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AMERICAN RARE EARTHS **ABN 83 003 453 503**

AMERICAN RARE EARTHS

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COWBOY STATE MINE STUDY STRENGTHENS FOUNDATION FOR DOMESTIC U.S. RARE EARTH SUPPLY

HIGHLIGHTS

- **Positive study outcome: Updated Scoping Study estimates after tax NPV of approximately US$1.07 billion at an 8% real discount rate for Cowboy State Mine, the first phase of Halleck Creek in Wyoming**
- **Greater production scale: Planned throughput increases 50% to 4.5 million tonnes per annum, with average annual neodymium and praseodymium (NdPr) oxide production of approximately 2,500 tonnes, up 36% from the 2025 base case**
- **Longer operating platform: A 26 year mine plan, compared with 20 years previously, establishes a larger first phase within the broader Halleck Creek resource**
- **Advancing a domestic supply pathway: Mine and processing development in Wyoming, together with metallisation test work at Novex, supports ARR's strategy to connect U.S. rare earth resources with the permanent magnet supply chain**
- **Defined next milestones: Recovery optimisation, pilot and demonstration work, infrastructure studies and permitting are advancing, with separated rare earth oxide from the pilot and demonstration program targeted for late Q2 2027**

American Rare Earths Limited (**ASX: ARR | OTCQX: ARRNF | ADR: AMRRY**) **("ARR" or "the Company")** is pleased to announce an updated Scoping Study for Cowboy State Mine ("**CSM**"), outlining a larger development platform for a potential domestic source of rare earth materials in the United States.

The Study evaluates a 4.5 million tonne per annum operation over 26 years, with estimated after tax NPV of approximately US$1.07 billion at an 8% real discount rate and initial capital of approximately US$900 million, including contingency.

IMPORTANT DISCLOSURES

The Scoping Study is a preliminary technical and economic assessment. While the broader Halleck Creek Mineral Resource includes Inferred Mineral Resources, the production target described in this announcement is based entirely on Indicated Mineral Resources. No Inferred Mineral Resources or Exploration Target material are scheduled as mill feed in the production target. There is no certainty that the production targets or forecast financial outcomes will be realised.

The study is insufficient to support the estimation of Ore Reserves or provide assurance of an economic development case. It is not a PFS or Feasibility Study, and no Ore Reserves have been declared. Investors should not make investment decisions based solely on its results.

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Forecast outcomes depend on product prices, recoveries, capital and operating costs, technical performance, approvals and funding. This announcement contains forward looking statements concerning development, test work, studies, partnerships and capital markets initiatives. Actual outcomes may differ materially because of technical, market, permitting, financing and operational risks.

BUILDING THE RESOURCE BASE FOR A U.S. RARE EARTH SUPPLY CHAIN

The opportunity at Halleck Creek extends beyond the scale of its mineral resource. ARR's objective is to develop a domestic source of rare earth oxides and progress the technical work needed to connect those materials with U.S. metal and permanent magnet production.

The updated CSM development case provides a larger starting point for that strategy. Planned average annual NdPr oxide production increases from approximately 1,800 tonnes to 2,500 tonnes, while the modelled mine life increases from 20 to 26 years. The project configuration combines mining and mineral concentration at CSM with a separate hydrometallurgical refinery in Wyoming.

ARR's work with Novex is evaluating the next step in the supply chain: converting rare earth oxide into metal. A 50 kg concentrate sample is with Novex in the United States for recovery optimisation and a program intended to progress through to NdPr metal. This work is developmental and does not yet establish commercial metal production.

Together, these activities support the Company's ambition to supply materials for permanent magnets used in defence, aerospace, electric vehicles, power generation, robotics and other advanced industries. The updated Scoping Study evaluates the mine and oxide production case; it does not establish the economics of a completed mine to magnet business.

"Our ambition is to turn Halleck Creek's resource scale into a long term source of rare earth materials for American industry. This study gives investors a clearer view of the first development phase and the work that is moving it forward.

"We are now evaluating a mine with 50% greater processing capacity, 36% more annual NdPr oxide production and a longer operating life than the 2025 base case. That is a substantial platform from which to advance the project.

"Just as important is the work beyond the study. We are testing how to recover more value from the ore, refining the infrastructure and processing configuration, and working with Novex on the pathway from oxide to metal. Our focus is on the decisions that can improve the project before major capital is committed.

"We see an opportunity for Halleck Creek to become a significant domestic source of rare earth materials. Our job now is to advance the technical, permitting and funding work needed to turn that opportunity into a development decision."

- Mark Wall, Chief Executive Officer, American Rare Earths

JORC FRAMEWORK ALIGNED WITH SEC INITIAL ASSESSMENT

The 2026 Scoping Study has been prepared under the JORC Code (2012) and reflects the same technical basis, mine plan and cost estimates that underpin the parallel U.S. SEC Regulation S-K, Subpart 1300 Assessment. The Company has undertaken this conversion to ensure compliance with ASX regulations as

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ARR advances its NASDAQ listing preparation. The report conversion to JORC now delivers one integrated technical story presented in formats that meet both Australian and U.S. reporting requirements.

A LARGER FIRST PHASE AT HALLECK CREEK

CSM is the first development phase of the broader Halleck Creek Project, which hosts a reported JORC Mineral Resource of approximately 2.63 billion tonnes at 3,292 ppm total rare earth oxides ("TREO"). The updated study evaluates an initial CSM mine plan rather than development of the entire Halleck Creek resource.

Key measure	2025 Scoping Study base case	2026 Scoping Study base case
Planned ROM throughput	3.0 Mtpa	4.5 Mtpa
Modelled mine life	20 years	26 years
Start of commissioning / commercial production	-	Year 2030 / 2031
Material mined in the mine plan	62.3 Mt	135.0 Mt
Waste mined	23.6 Mt	18.7 Mt
Average annual NdPr oxide production	Approximately 1,833 tonnes	Approximately 2,500 tonnes
After tax NPV at 10% real	US$558 million	US$764 million
After tax NPV at 8% real	Not used as headline base case	Approximately US$1.07 billion
After tax IRR	24%	21%
Reported after tax payback from first capital	2.7 years	6.9 years
Initial capital, including contingency	US$456 million	US$900 million
Contingency	US$76 million; 20%	Approx. US$210 million; 30% of direct capital
Closure capital	Included within the study framework	US$56 million
NdPr oxide price assumption	US$91/kg[1]	US$151/kg
Average operating cost	Based on 2023 cost inputs	US$39.68/t ROM processed

Basis of comparison: The updated case changes processing scale, mine life, product pricing, recoveries, capital and operating costs. Higher modelled NPV should not be attributed solely to technical improvements. The 2026 base case uses an 8% real discount rate, compared with 10% in the 2025 headline case; NPVs at different discount rates are not a direct measure of value improvement.

The 2026 estimates are stated in constant Q1 2026 U.S. dollars. The assumed US$151/kg NdPr oxide price is a study input, not a contracted sales price. Payback figures require confirmation on a consistent timing basis before comparison. Mineral Resources are not Ore Reserves and do not have demonstrated economic viability. 391 M tonnes of material is currently classified as Indicated. The production target is based on 100% Indicated Mineral Resources. No Inferred Mineral Resources or Exploration Target material

[1] American Rare Earths, ASX announcement, 24 February 2025, including the study pricing and economic summary: https://www.aspecthuntley.com.au/asxdata/20250224/pdf/02916370.pdf

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is scheduled as mill feed in the production target. The Mineral Resources underpinning the production target were prepared in accordance with the JORC Code by the named Competent Persons.

The project is most sensitive to NdPr recovery, NdPr pricing, and discount rate. Single-variable sensitivities were evaluated over a range of -30% to +30%. The results demonstrate that project economics remain most influenced by NdPr pricing and recovery assumptions. Refer to Chapter 18 of the Scoping Study for the detailed sensitivity analysis.

TECHNICAL WORK DEFINES THE DEVELOPMENT CASE

The updated study incorporates a larger mine plan, more detailed engineering and revised cost estimates. It also adopts lower product recoveries and a higher capital contingency than the 2025 study, providing an updated basis for the next phase of project assessment.

The development concept comprises mine site comminution and concentration, with a separate hydrometallurgical refinery in the Wheatland or Laramie area. CSM is located on Wyoming State mineral leases, with near surface mineralisation and proximity to regional highway, rail, natural gas and power infrastructure. Site selection, infrastructure requirements and permitting remain part of the development work.

Initial capital is estimated at US$900 million, comprising approximately US$690 million of direct capital and US$210 million of contingency. The 30% contingency allowance applies to direct capital, compared with 20% in 2025. Closure of US$56 million at the end of mine life is provided separately.

The larger capital requirement reflects the expanded development case and revised engineering and cost allowances. The estimate remains at Scoping Study level, with stated accuracy of approximately ±30% to ±50%; a higher contingency does not remove construction, financing or execution risk.

RECOVERY OPTIMISATION TARGETS FURTHER VALUE

The updated study uses the following recoveries to product. The reductions, particularly for the heavy rare earths, are material and remain a focus of the ongoing test work.

Product	2025 recovery	2026 recovery
NdPr oxide	63.9%	58.2%
Terbium oxide	70.2%	28.7%
Dysprosium oxide	66.5%	12.4%
Samarium, europium and gadolinium (SEG) product	70.1%	25.8%

Nagrom and Saskatchewan Research Council: A large sample is currently with Nagrom in Perth, with transfer to Saskatchewan Research Council in Canada scheduled for December 2026. The program is targeting improvements in NdPr and heavy rare earth recovery.

Novex: The 50 kg concentrate program in the United States is evaluating oxide recovery and the route to NdPr metal. Additional work includes process performance for NdPr, terbium, dysprosium, samarium and yttrium, together with evaluation of a U.S. rare earth metal production facility under the existing MoU.

Reagent consumption, operating costs and process configuration are further areas for optimisation. Potential recovery improvements, additional product streams and downstream opportunities remain

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subject to test results and further assessment; they should not be treated as established project outcomes.

ADVANCING THE NEXT DEVELOPMENT MILESTONES

The PFS remains in progress. ARR is evaluating recovery, infrastructure, project configuration and development sequencing before finalising the prefeasibility study, while advancing Feasibility Study work related to drilling and resource definition. The objective is to maintain progress without committing prematurely to choices that could affect capital efficiency or operating performance.

The 2026 Scoping Study is an update on the work completed to date and replaces the previously issued 2025 Scoping study, and is not a substitute for the prefeasibility study, which is currently ongoing. Drilling and associated technical work undertaken to support future reserve definition have not been incorporated into this Scoping Study and remain part of the ongoing feasibility study program.

"The most valuable decisions are often made before the feasibility study starts. Our focus is on getting the recovery assumptions, plant configuration, infrastructure and execution plan right while those choices can still materially improve project outcomes with minimal additional cost.

We are working through those decisions in the PFS and advancing suitable feasibility work in parallel. The objective is a better defined project with appropriate trade-offs considered, and a disciplined pathway towards a development decision."

- Andrew Conover, Chief Development Officer, American Rare Earths

Workstream	Next milestone or objective
Pilot and demonstration program	Confirm and optimise NdPr and heavy rare earth recovery; separated rare earth oxide targeted for late Q2 2027.
Nagrom and SRC	Continue current test work and transfer the sample to SRC during December 2026 for additional recovery optimisation.
Novex oxide to metal program	Advance the 50 kg concentrate test program towards oxide recovery optimisation and production of NdPr metal from Halleck Creek material.
Engineering and study progression	Resolve key infrastructure, site configuration, capital and operating cost trade offs for the PFS; advance suitable Feasibility Study work in parallel.
Permitting and water studies	Progress the WDEQ Land Quality Division permit to mine application with WWC Engineering, together with hydrology and hydrogeology work.
Broader Halleck Creek opportunity	Continue the Whole of Property Assessment to evaluate development opportunities beyond the initial CSM case.
U.S. capital markets readiness	Progress PCAOB audits and SEC S-K 1300 technical disclosure work in support of a potential Nasdaq listing pathway.

These are planned workstreams and targets, not guarantees of timing or outcome. Completion of the PFS, subsequent studies, permitting and financing will be required to support future development decisions.

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FUNDING AND U.S. CAPITAL MARKETS READINESS

Development would require approximately US$900 million of initial capital, including contingency, materially exceeding the Company's current cash resources and would require funding from a combination of sources.

ARR considers a range of funding options potentially available based on the strategic importance of developing a domestic U.S. rare earth supply chain, the scale and life of the Project, and funding structures commonly used for large critical minerals projects. These options may include strategic investors, project debt, equity funding, government-supported programs, and joint venture arrangements.

In the near term, funding will primarily be required to complete additional studies, permitting and project development activities. The funding required for these activities is expected to be substantially less than the estimated construction capital.

The Company has previously announced a non-binding Letter of Interest from the Export-Import Bank of the United States (EXIM). The Letter of Interest is not committed financing and remains subject to further evaluation, due diligence and approvals.

No formal project financing process has commenced and there can be no assurance that funding will be available when required or on acceptable terms. Equity financing may dilute existing shareholders, while joint ventures or other funding arrangements may reduce ARR's ownership interest or economic exposure to the Project.

The updated JORC Scoping Study shares its underlying technical basis with the parallel SEC Regulation S-K, Subpart 1300 Initial Assessment prepared to support a potential Nasdaq listing. The reports use different reporting standards and are not interchangeable. Listing readiness does not constitute approval of a listing or assurance of project funding.

Competent Person statement and supporting disclosure

This work was reviewed and approved for release by Mr. Kelton Smith (Society of Mining, Metallurgy & Exploration #4227309RM) who is employed by Tetra Tech Inc. and has sufficient experience which is relevant to the processing, separation, metallurgical testing 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. Smith is an experienced technical manager with a degree in Chemical engineering, operations management, and engineering management. He has held several senior engineering management roles at rare earth companies (Molycorp and NioCorp) as well as ample rare earth experience as an industry consultant. Mr. Smith consents to the inclusion in this announcement of the matters based upon the information in the form and context in which it appears.

This work was reviewed and approved for release by Mr. Patrick A Sobecke (Society of Mining, Metallurgy and Exploration #04133849RM) who is employed by Stantec and has sufficient experience which is relevant to the mining plan 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. Sobecke is a Professional Engineer (IL 062.064122) with over 21 years of experience in multiple commodities, mining methods and countries. Mr. Sobecke consents to the inclusion in this announcement of the matters based upon the information in the form and context in which it appears.

This work was reviewed and approved for release by Mr Alfred J Gillman, a Fellow and Chartered Profession of the Australasian Institute of Mining and Metallurgy (AusIMM 107303). Mr. Gillman is an independent

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geological consultant to American Rare Earths Limited and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity being undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). Mr. Gillman consents to the inclusion in this announcement of the matters based on his information in the form and context in which they appear.

This work was reviewed and approved for release by Mark W. Travis, CPG, a Certified Professional Geologist and member of the American Institute of Professional Geologists (AIPG CPG-12090). Mr. Travis is an independent geological consultant to American Rare Earths Limited and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity being undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). Mr. Travis consents to the inclusion in this announcement of the matters based on his information in the form and context in which they appear.

This announcement has been authorized for release by the Board of American Rare Earths Limited.

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ABOUT AMERICAN RARE EARTHS LIMITED

American Rare Earths (**ASX: ARR | OTCQX: ARRNF | ADR: AMRRY**) is a critical minerals company at the forefront of reshaping the U.S. rare earths industry. Through its wholly owned subsidiary, Wyoming Rare (USA) Inc. ("WRI"), the company is advancing the Halleck Creek Project in Wyoming, a world class rare earth deposit with the potential to secure America's critical mineral independence for generations. Located on Wyoming State land, the Cowboy State Mine within Halleck Creek offers cost efficient open pit mining methods and benefits from streamlined permitting processes in this mining friendly state.

With plans for onsite mineral processing and separation facilities, Halleck Creek is strategically positioned to reduce U.S. reliance on imports, predominantly from China, while meeting the growing demand for rare earth elements essential to defense, advanced technologies, and economic security. As exploration progresses, the project's untapped potential on both State and Federal lands further reinforces its significance as a cornerstone of U.S. supply chain security. In addition to its resource potential, American Rare Earths is committed to environmentally responsible mining practices and continues to collaborate with U.S. Government supported R&D programs to develop innovative extraction and processing technologies for rare earth elements. Further information is available at www.americanree.com.

FORWARD LOOKING STATEMENTS

This announcement contains forward-looking statements that involve subjective judgement and analysis and accordingly, are subject to significant uncertainties and risks, many of which are outside the control of, and are unknown to, American Rare Earths ("**ARR**"). In such circumstances, the forward-looking statements can be identified by the use of forward-looking words such as "may", "will", "expect", "intend", "seek", "estimate", "believe", "continue" or other similar words. No representation, warranty or assurance is given or made in relation to any forward-looking statement by ARR or its representatives, In addition, no representation, warranty or assurance is given in relation to any underlying assumption or that any forward-looking statements will be achieved. Actual future events may vary materially from the forward-looking

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statements and the assumptions on which the forward-looking statements are based. Accordingly, announcement readers are cautioned not to place undue reliance on such forward-looking statements as a result of the uncertainties. ARR wishes to caution readers that these forward-looking statements are based on economic predictions and assumptions on reserves, mining method, production rates, metal prices and costs (both capital and operating) developed by ARR management in conjunction with consultants. This presentation and the forward-looking statements made in this announcement, speak only as of the date of the announcement. Accordingly, subject to any continuing obligations under the Corporations Act and the Australian Securities Exchange Listing Rules, ARR disclaims any obligation or undertaking to publicly update or revise any of the forward-looking statements in this announcement, whether as a result of new information, or any change in events, conditions or circumstances on which any such statements is based.

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Appendix A – Halleck Creek JORC Table

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 specialized 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.*	Sample material from the CSM Project includes rock chip outcrop samples, channel samples, RC drill samples, and diamond drill core. Wyoming Rare maintains SOPs for sample collection, logging, security, and transport
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Rock chip samples are split in the office. One part is ground to P100-P180 mesh (0.08 mm) and analyzed in triplicate on an Olympus Vanta handheld XRF analyzer. Odessa Resources' 2024 statistical evaluation confirmed that increasing the core sample interval from 1.5 m to 3.0 m has no significant influence on resource estimates.
	Aspects of the determination of mineralization that are Material to the Public Report.	Rare earth mineralization at Halleck Creek is disseminated, allanite-hosted and is not visually distinguishable in core or chips. Determination of mineralization therefore rests entirely on laboratory assay rather than on visual logging or estimation. The determinations that are Material to the Report are: total rare earth oxide (TREO) grade; the split of TREO into light, medium and heavy fractions (LREO, MREO, HREO); and the proportion of magnet rare earth oxides, principally neodymium–praseodymium (NdPr), which accounts for approximately 87% of life-of-Project revenue in the economic analysis. TREO, LREO, MREO and HREO are reported as sum calculations of the individually assayed rare

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		earth element grades. Thorium, uranium, zirconium and iron were also estimated. (Chapter 5; Sections 7.5 and 10.8.)
	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 pulverized 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 mineralization types (e.g. submarine nodules) may warrant disclosure of detailed information.	Rock chip, channel, RC, and diamond core sampling methods used at Halleck Creek are consistent with industry standards for this deposit type.
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.).*	Drilling used two methods across four campaigns from 2022 to 2024: HQ diamond core drilling (28 holes, 3,362 m, 63.5 mm core) and reverse circulation drilling (70 holes, 9,128 m). Core was sampled at 1.5 m intervals prior to 2024 except at lithological breaks; 2024 core holes were sampled at 3.0 m intervals. RC drilling produced three chip samples per 1.5 m interval using a rotary sample splitter.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	Core recovery at Halleck Creek is approximately 96% for diamond core holes. No quantitative recovery figure was calculated for RC drilling; no zones of loss or zero-sample recovery were recorded in any RC program.
	Measures are taken to maximize sample recovery and ensure the representative nature of the samples.	Recovery of core and RC chips to surface has been consistently high. The rotary sample splitter used in RC drilling provides representative samples.

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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.	No relationship between sample recovery and grade has been assessed or reported in the Scoping Study. Diamond core recovery averages approximately 96%, and no zones of core loss or zero-sample recovery were recorded in any of the four drilling campaigns. The dataset therefore contains little recovery variation against which grade could be tested. On that basis sample bias arising from preferential loss or gain of fine or coarse material is not considered likely, but this has not been quantitatively demonstrated and remains an item for the next study stage. (Section 6.2.5.)
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 core and RC chip cuttings were logged in detail by Wyoming Rare geologists, including RQD, lithology, and alteration. WSP-trained geologists have completed geotechnical logging since 2023.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Logging includes quantitative RQD measurement and qualitative description of lithology and alteration. All core is photographed. RC cuttings are logged under 10x binocular microscope and photographed for each hole.
	The total length and percentage of the relevant intersections logged.	All 98 drill holes completed to date have been geologically logged in full, comprising 28 HQ diamond core holes (3,362 m) and 70 reverse circulation holes (9,128 m) for a total of 12,490 m (40,979 ft). Logging coverage is therefore 100% of drilled meters, and all 98 holes are included in the resource models. Geotechnical logging is not continuous across the full dataset. Geotechnical logging by WSP-trained geologists has been undertaken since 2023, and 48 geotechnical core samples from 11

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		drill holes were collected during the Fall 2024 program. (Sections 6.2.1, 6.2.4 and 6.4.)
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	Diamond core was cut longitudinally in half using a core saw. Core sample intervals were selected at lithological breaks, measured with a tape measure, marked on the core and core box with a paint pen, and tagged with ALS sample tags and barcodes. One half of the cut core was submitted for assay, with the remaining half retained in the core box for reference.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	RC drilling uses a rotary sample splitter, producing three samples (plus a fourth reserve split) per 1.5 m interval: one for chip trays, one for in-house XRF analysis, and one for external assay.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Diamond core sample intervals are set by lithologic breaks and never cross lithology boundaries. Intervals are measured with a tape measure and marked on the core with a paint pen. ALS sample tags and barcodes are affixed to the core box, with entries recorded in the sample booklet. RC sampling uses a rotary splitter producing separate chip-tray, XRF, and assay splits for each interval.
	Quality control procedures adopted for all sub-sampling stages to maximize the representivity of samples.	CRMs were inserted at a rate of approximately 1 per 19 samples for both RC and diamond core drilling. Total QA/QC insertion rates for the 2024 programs were 6.84% for diamond core (35 samples) and 4.51% for RC drilling (60 samples), including CRMs, blanks, and duplicates.

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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.	Company duplicate samples (riffle splits of coarse rejects) returned a regression R^2 greater than 0.99 for all elements against TREE content.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample support is 1.5 m (approximately 5 ft) for rock chip, channel, reverse circulation and pre-2024 diamond core sampling. For the 2024 core program, Odessa Resources carried out a statistical evaluation demonstrating that 3.0 m sample lengths have no statistically significant influence on resource estimates, provided lithological contacts are sampled discretely; 2024 core holes accordingly used 3.0 m intervals in homogeneous lithology with shorter intervals at contacts. Mineralogical characterization by SGS Lakefield established P80 and median grain sizes by mineral phase for the REE-bearing minerals. The Scoping Study does not contain an explicit assessment of sample mass against grain size. The mineralization is fine grained, disseminated and evenly distributed, and variography of TREO returned a near-zero nugget with long ranges, which is consistent with sample sizes being adequate for the material being sampled. (Sections 5.5.5.3, 7.1 and 10.6.)
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 analyses samples by ICP-MS using the ME-MS81d package (including ME-ICP06 for whole rock analysis), providing quantitative results for all rare earth elements, major oxides, and selected trace elements.
	For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including	Surface rock chip samples are analyzed in triplicate using an Olympus Vanta handheld XRF analyzer as an initial screening tool ahead of external laboratory assay.

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	instrument make and model, reading times, calibrations factors applied and their derivation, etc.	
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	QA/QC included company and laboratory blanks, company and laboratory duplicates (R^2 > 0.99 for TREE), and CRMs (CDN-RE-1201 and CDN-RE-1202 internally; AMIS0304, OREAS 146, OREAS-101b, and SY-5 at ALS). Two CDN-RE-1201 results (Nd and Pr) and one ALS OREAS-101b result fell outside acceptable tolerance and require further investigation.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	Odessa Resources Pty Ltd (Alfred Gillman, FAusIMM CP (Geol.)) independently reviewed the surface sample, channel sample, and drill hole data across the CSM and verified the data as suitable for resource estimation.
	The use of twinned holes.	No twinned holes have been drilled at Halleck Creek, and none are reported in the Scoping Study.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All drill hole collar information, surveys, lithology, alteration, assays, and geotechnical data are entered into the DHDB. Validation checks include gaps and overlaps in lithology, alteration, and assay data, cross-referencing of collar and lithologic depths, and verification that assay depths correspond to logged lithologic intervals. Data is uploaded to the DHDB server daily.
	Discuss any adjustment to assay data.	No adjustment, factoring or recalculation of assay data is reported. Grades were not capped and no outlier restrictions were applied at any estimation pass. TREO, LREO, MREO and HREO are reported as sums of the individually assayed rare earth element grades rather

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		than as adjusted or derived values. Handheld XRF readings are used as a field screening tool only and do not substitute for, or adjust, the ALS laboratory assays used in the resource estimate. (Sections 7.5 and 10.8.)
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.*	Drill hole collars were surveyed by Laramie Land Surveying, registered professional land surveyors, using the NAD 1983 UTM Zone 13 North projection. Downhole deviation surveys were collected for all holes except the 2022 maiden program, which was drilled vertically.
	Specification of the grid system used.	Drill hole, trench, and surface sample locations are stored using the NAD 1983 UTM Zone 13 coordinate system. WGS 1984 latitude/longitude coordinates are retained as secondary coordinates.
	Quality and adequacy of topographic control.	Topographic control is provided by LiDAR data acquired from the United States Geological Survey, released publicly in August 2022 under the USGS Earth MRI project. Wyoming Rare personnel processed the LiDAR imagery into high-resolution topographic surfaces for use in ArcGIS and Leapfrog, and these surfaces were used to constrain the geological model and the block model. Topographic control is considered adequate for a resource estimate at this stage. (Section 10.1.)
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	Drill spacing at Red Mountain is irregular, approximately 50-150 m (revised by Odessa Resources in July 2026 from an earlier ~200 m estimate). The Measured resource area at Overton Mountain is based on approximately 90 m drill spacing.

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	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.	Empirical observations and statistical analysis, supported by variography, confirm a high degree of geological and grade continuity within the Red Mountain rock masses.
	Whether sample compositing has been applied.	Grades were composited to 1.5 m (5 ft), the dominant sampling 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 controlled by batholith-scale fractionation, not by structural (fracture or vein) control.
	If the relationship between the drilling orientation and the orientation of key mineralized structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	As mineralization is not structurally controlled, drilling orientation relative to any mineralized structure is not considered to have introduced a sampling bias.
Sample security	*The measures are taken to ensure sample security.*	Samples are transported daily from the drill site to the Wyoming Rare warehouse in Laramie, Wyoming, a locked facility within a gated site accessible only to Wyoming Rare personnel. Chains of custody are prepared prior to shipment; all shipments use licensed, bonded carriers. ALS Laboratories' LIMS tracks sample assay progress. Returned assay pulps are stored in locked cabinets at the Laramie warehouse.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	No external audits or reviews of sampling techniques and data are reported. Two CDN-RE-1201 standard results (Nd and Pr) and one ALS OREAS-101b result fell outside acceptable tolerance and remain unresolved.

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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.*	Wyoming Rare controls mineral rights through 364 unpatented federal lode mining claims administered by the BLM (approximately 6,264 acres) and four Wyoming State Mineral Leases administered by WOSLI (approximately 1,844 acres), together totaling approximately 8,107 acres (3,281 ha). The Wyoming State Mineral Leases, assigned to Wyoming Rare in June 2021, constitute the core of the CSM project area addressed in this Scoping Study. A sliding-scale royalty of 5% to 10% on revenue is payable to the State of Wyoming on production from the State Mineral Leases; no other royalties are known to apply.
	The security of the tenure held at the time of reporting and any known impediments to obtaining a license to operate in the area.	Wyoming Rare has not received any violations or fines from the State of Wyoming or federal government in connection with Halleck Creek. Wyoming Rare holds a License to Explore by Dozer permit and an active exploration drilling permit (DN-0511) from WDEQ-LQD, and has not yet filed a mine permitting application. The point of valuation for the State of Wyoming royalty is currently under review with WOSLI. Water rights have not been adjudicated for the Project.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	Anderson (1995) documented anomalous REE values at Red Mountain in a PhD thesis, providing the basis for later exploration interest. Blackfire Minerals acquired the Wyoming State Mineral Leases in 2010 and conducted preliminary research before dropping the leases in 2011 due to low REE prices; no drilling or resource estimation was completed. Zenith Mineral Ltd. reactivated the Project in 2018, staked five federal lode claims, and collected

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		87 surface samples in 2019 showing broad REE mineralization exceeding 2,000 ppm TREO; no Mineral Resources were compiled or reported by Zenith.
Geology	*Deposit type, geological setting and style of mineralization.*	The CSM Project is hosted within the Red Mountain Pluton (RMP), a magmatic allanite-hosted REE deposit composed primarily of monzonitic to syenitic rocks, classified as an A-type granite. REE mineralization is attributed to fractional crystallization during the final stages of magma evolution, concentrating allanite and other REE-bearing phases. Hydrothermal alteration in the RMP is minimal and does not appear to have significantly affected REE mineralization.
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:*	Drilling has been carried out in four campaigns since 2021. Campaign 1 (March-April 2022): nine HQ diamond core holes, five at Overton Mountain and four at Red Mountain, all vertical with no downhole deviation surveys, assayed by AAL in Sparks, Nevada. Campaign 2 (October-December 2022): 38 reverse circulation holes at Red Mountain and Overton Mountain, extending the known lateral and depth extent of mineralization, with downhole surveys collected for all holes and samples assayed by ALS Global. Campaign 3 (2023): infill core and RC drilling in the County Line, Trail Creek, and Red Mountain prospect areas; drill hole HC23-OM028 was extended to 302 m, and the Red Mountain domain was extended by approximately 100 m vertically. Campaign 4 (July-October 2024): a combined RC and diamond core program at the CSM area of Red Mountain, refining local geology at the eastern RMP contact with the Sybille intrusion and Archean granites, with

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		geotechnical logging and updated mineralogical characterization (SGS Lakefield TIMA-X) also completed.
	easting and northing of the drill hole collar	Drill hole data from the 2022-2024 exploration campaigns is published in the "Technical Report of Exploration and Maiden Resource Estimates, Halleck Creek Rare Earths Project" (March 2023), the "Technical Report of Exploration and Updated Resource Estimates, Halleck Creek Rare Earths Project" (January 2024), the "Halleck Creek Updated Scoping Study Technical Report (Revision 3)" (28 February 2025), and the "Halleck Creek REE Project, Red Mountain Update Report" (Odessa Resources, 1 November 2025).
	elevation or RL (Reduced Level – elevation above sea level in meters) of the drill hole collar	Collar elevations were captured in the same registered survey and are held in the DHDB. Elevations are consistent with the LiDAR topographic surface used for the geological and block models. Individual collar RLs are not tabulated in the Scoping Study. (Sections 6.2.6 and 10.1.)
	dip and azimuth of the hole	Downhole deviation surveys were collected for all drill holes other than those of the 2022 maiden program, which were drilled vertically. Survey data are stored in the DHDB and were used in the resource models. Individual hole dips and azimuths are not tabulated in the Scoping Study. (Section 6.2.7.)
	downhole length and interception depth	No intercepts are reported as Exploration Results, so interception depths are not tabulated. Mineralization has been observed to a depth of 298 m at Red Mountain and 302 m at Overton Mountain, and both areas remain open at depth. Downhole lengths for every hole are held in the DHDB. (Sections 5.5.1 and 6.2.1.)

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	Hole length.	Individual hole lengths are not tabulated. Aggregate lengths are reported by area and hole type: Red Mountain 6,565 m from 50 holes, Overton Mountain 5,925 m from 48 holes, for a Project total of 12,490 m from 98 holes. (Section 6.2.1.)
	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.	TheScoping Study reports a Mineral Resource estimate; it does not report Exploration Results, and no individual intercepts are quoted. Hole-by-hole collar, survey and intercept tabulations are therefore not considered Material to an understanding of the Report, and their omission does not detract from it. The underlying data for all 98 holes is held in the DHDB, was validated for gaps and overlaps and for consistency between collar, lithologic and assay depths, and was independently reviewed by Odessa Resources (Alfred Gillman, FAusIMM CP (Geol.)) and verified as suitable for resource estimation. Should Exploration Results be reported in a future public report, a full drill hole tabulation should be appended. (Chapter 8; Section 7.7.)
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 Exploration Result intercepts are aggregated or reported in the Scoping Study. For resource estimation, assay grades were composited to 1.5 m (5 ft), the dominant sampling interval. No weighting, maximum or minimum grade truncation, top-cutting or capping was applied, and no outlier restrictions were used at either estimation pass. The Mineral Resource is reported above a cut-off grade of 1,000 ppm TREO. (Sections 10.4.1, 10.8 and 10.12.)
	Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the	Not applicable. No aggregated intercepts are reported, and therefore no aggregation of short high-grade lengths with longer

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	procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	low-grade lengths arises. Mineralization at Halleck Creek is bulk-hosted and disseminated rather than occurring as discrete high-grade intervals.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values are reported. Grades are reported as TREO and as its LREO, MREO and HREO components, and as individual rare earth oxides, each derived as a sum of individually assayed element grades. The economic analysis models revenue from four separately priced products — NdPr oxide, SEG (samarium–europium–gadolinium) oxide, terbium oxide and dysprosium oxide — rather than from a metal-equivalent grade. (Chapter 18.)
Relationship between mineralization widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralization 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').*	Mineralization is a large, near-surface, disseminated body controlled by batholith-scale fractionation rather than by discrete mineralized structures. The Scoping Study states that, because mineralization is not structurally controlled, drilling orientation relative to any mineralized structure is not considered to have introduced a sampling bias. No intercepts are reported as Exploration Results and no true-width corrections have been applied or required. Any downhole lengths held in the database are downhole lengths; true widths are not separately reported. (Chapter 5; Section 10.10.1.)
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.*	Maps and cross sections are included in this Report, including a mineral tenure map, a surface control map, and a simplified geologic map of the Laramie Anorthosite Complex showing the location of the Red Mountain Pluton.

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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 practiced to avoid misleading reporting of Exploration Results.*	The Scoping Study reports a Mineral Resource estimate for the whole modelled deposit above a 1,000 ppm TREO cut-off rather than selected intercepts, so reporting is inherently balanced. Grades were not capped or truncated and no outlier restrictions were applied, so high and low grades are represented as assayed. Resource statements are presented both by classification category and by mineral ownership, and both the full Halleck Creek Project resource and the narrower Cowboy State Mine / Red Mountain resource are given, with the respective areas and cut-off grades stated. The Scoping Study also discloses unfavorable information, including two certified reference material exceedances (Nd and Pr) and one external standard anomaly that remain unresolved, and the comparatively lower confidence of the Overton Mountain portion of the deposit. (Sections 10.13, 7.6 and 21.9.)
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.*	Ground geophysical surveys have not been employed at Halleck Creek. The homogeneous nature of the host lithology and the low levels of radionuclides, metallic oxide minerals, and sulfide minerals do not lend themselves to conventional geophysical exploration methods. Wyoming Rare geologists were evaluating the use of handheld gamma spectrometers during the 2025 field season.
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).*	ARR/Wyoming Rare plans continued geological mapping, surface sampling, and targeted drilling to improve geological confidence and evaluate prospective areas within the broader Red Mountain Pluton, including the Bluegrass and County Line areas. Additional infill drilling in selected portions of the existing Mineral Resource is

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		also planned to support future refinement of Mineral Resource classifications.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	The Scoping Study sets out a sequenced work program toward a Pre-Feasibility Study, that is currently in progress, with an order-of-magnitude budget of approximately US$7.0 million, comprising: geology and exploration US$2.0 million; metallurgy and process recovery US$1.5 million; engineering and infrastructure US$750,000; PFS integration and study preparation US$750,000; permitting US$500,000; environmental and social programs US$500,000; mining and geotechnical engineering US$500,000; process flowsheet reconciliation US$350,000; and Mineral Resource update and refinement US$150,000. Exploration-specific work comprises continued geological mapping and surface sampling; targeted drilling to improve geological confidence and to expand the Mineral Resource footprint where warranted, including evaluation of the Bluegrass and County Line areas within the broader Red Mountain Pluton; and additional infill drilling in selected portions of the existing Mineral Resource to support refinement of resource classification. A 2026 drilling program was in progress at the effective date, and its results are to be incorporated in any future Mineral Resource update supporting the Pre-Feasibility Study. (Chapter 22.)

Section 3 Estimation and Reporting of Mineral Resources
(Criteria listed in the preceding section also apply to this section.)

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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.*	All drill hole and surface sample data were imported into the DHDB drill hole database, maintained by Wyoming Rare since 2004 and tailored for rare earth element data. Assay and QA/QC data are imported directly from certified laboratory data, minimizing data entry errors, and detailed validation queries are applied to the drill hole data.
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.*	Alfred Gillman (Odessa Resources) visited the site on 7 March 2024, including Red Mountain and the core storage facility at Western Research Institute (Wyoming Rare) in Laramie, Wyoming. Patrick Sobecke (Stantec) visited the site on 10 February 2025, accompanied by Erick Kennedy (Stantec) and Sara Stotter (ARR). Mark Travis (Arkenstone Exploration) visited the site on 12-13 May 2026. Kelton Smith (Tetra Tech) has visited the site on numerous occasions in 2024, 2025, and 2026.
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 geological resource model was created by Odessa Resources using Leapfrog Edge modeling tools. A revised three-dimensional geological model isolates the higher-grade Red Mountain Pluton (RMP) domain from surrounding lithologies. Modeling domains comprise Quaternary alluvium (QAL), RMP (clinopyroxene quartz monzonite), RMP1 (biotite-hornblende quartz syenite and fayalite monzonite), the unmineralized Elmers Rock Greenstone Belt (ERGB), low-grade Sybille intrusions (SYB), and the Laramie Anorthosite Complex country rock (LAC).

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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 Red Mountain project area is approximately 2,075 m x 1,013 m; the Overton Mountain project area is approximately 1,210 m x 1,648 m. Both deposits remain open at depth: mineralization has been observed to a depth of 302 m at Overton Mountain and 298 m at Red Mountain.
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 sulfur for acid mine drainage characterization).* *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*	Grade estimation was carried out by Odessa Resources in Leapfrog Edge using ordinary kriging. A standard variogram was modelled on undomained TREO composites and the interpolant profile developed for TREO was applied to the individual rare earth elements and minerals. Estimations were carried out on each rare earth element together with UO_2, ThO_2, ZrO_2 and Fe, so deleterious and non-grade variables of economic significance were estimated alongside the pay elements. Final TREO, HREO, LREO and MREO grades are reported as sum calculations of the respective element grades. An orthogonal block model was used with a parent block size of 20 m by 20 m by 10 m and a minimum block size of 5 m by 5 m by 2.5 m. Several block sizes were trialed; differences in the resulting estimates were almost imperceptible, and the 20 by 20 by 10 m parent block was selected for faster processing and reporting. Parent block size is small relative to the approximately 50–150 m drill spacing. No selective mining unit consideration was made, on the basis that mining a resource of this magnitude would use the maximum bench height permitted by geotechnical considerations. Two estimation passes were used at Red Mountain: Pass 1 with a 150 by 150 by 120 m search ellipsoid, minimum 4 and maximum 15 samples; Pass 2 with a 500 by 500 by 220 m ellipsoid, minimum

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	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.*	2 and maximum 15 samples. At Overton Mountain the corresponding searches were 150 by 150 by 75 m and 300 by 300 by 75 m. Resource boundary limits were set at 90% of the sill range from variography. Grades were not cut or capped and no outlier restrictions were applied, on the basis of the homogeneous, low-nugget nature of the mineralization. Check estimates were run using inverse distance squared and nearest neighbor methods (see 'validation' below). The estimate supersedes the March 2024 Scoping Study estimate and the differences are reconciled in Section 10.14. There are no mine production records, as the Project has no production history. By-product recovery is not assumed within the Mineral Resource estimate; recovery assumptions are applied only in the downstream economic analysis. (Sections 10.6 to 10.8 and 10.14.)
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Validation runs (inverse distance squared, isotropic ID2, ID2 with variogram, and nearest neighbor) were compared against the kriged estimator and against raw composite data in east-west and north-south swath plots across Red Mountain. The kriged estimator was found to estimate a global resource grade with no systematic bias towards overestimating grades.
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 estimated on a dry in-situ basis, using a specific gravity / dry bulk density of 2.70 derived from hydrostatic testing. Natural moisture content was not separately determined and no moisture allowance is applied to the reported tonnages. (Sections 7.3 and 10.3.)

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Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	The Mineral Resource is reported at a cut-off grade of 1,000 ppm TREO. Stantec developed net smelter return (NSR) calculations based on recovering oxides of NdPr, La, Dy, Tb, and SEG (mixed samarium, europium, and gadolinium), which demonstrated that 1,000 ppm TREO is the economic cut-off grade for in situ resource estimates within the proposed resource limits.
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.*	Resource material is at surface and can be mined with conventional open-pit mining equipment. Uncontrolled minerals (not controlled by ARR) were excluded from the resource estimate. Pit shell optimization using Whittle software confirms the Mineral Resource at CSM is amenable to open-pit mining at grades above the cut-off, with the resource located at or near surface at a low strip ratio.
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.*	Metallurgical and mineralogical studies indicate that REE recoveries are broadly homogeneous across the Red Mountain and Overton Mountain resource areas. Representative core material from both areas was used to establish the concentration flowsheet, and geologist's logs and REE assays are consistent with the observed homogeneity of the deposit.
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*	The Mineral Resource is assumed to be amenable to conventional open-pit mining. The material is at or near surface and can be

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	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.	mined with conventional open-pit equipment, and minerals not controlled by ARR were excluded from the resource estimates. Pit shell optimization using Whittle software, carried out for the Scoping Study, confirms that the Mineral Resource at the Cowboy State Mine is amenable to open-pit mining at grades above the cut-off and that the resource sits at or near surface with a low strip ratio. The Scoping Study mine plan assumes a base-case processing rate of 4.5 Mtpa over approximately 26 years, mining 116.4 Mt of ore and 18.7 Mt of waste at a life-of-Project strip ratio of 0.16:1. Indicated Mineral Resources only are scheduled as mill feed; Inferred material falling within the designed pits is scheduled as waste. No selective mining unit was assumed in the block model, on the basis that mining would be undertaken at the maximum bench height permitted by geotechnical considerations. Minimum mining dimensions and internal or external mining dilution factors are not explicitly stated in the Scoping Study and should be defined at the Pre-Feasibility stage. (Sections 10.11 and Chapter 12.)
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.*	Dry bulk density is based on hydrostatic testing of 10 core samples from Cowboy State Mine core, including both untreated and wax-impregnated samples. A fixed specific gravity of 2.70 was adopted and applied as a constant value across all domains to derive tonnage; no domain-specific SG values were applied.
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc),	Hydrostatic testing of untreated and wax-impregnated samples confirmed a narrow range of specific gravity values across the deposit, supporting the use of a single fixed SG of 2.70. The full

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	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.*	Halleck Creek composite weighted average SG (untreated) was 2.70, based on the 10 core samples tested.
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 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.*	The resource is classified as Measured, Indicated, or Inferred. Classification is based on geological continuity (mineralization is controlled by batholith-scale fractionation rather than structural control, with a high degree of continuity confirmed by empirical observation and variography) and on drill spacing, which is irregular at approximately 50-150 m at Red Mountain (revised by Odessa Resources in July 2026 from an earlier ~200 m estimate) and approximately 90 m at Overton Mountain, where the Measured resource is established. A high degree of conservatism was applied to the classification, particularly the Indicated component.
Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	The Red Mountain variogram was re-examined following the Fall 2024 drilling program and remains unchanged from the previous model, supporting the robustness of the original resource model.
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.*	Uncertainty associated with sampling, drilling, geological interpretation, data processing, density assignment, and resource estimation has been incorporated into the Mineral Resource classification. The Qualified Person concluded that the quantity and quality of available geological, drilling, sampling, density, analytical, and estimation data are sufficient to support the reported Mineral Resource in accordance with the JORC Code (2012 Edition), and that the deposit retains potential for further

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	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.*	expansion through additional drilling beyond the limits of the current resource model.

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.*	No Ore Reserve estimate has been prepared for the Halleck Creek Project. No Mineral Resources have been converted to Ore Reserves.
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.*	Alfred Gillman (Odessa Resources) visited the site on 7 March 2024, including Red Mountain and the core storage facility at Western Research Institute (Wyoming Rare) in Laramie, Wyoming. Patrick Sobecke (Stantec) visited the site on 10 February 2025, accompanied by Erick Kennedy (Stantec) and Sara Stotter (ARR). Mark Travis (Arkenstone Exploration) visited the site on 12-13 May 2026. Kelton Smith (Tetra Tech) has visited the site on numerous occasions in 2024, 2025, and 2026.
Study status	*The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.*	The Halleck Creek Project is at the Scoping Study stage. Pre-Feasibility Study is in progress and drilling to support the

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	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.	Feasibility Study has been completed. This Scoping Study (September 2026) states there are no Ore Reserves to report.
Cut-off parameters	*The basis of the cut-off grade(s) or quality parameters applied.*	Ore is defined at a cut-off grade of 1,000 ppm TREO. Material falling above this cut-off grade is considered ore and sent to on-site processing; material below the cut-off reports to the waste rock storage facility. The cut-off is based on net smelter return (NSR) calculations developed by Stantec, recovering oxides of NdPr, La, Dy, Tb, and SEG.
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 (i.e. either by application of appropriate factors by optimization 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 optimization (if appropriate).* *The mining dilution factors used.* *The mining recovery factors used.*	The CSM deposit is planned to be mined by open-pit methods using conventional truck-and-shovel extraction; the mine plan does not include underground mining. A life-of-mine schedule was developed using Deswik software. Total ore mined over the life of the Project is 116.4 Mt against 18.7 Mt of waste, a strip ratio of 0.16:1, over a 26-year mine plan at 4.5 Mtpa. All ore in the mining schedule is drawn from the Indicated Mineral Resource category; no Inferred material was scheduled as ore.

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	Any minimum mining widths used. *The manner in which Inferred Mineral Resources are utilized in mining studies and the sensitivity of the outcome to their inclusion.* *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 mineralization.* *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 proposed process comprises mine-site comminution and concentration (dense media separation, WHIMS) followed by hydrometallurgical extraction, impurity removal, and separation/finishing at a proposed refinery near Wheatland, Wyoming. Overall concentration-circuit TREO recovery is estimated at 65%, sulfuric-acid tank-leach extraction at 90%, and combined impurity removal and separation/finishing at 96-98% on a per-product basis. Estimated cumulative recovery to saleable product is approximately 58.2% for NdPr oxide, 25.8% for SEG oxide, 28.7% for terbium oxide, and 12.4% for dysprosium oxide. These estimates are preliminary and subject to revision as further test work and pilot-scale confirmation are completed.
	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 appropriate mineralogy to meet the specifications?*	Approximately 2,794 tons of unweathered ore was collected under a License to Explore by Dozer permit in August 2025 and used for metallurgical testwork programs. Completion of a pilot and demonstration plant program, currently targeted for the end of 2026, is identified as the highest-priority metallurgical workstream ahead of the next study stage.
Environmental	*The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterization and the consideration of potential sites, status of design options considered*	Environmental baseline data collection is underway, including completed soil, vegetation, and wildlife desktop and field studies, and a completed Aquatic Resources Report with USACE

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	and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	Jurisdictional Determination approval. Wyoming Rare is preparing a permit-to-mine application with WWC Engineering for WDEQ-LQD. No detailed mine closure and reclamation plan has yet been completed; this will be developed as part of the WDEQ-LQD permitting process.
Infrastructure	*The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labor, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	Regional infrastructure includes the town of Wheatland (population 3,560), approximately 39 km northeast of the CSM, served by the BNSF Railroad mainline and Interstate 25. A 46 kV electrical substation is located approximately 3.7 km from the western boundary of the state mineral leases. Planned mine-site infrastructure includes an access road upgrade from County Road 720, a fresh water well, a powerline connection, mine-site process plant buildings, a temporary waste rock depository, and a sand byproduct storage facility, all at scoping-level design and cost accuracy. No infrastructure has yet been constructed at the site.
Costs	*The derivation of, or assumptions made, regarding projected capital costs in the study.* *The methodology used to estimate operating costs.* *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.*	Initial capital expenditure is estimated at approximately US$900 million, including a 30% contingency on direct capital. Closure costs of US$56 million are provided for in the final year of operations and are included in life-of-Project operating cost rather than capital; total life-of-Project capital cost is therefore US$900 million. Life-of-project operating cost is estimated at approximately US$4,618 million (undiscounted), equivalent to approximately US$39.68 per ton of ROM material processed. Reagents account for approximately 49.9% of life-of-project operating cost across all functional areas.

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	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.	The Project is subject to a sliding-scale Wyoming State royalty of 5% to 10% of gross revenue (or a minimum of $0.50 per saleable ton), a 2% Wyoming severance tax, a 7% Albany County ad valorem tax, and a 0.875% industrial property tax. Total royalties, levies, and federal income tax over the modeled operating life are estimated at approximately US$1.6 billion.
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.* *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	Four REO products are modeled for revenue: NdPr oxide, terbium oxide, dysprosium oxide, and SEG mixed oxide; lanthanum recovery is included in the flowsheet but excluded from base-case revenue given current market conditions. Base-case pricing (USD/kg, Western CIF) is $151.00 for NdPr oxide, $27.37 for SEG oxide, $1,975.20 for terbium oxide, and $533.80 for dysprosium oxide, derived from Adamas Intelligence's independent Rare Earths Market Outlook as the average of 2031-2040 pricing profiles. NdPr oxide accounts for approximately 87.1% of total life-of-project revenue. All prices are held constant in Q1 2026 USD with no escalation.
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.*	Global rare earth production is geographically concentrated, with approximately two-thirds occurring in China and approximately 20% in the United States and Australia; REE refining is even more concentrated in China. Demand for NdPr is driven principally by permanent magnets used in defense, electric vehicles, and consumer electronics, with the IEA forecasting demand for neodymium to nearly double over the next 25 years. Adamas Intelligence forecasts global TREO demand for permanent magnets to grow at an 8.4% CAGR from 2025-2040, while magnet rare earth production grows more slowly at 7.8% CAGR, implying a widening supply deficit. Adamas projects magnet rare earths will drive over

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		85% of the Halleck Creek project basket value each year from 2030 to 2040.
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.*	The economic evaluation is presented in constant Q1 2026 USD with no escalation, assuming an owner-operated open-pit mine and two-stage processing (mine-site concentration plus refinery), a 4.5 Mtpa base-case processing rate, a three-year construction period, and 26 years of active mining. A real after-tax discount rate of 8.0% is adopted for the base case (10.0% shown for comparison). The analysis assumes the 21% U.S. federal corporate income tax rate (no Wyoming state income tax) and a 14% depletion allowance. The base case yields an after-tax NPV of approximately US$1,073 million at 8%, an after-tax IRR of approximately 21%, and an after-tax payback period of approximately 6.9 years.
Social	*The status of agreements with key stakeholders and matters leading to social license to operate.*	No social impact studies have been completed at this stage of project development. ARR plans to engage and employ local contractors and operators throughout permitting, construction, and operation where possible. No definitive community engagement plans have been established; a community needs assessment and community engagement framework are recommended for the next study stage.
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.*	No Ore Reserve estimate has been prepared for the Project

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	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.	
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).*	No Ore Reserves are reported for the Project.
Audits or reviews	*The results of any audits or reviews of Ore Reserve estimates.*	No Ore Reserve estimate has been prepared; consequently, no audit or review of an Ore Reserve estimate has been conducted.
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.*	No Ore Reserves are reported for the Project.

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	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 recognized 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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HALLECK CREEK RARE EARTH PROJECT

Albany County and Platte County, Wyoming, USA

JORC TECHNICAL REPORT SUMMARY

SCOPING STUDY

American Rare Earths Limited. (ASX: ARR; OTCQX: ARRNF)

Wyoming Rare (USA) Inc. -- U.S. Operating Subsidiary

Halleck Creek Rare Earth Project — Red Mountain Pluton, Wyoming
(Cowboy State Mine and Overton Mountain resource areas)

Editor: Mark W. Travis, CPG-12090, d/b/a Arkenstone Exploration.

