



American Rare Earths Limited
ASX: ARR
OTCQB: ARRNF
FSE: 1BHA

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

Commodity Exposure
Rare Earth Elements in the USA

Directors & Management

Creagh O'Connor
Non-Executive Chairman

Chris Gibbs
Managing Director
& Chief Executive Officer

Geoff Hill
Non-Executive Director
& Deputy Chairman

Richard Hudson
Non-Executive Director

Clarence McAllister
Non-Executive Director

Sten Gustafson
Non-Executive Director

Mel Sanderson
Executive Director

Noel Whitcher
CFO & Company Secretary

Capital Structure
Ordinary Shares on Issue
446,380,799

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December 2022 Quarterly Activities Report

HIGHLIGHTS

Further steps towards commercialisation of major US rare earths project

- Mineralogy tests show the rare earth host mineral at Halleck Creek can be easily liberated.
- Host mineral allanite contains approximately 90% of the total rare earths present.
- The simplicity of allanite liberation allows for higher recovery and the ability to upgrade rare earth elements at lower costs.
- Increased confidence that metallurgical process for production can be developed.

Metallurgical tests on Halleck Creek ore indicate low mining and processing costs

- Low ore strength: the ore can be liberated easily, with the ore strength ranking in the lowest 14th percentile of more than 1,300 deposits globally, therefore requiring minimal energy use.
- Ore abrasiveness is below average.
- The ore will require less coarse grinding at the processing plant, meaning a reduction in energy costs and the opportunity to increase capacity.

Drilling confirms consistent rare earths mineralisation to at least 150 metres at Halleck Creek

- Consistent occurrences of rare earths mineralisation to depths of 150 metres, an increase of 50% over previous drill depths.
- The deposit remains open laterally and at depth.
- Geological data continues to show significant rare earth mineralisation.
- The Company undertook a 38-hole Reverse Circulation (RC) drill campaign.

Next Quarter

The coming period is an incredibly exciting time for the Company, and it is likely to be transformational with a packed agenda of announcements and project milestones to be met during the March quarter.

The recent drilling program at Halleck Creek of 38 holes is complete with further details to be released in the coming weeks. The Company is awaiting the results with quiet confidence. Once this drilling has been evaluated and verified, the Company expects to release the following:

- Results of the 38-hole drill program at Halleck Creek.
- A Maiden Resource Estimate at Halleck Creek by the end of the first quarter.
- Updated exploration target for Halleck Creek.

The Company's work continues with R&D partners in the US Department of Energy Innovation Hub, the Critical Minerals Institute and the Critical Materials Institute. The Company provides feedstock to funding program applicants, including researchers from US national laboratories and elite American 'Research One' universities. This R&D work can potentially transform not just American Rare Earths but also the rare earths industry. The Company is awaiting results from this work and will update the market as soon as possible.

The Company's work with various laboratories to unlock the metallurgy for the resource is progressing well and it expects to be able to make further announcements as this testing progresses and nears completion during the quarter.

Operations Review

Outstanding Mineralogy Test Results

During the quarter the Company was pleased to receive the initial test results from its testing partners on works conducted on core material collected from the Halleck Creek Rare Earth Project. The testing was performed under the guidance of Wood Australia, the mineralogical characterisation testing was performed by SGS Canada and Nagrom completed the hydrostatic analysis.

The results could be a game changer for American Rare Earths as testing indicates the rare earth elements host material can be recovered using simple separation technology due to the ease of initial ore recovery. This suggests considerable reductions in operating and capital costs for production facilities could be achieved.

The mineralogy test work determined that rare earths elements (REE) rich allanite is the primary REE bearing mineral at the project. The average grain size of the observed allanite was 232 microns, indicating a coarse grain structure. This constitutes approximately 87.5% of all allanite in the sample material with minimal gangue (waste) minerals.

