Energy Fuels – Rare Earth Processing and Products

Large-Scale Domestic Production of "Light" and "Heavy" Rare Earth Oxides

Debra Bennethum, VP Critical Minerals
September 2025

ENERGY FUELS

Forward Looking Statements & Notice Regarding Technical Disclosure

Certain of the information contained in this presentation constitutes "forward-looking information" (as defined in the Securities Act (Ontario)) and "forward-looking statements" (as defined in the U.S. Private Securities Litigation Reform Act of 1995) that are based on expectations, estimates and projections of management of Energy Fuels Inc. ("Energy Fuels") as of today's date. Such forward-looking information and forward-looking statements include but are not limited to: the business strategy for Energy Fuels; Energy Fuels expectations with regard to current and future uranium, vanadium, heavy mineral sands ("HMS") and rare earth element ("REE") market conditions; the uranium industry's ability to respond to higher demand; the impacts of recent market developments; business plans; outlook; objectives; expectations as to the prices of U_3O_8, V_2O_5, HMS products and REE's; expectations as to reserves, resources, results of exploration and related expenses; estimated future production and costs; changes in project parameters; expected permitting and production time lines; the Company's belief that it has the ability to develop an innovative, low-cost U.S.- centered REE supply chain or to build a globally significant critical supply chain company; the potential for additional business opportunities including vanadium, REE,HMS, alternate feed materials, and the cleanup of historic mines on the Navajo Nation and in other areas.; the potential for optimizing mining and processing; the Company's belief in its readiness to capitalize on improving markets; expectations with regard to the potential for U.S. government support of U.S. uranium miners and REE producers; global uranium supply risks; expected worldwide uranium supply and demand fundamentals; any expectation that the White Mesa Mill will be successful in producing REE Carbonate or separated REEs on a commercial basis; any expectation that Energy Fuels will be successful in developing its expanded U.S. separation capability, or other value-added U.S. REE production capabilities at the White Mesa Mill, or otherwise; any expectation that the Company will be successful in developing a fully integrated U.S.-European REE supply chain; any expectation that the Company will be successful in fully integrating the U.S REE supply chain in the future; any expectation with respect to the future demand for REEs; any expectation with respect to the quantities of monazite ore to be acquired by Energy Fuels, the quantities of REE Carbonate or separated REE oxides to be produced by the White Mesa Mill or the quantities of contained TREO in the Mill's REE carbonate; any expectation as to future exploration results for the Bahia Project; any expectation that acceptable fiscal terms and stability mechanisms will be successfully negotiated with the government of Madagascar; any expectation that all government approvals will be obtained, such that development may proceed at the Toliara Project; any expectation that the recovery of monazite will be added to the permits for the Toliara Project; any expectation that all permits will be obtained for the Donald Project; any expectation that the Company will be successful in permitting and developing the planned Phase 2 and Phase 3 REE Separation Facility at the White Mesa Mill; and any expectation that the Company will be successful in recovering radioisotopes for use in emerging TAT cancer therapeutics or that the program will be economically viable.

