American Rare Earths Limited ARBN 003 453 503

ASX RELEASE

24 February 2023

Further Upgrade to Halleck Creek Rare Earths Project

Test work indicates lower capital and operating costs, together with a simple process flow sheet using conventional technology that will de-risk pathway to production.

Highlights

- Preliminary testwork shows a simple process to produce a rare earth concentrate and maximise the recovery of Neodymium and Praseodymium.
- Initial tests using Wet High Intensity Magnetic Separation (WHIMS) yielded 90.5% recovery for an upgrade factor of 3.3, rejecting 71.7% of feed mass.
- Optimal grind size of 500 microns will reduce primary energy usage, resulting in lower capital and operating costs.
- Recent tests build off outstanding mineralogy and comminution test work results previously announced to market in December 2022.

American Rare Earths **(ASX: ARR, OTCQB: ARRNF, FSE: 1BHA) (ARR or the Company)** is pleased to provide an update on metallurgical test work conducted on ore from the Halleck Creek Project in Wyoming, USA. Under the guidance of Wood PLC, one of the world's leading engineering companies, the metallurgical test work completed to date indicates a simple process flowsheet (refer to Figure 1) as the ore responds well to conventional technology. This enables notable opportunities to reduce the project's operating and capital costs.

After conducting a series of initial WHIMS tests, the optimal operating parameters produced a 90.5% Total Rare Earth Oxide (TREO) recovery for a cumulative grade of 1.18% TREO (11,200ppm). This is an upgrade factor of 3.3 relative to the original feed material with 71.7% of feed mass being rejected at this early stage of the process. These results were based off a primary grind size of 80% passing 500 microns which is considered a coarse grind. This was consistent with mineralogy test work results that showed the target rare earth mineral Allanite can be easily liberated. The coarser grind will result in lower operating costs as less energy will be consumed through the primary grinding circuit. Rejecting 71.7% of feed mass containing gangue (worthless) materials at this early stage of the process is very positive. This provides opportunities to reduce capital and operating costs, as well as supporting our commitment to minimise our environmental footprint.

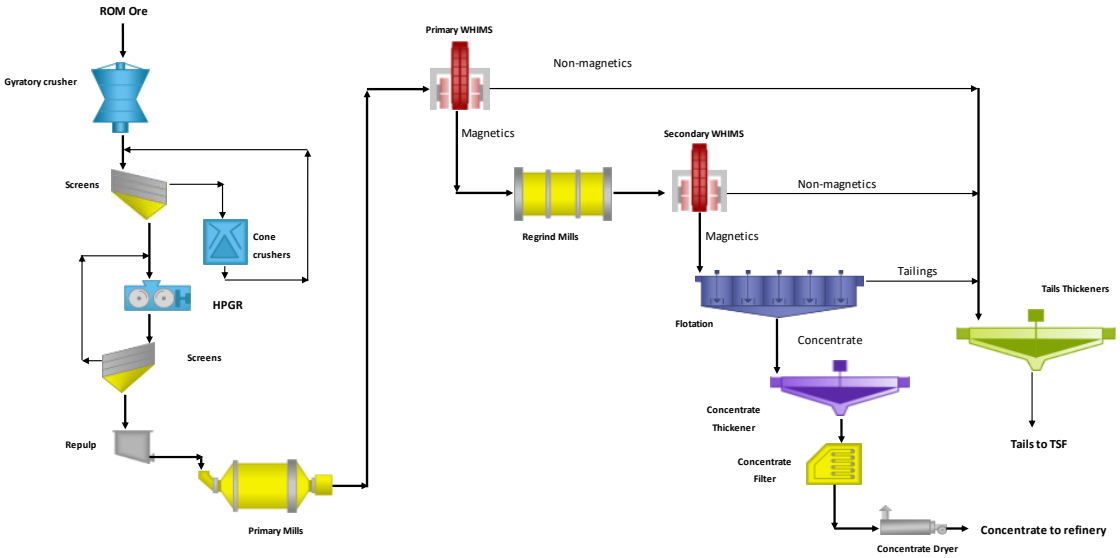

Figure 1 – Preliminary Process Flowsheet

Figure 1 shows a conceptual flowsheet featuring a two-stage crushing circuit, HPGR and primary ball mill. However, other options, such as primary crushing and single stage SAG milling, will be evaluated in engineering studies to follow the test work program completion.