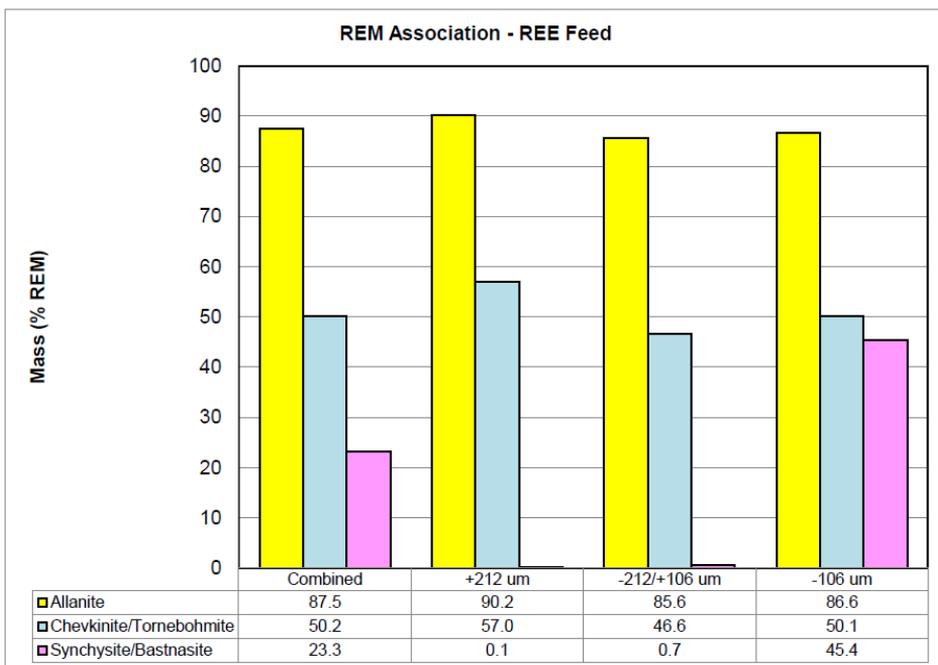


Figure 1 – Liberation of Rare Earth Minerals by Size Fraction

The coarse grain size indicates the allanite will respond well to standard Wet High-Intensity Magnetic Separation (WHIMS) process with potentially high recoveries and upgrading of rare earth elements, including high-value Neodymium and Praseodymium.

Grade-recovery relationships were developed by SGS to indicate the theoretical ultimate beneficiation potential for Cerium, Lanthanum, and Neodymium. SGS predicted a Cerium grade of 9.3% for 94% recovery, a Lanthanum grade of 4.6% for 94% recovery and a Neodymium grade of 3.8% for 95% recovery.

Metallurgical Test Results

Following the outstanding mineralogy results, the Company received the initial round of metallurgical results on the Halleck Creek core material.

The test results, conducted by Nagrom laboratories under the guidance of Wood Australia, show very favourable characteristics following the completion of comminution testing. This included SMC Testing Pty Ltd (SMC) which produces data used for the sizing of semi-autogenous (SAG) mills and was originally designed to support mine-to-mill studies.

Significantly, the SMC test work results indicate low ore competency which would translate to low specific energy consumption in a SAG mill. Within SMC's global database of over 1300 deposits, Halleck Creek was rated in the lowest 14th percentile for ore strength. The Bond abrasion index test returned a value of 0.24, which is below the average of Wood Australia's database. The Bond ball mill work index test result of 15.6 kWh/t is close to the average hardness relative to Wood's database.

The combination of these values suggests Halleck Creek ore should be suitable for processing in a SAG-Ball mill configuration without the need for pebble crushing and could also be processed in a single stage SAG mill. Other modes of grinding, such as high-pressure grinding mills and vertical roller mills may also be considered down the track when sufficient sample mass is available for testing.

These test results are highly encouraging. The easier the ore is to crush and grind, the lower the Company's operating costs will be. It will also enable higher throughput rates and efficiencies as the comminution circuit is so often the limiting factor for plant capacity. Apart from energy savings, the less abrasive ore will reduce wear and tear on equipment.

Maiden JORC Resource Drilling

During the quarter the Company announced the results from approximately 75% of its planned reverse circulation (RC) drilling campaign at the Halleck Creek project site.

The drilling results indicate consistent rare earth mineralisation from surface to a depth of at least 150m, a 50% increase on previous expectations and demonstrating rare earth mineralisation beyond the Company's original expectations.

Importantly, as the deposit remains open laterally and at depth, the expansion potential of this project is immense.

Results from the first 25 RC holes drilled show exceptional values for Rare Earth Oxides (REO) from surface to depth. Significant field rare earth observation samples from a handheld X-Ray Fluorescent (XRF) analyser, are shown in the table below.

Average REO for HC22-RM016							Average REO for HC22-RM017						
Sample Depth (m)	Lith Type	4 Element Total	Ce2O3	La2O3	Nd2O3	Pr6O11	Sample Depth (m)	Lith Type	4 Element Total	Ce2O3	La2O3	Nd2O3	Pr6O11
24-25.5	CQM	3,751	1,657	948	860	286	24-25.5	FM	1,402	555	215	395	237
49.5-51	CQM	1,209	503	271	435	bdl	49.5-51	CQM	3,329	1,514	895	739	182
75-76.5	CQM	9,780	4,493	2,707	2,016	565	75-76.5	CQM	7,751	3,248	1,841	1,706	956
99-100.5	CQM	1,391	545	303	352	190	99-100.5	CQM	5,845	2,762	1,597	1,206	281
124.5-126	CQM	3,015	1,345	836	659	174	124.5-126	CQM	3,537	1,534	842	942	220
148.5-150	CQM	2,863	1,266	696	619	282	148.5-150	CQM	4,257	1,969	1,108	959	220

Table 1 - Average REO Samples

*Three Reading Average of 4 Elements of La, Ce, Nd, and Pr

The strong XRF values observed in the drill cuttings provide good indications that rare earth mineralisation occurs throughout the clinopyroxene quartz monzonite

(CQM) geological unit. This supports the surface geochemical analysis previously disclosed to the market.

