Tom Drivas on the 3 worldrenowned rare earths experts on Appia's Critical Minerals Advisory Committee

written by InvestorNews | February 13, 2024
In a recent interview with host Tracy Weslosky, Tom Drivas, CEO and Director of Appia Rare Earths & Uranium Corp. (CSE: API | OTCQX: APAAF), announced the significant addition of Constantine Karayannopoulos to Appia's Critical Minerals Advisory Committee. Tom discussed how this move is a major endorsement of Appia's projects, given Constantine's reputation in the rare earths sector. Constantine, who is well known for his leadership in the critical mineral sector lead the Neo Materials deal by Molycorp in 2012 for C\$1.3 billion. He was also the co-founder and Chairman of the Board of Neo Lithium Corp. when it was sold to Zijin Mining Group Co., Ltd. for \$960 million in 2022.

Constantine Karayannopoulos joins Appia's Advisory team, alongside world renowned critical minerals expert and the cofounder and Co-Chair of the <u>Critical Minerals Institute</u> (CMI) Jack Lifton. Jack who was the co-editor of the recently published textbook, <u>Rare Earth Metals and Minerals Industries:</u> <u>Status and Prospects 1st ed. 2024 Edition</u>, is joined with Don Hains, P. Geo who is a Consulting Geologist and well-known expert in ionic clay projects. In this interview, Tom emphasizes how having three of the world-renowned rare earths experts on Appia's Critical Minerals Advisory Committee supports the commitment to leverage top-tier expertise to advance Appia's Projects in Canada and Brazil.

Appia's recent <u>announcement</u> of exceptional diamond drill results

from the PCH ionic adsorption clay project in Brazil was also discussed in the interview. These results have revealed significant concentrations of Total Rare Earth Oxide (TREO) within the top 20 meters from the surface. Tom added, "Just for comparison, there is a deposit that went into production in the same area, and their average grade is 1,200 parts per million (PPM). We're getting up to 93,000 PPM."

Moreover, Tom outlined Appia's broader strategy, which encompasses both rare earths and uranium projects. Tom outlined Appia's involvement in the uranium sector, noting several uranium projects in the Athabasca Basin in Saskatchewan and Ontario. With plans to begin drilling at the Loranger Uranium-Bearing Property in Saskatchewan, Tom explains how Appia is positioning itself to capitalize on the rising uranium market. To access the full 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 elements 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 (See June 9th, 2023 Press Release — Click <u>HERE</u>) which is 40,963.18 ha. in size and located within the Goiás State of Brazil. (See January 11th, 2024 Press Release — <u>Click HERE</u>)

To learn more about Appia Rare Earths & Uranium Corp., click
here

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Attention set on rare earths in Canada and Brazil, Appia hits 2024 running

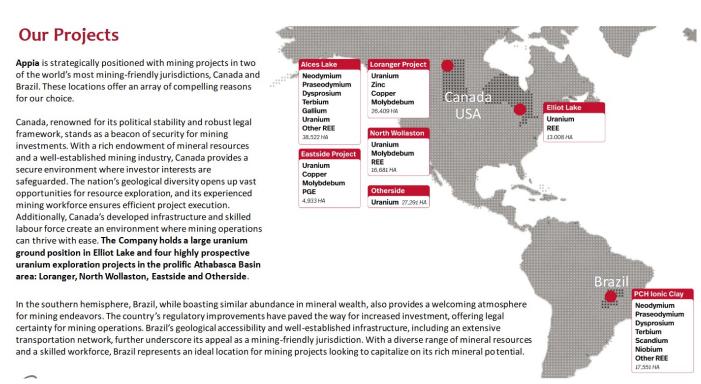
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<u>Appia Rare Earths & Uranium Corp.</u> (CSE: API | OTCQX: APAAF)

("Appia") has several projects located across Canada and Brazil with rare earths and uranium potential, as well as some other valuable metals. The current focus for Appia is on advancing their two key rare earths projects Alces Lake Project in Canada and the PCH Ionic Clay Project in Brazil.

Today we give an update on Appia's latest activity at these two projects.

Appia's projects are located in Canada and Brazil with a focus on rare earths and uranium



Source: Appia company presentation

Alces Lake Project in Canada (100% owned)

The Alces Lake Project is located in Northern Saskatchewan and is known for having exceptionally high rare earths grades and gallium in favorable monazite ore. Appia state: "Alces Lake Project in Saskatchewan's Athabasca Basin is the highest-grade

critical rare earths prospect in North America and one of the highest-grade rare earths prospects in the world."

Appia is now starting to release their latest results from the 2023 drill campaign from the Magnet Ridge Zone at Alces Lake.

