Criticality & China: A Matter of Perspective

written by InvestorNews | April 23, 2024

In the latest thinkpiece from <u>Hallgarten & Company</u>, editor Christopher Ecclestone analyzes the issue of critical metal and mineral supply, drawing attention to the complexities faced by both China and the West. The report, titled "<u>Criticality & China: A Matter of Perspective</u>," points out that China, commonly perceived as dominating the supply of various critical metals, faces significant challenges in maintaining this control. The document highlights how critical metals such as Antimony, Heavy Rare Earths, and Cesium, although seen as China-dominated, are also problematic for China to procure and maintain due to long supply lines and geopolitical instabilities.

Ecclestone argues that the West, particularly the U.S., has overlooked Chinese encroachments in the global metals market due to an inward-looking approach. "The US allowed its total dominance of Cesium to transfer to total China dominance at the stroke of a pen," he states, underscoring the strategic missteps in managing critical metal supplies. Furthermore, he discusses the geopolitical risks associated with metal supply chains, noting that a change in government in supplier countries like the DRC, Zambia, and Burma can quickly turn supply certainty into doubt.

The report criticizes the current state of criticality rankings, which Ecclestone claims are corrupted by "carpetbagging promoters" who influence government listings to favor their interests, thereby devaluing the concept of criticality. He stresses the need for more rigorous methodologies in evaluating critical metal lists to prevent them from becoming as valueless

Ecclestone's analysis also contemplates a hypothetical Chinese criticality list, considering the metals and minerals China truly needs, especially in potential conflict scenarios. He points out the strategic disadvantage China faces due to its dependence on foreign sources for essential metals required in wartime, drawing parallels with historical precedents where resource scarcity impacted military campaigns.

Overall, the thinkpiece serves as a wake-up call to the West to reevaluate its approach to critical metals and the broader implications of geopolitical dynamics on global supply chains. To read the full report, <u>click here</u>

Disruptive Shift to Rare Earth Processing as Aclara Moves into American Market

written by InvestorNews | April 23, 2024

In an update on the disruptive industry news that broke this morning, Jack Lifton, Co-chair of the <u>Critical Minerals Institute</u> (CMI), offered a detailed analysis of <u>Aclara Resources Inc.</u>'s (TSX: ARA) strategic move into the U.S. rare earths processing market. Aclara, backed by the Hochschild Mining Group, has set its sights on exploiting ionic clay deposits from Chile and Brazil to secure heavy rare earth elements (HREEs) like Dysprosium and Terbium, pivotal for high-performance magnet manufacturing. This venture is marked by partnerships with the

Saskatchewan Research Council and Hatch Ltd. for the development and engineering of a processing facility. However, Lifton expressed reservations about the ambitious timeline, stating, "The actual <u>announcement</u> says they've engaged with the Saskatchewan Research Council to develop a separation technology operation and with Hatch, of Toronto, to actually engineer whatever the plan that comes out of the Saskatchewan Research Council is into hardware, into an actual separation plant."

Lifton's insights illuminate the intricate challenges Aclara faces in pioneering rare earth separation technologies in North America, a domain where success has been limited. He juxtaposes Aclara's emerging efforts against established industry players like Energy Fuels Inc. (NYSE American: UUUU | TSX: EFR), which has already made significant progress in light rare earth (LREE) separation and is now venturing into HREEs and alloys. This nuanced perspective raises doubts about Aclara's capability to swiftly navigate the complex technological and operational hurdles inherent in rare earth processing.

The interview further delves into the competitive dynamics of the rare earth market, highlighting Aclara's entry into a space occupied by Energy Fuels, and buildouts already in play from MP Materials (NYSE: MP) and Ucore Rare Metals Inc. (TSXV: UCU | OTCQX: UURAF). Each company has its unique approach and strategic plans, indicating a fiercely competitive environment. Lifton's critique underscores a broader theme of Aclara's need for deeper industry integration and strategic partnerships, and suggested that this was perhaps a missed opportunity in which they should have engaged with Ucore.

Lifton's comprehensive analysis provides a crucial viewpoint on Aclara's bold yet fraught journey into the rare earths processing industry. While Aclara's plans signify a positive stride towards diversifying the global rare earths supply chain and enhancing geopolitical supply chain independence, Lifton underscores the formidable challenges ahead. This initiative marks a significant moment in the rare earth industry, setting the stage for Aclara's ambitious endeavor to navigate the technological, logistical, and competitive hurdles that lie in its path.

