

SMaRT Center Weekly Digest
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News

[USGS, states to conduct aerial survey in Arkansas, Missouri for critical minerals](#)

The US Geological Survey is providing \$2.75 million to research critical mineral potential across central Arkansas and southern Missouri via airborne surveys. The money from President Joe Biden's Bipartisan Infrastructure Bill will enable the state-federal programme to collect the largest continuous swath of geophysical data in the United States focused on critical minerals resources.

[UK sets up centre to advise on critical minerals, amid warnings of supply risks](#)

THE UK has established a Critical Minerals Intelligence Centre in Nottingham to help the country and its industries secure the feedstocks needed to transition to net zero and boost business. The centre's goals include proving Government and industry with independent analysis to help mitigate supply risks and identify business opportunities, and understand other key factors including the environmental and social considerations of available supplies.

[Rio Tinto, Ford to develop battery, low-carbon materials supply chain](#)

Rio Tinto and Ford Motor Company have signed a non-binding global memorandum of understanding to jointly develop more sustainable and secure supply chains for battery and low-carbon materials to be used in Ford vehicles. The multi-materials partnership will support the transition toward a net-zero future by supplying Ford, one of the world's largest automakers, with materials including lithium, low-carbon aluminum and copper, Rio Tinto said in a statement. Under the agreement, Ford will explore becoming the foundation customer for Rio Tinto's Rincon lithium project in Argentina. The project is currently under development.

[BHP signs MOU for nickel supply with Ford](#)

The world's biggest miner, BHP has entered into a Memorandum of Understanding for nickel supply with Ford Motor Company. The targeted multi-year nickel supply agreement could start as early as 2025 and may involve additional commodities over time, the miner said, adding that it will explore options to supply Ford Motor Company with nickel from its Nickel West asset in Western Australia.

[Tactical Resources Engages Metallurgical Firm to Advance REE Extraction and Process Development](#)

Tactical Resources Corp., a mineral exploration and development company focused on the rare earth elements, has engaged Kemetco Research Inc. of Richmond, British Columbia to provide metallurgical test work services in support of the Company's REE extraction and technological development plans. This initial phase of test work will consist of assessing two key areas related to the Peak Project: (1) evaluating direct leach extraction amenability, and (2) evaluating maximum extraction potential. This initial test work will include analysis and verification of results from field acquired feed stock grab samples from the project tailings area.

[VR Resources intersects the broadest and highest-grade critical metal mineralization to date at Hecla Kilmer property in Ontario](#)

VR Resources highlighted that it intersected:

- 243m at 1.01% of total rare earth oxide (TREO), of which 19% are PMREO, within 290m at 0.91% TREO starting at surface and continuous from top-to-bottom in Hole HK22-013, and including
- 65m at 1.66% TREO, starting at 155m and including 39m at 2.01% TREO starting at 155m, and 15m at 2.14% TREO starting at 311m
- The 65m interval of 1.66% TREO is made up of 24% PMREO
- The 15m interval with 2.14% TREO contains 15.71% P2O5

[Ancient piece of earth's crust defines location of economically important minerals](#)

year-old piece of the earth's crust that lies beneath the southwestern part of Western Australia. In a paper published in the journal Terra Nova, the scientists explain that the edge of the ancient piece appears to define an important crustal boundary controlling where economically important minerals are found. In their view, recognizing these ancient crustal remnants is important for the future of optimized sustainable resource exploration.

Select Articles

[Advances of magnetic nanohydrometallurgy using superparamagnetic nanomaterials as rare earth ions adsorbents: A grand opportunity for sustainable rare earth recovery](#)

The Magnetic Nanohydrometallurgy (MNHM) uses functionalized-magnetic nano adsorbents (MNAs) with specific complexing agents to extract, concentrate, and separate metal ions as REEs from diluted leaching solutions. The MNAs have the main advantage possess superparamagnetism, easing their separation from aqueous media by an external magnetic field (magnetic separation).