American Rare Earths

"Right Time, Right Place, Right Commodity"

Investor Presentation

October 2024

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

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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 Gordon Sobering (Society of Mining Engineers #4061917RM) 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. Gordon is a Professional Engineer and has 35 years of experience in the minerals industry including senior positions with Barrick, Newmont Mining, Goldcorp Inc., Doe Run, Energy Fuels Resources and ASARCO. Mr. Sobering 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.

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Compelling Story

American Rare Earths - right place, at the right time, with the right commodities

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- Two world-scale rare earth projects in the USA – Flagship Halleck Creek Project in Wyoming with a 2.34 billion tonne JORC Resource and its Arizona counterpart, La Paz with 171Mt JORC Resource
- Environmentally and socially responsible – pathway to permitting and low penalty elements
- Outstanding metallurgy and mineralogy – reduced capital and operating costs using conventional technology
- Well-funded – Cash and cash equivalent of $11.9M at end of September 2024 and significant financial assets *plus* $10.7M grant from the State of Wyoming. EXIM Bank Letter of Interest to fund up to US$456M (A$680M)
- Key partnerships – member of US Critical Materials Institute and key partner on multiple US Government funded R&D initiatives designed to transform rare earth processing
- Geopolitical forces – a US administration determined to promote domestic mining of rare earths to lessen its country's dependence on Chinese supply and secure a long-term supply for critical US high-tech and defense industries
- Market fundamentals – rapidly increasing global demand for rare earth elements

"In other words, we have the key mineral elements in the largest economy in the world, deposits that allow us to stand out from the rare earths crowd, and we are planning to supply the USA who are desperately seeking rare earths from a jurisdiction free of political risk."

Corporate Snapshot

Share Price (market close 21-Oct-24)	A$0.280
Shares Outstanding	495.5 million
Market Cap	A$139 million
Cash on Hand (30-Sept-24)	A$11.9 million
Invested Financial Assets (30-Sept-24)[1]	A$3.9 million

Wyoming Rare (USA) Inc
(100% Wholly Owned Subsidiary)

Joe Evers
President

Dwight Kinnes
Chief Technical Officer

John Mansanti
Senior Advisor

Tommy von Finckenstein
Strategy & Corporate Development,

Board of Directors

Richard Hudson
Chairman

Sten L Gustafson
Non-Executive Director
& Deputy Chairman

Melissa Sanderson
Non-Executive Director

Hugh Keller
Non-Executive Director

Chris Gibbs
CEO & Executive Director

1. Represents investments in Cobalt Blue Holdings (ASX:COB) and Godolphin Resources (ASX:GRL), inclusive of promissory notes receivable