CEO and Managing Director, Mr Chris Gibbs, commented:

"These latest metallurgical test results are extremely encouraging and continue to advance the Halleck Creek Project a step closer towards commercial reality.

"Metallurgy is the key to any mining project and these recent results continue to exceed our expectations. This simple process flow sheet translates to lower operating costs, and reduced capital investment and environmental impact. Having low thorium and uranium penalty elements are a huge advantage for this project to produce a low-cost rare earth concentrate."

"From a mining perspective, the recent drill assay results announced on 13 February indicate a large scale, low-cost open pit mining operation. Together with these metallurgical results, Halleck Creek is shaping up to be rare earth equivalent of a major copper/gold porphyry deposit, comparable to the likes of major mines operated by Freeport-McMoRan and Rio Tinto."

The Company continues to advance the Halleck Creek project and has made significant progress over the past few months. Since December 2022 the Company has issued a steady stream of ASX announcements as work continues to fast track the development of this key project, including:

- Mineralogy test results showing that rare earth host mineral can be easily liberated.
- Host mineral Allanite contains approximately 90% of total rare earths present.
- Simplicity of mineral liberation allows for high recovery rates.
- Ore strength (softness) is ranked in the lowest 14th percentile of 1,300 global projects.
- Ore will require less grinding and reduced energy use, resulting in lower capital and operating costs.
- Completion of a 38-hole drill program with ARR on track to define a significant JORC resource.

- Preliminary assay results show consistent materialisation down to depths of 175.5 meters, a 75.5% increase over the original exploration target of 1.01-1.27 billion tonnes of rare earth mineralised rocks.
- Drilling confirms the geological structure containing rare earth elements is significantly larger than previously thought and remains open at depth.
- Identified potential new rare earth deposit, with 118 new claims staked to increase mineral control in the Halleck Creek district by 26%.

Next Steps

With continued oversight from Wood, further test work is currently underway to optimise the process flow sheet. This includes bulk WHIMS test work which is underway at the Nagrom Laboratories, which will be followed by cleaner WHIMS evaluation to further upgrade the magnetics. Floatation testing at Auralia Metallurgy is in progress to assess the potential for further upgrading. Testing will then commence on the leach process using Watts & Fisher's proprietary leach technology.

The Company will continue to provide updates on metallurgical test work as results come to hand. Furthermore, the company is on track to define a significant maiden JORC resource by end of March 2023, once the final assay results are received.

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.

This work was reviewed and approved for release by Mr Dwight Kinnes (Society of Mining Engineers #4063295RM) is employed by American Rare Earths 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 Kinnes 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:

One of the only ASX listed companies with exposure to the rapidly expanding US market, American Rare Earths is developing its 100% owned magnet metals projects, La Paz in Arizona, and Halleck Creek in Wyoming. Both have 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.

Under the guidance of Wood, Nagrom Laboratories conducted initial WHIMS testing on the Halleck Creek core samples from the maiden drill campaign. Sub-samples of crushed Halleck Creek diamond drill core were subjected to wet rod mill grinding to three P80 grind sizes – 500, 250 and 106 microns. Mineralogy results, reported previously, indicated a high degree of liberation at these grind sizes. Progressive magnetic field strengths of 3000, 6000, 10000 and 17000 gauss were applied in order to establish optimal conditions for bulk primary grinding and WHIMS processing. This approach followed previous Zenith Minerals testing on surface chips to allow a direct comparison against historical test results.

A plot of cumulative TREO+Y grade against recovery is shown in Figure 2.