The Company is now finalising the results from the balance of the drilling campaign and awaiting results from ALS laboratories. The Company remains on track to announce a significant maiden JORC resource in the first quarter of the 2023 calendar year.

Corporate

During the quarter, the Company held its Annual General Meeting on the 8th of November 2022. All resolutions were carried with overwhelming shareholder support.

Following shareholder approval, Managing Director Mr Gibbs purchased 2,000,000 ordinary shares of the Company. This share purchase was agreed in December 2021 as part of the institutional placement to Fidelity but was subject to shareholder approval. The placement by Mr Gibbs raised A\$296k for the Company.

Cash and Financial Assets

The Company is well funded to deliver on its objectives and as of 31st December, 2022, had a cash position of A\$15,548,000.

During the quarter, the Company purchased a further 400,000 Cobalt Blue (COB) Ordinary shares at A\$0.58, a total investment of A\$232k under a rights issue. The Company currently holds 4,400,000 COB shares worth A\$2,552k, at a COB closing price of A\$0.58 on 31st December 2022.

The Company holds 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 three and secured over title to tenements. The Promissory note matures in January 2025. On 31st December 2022 this note has a financial asset value of A\$2,881k.

The Company 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.

Expenditure

During the quarter, net cash movements for operating activities of (A\$612k) were incurred. The main area of expenditure is administration and corporate costs of (\$447k) and staffing costs of (A\$277k). Included in operating activities for the quarter was an income of A\$114k from Interest earnings and receipts. Expenditure on operating activities is expected to remain at similar levels in the coming quarters.

Cash movements for investing activities totalling (A\$1,392k) during the quarter primarily consisted of exploration and evaluation (E&E) expenditure on Halleck Creek projects for the maiden Resource Drilling Campaign. Additionally, metallurgy and mineralogy testing was conducted on core samples collected from the Halleck creek project. Other investments were made in Consolidated Operating Budget (COB) with the purchase of (A\$232k) of ordinary shares under a rights issue. It is anticipated expenditure on E&E will reduce in the coming quarter.

Cash flows from financing activities were modest during the quarter. The Company received A\$296k from Managing Director Chris Gibbs for purchasing shares

following shareholder approval at the November AGM.

Aggregate payments to related parties included in item 6 of Appendix 5B total (A\$132k). This figure consists of Directors fees, Managing Director salary payments, direct reimbursement for business travel and incidentals made to related parties during the quarter.

Tenement Schedule

Listings of tenements held by ARR and its subsidiaries as of 31st December 2022 for each project are shown in Annexures 1 to 3.

Subsequent events

After the quarter ended, the Company was pleased to announce that it had redomiciled from New Zealand to Australia. The Company's registered address is C/O Hall Chadwick, Level 40, 2-26 Park Street, Sydney, NSW, 2000.

Ms Melissa Sanderson has joined the Company as President of American Operations, recently vacated by Mr Marty Weems. Ms Sanderson brings a wealth of experience in government relations and ESG, having a distinguished career in US Government roles and with International Mining Companies. Ms Sanderson will continue in her role on the Board of American Rare Earths.

Mr Noel Whitcher, the Company's CFO and Company Secretary, has advised the Board of his resignation from his positions to take up a new role. The Board wishes to extend its gratitude to Mr Whitcher for his efforts and service during his tenure at the Company and wishes him all the best in his future endeavours. Mr Whitcher's resignation is effective 31 January 2023.

Mr Wayne Kernaghan remains as Company Secretary.

ASX Announcements made during the quarter:

5 October	Drilling commences at Halleck Creek Project
7 October	Notice of Annual General Meeting/Proxy Form
14 October	Change of Director's Interest Notice
27 October	Quarterly Activities/Appendix 5B Cash Flow Report
1 November	September Quarterly Activities Report Webinar
3 November	Halleck Creek Drilling Update
4 November	September Quarterly Presentation
8 November	Chairman's Address to Shareholders November 2022
8 November	2022 AGM results of meeting
24 November	Halleck Creek Drilling Update
2 December	Outstanding Mineralogy Test Results
15 December	Metallurgical tests indicate low processing costs
21 December	Managing Directors Letter to Shareholders

The Company 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 were presented have not been materially modified from the original market announcements.

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

About American Rare Earths:

American Rare Earths Limited (ASX: ARR, OTCQB: ARRNF, FSE: 1BHA) is 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.

