

# A SUMMARY OF MONTANA'S CRITICAL MINERALS DEVELOPMENT EFFORTS

*MONTANA ENVIRONMENTAL QUALITY  
COUNCIL, OCTOBER 23, 2025*





# **PRESENTATION OVERVIEW**

- **CRITICAL MINERALS UPDATE AND OVERVIEW**
- **MONTANA'S CRITICAL MINERAL RESOURCES AS AN OPPORTUNITY**
- **GEOLOGIC, HISTORIC & PRESENT**
- **STRATEGY FOR FUTURE OPPORTUNITIES IN MONTANA & BEYOND**



# CRITICAL MINERALS, MATERIALS AND RARE EARTH ELEMENTS

USGS (2022): Aluminum, **Antimony**, **Arsenic**, Barite, Beryllium, **Bismuth**, Cerium, Cesium, Chromium, Cobalt, **COPPER**, **Dysprosium**, Erbium, Europium, Fluorspar, **Gadolinium**, **Gallium**, **Germanium**, **Graphite**, Hafnium, Holmium, **Indium**, Iridium, Lanthanum, **LEAD**, Lithium, **Lutetium**, Magnesium, Manganese, **Molybdenum**, Neodymium, Nickel, Niobium, Palladium, Platinum, **POTASH**, Praseodymium, **RHENIUM**, Rhodium, Rubidium, Ruthenium, **Samarium**, **Scandium**, **SILICON**, **SILVER**, Tantalum, **Tellurium**, **Terbium**, Thulium, Tin, **Titanium**, **Tungsten**, Vanadium, Ytterbium, **Yttrium**, Zinc, and Zirconium

DOE (2023): All of the above *PLUS* **Copper**, Electrical steel, Fluorine, **Silicon**, and Silicon Carbide

EXECUTIVE ORDER 14241 Immediate Measures to Increase American Mineral Production (2025): All of the above *PLUS* Uranium, **Potash (KCl/K<sub>2</sub>SO<sub>4</sub>)**, Gold and “ANY OTHER ELEMENT, COMPOUND OR MATERIAL as determined by the Chair of the National Energy Dominance Council (NEDC).”

*\*China has also restricted export of “superhard materials,” e.g., diamond, boron nitride, and associated technology with processing of such.*



# CRITICAL MINERALS & RARE EARTH ELEMENTS IN MONTANA

H Helium																	He Helium											
Li Lithium	Be Beryllium	<div><div></div><div>U.S. critical commodities</div></div> <div><div></div><div>Significant occurrences in Montana</div></div>												B Boron	C Carbon Graphite	N Nitrogen	O Oxygen Fluorspar	F Fluorine	Ne Neon									
Na Sodium	Mg Magnesium													Al Aluminum	Si Silicon	P Phosphorus	S Sulfur	Cl Chlorine	Ar Argon									
K Potassium	Ca Calcium	Sc Scandium	Ti Titanium	V Vanadium	Cr Chromium	Mn Manganese	Fe Iron	Co Cobalt	Ni Nickel	Cu Copper	Zn Zinc	Ga Gallium	Ge Germanium	As Arsenic	Se Selenium	Br Bromine	Kr Krypton											
Rb Rubidium	Sr Strontium	Y Yttrium	Zr Zirconium	Nb Niobium	Mo Molybdenum	Tc Technetium	Ru Ruthenium	Rh Rhodium	Pd Palladium	Ag Silver	Cd Cadmium	In Indium	Sn Tin	Sb Antimony	Te Tellurium	I Iodine	Xe Xenon											
Cs Cesium	Ba Barium													Hf Hafnium	Ta Tantalum	W Tungsten	Re Rhenium	Os Osmium	Ir Iridium	Pt Platinum	Au Gold	Hg Mercury	Tl Thallium	Pb Lead	Bi Bismuth	Po Polonium	At Astatine	Rn Radon
Fr Francium	Ra Radium	Rf Rutherfordium	Db Dubnium	Sg Seaborgium	Bh Bohrium	Hs Hassium	Mt Meitnerium	Ds Darmstadtium	Rg Roentgenium	Cn Copernicium	Nh Nihonium	Fl Flerovium	Mc Moscovium	Lv Livermorium	Ts Tennessine	Og Oganesson												
		La Lanthanum	Ce Cerium	Pr Praseodymium	Nd Neodymium	Pm Promethium	Sm Samarium	Eu Europium	Gd Gadolinium	Tb Terbium	Dy Dysprosium	Ho Holmium	Er Erbium	Tm Thulium	Yb Ytterbium	Lu Lutetium												
		Ac Actinium	Th Thorium	Pa Protactinium	U Uranium	Np Neptunium	Pu Plutonium	Am Americium	Cm Curium	Bk Berkelium	Cf Californium	Es Einsteinium	Fm Fermium	Md Mendelevium	No Nobelium	Lr Lawrencium												