Date: September 29, 2026 | SS Effective Date:

September 29, 2026

Table of Contents

Executive Summary 1

1 Introduction 7

1.1 Terms of Reference and Purpose 7

1.2 Report Purpose and Intended Use 7

1.3 Competent Persons 8

1.4 Site Visits and Scope of Personal Inspection 8

1.5 Effective Date 8

1.6 Previously Filed Technical Report Summaries 9

1.7 Sources of Information 9

1.8 Units of Measure, Currency, and Abbreviations 9

1.9 Statement of Independence 15

1.10 Scope Limitations 15

2 Property Description 16

2.1 Property Location 16

2.2 Ownership 18

2.3 Mineral Title and Tenure 18

2.3.1 Unpatented Federal Lode Mining Claims 18

2.3.2 Wyoming State Mineral Leases 20

2.4 Surface Rights 20

2.5 Water Rights 22

2.6 Royalties and Agreements 22

2.7 Encumbrances 22

2.7.1 Permitting Requirements 22

2.7.2 Violations and Fines 22

2.8 Significant Factors and Risks Affecting Access, Title, or Right to Perform Work 23

3 Accessibility, Climate, Local Resources, Infrastructure, and Physiography 24

3.1 Physiography and Topography 24

3.2 Accessibility and Roads 24

3.3 Climate 24

3.4 Local Resources and Existing Infrastructure 25

3.4.1 Power Supply 25

For personal use only

3.4.2 Water Supply 25
3.4.3 Personnel 25
3.4.4 Suppliers 25
3.4.5 Communications 25
3.5 Adjacent Properties 26
4 History 27
4.1 Historical Context and Regional Exploration 27
4.2 Historical Ownership and Operator Sequence 27
4.3 ARR/Wyoming Rare Exploration Activity (2021–2026) 28
4.3.1 Geological Mapping and Surface Sampling (2021–2024) 28
4.3.2 Exploration Drilling Campaigns (2022–2024) 28
4.3.3 Channel Sampling (2025) 29
4.3.4 Bulk Sampling (2025) 29
4.4 Previous Mineral Resource Estimates 29
4.5 Previous Technical Studies 30
4.6 Production History 30
5 Geological Setting and Mineralization 31
5.1 Deposit Type and Genetic Model 31
5.2 Regional Geology 31
5.3 Local and Property Geology 33
5.3.1 Rock Units and Lithologies 33
5.3.2 Contact Relationships — Adjacent Rock Units 36
5.4 Structural Setting 40
5.5 Deposit Evolution and Petrogenesis 42
5.6 Alteration 43
5.7 Mineralization 43
5.7.1 Mineral Assemblage 43
5.7.2 Petrography of REE-Bearing Minerals 43
5.7.3 Mineralogical Characterization 44
5.8 Deposit Dimensions 46
6 Exploration and Drilling 47
6.1 Historical Exploration and Ownership 47
6.2 Coordinate Systems and Survey Grids 47

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6.3 Geological Mapping 47
6.4 Surface Geochemical Sampling 48
6.5 Geophysical Surveys 49
6.6 Channel Sampling 49
6.7 Competent Person Opinion on Exploration Information 50
6.8 Exploration Potential 50
6.9 Overview of Drilling Programs 51
6.10 Drilling Campaign Chronology 51
6.11 Drill Methods 52
6.12 Core and Chip Logging 52
6.13 Core Recovery 52
6.14 Collar Surveys 52
6.15 Downhole Surveys 52
6.16 Geotechnical Drilling 53
6.17 Daily Safety Protocols 53
6.18 Competent Person Opinion on Drilling 54
7 Sample Preparation 54
7.1 Sampling Techniques 54
7.1.1 Rock Chip Sampling 54
7.1.2 Channel Sampling 54
7.1.3 Reverse Circulation Drilling Sampling 54
7.1.4 Diamond Core Drilling Sampling 55
7.1.5 Sample Security 55
7.2 Dry Bulk Density Determination 55
7.3 Sample Preparation and Analysis 56
7.3.1 RC Sample Preparation 56
7.3.2 Analytical Testing Laboratories 56
7.3.3 Analytical Methods 57
7.4 Quality Assurance and Quality Control 57
7.4.1 Company Blanks 57
7.4.2 Laboratory Blanks 59
7.4.3 Company Duplicates 60
7.4.4 Laboratory Duplicates 64

For personal use only

7.4.5 Certified Reference Materials — Standards 64
7.5 Competent Person Opinion on Sampling Adequacy 66
8 Data Verification 67
8.1 Standard Operating Procedures 67
8.2 Data Verification by Independent Competent Person 67
8.3 Site Inspection by Filing Competent Person 67
8.4 Geotechnical Data Verification 68
8.5 Hydrology and Hydrogeology Data Verification 68
8.5.1 Hydrology 68
8.5.2 Hydrogeology 68
8.6 Competent Person Statement on Data Verification Adequacy 68
9 Metallurgical 69
9.1 Introduction and Overview 69
9.2 Test Laboratories 69
9.3 Sample Selection and Preparation 70
9.4 Feed Mineralogy 70
9.5 Comminution 71
9.6 Concentration 71
9.6.1 Gravity Concentration 71
9.6.2 Induced Roll Magnetic Separation (IRMS) 71
9.6.3 WHIMS for Fines 72
9.6.4 Concentration Circuit Selected for the IA 72
9.7 Extraction 72
9.8 Impurity Removal 72
9.8.1 Primary Neutralization (Fe/Th Removal) 73
9.8.2 Secondary Neutralization (Al/U Removal) 73
9.8.3 Uranium Ion Exchange 73
9.8.4 Rare Earth Bulk SX 73
9.9 Proposed Process Flowsheet 73
9.9.1 Mine Site — Concentration Circuit 73
9.9.2 Refinery Site — Extraction, Impurity Removal, and Separation 74
9.10 Recovery Estimates 74
9.11 Metallurgical Variability 74

For personal use only

9.12 Deleterious Elements 74
9.13 Competent Person Opinion on Adequacy of Metallurgical Test Work 75
10 Mineral Resource Estimate 75
10.1 Introduction 75
10.2 Full Halleck Creek Project Mineral Resource Statement 75
10.3 Resource Database 76
10.4 Geological Domains 77
10.5 Topography 79
10.6 Exploration Data and Data Preparation 79
10.7 Compositing and Grade Statistics 79
10.8 Dry Bulk Density 81
10.9 Block Model 81
10.10 Variography 81
10.11 Grade Estimation Methodology 84
10.12 Model Validation 84
10.13 Resource Classification 85
10.14 Reasonable Prospects for Eventual Economic Extraction (RPEEE) 88
10.15 Cut-Off Grade 88
10.16 Red Mountain Area Resource Statement (1,000 ppm TREO Cut-off) 88
10.17 Resource Estimate Differences from Previous Estimates 90
10.18 Uncertainty and Factors Affecting the Resource Estimate 92
10.19 Competent Person Conclusions 92
11 Ore Reserve Estimates 93
11.1 No Ore Reserves Declared 93
11.2 Project Stage — Scoping Study 93
11.3 Future Reserve Potential 93
12 Mining Methods 94
12.1 Introduction 94
12.2 Annual Mining Limits 94
12.2.1 Annual Production 94
12.2.2 Stockpiling 95
12.3 Schedule Summary Tables 95
12.4 Drill and Blast 99

For personal use only

12.5 Mine Equipment 100
12.5.1 Time Usage Model 100
12.5.2 Excavator Productivity 102
12.5.3 Truck Productivities 103
12.5.4 Drill Productivities 103
12.5.5 Fleet Estimation 103
12.6 Closure 104
12.6.1 Closure Planning 104
12.6.2 Reclamation and Mine Backfill 104
13 Processing and Recovery Methods 106
13.1 Process Summary 106
13.2 Preliminary Design Basis 109
13.2.1 Production Capacity 109
13.2.2 Product Rates 109
13.2.3 Process Design Feed Characterization 109
13.2.4 Operating Factor 109
13.2.5 Storage Capacities 110
13.2.6 Control and Automation 110
13.2.7 Radionuclides 110
13.3 Process Description 110
13.3.1 Comminution 110
13.3.2 Concentration 110
13.3.3 Extraction 111
13.3.4 Impurity Removal 111
13.3.5 Media Exchange and Lanthanum/Cerium Rejection 111
13.3.6 Separation and Finishing 112
13.4 Competent Person Opinion 112
14 Infrastructure 113
14.1 Regional Infrastructure 113
14.1.1 Power 113
14.1.2 Natural Gas 113
14.1.3 Water 113
14.1.4 Communications 113

For personal use only

14.2 Planned Infrastructure — Mine Site 114
14.2.1 Process Plant — Two-Site Configuration 114
14.2.2 Waste Rock Storage Facility 114
14.2.3 Manufactured Sand Byproduct Storage 114
14.3 Pre-Production Development Timeline 115
15 Market Studies and Contracts 116
15.1 Overview of Rare Earth Elements 116
15.2 Neodymium and Praseodymium (NdPr) 116
15.2.1 Supply 116
15.2.2 Demand 116
15.3 Terbium and Dysprosium (Tb/Dy) 117
15.4 Key Takeaways from Rare Earth Market Outlook for Halleck Creek by Adamas Intelligence 117
16 Environmental Studies, Permitting, and Social or Community Impact 119
16.1 Environmental Baseline Status 119
16.2 Permitting Framework 119
16.2.1 Wyoming State Permitting Agencies 120
16.2.2 Federal Permitting Agencies 120
16.2.3 Local Permitting 120
16.3 Environmental Management and Mine Closure 120
16.4 Social and Community Impact 121
16.5 Competent Person's Opinion 121
17 Capital and Operating Costs 122
17.1 Basis of Estimate 122
17.2 Initial Capital Cost Estimate 122
17.3 Operating Cost Estimate 123
17.4 Reagents and Consumables 126
17.5 Estimate Accuracy and Contingency 126
18 Economic Analysis 127
18.1 Caution Regarding the Use of Inferred Mineral Resources 127
18.2 Principal Assumptions 127
18.3 Product Recoveries and Pricing 128
18.4 Royalties and Taxation 129
18.5 Financial Summary 130

For personal use only

18.6 Sensitivity Analysis 132
18.7 Economic Analysis — Conclusions 135
19 Adjacent Properties 136
20 Other Relevant Data and Information 136
20.1 Radiometric (Gamma) Core Scanning Pilot Study 136
20.2 Radionuclide Content 136
20.3 No Other Material Information 136
21 Interpretation and Conclusions 137
21.1 Geology and Mineralization 137
21.2 Metallurgical Test Work 137
21.2.1 Comminution 137
21.2.2 Separation 137
21.2.3 Leaching 138
21.2.4 Rare Earth Recovery Products 138
21.3 Mining Methods 138
21.4 Recovery Methods 139
21.5 Infrastructure 139
21.6 Geological Model, Data Quality, and Drilling Density 139
21.7 Mineral Resource Estimate Confidence 140
21.8 Metallurgical and Process Engineering Maturity 140
21.9 Mining and Engineering Assumptions 140
21.10 Overall Technical Readiness 140
22 Recommendations 141
22.1 Overall Recommendation 141
22.2 Mineral Resource 141
22.3 Permitting 141
22.4 Environmental and Social Governance 142
22.5 Geology and Exploration 142
22.6 Engineering and Infrastructure 142
22.7 Mining and Geotechnical Engineering 142
22.8 Metallurgy and Process Recovery 142
22.9 Process Flowsheet Reconciliation 143
22.10 Future Work and Path to a Pre-Feasibility Study 143

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23 Reliance on Other Experts 145
23.1 Reliance on Legal Experts 145
23.2 Reliance on Environmental Experts 145
23.3 Reliance on Land Tenure and Claim Management Experts 146
23.4 Reliance on Economic and Market Information 146
23.5 Reliance on Geotechnical and Hydrogeological Data 146
23.6 Competent Person Responsibility Notwithstanding Reliance 146
23.7 Reliance on Information Provided by the Company 147
24 References 148

For personal use only

List of Figures

Figure 2-1. Property Location Map — Halleck Creek within Wyoming; LAC Regional Context 17
Figure 2-2. Mineral Tenure Map — State Leases and Federal Lode Claims 19
Figure 2-3. Surface Control Map — State, BLM, and Private Parcels within Project Area 21
Figure 5-1. Simplified Geologic Map of the Laramie Anorthosite Complex, Showing the Location of the Red Mountain Pluton and Associated Intrusions 32
Figure 5-2. Halleck Creek/Cowboy State Mine Project Geology Map (Plan View), Showing Distribution of Principal Rock Units 34
Figure 5-3. Stratigraphic Column for the Cowboy State Mine Project Area 35
Figure 5-4. Cross-Section A-A' of the Cowboy State Mine Project Area 37
Figure 5-5. Cross-Section B-B' of the Cowboy State Mine Project Area 37
Figure 5-6. Cross-Section C-C' of the Cowboy State Mine Project Area 39
Figure 5-7. Stereonet Exhibiting All Joint Measurement and Associated Rose Diagram 41
Figure 5-8. Stereonet Exhibiting Joint Set, Poles to Planes, and Mean Vectors 42
Figure 5-9. REE Mineral and Zircon Mineral Mass by Size Fraction and Calculated Head 45
Figure 5-10. Modal Mineralogy by Size and Calculated Head 46
Figure 6-1. Location Map of All Surface Samples at the Halleck Creek Project Area (approximately 950 samples collected since 2021) 48
Figure 6-2. Channel Sample CS25-RM001 (TREO 4,703 ppm) 50
Figure 7-1. CDN-BL-10: All REE Values for Internal QA/QC, Whole Rock 58
Figure 7-2. CDN-BL-10: All REE Values for Internal QA/QC, REE Analysis 58
Figure 7-3. ALS Blanks: REE Values 59
Figure 7-4. ALS Blanks: Whole Rock Blanks 60
Figure 7-5. Company Internal Duplicates — TREE Scatter Plot and Regression Curve ($R^2 > 0.99$) 61
Figure 7-6. Chart of Internal Duplicates for Ce and La 62
Figure 7-7. Chart of Internal Duplicates for Nd and Pr 63
Figure 7-8. Chart of ALS Duplicates for TREE 64
Figure 7-9. CDN-RE-1201 Internal CRM Tolerance Charts — Neodymium (Nd) and Praseodymium (Pr), Showing Two Results Outside Acceptable Limits 65
Figure 10-1. Modeled Geologic Domain Extents — CSM Area (Odessa/Leapfrog Edge) 78
Figure 10-2. Boxplot of TREO Grade for Geological Domains 80
Figure 10-3. Variography of TREO — Red Mountain Resource Area (Odessa, November 2025) 83
Figure 10-4. Resource Extent and Resource Classification Categories — Red Mountain (Odessa, 2025) 86
Figure 10-5. Cross-Section View Showing Resource Classification Limits 87
Figure 12-1. Total Material Movement by Phase and PREO Grade 95
Figure 12-2. Closure Regraded Design, Pit Lake 105
Figure 13-1. Preliminary Process Flowsheet — Halleck Creek Rare Earth Project 107

List of Tables

Table 1-1. Competent Persons 8
Table 1-2. Abbreviations 10
Table 4-1. Ownership and Operator History 27
Table 4-2. Exploration Drilling Summary by Area 29
Table 4-3.Mineral Resource Estimate History 30
Table 5-1. P80 and Median Grain Size (microns) by Mineral Phase 44
Table 6-1. Summary of Exploration Drilling by Area and Hole Type 51
Table 6-2. Geotechnical Core Samples by Drill Hole — Fall 2024 Program (Reconciled with ARR) 53
Table 6-3. Geotechnical Test Types and Counts — Fall 2024 Program (WSP, Burnaby, BC) 53

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Table 7-1. Specific Gravity/Dry Bulk Density Determination — 10 HQ Core Samples 55
Table 7-2. CRM Insertion Rates — 2024 Diamond Core Drilling Program (CDN-RE-1201, CDN-RE-1202, Blank, Duplicate; Total 35 QA/QC Samples at 6.84%) 57
Table 7-3. CRM Insertion Rates — 2024 Reverse-Circulation Drilling Program (CDN-RE-1201, CDN-RE-1202, Blank, Duplicate; Total 60 QA/QC Samples at 4.51%) 57
Table 10-1. Full Halleck Creek Project Mineral Resource Statement -- 1,000 ppm TREO Cut-Off, by Classification 76
Table 10-2. Data Type and Counts in DHDB — Halleck Creek Project (as of November 2025 MRE) 76
Table 10-4. Variogram Parameters — Red Mountain (Odessa, November 2025). Source: V3 Report Table 4; Scoping Study Table 10-2 82
Table 10-5. Grade Estimation Parameters — Search Ellipsoid Dimensions and Outlier Restrictions by Estimation Pass 84
Table 10-6. Red Mountain Area Mineral Resource Statement -- 1,000 ppm TREO Cut-Off, by Classification and Area (Effective Date: November 1, 2025) 89
Table 10-7. Red Mountain Area Mineral Resource Statement -- by Permit Area, 1,000 ppm TREO Cut-Off (Effective Date: November 1, 2025) 89
Table 10-8. Comparison of the Current Mineral Resource Estimate to the March 2024 Scoping Study Estimate 91
Table 12-1. Overall Material Breakdown Years 0 – 10 96
Table 12-2. Overall Material Breakdown Years 11 – 20 97
Table 12-3. Overall Material Breakdown Years 21 – LOM 98
Table 12-4. Drill and Blast Design Parameters 99
Table 12-5. Time Model Structure 100
Table 12-6. Time Model Metrics for Major Equipment 101
Table 12-7. Standby and Operating Delays for Major Equipment 101
Table 12-8. Excavator and Truck Rates 102
Table 12-9. Dump Time at Destinations 103
Table 12-10. Required Production and Support Equipment 103
Table 17-1. Initial Capital Cost Summary 123
Table 17-2. Operating Cost Summary 124
Table 17-3. Operating Costs Not Driven by ROM Tonnes Processed 125
Table 17-4. Reconciliation of Total Life-of-Project Operating Costs (Q1 2026 USD) 125
Table 18-1. Product Recovery and Life-of-Project Average Annual Production 128
Table 18-2. Product Pricing Scenarios (USD/kg, Western CIF) 129
Table 18-3. Royalty and Tax Framework 129
Table 18-4. Project Overview 131
Table 18-5. Product Pricing and Revenue Mix (Base Case, Life of Project) 131
Table 18-6. Before-Tax Project Economics (Base Case) 131
Table 18-7. After-Tax Project Economics (Base Case) 131
Table 18-8. After-Tax NPV Sensitivity at an 8.0% Discount Rate (Life of Project, USD M) 133

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Cautionary Statement

The information in this report relating to exploration results is based on data compiled by a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. The exploration results are preliminary in nature and are subject to further verification, sampling, and analysis. There is no certainty that further exploration will result in the determination of Mineral Resources or that any Mineral Resources, if identified, will be economically viable. Investors are cautioned not to place undue reliance on these results, as they may not be representative of the deposit as a whole.

Forward Looking Disclaimer

This announcement contains forward-looking statements within the meaning of applicable securities laws and in accordance with the 2012 Edition of the JORC Code. Such statements include, but are not limited to, estimates of mineral resources and reserves, anticipated production schedules, projected exploration results, and potential economic outcomes. Forward-looking statements are based on current expectations, assumptions, and interpretations of available data, which are subject to known and unknown risks, uncertainties, and other factors that may cause actual results to differ materially from those expressed or implied.

Factors that could cause actual results to differ include changes in commodity prices, variations in geological conditions, operational challenges, regulatory changes, and other risks inherent to the mining industry. The Company undertakes no obligation to update or revise any forward-looking statements to reflect events or circumstances after the date of this announcement, except as required by law.

EXECUTIVE SUMMARY

Project Overview and Property Location

The Halleck Creek Rare Earth Project (the Project) is an allanite-hosted rare earth element (REE) exploration and early-development project located in the central Laramie Range of Albany and Platte Counties, Wyoming, USA, approximately 43 miles (70 km) northeast of Laramie and near the town of Wheatland. The Project is held by Wyoming Rare (USA) Inc., the U.S. operating subsidiary of American Rare Earths Limited (ASX: ARR; OTCQX: ARRNF). This Scoping Study (SS) has been prepared under Australasian Joint Ore Reserves Committee (JORC), and addresses the full Halleck Creek Project, comprising the Cowboy State Mine/Red Mountain area, adjacent Red Mountain Federal unpatented lode claims, and the Overton Mountain resource area located approximately 1.6 miles (2.5 km) to the north.

Ownership

The Project comprises Wyoming State mineral leases and unpatented federal lode mining claims held by Wyoming Rare (USA) Inc., a wholly owned subsidiary of American Rare Earths Limited. American Rare Earths Limited acquired the state leases and initial federal claims from Zenith Mineral Limited in 2021 and has since

staked additional federal lode claims across the Halleck Creek district. Land tenure status, claim maintenance, royalty terms, and encumbrances are described in Chapter 2.

Deposit Style and Geological Setting

Halleck Creek is a magmatic, allanite-hosted REE deposit associated with the Red Mountain Pluton (RMP), a residual granitic body interpreted as a late-stage differentiate of the ca. 1.4 giga-annum (Ga) Laramie Anorthosite Complex (LAC). Mineralization is hosted principally in allanite, with zircon as a secondary REE-bearing mineral, within four intrusive rock units (fayalite monzonite, clinopyroxene quartz monzonite, biotite-hornblende quartz syenite, and Red Mountain granite). REE grades correlate with modal allanite and zircon abundance. The deposit is at or near surface across large areas of both the Red Mountain and Overton Mountain project areas and remains open at depth.

Exploration History

The Project area has a limited historical mining record; REE-enriched pegmatites in the broader Laramie Range were noted during 1950s Uranium prospecting but not developed. Modern exploration began with Blackfire Minerals (2010-2011) and Zenith Mineral Limited (2018-2021), followed by American Rare Earths Limited/Wyoming Rare (USA) Inc. from 2021 to date. Wyoming Rare (USA) Inc. has completed regional geological mapping, approximately 950 surface rock chip samples, a 2025 channel sampling program, and four drilling campaigns between 2022 and 2024, with an active 2026 drilling program underway as of the effective date of this Report.

Drilling

Between March 2022 and October 2024, Wyoming Rare (USA) Inc. completed 98 drill holes (28 HQ diamond core and 70 reverse-circulation holes) totaling 12,490 m across the Red Mountain (50 holes) and Overton Mountain (48 holes) resource areas. Diamond core recovery is approximately 96%; no quantitative reverse-circulation recovery figure has yet been established. Downhole deviation surveys were collected for all holes except the 2022 maiden vertical-hole program. Drilling data, together with surface and channel sample data, underpin the current geological and grade model.

Sample Preparation and QA/QC

Samples have been prepared and assayed principally by American Assay Laboratories and ALS Global, using ICP-MS/ICP-OES methods for the REE suite. The QA/QC program includes certified reference materials (CDN- and ALS-sourced standards), blanks, and duplicate sampling at approximately a 1-in-19 insertion rate. Overall, QA/QC performance is considered acceptable. Two CDN-RE-1201 standard exceedances for Nd and Pr and one OREAS-101b external standard anomaly were identified and warrant continued review as part of ongoing QA/QC evaluation.

Mineral Resource Estimate Summary

The full Halleck Creek Project Mineral Resource for this Report encompasses the Red Mountain area, including the Cowboy State Mine area, and Overton Mountain, and is reported at a 1,000 ppm Total Rare

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Earth Oxides (TREO) cut-off: approximately 2,627 million tonnes at an average grade of 3,292 ppm TREO, comprising Measured, Indicated, and Inferred.

Metallurgical Testwork Summary

Bench-scale metallurgical testwork conducted by Wood PLC, SGS Lakefield, Nagrom, the University of Kentucky, ALS Global, and other laboratories between 2022 and 2024 indicates that Halleck Creek mineralization is amenable to gravity and magnetic concentration (approximately 10× TREO upgrading with high mass rejection), followed by sulfuric acid tank leaching, achieving approximately 89% Neodymium (Nd) and Praseodymium (Pr) recovery and an average of approximately 60% recovery for Samarium (Sm) through Dysprosium (Dy). Conventional impurity removal and solvent extraction testing demonstrated the production of four saleable products: Neodymium and Praseodymium oxides (NdPr), Terbium oxide (Tb), Dysprosium oxide, and Samarium-Europium-Gadolinium oxide (SEG). Overall cumulative recovery to product is estimated at approximately 58.2% for Neodymium and Praseodymium oxides and approximately 23% for the heavy rare earth products.

Mining Concept

The Scoping Study contemplates conventional truck-and-shovel open-pit mining using 10-m benches and a low life-of-mine strip ratio of approximately 0.16:1, based on the current conceptual mine plan for the Cowboy State Mine. The conceptual mine design has been developed using pit-shell optimization and mine planning completed for the Scoping Study. Because mineralization extends to the surface, underground mining methods were not considered. Mine design parameters, including a 55° inter-ramp angle, remain preliminary and will be refined through future geotechnical investigations and subsequent engineering studies.

Ore Reserves have not been estimated. Mineral Resources are not Ore Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources will be converted into Ore Reserves.

Processing Concept

The conceptual flowsheet contemplates processing at two sites: comminution and concentration at the mine site, followed by leaching, impurity removal, rare earth oxalate precipitation, and solvent extraction/finishing at a proposed refinery near Wheatland or Laramie, Wyoming. The refinery site will be selected based on distance from the mine, and access to rail, power, and natural gas infrastructure.

Infrastructure

The Project benefits from proximity to existing regional infrastructure, including highway access, regional power distribution, Black Hills Energy natural gas service, and the town of Wheatland and Laramie. Site infrastructure required includes access road upgrades, water infrastructure, a powerline connection, process and administrative buildings, a sand byproduct stockpile, and a manufactured sand byproduct storage facility. Infrastructure and capital cost estimates are at a Scoping Study (AACE Class 4 to 5, plus or minus 30% to 50%) accuracy.

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Environmental and Permitting Status

The Project is at an early stage of environmental baseline data collection and permitting. Preliminary soil, vegetation, wildlife, and wetland baseline studies have been substantially completed, and an Aquatic Resources Report and USACE Jurisdictional Determination have been obtained. Wyoming Rare (USA) Inc., with WWC Engineering, is preparing a permit-to-mine application for the Wyoming Department of Environmental Quality, Land Quality Division. Hydrology and hydrogeology characterization is ongoing, and water rights negotiations have advanced significantly but are not yet secured. These items are disclosed as limitations in Chapters 8 and 16.

Market Context

Global rare earth supply and processing remain concentrated in China, which produces roughly two- thirds of mined REE supply and dominates separation and refining capacity. Government incentives in the United States, Australia, Canada, and Europe are intended to support non-China supply chains. Demand for Neodymium and Praseodymium (permanent magnets) and the heavy rare earths Terbium and Dysprosium is projected to grow materially through the early 2030s, driven by electric vehicle, wind turbine deployment, broad robotics, and other electronic uses. Commodity price assumptions used in the Scoping Study economic analysis were from Adamas Intelligence's independent Rare Earths Market Outlook for Halleck Creek; this reliance basis is disclosed in Chapter 15.

Key Assumptions and Scoping Study Level Economic Results

The economic analysis of this Scoping Study addresses only the initial mining operations at the Cowboy State Mine and does not include the broader Halleck Creek resources. The production schedule comprises Indicated Mineral Resources only; no Measured Mineral Resources have been estimated, and material classified as Inferred within the designed pits is scheduled as waste rather than as mill feed.

A conceptual open-pit operation is assumed at a base-case processing rate of 4.5 Mtpa over a mine life of approximately 26 years, mining 116.4 Mt of mineralized material and 18.7 Mt of waste at a life-of-Project strip ratio of 0.16:1. Processing is assumed in two stages: mine-site comminution and concentration, followed by hydrometallurgical extraction, impurity removal, and solvent extraction, separation, and finishing at a proposed refinery near Wheatland or Laramie. Construction is assumed over three years, with the first mineralized material in the fourth year.

Flowsheet development and the economic assumptions adopted for this Scoping Study are based on completed bench-scale metallurgical testwork and professional judgment. Product recoveries applied in the base-case economic model are 58.2% for NdPr oxide, 25.8% for combined SEG, 28.7% for Tb oxide, and 12.4% for Dp oxide, giving an overall recovery of approximately 54.6% of contained payable rare earth oxides (PREO). Base-case realized product prices, held constant in real terms over the life of the Project, are US$151.00/kg NdPr oxide, US$27.37/kg SEG, US$1,975.20/kg Tb oxide, and US$533.80/kg Dy. NdPr oxide contributes approximately 87% of life-of-Project revenue.

Initial capital cost is estimated at approximately US$900.8 million, comprising a base estimate of US$692.9 million and a 30% contingency of US$207.9 million, and is expended over the three-year construction period. Closure costs of US$55.9 million are provided for in the final year of operations and,

consistent with the economic model, are included in life-of-Project operating cost rather than capital; no contingency has been applied to the closure provision. Total life-of-Project capital cost is therefore US$900.8 million. No sustaining capital is provided for between the initial capital program and closure. Life-of-Project operating cost, including closure, is estimated at US$4,618 million, equivalent to approximately US$39.68 per tonne of Run of Mine Tonnes (ROM) mineralized material processed. All costs are stated in constant Q1 2026 U.S. dollars on an unescalated basis.

Development would require approximately US$900.8 million of initial capital, including contingency, materially exceeding the Company's current cash resources. Potential funding pathways include strategic participation, project debt and equity, government supported programs and joint venture arrangements.

The previously announced nonbinding U.S. EXIM Bank letter of intent is not committed financing. No formal project financing process has commenced. There is no certainty that funding will be available when required or on acceptable terms; equity funding may dilute existing shareholders, and other arrangements may affect ARR's ownership or economic interest in CSM.

A Wyoming State royalty is applied to extracted mineral revenue at rates of 6.92% (life-of-Project average) for NdPr and 5.00% for SEG, Tb, and Dy, subject to a minimum of US$0.50 per saleable tonne. Other areas of the Halleck Creek deposit are not subject to royalty. The economic analysis applies a 21% U.S. federal corporate income tax and a 14% percentage depletion allowance, limited to 50% of taxable income. Wyoming imposes no state income tax, but Wyoming severance tax, Albany County ad valorem tax, and Wyoming industrial property tax are applied and total approximately US$104 million over the life of the Project.

The economic analysis presented in Chapter 18 applies an 8.0% real after-tax discount rate as the base case. Under these assumptions, the Project generates an after-tax net present value of approximately US$1,073 million, an after-tax internal rate of return of approximately 20.7%, and an after-tax payback period of approximately 6.9 years from first capital expenditure.

These indicators support the conclusions of this Scoping Study but are subject to its estimate-accuracy limitations. This Scoping Study is preliminary in nature and does not constitute a Pre-Feasibility Study or Feasibility Study. No Ore Reserves have been declared.

Interpretation

Considered as a whole, the Halleck Creek Project is supported by a geologically coherent, multi-campaign exploration and drilling database; an iteratively refined Mineral Resource Estimate; scoping-to-preliminary-level mining and processing concepts; and a Scoping-Study-level economic analysis (Chapter 18) that yields positive after-tax financial indicators at the base-case commodity price, recovery, capital, and operating assumptions. These results support the reasonable-prospects-for-eventual-economic-extraction (RPEEE) conclusion required for Mineral Resource disclosure under JORC. The Competent Persons detailed interpretation and conclusions, organized by discipline, are presented in Chapter 21.

Summary Recommendations

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The recommendations presented in Chapter 22 outline a coordinated work program to advance the Cowboy State Mine toward a Pre-Feasibility Study. Key priorities include continued environmental baseline studies and permitting, completion of hydrological investigations and water rights activities, targeted geological and geotechnical programs to support resource and mine design refinement, engineering optimization of the proposed processing and infrastructure concepts, and pilot-scale metallurgical testing to confirm process performance and support subsequent engineering studies. Together, these workstreams represent the logical progression of technical evaluation for a project at the Scoping Study stage.

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1 INTRODUCTION

1.1 Terms of Reference and Purpose

This Scoping Study (SS), supported by the accompanying JORC Technical Report Summary (TRS) (collectively, the Report), provides an impartial and comprehensive evaluation of the Halleck Creek Rare Earth Project (Halleck Creek or the Project), located in Albany and Platte Counties, Wyoming, United States of America. The assessment encompasses the full Halleck Creek Project, including the Cowboy State Mine (Red Mountain), Red Mountain Federal, and Overton Mountain resource areas, and has been prepared for Wyoming Rare (USA) Inc. (Wyoming Rare), a wholly owned subsidiary of American Rare Earths Limited. (ARR or the Company). While this Scoping Study addresses the broader Halleck Creek Project, the development concept and economic analysis presented herein evaluate the Cowboy State Mine as the initial phase of potential Project development.

The purpose of this Report is to summarize the current geological, exploration, mineral resource, metallurgical, engineering, environmental, permitting, infrastructure, and economic information available for the Project at the Scoping Study level in accordance with the disclosure requirements of JORC Code. The Report provides the technical basis supporting the Registrant's evaluation of the Halleck Creek Project and is intended for use in applicable ASX filings and related public disclosures.

This Report has been prepared for use in applicable filings with the Australian Securities Exchange (ASX) and related public disclosures, in accordance with JORC Code.

Exploration results and Mineral Resource estimates described in this Report are based on, and fairly represent, information and supporting documentation prepared by Competent Persons (as defined under JORC). Technical inputs were reviewed in an impartial, rational, realistic, and logical manner, in line with industry standards.

1.2 Report Purpose and Intended Use

This report constitutes a Scoping Study under JORC and is based on the mining and processing conceptual design work completed by Stantec Consulting Services Inc. (Stantec) in February 2025 (as updated), the resource estimation completed by Odessa Resources Pty. Ltd. (Odessa) in November 2025, the metallurgical test-work and process development completed by Tetra Tech, Inc. (Tetra Tech) and supporting laboratory programs, and the supporting technical work described throughout this Report.

This Report is not a Pre-Feasibility Study or Feasibility Study. The capital and operating cost estimates presented in Chapter 17 and the economic analysis presented in Chapter 18 are prepared for Scoping Study accuracy (approximately ±30% to ±50%), supported by a 30% contingency. The economic analysis is included to demonstrate Reasonable Prospects for Eventual Economic Extraction (RPEEE) of the disclosed Mineral Resource; it should not be relied upon as a definitive assessment of Project economics. Ore Reserves have not been estimated and are not disclosed in this Report.

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1.3 Competent Persons

This Report has been prepared under the supervision of, or reviewed and accepted by, the Competent Persons (CPs) listed in Table 1-1, as defined under JORC.

Table 1-1. Competent Persons

Competent Persons	Credentials	Organization	Report Responsibility
Alfred J. Gillman	BSc (Geol) FAusIMM (CP Geol)	Odessa Resources Pty. Ltd. (Independent)	Mineral Resource Estimation (Chapter 10).
Mark W. Travis	BS (Geology) CPG CPG-12090, d/b/a	Arkenstone Exploration. (Independent)	Geology, Exploration, Sampling, QA/QC, and Data Verification (Chapters 5, 6, 7, 8, 20, 21)
Patrick A. Sobecke	PE, RM-SME	Stantec Consulting Services Inc. (Independent)	Mining Methods and Infrastructure (Chapters 12 and 14); Capital and Operating Costs (excluding processing, Chapter 17) and Economic Analysis (Chapter 18).
Kelton Smith	RM-SME	Tetra Tech, Inc. (Independent)	Mineral Processing and Metallurgical Testing (Chapter 9) and Processing and Recovery Methods (Chapter 13).

1.4 Site Visits and Scope of Personal Inspection

The following site visits have been conducted by the CP responsible for sections of this Report:

- Alfred J. Gillman (Odessa Resources): Site visit 07 March 2024 with ARR personnel. Included inspection of Red Mountain and core storage facility at Western Research Institute (Wyoming Rare) in Laramie, Wyoming.
- Patrick A. Sobecke (Stantec): Site visit 10 February 2025, accompanied by Erick Kennedy (Senior Mining Engineer, Stantec) and Sara Stotter (geologist, ARR). Included Red Mountain and core storage at Wyoming Rare.
- Mark W. Travis, CPG-12090, d/b/a Arkenstone Exploration: Site visit May 12 and 13, 2026, with Wyoming Rare (USA) Inc. personnel. Included Red Mountain and related site facilities.
- Kelton Smith (Tetra Tech): Has visited the site on numerous occasions in 2024, 2025, and 2026.

1.5 Effective Date

The effective date of this Report shall be the date on which the last CP signs the required certification. The effective date of the Odessa Resources Mineral Resource Update is 1 November 2025.

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1.6 Previously Filed Technical Report Summaries

No previous Technical Report Summaries have been filed with the ASX for the Halleck Creek Rare Earth Project. This Report constitutes the JORC Scoping Study for the Project.

The following technical reports have been publicly released by ARR under ASX disclosure obligations (JORC Code 2012) and constitute the body of existing technical work upon which this Scoping Study draws.

- Technical Report of Exploration and Maiden Resource Estimates, Halleck Creek Rare Earths Project, American Rare Earths, March 2023.
- Technical Report of Exploration and Updated Resource Estimates, Halleck Creek Rare Earths Project, American Rare Earths, 07 February 2024.
- Halleck Creek Updated Scoping Study Technical Report (Revision 3), Stantec Consulting Services Inc., 28 February 2025.
- Halleck Creek REE Project, Red Mountain Update Report — Methodology and Resource Estimation, Odessa Resources Pty. Ltd. (Alfred Gillman), 1 November 2025.

1.7 Sources of Information

In preparing this Report, the CP relied on the following categories of information.

- Technical information, reports, and databases prepared by Wyoming Rare and ARR geologic staff, including drill hole databases, sampling logs, geological mapping, and standard operating procedures.
- ASX releases and technical reports previously published for the Halleck Creek and Cowboy State Mine (CSM) project areas.
- Publicly available information from the Wyoming State Geological Survey (WSGS) and United States Geological Survey (USGS).
- Academic and technical papers including Anderson et al. (2003) and associated Laramie Anorthosite Complex (LAC) literature.
- Reports from specialist consultants including Stantec (mining engineering and economics), Tetra Tech (metallurgy and processing), Odessa Resources (resource estimation), Geosyntec (environmental and channel sampling), WWC Engineering (hydrology and permitting), and Burgex Inc. (claim management).

1.8 Units of Measure, Currency, and Abbreviations

Unless otherwise stated, all measurements are in metric system units: meters (m), metric tonnes (t), grams per tonne (g/t), and degrees Celsius (°C). Where Imperial units appear, they are designated as such. All currency values are in United States Dollars (USD). The economic analysis presented in this Scoping Study uses constant 2026 USD.

Rare earth element concentrations are reported as rare earth oxides (REOs) unless otherwise indicated. Key abbreviations used in this Report are listed in the table below.

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Table 1-2. Abbreviations

Abbreviation	Definition
AACE	AACE International (Association for the Advancement of Cost Engineering) cost-estimate classification system
AAL	American Assay Laboratories
ALS	ALS Global
AMSL	Above Mean Sea Level
ANFO	Ammonium Nitrate Fuel Oil
AQD	Air Quality Division
ARR	American Rare Earths Limited
ASX	Australian Securities Exchange
BEV	Battery Electric Vehicle
BHS	Biotite-Hornblende Quartz Syenite
BLM	Bureau of Land Management
BNSF	Burlington Northern Santa Fe Railroad
BS	Bachelor of Science
CAGR	Compound Annual Growth Rate
CALA	Canadian Association for Laboratory Accreditation
CIF	Cost, Insurance, Freight
CP	Competent Person as defined by JORC
CPG	Certified Professional Geologist
CQM	Clinopyroxene Quartz Monzonite
CRM	Certified Reference Material
CSM	Cowboy State Mine
CSTRs	Stirred Tank Reactor
DHDB	Drill hole database

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Abbreviation	Definition
EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortization
EDS	Energy Dispersive Spectroscopy
EMPA	Electron Probe Micro-Analysis
ERGB	Elmer's Rock Greenstone Belt
ERP	Emergency Response Plan
FAusIMM	Fellow of the Australasian Institute of Mining and Metallurgy
FM	Fayalite Monzonite
GPS	Global Positioning System
HPGR	High-Pressure Grinding Roll
HPSA	High-Pressure Slurry Ablation
HREE	Heavy Rare Earth Element(s)
HREO	Heavy Rare Earth Oxides
HV	Hybrid Vehicle
ICP-MS	Inductively Coupled Plasma Mass Spectrometry
ICP-OES	Inductively Coupled Plasma Optical Emission Spectrometry
IEA	International Energy Agency
IRMS	Induced Roll Magnetic Separation/Separator
IRR	Internal Rate of Return
ISO	International Organization for Standardization
JORC	Joint Ore Reserves Committee (JORC Code, 2012 Edition)
LAC	Laramie Anorthosite Complex
LIMS	Laboratory Information Management System
LLC	Limited Liability Company
LLD	Liquid Line of Descent

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Abbreviation	Definition
LNG	Liquefied Natural Gas
LOM	Life of Mine
LREO	Light Rare Earth Oxides
MOU	Memorandum of Understanding
MRE	Mineral Resource Estimate
MREO	Magnet Rare Earth Oxides
NAD	North American Datum
NDPR	Neodymium-Praseodymium
NEPA	National Environmental Policy Act
NPV	Net Present Value
NRC	Nuclear Regulatory Commission (Agreement State Program)
NSR	Net Smelter Return
OEM	Original Equipment Manufacturer
OK	Ordinary kriging
ORP	Oxidation Reduction Potential
OTCQX	OTCQX Best Market (stock exchange tier)
PLC	Public Limited Company
PLS	Pregnant Leach Solution
PREO	Payable Rare Earth Oxide
QA	Quality Assurance
QC	Quality Control
QP	Qualified Person
RC	Reverse Circulation drilling
REE	Rare Earth Elements

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Abbreviation	Definition
REM	Rare Earth Mineral
REO	Rare Earth Oxide(s)
RL	Reduced Level
RMG	Red Mountain Granite
RMP	Red Mountain Pluton
ROM	Run of Mine
RPEEE	Reasonable Prospects for Eventual Economic Extraction
RQD	Rock Quality Designation
SAG	Semi-Autogenous Grinding
SBS	Manufactured Sand Byproduct Storage
SEC	United States Securities and Exchange Commission
SEG	Samarium-Europium-Gadolinium mixed oxide
SEO	State Engineers Office
SFM	State Fire Marshall
SG	Specific Gravity
SGS	SGS Lakefield
SHPO	State Historic Preservation Office
SHWD	Solid and Hazardous Waste Division
SME-RM	Society for Mining, Metallurgy & Exploration – Registered Member
SMDF	Source Material Disposal Facility
SMU	Selective Mining Unit
SOP	Standard Operating Procedures
SS	Scoping Study
SX	Solvent Extraction

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Abbreviation	Definition
TIMA-X	TESCAN Integrated Mineralogical Analyzer
TREE	Total Rare Earth Elements
TREO	Total Rare Earth Oxide(s)
USA	United States of America
USACE	US Army Corps of Engineers
USD	United States Dollars
USFWS	US Fish and Wildlife Service
USGS	United States Geological Survey
VRM	Vertical Roller Mill
WDEQ	Wyoming Department of Environmental Quality
WGFD	Wyoming Game and Fish Department
WGS	World Geodetic System
WHIMS	Wet High-Intensity Magnetic Separation
WIM	World Industrial Minerals
WOSLI	Wyoming Office of State Lands and Investments
WOTUS	Waters of the United States
WQD	Water Quality Division
WRI	Wyoming Rare (USA) Inc
WRSF	Waste Rock Storage Facility
WSGS	Wyoming State Geological Survey
XRD	X-ray Diffraction
XRF	X-ray Fluorescence

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1.9 Statement of Independence

The CP contributing to this Report is independent of American Rare Earths Limited and Wyoming Rare within the meaning of JORC Standards No CP, nor any firm through which a CP is engaged, holds any direct or indirect ownership interest in the Company, in the Project, or in mineral tenements adjacent to the Project, and no CP expects to receive any consideration contingent on the contents of this Report other than customary consulting fees. Individual CP Certificates addressing the specific independence tests are included with the executed Report.

1.10 Scope Limitations

This TRS has been prepared as a Scoping Study in accordance with JORC Code. The following material limitations apply.

- Ore Reserves have not been estimated. Mineral Resources are not Ore Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources will be converted into Ore Reserves.
- The capital and operating cost estimates and the economic analysis are at Scoping Study accuracy (approximately ±30% to ±50%) and should not be relied upon as a definitive assessment of Project economics.
- No Pre-Feasibility Study or Feasibility Study has been completed. The Project is at an early-to-intermediate stage of development.
- Water rights are in progress but have not been secured for the Project—a material infrastructure uncertainty disclosed throughout this Report.
- No mine permit application has been filed. Environmental baseline studies are in progress.
- No regulatory approvals for mining have been granted.
- Metallurgical testwork is at bench-scale and pilot-scale. Additional testwork is ongoing.

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2 PROPERTY DESCRIPTION

2.1 Property Location

The Halleck Creek Rare Earth Project (the Project) is in the central Laramie Mountains of southeastern Wyoming, USA, within Albany and Platte Counties. The Project is situated approximately 43 miles (70 km) northeast of the City of Laramie and approximately 19 miles (30 km) southwest of the Town of Wheatland.

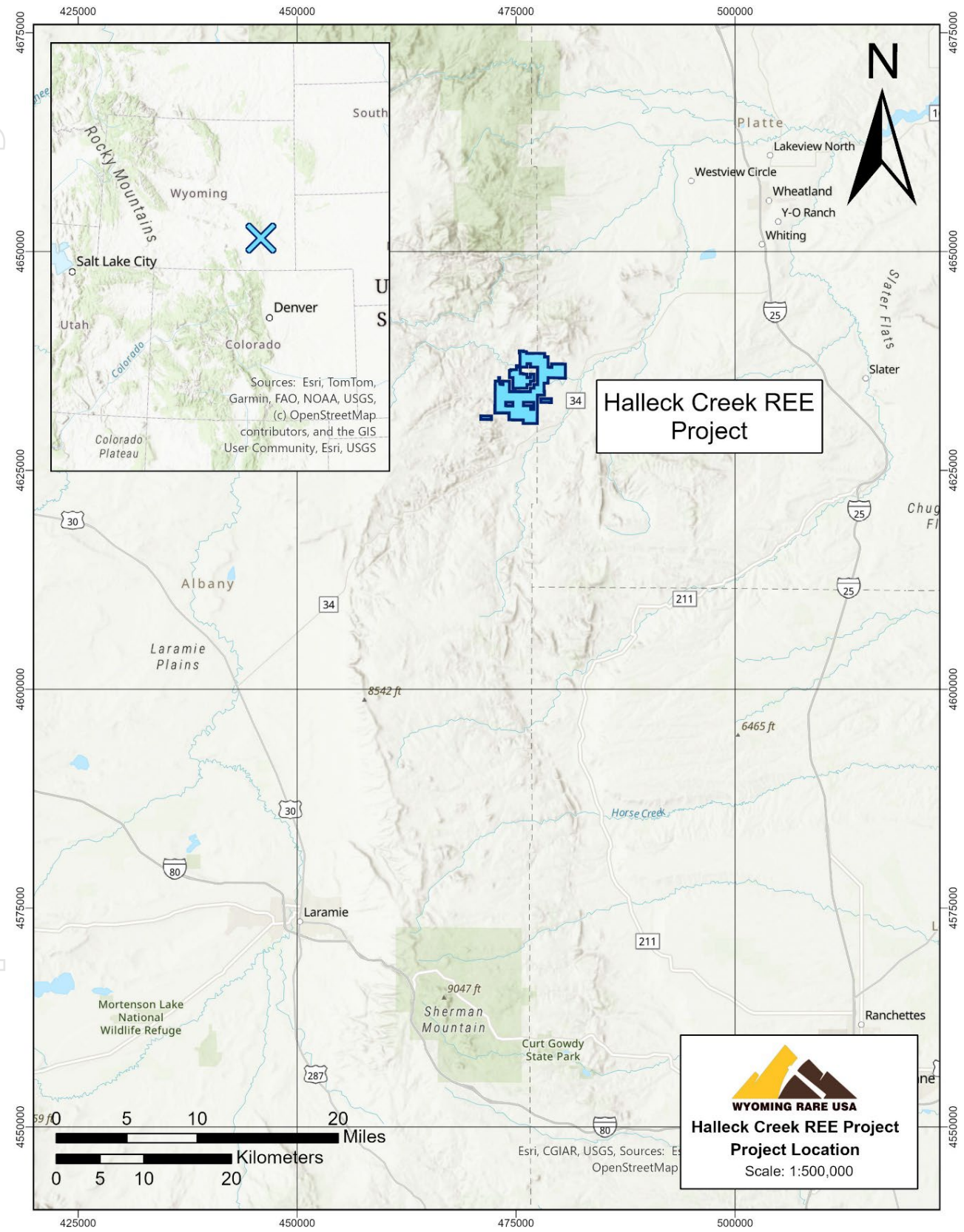
The Project encompasses two principal mineralized areas: the CSM in the southern portion of the property and the Overton Mountain resource area to the north. Both areas are hosted within the Red Mountain Pluton (RMP), a component of the Mesoproterozoic Laramie Anorthosite Complex, and are separated by the Halleck Canyon fault, which generally parallels Albany County Road 720.

Ground elevations range from approximately 6,230 ft (1,900 m) above mean sea level (AMSL) across the surrounding plains to more than 7,000 ft (2,135 m AMSL) at the summits of Red Mountain and Overton Mountain.

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Figure 2-1. Property Location Map — Halleck Creek within Wyoming; LAC Regional Context



2.2 Ownership

The Project is indirectly 100% held by American Rare Earths Limited (ARR) through Wyoming Rare, a wholly owned subsidiary of ARR. Wyoming Rare holds all mineral tenements, surface easements, and contractual arrangements described in this chapter.

2.3 Mineral Title and Tenure

Wyoming Rare controls mineral rights through two instruments: (i) unpatented federal lode mining claims managed through the Bureau of Land Management (BLM), and (ii) Wyoming State Mineral Leases administered through the WOSLI. The total land package comprises approximately 8,107 acres (3,281 ha).

2.3.1 Unpatented Federal Lode Mining Claims

The Project includes 364 unpatented lode mining claims administered by the BLM, totaling approximately 6,264 acres (2,535 ha), located within the following townships and ranges (Sixth Principal Meridian, Wyoming).

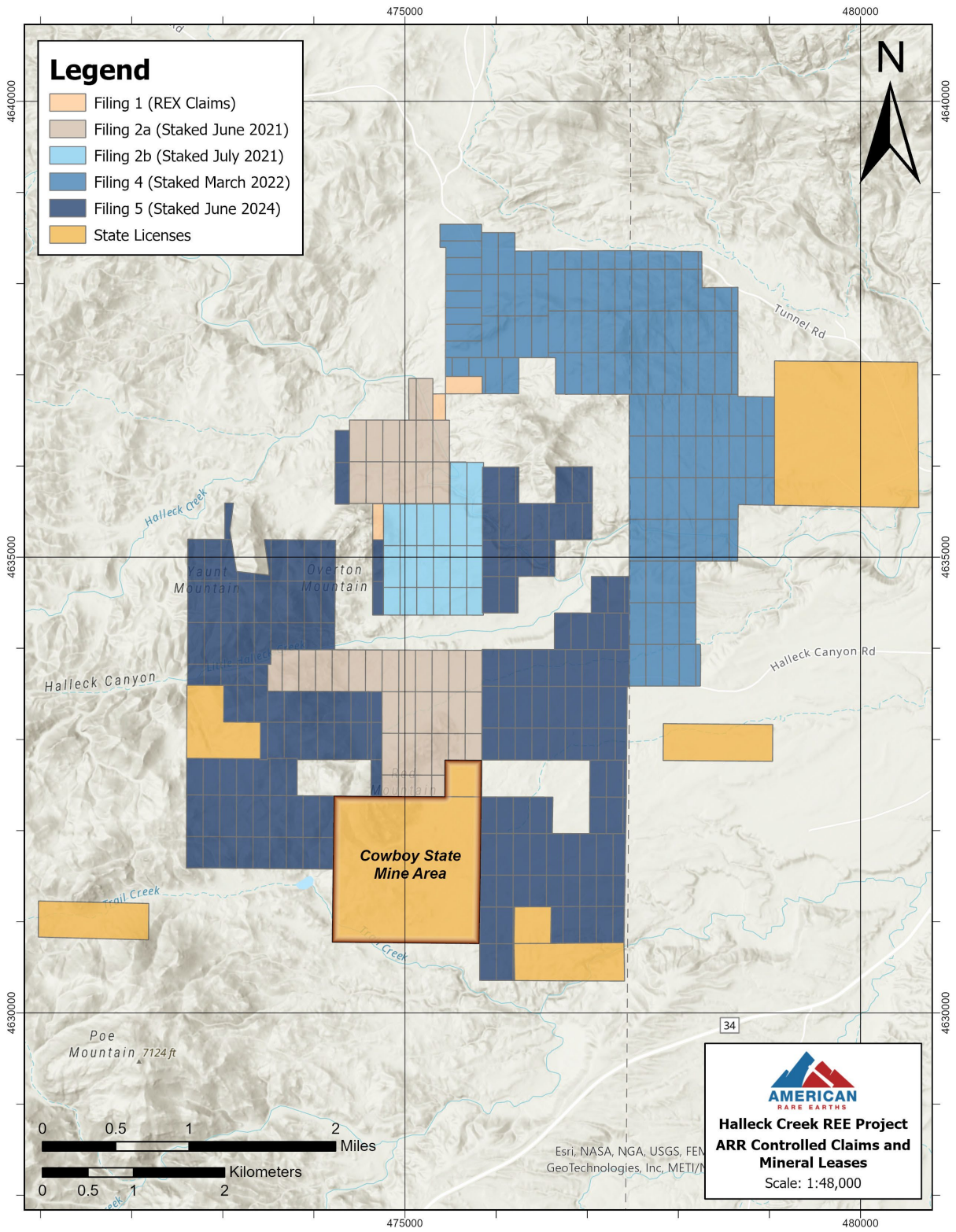
- Township 22 North, Range 71 West: Sections 13, 23, 24, 25, 26, 35
- Township 22 North, Range 70 West (Albany County): Sections 07, 08, 17, 18, 19, 20, 29, 30, 31
- Township 21 North, Range 70 West: Section 06
- Township 22 North, Range 71 West (Platte County): Sections 26, 34, 36
- Township 21 North, Range 71 West (Platte County): Sections 26, 34, 36

Annual maintenance fees must be paid prior to renewal dates to maintain claims in good standing. Claim monitoring and management is performed by Burgex, Inc. (Salt Lake City, Utah) under contract to Wyoming Rare (USA) Inc. The distribution of State mineral leases and Federal lode claims comprising the Project is shown in Figure 2-2.

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Figure 2-2. Mineral Tenure Map — State Leases and Federal Lode Claims



2.3.2 Wyoming State Mineral Leases

Wyoming Rare controls four Wyoming State Mineral Leases totaling approximately 1,844 acres (746 ha), located in Township 22 North, Range 70 West, Sections 16 and 28. WOSLI assigned these leases to Wyoming Rare in June 2021. The mineral rights within the CSM area belong to the State of Wyoming and are administered through WOSLI.

The State Mineral Leases constitute the core of the CSM project area, which is the principal mineralized area addressed in the SS underpinning this Report. Annual lease fees must be paid prior to renewal dates to maintain leases in good standing.

2.4 Surface Rights

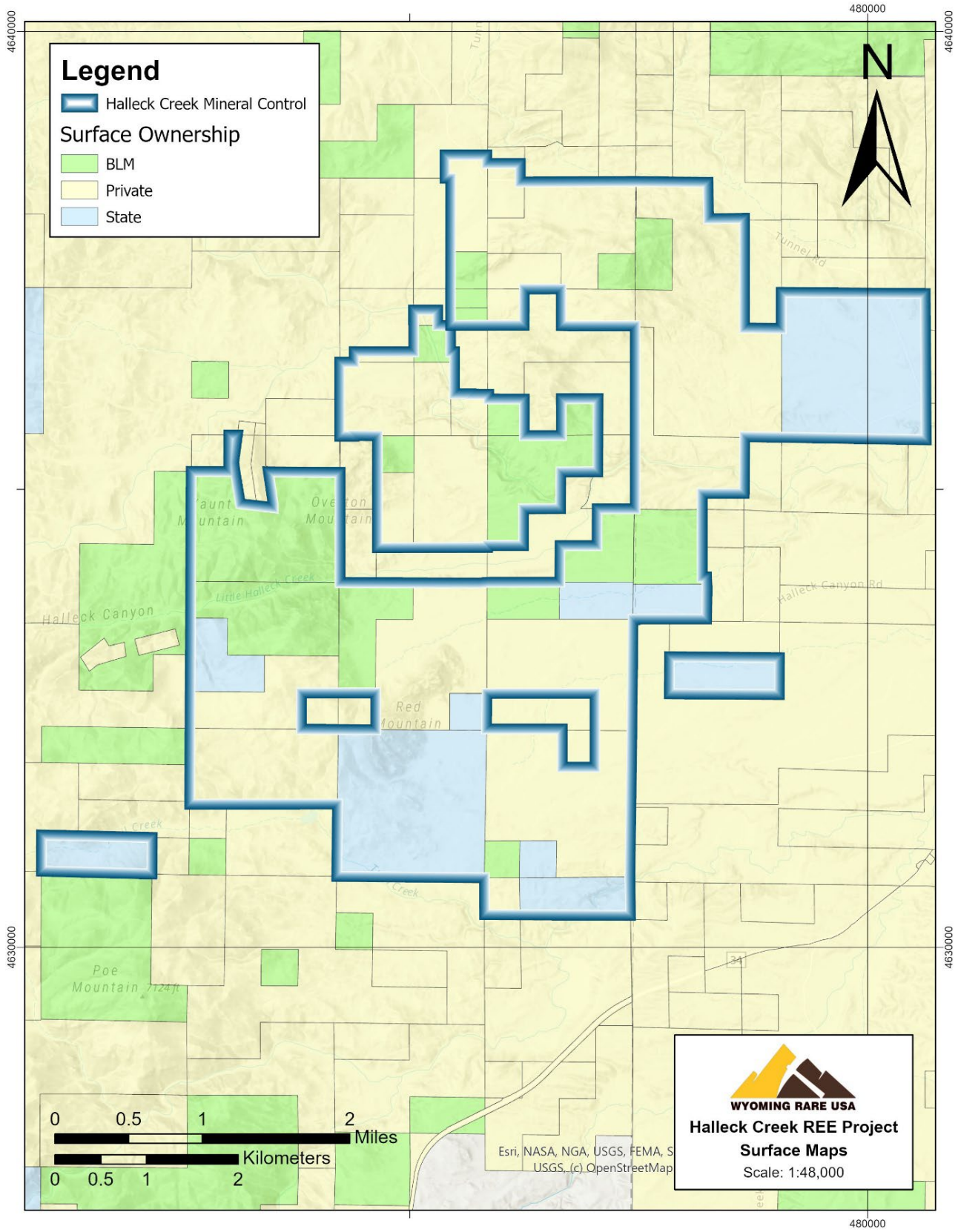
The surface lands within the Project area vary between state, privately owned, and BLM- administered federal land. The surface rights within the CSM area (Wyoming State Mineral Leases) belong to the State of Wyoming and are administered through WOSLI.

Wyoming Rare obtained a Memorandum of Understanding (MOU) from the surface landowner of four 40-acre tracts of private land adjacent to the Wyoming State Mineral Leases. The MOU provides Wyoming Rare with the exclusive opportunity to acquire these tracts for future mine facilities and mineral processing. Wyoming Rare also holds a site access easement from the same property owner to access the CSM project area via Halleck Canyon Road (County Road 720). The distribution of State, BLM, and private surface parcels within the Project area is shown in Figure 2-3.

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Figure 2-3. Surface Control Map — State, BLM, and Private Parcels within Project Area



2.5 Water Rights

Water rights have not been adjudicated for the Project at this time. The mine and associated processing facilities will require water obtained from regional surface and/or groundwater resources, each requiring adjudication through the Wyoming State Engineer's Office and agreements from existing water rights holders or landowners. Wyoming Rare is actively reviewing potential water sources for the Project.

With further definition of the locations of mining, milling, and processing operations, Wyoming Rare will seek geographically proximate water sources. Short-term water requirements can likely be supplied through temporary use agreements with regional landowners. Water rights remain a material infrastructure uncertainty at this stage of development.

2.6 Royalties and Agreements

The SS identified the following royalties applicable to the Project.

- A sliding scale royalty between 5% and 10% on revenue payable to the State of Wyoming on production from the Wyoming State Mineral Leases. The point of valuation is currently under review with the WOSLI.
- Wyoming State severance tax on mineral production.
- Albany County ad valorem property tax.
- Industrial property tax (as applicable).

Stantec notes that no other royalties are known to apply to the Project's properties beyond the State of Wyoming royalty.

2.7 Encumbrances

2.7.1 Permitting Requirements

Wyoming Rare has not filed a mine permitting application with WDEQ-LQD. Since 2024, Wyoming Rare has been collecting baseline environmental data to prepare a permit-to- mine application. Wyoming Rare has engaged WWC Engineering to compile the permit-to-mine application.

Wyoming Rare holds a License to Explore by Dozer permit from WDEQ-LQD. Under this license, Wyoming Rare collected approximately 2,794 tonnes of unweathered mineralized material in August 2025. Wyoming Rare also maintains an active exploration drilling permit (Drilling Notice DN-0511) from WDEQ-LQD.

Once a refinery site is selected, Wyoming Rare will commence the process of obtaining an Industrial Siting Permit through WDEQ-ISD.

2.7.2 Violations and Fines

Wyoming Rare has not received any violations or fines from the State of Wyoming or the federal government in connection with operations at the Halleck Creek Project.

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2.8 Significant Factors and Risks Affecting Access, Title, or Right to Perform Work

Wyoming Rare closely monitors lease and claim control across the entire Project area through its arrangement with Burgex, Inc. Annual maintenance fees and lease fees are monitored to ensure payment prior to annual renewal dates, maintaining claims and leases in good standing.

Wyoming Rare has developed working relationships with local surface owners and has secured long-term exploration access across the Project area. Wyoming Rare is working with landowners to secure additional access agreements for the duration of the Project and is partnering with established consulting firms to compile the permit-to-mine application.

There are no other active mineral prospects or mining operations known to be within 3 miles (5 km) of the CSM area.

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3 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

3.1 Physiography and Topography

The Halleck Creek Project is located at the edge of the high plains of Wyoming, characterized by short grass and sparse sagebrush. The Project area lies within the Central Laramie Mountains, a Laramide-aged uplift formed by the emplacement of the Laramie Anorthosite Complex (LAC) at approximately 1.437 giga-annum (Ga).

Elevations range from approximately 6,230 ft (1,900 m) AMSL on the rolling plains to over 7,000 ft (2,135 m) AMSL at the summits of Overton Mountain and Red Mountain. Prevailing vegetation consists of pine trees, prairie grasses, and sagebrush. The region is sparsely populated.

3.2 Accessibility and Roads

Road access from Wheatland is via Wyoming State Highway 34, traveling southwest for approximately 18 miles (29 km), followed by an additional 6 miles (10 km) west on County- maintained gravel road number 720 (Halleck Canyon Road). Wyoming Rare holds a site access easement with the private landowner to access the CSM project area from Halleck Canyon Road.

Wheatland is serviced by Interstate Highway 25, linking the city to the broader United States transportation network. The Burlington Northern Santa Fe (BNSF) railroad mainline runs through Wheatland, providing rail connectivity for future concentrate and product transport. Laramie is accessible via Interstate Highway 80. The Union Pacific railroad runs through Laramie, providing rail connectivity for that area.

3.3 Climate

The climate at the Project site is semi-arid and continental, with four distinct seasons, drier and windier conditions than most of the United States, and greater temperature extremes.

- Summer: Warm and dry; July highs averaging 84 °F (29 °C) to 95 °F (35 °C).
- Winter: Cold and moderately snowy; temperatures ranging from approximately 5 °F (-15 °C) to 36 °F (+2 °C); annual precipitation averaging about 15 inches (381 mm), mostly as snow.
- Spring: Variably mild to very snowy; conditions can be unpredictable.
- Autumn: The mildest season, with little moisture and generally warm days.

The semi-arid climate is relevant to the water supply assessment (Chapters 2.5 and 3.4.2). Exploration and drilling activities have been conducted year-round, with seasonal access constraints during severe winter conditions. Mining operations are expected to be conducted year-round with appropriate equipment and infrastructure.

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3.4 Local Resources and Existing Infrastructure

Local infrastructure is based out of the town of Wheatland (population approximately 3,560), approximately 24 miles (39 km) east of the Project via Wyoming State Highway 34. The city of Laramie (population approximately 31,400), county seat of Albany County and home to the University of Wyoming, is approximately 43 miles (70 km) southwest of the Project.

No mining-related infrastructure has been constructed on site.

3.4.1 Power Supply

Residential power currently runs along County Road 720. A 46 kV electrical substation is located along Wyoming State Highway 34, approximately 2.3 miles (3.7 km) from the western side of the CSM State Mineral Leases. Future power supply for mining and processing will likely be supplied by the Wheatland Rural Electric Association.

The proposed refinery site is currently being evaluated and is likely to be located near Wheatland or Laramie and would benefit from natural gas, power, rail, and water infrastructure available in the area. Locating the refinery in either of these locations takes advantage of rail access, natural gas, power, and water infrastructure.

3.4.2 Water Supply

Water supply sources are still being investigated (see also Chapter 4.5 — Water Rights). No water rights have been secured as of the effective date. Hydrological and hydrogeological studies are ongoing through WWC Engineering.

3.4.3 Personnel

The cities of Wheatland and Laramie can supply work personnel for the CSM Project. Laramie is home to the University of Wyoming, providing a source of professional and technical positions. Wyoming has a good base of skilled labor from oil, gas, and mining industries at both technical and operational levels.

3.4.4 Suppliers

Numerous suppliers exist in the region. Access to Interstate Highway 25 provides the Project with the ability to source goods from Cheyenne (~62 miles [100 km] south), Casper (~162 miles [260 km] north), or Denver, Colorado as needed. The BNSF railroad through Wheatland provides additional supply chain options for bulk materials.

3.4.5 Communications

Cellular telephone service is available across much of the Project area through regional wireless networks, although signal strength may be intermittent in localized areas due to terrain and line-of- sight limitations within the Laramie Range. In general, the most reliable cellular coverage is obtained where direct line of sight exists toward Wheatland to the northeast.

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Conventional two-way radio communications are widely used throughout the local ranching community and provide a practical means of communication for field operations. Additional communications infrastructure, including dedicated radio repeaters, satellite communications, or temporary network enhancements, could be implemented during advanced exploration or future mine development, if required.

3.5 Adjacent Properties

The CSM area is part of the broader Halleck Creek Rare Earth Project. Within the Project, the CSM is being developed independently from the Overton Mountain resource area to the north, which shares similar geological characteristics and represents an additional resource area not included in the CSM Scoping Study.

There are no other active mineral prospects or mining operations known to be within 3 miles (5 km) of the CSM area.

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4 HISTORY

4.1 Historical Context and Regional Exploration

The Halleck Creek Project is located within the Laramie Range of southeastern Wyoming, an area that received relatively little large-scale mineral exploration or mining despite the presence of Proterozoic igneous complexes with known rare earth potential.

During the 1950s Uranium prospecting rush, several occurrences of Thorium- and Uranium-bearing rare earth elements were discovered in pegmatite bodies throughout the broader Laramie Range. None were seriously explored by drilling, trenching, or systematic methods, and none were mined.

In the 1960s or 1970s, a small mine that extracted fuchsite (an ornamental stone) operated northwest of the current CSM area. This represents the only known historical mining activity in the immediate area. No large-scale mining has occurred in this portion of the Laramie Range.

4.2 Historical Ownership and Operator Sequence

Table 4-1 provides a chronological summary of ownership and operator history.

Table 4-1. Ownership and Operator History

Period	Operator/Entity	Activity/Notes
1950s	Unknown prospectors	Discovery of Thorium- and Uranium-bearing REE in pegmatites throughout Laramie Range. No systematic exploration or mining.
1960s–1970s	Unknown operator	Small fuchsite (ornamental stone) mine operated NW of current CSM area. No REE exploration.
1995	I.C. Anderson	PhD thesis documenting anomalous REE values in Red Mountain. Work by World Industrial Minerals (WIM) also referenced anomalous REE values. Basis for subsequent REE exploration interest.
2010	Blackfire Minerals	Acquired Wyoming State Mineral Leases (now held by WRI) for REE exploration. Conducted preliminary research.
2011	Blackfire Minerals	Dropped state mineral leases due to low prevailing REE commodity prices. No drilling or resource estimation completed.
2018	Zenith Mineral Ltd.	Re-activated the Project. Applied for the same state mineral leases previously held by Blackfire. Staked

Period	Operator/Entity	Activity/Notes
		five federal unpatented lode claims. Commenced surface sampling.
2019	Zenith Mineral Ltd.	87 surface samples collected; results showed broad areas of REE mineralization exceeding 2,000 ppm TREO. No Mineral Resources compiled or reported.
2020–2021	ARR/Wyoming Rare	ARR acquired state mineral leases, and five unpatented federal lode claims from Zenith. WOSLI formally assigned four Wyoming State Mining Leases to Wyoming Rare in June 2021. Commenced systematic claim expansion.
2021–2024	ARR/Wyoming Rare.	Acquired additional 359 unpatented federal lode claims across Halleck Creek Project area, expanding to 8,107 acres (3,281 ha) and 364 total federal claims.