American Rare Earths is one of the few ASX listed companies with exposure to the rapidly expanding US market, developing its 100% owned magnet metals projects, Halleck Creek in Wyoming, and La Paz in Arizona. Both have the potential to be among the largest rare earths deposits in North America. The Company is concurrently evaluating other exploration opportunities while collaborating with US Government supported R&D to develop a sustainable domestic supply chain for the renewable future.

Appendix 1 – La Paz Tenements 31 December 2022

Mining tenements at the beginning of the quarter				Mining tenements acquired or disposed/expired during the quarter		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	LA PAZ RARE EARTH LLC	100%			AZ105263134 - AZ105263153	LA PAZ-262 - LA PAZ-281	LA PAZ RARE EARTH LLC
AZ105764412 - AZ105764506	LA PAZ-282 - LA PAZ-376	LA PAZ RARE EARTH LLC	100%			AZ105764412 - AZ105764506	LA PAZ-282 - LA PAZ-376	LA PAZ RARE EARTH LLC

Appendix 2 – Halleck Creek Tenements 31 December 2022

Mining tenements at the beginning of the quarter				Mining tenements acquired during the quarter		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
WY105260482 - WY105260501	REX 25 - REX 43	Wyoming Rare (USA) Inc	100%			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
WY105772327 - WY105772255*	REX 75 - REX 165	Wyoming Rare (USA) Inc	100%			WY105772327 - WY105772255*	REX 75 - REX 165	Wyoming Rare (USA) Inc
WY105772203 - WY105772278*	REX 167 - REX 176	Wyoming Rare (USA) Inc	100%			WY105772203 - WY105772278*	REX 167 - REX 176	Wyoming Rare (USA) Inc
WY105772299 - WY105772326*	REX 178 - REX 257	Wyoming Rare (USA) Inc	100%			WY105772299 - WY105772326*	REX 178 - REX 257	Wyoming Rare (USA) Inc
				REX 258 - REX 375**	Halleck Creek		REX 258 - REX 375	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
						*Non-inclusive range ** Claims lodged 22 December 2022, pending receipt.		

Appendix 3 – Searchlight Tenements 31 December 2022

Mining tenements at the beginning of the quarter				Mining tenements acquired during the quarter		Mining tenements held at the end of the quarter		
Serial Number	Claim Name	Claimant Name	Beneficial	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 A – JORC Table 1

JORC Code, 2012 Edition – Table 1 Halleck Creek Exploration Area		
Section 1 Sampling Techniques and Data		
(Criteria in this section apply to all succeeding sections.)		
Criteria	JORC Code explanation	Commentary
<i>Sampling techniques</i>	<i>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 downhole gamma sondes, handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</i>	In March and April 2022, WRE drilled nine HQ-sized core holes across the Halleck Creek Resource claim area. All holes were approximately 350 ft with the exception of one hole which was terminated at 194 ft. Total drilled length of 3,008 ft (917 m). Rock core was divided into sample lengths of 5 ft (1.52 m) long and at key lithological breaks.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	Core recoveries and RQD's were calculated by WRE field geologists.
	<i>Aspects of the determination of mineralisation that are Material to the Public Report.</i>	
	<i>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.</i>	Rock core samples 5 ft (1.52 m) 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. A select number of samples are additionally being assayed for whole rock geochemistry. American Assay Labs in Sparks, NV is performing the analyses.
<i>Drilling techniques</i>	<i>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 another type, whether the core is oriented and if so, by what method, etc.).</i>	Core: HQ, diamond tip, 5-ft runs, unoriented. Total drilled depth of 3,008 ft (917 m).

<i>Drill sample recovery</i>	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	All drill core was visually logged, measured, and photographed by WRE geologists. Drill core was collected in lengths (runs) of 5 ft (1.52 m). Recoveries were calculated for each core run.
	<i>Measures are taken to maximise sample recovery and ensure the representative nature of the samples.</i>	All core and associated samples were immediately placed in core boxes.
	<i>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.</i>	Recoveries were very high in competent rock. No loss or gain of grade or grade bias related to recovery
<i>Logging</i>	<i>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.</i>	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.
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i>	Core logging is quantitative in nature. All core was photographed.
	<i>The total length and percentage of the relevant intersections logged.</i>	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.
<i>Sub-sampling techniques and sample preparation</i>	<i>If core, whether cut or sawn and whether quarter, half or all cores taken.</i>	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.
	<i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i>	
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	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.
	<i>Quality control procedures adopted for all sub-sampling stages to maximise the representivity of samples.</i>	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 25 core samples.