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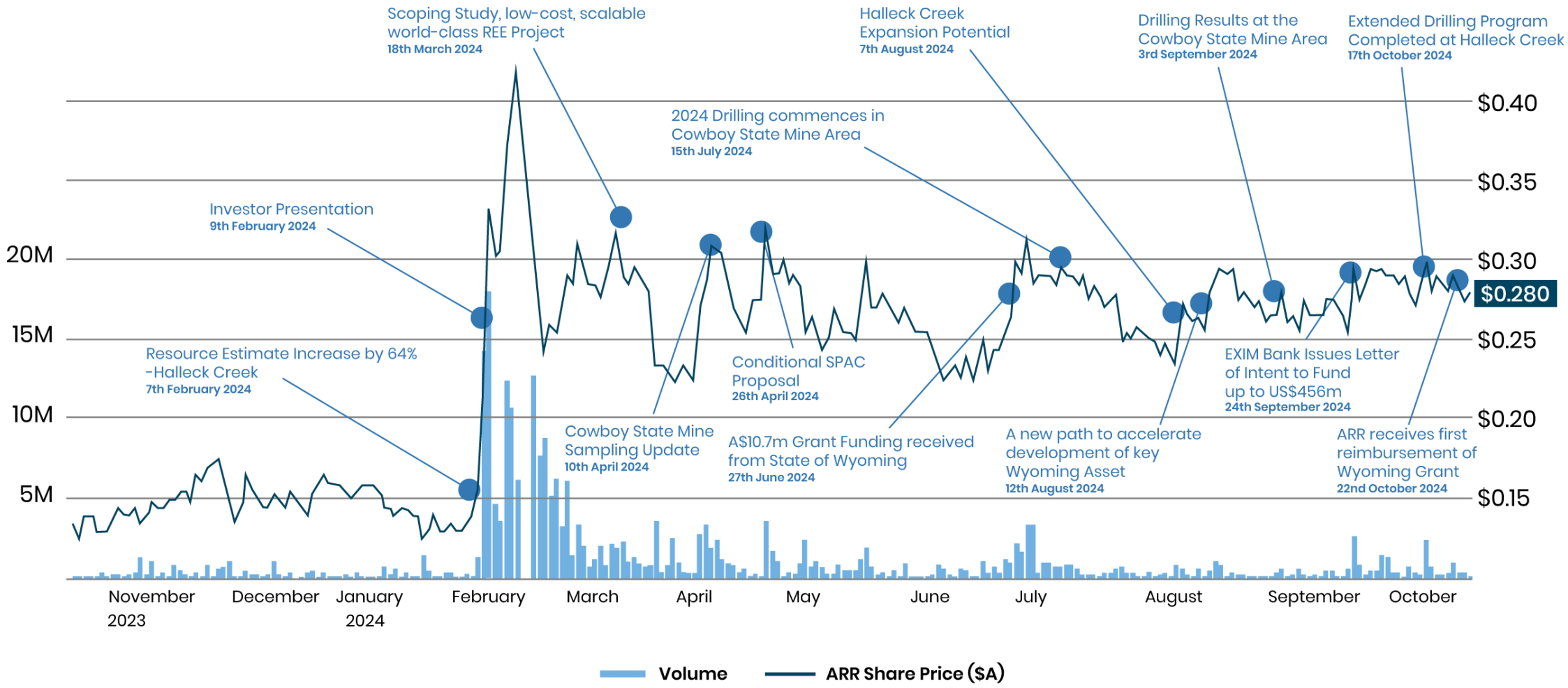
Positive News Flow and Momentum

ARR Share Price, Volume and News Flow



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US Based Project Portfolio

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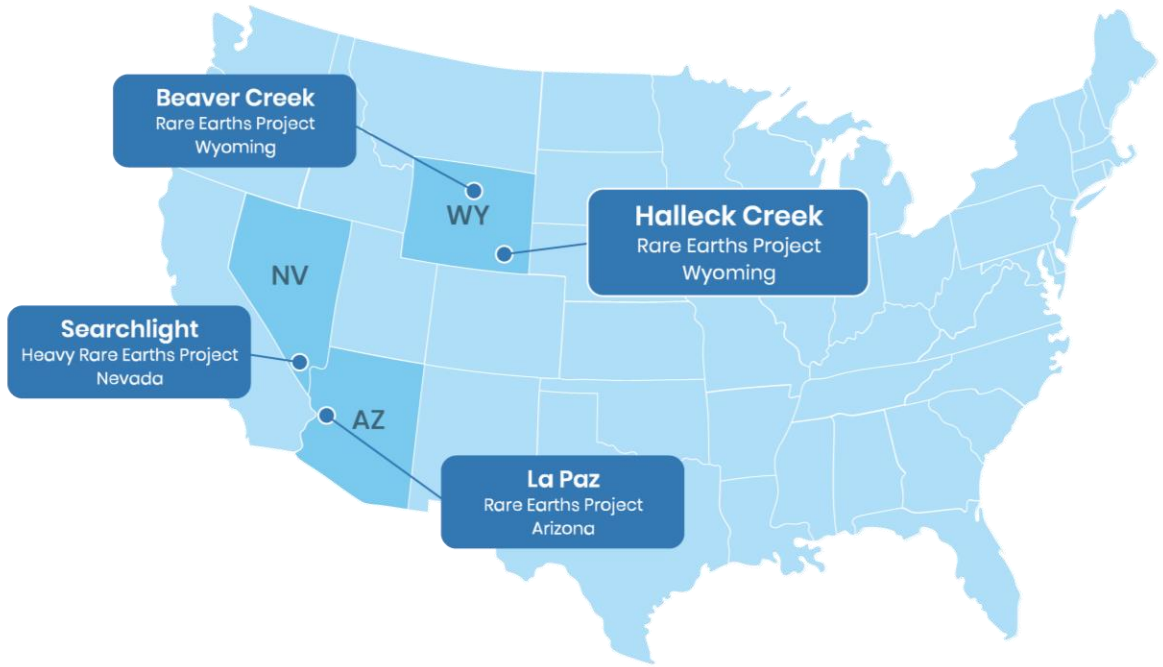
- Wholly owned subsidiary Wyoming Rare USA Inc. ("WRI") to manage and develop the Halleck Creek Project
- WRI is positioned to accelerate development of one of the largest rare earth deposits in North America
- Renewed focus on shareholder value creation through development of La Paz (AZ), Beaver Creek (WY) and Searchlight (NV) Projects
  - La Paz (100%) - 171Mt JORC Estimate, world class asset potential
  - Beaver Creek (100%) - TREO grades 5.8%-13.9%, significant deposit
  - Searchlight (100%) - exploration asset, close to Mountain Pass mine
- Domestically sourced REE materials increasingly holds long term strategic importance for US



