a 4-acid digest and then assayed by ICP-MS for 38 elements.
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	No geophysical tools, spectrometers, handheld XRF instruments, etc used.

	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	The laboratory used standard quality control procedures incorporating duplicate samples, standards and blanks.
	The verification of significant intersections by either independent or alternative company personnel.	Significant intercepts were verified by an independent consultant geologist as part of the resource estimation.
	The use of twinned holes.	No twinned holes were used.
Verification of sampling and assaying	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Originally all chip trays for each hole interval were stored in a secure facility in Bouse, Arizona. All drill hole logs, associated interval assay results were stored electronically within the Company. All geologic data was entered onto log sheets manually then subsequently entered into the computer. Data is secure.
		ARR collected QAQC samples during sample preparation. ARR is in the process of statistically analysing the sample QAQC sample results.
	Discuss any adjustment to assay data.	None
	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Down hole surveyed were not used due to the short length (max 30m depth). Hole collars were surveyed using a handheld GPS.
Location of data		March 2021 Core Drilling: Location were determined using Handheld GPS units. Downhole surveys were not performed due to relatively shallow depths.
points		Historic 2011 Drilling: UTM grid system NAD 1927 Zone 12.
	Specification of the grid system used.	March 2021 Core Drilling: UTM grid system NAD 1983 Zone 12. (The entire project was updated to use NAD 1983 UTM Zone 12 projections.
	Quality and adequacy of topographic control.	Drill hole elevations were estimated using existing USGS topographic base maps as control.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	

	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	The data spacing and distribution are considered sufficient for the current level of early exploration of the areas of interest.
	Whether sample compositing has been applied.	Samples have not been composited as all sample intervals were equal (5').
		Close-spaced vertical drill holes were used to overcome any structural bias of the fine-grained disseminated REEO mineralisation.
Orientation of data in relation to geological	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	March 2021 Core Drilling: New diamond core from 6 twinned holes completed in the resource area to confirm the reserve and acquire detailed geological understanding of the mineralised zones. See Drill Hole Location Map.
structure		March 2021 Core Drilling: Three exploration core holes were drilled in the southwest portion of the claim area to follow-up on surface samples and to explore additional mineralised zones at depth. See Drill Hole Location Map.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	
Sample security	The measures taken to ensure sample security.	Drill samples were kept in a secure storage locker before dispatch by bonded courier to the laboratory.
		March 2021 Core Drilling: All core was collected from the drill rig daily and stored in a secure, locked facility until the core was dispatched by bonded courier to America Assay Labs. Chains of custody were always maintained.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits or reviews have been conducted. Extensive review of the data has been undertaken for the purpose of updating the historic and current planned exploration activity.

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Section 2 Reporting of Exploration Results  (Criteria listed in the preceding section also apply to this section.)  Criteria  JORC Code explanation		Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The tenement schedule is included in the appendix to this report. The tenements are in the form of 20-acre United States Bureau of Land Management lode mining claims. The total land package controlled by the Company in the La Paz Project Area consists of 261 unpatented lode mining claims totalling 5392.26 acres (2178.47 has). The State Exploration Permit totals 640 acres (259 has). The mining claims are 100% owned by the Company with no royalties. All claims are outside of any wilderness or national park and environmental settings. An historic railroad line crosses a portion of the claims but is outside of any historic or planned exploration programs. The State leased land is subject to a State royalty (yet undetermined) once the exploration activity has advanced to the exploitation level. At this point the State engineers and geologists will evaluation any defined mineral deposit and determine an appropriate royalty.  The QP is not aware of any environmental liabilities attached to the La Paz claims and is not a Qualified Person with respect to environmental issues. An archaeological survey of the La Paz claims conducted by Professional Archaeological Services of Tucson, Arizona, dated 20 March 2011, was submitted to the Arizona State Land Department. The survey found no substantial areas of archaeological significance (PAST, 2011). The author is not a Qualified Person with respect to archaeological issues.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	As long as annual Arizona State lease holding fees and annual claim holding, fees are paid to both the BLM and the County (La Paz) in which the claims reside, tenure is secure.

Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Rare earths were first recognised in June 2010 by John Petersen, a geologist, who submitted for analysis a reconnaissance sample from the Swansea and Bill Williams River areas that analysed 459.98 ppm total rare earth elements (TREE). A further 119 samples returned TREE values of 20.6 to 674.21 ppm. Scandium varied from 1.1 to 30.2 ppm. AusAmerican conducted a confirmation sampling exercise of 22 samples that returned values between 6 and 588 ppm TREE, followed in February 2011, by a sample grid of 199 samples that returned values between 49 and 714 ppm TREE. 195 percussion drill holes were drilled in early 2011. Additional sampling was conducted in 2019 and 2020.  All drilling was carried out by AusAmerican Mining Corporation and at the time the Company was listed on the ASX.
Geology	Deposit type, geological setting and style of mineralisation.	The project lies within the Harcuvar metamorphic core complex within the Basin and Range Province of Arizona. Mineralisation is hosted in alkali granitic gneiss and to a lesser extent, a structurally superimposed suite of continental red beds. REEOs occur in allanite (epidote) that occurs as fine-grained disseminations and micro- fracture fillings.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:	AusAmerican in 2011 contracted Dynamic Rock Solutions LLC of Salome, Arizona, to conduct exploratory drilling using a track-mounted percussion drill. Drilling began on 20 April 2011 and was completed on 31 May 2011. One hundred and ninety-five 3.5" diameter holes were completed for the purpose of obtaining samples of the present rock types. Holes varied in depth from 40 to 100 feet: most holes (142 of 195) were completed to 100 feet and total footage drilled was 18,805 feet. Distances between holes was 100 feet and holes were situated along 4 lines: Lines A, B, and C were oriented NW-SE, and one, Line D, was oriented in the NE direction and crossed the other lines. The map below illustrates the La Paz percussion drill hole locations and the sample lines.

		March 2021 Core Drilling: Timberline Drilling, Inc. from Elko Nevada used a track mounted core rig to drill HQ diameter core holes. Six holes were in the La Paz Resource area and 3 other holes were drilled on the remainder of the property. See the Drill Hole Location Map. Drilling commenced on 11 March 2021 and concluded on 31 March 2021. Drill hole depths varied between 168 feet and 403 feet for a total length of 2,238 feet (682 metres).
	easting and northing of the drill hole collar	
	elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar	March 2021 Core Drilling: Locations of the March 2021 Core Hole
	dip and azimuth of the hole	data are in Appendix B of the Press Release.
	down hole length and interception depth	
	hole length.	
	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.	Drill holes cuttings were collected at five-foot intervals. An approximate 2 lb. (1.36 kg) sample was submitted to ALS Chemex laboratory in Reno, Nevada, for geochemical analysis. A total of 3269 samples were submitted: all were analysed for 60 elements, including REE, Y and Sc. REE assay results from the percussion drilling program are summarised in an Appendix at the back of the report
methods	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	March 2021 Core Drilling: All core was boxed in 10-feet long sections in core boxes. No aggregations of the core were performed.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	
Relationship between	These relationships are particularly important in the reporting of Exploration Results.	
mineralisation widths and	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	The vertical drill hole orientations, 5' sample lengths are considered appropriate to the style of flat-lying bulk tonnage mineralisation.

intercept lengths	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	See drill hole location map.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting	Exploration results are included in the body of this report under both the "Exploration" and "Drilling" Sections.
	of Exploration Results.	March 2021 Core Drilling: Assay results are presented in Appendix D of the press release.
	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Metallurgical test work was completed following the 2011 drilling program. Drillhole LP-B7 was twinned, and sixteen samples submitted to Saskatchewan Research Council, Saskatoon, Saskatchewan, Canada for pre-concentration and preliminary leaching tests.
Other substantive exploration data		Representative rock specimens were submitted to SGS Canadian Laboratories, Vancouver, Canada from within the resource areas to determine overall mineral assemblages and liberations/association of rare earth element carriers.
		March 2021 Core Drilling: Approximately 500 kg of core has been shipped to Nagrom Labs, in Perth Australia, for additional mineral processing and metallurgical testing.
Further work	The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).	March 2021 Core Drilling: Approximately 500 kg of core has been shipped to Nagrom Labs, in Perth Australia, for additional mineral processing and metallurgical testing.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	

## JORC Code, 2012 Edition – Table 1 Searchlight Rare Earths Project

#### **Section 1 Sampling Techniques and Data**

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g.,' reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Individual grab rock samples and were collected by hand at the surface, from in-situ outcrops.</li> <li>Grab samples are believed to be representative of the outcrops they came from.</li> <li>1-2kg rock samples were collected by a geologist, samples were broken using a hammer from outcrop. Rock samples were crushed in the laboratory and then pulverised before analysis.</li> </ul>
Drilling techniques	Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	No drilling
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	No drilling
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	Rock samples were geologically described and photographed.