	<p><i>Measures are taken to ensure that the sampling is representative of the in-situ material collected, including, for instance, results for field duplicate/second-half sampling.</i></p>	<p>Fillet cuts along the entire length of all cores are representative of the in-situ material.</p>
	<p><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></p>	<p>Allanite is generally well distributed across the core and the sample sizes are representative of the fine grain size of the Allanite.</p>
<p><i>Quality of assay data and laboratory tests</i></p>	<p><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></p>	<p>AAL Labs uses acid digestion and 60 element analysis including REE reported in ppm using method REE-5AO48 and whole-rock geochemical XRF analysis using method X-LIB15.</p>
	<p><i>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.</i></p>	<p>No geophysical tools used in the drilling program.</p>
	<p><i>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.</i></p>	<p>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 25 core samples. Internal laboratory blanks and standards will additionally be inserted during analysis.</p>
<p><i>Verification of sampling and assaying</i></p>	<p><i>The verification of significant intersections by either independent or alternative company personnel.</i></p>	<p>Consulting company personnel have observed the assayed samples. Company personnel sampled the entire length of each hole.</p>
	<p><i>The use of twinned holes.</i></p>	<p>No twinned holes were used.,</p>
	<p><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></p>	<p>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</p>

		<p>the DHDB drill hole database. All scanned documents are cross-referenced and directly available from the database.</p> <p>Assay data was received electronically from AAL labs. These raw data as elements reported ppm were imported into the database with no adjustments.</p>
	<i>Discuss any adjustment to assay data.</i>	Oxide values are calculated in the database using the molar mass of the element and the oxide
<i>Location of data points</i>	<i>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.</i>	Down hole surveyed were not used.
	<i>Specification of the grid system used.</i>	Drill hole location is based on GPS coordinates +/- 10 ft (3 m) accuracy.
	<i>Quality and adequacy of topographic control.</i>	The grid system used to compile data was NAD83 Zone 13N.
<i>Data spacing and distribution</i>	<i>Data spacing for reporting of Exploration Results.</i>	Topography control is +/- 10 ft (3 m).
	<i>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.</i>	Both randomly spaced and localized clustering of drillholes.
	<i>Whether sample compositing has been applied.</i>	The data is not at a sufficient spacing to determine a mineral resource or reserve. No resources or reserves are being reported for the Halleck creek area.
<i>Orientation of data in relation to geological structure</i>	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	Each sample is the result of assaying a 5 ft interval of core. Composite assay values have not been calculated or applied.
	<i>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.</i>	6 holes were vertical, and three were angled at 65° in various directions depending on drill hole location.
<i>Sample security</i>	<i>The measures are taken to ensure sample security.</i>	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.
<i>Audits or reviews</i>	<i>The results of any audits or reviews of sampling techniques and data.</i>	No external audits or reviews have been conducted to date. However, 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
<i>Mineral tenement and land tenure status</i>	<i>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.</i>	Wyoming Rare Earths Project Acquisition – 5 Unpatented mining claims on BLM US Federal Land totaling 71.6 acres (29 has) were acquired from Zenith Minerals Ltd. Sixty-seven (67) additional unpatented mining claims were staked by ARR that totaled 1193.3 acres (482 ha). Overall, the ARR subsidiary controls 3101 acres (1255 ha) of mining claims and Wyoming State Leases. ARR staked an additional 182 federal claims in March 2022 covering an area of approximately 3,088 acres (1,250 ha).
	<i>The security of the tenure held at the time of reporting and any known impediments to obtaining a licence to operate in the area.</i>	No impediments to holding the claims exist. To maintain the claims an annual holding fee of \$165/claim (\$11,880.00) is payable to the BLM. To maintain the State leases minimum rental payments of \$1/acre for 1-5 years; \$2/acre for 6-10 years; and \$3/acre if held for 10 years or longer.
<i>Exploration done by other parties</i>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	Prior to sampling by WIM on behalf of Blackfire Minerals and Zenith Minerals there was no previous sampling by any other groups within the ARR claim and Wyoming State Lease blocks.
<i>Geology</i>	<i>Deposit type, geological setting and style of mineralisation.</i>	The REE's occur within Allanite which occurs as a variable constituent of the Red Mountain Pluton. The occurrence can be characterized as a disseminated type of rare earth deposit.

<i>Drill hole Information</i>	<i>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:</i>	Authentic Drilling from Kiowa, Colorado used both a track mounted and ATV mounted core rig to drill nine HQ diameter core holes. From March to April 2022, WRE drilled nine core holes across the Halleck Creek claim area. Drill holes ranged in depth from 194 to 352.5 ft with a total drilled length of 3,008 ft (917 m).
	<i>easting and northing of the drill hole collar</i>	All relevant information for this section can be found in Table 1 of the report entitled “Summary of Maiden Exploration Drilling at the Halleck Creek Project Area”, May 2022.
	<i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i>	
	<i>dip and azimuth of the hole</i>	
	<i>downhole length and interception depth</i>	
	<i>Hole length.</i>	
<i>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.</i>	No Drilling data has been excluded	
<i>Data aggregation methods</i>	<i>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.</i>	Average Grade values were cut at minimum of TREO 1,500 ppm.
	<i>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.</i>	Assays are representative of each 5 ft (1.52 m) sample interval.
	<i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	No metal equivalents used.
<i>Relationship between mineralisation widths and intercept lengths</i>	<i>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. If it is unknown and only the downhole lengths are reported, there should be a clear statement to this effect (e.g., ‘down hole length, true width not known’).</i>	The geometry of the mineralization with respect to drill hole angle is not yet known. Vertical holes represent true depth and angled holes represent down-hole length.