Urgent Need to Secure a Domestic Rare Earths Supply Chain

Rare Earths is China dominated industry with minimal Western supply options

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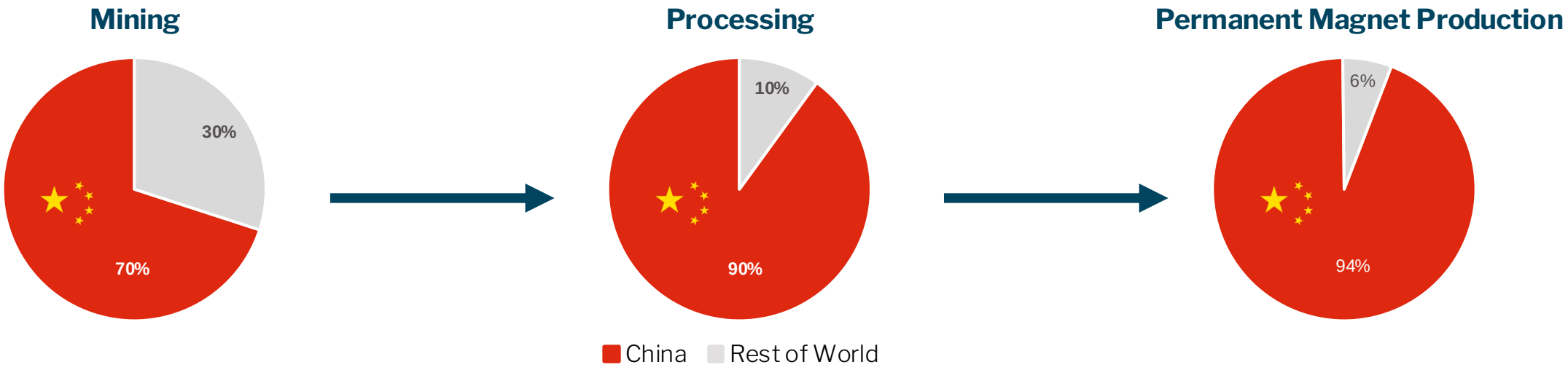
- China dominates the rare earths supply chain and is restricting Western access to resources.[1]
- China's rare earths industry is consolidated into two state-owned companies, with all resources declared state property.
- China has already imposed export restrictions on critical minerals tied to national security.[2]
- With only one active rare earths mine, the U.S. is addressing its supply chain vulnerability through incentives and tariffs to support domestic production

Global Rare Earths Supply Chain



Source: Market share data per BMO Research estimates

1. December 2023 China banned the exporting of technology for rare earth extraction and separation
2. August 2023, China implemented export controls on gallium and germanium (minerals key to semiconductor production) and in December 2023 the country place export controls on high-grade graphite (used in lithium-ion batteries). August 2024 China implemented export restrictions on antimony, a critical material for the defense industry.

Rare Earths are Key to Defense, Electrification & Green Energy

Rare Earths are used in a wide range products from the display on an iPhone to the motor in a Tesla EV

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Weaponry & National Defense

Rare earth magnets are key to national defense, as they are used in various systems including missiles & smart bombs, radar systems, unmanned aerial vehicles… etc. For example, a F-35 requires >900lbs of rare earths and a Virginia class submarine needs ~9,200lbs[2]

Electric Vehicles (EV) & Hybrids

EVs and Hybrids utilize rare earth permanent magnets in their drive trains; which rare earths, mainly NdPr, account for ~30% of the magnet's composition. Typically, EV's have 1-2kg of permanent magnets in their drive trains.[1]

High-Tech Applications

A variety of high-tech application such as mobile devices, fiber optics, lasers, robotics, hard disk drives used in data centers, and medical devices used a variety of different rare earths. A smart-phone typically contains 7 of the 17 rare earth elements.[3]

