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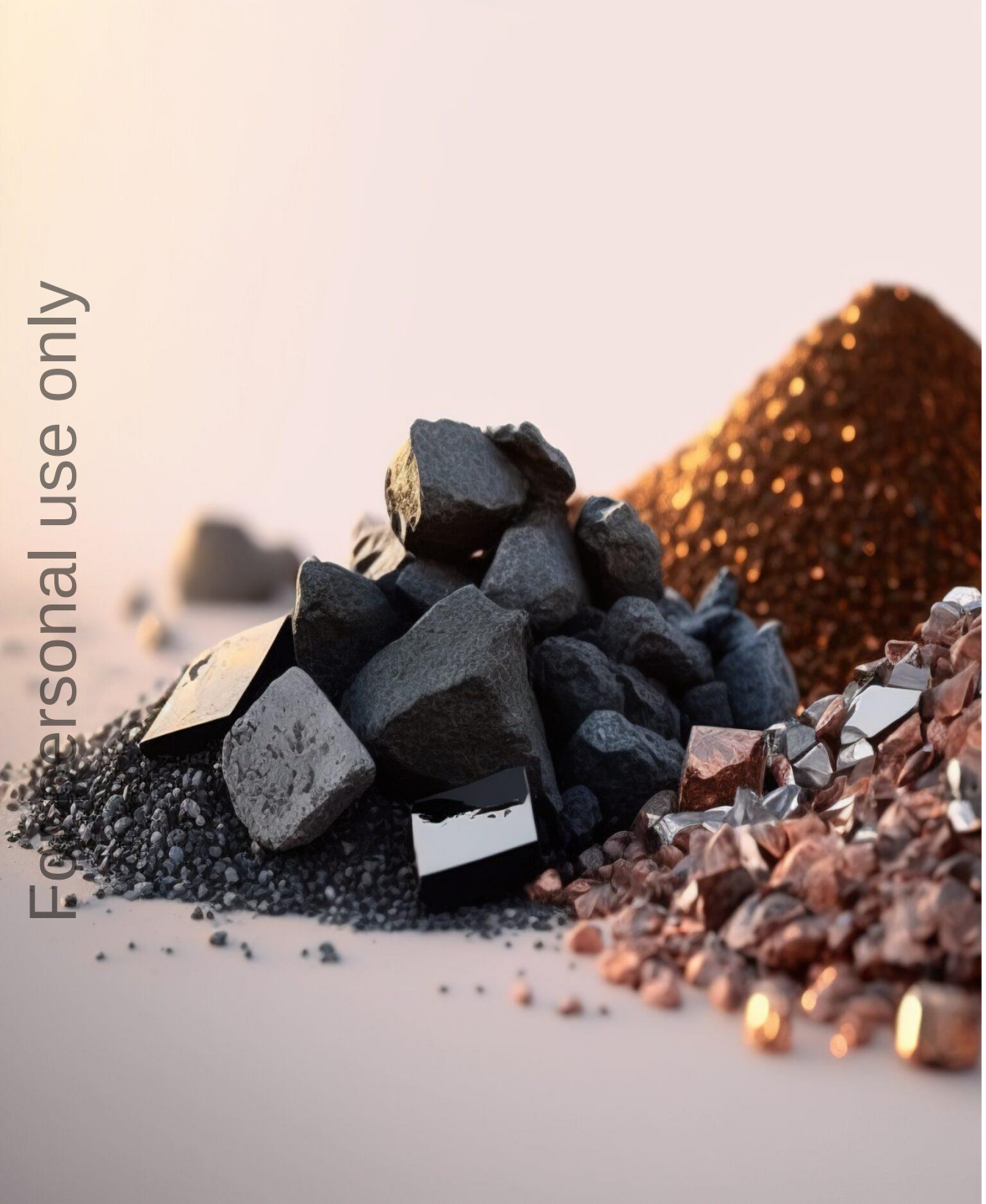

AMERICAN RARE EARTHS

(ASX: ARR | OTCQX: ARRNF | ADR: AMRRY)

November 2025 Investor Presentation

A Wyoming Solution to Diversify and De-Risk the United States' Upstream Rare Earths Supply Chain

Forward Looking Statements

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Competent Person Statement

This work was reviewed and approved for release by Mr Kelton Smith (Society of Mining Engineers #4227309RM) who is employed by Tetra Tech 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 a industry consultant. Mr. Smith consents to the inclusion in the report 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 #04133849) 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. Patrick 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 the report of the matters based upon the information in the form and context in which it appears.