<i>Diagrams</i>	<i>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.</i>	See Figures in this report.
<i>Balanced reporting</i>	<i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practised to avoid misleading reporting of Exploration Results.</i>	The latest exploration results reported in “Mapping and Surface Sampling Summary at the Halleck Creek Project Area: April 2022”. All relevant information for this section can be found in Table 1 of the report entitled “Summary of Maiden Exploration Drilling at the Halleck Creek Project Area”, May 2022.
<i>Other substantive exploration data</i>	<i>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.</i>	In hand specimen this rock is a red colored, hard and dense granite with areas of localized fracturing. The rock shows significant iron staining and deep weathering. Microscopic description: In hand specimen the samples represent light colored, fairly coarse-grained granitic rock composed of visible secondary iron oxide, amphibole, opaques, clear quartz and pink to white colored feldspar. All of the specimens show moderate to strong weathering and fracturing. Allanite content is variable from trace to 2%. Rare Earths are found within the Allanite. Metallurgical testing to date consisted of concentrating the Allanite by both gravity and magnetic separation. The rare earth rich allanite concentrate will be further evaluated for extraction of the rare earths.
<i>Further work</i>	<i>The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</i>	Further drilling, mapping and sampling is planned.
	<i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i>	Locations of additional drillholes will be based on assay results when received.

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	<i>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.</i>	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.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	The lengths of each drill core were measured, and recoveries were calculated by WRE field geologists
	<i>Aspects of the determination of mineralisation that are Material to the Public Report.</i>	
	<i>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.</i>	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	<i>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).</i>	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	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	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.
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	All core and samples were immediately placed in core boxes. When core drilling became difficult, sonic drilling techniques were employed to increase recovery.

	<i>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.</i>	
Logging	<i>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.</i>	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.
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i>	The core logging is quantitative in nature
	<i>The total length and percentage of the relevant intersections logged.</i>	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	<i>If core, whether cut or sawn and whether quarter, half or all cores taken.</i>	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.
	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>	Rock chips from sonic drilling will be split riffled on a dry basis.
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	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
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	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.
	<i>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.</i>	Fillet cuts along the entire length of all cores are representative of the in-situ material.
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	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	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	AAL Labs uses acid digestion and 60 element analysis including REE reported in ppm (D5A ICP-OES finish ICP-5AM60).
	<i>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.</i>	No geophysical tools, spectrometers, handheld XRF instruments, etc used.
	<i>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.</i>	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	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	Significant intercepts were verified by an independent consultant geologist as part of the resource estimation.
	<i>The use of twinned holes.</i>	No twinned holes were used.
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	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.
	<i>Discuss any adjustment to assay data.</i>	None
Location of data points	<i>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.</i>	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.
	<i>Specification of the grid system used.</i>	UTM grid system NAD 1983 Zone 12
	<i>Quality and adequacy of topographic control.</i>	Drill hole elevations were estimated using existing USGS topographic DTM models as control.
Data spacing and distribution	<i>Data spacing for reporting of Exploration Results.</i>	

	<i>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.</i>	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.
	<i>Whether sample compositing has been applied.</i>	Samples have not been composited as all sample intervals were equal (5 feet /1.52m).
<i>Orientation of data in relation to geological structure</i>	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	Core drilling was vertical, except for one drill hole. Additional drilling needed to determine if structures bias sampling.
	<i>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.</i>	
<i>Sample security</i>	<i>The measures taken to ensure sample security.</i>	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.
<i>Audits or reviews</i>	<i>The results of any audits or reviews of sampling techniques and data.</i>	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	<i>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.</i>	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 totaling 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 (as yet undetermined) once the exploration activity has advanced to the exploitation level. At this point the State engineers and geologists will evaluate any defined mineral deposit and determine an appropriate royalty.
	<i>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.</i>	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	<i>Acknowledgment and appraisal of exploration by other parties.</i>	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	<i>Deposit type, geological setting and style of mineralisation.</i>	<p>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.</p>
		<p>In December 2021, WRE geologists updated surface geologic maps across the La Paz project area based upon field observations and analytical results.</p>
Drill hole Information	<p><i>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:</i></p>	<p>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 of 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.</p>
		<p>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).</p>
	<i>easting and northing of the drill hole collar</i>	<p>March 2022 Core Drilling: Locations of the March 2022 Core Hole data are located in the Report.</p>
	<i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i>	
	<i>dip and azimuth of the hole</i>	
	<i>down hole length and interception depth</i>	
<i>hole length.</i>		