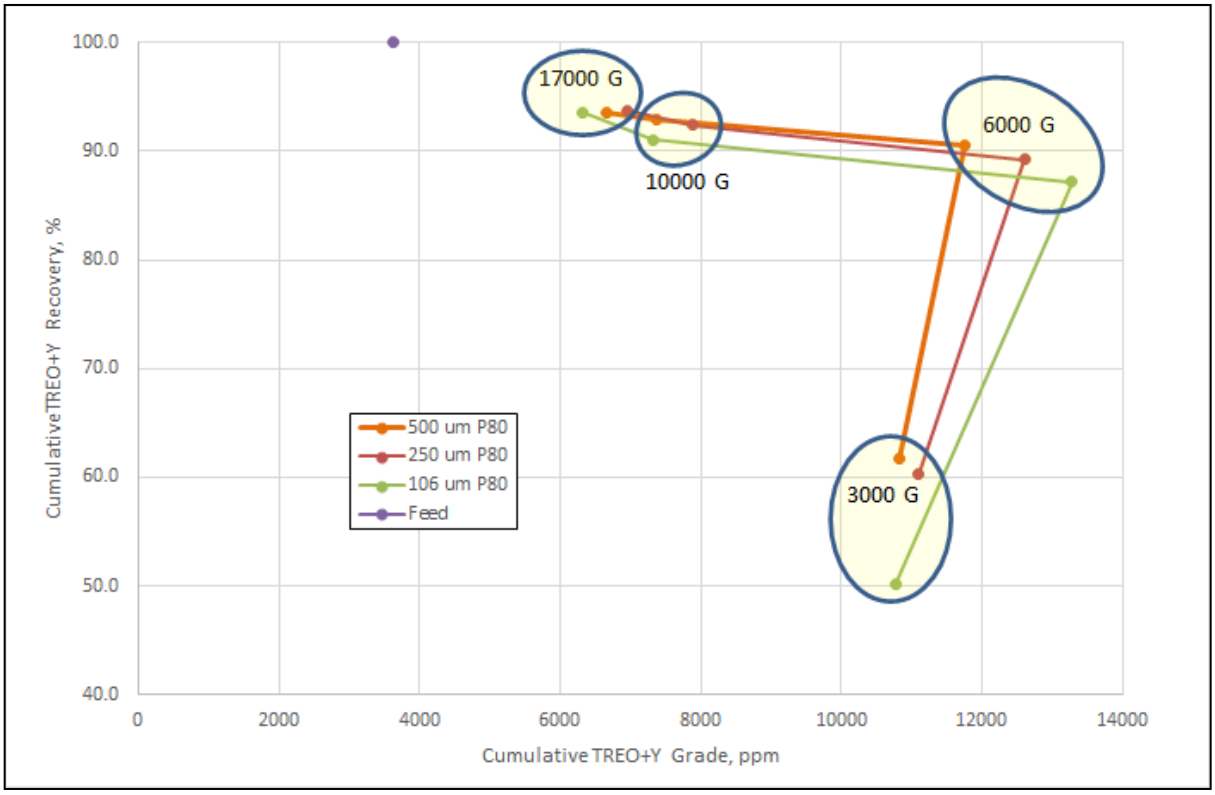

Figure 2 Progressive Primary WHIMS TREO+Y Grade-Recovery Plots at Three Grind Sizes

Recovery at 3000 gauss is high (50 to 61%) given that this is typically the realm of magnetite and pyrrhotite. A potential reason for this is binary association of allanite with the ferromagnetic minerals at these grind sizes as paramagnetic allanite usually responds at higher field strengths of 6000 gauss or more. The graph shows that recovery drops substantially at the finer 106 microns grind size, indicating allanite is becoming liberated and is lost to non-magnetics.

Passing first stage 3000 gauss non-magnetics through the WHIMS unit at 6000 gauss saw spike in TREO+Y grade as well as recovery, which is a more predictable response and supports mineralogical findings of a high degree of allanite liberation. Cumulative recoveries have become normalised in a narrow band of 87 to 91%.

At 10000 gauss the stage grade and recovery fall away, which indicates co-recovery of partially locked minerals and less magnetic iron minerals such as goethite and Fe feldspars. TREO+Y recovery tapers off due to falling grades and stage mass yields. Allanite in this stage is most likely partially locked with silica/silicates.

At 17000 gauss, most of the remaining REO+Y and iron oxides are recovered, with all three tests returning similar cumulative recoveries of around 93.5%. However, this incremental recovery step has a deleterious effect on cumulative grade with this increased addition of lower grade material, likely to be mostly locked.

A plot of results for the Zenith Minerals surface chips test and current results on diamond drill core for the 500 microns P80 grind are presented as Figure 3.

