

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

written by InvestorNews | April 3, 2024

In an update on the disruptive industry news that broke this morning, Jack Lifton, Co-chair of the [Critical Minerals Institute](#) (CMI), offered a detailed analysis of [Aclara Resources Inc.](#)'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 [announcement](#) 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.

Industry Leaders Lifton and Karayannopoulos China's

Influence on Rare Earth Prices and Markets Today

written by InvestorNews | April 3, 2024

In a thought-provoking InvestorNews interview hosted by the [Critical Minerals Institute](#) founder [Tracy Weslosky](#), [Jack Lifton](#) and [Constantine Karayannopoulos](#), two renowned figures in the rare earths market, share their insights on the sector's current trends and future prospects. Constantine Karayannopoulos, reflecting on the state of the market, observes, "There is never a dull moment in the rare earths industry," highlighting the ongoing slide in prices for critical rare earth elements like neodymium and praseodymium. He expresses a cautious outlook, noting, "I'm a little pessimistic about the near term... it's a cyclical industry."

[Critical Minerals Institute](#) (CMI) Co-Chair Jack Lifton adds: "The low prices may be here for a while because the principal producer in the world is China, and China's having a very bad time economically right now." He emphasizes the opportunities presented by the current market conditions for strategic investments, advising, "This is the ideal time for real mining and real processing companies to get into the game."

Karayannopoulos also touches on the disconnection between market interest and actual market trends, suggesting, "There's always a disconnect between reality versus expectation." He elaborates on the nuanced dynamics within China, mentioning, "The Chinese consumer has not stopped buying, China grew at 5% last year... However, the main consumer of rare earths today, the magnet industry that feeds the electric vehicle production in China, it's not growing as fast as people thought it was going to grow."

Lifton further discusses the broader implications of supply and demand, cautioning, “As long as the supply is in excess, the prices are not going to go up.” He also highlights the strategic importance of investments in raw material sources and processing capabilities, particularly in light of China’s dominance in the market.

Through their conversation, Lifton and Karayannopoulos provide a nuanced analysis of the rare earths market, blending perspectives on economic trends, geopolitical strategies, and investment opportunities. To access the complete interview, [click here](#)

Will the magnet rare earths prices rise in 2024?

written by Matt Bohlsen | April 3, 2024

Today we take a look at the magnetic rare earths sector and two leading rare earth companies and what we can expect in 2024 and beyond.

The magnet rare earths prices have fallen in 2022 and 2023

The magnet rare earths sector was hit hard in 2023 with China’s Neodymium (Nd), Praseodymium (Pr), and Dysprosium (Dy) prices falling as the global economy and EV demand slowed.

Neodymium prices came crashing down in 2022 and 2023 as demand

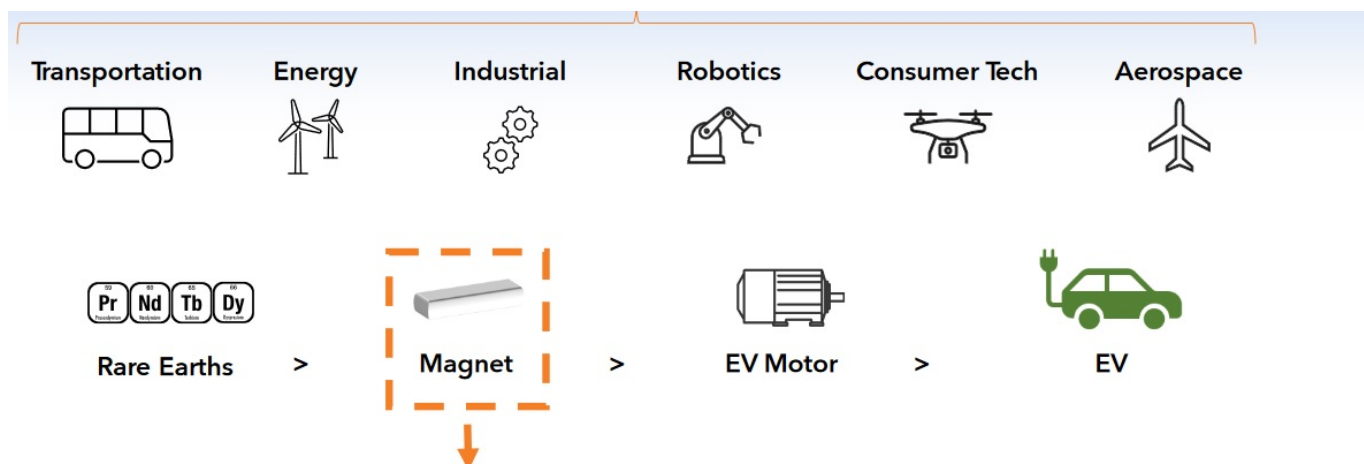
slowed after the 2021 growth rate boom in EV sales – Now at CNY 530,000/t