	<i>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.</i>	
<i>Data aggregation methods</i>	<p><i>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.</i></p> <p><i>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.</i></p> <p><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></p>	<p>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.</p> <p>March 2022 Core Drilling: All core was boxed in 10-foot long sections in core boxes. No aggregations of the core were performed.</p>
<i>Relationship between mineralisation widths and intercept lengths</i>	<i>These relationships are particularly important in the reporting of Exploration Results.</i>	
	<i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i>	The vertical drill hole orientations, 5' sample lengths are considered appropriate to the style mineralization and distribution of lithologies
	<i>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').</i>	
<i>Diagrams</i>	<i>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.</i>	Drill hole locations, and drill hole strip logs are included in this summary report.
<i>Balanced reporting</i>	<i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced avoiding misleading reporting of Exploration Results.</i>	<p>Assay results of the 2022 La Paz SW drilling are still being analysed.</p> <p>The exploration results from March 2021 were reported on July 29, 2021, Press Release and "2021 Core Hole Analysis Summary, June 2021"</p> <p>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</p>

			This report summarizes assay results for four drill holes from the 2022 La Paz SW Exploration program including: LP22-SW02, LP22-SW04, LP22-SW05, and LP22-SW07.
Other substantive exploration data	<p><i>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.</i></p>		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
			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. This work is ongoing.
Further work	<p><i>The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></p>		The Company is developing plans for additional geological mapping, surface sampling, aerial magnetics, and drafting permits for expanded exploration drilling.
	<p><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></p>		

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
<i>Sampling techniques</i>	<ul style="list-style-type: none"> • 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. • Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. • 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. 	<ul style="list-style-type: none"> • Individual grab rock samples and were collected by hand at the surface, from in-situ outcrops. • 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 pulverized before analysis.
<i>Drilling techniques</i>	<ul style="list-style-type: none"> • 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). 	<ul style="list-style-type: none"> • No drilling
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> • Method of recording and assessing core and chip sample recoveries and results assessed. • Measures taken to maximise sample recovery and ensure representative nature of the samples. • 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. 	<ul style="list-style-type: none"> • No drilling
<i>Logging</i>	<ul style="list-style-type: none"> • 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. • Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. • The total length and percentage of the relevant intersections logged. 	<ul style="list-style-type: none"> • Rock samples were geologically described and photographed. • No logging

Criteria	JORC Code explanation	Commentary
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> • If core, whether cut or sawn and whether quarter, half or all cores taken. • If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. • For all sample types, the nature, quality and appropriateness of the sample preparation technique. • Quality control procedures adopted for all sub-sampling stages to maximise representivity of 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. • Whether sample sizes are appropriate to the grain size of the material being sampled. 	<ul style="list-style-type: none"> • Samples were analyzed at Activation Laboratories Ltd in Ancaster, Ontario, Canada, the samples were crushed, pulverized and assayed by Code 8-REE Assay • ~2kg of rock was crushed and pulverized and a subsample was taken in the laboratory and sent for analysis. • Grab sampling was selective based upon geological observations. • Each sample was 1kg to 2kg in weight which is appropriate to test for grain size of material.
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> • The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. • 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. • 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. 	<ul style="list-style-type: none"> • The samples were crushed and assayed for whole rock geochemistry and 45 elements using fusion ICP-OES and ICP-MS. The procedure will report near total results. • No geophysical tools used in the sampling program. • Internal laboratory standards were analysed with rock samples.
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> • The verification of significant intersections by either independent or alternative company personnel. • The use of twinned holes. • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. • Discuss any adjustment to assay data. 	<ul style="list-style-type: none"> • Consulting company personnel have observed and collected the assayed samples. • No drilling • Field data were all recorded in field notebooks and sample record books and then entered into a digital database. • No adjustments were made.
<i>Location of data points</i>	<ul style="list-style-type: 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. • Specification of the grid system used. • Quality and adequacy of topographic control. 	<ul style="list-style-type: none"> • Sample location is based on GPS coordinates +/- 3m accuracy. • The grid system used to compile data was NAD83 Zone 12N. • Topography control is +/- 10m
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> • 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. • Whether sample compositing has been applied. 	<ul style="list-style-type: none"> • Both randomly spaced surface chip sampling • The data alone will not be used to estimate mineral resource or ore reserve • None