4.3 ARR/Wyoming Rare Exploration Activity (2021–2026)

Since acquiring the Project in 2021, ARR/Wyoming Rare has conducted systematic geological mapping, surface sampling, and four exploration drilling campaigns.

4.3.1 Geological Mapping and Surface Sampling (2021–2024)

Wyoming Rare geologists conducted extensive geological mapping and surface sampling across Wyoming Rare claim areas where previous geological mapping was sparse. Work covered the Sommers Flat, Overton Mountain, Bluegrass, and County Line areas. Wyoming Rare geologists updated contacts between geological units and identified extensions of REE-bearing monzonitic units. During spring 2024, mapping and sampling of the CSM resource area continued, focusing on further characterizing and locating REE-enriched RMP lithologies.

Rock chip sampling from outcrops was conducted using standard rock hammer methods. Sample locations were recorded using handheld GPS and entered the drill hole database (DHDB). Surface samples were submitted to ALS Global laboratories for assay.

4.3.2 Exploration Drilling Campaigns (2022–2024)

Between March 2022 and October 2024, Wyoming Rare completed four exploration drilling campaigns comprising HQ diamond core and reverse circulation (RC) drilling. As of the date of the November 2025 Resource Update, 98 drill holes have been completed for a total of 12,490 m (40,979 ft), as summarized in Table 4-2.

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Table 4-2. Exploration Drilling Summary by Area

Area	Hole Type	Number	Length (m)	Length (ft)
Red Mountain	HQ Core	15	1,967	6,455
	Reverse Circulation	35	4,598	15,085
Total		50	6,566	21,540
Overton Mountain	HQ Core	13	1,395	4,576
	Reverse Circulation	35	4,530	14,862
Total		48	5,925	19,438
Grand Total		98	12,490	40,979

All drill hole collar information, surveys, lithology, alteration, assays, and geotechnical data were entered into the DHDB maintained by Wyoming Rare Collar surveys for all holes were completed by Laramie Land Surveying, a licensed professional land surveyor, using NAD 1983 UTM Zone 13 North projection. Down-hole surveys were conducted for all holes except the 2022 maiden program (which were vertical holes).

4.3.3 Channel Sampling (2025)

From March through August 2025, Wyoming Rare geologists and geologists from Geosyntec collected 129 channel samples across the Red Mountain project area within the CSM. Sample locations were marked with metal ID tags anchored to outcrop and recorded using field GPS units (NAD 1983 UTM Zone 13 projection). Channel samples, approximately one meter in length, were collected using diamond-bladed angle grinders and chisels. Samples were bagged, tagged, and stored in Wyoming Rare's core storage facility in Laramie, Wyoming.

Channel samples were submitted to ALS Global laboratories for assay using methods ME-MS81 and ME-ICP06. Channel sample data was incorporated into the updated geological and resource models prepared by Odessa Resources (November 2025).

4.3.4 Bulk Sampling (2025)

Under a License to Explore by Dozer permit from WDEQ-LQD, Wyoming Rare collected approximately 2,794 tonnes of unweathered mineralized material from the CSM in August 2025. This material has been used for metallurgical testwork programs.

4.4 Previous Mineral Resource Estimates

Table 4-3 summarizes the Mineral Resource estimates that have been publicly released by ARR under ASX disclosure requirements (JORC Code 2012).

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Table 4-3.Mineral Resource Estimate History

Date	Estimator	Classification	Summary/Notes
March 2023	Odessa Resources (Alfred Gillman)	Indicated + Inferred (JORC 2012)	Maiden Mineral Resource Estimate for the Halleck Creek Project. **Source:** *Technical Report of Exploration and Maiden Resource Estimates*, American Rare Earths, March 2023.
07 February 2024	Odessa Resources (Alfred Gillman)	Measured + Indicated + Inferred (JORC 2012)	Updated Mineral Resource Estimate incorporating the 2022–2023 drilling program, including the addition of a Measured Resource at Overton Mountain. **Source:** *Technical Report of Exploration and Updated Resource Estimates*, American Rare Earths, 07 February 2024.

4.5 Previous Technical Studies

The following technical studies are available as source documents for this Scoping Study.

- Technical Report of Exploration and Maiden Resource Estimates, Halleck Creek Rare Earths Project, American Rare Earths, March 2023 (JORC 2012; ASX disclosure).
- Technical Report of Exploration and Updated Resource Estimates, Halleck Creek Rare Earths Project, American Rare Earths, 07 February 2024 (JORC 2012; includes Measured resource at Overton Mountain).
- Halleck Creek Updated Scoping Study Technical Report, Revision 3 (HC_Scoping_Study_Update_2025_rev3c.pdf), Stantec Consulting Services Inc., 28 February 2025 (JORC 2012 Scoping Study/ Initial Assessment equivalent; effective date 14 February 2025; authors: Sobecke/Stantec, Gillman/Odessa, Smith/Tetra Tech, Kinnes/ARR).
- Mineralogical characterization studies by SGS Lakefield, Ontario (2024): TESCAN TIMA-X integrated mineralogy, EMPA, XRD, and assay analysis on HQ core samples.
- Geotechnical testing by WSP (Burnaby, British Columbia, 2024) on 48 core samples.
- Metallurgical testwork by SGS Lakefield (leach testing), Nagrom (reflux classifier, magnetic separation), Mineral Technologies (spiral separation, magnetic separation), Wood PLC/Tetra Tech (WHIMS), and Tetra Tech UK (HLS/DMS) — various dates 2022–2024.
- Tetra Tech, Inc. (2026). Halleck Creek Metallurgical Review — Scope of Work, June 22, 2026 (active; results not yet incorporated into this Report —Smith/Tetra Tech).

4.6 Production History

No rare earth mineral production has occurred at the Halleck Creek Project or the CSM area. The Project is a greenfield rare earth deposit. Production history, production reconciliation, and aggregate fiscal year production sections are not applicable to this Report.

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5 GEOLOGICAL SETTING AND MINERALIZATION

Having reviewed the Project's land tenure, history, and ownership in the preceding chapters, this chapter describes the geological setting and mineralization style that underpins the exploration, drilling, and resource-estimation work discussed in the chapters that follow.

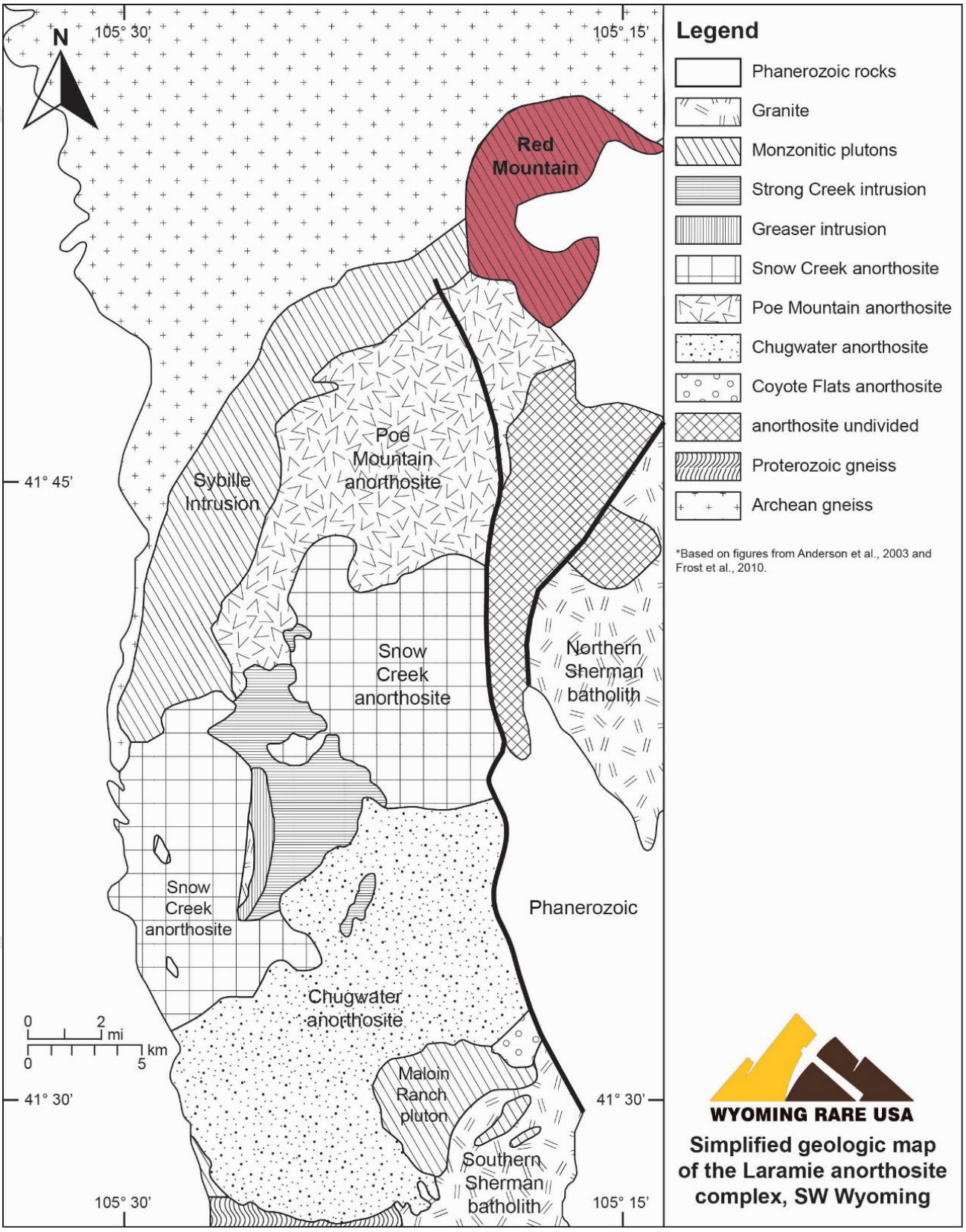
5.1 Deposit Type and Genetic Model

The CSM Project is hosted within the RMP, which represents a magmatic allanite-hosted REE deposit composed primarily of monzonitic to syenitic rocks. This deposit type falls within the category of A-type granites, which are typically formed by partial melting of mantle-derived material within stable continental blocks or extensional rift zones. Mantle- derived magma ascends through the crust, undergoing chemical differentiation driven by factors such as temperature, pressure, and interaction with surrounding wall rock. The term 'alkaline' refers to magmas enriched in Sodium (Na_2O) and Potassium (K_2O), leading to the formation of abundant Na- and K-bearing minerals, including feldspathoids, alkali pyroxenes, and alkali amphiboles. These magmas are characteristically enriched in REEs and often contain elevated concentrations of Zirconium, Niobium, Strontium, Barium, and Lithium (Balaram 2019). The RMP deposit is distinctive for its unusually low concentration of radioactive elements, setting it apart from many other alkaline A-type deposits globally. Primary magmatic mineralization in A-type systems is frequently overprinted by late-stage magmatism and/or hydrothermal processes (Balaram 2019). At Halleck Creek, however, hydrothermal alteration in the RMP is minimal and does not appear to have significantly affected REE mineralization. REE mineralization at the Project is primarily attributed to fractional crystallization during the final stages of magma evolution, resulting in the concentration of allanite and other REE-bearing phases.

5.2 Regional Geology

The CSM Project is located within the RMP, which is a residual granitic melt associated with the LAC. The LAC represents the northernmost component of widespread 1.4 Ga magmatism in the western United States. The LAC was emplaced circa 1,437 ± 2.4 Ma and forms the core of the central Laramie Range, a Laramide-aged uplift in southeastern Wyoming (Anderson et al. 2003). The RMP is the youngest and smallest monzonitic intrusion associated with the Laramie anorthosite complex (Anderson et al. 2003). The broader LAC includes a suite of coeval monzonitic bodies in southeastern Wyoming, of which the RMP exhibits the highest REE content attributable to the preferential incorporation of REEs into allanite rather than phosphate minerals (Anderson et al. 2003). The regional geologic setting of the Laramie Anorthosite Complex, including the location of the Red Mountain Pluton and associated intrusions, is shown in Figure 5-1.

Figure 5-1. Simplified Geologic Map of the Laramie Anorthosite Complex, Showing the Location of the Red Mountain Pluton and Associated Intrusions



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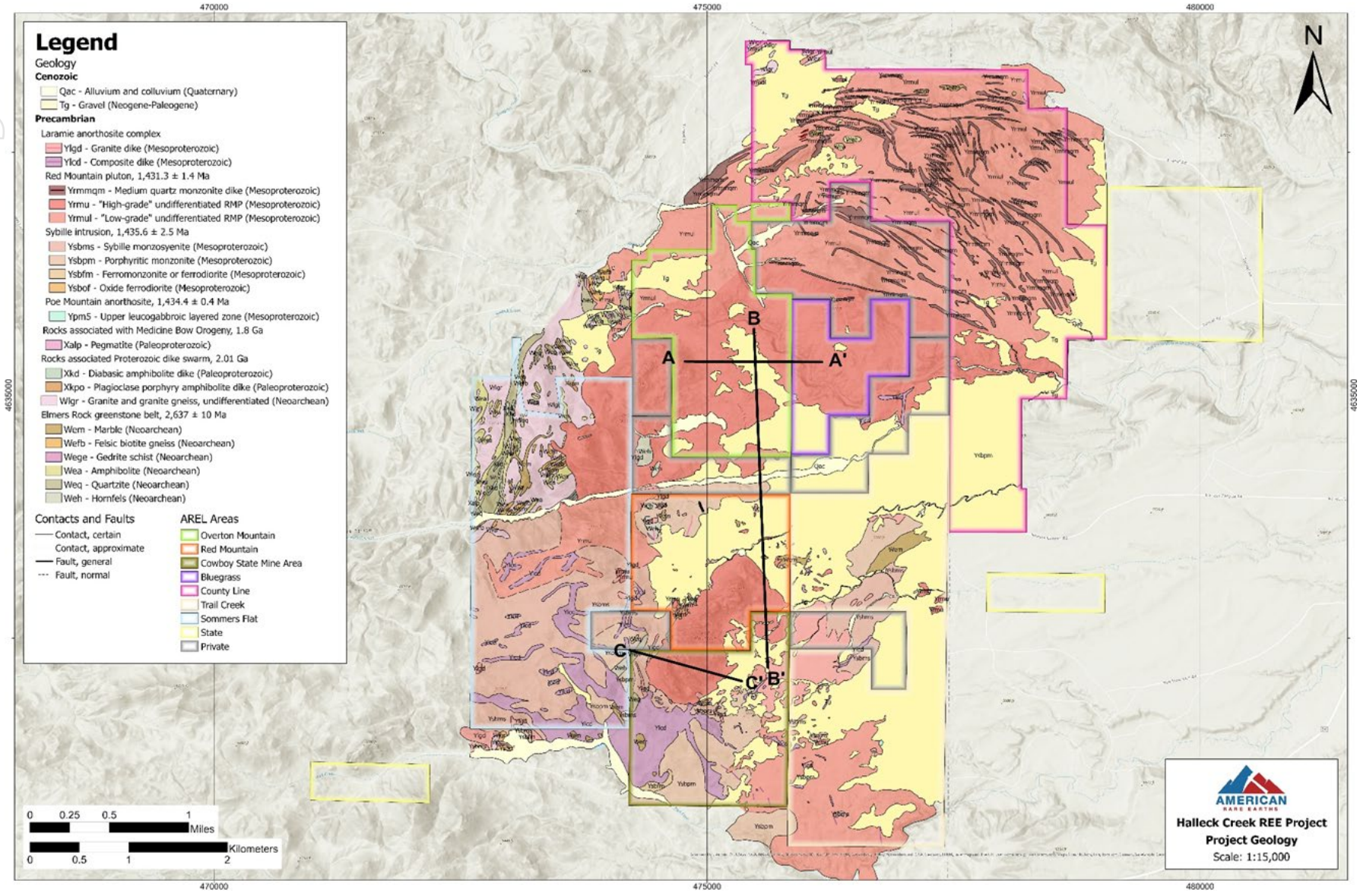
5.3 Local and Property Geology

5.3.1 Rock Units and Lithologies

The RMP is composed of four primary rock units: fayalite monzonite (FM), zircon-dated at 1,431.3 ± 1.4 Ma; clinopyroxene quartz monzonite (CQM); biotite-hornblende quartz syenite (BHS); and Red Mountain granite (RMG). The FM, CQM, and BHS are nearly indistinguishable from one another in the field, all being equigranular, medium-grained, and red-weathering. The RMG is the only readily distinguishable unit and forms a steeply dipping ring around the northern margin of the pluton. Three types of dikes also occur within the pluton: fine quartz monzonite, medium quartz monzonite, and biotite-hornblende monzonite (Anderson et al. 2003). The CQM and BHS units are the primary REE-bearing lithotypes at the CSM Project. The fayalite monzonite forms a discontinuous rim around the margin of the RMP and is predominantly composed of olivine, clinopyroxene, hornblende, and perthitic microcline. Olivine and clinopyroxene occur as individual grains and as glomerocrysts (mafic clots), typically rimmed by hornblende. Trace amounts of biotite are secondary to hornblende. Zircon is abundant, while quartz and allanite occur in trace amounts. Ilmenite has been identified as the only Fe-Ti oxide within this unit (Anderson et al. 2003). The CQM is nearly petrographically identical to the FM but lacks fayalite and has a greater abundance of biotite, quartz, and allanite (Anderson et al. 2003). Literature records that the FM and CQM represent less than 10% of the outcrop exposed at the surface within the RMP. The BHS is the most abundant rock type within the RMP and is more quartz-rich than both the CQM and the FM. The only ferromagnesian minerals present in this unit are hornblende and biotite. Perthitic microcline is the dominant alkali feldspar, and ilmenite is the only Fe-Ti oxide present (Anderson et al. 2003). The RMG is located at the outer margin of the RMP, forming dikes and bodies concordant with the pluton margins (Anderson et al. 2003). The RMG is easily distinguishable from the other three units by its abundance of quartz and lower amounts of hornblende, biotite, plagioclase, and allanite compared to the FM, CQM, and BHS. The RMG does not contain REE-bearing minerals. In the RMP, REE abundances correlate with modal abundances of allanite and zircon. The CQM generally contains the highest abundances of allanite and zircon, while the BHS and FM contain lesser, but still significant amounts. The RMG is typically devoid of REE enrichment. The distribution of the principal rock units across the Halleck Creek/Cowboy State Mine area is shown in Figure 5-2.

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Figure 5-2. Halleck Creek/Cowboy State Mine Project Geology Map (Plan View), Showing Distribution of Principal Rock Units



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Figure 5-3. Stratigraphic Column for the Cowboy State Mine Project Area

Eon	Period	Formation			Code	Lithology
Cenozoic	Quaternary	Alluvium and colluvium			Qac	Consists of silt, sand, and gravel; may contain well-rounded clasts dominated by resistant Precambrian lithologies.
	Neogene-Paleogene	Gravel			Tg	Poorly exposed, unconsolidated to weakly consolidated, poorly sorted gravels and boulders in a silty and sandy matrix; locally tuffaceous.
Major unconformity						
Proterozoic	Mesoproterozoic	Laramie Anorthosite Complex ca. 1.43 Ga	Granite dike		Ylgd	Includes pink leucogranite dikes and irregular small intrusions as well as several large inclusions of coarse-grained biotite-hornblende granite in the Sybille monzosyenite.
			Composite dike		Ylcd	Pink granite dike similar to Ylgd but contains pillows and irregular blobs of fine-grained, mafic monzonitic magma. Various degrees of mixing between the two melts common. Inlcudes isolated K-feldspar megacrysts in the mafic magma and dispersed grains of biotite and hornblende extending from the mafic magma into the granitic magma.
			Red Mountain Pluton 1,431.3 ±1.4 Ma (Scoates and Chamberlain, 2003)	Biotite-hornblende monzonite dike	Yrmhd	Typically red-brown in color, markedly darker than the main pluton constituents. Very fine-grained, with an average grain size of 0.25 mm. Contains high modal abundances of hornblende and biotite. Petrographically similar to the BHS, but is much more fine-grained and contains lower modal quartz.
				Fine quartz monzonite dike	Yrmfqm	Mineralogically similar to the CQM, with slightly increased abundances of hornblende and biotite. Typical grain size of 0.5-0.75 mm.
				Medium quartz monzonite dike	Yrmmqm	Nearly mineralogically identical to the FQM dikes, but with slightly lower modal plagioclase. Mean grain size of >1.0 mm.
				Fayalite monzonite	Yrmfm	Red weathering, equigranular, and medium grained. Olivine and clinopyroxene occur as individual grains or glomerocrysts associated with hornblende. Minor biotite is secondary after hornblende. Quartz and allanite may be present in small quantities, whereas zircon is abundant. Orthoclase and microline often appear perthitic.
				Clinopyroxene quartz monzonite	Yrmcqm	Red weathering, equigranular, and medium grained. Petrographically similar to the fayalite monzonite, but allanite is more abundant and olivine is absent. Glomerocrysts of clinopyroxene, hornblende, and allanite are observed. Zircon and ilmenite are rare, but increased biotite, quartz and microcline in comparison to fayalite monzonite.
				Biotite hornblende quartz syenite	Yrmbhs	Dominant rock type within the RMP. The BHS lacks fayalite and clinopyroxene: the only ferromagnesian phases present are hornblende and bioltite. As with the other units, perthitic microcline is the major alkali feldspar.
				Red Mountain granite	Yrmg	Occurs as concordant ring-like dikes interleaved with supracryustal rocks on the north and northwest margins of the pluton. Red weathering, equigranular, and medium-grained similar to other RMP rocks, but has high abundance of quiartz. The unit also exhibits more abundant microcline and increased perthite. Clinopyroxene tends to be rare, occuring only as relict cores in hornblende.
			Sybille Intrusion 1,435.6 ± 2.5 Ma (Scoates and Chamberlain, 2003)	Sybille monzosyenite	Ysbms	Orange-weathering rock that is black on fresh surfaces, consisting of interlocking alkali-feldspar megacrysts. Ferromagnesian minerals include fayalite, hedenbergite, and rarely hornblende which occur in the interstices between the megacrysts. Contains about 5% quartz, but is seldom seen in hand specimen.
				Sybille porphyritic monzonite	Ysbpm	Brown-weathering rock that is black on fresh surfaces consisting of alkali feldspar megacrysts in a finer-grained matrix of plagioclase, alkali feldspar, olivine, and hedenbergite. Rarely contains quartz.
				Ferromonzonite or ferrodiorite	Ysbfm	Fine-grained, dark-brown-weathering rock that is black on fresh surfaces consisting of interlocking feldspars. Proportions of feldspars range from mainly plagioclase to an equal proportion of plagioclase and highly exsolved alkali feldspar. In a few occurences, the alkali feldspars from small phenocrysts identifiable in hand sample. Ferromagnesian minerals present may be ferroaugite, olivine, and in some rocks pigeonite.
				Oxide ferrodiorite	Ysbof	Fine-grained, black rock on both weathered and fresh surfaces, rich in Fe-Ti oxides. Plagioclase, olivine, ferroaugite, and rarely pigeonite are identifiable in thin section.
Archean	Neoarchean	Granite and granite gneiss			Wlgr	Medium- to coarse-grained, massive to highly foliated granitic gneisses that are pink on both weathered and fresh surfaces. Biotite is prominent and muscovite might be present locally. Includes large, partially melted inclusions within the Sybille intrusion.
		Elmers Rock Greenstone Belt 2,637 ±10 Ma (Snyder et al., 1998)	Marble		Wem	White, coarse-grained marble. Locally may contain cm-scale blades of tremolite.
			Pelitic schist		Weps	Quartz, biotite, and muscovite schist, generally black to dark brown on fresh and weathered surfaces. Outside the contact aureole of the Sybille intrusion the schist commonly has the assemblage kyanite, sillimanite, and garnet, but within the aureole, it contains andalusite and cordierite. Adjacent to the intrusion it has melted and may contain streaks of granitic melt.
			Felsic biotite gneiss		Wefb	Speckled gray feldspar, quartz, and biotite gneiss and schist, possibly derived from clay bearing silts, sands, or gravels.
			Amphibolite		Wea	Medium-grained, green to black, layered amphibolite. In low-strain areas, pillow structures may be observed. Commonly interlayrered with calc-silicate rocks. In the contact aureole of the Sybille pluton, the amphibolite has been converted to a fine-grained brown hornfels with the assemblage orthopyroxene, clinopyroxene, hornblende, and plagioclase.
			Quartzite		Weq	Massive white, greenish-white, or brown quartzite.
			Hornfels		Weh	Undifferentiated fragments of the Elmers Rock greenstone belt that occur as inclusions in the Sybille monzosyenite and Red Mountain pluton. Protolith for these rocks may include pelitic, semi-leitic, calc-pelitic, or mafic lithologies.
			Calc-silicate hornfels		Wecs	White to pale-green weathering hornfels consisting of calcite, dolomite, and pale-green sperentine. The serpentine was produced by hydration of olivine.

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5.3.2 Contact Relationships — Adjacent Rock Units

The RMP intrudes rocks of the Archean (ca. 2.6 Ga) Elmer's Rock Greenstone Belt (ERGB) to the west and north. The ERGB consists of amphibolite facies supracrustal rocks, including marble, calc-silicate, amphibolite, pelitic gneiss, granite gneiss, quartzites, banded Iron formation, and minor amounts of ultramafic rock (Anderson 1995). Marble, calc-silicate, and pelitic gneisses are most common near the RMP contact (Spicuzza 1990). To the south and southwest, the RMP is in direct contact with the Sybille intrusion (ca. 1.434 Ma) (Scoates et al. 1996). Historically, this contact has been noted as sharp; however, recent work has shown that the contact may be gradational in nature. The lack of evidence of brittle deformation at the contact indicates that the Sybille Formation was still hot at the time of RMP intrusion (Anderson 1995). Results from the 2024 drilling program have further refined the local geology in the eastern portion of the CSM, where the RMP is in contact with unmineralized Sybille intrusion and Archean granites. To the east, the RMP is covered by thin Tertiary sediments consisting of unconsolidated gravels and fine-grained sediments derived from LAC sources (Anderson 1995). Representative cross-sections illustrating the interpreted geology and continuity of the principal rock units across the Project area are shown on Figures 5-4 through 5-6.

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Figure 5-4. Cross-Section A-A' of the Cowboy State Mine Project Area

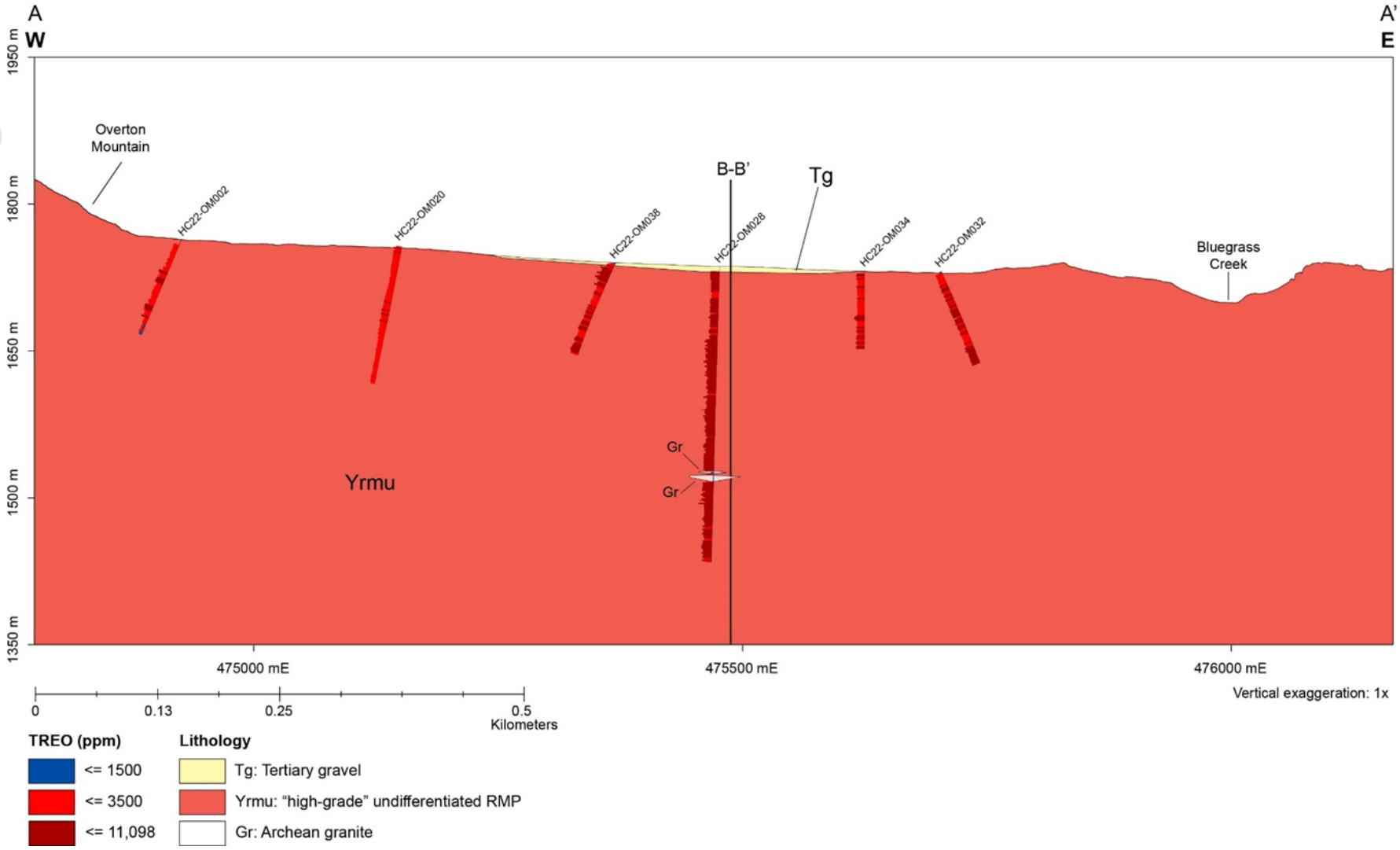
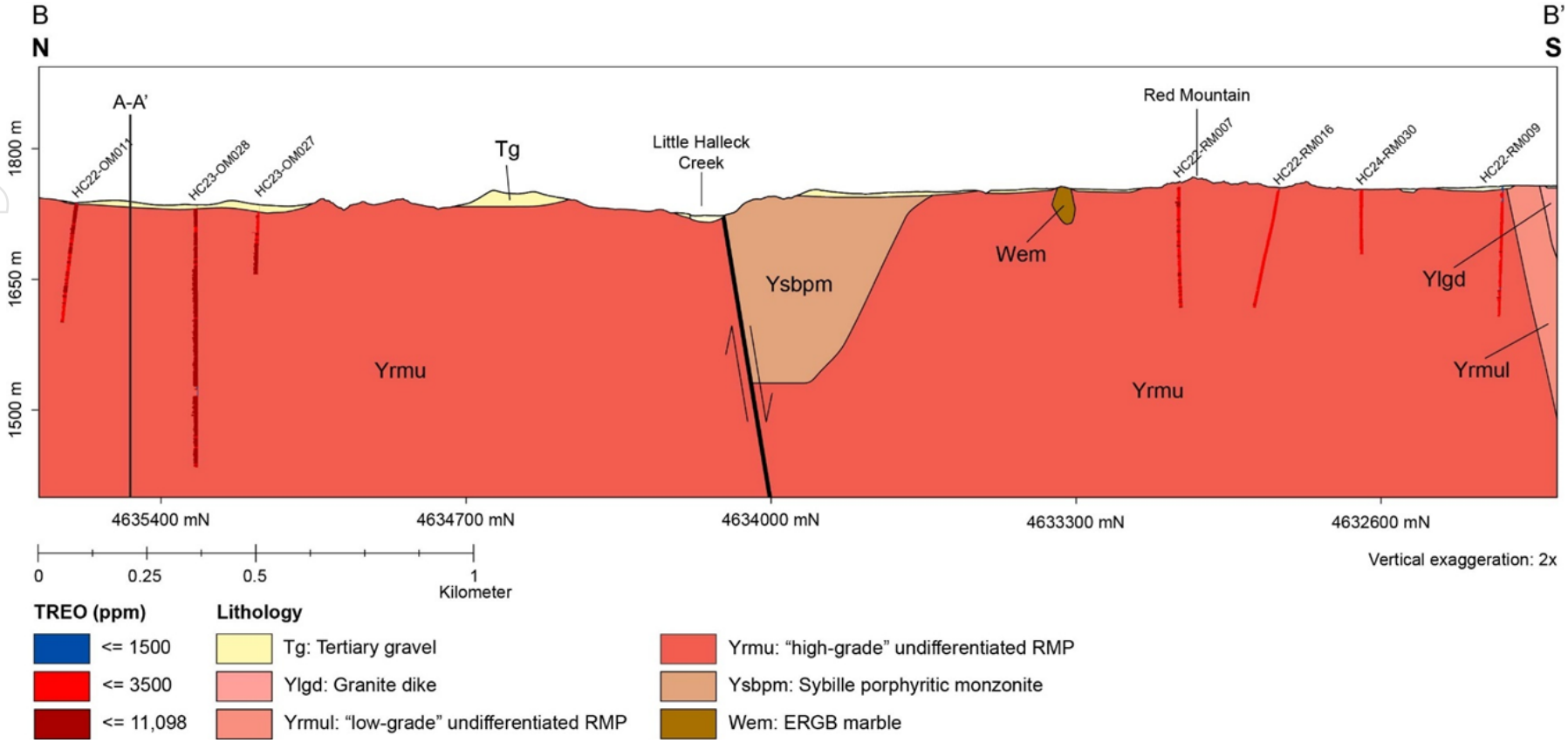


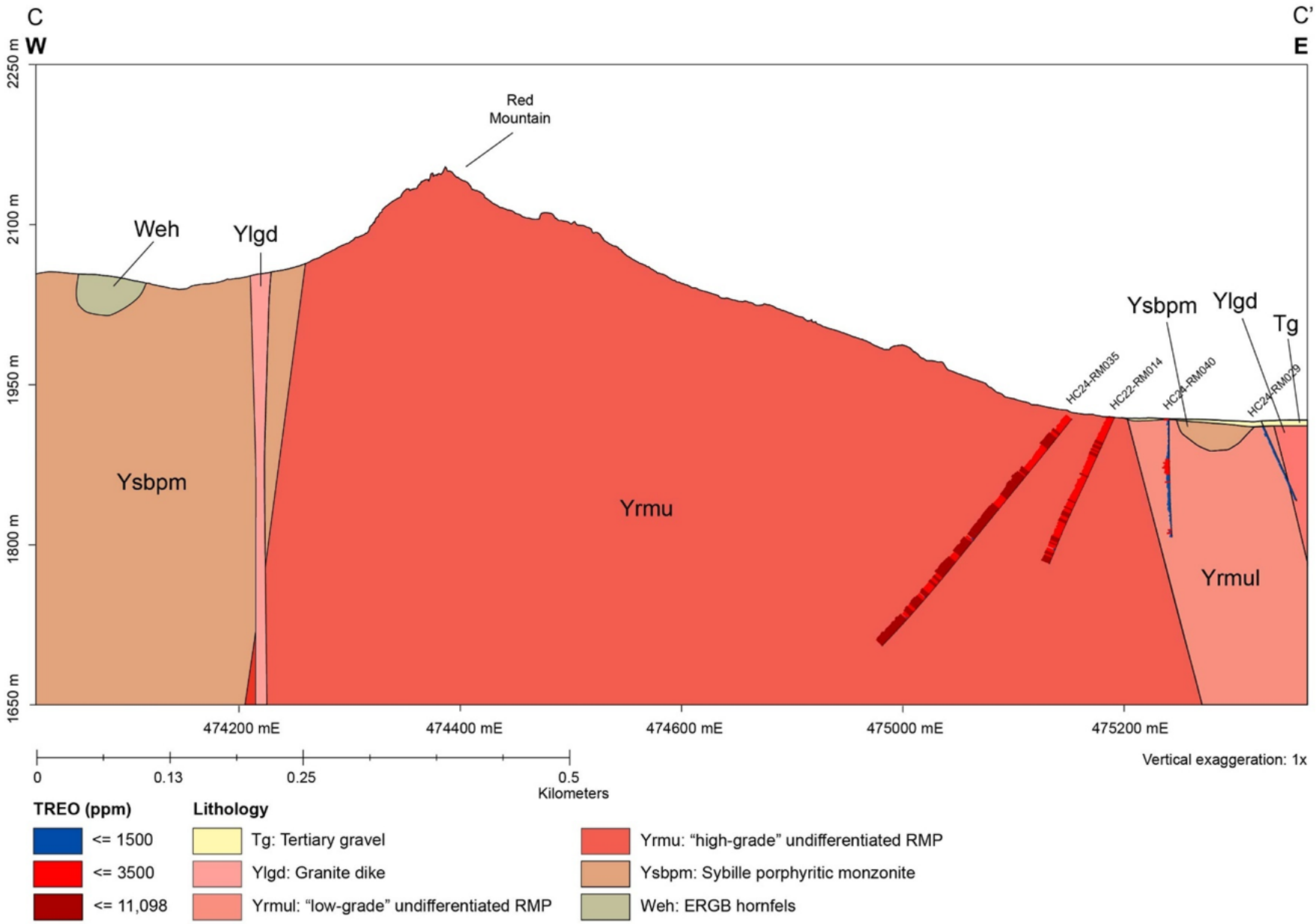
Figure 5-5. Cross-Section B-B' of the Cowboy State Mine Project Area

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Figure 5-6. Cross-Section C-C' of the Cowboy State Mine Project Area



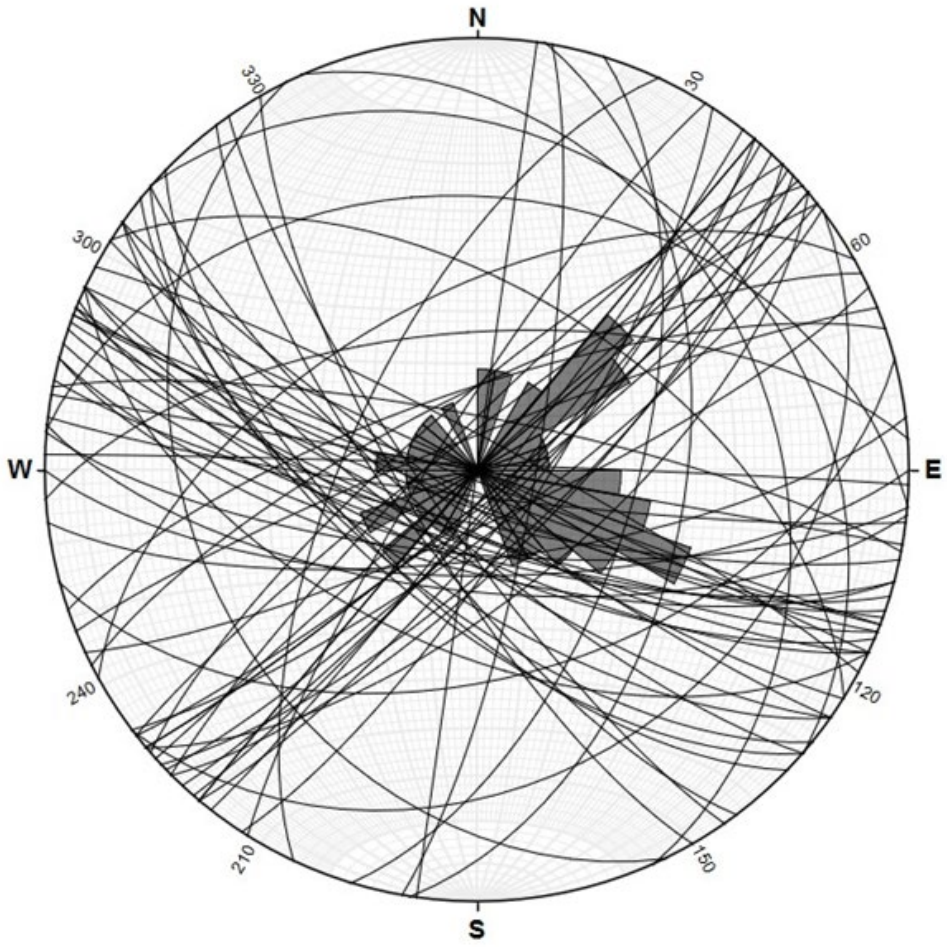
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5.4 Structural Setting

Contacts between units of the RMP are intrusive. There are few country rock inclusions within the RMP, and foliations in the surrounding Archean schists of the ERGB concordantly wrap the pluton. This suggests that the RMP was most likely emplaced by forcibly shouldering aside the country rock as part of late-stage development of the pluton. Mineralization in the RMP is not structurally controlled. The deposit does exhibit significant jointing and minor faulting associated with Laramide-aged uplift, which influenced the development of joint sets in the monzonitic body. The only prominent structure in the region is the Halleck Canyon fault, which generally parallels County Road 720, bisecting the Halleck Creek Project area with Red Mountain and the CSM area to the south and Overton Mountain to the north. Extensive joint sets are present across Red Mountain and Overton Mountain. The joints are thought to be closely related to uplift of the LAC. Mapping revealed no major structural features or controls within the mapped areas except for prominent joint sets within the RMP rocks. Strike and dip measurements of joint sets were recorded during mapping. Joint measurements falling outside the primary conjugate set are presumed to result from stress relief related to uplift and emplacement of the intrusive body. A minor fault was observed within the Sybille Intrusion, north of Red Mountain. Stereonets reveal a prominent conjugate joint set, with additional jointing interpreted as a response to the Laramide uplift of the Red Mountain body. Mapped features are assumed to represent igneous contacts. The orientation and distribution of measured joint sets are illustrated by the stereonet and associated rose diagram on Figure 5-7.

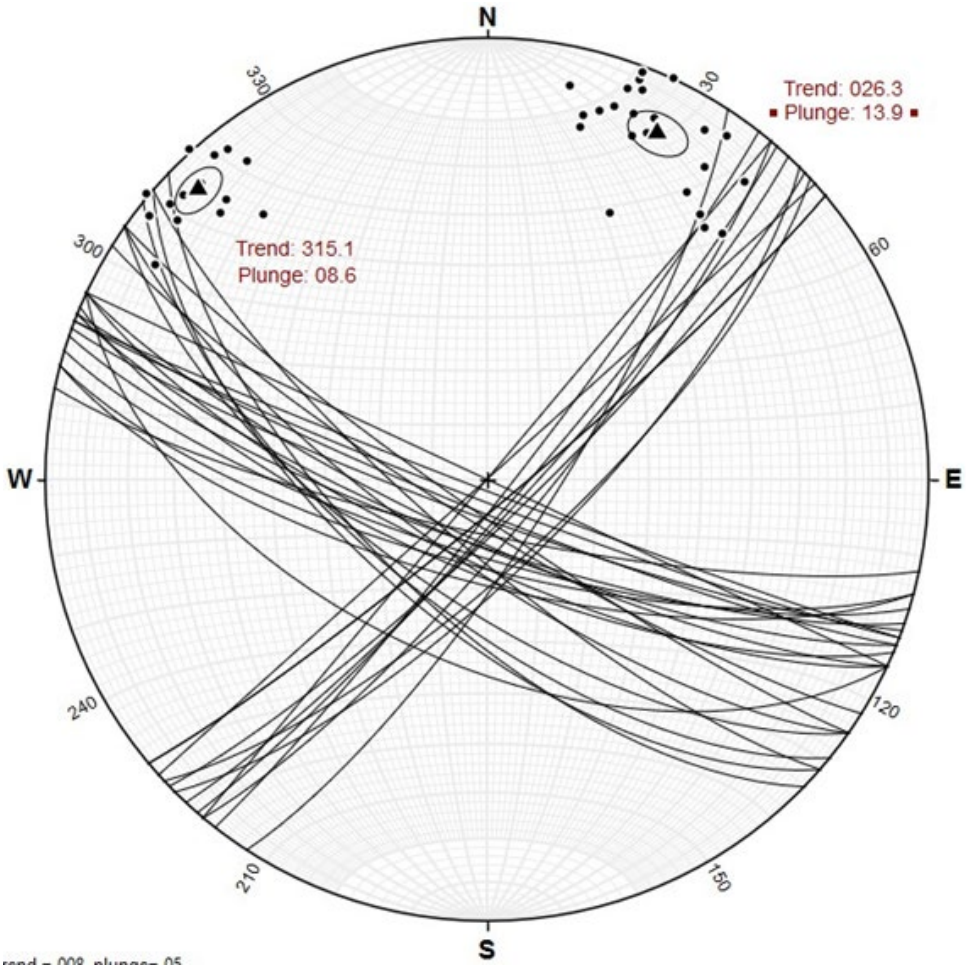
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Figure 5-7. Stereonet Exhibiting All Joint Measurement and Associated Rose Diagram



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Figure 5-8. Stereonet Exhibiting Joint Set, Poles to Planes, and Mean Vectors



5.5 Deposit Evolution and Petrogenesis

Monzonitic plutons, such as the RMP, are believed to form through open-system fractionation of a ferrodioritic parent magma, which typically remains after the crystallization of the primary anorthosite bodies (Anderson et al. 2003). Scoates et al. (1996) conducted crystallization experiments on one of the LAC ferrodiorites and demonstrated that extensive crystallization of a ferrodioritic parent magma can produce Potassium-rich monzonitic liquids. Based on isotopic similarities between the RMP and the least-contaminated rocks of the LAC, a similar ferrodioritic parental magma is inferred for the RMP (Anderson et al. 2003). Continued fractional crystallization played a critical role in forming the RMP and its various units. The liquid line of descent (LLD) from monzodiorite to fayalite monzonite was driven by the crystallization of olivine, clinopyroxene, plagioclase, apatite, magnetite, and ilmenite. The crystallization sequence for the REE-bearing units of the RMP is zircon, apatite, olivine, clinopyroxene, allanite, plagioclase, K-feldspar, hornblende, biotite, and quartz (Anderson et al. 2003). Petrographic work suggests that olivine, clinopyroxene, plagioclase, apatite, zircon, and allanite are cumulated phases, while alkali feldspar, hornblende, biotite, and quartz crystallized from intercumulus liquid (Anderson et al. 2003).

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5.6 Alteration

The RMP exhibits differing types of alteration of varying intensity. Most observed alterations are low to moderate. Alteration has not been shown to affect grades; however, more work is required to determine the exact relationship between alteration and grade, and preliminary results show no effect on REE tenor. The prominent style of alteration observed throughout the pluton is weak in potassic alteration and oxidation. Lesser amounts of epidote alteration have been observed. Alteration is most prevalent along joint and minor fault surfaces.

Metamict structures observed in micrographs of allanite display the decomposition of allanite crystal structure to amorphous solids and radial fractures emanating from allanite crystal cores. Metamict structures are common throughout the allanite at Halleck Creek and have been observed to a lesser extent within zircon crystals. It is speculated that metamictization over 1.4 Ga has enhanced the leachability of REEs from allanite.

5.7 Mineralization

5.7.1 Mineral Assemblage

Rare earth element mineralization within the RMP is hosted principally within allanite [formula: $(Ce,Ca,Y,La)_2(Al,Fe^3)_3(SiO_4)_3(OH)$], a sorosilicate of the epidote group, and subordinately within zircon. Mineralization occurred due to fractional crystallization of the RMP bodies over time. Minor occurrences of chevkinite, tornebohmite, monazite, and synchysite/bastnasite were observed in detailed mineralogical characterization, but none of these are significant contributors of rare earth elements or resources. Allanite is the primary REE host mineral at the Halleck Creek Project. As a sorosilicate within the epidote group, allanite contains significant amounts of REEs in its primary mineral structure. The presence of allanite is the primary reason that the RMP exhibits higher REE content than any of the coeval monzonitic bodies in southeastern Wyoming. In other regional plutons, REEs are typically hosted in phosphates, primarily apatite (Anderson et al. 2003). It is speculated that the incorporation of REEs into allanite, rather than apatite, resulted from increased water content and lower P_2O_5 levels relative to other monzonitic plutons in the region. The major chemical constraint influencing allanite formation within the RMP is the abundance of Fe_2O_3 in the parent magma. Ilmenite is typically the primary competing phase for Fe_2O_3; however, the RMP contains low amounts of TiO_2, allowing more Iron to be available for allanite formation (Stantec 2025).

5.7.2 Petrography of REE-Bearing Minerals

Most allanite grains occur as inclusions in and around aggregates of fractured amphibole. Allanite measurements range from 400 µm up to 2.5 mm in diameter. Allanite occasionally exhibits thin rinds of epidote (Iron oxide), metamict and isotropic cores. Metamict allanite often exhibits radial fracturing in surrounding minerals due to hydration of the crystal structure during metamictization. Feldspars are the dominant silicate phase in all units within the RMP. Late-stage grid-twinned microcline is most observed, followed by plagioclase, often weakly sericitized. Microcline ranges in composition from Or_{65} to Or_{n5}, and plagioclase ranges from An_7 to An_{24} (Anderson et al. 2003). Microcline is typically anhedral and ranges from 500 µm to 4 mm in diameter; plagioclase occurs as anhedral to subhedral grains varying from 500 µm to 5.5 mm (DCM 2019). Green amphibole is the second most abundant silicate, typically comprising no more

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than 25% of the samples by volume, occurring as aggregates and prisms up to 5 mm in size with mild to moderate Iron- oxide decay along cleavage planes. Quartz content comprises no more than 10%-15% in thin sections, occurring as anhedral or rounded grains interstitially between feldspar and amphibole. Zircon is common throughout the RMP as fractured euhedral prisms, commonly hosted within amphibole and less commonly within feldspars (DCM 2019). Zircons range from 50 µm to 600 µm in diameter. Trace rounded apatite occurs as inclusions within feldspar and quartz. Trace biotite occurs as aggregates associated with amphibole. Trace pyrite or pyrrhotite was observed in one sample and identified using EDS spectrometry; sulfides, when present, typically occur around the edges of allanite grains (DCM 2019). All examined petrographic samples exhibited varying amounts of Fe-oxide as fracture fill or as replacement of amphibole; ilmenite is the most common variety, albeit in trace amounts.

5.7.3 Mineralogical Characterization

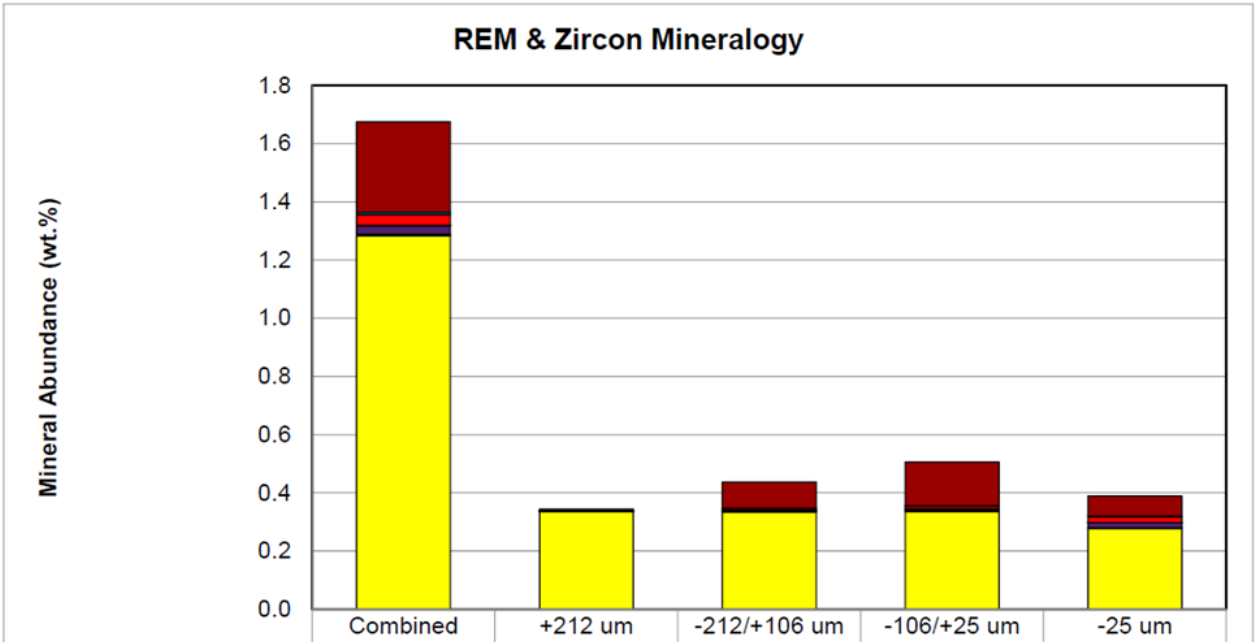
In 2024, SGS Minerals in Lakefield, Ontario updated the detailed mineralogical characterization of HQ core samples to determine liberation parameters, particle distribution, and mineral associations of REE-bearing rocks at the CSM. Work completed included TESCAN integrated mineralogical analyzer (TIMA-X), electron probe micro-analysis (EMPA), X-ray diffraction (XRD) analysis, scanning electron microscopy, and chemical assays. X-ray diffraction analysis determined the bulk mineralogy of the sample. The sample consists mainly of albite (37.5%), microcline (30.5%), actinolite (15.1%), diopside (3.4%), quartz (5.8%), and minor (<2%-3%) other minerals (Table 5-1). TIMA-X analysis shows the mineral abundance of the calculated head as orthoclase (42.0%), plagioclase (30.9%), amphibole (17.0%, which includes minor pyroxene yielding a similar chemical composition), quartz (5.9%), and trace amounts (<1%) of biotite, garnets, carbonates, epidote, other silicates, apatite, sulphides, Fe-oxides, ilmenite, and other minerals. The main rare earth mineral (REM) is allanite (1.28%), while chevkinite (0.01%), tornebohmite (0.03%), and synchysite/bastnasite (0.04%) are present in trace amounts. Zircon is present at 0.31%. Rare xenotime, monazite, niobates, and other REMs are tentatively identified. Liberated (pure, free, and liberated) allanite accounted for 87.5% of the samples, with the remainder occurring as complex particles (2.4%), middlings with quartz/feldspars (5.4%), and amphibole (1.1%). The high degree of allanite liberation is attributed to the coarse phenocryst texture of the host rocks. Grain size analysis (Table 5-1) shows the P_o for particle is 196 µm. Allanite has a P_o of 218 µm and median grain size of 90 µm. Chevkinite/tornebohmite P_o is 17 µm; xenotime/monazite 20 µm; synchysite/bastnasite 35 µm; and zircon 125 µm. The distribution of REE-bearing minerals and zircon by size fraction, together with the calculated head distribution, is shown in Figure 5-9.

Table 5-1. P80 and Median Grain Size (microns) by Mineral Phase

Mineral/Compound	Head Mineralogy (%)
Quartz	5.8
Albite	37.5
Muscovite	1.9
Biotite	0.8
Chlorite	0.6
Stilpnomelane	1.7
Actinolite	15.1
Microcline	30.5

Mineral/Compound	Head Mineralogy (%)
Calcite	2.2
Magnetite	0.5
Diopside	3.4
Total	100

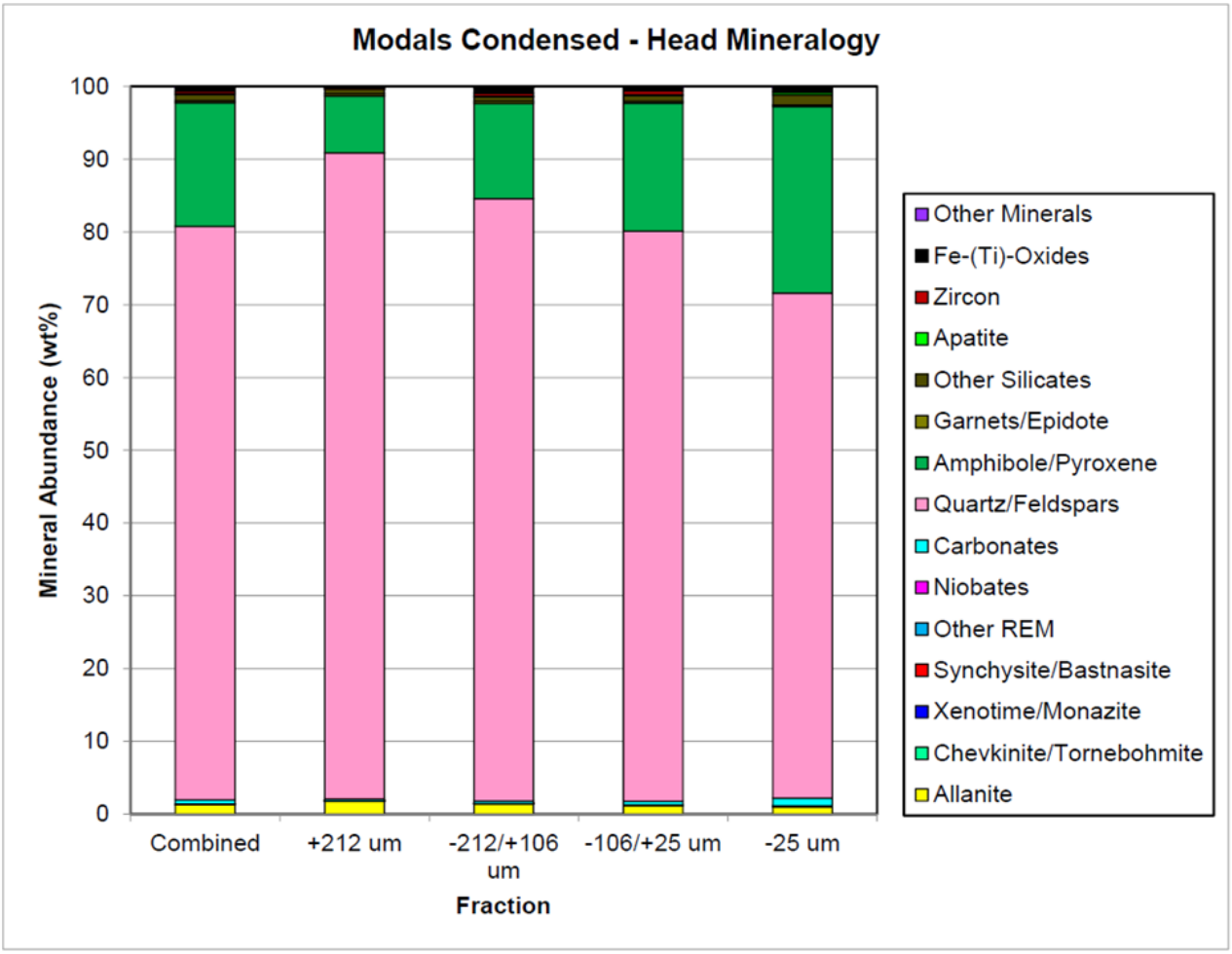
Figure 5-9. REE Mineral and Zircon Mineral Mass by Size Fraction and Calculated Head



	Combined	+212 um	-212/+106 um	-106/+25 um	-25 um
Zircon	0.31	0.00	0.09	0.15	0.07
Other REM	0.01	0.00	0.00	0.00	0.00
Synchysite/Bastnasite	0.04	0.00	0.01	0.01	0.02
Monazite	0.00	0.00	0.00	0.00	0.00
Xenotime	0.00	0.00	0.00	0.00	0.00
Tornebohmite	0.03	0.00	0.00	0.01	0.02
Chevkinite	0.01	0.00	0.00	0.00	0.00
Allanite	1.28	0.34	0.33	0.34	0.28

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Figure 5-10. Modal Mineralogy by Size and Calculated Head



5.8 Deposit Dimensions

The Halleck Creek deposit can be subdivided into two project areas: Red Mountain and Overton Mountain. The Red Mountain project area is approximately 2,075 m × 1,013 m. The Overton Mountain project area is approximately 1,210 m × 1,648 m. Both deposits remain open at depth: mineralization has been observed to a depth of 302 m at Overton Mountain and 298 m at Red Mountain.