Wind Turbines

Rare earth magnets are typically used in wind turbine generators given their efficiency and reliability. The magnet in a large turbine could contain >250kg of neodymium.[1]

1. BMO Research
2. Department of Defense
3. Visual Capitalist

US Rare Earths Supply Chain Policy Update

US Government is taking steps to incentivize and help bring home the rare earths supply chain

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- 25% Tariff on Chinese Magnets: Effective in 2026, announced by the Biden Administration to bolster U.S. industry.
- Critical Minerals Tax Incentives: Under the Inflation Reduction Act:
- 10% Production Tax Credit (Section 45X) for critical minerals like Nd, Pr, Dy, and Tb.
- Up to 30% Investment Tax Credit (Section 48C) for advanced energy projects meeting wage and apprenticeship standards.
- Department of Defense Funding: Over $439 million allocated since 2020 to strengthen domestic rare earth supply chains.
- Export-Import Bank Support: Over $1 billion in Letters of Interest for rare earth projects issued in March 2024.
- Rare Earth Magnet Production Tax Credit Act: Bipartisan legislation proposed in Dec 2023 with $20/kg tax credit for U.S.-made magnets, increasing to $30/kg for those using U.S.-sourced or recycled components.

A Potential Cornerstone U.S. Domestic Rare Earths Asset

Halleck Creek could become a multi-generational rare earths asset for the United States, with the potential capacity to meet current domestic consumption levels for ~100 years[1]

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- Wyoming Rare USA Inc. (WRI): 100% ARR-owned subsidiary created to develop the Halleck Creek Project, attracting investment and partnerships directly into the project.
- JORC Resource: Halleck Creek holds a 2.34 billion tonne JORC resource at 3,296 ppm TREO, covering only part of the project area, indicating significant growth potential.
- Long-Term Supply Potential: The contained rare earths in Halleck Creek could support current U.S. demand for approximately 100 years (based on a ~9kt annual average)[1].
- Financial Backing: WRI received a non-binding Letter of Interest from the U.S. Export-Import Bank for up to US$456M, matching the initial capex for Cowboy State Mine (CSM), as outlined in the March 2024 Scoping Study.
- State Support: The State of Wyoming granted US$7.1M to support the CSM's advancement.
- Phased Development:
  - Phase 1: Develop and mine the CSM, benefiting from a pathway to permitting timeline on state land.
  - Phase 2: De-risk and develop the federal portions of Halleck Creek in parallel, supported by cash flow from the CSM.

1. High level assumptions made, for illustrative purposes only. Calculated as (Estimated contained rare earths in JORC Resource)/(USGS 5-year Avg. U.S. annual rare earths consumption). Estimated rare earths contained in JORC resource assumes 20% of JORC resource are converted to theoretical reserves, 90% of theoretical reserves are mined and 67% of contained rare earths are recovered. Note Halleck Creek currently does not have a mineral reserve estimate.

Phase 1 Scoping Study Key Outcomes

The Cowboy State Mine is a low-cost, scalable rare earths project with meaningful expansion potential

% of Base Case RE Price	NdPr Eq ($/kg)	$NPV_{10\%}$ ($m, Post-Tax)	After Tax IRR (%)
60%	54.60	70	12.0%
80%	72.80	249	16.8%
Scoping Study Base Case	**91.00**	**430**	**21.1%**
110%	100.10	522	23.2%
120%	109.20	615	25.3%

Given the Cowboy State Mine's low operating costs, even at depressed NdPr prices[1] the project under the base case 3.0mpta scenario still generates a positive NPV and a robust IRR of ~12% under the 3.0mtpa base case

3.0mtpa Base Case Highlights

- $380m initial capex + 20% contingency
- 2.9 Year Payback Period
- ~$38/kg NdPr Eq. LOM average operating costs
- +20 year LOM, with meaningful expansion potential
- Direct Leaching (no cracking)
- Near zero strip ratio
- 67% REE Recoveries
- 27.1% MREO
- Separated Rare Earth products including NdPr, Tb + Dy

1. Assumes NdPr price of $56.40/kg vs. 5 year average price of ~$77/kg and sell side consensus LT price forecast of ~$91/kg

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Significant Exploration Potential

The JORC resource alone could potentially support US consumption of rare earths for over 100 years[1]. In addition, there significant exploration upside beyond the current resource estimate.

