9 May 2022

Major Rare Earths Deposit Confirmed at Halleck Creek

Highlights

- Maiden drill program completed
- Nine core holes drilled, for 917 metres (3,008 feet)
- High-grade XRF observations ranged from >3000ppm to values exceeding 20,000ppm.
- Consistent REE enrichment to at least 100 metres (350 feet).
- 822 core samples sent to American Assay Labs for analysis
- Planning for maiden resource drilling underway

American Rare Earths Limited (**ASX: ARR, OTCQB: ARRNF, FSE: 1BHA**) (**ARR or 'the Company'**) is pleased to announce the successful completion of the maiden exploration drill program at the Halleck Creek Rare Earths Project. The campaign provided encouraging preliminary data from the Exploration Target Area.

ARR drilled 917 metres (3,008 feet) and collected 822 samples from nine holes in the Red Mountain and Overton Mountain zones of the larger Red Mountain Pluton, with core recovery from most holes exceeding 99%.

There were no safety or environmental incidents or accidents over the course of the campaign.

MD and CEO Chris Gibbs commented: “We are extremely excited about what we are seeing at this world class project as it continues to exceed our expectations. I want to congratulate the entire team who worked enthusiastically and safely out in Albany County to give us the first below surface insights from Halleck Creek.”

“The information from these drill holes will determine the regional extent of mineralised depth following the continued positive surface sample results from the project. Based on the sheer size, scale and grade of this deposit, Halleck Creek has the potential to be one of the largest rare earths projects in the US. Since acquiring this asset we have significantly increased the footprint and continue to see high grade mineralisation over a large area.”

“We’re now looking forward to the assay results, expected in late June or July, and based on the preliminary data we’re already planning our next phase of work.”

The Wyoming project’s rare earth elements (REEs) occur in allanite containing the full suite of naturally occurring REEs, significantly high value magnet REEs neodymium, praseodymium, dysprosium and terbium. The Halleck Creek allanite is associated with clinopyroxene quartz monzonite (CQM) rocks which generally contain the highest REE grades.

The completion of the maiden drilling campaign follows 118 surface sample results returned late last month that prompted ARR to stake claims across an additional 1,191ha (2943.025 acres). That brings the Halleck Creek Rare Earth Project to 2,449ha (6051.6 acres) and ARR’s total area under exploration across the US to 5260ha (12997.7 acres).

Similar to surface samples collected from Halleck Creek in 2018 and 2021, those announced on April 26th demonstrated high-grade REE mineralisation rich in Neodymium and Praseodymium (NdPr), with very low penalty elements Thorium and Uranium.

The Halleck Creek Rare Earths Project has an Exploration Target estimated to contain 308 to 385 million tonnes of Rare Earth Oxide (REO) mineralised ore ranging in grade from 2,330 to 2,912 ppm Total Rare Earth Oxide (TREO). Readers are advised that the potential quantity and grade of the Halleck Creek resource is conceptual in nature, that there has been insufficient exploration to estimate a Mineral Resource and that it is uncertain if further exploration will result in the estimation of a Mineral Resource.

The Company is now planning additional detailed geological mapping and geochemical sampling over Halleck Creek claims. This work is scheduled to start May 2022 with focus on the Red Mountain portion of the RMP’s rock outcrops, plus the

newly staked tenement areas. The aggregate results will be used to plan future drilling as the Company explores the prospect for potential development of a Maiden Resource.

