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Assay Results Expand Rare Earth Enrichment Within the Cowboy State Mine Area at Halleck Creek, Wyoming

Highlights

- Surface samples of up to 6,221 ppm TREO (64% increase to mine planning), revealed potential for a larger, higher grade REE resource area in the Cowboy State mine area
- Mine planning averaged 3,805 ppm TREO[1] in recent scoping study
- High value magnetic rare earths (MREO) average 27% of TREO
- The mapping and sampling will support future higher-grade resource drilling

American Rare Earths (ASX: ARR | OTCQX: ARRNF | ADR: AMRRY) the '**Company'** today announced assay results from a recent mapping and sampling program in the Cowboy State Mine area. These results will allow the Company to target higher grade areas contiguous to the mining area within the recently published scoping study. These results complement the recently announced updated JORC resource of 2.34 billion tonnes[2] and illustrate the consistently enriched mineralisation at Halleck Creek.

This mapping and sampling campaign within the Cowboy State Mine Area was focussed at a higher resolution. In total, 95 samples were sent for analysis at ALS Global, including 5 Quality assurance/Quality control samples of standards, blanks, and duplicates. The results are summarised in Table 1. The mapping refined contacts between the RMP and surrounding granites as shown in Figure 1. The new mapping and sampling campaign provides better constraints on the geology of the Cowboy State mine area for future resource targeting and drill hole planning. Specifically, areas covered with unconsolidated Tertiary gravel (Figure 1) were delineated, which offers significant upside.

Donald Swartz, Chief Executive Officer commented:

"We are encouraged by these results that continue to demonstrate upside potential to our recently announced scoping study. These results are contiguous and complimentary to our recently released mine plans, of which the entirety was developed on state lands, which provides accelerated permitting. These higher-grade target areas will allow for optimising mine planning and project economics as we enter pre-feasibility level analysis. The low-operating costs ($38.38/kg NdPr equivalent) are largely attributable to the favourable geology, which is evident in these surface samples of highly enriched mineralisation within zero-strip-ratio mining areas. The Uranium and Thorium continue to occur in very low levels naturally".

1. ASX announcement March 18, 2024
2. ASX announcement February 7, 2024

Table 1 – Statistical Summary of November 2023 Sampling Initiative using a 1,500 ppm TREO cut-off. 68 samples were included.

Count	TREO	MREO	LREO	HREO
Average	3529	956	3133	396
Maximum	6221	1692	5683	578
Minimum	1523	435	1276	217

This announcement has been authorised for release by the CEO of American Rare Earths.

Competent Persons Statement:

The information in this document is based on company work performed in September and October 2023. This work was reviewed and approved for release by Mr Dwight Kinnes (Society of Mining Engineers #4063295RM) who 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 Limited:
American Rare Earths (ASX: ARR | OTCQX: ARRNF | ADR: AMRRY) owns the Halleck Creek, WY and La Paz, AZ rare earth deposits which have the potential to become the largest and most sustainable rare earth projects in North America. American Rare Earths is developing environmentally friendly and cost-effective extraction and processing methods to meet the rapidly increasing demand for resources essential to the clean energy transition and US national security. The Company continues to evaluate other exploration opportunities and is collaborating with US Government-supported R&D to develop efficient processing and separation techniques of rare earth elements to help ensure a renewable future.

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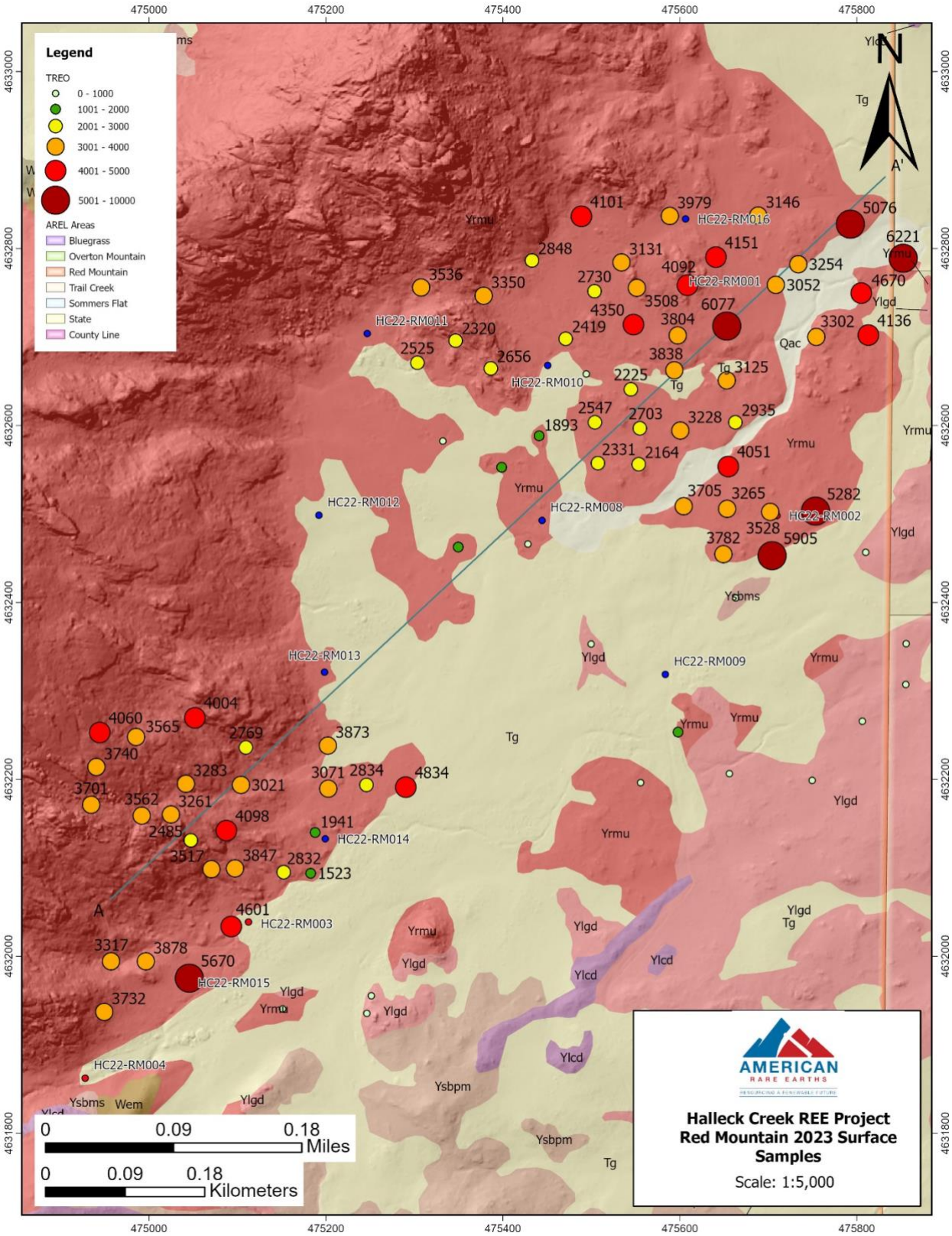

Figure 1 – Map showing the locations of the new surface samples. The line of section A-A' seen on the map is illustrated in Figure 2.