Appia <u>announced</u> on January 15, 2024: "Assays of **up to 1.57 wt.**% **(15,700 ppm) Total Rare Earth Oxides (TREO)** were returned, with thickness and grades increasing to the south-southeast...Mineralization intervals occur from near surface to < 85 metres depth."

Appia also <u>announced</u> in January 2024 that they have signed a new Cooperation Agreement with the Ya'thi Néné Lands and Resources Office.

Near term catalysts from Alces Lake include further assay results from the 40 diamond drill hole summer 2023 exploration program.

The PCH Project in Brazil (option to acquire <u>up to 70% interest</u>)

The PCH Project is potentially a very significant ionic clay rare earths project located in Goias, Brazil. Ionic clay projects are favored as the extraction process for rare earths is a relatively simple and less expensive process, already widely practiced in China. Furthermore, Appia's PCH Project has all the key rare earths needed for the powerful magnets used in electric motors in most EVs. Most other projects don't have this complete spectrum as discussed by leading rare earths expert Jack Lifton here.

Drill results <u>announced</u> in October 2023 from the PCH Project have been very encouraging, including Hole RC-063 that reported

24 metres of mineralization from surface with a total weighted average of 27,188 ppm or 2.72% of Total Rare Earth Oxides (TREO). The hole remains open at depth and has extended the known area of Target IV.

Appia Geology Manager, Carlos Bastos, <u>stated</u>: "The assay results from PCH-RC-063 are highly promising, revealing sustained mineralization of essential elements including **Terbium (Tb)**, **Dysprosium (Dy)**, **Neodymium (Nd)**, and **Praseodymium (Pr)**. Notably, several elements surpassed the upper detection limit of the assay method being used, and updated results will be reported once received."

Note: Bold emphasis by the author.

On January 16, 2024, Appia announced <u>reanalysis</u> of Hole RC-063 resulting in even higher grades of a **Total Weighted Average of 38,655 ppm or 3.87% TREO**.

From the first 10 holes drilled at the PCH Project the total weighted average grade is 7,578 ppm or 0.76% Total Rare Earth Oxide.

The January 11, 2024 Appia <u>announcement</u> highlights the excitement that the Appia team has towards the PCH Project. They announced an extension of their existing mining claims at the Project from 17,551.07 hectares to an expansive 40,963.18 hectares across a total of 22 claim blocks. The substantial 133% increase in the current land package includes 12 new claims independently staked by the Company and incurred minimal costs.

The PCH Project is situated in a jurisdiction supportive of mining activities with many major mining corporations actively exploring and mining located just ~30 km from the city of Iporá. Access is good using well-developed regional roads with optimal infrastructure including water and power to the Project. Appia

<u>says</u> that "the Project has the support of both local and state governments".

Appia is targeting a Maiden Resource for the PCH Project Target IV in Q1, 2024.

Typical differences between ionic clay and hard rock rare earth projects

	IONIC CLAY	HARD ROCK
Location	Mainly China, Brazil, Africa	China, USA, Australia Canada
Type of REE	Contain both Heavy and Light REE	Mainly Light REE
CAPEX and OPEX	Low CAPEX & OPEX	Same as other hard rock mining deposits – higher costs for drilling and blasting
Exploration and Mining	Quick, inexpensive, simple, shallow drilling in weathered granites; mainly found in top 10-30 metres. Easy mining without drilling or blasting. Environmentally friendly and therefore easier to permit.	More expensive exploration: Deeper, diamond core drilling, blasting, open-pit or underground mining; tailings
Processing	Simple leaching and very little radioactivity	High temperature cracking; tailings; often containing higher radioactivity

Source: Appia company presentation

Closing remarks

Appia is making steady progress on multiple projects with the key focus currently on the Alces Lake Project in Canada and the PCH Project in Brazil. Both Projects have strong potential with good grades and amenable ore, but will take time to develop. Appia also has their various uranium projects, but that's for next time.

Appia trades on a market cap of C\$27 million. 2024 could potentially be a very big year for Appia. Stay tuned.

Leading rare earths junior Appia adds a new uranium claim block to their expanding asset portfolio

written by InvestorNews | February 13, 2024

Two of the best-performing commodities in the past year have been the key rare earth magnet material blend, neodymium, praseodymium (NdPr), and the energy metal, uranium. Today's company has established itself as a leading rare earths junior in Canada, but recently changed its name and expanded its uranium portfolio. This means investors get exposure to both the key magnet rare earths and also uranium. Even better, it controls 3 projects/properties.