All statements contained herein which are not historical facts are forward-looking statements that involve risks, uncertainties and other factors that could cause actual results to differ materially from those expressed or implied by such forward-looking information and forward-looking statements. Factors that could cause such differences, without limiting the generality of the foregoing include: risks that the synergies and effects on value described herein may not be achieved; risks inherent in exploration, development and production activities; volatility in market prices for uranium, vanadium, HMS products and REEs; the impact of the sales volume of uranium, vanadium, HMS and REEs; the ability to sustain production from mines and the mill; competition; the impact of change in foreign currency exchange; imprecision in mineral resource and reserve estimates; environmental and safety risks including increased regulatory burdens; changes to reclamation requirements; unexpected geological or hydrological conditions; a potential deterioration in political support for nuclear energy; changes in government regulations and policies, including with respect to tariffs, trade laws and related policies; demand for nuclear power, vanadium, HMS and REEs; replacement of production and failure to obtain necessary permits and approvals from government authorities; weather and other natural phenomena; ability to maintain and further improve positive labor relations; operating performance of the facilities; success of planned development projects; other development and operating risks; the Company not being successful in selling any uranium into the proposed Uranium Reserve at acceptable quantities or prices, or at all in the future; available supplies of monazite sands; the ability of the White Mesa Mill to produce REE Carbonate or separated REE oxides to meet commercial specifications on a commercial scale at acceptable costs; market factors, including future demand for REEs; actions or inactions by foreign governments, such as the government of Madagascar; instability of foreign governments; the inability to receive or delays in the receipt of all required permits for the Toliara project and the Donald Project; the ability of Energy Fuels to potentially recover radioisotopes from its existing process streams for use in TAT therapeutics; the ability to obtain permits to support any scale-up of radioisotope or REE production at the Mill; and the future development of the TAT market. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those anticipated, believed, estimated or expected. Although Energy Fuels believes that the assumptions inherent in the forward-looking statements are reasonable, undue reliance should not be placed on these statements, which only apply as of the date of this presentation. Energy Fuels does not undertake any obligation to publicly update or revise any forward-looking information or forward-looking statements after the date of this presentation to conform such information to actual results or to changes in Energy Fuels' expectations except as otherwise required by applicable legislation.

Additional information about the material factors or assumptions on which forward looking information is based or the material risk factors that may affect results is contained under "Risk Factors" in Energy Fuels' annual report on Form 10-K for the year ended December 31, 2024. The annual report on Form 10-K is available on SEDAR at www.sedar.com and on EDGAR at www.sec.gov.

All technical information including mineral estimates constituting mining operations that are material to our business or financial condition included in this presentation, have been prepared in accordance with both 17 CFR Subpart 220.1300 and 229.601(b)(96) (collectively, "S-K 1300") and Canadian National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101") and are supported by pre-feasibility studies and/or initial assessments prepared in accordance with both the requirements of S-K 1300 and NI 43-101. S-K 1300 and NI 43-101 both provide for the disclosure of: (i) "Inferred Mineral Resources," which investors should understand have the lowest level of geological confidence of all mineral resources and thus may not be considered when assessing the economic viability of a mining project and may not be converted to a Mineral Reserve; (ii) "Indicated Mineral Resources," which investors should understand have a lower level of confidence than that of a "Measured Mineral Resource" and thus may be converted only to a "Probable Mineral Reserve"; and (iii) "Measured Mineral Resources," which investors should understand have sufficient geological certainty to be converted to a "Proven Mineral Reserve" or to a "Probable Mineral Reserve." Investors are cautioned not to assume that all or any part of Measured or Indicated Mineral Resources will ever be converted into Mineral Reserves as defined by S-K 1300 or NI 43-101. Investors are cautioned not to assume that all or any part of an Inferred Mineral Resource exists or is economically or legally mineable, or that an Inferred Mineral Resource will ever be upgraded to a higher category.

Qualified Person Statement

The scientific and technical information disclosed in this news release was reviewed and approved by Daniel D. Kapostasy, PG, Registered Member SME and Vice President, Technical Services for the Company, who is a "Qualified Person" as defined in S-K 1300 and National Instrument 43-101.

Building a Globally Significant Critical Minerals Company Based in the U.S.

On the Foundation of Our Core Uranium Business

01

Uranium
A leading U.S. producer of U_3O_8

02

Rare Earth Elements
Emerging global leader in producing separated oxides (NdPr, Dy, Tb)

03

Heavy Mineral Sands
An emerging leading global producer of TiO_2, ZrO_2 minerals

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Value

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Common Thread: We produce high-value materials from minerals that naturally contain uranium, or are found alongside minerals that naturally contain uranium