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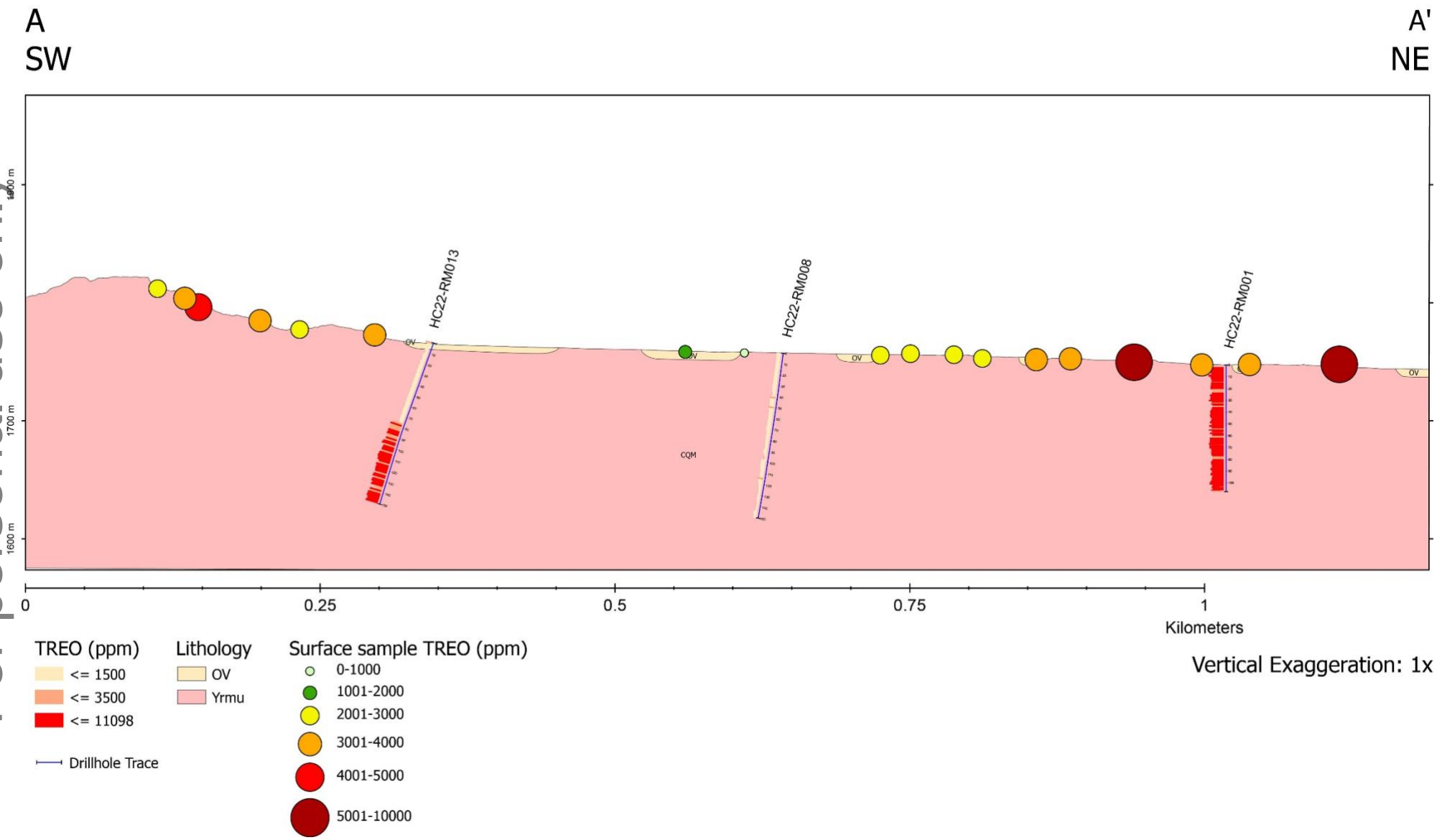

Figure 2 - Cross Section A-A' through the Red Mountain 2023 sampling area

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Appendix A – JORC Table 1

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 15 reverse circulation (RC) holes and eight HQ-sized diamond core holes between September and October 2023. All RC holes were 102 meters (334.65 feet) deep, with seven core holes at 80 meters (262.47 feet) and one deep core hole at 302 m (990.81 feet). RC chip samples were collected at a 1.5-meter (4.92 ft) continuous interval via rotary splitter. Rock core was divided into sample lengths of 1.5 m (4.92 feet) long and at key lithological breaks. ARR drilled 38 reverse circulation (RC) holes across the Halleck Creek Resource Claim area between October and December 2022. 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. A total of 818 surface rock samples exists in the Halleck Creek database. Surface rock samples collected by ARR are logged, photographed and located using handheld GPS units. As part of reverse circulation (RC) and diamond core exploration drilling at Halleck Creek, ARR collected XRF readings on RC chip and core samples. Elements included in XRF measurements include

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Section 1 Sampling Techniques and Data		
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Criteria	***JORC Code explanation***	**Commentary**
		Lanthanum, Cerium, Neodymium, and Praseodymium. ARR collected three XRF readings on each sample, then averaged the readings. Readings are performed at 20-meter intervals down each drill hole. These values are qualitative in nature and provide only rough indications of grade.
	Include reference to measures taken to ensure sample represe6ntivity and the appropriate calibration of any measurement tools or systems used.	For the April 2022 core drilling program, core recoveries and RQDs were calculated by ARR field geologists. The same was done for the Fall 2023 program with the addition of detailed geotechnical logging.
	Aspects of the determination of mineralisation that are Material to the Public Report.	The Red Mountain Pluton (RMP) of the Halleck Creek Rare Earths Project is a distinctly layered monzonitic to syenitic body which exhibits significant and widespread REE enrichment. Enrichment is dependent on allanite abundance, a sorosilicate of the epidote group. Allanite occurs in all three units of the RMP, the clinopyroxene quartz monzonite, the biotite-hornblende quartz syenite, and the fayalite monzonite, in variable abundances.
	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 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 for the Spring 2022 program, and ALS Laboratories in BC, Canada.

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Criteria	***JORC Code explanation***	**Commentary**
		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. ALS analysis: ME-MS81. Core samples were first sent to ALS in Reno, NV, for cutting and preparation, and also sent to Vancouver, BC for the same suite of testwork.
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 15 RC drill holes from the Fall 2023 program. A continuous rotary sample splitter was used to collect the RC samples at 1.5m intervals. Total drilled depth of 3,011.81 ft (1,530 m). Core, fall 2023: HQ, diamond tip, 5 ft (1.52 m) runs, unoriented. Total drilled depth of 2,816.60 ft (858.5 m).
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 drill core was visually logged, measured, and photographed by ARR geologists. Drill core was collected in lengths (runs) of 5 ft (1.52 m). Recoveries were calculated for each core run. Each rock sample was described, photographed with its location determined using handheld GPS.
	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.

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	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 via XRF. 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.
	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. Core logging is quantitative in nature. All core was photographed.
	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.*	RC chip samples were not cut.

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		Drill core was fillet cut by ALS Laboratories with approximately 1/2 of the core used for assay. The remaining core material will be kept in reserve by ALS until sent for future metallurgical testwork.
	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. ALS labs dried wet samples using their DRY-21 drying process.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	RC samples were taken from pulverize splits of up to 250 g to better than 85 % passing minus 75 microns. All core samples were dry. Sample preparation: 1kg samples split to 250g for pulverising to -75 microns. Sample analysis: 0.5g charge assayed by ICP-MS technique. Both sampling methods are considered appropriate for the type of material collected and are considered industry standard.
	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. Each CRM blank, REE standard, and duplicate were rotated into both the RC and core sampling process every 20 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.	RC samples were collected using a continuous feed rotary split sampler. 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.

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Criteria	***JORC Code explanation***	**Commentary**
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 32 elements by lithium borate fusion and ICP-MS (ME-MS81). For quantitative results of all elements, including those encapsulated in resistive minerals. These assays include all rare earth elements. AAL Labs uses 5-acid digestion and 48 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.	Samples at 25m intervals were photographed 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. Seven of the core holes received ATV/OTV logging as well as slim hole induction which recorded natural gamma and conductivity/resistivity. All geophysical logging was completed by Century Geophysical located in Gillette, WY. All tools were properly calibrated prior to logging.
	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. The same was done for the core drilling completed Fall 2023. ALS Laboratories will additionally incorporate their own Qa/Qc procedure. For core drilling completed Spring 2022, 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. Internal laboratory blanks and standards will additionally be inserted during analysis.