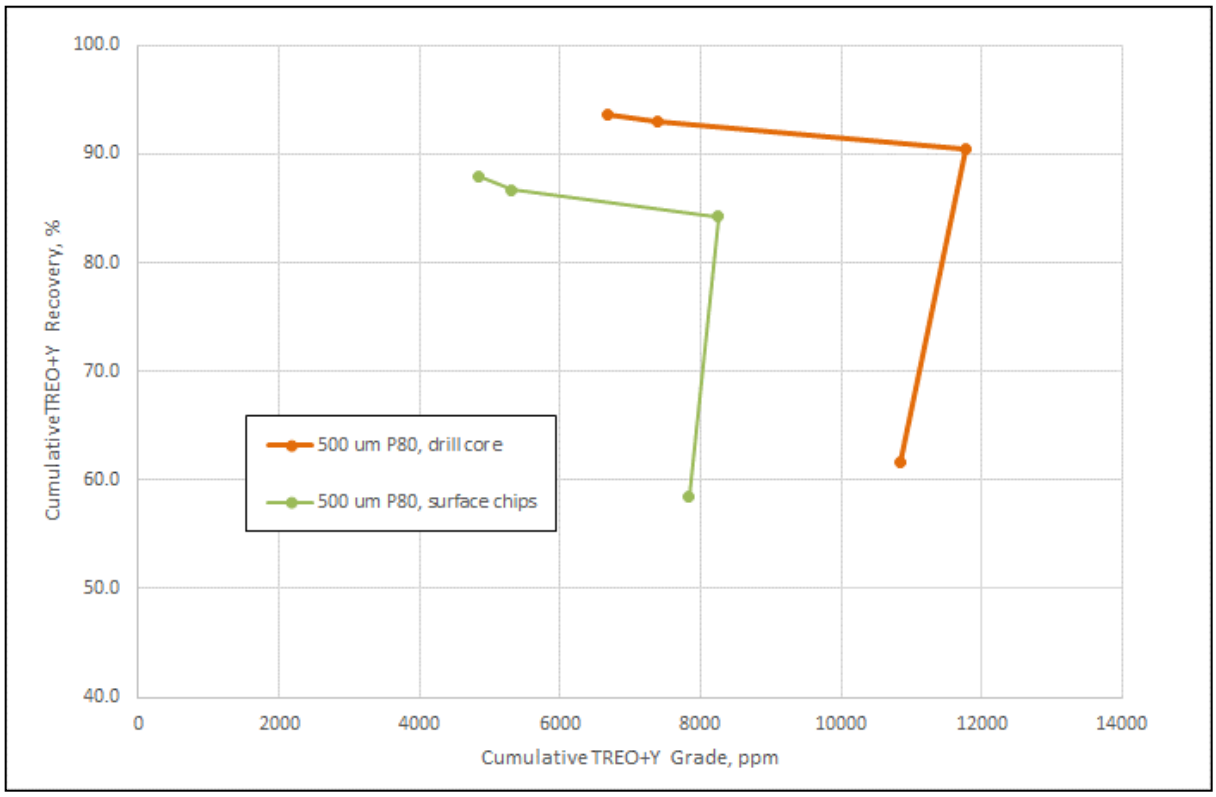

Figure 3 Grade-Recovery Plot for Surface Chip and Drill Core Results, 500 microns P_{80}

The new results see a positive shift in grade-recovery for the current sample but the starting grade is higher at 3618 ppm compared with 2382 ppm for the previous sample. Upgrade ratios are slightly higher for the surface chip sample, possibly due to it having experienced chemical weathering.

Iron oxides also upgrade with increasing field strength, initially magnetite dominant, but moving into hematite and iron silicate ranges at higher gauss levels. Finer grind sizes produce higher grades but see little reduction in iron recovery, as depicted in Figure 4.