The information in this document is based on information compiled by personnel under the direction of Mr. Dwight Kinnes who is Chief Technical Officer of American Rare Earths. This geological work was reviewed and approved for release by Mr. Kinnes (Society of Mining Engineers #4063295RM) who is employed by American Rare Earths and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 JORC Code. Mr Kinnes consents to the inclusion in the report of the matters based upon the information in the form and context in which it appears.

ARR confirms it is not aware of any new information or data that materially affects the information included in the original market announcement, and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. ARR confirms that the form and context in which the Competent Person's findings presented have not been materially modified from the original market announcement.

ARR confirms it is not aware of any new information or data that materially affects the information included in the original market announcement, and, in the case of all material assumptions underpinning the production target or the forecast financial information derived from a production target in the initial report continue to apply and have not materially changed.

Investment Highlights

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1

World-Class Resource Scale and Grade

- Halleck Creek is a large, scalable deposit with a JORC resource estimate of 2.63 billion tonnes and grades of 3,292 ppm TREO
- Only a small portion of the total resource has been included in current economic studies point to material upside to the current considered life of mine; large parts are untested or remain open (at depth and along strike)

2

Strategic Location Offers Regulatory Advantages in the U.S.

- Halleck Creek is located in Wyoming, USA – a stable, Tier-1 mining jurisdiction
- The Cowboy State Mine (Phase 1 of Halleck Creek) sits entirely on State land, allowing for significantly faster permitting (2-3 year process, which has already commenced) compared to Federal land (+10 years)
- American Rare Earths (**"ARR"**) has established a wholly owned U.S. subsidiary Wyoming Rare USA Inc. to facilitate U.S. investment and streamline U.S. operations

3

A Phased Development Approach Supports Scalable Growth

- Development will take place in two separated and independent phases:
  - Phase 1 on Cowboy State Mine (State Land & Minerals) to expedite permitting and accelerate production and cash flow timelines
  - Phase 2 development on Federal Land & Minerals, which could potentially support generations of additional production

4

Compelling Economics Delivered in Update Scoping Study

- Cowboy State Mine has been assessed under a 3Mtpa 'base case' yield attractive economics
  - NPV10% (post-tax): ~US$558 mm, IRR (post-tax): ~24% and payback: ~2.7 years
- Pre-Feasibility Study ("PFS") is well underway and scheduled to be published in 2026

5

Government Funding Validates Halleck's Creek's Strategic Importance

- Received State of Wyoming Non-binding interest from the U.S. Export-Import Bank (EXIM) for up to ~US$456 mm in project finance
- State-level support via non-dilutive grant funding from Wyoming State (US$7.1 mm) and reimbursements from the Wyoming Energy Authority

Source: 2025 Halleck Creek Updated Scoping Study Technical Report (ASX release February 24, 2025)

1. Study assumes US$91.0/kg NdPr, US$2.0/kg La, US$10.0/kg SEG , US$1,500.0/kg Tb and US$400.0/kg Dy.

2. ASX release dated September 24, 2024

Flagship Project Overview: Halleck Creek

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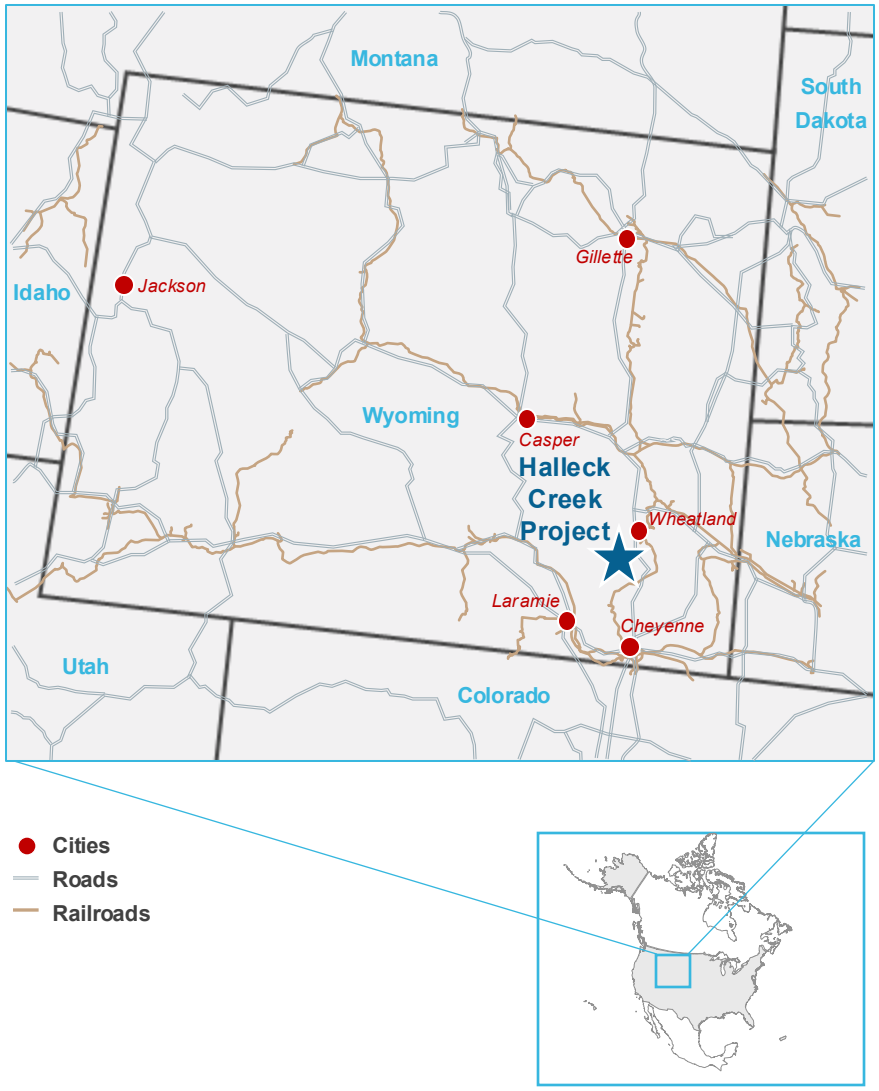
Project Overview

