Metallurgical Test Work Successfully Completed at La Paz

Highlights

- *Leach technology successfully demonstrated high levels of rare earth metals extraction and rapid dissolution times.*
- *Recovery rates of up to 66.4% TREO and 71.5% Scandium achieved.*
- *Capital and operating costs will be reduced with 75% of the gangue material removed through magnetic separation.*
- *Results confirm very low thorium and uranium penalty elements.*
- *The conceptual flowsheet developed maximises the recovery of rare earth metals, particularly high value magnet metals Neodymium and Praseodymium.*
- *Valuable insight gained into accelerating the technical development of the Halleck Creek project, given its similarities to La Paz.*

American Rare Earths (ASX: ARR, OTCQB: ARRNF, FSE: 1BHA) (**'ARR'** or **'the Company'**) is pleased to announce that the latest metallurgical testwork from its La Paz rare earths deposit, has continued to advance the project forward with a simplified concentrator flow sheet developed for mine planning and confirmation that the ore responds positively to conventional processing.

These results support the previous testwork completed in 2020 and April 2022, which provide opportunities to reduce operating and capital costs.

As part of the latest metallurgical testing campaign, the Company requested Wood Australia Pty Ltd (Wood) use the results to develop a conceptual flowsheet for the La Paz concentrator. The Company also sought guidance for its annual processing capacity based on a single processing line using the most capital-intensive equipment, which assists with mine planning.

Planned work will build upon these results to refine the processes undertaken throughout the flowsheet to maximise the recovery of rare earth metals, particularly high-value magnet metals Neodymium and Praseodymium which are the focus at La Paz.

CEO and Managing Director, Mr Chris Gibbs, commented, "These latest metallurgical results are extremely encouraging and continue to advance the La Paz Project in the right direction in its development.

"We acknowledge the great work industry leaders Wood Australia, Nagrom and Watts & Fisher have been conducting on our behalf.

"With its high levels of rare earth metals extraction and rapid dissolution times, Watts and Fisher's leaching technology could be a game-changer in developing La Paz and Halleck Creek, given the projects share similar mineralogy. They also have ongoing contracts with the US Department of Defense, with which we are linked through our collaboration with the Defense Advanced Research Projects Agency EMBER R&D program aiming to develop a clean rare earths supply chain for the US.

"Also very pleasing is the ongoing confirmation that La Paz has very low levels of penalty elements thorium and uranium. This is beneficial from an environmental and handling perspective and makes our Company more likely to be invited to be involved with additional US Government-supported supply chain R&D programs.

"I thank all our partners in this testwork for the significant progress that's been made, and we look forward to the next round of work to refine the learnings and take the flowsheet to the next stage of development."

The "Executive Summary" below presents the primary results of the metallurgical testwork at La Paz prepared by Wood.

1 Executive Summary

1.1 Overview

American Rare Earths Limited (ARE) commissioned Wood Australia Pty Ltd (trading as Wood), to manage and interpret a testwork program on supplied composites of split diamond drill core produced in a drilling program conducted in early 2021 at the Paz Rare Earths Project in Arizona USA. This work follows on from testwork conducted on drill chip samples undertaken by Saskatchewan Research Council (SRC) in Canada during 2020 under Wood's direction, which provided preliminary guidance on processing routes to treat this ore.

The cores were subjected to the following testwork elements:

- Mineralogical characterisation
- Comminution
- Low intensity magnetic separation (LIMS)
- Wet high intensity magnetic separation (WHIMS)
- Flotation – sighter rougher tests (both direct allanite flotation and reverse silica flotation)
- Leaching – Watts & Fisher's proprietary modified phosphoric acid leaching process, testing WHIMS concentrate.

Four composites were supplied for testing – one master composite and three lithological variability samples.

1.2 Key Results

Mineralogy - XRD confirms that silica is the largest component of the ore at nearly 60% of total mass, present as free silica and feldspar minerals. QEMSCAN confirms that 85% of rare earth element (REE) mineralisation resides in the orthosilicate mineral allanite, the balance with monazite and other minerals. Allanite is fine grained and requires fine grinding to achieve a high degree of liberation from gangue minerals. **However, it is amenable to magnetic separation which serves as a primary upgrade mechanism**.