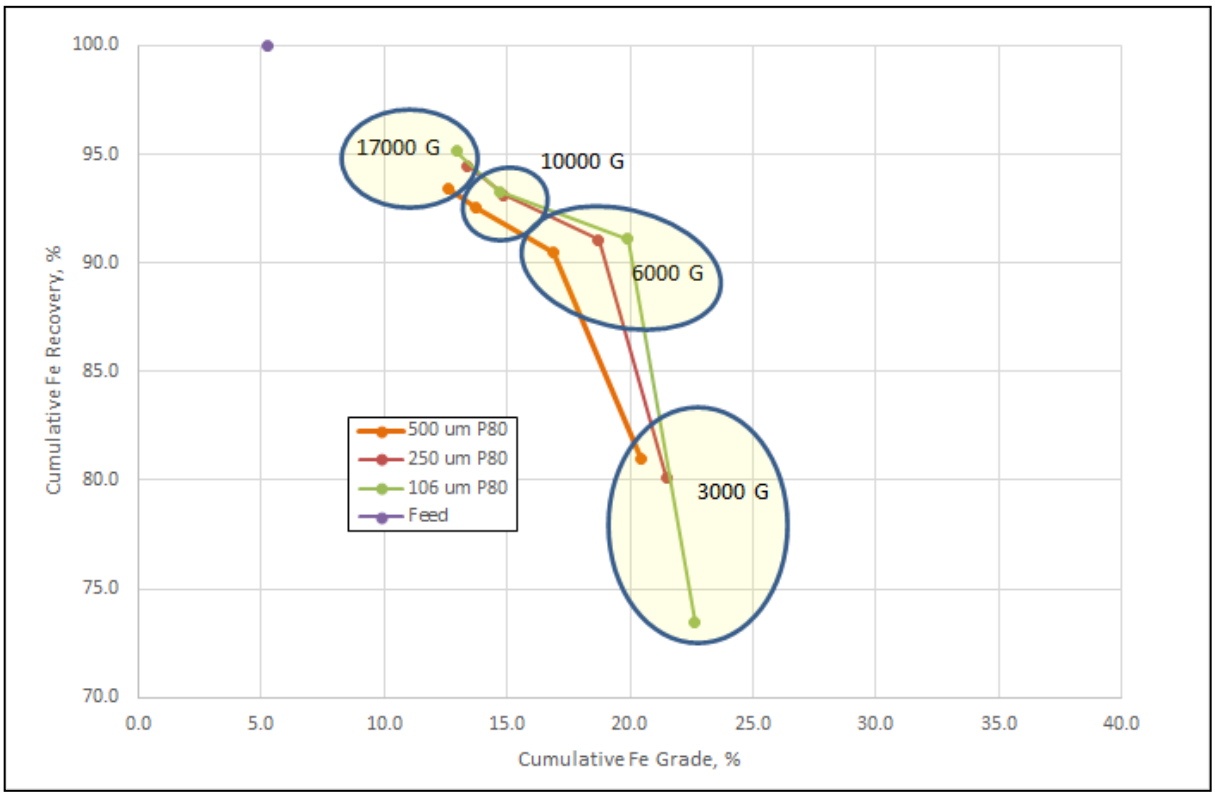

Figure 4 Progressive Primary WHIMS Fe Grade-Recovery Plots at Three Grind Sizes

Comparative phots of the products from the 500 microns P80 test are presented in Figure 4. The colour of the solids lightens with increasing field strength as more siliceous mineral grains are captured by the WHIMS. To provide an indication of scale, the largest particles present are approximately 1.2 mm in diameter.