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6 EXPLORATION AND DRILLING

6.1 Historical Exploration and Ownership

In the 1960s or 1970s, a small mine that extracted fuchsite (ornamental stone) operated to the northwest of the CSM Project. Otherwise, no large-scale mining has occurred in this portion of the Laramie Range. During the 1950s Uranium prospecting rush, several occurrences of Thorium- and Uranium-bearing REE-containing pegmatite bodies were discovered nearby and throughout the Laramie Range. None of these occurrences were seriously explored (drilling, trenching, etc.) and none were mined. The region received little attention thereafter. In 2010, Blackfire Minerals filed for and acquired a set of Wyoming State Mineral Leases for REE exploration activities. Areas of anomalous REE values on Red Mountain had been identified through a Ph.D. thesis (Anderson 1995), commissioned research by World Industrial Minerals (WIM). Much of the Red Mountain was covered by a State Mineral Lease subsequently acquired by Blackfire. Blackfire dropped the leases in 2011 due to low REE prices. In 2018, the Project was re-activated by Zenith Mineral Ltd. (Zenith), which applied for the same state leases previously held by Blackfire and staked five federal unpatented lode claims. Additional sampling was completed on both the Wyoming State Leases and unpatented lode claims. Results from 87 samples collected in 2019 showed broad areas of REE mineralization exceeding 2,000 ppm Total Rare Earth Oxides (TREO). Previous exploration performed by Zenith was limited and never amounted to compiling or reporting Mineral Resources. In 2021, ARR acquired the state mineral leases, and five unpatented federal lode claims from Zenith. The WOSLI assigned Wyoming Rare (the ARR operating subsidiary) four Wyoming State Mining Leases in June 2021. From June 2021 through August 2024, ARR acquired an additional 359 unpatented federal lode claims across the Halleck Creek Project area.

6.2 Coordinate Systems and Survey Grids

Drill holes, trench, and surface sample locations are stored in the Project database using the NAD 1983, UTM Zone 13 coordinate system. WGS 1984 latitude and longitude coordinates are stored as secondary coordinates in the Project database.

6.3 Geological Mapping

Since 2021, Wyoming Rare geologists have mapped and sampled ARR claim areas where previous geologic mapping was sparse and speculative. Mapping and sampling occurred in the Sommers Flat, Overton Mountain, Bluegrass, and County Line areas. Wyoming Rare geologists updated contacts between geologic units in these areas. During the spring of 2024, Wyoming Rare geologists continued mapping and sampling of the CSM resource area. These activities focused on further characterizing and locating the REE-enriched RMP. Mapping and sampling in 2024 focused on ARR claim areas where previous geologic mapping was sparse and speculative, including the Sommers Flat and western Overton Mountain areas, with contacts between geologic units updated accordingly. The CP believes that the extent of mapping and sampling across the Project area provides a comprehensive view of the geology at Halleck Creek. The mapped area and extensive database of surface samples provide substantial value to the Project. Mapping programs have greatly increased confidence in geologic contacts (Sobecke 2025).

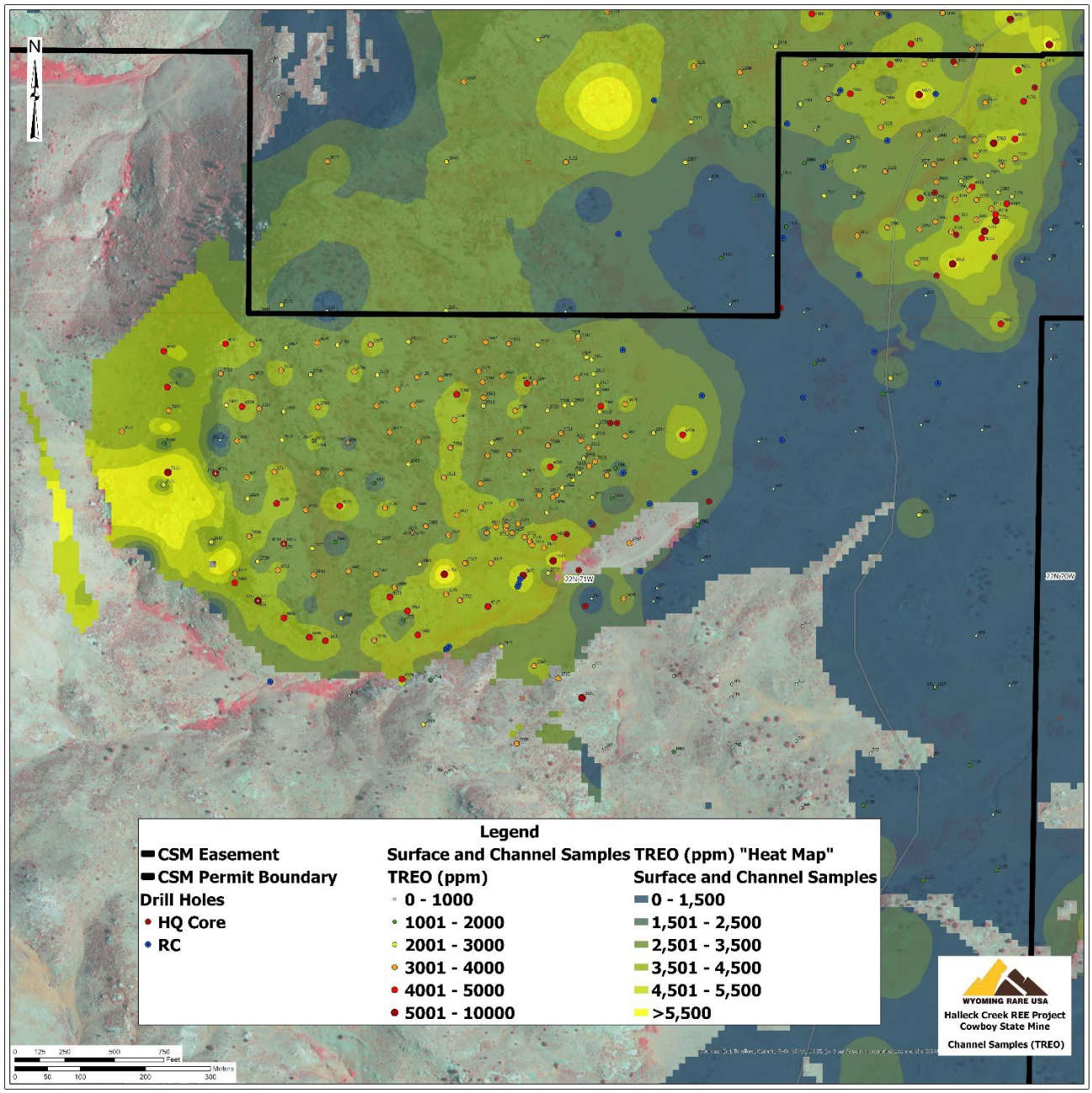
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6.4 Surface Geochemical Sampling

Wyoming Rare geologists have collected approximately 950 surface rock chip samples across the Halleck Creek mineral holdings since 2021. Samples have been assayed by American Assay Laboratories (AAL) and ALS Global. The RMP outcrops throughout the Project area, allowing for thorough surface sampling. Surface geochemistry (TREO) has been found to correspond well with TREO grades observed in rocks below the sample locations. ARR relied upon surface geochemistry to define drill hole locations and to assist in resource modeling to define resource extents. The distribution of surface samples collected across the Halleck Creek Project area is shown in Figure 6-1.

Figure 6-1. Location Map of All Surface Samples at the Halleck Creek Project Area (approximately 950 samples collected since 2021)



Wyoming Rare geologists collect surface rock chip samples from outcrops using rock hammers as part of geological mapping programs. In the field, each sample is assigned a unique sample ID. Sample locations are recorded using a handheld Garmin GPSMap 66i device. Samples are geologically described and placed in sample bags. In the office, rock chip samples are photographed and broken into two parts. One part is ground using a pneumatic hammer to P100-P180 mesh sieve (0.08 mm) and analyzed using an Olympus Vanta handheld XRF analyzer in triplicate. The other part is prepared for shipment to an external laboratory (typically ALS Global) for assay.

6.5 Geophysical Surveys

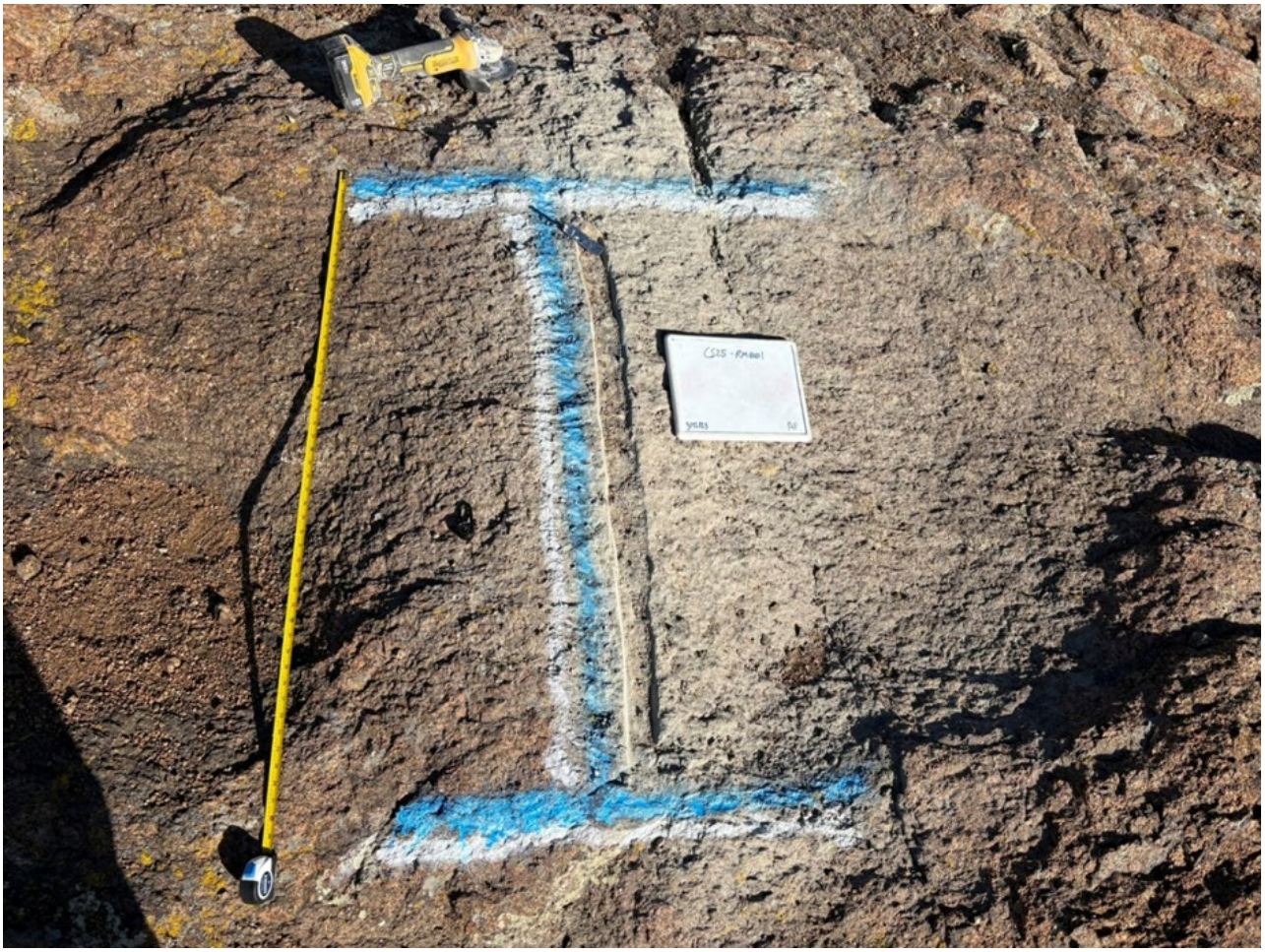
Ground geophysical programs have not been employed at Halleck Creek to date. The homogenous nature of the host lithology and low levels of radionuclides, metallic oxide minerals, and sulfide minerals do not lend themselves to conventional geophysical exploration methods. Wyoming Rare geologists were evaluating the use of handheld gamma spectrometers during the 2025 field season. Surface geochemical sampling has proven to provide valuable exploration data and has served as the primary tool for guiding drill hole placement.

6.6 Channel Sampling

From March through August 2025, Wyoming Rare geologists and geologists from Geosyntec collected channel samples across the Red Mountain/CSM project area. For each channel sample, the location was marked with a metal ID tag anchored to the outcrop. The location of each sample was collected using a field GPS unit in NAD 1983 UTM Zone 13 projection. The orientation of each channel sample was marked, geologically logged, and photographed. Channel samples of approximately one meter in length were collected using diamond-bladed angle grinders and chisels. The samples were bagged, tagged, and stored in the Wyoming Rare core storage facility in Laramie, Wyoming. Channel samples were submitted to ALS Global laboratories for assay using ALS methods ME-MS81 and ME-ICP06. An example of the 2025 channel sampling methodology is shown in Figure 6-2 for sample CS25-RM001.

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Figure 6-2. Channel Sample CS25-RM001 (TREO 4,703 ppm)



6.7 Competent Person Opinion on Exploration Information

The CP believes that the extent of mapping and sampling across the Project area provides a comprehensive view of the geology at Halleck Creek. The mapped area and extensive database of surface samples provide substantial value to the Project. Mapping programs have greatly increased confidence in geologic contacts. The CP further believes that channel sampling undertaken from March through August 2025 provides spatially representative surface data suitable for integration with drill hole data in the geological and grade model. The channel sampling protocol, sample handling, and assay methods are consistent with industry standards.

6.8 Exploration Potential

Additional mapping and sampling in claim areas west of Red Mountain and Overton Mountain may locate additional RMP material with elevated concentrations of allanite. The Scoping Study (Stantec 2025) recommends continued geological mapping and surface sampling, identifying two high-priority areas: the areas immediately west of Red Mountain and west of Overton Mountain, where additional RMP material may be present under ARR control. Sampling and mapping in these areas will be critical to understanding

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deposit dimensions and will help guide future exploration efforts at the Halleck Creek Project. Results will also guide prioritization of future drill programs and resource conversion drilling.

6.9 Overview of Drilling Programs

Between March 2022 and October 2024, Wyoming Rare completed four exploration drilling campaigns across the Halleck Creek Project area. These drilling programs consist of 28 HQ diamond core holes and 70 RC holes. To date, 98 drill holes have been drilled for a total meterage of 12,490 m (40,979 ft) (Table 6-1). All 98 drill holes at Halleck Creek have been included in the resource models (Stantec 2025).

Table 6-1. Summary of Exploration Drilling by Area and Hole Type

Area	Hole Type	Number	Length (m)	Length (ft)
Red Mountain	HQ Diamond Core	15	1,967	6,455
	Reverse Circulation	35	4,598	15,085
SUBTOTAL		50	6,565	21,540
Overton Mountain	HQ Diamond Core	13	1,395	4,576
	Reverse Circulation	35	4,530	14,862
SUBTOTAL		48	5,925	19,438
GRAND TOTAL		98	12,490	40,979

6.10 Drilling Campaign Chronology

Drilling at the Halleck Creek Project has been carried out in four discrete campaigns since the project was acquired by ARR/Wyoming Rare in 2021.

- Campaign 1 — Maiden Core Program (March–April 2022): Nine HQ diamond core holes were drilled, with five on Overton Mountain and four on Red Mountain. All holes in this campaign were vertical; no downhole deviation surveys were collected. Samples were sent to AAL in Sparks, Nevada for assay. This campaign established the presence of significant REE mineralization across both project areas.
- Campaign 2 — Fall 2022 RC Program (October–December 2022): A larger reverse circulation exploration program consisting of 38 RC holes, expanded the lateral and depth extent of known mineralization at Red Mountain and Overton Mountain. Downhole surveys were collected for all holes. RC samples were submitted to ALS Global for assay.
- Campaign 3 — 2023 Infill Drilling: Wyoming Rare geologists conducted geological mapping and sampling in the County Line, Trail Creek, and Red Mountain prospect areas concurrently with drilling. The 2023 program included both core and RC holes. In the 2023 core program, drill hole HC23-OM028 was extended to a depth of 302 m, demonstrating that mineralization continues well beyond the vertical extent of previous drilling. The Red Mountain domain was extended by approximately 100 m vertically in 2023.
- Campaign 4 — Fall 2024 Drilling Program (July–October 2024): A combined RC and diamond core program was undertaken at the CSM area of Red Mountain. The 2024 program refined the local geology, particularly in the eastern portion of the CSM where the RMP is in contact with unmineralized Sybille intrusion and Archean granites. Updated mineralogical characterization (SGS Lakefield 2024 TIMA-X) was also completed during this period. Wyoming Rare conducted geotechnical logging and sampling of HQ core during this campaign.

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6.11 Drill Methods

Two drill methods were used across the four exploration campaigns.

- HQ Diamond Core Drilling: 28 HQ diamond core holes were drilled for a total of 3,362 m (11,031 ft). Core was recovered in split inner-tube HQ assembly providing a 63.5 mm diameter core. Prior to 2024, core was sampled at 1.5-m intervals except where lithological breaks occurred, ensuring samples did not cross lithology boundaries. For the 2024 program, a statistical evaluation by Odessa Resources confirmed that 3.0-m sample intervals (at homogenous lithology) make no statistically significant influence on resource estimates; accordingly, 2024 core holes were sampled at 3.0-m intervals except at lithological contacts.
- Reverse Circulation Drilling: Seventy RC holes were drilled for a total of 9,128 m (29,948 ft). RC drilling produced three separate rock chip samples at each 1.5-m interval via a rotary sample splitter: one for chip trays (logging), one for in-house XRF analysis, and one for external REE assay.

6.12 Core and Chip Logging

Wyoming Rare geologists logged all core and RC chip cuttings in detail. All HQ core logging consists of measuring Rock Quality Designation (RQD), logging lithology and alteration, photographing all core, and defining sample intervals. Commencing in 2023, Wyoming Rare enlisted geotechnical engineers from WSP to train its geologists in geotechnical core logging; geotechnical logging of core from the 2023 and 2024 programs was completed as part of standard logging protocols. RC cuttings were collected into three splits using a rotary splitter attached to the drill rig. One portion of RC chips was placed in cutting trays for logging by Wyoming Rare geologists. The other portions were placed in bags for X-ray fluorescence (XRF) analysis and for assay. Wyoming Rare geologists logged the RC cuttings under 10x binocular microscopes, recording lithology, alteration, and photographs for each RC hole. Photographs of surface samples, core, and RC cuttings are cross-referenced to drill holes in the DHDB. All drill hole collar information, surveys, lithology, alteration, assays, and geotechnical data were entered into the DHDB.

6.13 Core Recovery

Core recovery at Halleck Creek is approximately 96% for diamond core holes. No quantitative recovery figure has been calculated for RC drilling; however, no recorded zones of loss or zero-sample recovery occurred during any of the RC drilling programs.

6.14 Collar Surveys

All drill hole collars were surveyed by Laramie Land Surveying of Laramie, Wyoming, registered professional land surveyors. Surveys were collected and reported using the NAD 1983 UTM Zone 13 North projection system.

6.15 Downhole Surveys

Downhole deviation surveys were collected for all drill holes except those in the 2022 maiden drilling program, which were drilled as vertical holes. Downhole survey data are stored in the DHDB and used in the resource models.

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6.16 Geotechnical Drilling

During the Fall 2024 drilling program, ARR collected 48 geotechnical core samples from 11 drill holes (Table 6-2). These samples were sent to WSP in Burnaby, British Columbia for strength testing. Geotechnical engineers from Stantec evaluated the geotechnical data for pit design purposes. Geotechnical tests performed by WSP are summarized in Table 6-3, and included Brazilian Tensile Strength (12 tests), Unconfined Compression Tests (16 tests), Triaxial Compressive Strength (11 tests), Direct Shear tests (9 tests), and Soil testing (1 test), for a total of 49 tests.

Table 6-2. Geotechnical Core Samples by Drill Hole — Fall 2024 Program (Reconciled with ARR)

Drill Hole ID	No. Geotechnical Samples
HC24-RM023	0
HC24-RM024	3
HC24-RM025	1
HC24-RM027	2
HC24-RM029	1
HC24-RM034	1
HC24-RM035	12
HC24-RM042	0
HC24-RM043	13
HC24-RM044	9
HC24-RM045	6
TOTAL	48

Table 6-3. Geotechnical Test Types and Counts — Fall 2024 Program (WSP, Burnaby, BC)

Geotechnical Test	No. Tests
Brazilian Tensile Strength	12
Unconfined Compression	16
Triaxial Compressive Strength	11
Direct Shear	9
Soil	1
Total	49

6.17 Daily Safety Protocols

Wyoming Rare developed and implemented daily safety protocols for drilling operations and personnel. Daily work plans and safety meetings were held and recorded for each drilling campaign. Safety protocols were developed for both drilling contractors and Wyoming Rare staff.

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6.18 Competent Person Opinion on Drilling

The CP believes that the drilling data collection methods, drilling recoveries, and the drilling data are of a quality suitable for use in Mineral Resource estimation. The drilling at Halleck Creek has been performed with a high degree of detail. Recovery of core and RC chips to the surface has been consistently high, and the rotary sample splitter provides representative samples.

7 SAMPLE PREPARATION

7.1 Sampling Techniques

Sample material from the CSM Project includes: (1) rock chip outcrop samples collected by Wyoming Rare geologists; (2) channel samples collected by Wyoming Rare geologists and Geosyntec; (3) RC drilling samples; and (4) diamond drill core. All sampling methods are appropriate for exploratory work and are considered industry standard. Wyoming Rare maintains Standard Operating Procedures (SOPs) for all aspects of sample collection, logging, security, and transport.

7.1.1 Rock Chip Sampling

Wyoming Rare geologists collect surface rock chip samples from outcrops using rock hammers as part of geological mapping programs. In the field, each sample is assigned a unique sample ID. Sample locations are recorded using a handheld Garmin GPSMap 66i device. Samples are geologically described and placed in sample bags. In the office, rock chip samples are photographed and broken into two parts. One part is ground using a pneumatic hammer to P100-P180 mesh sieve (0.08 mm) and analyzed using an Olympus Vanta handheld XRF analyzer in triplicate. The other part is prepared for shipment to an external laboratory for assay.

7.1.2 Channel Sampling

Wyoming Rare collected channel samples across the CSM project area in 2025. Each channel sample location was marked with a metal ID tag anchored to the outcrop. The location of each sample was collected using a field GPS unit in NAD 1983 UTM Zone 13 projection. The orientation of each channel sample was marked, geologically logged, and photographed. Channel samples of approximately one meter in length were collected using diamond-bladed angle grinders and chisels. The samples were bagged, tagged, and stored in the Wyoming Rare core storage facility in Laramie, Wyoming.

7.1.3 Reverse Circulation Drilling Sampling

Rock chips are collected at 1.5 m (~5 ft) intervals. Using a rotary sample splitter, RC drilling produces three separate rock chip samples for each 1.5 m of depth: one sample for chip trays (retained for records and visual logging); one sample for in-house XRF analysis; and one sample for external REE assay. Each 1.5-m interval is given a unique, pre-labeled sample ID shared across all three sample types. Chip trays and XRF samples are retained and stored for Wyoming Rare records and future use. Rock chip trays and assay samples are retrieved from drill sites daily and transported to the Wyoming Rare facility for logging and

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shipment preparation, respectively. A fourth reserve split is retained on site during RC drilling operations for each interval. Samples are always stored within locked storage units or in Wyoming Rare offices until shipped by bonded carrier to ALS Global laboratories.

7.1.4 Diamond Core Drilling Sampling

Prior to 2024, HQ core was sampled at 1.5 m (~5 ft) intervals, except where lithological breaks occurred; sample intervals never crossed lithology boundaries. Each sample was given a unique sample ID and tag labeled with the drill hole ID, sample number, and sample interval depths. For the 2024 exploration program, Odessa Resources performed a statistical evaluation demonstrating that sample lengths of 3.0 m make no statistically significant influence on resource estimates, provided lithological contacts are sampled discretely. Accordingly, 2024 core holes used 3.0-m sample intervals for homogenous lithology, with shorter intervals at lithological contacts. Core sampling procedure (from Wyoming Rare SOP): Core sampling is determined by lithologic breaks. Core samples never cross lithologic boundaries. In cases of consistent lithology over a long interval, sample intervals remain at 3.0 m. Sample intervals are measured using a standard tape measure and marked directly on the core using a paint pen. These intervals are also marked on each side of the interior of the core box. Sample tags provided by ALS laboratories are filled out for each interval. The barcodes from the sample booklet are affixed to the core box within the sample interval using a stapler, and the corresponding information for each sample is written in the sample booklet. For added security, the sample number is written on the core at the start of the sample interval with a paint pen.

7.1.5 Sample Security

During exploration, Wyoming Rare collects RC or core samples from the drilling contractors daily. Samples are transported directly to the Wyoming Rare warehouse in Laramie, Wyoming. The warehouse is locked and resides within a gated facility that is locked at the end of each day. Access to the warehouse is controlled by Wyoming Rare personnel. Chains of custody forms are prepared for all samples prior to shipping for assay. All shipments are completed with licensed and bonded carriers. ALS laboratories maintain a detailed (LIMS), enabling Wyoming Rare to track the progress of sample assays. Assay pulps are returned to the Wyoming Rare warehouse in Laramie and stored in locked cabinets.

7.2 Dry Bulk Density Determination

Nagrom Laboratories in Perth, Western Australia performed hydrostatic testing on 10 HQ core samples to determine specific gravity for the Cowboy State Mine core. Specific gravity was determined for both untreated samples and wax-impregnated samples. Results are summarized in Table 7-1. The weighted average specific gravity across all 10 samples was 2.70 (untreated) and 2.72 (wax- impregnated). Individual sample specific gravities ranged from 2.66 to 2.79. These values are consistent with monzonitic to syenitic host rocks of the RMP.

Table 7-1. Specific Gravity/Dry Bulk Density Determination — 10 HQ Core Samples

Sample ID	Bag No.	Mass (kg)	SG (Untreated)	SG (Wax)	SG (Wax) RPT
HC22-RM002	1	0.5	2.68	2.69	-

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Sample ID	Bag No.	Mass (kg)	SG (Untreated)	SG (Wax)	SG (Wax) RPT
HC22-RM002	3	0.49	2.67	2.64	-
HC22-RM003	5	0.31	2.66	2.68	2.65, 2.64
HC22-RM003	7	0.38	2.71	2.75	-
HC22-RM003	9	0.31	2.68	2.65	-
HC22-OM003	11	0.59	2.79	2.79	2.78, 2.77
HC22-OM003	13	0.4	2.69	2.67	-
HC22-OM003	15	0.37	2.7	2.7	-
HC22-OM004	17	0.37	2.72	2.71	2.69, 2.7
HC22-OM004	19	0.35	2.68	2.66	-

7.3 Sample Preparation and Analysis

Sample material from the CSM Project includes rock chip outcrop samples, channel samples, RC drilling samples, and diamond drill core. All sampling methods are considered appropriate for exploratory work and consistent with industry standards. Wyoming Rare maintains SOP documents for all aspects of sample collection, logging, security, and transport.

Diamond core samples were cut longitudinally in half using a core saw. One half of the cut core was submitted for laboratory preparation and assay, with the remaining half retained in the core box for reference. Sample intervals were selected at lithological breaks and marked on the core and core box prior to sampling.

7.3.1 RC Sample Preparation

Drilling contractors collect RC samples using a rotary sample splitter to produce four samples from each 1.5-m interval: one for chip trays, one small sample for XRF analysis, one larger sample for assay, and a fourth reserve sample. Wyoming Rare geologists retrieve the previous day's RC chips and sample bags from the drilling site. At the warehouse in Laramie, tasks include chip logging and XRF analysis of five samples from various depths of each RC hole. Geologists examine chips under binocular microscopes or hand lenses.

7.3.2 Analytical Testing Laboratories

For the maiden core drilling program (2022), core samples were sent for assay to AAL in Sparks, Nevada, which holds ISO 17025 accreditation and is approved by the Nevada Division of Environmental Protection. Subsequent rock chip, RC, and core samples from Fall 2022 through 2024 were sent to ALS Global in Twin Falls, Idaho, for processing and sample preparation, with final assay completed at ALS Global in Vancouver, British Columbia. ALS Vancouver holds ISO 17025 accreditation and is accredited by the Canadian Association for Laboratory Accreditation, Inc. (CALA). Core samples from the 2023 and 2024 programs were processed and prepared at ALS Global in Reno, Nevada, and then assayed by ALS Global Vancouver.

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7.3.3 Analytical Methods

Samples submitted to ALS are analyzed by ICP-MS using the ME-MS81d package (which includes ME- ICP06 for whole rock analysis). This analytical suite provides quantitative results for all rare earth elements, major oxides, and selected trace elements relevant to REE resource estimation.

7.4 Quality Assurance and Quality Control

QA/QC protocols were similar for RC and diamond core drilling. Certified reference materials (CRMs) were inserted at a rate of 1 per 19 samples for both drilling types. Variability in overall insertion rates occurred due to factors such as shortened holes and sampling constraints. CRM insertion rates for the 2024 drilling programs are summarized in Table 7-2 and Table 7-3.

Table 7-2. CRM Insertion Rates — 2024 Diamond Core Drilling Program (CDN-RE-1201, CDN-RE-1202, Blank, Duplicate; Total 35 QA/QC Samples at 6.84%)

QA/QC Type	Number of Each	Insertion Rate
CDN-RE-1201	6	1.17%
Blank	11	1.17%
Duplicate	12	2.35%
CDN-RE-1202	6	2.15%
TOTAL	35	6.84%

Table 7-3. CRM Insertion Rates — 2024 Reverse-Circulation Drilling Program (CDN-RE-1201, CDN-RE-1202, Blank, Duplicate; Total 60 QA/QC Samples at 4.51%)

QA/QC Type	Number of Each	Insertion Rate
CDN-RE-1201	13	0.98%
Blank	20	1.50%
Duplicate	17	1.28%
CDN-RE-1202	10	0.75%
TOTAL	60	4.51%

7.4.1 Company Blanks

WRI sourced blank material for the Fall 2024 Drilling Campaign from CDN Resource Laboratories in Langley B.C., Canada. The blank material, CDN-BL-10 was prepared using a blank granitic material. Reject mineralized material material was dried, crushed, pulverized, and then passed through a 200-mesh screen. The -200 material was mixed for 5 days in a double-cone blender. Splits were taken and sent to 15 commercial laboratories for round robin assaying.

All blanks analyzed behaved appropriately and did not exhibit potential for contamination, as seen in Figure 7-1 and Figure 7-2.

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Figure 7-1. CDN-BL-10: All REE Values for Internal QA/QC, Whole Rock

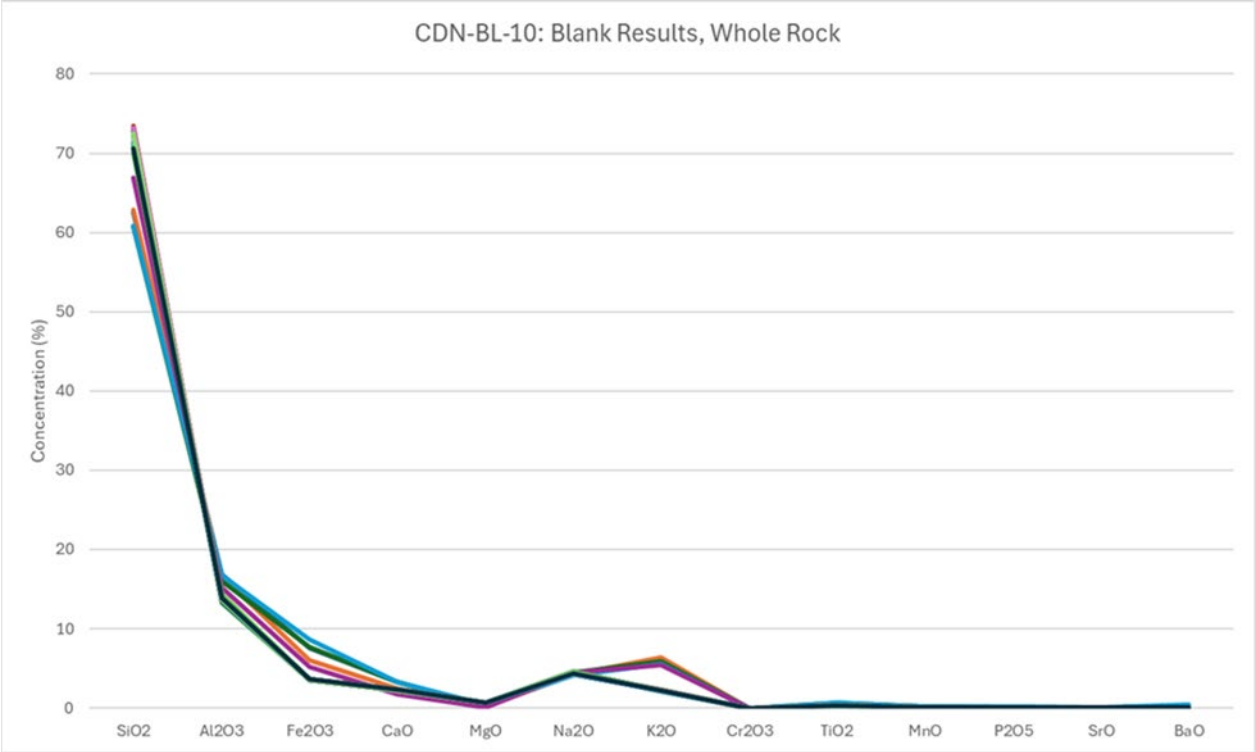
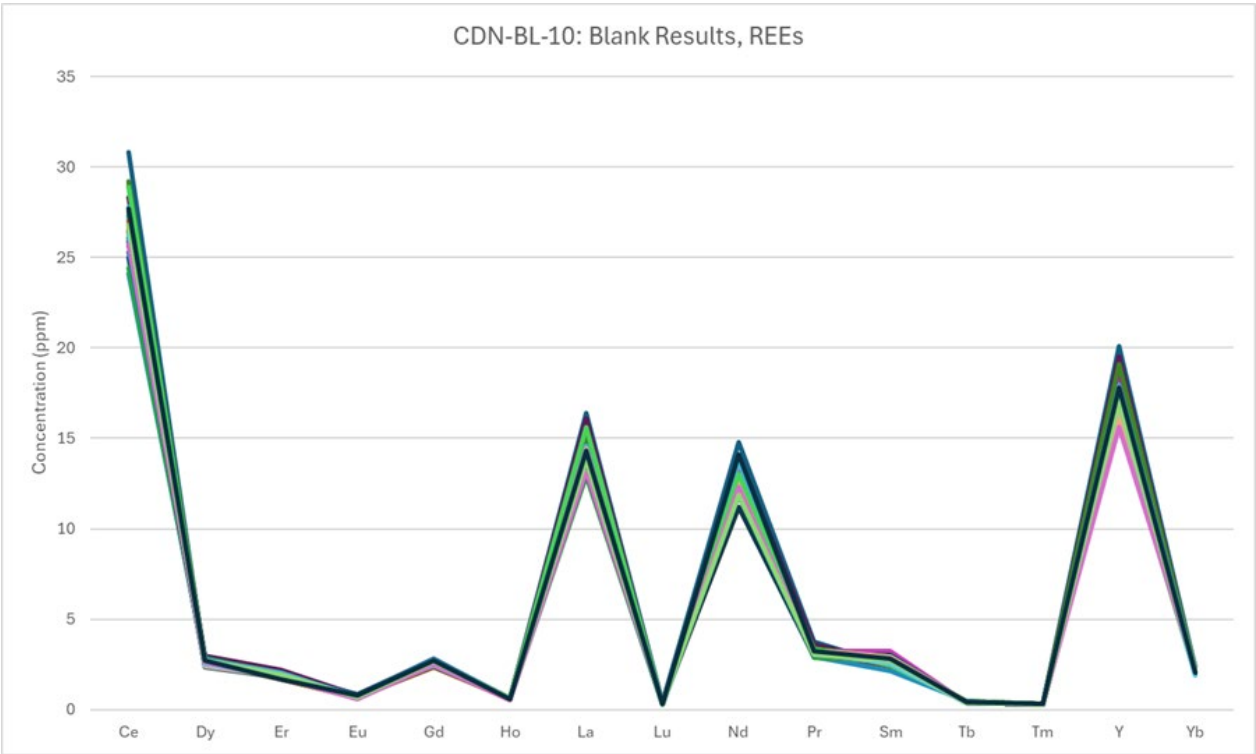


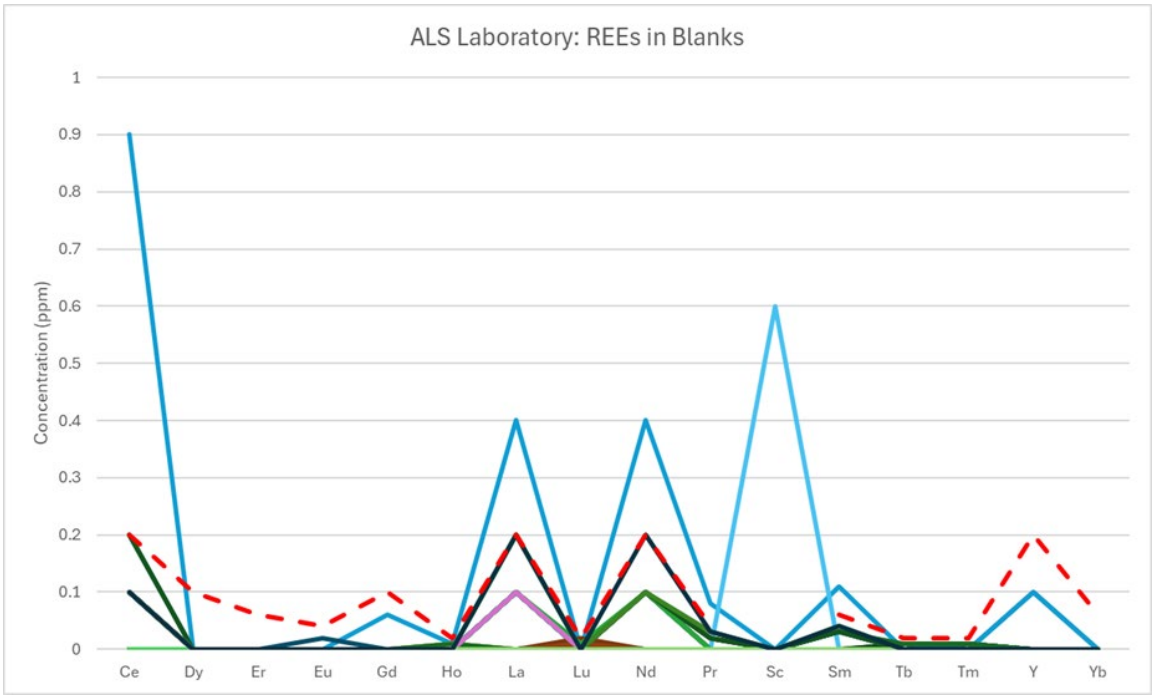
Figure 7-2. CDN-BL-10: All REE Values for Internal QA/QC, REE Analysis



7.4.2 Laboratory Blanks

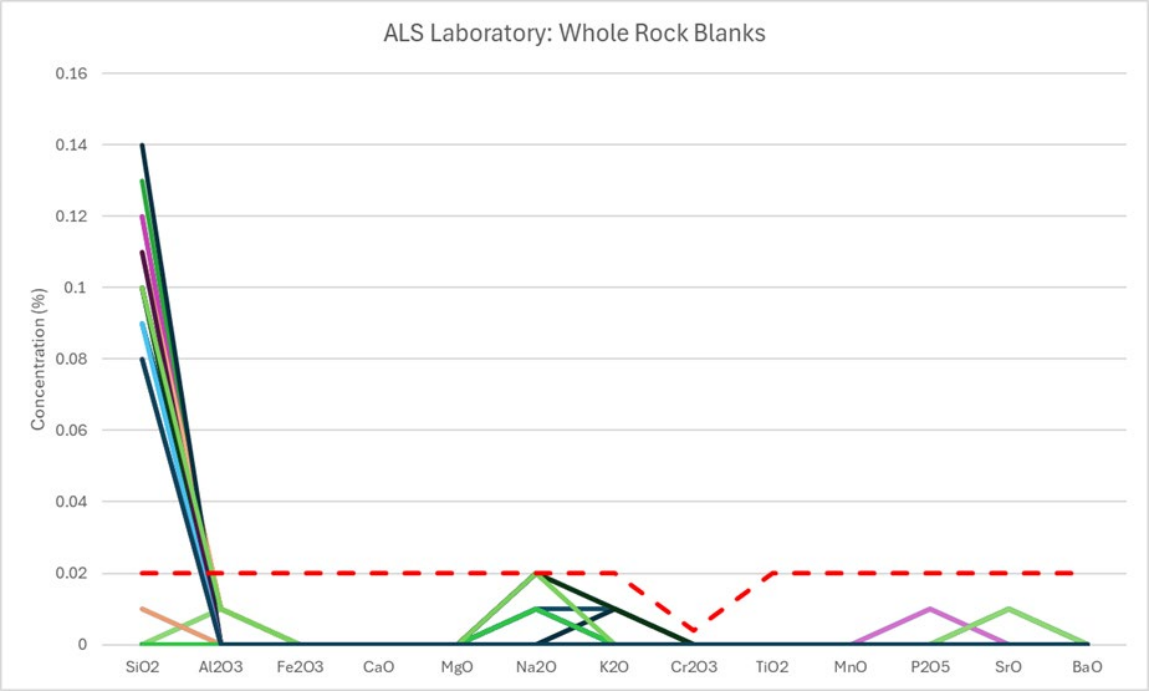
ALS Laboratories in Vancouver, British Columbia implemented its own internal QA/QC procedures, including the insertion of blanks into the sample stream. The blanks used by ALS contained low concentrations of REEs. Most ALS blanks fell within acceptable tolerances. Although a few exceeded tolerance thresholds, the overall blank results are considered acceptable. The REE concentrations and whole-rock analytical results for ALS laboratory blanks are shown on Figures 7-3 and 7-4, respectively.

Figure 7-3. ALS Blanks: REE Values



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Figure 7-4. ALS Blanks: Whole Rock Blanks

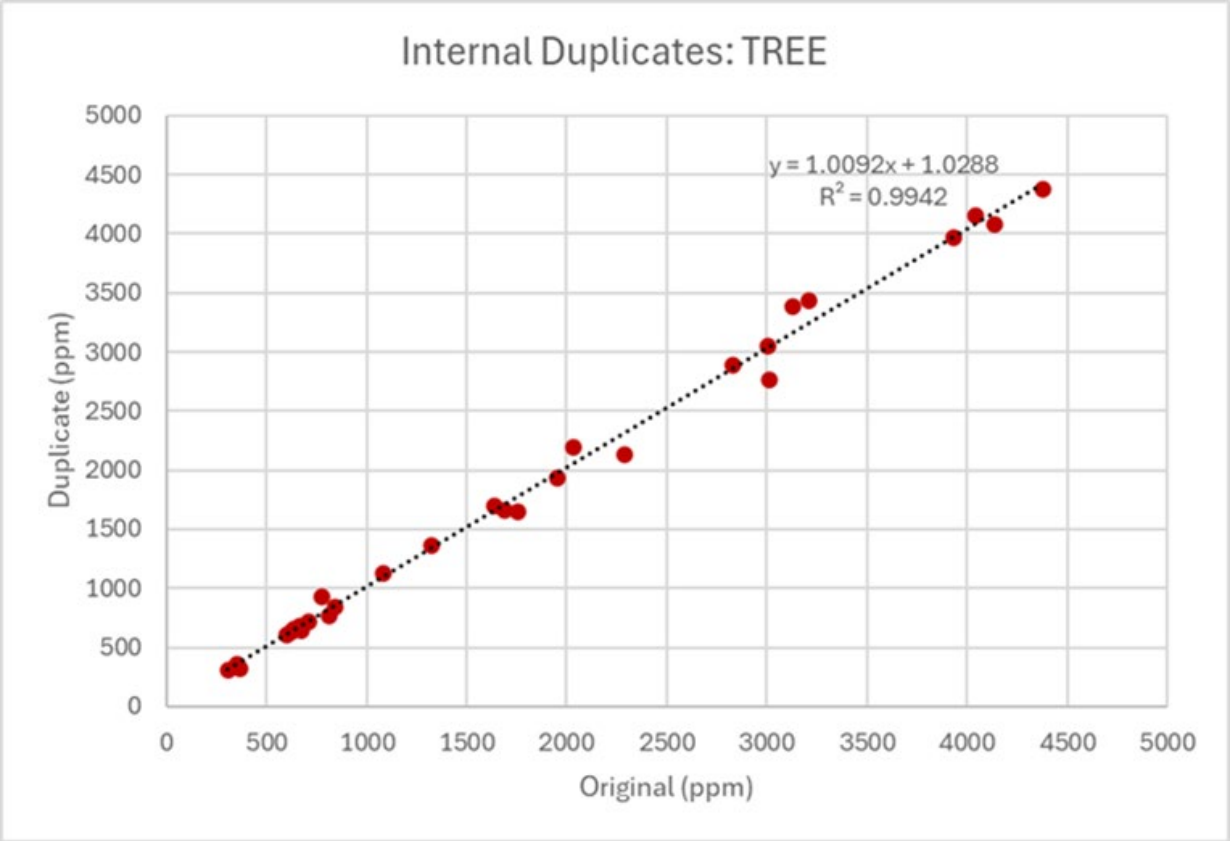


7.4.3 Company Duplicates

Riffle splits of coarse rejects were taken as duplicate samples by Wyoming Rare geologists. Results demonstrate that duplicates exhibit acceptable precision and replication, with minor variance observed at both the higher- and lower-grade ends. A regression curve and R^2 factor were calculated for TREE. The R^2 value exceeded 0.99 for all elements, indicating a very high level of correlation in the company duplicate samples. The relationship between original and company duplicate assay results is illustrated by the scatter plots and regression analyses on Figures 7-5 through 7-7, including TREE (Figure 7-5), Ce and La (Figure 7-6), and Nd and Pr (Figure 7-7).

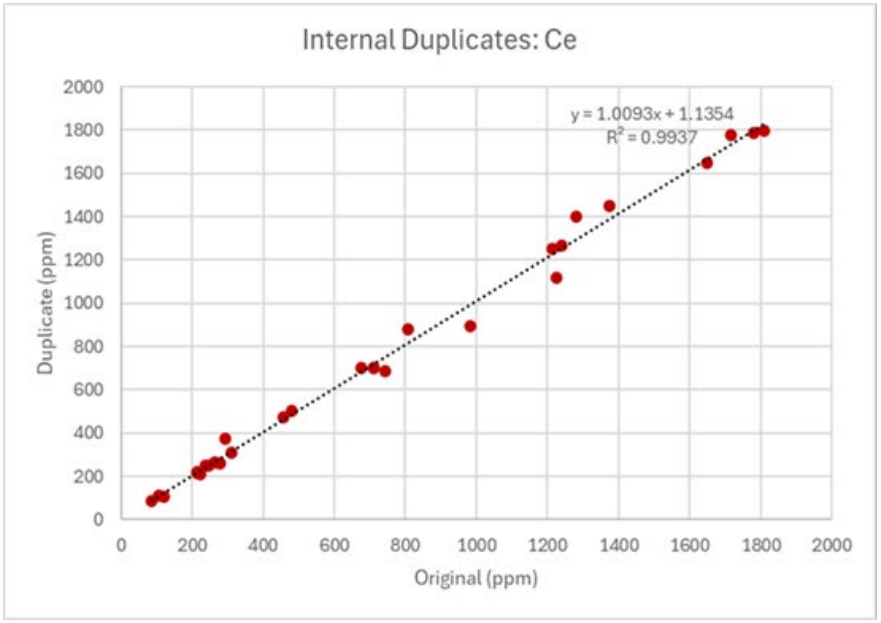
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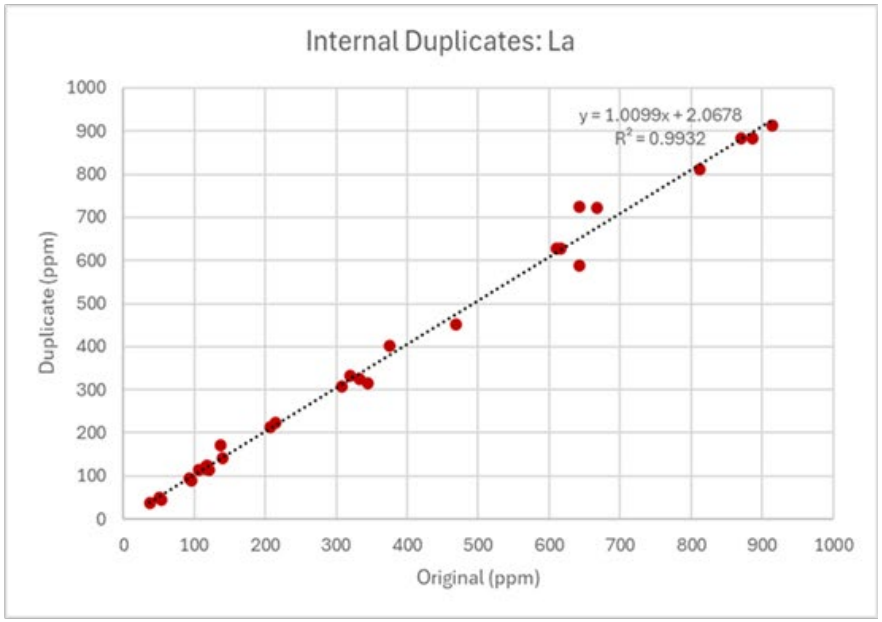
Figure 7-5. Company Internal Duplicates — TREE Scatter Plot and Regression Curve ($R^2 > 0.99$)



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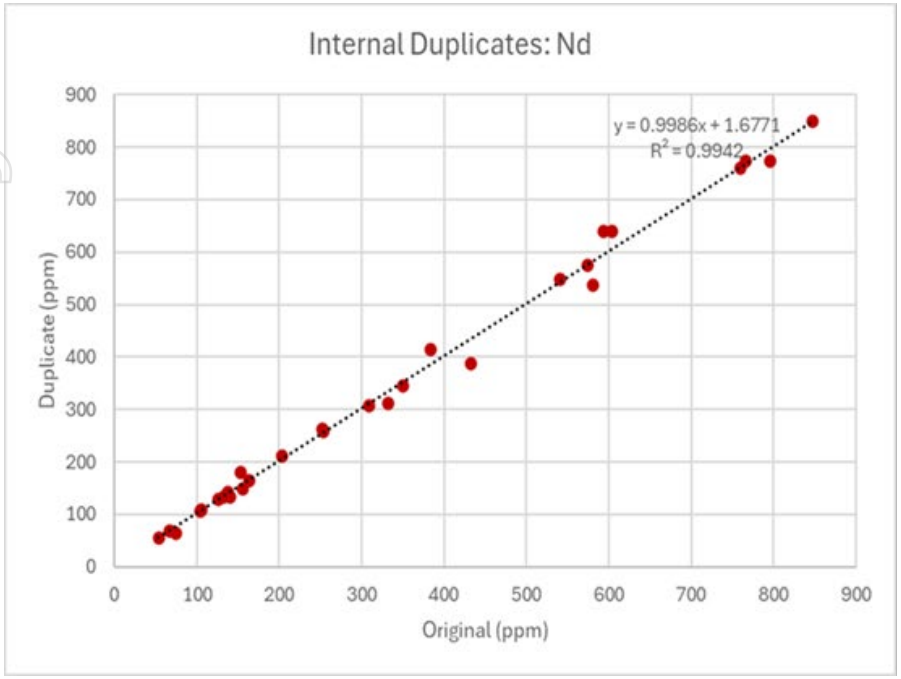
Figure 7-6. Chart of Internal Duplicates for Ce and La

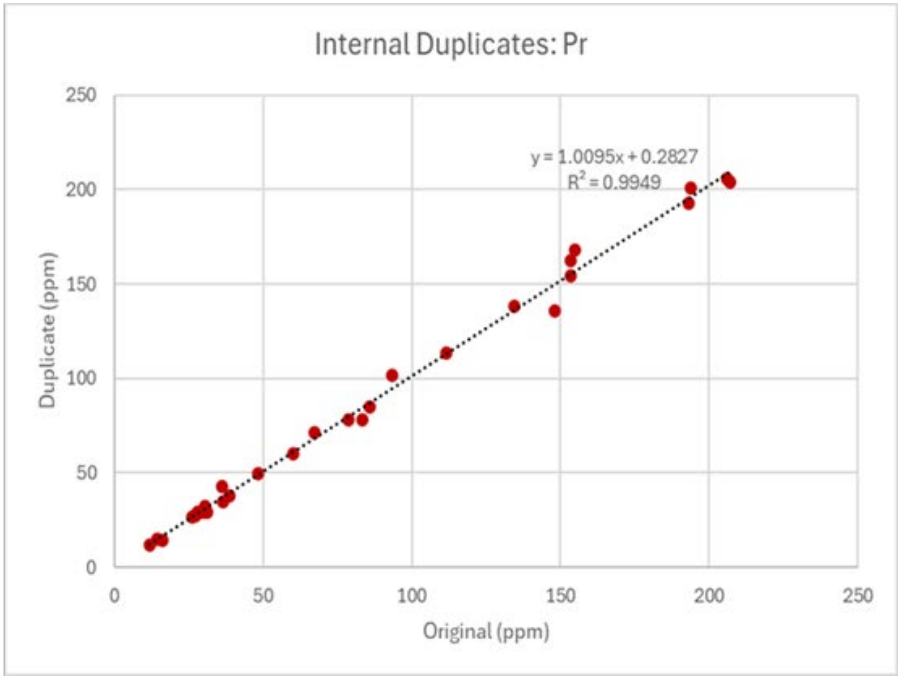




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Figure 7-7. Chart of Internal Duplicates for Nd and Pr



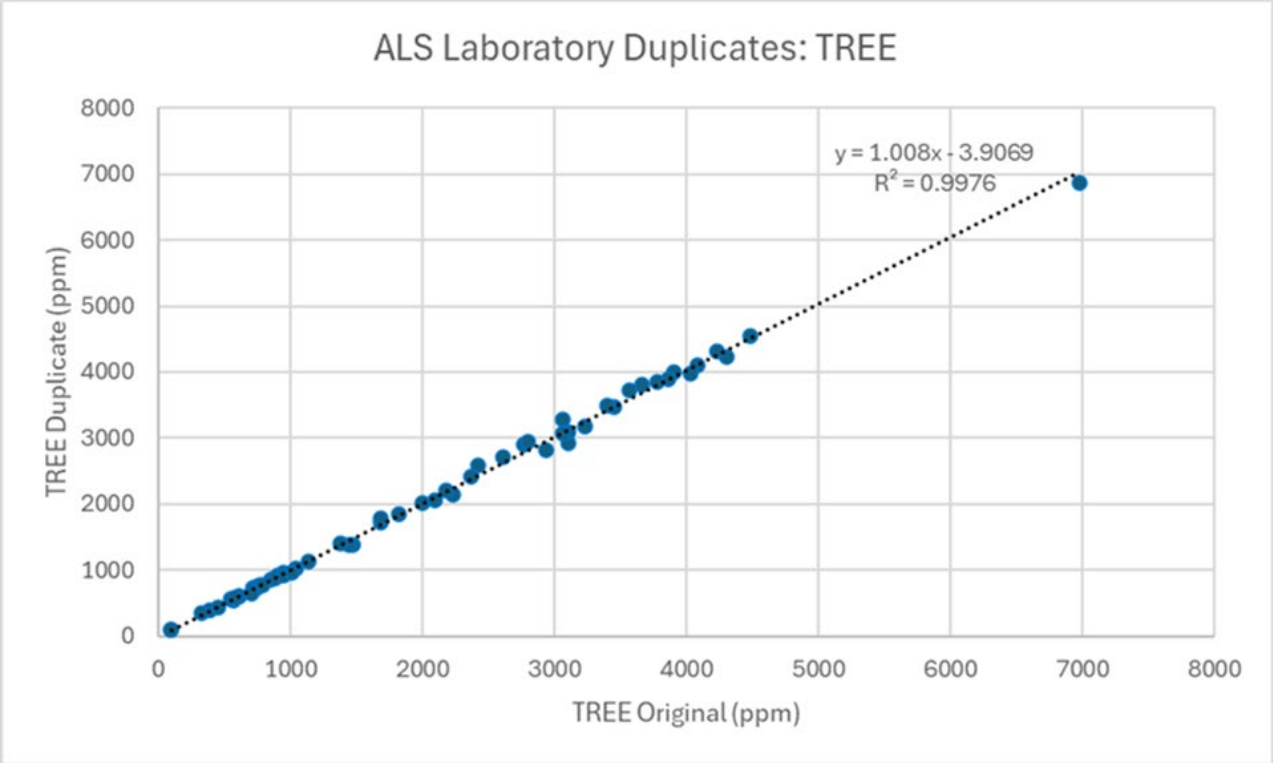


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7.4.4 Laboratory Duplicates

ALS created internal duplicates from randomized samples for each work order submitted. These duplicates were prepared from coarse sample rejects using a riffle splitter. Wyoming Rare plotted a regression curve and R^2 factor for TREE. The R^2 value exceeded 0.99 for all elements, further confirming a very high level of correlation in the laboratory duplicate samples. The relationship between original and ALS laboratory duplicate TREE results is illustrated by the scatter plot and regression analysis on Figure 7-8.

Figure 7-8. Chart of ALS Duplicates for TREE

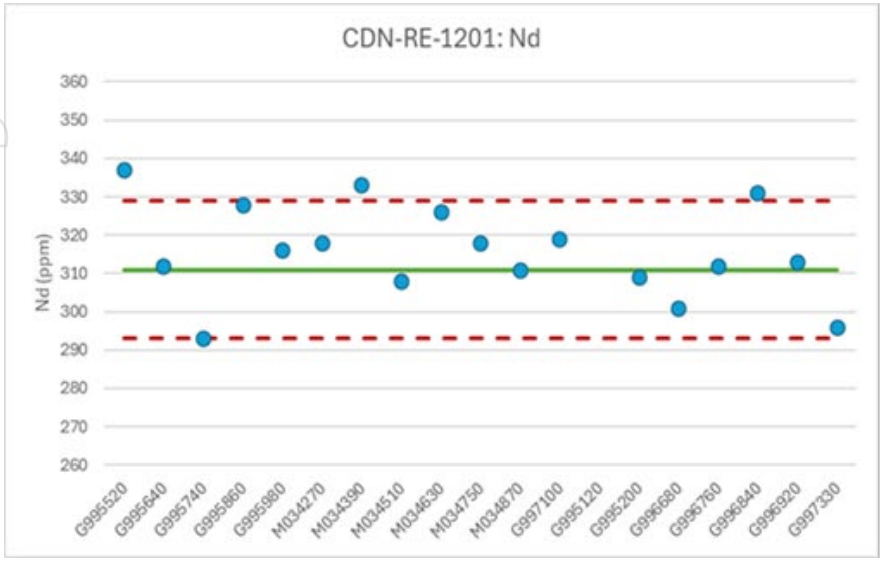


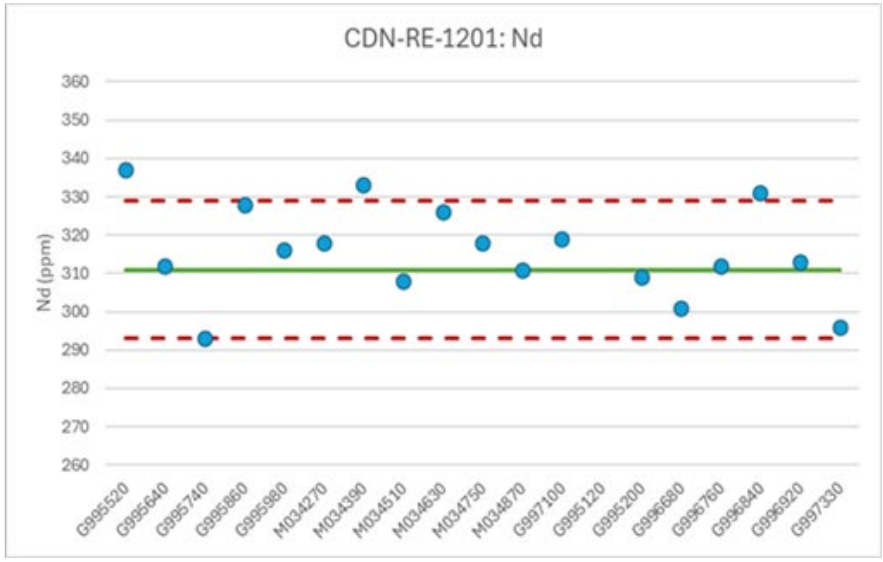
7.4.5 Certified Reference Materials — Standards

Wyoming Rare geologists obtained REE standards from CDN Resource Laboratories in Langley, British Columbia, Canada. Two standards were used: CDN-RE-1201 and CDN-RE-1202. CDN- RE-1201 is most representative of grades observed in the Red Mountain pluton, while CDN-RE-1202 represents a slightly higher grade. Most company CRM standards fell within an acceptable range. The CDN-RE-1201 CRM tolerance results for Nd and Pr, including the results outside acceptable limits, are shown in Figure 7-9.