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Criteria	***JORC Code explanation***	**Commentary**
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. Consulting company personnel have observed the assayed core samples. Company personnel sampled the entire length of each hole.
	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 from the RC samples was imported into the database directly from electronic spreadsheets sent to ARR from ALS. Core assay data was received electronically from AAL labs. These raw data as elements reported ppm were imported into the database with no adjustments.
	Discuss any adjustment to assay data.	Assay data is stored in the database in elemental form. Reporting of 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. 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).

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Section 1 Sampling Techniques and Data		
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Criteria	***JORC Code explanation***	**Commentary**
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	The Fall 2023 program included drill hole spacing at approximately 100 m resolution. For previous programs, holes were 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.	Data from the Fall 2023 program will be at a high enough resolution to provide a measured resource at the Overton Mountain project area.
	Whether sample compositing has been applied.	Each sample is the result of assaying a 5 ft interval of core or 1.5 m RC interval.
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.*	Mineralization at Halleck Creek is a function of fractional crystallization of allanite in syenitic rocks of the Red Mountain Pluton. Mineralization is not structurally controlled and exploration drilling to date does not reveal any preferential mineralization related to geologic structures. Therefore, orientation of drilling does not bias sampling.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	Orientation of drilling does not bias sampling.
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 core was collected from the drill rig daily and stored in a secure, locked facility until the core was dispatched by bonded courier to ALS Laboratories. Chains of custody were maintained at all times. All rock samples were in the direct control of company geologists until dispatched to American Assay Labs.

Section 1 Sampling Techniques and Data		
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Criteria	***JORC Code explanation***	**Commentary**
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 5 unpatented federal lode claims on BLM US Federal Land totalling 71.6 acres (29 has) from Zenith Minerals, Ltd (Zenith). in 2021. 67 unpatented federal lode claims were staked by ARR that totalled 1193.3 acres (482 ha) in summer 2021. ARR staked 182 unpatented federal lode claims in March 2022 covering an area of approximately 3,088 acres (1,250 ha). ARR staked 118 unpatented federal lode claims in November 2022 covering an area of approximately 2,113 acres (855 ha). As of December 31, 2022, ARR 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 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 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:*	For the Fall 2023 program, FTE DRILLING USA INC. of Mount Uniacke, Nova Scotia used a Schraam T-450 track mounted rig to drill 15 reverse circulation drill holes. Drill hole depths for 37 holes was 102 m. FTE also utilized an enclosed Versa-Drilling diamond core rig to drill eight HQ-sized core holes. For the Fall 2022 program, FTE DRILLING USA INC. of Mount Uniacke, Nova Scotia used a Schraam T-450 track mounted rig to drill 37 reverse

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Section 2 Reporting of Exploration Results		
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		circulation drill holes. Drill hole depths for 37 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	Drilling information from the Fall 2022 drilling campaign is presented in detail in the "Technical Report of Exploration and Maiden Resource Estimates of the Halleck Creek Rare Earths Project", March 2023. Drilling information from the Fall 2023 campaign was published in the report "Summary of 2023 Infill Drilling at the Halleck Creek Project Area", November 2023.
	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 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.

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Section 2 Reporting of Exploration Results		
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Criteria	***JORC Code explanation***	**Commentary**
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').*	Allanite mineralization observed at Halleck Creek occurs uniformly throughout the CQM and BHS rocks of within the Red Mountain Pluton. Therefore, the geometry of mineralisation does not vary with drill hole orientation or angle within homogeneous rock types.
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.*	Location information is presented in detail in the "Technical Report of Exploration and Maiden Resource Estimates of the Halleck Creek Rare Earths Project", March 2023
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". All relevant information for this section can be found in Table 1 in the "Technical Report of Exploration and Maiden Resource Estimates of the Halleck Creek Rare Earths Project", March 2023, and in report " Summary of 2023 Infill Drilling at the Halleck Creek Project Area", November 2023.
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

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Section 2 Reporting of Exploration Results		
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		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 is planned to increase the area of the project, and to increase confidence levels of resources. Geological mapping and surface sampling will also be performed to define and prioritize drilling 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.	Additional drilling is planned in new exploration areas and to increase resource confidence levels.

Section 3 Estimation and Reporting of Mineral Resources		
(Criteria listed in the preceding section also apply to this section.)		
Criteria	***JORC Code explanation***	**Commentary**
Database integrity	*Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* *Data validation procedures used.*	Drill hole data header, lithologic data checked by field geologists and by visual examination on maps and drill hole striplogs. Assay and Qa/Qc data were imported into the database directly from electronic spreadsheets provide by laboratories. Histograms graphical logs were also prepared and reviewed by ARR geologists.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* *If no site visits have been undertaken indicate why this is the case.*	Mr. Dwight Kinnes visited the Halleck Creek site during the RC and core drilling projects. Mr. Jim Guilinger has not visited the site during the RC and core drilling projects. ARR will facilitate a site visit during the 2023 calendar year. Mr. Alf Gilman has not visited the site during the RC and core drilling projects. Mr. Gillman resides in Perth, Western Australia. Site visits to the project have so far been logistically difficult and very expensive.

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Section 3 Estimation and Reporting of Mineral Resources		
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Criteria	***JORC Code explanation***	**Commentary**
Geological interpretation	*Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* *Nature of the data used and of any assumptions made.* *The effect, if any, of alternative interpretations on Mineral Resource estimation.* *The use of geology in guiding and controlling Mineral Resource estimation.* *The factors affecting continuity both of grade and geology.*	The Halleck Creek RE deposit is contained with rocks of the Red Mountain Pluton. These rocks consist primarily of clinopyroxene quartz monzonite (CQM), and biotite hornblende syenite (BHS). These two lithologies are difficult to visually distinguish. However, the concentration of rare earth elements is observable between lithologies. Rocks of the Elmers Rock Greenstone Belt (ERGB) and the Sybille (Syb) intrusion are easily distinguishable from rocks of the RMP. These rock units are essentially barren of rare earth elements. Therefore, the confidence in discerning rocks of the RMP from is high. The extent of the RMP relative to other units was outlined into modelling domains used for resource estimates. The distribution of allanite throughout CQM and BHS rocks of the RMP is generally uniform and is not structurally controlled. Potassic alternation observed does not appear to affect the grade of allanite throughout the deposit.
Dimensions	*The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	The Halleck Creek REE project currently contains two primary resource areas: the Red Mountain area and the Overton Mountain area. Resources also extend into the Bluegrass resource area. The Red Mountain resource area is bounded to the west by the ERGB, and to the south by the Syb. Further exploration is needed to determine the extent to the north and two the east. RC samples with TREO grades exceeding 1,500 ppm occurred at the base of 37 drill holes in the Red Mountain resource area extending down to depths of 150m with one hole extending to a depth of 175.5m. Therefore, ARR considers the Red Mountain resource area to be open at depth. The Overton Mountain resource area is bounded to the west by mineral claims, and therefore, remains open to the west. Lower grade BHS rocks occur at the northern end of Overton Mountain. Drilling data to the east and south indicate that the Overton Mountain resource area remains open across Bluegrass Creek. Like the Red Mountain drilling, RC samples at Overton Mountain contained TREO assay values exceeding 3,500 ppm to depths of 150m in 18 holes. One, 302m diamond core hole additionally exhibited grades

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Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in the preceding section also apply to this section.)