Comminution – testing confirms excellent amenability to SAG milling and HPGR processing, with lower than average abrasiveness tendencies.

Magnetic Separation - the ore responds to sequential grinding and magnetic separation steps, allowing rejection of significant gangue mass for low rare earth values loss. **LIMS for rejection of ferromagnetic minerals such as magnetite does not appear to be necessary, simplifying the flowsheet**. WHIMS testing has demonstrated excellent amenability to upgrading allanite content in the ore through rejection of non-magnetic silica and silicates. Further mineralogical testing is required to understand which gangue minerals are associated with allanite in magnetic concentrate. **Two stage WHIMS with intermediate magnetics regrind achieved 75.5% silica rejection and 66.4% TREOs recovery, with 71.5% scandium recovery**. This is considered an improvement over previous work undertaken at SRC in Canada which achieved a higher TREO grade but only 38.5% TREO recovery.

Flotation - collector screening identified two fatty acid-based products that were promising for further development. The best outcome achieved was 83.6% TREO stage recovery for a grade of 1824 ppm. This corresponds to an overall recovery relative to new feed of 55.6%. Flotation was also successful in further rejecting silica, with only 11.9% of original feed content reporting to rougher-scavenger flotation concentrates. Further investigations are planned to understand gangue speciation which will allow strategies for further gangue rejection to be developed.

Leaching - **Watts & Fisher's proprietary technology has been successfully demonstrated to achieve high extraction of rare earth metals content from WHIMS concentrate, with rapid dissolution of rare earth values within 2 to 3 minutes at leaching temperatures above 225°C**. Leaching at lower temperatures improves selectivity against gangue take-up into leach liquor but rare earth extraction is also lower. The technology shows good promise with further development, moving into piloting down the track.

1.3 Proposed Flowsheet

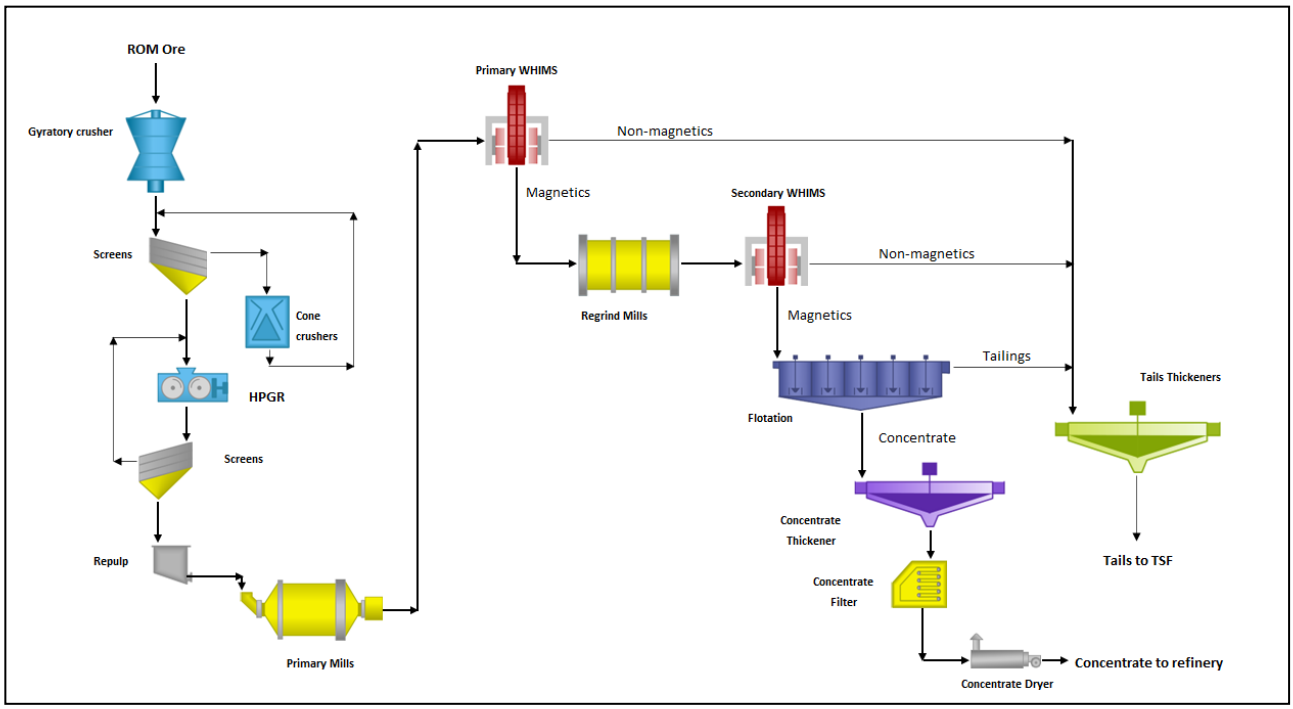
Sufficient testwork has been undertaken to develop a conceptual flowsheet for the La Paz concentrator, which comprises the following processing steps:

- Two stage ROM ore crushing to minus 50 mm
- Closed circuit HPGR producing minus 6 mm
- Primary grinding to a P_{80} of 150 µm
- Primary WHIMS (rougher and scavenger stages)
- Primary magnetics dewatering
- Primary magnetics regrinding to a P_{80} of 45 µm
- Secondary WHIMS (cleaner and cleaner-scavenger stages)
- Secondary magnetics dewatering
- Rougher/scavenger flotation
- Cleaner flotation
- Tailings dewatering
- Concentrate dewatering and drying.

ARE requested that Wood provide guidance on annual capacity based on a single processing line of the

most capital-intensive equipment, which was identified to be primary grinding. SAG milling and HPGR processing were proposed as the two most suitable modes of comminution. Modelling indicates that single line capacities of at least 25 Mt/a are possible with proven grinding equipment sizes. To provide indicative preliminary equipment sizes an annual capacity of 25 Mt/a was adopted, which will also assist ARE with resource pit shell modelling. A simplified schematic of the proposed concentrator flowsheet is included as Figure **1.1**. Principal flow lines are indicated in bold.

Figure 1.1 : Proposed Simplified La Paz Concentrator Flowsheet



1.4 Recommended Further Work

Further work is recommended to optimize the process and build on the results from the first round of metallurgical test work. This includes the following:

- **Cleaner WHIMS** – additional work with increasing gauss levels to determine recovery by gangue mineral type using XRD and elemental analyses
- **Ro/Sc concentrate WHIMS** – similar treatment of flotation concentrate as an alternative to cleaner flotation should be explored as Ro/Sc flotation appears to have rejected a large proportion of silica/silicate
- **Mineralogy** - XRD and QEMSCAN analysis of WHIMS magnetics and rougher/scavenger concentrate to determine the extent of residual locking and also to allow estimation of recovery by mineral type relative to new feed. This is important from the perspective of understanding how the key gangue minerals behave. An understanding of this behaviour will assist in forming a strategy for the rejection of gangue.
- **Leaching** - it is recommended that the planned acid bake/water leach and HPAL testing be undertaken on available concentrate to provide comparative data with the Watts & Fisher leaching method. This would be performed on cleaner WHIMS concentrate produced by Nagrom
- **Confirmatory Watts & Fisher testing** is also recommended once they purchase appropriate mechanically stirred leaching equipment, but this is likely to be in early 2023.

It is important to acknowledge that all learnings from the La Paz program have direct bearing on upcoming Halleck Creek ore testing given the similarities in mineralogy and RE mineralisation in allanite, thus providing valuable insight into unlocking value and accelerating technical development.

Next Steps

Under the guidance of Wood, Nagrom has been engaged to conduct further test work over the coming months. We look forward to updating the market as these results become available.

Work continues at the La Paz SW project in Arizona. Exploration permit applications have been filed with the BLM and The Company is waiting for final approval. We plan to perform resource exploration drilling at La Paz SW to expand resource estimates at La Paz beyond the current 170MT JORC Resource estimate.