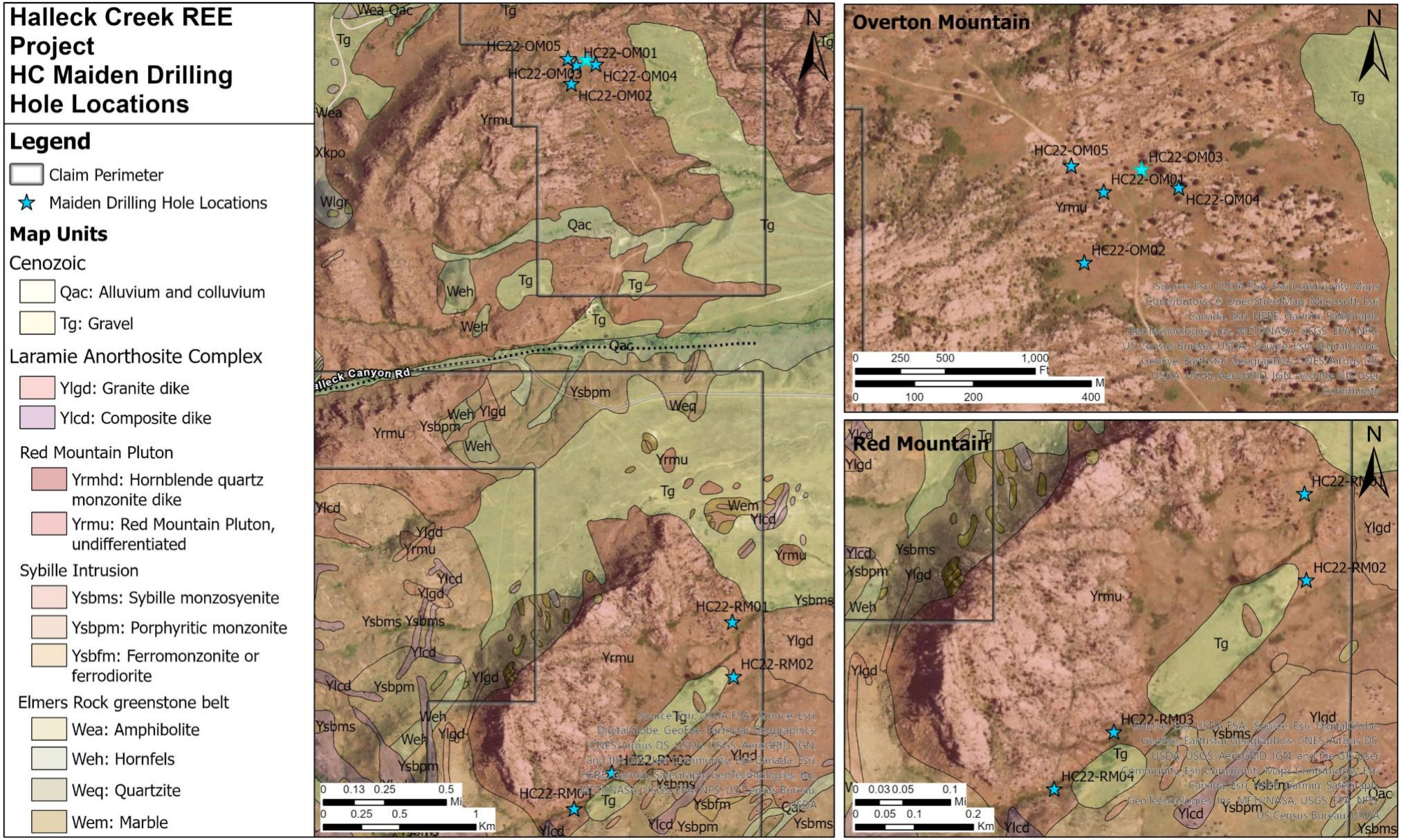
Exploration Drilling Summary

Drilling began March 15th, 2022, and concluded on April 24th, 2022. A total of 27 work-days split between three hitches were worked between two geologists, two drill rigs, and two drill crews.

A total of nine core holes were drilled with a total length drilled of 3,008 feet (917 meters). 822 core and chip samples were collected and sent to American Assay Labs in Sparks, NV, for assay. Company geologists are compiling geological data and reports. These reports and assay results will be reported as they become available, planned for late June 2022 and July 2022. See Table 1.