World Renowned Critical Minerals Expert Constantine Karayannopoulos is Bullish on Lithium

written by InvestorNews | April 23, 2024

In an insightful interview with Tracy Weslosky of InvestorNews, Constantine Karayannopoulos, a renowned expert in the field of critical minerals, shared his perspectives on the current state and future prospects of the critical minerals market. Karayannopoulos highlighted the pivotal role of critical minerals such as rare earths, lithium, and nickel in the burgeoning sectors of battery technology and electric vehicles (EVs), underscoring the global buzz around these resources. He noted the current challenges faced by small companies in raising funds and the general market sentiment. Despite these hurdles, he expressed optimism, suggesting that the downturn in valuations and financing is temporary. "We're at close to or at the bottom of the cycle with a lot of these commodities," he stated, advising resilience for these firms in anticipation of a market rebound fueled by sustained demand for technologies

reliant on critical minerals.

Karayannopoulos offered insightful commentary on the critical minerals market, particularly focusing on lithium and rare earths. With a bullish stance on lithium, he reminisced about the industry's past pricing projections and observed the current market's resilience despite recent price drops. "Lithium still is the workhorse in the battery space... for the next decade, lithium will be the workhorse of the EV battery," he affirmed, advocating for strategic investments in this area during market lows. His observations extended to the rare earths market, noting its sensitivity to Chinese economic dynamics and the potential for price stabilization in the near term. Highlighting Brazil's emerging role in diversifying the global supply of heavy rare earths, he emphasized the importance of exploring favorable mineralogy and environmental practices in new geographies. This strategic diversification, he argued, is crucial for addressing the geopolitical and social concerns associated with current heavy rare earths sourcing, primarily from Myanmar.

To access the complete interview, click here

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Pat Ryan on Ucore's

Engineering Advantage in the Production of Heavy Rare Earths for Permanent Magnets

written by InvestorNews | April 23, 2024

At PDAC Toronto 2024, Critical Minerals Institute (CMI) Co-Chairman Jack Lifton interviewed Pat Ryan, the Chairman and CEO of <u>Ucore Rare Metals Inc.</u> (TSXV: UCU | OTCQX: UURAF), discussing Ucore's advancements in the rare earths' permanent magnet supply chain. Ryan highlighted the company's focus on mid-market separation technologies, particularly their RapidSX technology, which significantly improves throughput rates for extracting rare earths essential for high-temperature applications like electric vehicles. With a commercial demo plant in Kingston, Ucore is engineering a full-scale system capable of producing heavy rare earths, including dysprosium, at purities above 99%. Ryan emphasized the strategic importance of heavy rare earths, noting, "The one critical thing we're really focused on is that heavy rare earth element...the permanent magnets really only work because the heavy rare earth allows it to operate at very high temperature."

Ucore's approach to securing feedstock for these valuable minerals is noteworthy, as Ryan mentioned sourcing from the Asian market outside of China. This strategic sourcing is part of Ucore's broader vision to disrupt China's control over the North American rare earth supply chain. With plans to operationalize a full-scale plant in Louisiana by 2025, Ucore is poised to become a significant player in the rare earths market. The company's engagement in joint ventures rather than traditional buy-sell agreements reflects a collaborative strategy aimed at strengthening the western rare earths supply

chain. This initiative is further supported by Ucore's recent announcement of successfully separating a range of heavy rare earth elements using its RapidSX technology, marking a critical step towards establishing a domestic rare earth processing capability.

Ucore's commitment to innovation and strategic partnerships underscores its potential to influence the North American rare earths market significantly. By focusing on the production of heavy rare earths and employing advanced separation technologies, Ucore aims to reduce dependence on foreign rare earths and contribute to the resilience of critical supply chains. With a seasoned executive like Ryan, who has extensive experience in manufacturing and supply chain management, Ucore is well-positioned to navigate the complexities of rare earth processing and meet the growing demand for these essential components in various high-tech applications.

To access the complete interview, click here

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About Ucore Rare Metals Inc.

Ucore is focused on rare- and critical-metal resources, extraction, beneficiation, and separation technologies with the potential for production, growth, and scalability. Ucore's vision and plan is to become a leading advanced technology company, providing best-in-class metal separation products and services to the mining and mineral extraction industry.

Through strategic partnerships, this plan includes disrupting the People's Republic of China's control of the North American REE supply chain through the near-term establishment of a heavy and light rare-earth processing facility in the US State of Louisiana, subsequent Strategic Metal Complexes in Canada and Alaska and the longer-term development of Ucore's 100% controlled Bokan-Dotson Ridge Rare Heavy REE Project on Prince of Wales Island in Southeast Alaska, USA.