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Figure 7-9. CDN-RE-1201 Internal CRM Tolerance Charts — Neodymium (Nd) and Praseodymium (Pr), Showing Two Results Outside Acceptable Limits





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ALS also utilized its own rare earth element standards, which were inserted into the sample stream. ALS standards include AMIS0304, OREAS 146, OREAS-101b, and SY-5. The majority of REE standards from the ALS laboratory QA/QC program fell within acceptable ranges. However, one result from OREAS-101b was significantly outside acceptable limits and requires further investigation.

7.5 Competent Person Opinion on Sampling Adequacy

The CP believes that the standard operating procedures, the data collected, and the QA/QC programs implemented by Wyoming Rare are adequate to ensure reliable geological and rare earth grade interpretation for use in resource estimation at this stage of the project. The sampling protocols and methods employed are comprehensive and consistent with industry standards for this deposit type and stage of development. The CP notes two minor exceedances for CDN-RE-1201 (Nd and Pr) and a single anomalous OREAS-101b result within the laboratory QA/QC data. These isolated results do not materially affect the CP's overall opinion regarding the adequacy of the sampling, analytical data, or QA/QC program for the purposes of this Scoping Study.

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8 DATA VERIFICATION

8.1 Standard Operating Procedures

Wyoming Rare geologists maintain a comprehensive set of SOPs for safety, data collection, data logging, and information management. SOPs are reviewed and updated as needed prior to each exploration project. Wyoming Rare maintains a detailed Emergency Response Plan (ERP) for the CSM project area. Wyoming Rare personnel review the ERP with all employees and contractors. Contractors are provided with the ERP and are required to keep copies of the ERP while working at the site. Drilling data is uploaded to the DHDB server daily. Drilling data are imported into the DHDB drill hole database as received (Stantec 2025, §8.2). Validation checks performed on data entry include checking for gaps and overlaps in lithology, alteration, and assay data; cross-referencing total depths of collar and lithologic data; and verification that assay data depths correspond to logged lithologic intervals.

8.2 Data Verification by Independent Competent Person

Wyoming Rare contracted Odessa Resources Pty. Ltd. (Odessa) of Perth, Western Australia to update geological and rare earth grade models for the Red Mountain area including the CSM. Alfred Gillman, FAusIMM CP (Geol.), number 107303, of Odessa Resources, performed the resource estimation update reported in the Odessa V3 Update Report (November 1, 2025). As part of building the geological resource models, Mr. Gillman reviewed the existing surface sample, channel sample, and drill hole data across the CSM and verified that the data is suitable for resource estimation. The Odessa verification process included the following procedures (Stantec 2025; Odessa 2025):

1. Review of drill hole data against original geological logs and assay certificates. Complete access to all drilling records, scanned field logs, and analytical data was maintained in the DHDB.
2. Checking for gaps and overlaps in lithology, alteration, and assay data.
3. Cross-referencing total depths of collar and lithologic data.
4. Validation that assay sample depths correspond to logged lithologic intervals.
5. Lithologic and assay sample depths stored in the DHDB in both feet and meters.

The DHDB contains comprehensive storage of drilling and assay data with links to original geological logs, core photographs, and certified laboratory assay reports, providing an auditable data chain from original field observation to the resource model.

8.3 Site Inspection by Filing Competent Person

Mark W. Travis, CPG-12090, d/b/a Arkenstone Exploration, conducted a site visit to the CSM Project area on May 12-13, 2026. The site visit included an inspection of the Red Mountain project area, review of core and RC chip storage at the Wyoming Rare facility in Laramie, Wyoming, and review of drilling records and geological logs. A first-person account of the site visit conducted by Mark W. Travis, CPG-12090, d/b/a Arkenstone Exploration, on May 12–13, 2026, has been prepared in support of JORC Code reporting requirements. The account documents the areas inspected at Red Mountain, core and chip storage

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inspection at the Wyoming Rare facility in Laramie, drill-hole database and record-review activities, and observations regarding consistency between field conditions and documented project records.

8.4 Geotechnical Data Verification

ARR collected 48 geotechnical core samples during the Fall 2024 drilling program. These samples were submitted to WSP in Burnaby, British Columbia for strength testing (see Chapter 6, Table 6-2 and Table 6-3 for sample details and test results). Geotechnical engineers from Stantec evaluated the WSP geotechnical testing data for open pit design purposes. Stantec recommends that additional geotechnical drilling be completed prior to the next technical study on the Project (Stantec 2025).

8.5 Hydrology and Hydrogeology Data Verification

8.5.1 Hydrology

Hydrological aspects of the CSM Project are being studied by WWC Engineering of Sheridan, Wyoming. This work is ongoing as of the effective date of this report.

8.5.2 Hydrogeology

Hydrogeological aspects of the CSM Project are being studied by WWC Engineering of Sheridan, Wyoming. This work is ongoing as of the effective date of this report.

8.6 Competent Person Statement on Data Verification Adequacy

Based on the data verification procedures described in this chapter, including review of applicable SOPs and project records, independent verification work performed by Odessa Resources, review of the drill hole and analytical databases, and the CP's site visit to the Project, the CP considers the exploration, drilling, sampling, analytical, QA/QC, and other geological data relied upon in this Report to be adequately documented, internally consistent, and suitable for their intended use. The CP considers the data verification completed to date sufficient to support the geological interpretations and subsequent Mineral Resource estimation presented in this Report.

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9 METALLURGICAL

9.1 Introduction and Overview

Metallurgical test work on Halleck Creek mineralized material has been conducted in two phases. The first phase, designed and supervised by Wood PLC (Perth, Western Australia), was completed during 2022 and 2023 and evaluated multiple concentration and leach options. The second phase, conducted by Wyoming Rare between 2023 and 2026, used SGS Lakefield (Lakefield, Ontario) as the primary hydrometallurgical laboratory and added dedicated comminution, concentration, extraction, and impurity-removal programs at FLSmidth, Loesche, COREM/Weir, Mineral Technologies, Nagrom (with FLSmidth), SGS Lakefield, and the University of Kentucky. The test work underpins the process design basis compiled by Tetra Tech Inc. and adopted as the Scoping Study flowsheet for this Report.

The proposed CSM process comprises two spatially separate facilities.

- Mine Site: comminution and concentration circuits producing a mineral concentrate.
- Refinery Site: located near Wheatland or Laramie, Wyoming, providing extraction, impurity removal, and separation and finishing.

Across the two locations, there will be access to natural gas, power, and water infrastructure. Mineral concentrate is trucked from the CSM Site to the Refinery Site, with leach residue being hauled to a local municipal landfill for disposal or stored in a dedicated facility at the refinery. Water treatment solids will also be sent to the same municipal landfill while the Iron removal solids will be loaded onto rail and sent to West Texas as a low-level radioactive waste for disposal.

9.2 Test Laboratories

All metallurgical test work was performed at independent laboratories. No international standard of accreditation is specifically established for metallurgical testing laboratories or techniques. Zenith Minerals, the predecessor owner of the Halleck Creek mining claims, engaged Nagrom Pty Ltd. (Kelmscott, Western Australia) for minor preliminary microscopy, semi-quantitative XRD, and magnetic separation work. Wyoming Rare subsequently engaged the following laboratories for the 2022–2026 test work programs:

- SGS Lakefield (Lakefield, Ontario, Canada) — feed mineralogy using the automated TIMA-X analyzer; hydrometallurgical program covering leaching, impurity removal, and precipitation (2022–2026).
- FLSmidth (Salt Lake City, Utah) high-pressure grinding roll (HPGR) and vertical roller mill (VRM) comminution testing on a 7.8-tonne composite, with air classification.
- Loesche GmbH (Neuss, Germany) — VRM comminution testing at multiple product size targets on a 4.7-tonne composite.
- COREM/Weir Minerals (Quebec, Canada) — HPGR locked-cycle testing on a 1.1-tonne composite.
- Mineral Technologies North America (Starke, Florida) spiral and induced roll magnetic separator (IRMS) testing, including production-scale dual-roll IRMS units (programs MTNA24185, MTNA24292, and MTNA25032).

- Nagrom Pty Ltd. (Perth, Western Australia) — reflux classifier (FLSmidth RCC/GradePro) testing on drill core and reverse-circulation cuttings; comminution and WHIMS work under Wood PLC supervision.
- Auralia Metallurgy (Perth, Western Australia) — direct and reverse flotation, sighter gravity separation, settling, and electrostatic separation on resource material and WHIMS magnetics.
- ALS Global (Perth, Western Australia) — assessment of acid and alkali leach routes on WHIMS concentrate and flotation concentrate.
- University of Kentucky (Principal Investigator: Dr. Rick Honaker) — heavy-liquid density fractionation and gravity separation experiments to validate the concentration flowsheet.

The Wood PLC testwork was summarized in two internal documents: Document No. 206139-0000-DC00-RPT-0001 (Preliminary Testwork Interpretation, December 2023) and Document No. 206076-0000-BA00-RPT-0002 (Desktop Study, Acid Tank Leach Option, December 2023). The subsequent Wyoming Rare program is captured in laboratory reports from each vendor referenced above and consolidated in the Tetra Tech process design memorandum (2026).

9.3 Sample Selection and Preparation

Sample material for the metallurgical program was sourced from Halleck Creek diamond drill core and reverse-circulation cuttings. A total of 648 kg of core from four holes—HC22-RM002, HC22-RM003, HC22-OM003, and HC22-OM004—was shipped to Nagrom for the Wood-supervised program; the composite spans both the Red Mountain and Overton Mountain resource areas and is considered representative of the broader Halleck Creek mineralization style. Larger composites were subsequently prepared for the comminution vendors: 7.8 t to FLSmidth, 4.7 t to Loesche, and 1.1 t to COREM. Cuttings from CSM reverse-circulation holes were used for the FLSmidth reflux-classifier testing at Nagrom. A composite of Halleck Creek core was provided to SGS for the TIMA-X mineralogy investigation; SGS notes that the mineralogy sample was geochemically similar to, but separate from, the master metallurgical composite.

9.4 Feed Mineralogy

Feed mineralogy was completed by SGS Canada (Montreal and Lakefield) using an automated TIMA-X analyzer. The SGS 2024 TIMA-X study is described in Chapter 5 (Section 5.7.3) and is cross-referenced here for metallurgical context. Key findings relevant to processing are as follows.

- Allanite is the primary rare earth bearing mineral, constituting approximately 1.28% of the total feed mass, and accounts for 87%–91% of the Cerium, Lanthanum, Neodymium, and samarium reporting to the feed.
- Allanite exhibits a P80 grain size of 218 µm and a median grain size of 90 µm, with significant bias toward the +212-µm fraction, indicating a coarse-grained texture favorable to physical concentration.
- Approximately 79.6% of allanite exists as free or liberated grains at the primary grind size selected (100% passing 300 µm), rising further at finer grinds.
- Quartz and feldspars constitute approximately 75% of feed mass; amphiboles (predominantly hastingsite) contribute approximately 16%.
- Halleck Creek allanite is metamict—the internal crystal structure has been disrupted by long-term self-irradiation from the thorium and uranium substituted within the lattice. Metamict allanite is

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materially more reactive in dilute sulfuric acid than typical crystalline allanite; this property is the basis for the low acid-dosage leach recovery discussed in Section 9.7.

- Minor REE-bearing minerals include zircon, chevkinite, and tornebohmite; trace bastnaesite and synchysite were also detected. Davis Tube Recovery testing showed very minor ferromagnetics, indicating that a low-intensity magnetic separation (LIMS) stage is not warranted.

Electron probe micro-analysis (EPMA) of 52 allanite grains returned average oxide contents of Ce2O3 11.21%, La2O3 5.54%, Nd2O3 4.39%, Pr2O3 1.22%, Sm2O3 0.49%, Gd2O3 0.28%, Y2O3 0.27%, ThO2 0.47%, and UO2 0.02%. Cross-reference: Chapter 7 (Section 7.7) presents the complete TIMA-X mineralogical characterization, mineral chemistry, and allanite liberation and association data.

9.5 Comminution

Comminution testing during the second-phase program compared HPGR grinding (FLSmidth and COREM/Weir), VRM grinding (FLSmidth and Loesche), High Pressure Slurry Ablation (HPSA) by DISA, and conventional rod-milling. Both HPGR and VRM produced substantially fewer sub-45-µm fines than rod-milling. The VRM was ultimately selected because it produced the lowest volume of sub-50-µm fines under Halleck Creek feed conditions, an advantage for the downstream gravity and dry-magnetic concentration circuit. The design comminution product is 100% passing 300 µm from a jaw crusher, cone crusher, and vertical roller mill in closed circuit with an air classifier.

9.6 Concentration

The concentration flowsheet was developed through a sequential test program covering gravity separation, dry magnetic separation, and wet high-intensity magnetic separation (WHIMS) for fines.

9.6.1 Gravity Concentration

Sepro Systems Falcon C testing did not achieve acceptable recovery on Halleck Creek material, and this device was not carried forward. Nagrom conducted reflux-classifier testing in conjunction with FLSmidth using the RCC/GradePro units on both drill core and reverse-circulation cuttings; best results were 21.5% mass yield and 77.7% TREO recovery on core, and 14.0% mass yield with 78.4% recovery on RC cuttings. Mineral Technologies North America (Starke, Florida) tested rougher-only, rougher-plus-cleaner, and rougher-plus-cleaner-plus-recycle spiral configurations at feed grinds of 1.0 mm, 0.5 mm, and 0.3 mm. The best performance was achieved at 100% passing 0.3 mm with a 21.2% mid-stream recycle: 24.8% mass yield at 79% TREO recovery. The heavy-liquid density fractionation program conducted by the University of Kentucky validated the physical basis for gravity concentration of allanite and supported the selected size and density cut-points.

9.6.2 Induced Roll Magnetic Separation (IRMS)

Induced roll magnetic separation was tested at Mineral Technologies using production-scale dual-roll IRMS units operating at roll currents of 0.6 A and 2.0 A. The IRMS bulk circuit achieved approximately 28% mass yield with 85% TREO recovery when using Mineral Technologies Option 2 NonMag retreat and produced a substantially cleaner concentrate than the earlier rougher-plus-scavenger WHIMS approach. IRMS is adopted in the flowsheet as the primary dry-magnetic concentration stage.

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9.6.3 WHIMS for Fines

Ultra-fine material (nominally below 50 µm) cannot be effectively processed on the reflux classifier or the IRMS. This stream—approximately 20% of plant feed—is routed to a WHIMS circuit. SGS WHIMS testing at 10,530 Gauss achieved 16% mass yield at 58% REE recovery through a rougher-plus-cleaner arrangement, which is the basis of the fines-circuit design.

9.6.4 Concentration Circuit Selected for the IA

The Tetra Tech process design memorandum (2026) adopts a combined reflux-classifier/dryer/IRMS flowsheet for the coarse fraction and WHIMS for the fines fraction. Combined performance across the concentration circuit is 6.4% overall mass yield at approximately 65% overall TREO recovery, upgrading the feed grade by a factor of approximately 10 times.

9.7 Extraction

Extraction test work was conducted primarily at SGS Lakefield on the mineral concentrate. Five candidate hydrometallurgical routes were evaluated during the Wood/ALS program: sulfuric acid tank leach, sulfuric acid bake/water leach, high-pressure acid leach, alkali bake/water leach followed by hydrochloric acid leach, and a proprietary Watts & Fisher process. Sulfuric acid tank leach was selected based on recovery, low reagent consumption, ease of processing, and conventional materials of construction. Atmospheric tank leaching was preferred to counter-current or bake-leach configurations because the metamict allanite is reactive under mild conditions and the tank-leach arrangement was more amenable to the solids throughput of the Halleck Creek concentrate.

The optimal leach conditions identified in the SGS program are acid dosage 400 kg H2SO4 per tonne of concentrate; 90 °C operating temperature; 15% solids; a regrind of the concentrate to 100% passing 53 µm; and a residence time of 6 hours. Under these conditions, the observed rare-earth extractions were La 88–94%, Pr 85–91%, Nd 84–90%, Tb 51–54%, and Dy 44–51%, with 96% of Thorium and 94% of Uranium also reporting to the pregnant leach solution. The 400 kg/t acid dosage is materially lower than the roughly 1,000 kg/t typically required to fully digest crystalline allanite in comparable projects; this reduction is a direct consequence of the metamict nature of Halleck Creek allanite (Chapter 9.4) and is a material operating-cost advantage carried forward into the economic analysis.

9.8 Impurity Removal

Impurity removal test work at SGS Lakefield evaluated six neutralizing reagents: Magnesium oxide (MgO), Magnesium carbonate ($MgCO_3$), Sodium hydroxide (NaOH), Sodium carbonate (Na_2CO_3), Calcium oxide (CaO), and Calcium carbonate ($CaCO_3$). Sodium-based reagents produced greater than 90% co-precipitation of rare earths as Sodium double-salts and were rejected. Calcium-based reagents produced substantial gypsum-associated rare-earth losses and were also rejected. MgO and $MgCO_3$ both performed acceptably; MgO was selected on a delivered-cost basis.

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9.8.1 Primary Neutralization (Fe/Th Removal)

The pregnant leach solution is pre-oxidized with hydrogen peroxide to approximately 600 mV Oxidation Reduction Potential (ORP). In the commercial plant, an air sparge will be adequate to oxidize without using hydrogen peroxide. The liquor is neutralized to pH 3.15 using MgO slurry at approximately 15 kg per cubic meter of solution. Under the selected conditions, Iron precipitation is approximately 90.8%, Thorium precipitation approximately 95%, and Aluminum precipitation approximately 57.3%. Co-precipitation of the light and mid rare earths is limited to approximately 0.9% of Neodymium and 2.1% of dysprosium.

9.8.2 Secondary Neutralization (Al/U Removal)

The primary-neutralization filtrate is further neutralized to pH 5.0 with MgO. This stage removes the balance of Aluminum and precipitates residual Iron, Thorium, and Titanium. Some rare earths co-precipitate at pH 5.0 (approximately 5–10% of the light rare earths and up to 20% of the heavies); the precipitated solids are recycled to the leach circuit to recover the co-precipitated rare earths.

9.8.3 Uranium Ion Exchange

Residual Uranium is removed by a quaternary-amine strong-base anion-exchange resin (Dowex/Ambersep 21K XLT class). The polish removes Uranium to levels below the detection limit of the SGS analytical suite and protects the downstream solvent-extraction circuits from unplanned pH excursions.

9.8.4 Rare Earth Bulk SX

Media exchange and Cerium rejection — Bulk solvent extraction circuit will transform the matrix from sulfate to chloride by loading all TREO onto organic and then stripping off with hydrochloric acid. The raffinate will be sent to wastewater treatment with the scrub stream forming the NdPr circuit feed. The first strip stream will be the heavies feed (Sm and heavier) to the Dy circuit feed. The second strip stream will be composed of Ho and heavier which will be combined with a similar stream off the Dy circuit.

9.9 Proposed Process Flowsheet

Based on the test work summarized above, the preliminary process flowsheet adopted for the Scoping Study is as follows.

9.9.1 Mine Site — Concentration Circuit

- Comminution — jaw crusher, cone crusher, and high-pressure slurry ablation and physical screens, producing 100% passing 300 µm.
- Coarse concentration — FLSmidth reflux classifier (RCC/GradePro) followed by direct-fired rotary drying and two-stage induced roll magnetic separation at 0.6 A and 2.0 A.
- Fines concentration — WHIMS at approximately 10,000–10,500 Gauss on the sub-50-µm stream.
- Associated infrastructure — concentrate loading, sand byproduct handling, and storage/placement facilities for concentration of sand byproduct and back-hauled refinery residue.

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9.9.2 Refinery Site — Extraction, Impurity Removal, and Separation

- Extraction — atmospheric sulfuric acid tank leach of the mineral concentrate (400 kg H_2SO_4 per tonne, 90 °C, 15% solids, 6 hours), with vacuum belt filtration and counter-current wash of the leach residue.
- Impurity removal — primary MgO neutralization at pH 3.15 (Fe/Th), secondary MgO neutralization at pH 5.0 (Al/residual U) with precipitated solids recycled to leach, and a quaternary-amine ion-exchange polish (U).
- Media exchange and Cerium rejection — Bulk solvent extraction circuit will transform the matrix from sulfate to chloride by loading all TREO onto organic and then stripping off with hydrochloric acid. The raffinate will be sent to wastewater treatment with the scrub stream forming the NdPr circuit feed. The first strip stream will be the heavies feed (Samarium and heavier) to the Dy circuit feed. The second strip stream will be composed of Holmium and heavier, which will be combined with a similar stream off the Dy circuit.
- Separation and finishing — solvent-extraction circuits (SXNd/Pr, SXDy, and SXTb,) producing NdPr oxide, SEG mixed oxide, Tb oxide, and Dy oxide. Ce, La, and Y are not reported as saleable products in the Scoping Study base case.
- Associated infrastructure — wastewater treatment plant, raw-material railcar unloading and storage, steam boiler, cooling towers, and refinery-residue storage.

9.10 Recovery Estimates

Recovery estimates by unit operation are based on the test work programs described above and on the engineering judgment of Kelton Smith, CP SME-RM (Tetra Tech), based on rare-earth processing experience. Overall concentration-circuit TREO recovery is estimated at 65%, sulfuric-acid tank-leach extraction at 90% (weighted across the rare-earth suite), and combined impurity removal and separation-and-finishing at 96–98% on a per-product basis. Overall, cumulative recovery to saleable product is estimated at approximately 58.2% for NdPr oxide, 25.8% for the SEG oxide, 28.7% for Tb oxide, and 12.4% for Dy oxide. These estimates are preliminary and subject to revision as further test work and pilot-scale confirmation are completed.

9.11 Metallurgical Variability

Metallurgical and mineralogical studies indicate that REE recoveries are broadly homogeneous across the Red Mountain and Overton Mountain resource areas. Representative core material from both areas was used to establish the concentration flowsheet, and the TIMA-X mineralogy program used a separate but geochemically similar composite to characterize mineral speciation, textures, and gangue associations. Geologists' logs and REE assays are consistent with the observed homogeneity of the deposit.

9.12 Deleterious Elements

Two radionuclide elements—Thorium and Uranium—and their associated daughter products are present in Halleck Creek mineralization at low levels. Two radionuclide elements—Thorium and Uranium, and their associated daughter products are present in Halleck Creek mineralization at low levels. The combined concentration of Thorium and Uranium is approximately 68 ppm in run-of-mine mineralized material, of which approximately 0.47% ThO_2 and 0.02% UO_2 are hosted within the allanite lattice. Both elements are removed at the Refinery Site: Thorium in the primary neutralization step (approximately 95% removal), and

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Uranium in the secondary neutralization step and the ion-exchange polish. The radionuclide content reporting to saleable rare-earth products is estimated at less than 0.001%, well below the regulatory reporting thresholds for rare-earth carbonates and oxides. Iron is hosted principally in allanite and hastingsite and is removed by conventional neutralization.

9.13 Competent Person Opinion on Adequacy of Metallurgical Test Work

Based on a review of the available metallurgical reports, laboratory test programs, mineralogical investigations, and supporting technical documentation, the Competent Person considers the metallurgical test work completed to date to be appropriate and sufficient to support the level of confidence required for this Scoping Study. The test work demonstrates that Halleck Creek mineralization is amenable to conventional beneficiation and hydrometallurgical processing and provides a reasonable basis for the conceptual process flowsheet and recovery assumptions presented herein.

The CP recognizes that additional pilot-scale testing, process optimization, and further engineering studies will be required to refine the flowsheet and support subsequent phases of project development, including a Pre-Feasibility Study. These future activities are considered normal progression for a project at its current stage of advancement and do not materially detract from the conclusions presented in this Report.

10 MINERAL RESOURCE ESTIMATE

10.1 Introduction

The Mineral Resource statement adopted for this Report is the 07 February 2024 Mineral Resource estimate prepared by Odessa Resources Pty Ltd. at a 1,000 ppm TREO cut-off grade. The estimate encompasses the Halleck Creek Project resource areas, including the CSM (Red Mountain), Red Mountain Federal, and Overton Mountain areas, and forms the basis of the Project-wide Mineral Resource presented in this Report.

Subsequent Mineral Resource estimation work completed by Odessa Resources in 2025 updated the Red Mountain/CSM portion of the Project using additional exploration data and a 1,500 ppm TREO cut-off grade. That subsequent estimate is discussed in this chapter as supporting information regarding the continued evolution of the Project but does not replace the 07 February 2024, 1,000 ppm TREO Mineral Resource adopted for this Scoping Study.

10.2 Full Halleck Creek Project Mineral Resource Statement

The headline Mineral Resource for this Report is the full Halleck Creek Project estimate, encompassing the CSM/Red Mountain area, the Red Mountain Federal claims, and the Overton Mountain resource area, reported at a 1,000 ppm TREO cut-off consistent with the Stantec net smelter return (NSR) analysis (Stantec Scoping Study, February 2025, Table 10-4; drawing on Odessa Resources' geological and grade modeling).

Table 10-1 presents this resource by classification. The total is approximately 2,627 million tonnes (2.63 Gt) at an average grade of 3,292 ppm TREO, comprising a Measured resource of 206,716,068 t at 3,720 ppm

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TREO (established at 90 m drill spacing, Overton Mountain), an Indicated resource of 1,272,604,372 t at 3,271 ppm TREO, and an Inferred resource of 1,147,180,795 t at 3,239 ppm TREO.

Table 10-1. Full Halleck Creek Project Mineral Resource Statement -- 1,000 ppm TREO Cut-Off, by Classification

Classification	Tonnage (t)	TREO Grade (ppm)	LREO Grade (ppm)	HREO Grade (ppm)	MREO Grade (ppm)	Contained TREO (t)	Contained LREO (t)	Contained HREO (t)	Contained MREO (t)
Measured	206,716,068	3,720	3,352	370	994	769,018	692,935	76,550	186,836
Indicated	1,272,604,372	3,271	2,900	360	852	4,162,386	3,689,999	458,140	1,084,256
Measured + Indicated	1,479,320,439	3,334	2,963	361	877	4,931,405	4,382,934	534,691	1,271,092
Inferred	1,147,180,795	3,239	2,878	361	837	3,715,661	3,302,005	413,651	960,355
Rounded Grand Total	2,626,000,000	3,292	2,926	361	850	8,647,000	7,684,000	948,000	2,231,000

It should be clearly noted that Mineral Resources are not Ore Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resource will be converted into an Ore Reserve. No Ore Reserves have been declared for the Project.

10.3 Resource Database

All drill hole and surface sample data for the Halleck Creek Project were imported into the DHDB drill hole database system. The DHDB was written and maintained by Dwight Kinnes, formerly of Highland GeoComputing LLC, and has been used by various mining companies since 2004. Highland GeoComputing LLC tailored the DHDB to store and process rare earth element data. The DHDB provides complete access to all drilling records, scanned field logs, and analytical data, and allows for processing and reporting of drill hole data. Data types and counts in the DHDB at the time of the November 2025 MRE are summarized in Table 10-2.

Table 10-2. Data Type and Counts in DHDB — Halleck Creek Project (as of November 2025 MRE)

Data Type	Number
Core Holes	28
Reverse Circulation Holes	70
Channel Samples	44
Surface Samples	791
HQ Core Assays	1301
RC Chip Assays	6636
Blanks (WRI/Lab)	280

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Duplicates (WRI/Lab)	271
CRM Standards (WRI/Lab)	345

Drill hole, channel sample, trench, and surface sample locations are stored in DHDB using the NAD 1983, UTM Zone 13 coordinate system. WGS 1984 latitude and longitude coordinates are stored as secondary coordinates. Lithologic and assay sample depths are stored in both feet and meters. Assay data is stored in DHDB as elemental data in units of parts per million (ppm). Assay and QA/QC data are imported directly from certified data supplied by the laboratories, minimizing data entry errors. Detailed validation queries are applied to the drill hole data.

10.4 Geological Domains

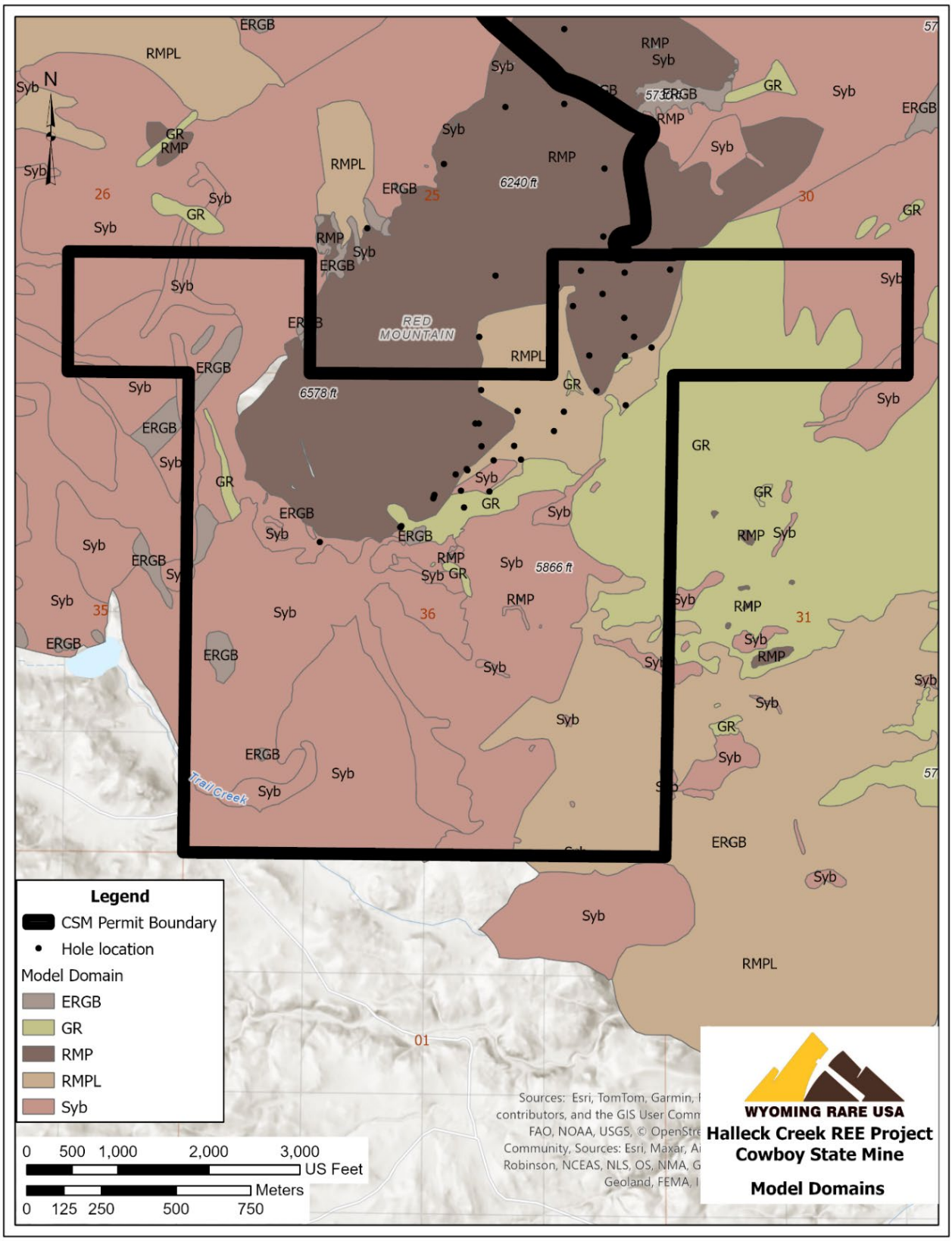
The geological resource model was created by Odessa Resources using Leapfrog Edge geological modeling tools (developed by Seequent, a subsidiary of Bentley Systems). The domains that are modeled comprise the primary geological units as interpreted by Wyoming Rare geologists, refer to Figures 10-1 and 10-2. Wyoming Rare interpreted lithological units and modeling domains within the drillhole data and incorporated surface mapping results to refine the geological model. A revised three-dimensional geological model was developed to isolate the higher-grade Red Mountain Pluton (RMP) domain from the surrounding lithologies. The modeled geologic domain extents used for the CSM area are shown on Figure 10-1. The primary modeling domains consist of the following.

- QAL — Quaternary Alluvium
- RMP — Red Mountain Pluton comprising mostly clinopyroxene quartz monzonite (CQM)
- RMP1 — comprising mostly biotite-hornblende quartz syenite and fayalite monzonite
- ERGB — unmineralized Elmers Rock Greenstone Belt
- SYB — low-grade monzonite Sybille intrusions
- LAC — Laramie Anorthosite Complex (country rock)

Cross-reference: See Chapter 5 (Section 5.3) for full descriptions of the Red Mountain Pluton geological units and their REE bearing characteristics.

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Figure 10-1. Modeled Geologic Domain Extents — CSM Area (Odessa/Leapfrog Edge)



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10.5 Topography

Wyoming Rare acquired light detection and ranging (LiDAR) topographic data from the United States Geological Survey (USGS). This data was released to the public in August 2022 as part of the USGS Earth MRI project. Wyoming Rare personnel processed the LiDAR imagery to prepare high- resolution topographic models across Halleck Creek for use in ArcGIS and Leapfrog geological modeling software.

10.6 Exploration Data and Data Preparation

The resource estimate for the CSM (Red Mountain) area is based on 50 drill holes defining the primary resource geometry as of the November 2025 estimate. Wyoming Rare drilled 17 RC holes and 11 HQ diamond core holes in the CSM area in 2024, in addition to 22 holes from 2022. The drill hole inventory for the Red Mountain resource area is as follows.

- 2022: 4 HQ core holes (381 m); 18 RC holes (2,239 m) Total 22 holes, 2,620 m
- 2024: 11 HQ core holes (1,676 m); 17 RC holes (2,264 m) Total 28 holes, 3,940 m
- Grand Total: 50 drill holes, 6,560 m

Wyoming Rare provided Odessa with drill hole assay data that included the drill hole ID, domain, from-depth, to-depth, sample type, and rare earth element oxide values. Wyoming Rare also exported locations, lithological descriptions, and assay data of surface samples across the CSM Project Area. While surface samples are not valid data points for resource estimation, they were used to improve the modeling of geological domains and to build rare earth grade models. During 2025, a program comprising 112 surface channel samples was completed predominantly over the south-western portion of the RMP. These data confirm pervasive REE mineralization toward the western margins of the RMP and form the basis for an upgraded resource classification at Red Mountain (Odessa, November 2025). The average of the 102 channels samples is 3,745 ppm TREO with a range of 273 to 13,811 ppm TREO. The REE parameters modeled in the resource estimate include: TREO, LREO, HREO, MREO, La2O3, Ce2O3, Pr6O11, Nd2O3, Sm2O3, Eu2O3, Gd2O3, Tb4O7, Dy2O3, Ho2O3, Er2O3, Tm2O3, Yb2O3, Lu2O3, Y2O3, ThO2, UO2, ZrO2, and Fe.

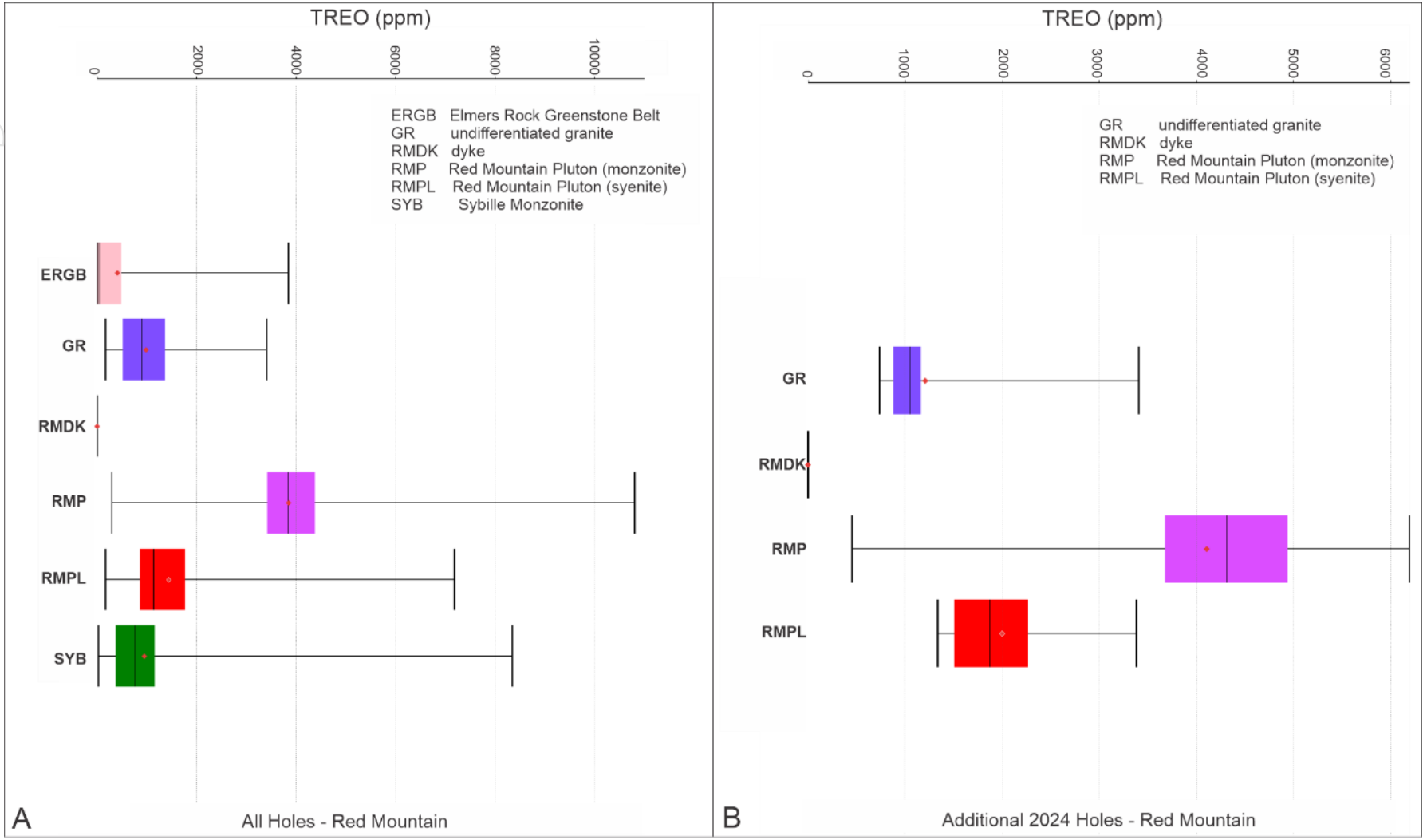
10.7 Compositing and Grade Statistics

Grades were composited to 1.5 m (5 ft), which is the dominant sampling interval. The database-derived TREO value was used to study the general statistical properties of the assay dataset. Grade distribution histograms and log-probability graphs of the composited TREO values confirm the following. The distribution of TREO grades within the modeled geological domains is illustrated by the boxplots on Figure 10-2.

- The higher-grade peak corresponds to the RMP domain, associated with clinopyroxene-rich quartz monzonite containing the highest allanite concentrations.
- Lower-grade peaks correspond to the RMP1 and SYB domains. RMP1 reflects TREO values from biotite-hornblende quartz syenite and fayalite monzonite; SYB represents the monzonitic and syenitic rocks of the Sybille intrusion.
- Despite containing less allanite, the SYB domain shows consistent TREO values across drillhole data.
- Odessa compiled TREO grade information for the geological domains, lithological units, and discrete rock types, providing a comprehensive view of TREO distributions for the RMP, RMP1, and SYB domains.

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Figure 10-2. Boxplot of TREO Grade for Geological Domains



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10.8 Dry Bulk Density

Hydrostatic testing was conducted on 10 core samples from Cowboy State Mine core to determine specific gravity. Testing included both untreated and wax-impregnated samples, with the results confirming a narrow range of SG values across the deposit. As stated by Odessa (V3 Report): “Based on the results of hydrostatic testing a specific gravity of 2.70 was adopted and applied as a constant value to derive the overall tonnage.” A fixed SG of 2.70 was applied as a constant value for all domains. The full Halleck Creek composite weighted average SG was 2.70 (untreated) based on 10 core samples. No domain-specific SG values were applied.

10.9 Block Model

Odessa Resources created a geological resource model using Leapfrog Edge geological modeling tools. Odessa modeled the geologic domains and established resource boundary limits based on variography of TREO. An orthogonal block model was set up using the following parameters:

- Parent block size: 20 m × 20 m × 10 m
- Minimum block size: 5 m × 5 m × 2.5 m

As stated by Odessa: “Several runs were made using various block sizes. However, due to the almost imperceptible differences in the resulting estimations, a 20 m × 20 m × 10 m block was selected for faster processing and reporting. No SMU [selective mining unit] consideration was made. However, on a resource of this magnitude, any mining would be undertaken using the maximum bench height possible, subject to geotechnical considerations. Resource boundary limits were established based on 90% of sill range from variography, with an approximate range of 445 m at Red Mountain. The model extends to a depth of between 500 and over 700 m below surface (depending on topography), though the extrapolated portion below drill support was excluded from the resource estimate.” For resource estimation, Stantec utilized the Odessa block model titled “bm_rm_oct25_stn.dm”.

10.10 Variography

Using Leapfrog Edge, Odessa performed detailed variography for the Halleck Creek assay data to determine resource boundary limits and to provide input parameters for grade interpolation. A standard variogram was modeled for undomained TREO composites. As reported by Odessa: “A standard variogram was modeled for undomained TREO composites. The variogram remains unchanged and features both zero nuggets and large sill ranges that reflect the homogenous nature of mineralization and grade continuity over large distances in all directions respectively. The variogram parameters for Red Mountain are presented in Table 10-4. The variography results established resource boundary limits based on 90% of sill range, giving an approximate range of 445 m at Red Mountain. The variogram for Red Mountain remains unchanged following the Fall 2024 modeling, further supporting the robustness of the original model.”

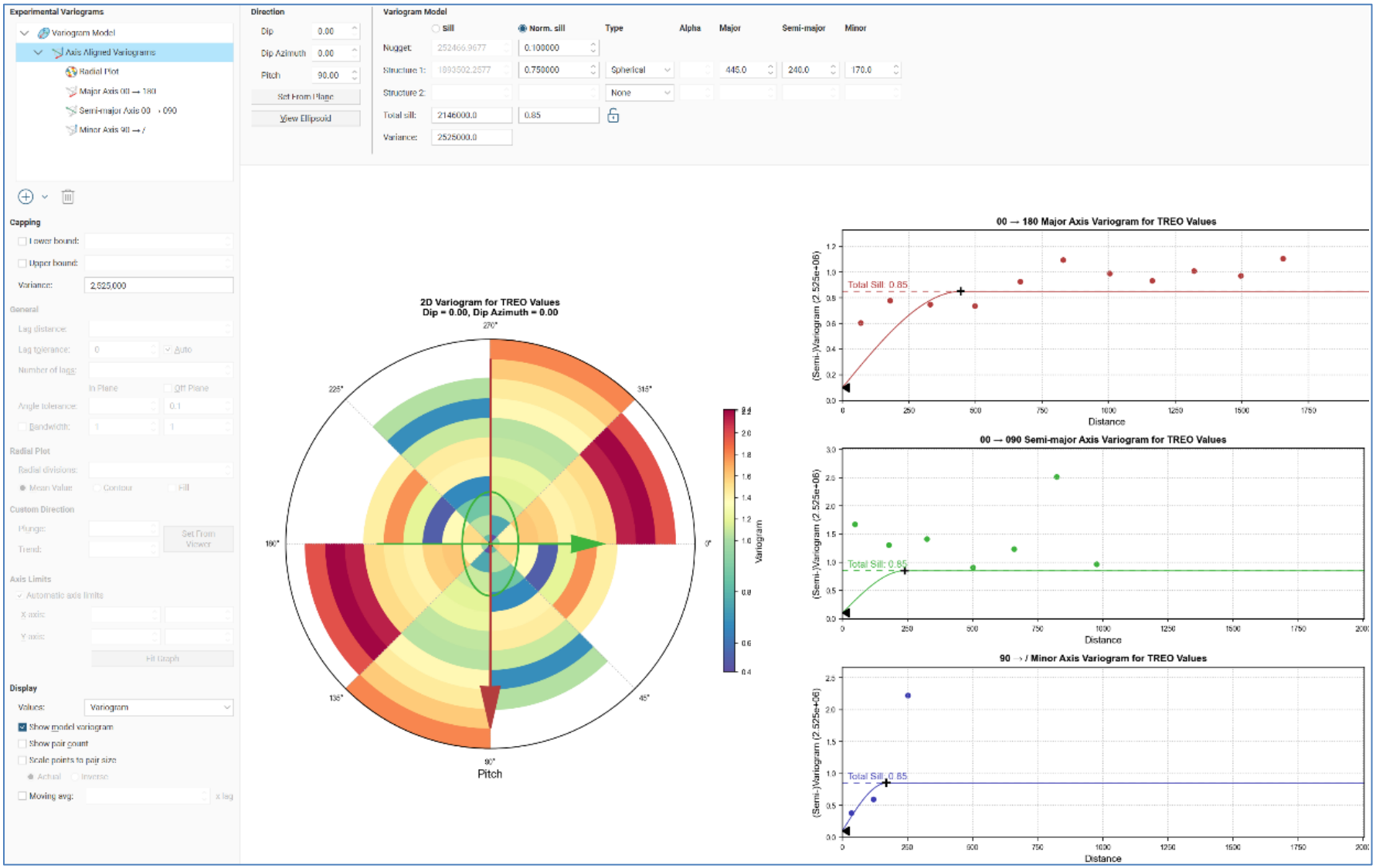
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Table 10-3. Variogram Parameters — Red Mountain (Odessa, November 2025). Source: V3 Report Table 4; Scoping Study Table 10-2

Variogram	Dip	Pitch	Normalized Nugget	Normalized Structure	Semi-Major	Major	Minor	Model	Nugget Sill	Major Range	Semi-Major Range	Minor Range
OM	0	0	0.124	0.60	*Spherical*	280	230	200	—	—	—	—
RM	0	0	0.090	0.10	*Spherical*	445	240	170	0.80	—	—	—

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Figure 10-3. Variography of TREO — Red Mountain Resource Area (Odessa, November 2025)



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10.11 Grade Estimation Methodology

Odessa modeled grade for each of the rare earth parameters listed in Chapter 10.6. As stated by Odessa (V3 Report): “Grade estimation was carried out using an ordinary kriged (OK) interpolant. Kriging is a method for interpolating estimates for unknown points based on measured data. Instead of the inverse distance and nearest neighbor estimates, covariances and a Gaussian process are used to produce the prediction. The interpolant profile developed for TREO was applied to the individual rare-earth elements and minerals. Estimations were carried out on each rare earth element together with UO2, ThO2, ZrO2 and Fe. The database-derived TREO value was used to model the variogram, which was then applied to each rare-element estimation. The final TREO, HREO, LREO and MREO grades are reported as sum calculations of the respective rare earth element grades.” Grades were not capped, and no outlier restrictions were applied to the data. The estimation parameters include two estimation passes.

- Pass 1 (RM): Maximum search ellipse 150 × 150 × 120 m; minimum 4 samples, maximum 15 samples.
- Pass 2 (RM): Extended search ellipse 500 × 500 × 200 m; minimum 2 samples, maximum 15 samples.

Table 10-4. Grade Estimation Parameters — Search Ellipsoid Dimensions and Outlier Restrictions by Estimation Pass

Domain	Parameter	Search Ellipsoid (m) (Max × Intermediate × Min)	Dip (°)	Pitch (°)	Azimuth (°)	Minimum Samples	Maximum Samples	Outlier Restriction
OM	TREO – Pass 1	150 × 150 × 75	0	90	5	4	15	None
OM	TREO – Pass 2	300 × 300 × 75	0	90	5	2	15	None
RM	TREO – Pass 1	150 × 150 × 120	0	90	4	4	15	None
RM	TREO – Pass 2	500 × 500 × 200	0	90	2	2	15	None

10.12 Model Validation

Several estimation runs were carried out on the RMP Indicated resource to check for any variance between estimated grades and the input data. The validation estimators compared against the kriged model included the following.

- OK TREO RMP Indicated: Ordinary kriged estimate with variogram model (150 × 150 × 120 m search) — primary estimator.
- ID2 TREO RMP: Inverse Distance Squared (ID2) using horizontal plane (150 × 150 × 120 m search).
- ID2 TREO RMP Isotropic: Inverse Distance Squared using an isotropic 150 m search ellipse.

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- ID2 TREO RMP with Variogram: Inverse Distance Squared using the same estimation and variogram parameters as the kriged model (445 × 240 × 170 m search).
- Nearest Neighbor, RMP: Nearest neighbor estimate (150 × 150 × 120 m search).

As reported by Odessa: “These validation runs, together with the kriged estimator, were compared against the raw composite data in east-west (X) and north-south (Y) swath plots across the Red Mountain area. The data indicate that the kriged estimator has done a reasonable job in estimating a global resource grade with no systematic bias towards overestimating the grades. The smoothing effects of the kriging interpolant is consistent with both the inherent nature of the kriging process and the large search ellipses used.”

10.13 Resource Classification

Odessa reviewed resource classification categories for the Red Mountain model area. The resource is classified as either Indicated or Inferred, as shown in Figure 10-4 and Figure 10-5. No Measured resource classification exists at Red Mountain. As stated by Odessa: “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 into a Probable Ore Reserve. Therefore, a high degree of conservatism has been adopted as the underlying premise of the resource classification, and particularly the indicated component”.

The classification at Halleck Creek is based on the following key attributes.

- Geological continuity between drill holes: Mineralization is controlled by batholith-scale fractionation; mineralization is not structurally controlled. Both empirical observations and statistical analysis confirm a very high degree of continuity with the respective rock masses at Red Mountain. This is supported by variography.
- Drill spacing and drill density: The drill pattern is mostly irregular with drill spacing of approximately 50-150 m.

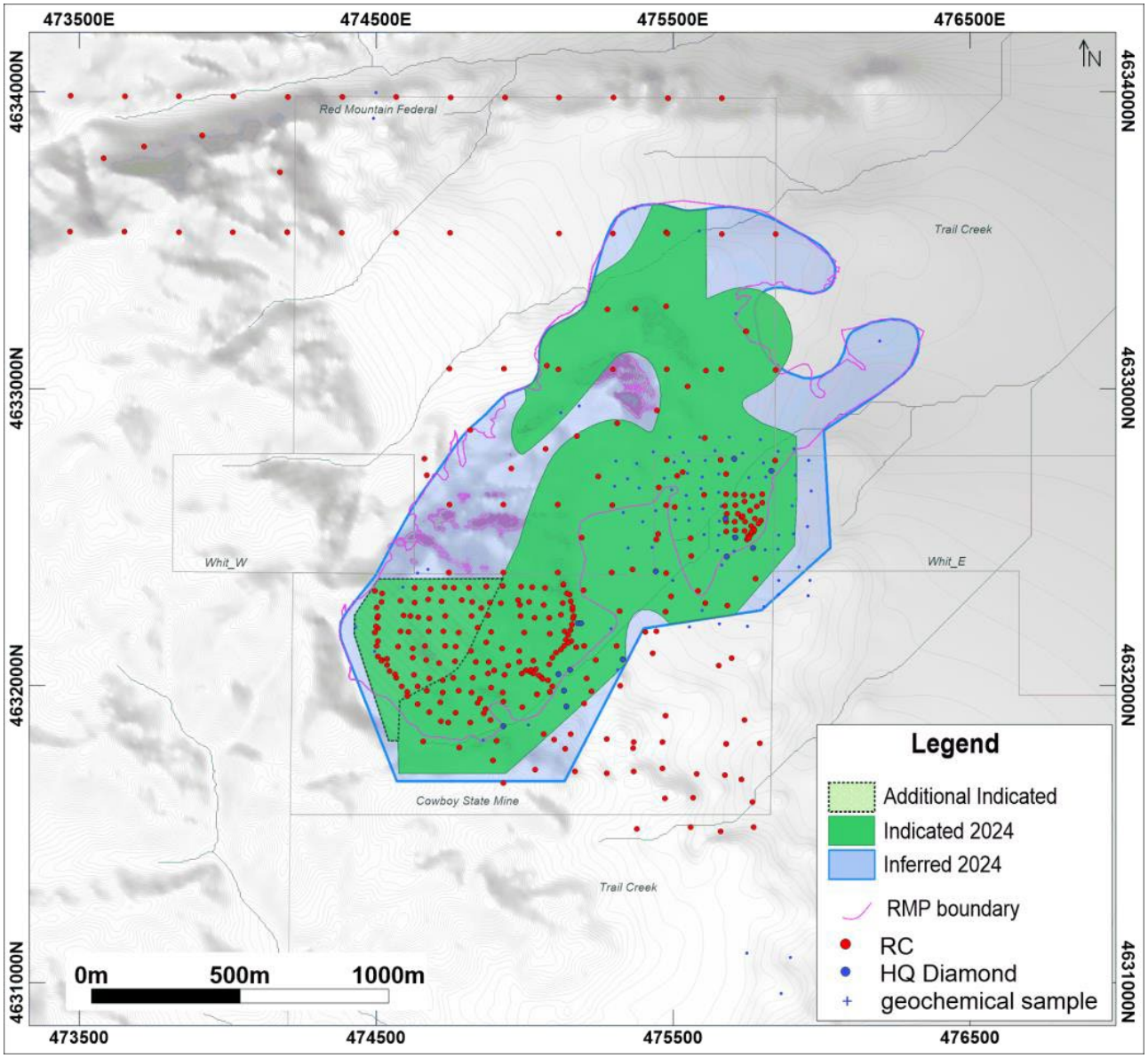
With respect to previous estimates, the following main changes have been made to the current resource classification limits.

- Indicated limit extended to the west to approximately 200 m below the surface based on positive indications provided by surface channel samples (2025 program).
- Lateral limit of Inferred extended to the west to incorporate all of the RMP.
- Vertical limit of Inferred extended to 510 RL based on additional positive drilling results.

As stated by Odessa: “The CP considers the above classification strategy and methodology to be appropriate and reasonable for this style of mineralization.”

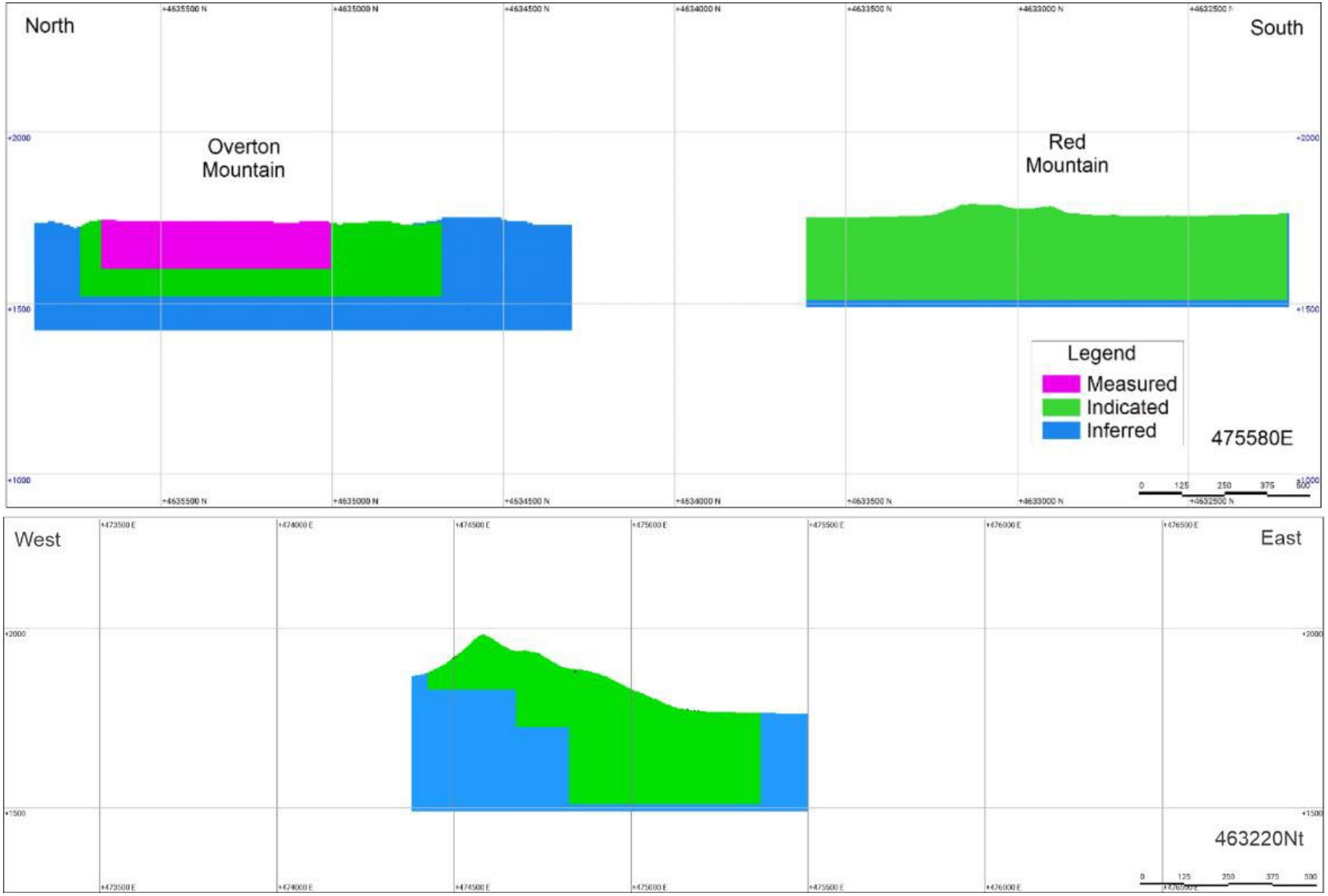
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Figure 10-4. Resource Extent and Resource Classification Categories — Red Mountain (Odessa, 2025)



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Figure 10-5. Cross-Section View Showing Resource Classification Limits



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10.14 Reasonable Prospects for Eventual Economic Extraction (RPEEE)

The following input assumptions were applied to determine reasonable prospects for eventual economic extraction (RPEEE) at Halleck Creek.

- Resource material is at the surface and can be mined with conventional open-pit mining equipment.
- Uncontrolled minerals (minerals not controlled by ARR) were excluded from resource estimates.
- NSR calculations, developed by Tetra Tec, determined that a cut-off grade of 1,000 ppm TREO provides ample economically viable material to be included in the reasonable prospects for economic extraction assessment.

Tetra Tech developed net smelter return (NSR) calculations based on recovering oxides of NdPr, La, Dy, Tb, and SEG (mixed Sm, Eu, and Gd). The NSR calculated shows that a cut-off grade of 1,000 ppm TREO for in situ resource estimates within proposed resource limits provides the basis for a reasonable expectation of economic extraction at CSM. Pit shell optimization work using Whittle software, presented in the Scoping Study, confirms that the Mineral Resource at CSM is amenable to open-pit mining at grades above the cut-off, and that the resource is located at or near surface with a low strip ratio. It should be clearly noted that Mineral Resources are not Ore Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resource will be converted into an Ore Reserve.

10.15 Cut-Off Grade

For purposes of this Report, the Halleck Creek Mineral Resource is reported at a cut-off grade of 1,000 ppm TREO. This reporting cut-off is supported by the net smelter return analysis and reasonable-prospects assessment described in Section 10.14. The November 2025 Odessa V3 Report also presents the updated CSM/Red Mountain resource at a 1,500 ppm TREO cut-off; however, the 1,000 ppm TREO reporting cut-off is used for the Mineral Resource statements presented in this Report.

10.16 Red Mountain Area Resource Statement (1,000 ppm TREO Cut-off)

This section presents the Mineral Resource for the Red Mountain project area (CSM, Red Mountain Federal claims, and Trail Creek) at the 1,000 ppm TREO reporting cut-off adopted for this Report. The underlying resource model incorporates the additional drilling and surface channel sampling reflected in the November 2025 Odessa modeling update. Tables 10-5 and 10-6 present the model at the 1,000 ppm TREO reporting cut-off used in this Report.

The November 2025 Red Mountain Mineral Resource estimate presented below represents subsequent resource estimation work completed after the Mineral Resource estimate adopted as the basis of this Scoping Study. Although both estimates are presented at a 1,000 ppm TREO cut-off for comparison, the November 2025 estimate incorporates additional exploration data and updated geological modeling and resource classification within the Red Mountain area. Accordingly, the classification and tonnage distribution shown below should not be expected to reconcile directly with the State and Federal components of the Project-wide Mineral Resource presented in Table 10-2. The November 2025 estimate is presented as subsequent supporting information and does not replace the Mineral Resource basis adopted for this Scoping Study.