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

Mr Chris Gibbs
CEO & Managing Director

Competent Persons Statement:
The information in this document is based on information compiled by Mr Greg Henderson. Mr Henderson is a Senior Process Consultant at Wood Australia. Mr Henderson is a Fellow of the Australian Institute of Mining and Metallurgy (AUSIMM), number 109007, and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 JORC Code. Mr Henderson consents to the inclusion in the report of the matters based upon the 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 an Australian company listed on the ASX with assets in the growing rare earth metals sector of the United States of America, emerging as an alternative international supply chain to China's market dominance of a global rare earth market expected to expand 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.

Western Rare Earths (WRE) is the wholly owned US subsidiary of the Company. The Company owns 100% of the La Paz Rare Earth Project, located 170km northwest of Phoenix, Arizona. As a large tonnage, bulk deposit, La Paz is potentially the one of the largest, rare-earth deposit in the USA and benefits from containing exceptionally low penalty elements such as radioactive thorium and uranium. 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 project recently upgraded 170MT Resource. (ASX Announcement, 29 September 2021). During the period from February to April 2022 the Company drilled nine holes for 821 metres and collected 677 samples in the La Paz southwest area. The assay results from the first 332 samples demonstrate rock type associated with higher rare earth grades. The enhanced grades and thickness of the mineralised zone have accelerated exploration planning. The Company is working on establishing a JORC resource for the southwest area (ASX Announcement, 14 June 2022). Preliminary metallurgical test work demonstrates that La Paz ore can be effectively concentrated using conventional magnetic separation, selective grinding and direct flotation. Under the guidance of Wood

Australia, advanced metallurgy and mineral processing test work is near completion with Nagrom Laboratories in Perth Western Australia (ASX Announcement, 7 April 2022).

In the first half of 2021, The Company acquired the USA REE asset, the Halleck Creek Project in Wyoming. Since acquiring the asset, the Company has increased the land holding to over 6,000+ acres. Approximately 1,015 to 1,268 million tonnes of rare earths mineralised rocks were identified as an exploration target for the Halleck Creek project area with an average Total Rare Earth Oxide (TREO) grade of 2,245 - 2,807 ppm (ASX Announcement, 1 September 2022). Initial surface sampling of the Overton Mountain area conducted in 2018 revealed average 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. (ASX Announcement,26 April 2022). The maiden exploration drilling program was completed in April 2022.Additional surface sampling over additional Halleck Creek claims showed average TREO values of 3051 ppm, and average MREO values of 812 ppm. (ASX announcement, 4 August 2022).

La Paz and Halleck Creek's mineral profiles are incorporated into emerging US advanced rare earth processing technologies in collaboration with US national laboratories, major universities and the US DOE innovation hub, the Critical Materials Institute.

JORC Code, 2012 Edition – Table 1 La Paz SW Rare Earth Exploration Project

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	*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.*	From February to April 2022, WRE drilled nine core holes across the La Paz SW claim area. HQ size core, chip samples from sonic drill cuttings, and minor NQ sized core was collected during the project. Drill holes ranged in depth from 116.5 feet to 441 with a total drilled length of 2692.5 feet (821 meters). Rock core was divided into sample lengths 5 feet (1.52m) long and at key lithological breaks.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	The lengths of each drill core were measured and recoveries were calculated by WRE field geologists
	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.	Rock core samples 5 feet (1.52m) long are being fillet cut. The fillet cuts are being pulverized and sampled for 60 elements including rare earth elements using ICP-MS and industry standards. American Assay Labs in Sparks, NV is performing the analyses.
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).*	From February to April 2022, WRE drilled nine core holes across the La Paz SW claim area. HQ size core, chip samples from sonic drill cuttings, and minor NQ sized core was collected during the project. Drill holes ranged in depth from 116.5 feet to 441 with a total drilled length of 2692.5 feet (821 meters).
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	All drill core was visually logged, measured, and photographed by WRE geologists. Drill core was collected in lengths (runs) of 5 feet (1.52m). WRE geologists calculated recoveries for each core run.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	All core and samples were immediately placed in core boxes. When core drilling became difficult, sonic drilling techniques were employed to increase recovery.

