American Rare Earths Limited ARBN 003 453 503

ASX RELEASE

25 July 2023

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American Rare Earths stakes new high-grade rare earth deposit in Wyoming, USA

Highlights

- The Company has identified a new significant rare earth deposit in Wyoming, USA
- Grades between 1.7% and 9.1% of rare earths lanthanum, cerium, neodymium, praseodymium, and yttrium (La + Ce +Nd + Pr + Y) were observed
- 37 federal unpatented lode claims were staked covering 303 hectares (749 acres)
- Applications have been lodged with the state of Wyoming for a further 259 hectares (640 acres)
- Historic reports indicate that the rare earth mineralisation outcrop may extend over 457 metres (1500 feet)
- Deposit is currently open at depth and along strike

American Rare Earths (ASX: ARR, OTCQB: ARRNF, FSE: 1BHA) (ARR or the Company) is pleased to announce it has staked 37 federal unpatented lode claims at a new high-grade rare earth deposit in Wyoming (Figure 1; Figure 2).

The claims cover approximately 303 hectares (749 acres). Applications have also been lodged for a mineral lease application with the state of Wyoming for a further 259 hectare (640 acres). The new area is north of the Company's flagship Halleck Creek Project and has very similar geological characteristics.

CEO and Managing Director, Mr Chris Gibbs, commented:

"These are outstanding results from the initial field work and the exploration team we have on the ground in the United States. The XRF samples show grades up to 91,438 ppm for 5 rare earth elements which includes the highly valuable neodymium, praseodymium and yttrium.

"The newly staked claims are within the same state as our flagship Halleck Creek project, which already has a JORC Resource of 1.43 billion tonnes.[1]

"Given the proximity of these new claims to Halleck Creek, we're very excited about the future synergies and opportunities between both projects and we look forward to conducting further exploration activities to unlock the potential of this new high-grade discovery."

ARR geologists observed that the rare earth elements are concentrated in veins enriched with allanite, a group of minerals that is a valuable source of rare earths. In-situ portable X-Ray Fluorescence (pXRF) analyses of large, 2 to 4 centimetre allanite crystals demonstrated grades of 7.4% to 23.2% La + Ce + Nd + Pr + Y (Table 1, Figure 4, Figure 5). Powdered grab samples from an exposed allanite-enriched vein were analysed and showed grades of 1.7% to 9.1% La + Ce + Nd + Pr + Y.

[1] See ASX Announcement March 30

The allanite-enriched vein is exposed in a historic prospect pit. According to a 1952 United States Geological Survey report by T. J. Armbrustmacher and K. A. Sargent the vein is visible in outcrops of calcium silicate rock for 274-366 metres (900-1200 feet).

The depth and length of the deposit is currently open. The large, 2 to 4 centimetre allanite crystals observed in this study are hosted in a quartz, chlorite and calcite-rich vein which shows brecciation, or a process of the rock breaking into fragments. This may indicate that the allanite formed from hydrothermal fluids (Figure 4 and 5).

The grab samples have been sent to ALS Global for assay. A detailed mapping and sampling program will be fast tracked to add to ARR's understanding of the deposit and to advance the project.

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

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Competent Persons Statement:

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.

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Table 1. REE values from field pXRF analyses of the allanite minerals. Values are in ppm unless otherwise stated.

SampleID	Y	La	Ce	Pr	Nd	5REE Total	5REE %
BC0026	43	84,953	108,094	10,335	26,727	232,959	23.2
BC0027	116	76,598	100,347	9,454	26,925	216,240	21.6
BC0028	49	82,135	105,714	10,087	25,498	224,247	22.4
BC0034	150	25,001	33,430	3,276	8,811	74,330	7.4

Table 2. REE and U/Th values from pXRF analyses of powdered grab samples from the allanite-bearing rock. Values are in ppm unless otherwise stated.