Source: [Trading Economics](#)

Global plugin electric car sales [grew by 108%](#) in 2021 causing a huge spike in EV metal prices. Then in 2022, the growth rate slowed to 56% at a time when supply of most EV metals surged. Finally in 2023, the growth rate slowed further to an estimated 28%, resulting in further price decline for the magnet metals such as neodymium.

Demand for the magnet rare earths in electric motors is driven by multiple sources with electric vehicle sales being a key driver. (90% of EV motors use rare earth magnets)



Rare earths present a single point-of-failure threat to industries that drive prosperity and security.



Source: [MP Materials company presentation](#)

Will the magnet rare earths prices rise in 2024?

The answer to this question will largely depend on recovery in China and the global economy driving increased demand for EVs, wind turbines, and other magnets used in various industrial applications. Given the most recent trend globally has been towards future interest rate decreases (notably in the USA and China), it bodes well for a recovering consumer and hence demand. This may take a good part of 2024 to flow through with excess inventories across many sectors still needing to be worked off. If we get a strong pickup in EV demand (>40% YoY increase) in 2024, then the magnet rare earths sector woes could soon disappear.

China's December 2023 EV sales give some hope as they jumped to a record [945,000 units](#), achieving a superb 47% YoY growth rate.

Lynas Rare Earths Ltd. (ASX: LYC) ("Lynas") update

The big recent Lynas news ([announced December 7, 2023](#)) is that the first feed of material from the Mt Weld Mine has been introduced into the new Kalgoorlie Rare Earths Processing Facility in Western Australia, leading to first production and ramp-up of the Facility. A great achievement for Lynas, especially given that the Kalgoorlie Rare Earths Processing Facility is Australia's first value-added rare earths processing facility. Lynas [stated](#):