	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.	
Logging	*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.*	All drill core was visually logged, measured, and photographed by WRE geologists. Drill core was collected in lengths (runs) of 5 feet (1.52m). WRE geologists calculated recoveries for each core run. WRE geologists logged lithology, various types of alteration and mineralization, fractures, fracture conditions, and RQD.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	The core logging is quantitative in nature
	The total length and percentage of the relevant intersections logged.	All drill core was visually logged, measured, and photographed by WRE geologists. Drill core was collected in lengths (runs) of 5 feet (1.52m). WRE geologists calculated recoveries for each core run. WRE geologists logged lithology, various types of alteration and mineralization, fractures, fracture conditions, and RQD.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	Drill core was fillet cut by American Assay Labs, with approximately 1/3 of the core used for assay. The remaining core material will be kept in reserve by WRE in a secure location.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Rock chips from sonic drilling will be split riffled on a dry basis.
	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 pulverizing 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.	WRE submitted CRM sample blanks, CRM standard REE samples from CND Labs and duplicate samples for analysis. Blank samples were added one for every 10 core samples, REE samples were added one for every 25 core samples, and Duplicate samples were added one per every 50 core samples.
	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.	Fillet cuts along the entire length of all core are representative of the in-situ material.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Allanite is generally well distributed across the core and the sample sizes are representative of the fine grain size of the Allanite.

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.*	AAL Labs uses acid digestion and 60 element analysis including REE reported in ppm (D5A ICP-OES finish ICP-5AM60).
	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.	WRE submitted CRM sample blanks, CRM standard REE samples from CND Labs and duplicate samples for analysis. Blank samples were added one for every 10 core samples, REE samples were added one for every 25 core samples, and Duplicate samples were added one per every 50 core samples.
Verification of sampling and assaying	*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.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Data entry was performed by WRE personnel and checked by WRE geologists. All field logs were scanned and uploaded to company file servers. All photographs of the core were also uploaded to the file server daily. Drilling data will be imported into the DHDB drill hole database. All scanned documents are cross-referenced and directly available from the database.
	Discuss any adjustment to assay data.	None
Location of data points	*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 surveys were not used due to the short length (max 30m depth). Hole collars were surveyed using a handheld GPS.
		Drill holes were located using a Garmin personal GPS unit.
	Specification of the grid system used.	UTM grid system NAD 1983 Zone 12
	Quality and adequacy of topographic control.	Drill hole elevations were estimated using existing USGS topographic DTM models 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 is not at a sufficient spacing to determine a mineral resource or reserve. No resources or reserves are being reported for the La Paz SW area.
	Whether sample compositing has been applied.	Samples have not been composited as all sample intervals were equal (5 feet /1.52m).
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	Core drilling was vertical, except for one drill hole. Additional drilling needed to determine if structures bias sampling.
	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.*	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 maintained at all times.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	No external audits or reviews have been conducted to date.

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 333 unpatented lode mining claims totalling 6866 acres (2779 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 (as 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 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 recognized in June 2010 by John Petersen, a geologist, who submitted for analysis a reconnaissance sample from the Swansea and Bill Williams River areas that analyzed 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 then conducted a confirmation sampling exercise of 22 samples that returned values of 6 to 588 ppm TREE, followed in February 2011, by a sample grid of 199 samples that returned 49 to 714 ppm TREE. 195 percussion drill holes were drilled in early 2011. Additional sampling was conducted in 2019 and 2020.
		Drilling prior to 2021 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.