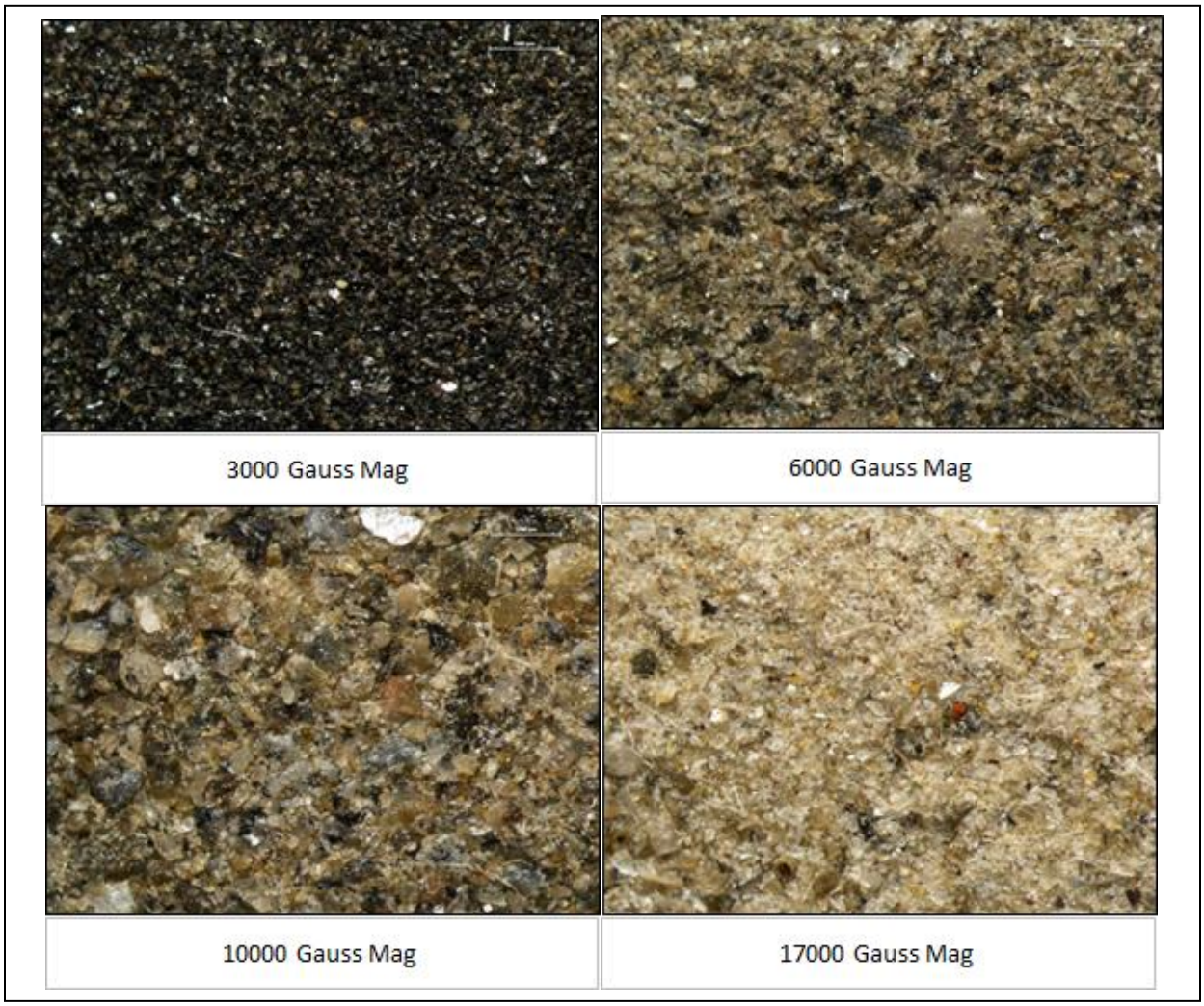

Figure 5 Photo Images of 500 microns P_{80} Primary WHIMS Products

Overall, these preliminary results are considered very encouraging and are consistent with earlier testwork outcomes on surface chip material. The results support the mineralogical findings which indicated a coarse mineral assemblage of paramagnetic allanite within the silicate gangue host material.

A primary grind P80 size of 500 microns has been selected as optimal from the sighter testing as the slight reduction in concentrate grade is more than compensate for by the energy savings at this coarse grind size. For bulk sample processing using a continuous WHIMS unit, this grind size will be adopted, with field strengths of 300 and 6000 gauss for rougher and scavenger stages.

Next Steps

Work planned for the remainder of the testwork program under Wood's direction is as follows:

- Bulk primary grinding and WHIMS processing of 250 kg of feed composite.
- Evaluation of benefits for a cleaner stage prior to primary magnetics regrind will be evaluated ahead of secondary WHIMS using a prepared sub-sample.
- Mineralogical analysis of bulk primary WHIMS magnetics will be undertaken to allow tracking of both allanite and gangue deportment for mass balancing purposes and to understand which gangue minerals are being co-recovered with true magnetic minerals.
- Sighter secondary WHIMS assessing regrind sizes, followed by bulk secondary WHIMS processing, will then be undertaken.
- Results of sighter flotation testing of new feed material will be reported in the next update, which has the objective of collector screening and assessing flotation kinetics, recognising that flotation without undertaking WHIM processing first will not achieve high REE grades due to limitations of selectivity of allanite against silicate gangue, which makes up the majority of the mineral assemblage. Based on experience with ARE's La Paz deposit, WHIMS processing is expected to reject the majority of free silica, as well as non-ferrous silicate minerals.
- Strategies for iron mineral rejection from final concentrate will be explored to eliminate as much iron as possible prior to refinery treatment.
- Completion of the Nagrom program is expected to be early April 2023. Upon completion, flotation optimisation work at Auralia Metallurgy will be undertaken on cleaner WHIMS magnetics to assess potential for further upgrading. Concentrate will be provided to Watts & Fisher for treatment through their proprietary leaching process upon completion of Auralia's work.