SampleID	Y	La	Ce	Pr	Nd	5REE Total	5REE %
BC0026_powder	106	32,548	43,336	4,157	11,290	91,438	9.1
BC0028_powder	41	5,924	7,859	704	2,077	16,604	1.7

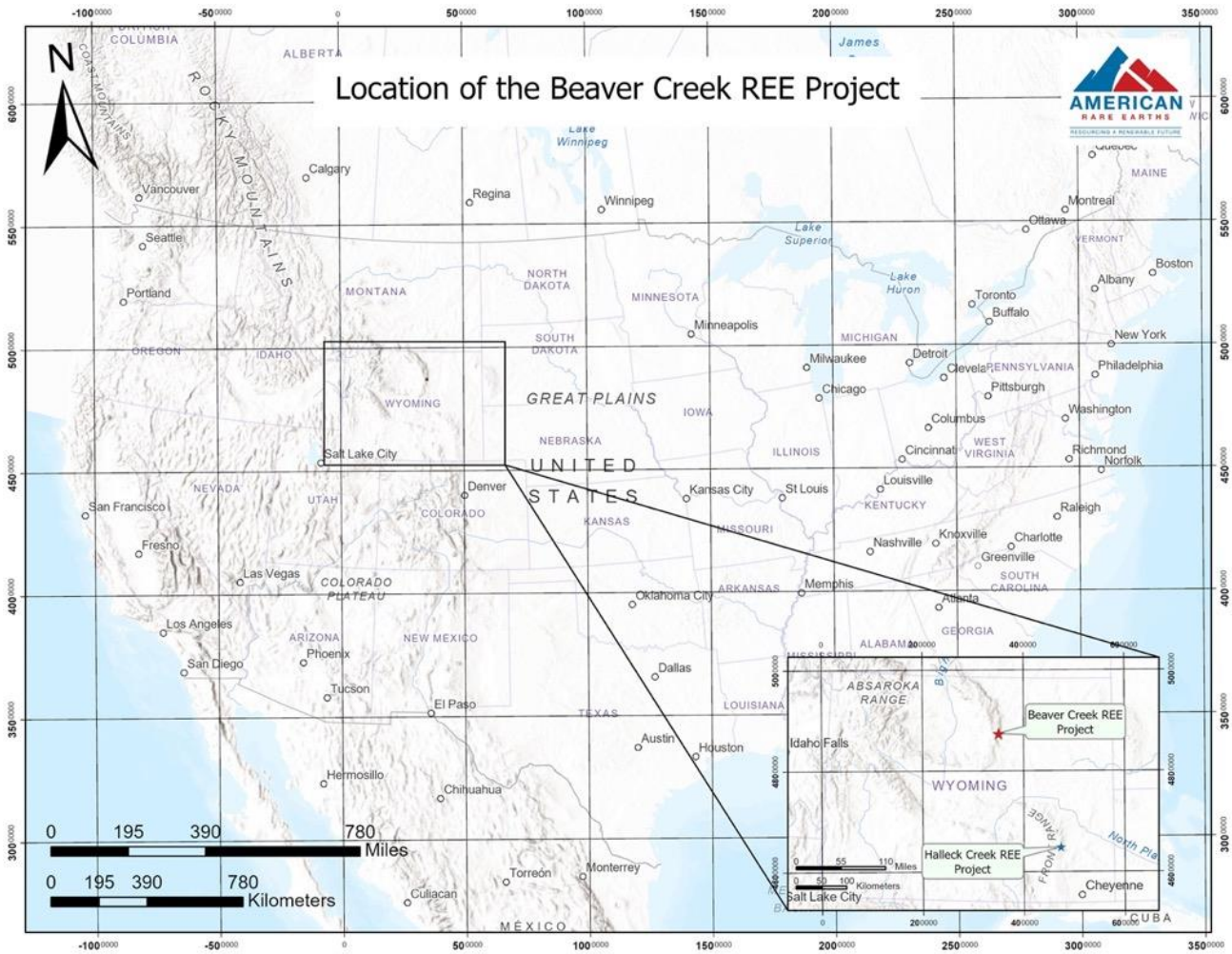