		In December 2021, WRE geologists updated surface geologic maps across the La Paz project area based upon field observations and analytical results.
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 April 20, 2011 and was completed on May 31, 2011. One hundred and ninety-five 3.5" diameter holes were completed for the purpose of obtaining samples of the rock types present. 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.
		Authentic Drilling from Kiowa, Colorado used a track mounted core rig to drill seven HQ diameter core holes. A track mounted sonic rig was used to drill 2 drill holes. From February to April 2022, WRE drilled nine core holes across the La Paz SW claim area. HQ size core, chip samples from sonic drill cuttings, and minor NQ sized core was collected during the project. Drill holes ranged in depth from 116.5 feet to 441 with a total drilled length of 2692.5 feet (821 meters).
	easting and northing of the drill hole collar	March 2022 Core Drilling: Locations of the March 2022 Core Hole data are located in a June 14, 2022 ASX announcement from the Company.
	elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar	
	dip and azimuth of the hole	
	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 methods	*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.* *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.* *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	All drill core was visually logged, measured, and photographed by WRE geologists. Drill core was collected in lengths (runs) of 5 feet (1.52m). WRE geologists calculated recoveries for each core run. WRE geologists logged lithology, various types of alteration and mineralization, fractures, fracture conditions, and RQD. March 2022 Core Drilling: All core was boxed in 10-feet long sections in core boxes. No aggregations of the core was performed.
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.*	
	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 mineralization and distribution of lithologies
	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.*	March 2022 Core Drilling: Locations of the March 2022 Core Hole data are located in a June 14, 2022 ASX announcement from the Company.
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 of Exploration Results.*	Assay results of the 2022 La Paz SW drilling are still being analysed. The exploration results from March 2021 were reported in July 29, 2021 Press Release and "2021 Core Hole Analysis Summary, June 2021" Additional, mapping and sampling results were reported in the March 24, 2022 Press Release and the associated report "Summary of Geologic Mapping and Surface Sampling from December 2021", March 2022
		Assay results for the La Paz SW 2022 exploration drilling are shown in the 14 June 2022 ASX release.

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.*	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.
		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
		Preliminary metallurgical testwork was performed on supplied composites of split diamond drill core produced in a drilling program conducted in early 2021 in the La Paz NE resource area. WOOD plc, in Perth, WA managed the metallurgical testwork performed by Nagrom, also in Perth, WA. The cores were subjected to the following testwork elements: • Mineralogical characterisation • Comminution • Low intensity magnetic separation (LIMS) • Wet high intensity magnetic separation (WHIMS) • Flotation – sighter rougher tests (both direct allanite flotation and reverse silica flotation) • Leaching – Watts & Fisher's proprietary modified phosphoric acid leaching process, testing WHIMS concentrate. Four composites were supplied for testing – one master composite and three lithological variability samples. The results of this testwork are presented in the 30 September 2022 ASX release. Full results of the testwork are described in the WOOD report "607630-0000-DC00-RPT-0002 Nagrom Testwork Results Interpretation". This report can be obtained by request from the Company.
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).*	The Company is developing plans for additional geological mapping, surface sampling, aerial magnetics, and drafting permits for expanded exploration drilling.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	*JORC Code explanation*	
Database integrity	*Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.*	Drill hole logs are captured in the DHDB database with built-in validation for imports. Drill Hole Data was exported from DHDB and imported into Leapfrog Geo/Edge v2021.1/
	Data validation procedures used.	Numerous queries and summations of the data were applied and reviewed by geological staff.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	Competent Person visited the La Paz project site in 2011 to review drill chips, verify drill hole collar locations and critical geological observations. An additional CP visited the field in 2020 to review geology and drill sites for the upcoming core drilling program
		March 2021 Core Drilling: The Competent Person visited the sire during the drilling campaign.
	If no site visits have been undertaken indicate why this is the case.	
Geological interpretation	*Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	The La Paz project area lies within the Reid Valley Basin, adjacent to the Buckskin Mountains, in the west central part of the Basin and Range Physiographic and Structural province of southwestern United States. The Buckskin Mountains are part of the Harcuvar metamorphic core complex that features exposures of a detachment fault and its mylonitic footwall. Hanging wall rocks, collectively referred to as the Upper Plate, consist of a variety of complexly normal-faulted and tilted rocks that include syntectonic, mid-Tertiary sedimentary and volcanic rocks. The footwall block, commonly referred to as the Lower Plate, is composed of variably mylonitic crystalline and meta-sedimentary rocks
		The geology at the La Paz project is not well understood at the project level and has not been mapped in detail, however principal rock units identified in chips included Tertiary red beds, gneiss and felsic intrusives.
	Nature of the data used and of any assumptions made.	
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	