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In particular, the November 2025 estimate reflects a redistribution of mineralized tonnage between the Indicated and Inferred classifications within the CSM area relative to the earlier Project-wide estimate.

Table 10-5. Red Mountain Area Mineral Resource Statement -- 1,000 ppm TREO Cut-Off, by Classification and Area (Effective Date: November 1, 2025)

Classification	Area	Tonnage (t)	TREO (ppm)	Contained TREO (t)	Owner
Indicated	CSM	391,378,955	3,295	1,289,893	State Mine
Indicated	Red Mountain Federal	372,632,038	3,044	1,134,494	Federal
Indicated	Trail Creek	3,105,163	3,354	10,415	Federal
Indicated Total		**767,116,157**	**3,173**	**2,434,802**	
Inferred	CSM	156,091,388	3,468	541,325	State Mine
Inferred	Red Mountain Federal	291,316,452	3,161	920,853	Federal
Inferred	Trail Creek	34,062,736	2,909	99,105	Federal
Inferred Total		**481,470,576**	**3,243**	**1,561,283**	
Grand Total (rounded)		**1,249,000,000**	**3,200**	**3,996,085**	

Table 10-6. Red Mountain Area Mineral Resource Statement -- by Permit Area, 1,000 ppm TREO Cut-Off (Effective Date: November 1, 2025)

Permit Area	Indicated (t)	Inferred (t)	Total (t)	Grade (ppm TREO)
CSM	391,378,955	156,091,388	547,470,344	3,344
Red Mountain Federal	372,632,038	291,316,452	663,948,490	3,096
Trail Creek	3,105,163	34,062,736	37,167,899	2,946
Total	**767,116,157**	**481,470,576**	**1,248,586,733**	**3,200**

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10.17 Resource Estimate Differences from Previous Estimates

The Mineral Resource model has evolved through successive Odessa Resources estimates as additional drilling, surface sampling, and geological interpretation became available. At the 1,000 ppm TREO reporting cut-off adopted for this Report, the updated resource model incorporates the results of the 2024 drilling program and subsequent 2025 surface channel sampling, together with refinements to the geological model and resource classification.

Table 10-8 compares the full-Project Mineral Resource presented in this Report with the previous Mineral Resource reported in the March 2024 Scoping Study. On a consistent 1,000 ppm TREO reporting basis, the current estimate contains approximately 0.28 Gt more material, representing an increase of approximately 12.2%, while the estimated average TREO grade increased by approximately 97 ppm, or 3.0%. The additional 2024 drilling within the CSM area contributed to an increase in estimated resource tonnage and supported refinement of the geological and grade models. Subsequent 2025 surface channel sampling provided additional geological and grade information within the CSM/Red Mountain area and supported extension of the Indicated classification to the west.

The changes summarized in Table 10-7 therefore reflect progressive refinement of the Halleck Creek Mineral Resource as additional exploration information became available while maintaining the 1,000 ppm TREO reporting cut-off used for comparison in this Report.

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Table 10-7. Comparison of the Current Mineral Resource Estimate to the March 2024 Scoping Study Estimate

Study	Classification	Tonnage (t)	TREO (ppm)	LREO (ppm)	HREO (ppm)	MREO (ppm)	Contained TREO (t)	Contained LREO (t)	Contained HREO (t)	Contained MREO (t)
2025 Update	Measured + Indicated	1,479,320,439	3,334	2,963	361	859	4,931,405	4,382,934	534,691	1,271,092
	Inferred	1,147,180,795	3,239	2,878	361	837	3,715,661	3,302,005	413,651	960,355
	Total	**2,626,501,234**	**3,292**	**2,926**	**361**	**850**	**8,647,066**	**7,684,939**	**948,341**	**2,231,447**
March 2024	Measured + Indicated	1,416,889,369	3,295	2,913	352	798	4,668,949	4,127,881	498,674	1,130,257
	Inferred	924,698,618	3,041	2,696	339	737	2,812,121	2,493,178	313,187	681,138
	Total	**2,341,587,986**	**3,195**	**2,828**	**347**	**774**	**7,481,070**	**6,621,059**	**811,861**	**1,811,395**
Difference	Measured + Indicated	62,431,070	39	50	9	61	262,456	255,053	36,017	140,835
	% Difference	**4.4%**	**1.2%**	**1.7%**	**2.7%**	**7.7%**	**5.6%**	**6.2%**	**7.2%**	**12.5%**
	Inferred	222,482,177	198	182	22	100	903,540	808,827	100,464	279,217
	% Difference	**24.1%**	**6.5%**	**6.8%**	**6.4%**	**13.6%**	**32.1%**	**32.4%**	**32.1%**	**41.0%**
	Total	284,913,248	97	98	14	76	1,165,996	1,063,880	136,480	420,052
	% Difference	**12.2%**	**3.0%**	**3.5%**	**4.1%**	**9.8%**	**15.6%**	**16.1%**	**16.8%**	**23.2%**

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10.18 Uncertainty and Factors Affecting the Resource Estimate

Uncertainty associated with sampling, drilling, geological interpretation, data processing, density assignment, and resource estimation has been incorporated into the Mineral Resource classification. The assigned Measured, Indicated, and Inferred classifications reflect the Competent Persons' assessment of the confidence in the available geological, sampling, and analytical data, as well as the continuity of mineralization within the modeled domains.

As with any Mineral Resource estimate, the reported tonnages and grades remain subject to change as additional information becomes available. Factors that may influence future resource estimates include changes in commodity prices, exchange rates, and the economic assumptions used to establish cut-off grades; refinement of geological interpretations, mineralized domain boundaries, and grade continuity; revisions to density assignments; and the incorporation of additional drilling, sampling, or metallurgical data. Future engineering studies may also modify the mining, processing, recovery, and design assumptions used to demonstrate reasonable prospects for eventual economic extraction. In addition, continued access to the Project, completion of planned exploration and technical programs, permitting, and maintenance of the Company's social license to operate may influence future development of the Mineral Resource.

10.19 Competent Person Conclusions

The Mineral Resource adopted for this Report is presented at a 1,000 ppm TREO cut-off grade and encompasses the CSM (Red Mountain), Red Mountain Federal, and Overton Mountain resource areas. The Competent Person considers the quantity and quality of the available geological, drilling, sampling, density, analytical, and estimation data sufficient to support the reported Mineral Resource in accordance with the JORC Code (2012 Edition).

Resource estimation and geological modeling completed by Odessa Resources have been progressively updated as additional exploration information became available. Subsequent work incorporated 2024 drilling and 2025 surface channel sampling, refined the geological model, and supported changes to resource classification within the CSM/Red Mountain area.

The November 2025 Odessa V3 Report discusses the updated CSM/Red Mountain Mineral Resource at a 1,500 ppm TREO cut-off grade. For purposes of this Report, however, the Mineral Resource statements are presented at the 1,000 ppm TREO reporting cut-off described in Sections 10.14 through 10.16. The geological interpretation and resource model demonstrate substantial scale and continuity of rare earth mineralization, while additional drilling and technical work provide opportunities to further refine the Mineral Resource.

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11 ORE RESERVE ESTIMATES

11.1 No Ore Reserves Declared

No Ore Reserves are being declared.

11.2 Project Stage — Scoping Study

The Halleck Creek Rare Earth Project is at the Scoping Study stage as defined under JORC Code. A Scoping Study is a preliminary evaluation of the economic potential of a mineral property that uses Mineral Resources but does not establish Ore Reserves. All economic analyses and engineering studies completed to date — including the Stantec Scoping Study (February 2025) — are based on Mineral Resources. A Mineral Resource estimate does not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resource will be converted to Ore Reserves. A Pre-Feasibility Study is currently in progress but has not been completed and no Feasibility Study has commenced or been completed. The mining schedule and pit optimization work described in source documents are based on Mineral Resources and do not constitute Ore Reserves under JORC or any other applicable reporting code. The Scoping Study was conducted under the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012). No Ore Reserves were reported under the JORC Code at the time of the Scoping Study. This is consistent with the Scoping Study designation under JORC.

11.3 Future Reserve Potential

The advancement of the Halleck Creek Project to a Pre-Feasibility Study stage, which would form the basis for Ore Reserve estimation, would require completion of additional work including:

- Metallurgical process confirmation through pilot-plant scale testing.
- Detailed geotechnical and hydrogeological studies.
- Water rights and water supply confirmation.
- Environmental permitting advancement.
- Market study and product specification confirmation.
- Sufficient engineering design to support Probable Reserve classification modifying factors.

The foregoing work represents normal project advancement and does not imply that Ore Reserves can or will be demonstrated. The listing of this work is for disclosure purposes only.

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12 MINING METHODS

12.1 Introduction

The CSM deposit is planned to be mined via open pit methods using conventional truck and shovel extraction. The mine design and subsequent planning were based off the November 2025 resource model. A life-of-mine (LOM) schedule has been developed using Deswik to model mining, drilling, blasting, and haulage activities to meet project objectives for mineralized material quantities and quality while determining mining equipment requirements and physicals.

12.2 Annual Mining Limits

Excavated material was scheduled on an annual basis, accounting for mining, haulage, drilling, and blasting production activities. Final mineralized material and waste designations are reliant on production/blast hole drill data to determine the in-situ grade of mined material. Material falling above the reported cut-off grade will be considered mineralized material and sent to on-site processing facilities for further handling. All material falling below the economic cut-off grade will report to the designated waste rock storage facility (WRSF) or be used for construction materials as needed.

Annual mining quantities are limited by operational dig faces available and equipment productivity rates. Mining activities associated with the upper benches (top 3 to 5) will be less productive than those that occur at lower elevations due to limited operating space. Until sufficient space is available, drilling of the bench below cannot occur until the entire bench has been mined, as associated drilling areas will fall within the path of material haulage. While upper benches will experience delays due to space limitations, mineralized material lies close to the surface and does not require considerable quantities of waste to be mined or stripped to expose. Given this dynamic, mineralized material delivery will ramp up to full production (4.5 Mtpa) in the second year of operation without utilizing additional equipment to increase material movement typically used during waste stripping activities.

Once mining operations are no longer space constrained, haulage equipment will be the limiting factor for material movement. While able to move more material than required, a single excavating unit will be utilized in a backhoe configuration able to achieve the mine design while efficiently loading haulage equipment. Equipment sizing considers a 7.4 m^3 bucket paired with 76.9 tonne haul trucks (agnostic to original equipment manufacturer [OEM]). Current annual scheduled pit quantities do not exceed 6.7 M tonnes.

12.2.1 Annual Production

Annual production targets 4.5M tonnes of mineralized material with total material mined not exceeding 6.7 Mtpa. Production targets consider the stripping ratio for each period and the associated total recovered production for each period throughout the LOM. Total material movement will consider material movement from the pit to processing and waste storage facilities and subsequent rehandle required to facilitate sand byproduct storage and auxiliary process operations. Ore production does not consider Inferred material.

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12.2.2 Stockpiling

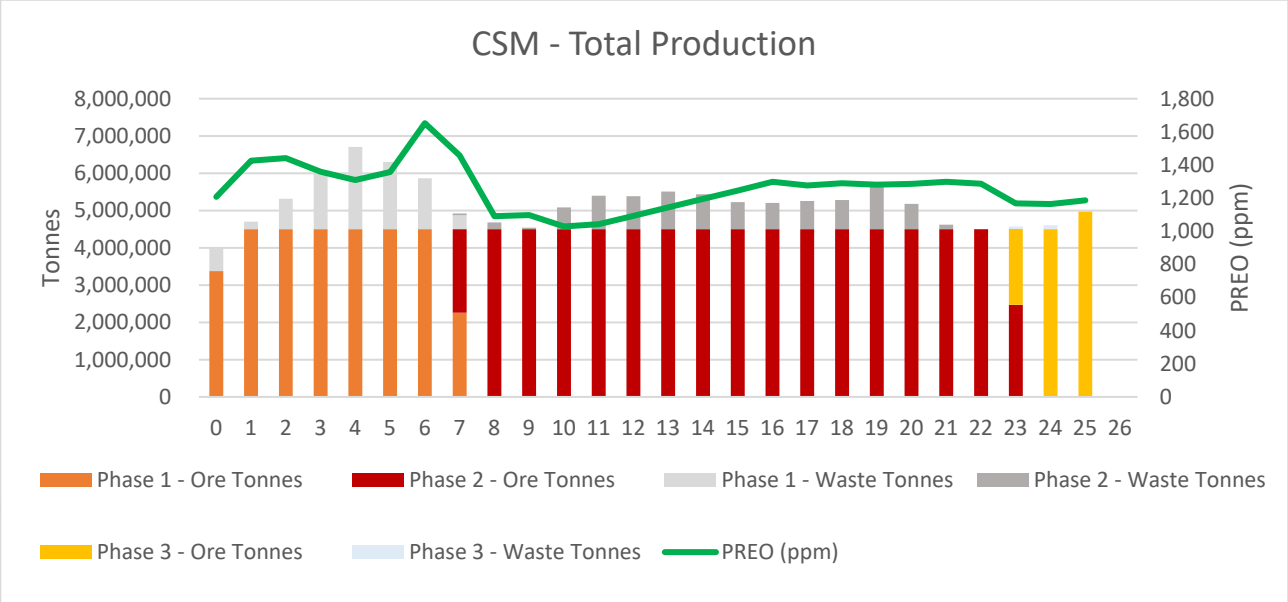
Given the homogeneity of the deposit, planned mineralized material quantities available, and overall low stripping ratios, meeting and sustaining annual mineralized material demand is achievable with low operational risk and does not require mineralized material stockpiles. To buffer production and mill throughput fluctuations, there will be a ROM stockpile of approximately 60k tonnes adjacent to plant facilities.

12.3 Schedule Summary Tables

Total mineralized material production ramps up during the first year of operations (Year 0) while mining dig faces and processing facilities are established. Full mineralized material production is achieved in Year 1 and remains relatively constant with total material movement fluctuating between 4.7 and 6.7 Mtpa for the remainder of the LOM.

Over the 25+ year mine life, a total material movement of 135.0 Mt is required to expose and process 116 Mt of mineralized material with an overall stripping ratio of 0.16 (waste to mineralized material) and a payable rare earth oxide (PREO) grade of 1,257 ppm. Total material movement by phase and PREO grade by year is displayed in Figure 12-1, with the overall material breakdown by year shown in Table 12-1 through Table 12-3.

Figure 12-1. Total Material Movement by Phase and PREO Grade



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Table 12-1. Overall Material Breakdown Years 0 – 10

LOM Schedule		Pre-Production	Production	Production	Production	Production	Production	Production	Production	Production	Production	Production
Description	**LOM Year**	0	1	2	3	4	5	6	7	8	9	10
	LOM Total	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Production Target (Mt)	**4.5**	3.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Mineralized Material Tonnes (Mt)	**116.4**	3.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
PREO (ppm)	**1,257**	1,207	1,426	1,441	1,360	1,310	1,358	1,652	1,458	1,091	1,098	1,029
Waste Tonnes (Mt)	**18.7**	0.6	0.2	0.8	1.5	2.2	1.8	1.4	0.4	0.2	0.0	0.6
Total Tonnes Mined (Mt)	**135.0**	4.0	4.7	5.3	6.0	6.7	6.3	5.9	4.9	4.7	4.5	5.1
Strip Ratio	**0.160**	0.188	0.045	0.181	0.331	0.491	0.401	0.304	0.093	0.040	0.009	0.130
Cumulative Tonnes (Mt)	**135.0**	4.0	8.7	14.0	20.0	26.7	33.0	38.9	43.8	48.5	53.0	58.1
Remaining Tonnes (Mt)	**0**	131.0	126.3	121.0	115.0	108.3	102.0	96.1	91.2	86.5	82.0	76.9
Contained (ppm)												
PREO (ppm)	**1,257**	1,207	1,426	1,441	1,360	1,310	1,358	1,652	1,458	1,091	1,098	1,029
NDPR (ppm)	**958**	896	1,067	1,080	1,018	982	1,028	1,263	1,120	809	817	768
SEG (ppm)	**230**	235	273	276	260	251	253	301	260	212	212	198
TB4O7 (ppm)	**12**	14	16	16	15	14	14	16	14	12	12	11
DY2O3 (ppm)	**57**	63	70	69	65	63	63	73	64	57	57	52
TREO (ppm)	**4,016**	3,812	4,490	4,559	4,309	4,143	4,251	5,096	4,573	3,468	3,512	3,290
Contained (Mkg)												
PREO (Mkg)	**146.3**	4.1	6.4	6.5	6.1	5.9	6.1	7.4	6.6	4.9	4.9	4.6
NDPR (Mkg)	**111.5**	3.0	4.8	4.9	4.6	4.4	4.6	5.7	5.0	3.6	3.7	3.5
SEG (Mkg)	**26.7**	0.8	1.2	1.2	1.2	1.1	1.1	1.4	1.2	1.0	1.0	0.9
TB4O7 (Mkg)	**1.4**	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
DY2O3 (Mkg)	**6.6**	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2
TREO (Mkg)	**467.3**	12.9	20.2	20.5	19.4	18.6	19.1	22.9	20.6	15.6	15.8	14.8
Produced (Mkg)												
NDPR (Mkg)	64.9	1.8	2.8	2.8	2.7	2.6	2.7	3.3	2.9	2.1	2.1	2.0
SEG (Mkg)	6.9	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
TB4O7 (Mkg)	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY2O3 (Mkg)	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total PREO (Mkg)	73.0	2.0	3.2	3.2	3.0	2.9	3.0	3.7	3.3	2.4	2.4	2.3

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Table 12-2. Overall Material Breakdown Years 11 – 20

LOM Schedule		Production	Production	Production	Production	Production	Production	Production	Production	Production	Production
Description	LOM Year	11	12	13	14	15	16	17	18	19	20
	LOM Total	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
Production Target (Mt)	**4.5**	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Mineralized Material Tonnes (Mt)	**116.4**	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
PREO (ppm)	**1,257**	1,042	1,093	1,144	1,196	1,246	1,299	1,276	1,290	1,281	1,286
Waste Tonnes (Mt)	**18.7**	0.9	0.9	1.0	0.9	0.7	0.7	0.8	0.8	1.2	0.7
Total Tonnes Mined (Mt)	**135.0**	5.4	5.4	5.5	5.4	5.2	5.2	5.3	5.3	5.7	5.2
Strip Ratio	**0.160**	0.200	0.197	0.225	0.208	0.161	0.156	0.168	0.174	0.274	0.151
Cumulative Tonnes (Mt)	**135.0**	63.5	68.9	74.4	79.9	85.1	90.3	95.5	100.8	106.6	111.7
Remaining Tonnes (Mt)	**0**	71.5	66.1	60.6	55.2	50.0	44.7	39.5	34.2	28.5	23.3
Contained (ppm)											
PREO (ppm)	**1,257**	1,042	1,093	1,144	1,196	1,246	1,299	1,276	1,290	1,281	1,286
NDPR (ppm)	**958**	786	833	881	925	964	1,006	987	997	991	993
SEG (ppm)	**230**	196	200	204	211	219	228	224	227	224	225
TB4O7 (ppm)	**12**	11	10	10	11	11	11	11	11	11	12
DY2O3 (ppm)	**57**	49	49	49	50	52	54	54	55	54	55
TREO (ppm)	**4,016**	3,332	3,496	3,682	3,864	4,025	4,198	4,171	4,185	4,128	4,101
Contained (Mkg)											
PREO (Mkg)	**146.3**	4.7	4.9	5.1	5.4	5.6	5.8	5.7	5.8	5.8	5.8
NDPR (Mkg)	**111.5**	3.5	3.7	4.0	4.2	4.3	4.5	4.4	4.5	4.5	4.5
SEG (Mkg)	**26.7**	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0
TB4O7 (Mkg)	**1.4**	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
DY2O3 (Mkg)	**6.6**	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
TREO (Mkg)	**467.3**	15.0	15.7	16.6	17.4	18.1	18.9	18.8	18.8	18.6	18.5
Produced (Mkg)											
NDPR (Mkg)	**64.9**	2.1	2.2	2.3	2.4	2.5	2.6	2.6	2.6	2.6	2.6
SEG (Mkg)	**6.9**	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3
TB4O7 (Mkg)	**0.4**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DY2O3 (Mkg)	**0.8**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total PREO (Mkg)	**73.0**	2.3	2.5	2.6	2.7	2.8	2.9	2.9	2.9	2.9	2.9

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Table 12-3. Overall Material Breakdown Years 21 – LOM

LOM Schedule		Production	Production	Production	Production	Production
Description	**LOM Year**	21	22	23	24	25
	LOM Total	2052	2053	2054	2055	2056
Production Target (Mt)	**4.5**	4.5	4.5	4.5	4.5	4.5
Mineralized Material Tonnes (Mt)	**116.4**	4.5	4.5	4.5	4.5	5.0
PREO (ppm)	**1,257**	1,299	1,287	1,168	1,164	1,187
Waste Tonnes (Mt)	**18.7**	0.1	0.0	0.1	0.1	0.0
Total Tonnes Mined (Mt)	**135.0**	4.6	4.5	4.6	4.6	5.0
Strip Ratio	**0.160**	0.027	0.001	0.016	0.024	0.003
Cumulative Tonnes (Mt)	**135.0**	116.4	120.9	125.4	130.0	135.0
Remaining Tonnes (Mt)	**0**	18.7	14.2	9.6	5.0	-
Contained (ppm)						
PREO (ppm)	**1,257**	1,299	1,287	1,168	1,164	1,187
NDPR (ppm)	**958**	1,001	989	896	896	911
SEG (ppm)	**230**	229	229	208	206	212
TB4O7 (ppm)	**12**	12	12	11	11	11
DY2O3 (ppm)	**57**	57	58	53	51	52
TREO (ppm)	**4,016**	4,170	4,136	3,718	3,812	3,873
Contained (Mkg)						
PREO (Mkg)	**146.3**	5.8	5.8	5.3	5.2	5.9
NDPR (Mkg)	**111.5**	4.5	4.4	4.0	4.0	4.5
SEG (Mkg)	**26.7**	1.0	1.0	0.9	0.9	1.1
TB4O7 (Mkg)	**1.4**	0.1	0.1	0.0	0.0	0.1
DY2O3 (Mkg)	**6.6**	0.3	0.3	0.2	0.2	0.3
TREO (Mkg)	**467.3**	18.8	18.6	16.7	17.2	19.3
Produced (Mkg)						
NDPR (Mkg)	**64.9**	2.6	2.6	2.3	2.3	2.6
SEG (Mkg)	**6.9**	0.3	0.3	0.2	0.2	0.3
TB4O7 (Mkg)	**0.4**	0.0	0.0	0.0	0.0	0.0
DY2O3 (Mkg)	**0.8**	0.0	0.0	0.0	0.0	0.0
Total PREO (Mkg)	**73.0**	2.9	2.9	2.6	2.6	3.0

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12.4 Drill and Blast

Drill and blast patterns are configured to accommodate 10 m benches and incorporate controlled blasting practices to establish good highwall stability with the use of trim shots, pre-shear, and no large production blasts against the final highwalls. While material is planned to be mined in 5 m flitches, drilling and blasting activities will occur at the full bench height. Design parameters consider drilling 115 mm holes, with a typical burden and spacing of 3.2 m x 3.7 m, subdrill of 1 m, and a stemming column of approximately 3.8 m.

Blasting will utilize a bulk emulsion/ANFO blend as the bulk explosive product. A 70/30% ammonium nitrate/fuel oil (ANFO)/emulsion blend by weight will be used for both wet and dry holes. The blast pattern designs, hole diameter, and explosives column heights result in an average estimated powder factor of 0.74 kg/m^3 for both mineralized material and waste using an ANFO/emulsion blend. Blasts are anticipated to occur twice, weekly. Drill patterns will be continuously evaluated to minimize potential dilution and damage on pit walls, control fragmentation, maximize equipment productivity, and reduce the overall cost of drilling and blasting. Production blast pattern parameters are summarized in Table 12-4.

Table 12-4. Drill and Blast Design Parameters

DRILL AND BLAST DESIGN	Units	Value
Bench Height	m	10.00
Hole Diameter	mm	115.00
Burden	m	3.20
Spacing	m	3.68
Distance Hole to Hole	m	4.88
Sub Drill	m	1.00
Hole Length	m	11.00
Stemming	m	3.84
Area of Influence	m^2	11.78
Powder Column	m	7.16
Powder/hole	kg	87.71
ANFO SG	SG	1.15
Emulsion SG	SG	1.25
%Emulsion Blend	%	30%
Blended SG	SG	1.2
Rock SG	SG	2.7
Tonnes per Hole – Mineralized Material	t/hl	318.0
Tonnes per Length	t/m	28.9
Tonnes per Hole - Waste	t/hl	318.0
Powder Factor	kg/tonne	0.28
Powder Factor	kg/m^3	0.74
Powder Factor	lbs/ton	0.55

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12.5 Mine Equipment

12.5.1 Time Usage Model

The time model structure used for calculating open pit equipment hours is shown in Table 12-5 with the corresponding definitions and criteria shown below. A breakdown of each metric is shown for the major equipment in Table 12-6. Time delay details and assumptions associated with standby and operational losses for major mining equipment used to calculate use of availability and operating efficiency are shown in Table 12-7. Delay times for loading equipment, dozers, and support equipment utilize fixed time assumptions for a given time interval, while the haul trucks and drills incorporate cycle-based delays that are a function of the final production numbers, i.e. final number of haulage cycles and holes drilled.

Table 12-5. Time Model Structure

Calendar Hours	Total Available Hours			
Availability	Available Hours			Maintenance
Use of Availability	Operational Hours		Standby	Maintenance
Operating Efficiency	Effective Hours	Operational Losses	Standby	Maintenance

The following are the definitions used in the time model.

- Total Available Hours
  - Hours in a calendar year. At 24 hr/d and 365 d/yr, the total available hours are 8,760 hr/y.
- Available Hours
  - Total available hours less maintenance hours per piece of equipment.
- Maintenance Hours
  - Includes waiting for maintenance personnel, waiting for maintenance equipment or spare parts, travel time to and from the shop, actual maintenance time, movements, and waiting time within the shop.
- Standby Hours
  - The unit is mechanically operable but is not manned or used (e.g., schedule loss, safety meetings, meals, breaks, blasting, shift change, weather outages, refueling, and training).
- Operational Hours
- Available hours less standby time—used for labor and fuel costing purposes.
- Operational Loss Hours
  - The equipment is operating but not performing its specific production duty (truck queue time), drill rig setup, shovel/drill moves, cleaning of work faces).
- Effective Hours
  - Operational hours, less operational loss hours.

The criteria for lost time were applied through the following factors.

- Availability – (measure of maintenance down time) is expressed as available hours divided by total available hours. Availabilities remained constant throughout LOM, although actual mechanical availability is likely to decrease over time as the equipment ages.
- Use of availability – operational hours divided by available hours.
- Operating efficiency – effective hours divided by operational hours.
- Overall effective utilization – product of availability, use of availability, and operating efficiency.

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On this basis, the target equipment availability, use of availability, and operating efficiency were defined for each of the major equipment units and displayed below (Table 12-6).

Table 12-6. Time Model Metrics for Major Equipment

	Units	Excavators	Haul Trucks	Drills	Dozers	Support
Availability	%	90%	88%	85%	75%	75%
Use of Availability	%	85.0%	81.9%	79.1%	78.7%	78.7%
Operating Efficiency	%	81.2%	69.1%	83.7%	80.6%	80.6%
Effective Utilization	%	62.1%	49.8%	56.3%	47.6%	47.6%

Table 12-7. Standby and Operating Delays for Major Equipment

Use of Availability	Units	Excavators	Haul Trucks	Drills	Dozers	Support
Unplanned Non-Operating Days	hr/day	0.33	0.33	0.33	0.33	0.33
Standby (No-Operator)	hr/day	0.16	0.16	0.16	0.16	0.16
Shift Change, Inspection	hr/day	1.00	1.00	1.00	1.00	1.00
Lunch	hr/day	1.00	1.00	1.00	1.00	1.00
Fueling	hr/day	0.00	0.60	0.60	0.60	0.60
Blasting	hr/day	0.14	0.14	0.57	0.14	0.14
Other	hr/day	0.60	0.60	0.60	0.60	0.60
Operating Delays per Day	hr/day	3.23	3.83	4.26	3.83	3.83
Operational Hours	hr/day	18.37	17.29	16.14	14.17	14.17
Use of Availability	%	**85.0%**	**81.9%**	**79.1%**	**78.7%**	**78.7%**
Operating Efficiency	Units	Excavators	Haul Trucks	Drills	Dozers	Support
Face/Loading Area Cleanup	hr/day	0.87				
Short Moves	hr/day	1.73				
Shovel Wait for Trucks	hr/day	0.87				
Support: Idle	hr/day				2.75	2.75
Truck: Dump Time	hr		2,062			
Truck: Load, Spot, & Queue Time	hr		9,461			
Truck: Travel Time	hr		25,755			
Drill: Move & Setup	min/hole			7.50		
Drill: Pattern Setup	min/pattern			30.00		
Drill: Pullout Hole	min/hole			5.00		
Total Production Holes Drilled	holes			481,473		
Total Operational Losses	hr		11,524	101,270		
Total Effective Hours	hr		25,755	520,802		
Total Operational Losses per day	hr/day	3.46	5.34	2.63	2.75	2.75
Effective Hours	hr/day	14.91	11.95	13.51	11.42	11.42
Operating Efficiency	%	**81.2%**	**69.1%**	**83.7%**	**80.6%**	**80.6%**

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12.5.2 Excavator Productivity

Production requirements can be achieved by utilizing a single loading unit with a bucket capacity of 7.4 m^3. A CAT 6015 with a backhoe configuration was chosen as the primary loading unit, matching a fleet of 76.9 tonne Komatsu HD605 haul trucks. This fleet combination requires five to six passes for the excavator to fill a truck.

A secondary loading unit was incorporated to assist with site activities and operations but was not required to achieve production targets. A CAT 990 front end loader was selected for this role.

The excavator has a 90% availability, with a use of availability of 85%. Production rates were developed using a first principles approach and then used for scheduling. Material properties for mineralized material and waste were the same. The loading unit productivity includes waiting, maneuvering, and unproductive time estimates and are shown in Table 12-8 It does not consider operational losses, standby time, or maintenance time; those metrics are used as inputs within Deswik and applied to the production rates.

Table 12-8. Excavator and Truck Rates

Material Parameters	Units	Mineralized Material/Waste
Bank Density	t/m3	2.70
Swell	%	33%
Loose Density	t/m3	2.03

Excavator Parameters	CAT 6015	
Bucket Capacity	m3	7.40
Bucket Fill Factor	%	90%
Loose Capacity	m3	6.66
Bucket Payload per Pass	t	13.52
Cycle Time per Pass	sec	30.00

Truck Parameters	Komatsu HD605	
Haul Truck Capacity	t	76.90
Spot Time	sec	30.00
Time for First Bucket	sec	10.00
Total Buckets for Load	#	6.00
Loading Time	min	3.17
Truck Loads per Hour		18.95

Hourly Production - No Delays	t/hr	**1,457**
Daily Production - No Delays	t/d	34,969

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12.5.3 Truck Productivities

Haul trucks were selected based on the loading fleet, production targets, and operational conditions. A fleet of Komatsu HD605, with a payload of 76.9 tonnes, matches the selected excavator (7.4m^3) requiring five to six passes. Haul road widths will be designed at 20 m for two-lane roads.

Deswik's Landform and Haulage Suite were used to calculate the truck hours required for the associated mining schedule. Operating hours for haulage equipment were calculated in Deswik and are based on the shovel position, haul route(s), and dump progression. Deswik uses truck specific data to calculate the loaded and unloaded haul times, plus fixed loading and dump times, to determine an overall cycle time.

Once the schedule was finalized, the appropriate availability and use of availability were applied to determine the number of trucks required for production. The trucks are assumed to have an 88% Availability, a Use of Availability of 81.9%, and an Operating Efficiency of 69.1%.

The truck fleet and dump time at destinations are described in Table 12-9.

Table 12-9. Dump Time at Destinations

Dump Time at Destinations	Units	Value
Dump Time @ Crusher	min/load	0.80
Dump Time @ Dump	min/load	0.80

12.5.4 Drill Productivities

Drills capable of drilling 11 m holes with a diameter of at least 115 mm to accommodate 10 m benches were identified as the ideal match for the mining fleet. Epiroc's PowerROC T50s were selected for production drilling with a single smaller drill used for pre-split holes.

Production drills assumed a penetration rate of 4 minutes per meter, capable of drilling between 4,750 tonnes and 5,300 tonnes per day, assuming the time model metrics listed in Chapter 12.5.1.

12.5.5 Fleet Estimation

Final fleet determination for production equipment considered the Deswik Landform and Haulage model in combination with the time model assumptions to quantify the required hours and equipment quantities given the desired annual production targets.

The quantity of support equipment required was based on operational factors, such as the quantity of primary equipment to service, the number of active mining and dumping areas, and roads to maintain (Table 12-10).

Table 12-10. Required Production and Support Equipment

Production Equipment	LOM Max Quantity
Excavator (CAT 6015)	1
Front End Loader (CAT 990)	1
Haulage Trucks (Komatsu HD605-10)	4
Production Drills (PowerROC T50)	4

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Support/Ancillary Equipment	LOM Max Quantity
Backhoe	1
F-250/2500	4
Fuel/Lube Trucks	1
Light Plants	8
Mobile Scalper	1
Motor Grader	2
Pre-Split Drill	1
Service Truck	1
Skid Steers	1
Telescopic Handler	1
Track Dozer (D6)	1
Water Truck	1
Wheel Dozer	1

12.6 Closure

12.6.1 Closure Planning

Closure of the CSM will be conducted in accordance with the applicable permit stipulations and post-mining land use objectives established for the site. The extent and nature of closure activities are contingent upon which operational scenario is achieved during mining operations. Additional mineralized material may be present north of Red Mountain; this area has not been investigated as part of this Report and is not included in the current Mineral Resource, mine plan, or closure cost estimate. Should future exploration and resource definition extend mining beyond the modeled 26-year schedule, the closure design and reclamation cost presented below would need to be revisited accordingly. For the purposes of this report, a closure design to turn the pit into a lake was designed and costed.

12.6.2 Reclamation and Mine Backfill

At the completion of mining operations, approximately 27 million tonnes of previously placed dewatered sand byproduct will be reclaimed from the upper portion of the temporary stockpile and hauled to the mined-out pit for partial backfill. Reclamation will proceed progressively from the upper portions of the stockpile to maintain stable working areas, preserve equipment access, and minimize the area requiring long-term stabilization. Reclaimed material will be excavated using front-end loaders or hydraulic excavators, transported to the pit by haul trucks, and placed and spread in controlled lifts. Placement methods will be adjusted as necessary based on material moisture content, trafficability, and pit geometry.

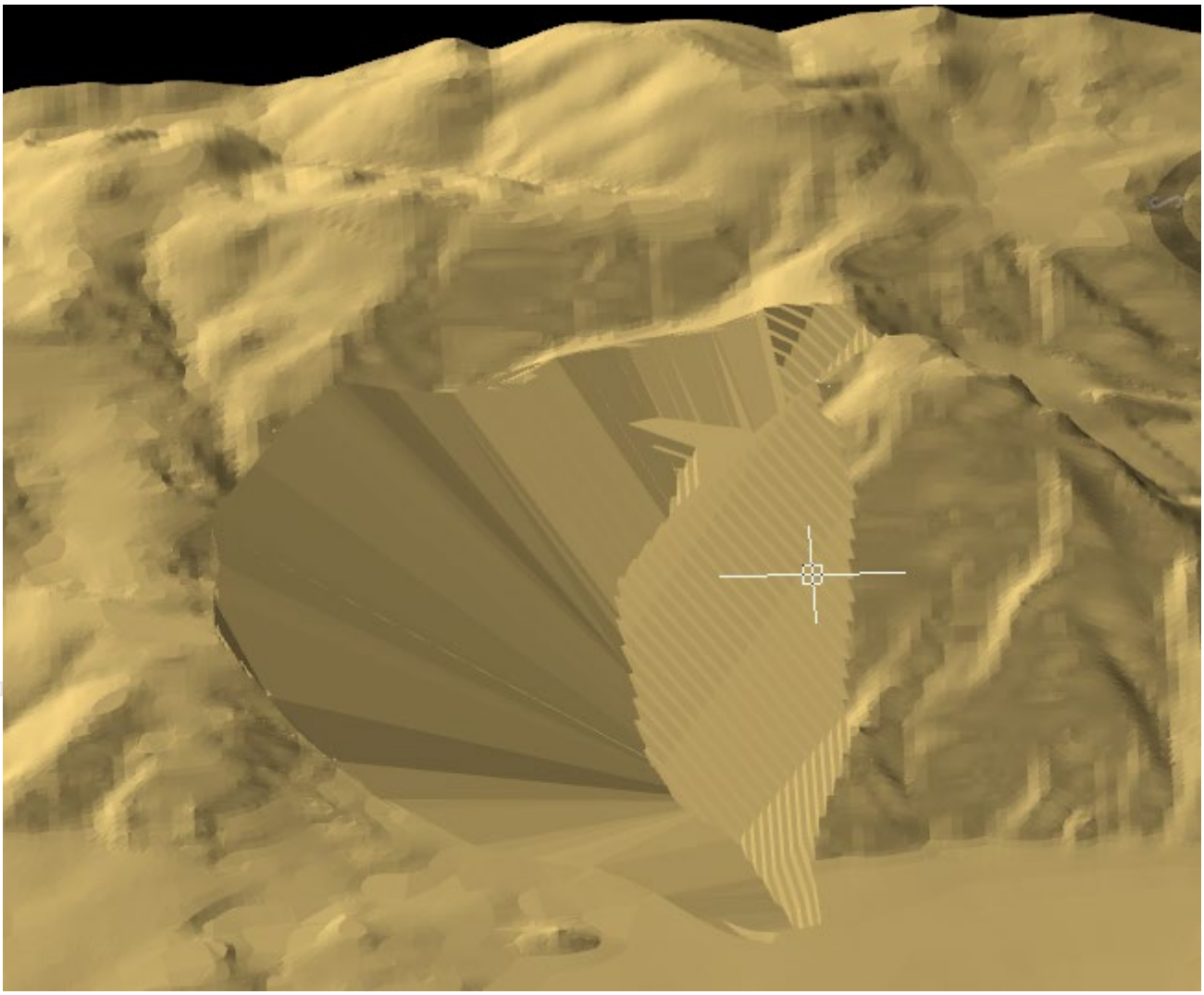
The southern pit wall will be regraded to an approximately 3H:1V slope extending to the anticipated water-table elevation, approximately 16 m below the final pit crest. The northern highwall will remain in place and is expected to provide beneficial wildlife habitat as part of the post-mining land use. Following completion of partial backfilling and regrading, pumping will cease, and the remaining pit void will be allowed to develop as a pit lake, see Figure 12-2.

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Reclamation activities will maintain positive surface drainage across the active stockpile reclamation and pit-backfill areas to limit ponding and infiltration. Temporary runoff controls, diversion ditches, sediment-management measures, and dust-control practices will be implemented and progressively modified as reclamation advances. Where required, waste rock may be used to establish internal haul roads, stabilize working surfaces, and provide drainage zones within the backfilled area.

This reclamation concept assumes that approximately 27 million tonnes of dewatered sand byproduct will be removed from the temporary stockpile, reducing the final above-grade stockpile volume and returning a substantial portion of the material to the mined-out pit. The concept remains preliminary and will require refinement during subsequent engineering and permitting stages, including confirmation of pit capacity, material-placement characteristics, haul requirements, slope stability, drainage design, post-mining pit-lake conditions, and applicable regulatory closure criteria. An indicative profile of the post closure landform is shown in Figure 12-2. Closure Regraded Design, Pit Lake below.

Figure 12-2. Closure Regraded Design, Pit Lake



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13 PROCESSING AND RECOVERY METHODS

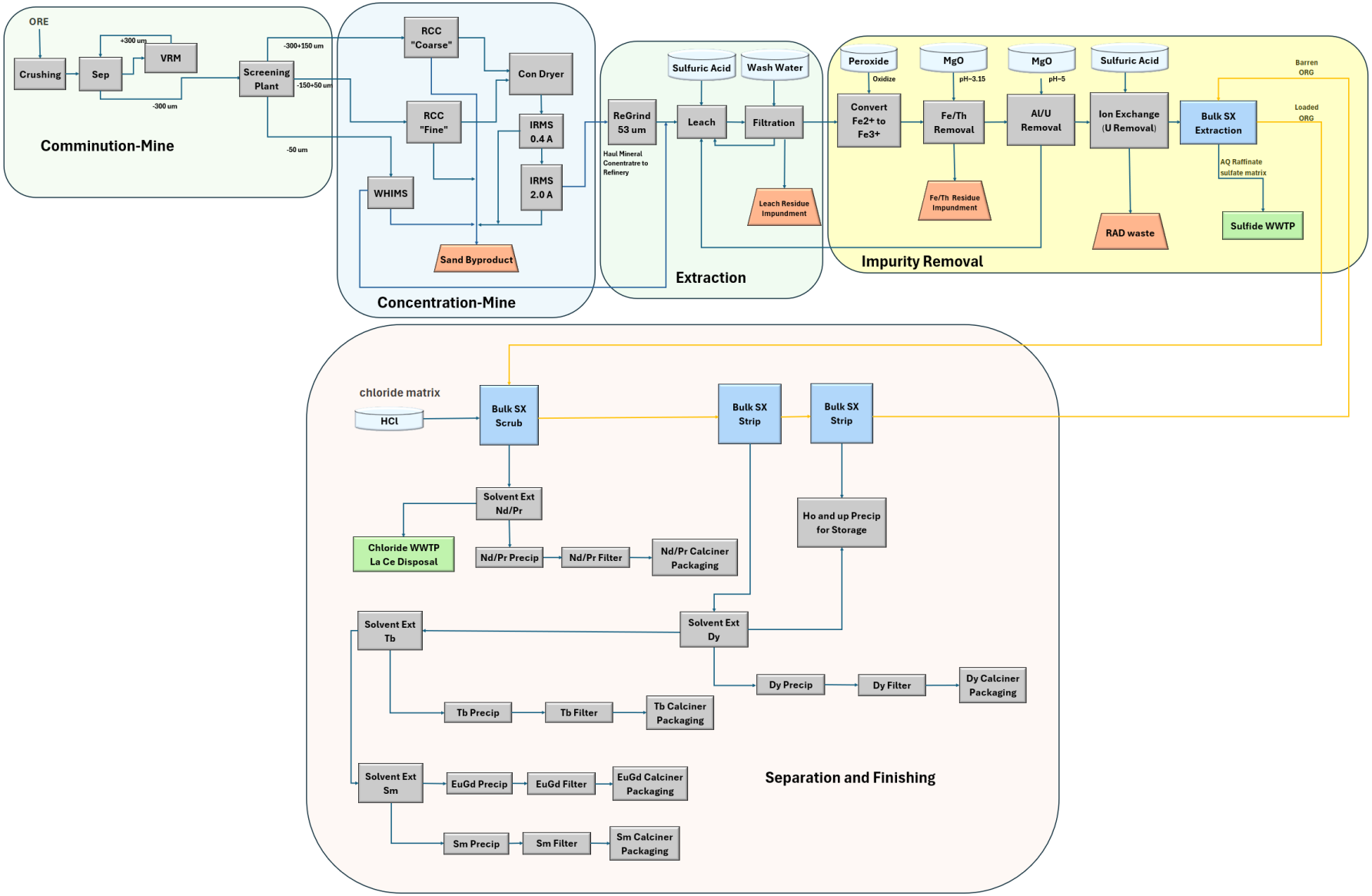
13.1 Process Summary

Comminution and concentration of the Halleck Creek ore are proposed to occur at the CSM site. Extraction, impurity removal, and rare-earth separation and finishing are proposed to occur at a refinery facility located adjacent to the towns of either Wheatland or Laramie, Wyoming, which offer rail, natural gas, power, and water infrastructure. Refer to Figure 13-1 for an overall process flow diagram. Concentrate is transported between the two sites by truck; leach residue is hauled to a local municipal landfill, or at a dedicated facility located at the refinery for disposal. Water treatment solids will also be sent to the same municipal landfill while the Iron removal solids will be loaded onto rail and sent to West Texas as a low-level radioactive waste for disposal. The process comprises five primary circuit groups as shown in Figure 13-1. Preliminary Process Flowsheet — Halleck Creek Rare Earth Project:

- Comminution — jaw crusher, cone crusher, and Vertical Roller Mill (VRM) with wet screening reducing run-of-mine mineralized material to 100% passing 300 µm.
- Concentration — reflux classifier (FLSmidth RCC/GradePro), rotary drying, and two-stage induced roll magnetic separation (IRMS) on the coarse fraction, with wet high-intensity magnetic separation (WHIMS) on the sub-50-µm fines. Overall concentration-circuit performance is 6.4% mass yield at approximately 64.8% TREO recovery, upgrading the feed grade by a factor of approximately 10 times.
- Extraction — atmospheric sulfuric-acid tank leach in stirred-tank reactors, with vacuum belt filtration and counter-current wash of the leach residue solids.
- Impurity removal — primary and secondary neutralization using Magnesium oxide, with an ion-exchange polish for residual Uranium.
- Separation and finishing — solvent-extraction trains producing NdPr oxide, Tb oxide, and Dy oxide, SEG mixed oxide. Ce, La and Y are not reported as saleable products in the Scoping Study base case, and work continues to advance to produce samarium oxide and a depleted SEG oxide.

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Figure 13-1. Preliminary Process Flowsheet — Halleck Creek Rare Earth Project



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13.2 Preliminary Design Basis

13.2.1 Production Capacity

The preliminary plant design basis specifies the following design capacities, all referenced to a 90% operating factor (329 operating days per year, 7,896 hours per year):

- Comminution — 4.5 Mtpa run-of-mine mineralized material on a dry basis, equivalent to approximately 13,678 metric tonnes per day (tpd).
- Concentration — matches Comminution: 4.5 Mtpa/13,678 tpd dry basis, producing approximately 286,920 tpa (about 872 tpd) of mineral concentrate at a TREO grade of approximately 4.27%.
- Extraction — designed to process the full concentrate throughput (about 872 tpd dry basis) at the sulfuric-acid tank leach, generating approximately 880 gpm of pregnant leach solution (PLS) at a minimum REO concentration (TREO) of 6.8 g/L.
- Impurity Removal — sized to match the PLS flow from Extraction, with primary and secondary neutralization and Uranium ion exchange.
- Separation and Finishing — designed to match the impurity-removal discharge and produce the four saleable products listed in Section 13.1.

13.2.2 Product Rates

At full design throughput and average first-five-year feed grade, the annual saleable product tonnages assumed in the Scoping Study are:

- NdPr oxide — approximately 2,500 tpa.
- Terbium oxide — approximately 13 tpa.
- Dysprosium oxide — approximately 31 tpa.
- SEG mixed oxide — approximately 255 tpa.

These production rates are based on a process feed grade of approximately 4,200 ppm TREO, which is the expected average feed concentration in the first 5 years.

13.2.3 Process Design Feed Characterization

The run-of-mine head grade adopted as the process design basis is a life-of-mine average of 4,184 ppm TREO for the first five years of operation and 3,668 ppm TREO+Y averaged across the base-case mine life. These head-grade and REE distribution assumptions form the basis of the process design.

13.2.4 Operating Factor

An operating factor of 90% equivalent to 329 operating days per year (7,896 hours per year) was assumed for all areas of the plant. This factor incorporates planned and unplanned maintenance, process-chemistry deviations, and capacity utilization effects during ramp-up and ramp-down around shutdowns. Further refinement will occur in later stages of design.

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13.2.5 Storage Capacities

Run-of-mine mineralized material is stockpiled in outdoor impoundments designed to decouple mining operations from the Comminution Circuit, accommodating planned and unplanned downtime. Downstream circuits contain surge storage points in the form of tankage and solid impoundments to accommodate transportation delays, planned and unplanned downtime, and batch operations within an otherwise continuous plant. Exact storage volumes and locations will be defined in later engineering studies.

13.2.6 Control and Automation

All areas of the conceptual processing plant will be semi-automated. Equipment and stream flows will be controlled primarily from a central control room, with local controls where required. Laboratory technicians will perform chemical analyses for rare-earth product element distribution and process-residue/byproduct elemental distribution.

13.2.7 Radionuclides

Thorium and Uranium, together with associated daughter products, are present in Halleck Creek mineralization at low levels (approximately 68 ppm combined in run-of-mine mineralized material). The impurity-removal plant is designed to remove both elements via precipitation and filtration, with an ion-exchange polish for residual Uranium. The radionuclide content reporting to saleable rare-earth products is estimated at less than 0.001% and is expected to meet current U.S. regulatory guidelines.

13.3 Process Description

The test work summarized in Chapter 9 forms the basis for the process design compiled by Tetra Tech Inc. The description below summarizes the unit operations and design choices for each circuit; detailed heat and mass balances, equipment lists, and process flow diagrams are the subject of the next phase of engineering.

13.3.1 Comminution

Run-of-mine mineralized material is delivered from the mine to a coarse-ore stockpile, reclaimed by apron feeders, and reduced through a jaw crusher and cone crusher in open circuit. The crushed product is fed to a Vertical Roller Mill (VRM) in closed circuit with wet screening, producing a comminution product at 100% passing 300 µm. The VRM was selected over HPSA and SAG/Ball alternatives to minimize sub-50-µm fines in the feed to the downstream gravity and dry-magnetic concentration circuit.

13.3.2 Concentration

The comminution product is split by particle size into a coarse fraction -300/+106 µm, a fine fraction -106/+50 µm and an ultrafine of <50 µm. The coarse and fine fractions are fed to separate RCC units to have the particle size range of the feed to be less than 4:1 by FLSmidth. The underflow from the RCC unit produces a heavy-mineral concentrate at 14% mass yield and 78.4% TREO recovery in single-stage rougher operation. The reflux-classifier concentrate is dried in a direct-fired rotary dryer and fed to a two-stage production-scale induced roll magnetic separator operating at roll currents of 0.6 A and 2.0 A. IRMS produces the primary mineral concentrate at approximately 4.27% TREO. The sub-50-µm fines fraction is

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processed through a WHIMS circuit at approximately 10,000–10,500 Gauss. Combined concentration-circuit performance is 6.4% overall mass yield at approximately 64.8% TREO recovery. Concentrate is loaded into side dump trailers and trucked to the Refinery Site.

13.3.3 Extraction

At the Refinery Site the mineral concentrate is reground to 100% passing 53 µm and slurried to 15% solids in dilute sulfuric acid and leach residue filter wash water. Leaching is carried out in stirred tank reactors (CSTRs) in a gravity-cascade arrangement, with acid-fume scrubbing and direct-steam heating to 90 °C. Design acid dosage is 400 kg H2SO4 per tonne of concentrate and design residence time is 6 to 8 hours. The reduced acid dosage relative to typical crystalline-allanite projects (approximately 1,000 kg/t) is supported by the metamict character of the Halleck Creek allanite (Chapter 9). Leach slurry is dewatered on a vacuum belt filter with counter-current fresh-water wash; wash liquor is recycled to the leach tanks and the washed residue is hauled to a local municipal landfill, or at a dedicated facility located at the refinery for disposal.

13.3.4 Impurity Removal

The pregnant leach solution is pre-oxidized with hydrogen peroxide and treated in two neutralization stages using Magnesium oxide (MgO) slurry:

- Primary Neutralization — pH is raised to 3.15 to precipitate Iron and Thorium as hydroxides. Approximately 90.8% of the Iron, 95% of the Thorium, and 57.3% of the Aluminum report to the neutralization residue; light and mid rare-earth losses are limited to approximately 1–2%.
- Secondary Neutralization — pH is raised to 5.0 to precipitate Aluminum and residual Uranium. Rare-earth co-precipitation is higher at pH 5.0 (approximately 5–10% of the light rare earths and up to 20% of the heavy rare earths); the secondary-neutralization solids are recycled to the leach circuit to recover the co-precipitated rare earths.
- Uranium Ion Exchange — the secondary-neutralization filtrate passes through a quaternary-amine strong-base anion-exchange column (Dowex/Ambersep 21K XLT class) to remove residual Uranium prior to solvent extraction. Loaded resin is regenerated with dilute sulfuric acid or a salt solution; the regeneration liquor is precipitated for disposal or, if warranted, sale as a by-product.

Sodium-based reagents (NaOH, Na2CO3) and Calcium-based reagents (CaO, CaCO3) were evaluated during the SGS Lakefield program but were rejected because of unacceptably high rare-earth co-precipitation as Sodium double-salts and gypsum-associated losses, respectively (Chapter 9, Section 9.8).

13.3.5 Media Exchange and Lanthanum/Cerium Rejection

Bulk solvent extraction circuit will transform the matrix from sulfate to chloride by loading all TREO onto organic and then stripping off with hydrochloric acid. The raffinate will be sent to wastewater treatment with the scrub stream forming the NdPr circuit feed. The first strip stream will be the heavies feed (Samarium and heavier) to the Dy circuit feed. The second strip stream will be composed of Holmium and heavier, which will be combined with a similar stream off the Dy circuit. The current market does not support the incremental capital and reagent cost of producing a saleable Lanthanum and Cerium product, and Cerium is therefore not reported in the base-case product slate.

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13.3.6 Separation and Finishing

The chloride PLS is separated into individual and grouped rare-earth products in a sequential solvent-extraction train using mixer-settler contactors. All circuits use DEHPA (di-(2-ethylhexyl) phosphoric acid) or PC88A (2-ethylhexyl phosphonic acid mono-2-ethylhexyl ester) in a kerosene diluent, selected per circuit for separation factor and stripping behavior:

- Bulk SX — loads all rare earths onto the organic phase out of a sulfate matrix and transforming to a chloride matrix. The raffinate will contain La, Ce and will be routed to the wastewater treatment plant. The scrub product will contain a small amount of Ce and NdPr which will be fed to the SXNd/Pr solvent extraction circuit. The first strip product carries Samarium and heavier rare earths and is the feed to SXDy. The second strip product is made up of Holmium and heavier mixed concentrate.
- SXNd/Pr — NdPr circuit; the raffinate is Cerium which will be sent to the wastewater treatment plant, and the strip is the NdPr product. SXNd/Pr is the largest circuit by stage count owing to the low separation factor between Neodymium and Cerium.
- SXDy — Dysprosium circuit; the raffinate product is the Terbium and SEG and the strip product is the Dysprosium product.
- SXTb — Terbium circuit; the raffinate is the SEG while the strip is the Terbium product.

13.4 Competent Person Opinion

The Competent Person considers the process design basis compiled by Tetra Tech Inc. to be appropriate for a Scoping Study. The flowsheet is grounded in the bench-scale test work summarized in Chapter 9 uses conventional unit operations with vendor-supplied performance data and applies engineering judgment where pilot-scale confirmation is not yet available. Further optimization, pilot-plant confirmation, and detailed engineering will be required to advance the design to a Pre-Feasibility Study.

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14 INFRASTRUCTURE

Because the Project is in the early stages of development, no infrastructure to support mining or processing has been constructed at the site. Infrastructure described in this chapter is based on scoping-level assessments and cost estimates only; no detailed engineering has been completed.

14.1 Regional Infrastructure

Local infrastructure is based out of the town of Wheatland (population 3,560), located approximately 39 km northeast of the CSM by Wyoming State Highway 34. The Burlington Northern Santa Fe (BNSF) Railroad mainline passes through Wheatland, as does Interstate 25, connecting the city to national transportation networks. The CSM is located approximately 70 km northeast of Laramie and 30 km southwest of Wheatland, Wyoming. Road access from Wheatland proceeds southwest on Wyoming State Highway 34 for approximately 29 km, followed by approximately 10 km west on County Road 720 (Halleck Canyon Road), a county-maintained gravel road. Wyoming Rare holds an easement with private landowners to access the CSM project area from Halleck Canyon Road.

14.1.1 Power

Residential power lines run along County Road 720 through the project area. A 46 kV electrical substation is located along Highway 34, approximately 3.7 km from the western boundary of the Halleck Creek state mineral leases. Power supply details for the process plant are subject to detailed engineering at future project stages.

14.1.2 Natural Gas

Black Hills Energy provides natural gas fueling locations throughout Wyoming. The nearest fueling station to the CSM development is in Cheyenne, Wyoming, approximately 80 miles (130 km) south of the site. A standard cryogenic, double-wall, stainless steel vacuum tanker truck can transport approximately 10,000 gallons (37,854 L) of liquefied natural gas (LNG) per delivery, which is considered sufficient to meet estimated daily requirements at the scoping level of study.

14.1.3 Water

Water rights negotiations have advanced significantly but are not yet secured for process water. Potable water will be supplied from wells to be drilled at the CSM site. Wastewater from the processing facility will be treated and recycled through the process where possible. A fresh water well is included in the pre-production infrastructure plan and associated capital cost estimate. See Section 17.2, below.

14.1.4 Communications

Communications infrastructure details for the CSM are subject to confirmation with Wyoming Rare and are at a conceptual level only at this stage of project development.

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14.2 Planned Infrastructure — Mine Site

Infrastructure planned and costed in the Stantec Scoping Study Update (February 2025) for the mine site and associated facilities includes the following items. All are at scoping-level design and cost accuracy.

- Access road — upgrade and/or construction of site access from County Road 720.
- Fresh water well — to supply potable water and process water at the mine site.
- Powerline — connection from the existing 46 kV substation on Highway 34 to the mine site.
- Process plant — two-site configuration: mine site component (comminution and concentration) plus offsite Refinery component (extraction, impurity removal, and separation/finishing).
- Buildings — administration/technical services, warehouse, dry/change room, and maintenance building at the mine site.
- Temporary Waste Rock Depository (WRSF) on-site temporary storage for material below the mining cut-off grade.
- Manufactured Sand Byproduct Storage (SBS) a lined pile stabilized by cement and waste rock of the mill sand byproduct.

14.2.1 Process Plant — Two-Site Configuration

The proposed process plant is divided between two sites: a mine-site comminution and concentration plant at the CSM, and a refinery (hydrometallurgical plant) located near Wheatland, or Laramie Wyoming. The mine-site plant reduces ROM mineralized material to less than 0.3 mm (300 micron) and concentrates the TREO content approximately ten-fold before trucking concentrate to the Wheatland or Laramie Refinery. The refinery carries out acid leaching, impurity removal, and solvent extraction to produce finished rare earth oxide products. Both plant sites are at scoping level of design only.

14.2.2 Waste Rock Storage Facility

A temporary WRSF is included in the pre-production plan and capital cost estimate. Detailed WRSF design is explicitly excluded from the Stantec Scoping Study as beyond the level of a Scoping Study. No reclamation designs or costs have been prepared for the WRSF at this stage.

14.2.3 Manufactured Sand Byproduct Storage

14.2.3.1 Plant Sand Byproduct Dewatering, Handling, Temporary Storage, and Placement

Sand byproduct streams generated from the WHIMS, RCC coarse, RCC fine, and IRMS circuits will be combined in a common sump and pumped to a cyclone bank for initial classification. The cyclone circuit will separate the coarser solids from the finer solids and process water. Cyclone underflow will discharge to a mixing box and be combined with thickener underflow prior to dewatering on a horizontal belt filter. Cyclone overflow will report to the thickening circuit for solids recovery and water clarification, with clarified water returned to the plant water system.

The dewatering circuit will include a 194 m² Jord Viper horizontal belt filter, vacuum pumps, filtrate and effluent handling equipment, and associated tanks located within a dedicated filter building. The building will house the filter and vacuum equipment and include a 10-ton overhead crane for routine maintenance. The filter will dewater the combined sand byproduct stream to a target moisture content suitable for truck haulage and placement in the temporary stockpile.

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Dewatered filter cake will discharge from the horizontal belt filter to a conveyor system feeding a 150-ft radial stacker. The stacker will build a temporary live-storage pile above a concrete reclaim tunnel. Tunnel feeders and a reclaim conveyor will transfer the material to two truck-loading hoppers for transport to the temporary sand byproduct stockpile. This arrangement will provide surge capacity between continuous plant operation and intermittent truck haulage.

When the upper surface of a placement lift is completed, or when an inactive surface requires stabilization, dry Portland cement will be metered into the damp sand byproduct on the reclaim conveyor prior to truck loading. Two 100-ton cement silos equipped with feeders are planned to supply cement at an assumed dosage of approximately 2% by mass. Cement addition is intended to improve near-surface stability, reduce infiltration, and minimize fugitive dust generation from exposed inactive placement areas.

14.2.3.2 Sand Byproduct Transport and Temporary Placement

Dewatered sand byproduct will be hauled by truck from the loading hoppers to the temporary stockpile. Placement will be managed to maintain the material at or below the target placement moisture and limit exposure to standing water. Trucks will generally end-dump the material, and low-ground-pressure dozers will spread the sand byproduct in approximately 10-m lifts. Compacted sand byproduct is assumed to have an average placed density of approximately 1.85 metric tonnes per cubic meter (approximately 115 lb/ft^3).