Figure 1. General location of the Beaver Creek REE project

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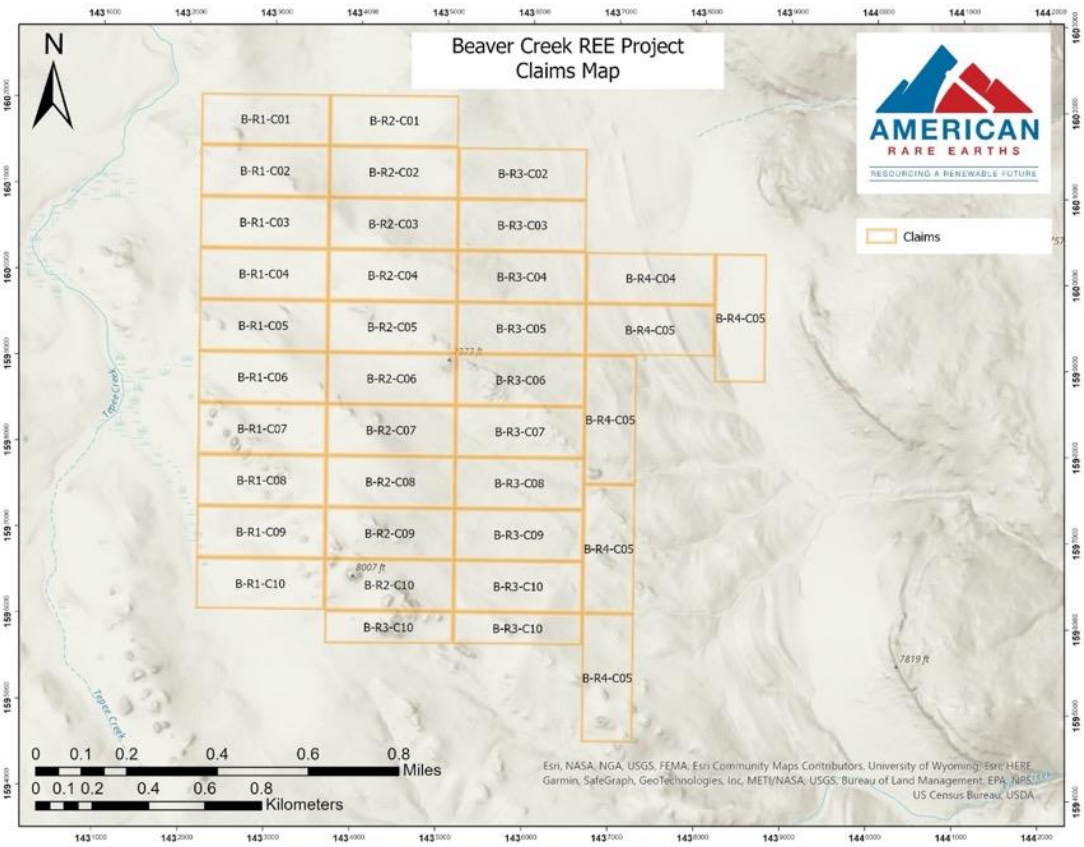

Figure 2. Map showing the location of the newly staked claims.