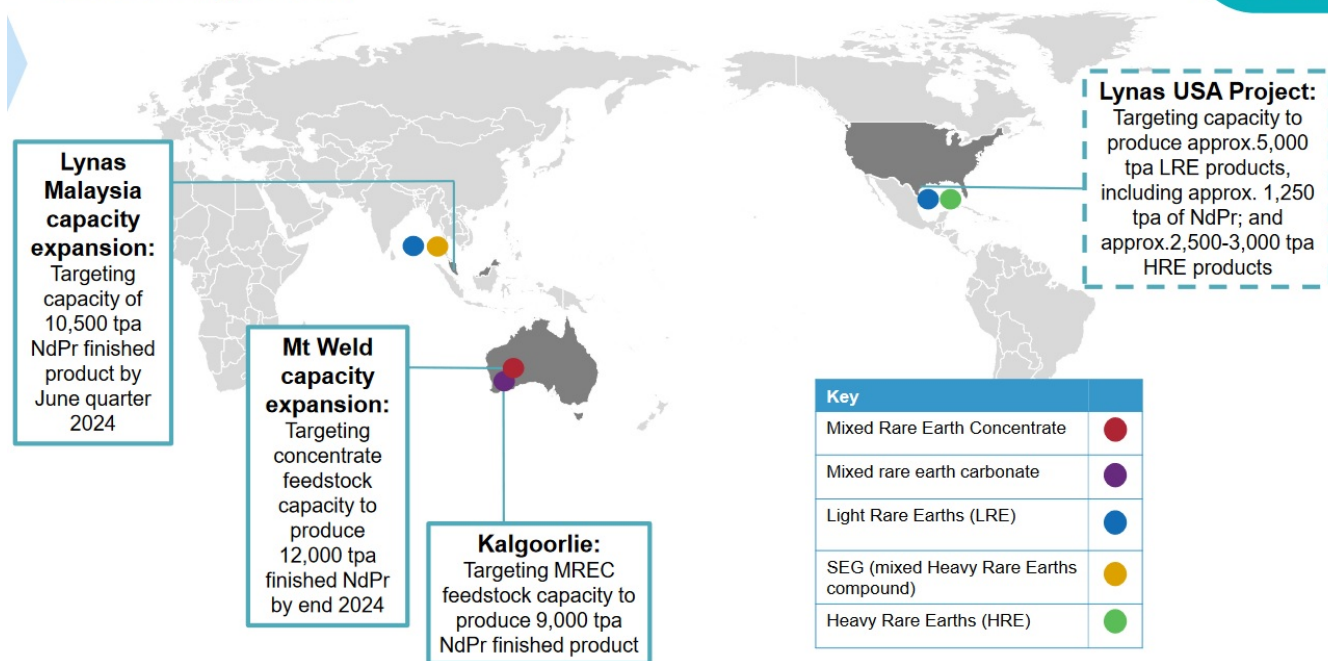
The Lynas Malaysia plant is currently shutdown as works to increase downstream processing capacity are completed. Production will recommence in January 2024. Mixed Rare Earth Carbonate (MREC) from the Kalgoorlie Rare Earth Processing Facility will be progressively introduced to the Lynas Malaysia plant commencing late in the March quarter and increasing as the controlled ramp up of the Kalgoorlie facility is progressed...."

Once their expansions are completed, Lynas intend to increase their production capacity to [10,500tpa NdPr](#) (Neodymium-Praseodymium). Lynas produced [6,142t of NdPr](#) in FY 2023.

2024 will see the Mt Weld Mine expansion and further work on Lynas' US Rare Earths Processing Facility Project targeted to be operational by [July 2025 – June 2026](#).

Lynas is expanding its rare earths mining and processing capabilities through to 2025/26

Growing scale and increasing capacity to meet forecast demand growth



23

Source: [Lynas company presentation](#)

MP Materials Corp. (NYSE: MP) (“MP Materials”) update

MP Materials owns and operates the Mountain Pass Rare Earth Mine and Processing Facility in California, USA. In the past MP Materials had to ship their concentrate to China for processing; however, they have a target to bring this back to the USA.

Their target is to grow their mine output by 50% over the next four years and to build separation capacity in the USA with annual production of 6,000 tpa NdPr oxide. The third stage of their plan is to build a greenfield production facility in Texas targeting ~1,000tpa of finished NdFeB (Neodymium Iron Boron) magnets. They already have General Motors (NYSE: GM) as a foundational customer.

MP Materials is working towards Stage II and Stage III of their plan to bring rare earths processing and magnets production to

the USA



Stage I: Concentrate Production

- Largest ex-China producer
- ~15% global market share in 2022
- "Upstream 60K" strategy to grow output 50% over the next four years

Stage II: RE Separations

- Separation, refining and finishing capabilities to convert RE concentrate into separated REOs
- >6k mt NdPr oxide annual production target
- Lanthanum, Cerium and SEG+ production

Stage III: RE Magnets

- Greenfield production facility in Texas targeting ~1k mtpa of finished NdFeB magnets
- General Motors as foundational customer
- To deliver intermediate product ahead of magnet completion
- Buy, build and/or JV

Source: [MP Materials company presentation](#)

Closing remarks

2024 should see a year of consolidation for the rare earths sector as some experts are telling me. Some [forecasts](#) are for NdPr supply deficit to begin as early as 2024; however, this will largely depend on China demand, the global economy, EV sales, and new NdPr supply hitting the market.