ROM waste rock will be placed concurrently with the dewatered sand byproduct, where required, to establish haul roads, buttress exterior slopes, and protect exposed slope faces from erosion and operational impacts. Waste-rock haul roads will be advanced ahead of sand byproduct placement within each lift to maintain access for trucks, dozers, and supporting mobile equipment.

14.2.3.3 Stockpile Surface Stabilization and Water Management

Inactive placement areas will be graded and compacted to limit ponding, reduce infiltration, and minimize the potential for fugitive dust. Cement-treated upper lift surfaces will be compacted using a smooth-drum roller. The stockpile crest will be graded to direct runoff away from exterior slopes. Perimeter ditches will divert non-contact runoff around the facility and route contact water to temporary collection ponds. Standing water will not be allowed to remain on the stockpile surface during normal operations.

14.3 Pre-Production Development Timeline

Process facilities (Refinery component) are estimated to require three years to be constructed, initiating the pre-production schedule in Year −3. Mining facilities and associated mine site infrastructure are estimated to take less than one year of construction and are expected to be completed by Year −1, with equipment available in Year 0.

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15 MARKET STUDIES AND CONTRACTS

15.1 Overview of Rare Earth Elements

Rare earth elements (REEs) comprise 17 elements: the 15 Lanthanides, Yttrium, and Scandium. REEs have unique chemical and physical properties and are essential components of many high-technology products, including smartphones, electric vehicles, wind turbines, and military equipment. REEs are used in minimal quantities but provide essential functionality in their applications. Rare earth mineral production is geographically constrained, with approximately two-thirds of global production occurring in China and approximately 20% in the United States and Australia. Processing of REEs is further constrained: most refining occurs in China, and some elements are processed exclusively in China. China has recently banned exports of certain rare earth processing technologies, threatening the near-term growth of processing facilities elsewhere. China's dominance has led several countries to incentivize domestic production, primarily in Australia, Canada, and the United States. With a small market and geographically constrained production, REE prices can be volatile. Commodity price assumptions and detailed economic analysis are presented at the Scoping level in Chapter 18. No existing offtake agreements are currently in place.

15.2 Neodymium and Praseodymium (NdPr)

15.2.1 Supply

The global supply of Neodymium (Nd) and Praseodymium (Pr) is dominated by China, which accounts for approximately 80% of global mine production and 90% of rare earth refining capacity. Major sources of NdPr production outside China include the Mountain Pass mine in California and the Mount Weld mine in Western Australia. Both operations have contributed to increased rare earth supply outside China; however, downstream separation and refining capacity remains comparatively concentrated in China. Mountain Pass produced separated NdPr oxide domestically beginning in late 2023 and continues to expand U.S. processing capacity.

China has periodically implemented export quotas, taxes, and other trade measures that have influenced global rare earth supply and pricing. Government support and private investment are expected to increase ex-China mining, separation, and refining capacity, particularly in the United States, Australia, Canada, and Europe. Nevertheless, China is expected to remain the dominant supplier of separated NdPr and other rare earth products for the foreseeable future.

15.2.2 Demand

Global demand for Nd and Pr is driven principally by their use in permanent magnets, widely employed in defense, alternative energy, automotive, and consumer electronics. Nd and Pr are the primary components of NdFeB magnets — the strongest and most efficient permanent magnet type commercially available. The International Energy Agency (IEA) forecasts that demand for Neodymium will nearly double over the next 25 years based on global renewable energy and electric vehicle adoption targets (IEA 2023). Growth in battery electric vehicles (BEV), robotics, advanced air mobility, and defense are the principal demand drivers.

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15.3 Terbium and Dysprosium (Tb/Dy)

Terbium (Tb) and Dysprosium (Dy) occur in small but potentially profitable quantities at Halleck Creek. Tb and Dy are important components of NdFeB permanent magnets used in BEV and hybrid vehicle (HV) motors, providing heat resistance that maintains magnet performance. BEV and HV motors use 1.8 kg to 5.5 kg of REEs depending on design. Tb is also used in solid-state devices, lighting, and actuators; Dy in nuclear reactor control rods.

The heavy rare earth element (HREE) supply base remains heavily concentrated in China. The permanent magnet sector is expected to continue relying on China for Dy and Tb in the short to medium term, as there is a worldwide shortage of advanced HREE projects.

15.4 Key Takeaways from Rare Earth Market Outlook for Halleck Creek by Adamas Intelligence

From 2025 through 2040, Adamas forecasts that global TREO demand for permanent magnets will rise at a CAGR of 8.4%, boosted by strong demand growth from electric vehicles, robotics, advanced air mobility and other applications of NdFeB magnets.

Over the same period, Adamas forecasts that global production of Neodymium, Praseodymium, Dysprosium and Terbium (the so-called magnet rare earths) will collectively increase at a slower CAGR of 7.8% as the supply side of the market increasingly struggles to keep up with rapidly growing demand.

Post-2026 Adamas forecasts that the global rare earth industry will consistently underproduce Neodymium, Praseodymium, Dysprosium and Terbium oxides (or oxide equivalents), resulting in the depletion of historically accumulated inventories and, ultimately, shortages of these critical magnet materials if supply is not increased beyond levels currently anticipated.

The Halleck Creek project basket offers a high degree of economic exposure to the rare earth permanent magnet sector, which is the fastest-growing end-use category and most in need of additional rare earth supplies, according to Adamas Intelligence. In all scenarios examined, Adamas projects that magnet rare earths will collectively drive over 85% of the Halleck Creek project basket value each year from 2031 to 2040.

In its Base Case scenario, Adamas forecasts that the Halleck Creek TREO basket value will total $44.49 per kilogram in 2031 and will increase to $58.37 per kilogram in 2034 then gradually decline to $52.65 per kilogram by 2040, led by comparable movements in magnet rare earth prices.

In the near-term, China's ongoing export restrictions are wreaking havoc on global supply chains and have galvanized efforts to develop alternative sources of supply, from mine to magnet.

However, Adamas believes that availability of heavy rare earths could soon become a major constraint to scaling NdFeB production in the U.S., Europe and elsewhere unless multiple new sources of supply are developed by the end of the decade, and in the decade to follow.

American Rare Earths' Halleck Creek project in Wyoming has potential to become a material supplier of Dysprosium and Terbium, as well as Neodymium and Praseodymium (collectively "NdPr"), to existing and emerging magnet makers in the U.S., Europe, Japan and South Korea that would value the provenance and transparency of the supplies.

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Greater availability of Dysprosium and Terbium outside China will unlock the business case for rapidly scaling NdFeB magnet production – essential for automotive, robotics, advanced air mobility, defense and other fast-growing industries.

In addition to the four critical magnet rare earths, Adamas also sees growing demand for new sources of Samarium, Gadolinium, Yttrium and Lutetium oxide in the U.S., Europe and elsewhere, and potential for emerging alternative suppliers of it to secure significantly higher prices than Chinese benchmark levels.

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16 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

16.1 Environmental Baseline Status

ARR acquired exploration drilling notices from the Wyoming Department of Environmental Quality, Land Quality Division (WDEQ-LQD) for all drilling activities performed to date. ARR keeps these drilling notices current and performs timely drill site reclamation as part of all exploration programs. ARR developed a permitting needs assessment with local environmental consultants to identify comprehensive environmental baseline studies required to permit a mining operation at Halleck Creek. ARR's consultants presented this assessment to the WDEQ-LQD and the Wyoming Game and Fish Department (WGFD). Following discussions with these agencies, ARR's consultants commenced preliminary environmental baseline data collection in the CSM area. The following baseline data collection activities have been undertaken:

- Preliminary Consultation with WDEQ-LQD — Complete
- Preliminary Consultation with WGFD (Game and Fish) Complete
- Soil — Desktop and Field Studies — Complete
    - Soil geology mapped within exploration drilling sumps
- Vegetation — Desktop and Field Studies
    - Monthly growing season updates — Complete ◦ Noxious weed and threatened/endangered species surveys — Complete; none found ◦ Quantitative vegetation sampling — Complete
- Wildlife — Desktop and Field Studies
    - Migratory bird and general wildlife surveys — Complete ◦ Reptile and amphibian survey — Complete
- Wetland Assessment
    - Mesic (marshy) areas dried up following repair of drains to stock tanks at Red Mountain Ranch ◦ Aquatic Resources Report completed and submitted to USACE ◦ USACE provided approval letter of Jurisdictional Determination
- Hydrology
    - Preliminary field survey — Complete ◦ Monitor well drilling plan updated; monitor well drilling — Complete
    - Surface water sampling plan prepared ◦ Water management: Wyoming Rare engineering water control systems targeting zero discharge; detailed site-wide water management studies in progress

16.2 Permitting Framework

Because the CSM resides on Wyoming State mineral leases, the WDEQ is the primary regulatory and permitting agency for the Project. Wyoming Rare is actively preparing a permit to mine application for the WDEQ-LQD, engaging WWC Engineering of Sheridan, Wyoming to compile baseline environmental data and prepare the application. This work is ongoing. The following agency lists are not exhaustive; additional permits and certifications will be required prior to the commencement of operations.

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16.2.1 Wyoming State Permitting Agencies

- Wyoming Department of Environmental Quality (WDEQ)
    - Land Quality Division (LQD): Regulates land use, exploration, and mining ◦ Industrial Siting Division (ISD): Regulates large industrial projects ◦ Air Quality Division (AQD): Regulates air quality ◦ Water Quality Division (WQD): Regulates water quality ◦ Solid and Hazardous Waste Division (SHWD): Regulates solid and hazardous waste.
- State Engineers Office (SEO): Regulates state water resources, groundwater, and water allocations.
- Wyoming Game and Fish Department (WGFD): Oversees impacts on state wildlife.
- Office of State Land and Investments (OSLI): Oversees use of Wyoming State Lands, including mineral leases for the CSM.
- State Historic Preservation Office (SHPO): Oversees and catalogs cultural and historic resources.
- State Fire Marshall (SFM): Oversees fire regulations and safety requirements.

16.2.2 Federal Permitting Agencies

- US Army Corps of Engineers (USACE): Regulates Waters of the United States (WOTUS).
- US Fish and Wildlife Service (USFWS): Works with WGFD regarding at-risk species.
- Wyoming Department of Environmental Quality – Land Quality Division (WDEQ-LQD), Source Materials Program: WDEQ-LQD administers Wyoming's Source Materials Program under the State's NRC Agreement State authority and regulates applicable source-material activities involving Uranium and Thorium. Because Halleck Creek mineralization contains naturally occurring Uranium and Thorium that may become concentrated through mineral processing, the applicability and specific requirements of source-material licensing will be evaluated as the process flowsheet and material-handling plans advance. The U.S. Nuclear Regulatory Commission (NRC) retains federal oversight of Wyoming's Agreement State program.

16.2.3 Local Permitting

- Albany County and Platte County planning and zoning (as applicable to site areas).
- Wheatland Irrigation District (Wheatland Refinery site).

16.3 Environmental Management and Mine Closure

At this stage of development, no detailed mine closure and reclamation plan has been completed. As part of the WDEQ-LQD mine permitting process, the Project will be required to develop reclamation and closure plans and establish financial assurance sufficient to cover applicable reclamation and closure obligations. The amount and form of financial assurance will be established through the permitting process based on the approved mine and reclamation plans.

The Scoping Study is limited to a small portion of the total resource area and is assumed to have a much longer mine life than the 26-year Scoping Study period. Plans contemplate contemporaneous reclamation within operating expenditure to minimize future closure costs. The CSM plan incorporates sand byproduct storage and eventual backfilling of open pits with gangue material collected during physical separation as components of the scoping-level closure and reclamation design concept.

If a Source Material Disposal Facility (SMDF) or other regulated source-material management facility is required, additional closure, reclamation, long-term care, and financial assurance requirements may apply

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under the WDEQ-LQD Source Materials Program. The design, regulatory classification, closure requirements, and associated financial assurance for any such facility have not yet been established and will depend on the results of ongoing process development, material characterization, and permitting activities.

16.4 Social and Community Impact

At this stage of project development, no social impact studies have been completed. ARR plans to engage and employ local contractors and operators throughout the Project's permitting, construction, and operation phases as much as possible. Specialized contractors may be required from outside the immediate region but will be encouraged to prioritize local employment wherever possible. No definitive community engagement plans have been established at the current project stage. A community needs assessment and community engagement framework are recommended for development in the next study stage.

16.5 Competent Person's Opinion

It is the Competent Person's opinion that planning for environmental baseline studies and permitting is adequate for a project at this early stage of development. (Source: Stantec Scoping Study Update, Feb 2025, Competent Person's opinion statement.)

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17 CAPITAL AND OPERATING COSTS

This chapter presents the Scoping Study level estimates of capital and operating costs for the Halleck Creek Rare Earth Project. Estimates were developed using scoping-to-preliminary engineering study data, mining cost handbook references (Costmine Mining Cost Service), analogous rare earth and hydrometallurgical project benchmarks, and vendor budgetary quotations where available. Estimate accuracy is consistent with a Scoping Study (approximately ±30 to ±50%), supported by a 30% contingency applied to direct capital. Values are stated in constant Q1 2026 United States Dollars (USD) unless otherwise noted. No escalation is applied over the modeled operating life. All cost estimates support the reasonable-prospects-for-eventual-economic-extraction (RPEEE) demonstration for the Ore Resource (Chapter 10); they do not constitute a Pre-Feasibility Study or Feasibility Study, and no Ore Reserves are declared.

17.1 Basis of Estimate

The capital and operating cost estimates presented herein reflect an owner-operated open-pit mining operation incorporating a two-stage processing strategy. Mineral comminution and concentration are assumed to occur at the mine site in the central Laramie Range, followed by hydrometallurgical processing — including extraction, impurity removal, solvent extraction, and product finishing — at a proposed refinery near Wheatland or Laramie, Wyoming.

The estimates have been developed using methodologies appropriate for a Scoping Study and generally consistent with AACE Class 4 to 5 accuracy. Mining capital and operating costs were developed using Costmine handbook data for conventional truck-and-shovel open-pit operations and benchmarked against comparable shallow, low-strip-ratio operations in the western United States. Mine-site processing capital and operating costs were developed from vendor budgetary quotations, factored-equipment cost curves, and reagent consumption established through bench-scale metallurgical testing. Refinery capital and operating costs were estimated using factored-cost methods referenced to comparable rare earth hydrometallurgical projects and represent the largest single source of cost-estimation uncertainty in the current study; the sensitivity analysis in Section 18.6 confirms this, with processing operating cost and processing capital cost ranking as the fourth and fifth most influential variables on after-tax NPV.

Closure costs of approximately US$56 million are included in the Base Case operating costs and are expended in the final year of the modeled mine plan Sustaining capital, including equipment replacement and Phase 2 and Phase 3 pit development, is included in the unit operating rates and is not presented as a separate line item. These estimates will be refined during subsequent engineering and study stages.

A 30% contingency has been applied to initial direct capital cost items. No contingency has been applied to the closure provision. All estimates are expressed in U.S. dollars. Because revenues, costs, and taxes used in the economic analysis are denominated in U.S. dollars, no foreign-exchange assumptions are required.

17.2 Initial Capital Cost Estimate

Initial capital expenditure to construct the Project is estimated at approximately US$900.8 million, including a 30% contingency applied to direct capital, refer to Table 17-1. The estimate reflects the expanded design basis relative to earlier scoping-study work — specifically, an increased design throughput of 4.5 million

tonnes per annum (Mtpa) of run-of-mine (ROM) mineralized material, a two-location processing configuration, and more detailed engineering of the refinery circuit. Capital drawdown is assumed at 15% in Year −3, 35% in Year −2, and 50% in Year −1 of the three-year construction program, with first mineralized material in Year 0.

Closure costs of US$55.9 million, comprising US$30.9 million of mine closure and US$25.0 million of refinery waste disposal closure, are estimated separately, are expended in the final year of the mine plan, and are included in life-of-Project operating costs (Section 17.3), consistent with the economic model. No contingency has been applied to the closure provision. Total life-of-Project capital cost is therefore US$900.8 million. The estimate excludes sustaining capital and owner's costs beyond typical pre-production engineering and administration, both of which will be developed at the next stage of study.

Table 17-1. Initial Capital Cost Summary

Capital Cost Category	USD (M)	% of Initial	Notes
Mining Capital	55.0	6.1%	Mobile fleet and ancillary equipment
On-Site and Refinery Processing (Grinding + Concentration + Extraction + Separation)	546.7	60.7%	VRM, WHIMS, magnetic and gravity circuit, solvent extraction, purification, finishing.
Refinery Waste Disposal Initial Capital	25.0	2.8%	Refinery Waste Disposal
Sand By-product Stockpile	21.2	2.4%	
Electric Infrastructure	25.0	2.8%	
Water Infrastructure	20.0	2.2%	
Sub-Total Direct Capital	**692.9**	**76.9%**	**Contingency Bearing Items**
Contingency	207.9	23.1%	Applied to Direct Capital
Total Initial Capital	**900.8**	**100.0%**	**Expended over 3-year construction period**

Notes: Capital costs exclude sustaining capital, indirect, EPCM, owners' costs and working capital, which has not been estimated and will be developed at the pre-feasibility stage. Contingency of 30% is applied to direct capital only; no contingency is applied to the closure provision. Initial capital drawdown is assumed at 15% in Year −3 (US$135.1 M), 35% in Year −2 (US$315.3 M) and 50% in Year −1 (US$450.4 M) of the three-year construction program, with first mineralized material in Year 0. Closure costs (US$55.9 M) are expended in the final year of the mine plan and are reported within operating costs (Table 17-3). Percentages may not sum precisely due to rounding.

17.3 Operating Cost Estimate

Life-of-project operating cost is estimated at approximately US$4,618 million, including closure costs, on an undiscounted basis across the 26 years of modeled production, equivalent to an average life-of-project operating cost of approximately US$39.68 per tonne of ROM material processed.

The unit operating costs presented in Tables 17-2 to 17-4 are driven exclusively by ROM tonnes processed, and total approximately US$30.25 per tonne of ROM, or approximately US$3,520 million over the life of the Project — some 76.2% of total operating cost. Within this ROM-driven component, downstream hydrometallurgical processing (extraction, impurity removal, and separation and finishing) is the largest element, reflecting the reagent-intensive nature of rare earth separation and refining; reagents alone account for approximately 49.9% of life-of-project operating cost across all functional areas. Mine-site grinding and concentration contribute approximately US$3.79 per tonne of ROM.

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Five further cost streams sit outside the ROM basis and are driven by their own physical quantities:

Mining is estimated at US$5.47 per tonne of total mined material, applied to mineralized material tonnes plus waste tonnes rather than to ROM tonnes alone. Over a life-of-project total of 135.0 million tonnes mined — 116.4 Mt of mineralized material and 18.7 Mt of waste at a strip ratio of 0.16:1 — this amount to approximately US$739 million, or approximately US$6.35 per tonne of ROM equivalent. The Project's low strip ratio and near-surface mineralization keep this component modest relative to the processing stack.

Sand by-product handling and stockpiling is estimated at US$2.00 per tonne of processed by-product. By-product tonnage is modeled at 94% of ROM tonnes processed, giving 109.4 million tonnes and a life-of-project cost of approximately US$219 million, or approximately US$1.88 per tonne of ROM equivalent.

Refinery waste disposal is estimated at US$4.50 per tonne of refinery waste. Refinery waste is modeled at a fixed rate of 890 tonnes per day, giving 8.5 million tonnes and a life-of-project cost of approximately US$38 million, or approximately US$0.33 per tonne of ROM equivalent.

Water supply is modeled as two fixed annual costs, each scaled by an annual utilization ratio rather than by throughput. Mine-site water is estimated at US$1,340,000 per year at full utilization, averaging approximately US$1.33 million per year over the life of the Project and totaling approximately US$35 million. Hydrometallurgical facility water is estimated at US$500,000 per year at full utilization, averaging approximately US$0.45 million per year and totaling approximately US$12 million. Together, these represent approximately US$0.40 per tonne of ROM equivalent.

Closure costs are modeled as lump sums in the final year of the mine plan (Year 25, calendar year 2056) and comprise US$30.9 million for mine closure and US$25.0 million for refinery waste disposal closure, totaling US$55.9 million, or approximately US$0.48 per tonne of ROM equivalent. No contingency has been applied to the closure provision.

Table 17-2. Operating Cost Summary

Cost Category	Unit	Unit Cost	Life-of-Project Total (USD M)
Grinding	USD/t ROM	~1.36	158
Concentration	USD/t ROM	~2.43	282
Extraction	USD/t ROM	~7.52	875
Impurity Removal	USD/t ROM	~5.55	645
Separation and Finishing	USD/t ROM	~7.20	837
Infrastructure	USD/t ROM	~4.00	465
Product Packaging	USD/t ROM	~0.04	5
Other	USD/t ROM	~2.15	250
Total Operating Costs	USD/t ROM	~30.25	3,520

Notes: Unit operating costs in this table are driven by ROM tonnes processed and are expressed on a ROM tonne basis. They exclude mining, sand by-product handling, refinery waste disposal, and water supply, each of which is driven by a separate physical quantity and is presented in Table 17-3. They also exclude royalties and production levies, which are reported separately in Section 18.4. Processing costs encompass both on-site (grinding, dense media/WHIMS concentration and leaching) and off-site refinery (solvent extraction, separation, and finishing) components.

Table 17-3. Operating Costs Not Driven by ROM Tonnes Processed

Cost Category	Cost Driver	Unit	Unit Cost	LoM Total	Total (USD M)
Mining	Mineralized material tonnes mined + waste tonnes mined	USD/t mined	~5.47	135.0 Mt	739
Sand By-Product Stockpile	Processed by-product tonnes (94% of ROM)	USD/t by-product	~2.00	109.4 Mt	219
Refinery Waste Disposal	Refinery waste tonnes (890 t/day)	USD/t refinery waste	~4.50	8.5 Mt	38
Water – Mine Site	Fixed annual cost, adjusted for utilization	USD/year	1,340,000	26 yrs @ 99.5% avg. util.	35
Water – Hydrometallurgical Facility	Fixed annual cost, adjusted for utilization	USD/year	500,000	26 yrs @ 89.9% avg. util.	12
Closure (Mine Closure + Refinery Waste Disposal Closure)	Lump sum in final year of mine life	USD	30.9 M + 25.0 M	Year 25 (2056)	56
Total Operating Costs Not Driven by ROM Tonnes					**1,098**

Notes: The cost streams in this table are each driven by a physical quantity other than ROM tonnes processed and are therefore excluded from Table 17-2. Mining cost is applied to total material mined (116.4 Mt of mineralized material plus 18.7 Mt of waste, a strip ratio of 0.16:1). Sand by-product tonnage is modeled at 94% of ROM tonnes processed and refinery waste tonnage at a fixed 890 tonnes per day. Water costs are fixed annual amounts scaled by an annual utilization ratio rather than by throughput; the quantities shown are the life-of-Project average utilization. Closure costs are lump sums expended in the final year of the mine plan, with no contingency applied. Costs exclude royalties and production levies, which are reported separately in Section 18.6.

Table 17-4. Reconciliation of Total Life-of-Project Operating Costs (Q1 2026 USD)

Component	Total (USD M)	USD/t ROM
ROM-driven operating costs (Table 20-2)	3,520	~30.25
Operating costs not driven by ROM tonnes (Table 20-3)	1,098	~9.43

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Component	Total (USD M)	USD/t ROM
Total Life-of-Project Operating Costs	**4,618**	**~39.68**

Notes: Totals may not sum precisely due to rounding. USD/t ROM figures are expressed on a common basis of 116.4 Mt of ROM material processed over the 26 years of modeled production and are provided for comparison only; the underlying cost drivers are as stated in Tables 17-2 and 17-3.

17.4 Reagents and Consumables

Principal reagent consumption and associated processing operating costs are dominated by sulfuric acid for leaching, Magnesium oxide for primary and secondary neutralization, organic extractants (PC88A) for rare earth solvent extraction, and oxalic acid for product precipitation. Reagent unit-cost assumptions were derived from published industry sources and vendor quotations current to Q1 2026. No credit has been applied in the operating-cost estimate for reagent recovery through internal recycle streams, particularly acid regeneration. Potential reagent recovery therefore represents an opportunity for operating-cost reduction during subsequent process optimization and engineering.

17.5 Estimate Accuracy and Contingency

The estimates presented herein are appropriate for a Scoping Study and support the RPEEE determination for the Mineral Resource; they should not be relied upon as definitive project economics. Mine capital, mine-site processing capital, and mining operating costs are supported by comparatively mature engineering inputs. Refinery capital and downstream processing operating costs carry the largest individual estimation uncertainty and remain principal targets for refinement during subsequent engineering and study stages.

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18 ECONOMIC ANALYSIS

This chapter presents the Scoping Study-level economic analysis of the Halleck Creek Rare Earth Project. The analysis is prepared to inform readers of the estimated economic potential of the Project at its current stage of study. It does not constitute a Pre-Feasibility Study or Feasibility Study, and no Ore Reserves are declared. Mineral Resources are not Ore Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resource will be converted into an Ore Reserve. The economic analysis presented herein has been prepared in accordance with the JORC Code (2012) requirements applicable to a Scoping Study.

18.1 Caution Regarding the Use of Inferred Mineral Resources

The economic analysis presented in this Scoping Study is based on a production schedule comprising Indicated Mineral Resources only. No Inferred Mineral Resources are included as ore in the production schedule or economic analysis. Material classified as Inferred occurring within the designed pits is treated as waste.

Inferred Mineral Resources are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Ore Reserves. Mineral Resources that are not Ore Reserves do not have demonstrated economic viability.

18.2 Principal Assumptions

The economic evaluation is presented in constant first-quarter 2026 USD, with no escalation applied to costs or revenues over the modeled life of the Project. The evaluation assumes an owner-operated open-pit mining operation and a two-stage processing configuration consisting of mine-site comminution and mineral concentration followed by hydrometallurgical processing at a proposed refinery near Wheatland, or Laramie Wyoming. The Base Case assumes a processing rate of 4.5 Mtpa of run-of-mine material.

The economic model is constructed on an annual basis and includes a three-year construction period (Years −3 through -1), first mining production in Year 0 (calendar year 2031), commercial production beginning in Year 0 (calendar year 2031), and 26 years of active mining through Year 25 (calendar year 2056), resulting in a total modeled project life of 29 years.

Capital cost estimates are consistent with a SS level of study and have an estimated accuracy range of approximately ±30% to ±50%. A contingency of ~30% has been applied to initial direct capital costs. Approximately US$56 million of closure costs, primarily associated with closure-related activities, are included in base-case operating costs and occurs in the final year of the modeled mine plan.

Operating costs were developed using Costmine Mining Cost Service data, budgetary quotes, analogous rare earth project benchmarks, vendor information, and preliminary engineering estimates, with unit costs expressed on a run-of-mine tonne basis.

Project revenues are calculated from annual saleable production and constant realized product prices expressed in USD per kilogram. No off-take discounts have been modeled; actual realized prices will depend

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on future commercial negotiations and market conditions. A real, after-tax discount rate of 8.0% has been adopted for the base case, with results at a 10.0% discount rate also presented for comparison.

The economic analysis assumes the current U.S. federal corporate income tax rate of 21%, with no Wyoming state corporate income tax. Taxable income reflects applicable depreciation, amortization, and depletion allowances, including a 14% depletion allowance consistent with applicable U.S. Internal Revenue Code provisions for qualifying critical mineral producers, subject to the statutory limitation of 50% of net taxable income in any given year.

The base case does not include the potential benefit of the Inflation Reduction Act Section 45X Advanced Manufacturing Production Tax Credit, representing potential project upside. A sensitivity case incorporating the credit is presented separately within the economic analysis; actual eligibility and potential benefit will depend on applicable regulatory requirements and project configuration.

The economic model is limited to Mineral Resources within the CSM area and includes both Indicated and Inferred Mineral Resources. All mineralized materials mined in the mining schedule fall into the Indicated Resource category. No Inferred Mineral resources were included as ore; it was treated as waste.

18.3 Product Recoveries and Pricing

Four REO products are modeled for revenue generation in the base case: Neodymium-Praseodymium oxide (NdPr), Terbium oxide (Tb_4O_7), Dysprosium oxide (Dy_2O_3), and Samarium-Europium-Gadolinium (SEG) mixed oxide concentrate. Lanthanum recovery is included in the process flowsheet (Chapter 9) but excluded from base-case revenue given current market conditions; Lanthanum carbonate remains a potential upside product, refer to Tables 18-1 and 18-2. Recovery assumptions are drawn from the current test work program (SGS Lakefield) and are consistent with the two-stage processing configuration. Ongoing metallurgical work is expected to refine recoveries at the pre-feasibility stage.

Table 18-1. Product Recovery and Life-of-Project Average Annual Production

Product	Recovery to Product	Average Annual Production
Neodymium-Praseodymium Oxide	58.2%	2,495.9 tonnes/yr
SEG Oxide	25.8%	265.1 tonnes/yr
Terbium Oxide	28.7%	15.9 tonnes/yr
Dysprosium Oxide	12.4%	31.7 tonnes/yr

Notes: Recoveries are applied to contained PREO in mineralized material. Recovery of Lanthanum is excluded from base-case revenue given current market conditions. Ongoing test work at SGS Lakefield may result in updated recovery assumptions at the pre-feasibility stage.

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Table 18-2. Product Pricing Scenarios (USD/kg, Western CIF)

Product	Floor	Downside	Base Case	Upside
NdPr Oxide	110.00	128.73	151.00	172.14
SEG Oxide	21.95	21.95	27.37	32.97
Terbium Oxide (Tb4O7)	1,680.00	1,680.00	1,975.20	2,500.00
Dysprosium Oxide (Dy2O3)	453.69	453.69	533.80	675.00

Notes: The base case is the selected scenario for the financial results reported in this chapter. Floor and Downside prices for Tb, Dy, and SEG are identical; NdPr reflects a price-floor assumption applied in the model for this product. NdPr oxide accounts for approximately 87.1% of total life-of-project revenue and is the dominant value driver.

Product pricing was derived from Adamas Intelligence's independent Rare Earths Market Outlook for Halleck Creek and are the average of the 2031-2040 pricing profiles. All prices are quoted USD/kg on a Cost, Insurance, Freight (CIF) basis and held constant across the modeled operating life. Four scenarios were defined to capture a range of market outcomes.

18.4 Royalties and Taxation

The Project is subject to Wyoming state royalties, severance and ad valorem levies, and U.S. federal income tax. Total royalties, levies, and federal income tax over the modeled operating life are estimated at approximately US$1.59 billion.

Table 18-3. Royalty and Tax Framework

Levy/Tax	Rate	Basis	Life-of-Project Total (USD M)	Notes
Wyoming State Royalty	5–10%	Gross Revenue	751.8	Minimum basis: $0.50/t saleable
Wyoming Severance Tax	2%	Net Proceeds × Direct Cost Ratio	19.0	Wyoming state levy
Albany County Ad Valorem Tax	7%	Net Proceeds × Direct Cost Ratio	66.4	County levy
Industrial Property Tax	0.875%	Book value of processing plant	18.1	Applied during depreciation period
Total Royalties and Levies			855.3	
Federal Corporate Income Tax	21%	Net taxable income after depletion	736.5	Wyoming has no state income tax
Total Royalties, Levies, and Federal Income Tax			1,591.8	

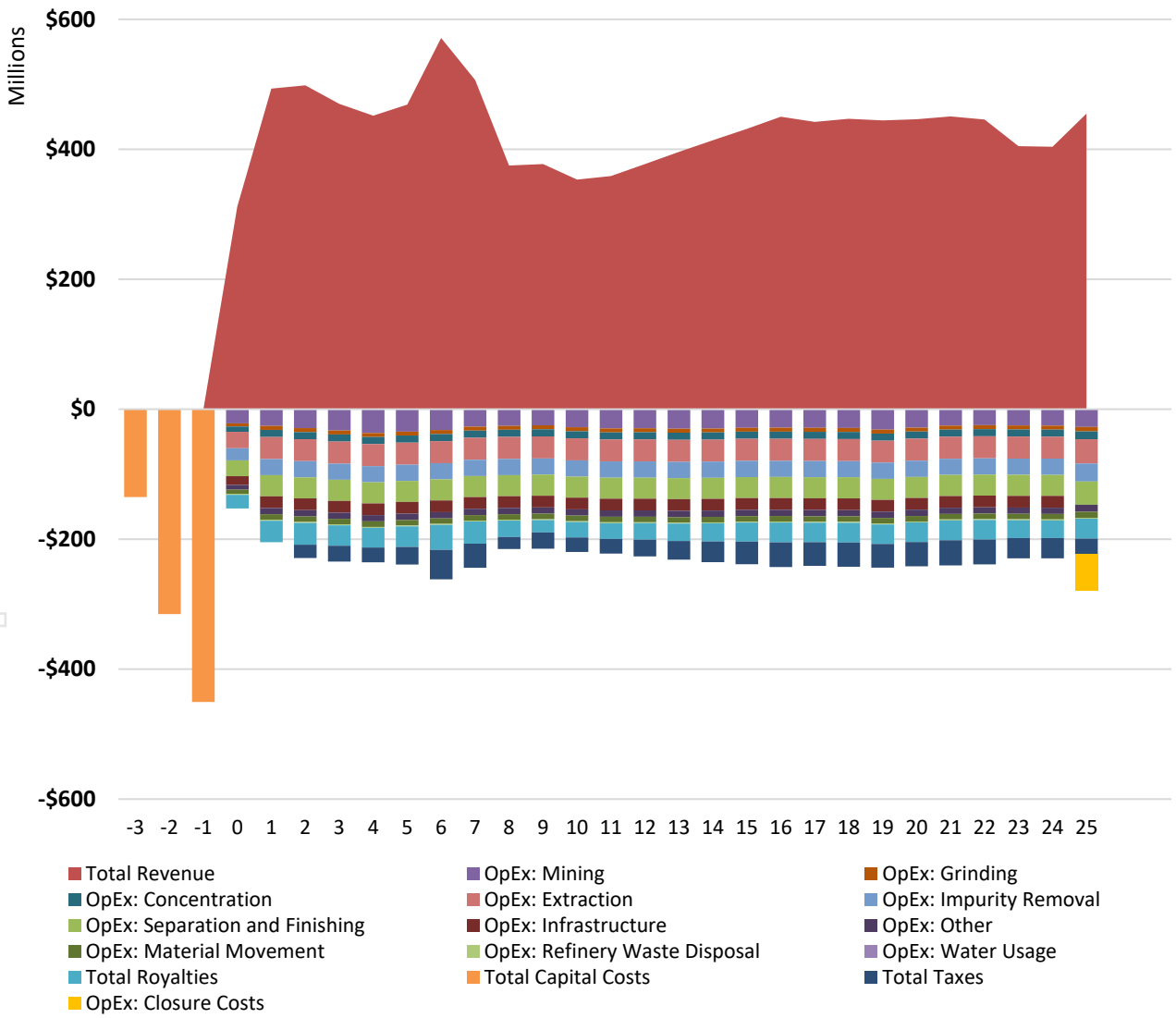
Notes: The Wyoming State Royalty is a sliding scale of 5-10% resulting in approximately 7% of NdPr gross revenue (5% for other products) or $0.50 per saleable tonne processed, applied on a year-by-year basis. Federal corporate income tax is computed after permitted depreciation, amortization, and depletion allowances.

18.5 Financial Summary

The economic model yields the pre-tax and after-tax cash flows and financial indicators summarized in Table 18-4 through Table 18-7. After-Tax Project Economics (Base Case). At the base-case commodity prices and cost assumptions and stated in constant Q1 2026 U.S. dollars on an unescalated basis, the Project generates an after-tax Net Present Value (NPV) of approximately US$1,073 million at an 8.0% discount rate, an after-tax Internal Rate of Return (IRR) of approximately 20.7%, and an after-tax payback period of approximately 6.9 years from first capital expenditure. On a pre-tax basis, the Project generates an NPV of approximately US$1,297 million at the same discount rate, an IRR of approximately 22.3%, and a payback period of approximately 6.8 years. Undiscounted after-tax free cash flow over the life of the Project totals approximately US$4,135 million.

These indicators are consistent with, and corroborative of, the CP's determination in Chapter 10 that the Mineral Resource has reasonable prospects for eventual economic extraction, based on the technical and cost inputs used in this study.

Figure 18-1. Project Cash Flow (USD M)



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Table 18-4. Project Overview

Parameter	Unit	Value
Mine Plan Life	years	26
Processing Rate (ROM)	Mtpa	4.5
Total Mineralized Material Mined (Life of Project)	Mt	116.4
Total Material Movement	Mt	135.0
Life-of-Project Strip Ratio	t:t	0.16
Construction Period	years	3

Table 18-5. Product Pricing and Revenue Mix (Base Case, Life of Project)

Product	Price (USD/kg)	Revenue (USD M)	% of Revenue
NdPr Oxide	151.00	9,798.8	87.14%
SEG Oxide	27.37	188.7	1.68%
Terbium Oxide (Tb4O7)	1,975.20	817.6	7.27%
Dysprosium Oxide (Dy2O3)	533.80	439.7	3.91%
Total Revenue		11,244.8	100.0%

Table 18-6. Before-Tax Project Economics (Base Case)

Metric	Unit	Value
Total Revenue (Life of Project)	USD M	11,245
Total Operating Cost (Life of Project)	USD M	4,618
EBITDA (Life of Project)	USD M	5,772
NPV @ 8%	USD M	1,297
NPV @ 10%	USD M	939
Internal Rate of Return (Pre-Tax)	%	22.3
Payback Period (Pre-Tax)	years	6.8

Table 18-7. After-Tax Project Economics (Base Case)

Metric	Unit	Value
Net Annual Cash Flow (Life of Project)	USD M	4,135
Federal Income Tax Paid (Life of Project)	USD M	736.5
Total Royalties, Levies, and Taxes (Life of Project)	USD M	1,591.8
NPV @ 8%	USD M	1,073
NPV @ 10%	USD M	764
Internal Rate of Return (After-Tax)	%	20.7
Payback Period (After-Tax)	years	6.9

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18.6 Sensitivity Analysis

A sensitivity analysis was completed to quantify the impact of independent changes in key economic and operating assumptions on the Project's after-tax NPV at an 8% discount rate (Table 18-8. After-Tax NPV Sensitivity at an 8.0% Discount Rate (Life of Project, USD M). Each variable was flexed independently over a range of −30% to +30% from the base case while all other assumptions were held constant. The discount rate itself was flexed from 5.0% to 11.0%, with the base case at 8.0%.

The analysis indicates that the Project is most sensitive to the NdPr oxide price and to the NdPr metallurgical recovery, each of which drives an NPV spread of approximately US$1.565 billion across the tested range, from approximately US$283 million at −30% to approximately US$1,848 million at +30%. Over the same range, the after-tax IRR moves from approximately 11.8% to approximately 27.9%. Because revenue is the linear product of price and recovery, these two variables produce identical results. This concentration of sensitivity reflects the dominant contribution of NdPr revenue, approximately 87% of total product revenue, to overall project economics.

The Project is next most sensitive to the discount rate, with an after-tax NPV of approximately US$1,762 million at 5.0% and approximately US$640 million at 11.0%, representing an NPV spread of approximately US$1,122 million. Processing operating cost and processing capital cost are the fourth- and fifth-most sensitive variables, driving NPV spreads of approximately US$652 million and US$405 million respectively. Terbium price and recovery, mining operating cost, Dysprosium price and recovery generate NPV spreads in the range of approximately US$75 million to US$141 million. The Project is least sensitive to SEG price, SEG recovery, and mining capital cost, which drive NPV spreads of approximately US$32 million and US$30 million respectively.

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Table 18-8. After-Tax NPV Sensitivity at an 8.0% Discount Rate (Life of Project, USD M)

Rank	Variable	−30%	−20%	−10%	Base Case	+10%	+20%	+30%	NPV Spread
1	NdPr Price	283	545	808	**1,073**	1,335	1,602	1,848	**1,565**
1	NdPr Recovery	283	545	808	**1,073**	1,335	1,602	1,848	**1,565**
3	Discount Rate [1]	1,762	1,494	1,266	**1,073**	907	764	640	**1,122**
4	Processing OpEx	1,397	1,288	1,180	**1,073**	965	855	745	**652**
5	Processing CapEx	1,274	1,206	1,139	**1,073**	1,006	938	869	**405**
6	Tb Price	1,002	1,025	1,049	**1,073**	1,096	1,120	1,143	**141**
6	Tb Recovery	1,002	1,025	1,049	**1,073**	1,096	1,120	1,143	**141**
8	Mining OpEx	1,130	1,111	1,092	**1,073**	1,053	1,034	1,015	**115**
9	Dy Price	1,035	1,048	1,060	**1,073**	1,085	1,097	1,110	**75**
9	Dy Recovery	1,035	1,048	1,060	**1,073**	1,085	1,097	1,110	**75**
11	SEG Price	1,057	1,062	1,067	**1,073**	1,078	1,083	1,088	**32**
11	SEG Recovery	1,057	1,062	1,067	**1,073**	1,078	1,083	1,088	**32**
13	Mining CapEx	1,087	1,083	1,078	**1,073**	1,068	1,063	1,058	**30**

Notes: Each variable was flexed independently over a range of −30% to +30% from the base case while all other assumptions were held constant. NPV spread is the difference between the −30% and +30% cases. Variables are ranked by NPV spread; tied ranks share a position. Price and recovery pair identically for each element because revenue is the linear product of the two. Totals may not sum precisely due to rounding.

[1] The discount rate was flexed from 5.0% to 11.0% in 1.0% increments rather than on a percentage-of-base-case basis; columns therefore correspond to 5.0%, 6.0%, 7.0%, 8.0% (base case), 9.0%, 10.0% and 11.0% respectively.

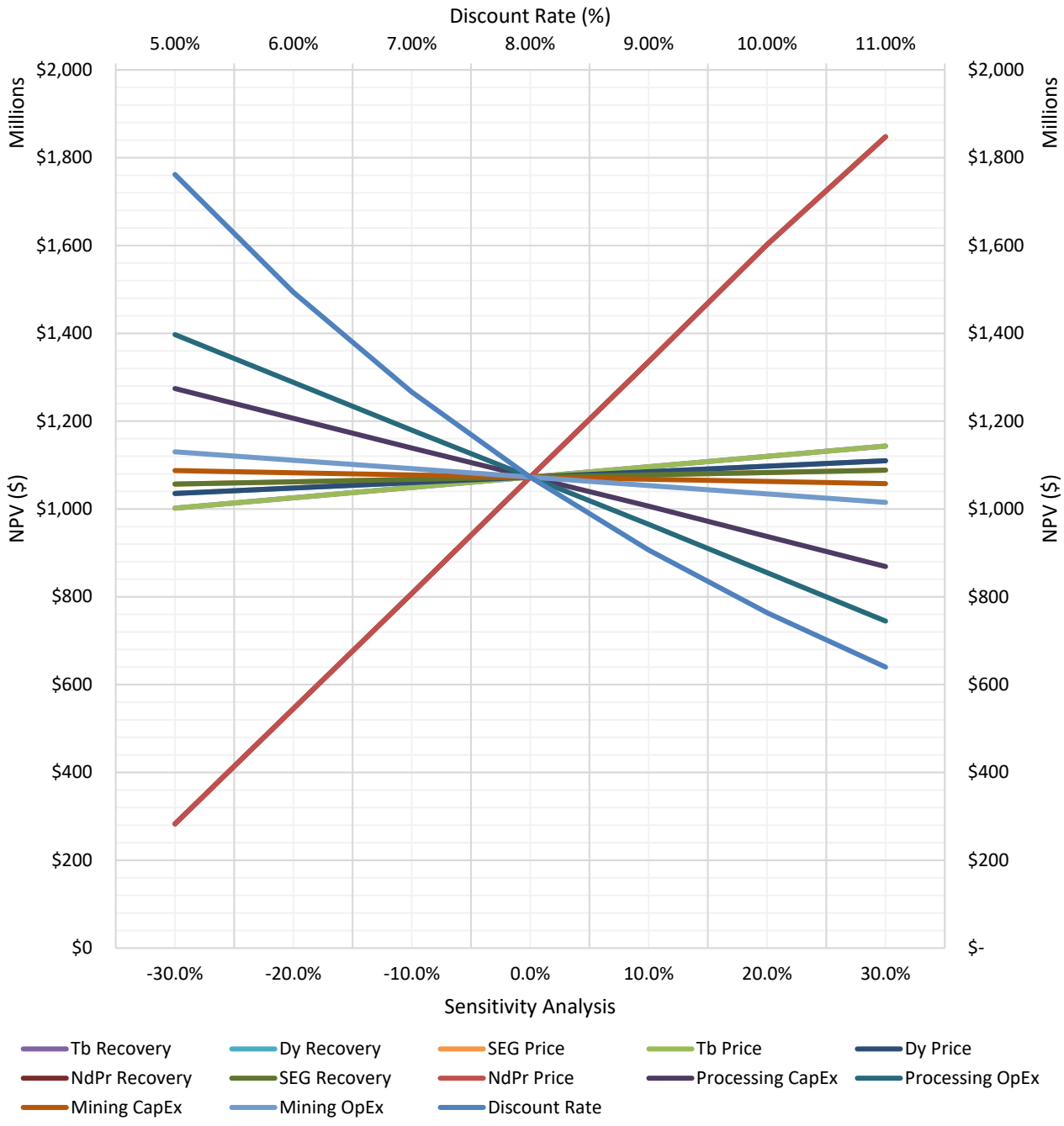
Overall, the sensitivity analysis indicates that Project value is driven principally by the NdPr oxide price and NdPr metallurgical recovery, followed by the applied discount rate and by the operating and capital intensity of the downstream processing plant. Together, these variables account for the large majority of the NPV variance observed across the tested ranges, and they represent the principal economic risks and opportunities for the Project. They are accordingly the recommended priorities for future work: metallurgical test work directed at confirming and improving NdPr recovery, engineering refinement of the hydrometallurgical facility, and continued rare earth market analysis.

The Project returns a positive after-tax NPV in every single-variable downside case tested. The lowest value observed is approximately US$283 million, arising at a 30% reduction in either NdPr price or NdPr recovery, at which point the after-tax IRR remains approximately 11.8% and continues to exceed the 8.0% discount

rate applied. This outcome is consistent with, and corroborative of, the CP's determination in Chapter 10 that the Mineral Resource has reasonable prospects for eventual economic extraction.

The analysis presented above is a single-variable sensitivity, in which each input is flexed independently while all others are held at base-case values. It does not test combinations of adverse outcomes, and a combined downside scenario would return results below any individual case presented here. Grade, tonnage, project schedule, and capital timing were not flexed. These limitations should be considered alongside the results.

Figure 18-2. Spider Graph representing the Sensitivity Analysis (Life of Project, USD M)



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18.7 Economic Analysis — Conclusions

Based on the assumptions summarized in Chapter 18.2 and the sensitivity analysis in Chapter 18.6, the CP concludes that the economic results of this SS corroborate the determination, disclosed in Chapter 10, that the CSM Mineral Resource has reasonable prospects for eventual economic extraction under the mining, processing, market, and cost assumptions applied.

The Project returns a positive after-tax net present value of approximately US$1,073 million at an 8.0% discount rate, an after-tax internal rate of return of approximately 20.7% against the 8.0% cost of capital applied in this study, and an after-tax payback period of approximately 6.9 years from first capital expenditure, against a mine plan life of 26 years. The production schedule comprises Indicated Mineral Resources only; no Measured Mineral Resources have been estimated, and no Inferred Mineral Resources are included in the schedule. Material classified as Inferred within the designed pits is treated as waste. The Project further retains a positive after-tax net present value in every single-variable downside case tested in Chapter 18.5, the lowest being approximately US$283 million.

This SS is preliminary in nature. It includes an economic analysis that is based, in whole or in part, on Indicated Mineral Resources. Mineral resources are not Ore Reserves and do not have demonstrated economic viability. There is no certainty that the results of this Scoping Study will be realized.

The indicators presented above are subject to the estimate-accuracy limitations inherent to an SS and to the specific technical and market risks identified throughout this Report. In particular, the economic analysis assumes constant real commodity prices over the life of the Project, metallurgical recoveries derived from bench-scale test work, and a capital estimate carrying a 30% contingency, and it does not provide for sustaining capital expenditure beyond the initial capital program.

The primary work programs recommended for the next stage of study, as set out in Chapter 22, are pilot-scale metallurgical confirmation of recovery assumptions, engineering advancement of the refinery flowsheet, geotechnical drilling to confirm pit-slope design parameters, and advancement of water rights, permitting, and offtake arrangements.

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19 ADJACENT PROPERTIES

The CSM area is part of the broader Halleck Creek Rare Earth Project. Within the Project, the CSM is being developed independently from the Overton Mountain resource area to the north, which shares similar geological characteristics and represents an additional resource area not included in the CSM Scoping Study.

There are no other active mineral prospects or mining operations known to be within 3 miles (5 km) of the CSM area.

20 OTHER RELEVANT DATA AND INFORMATION

20.1 Radiometric (Gamma) Core Scanning Pilot Study

Arkenstone Exploration (Mark W. Travis, CPG-12090) has proposed a pilot core-table gamma scanning program using a Ludlum Model 3 survey meter with a Ludlum Model 44-2 Sodium-iodide (NaI) scintillation detector and a 7002-107 lead collimator. The proposed pilot would scan archived HQ drill core at approximately 0.5-foot intervals on selected holes for which assay data, geological logs, and (where available) downhole gamma logs already exist, to evaluate whether core-table gamma response correlates with TREO grade distribution and could supplement, or in some cases reduce reliance on, downhole gamma logging in future drilling.

As of the effective date of this Scoping Study, this program has been proposed but not yet executed. It is not relied upon for the Mineral Resource Estimate (Chapter 10) or for any other disclosure in this report. See Chapter 22.10 (Recommendations — Future Work).

20.2 Radionuclide Content

Thorium and Uranium occur in Halleck Creek mineralization at low concentrations (approximately 68 ppm combined, run-of-mine basis; see Chapter 9.12). ARR is working with the WDEQ and the Nuclear Regulatory Commission to evaluate requirements and proper processing and handling permits for source material (Thorium and Uranium) occurring as impurities of processing. (Chapter 16.2.2). No radiological studies beyond those described in Chapters 9, 10, and 16 have been identified.

20.3 No Other Material Information

Other than the items identified above and the matters already discussed in Chapters 2 through 23, the Competent Persons contributing to this Report are not aware of other material information concerning the Halleck Creek Rare Earth Project that would be required for a complete understanding of this Scoping Study as of its effective date.

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21 INTERPRETATION AND CONCLUSIONS

This chapter presents the Competent Persons' interpretation and conclusions regarding the geological, metallurgical, mining, infrastructure, and economic aspects of the Project summarized in Chapters 1 through 23, followed in Sections 21.6 through 21.10 by an integrated assessment of data quality, resource confidence, process and engineering maturity, and overall technical readiness. Wyoming offers an established regional mining workforce and regulatory framework relevant to the Project's development, and the CSM area lies wholly within State mineral leases controlled by Wyoming Rare, simplifying land-tenure considerations relative to a mixed-ownership property.

21.1 Geology and Mineralization

The geologic homogeneity of the deposit observed to date is expected to support a relatively consistent feedstock over the life of the Project, subject to confirmation through continued grade control and metallurgical work. The current Halleck Creek estimated Measured and Indicated mineral resource is 1.48 Gt with an average TREO grade of 3,334 ppm.

Allanite is the primary rare earth-bearing mineral at Halleck Creek, comprising approximately 1.28% of all minerals and 72% of all REE-bearing minerals. Zircon is a secondary REE-bearing mineral at approximately 0.42% of all minerals (23% of REE-bearing minerals). Minor occurrences of other REE- bearing minerals account for approximately 5%. Mineralogical characterization shows that allanite liberates well from gangue during crushing; approximately 87.5% of allanite can be liberated into pure, free, and liberated classes. The relatively large phenocrysts observed in the rock are interpreted to contribute to high allanite liberation. High liberation generally increases the ability to reject gangue through physical separation and increases overall allanite recovery. Metamictization of allanite over an estimated 1.4 billion years is interpreted to contribute to the leachability of REEs from allanite. Naturally occurring Thorium and Uranium have decayed over time, causing allanite crystals to become amorphous. The in-situ Halleck Creek deposit is naturally low in Thorium and Uranium, with an average concentration of approximately 68 ppm.

21.2 Metallurgical Test Work

21.2.1 Comminution

Halleck Creek material has been shown to have approximately average hardness compared to other granitic rock types. The material has been shown to be less abrasive than other granitic rocks due to the lack of quartz in the host rocks. A less abrasive feedstock would be expected to reduce wear on grinding equipment and lower operating costs over time, though this has not been confirmed through extended operation.

21.2.2 Separation

Allanite and other higher-density minerals can be separated from lower-density gangue minerals using gravity separation methods such as reflux classifier concentrators, spirals, gravity concentrators, or dense media. Allanite has a specific gravity (SG) of 3.6 to 4.0; primary gangue minerals (feldspar, syenite, minor quartz) have SG of 2.65 to 2.75. Preliminary gravity separation test work has shown that up to 77% of

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gangue material can be rejected from feed, TREO concentrations can be increased by 10 times, and allanite recovery can exceed a TREO grade of 4% (40,000 ppm). Allanite and the Iron-rich amphibole hastingsite are paramagnetic; approximately 4% to 5% additional gangue can be separated using Wet High-Intensity Magnetic Separation (WHIMS). Bench-scale test work indicates that up to approximately 93% of feed mass may be rejected from ROM feed using combined gravity separation, IRMS and WHIMS, with a TREO recovery of approximately 65% and a TREO concentration factor of approximately 10x; these figures have not been confirmed at pilot scale. Using this factor, the ROM grade of 3,805 ppm increases to approximately 41,855 ppm (4.2% TREO). This large gangue rejection reduces downstream equipment size and reagent consumption, lowering capital and operating costs respectively.

21.2.3 Leaching

Testing by Wood PLC and Virginia Tech shows that REEs can be readily leached from allanite using sulfuric acid at approximately 90 deg C and residence times of 2 to 6 hours. Leach testing indicates approximately 85% TREO extraction under these parameters. The lower temperatures and shorter residence times reduce the formation of silica gels associated with leaching silicate minerals.

Metamictization of allanite over an estimated 1.4 billion years is interpreted to enhance leachability; on this basis, high-temperature caustic or acid cracking is not considered necessary and may interfere with rare earth extraction.

21.2.4 Rare Earth Recovery Products

ARR and Tetra Tech determined that a mixed rare earth concentrate, or mixed rare earth oxide does not provide commercially saleable products. Accordingly, the Scoping Study identifies four saleable products: NdPr oxide, Dy oxide, Tb oxide, and SEG (mixed Sm, Eu, and Gd) concentrate. Further testing after the Scoping Study have showed that there is not an economic case to be made for La carbonate sales, as well as showing that production of Sm and an EG mixed concentrate are favorable currently due to strict export quotas from China. Stantec developed Net Smelter Return (NSR) calculations using these five products as input.

21.3 Mining Methods

Rare earth-bearing rock at the Halleck Creek Project occurs at or near surface across extensive portions of the Wyoming State mineral leases comprising the CSM development area. The geometry, continuity, and relatively homogeneous distribution of mineralization support the application of conventional open pit mining methods with a low waste-to-mineralized material stripping requirement.

The current Scoping Study contemplates a conventional truck-and-shovel open pit operation employing drill-and-blast methods where required, with mining conducted in phased pit developments designed to provide consistent feed to the processing facility. The conceptual mine plan incorporates conventional waste rock storage facilities, dry-stacked tailings, and associated mine infrastructure located within the State lease area under the control of American Rare Earths.

Mine planning, pit optimization, production scheduling, and equipment selection have been developed at the Scoping Study level using the current engineering design basis. Accordingly, production inventories,

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throughput rates, and mine life presented elsewhere in this report reflect the current mine planning assumptions and supersede those associated with earlier Scoping Study design iterations. Detailed mining parameters, production schedules, and mined inventories are presented in Chapter 12 and the associated mine planning sections of this Scoping Study.

The near-surface nature and lateral continuity of mineralization provide flexibility for future pit optimization and phased expansion as additional engineering, geotechnical, and economic studies are completed. While the current mine plan represents the basis for this Scoping Study, future engineering studies may further refine pit geometry, production scheduling, and sequencing as the Project advances toward subsequent stages of technical evaluation.

21.4 Recovery Methods

The Scoping Study provides for comminution and mineral separation at the CSM, with leaching and final processing at facilities adjacent to interstate and rail infrastructure. Comminution focuses on the use of a Vertical Roller Mill (VRM) to minimize fines in ROM material. Separation focuses on gravity concentrators (RCC), and dry magnetic separation (IRMS) followed by WHIMS for separation of the fines fraction. Rare earth extraction begins with leaching REEs into solution using sulfuric acid. Major impurities — Iron and Thorium — are removed via partial neutralization by increasing pH and precipitating these elements as hydroxides. After filtration, Aluminum and Uranium are removed using precipitation filtration and ion exchange columns (for Uranium). ARR is working with the WDEQ and the Nuclear Regulatory Commission to acquire proper processing and handling permits for source material (Thorium and Uranium) occurring as by-products of processing. Each product — NdPr, SEG, Dy, and Tb, mixed concentrate — is then refined using iterative solvent extraction and precipitation circuits specific to each product.

21.5 Infrastructure

Infrastructure planned for the mine site reflects the simplicity and modest scale of the mining operation. Road access and buildings for a modest workforce of hourly and salary personnel can be satisfied by prefabricated buildings or trailers. Preliminary hydrological estimates indicate sufficient water can be obtained from several wells outside the pit limits. Drilling, pumping, and piping costs are based on Stantec's mining experience. Construction of road access, line power, and natural gas supply are not expected to be difficult or expensive, as existing infrastructure is in close proximity.

21.6 Geological Model, Data Quality, and Drilling Density

The geological model for the Halleck Creek Project is supported by a surface sample database of approximately 950 rock chip samples, a 2025 channel sampling program), and 98 drill holes (28 HQ diamond core, 70 reverse circulation) totaling 12,490 m across the Red Mountain and Overton Mountain resource areas. Core recovery for diamond drilling is reported at approximately 96%; no quantitative reverse-circulation recovery figure has been established (Section 6.13). Quality assurance and quality control performance (Section 7.4) is generally acceptable, with two CDN-RE-1201 certified reference material exceedances (Nd and Pr) and one OREAS-101b external standard anomaly identified and evaluated as part of the QA/QC review.

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Taken together, the surface, channel, and drill-hole datasets provide a reasonably dense, multi-method basis for the geological and grade model at Red Mountain. Confidence in the Overton Mountain portion of the deposit is comparatively lower: it has not been the subject of infill drilling or resource update since the 2024 Odessa estimate, and its Measured resource classification was established at a coarser (90 m) drill spacing than the current Red Mountain model.

21.7 Mineral Resource Estimate Confidence

The Mineral Resource Estimate (Chapter 10) was prepared by Alfred Gillman (FAusIMM CP Geol) of Odessa Resources using ordinary kriging within a geologically constrained domain model, with model validation performed against inverse-distance and nearest-neighbor estimates (Section 10.12). The estimate reflects an iteratively updated modeling effort (January 2024, November 2024, and November 2025 updates for Red Mountain), each incorporating additional drilling or channel-sampling data.

The Project-wide Mineral Resource adopted for this Report is the 1,000 ppm TREO cut-off grade estimate presented in Section 10.2. Subsequent resource-estimation work for the CSM/Red Mountain area, discussed in Sections 10.17, is retained as supporting technical information and does not replace the Project-wide Mineral Resource adopted for this Report.

21.8 Metallurgical and Process Engineering Maturity

Metallurgical test work (Chapter 9) has progressed through bench-scale comminution, gravity/magnetic concentration, leaching, and impurity-removal testing across multiple independent laboratories (SGS Lakefield, Nagrom, University of Kentucky, ALS Global, Mineral Technologies, and others). Pilot-plant and continuous demonstration-scale testing will commence shortly but has not been completed.

21.9 Mining and Engineering Assumptions

The conceptual open-pit mine plan (Chapter 12) reflects preliminary pit-shell optimization applied to the Indicated Mineral Resource, using geotechnical parameters -- including an assumed 55-degree inter- ramp angle -- that have not yet been confirmed by detailed geotechnical study. Infrastructure concepts (Chapter 14) are at a similarly preliminary, scoping-level stage and should not be read as feasibility-level design.

21.10 Overall Technical Readiness

Considered as a whole, the Halleck Creek Project is supported by a geologically coherent, multi- campaign exploration and drilling database and an iteratively refined Mineral Resource Estimate, together with scoping-level mining and processing concepts consistent with an early-stage technical study. The principal factors currently limiting the maturity of this Report are: (i) incomplete hydrology/hydrogeology characterization and unsecured water rights; and (ii) the absence, as of the effective date of this Report, of pilot-scale metallurgical confirmation testing. None of these items are believed to invalidate the underlying technical work; each is a defined, practical next-stage item described in the recommendations that follow (Chapter 22).