Energy Fuels – Overview

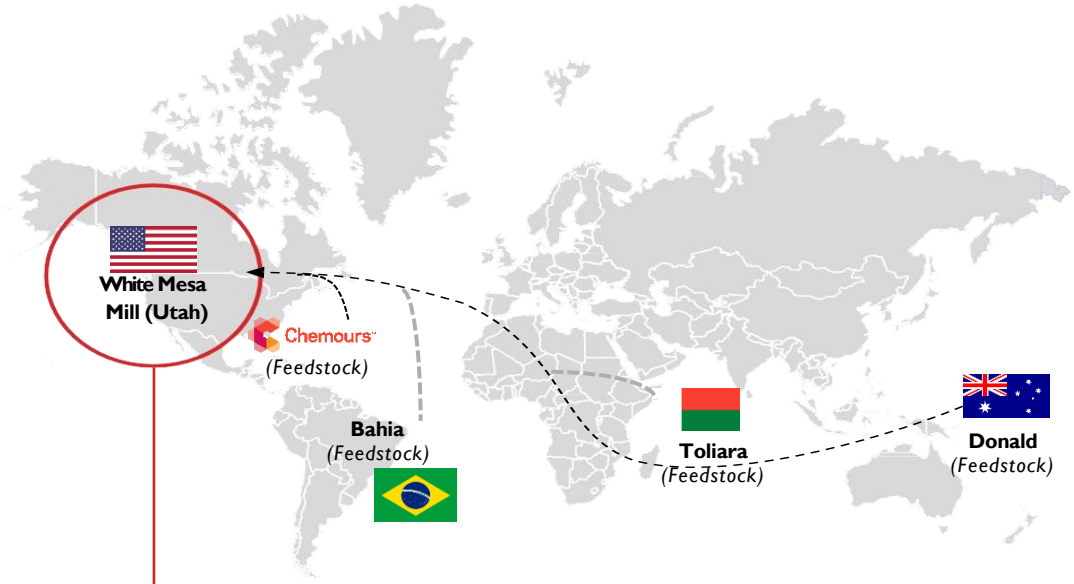
- Energy Fuels is a leading U.S. producer of uranium and rare earth oxides with unique processing capabilities at White Mesa Mill ("WMM")
  - WMM is a solvent extraction processing facility that has been in operation since 1980
  - Potential for feedstock to come from multigenerational monazite deposits
- WMM was built to process uranium, but Energy Fuels recently added a circuit to produce rare earth oxides ("REO") in 2022
  - Today WMM produces light rare earth oxides and expects to start producing heavy rare earth oxides in late 2026

Latest Developments at White Mesa Mill

- In September, POSCO International qualified Energy Fuels' Neodymium- Praseodymium ("NdPr") oxides using them to produce permanent magnets to be used in EVs this year
- Successfully produced first kg of Dysprosium ("Dy") oxide at a 99.9% purity at pilot scale in August 2025[1]
- Expects to produce one kg of Terbium ("Tb") on a pilot scale by the end of December 2025
- Expects to start producing Samarium ("Sm") oxide on a pilot scale in January 2026
- Potential to produce Dy, Tb and Sm on a commercial scale with additions to its existing RE separation circuit as early as Q4 2026

