

# Cowboy State Mine Study Strengthens Foundation for Domestic U.S. Rare Earth Supply

written by Raj Shah | September 30, 2026

## 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 optimization, 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

September 30, 2026 ([Source](#)) – [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 realized.

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.

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 optimization 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 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.

| <b>Key measure</b>                                   | <b>2025 Scoping Study<br/>base case</b> | <b>2026 Scoping Study<br/>base case</b>              |
|------------------------------------------------------|-----------------------------------------|------------------------------------------------------|
| Planned ROM throughput                               | 3.0 Mtpa                                | 4.5 Mtpa                                             |
| Modelled mine life                                   | 20 years                                | 26 years                                             |
| Start of commissioning<br>/ commercial<br>production | –                                       | Year 2030 / 2031                                     |
| Material mined in the<br>mine plan                   | 62.3 Mt                                 | 135.0 Mt                                             |
| Waste mined                                          | 23.6 Mt                                 | 18.7 Mt                                              |
| Average annual NdPr<br>oxide production              | Approximately 1,833<br>tonnes           | Approximately 2,500<br>tonnes                        |
| After tax NPV at 10%<br>real                         | US\$558 million                         | US\$764 million                                      |
| After tax NPV at 8%<br>real                          | Not used as<br>headline base case       | Approximately<br>US\$1.07 billion                    |
| After tax IRR                                        | 24%                                     | 21%                                                  |
| Reported after tax<br>payback from first<br>capital  | 2.7 years                               | 6.9 years                                            |
| Initial capital,<br>including contingency            | US\$456 million                         | US\$900 million                                      |
| Contingency                                          | US\$76 million; 20%                     | Approx. US\$210<br>million; 30% of<br>direct capital |
| Closure capital                                      | Included within the<br>study framework  | US\$56 million                                       |
| NdPr oxide price<br>assumption                       | US\$91/kg <sup>1</sup>                  | 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 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  $\pm 30\%$  to  $\pm 50\%$ ; a higher contingency does not remove construction, financing or execution risk.

## **RECOVERY OPTIMIZATION 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.

| <b>Product</b>   | <b>2025 recovery</b> | <b>2026 recovery</b> |
|------------------|----------------------|----------------------|
| 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 optimization. Potential recovery improvements, additional product streams and downstream opportunities remain 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 finalizing 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**

| <b>Workstream</b>                 | <b>Next milestone or objective</b>                                                                                                                      |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pilot and demonstration program   | Confirm and optimize 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 optimization.                                    |
| Novex oxide to metal program      | Advance the 50 kg concentrate test program towards oxide recovery optimization 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.

## **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 geological consultant to American Rare Earths Limited and has sufficient experience relevant to the style of mineralization 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 mineralization 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.*

**For the full Scoping Study, including the JORC Table, please refer to the ASX release available on the Company’s website here:**

<https://app.sharelinktechnologies.com/announcement-preview/asx/5018dfe907e7cc0548d96bbd57b8a97a>

**For further information:**

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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](http://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 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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<sup>1</sup> 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>