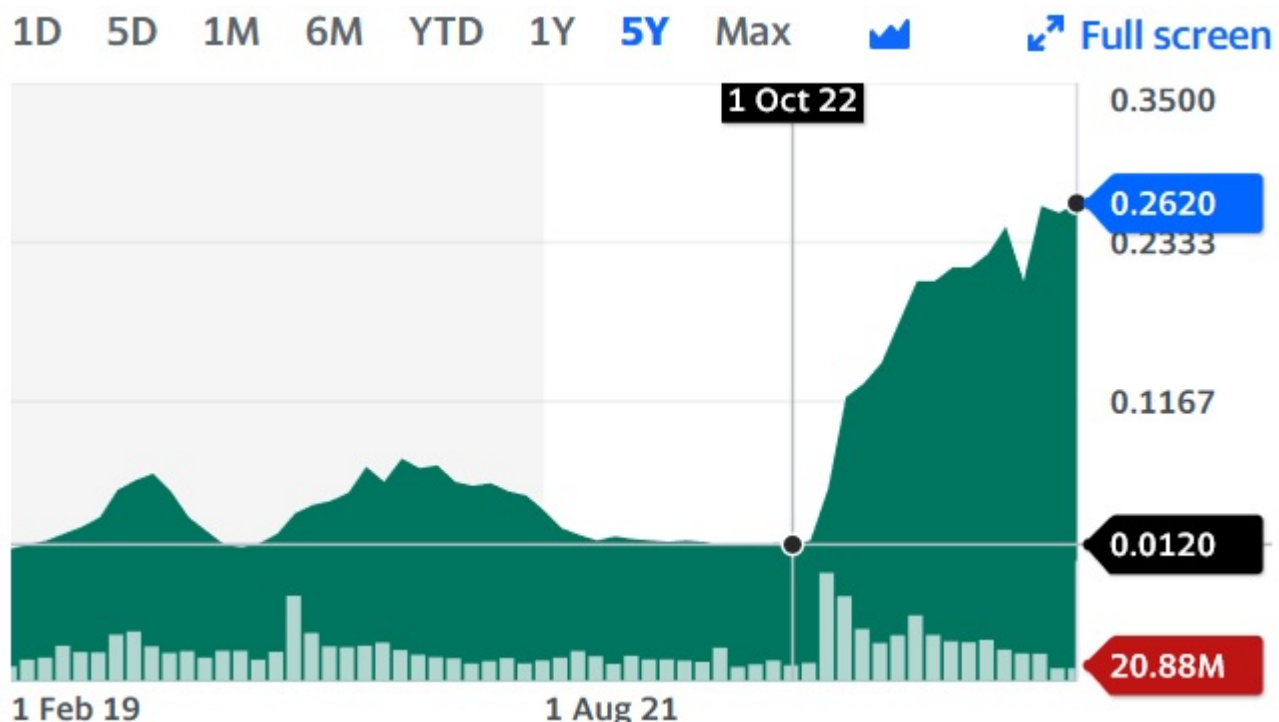
The two Western magnet rare earths leaders Lynas and MP Materials (and some other key players) are progressing their plans to further build a western supply chain and should be largely complete within the next 2-4 years if it goes to plan. This all supports the building of an end-to-end Western rare earths and magnets sector this decade. Stay tuned.