Criteria	*JORC Code explanation*	**Commentary**
		exceeding 2,000 ppm to the bottom of the hole. Therefore, ARR considers the Overton Mountain resource area to be open at depth.
Estimation and modelling techniques	*The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* *The assumptions made regarding recovery of by-products.* *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).* *In the case of block model interpolation, the block size in*	Odessa Resources updated block models for Overton Mountain and Red Mountain using the Leapfrog geological modelling software. **Block Model Parameters** The block model contains attributes pertaining to resource block, resource category, grade class, geologic domain, and numerical attributes for TREO, rare earth oxides of all rare earth elements. Geological domains focused on higher grade CQM and BHS lithologies which provided control of resource block boundaries along with variography.

Block Model Parameter	Value
Parent Block Size	20m
Sub-block count (i, j, k)	4, 4, 4
Minimum block size (i, j, k)	5m ,5m, 5m
Base point (x, y, z)	473900.00, 4631300.00, 2000.00
Boundary size (W x L x H)	2400.00, 5400.00, 600.00
Azimuth	0
Dip	0
Pitch	0
Size in Blocks	120x270x30=972,000

General	Direction			Structure 1					
Variogram Name	Dip	Dip Azimuth	Pitch	Normalized Nugget	Normalized sill	Structure	Major	Semi-major	Minor
OM	0	0	124	0	0.6	Spherical	280	230	200
RM	0	0	90	0.1	0.8	Spherical	445	240	170

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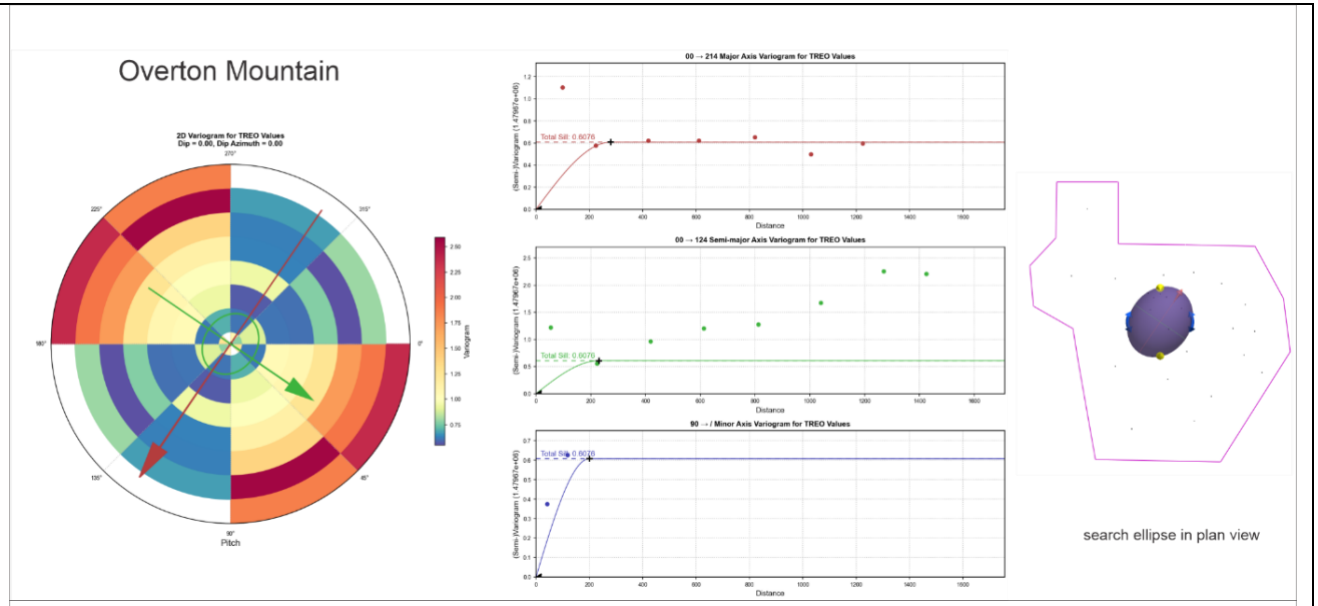
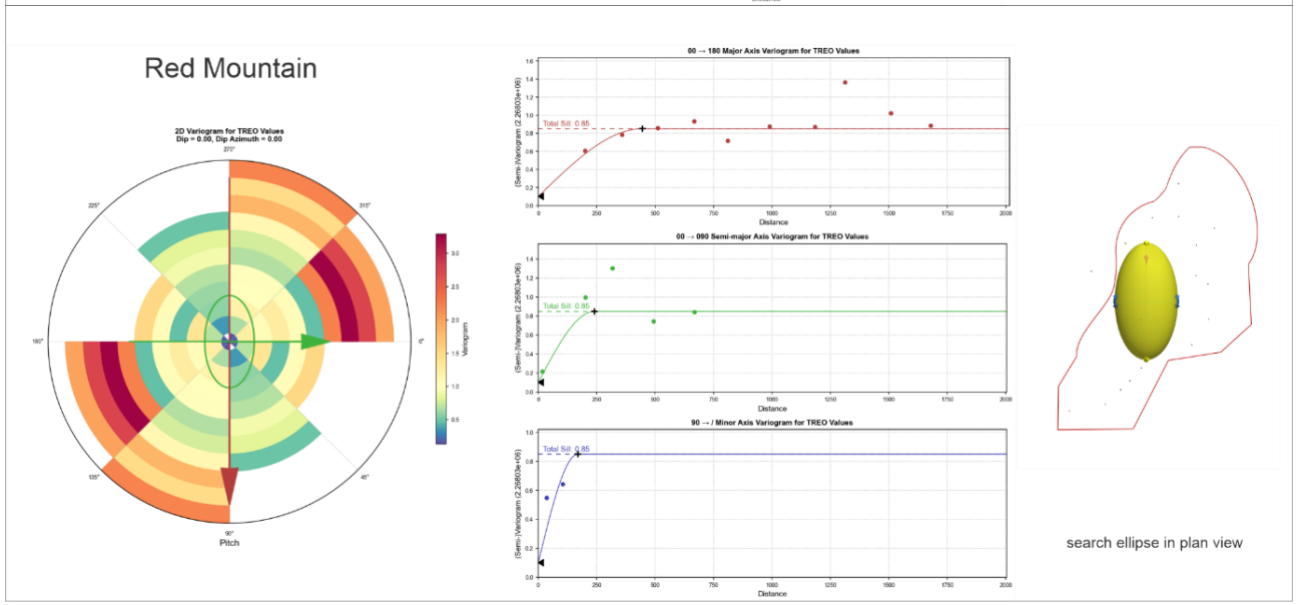
	relation to the average sample spacing and the search employed. *Any assumptions behind modelling of selective mining units.* *Any assumptions about correlation between variables.* *Description of how the geological interpretation was used to control the resource estimates.* *Discussion of basis for using or not using grade cutting or capping.* *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	 

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Section 3 Estimation and Reporting of Mineral Resources		
(Criteria listed in the preceding section also apply to this section.)		
Criteria	***JORC Code explanation***	**Commentary**
Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	Tonnages are based on in-situ, dry basis.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	A cut-off grade of 1,000 ppm TREO was applied to reported resource estimates based on preliminary net smelter calculations performed by Stantec.
Mining factors or assumptions	*Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	No mine plan or design has been prepared at this stage however the shallow nature of the deposit assumes extraction by open pit mining methods.
Metallurgical factors or assumptions	*The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of*	Preliminary metallurgical testwork shows that use of dense media separation and WHIMS can potentially reject up to 93% of waste and upgrade grade by about 12 times. Additional testwork is being planned to test these processes on larger volumes of core.