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22 RECOMMENDATIONS

22.1 Overall Recommendation

This chapter presents a sequenced work program toward a Pre-Feasibility Study, organized by workstream. Order-of-magnitude budgets are noted where a discipline-specific figure is already available from the responsible consultant; where no confirmed budget basis exists, the workstream is identified for development by the responsible discipline rather than assigned an invented figure. ARR should pursue the workstreams below in a coordinated program, with particular emphasis on continued Mineral Resource refinement and pilot-scale metallurgy, while advancing environmental, permitting, geotechnical, and engineering workstreams in parallel.

Budget for Next Phase:

- Mineral Resource update/refinement — $150,000
- Permitting — $500,000
- Environmental and social programs — $500,000
- Geology and exploration — $2,000,000
- Engineering and infrastructure — $750,000
- Mining and geotechnical engineering — $500,000
- Metallurgy and process recovery — $1,500,000
- Process flowsheet reconciliation — $350,000
- PFS integration and study preparation — $750,000
- Total- $7,000,000

22.2 Mineral Resource

ARR should continue to refine and integrate the Halleck Creek Mineral Resource as additional drilling, geological interpretation, and technical data become available. Future resource updates should incorporate both the Red Mountain and Overton Mountain areas on a consistent basis, using common estimation parameters, cut-off grade assumptions, and data vintages appropriate to the applicable study stage. Any future Mineral Resource update prepared to support the Pre-Feasibility Study should also incorporate relevant results from the ongoing 2026 drilling program and other material geological or sampling data available at the time of estimation.

As the Project advances, Mineral Resource reporting should remain coordinated with evolving mine planning, metallurgical, geotechnical, and economic assumptions so that the resource model and downstream engineering studies are developed from a consistent technical basis.

22.3 Permitting

ARR should continue advancing the WDEQ-LQD permit-to-mine application with WWC Engineering, complete the ongoing hydrology and hydrogeology characterization described in Chapters 8 and 16, and secure the water rights required for the Project. ARR should also continue coordination with the Nuclear

Regulatory Commission regarding applicable requirements for Thorium- and Uranium-bearing by-products and maintain ongoing USACE coordination regarding Waters of the United States.

22.4 Environmental and Social Governance

Environmental baseline studies and permitting activities have progressed substantially and provide a sound foundation for continued project advancement. As the Project advances toward a Pre-Feasibility Study, completion of ongoing baseline environmental programs, refinement of water management planning, continued stakeholder engagement, and advancement of state and federal permitting activities will support engineering studies and future project development. These activities represent the normal progression of the Project toward the next stage of technical and engineering evaluation.

22.5 Geology and Exploration

The Halleck Creek Project provides opportunities for continued geological refinement and resource expansion. Future geological work may include continued mapping, surface sampling, and targeted drilling to improve geological confidence, expand the defined Mineral Resource footprint where warranted, and further evaluate prospective areas within the broader Red Mountain Pluton, including the Bluegrass and County Line areas. Additional infill drilling in selected portions of the existing Mineral Resource may also support future refinement of Mineral Resource classifications as geological understanding continues to evolve.

22.6 Engineering and Infrastructure

Infrastructure concepts described in this Report (Chapter 14) are at a preliminary, scoping-level stage of definition. As the Project advances, engineering studies should further evaluate process-site configuration, including mine-site concentration and centralized processing alternatives, and refine infrastructure requirements associated with the proposed Wheatland-area refinery, including site selection, land control, utilities, access, and supporting infrastructure. These studies should be integrated with the evolving process flowsheet and mine plan to support the Project's next stage of engineering definition.

22.7 Mining and Geotechnical Engineering

Mining and geotechnical engineering evaluations completed to date are appropriate for the current Scoping Study level of study. Additional geotechnical investigations, pit slope characterization, foundation studies, and refinement of mine design parameters are expected to support subsequent engineering studies and continued optimization of the proposed open-pit operation. These activities represent the normal progression of engineering definition as the Project advances toward a Pre-Feasibility Study.

22.8 Metallurgy and Process Recovery

Continued metallurgical development should focus on confirming and optimizing the proposed processing flowsheet in preparation for the next phase of engineering. Completion of ARR's pilot and demonstration plant program, currently targeted for completion by the end of 2026, should remain the highest priority.

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Results from the pilot program should be integrated with vendor-scale HPGR test work to support selection of the final comminution circuit.

Subsequent test work should refine the mine-site beneficiation process, including gravity and WHIMS concentration, to validate mass balances, establish optimum particle-size cut-offs, and further evaluate the recovery potential of zircon as a by-product. Additional thermal testing should optimize calcination conditions through evaluation of temperature, residence time, and roasting with sulfuric acid and/or caustic reagents.

Hydrometallurgical test work should continue to optimize sulfuric acid tank leaching of calcined concentrate by evaluating the effects of solids concentration, grind size, temperature, acid concentration, and oxidation conditions. Downstream impurity removal should further assess neutralization conditions, ion-exchange resin selection for Uranium and Iron removal, and precipitation performance.

Solvent extraction studies should continue to refine separation of the principal rare earth products, including La, NdPr, Sm, Dy, Tb, and the EG concentrate, through additional batch and continuous testing to optimize circuit configuration and product quality.

Wastewater treatment studies should further characterize process streams and confirm pH adjustment and precipitation requirements.

Finally, additional mineralogical and metallurgical investigations should be undertaken to better understand the apparent suppression of heavy rare earth recovery, including evaluation of zircon-hosted rare earths and characterization of leach residues where appropriate.

22.9 Process Flowsheet Reconciliation

As metallurgical test work advances, the evolving process flowsheet should be consolidated into a single integrated basis for subsequent engineering studies. Results from ongoing pilot-scale, comminution, beneficiation, thermal treatment, leaching, impurity-removal, and solvent-extraction programs should be incorporated into the flowsheet as they become available. Attention should be given to confirming key process conditions, mass balances, recovery assumptions, reagent requirements, and interfaces between mine-site concentration and downstream hydrometallurgical processing. A progressively refined and integrated process basis will support subsequent engineering design, cost estimation, and Pre-Feasibility Study evaluation.

22.10 Future Work and Path to a Pre-Feasibility Study

The Halleck Creek Project has advanced significantly since completion of the February 2025 Scoping Study through additional drilling, geological refinement, updated Mineral Resource estimation, and continued metallurgical development. The next phase of work should focus on converting this technical foundation into the engineering confidence required to support a Pre-Feasibility Study.

Metallurgical work currently underway provides an important step toward that objective. ARR is conducting large-scale bench testing at Nagrom Laboratories in Perth, Western Australia, and at the Saskatchewan Research Council (SRC) in Saskatoon to validate and refine the proposed process flowsheet and establish process traceability. In parallel, ARR is developing pilot-scale work in Wyoming to evaluate mine-site

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comminution and mineral concentration using bulk mineralized material. Concentrate produced through this program is expected to support downstream hydrometallurgical testing and further process optimization.

In parallel with metallurgical advancement, the geological, Mineral Resource, geotechnical, infrastructure, environmental, permitting, and engineering workstreams described in this chapter should continue in a coordinated manner. Results from these programs should progressively inform updated geological and resource models, mine planning, process design, infrastructure requirements, cost estimation, and other technical inputs required for the next stage of study.

A pilot core-table gamma scanning program should also be evaluated to determine whether systematic radiometric measurements can provide a cost-effective supplementary dataset for geological logging and resource evaluation. If demonstrated to be effective, this approach may improve geological interpretation and support future drilling programs.

Collectively, these activities are expected to reduce technical uncertainty, improve engineering confidence, and provide the information necessary to support completion of a Pre-Feasibility Study and subsequent advancement of the Halleck Creek Project.

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23 RELIANCE ON OTHER EXPERTS

In preparing this Report, the CPs have relied on certain information provided by the Company(ARR/Wyoming Rare) or by specialist experts who are not CPs under JORC.

23.1 Reliance on Legal Experts

The CPs have relied on information and representations provided by American Rare Earths Limited and Wyoming Rare, together with legal information prepared or reviewed by the Company's legal counsel and other authorized representatives, regarding matters outside the CPs' areas of expertise. Such matters include but are not limited to the following.

- Ownership of mineral rights, Wyoming State Mineral Leases, federal unpatented lode mining claims, and related property interests.
- Validity of title, claim maintenance, lease status, royalties, encumbrances, agreements, and other legal interests affecting the Project.
- Corporate ownership, contractual arrangements, and other legal matters relevant to the Project.
- Applicable federal, state, and local legal and regulatory requirements not requiring independent technical evaluation by the CPs.

The CPs have not independently verified the legal opinions, title status, contractual rights, or other legal matters described above and have relied upon the information and representations provided by the Company and its legal advisors for purposes of this Scoping Study.

23.2 Reliance on Environmental Experts

Environmental studies, baseline data collection, and permitting activities are being conducted by specialist environmental consultants under ARR/Wyoming Rare direction. The CPs have relied on information provided by ARR and its environmental and permitting consultants regarding environmental baseline studies, permitting status, regulatory requirements, and environmental compliance.

- Environmental baseline data (hydrology, hydrogeology, water quality, air quality, wildlife) has been collected by WWC Engineering (Sheridan, Wyoming) and other contractors. The CPs have not independently verified this data.
- The mine permitting application under WDEQ-LQD jurisdiction has not been filed as of the effective date. ARR has represented that baseline studies commenced in 2024 and remain in progress.
- An Industrial Siting Permit application through WDEQ-ISD will be required for the refinery site once selected. No application has been filed.
- Project mineralization contains naturally occurring Uranium and Thorium at concentrations that may require evaluation under applicable source-material regulations as project design advances. The applicability and timing of any source-material licensing requirements will depend on the concentrations, quantities, processing methods, and disposition of Uranium- and Thorium-bearing materials generated by the proposed operation.

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Based on the current Project configuration, the principal mine permitting pathway is anticipated to be through Wyoming state agencies. The extent to which review under NEPA may be required will depend on whether Project development requires federal permits, approvals, authorizations, funding, or other federal actions.

23.3 Reliance on Land Tenure and Claim Management Experts

ARR has contracted with Burgex, Inc. (Salt Lake City, Utah) to monitor and manage Wyoming Rare's federal lode claims and Wyoming State Mineral Leases. The CPs have relied on representations from ARR management and Burgex regarding the current standing and annual maintenance status of the 364 unpatented lode claims and four State Mineral Leases. The CPs have not independently reviewed BLM or Wyoming Office of State Lands and Investments (WOSLI) records to confirm claim status.

The mineral rights within the CSM area (Wyoming State Mineral Leases) are administered through WOSLI. The surface rights within the CSM area also belong to the State of Wyoming and are administered through WOSLI. The CPs have relied on ARR's representations regarding the terms and conditions of these leases.

23.4 Reliance on Economic and Market Information

The economic analysis presented in this SS is based on the technical and economic assumptions described in this Report. The following information was provided by ARR and relied upon by the CPs.

- Commodity pricing projections for rare earth oxides (NdPr, Dy, Tb, La, SEG) were prepared by Adamas Intelligence.
- Market studies and off-take arrangements, if any, were provided by ARR. No binding off-take agreements are in place as of the effective date.

23.5 Reliance on Geotechnical and Hydrogeological Data

Geotechnical testing was conducted by WSP (Burnaby, British Columbia) on 48 core samples from the Fall 2024 drilling program. CPs relied on WSP test results for geotechnical characterization used in pit slope design. Stantec evaluated the data for pit design in the IA.

Geotechnical testing was conducted by Tetra Tech on 5 borings around the proposed mine site manufactured sand byproduct storage facility at the mine site, 6 borings at the mine site corresponding to proposed process and admin buildings, and 6 borings at the proposed refinery site in Wheatland. Drilling was conducted in March 2026.

Hydrological and hydrogeological studies are being conducted by WWC Engineering (Sheridan, Wyoming). This work is ongoing as of the effective date. Water rights have not been secured. The CPs relied on ARR's representations regarding the status of these studies.

23.6 Competent Person Responsibility Notwithstanding Reliance

Notwithstanding the reliance disclosed in Sections 23.1 through 23.5, the CPs retain responsibility for the sections of this Report that fall within their respective areas of expertise and for the overall technical conclusions of the Report. Reliance on information provided by the Company or by specialist experts who

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are not CPs is limited to the specific matters identified above and does not extend to matters within the CPs' own areas of expertise. Each CP has exercised professional judgment in evaluating the reasonableness of the information relied upon before incorporating it into this Report.

23.7 Reliance on Information Provided by the Company

In preparing this Scoping Study, the Competent Persons have relied upon information provided by American Rare Earths Limited and its U.S. operating subsidiary, Wyoming Rare (collectively, the "Company"), where such information is outside the Competent Persons' areas of technical expertise or is not reasonably capable of independent verification, consistent with JORC code. This information was provided through technical submissions, corporate records, supporting documentation, and communications with Company personnel. The Competent Persons have no reason to believe that the information relied upon is inaccurate or misleading.

The Competent Persons have relied upon the Company with respect to certain non-technical matters, including land tenure and mineral title; surface rights and property access; water rights and related permitting activities; royalties, encumbrances, and other property interests; permitting and regulatory status; legal matters affecting the Project; applicable taxation regimes and tax incentives incorporated into the economic analysis; corporate ownership and organizational structure; commercial arrangements, including the existence or absence of off-take agreements and hedging arrangements; and commodity price assumptions based on Adamas Intelligence’s independent Rare Earths Market Outlook for Halleck Creek and summarized in Chapter 18.

The Competent Persons have not independently verified the legal, corporate, commercial, taxation, permitting, or other non-technical information described above and express no opinion on matters of law, corporate governance, taxation, or the Company’s commercial affairs. Responsibility for such information remains with the Company. Where reliance on Company-supplied information materially affects the conclusions presented in this Report, that reliance is identified in the relevant chapter.

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24 REFERENCES

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Appendix A – Halleck Creek JORC Table

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 specialized 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.*	Sample material from the CSM Project includes rock chip outcrop samples, channel samples, RC drill samples, and diamond drill core. Wyoming Rare maintains SOPs for sample collection, logging, security, and transport
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Rock chip samples are split in the office. One part is ground to P100-P180 mesh (0.08 mm) and analyzed in triplicate on an Olympus Vanta handheld XRF analyzer. Odessa Resources' 2024 statistical evaluation confirmed that increasing the core sample interval from 1.5 m to 3.0 m has no significant influence on resource estimates.
	Aspects of the determination of mineralization that are Material to the Public Report.	Rare earth mineralization at Halleck Creek is disseminated, allanite-hosted and is not visually distinguishable in core or chips. Determination of mineralization therefore rests entirely on laboratory assay rather than on visual logging or estimation. The determinations that are Material to the Report are: total rare earth oxide (TREO) grade; the split of TREO into light, medium and heavy fractions (LREO, MREO, HREO); and the proportion of magnet rare earth oxides, principally neodymium–praseodymium (NdPr), which accounts for approximately 87% of life-of-Project revenue in the economic analysis. TREO, LREO, MREO and HREO are reported as sum calculations of the individually assayed rare earth element grades. Thorium, uranium, zirconium and iron were also estimated. (Chapter 5; Sections 7.5 and 10.8.)
	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 pulverized to produce a 30 g charge for fire assay').	Rock chip, channel, RC, and diamond core sampling methods used at Halleck Creek are consistent with industry standards for this deposit type.

	In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralization types (e.g. submarine nodules) may warrant disclosure of detailed information.	
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.).*	Drilling used two methods across four campaigns from 2022 to 2024: HQ diamond core drilling (28 holes, 3,362 m, 63.5 mm core) and reverse circulation drilling (70 holes, 9,128 m). Core was sampled at 1.5 m intervals prior to 2024 except at lithological breaks; 2024 core holes were sampled at 3.0 m intervals. RC drilling produced three chip samples per 1.5 m interval using a rotary sample splitter.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	Core recovery at Halleck Creek is approximately 96% for diamond core holes. No quantitative recovery figure was calculated for RC drilling; no zones of loss or zero-sample recovery were recorded in any RC program.
	Measures are taken to maximize sample recovery and ensure the representative nature of the samples.	Recovery of core and RC chips to surface has been consistently high. The rotary sample splitter used in RC drilling provides representative samples.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	No relationship between sample recovery and grade has been assessed or reported in the Scoping Study. Diamond core recovery averages approximately 96%, and no zones of core loss or zero-sample recovery were recorded in any of the four drilling campaigns. The dataset therefore contains little recovery variation against which grade could be tested. On that basis sample bias arising from preferential loss or gain of fine or coarse material is not considered likely, but this has not been quantitatively demonstrated and remains an item for the next study stage. (Section 6.2.5.)
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 core and RC chip cuttings were logged in detail by Wyoming Rare geologists, including RQD, lithology, and alteration. WSP-trained geologists have completed geotechnical logging since 2023.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Logging includes quantitative RQD measurement and qualitative description of lithology and alteration. All core is photographed. RC cuttings are logged under 10x binocular microscope and photographed for each hole.

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	The total length and percentage of the relevant intersections logged.	All 98 drill holes completed to date have been geologically logged in full, comprising 28 HQ diamond core holes (3,362 m) and 70 reverse circulation holes (9,128 m) for a total of 12,490 m (40,979 ft). Logging coverage is therefore 100% of drilled meters, and all 98 holes are included in the resource models. Geotechnical logging is not continuous across the full dataset. Geotechnical logging by WSP-trained geologists has been undertaken since 2023, and 48 geotechnical core samples from 11 drill holes were collected during the Fall 2024 program. (Sections 6.2.1, 6.2.4 and 6.4.)
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	Diamond core was cut longitudinally in half using a core saw. Core sample intervals were selected at lithological breaks, measured with a tape measure, marked on the core and core box with a paint pen, and tagged with ALS sample tags and barcodes. One half of the cut core was submitted for assay, with the remaining half retained in the core box for reference.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	RC drilling uses a rotary sample splitter, producing three samples (plus a fourth reserve split) per 1.5 m interval: one for chip trays, one for in-house XRF analysis, and one for external assay.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Diamond core sample intervals are set by lithologic breaks and never cross lithology boundaries. Intervals are measured with a tape measure and marked on the core with a paint pen. ALS sample tags and barcodes are affixed to the core box, with entries recorded in the sample booklet. RC sampling uses a rotary splitter producing separate chip-tray, XRF, and assay splits for each interval.
	Quality control procedures adopted for all sub-sampling stages to maximize the representivity of samples.	CRMs were inserted at a rate of approximately 1 per 19 samples for both RC and diamond core drilling. Total QA/QC insertion rates for the 2024 programs were 6.84% for diamond core (35 samples) and 4.51% for RC drilling (60 samples), including CRMs, blanks, and duplicates.
	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.	Company duplicate samples (riffle splits of coarse rejects) returned a regression R^2 greater than 0.99 for all elements against TREE content.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample support is 1.5 m (approximately 5 ft) for rock chip, channel, reverse circulation and pre-2024 diamond core sampling. For the 2024 core program, Odessa Resources carried out a statistical evaluation demonstrating that 3.0 m

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		sample lengths have no statistically significant influence on resource estimates, provided lithological contacts are sampled discretely; 2024 core holes accordingly used 3.0 m intervals in homogeneous lithology with shorter intervals at contacts. Mineralogical characterization by SGS Lakefield established P80 and median grain sizes by mineral phase for the REE-bearing minerals. The Scoping Study does not contain an explicit assessment of sample mass against grain size. The mineralization is fine grained, disseminated and evenly distributed, and variography of TREO returned a near-zero nugget with long ranges, which is consistent with sample sizes being adequate for the material being sampled. (Sections 5.5.5.3, 7.1 and 10.6.)
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 analyses samples by ICP-MS using the ME-MS81d package (including ME-ICP06 for whole rock analysis), providing quantitative results for all rare earth elements, major oxides, and selected trace elements.
	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.	Surface rock chip samples are analyzed in triplicate using an Olympus Vanta handheld XRF analyzer as an initial screening tool ahead of external laboratory assay.
	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.	QA/QC included company and laboratory blanks, company and laboratory duplicates (R^2 > 0.99 for TREE), and CRMs (CDN-RE-1201 and CDN-RE-1202 internally; AMIS0304, OREAS 146, OREAS-101b, and SY-5 at ALS). Two CDN-RE-1201 results (Nd and Pr) and one ALS OREAS-101b result fell outside acceptable tolerance and require further investigation.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	Odessa Resources Pty Ltd (Alfred Gillman, FAusIMM CP (Geol.)) independently reviewed the surface sample, channel sample, and drill hole data across the CSM and verified the data as suitable for resource estimation.
	The use of twinned holes.	No twinned holes have been drilled at Halleck Creek, and none are reported in the Scoping Study.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All drill hole collar information, surveys, lithology, alteration, assays, and geotechnical data are entered into the DHDB. Validation checks include gaps and overlaps in lithology, alteration, and assay data, cross-referencing of collar and

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		lithologic depths, and verification that assay depths correspond to logged lithologic intervals. Data is uploaded to the DHDB server daily.
	Discuss any adjustment to assay data.	No adjustment, factoring or recalculation of assay data is reported. Grades were not capped and no outlier restrictions were applied at any estimation pass. TREO, LREO, MREO and HREO are reported as sums of the individually assayed rare earth element grades rather than as adjusted or derived values. Handheld XRF readings are used as a field screening tool only and do not substitute for, or adjust, the ALS laboratory assays used in the resource estimate. (Sections 7.5 and 10.8.)
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.*	Drill hole collars were surveyed by Laramie Land Surveying, registered professional land surveyors, using the NAD 1983 UTM Zone 13 North projection. Downhole deviation surveys were collected for all holes except the 2022 maiden program, which was drilled vertically.
	Specification of the grid system used.	Drill hole, trench, and surface sample locations are stored using the NAD 1983 UTM Zone 13 coordinate system. WGS 1984 latitude/longitude coordinates are retained as secondary coordinates.
	Quality and adequacy of topographic control.	Topographic control is provided by LiDAR data acquired from the United States Geological Survey, released publicly in August 2022 under the USGS Earth MRI project. Wyoming Rare personnel processed the LiDAR imagery into high-resolution topographic surfaces for use in ArcGIS and Leapfrog, and these surfaces were used to constrain the geological model and the block model. Topographic control is considered adequate for a resource estimate at this stage. (Section 10.1.)
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	Drill spacing at Red Mountain is irregular, approximately 50-150 m (revised by Odessa Resources in July 2026 from an earlier ~200 m estimate). The Measured resource area at Overton Mountain is based on approximately 90 m drill spacing.
	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.	Empirical observations and statistical analysis, supported by variography, confirm a high degree of geological and grade continuity within the Red Mountain rock masses.
	Whether sample compositing has been applied.	Grades were composited to 1.5 m (5 ft), the dominant sampling interval.

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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 controlled by batholith-scale fractionation, not by structural (fracture or vein) control.
	If the relationship between the drilling orientation and the orientation of key mineralized structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	As mineralization is not structurally controlled, drilling orientation relative to any mineralized structure is not considered to have introduced a sampling bias.
Sample security	*The measures are taken to ensure sample security.*	Samples are transported daily from the drill site to the Wyoming Rare warehouse in Laramie, Wyoming, a locked facility within a gated site accessible only to Wyoming Rare personnel. Chains of custody are prepared prior to shipment; all shipments use licensed, bonded carriers. ALS Laboratories' LIMS tracks sample assay progress. Returned assay pulps are stored in locked cabinets at the Laramie warehouse.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	No external audits or reviews of sampling techniques and data are reported. Two CDN-RE-1201 standard results (Nd and Pr) and one ALS OREAS-101b result fell outside acceptable tolerance and remain unresolved.

Section 2 Reporting of Exploration Results		
(Criteria listed in the preceding section also apply to this section.)		
Criteria	***JORC Code explanation***	***Commentary***
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership, including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*	Wyoming Rare controls mineral rights through 364 unpatented federal lode mining claims administered by the BLM (approximately 6,264 acres) and four Wyoming State Mineral Leases administered by WOSLI (approximately 1,844 acres), together totaling approximately 8,107 acres (3,281 ha). The Wyoming State Mineral Leases, assigned to Wyoming Rare in June 2021, constitute the core of the CSM project area addressed in this Scoping Study. A sliding-scale royalty of 5% to 10% on revenue is payable to the State of Wyoming on production from the State Mineral Leases; no other royalties are known to apply.

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	The security of the tenure held at the time of reporting and any known impediments to obtaining a license to operate in the area.	Wyoming Rare has not received any violations or fines from the State of Wyoming or federal government in connection with Halleck Creek. Wyoming Rare holds a License to Explore by Dozer permit and an active exploration drilling permit (DN-0511) from WDEQ-LQD, and has not yet filed a mine permitting application. The point of valuation for the State of Wyoming royalty is currently under review with WOSLI. Water rights have not been adjudicated for the Project.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	Anderson (1995) documented anomalous REE values at Red Mountain in a PhD thesis, providing the basis for later exploration interest. Blackfire Minerals acquired the Wyoming State Mineral Leases in 2010 and conducted preliminary research before dropping the leases in 2011 due to low REE prices; no drilling or resource estimation was completed. Zenith Mineral Ltd. reactivated the Project in 2018, staked five federal lode claims, and collected 87 surface samples in 2019 showing broad REE mineralization exceeding 2,000 ppm TREO; no Mineral Resources were compiled or reported by Zenith.
Geology	*Deposit type, geological setting and style of mineralization.*	The CSM Project is hosted within the Red Mountain Pluton (RMP), a magmatic allanite-hosted REE deposit composed primarily of monzonitic to syenitic rocks, classified as an A-type granite. REE mineralization is attributed to fractional crystallization during the final stages of magma evolution, concentrating allanite and other REE-bearing phases. Hydrothermal alteration in the RMP is minimal and does not appear to have significantly affected REE mineralization.
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:*	Drilling has been carried out in four campaigns since 2021. Campaign 1 (March-April 2022): nine HQ diamond core holes, five at Overton Mountain and four at Red Mountain, all vertical with no downhole deviation surveys, assayed by AAL in Sparks, Nevada. Campaign 2 (October-December 2022): 38 reverse circulation holes at Red Mountain and Overton Mountain, extending the known lateral and depth extent of mineralization, with downhole surveys collected for all holes and samples assayed by ALS Global. Campaign 3 (2023): infill core and RC drilling in the County Line, Trail Creek, and Red Mountain prospect areas; drill hole HC23-OM028 was extended to 302 m, and the Red Mountain domain was extended by approximately 100 m vertically. Campaign 4 (July-October 2024): a combined RC and diamond core program at the CSM area of Red Mountain, refining local geology at the eastern RMP contact with the Sybille intrusion and Archean granites, with geotechnical logging and updated mineralogical characterization (SGS Lakefield TIMA-X) also completed.

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	easting and northing of the drill hole collar	Drill hole data from the 2022-2024 exploration campaigns is published in the "Technical Report of Exploration and Maiden Resource Estimates, Halleck Creek Rare Earths Project" (March 2023), the "Technical Report of Exploration and Updated Resource Estimates, Halleck Creek Rare Earths Project" (January 2024), the "Halleck Creek Updated Scoping Study Technical Report (Revision 3)" (28 February 2025), and the "Halleck Creek REE Project, Red Mountain Update Report" (Odessa Resources, 1 November 2025).
	elevation or RL (Reduced Level – elevation above sea level in meters) of the drill hole collar	Collar elevations were captured in the same registered survey and are held in the DHDB. Elevations are consistent with the LiDAR topographic surface used for the geological and block models. Individual collar RLs are not tabulated in the Scoping Study. (Sections 6.2.6 and 10.1.)
	dip and azimuth of the hole	Downhole deviation surveys were collected for all drill holes other than those of the 2022 maiden program, which were drilled vertically. Survey data are stored in the DHDB and were used in the resource models. Individual hole dips and azimuths are not tabulated in the Scoping Study. (Section 6.2.7.)
	downhole length and interception depth	No intercepts are reported as Exploration Results, so interception depths are not tabulated. Mineralization has been observed to a depth of 298 m at Red Mountain and 302 m at Overton Mountain, and both areas remain open at depth. Downhole lengths for every hole are held in the DHDB. (Sections 5.5.1 and 6.2.1.)
	Hole length.	Individual hole lengths are not tabulated. Aggregate lengths are reported by area and hole type: Red Mountain 6,565 m from 50 holes, Overton Mountain 5,925 m from 48 holes, for a Project total of 12,490 m from 98 holes. (Section 6.2.1.)
	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.	TheScoping Study reports a Mineral Resource estimate; it does not report Exploration Results, and no individual intercepts are quoted. Hole-by-hole collar, survey and intercept tabulations are therefore not considered Material to an understanding of the Report, and their omission does not detract from it. The underlying data for all 98 holes is held in the DHDB, was validated for gaps and overlaps and for consistency between collar, lithologic and assay depths, and was independently reviewed by Odessa Resources (Alfred Gillman, FAusIMM CP (Geol.)) and verified as suitable for resource estimation. Should Exploration Results be reported in a future public report, a full drill hole tabulation should be appended. (Chapter 8; Section 7.7.)

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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 Exploration Result intercepts are aggregated or reported in the Scoping Study. For resource estimation, assay grades were composited to 1.5 m (5 ft), the dominant sampling interval. No weighting, maximum or minimum grade truncation, top-cutting or capping was applied, and no outlier restrictions were used at either estimation pass. The Mineral Resource is reported above a cut-off grade of 1,000 ppm TREO. (Sections 10.4.1, 10.8 and 10.12.)
	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.	Not applicable. No aggregated intercepts are reported, and therefore no aggregation of short high-grade lengths with longer low-grade lengths arises. Mineralization at Halleck Creek is bulk-hosted and disseminated rather than occurring as discrete high-grade intervals.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values are reported. Grades are reported as TREO and as its LREO, MREO and HREO components, and as individual rare earth oxides, each derived as a sum of individually assayed element grades. The economic analysis models revenue from four separately priced products — NdPr oxide, SEG (samarium–europium–gadolinium) oxide, terbium oxide and dysprosium oxide — rather than from a metal-equivalent grade. (Chapter 18.)
Relationship between mineralization widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralization 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').*	Mineralization is a large, near-surface, disseminated body controlled by batholith-scale fractionation rather than by discrete mineralized structures. The Scoping Study states that, because mineralization is not structurally controlled, drilling orientation relative to any mineralized structure is not considered to have introduced a sampling bias. No intercepts are reported as Exploration Results and no true-width corrections have been applied or required. Any downhole lengths held in the database are downhole lengths; true widths are not separately reported. (Chapter 5; Section 10.10.1.)
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.*	Maps and cross sections are included in this Report, including a mineral tenure map, a surface control map, and a simplified geologic map of the Laramie Anorthosite Complex showing the location of the Red Mountain Pluton.

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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 practiced to avoid misleading reporting of Exploration Results.*	The Scoping Study reports a Mineral Resource estimate for the whole modelled deposit above a 1,000 ppm TREO cut-off rather than selected intercepts, so reporting is inherently balanced. Grades were not capped or truncated and no outlier restrictions were applied, so high and low grades are represented as assayed. Resource statements are presented both by classification category and by mineral ownership, and both the full Halleck Creek Project resource and the narrower Cowboy State Mine / Red Mountain resource are given, with the respective areas and cut-off grades stated. The Scoping Study also discloses unfavorable information, including two certified reference material exceedances (Nd and Pr) and one external standard anomaly that remain unresolved, and the comparatively lower confidence of the Overton Mountain portion of the deposit. (Sections 10.13, 7.6 and 21.9.)
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.*	Ground geophysical surveys have not been employed at Halleck Creek. The homogeneous nature of the host lithology and the low levels of radionuclides, metallic oxide minerals, and sulfide minerals do not lend themselves to conventional geophysical exploration methods. Wyoming Rare geologists were evaluating the use of handheld gamma spectrometers during the 2025 field season.
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).*	ARR/Wyoming Rare plans continued geological mapping, surface sampling, and targeted drilling to improve geological confidence and evaluate prospective areas within the broader Red Mountain Pluton, including the Bluegrass and County Line areas. Additional infill drilling in selected portions of the existing Mineral Resource is also planned to support future refinement of Mineral Resource classifications.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	The Scoping Study sets out a sequenced work program toward a Pre-Feasibility Study, that is currently in progress, with an order-of-magnitude budget of approximately US$7.0 million, comprising: geology and exploration US$2.0 million; metallurgy and process recovery US$1.5 million; engineering and infrastructure US$750,000; PFS integration and study preparation US$750,000; permitting US$500,000; environmental and social programs US$500,000; mining and

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		geotechnical engineering US$500,000; process flowsheet reconciliation US$350,000; and Mineral Resource update and refinement US$150,000. Exploration-specific work comprises continued geological mapping and surface sampling; targeted drilling to improve geological confidence and to expand the Mineral Resource footprint where warranted, including evaluation of the Bluegrass and County Line areas within the broader Red Mountain Pluton; and additional infill drilling in selected portions of the existing Mineral Resource to support refinement of resource classification. A 2026 drilling program was in progress at the effective date, and its results are to be incorporated in any future Mineral Resource update supporting the Pre-Feasibility Study. (Chapter 22.)

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.*	All drill hole and surface sample data were imported into the DHDB drill hole database, maintained by Wyoming Rare since 2004 and tailored for rare earth element data. Assay and QA/QC data are imported directly from certified laboratory data, minimizing data entry errors, and detailed validation queries are applied to the drill hole data.
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.*	Alfred Gillman (Odessa Resources) visited the site on 7 March 2024, including Red Mountain and the core storage facility at Western Research Institute (Wyoming Rare) in Laramie, Wyoming. Patrick Sobecke (Stantec) visited the site on 10 February 2025, accompanied by Erick Kennedy (Stantec) and Sara Stotter (ARR). Mark Travis (Arkenstone Exploration) visited the site on 12-13 May 2026. Kelton Smith (Tetra Tech) has visited the site on numerous occasions in 2024, 2025, and 2026.
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 geological resource model was created by Odessa Resources using Leapfrog Edge modeling tools. A revised three-dimensional geological model isolates the higher-grade Red Mountain Pluton (RMP) domain from surrounding lithologies. Modeling domains comprise Quaternary alluvium (QAL), RMP (clinopyroxene quartz monzonite), RMP1 (biotite-hornblende quartz syenite and fayalite

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	The use of geology in guiding and controlling Mineral Resource estimation. *The factors affecting continuity both of grade and geology.*	monzonite), the unmineralized Elmers Rock Greenstone Belt (ERGB), low-grade Sybille intrusions (SYB), and the Laramie Anorthosite Complex country rock (LAC).
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 Red Mountain project area is approximately 2,075 m x 1,013 m; the Overton Mountain project area is approximately 1,210 m x 1,648 m. Both deposits remain open at depth: mineralization has been observed to a depth of 302 m at Overton Mountain and 298 m at Red Mountain.
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 sulfur for acid mine drainage characterization).* *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.*	Grade estimation was carried out by Odessa Resources in Leapfrog Edge using ordinary kriging. A standard variogram was modelled on undomained TREO composites and the interpolant profile developed for TREO was applied to the individual rare earth elements and minerals. Estimations were carried out on each rare earth element together with UO_2, ThO_2, ZrO_2 and Fe, so deleterious and non-grade variables of economic significance were estimated alongside the pay elements. Final TREO, HREO, LREO and MREO grades are reported as sum calculations of the respective element grades. An orthogonal block model was used with a parent block size of 20 m by 20 m by 10 m and a minimum block size of 5 m by 5 m by 2.5 m. Several block sizes were trialed; differences in the resulting estimates were almost imperceptible, and the 20 by 20 by 10 m parent block was selected for faster processing and reporting. Parent block size is small relative to the approximately 50–150 m drill spacing. No selective mining unit consideration was made, on the basis that mining a resource of this magnitude would use the maximum bench height permitted by geotechnical considerations. Two estimation passes were used at Red Mountain: Pass 1 with a 150 by 150 by 120 m search ellipsoid, minimum 4 and maximum 15 samples; Pass 2 with a 500 by 500 by 220 m ellipsoid, minimum 2 and maximum 15 samples. At Overton Mountain the corresponding searches were 150 by 150 by 75 m and 300 by 300 by 75 m. Resource boundary limits were set at 90% of the sill range from variography. Grades were not cut or capped and no outlier restrictions were applied, on the basis of the homogeneous, low-nugget nature of the mineralization. Check estimates were run using inverse distance squared and nearest neighbor methods (see 'validation' below). The estimate supersedes the March 2024 Scoping Study estimate and the differences are reconciled in Section 10.14. There

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	Discussion of basis for using or not using grade cutting or capping.	are no mine production records, as the Project has no production history. By-product recovery is not assumed within the Mineral Resource estimate; recovery assumptions are applied only in the downstream economic analysis. (Sections 10.6 to 10.8 and 10.14.)
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Validation runs (inverse distance squared, isotropic ID2, ID2 with variogram, and nearest neighbor) were compared against the kriged estimator and against raw composite data in east-west and north-south swath plots across Red Mountain. The kriged estimator was found to estimate a global resource grade with no systematic bias towards overestimating grades.
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 estimated on a dry in-situ basis, using a specific gravity / dry bulk density of 2.70 derived from hydrostatic testing. Natural moisture content was not separately determined and no moisture allowance is applied to the reported tonnages. (Sections 7.3 and 10.3.)
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	The Mineral Resource is reported at a cut-off grade of 1,000 ppm TREO. Stantec developed net smelter return (NSR) calculations based on recovering oxides of NdPr, La, Dy, Tb, and SEG (mixed samarium, europium, and gadolinium), which demonstrated that 1,000 ppm TREO is the economic cut-off grade for in situ resource estimates within the proposed resource limits.
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.*	Resource material is at surface and can be mined with conventional open-pit mining equipment. Uncontrolled minerals (not controlled by ARR) were excluded from the resource estimate. Pit shell optimization using Whittle software confirms the Mineral Resource at CSM is amenable to open-pit mining at grades above the cut-off, with the resource located at or near surface at a low strip ratio.
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*	Metallurgical and mineralogical studies indicate that REE recoveries are broadly homogeneous across the Red Mountain and Overton Mountain resource areas. Representative core material from both areas was used to establish the concentration flowsheet, and geologist's logs and REE assays are consistent with the observed homogeneity of the deposit.

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	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.	
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.*	The Mineral Resource is assumed to be amenable to conventional open-pit mining. The material is at or near surface and can be mined with conventional open-pit equipment, and minerals not controlled by ARR were excluded from the resource estimates. Pit shell optimization using Whittle software, carried out for the Scoping Study, confirms that the Mineral Resource at the Cowboy State Mine is amenable to open-pit mining at grades above the cut-off and that the resource sits at or near surface with a low strip ratio. The Scoping Study mine plan assumes a base-case processing rate of 4.5 Mtpa over approximately 26 years, mining 116.4 Mt of ore and 18.7 Mt of waste at a life-of-Project strip ratio of 0.16:1. Indicated Mineral Resources only are scheduled as mill feed; Inferred material falling within the designed pits is scheduled as waste. No selective mining unit was assumed in the block model, on the basis that mining would be undertaken at the maximum bench height permitted by geotechnical considerations. Minimum mining dimensions and internal or external mining dilution factors are not explicitly stated in the Scoping Study and should be defined at the Pre-Feasibility stage. (Sections 10.11 and Chapter 12.)
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.*	Dry bulk density is based on hydrostatic testing of 10 core samples from Cowboy State Mine core, including both untreated and wax-impregnated samples. A fixed specific gravity of 2.70 was adopted and applied as a constant value across all domains to derive tonnage; no domain-specific SG values were applied.
	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.*	Hydrostatic testing of untreated and wax-impregnated samples confirmed a narrow range of specific gravity values across the deposit, supporting the use of a single fixed SG of 2.70. The full Halleck Creek composite weighted average SG (untreated) was 2.70, based on the 10 core samples tested.

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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 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.*	The resource is classified as Measured, Indicated, or Inferred. Classification is based on geological continuity (mineralization is controlled by batholith-scale fractionation rather than structural control, with a high degree of continuity confirmed by empirical observation and variography) and on drill spacing, which is irregular at approximately 50-150 m at Red Mountain (revised by Odessa Resources in July 2026 from an earlier ~200 m estimate) and approximately 90 m at Overton Mountain, where the Measured resource is established. A high degree of conservatism was applied to the classification, particularly the Indicated component.
Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	The Red Mountain variogram was re-examined following the Fall 2024 drilling program and remains unchanged from the previous model, supporting the robustness of the original resource model.
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.*	Uncertainty associated with sampling, drilling, geological interpretation, data processing, density assignment, and resource estimation has been incorporated into the Mineral Resource classification. The Qualified Person concluded that the quantity and quality of available geological, drilling, sampling, density, analytical, and estimation data are sufficient to support the reported Mineral Resource in accordance with the JORC Code (2012 Edition), and that the deposit retains potential for further expansion through additional drilling beyond the limits of the current resource model.

Section 4 Estimation and Reporting of Ore Reserves

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(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.*	No Mineral Reserve estimate has been prepared for the Halleck Creek Project. No Mineral Resources have been converted to Ore Reserves.
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.*	Alfred Gillman (Odessa Resources) visited the site on 7 March 2024, including Red Mountain and the core storage facility at Western Research Institute (Wyoming Rare) in Laramie, Wyoming. Patrick Sobecke (Stantec) visited the site on 10 February 2025, accompanied by Erick Kennedy (Stantec) and Sara Stotter (ARR). Mark Travis (Arkenstone Exploration) visited the site on 12-13 May 2026. Kelton Smith (Tetra Tech) has visited the site on numerous occasions in 2024, 2025, and 2026.
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.*	The Halleck Creek Project is at the Scoping Study stage. No Pre-Feasibility Study or Feasibility Study has been initiated. This Scoping Study (September 2026) states there are no Ore Reserves to report.
Cut-off parameters	*The basis of the cut-off grade(s) or quality parameters applied.*	Ore is defined at a cut-off grade of 1,000 ppm TREO. Material falling above this cut-off grade is considered ore and sent to on-site processing; material below the cut-off reports to the waste rock storage facility. The cut-off is based on net smelter return (NSR) calculations developed by Stantec, recovering oxides of NdPr, La, Dy, Tb, and SEG.
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 (i.e. either by application of appropriate factors by optimization or by preliminary or detailed design).*	The CSM deposit is planned to be mined by open-pit methods using conventional truck-and-shovel extraction; the mine plan does not include underground mining. A life-of-mine schedule was developed using Deswik software. Total ore mined over the life of the Project is 116.4 Mt against 18.7 Mt of waste, a strip ratio of 0.16:1, over a 26-year mine plan at 4.5 Mtpa. All ore in the mining schedule is

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	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 optimization (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 utilized in mining studies and the sensitivity of the outcome to their inclusion.* *The infrastructure requirements of the selected mining methods.*	drawn from the Indicated Mineral Resource category; no Inferred material was scheduled as ore.
Metallurgical factors or assumptions	*The metallurgical process proposed and the appropriateness of that process to the style of mineralization.* *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 proposed process comprises mine-site comminution and concentration (dense media separation, WHIMS) followed by hydrometallurgical extraction, impurity removal, and separation/finishing at a proposed refinery near Wheatland, Wyoming. Overall concentration-circuit TREO recovery is estimated at 65%, sulfuric-acid tank-leach extraction at 90%, and combined impurity removal and separation/finishing at 96-98% on a per-product basis. Estimated cumulative recovery to saleable product is approximately 58.2% for NdPr oxide, 25.8% for SEG oxide, 28.7% for terbium oxide, and 12.4% for dysprosium oxide. These estimates are preliminary and subject to revision as further test work and pilot-scale confirmation are completed.
	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 appropriate mineralogy to meet the specifications?*	Approximately 2,794 tons of unweathered ore was collected under a License to Explore by Dozer permit in August 2025 and used for metallurgical testwork programs. Completion of a pilot and demonstration plant program, currently targeted for the end of 2026, is identified as the highest-priority metallurgical workstream ahead of the next study stage.

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Environmental	*The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterization 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.*	Environmental baseline data collection is underway, including completed soil, vegetation, and wildlife desktop and field studies, and a completed Aquatic Resources Report with USACE Jurisdictional Determination approval. Wyoming Rare is preparing a permit-to-mine application with WWC Engineering for WDEQ-LQD. No detailed mine closure and reclamation plan has yet been completed; this will be developed as part of the WDEQ-LQD permitting process.
Infrastructure	*The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labor, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	Regional infrastructure includes the town of Wheatland (population 3,560), approximately 39 km northeast of the CSM, served by the BNSF Railroad mainline and Interstate 25. A 46 kV electrical substation is located approximately 3.7 km from the western boundary of the state mineral leases. Planned mine-site infrastructure includes an access road upgrade from County Road 720, a fresh water well, a powerline connection, mine-site process plant buildings, a temporary waste rock depository, and a sand byproduct storage facility, all at scoping-level design and cost accuracy. No infrastructure has yet been constructed at the site.
Costs	*The derivation of, or assumptions made, regarding projected capital costs in the study.* *The methodology used to estimate operating costs.* *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.*	Initial capital expenditure is estimated at approximately US$900.8 million, including a 30% contingency on direct capital. Closure costs of US$55.9 million are provided for in the final year of operations and are included in life-of-Project operating cost rather than capital; total life-of-Project capital cost is therefore US$900.8 million. Life-of-project operating cost is estimated at approximately US$4,618 million (undiscounted), equivalent to approximately US$39.68 per ton of ROM material processed. Reagents account for approximately 49.9% of life-of-project operating cost across all functional areas.
	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.	The Project is subject to a sliding-scale Wyoming State royalty of 5% to 10% of gross revenue (or a minimum of $0.50 per saleable ton), a 2% Wyoming severance tax, a 7% Albany County ad valorem tax, and a 0.875% industrial property tax. Total royalties, levies, and federal income tax over the modeled operating life are estimated at approximately US$1.59 billion.
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.*	Four REO products are modeled for revenue: NdPr oxide, terbium oxide, dysprosium oxide, and SEG mixed oxide; lanthanum recovery is included in the flowsheet but excluded from base-case revenue given current market conditions. Base-case pricing (USD/kg, Western CIF) is $151.00 for NdPr oxide, $27.37 for SEG oxide, $1,975.20 for terbium oxide, and $533.80 for dysprosium oxide, derived

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	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	from Adamas Intelligence's independent Rare Earths Market Outlook as the average of 2031-2040 pricing profiles. NdPr oxide accounts for approximately 87.1% of total life-of-project revenue. All prices are held constant in Q1 2026 USD with no escalation.
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.*	Global rare earth production is geographically concentrated, with approximately two-thirds occurring in China and approximately 20% in the United States and Australia; REE refining is even more concentrated in China. Demand for NdPr is driven principally by permanent magnets used in defense, electric vehicles, and consumer electronics, with the IEA forecasting demand for neodymium to nearly double over the next 25 years. Adamas Intelligence forecasts global TREO demand for permanent magnets to grow at an 8.4% CAGR from 2025-2040, while magnet rare earth production grows more slowly at 7.8% CAGR, implying a widening supply deficit. Adamas projects magnet rare earths will drive over 85% of the Halleck Creek project basket value each year from 2030 to 2040.
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.*	The economic evaluation is presented in constant Q1 2026 USD with no escalation, assuming an owner-operated open-pit mine and two-stage processing (mine-site concentration plus refinery), a 4.5 Mtpa base-case processing rate, a three-year construction period, and 26 years of active mining. A real after-tax discount rate of 8.0% is adopted for the base case (10.0% shown for comparison). The analysis assumes the 21% U.S. federal corporate income tax rate (no Wyoming state income tax) and a 14% depletion allowance. The base case yields an after-tax NPV of approximately US$1,073 million at 8%, an after-tax IRR of approximately 20.7%, and an after-tax payback period of approximately 6.9 years.
Social	*The status of agreements with key stakeholders and matters leading to social license to operate.*	No social impact studies have been completed at this stage of project development. ARR plans to engage and employ local contractors and operators throughout permitting, construction, and operation where possible. No definitive community engagement plans have been established; a community needs assessment and community engagement framework are recommended for the next study stage.
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.*	No Mineral Reserve estimate has been prepared for the Project

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	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.*	
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).*	No Ore Reserves are reported for the Project.
Audits or reviews	*The results of any audits or reviews of Ore Reserve estimates.*	No Ore Reserve estimate has been prepared; consequently, no audit or review of an Ore Reserve estimate has been conducted.
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.* *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.*	No Ore Reserves are reported for the Project.

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	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 recognized 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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CERTIFICATION OF QUALIFICATIONS
ALFRED JOHN GILLMAN, AusIMM 107303
Odessa Resources Pty Ltd

I, ALFRED JOHN GILLMAN, HEREBY CERTIFY THAT:

1. I am currently employed as Principal Consultant at Odessa Resources Pty Ltd with an office in Perth, Western Australia and have been engaged by American Rare Earths Ltd. and Wyoming Rare (USA) Inc. in connection with resource estimation work for the Halleck Creek Rare Earth Project.
2. I am a graduate of the University of Western Australia, with a B.Sc. Honours degree in Geology a have practiced in my profession since 1980.
3. I am a Fellow and Chartered Professional of The Australasian Institute of Mining and Metallurgy (AusIMM) and have been actively employed in various capacities in the mining industry in numerous locations in around the world and Australia since 1980.
4. This certificate relates to the report titled “Halleck Creek Rare Earth Project — JORC Technical Report Summary Scoping Study,” dated 18 September 2026 (the “Report”), prepared for American Rare Earths Ltd. and its U.S. operating subsidiary, Wyoming Rare (USA) Inc.
5. I am the Qualified Person responsible for Chapter 10 (Mineral Resource Estimate) of the Report.
6. I have read the definition of "competent person" set out in Australasian Joint Ore Reserves Committee (JORC) and consider myself qualified, based on my education, registration, and experience described above, for the mining, infrastructure, cost-estimation, and economic-analysis activities for which I accept responsibility.
7. I conducted a site visit to the Project on 7 March 2024, accompanied by Dwight Kinnes, Chief Technical Officer of American Rare Earths Ltd., including inspection of the Red Mountain project area and core storage facilities at the Wyoming Rare (USA) Inc. facility.
8. I am not an employee of American Rare Earths Ltd. or Wyoming Rare (USA) Inc. Neither I nor Odessa Resources Pty Ltd is affiliated with the Registrant or with another entity having an ownership, royalty, or other interest in the Project. Neither I nor Odessa Resources Pty Ltd holds any direct or indirect ownership interest in the Registrant or the Project, and my compensation is limited to customary professional fees and is not contingent upon the conclusions or contents of the Report.
9. As of the effective date of the Report, to the best of my knowledge, information, and belief, Chapter 10 of the Report contains all scientific and technical information required to be disclosed to make those portions of the Report not misleading.
10. I consent to the use of my name as a Qualified Person, to the quotation from or summarization of the scientific and technical information for which I am responsible in the Report, and to the filing of the Report as an exhibit with the U.S. Securities and Exchange Commission, applicable stock exchanges, and other regulatory authorities, and to publication of the Report as applicable.

DATED at Perth, Western Australia this 20 day of September 2026.

Signature: 

Alfred John Gillman, AusIMM 107303
Competent Person — Mineral Resource Estimate (Chapter 10)
Odessa Resources Pty Ltd

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CERTIFICATION OF QUALIFICATIONS
MARK W. TRAVIS, CPG-12090
Arkenstone Exploration

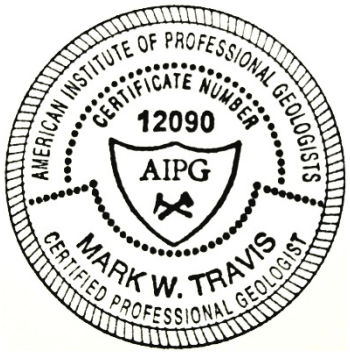
I, MARK W. TRAVIS, HEREBY CERTIFY THAT:

1. I am the Principal Geologist and owner of Arkenstone Exploration, an independent geological and technical advisory practice based in Elko, Nevada, USA, and have been engaged by American Rare Earths Ltd. and Wyoming Rare (USA) Inc. in connection with geological review, technical integration, Qualified Person oversight, and preparation of the Halleck Creek Rare Earth Project technical reporting.
2. I am a graduate of University of Wyoming, with a Bachelor's of Science in Geology (2006), and have practiced in my profession since 2006.
3. I am a Certified Professional Geologist (CPG-12090) with the American Institute of Professional Geologists (AIPG), and have been actively employed in various geological, mineral exploration, project evaluation, and technical advisory capacities in the mining and mineral exploration industry since 2006.
4. This certificate relates to the report titled "Halleck Creek Rare Earth Project — JORC Technical Report Summary Scoping Study," dated 29 September 2026 (the "Report"), prepared for American Rare Earths Ltd. and its U.S. operating subsidiary, Wyoming Rare (USA) Inc.
5. I am responsible, as Competent Person, for Chapters 5 through 8 and the geology, exploration, sampling, QA/QC, and data-verification portions of Chapters 20 and 21 of the Report. I have also served as Editor and Document Integrator for the Report; that editorial and integration role does not extend my Competent Person responsibility to technical matters assigned to other Competent Persons.
6. I have read the definition of "Competent Person" set out in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) and consider myself qualified, based on my education, professional registration, and relevant experience, for the geological, exploration, sampling, QA/QC, data verification, and technical integration activities for which I accept responsibility.
7. I conducted a site visit to the Halleck Creek Rare Earth Project on May 12 and 13, 2026, with Wyoming Rare (USA) Inc. personnel. The site visit included inspection of the Red Mountain area and related site facilities.
8. I am not an employee of American Rare Earths Limited or Wyoming Rare (USA) Inc. Neither I nor Arkenstone Exploration is affiliated with the Registrant or with another entity having an ownership, royalty, or other interest in the Project. Neither I nor Arkenstone Exploration holds any direct or indirect ownership interest in the Registrant or the Project, and my compensation is limited to customary professional fees and is not contingent upon the conclusions or contents of the Report.
9. As of the effective date of the Report, to the best of my knowledge, information, and belief, the portions of the Report for which I am responsible as Competent Person contain all scientific and technical information required to be disclosed to make those portions of the Report not misleading.
10. I consent to the use of my name as a Competent Person, to the quotation from or summarization of the scientific and technical information for which I am responsible in the Report, and to the filing of the Report with the Australian Securities Exchange (ASX) and other applicable regulatory authorities, and to publication of the Report as applicable.

DATED at Elko, NV this 29th day of September 2026.

Signature:

Mark W. Travis, CPG-12090
Competent Person — Geology, Exploration, Sampling, QA/QC, and Data Verification
d/b/a Arkenstone Exploration



CERTIFICATION OF QUALIFICATIONS
KELTON SMITH, RM-SME 4227309RM
TETRA TECH, INC.

I, KELTON SMITH, HEREBY CERTIFY THAT:

1. I am currently employed as Process Department Lead at Tetra Tech, Inc., with an office in Parker, Colorado, USA, and have been engaged, through Tetra Tech, by American Rare Earths Ltd. and Wyoming Rare (USA) Inc. in connection with metallurgical test work and process design for the Halleck Creek Rare Earth Project.
2. I am a graduate of the University of Utah, with a B.S. degree in Chemical Engineering (1997), and have practiced in my profession since 1997.
3. I am a Qualified Professional Member of the Society for Mining, Metallurgy & Exploration (SME), QP No. 4227309RM, and have had extensive prior involvement with rare earth properties similar to Halleck Creek for approximately 15 years, as both an employee of mining companies and as a consultant.
4. This certificate relates to the report titled "JORC Technical Report Summary Scoping Study," dated September 2026 (the "Report"), prepared for American Rare Earths Ltd. and its U.S. operating subsidiary, Wyoming Rare (USA) Inc.
5. I am the Qualified Person responsible for Chapter 9 (Metallurgy) and Chapter 13 (Processing and Recovery Methods) of the Report.
6. I have read the definition of "Competent Person" set out in the Australasian Code for Reporting of Metallurgy and Processing and Recovery Methods (JORC Code) and consider myself qualified, based on my education, registration, and experience described above, for the mineral processing and metallurgical testing activities for which I accept responsibility.
7. I have visited the Project on numerous occasions during 2024, 2025, and 2026 in connection with directing and reviewing the metallurgical test work and process-development programs described in Chapters 9 and 13, including a site visit on July 18, 2025.
8. I am not an employee of American Rare Earths Ltd. or Wyoming Rare (USA) Inc. Neither I nor Tetra Tech, Inc. is affiliated with the Registrant or with another entity having an ownership, royalty, or other interest in the Project. Neither I nor Tetra Tech, Inc. holds any direct or indirect ownership interest in the Registrant or the Project, and my compensation is limited to customary professional fees and is not contingent upon the conclusions or contents of the Report.
9. As of the effective date of the Report, to the best of my knowledge, information, and belief, Chapters 9 and 13 of the Report contain all scientific and technical information required to be disclosed to make those portions of the Report not misleading.
10. I consent to the use of my name as a Qualified Person, to the quotation from or summarization of the scientific and technical information for which I am responsible in the Report, and to the filing of the Report as an exhibit with the U.S. Securities and Exchange Commission, applicable stock exchanges, and other regulatory authorities, and to publication of the Report as applicable.

DATED at Parker, Colorado, USA this 29th day of September 2026.

Signature: 

Kelton Smith, RM-SME 4227309RM
Qualified Person —Metallurgy (Chapter 9); Processing and Recovery Methods (Chapter 13)
Tetra Tech, Inc.

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CERTIFICATION OF QUALIFICATIONS
PATRICK A. SOBECKE, PE, RM-SME 04133849RM
Stantec Consulting Services Inc.

I, PATRICK A. SOBECKE, HEREBY CERTIFY THAT:

1. I am currently employed as Senior Mining Consultant at Stantec Consulting Services Inc., with an office in Raleigh, NC USA, and have been engaged, through Stantec Consulting Services Inc., by American Rare Earths Ltd. and Wyoming Rare (USA) Inc. in connection with mining, infrastructure, cost-estimation, and economic-analysis work for the Halleck Creek Rare Earth Project.
2. I am a graduate of Virginia Polytechnic and State University, with a B.S. degree in Mining Engineering (2004), and have practiced in my profession since 2004.
3. I am a registered Professional Engineer (PE) and a Registered Member of the Society for Mining, Metallurgy & Exploration (SME), 04133849RM, and have been actively employed in various capacities in the mining industry in numerous locations in North America and Australia since 2004.
4. This certificate relates to the report titled “Halleck Creek Rare Earth Project — JORC Technical Report Summary Scoping Study,” dated 18 September 2026 (the “Report”), prepared for American Rare Earths Ltd. and its U.S. operating subsidiary, Wyoming Rare (USA) Inc.
5. I am the Qualified Person responsible for Chapter 12 (Mining Methods), Chapter 14 (Infrastructure), Chapter 17 (Capital and Operating Costs, excluding Mineral Processing), and Chapter 18 (Economic Analysis) of the Report.
6. I have read the definition of "competent person" set out in Australasian Joint Ore Reserves Committee (JORC) and consider myself qualified, based on my education, registration, and experience described above, for the mining, infrastructure, cost-estimation, and economic-analysis activities for which I accept responsibility.
7. I conducted a site visit to the Project on 10 February 2025, accompanied by Erick Kennedy, Senior Mining Engineer, Stantec, and Sara Stotter, geologist, American Rare Earths Ltd., including inspection of the Red Mountain project area and core storage facilities at the Wyoming Rare (USA) Inc. facility.
8. I am not an employee of American Rare Earths Ltd. or Wyoming Rare (USA) Inc. Neither I nor Stantec Consulting Services Inc. is affiliated with the Registrant or with another entity having an ownership, royalty, or other interest in the Project. Neither I nor Stantec Consulting Services Inc. holds any direct or indirect ownership interest in the Registrant or the Project, and my compensation is limited to customary professional fees and is not contingent upon the conclusions or contents of the Report.
9. As of the effective date of the Report, to the best of my knowledge, information, and belief, Chapters 12, 14, 17 (excluding Mineral Processing), and 18 of the Report contain all scientific and technical information required to be disclosed to make those portions of the Report not misleading.
10. I consent to the use of my name as a Qualified Person, to the quotation from or summarization of the scientific and technical information for which I am responsible in the Report, and to the filing of the Report as an exhibit with the U.S. Securities and Exchange Commission, applicable stock exchanges, and other regulatory authorities, and to publication of the Report as applicable.

DATED at Raleigh, NC this 21 day of September 2026.

Signature: _____ Sobecke, Patrick

Digitally signed by Sobecke, Patrick
Date: 2026.09.21 10:01:45 -04'00'

Patrick A. Sobecke, PE, RM-SME 04133849RM
Competent Person — Mining Methods and Infrastructure (Chapters 12 and 14); Capital and Operating Costs (excluding Mineral Processing) (Chapter 17); Economic Analysis (Chapter 18)
Stantec Consulting Services Inc.

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