Rare earths company stock price has had a 'meteoric' rise of over 21x the past 15 months

written by InvestorNews | April 3, 2024

Tier one mining projects that can be advanced rapidly towards production in a friendly location are typically well rewarded by the stock market. We saw this recently in the lithium space with the success of Sigma Lithium Corporation (NASDAQ: SGML | TSXV: SGML) in Brazil. Today's company is in a similar location in Brazil and has a potential tier-one rare earths project. The market has recognized this with the stock price up over 21x in the past 15 months.

Meteoric Resources (ASX: MEI) stock price chart showing a rise from A\$0.012 to A\$0.262 in 15 months



Source: [Yahoo Finance](#)

Meteoric Resources NL

[Meteoric Resources NL](#) (ASX: MEI) [state that](#) they have “the world’s highest grade ionic adsorption clay REE deposit”. Their potential tier-one Caldeira Project is located in the Minas Gerais State of Brazil.

The Caldeira Project drilling has achieved strong rare earth element (“REE”) grades over wide continuous intercepts from surface. The Project remains open at depth with very significant potential exploration upside.

Meteoric Resources [state](#):

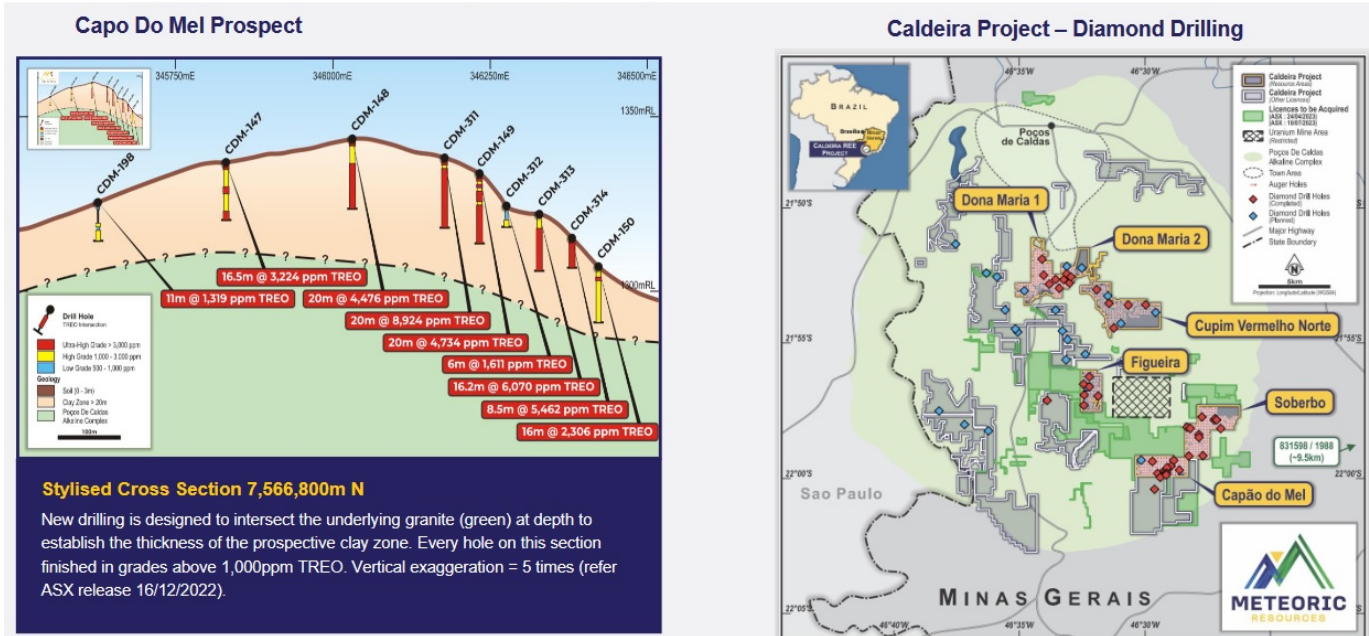
“At Caldeira, REE mineralisation commences from surface. The average drill depth used in the MRE is 6.9m and 85% of all holes finish in TREO grades above 1,000 ppm – the Caldeira deposit remains completely open at depth.”