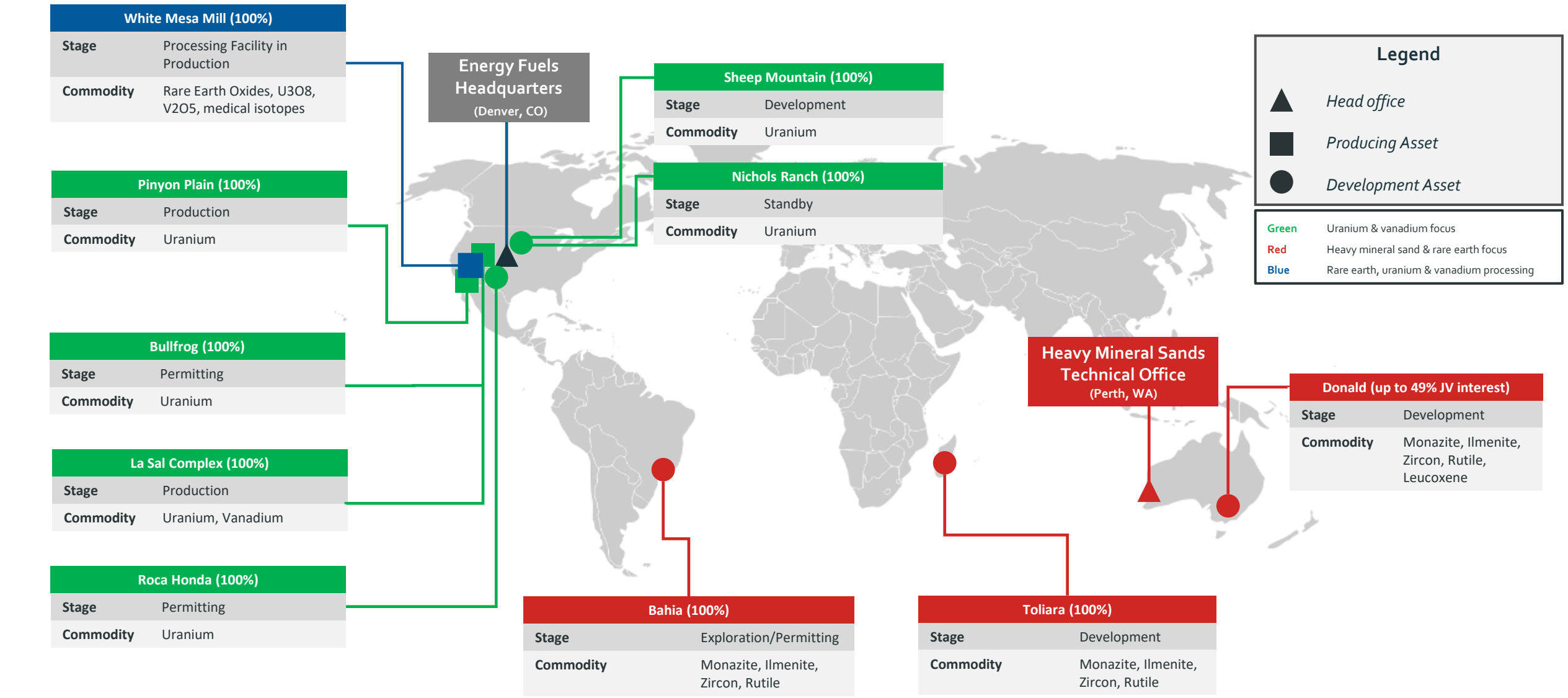
Location	Blanding, Utah
Status	Operational
Products	U_3O_8, NdPr oxide
Current Capacity	NdPr: ~1ktpa *or;* U_3O_8: ~8mm[2] lbs pa(2025 production guidance: ~1.4mm lb)

U.S. Centric Rare Earth and Uranium Processing Capabilities



Note: [1] Expects to continue producing Dy oxide on a pilot scale through Sep-2025, at which time it expects to have produced approximately 15kg of Dy, generating enough residuals to feed its Tb circuit starting the beginning of Oct-2025. [2] White Mesa Mill licensed capacity.

Globally Significant Critical Mineral Mines & Processing Facilities



Energy Fuels is building a globally significant & cost competitive "light" & "heavy" REE supply chain centered on expansion of its operating REE, uranium & critical mineral processing facility in Blanding, Utah

The White Mesa Mill (Utah)

Our core business is producing critical minerals from uranium-bearing ores – including REOs from monazite

An Existing Mineral Processing Facility with Commercial REO Capacity

- **Only** operating conventional uranium mill in USA
- **Only** facility in USA able to process monazite into refined light and **heavy REOs**
- **Largest** uranium processing facility in USA
- Fully licensed, permitted & producing with 100+ employees
- 40+ years of experience in mineral processing and refining using solvent extraction (SX)
- Exceptional track-record of safety, regulatory compliance, and environmental protection to world leading US standards
- Opportunity to participate in an advanced, operating & globally significant Critical Mineral Processing Hub