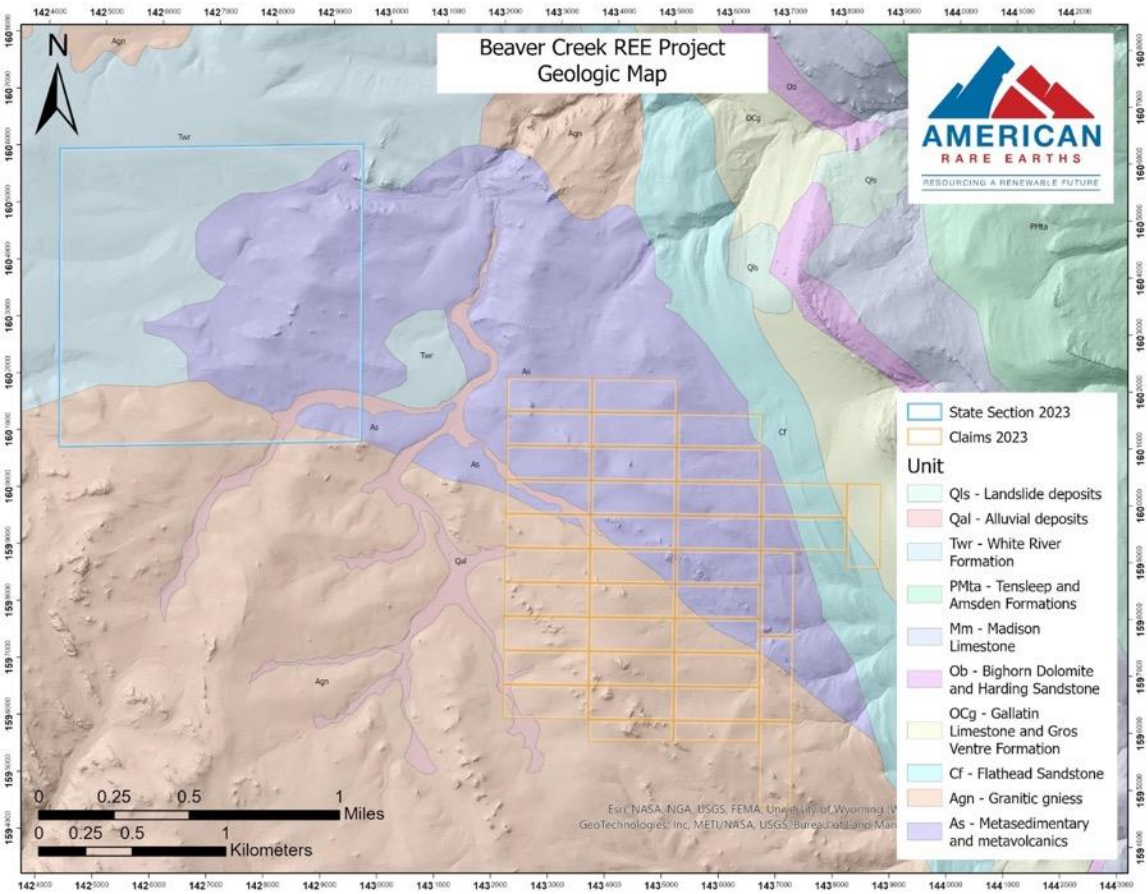

Figure 3. Map showing the geology surrounding the newly staked claims. The geology is based on the Wyoming State Geological Survey's 2003 Geologic Map of the Kaycee Quadrangle.

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Figure 4. Large reddish-brown allanite crystals in a chlorite, calcite, feldspar, and quartz hydrothermal breccia outcrop.

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Figure 5. Large black and reddish-brown allanite crystals in outcrop. In this location, the allanite appears to be hosted in a matrix of fine-grained calcite. Some green chlorite alteration is visible above the large pen. Some of the other darker minerals are likely hornblende and diopside.

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Figure 6. The terrain of the deposit consists of gently rolling mountaintops covered by forests and meadows.

Figure 7. ARR geologist in front of historic mine cut showing the calc-silicate host of the allanite-enriched vein, surrounded by gneiss.

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Appendix A – JORC Table 1

JORC Code, 2012 Edition – Table 1 Beaver 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.*	A handheld Olympus Vanta M series XRF Analyser was used to provide a preliminary geochemistry assessment of the rocks in outcrop during fieldwork. Two grab samples were collected from surface outcrops that showed high preliminary XRF readings and then powdered to pass a No. 80 mesh prior to XRF analysis. XRF analyses included Lanthanum, Cerium, Neodymium, Praseodymium, and Yttrium readings, as well as a suite of other major and minor elements. Each powdered sample was analyzed three times and then averaged. These values are qualitative in nature.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Grab samples are representative of the outcrop they came from but may not be representative of the deposit as a whole. This type of sampling is appropriate for preliminary exploration. The XRF was factory calibrated, but no other calibration adjustments were applied.
	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.	1-3 kg rock samples were collected by a geologist. Samples were broken using a hammer from outcrop. The allanite mineralization is coarse-grained and presents inherent sampling problems; therefore, the grab samples are not representative of the deposit as a whole. Future sampling will address this issue.