Halleck Creek is a large, scalable resource with the potential to secure both the heavy and light rare earths needs for US industry, defense and innovation for +100-years.

- The Project deposit has a JORC resource estimate of **2.63 bn tonnes** with grades of 3,292 ppm TREO
- Halleck Creek is to be developed in two separate and independent phases:
  - **Phase 1:** The Cowboy State Mine ("**CSM**"), a 20-year life of mine, with robust economics showing a post-tax $NPV_{10\%}$ US$558 mm and ~24% IRR[1];
  - **Phase 2:** Development of Halleck Creek on Federal Land & Minerals, which has an 80-year plus mine life potential.
- **Speed to Come to Market:** The CSM has the strategic advantage of a Wyoming State permit to mine process which is typically 2-3 years (vs. federal permits of +10 years).
  - Strategic permitting advantage will enable the CSM to meet the immediate term needs of the rapidly growing US magnetics industry
- **Strong Government Support to date:**
  - Received State of Wyoming grant of US$7.1 mm to help advance the development of the Cowboy State Mine[2]
  - Received a non-binding letter of interest from the U.S. EXIM Bank for up to US$456 mm debt financing, covering all initial CSM capex[3]

Location



Source: 2025 Halleck Creek Updated Scoping Study Technical Report (ASX release February 24, 2025)

1. Study assumes US$91.0/kg NdPr, US$2.0/kg La, US$10.0/kg SEG , US$1,500.0/kg Tb and US$400.0/kg Dy.
2. See June 27, 2024 ASX announcement for additional details.
3. See September 24, 2024 ASX announcement for additional details.

Halleck Creek is the United-State's Long-Term Rare Earths Supply Solution

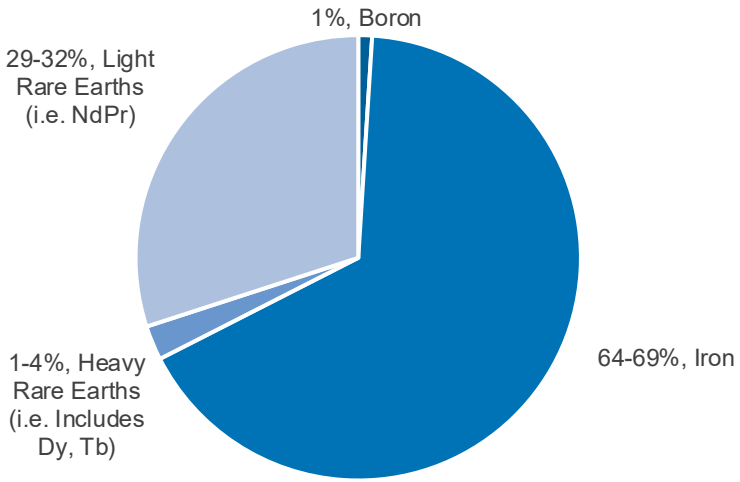
A Halleck Creek is the U.S' long-term solution to diversify and de-risk its domestic rare earths mine-to-magnet supply chain.

The Trump Administration has made significant and meaningful investments in reshoring the United States' rare earths industry. However, the rapidly developing **U.S. mine-to-magnet industry still has a single point of failure** as the Mountain Pass mine in California is the only domestic rare earths mine currently in production.

