AGS Information Series 156

Alberta Energy Regulator | AGS ALBERTA GEOLOGICAL SURVEY

Inquires 1-855-297-8377
ags-info@aer.ca
ags.aer.ca
aer.ca

Critical Minerals with Known Potential in Alberta

Critical element or mineral[A]	Typical use	Common sources of mineral
Cobalt	Rechargable batteries, superalloys	
Copper	Power transmission and generation, building wiring, telecommunications, and electronic products	
Helium	MRI imaging, lifting gas, and analytical and laboratory applications	
Iron	Steel production	
Lithium	Rechargable batteries, ceramics and glass	
Magnesium	Steel production, aluminum alloy	
Molybdenum	Steel and cast iron alloy, superalloys	
Nickel	Stainless steel production, superalloys, batteries	
Phosphorus	Fertilizer, animal feed supplements	
Potash	Fertilizer	
Rare-earth elements[B]	Magnets, catalysts, ceramics and glass, polishing powders	
Scandium	Aluminum alloy, fuel cells, ceramics, electronics	
Silicon	Steel and cast iron alloy, aluminum alloy, semiconductor production	
Titanium	Aerospace applications, armour, medical implants, power generation	
Uranium	Nuclear fuel	
Vanadium	Iron and steel alloy, catalysts, batteries	
Zinc	Anti-corrosion coating (galvanized metal), copper and tin alloy	

[A] These are critical minerals from Canada's critical minerals list (Government of Canada, 2024) that have known prospectivity in Alberta. Additional critical minerals not mentioned above may have potential in the province. They require further investigation to demonstrate their prospectivity.

[B] Rare-earth elements include: Lanthanum (La), Cerium (Ce), Praseodymium (Pr), Neodymium (Nd), Promethium (Pm), Samarium (Sm), Europium (Eu), Gadolinium (Gd), Terbium (Tb), Dysprosium (Dy), Holmium (Ho), Erbium (Er), Thulium (Tm), Ytterbium (Yb), and Lutetium (Lu).

Legend

Rock & Sediment | Subsurface Fluids | Industrial waste

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