

# AMERICAN RARE EARTH LLC

A rapidly growing consolidator of rare earth deposits and properties in the United States



# Forward-Looking Statements

This document contains may include predictions, estimates or other information that might be considered forward-looking. While these forward-looking statements represent our current judgment on what the future holds, they are subject to risks and uncertainties that could cause actual results to differ materially. You are cautioned not to place undue reliance on these forward-looking statements, which reflect our opinions only as of the date of this presentation. Please keep in mind that we are not obligating ourselves to revise or publicly release the results of any revision to these forward-looking statements in light of new information or future events. Throughout this document, we will attempt to present some important factors relating to our business that may affect our predictions. You should also review any and all SEC filings of each respective company for a more complete discussion of these factors and other risks, particularly under the heading “Risk Factors.”

This document is neither an offer to sell nor a solicitation to purchase any of the Company’s securities. Certain statements and financial projections in this Presentation constitute “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements, which are based on management’s current expectations, are generally identifiable by the use of terms, such as “anticipates,” “believes,” “could,” “estimates,” “expects,” “intends,” “may,” “plans,” “possible,” “potential,” “predicts,” “projects,” “should,” “would” and similar expressions. The potential risks and uncertainties that could cause actual results to differ materially from those expressed or implied herein include, among others, the Company’s ability to raise additional debt or equity financing, the Company’s relationships with its current and future customers and business partners, the Company’s ability to achieve anticipated results from acquisitions, and organic growth and development and overall business expansion. All reserve estimates (tonnage, quality, sell ability, etc.) and other number and figures presented herein are management estimates only, may include reserves that are currently under lease negotiation (i.e., not currently controlled), and should be independently verified.

The non-reserve deposit numbers presented herein are estimates based on available data and the interpretation of such data by the company and/or its advisors and/or consultants and are not classified as “proven” or “probable” pursuant to the definitions found within SEC’s Industry Guide 7. Not all non-reserve deposits are permitted, and certain reserve numbers may include figures under permit, permit in-process or leased, and in some cases prior leases that have lapsed and need to be re-obtained.

This presentation and the information herein is updated frequently, and you should absolutely verify with management of the Company that this version is the most recent available. In the event that the information presented herein conflicts with Company public filings, the public filings shall be the governing document.



# Investment Opportunity

Consolidator of high-quality, low-cost rare earth mineral sites through its acquisition of mining complexes

Robust platform of rare earth sites

- 10 initial sites
- Portfolio of over 20 additional sites under evaluation
- Geographically central to planned processing facility



## Strong Domestic Player

United States needs to reduce foreign dependence for national security



## Environmentally and Cost Effective

Already completing initial separation process on site at properties



## Highly Scalable

Opportunity to grow business with current assets

# Innovators in the Industry

Aggressive growth plan of high-quality low-cost assets in central Appalachia and the Illinois basin regions

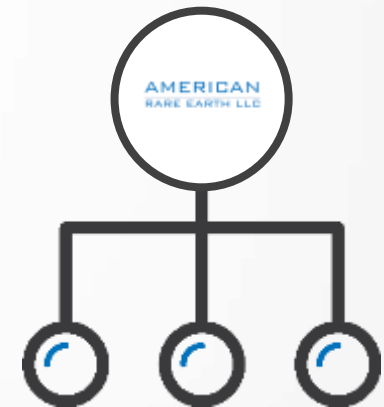
Identify Rare Earth Rich Deposits



Analyze and Develop Assets



Unlock Value



# Unique, Low Radiation, Asset Base

Geographically central asset base that possesses low radiation which is unique in the North American market

Minimal thorium exposure in central Appalachia deposits, reducing health and environmental exposure