Without upstream rare-earths mine supply diversification, the entire US-domestic supply chain is still at risk from foreign adversaries, like China who control almost every vertical of the industry.

Halleck Creek offers a solution which can feed the domestic magnetics industry, with light and heavy rare earths, for +100-years.

Rare Earth Magnet Breakdown By Mass %[3]



Cowboy State Mine Avg. Annual Production

	Annual Avg. Production (tonnes)[4]
Light Rare Earths	
NdPr Oxide	1,833
La Carbonate	1,724
Heavy Rare Earths	
Tb Oxide	24
Dy Oxide	98
SEG Concentrate	488

Based on the base case rare earth oxide production in the 2025 Scoping Study, **Halleck Creek's initial development phase could a material portion of the feedstock needs for MP Material's 10,000 tonne per annum Independence Magnetics Facility**, including:

- **Upwards of 57% of the light rare earths** (i.e. Neodymium-Praseodymium or "NdPr")[1] needs and;
- **Approximately 30% of the critical heavy rare earths** (i.e Dysprosium, "Dy", and Terbium, "Tb")[2] requirements

1. Breakdown based on percentage of magnet mass shown in pie-chart above. Calculated as (CSM Avg. Annual Production of 1,833t NdPr)/[(10,000 tonne per annum magnetics capacity)x(32%)]
2. Breakdown based on percentage of magnet mass shown in pie-chart above. Calculated as (CSM Avg. Annual Production of 24t Tb +98t Dy)/[(10,000 tonne per annum magnetics capacity)x(4%)]
3. Breakdown based on percentage of magnet mass. Source: Morgan Stanley Research and Woodmac.
4. 2025 Halleck Creek Updated Scoping Study Technical Report. 3.0 million tonnes per year base case life of mine average production shown.

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Flow-Sheet Development & Technical De-Risking

Historically, producing allanite-based rare earths (i.e. Halleck Creek's ore) has proven to be technically and economically challenging. However, ARR is well underway in developing a technically and economically viable flow-sheet based on 100% conventional mineral processing techniques and equipment.

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Step 1: Comminution

- Currently, ARR is testing multiple conventional comminution (i.e. milling) methods, with globally renowned experts, to optimize the front-end process and reduce the number of fines (i.e. ore milled material below a target size)
- The Company is confident these comminution optimization tests will yield a material reduction in fines and ultimately will have **a positive impact to both the beneficiation processing and increase overall REE recoveries**.[1]

Step 2: Beneficiation / Ore Upgrading

- One of the main pushbacks on the Halleck Creek project is it's low in-situ rare earth ore grade of 3,292 ppm (or ~0.3%) TREO. Production scale tests have confirmed that **Halleck Creek ore can be efficiently upgraded by 10X** at using a combination of spirals and induced roll magnetic separators ("IRMS").
- In addition, 93.5% of non-rare earth material can be removed prior to leaching, meaning only 6.5% of mined ore requires further refining. Leaching costs are typically directly correlated to mass, therefore less mass points to lower operating costs.[2]

Step 3: Leaching

- Halleck Creek ore does not require cracking, instead recent leach tests showed a low reagent, low-temperate atmospheric tank leach is the preferred method.[3] **This leach method typically has both operating and capital costs benefits vs. traditional REE processes which require cracking.**
- It is theorized that over the life of the Halleck Creek deposit, a natural geological process called *metamictization* pre-processed or cracked the ore, in addition to removing a material amount of the radioactive elements.

Step 4: Impurity Removal and Solvent Extraction

- Historically, impurity removal has posed to be a challenging step for processing allanite-based REEs, like Halleck Creek's ore, as the mineral typically produces unwanted byproducts such as gypsum and silica gel, which result in additional and difficult processing steps to remove them. **Recent neutralization tests show minimal unwanted products forming and de-risk what has historically been a material technical and economic hurdle in the processing of allanite.**
- Solvent extraction simulation tests will be undertaken after the completion of the next round of impurity removal test.

1. See ASX release dated July 18, 2025 and September 23, 2025 for more details.
2. See ASX release dated February 20, 2025 and September 23, 2025 for more details.
3. See ASX release dated July 9, 2025 for more details.
4. See ASX release dated October 13, 2025 for more details.

Updated Preliminary Mineral Processing Flowsheet

American Rare Earths is nearing completion of a robust mineral processing flowsheet, with the potential to unlock Halleck Creek's immense rare earths resource and become the next producing mine in the United States.