Appendix – 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**
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 downhole gamma sondes, handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.*	ARR drilled 38 reverse circulation (RC) holes across the Halleck Creek Resource Claim area. All holes were approximately 150 meters (492.13 feet) deep. With the exception of HC22-RM015 which went to a depth of 175.5 meters (576 feet). Chip samples were collected at 1.5 meter continuous intervals via rotary splitter. In March and April 2022, ARR 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. An additional 71 surface rock samples were collected on claim areas east of the Overton Mountain study area. A total of 513 surface rock samples exist at the Halleck Creek. Surface rock samples collected by ARR are logged, photographed and located using handheld GPS units. As part of reverse circulation (RC) exploration drilling at Halleck Creek. ARR collected XRF readings on RC chip samples. Elements included in XRF measurements include: Lanthanum, Cerium, Neodymium, and Praseodymium. ARR collected three XRF readings on each sample, then averaged the readings. Readings are performed at 25-meter intervals down each drill hole. These values

		are considered to be qualitative in natures and provide only rough indications of grade. Currently, ARR has received complete assay results for 13 drill holes and partial results for two additional holes.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Core recoveries and RQDs were calculated by ARR 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.	Reverse circulation rock chip samples were collected at 1.5-meter continuous intervals via rotary splitter. For each interval chip samples were placed in labelled sample bags weighing between 1-2kg. A 0.5-1kg sample was collected for reserve analysis and logging. Chip samples were also placed into chip trays with 20 slots for logging and XRF analysis. Rock core samples 5 ft (1.52 m) long are being fillet cut. The fillet cuts are being pulverised 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 performed the analyses.
		RC chip samples were sent to ALS labs in Twin Falls, ID for preparation and forwarded on to ALS labs in Vancouver, BC for ICP-MS analysis.

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 another type, whether the core is oriented and if so, by what method, etc.).*	A Schraam T-450 reverse circulation drill rig was used to drill all 38 RC drill holes. A continuous rotary sample splitter was used to collect the RC samples at 1.5m intervals.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	A continuous rotary sample splitter was used to collect the RC samples at 1.5m intervals. All RC samples were visually logged by ARR geologists. Drill core was collected in lengths 1.5 meters. Samples at 25m intervals were photos and analysed using an Olympus Vanta handheld XRF analyser in triplicate. Lanthanum, Cerium, Neodymium, and Praseodymium were analysed.
	Measures are taken to maximise sample recovery and ensure the representative nature of the samples.	Reverse circulation rock chip samples were collected at 1.5-meter continuous intervals via rotary splitter. For each interval chip samples were placed in labelled sample bags weighing between 1-2kg. A 0.5-1kg sample was collected for reserve analysis and logging. Chip samples were also placed into chip trays with 20 slots for logging and XRF analysis. All core and associated samples were immediately placed in core boxes.
	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.	Recoveries were very high in competent rock. No loss or gain of grade or grade bias related to recovery
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 RC samples were visually logged by ARR geologists from chip trays using 10x binocular microscopes. Samples at 25m intervals were photos and analysed using an Olympus Vanta handheld XRF analyser in triplicate. Lanthanum, Cerium, Neodymium, and Praseodymium were analysed.

	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	RC samples and logging is quantitative in nature. Chip samples are stored in secure sample trays. Chip samples were photographed and 25m intervals.
	The total length and percentage of the relevant intersections logged.	All RC samples were visually logged by ARR geologists for each 1.5-meter continuous sample. All drill core was visually logged, measured, and photographed by ARR geologists. Drill core was collected in lengths (runs) of 5 feet (1.52m). ARR geologists calculated recoveries for each core run. ARR geologists logged lithology, various types of alteration and mineralisation, 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.*	
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	Samples varied between wet and dry. The course crystalline nature of the deposit minimizes adverse effects of wet samples. Samples were rotary split during drilling and sample collection.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	RC samples were from Pulverize split of up to 250 g to better than 85 % passing minus 75 microns.
	Quality control procedures adopted for all sub-sampling stages to maximise the representivity of samples.	ARR 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.