Diversified Supply Chain centered around our White Mesa Mill in Blanding, Utah

- Produce & procure lower-cost byproduct monazite concentrates from HMS mines in the US and globally
- Demonstrated ability to produce high-purity, separated "light" and "heavy" REOs at the White Mesa Mill

Solvent extraction ("SX") circuit at the White Mesa Mill producing high-purity NdPr

Sample of 99.9% purity Dy oxide produced at White Mesa Mill

One (1) tonne "supersacks" of finished NdPr oxide at the White Mesa Mill

Production of NdFeB alloy sintered blocks from Energy Fuels' NdPr oxide

Date	Milestone	
July 2021	Signed contract to procure monazite concentrate from Chemours	✓
Apr 2022	Commenced production of high-purity, partially- separated MREC	✓
June 2024	Commissioned Phase 1 NdPr Oxide circuit with commercial capacity to produce 1,000 mtpa NdPr (Chemours feedstock); Produced commercial quantities of on-spec NdPr oxide	✓
Feb 2025	Barr Engineering kicked off for White Mesa Mill Phase 2 Feasibility Study (expected completion in November 2025)	✓
Mar 2025	POSCO International MOU for oxide; Produced into rare earth permanent magnets (REPM) in July 2025 (all QA/QC passed)	✓
Aug 2025	Produced 99.9% purity Dy Oxide (pilot)	✓
Dec 2025	Plan to produce high-purity Tb Oxide (pilot)	
Feb 2026	Plan to produce high-purity Sm oxide (pilot)	
Q2 2026	Commence construction on Phase 1 HREE circuits with planned commissioning in Q4 2026	
Q3 2026	Commence construction on Phase 2 expansion at White Mesa Mill with planned commissioning in 2028	

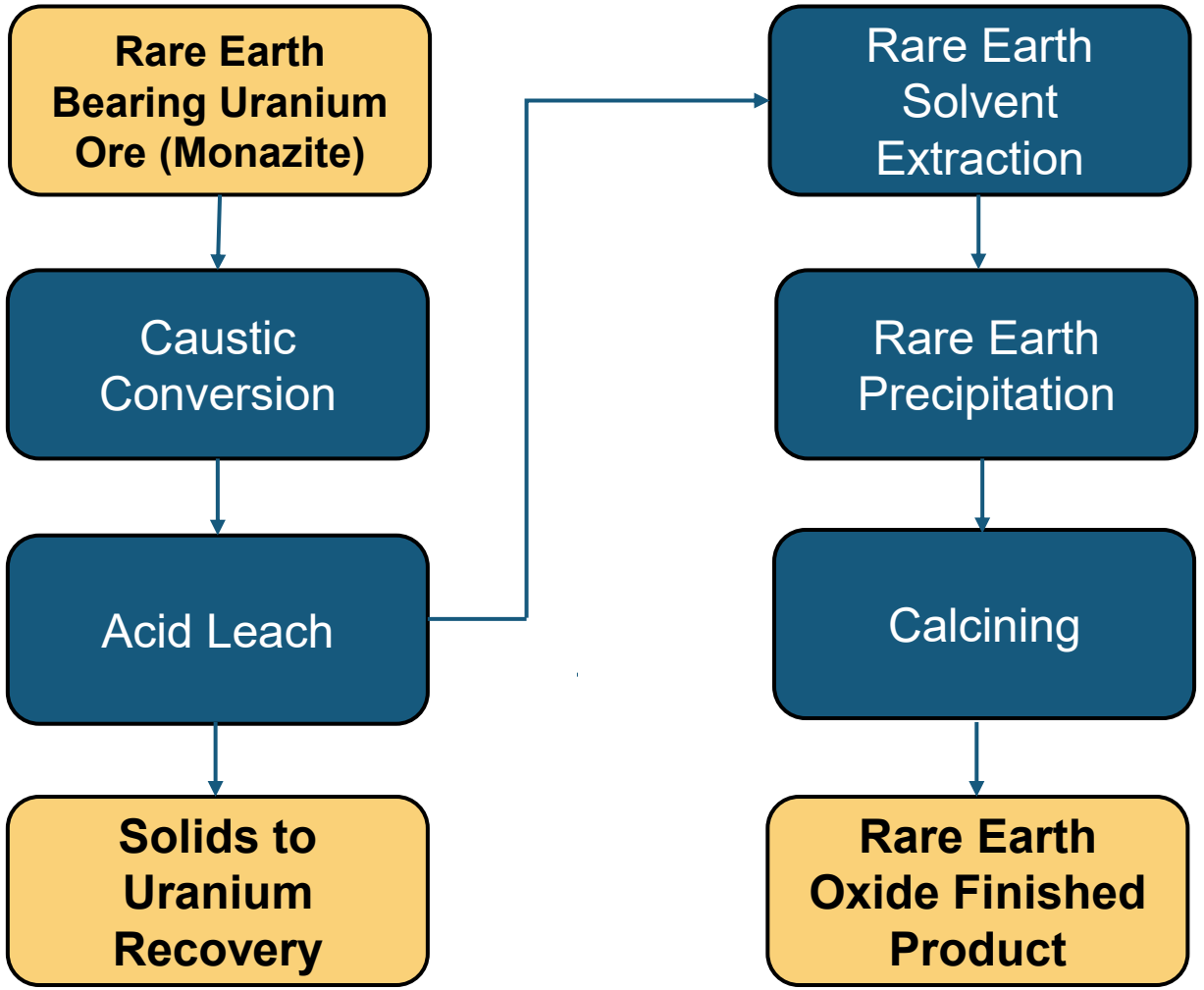
Diversified & allied supply of monazite concentrates will be processed in Utah to support the US market, national security needs & international agreements, enabling the US to break its dangerous overdependence on China