To learn more about Ucore Rare Metals Inc., click here

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Ucore's Pat Ryan on the significant milestone in being awarded a \$4.28 million

funding agreement by the Canadian Government

written by InvestorNews | April 23, 2024
In a recent interview with InvestorNews' host Tracy Weslosky,
Pat Ryan, Chairman and CEO of Ucore Rare Metals Inc. (TSXV: UCU | OTCQX: UURAF), detailed a significant development in the rare earths sector. The Canadian government has awarded Ucore a \$4.28 million funding agreement, a move that underscores Canada's commitment to advancing critical mineral processing and green energy transition.

Appia and the demand for the critical Heavy Rare Earths

written by Jack Lifton | April 23, 2024

The rare earths necessary for the manufacturing of the magnets needed for the type of electric motors that can drive electric cars fall into two categories, the basic critical permanent magnet rare earths, neodymium (Nd) and praseodymium (Pr), and the critical, critical rare earths necessary for that purpose, dysprosium (Dy) and terbium (Tb). Without the addition of Dy and/or Tb to the alloy based on NdPr (a natural mixture called didymium) the magnetic material produced will not be able to maintain its (magnetic) strength at the high operating temperature and cycles of heating and cooling experienced daily by the electric drive motors to be used in EVs.

Pat Ryan on How Ucore Is Leading the Charge Towards North American Heavy Rare Earths Processing

written by InvestorNews | April 23, 2024
In a recent InvestorNews interview, <u>Ucore Rare Metals Inc.</u>'s
(TSXV: UCU | OTCQX: UURAF) Chairman and CEO Pat Ryan shared
updates on the company's progress towards becoming a heavy rare
earths processor in North America.

Host Tracy Weslosky began the conversation by acknowledging Ucore as the front-runner in this pivotal endeavor. Pat confirmed this, highlighting their RapidSX™ Commercial Demonstration Plant in Kingston, Ontario where they have been separating heavy and light rare earths. Pat also provided an update on their commercial-scale Louisiana Strategic Metals Complex, where they plan to start producing 900 tons per annum of heavy rare earths and 1600 tons of light rare earths by the end of 2024.

Tracy commended Ucore's progress and asked pertinent questions about their transformation into a technology leader in the critical minerals sector. Pat stressed the importance of bringing critical minerals supply chains to commercial scale, leveraging their extensive engineering efforts and the modular ramp-up potential of their RapidSX™ technology.

Discussing Ucore's recent <u>US\$4 million award</u> from the US

Department of Defense, Pat talked about their pricing strategies, emphasizing their competitive approach based on Chinese pricing indexes to ensure their customers get reliable pricing.

To access the complete interview, click here

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Through strategic partnerships, this plan includes disrupting the People's Republic of China's control of the North American REE supply chain through the near-term development of a heavy and light rare-earth processing facility in the U.S. State of Louisiana, subsequent Strategic Metal Complexes in Canada and Alaska and the longer-term development of Ucore's 100% controlled Bokan-Dotson Ridge Rare Heavy REE Project on Prince of Wales Island in Southeast Alaska, USA.

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Exploring Hidden Treasures: The Critical Minerals Institute's Deep Dive into Rare Earths within Ionic Clays

written by InvestorNews | April 23, 2024
The world of rare earths is, for many, a topic reserved for experts and industry insiders. However, given the rising demand in sectors from technology to automotive, it's essential for us to grasp its implications. A recent discussion hosted by the Critical Minerals Institute (CMI) shed light on this last week, emphasizing the potential and challenges associated with ionic clay, a noteworthy source of these minerals.

Discover the Significance of Ionic Clays: The Critical Minerals Institute Hosts an Online Summit

written by Tracy Weslosky | April 23, 2024
The ionic clay buzz is all about sourcing the piv

The ionic clay buzz is all about sourcing the pivotal rare earth elements: neodymium, praseodymium, dysprosium and terbium. These elements are essential for creating permanent magnets used in automotive drive motors, as they maintain magnetism even under temperature extremes, ranging from 0°F to 400°F.

The Critical Minerals Institute's Jack Lifton on Vital Metals, the SRC and Ionic Clays and Rare Earths

written by InvestorNews | April 23, 2024

In this InvestorIntel interview, Tracy Weslosky talks with Critical Minerals Institute's (CMI) Co-Chairman Jack Lifton attempts to explain what Vital Metals Limited's recent announcement about "pausing all construction-related activities at the Saskatoon processing facility" means. Clarifying and reinforcing what the Saskatoon Research Council (SRC) has stated online, we would like to redirect our audience

to the SRC website where they state: "SRC wants to clarify that its Rare Earth Processing Facility currently under construction is on schedule and on budget and will be fully operational by the end of 2024."