	The use of geology in guiding and controlling Mineral Resource estimation.	Modelling of geological units was completed by delineating two domains conforming to the unconformable character of regional geology: Upper Plate, comprising Quaternary alluvium (Qal) and Tertiary-aged red bed conglomerate (Tc), and Lower Plate, comprising Proterozoic gneiss and Tertiary-Cretaceous felsic intrusive sills.
	The factors affecting continuity both of grade and geology.	Geological continuity between drill holes has been assumed and no detailed structural complexity has been incorporated.
Dimensions	*The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	The REE mineralized zones extend 900m N-S and 1200m E-W along strike and to a depth of 60m
Estimation and modelling techniques	*The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.*	Mineralized domains were determined using a cutoff grade of 300ppm TREE. Up to 2m of dilution material, below 300ppm TREE was included in a mineralised domain.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	The resource estimate was checked against previous resource estimates. However, the previous resource estimate was an unconfined model with large lithological units.
	The assumptions made regarding recovery of by-products.	n/a
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g., sulphur for acid mine drainage characterisation).	No such elements are known at this time. The La Paz project has very low levels of Thorium and Uranium that will probably not need special handling or mitigation.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	Block model size: 20m x 20m x 2.5m; no rotation; total 2,260,000 blocks. Blocks could be sub-celled up to 5-times in each direction based on modeling domain. Resource estimate was based on an isotropic Inverse Distance Weighting (IDW) interpolation based on TREE >300ppm. The minimum number of sample used to populate each block was three. A maximum search radius of 20m and 400m was used to populate blocks for indicated and inferred resources respectively.

Search Parameters:

	General			Ellipsoid Ranges			Ellipsoid Directions			Number of Samples		Drillhole Limit
Purpose	Interpolant Name	Domain	Numeric Values	Maximum	Intermediate	Minimum	Dip	Dip Azimuth	Pitch	Minimum	Maximum	Max Samples per Hole
Estimation	ID, TREE	T01	TREE	500	500	20	0	0	0	4	20	4
Estimation	ID, TREE	T02	TREE	530	320	110	1	325	88	4	20	4
Estimation	ID, TREE	T03	TREE	500	500	10	1	106	37	4	20	4
Estimation	ID, TREE	T04	TREE	200	200	30	1	106	37	4	20	4
Validation	ID, TREE raw data	T01	TREE	10	10	10	0	0	90	4	5	
Validation	Kr, TREE	T01	TREE	50	28	28	0	0	90	4	20	
Validation	NN, TREE	T01	TREE	50	28	28	0	0	90			

Composite Parameters:

Count	3364
Mean	320.15
Standard Error	1.965
Median	336.2
Mode	288.91
Standard Deviation	113.99
Sample Variance	12995.4755
Kurtosis	0.685665479
Skewness	0.176084552
Range	748.86
Minimum	32.63
Maximum	781.49
Sum	1076991.26

Any assumptions behind modelling of selective mining units.

Any assumptions about correlation between variables.

Variogram Parameters:

General	Direction				Structure 1					
Variogram Name	Dip	Dip Azimuth	Pitch	Nugget	Sill	Normalised sill	Structure	Major	Semi-major	Minor
T01: Variogram Model	2	0	0	517	3,877	1	Spherical	50	50	30
T02: Variogram Model	2	0	0	382	2,870	1	Spherical	70	100	110
T03: Variogram Model	1	0	0	0	1,905	1	Spherical	275	450	10
T04: Variogram Model	1	1	106	0	15,894	1	Spherical	8	5	2
TREE raw data T01: Variogram Model	0	0	90	0	6,558	1	Spherical	5	5	5
TREE: Variogram Model	0	0	90	0	4,257	1	Spherical	50	28	28

Description of how the geological interpretation was used to control the resource estimates.