Courtesy of Montana Bureau of Mines & Geology





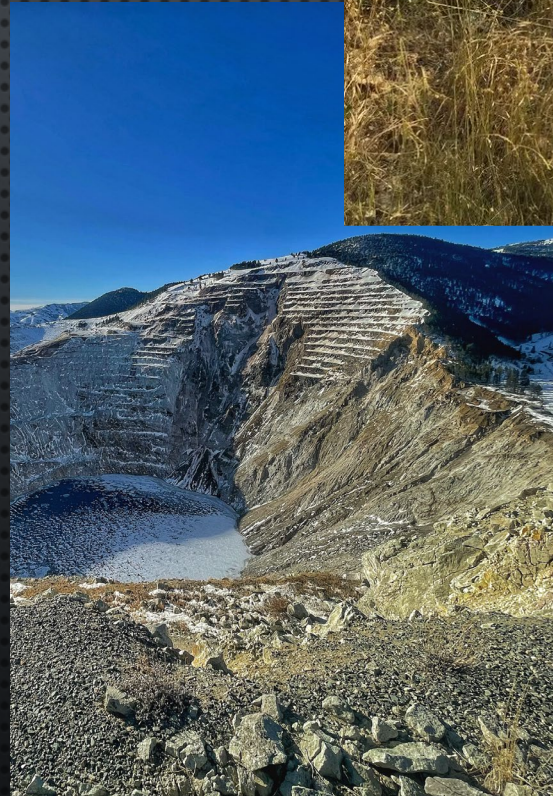
## ***MONTANA'S ACTIVE PRIMARY PRODUCTION***

- **STILLWATER** – NYE & EAST BOULDER (PLATINUM, PALLADIUM, COPPER, NICKEL)
- **MONTANA RESOURCES** (COPPER, MOLYBDENUM, SILVER)
- **COAL OPERATIONS** (WESTMORELAND, SPRING CREEK & SIGNAL PEAK)
- CRH-ASHGROVE, GCC-TRIDENT (CEMENT, GYPSUM)
- MAGRIS, HIGH DIVIDE (FORMERLY BARRETTS) (TALC)
- GRAYMONT – INDIAN CREEK (LIME)
- **U.S. ANTIMONY CORPORATION** (ANTIMONY SMELTING)
- GOLDEN SUNLIGHT (GOLD, SULFIDE)
- BEAR CLAW MINING (GOLD)
- GARNET USA (INDUSTRIAL GARNETS)
- **HECLA** – LIBBY (COPPER, SILVER)
- **SANDFIRE RESOURCES-BLACK BUTTE** (COPPER, OTHERS?)
- EXPLORATION & OTHER SOURCES: **REEs, C (GRAPHITE), Sb, Ag, Cu, Au, W, Zn, OTHERS?** *CURRENTLY 62 ACTIVE EXPLORATION LICENSES IN MT*



# MONTANA'S ABANDONED MINES

- BERKELEY PIT, ANACONDA COMPLEX
- EAST HELENA
- ZORTMAN-LANDUSKY
- MONTANA TUNNELS
- PHILIPSBURG DISTRICT
- MANY OTHERS, LARGE & SMALL





# MONTANA MINING ASSOCIATION : REE/CM EXTRACTION DEMO PROGRAM; POLICY

- **CRITICAL MINERALS EXTRACTION EFFORTS AT OPERATING AND LEGACY MINE SITES**
  - PARTNERS/COLLABORATORS: DEPARTMENT OF DEFENSE-ARMY RESEARCH LA; US NAVY UNDERSEA WARFARE CENTER; DARPA; IDAHO NATIONAL LABORATORY; EPA & BLM; FORT BELKNAP TRIBAL COUNCIL; MONTANA DEQ AND DNRC; **MONTANA TECHNOLOGICAL UNIVERSITY/BUREAU OF MINES & GEOLOGY**; MONTANA STATE UNIVERSITY
  - WESTERN STATES COLLABORATION: **ID, WY, SD**, ND; **UT, NV**, AZ, CO, NM, **AK**, MN
- **ADVANCED PRIORITIES: BERKELEY PIT, CONTACT MINING, ANACONDA SMELTER, SIBANYE-STILLWATER**
- **CRITICAL MINERALS POTENTIAL FOR ZN, GE, **W, Mn**, NI, BI, CO, SB, REES**
- **INVESTIGATE ADDITIONAL OPPORTUNITIES AND TECHNOLOGIES** AT OTHER ACTIVE MINING SITES, PROCESSING/REFINING FACILITIES AND HISTORIC/LEGACY WASTE SITES; INCLUDE EXPLORATION AND GREENFIELD PROJECTS TO KEEP THE PIPELINE FILLED.
- **POLICY INCLUDES:**
  - *2025 LEGISLATIVE SESSION: ADDRESSING REGULATORY CERTAINTY; UPDATING AND INCREASING RESPONSIBLE MINING MEASURES; IMPROVING MONTANA'S MINERALS LEASING ON STATE LANDS; GREATER PUBLIC OUTREACH AND AWARENESS.*
  - *2027 LEGISLATIVE ACTIONS: "MORE OF THE SAME"; ADDING ECONOMIC INCENTIVES TO MINING AND EXTRACTION OF CMS*
  - *FEDERAL REGULATORY AND LEGISLATIVE EFFORTS: REMAIN ACTIVE VIA NATIONAL ORG'S*
  - *RE-ESTABLISHING MONTANA AS A KEY PLAYER IN SUPPLYING AMERICA'S MOST CRITICAL MINERAL NEEDS*
  - ***EQC SUPPORT – LETTER(S) TO CONGRESSIONAL DELEGATION, ADMINISTRATION AND DEFENSE PARTNERS FOR UNCOMMITTED FY25 FUNDS AND FY26 PRELIMINARY ALLOCATION***



# ***“Promoting and Protecting Responsible Mining in Montana.”***



**MONTANA  
MINING  
ASSOCIATION**