Table 1. Summary of Halleck Creek Exploration Drilling

Drill Hole ID	Date Started	Date Ended	Easting*	Northing*	Drilled Depth (ft)	Drilled Depth (m)	Total Recovery (%)	Samples Collected
HC22-RM01	3/15/22	3/18/22	0475701	4632770	352	107	98%	105
HC22-RM02	3/16/22	3/19/22	0475706	4632504	351	107	98%	102
HC22-RM03	3/20/22	3/22/22	0475109	4632039	351.5	107	99%	91
HC22-RM04	3/19/22	3/22/22	0474924	4631864	194	59	95%	61
HC22-OM01	3/28/22	3/31/22	0474948	4635480	352	107	100%	96
HC22-OM02	3/28/22	4/2/22	0474923	4635391	352.5	107	100%	93
HC22-OM03	4/3/22	4/20/22	0474996	4635508	352	107	99%	90
HC22-OM04	4/1/22	4/4/22	0475043	4635485	352	107	100%	92
HC22-OM05	4/20/22	4/24/22	0451328	4573254	351	107	99%	92
Totals					**3,008**	**917**		**822**



Drill Hole Locations

Preliminary Geologic Interpretations

Holes HC22-RM01, HC22-RM02, and HC22-RM03 all show that the Red Mountain Pluton is relatively homogenous and extends down to at least 350 ft depth in the southern resource target area. As such, it is expected that the majority of these cores, with the exception of intervals of small granitic dikes and pegmatites, will be enriched in REEs along their lengths reflecting surface assay results from Fall 2021.

The dominant rock type observed in all holes from Overton Mountain is the clinopyroxene quartz monzonite, which commonly gradationally varied between quartz monzosyenite, quartz monzodiorite, and quartz diorite depending on potassium-feldspar content. This may possibly instead reflect zones of potassium-alteration, which will be elucidated by whole rock geochemical assays. Overall, core across all 5 holes was homogenous. The homogeneity, coupled with the XRF field assays, indicates the Red Mountain Pluton, which encompasses Red Mountain and Overton Mountain, is potentially an incredibly massive REE mineralised structure. Core from Overton Mountain was significantly less jointed and fractured than core from Red Mountain.

In summary, the homogeneity of all core from across both project areas (with the exception of HC22-RM04) infer that the Red Mountain Pluton should show significant and consistent REE enrichment down to depths of at least 350 ft.

If lab assays match XRF field assays, the Company will be highly motivated to work toward drilling a maiden resource at the Halleck Creek Project with planning underway. The Company is well capitalised to fund exploration drilling focused on developing a maiden resource at Halleck Creek.

Combined with the La Paz Rare Earth Project, a resource estimate at Halleck Creek could give ARR the unique status of holding two of the largest rare earth projects in the United States.

Logging and Sampling

ARR geologists logged all core in detail. ARR geologists prepared lithological logs describing alteration, fracturing and lithological description by depth. ARR geologists recorded RQD (rock quality description) indices, noting fracture type, fracture conditions, relative hardness, and core recovery. ARR prepared core sample intervals and sample log forms. Drill hole completion forms summarised descriptions of the physical drill hole and location. ARR also photographed all core noting the hole id, the core boxes and depth intervals.

Core was divided into 1.5-meter sample lengths or when lithology types changed significantly down each drill hole. Each sample was given a unique sample ID and tag, labelled with the drill hole ID and sample depths. ARR followed Qa/Qc protocols, systematically inserting CRM blanks, standards, and duplicates throughout core samples.

HC22-RM01: clinopyroxene quartz monzonite/monzosyenite; 231.5-249.5 ft

Handheld XRF Analyses

ARR geologists used an Olympus Vanta 3-beam XRF to collect spot depth readings from one high-grade Allanite vein sample and down three core holes. The Vanta XRF unit can analyse lanthanum (La), cerium (Ce), neodymium (Nd), and praseodymium (Pr). These elements provide a meaningful selection of rare earth elements to ARR.

It should be noted that these values are qualitative and cannot be construed as mineable grades. However, these values confirm the presence of enriched select rare earth elements in these samples.

The select XRF generated assays reported below in Tables 2, 3, 4 and 5 are notable. These samples show REO content reporting just four of the fourteen rare earths they are likely to contain, as the fourteen lanthanides consistently occur all together, in natural deposits. Therefore, the lab assays could be significantly higher than the field assays in TREO aggregate.