	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.	A continuous rotary sample splitter was used to segregate three samples per 1.5m interval.
	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.*	ALS uses a 5-acid digestion and 48 elements by lithium borate fusion and ICP-MS. For quantitative results of all elements, including those encapsulated in resistive minerals
	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.	Samples at 25m intervals were photos and analysed using an Olympus Vanta handheld XRF analyser in triplicate. Lanthanum, Cerium, Neodymium, and Praseodymium were analysed. Simple average values of three XRF readings were calculated. No downhole geophysical tools used in the drilling program.
	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.	For the RC drilling, ARR submitted CRM sample blanks, CRM standard REE samples from CND Labs and duplicate samples for analysis. CRM and Blank samples were inserted alternately at 20 sample intervals. Internal laboratory blanks and standards will additionally be inserted during analysis.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	RC chip samples have not yet been verified by independent personnel.
	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 ARR personnel and checked by ARR 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. Assay data for the RC drilling was received electronically from ALS. Digital copies of the final data are cross-referenced in DHDB. The spreadsheets of data from ALS are imported directly into DHDB.
	Discuss any adjustment to assay data.	Oxide values are calculated in the database using the molar mass of the element and the oxide
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.*	RC drill holes have been located using handheld GPS units. Final surveys of hole locations will be performed by professional surveyors.
	Specification of the grid system used.	The grid system used to compile data was NAD83 Zone 13N.
	Quality and adequacy of topographic control.	Topography control is +/- 10 ft (3 m).
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	Both randomly spaced and localised clustering of drillholes.
	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 drill hole data is at a sufficient spacing to determine a mineral resource or reserve. However, until all assay results of the RC drilling have been received, verified and modelled, no resources or reserves are being reported for the Halleck creek area.
	Whether sample compositing has been applied.	Each sample is the result of assaying a 1.5m interval. Composite assay values have not been calculated or applied.
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.*	All the RC holes were drilled at 65 degree angles using azimuth toward the primary rock formation.

	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 are taken to ensure sample security.*	All RC chip samples were collected from the drill rigs and stored in a secured, locked facility. Sample pallets were shipped weekly, by bonded carrier, directly to ALS labs in Twin Falls, ID. Chains of custody were maintained at all times. All rock samples were in the direct control of company geologists until dispatched to ALS Labs.
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. 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**
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.*	AREL acquired 5 unpatented federal lode claims on BLM US Federal Land totalling 71.6 acres (29 has) from Zenith Minerals Ltd. in 2021. 67 unpatented federal lode claims were staked by ARR that totalled 1193.3 acres (482 ha) in summer 2021. AREL staked 182 unpatented federal lode claims in March 2022 covering an area of approximately 3,088 acres (1,250 ha). AREL staked 118 unpatented federal lode claims in November 2022 covering an area of approximately 2,113 acres (855 ha). As of 31 December 2022, AREL controlled 367 unpatented federal lode claims and 4 Wyoming State mineral licenses covering 8,165 acres (3,304 ha).
	The security of the tenure held at the time of reporting and any known impediments to obtaining a licence to operate in the area.	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.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	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.
Geology	*Deposit type, geological setting and style of mineralisation.*	The REE's occur within Allanite which occurs as a variable constituent of the Red Mountain Pluton. The occurrence can be characterised as a disseminated type rare earth deposit.
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:*	FTE DRILLING USA INC. of Mount Uniacke, Nova Scotia used a Schraam T-450 track mounted rig to drill 38 reverse circulation drill holes. Drill hole depths for 327 holes was 150m and one hole at 175.5m.

		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, ARR 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).
	easting and northing of the drill hole collar	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. A preliminary summary of the Halleck Creek RC program can be found in the report entitled "Summary of Fall 2022 Exploration Drilling at the Halleck Creek Project Area", December 2022.
	elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar	
	dip and azimuth of the hole	
	downhole 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.	No Drilling data has been excluded
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.*	Average Grade values were cut at minimum of TREO 1,500 ppm.
	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.	Assays are representative of 1.5m sample intervals for RC chips. Core samples were collected every 1.52m.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalents used.
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.* *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').*	The geometry of the mineralisation with respect to drill hole angle is not yet known. Vertical holes represent true depth and angled holes represent down-hole length.

Diagrams	*Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to, a plan view of drill hole collar locations and appropriate sectional views.*	See Figures in ASX Release "Halleck Creek Drilling Update" dated 24 November 2022.
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 practised to avoid misleading reporting of Exploration Results.*	ARR currently has assay results for approximately 1517 samples for 15 full drill holes in the Red Mountain area. The REO values for 600 samples being included in Appendix B of this 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.*	In hand specimen this rock is a red colored, hard and dense granite with areas of localised 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. Historical metallurgical testing consisted of concentrating the Allanite by both gravity and magnetic separation. The current program employs sequential high gradient magnetic separation and flotation to produce a concentrate suitable for downstream rare earth elements extraction.
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).*	Further drilling, mapping and sampling is planned.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Additional drilling is planned in new exploration areas and to increase resource confidence levels.