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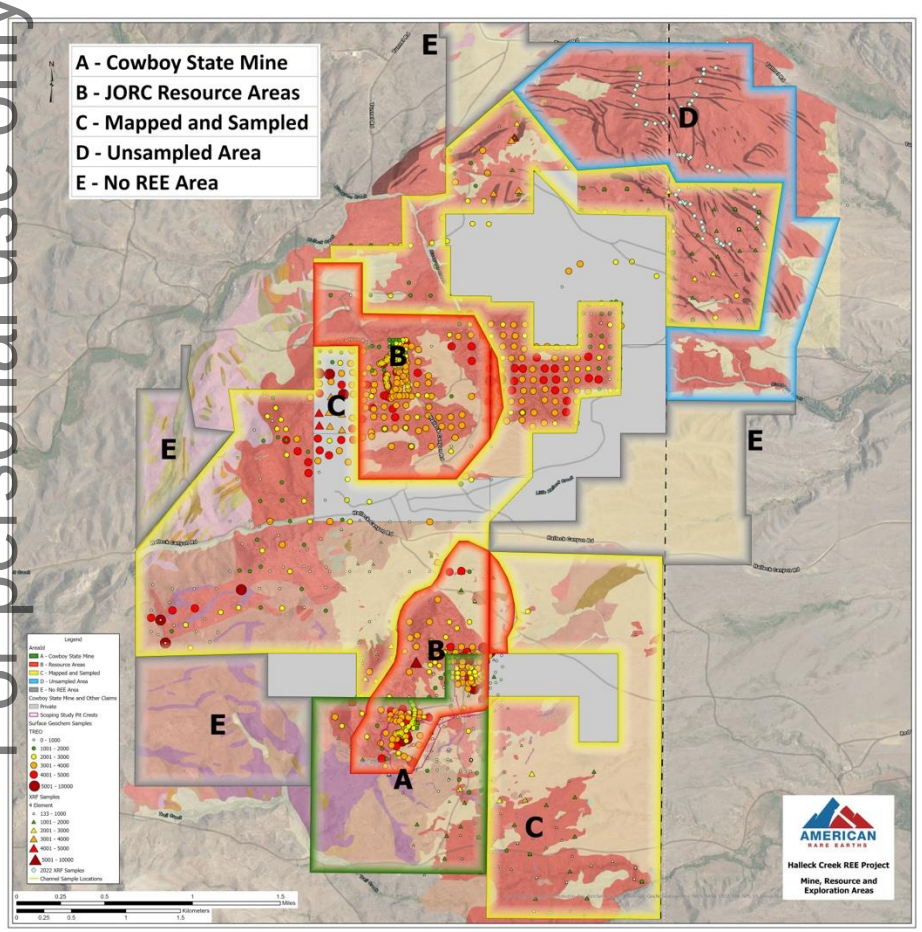
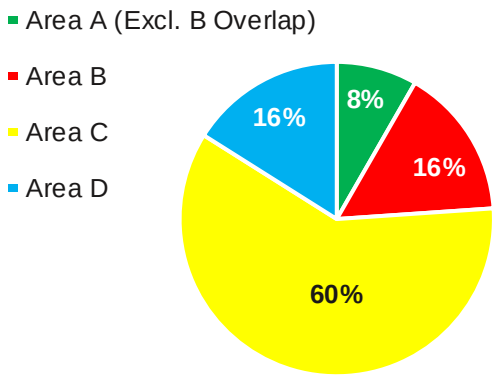


% of Halleck Creek Surface Area[1]



- The current JORC resource only account for ~16% of the total surface area[1] of Halleck Creek, which points to significant upside beyond the current 2.3bn tonne resource estimate

- In addition, there is potential to expand the resource at depth as well pointing to additional upside beyond expanding resource surface area.

- According the USGS, annual consumption of rare earths in the US averaged ~9kt over the last 5 years. Therefore, in the JORC resource alone, the contained rare earths[2] could potentially support current levels of domestic consumption for over 100 years[1].