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Section 3 Estimation and Reporting of Mineral Resources		
(Criteria listed in the preceding section also apply to this section.)		
Criteria	***JORC Code explanation***	**Commentary**
	determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Direct sulphuric acid leaching shows that more than 90% of REE can be extracted from allanite. Additional testwork is being planned to test these processes on larger volumes of core.
Environmental factors or assumptions	*Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects*	ARR is in the process of outlining environmental, social, and community impacts regarding the potential development of the project. These impacts are being included in conceptual designs of all facets of the project.

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Section 3 Estimation and Reporting of Mineral Resources		
(Criteria listed in the preceding section also apply to this section.)		
Criteria	***JORC Code explanation***	**Commentary**
	have not been considered this should be reported with an explanation of the environmental assumptions made.	
Bulk density	*Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	An average specific gravity of 2.70 represents the in-place ore material at Halleck Creek based on hydrostatic testing.
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories.* *Whether appropriate account has been taken of all relevant factors (ie relative confidence in*	The classification at Halleck Creek is based on the following key attributes: **Geological continuity between drill holes** • Mineralization is controlled by batholith-scale fractionation. Hence, both empirical observations and statistical analysis confirm a very high degree of continuity with the respective rock masses at Overton Mountain and Red Mountain.

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Section 3 Estimation and Reporting of Mineral Resources		
(Criteria listed in the preceding section also apply to this section.)		
Criteria	***JORC Code explanation***	**Commentary**
	tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• This is supported by variography. **Drill spacing and drill density** • The drill pattern is mostly irregular with drill spacing of approximately 200m. • At Overton Mountain an area has been infilled on a systematic grid spacing of approximately 90m. This spacing is considered to be adequate to support a measured classification. The CP considers the above classification strategy and methodology to be appropriate and reasonable for this style of mineralisation.
Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	There have not been any audits of mineral resource estimates.
Discussion of relative accuracy/ confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.*	Reported resources for Halleck Creek are in-place global estimates of tonnage and rare earth grade. The basis of classification of mineral resources was based on geostatistical analysis of variograms of rare earth elements. The resource is classified as either measured, indicated or inferred. Subject to the application of 'modifying factors' the measured plus indicated component of the resource may allow for a formal evaluation of its economics with the potential to be converted to a Probable Ore Reserve. Therefore, a high degree of conservatism has been adopted as the underlying premise of the resource classification and, in particular, the indicated component.

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Section 3 Estimation and Reporting of Mineral Resources		
(Criteria listed in the preceding section also apply to this section.)		
Criteria	***JORC Code explanation***	**Commentary**
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	

Section 4 Estimation and Reporting of Ore Reserves		
(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)		
Criteria	**JORC Code explanation**	**Commentary**
Mineral Resource estimate for conversion to Ore Reserves	*Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	Insert your commentary here…

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Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* *If no site visits have been undertaken indicate why this is the case.*	
Study status	*The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	
Cut-off parameters	*The basis of the cut-off grade(s) or quality parameters applied.*	
Mining factors or assumptions	*The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve*	

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Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
	(i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design). *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.* *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* *The mining dilution factors used.* *The mining recovery factors used.* *Any minimum mining widths used.* *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.*	

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Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
	The infrastructure requirements of the selected mining methods.	
Metallurgical factors or assumptions	*The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* *Whether the metallurgical process is well-tested technology or novel in nature.* *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* *Any assumptions or allowances made for deleterious elements.* *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* *For minerals that are defined by a specification, has the ore reserve estimation been based on the*	

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Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
	appropriate mineralogy to meet the specifications?	
Environmen-tal	*The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	
Infrastructure	*The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	
Costs	*The derivation of, or assumptions made, regarding projected capital costs in the study.* *The methodology used to estimate operating costs.*	

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Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
	Allowances made for the content of deleterious elements. *The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.* *The source of exchange rates used in the study.* *Derivation of transportation charges.* *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* *The allowances made for royalties payable, both Government and private.*	
Revenue factors	*The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* *he derivation of assumptions made of metal or commodity price(s), for*	

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Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
	the principal metals, minerals and co-products.	
Market assessment	*The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* *A customer and competitor analysis along with the identification of likely market windows for the product.* *Price and volume forecasts and the basis for these forecasts.* *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	
Economic	*The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	

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Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Social	*The status of agreements with key stakeholders and matters leading to social licence to operate.*	
Other	*To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* *Any identified material naturally occurring risks.* *The status of material legal agreements and marketing arrangements.* *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	

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Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Classification	*The basis for the classification of the Ore Reserves into varying confidence categories.* *Whether the result appropriately reflects the Competent Person's view of the deposit.* *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	
Audits or reviews	*The results of any audits or reviews of Ore Reserve estimates.*	
Discussion of relative accuracy/ confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.*	

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Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	

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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 5 unpatented federal lode claims on BLM US Federal Land totalling 71.6 acres (29 has) from Zenith Minerals, Ltd (Zenith). in 2021. 67 unpatented federal lode claims were staked by ARR that totalled 1193.3 acres (482 ha) in summer 2021. ARR staked 182 unpatented federal lode claims in March 2022 covering an area of approximately 3,088 acres (1,250 ha). ARR staked 118 unpatented federal lode claims in November 2022 covering an area of approximately 2,113 acres (855 ha). As of December 31, 2022, ARR 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 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:*	For the Fall 2023 program, FTE DRILLING USA INC. of Mount Uniacke, Nova Scotia used a Schraam T-450 track mounted rig to drill 15 reverse circulation drill holes. Drill hole depths for 37 holes was 102 m. FTE also utilized an enclosed Versa-Drilling diamond core rig to drill eight HQ-sized core holes. For the Fall 2022 program, FTE DRILLING USA INC. of Mount Uniacke, Nova Scotia used a Schraam T-450 track mounted rig to drill 37 reverse circulation drill holes. Drill hole depths for 37 holes was 150m and one hole at 175.5m

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		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	Drilling information from the Fall 2022 drilling campaign is presented in detail in the "Technical Report of Exploration and Maiden Resource Estimates of the Halleck Creek Rare Earths Project", March 2023. Drilling information from the Fall 2023 campaign will be published in an updated, upcoming 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.	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 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 (e.g. 'down hole length, true width not known').*	Allanite mineralization observed at Halleck Creek occurs uniformly throughout the CQM and BHS rocks of within the Red Mountain Pluton. Therefore, the geometry of mineralisation does not vary with drill hole orientation or angle within homogeneous rock types.

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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.*	Location information is presented in detail in the "Technical Report of Exploration and Maiden Resource Estimates of the Halleck Creek Rare Earths Project", March 2023
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". All relevant information for this section can be found in Table 1 in the "Technical Report of Exploration and Maiden Resource Estimates of the Halleck Creek Rare Earths Project", March 2023
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 is planned to increase the area of the project, and to increase confidence levels of resources. Geological mapping and surface sampling will also be performed to define and prioritize drilling 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.	Additional drilling is planned in new exploration areas and to increase resource confidence levels.