Criteria	JORC Code explanation	Commentary
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> • Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. • 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. 	<ul style="list-style-type: none"> • Rock samples were taken of selected outcrops that were considered representative of varying rock types. • No drilling
<i>Sample security</i>	<ul style="list-style-type: none"> • The measures taken to ensure sample security. 	<ul style="list-style-type: none"> • Samples were kept in numbered bags until delivered to the laboratory.
<i>Audits or reviews</i>	<ul style="list-style-type: none"> • The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> • Sampling techniques are consistent with industry standards.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> • 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 security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area. 	<ul style="list-style-type: none"> • Western Rare Earths Acquisition – 81 unpatented mining claims on BLM US Federal Land totalling approx. 1620 acres were staked in the Searchlight Project Area. • The claims are 100% owned by WRE (100% owned ARR subsidiary). • 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.
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> • Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> • Sampling in the region was completed by Elissa Resources Ltd/NexOptic on adjacent mining claims controlled by Red Hill Energy.
<i>Geology</i>	<ul style="list-style-type: none"> • Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> • The deposit is within veins/veinlets in pre-Cambrian granites/gneisses. REE elements are hosted in monazite, apatite, and xenotime which is found in veins and veinlets within the granites/gneisses. • Rare REEs are found in biotite enriched gneisses.
<i>Drill hole Information</i>	<ul style="list-style-type: none"> • 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 style="list-style-type: none"> ○ easting and northing of the drill hole collar ○ elevation or RL (Reduced Level – elevation above sea level in 	<ul style="list-style-type: none"> • No Drilling

Criteria	JORC Code explanation	Commentary
	<p>metres) of the drill hole collar</p> <ul style="list-style-type: none"> ○ dip and azimuth of the hole ○ down hole length and interception depth ○ hole length. <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • No high-grade cutting • No aggregation used • No metal equivalents used
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> • 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. • 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'). 	<ul style="list-style-type: none"> • No Drilling • No Drilling • No Drilling
Diagrams	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • See maps in body of Report discussing "sample locations"
Balanced reporting	<ul style="list-style-type: none"> • Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced avoiding misleading reporting of Exploration Results. 	<ul style="list-style-type: none"> • Total REE's range in samples: 5 – 675 ppm; HREE's: 3 – 90 ppm See figures, tables, and appendices in report for sample site locations and assay values.
Another substantive	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • None.

Criteria	JORC Code explanation	Commentary
<i>exploration data</i>	<i>method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i>	
<i>Further work</i>	<ul style="list-style-type: none"> • <i>The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> • <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i> 	<ul style="list-style-type: none"> • Further work will not be pursued at this time.

Appendix 5B

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

Name of entity

American Rare Earths Limited

ABN

83 003 453 503

Quarter ended ("current quarter")

31 December 2022

Consolidated 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	20	20
1.2 Payments for		
(a) exploration & evaluation	-	-
(b) development	-	-
(c) production	-	-
(d) staff costs	(277)	(513)
(e) administration and corporate costs	(447)	(1,393)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	94	115
1.5 Interest and other costs of finance paid	(2)	(5)
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	(612)	(1,776)

2. Cash flows from investing activities		
2.1 Payments to acquire or for:		
(a) entities	-	-
(b) tenements	(104)	(166)
(c) property, plant and equipment	-	(16)
(d) exploration & evaluation	(1,041)	(1,840)
(e) investments	(232)	(232)
(f) other non-current assets	-	-

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

Consolidated 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	(15)	(28)
2.6	Net cash from / (used in) investing activities	(1,392)	(2,282)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	296	14,296
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	60
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(2)	(962)
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	294	13,394

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	17,417	6,340
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(612)	(1,776)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(1,392)	(2,282)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	294	13,394

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

Consolidated 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	(159)	(128)
4.6	Cash and cash equivalents at end of period	15,548	15,548

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	6,620	13,363
5.2	Call deposits	8,928	4,054
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)	15,548	17,417

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	132
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.

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

7. Financing facilities	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
<i>Note: the term "facility" includes all forms of financing arrangements available to the entity.</i>		
<i>Add notes as necessary for an understanding of the sources of finance available to the entity.</i>		
7.1 Loan facilities	-	-
7.2 Credit standby arrangements	-	-
7.3 Other (please specify)	-	-
7.4 Total financing facilities	-	-
7.5 Unused financing facilities available at quarter end		-
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.		

8. Estimated cash available for future operating activities	\$A'000
8.1 Net cash from / (used in) operating activities (item 1.9)	(612)
8.2 (Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	(1,392)
8.3 Total relevant outgoings (item 8.1 + item 8.2)	(2,004)
8.4 Cash and cash equivalents at quarter end (item 4.6)	15,548
8.5 Unused finance facilities available at quarter end (item 7.5)	-
8.6 Total available funding (item 8.4 + item 8.5)	15,548
8.7 Estimated quarters of funding available (item 8.6 divided by item 8.3)	7.76
<i>Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.</i>	
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 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?	
Answer: N/A	
<i>Note: where 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.</i>	

Compliance statement

- 1 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: ..30 January 2023.....

Authorised by:By the Audit and Risk Committee.....
(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.
2. 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 – eg 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.