Another positive is that the Capo Do Mel Prospect has a very high-grade portion which would be amenable for a high-grade starter pit.

The Caldeira Project in Minas Gerais, Brazil – Capo Do Mel Prospect showing strong drill results from near surface + location map

CALDEIRA GRADES, DRILLING INTERCEPTS AND PEERS

Outstanding grades, wide continuous intercepts and open at depth



Source: [Meteoric Resources company presentation](#)

The Caldeira Project has a **Maiden JORC Mineral Resource Estimate ("MRE") of 409Mt @ 2,626 ppm TREO Inferred** at a 1000ppm cut off; or at a 2000ppm TREO cut-off, the MRE is 271Mt @ 3,146ppm TREO. That makes it a large size and good grade ionic clay rare earths resource.

The TREO identified across the Caldeira Project represents an enriched basket of both light and heavy rare earth elements. Importantly it contains several valuable magnet rare earths including Neodymium ("Nd"), Praseodymium ("Pr"), and Dysprosium ("Dy").

The Caldeira Project Maiden Inferred Resource estimate showing the magnet rare earths including Nd, Pr, and Dy

CALDEIRA PROJECT MAIDEN RESOURCES – 409Mt @ 2626 ppm TREO

World's Highest Grade Ionic Adsorption Clay REE Deposit (ASX 1/5/2023)

Licence	JORC	Tonnes	TREO	Pr ₆ O ₁₁	Nd ₂ O ₃	Tb ₂ O ₃	Dy ₂ O ₃	MREO	MREO/TREO
	Category	Mt	ppm	ppm	ppm	ppm	ppm	ppm	(%)
Capão do Mel	Inferred	68	2,692	148	399	4	22	572	21.3%
CVN	Inferred	104	2,485	152	472	5	26	655	26.4%
Dona Maria 1 & 2	Inferred	94	2,320	135	404	5	25	569	24.5%
Figueira	Inferred	50	2,811	135	377	5	26	542	19.3%
Soberbo	Inferred	92	2,948	190	537	6	27	759	25.8%
Total	Inferred	409	2,626	154	447	5	25	631	24.0%

Source: [Meteoric Resources investor presentation](#)

Project metallurgical test work, permitting, access, and infrastructure

Metallurgical test work [has produced](#) a 25.5% magnet rare earth element concentrate. Furthermore, test work to date has achieved [excellent recoveries](#) including: Nd and Pr above 70%, Tb 60-70%, and Dy 50-60%.

To help fast-track development (including permitting) Meteoric Resources has entered into a non-binding Cooperation Agreement with the State Economic Department (Invest Minas) and the State Government of Minas Gerais.

The focus for an initial rare earth element mining operations and processing facility is on the southern licenses of Figueira, Capado Mel, and Soberbo.

The proposed Project plant site location has [all-weather road](#)

[access](#) and access to power and water abstraction points.

Catalysts and next steps for Meteoric Resources

Near-term catalysts include further drilling results and an updated resource estimate with infill drilling to improve the Resource from Inferred to M&I. Economic studies including a Scoping Study ([H1, 2024](#)) and then a Feasibility Study ([mid-2025](#)) to follow. Concurrent work on an environmental impact study and permitting will also be occurring in 2024 and 2025 (details [here](#) on page 15). There will also be engineering and other work to develop a ~5Mtpa processing facility.

Closing remarks

Meteoric Resources is still in the relatively early stages but already has a potential tier-one global rare earths ionic clay resource suitable to a simple open pit operation. Being in Minas Gerais Brazil the Project has every chance to move forward at rapid speed. The processing side for the Project appears to be a simple flow sheet with no need for drilling/blasting, no waste dumps, and no tailings required.