The highest-grade sample (see Table 2) is more than the triple the value of the previously highest-grade sample collected on the Halleck Creek Project. It should be noted that this value was taken from an Allanite vein observed in the core and does not reflect mineralisation throughout the entire core. The previous highest-grade sample was 6734ppm TREO as reported to the ASX on April 26, 2022.

Table 2. HC22-RM02: Spot XRF Results from Possible Allanite Vein

Sample	Depth (feet)	La_2O_3 (ppm)	Ce_2O_3 (ppm)	Nd_2O_3 (ppm)	Pr_2O_3 (ppm)	Total (ppm)
Possible allanite vein	160	5,124	11,251	3,418	811	**20,603**

HC22-RM02: Image of possible allanite vein analyzed by handheld XRF

Table 3. HC22-OM02: Handheld XRF results from select core points

Core Depth	Lithology	La_2O_3 (ppm)	Ce_2O_3 (ppm)	Nd_2O_3 (ppm)	Pr_2O_3 (ppm)	Total (ppm)
292.5 ft	Sulfide-bearing vein	623	1351	490	ND	**2,464**
292.5 ft	Clinopyroxene Quartz Monzonite	858	1695	572	ND	**3,125**
302.5	Clinopyroxene Quartz Monzonite	239	516	408	ND	**1,163**
322.5	Clinopyroxene Quartz Monzonite	966	2150	875	328	**4,319**
339.5	Clinopyroxene Quartz Monzonite	210	540	362	ND	**1,112**
352.5	Clinopyroxene Quartz Monzonite	232	528	292	ND	**1,052**

HC22-0M02: clinopyroxene quartz monzonite w/ lesser clinopyroxene quartz monzosyenite from 179.1-197.5 ft depth

Table 4. HC22-0M03: Handheld XRF results from select core points

Core Depth	Lithology	La_2O_3 (ppm)	Ce_2O_3 (ppm)	Nd_2O_3 (ppm)	Pr_2O_3 (ppm)	Total (ppm)
21 ft	Clinopyroxene Quartz Monzodiorite	1167	2322	749	199	**4,437**
41 ft	Clinopyroxene Quartz Monzonite	617	1376	432	187	**2,611**
46 ft	Clinopyroxene Quartz Monzodiorite	979	2002	781	164	**3,927**
51 ft	Clinopyroxene Quartz Monzodiorite	639	1400	478	ND	**2,518**
61 ft	Clinopyroxene Quartz Monzodiorite	258	663	432	ND	**1,353**
77 ft	Clinopyroxene Quartz Monzodiorite	1290	2813	898	246	**5,247**
101 ft	Clinopyroxene Quartz Monzosyenite	1016	2051	583	164	**3,814**
121 ft	Clinopyroxene Quartz Monzosyenite	1016	2051	432	ND	**3,499**
136 ft	Clinopyroxene Quartz Monzosyenite	545	1118	303	ND	**1,966**
161 ft	Clinopyroxene Quartz Monzonite	1215	2641	770	222	**4,848**
166 ft	Clinopyroxene Quartz Monzonite	518	983	432	ND	**1,933**
188.9 ft	Mafic CQM	1175	2506	851	211	**4,743**
197 ft	Clinopyroxene Quartz Monzonite	783	1707	525	222	**3,238**