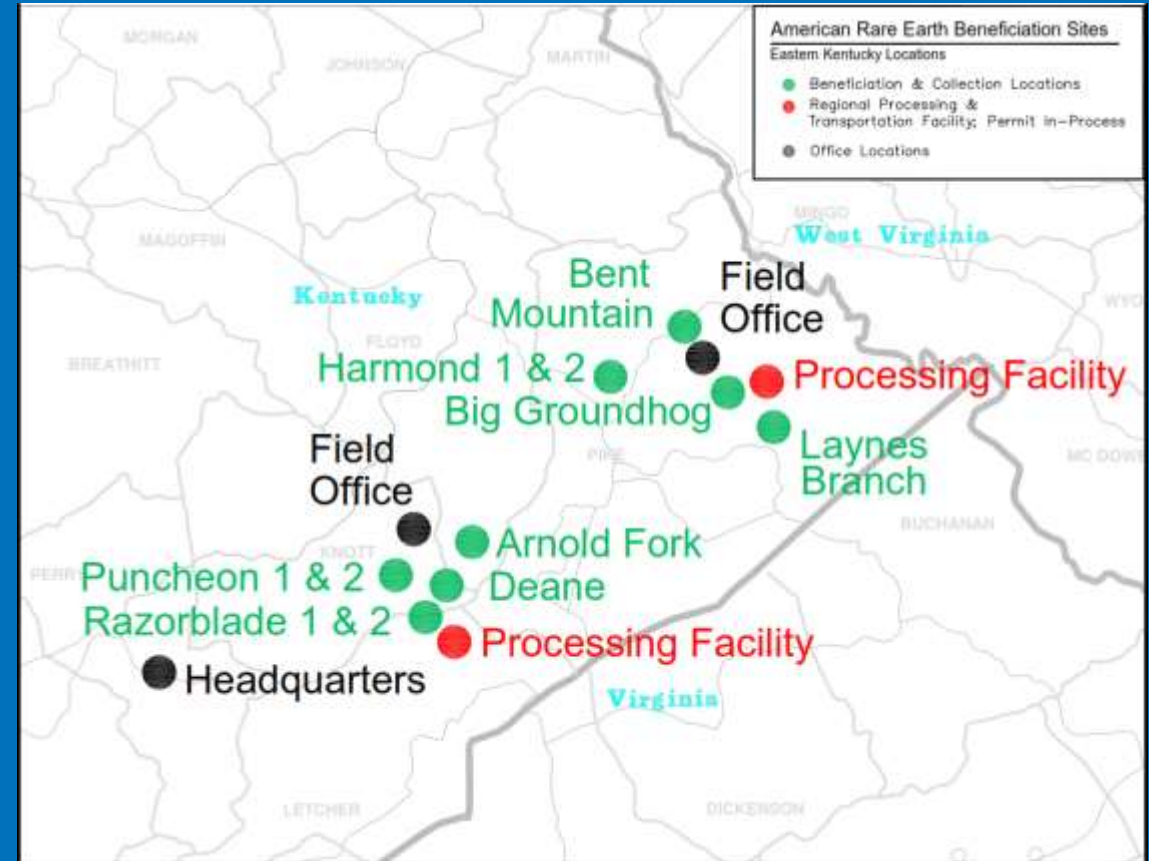
One of the few regions that has a positive environmental impact on extracting our Rare Earths



# Growth Through Acquisition

Controlled Rare Earth deposits  
are centralized around our  
future processing facilities

Significant highly accretive  
expansion potential within  
economic distance to planned  
processing plant



# Value Differentiation



Low cost extraction methods and one of the most environmentally sensitive methods of capturing and processing U.S. based Rare Earths



Socially conscious extraction and processing creates jobs to support this distressed region as the U.S. transitions away from coal-based fuels



Utilize existing hydro-based extraction methods to extract Rare Earth concentrates versus extensive and intrusive mining methods



Initial phases of existing beneficiation methods already in place



# Processing Capabilities

Collection and beneficiation ponds already established at initial sites to concentrate the Rare Earth element discharge

Located throughout Pike, Letcher, and Knott counties in eastern Kentucky, with expansion planned in Floyd and Perry counties

Centrally-located planned processing facility able to economically and efficiently collect and process Rare Earth mineral concentrate from deposit sites



# High Concentration of Premium REE

Representative analysis of one out of our initial ten sites. The property has the potential to produce at a rate of well over 250 gallons per minute and substantially higher with stimulation.