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Section 3 Estimation and Reporting of Mineral Resources		
(Criteria listed in the preceding section also apply to this section.)		
Criteria	***JORC Code explanation***	**Commentary**
Database integrity	*Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* *Data validation procedures used.*	Drill hole data header, lithologic data checked by field geologists and by visual examination on maps and drill hole striplogs. Assay and Qa/Qc data were imported into the database directly from electronic spreadsheets provide by laboratories. Histograms graphical logs were also prepared and reviewed by ARR geologists.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* *If no site visits have been undertaken indicate why this is the case.*	Mr. Dwight Kinnes visited the Halleck Creek site during the RC and core drilling projects. Mr. Jim Guilinger has not visited the site during the RC and core drilling projects. ARR will facilitate a site visit during the 2023 calendar year. Mr. Alf Gilman has not visited the site during the RC and core drilling projects. Mr. Gilman resides in Perth, Western Australia. Site visits to the project have so far been logistically difficult and very expensive.
Geological interpretation	*Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* *Nature of the data used and of any assumptions made.* *The effect, if any, of alternative interpretations on Mineral Resource estimation.* *The use of geology in guiding and controlling Mineral Resource estimation.* *The factors affecting continuity both of grade and geology.*	The Halleck Creek RE deposit is contained with rocks of the Red Mountain Pluton. These rocks consist primarily of clinopyroxene quartz monzonite (CQM), and biotite hornblende syenite (BHS). These two lithologies are difficult to visually distinguish. However, the concentration of rare earth elements is observable between lithologies. Rocks of the Elmers Rock Greenstone Belt (ERGB) and the Sybille (Syb) intrusion are easily distinguishable from rocks of the RMP. These rock units are essentially barren of rare earth elements. Therefore, the confidence in discerning rocks of the RMP from is high. The extent of the RMP relative to other units was outlined into modelling domains used for resource estimates. The distribution of allanite throughout CQM and BHS rocks of the RMP is generally uniform and is not structurally controlled. Potassic alternation observed does not appear to affect the grade of allanite throughout the deposit.

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Dimensions	*The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	The Halleck Creek REE project currently contains two primary resource areas: the Red Mountain area and the Overton Mountain area. Resources also extend into the Bluegrass resource area. The Red Mountain resource area is bounded to the west by the ERGB, and to the south by the Syb. Further exploration is needed to determine the extent to the north and two the east. RC samples with TREO grades exceeding 1,500 ppm occurred at the base of 37 drill holes in the Red Mountain resource area extending down to depths of 150m with one hole extending to a depth of 175.5m. Therefore, ARR considers the Red Mountain resource area to be open at depth. The Overton Mountain resource area is bounded to the west by mineral claims, and therefore, remains open to the west. Lower grade BHS rocks occur at the northern end of Overton Mountain. Drilling data to the east and south indicate that the Overton Mountain resource area remains open across Bluegrass Creek. Like the Red Mountain drilling, RC samples at Overton Mountain contained TREO assay values exceeding 3,500 ppm to depths of 150m in 18 holes. Therefore, ARR considers the Overton Mountain resource area to be open at depth.
Estimation and modelling techniques	*The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* *The assumptions made regarding recovery of by-products.*	Relevant information is presented in detail in the "Technical Report of Exploration and Maiden Resource Estimates of the Halleck Creek Rare Earths Project", March 2023

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	Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation). *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* *Any assumptions behind modelling of selective mining units.* *Any assumptions about correlation between variables.* *Description of how the geological interpretation was used to control the resource estimates.* *Discussion of basis for using or not using grade cutting or capping.* *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	
Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	Tonnages are based on dry basis.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	Currently a subjective cut-off grade of 1,500 ppm TREO was applied to reported resource estimates. Ongoing metallurgical testwork and upcoming conceptual planning will provide input to determine a net smelter return.
Mining factors or assumptions	*Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	No mine plan or design has been prepared at this stage however the shallow nature of the deposit assumes extraction by open pit mining methods.

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Metallurgical factors or assumptions	*The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	ARR is performing preliminary metallurgical test work at Halleck Creek. The preliminary results are presented here.
Environmental factors or assumptions	*Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	ARR is in the process of outlining environmental, social, and community impacts regarding the potential development of the project. These impacts are being included in conceptual designs of all facets of the project.
Bulk density	*Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	An average specific gravity of 2.70 represents the in-place ore material at Halleck Creek based on hydrostatic testing.
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories.* *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of*	The basis of classification of mineral resources was based on geostatistical analysis of variograms of rare earth elements. The variographic results showed a resource boundary based on 90% of sill range of approximately 325-meters is applicable at Halleck Creek.

	input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). *Whether the result appropriately reflects the Competent Person's view of the deposit.*	These results do reflect the CP's view of the project.
Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	There have not been any audits of mineral resource estimates.
Discussion of relative accuracy/ confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	Reported resources for Halleck Creek are in-place global estimates of tonnage and rare earth grade. The basis of classification of mineral resources was based on geostatistical analysis of variograms of rare earth elements. Within the confines of the available data resource estimates should be accurate for a maiden resource estimate.

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Appendix B – Full XRF 4 Element Totals (ppm)

Sample ID	Easting	Northing	La	Ce	Pr	Nd	Th	U	4 Ele Total
HC23-0001	475711.21	4633253.28	398	777	99	387	35	9	1661
HC23-0002	475715.95	4633253.59	66	189	0	112	27	10	367
HC23-0003	475708.25	4633271.25	0	0	0	0	28	11	0
HC23-0004	476196.45	4633160.53	689	1398	219	700	96	10	3007
HC23-0005	475586.88	4633356.27	234	463	73	267	29	10	1036
HC23-0008	475878.22	4633471.71	271	649	0	280	41	10	1200
HC23-0009	475113.94	4633305.75	131	382	45	331	0	3	889
HC23-0010	475061.55	4633176.51	107	255	113	223	29	9	698
HC23-0012	474815.96	4632765.89	156	316	0	211	7	9	683
HC23-0013	474649.73	4632879.07	57	130	39	31	47	10	257
HC23-0014	474685.66	4632691.43	103	289	0	158	23	10	551
HC23-0017	475312.95	4633667.18	121	321	0	216	16	8	657
HC23-0019	474782.27	4633593.13	49	108	38	65	19	8	260
HC23-0020	474640.22	4633594.87	108	286	0	289	0	5	682
HC23-0022	474855.71	4633793.03	142	283	0	134	28	7	559
HC23-0024	474659.45	4633993.59	133	305	0	197	0	5	634
HC23-0027	475884.22	4632720.30	42	139	0	13	59	16	194
HC23-0028	475886.80	4632565.25	239	659	0	218	57	12	1116
HC23-0029	476015.24	4632278.23	46	78	0	18	96	10	142
HC23-0030	476020.43	4632092.32	110	261	34	98	61	5	503
HC23-0031	475895.66	4632253.79	59	135	0	0	41	11	194
HC23-0032	475770.72	4632264.68	7	39	0	0	90	16	46
HC23-0033	475677.44	4632279.74	231	413	34	223	23	8	900
HC23-0034	475652.57	4632389.40	160	372	0	147	19	8	678
HC23-0035	475604.54	4632726.34	529	1090	120	568	39	12	2307
HC23-0036	475593.30	4632843.54	303	434	78	347	21	10	1162
HC23-0037	475942.02	4632033.17	0	0	0	0	33	10	0
HC23-0038	475982.79	4631911.68	119	604	0	168	63	10	891
HC23-0039	475978.99	4631695.33	110	240	0	41	41	11	391
HC23-0040	475316.93	4631888.95	124	206	30	42	95	11	402
HC23-0042A	474461.47	4632001.65	61	135	0	59	45	13	256
HC23-0042B	475504.87	4632109.87	4	16	0	0	88	32	20
HC23-0043	474572.76	4631923.75	178	459	31	187	36	10	854
HC23-0044	474683.49	4631810.59	430	999	83	400	35	8	1912
HC23-0046A	475012.76	4631866.94	509	1404	126	441	107	5	2479
HC23-0046B	474834.48	4632714.44	91	237	0	183	17	9	510
HC23-0047	474944.00	4632845.85	672	1092	158	543	68	13	2465
HC23-0048	475121.09	4632917.68	776	1382	231	822	53	13	3212