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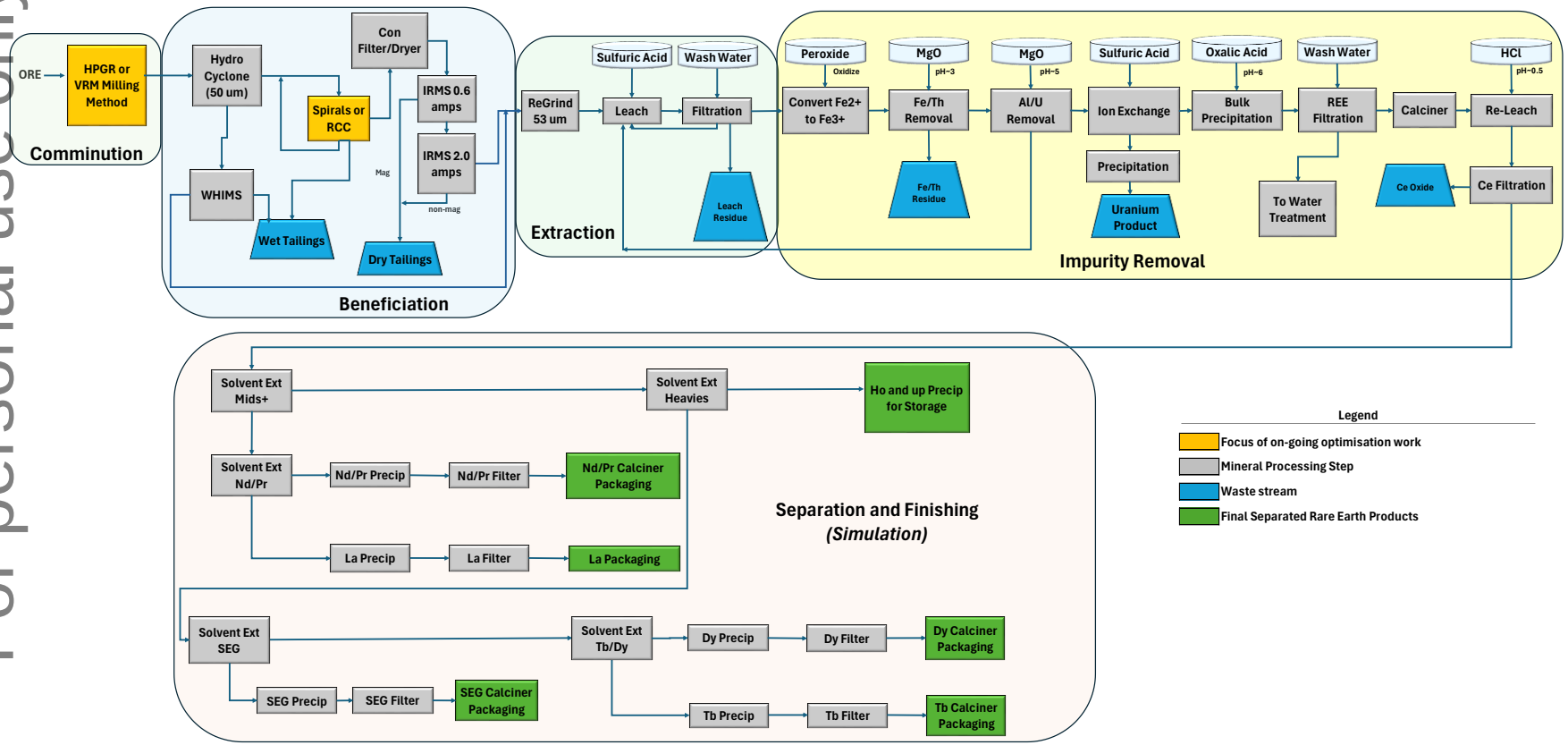

1. See ASX release dated November 10, 2025 for more details. Updated mineral processing flowsheet is not final and subject to change. Note: "HPGR" = High Pressure Grinding Rolls, "VRM" = Vertical Roller Mill, "RCC" = Reflux Classifier Concentrator.

Key Milestones & Catalysts

- **Mar 2024**: Published Halleck Creek Scoping Study
- **Jun 2024**: Received State of Wyoming US$7.1 mm Grant
- **Sept 2024**: Received Non-binding LOI from EXIM Bank to fund all Capex (US$456m)
- **Oct 2024**: Extended Drilling Program Completed at Halleck Creek
- **Feb 2025**: Published Updated Scoping Study, including updated resource estimate
- **Feb 2025**: Completed Separation & Concentration tests, Proving 10x ore upgrade at scale
- **May 2025**: Groundwater monitoring wells installed, a key step in the CSM permit to mine process
- **Jul 2025**: Completed initial leach testing & announced mineral processing optimization program
- **Sept 2025**: Test mining complete at the CSM and start of comminution optimization program
- **Oct 2025**: Completion of impurity removal neutralization tests