Parameter	Symbol	Result	Units	Method	Digestion	Analysis Date	Analyst
Scandium	Sc	0.08	ug/L	EPA 200.8 Rev 5.4-1994	ASTM 6357	8/4/20	RB
Yttrium	Y	2.91	ug/L	EPA 200.8 Rev 5.4-1994	ASTM 6357	8/4/20	RB
Lanthanum	La	0.35	ug/L	EPA 200.8 Rev 5.4-1994	ASTM 6357	8/4/20	RB
Cerium	Ce	0.92	ug/L	EPA 200.8 Rev 5.4-1994	ASTM 6357	8/4/20	RB
Praseodymium	Pr	0.14	ug/L	EPA 200.8 Rev 5.4-1994	ASTM 6357	8/4/20	RB
Neodymium	Nd	0.75	ug/L	EPA 200.8 Rev 5.4-1994	ASTM 6357	8/4/20	RB
Samarium	Sm	0.23	ug/L	EPA 200.8 Rev 5.4-1994	ASTM 6357	8/4/20	RB
Europium	Eu	0.07	ug/L	EPA 200.8 Rev 5.4-1994	ASTM 6357	8/4/20	RB
Gadolinium	Gd	0.44	ug/L	EPA 200.8 Rev 5.4-1994	ASTM 6357	8/4/20	RB
Terbium	Tb	0.07	ug/L	EPA 200.8 Rev 5.4-1994	ASTM 6357	8/4/20	RB
Dysprosium	Dy	0.35	ug/L	EPA 200.8 Rev 5.4-1994	ASTM 6357	8/4/20	RB
Holmium	Ho	0.08	ug/L	EPA 200.8 Rev 5.4-1994	ASTM 6357	8/4/20	RB
Erbium	Er	0.20	ug/L	EPA 200.8 Rev 5.4-1994	ASTM 6357	8/4/20	RB
Thulium	Tm	0.03	ug/L	EPA 200.8 Rev 5.4-1994	ASTM 6357	8/4/20	RB
Ytterbium	Yb	0.12	ug/L	EPA 200.8 Rev 5.4-1994	ASTM 6357	8/4/20	RB
Lutetium	Lu	0.02	ug/L	EPA 200.8 Rev 5.4-1994	ASTM 6357	8/4/20	RB
Thorium	Th	0.02	ug/L	EPA 200.8 Rev 5.4-1994	ASTM 6357	8/4/20	RB
Lithium	Li	137	ug/L	EPA 200.8 Rev 5.4-1994	ASTM 6357	8/4/20	RB
Cobalt	Co	3.72	ug/L	EPA 200.8 Rev 5.4-1994	ASTM 6357	8/4/20	RB

# Rare Earth End Use Marketplace

Rare Earth minerals are used in a variety of established and emerging technologies:

## AMERICAN RARE EARTH LLC



Consumer  
Electronics



Medical  
Devices



Power  
Storage



Aerospace  
and Defense



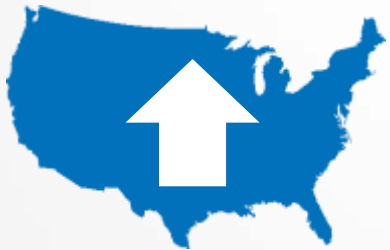
Renewable  
Energy



# Rare Earth End Use Marketplace



Despite having abundant natural resources that can deliver commercial Rare Earth elements, the United States significantly lags behind China in Rare Earth production.



With anticipated 10.4% annual growth in the world's need for Rare Earth elements, the United States will need to focus on expanding its purification and production of these elements.