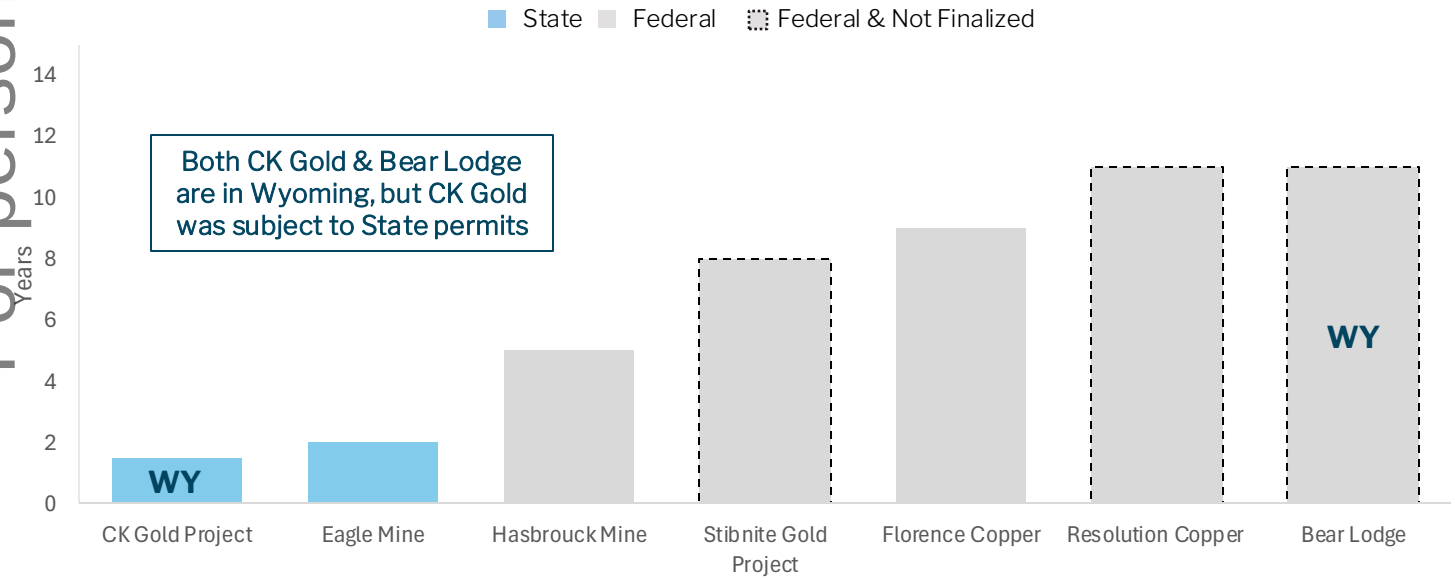
1. Excluding Section E – No REE Area
2. High level assumptions made, for illustrative purposes only. Calculated as (Estimated contained rare earths in JORC Resource)/(USGS 5-year Avg. U.S. annual rare earths consumption). Estimated rare earths contained in JORC resource assumes 20% of JORC resource are converted to theoretical reserves, 90% of theoretical reserves are mined and 67% of contained rare earths are recovered. Note Halleck Creek currently does not have a mineral reserve estimate.

