



## **Maiden Drilling Commences at Halleck Creek After 308 – 385 Million Tonne Exploration Target Defined**

**Diamond core drilling targets massive Red Mountain Pluton, a US located Rare Earths mineral discovery with ultra-low Thorium content**

### **Highlights**

- Maiden drilling has commenced at the Halleck Creek Rare Earth project in Wyoming to determine the regional extent of mineralized depth (see image one)
- A nine-hole diamond core drill campaign of approximately 825m in length – Five holes at Overton Mountain and four holes at Red Mountain
- Drilling commenced following samples collected in 2018 and 2021 showing high-grade rare earth element (REE) mineralization
- Exploration deep drilling will provide initial mineralization, lithology and fresh rock material for additional analysis
- Drilling is expected to be completed by late April 2022, with assay results expected in June 2022

American Rare Earths (ASX: ARR, OTCQB: ARRNF, FSE: 1BHA) (ARR or 'the Company') is pleased to announce that a nine-hole, 825m in length, diamond core drilling campaign has commenced at the Company's 100% owned Halleck Creek Rare Earth project site in the US state of Wyoming.

Managing Director, Mr Chris Gibbs, commented, "This is another exciting time for the team at American Rare Earths with the maiden drilling at Halleck Creek. Surface Samples collected in 2018 and 2021 show high-grade rare-earth element (REE) mineralization which is rich in Neodymium and Praseodymium (NdPr) with low penalty elements of Thorium and Uranium. The Halleck Creek targets will complement the Company's La Paz Rare Earth project deposits, targeting NdPr with ultra-low penalty elements of Thorium and Uranium in Arizona."

In June and July of 2021, a follow-up surface sampling program of a total of 197 samples were collected, showing an average Total Rare Earth Oxide (TREO) value of 3,187 ppm and a noteworthy, combined Nd and Pr average of 702 ppm. In October 2021, ARR

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performed additional geologic mapping across Overton Mountain. An additional 121 surface samples were collected from Overton Mountain and Red Mountain. ARR is awaiting the final assay results of these samples.



Image one: Maiden drilling at Halleck Creek

## Overview

### Exploration History

The greater Halleck Creek project area consists of 68 unpatented lode claims, covering approximately 1,265 acres (512 has). The Company controls six Wyoming State Mineral Leases in the surrounding area, totalling 1,843.72 acres (756 has). The project is in Albany County, Wyoming, approximately 40 miles northeast of Laramie, Wyoming.

Initial surface sampling of the Overton Mountain area was conducted in 2018 by Zenith Minerals, an Australian Mining Company, revealed average Total Rare Earth Oxide (TREO) values of 3,297 ppm, average Heavy Rare Earth Oxide (HREO) values of 244 ppm, and average Magnetic Rare Earth Oxide (MREO) values of 816 ppm.

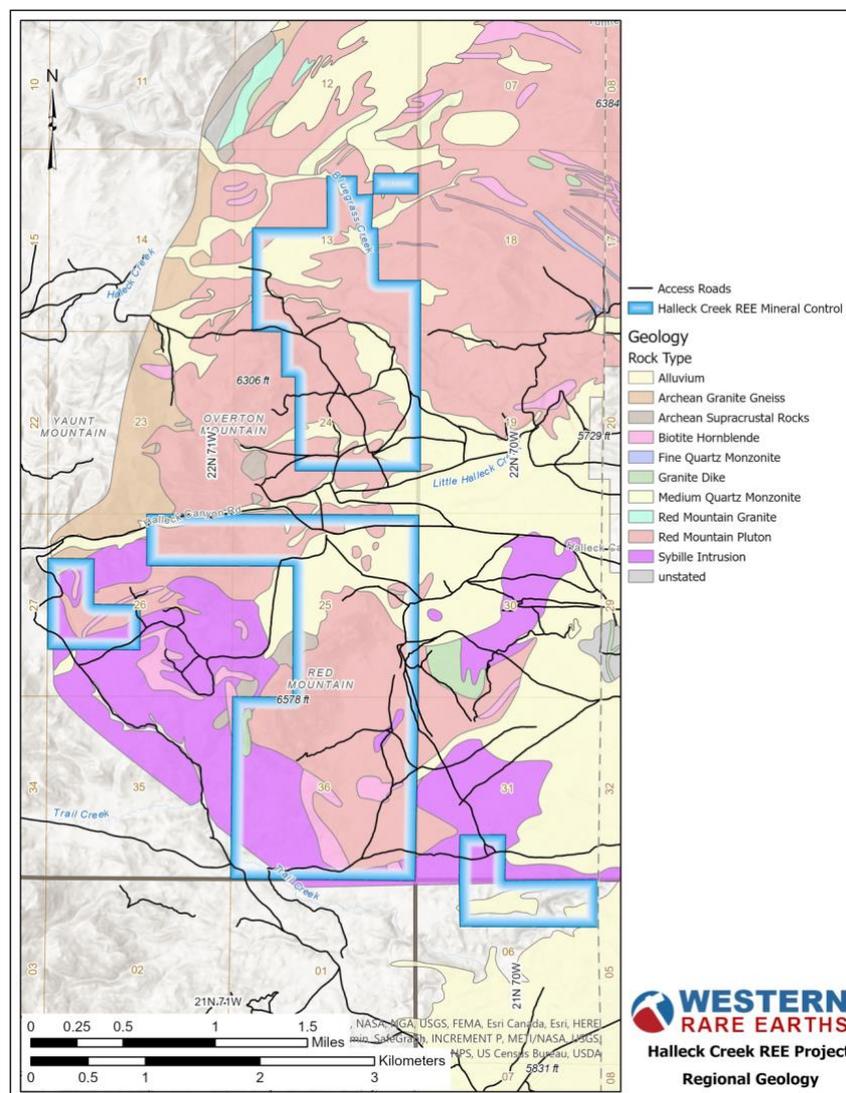
In June and July of 2021, the follow-up surface sampling program with the total of 197 samples were collected from the Halleck Creek project area, referred to above. The results also showed that the Red Mountain Pluton is Light Rare Earth Oxide (LREO) dominant, with an average of 2,836 ppm.