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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.).*	No drilling
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	No drilling
	Measures are taken to maximise sample recovery and ensure the representative nature of the samples.	No drilling
	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.	No drilling
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.*	No logging
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Rock samples were qualitatively, geologically described and photographed before crushing.
	The total length and percentage of the relevant intersections logged.	No logging
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	No drilling
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	Grab samples were dry
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	~0.25 kg of rock material was powdered to pass a No. 80 mesh. A subsample of this powdered rock material was placed in XRF cups covered with prolene film. This sample preparation is appropriate for XRF analysis as it creates a more homogenous sample from the rock and reduces the matrix effects.
	Quality control procedures adopted for all sub-sampling stages to maximise the representivity of samples.	A subsample of the powdered, homogenized rock material was analyzed via XRF.

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	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.	Grab sampling was selective and based upon geological observations and field XRF analyses.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Not applied
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.*	The samples were crushed and analysed using a handheld XRF which is appropriate for preliminary exploration work. The XRF reports near-total results.
	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.	An Olypmpus Vanta M series handheld XRF was used with the Geochem (3-beam) analysis mode. Beam 1 read for 15s, Beam 2 read for 15s, and Beam 3 read for 60s for a total of 90s per sample. Each sample was analysed three times and averaged. No calibration factors were used as this is a preliminary exploration project and project-specific calibration factors have not yet been developed.
	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.	A silica blank and a standard were analysed before and after the two powdered grab samples. Results for the standard and blank were checked.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	Samples have not yet been verified by independent personnel.
	The use of twinned holes.	No drilling
	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. Field data were all recorded in field notebooks and then entered into a digital database. Rocks were photographed prior to crushing and analysis.
	Discuss any adjustment to assay data.	Not applied

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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.*	Sample location is based on GPS coordinates +/- 10 m.
	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.*	Data spacing is currently random.
	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.	Not applied
	Whether sample compositing has been applied.	Not 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.*	Not applied
	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.	No drilling
Sample security	*The measures are taken to ensure sample security.*	Chains of custody were maintained at all times. All rock samples were in the direct control of company geologists until dispatched to ALS Labs. Samples were kept in numbered bags and transferred to numbered XRF cups after crushing.
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.

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Section 2 Reporting of Exploration Results		
(Criteria listed in the preceding section also apply to this section.)		
Criteria	***JORC Code explanation***	**Commentary**
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership, including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*	ARR acquired 37 unpatented mining claims on BLM US Federal Land and private land totaling approximately 749 acres. ARR filed an application for a mineral lease on a WY State Section close to the claims totaling 640 acres. The claims are 100% owned by Wyoming Rare (USA) Inc (100% owned ARR subsidiary).
	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.*	The area was previously explored for allanite by the USGS.
Geology	*Deposit type, geological setting and style of mineralisation.*	The REE's occur within allanite which occurs as a hydrothermal vein hosted in Precambrian gneisses. The occurrence can be characterised as a vein-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:*	No drilling
	easting and northing of the drill hole collar	No drilling
	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.	

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	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 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.*	No high-grade cutting
	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.	No aggregation used
	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').*	No drilling
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 the within this press release, above.
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.*	Total Cerium + Lanthanum + Neodymium + Praseodymium + Yttrium values range from 1.7 to 9.1% in powdered rock samples as read by the handheld XRF.

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 the black allanite grains are 2-4 cm in diameter and show a red oxide coating on weathered surfaces. The allanite vein is hosted in a calc-silicate rock within a gneiss. The allanite is considered to be hydrothermal in nature as it is hosted in a breccia of chlorite, calcite, feldspar, and/or quartz minerals.
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 mapping, grid sampling, and ground radiometric studies are planned to delineate potential drill targets.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	There is not enough data for geological interpretations and drill planning at this time.

Note that JORC Sections 3 and 4 are not relevant at this early state of exploration.

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