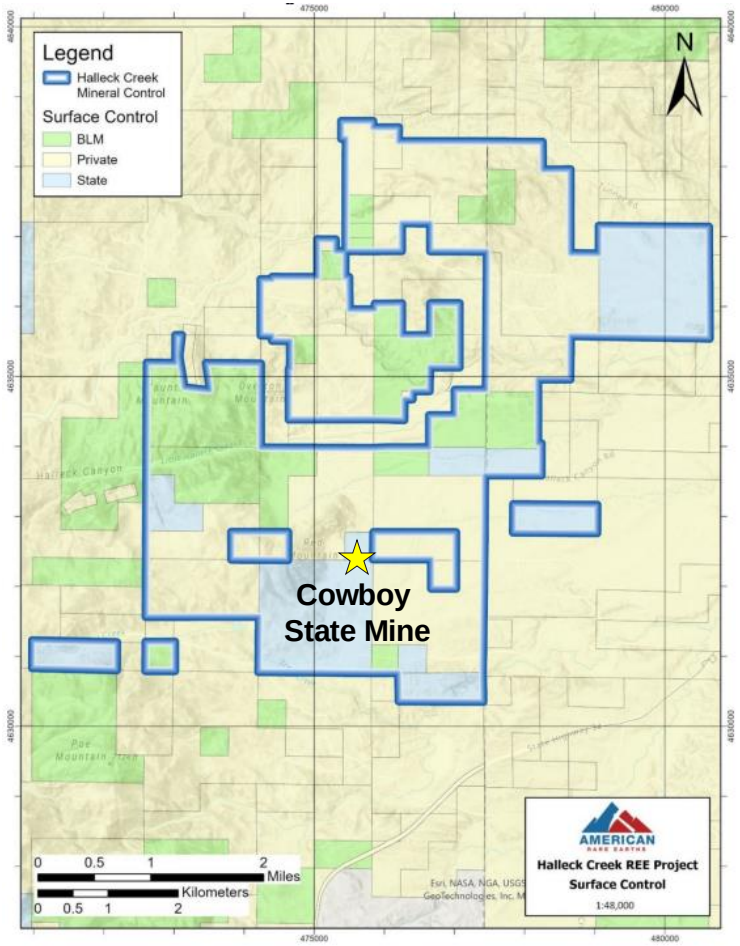
Clear Path to Permits

The Cowboy State Mine has a strategic advantage of being on 100% Wyoming state land and minerals, which typically leads to faster permitting vs. projects which require Federal review and permits

- Permitting mining projects on Federal lands are often meet with delays, unpredictability and increased costs when compared to private or state lands where mine permitting is typically more streamlined
- In general, permitting on state land takes less than 3 years, whereas permits on Federal land can take up to +10 years

State vs. Federal Permitting Timelines (Years)[1]





1. Estimated permitting timelines based on respective company disclosure for each asset

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A Strong Partnership with the State of Wyoming

Wyoming has shown strong support for the Cowboy State Mine through the approval of ARR's grant proposal

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- The State of Wyoming has shown strong support for the project by issuing a US$7.1 million grant to ARR/WRI to help advance the Cowboy State Mine
- The Funding Agreement includes costs incurred to advance the Cowboy State Mine:
  - Further exploration drilling and bulk sampling on state mineral leases (In progress)
  - Baseline environmental studies for state permitting (In progress)
  - Pilot processing plant, with specific focus on preconcentration of Halleck Creek Ore
  - Prefeasibility studies and economic assessments
  - Community impact assessments

Support from Export-Import Bank of the United States

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- **EXIM Bank Support**: Non-binding Letter of Interest from the U.S. Export-Import Bank for up to **US$456 million** in debt financing, covering the initial capex for the Cowboy State Mine (CSM) as outlined in the March 2024 Scoping Study.
- **Make More In America Initiative**: The financing package includes a 15-year repayment term under EXIM's program, supporting U.S. export competitiveness.
- **Strategic Priority**: EXIM's involvement, under Section 402 of its 2019 reauthorization, aims to counter foreign export support, specifically from China, and promote U.S. leadership in key sectors.
- **Due Diligence Ongoing**: While not a final commitment, this Letter of Interest underscores the strategic value of the Halleck Creek project. EXIM will now proceed with due diligence before finalizing the financing arrangement.

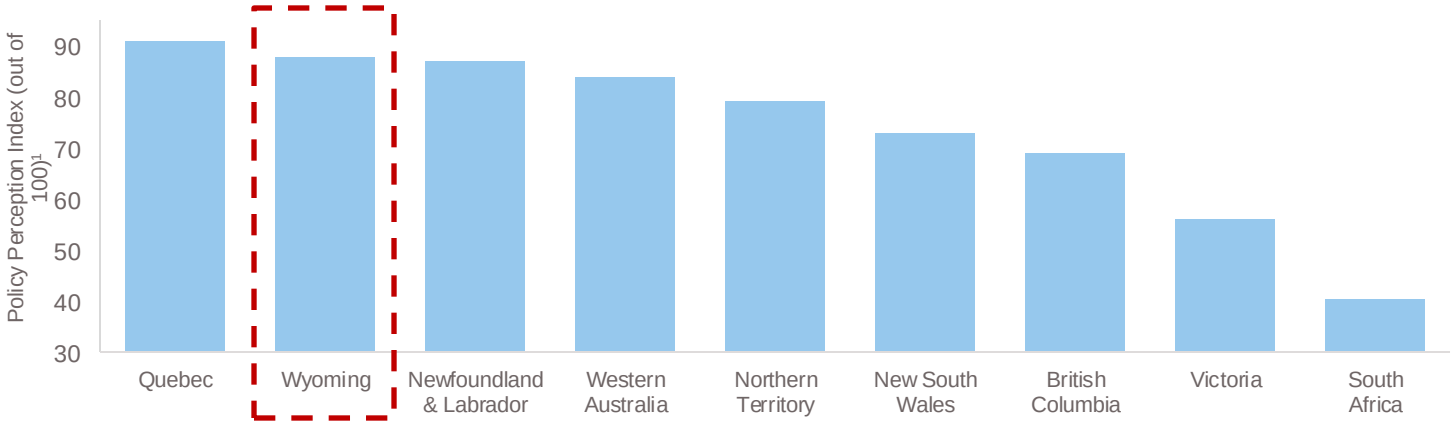
1. https://www.exim.gov/about/special-initiatives/make-more-in-america-initiative