Meteoric Resources trades on a market cap of [A\\$521 million](#) with the stock having had a 'meteoric' rise the past 15 months ([up over 21x](#)). One to watch closely in 2024.

Appia and the demand for the critical Heavy Rare Earths

written by Jack Lifton | April 3, 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.

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

written by InvestorNews | April 3, 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.

Fluctuations in Rare Earth Prices: Understanding the Dynamics

written by Tracy Weslosky | April 3, 2024

Rare earth elements, a crucial component in our modern technological world, have seen dramatic price fluctuations in recent months. I sat down with Alastair Neill, a Director for the Critical Minerals Institute (CMI), to get a better understanding of these market dynamics.

Energy Fuels Q2-2023: On the Pathway to Reshape America's Critical Minerals Landscape

written by InvestorNews | April 3, 2024

In the constantly evolving world of critical minerals, every quarter brings about new promise and potential. But, when a company not only meets its benchmarks but pushes the boundaries

of what's conceivable, it warrants a closer look. Energy Fuels Inc.'s (NYSE American: UUUU | TSX: EFR) Q2-2023 results have done just that.

Stephen Burega Onsite at the Appia Alces Lake Project in Northern Saskatchewan

written by InvestorNews | April 3, 2024

In an exclusive onsite interview from the Alces Lake Project in Northern Saskatchewan, Stephen Burega, the President of [Appia Rare Earths & Uranium Corp.](#) (CSE: API | OTCQX: APAAF), engages with Tracy Weslosky of InvestorIntel to share insights on the progress of the company's drilling program. Burega praises the team's efficiency and the advances made during his inaugural visit to the site, providing Weslosky and her audience with an up-close view of the operations.

He underscores the effective utilization of the budget, revealing that they have successfully completed one-third of the project and are strategically directing their efforts towards uncovering new targets. The interview includes a special appearance by Appia Project Geologist, Kahlen Branning, who offers viewers a glimpse into a core shed and elaborates on the critical minerals present in the samples, namely terbium, neodymium, and dysprosium.

Further into the discussion, Burega outlines the instrumental role of helicopters in the movement of drilling equipment,

underscoring the operation's logistical ingenuity. The conversation concludes on an optimistic note as Burega shares the promising future of the Alces Lake project and its potential in rare earth extraction.

To access the full InvestorIntel interview, [click here](#)

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About Appia Rare Earths & Uranium Corp.

Appia is a publicly traded Canadian company in the rare earth element and uranium sectors. The Company is currently focusing on delineating high-grade critical rare earth elements and gallium on the Alces Lake property, as well as exploring for high-grade uranium in the prolific Athabasca Basin on its Otherside, Loranger, North Wollaston, and Eastside properties. The Company holds the surface rights to exploration for 113,837.15 hectares (281,297.72 acres) in Saskatchewan. The Company also has a 100% interest in 13,008 hectares (32,143 acres), with rare earth element and uranium deposits over five mineralized zones in the Elliot Lake Camp, Ontario. Lastly, the Company holds the right to acquire up to a 70% interest in the PCH Project which is 17,551.07 ha. in size and located within the Goiás State of Brazil. (See June 9th, 2023 Press Release – [Click Here](#))

To learn more about Appia Rare Earths & Uranium Corp., [click here](#)

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If you have any questions surrounding the content of this interview, please contact us at +1 416 792 8228 and/or email us direct at info@investorintel.com.

Iluka Resources is building Australia's first fully integrated rare earths refinery

written by InvestorNews | April 3, 2024

Iluka Resources Limited (ASX: ILU) ("Iluka") is an Australian critical metals producer, specializing in mineral sand mining and processing. Iluka is the world's largest producer of zircon, a major producer of high grade titanium feedstocks rutile and synthetic rutile, and is set to become a significant global supplier of refined rare earths from 2025.