The Company is Appia Rare Earths & Uranium Corp. (CSE: API | OTCQB: APAAF) (Appia) formerly known as Appia Energy, with its Alces Lake rare earths project and its newly acquired uranium mineral claim block (Otherside), as well as other uranium properties located in Northern Saskatchewan, Canada, and its Elliot Lake uranium and rare earths property in Ontario, Canada.

Appia's very high-grade rare earths project at Alces Lake

For background on Appia's rare earths projects you can read some past articles here which focus on Appia's tremendous asset at Alces Lake, Canada which has the 2nd highest average rare earth's grade in the world, at 16.65 wt% TREO. High-grade zones are up to 49 wt% TREO. The rare earths are hosted in favorable 'monazite' ore at or near surface spread over 27sq km of tenements. There is a 23-25% Critical Rare Earth Oxide (CREO) component, including neodymium (Nd), praseodymium (Pr),

dysprosium (Dy), and terbium (Tb).

Appia's 100% owned Alces Lake Project has the world's second highest average grade of TREO



Source: Company presentation

Appia has access to use the Government funded Saskatchewan Research Council (SRC) processing facility in Saskatoon, Canada. Existing pilot facilities there(1,000 tpa capacity) have already optimized a monazite processing flow sheet for Appia. The SRC production-scale processing facility is expected to be partially operational in early 2023.

Appia plans a smaller surface and near-surface operation to start production with an open-pit scenario which is easier to permit and manage and should have a low CapEx/Opex.

Appia's latest results include:

- Drill results at Wilson North (Alces Lake) with <u>average</u> <u>17.5 wt% TREO over 9.38 metres</u> with up to 37.9 wt% TREO.
- High grade REE mineralization identified over an estimated 27 square kilometre area. Channel sample of 14.71 wt % TREO from Sweet Chili Heat and 11.94 wt % TREO from Diablo. 10.35 wt % TREO returned from grab sample at Zesty. 7.86 wt % TREO returned from grab sample along the Oldman River trend. New discovery of REEs with 2.27 wt % TREO grab sample from "Train Domain". Elevated critical electronics metal, Gallium, values have also been returned for all samples enriched in TREO.
- Promising Results from Initial Metallurgical Tests on a Composite Sample from Alces Lake. Laboratory heavy liquid separation tests recovered 95% of the total rare earth

oxide (TREO). Appia President Frederick Kozak <u>stated</u>: "TREO recoveries and the percentage of TREO in concentrate are comparable to other producing global rare earths projects, supporting the potential for Alces Lake as a future monazite rare earths supply."

Appia is waiting on further drilling core and channel sample assay results from the 2021 program. In terms of major near-term catalysts, Appia states: "Analysis of 2021 drilling and assays may lead to NI 43-101 report early 2022."

Saskatchewan Uranium Properties

Appia recently <u>announced</u> that they significantly increased their uranium claims by acquiring the Otherside claim block of 27,291 contiguous hectares. Appia <u>states</u>: "The claims were staked on the basis of similar geological and geophysical signatures to the Company's Loranger property as well as other known high-grade, large-tonnage uranium deposits in the Athabasca Basin including Fission Uranium Corp's Triple R deposit, NexGen Energy's Arrow deposits and others."

Appia now owns 4 uranium properties/claims over a total of 69,344 hectares — Loranger, North Wollaston, Eastside, and Otherside. The properties are well located with proximity to infrastructure such as roads, highway, powerline, an airstrip as well as two uranium mills. The properties are ready to explore, with at or near-surface high-grade uranium, no sandstone cover, and negligible overburden.

Saskatchewan Uranium Properties — Loranger, North Wollaston, Eastside, and Otherside

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Source: Company news January 10, 2022

Appia <u>stated</u> on January 10, 2022 that the next steps are: "Appia has commenced the permitting process for a winter drilling program on the Loranger property and anticipates commencement of drilling in approximately one month, depending on weather and permits. The Company is fully funded for this program."

Elliot Lake (Ontario, Canada)

Appia also has a 100% interest in 12,545 hectares (31,000 acres), with rare earth element and uranium deposits over five mineralized zones in the Elliot Lake Camp, Ontario. The Resource details are shown in the table below.



Source: Company presentation

Closing remarks

Appia is becoming a significant rare earths and uranium junior. Appia now owns three very promising projects — Alces Lake (very high grade and critical rare earths), Saskatchewan Uranium Properties (Loranger, North Wollaston, Eastside, and Otherside), and Elliot Lake (rare earths & uranium).

Appia trades on a market cap of C\$54 million.