Upcoming Catalysts

- **Completion of on-going mineral processing optimization work to potentially increase overall rare earth recoveries.**
- **Completion of remaining hydro-metallurgical testing.**
- **Publication of the Cowboy State Mine Pre-Feasibility Study.**
- **Continue baseline environmental and water data collection for permit to mine application.**
- **Submit Cowboy State Mine permit to mine application.**
- **Commence construction of a demonstration plant. Long lead time equipment has already been ordered.**

For additional details see ASX releases dated March 18, 2024, September 24, 2024; October 1, 2024; February 20, 2025; February 24, 2025; May 28, 2025; July 16, 2025; July 18, 2025; September 23, 2025; October 13, 2025.

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Halleck Creek Resource Base & Growth Potential

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Mineral Resource Estimate – Jan 2025[1]

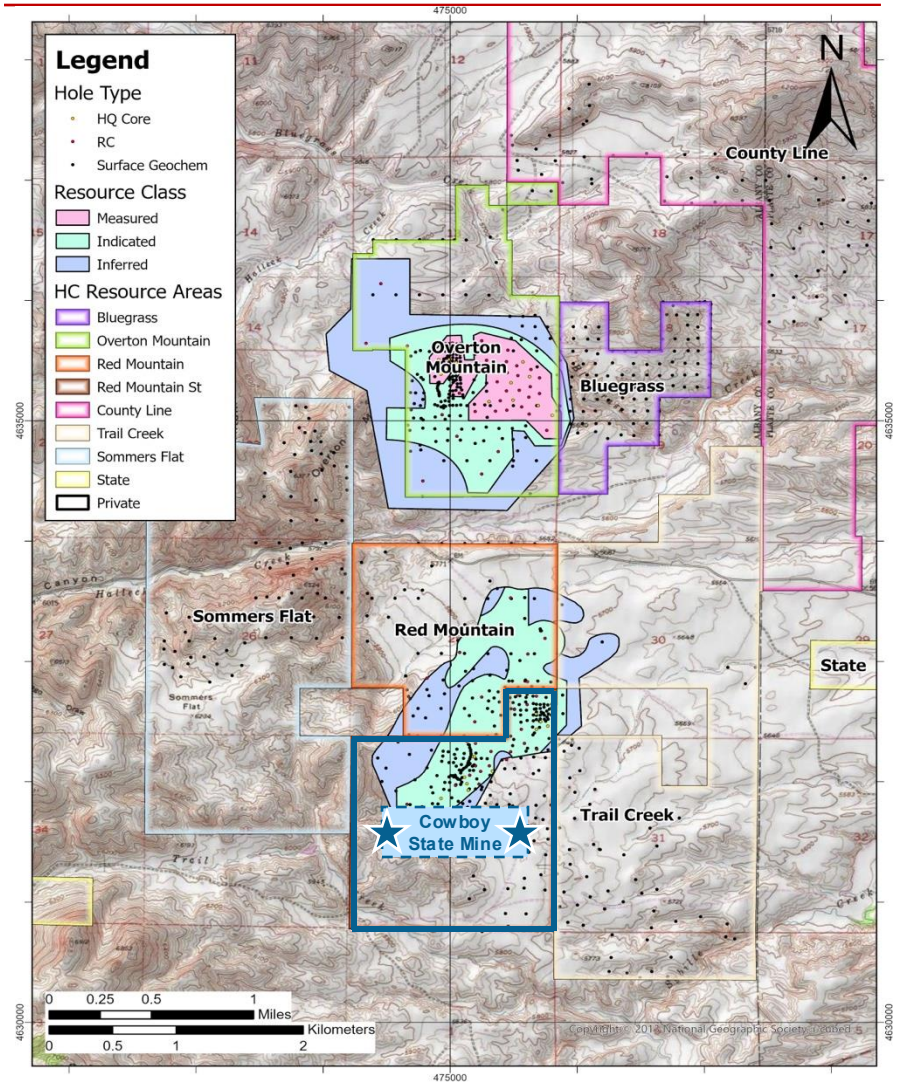
In addition to the Halleck Creek deposit's immense size and potential ability to support multi-generations of US domestic rare earths needs, the resource's rare earth oxide distribution is heavily weighted toward key magnet elements, which account for ~26% of the total rare earth oxide ("TREO") content. In particular, heavy rare earths account for ~11% of the TREO.