Monazite: Our Structural Advantage in Rare Earth Ore

Monazite is a Superior Rare Earth Mineral

- Monazite is currently mined globally as a high-grade byproduct of heavy mineral sand (HMS) mines (50% - 60%+ total REE oxides)
- More NdPr: (19.6 – 23.7% TREO Basis)
- More “mid” and “heavy” REE oxides
  - Sm: (3.0 – 3.5% TREO Basis)
  - Dy: (0.5 – 2.2% TREO Basis)
  - Tb: (0.18 – 0.37% TREO Basis)
- More uranium (0.2 – 0.5%)

➢ **Monazite is less costly to process due to its higher rare earth content and easier extraction compared to hardrock deposits**



The White Mesa Mill is the **only** U.S. facility able to process monazite and produce high-purity REE oxides and saleable uranium

Monazite concentrates already secured by Energy Fuels

Contained "light" and "heavy" REOs

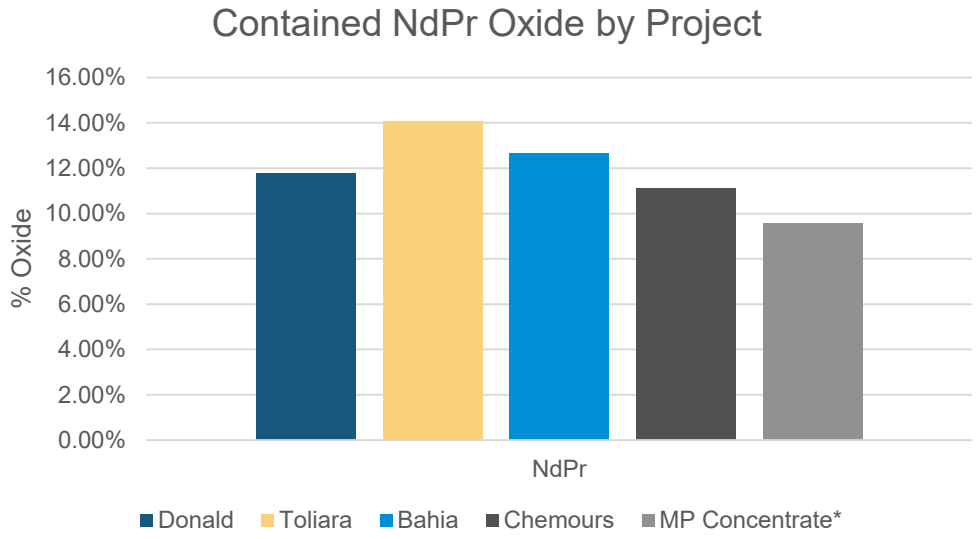
Contained REOs by existing projects in tonnes per annum (tpa):