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HC23-0049	475182.53	4632940.51	1119	2296	294	1044	84	14	4752
HC23-0050	475461.67	4632836.96	614	1285	166	697	57	10	2761
HC23-0051	475151.14	4632549.39	164	368	39	230	11	12	801
HC23-0052	475174.87	4632695.21	1420	3535	369	1338	171	10	6663
HC23-0053	474806.20	4632531.63	527	1149	62	488	48	11	2226
HC23-0054	474709.24	4632547.36	521	1021	158	585	43	12	2285
HC23-0055	474675.33	4632390.05	415	926	45	448	21	13	1834
HC23-0056	474640.24	4632377.93	559	1200	152	598	57	12	2510
HC23-0057	474589.66	4632330.41	773	1580	211	807	64	17	3371
HC23-0058	474494.72	4632114.52	611	1405	187	719	75	12	2922
HC23-0059	474430.67	4632196.27	1017	2076	255	1109	72	13	4458
HC23-0060	478280.71	4636460.00	429	872	101	404	24	8	1806
HC23-0061	478136.65	4636455.16	232	484	51	264	18	10	1031
HC23-0062	477934.43	4636404.36	337	880	137	461	24	8	1815
HC23-0063	477702.01	4636432.55	443	1017	102	324	78	11	1886
HC23-0066	477531.56	4636210.54	336	790	0	285	56	11	1411
HC23-0067	477723.90	4636201.79	513	1054	65	469	60	8	2101
HC23-0068	477894.06	4636248.88	539	1227	186	612	27	11	2563
HC23-0069	478102.88	4636237.08	103	236	44	166	27	9	549
HC23-0071	477884.68	4636030.54	189	525	0	120	70	6	834
HC23-0072	477703.89	4636026.40	453	917	79	425	30	11	1874
HC23-0073	477545.17	4636041.59	148	338	0	276	0	11	762
HC23-0074	477511.49	4635823.30	347	690	36	305	37	11	1378
HC23-0077	478116.15	4635819.81	128	286	0	181	18	10	595
HC23-0080	477922.62	4636636.70	361	802	0	355	59	10	1519
HC23-0081	477751.40	4636598.59	427	811	37	453	22	7	1728
HC23-0082	477528.45	4636638.89	479	1178	98	513	29	9	2268
HC23-0083	477299.33	4636829.48	436	958	109	425	45	10	1928
HC23-0084	477083.62	4636816.58	240	623	40	275	45	11	1178
HC23-0090	477299.77	4636998.80	305	745	109	405	25	6	1564
HC23-0091	477483.07	4636997.62	543	1055	109	492	23	8	2198
HC23-0095	478266.90	4637014.96	250	632	47	290	31	10	1220
HC23-0097	478290.43	4636663.25	412	966	111	439	25	9	1927
HC23-0099	477901.65	4636835.47	290	659	48	338	33	8	1336
HC23-0101	477513.53	4636828.95	235	621	58	326	26	6	1239
HC23-0102	475937.72	4631435.01	619	1425	139	545	53	11	2728
HC23-0103	476127.22	4631479.29	80	236	0	127	30	11	443
HC23-0104	476073.55	4631211.80	411	797	0	285	79	11	1494
HC23-0105	475943.48	4631314.17	129	314	40	263	0	9	747
HC23-0106	475752.51	4631392.30	135	322	0	192	26	11	649
HC23-0107	475617.77	4631414.03	485	883	111	350	60	12	1829

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HC23-0109	475582.56	4631196.84	305	671	96	377	34	11	1449
HC23-0110	475714.66	4631227.99	232	527	0	214	72	12	972
HC23-0111	475841.54	4631234.49	135	532	0	205	38	8	872
HC23-0115	475580.32	4631115.62	195	514	35	165	62	8	908
HC23-0116	475453.49	4631111.27	346	619	79	242	71	11	1285
HC23-0117	475492.88	4631800.20	282	500	0	197	42	11	979
HC23-0118	475474.80	4631631.58	80	237	0	54	71	11	371
HC23-0119	475574.99	4631540.49	415	1168	61	429	103	10	2073
HC23-0120	475860.88	4631618.81	132	297	33	93	34	11	556
HC23-0121	475434.44	4630904.19	264	501	45	194	57	12	1005
HC23-0122	475596.55	4630902.53	138	304	0	57	39	10	498
HC23-0123	475812.42	4630925.31	35	72	0	21	62	9	128
HC23-0127	475926.52	4630832.82	109	255	0	132	0	8	497
HC23-0128	475762.26	4630776.15	326	813	81	255	69	10	1475
HC23-0129	475457.27	4630798.89	80	193	40	116	23	10	429
HC23-0130	476242.25	4631091.56	207	427	0	159	26	8	794
HC23-0131	476361.71	4631001.28	104	175	0	19	48	10	298
HC23-0132	476459.47	4631186.96	175	452	0	144	73	12	771
HC23-0134	476627.32	4631464.49	383	840	44	329	81	9	1597
HC23-0135	476801.81	4631698.08	295	648	34	225	37	10	1203
HC23-0136	476571.94	4631614.15	160	381	0	182	44	9	723
HC23-0137	476234.09	4631678.55	806	1105	204	622	37	8	2738
HC23-0139	476173.74	4631438.46	700	1558	139	434	159	9	2831
HC23-0140	476180.94	4631436.33	103	229	0	90	41	12	421
HC23-0141	476506.78	4631071.56	207	460	0	156	58	9	823
HC23-0142	476601.90	4630927.56	174	360	0	87	45	10	620
HC23-0143	476582.56	4630786.71	221	599	83	194	76	10	1097
HC23-0149	476046.39	4630807.31	8	56	0	73	36	9	136
HC23-0154	476736.90	4630541.77	282	569	0	203	68	10	1054
HC23-0155	476587.66	4630423.02	166	418	0	241	28	12	824
HC23-0156	476711.06	4630379.94	468	946	51	243	121	12	1708
HC23-0160	476266.26	4630538.52	478	920	132	395	34	12	1925
HC23-0161	475477.88	4631425.13	123	254	0	179	37	13	556
HC23-0163	474929.17	4631671.51	441	870	44	369	64	6	1723
HC23-0164	475053.40	4631504.29	206	396	31	122	72	16	755
HC23-0165	475268.47	4631103.05	46	66	0	19	38	14	130
HC23-0166	475183.02	4631216.21	366	503	0	140	50	12	1009
HC23-0167	475149.14	4631027.03	67	153	0	51	63	15	271
HC23-0168	475250.63	4630757.05	87	183	0	39	31	10	308
HC23-0169	476365.61	4631393.37	229	514	87	218	50	13	1048
HC23-0170	476098.27	4631813.42	24	53	0	0	55	10	77

HC23-0171	476139.23	4631936.53	104	157	0	35	37	11	297
HC23-0172	476626.79	4631105.32	279	561	42	217	71	4	1099
HC23-0173	477085.55	4637217.77	207	483	128	374	5	8	1191
HC23-0174	476846.05	4637212.42	371	1081	0	359	31	10	1811
HC23-0175	476544.56	4637220.09	531	1391	171	469	91	10	2562
HC23-0176	476283.03	4637205.32	567	2003	80	512	94	11	3162
HC23-0177	476054.92	4637192.59	357	1182	0	419	85	12	1958
HC23-0178	475883.27	4636980.27	834	1752	199	755	88	10	3540
HC23-0179	476112.99	4637008.07	720	1359	202	743	36	13	3024
HC23-0180	476115.66	4636971.46	245	927	145	324	82	16	1642
HC23-0181	476046.78	4637464.98	816	1726	205	696	79	10	3444
HC23-0182	476074.39	4637490.46	1059	1880	198	931	47	11	4068
HC23-0183	476075.38	4637491.17	275	586	69	379	20	11	1308
HC23-0184	476097.00	4637618.04	784	1329	199	631	54	15	2943
HC23-0185	476093.84	4637797.06	186	429	79	261	18	11	955
HC23-0186	475936.98	4637594.37	232	505	37	214	38	23	989
HC23-0187	477299.61	4637214.03	478	794	142	456	48	11	1869
HC23-0188	477474.39	4637212.41	282	677	52	281	57	9	1292
HC23-0197	477402.60	4632950.35	181	405	109	171	47	15	866
HC23-0198	477185.67	4632949.13	112	296	0	173	33	12	581
HC23-0199	477323.14	4632814.12	187	345	0	150	42	14	682