Additional geologic mapping was performed across Overton Mountain in October 2021. ARR collected an extra 121 surface samples across Overton Mountain and Red Mountain.

ARR eagerly awaits the results of these samples to provide further insight and direction at Halleck Creek.

## Geology

The Halleck Creek project area is located within the Laramie Anorthosite Complex (LAC). The LAC consists of three significant anorthositic intrusions - Chugwater, Poe Mountain, and Snow Creek. These are rimmed by monzonitic intrusions, including the Sybille intrusion, the Maloin Ranch pluton and the Red Mountain Pluton. The Halleck Creek project area is located within the Red Mountain Pluton (RMP), the youngest and smallest intrusion of the LAC.



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This market announcement has been authorized for release to the market by the Managing Director of American Rare Earths Limited.

Mr Chris Gibbs  
Managing Director

**About American Rare Earths:** American Rare Earths Limited (ASX: ARR, OTCQB: ARRF, FSE: 1BHA) is an Australian company listed on the ASX with assets in the growing rare earth metals sector of the United States of America, itself emerging as an alternative international supply chain to China's market dominance of a global rare earth market expected to expand to US\$20 billion by 2030. The Company's mission is to supply Critical Materials for Renewable Energy, Green Tech, Electric Vehicles, National Security, and a Carbon-Reduced Future. Western Rare Earths (WRE) is the wholly owned US subsidiary of ARR, which owns 100% of the world-class La Paz rare-earth Project, located 170km northwest of Phoenix, Arizona. As a large tonnage, bulk deposit, La Paz is potentially the largest, rare-earth deposit in the USA and benefits from containing exceptionally low penalty elements such as radioactive thorium and uranium. ARR plans to deliver its first Preliminary Economic Assessment for La Paz by 2022 and work with leading USA research institutions. La Paz's mineral profile is incorporated into emerging US advanced rare earth processing technologies. In early February 2022, the Company commenced further drilling at the La Paz project to explore lateral and vertical extent in the new southwest area. Approximately 742 - 928 million tonnes of Rare Earths mineralized rocks are identified as an exploration target in the La Paz Rare Earths project's southwest area with an average TREO Grade of 350 - 400ppm and Scandium Oxide grade of 20 - 24.5ppm. The new exploration Target is additive to the La Paz Rare Earth project recently upgraded 170MT Resource. In the first half of 2021, ARR acquired the Searchlight Rare Earths Project in Nevada. In June 2021, ARR acquired the Halleck Creek Project in Wyoming. With permits in hand, the maiden exploration drilling program commenced and will provide initial mineralization, lithology and fresh rock core material for metallurgical and process testing. Approximately 308 to 385 million tonnes of rare earths mineralized rocks were identified as an exploration target for the Halleck Creek project area with an average Total Rare Earth Oxide (TREO) grade of 2,330 - 2,912 ppm. Initial surface sampling of the Overton Mountain area conducted in 2018 revealed average TREO values of 3,297 ppm, average Heavy Rare Earth Oxide (HREO) values of 244 ppm, and average Magnetic Rare Earth Oxide (MREO) values of 816 ppm.