		Grade				Contained			
	Tonnage (Mt)	TREO (ppm)	LREO (ppm)	HREO (ppm)	MREO (ppm)	TREO (kt)	LREO (kt)	HREO (kt)	MREO (kt)
Measured & Indicated	1,479	3,334	2,963	361	859	4,931	4,383	535	1,271
Inferred	1,147	3,239	2,878	361	837	3,716	3,302	414	960
Total Mineral Resource	**2,627**	**3,292**	**2,926**	**361**	**850**	**8,647**	**7,685**	**948**	**2,231**

Resource Growth Potential

- **Cowboy State Mine resource only accounts for ~20% of the larger Halleck Creek deposit**
- The Halleck Creek resource is poised to significantly grow beyond current estimates
  - Additional exploration potential at the Bluegrass area
  - In addition to surface area expansion, the Halleck Creek deposit remains open at depth – pointing to further expansion potential

Halleck Creek Resource Areas



1. 2025 Halleck Creek Updated Scoping Study Technical Report. See ASX release dated January 29, 2025 and February 24, 2025 for more details.

Note: TREO = Total Rare Earth Oxides, LREO = Light Rare Earth Oxides, HREO = Heavy Rare Earth Oxides, MREO = Magnet Rare Earth Oxides

Halleck Creek Development & CSM Study Economics

- **The Halleck Creek project to be developed in 2 separate and independent phases:**
  - **Phase 1**: The Cowboy State Mine, which is located on 100% Wyoming state land minerals – a strategic advantage for the project given the state's streamlined permitting process
  - **Phase 2**: Potential development of Halleck Creek portion located on federal land and minerals can support generations of additional production beyond current scoping study estimates

Updated CSM Scoping Study Summary – 2025

- Study envisions scalable open pit mining operation
- Robust project economics on the back of a large scalable resource, a low-strip ratio and competitive C1 cash costs
- Project can be scaled to meet increased future market demand

Description	Units	3 Mtpa Base Case
Mine Life	*(years)*	20
Resource Size[3]	*(mt)*	543
TREO Grade	*(ppm)*	3,438
LOM Strip Ratio	*(bcm/t)*	0.38
Processing Rate	*(mtpa)*	3.0
Overall Recovery of REO Material	*(%)*	67%
NdPr Eq. LOM Avg. Annual Production[1]	*(kt)*	2.79
NdPr Eq. LOM Production	*(kt)*	57.92
NdPr Eq. LOM C1 Cash Cost[1]	*(US$/kg)*	$35.58
Initial Capex[2]	*(US$ mm)*	$456
Post-Tax $NPV_{10\%}$	*(US$ mm)*	$558
Post-Tax IRR	*(%)*	24.0%

Source: 2025 Halleck Creek Updated Scoping Study Technical Report (ASX release February 24, 2025)

Note: Study assumes US$91.0/kg NdPr, US$2.0/kg La, US$10.0/kg SEG , US$1,500.0/kg Tb and US$400.0/kg Dy.

1. Excludes ramp-up year.
2. Includes 20% contingency.
3. Resource size and grade based only on CSM, a subset of the overall Halleck Creek Project. CSM accounts for ~20% of the overall Halleck Creek deposit.

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Halleck Creek Operating and Financial Profile