Resource estimation was constrained by modelled mineralised domains and each domain was reported independently.

Discussion of basis for using or not using grade cutting or capping.

The grade was cut using a minimum value of 300ppm TREE. The data was not capped because of the good distribution of data. Large spikes in grade are not observed.

The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.

Moisture

Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.

Tonnage was estimated on a dry basis

Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	A cut-off grade of 300ppm TREE was used for reporting mineral resources.
Mining factors or assumptions	*Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	No mine plan or design has been prepared at this stage however the shallow nature of the deposit assumes extraction by open pit mining methods.
Metallurgical factors or assumptions	*The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	Preliminary metallurgical test work on RC chips from drill holes has indicated the mineralisation is amenable to concentration by a series of magnetic separation and flotation processes. This was confirmed in the recent program using diamond drill core composites. Results from current metallurgical testing have not applied to this resource estimate.
		Overall total rare earth oxides (TREO) recoveries are 55.6% at an average grade of 1824 ppm TREO and a total mass yield of 17.2%.
		Total recovery is derived from a combination of sequential primary WHIMS, magnetics regrind, secondary WHIMS and rougher/scavenger flotation of secondary WHIMS magnetics
Environmental factors or assumptions	*Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	No baseline environmental studies have been completed at this stage, however no environmental liabilities are known

<table>
<tr><td rowspan="3">Bulk density</td><td>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</td><td>42 core samples were collected and analysed for specific gravity using displacement. An average density of 2.68 was applied to the resource.
<table>
<tr><th></th><th></th><th colspan="2">Density Data</th></tr>
<tr><th>Lith Type Code</th><th>Lithology Type</th><th>Average of g/cm3</th><th>Count of g/cm3</th></tr>
<tr><td>go</td><td>Granodiorite</td><td>2.59</td><td>3</td></tr>
<tr><td>gn</td><td>Gneiss</td><td>2.63</td><td>5</td></tr>
<tr><td>pd</td><td>porphyry dike</td><td>2.65</td><td>1</td></tr>
<tr><td>ct</td><td>cataclasite</td><td>2.66</td><td>5</td></tr>
<tr><td>gm</td><td>mylonite gneiss</td><td>2.70</td><td>26</td></tr>
<tr><td>dk</td><td>dike</td><td>2.72</td><td>1</td></tr>
<tr><td>ga</td><td>gabbro/ultramafic</td><td>2.85</td><td>1</td></tr>
<tr><td>Grand Total</td><td></td><td>2.68</td><td>42</td></tr>
</table></td></tr>
<tr><td>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.</td><td>The deposit contains few voids, is relatively dry and alteration is generally not extensive enough to affect density. The samples tested for density are representative and the resource material.</td></tr>
<tr><td>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</td><td></td></tr>
<tr><td rowspan="3">Classification</td><td>The basis for the classification of the Mineral Resources into varying confidence categories.</td><td>Drilling data from 2011 and 2021 was separated into four mineralised domains using 300 ppm TREE as the defining parameter. In the block model, the indicated class is limited to a distance of 50 m from a drill hole. Inferred resources extent from 50m to the boundaries of the model.</td></tr>
<tr><td>Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</td><td>This arbitrarily assigned classification is considered to be fair and reasonable. Proportionally, the indicated resource amounts to 21% of the total resource.</td></tr>
<tr><td>Whether the result appropriately reflects the Competent Person’s view of the deposit.</td><td>The results do represent the Competent Person's view of the deposit.</td></tr>
<tr><td>Audits or reviews</td><td>The results of any audits or reviews of Mineral Resource estimates.</td><td>The resource estimate was developed Odessa Resources Pty Ltd in July 2021. No audits or reviews, outside of Western Rare Earths personnel have been performed.</td></tr>
</table>

Discussion of relative accuracy/ confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.*	Odessa Resources Pty performed classical and geostatistical analysis of the data. The results of these examinations reside in the text of the attached report.
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	At this time the resource model has not been used for any economic assessment.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	