Criteria	JORC Code explanation	Commentary
		No logging
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>No drilling</li> <li>Samples were analysed at Hazen Laboratories in Golden Colorado, the samples were crushed, pulverised and assayed by ICP-ME MS81 for REE</li> <li>~2kg of rock was crushed and pulverised and a subsample was taken in the laboratory and sent for analysis.</li> <li>Grab sampling was selective based upon geological observations.</li> <li>Each sample was 1kg to 2kg in weight which is appropriate to test for grain size of material.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.</li> </ul>	<ul> <li>The samples were crushed and assayed for 34 elements by fusion ICP-MS. The procedure will report near total results.</li> <li>No geophysical tools used in the sampling program.</li> <li>Internal laboratory standards were analysed with rock samples.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Consulting company personnel have observed and collected the assayed samples.</li> <li>No drilling</li> <li>Field data were all recorded in field notebooks and sample record books and then entered into a digital database.</li> <li>No Adjustments were made.</li> </ul>
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Sample location is based on GPS co-ordinates +/- 5m accuracy.</li> </ul>

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> </ul>	<ul> <li>The grid system used to compile data was NAD27 Zone 12N.</li> <li>Topography control is +/- 10m</li> <li>Both randomly spaced surface chip sampling</li> <li>The data alone will not be used to estimate mineral resource or ore reserve</li> <li>None</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether sample compositing has been applied.</li> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>Rock samples were taken of selected outcrops that were considered representative of varying rock types.</li> <li>No drilling</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>Samples were kept in numbered bags until delivered to the laboratory.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>Sampling techniques are consistent with industry standards.</li> </ul>

## **Section 2 Reporting of Exploration Results**

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental	<ul> <li>Wyoming Rare Earths Project Acquisition –81 Unpatented mining claims on BLM US Federal Land totalling approx. 1620 acres were staked in the Searchlight Project Area.</li> </ul>
status	settings.	<ul> <li>The claims are 100% owned by ARR (100% owned ARR subsidiary).</li> </ul>
	<ul> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul> <li>No impediments to holding the claims exist. To maintain the claims an annual holding fee of \$165/claim (\$13,365) is payable to the BLM.</li> </ul>
Exploratio n done by	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Sampling in the region was completed by Elissa Resources Ltd on adjacent mining claims controlled by Red Hill Energy.</li> </ul>

Criteria	JORC Code explanation	Commentary
other parties		
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The deposit is within veins/veinlets in pre-Cambrian granites/gneisses. REE elements are hosted in monazite, and apatite which is found in veins and veinlets within the granites/gneisses.</li> </ul>
Drill hole Informatio n	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	No drilling
Data aggregati on methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>No high-grade cutting</li> <li>No aggregation used</li> <li>No metal equivalents used</li> </ul>
Relationsh ip between mineralisa tion widths and	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').</li> </ul>	<ul> <li>No drilling</li> <li>No drilling</li> <li>No drilling</li> </ul>

Criteria	JORC Code explanation	Commentary
intercept lengths		
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	See maps in body of this report discussing "claims staked" and "sample locations".
Balanced reporting	<ul> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul> <li>Total REE's range in samples: 14,800 – 220ppm; HREE's: 940-20ppm See Figures in the report for sample site locations and assay values.</li> </ul>
Other substantiv e exploratio	substantiv including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and	<ul> <li>In hand specimen this rock is a red colored, hard and dense granite/gneiss with areas of localised fracturing and crude banding. The rock shows significant iron staining.</li> </ul>
n data	groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Microscopic Description: Major Mineralogy: Quartz 30% Sericite 22% Plagioclase 18% Calcite 12% Goethite/Hematite 12% Monazite 3% Chlorite 3%
		Trace Mineralogy: Rutile, Mn oxide, Leucoxene, Zircon, Calcite,
Further work	<ul> <li>The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	Further mapping and sampling is planned leading to drill targets.

Note that Sections 3 and 4 are not relevant for any reporting for this early-stage exploration Project

## JORC Code, 2012 Edition – Table 1 Wyoming Rare Earths Project

### **Section 1 Sampling Techniques and Data**

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>[note: all work listed is historic and carried out by previous property owner]</li> <li>Individual grab rock samples and systematic traverse chip samples along measured lines with samples taken every 1m and composited up to 20m in length, were collected by hand at the surface, from insitu outcrops.</li> <li>Grab samples are believed to be representative of the outcrops they came from 1-2kg rock samples were collected by a geologist, samples were broken using a hammer from outcrop. Rock samples were crushed in the laboratory and then pulverised before analysis.</li> </ul>
Drilling techniques	<ul> <li>Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	No drilling
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	No drilling
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate	<ul><li>Rock samples were geologically described and photographed.</li><li>Qualitative logging.</li></ul>