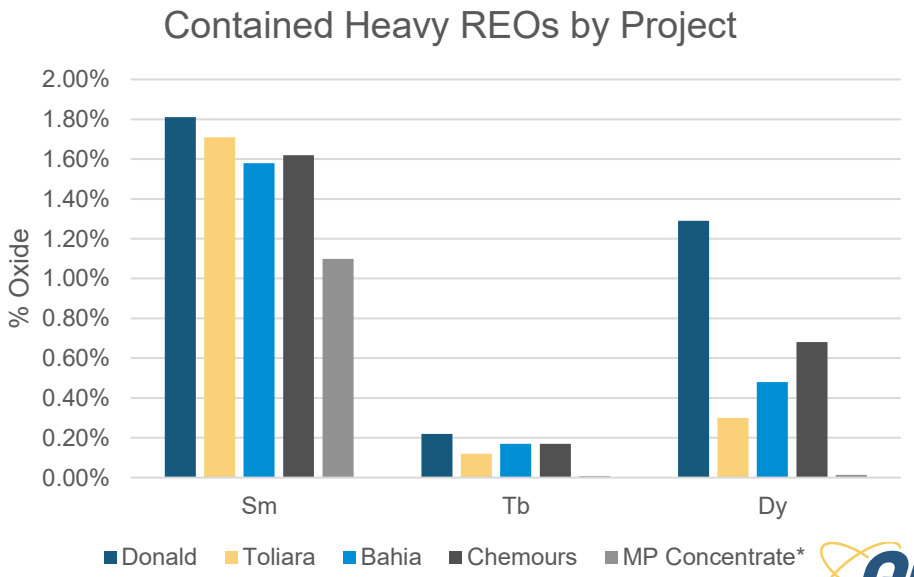
Project	Monazite	NdPr	Sm	Tb	Dy
Donald	13,000	1,531	235	29	168
Toliara	24,000	3,370	410	29	72
Bahia	3,100	392	49	5	15
Chemours	800	89	13	1	5
Total	**40,900**	**5,381**	**708**	**64**	**260**

The Company is looking to secure an additional 10-20 ktpa monazite from other projects or purchased feedstock

White Mesa Mill REO Production Capacity (tpa):

Phase	NdPr	Tb	Dy
Phase 1: NdPr (Existing)	1,049	-	-
Phase 1: Heavies (Planned 2026)	-	13	48
Phase 2: (Planned 2028)	5,245	67	240
Total (Phase 1+2)	**6,294**	**80**	**288**





Data sourced from MP Materials' 2024 S-K 1300 TRS Update Mountain Pass Mine San Bernardino County, California, Table 14 -5 (Assumes all SEG+ is Sm and concentrate is 61% TREO)

Energy Fuels:

A Strong, Reliable, Diversified Partner with Proven Rare Earth Capabilities

Largest U.S. producer of natural uranium concentrates for nuclear energy (U_3O_8)

Commercial production of NdPr oxide in 2024; Pilot production of HREE (99.9% Dy) in 2025

Strong balance sheet with over $1 billion of global assets and zero debt

Dual-listed on NYSE & TSX with $3+ billion market capitalization

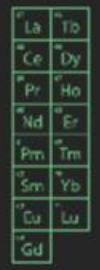
Exceptional in-house know-how with over 500 employees globally

Experienced management team with track record of delivering projects on-time & on-budget

ENERGY FUELS

America's Leading Producer of Uranium, Rare Earths, and Critical Materials

Titanium Zirconium Uranium Rare Earths Vanadium Medical Isotopes Recycling



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