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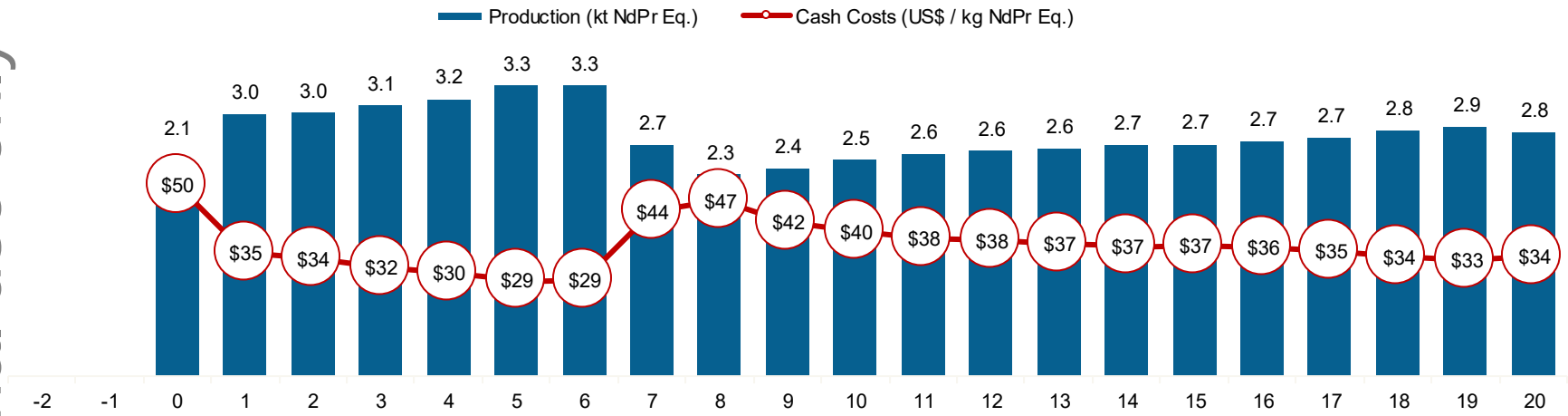
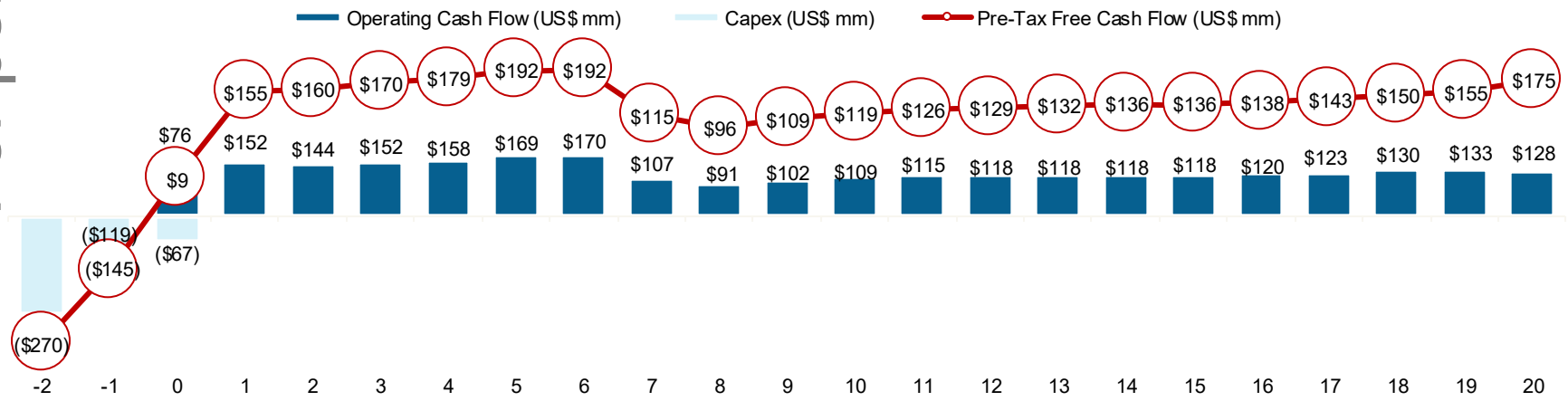
CSM Operating Profile (3Mtpa Base Case)



CSM Financial Profile (3Mtpa Base Case)



Source: Halleck Creek 2025 Scoping Study (ASX release February 24, 2025)

American Rare Earths / Wyoming Rare USA

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100% Ownership

Richard Hudson
Board Chair, ARR

- +40 years of experience in corporate governance & capital markets
- Previously served as the Chairman of an international manufacturing company

Sten L. Gustafson
Non-Ex. Director & V. Chair, ARR & WRI

- +25 years of experience in energy services and investment banking
- Currently CEO of Pyrophyte Acquisition Corp

Melissa Sanderson
Non-Ex. Director, ARR & WRI

- +30 yeas of experience in international diplomacy and mining
- Worked at Freeport-McMoRan & the U.S. Department of State

Jason Beckton
Non-Ex. Director, ARR

- +30 years of experience in exploration, project development, production, and management
- Member of the Australian Institute of Geoscientists

Brian Arkell
Non-Ex. Director, ARR

- +35 years of global experience in mineral exploration, mine development, and operations, with a track record advancing world-class gold and copper-gold projects.

Megan McPherson
CFO, ARR

- Seasoned finance and governance professional with +23 years of experience, including senior leadership roles at several ASX-listed mining companies.

Joe Evers
President, WRI

- +10 years experience in both natural resources and regulatory sector in the U.S.
- Served various management position in both Occidental and Westmoreland Coal

Dwight Kinnes
Chief Technical Officer, WRI

- +40 years of mining experience Professional Geologist & JORC Competent Person
- Previously President of Highland GeoComputing for 17 years

John Mansanti
Senior Advisor, WRI

- +35 years of experience in the metals & mining industry
- Held various senior positions in leading mining companies such as Barrick Gold and Newmont

Tommy von Finckenstein
Director of Strategy & Corp Dev., WRI

- +4 years of financial services and mining experience in investment banking and research
- Mining Engineering degree from McGill University

WYOMING RARE USA

US Subsidiary ("WRI") which owns and oversees the development of Halleck Creek