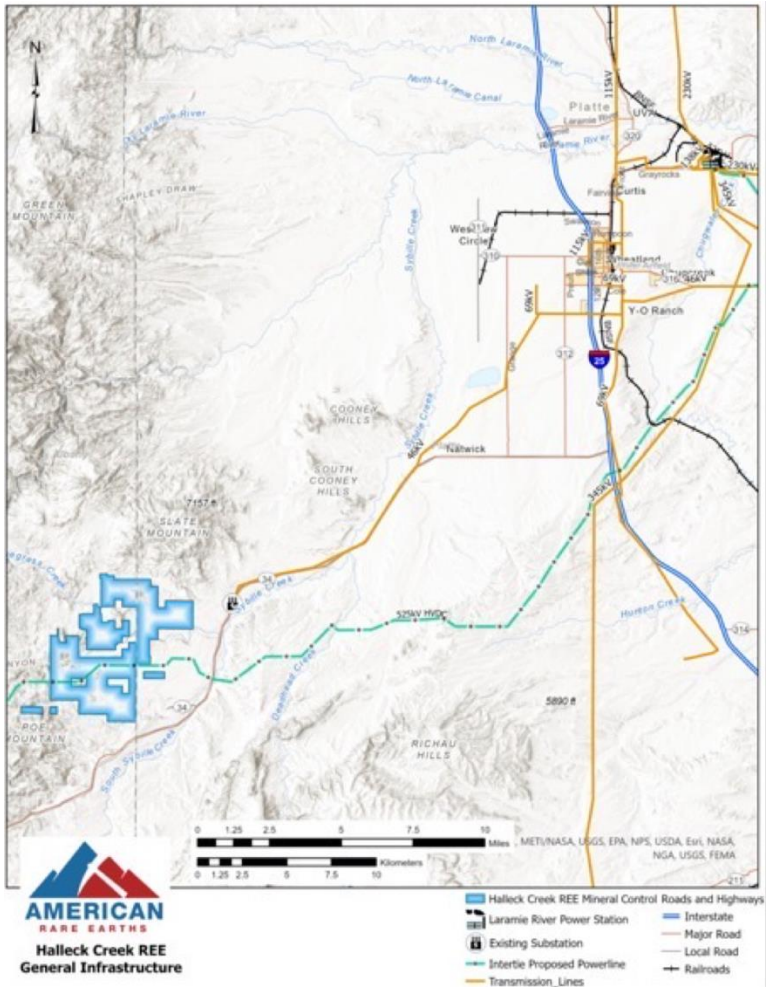
Tier 1 Jurisdiction & Key Infrastructure Nearby

The Fraser Institute ranks Wyoming the 9th most favorable mining jurisdiction out of 86 globally[1]

- The Cowboy State mine is on state land, which historically leads to faster permitting (~3 years) vs. projects on Federal land (up to 10 years +)
- Pre-existing infrastructure including:
  - Interstate and railroad access via existing state roads
  - Burlington Northern Sante Fe mainline railroad
  - Union Pacific railroad
  - Nearby power stations, with cheap electrical rates (i.e. < $0.03kWh)
- Wyoming is a mining state with an experienced workforce

Comparison of Global Rare Earths Developer Mining Jurisdictions





1. Fraser Institute is an independent, non-partisan research and educational organization which surveys explorations, development, and other mining-related companies around the world on various metrics regarding their respective jurisdictions. Ranking out of 100 and based on Policy Perception Index, a composite index that measures the overall policy attractiveness of mining jurisdictions

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AMERICAN RARE EARTHS

Near Term Catalysts and News Flow

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- Drill assay results (pending)
- Update resource models and mine planning
- Progress state permitting and environmental baseline studies
- Updates on US based investment, government funding and strategic partnerships
- Next phase of metallurgical test work
- Pre-Feasibility Study (PFS) planning and milestones

"Halleck Creek could become the largest rare earth mine in North America and a multi-generational project, making it the first major rare earth mine to be developed in the U.S. since Mountain Pass".

Contact

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