# Kentucky: The Future of Rare Earth Market



Interest in REEs are at an *all-time high* in the U.S. right now, with the Department of Energy investing millions in research

University of Kentucky researchers, led by Rick Honaker - professor in the Department of Mining Engineering at University of Kentucky, have produced nearly pure Rare Earth concentrates from Kentucky coal using an environmentally- conscious and cost-effective process, a groundbreaking accomplishment in the future of the REEs industry.

Honaker has received \$7 million from the department to produce rare earths from Kentucky coal sources, a feat he has now accomplished, and \$1 million for other REE projects.

*Rick Honaker states, "As far as I know, our team ("the University of Kentucky") is the first in the world to have provided a 98 percent pure Rare Earth concentrate from a coal source." (1)*

(1) <https://enr.uky.edu/spotlights/faculty/rick-honaker>



# Targeted Critical Elements

Rare Earth minerals are used in a wide array of established and emerging, forward-looking technologies:

**Neodymium and Praseodymium:** Is most commonly used in the strongest types of rare earth magnets, which enable the conversion of electrical energy into motion via permanent-magnet motors commonly used in electric vehicles.

**Dysprosium:** Is one of the most expensive heavy rare-earth elements, is used in neodymium sintered magnets to improve temperature resistance. The product is rare in the market today.

**Cobalt:** Is a chemical element found in a chemically combined form that can be extracted using acidic separation. Cobalt is commonly used in Lithium-Ion batteries and primarily produced in politically unstable regions of the world.

**Lithium:** Is a chemical element that due to its solubility as an ion is commonly obtained from brines and matches our acid hydro extraction method. Lithium is used for many industrial applications as well as many of the batteries used in electric vehicles today.



# Environmentally Positive Operating Process

## Hydro Extraction

To extract our initial ore we are initially targeting our sites that possess natural acid leaching capabilities that enable us to leach out our initial product.

## Beneficiation

At extraction site we will utilize a process to separate the rare earth elements in our initial product from the other elements, forming a rare earth concentrate.

## Collection / Transportation

Our rare earth concentrates are collected in vessels and transported from various sites to the processing facility we are building at our centrally located facility.

## Rare Earth Processing

The concentrate will be processed on site utilizing a complex chemical process to purify, recover, separate and precipitate the individual rare earth elements.

## Finished Product

Rare earth oxides and other elements, primarily Nd, Pr, Dy, Cobalt and Lithium, will be packaged and treated to meet specific customer specifications and utilizations.

## Water Treatment

Our extraction and beneficiation process is conducted using hydro methods. During the course of the process we improve the PH balance of the water to enable environmentally safe discharge of the water.



# Rare Earth Sales Process

American Rare Earth is in discussions with various third parties that possess current offtake contracts for rare earth oxides as well as other chemical elements.

Upon completion of our commercial processing facility, we anticipate becoming an integral part of the domestic supply chain by having a number of offtake agreements finalized with other providers of rare earth elements or manufacturers of batteries for electric vehicles.

We believe the potential near term revenue is possible by selling through pilot facilities and other parties looking to secure rare earth concentrates.



# Expansion Opportunities

Access to over 13,000 surface and 16,000 mineral acres  
for future expansion potential

Relationship base for significant expansion beyond currently identified  
sites

Operational team that has completed over 8 acquisitions  
in the last five years with expertise in generating multiple revenue  
sources from various properties



# Team With Proven Operation & Capital Markets Experience



Mark Jensen

Chief Executive Officer; Chairman of the Board

Over 10 years leading and managing mining operations and over 15 years investing, restructuring and building businesses



Thomas Sauve

President; Director

History of successfully identifying mining operations that have the ability to meet our model of cost cutting and efficiency



Kirk Taylor, CPA

Chief Financial Officer

16 years of accounting & auditing work at various national public accounting firms focused on tax advantaged business structuring



Tarlis Thompson

Chief Operating Officer

Over a decade of management experience in the mining industry ranging from logistics and environmental to acquisition integration



Mark LaVerghetta

VP Corporate Finance & Communications

20 years of financial market experience holding various roles with several Wall Street firms



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