Criteria	JORC Code explanation	Commentary
Sub-sampling	<ul> <li>Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> <li>If core, whether cut or sawn and whether quarter, half or all cores</li> </ul>	No drilling
techniques and sample preparation	<ul> <li>taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Samples were analysed at ALS Laboratories in Reno Nevada, the samples were crushed, pulverised and assayed by ICP-ME MS81 for REE and subsequently the pulps were re-assayed for Scandium.</li> <li>~2kg of rock was crushed and pulverised and a subsample was taken in the laboratory and sent for analysis.</li> <li>Grab sampling was selective based upon geological observations whilst composite traverse chip sampling was systematic in nature.</li> <li>Each sample was 1kg to 2kg in weight which is appropriate to test for grain size of material.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.</li> </ul>	<ul> <li>The samples were crushed and assayed for 38 elements by fusion ICP-MS. The procedure will report near total results.</li> <li>No geophysical tools used in the sampling program.</li> <li>Internal laboratory standards were analysed with rock samples.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Two consulting company personnel have observed the assayed samples.</li> <li>No drilling</li> <li>Field data were all recorded in field notebooks and sample record books and then entered a digital database.</li> <li>No adjustments were made.</li> </ul>

Criteria	JORC Code explanation	Commentary
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Sample location is based on GPS co-ordinates +/- 5m accuracy.</li> <li>The grid system used to compile data was NAD27 Zone 13N.</li> <li>Topography control is +/- 10m.</li> </ul>
Data spacing and	Data spacing for reporting of Exploration Results.	<ul> <li>Both randomly spaced and on 1m long continuous surface chip sampling.</li> </ul>
<ul> <li>Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied</li> <li>Teserve.</li> <li>Systematic traverse chip samp taken every 1 m and composite</li> </ul>	<ul> <li>The data alone will not be used to estimate mineral resource or ore reserve.</li> <li>Systematic traverse chip samples along measured lines with samples taken every 1 m and composited up to 20m in length, individual composites were then combined by length weighted averaging.</li> </ul>	
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>Rock samples were taken of selected outcrops that were considered representative of varying rock types as well as systematic composites.</li> <li>No drilling</li> </ul>
Sample security	The measures taken to ensure sample security.	Samples were kept in numbered bags until delivered to the laboratory.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Sampling techniques are consistent with industry standards.

## **Section 2 Reporting of Exploration Results**

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> </ul>	Wyoming Rare Earths Project Acquisition - Share Purchase Agreement with Zenith Minerals Limited executed with 5 BLM claims now held by Wyoming Rare (USA) [wholly owned subsidiary of ARR] with amended completion date extended to 30 June 2021 for finalised acquisition of Wyoming State Leases. Exploration on the State leases was

Criteria	JORC Code explanation	Commentary
		<ul> <li>historically completed under an exploration permit issued by the State of Wyoming.</li> <li>As above, the leases are applications with no known impediment to</li> </ul>
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	future granting of exploitation rights.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	As previously mentioned, Zenith Minerals (A company from which the property was acquired) completed all of the exploration herein described.
Geology	Deposit type, geological setting and style of mineralisation.	The deposit is within a large scale anorthosite complex. REE elements are hosted in allanite which is contained within syenite that is part of that complex.
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	No drilling
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>No high-grade cutting.</li> <li>No aggregation used.</li> <li>No metal equivalents used.</li> </ul>

Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').</li> </ul>	<ul> <li>No drilling</li> <li>No drilling</li> <li>No drilling</li> </ul>
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<ul> <li>See map in body of the report under "Wyoming Project Acquisition Section"</li> </ul>
Balanced reporting	<ul> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul> <li>Traverse TREO values as follows: 332m @0.24%; 80m @0.4%: 60m @ 0.39%, 40M @0.35%; 60m @0.37%; 137m @0.37%; 72m @ 0.33%; 60m @0.34% and 17m@ 0.24%</li> </ul>
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Large scale at surface REE target Metallurgy is key to projects potential  Non-magnetic Concentrate (very low REE content) – 73% of mass  Magnetic Concentrate (high REE content) – 27% of mass  Mineral allamite is coarse grained (0.4mm to 2.5mm) as distinct mineral grains. DCM reported thatthe large size of the allamite crystals should facilitate liberation upon grindingfrom the syenite host rock!  Mineral separation by magnetic methods recovered 87% of the REE minerals into 27% of the mass whilst rejecting 73% of the waste material at a crush size of -2mm  Mineral separation using gravity methods recovered 76% of the REE minerals into 22% of the mass whilst rejecting 78% of the waste material at a crush size of -2mm
		<ul> <li>Magnetic separation resulted in recoveries of REE rich allanite exceeding 85%</li> </ul>

Criteria	JORC Code explanation	Commentary
Further work	<ul> <li>The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	Further mapping and sampling are planned leading to drill targets.