HC22-OM03: clinopyroxene quartz monzodiorite from 265-285.3 ft depth

Table 4. HC22-OM04: Handheld XRF results from along select core points

Core Depth	Lithology	La_2O_3 (ppm)	Ce_2O_3 (ppm)	Nd_2O_3 (ppm)	Pr_2O_3 (ppm)	Total (ppm)
47 ft	Clinopyroxene Quartz Monzonite (weathered)	1754	3661	1143	339	**6,898**
62 ft	Clinopyroxene Quartz Monzosyenite	525	1278	420	ND	**2,223**
90.9 ft	Clinopyroxene Quartz Monzosyenite	292	577	ND	ND	**869**
212 ft	Clinopyroxene Quartz Monzosyenite	841	1781	548	ND	**3,170**
227 ft	Clinopyroxene Quartz Monzosyenite	1149	2444	665	ND	**4,259**
267 ft	Clinopyroxene Quartz Monzodiorite	1027	2174	665	ND	**3,866**
282 ft	Mafic CQM	1614	3439	945	328	**6,326**
292 ft	Clinopyroxene Quartz Monzonite	680	1400	525	ND	**2,605**
312 ft	Clinopyroxene Quartz Monzonite	1569	3464	1026	281	**6,341**
332 ft	Clinopyroxene Quartz Monzonite	332	516	268	ND	**1,116**
337 ft	Clinopyroxene Quartz Monzonite	747	1843	630	164	**3,383**
347 ft	Clinopyroxene Quartz Monzonite	331	712	292	ND	**1,335**
352 ft	Clinopyroxene Quartz Monzonite	168	332	ND	ND	**499**

HC22-0M04: clinopyroxene quartz monzosyenite from 155.3-174.3 ft depth

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 a report entitled “Summary of Maiden Exploration Drilling at the Halleck Creek Project Area”, May 2022, compiled by Ms Sara Stotter and Mr Dwight Kinnes (Society of Mining Engineers #4063295RM) employed by Western Rare Earths and American Rare Earths, respectively. This report has been reviewed and approved for release by Mr James R. Guilinger. Mr Guilinger is Consulting Geologist at World Industrial Minerals LLC. Mr Guilinger is a Qualified Professional Member (QP) #01260280RM of the Society of Mining Engineers (SME) 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 Guilinger consents to the inclusion in the report of the matters based upon the information in the form and context in which it appears.

About American Rare Earths:

American Rare Earths Limited (**ASX: ARR, OTCQB: ARRNF, FSE: 1BHA**) is an Australian company listed on the ASX with assets in the growing rare earth metals sector of the United States of America, emerging as an alternative international supply chain to China's market dominance of a global rare earth market expected to expand to US$20 billion by the mid-2020s. The Company's mission is to supply Critical Materials for Renewable Energy, Green Tech, Electric Vehicles, National Security, and a Carbon-Reduced Future.

Western Rare Earths (WRE) is the wholly owned US subsidiary of the Company. ARR owns 100% of the world-class La Paz rare-earth Project, located 170km northwest of Phoenix, Arizona. As a large tonnage, bulk deposit, La Paz is potentially the largest, rare-earth deposit in the USA and benefits from containing exceptionally low penalty elements such as radioactive thorium and uranium. ARR plans to deliver its first Preliminary Economic Assessment for La Paz by 2022 and is working with leading USA research institutions. La Paz's mineral profile is incorporated into emerging US advanced rare earth processing technologies. In early February 2022, the Company commenced further drilling at the La Paz project to explore lateral and vertical extent in the new southwest area. Approximately 742 - 928 million tonnes of Rare Earths mineralised rocks are identified as an exploration target in the La Paz Rare Earths Project's Southwest area with an average TREO Grade of 350 - 400ppm and Scandium Oxide grade of 20 - 24.5ppm. Readers are advised that the potential quantity and grade of the La Paz Southwest resource is conceptual in nature, that there has been insufficient exploration to estimate a Mineral Resource and that it is uncertain if further exploration will result in the estimation of a Mineral Resource. The new Exploration Target is additive to the La Paz Rare Earth project's recently upgraded 170MT Resource. (ASX Announcement, 29 September 2021).

In the first half of 2021, ARR acquired the USA REE asset, the Halleck Creek Project in Wyoming. With permits in hand, the maiden exploration drilling program commenced in March 2022 and will provide initial mineralisation, lithology and fresh rock core material for metallurgical and process testing. Approximately 308 to 385 million tonnes of rare earths mineralised rocks were identified as an exploration target for the Halleck Creek project area with an average Total Rare Earth Oxide (TREO) grade of 2,330 - 2,912 ppm. Initial surface sampling of the Overton Mountain area conducted in 2018 revealed average TREO values of 3,297 ppm, average Heavy Rare Earth Oxide (HREO) values of 244 ppm, and average Magnetic Rare Earth Oxide (MREO) values of 816 ppm. (ASX Announcement,26 April 2022).