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Appendix C – Full Assay Results (TREO)

Sample ID	Easting	Northing	TREO	La2O3	Ce2O3	Pr6O11	Nd2O3	Sm2O3	Y2O3	Eu2O3	Gd2O3	Tb4O7	Dy2O3	Ho2O3	Er2O3	Tm2O3	Yb2O3	Lu2O3	Sc2O3	ThO2	UO2
HC23-0001	475,711.21	4,633,253.28	1533	312	624	73	264	43	122	6	31	4	24	4	12	2	10	2	9	35	3
HC23-0004	476,196.45	4,633,160.53	2137	421	961	104	401	75		9	55	8	46	9	22	3	20	3	14	31	11
HC23-0006	475,587.66	4,633,530.07	4336	995	1984	223	843	120		15	69	8	39	7	16	2	13	2	11	66	9
HC23-0018	475,370.26	4,633,607.32	3268	769	1535	164	605	80		13	46	5	26	4	10	1	9	1	16	60	9
HC23-0023	474,490.60	4,633,909.43	702	144	312	34	134	23		12	16	2	11	2	5	1	5	1	13	12	10
HC23-0041	475,313.33	4,632,052.97	1502	285	669	75	306	55		10	39	5	27	5	12	2	10	2	19	36	14
HC23-0045	474,859.94	4,631,816.86	4574	898	2260	230	830	135		16	85	11	55	9	21	3	18	3	7	95	15
HC23-0046A	475,012.76	4,631,866.94	2425	480	1153	116	421	62	92	11	39	5	22	4	10	1	8	1	6	61	3
HC23-0048	475,121.09	4,632,917.68	3585	726	1474	176	653	110	233	14	81	11	53	9	23	3	16	3	6	59	7
HC23-0049	475,182.53	4,632,940.51	3302	659	1419	161	595	98	191	13	68	9	44	8	19	2	14	2	5	57	6
HC23-0055	474,675.33	4,632,390.05	2062	328	746	88	350	72	278	10	61	9	53	10	27	4	22	4	32	23	6
HC23-0056	474,640.24	4,632,377.93	2608	477	1009	118	461	88	248	12	72	10	56	10	24	3	17	3	6	39	5
HC23-0057	474,589.66	4,632,330.41	4691	936	1984	230	840	141	295	14	101	14	69	12	29	3	20	3	5	81	10
HC23-0058	474,494.72	4,632,114.52	2172	298	712	92	392	89	329	13	85	13	71	13	33	4	24	4	7	32	7
HC23-0059	474,430.67	4,632,196.27	3676	660	1462	175	664	123	320	13	98	14	73	13	32	4	22	3	4	60	6
HC23-0064	477,525.08	4,636,439.01	2406	482	1059	121	443	87		12	66	10	58	10	28	4	23	3	18	31	10
HC23-0065	477,525.08	4,636,438.94	1891	367	919	93	325	61		7	43	6	33	6	15	2	12	2	17	54	12
HC23-0070	478,108.35	4,636,044.96	2363	436	1070	121	440	87		11	66	10	58	10	26	4	21	3	15	26	10
HC23-0075	477,706.04	4,635,826.13	1890	401	915	95	329	52		7	36	4	24	4	11	1	10	1	20	58	10
HC23-0076	477,914.46	4,635,844.17	2531	509	1134	128	460	86		12	67	10	58	10	27	4	23	3	19	35	10
HC23-0078	478,128.16	4,636,652.12	754	148	323	38	141	29		8	22	3	19	3	10	1	8	1	13	16	12
HC23-0079	478,128.90	4,636,651.03	1915	354	872	94	342	70		11	55	8	49	9	24	3	21	3	37	27	10
HC23-0085	476,899.51	4,636,807.80	2711	578	1183	142	497	94		11	70	10	60	10	27	4	22	3	13	39	11
HC23-0086	476,686.99	4,636,825.84	1821	400	919	89	297	44		6	27	3	17	3	7	1	7	1	12	50	10
HC23-0087	476,705.83	4,637,027.94	1163	220	597	53	188	32		6	23	3	19	3	9	1	8	1	12	41	9
HC23-0088	476,897.30	4,637,017.05	1424	319	655	74	257	41		7	27	4	19	3	9	1	7	1	14	40	11
HC23-0089	477,103.90	4,637,021.34	1490	305	681	76	267	49		8	36	5	30	5	13	2	11	2	15	41	14
HC23-0092	477,668.46	4,637,032.68	972	192	432	50	178	34		8	27	4	22	4	10	1	9	1	15	20	11

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HC23-0093	477,878.34	4,637,011.76	666	124	273	35	134	28		7	22	3	18	3	9	1	8	1	16	12	9
HC23-0094	478,094.37	4,637,018.93	1808	372	795	96	349	62		8	45	6	35	6	16	2	14	2	17	32	9
HC23-0096	478,314.38	4,636,809.66	1508	298	679	77	280	53		7	39	6	31	6	15	2	13	2	15	28	9
HC23-0098	478,094.03	4,636,835.17	1929	410	882	101	351	60		7	42	6	33	6	15	2	12	2	18	38	9
HC23-0112	476,102.47	4,631,043.22	598	87	234	33	130	29		6	24	4	22	4	11	2	10	2	27	7	10
HC23-0113	475,895.15	4,631,083.51	686	104	359	30	112	23		6	17	2	14	3	7	1	7	1	17	22	12
HC23-0114	475,747.37	4,631,098.92	1890	407	875	96	329	58		6	40	6	33	6	16	2	14	2	15	53	15
HC23-0124	475,864.24	4,630,962.48	509	98	217	26	96	20		2	16	2	14	3	7	1	6	1	11	13	19
HC23-0125	476,001.82	4,630,976.65	1123	263	488	58	203	34		7	25	3	20	3	9	1	8	1	18	17	12
HC23-0126	476,214.68	4,630,943.16	1412	283	711	69	236	38		7	25	3	19	3	9	1	7	1	18	22	12
HC23-0144	476,775.46	4,630,839.80	536	116	260	26	88	14		2	10	1	8	1	4	1	4	1	8	24	14
HC23-0145	476,971.79	4,630,877.64	534	111	245	27	94	17		3	12	2	10	2	5	1	4	1	10	19	10
HC23-0146	477,180.19	4,630,817.57	677	135	306	36	125	23		2	17	2	14	2	7	1	6	1	13	20	17
HC23-0147	477,169.95	4,630,713.12	739	139	344	39	136	25		2	18	3	15	3	7	1	6	1	12	23	11
HC23-0148	477,240.16	4,630,693.19	1950	429	894	97	334	59		8	44	6	36	7	18	2	14	2	30	40	12
HC23-0150	476,275.73	4,630,729.50	687	130	370	32	105	17		2	11	2	8	1	4	1	3	1	7	27	9
HC23-0153	476,551.41	4,630,685.81	705	139	333	36	124	22		3	17	2	14	2	6	1	5	1	12	24	10
HC23-0157	476,495.19	4,630,372.50	423	83	186	22	79	15		3	11	2	9	2	5	1	4	1	9	13	10
HC23-0158	476,391.81	4,630,409.36	571	120	259	29	100	19		3	14	2	11	2	5	1	5	1	11	17	10
HC23-0159	476,251.61	4,630,423.74	636	115	269	33	128	26		9	19	3	16	3	7	1	6	1	17	7	9