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.*	• 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.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	• Core recoveries and RQD's were calculated by WRE field geologists.
	Aspects of the determination of mineralisation that are Material to the Public Report.	
	In cases where 'industry standard' work has been done, this would be relatively simple (e.g.' reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	• Rock core samples 5 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.
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.).*	• Core: HQ, diamond tip, 5-ft runs, unoriented. Total drilled depth of 3,008 ft (917 m).

Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	• All drill core was visually logged, measured, and photographed by WRE geologists. Drill core was collected in lengths (runs) of 5 ft (1.52 m). Recoveries were calculated for each core run.
	Measures are taken to maximise sample recovery and ensure the representative nature of the samples.	• 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.	• Cannot determine until assays are returned.
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*	• All drill core was visually logged, measured, and photographed by WRE geologists. Drill core was collected in lengths (runs) of 5 feet (1.52m). WRE geologists calculated recoveries for each core run. WRE geologists logged lithology, various types of alteration and mineralization, fractures, fracture conditions, and RQD.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	• Core logging is quantitative in nature. • All core was photographed.
	The total length and percentage of the relevant intersections logged.	• All drill core was visually logged, measured, and photographed by WRE geologists. Drill core was collected in lengths (runs) of 5 feet (1.52m). WRE geologists calculated recoveries for each core run. WRE geologists logged lithology, various types of alteration and mineralization, fractures, fracture conditions, and RQD.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	• Drill core was fillet cut by American Assay Labs, with approximately 1/3 of the core used for assay. The remaining core material will be kept in reserve by WRE in a secure location.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	

	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	• All samples were dry. Sample preparation: 1kg samples split to 250g for pulverizing to -75 microns. Sample analysis: 0.5g charge assayed by ICP-MS technique.
	Quality control procedures adopted for all sub-sampling stages to maximise the representivity of samples.	• WRE submitted CRM sample blanks, CRM standard REE samples from CND Labs and duplicate samples for analysis. Blank samples were added one for every 10 core samples, REE samples were added one for every 25 core samples, and Duplicate samples were added one per every 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.	• Fillet cuts along the entire length of all core are representative of the in-situ material.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	• Allanite is generally well distributed across the core and the sample sizes are representative of the fine grain size of the Allanite.
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	• AAL Labs uses acid digestion and 60 element analysis including REE reported in ppm using method REE-5AO48 and whole-rock geochemical XRF analysis using method X-LIB15.
	For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	• No geophysical tools 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.	• 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.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	• Consulting company personnel have observed the assayed samples.
	The use of twinned holes.	• No twinned holes were used.,
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	• Data entry was performed by WRE personnel and checked by WRE geologists. All field logs were scanned and uploaded to company file servers. All photographs of the core were also uploaded to the file server daily. Drilling data will be imported into the DHDB drill hole database. All scanned documents are cross-referenced and directly available from the database
	Discuss any adjustment to assay data.	• No adjustments were made.
Location of data points	*Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	• Down hole surveyed were not used. • Drill hole location is based on GPS coordinates +/- 10 ft (3 m) accuracy.
	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 localized 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 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.
	Whether sample compositing has been applied.	• Each sample is the result of assaying a 5 ft interval of core.

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.*	• 6 holes were vertical, and three were angled at 65° in various directions depending on drill hole location.
	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 core was collected from the drill rig daily and stored in a secure, locked facility until the core was dispatched by bonded courier to America Assay Labs. Chains of custody were maintained at all times.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	• No external audits or reviews have been conducted to date. 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.*	• 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).

	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 characterized 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:*	• 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).
	easting and northing of the drill hole collar	• All relevant information for this section can be found in Table 1 of this report.
	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.	

Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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.	• Assays are representative of each 5 ft (1.52 m) sample interval.
	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 (eg 'down hole length, true width not known').*	• 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.
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 Figure 2 of this report.
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.*	• The latest exploration results reported in "Mapping and Surface Sampling Summary at the Halleck Creek Project Area: April 2022".

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 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.
Further work	*The nature and scale of planned further work (eg 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.	• Locations of additional drillholes will be based on assay results when received.