Canada's entry point to a domestic North American rare

earths products production center

written by Jack Lifton | February 13, 2024

Why is Appia Energy Corp.'s (CSE: API | OTCQB: APAAF) Alces Lake discovery of an accessible extensive hard rock deposit of the rare earth bearing mineral, monazite, so very important to the non-Chinese world's demand for magnet rare earths? It is because Appia's monazite is, in fact, the neodymium rich variant, which is the most desirable for the production of rare earth permanent magnets. it is not only rich in neodymium (Nd) and praseodymium (Pr), but also contains 1% of xenotime, the best heavy rare earth bearing hard rock mineral.

Monazites are typically up to 50% higher in contained Nd and Pr than bastnaesite, the ore mined at Mountain Pass by MP Materials Corp. (NYSE: MP) and the residual mineral from China's Baotou region iron mining, which up until recently was the world's most-produced source mineral for light rare earths. Lynas Rare Earths Limited (ASX: LYC) is currently the world's largest producer of rare earths derived from monazite deposits at Mt. Weld in a remote area of northern Australia.

Monazites are produced today as a byproduct of the processing of heavy mineral sands to recover zircon and ilmenite, respectively the ores of zirconium and titanium. Until recently processing monazite for rare earths was inhibited by the fact that monazites always contain radioactive thorium and sometimes uranium. The monazites were thus returned to the tailings from these operations and in the USA the environmental regulations required that they be returned to the worked-out deposits and distributed so that the residual background radiation was equal to or less than it was before the deposit was worked.

In the last five years as Chinese bastnaesite deposit grades have declined and mining created pollution has become a big problem in China the Chinese rare earth industry has begun to import very large quantities of monazites from the USA, Madagascar, South Africa, Brazil, and Australia. All of this material was produced as a byproduct of heavy mineral sands processing for zircon and ilmenite.

In order to solve the thorium/uranium problem, China requires that all imports of monazite go first to China Nuclear Corporation, which removes the thorium and uranium, and then ships a clean mixed rare earth carbonate to the Chinese refiner that ordered the material. China nuclear is licensed to process up to 50,000 tons of monazite containing up to 30,000 tons of total rare earths a year.

In the USA the only licensed uranium mill, <u>Energy Fuels Inc.</u>'s (NYSE American: UUUU | TSX: EFR) White Mesa Utah facility, has replaced China as the destination for monazite produced from its heavy mineral sands operations in Georgia by US Chemical Group, Chemours. Energy Fuels removes the uranium, which is a payable for Energy Fuels, and is storing, legally, the thorium, which has been committed to a medical radioisotope group. The first clean mixed rare earth carbonate produced by Energy Fuels from the Chemours' monazite has already been sold to and shipped to <u>Neo Performance Materials Inc.</u>'s (TSX: NEO) European solvent extraction rare earth separation facility.

Appia is working with Canada's and the world's most attractive (Report's the Fraser Institute) mining investment jurisdiction, the Province of Saskatchewan. The Province's Saskatchewan (Mining and Refining) Research Center, the SRC, has agreed to develop a hydrometallurgy for Appia's monazite and the SRC has already designed and begun the construction of a 3000 ton per annum rare earth solvent extraction separation facility, where

the separation and purification of Appia's monazite will be proven and piloted in what will be Canada's anchor for a total rare earth permanent magnet supply chain. Saskatchewan is the home of Canada's uranium mining industry and so the sale of any recovered uranium and the storage (or use) of any recovered thorium is not a problem.

North America is well on its way to becoming a world center of monazite processing, and Appia is Canada's entry point to a domestic North American rare earth products production center.

New rare earths processing facility announced in Appia Energy's backyard

written by InvestorNews | February 13, 2024

Government announcement is more good news following Appia's successful results and expansion

Any mining company will tell you that success is the result of a combination of good decisions and good fortune, and Appia Energy Corp. (CSE: API |OTCQB: APAAF) ("Appia") has recently had both.

On August 28 the Saskatchewan Research Council ("SRC") and the Government of Saskatchewan <u>announced</u> their plan to develop a "first-of-its-kind" Rare Earth Processing Facility in Saskatchewan, Canada — essentially in Appia's Alces Lake high

grade rare earths project's backyard. This is a highly significant announcement as it has enormous potential to benefit Appia down the track, as they can potentially leverage of what is already provided by the local government. The facility is planned to be fully operational in late 2022 and will be capable of processing both hard rock ores (monazite and bastnaesite), and converting them into saleable individual rare earth oxides. This matches perfectly with Appia's shorter term needs and would be North America's first rare earths processing facility.

Speaking exclusively to InvestorIntel, Appia President and CEO, Tom Drivas, welcomed the news. "Appia congratulates the Saskatchewan Research Council and the Government of Saskatchewan for their initiative to develop a first-of-a-kind rare earth processing plant in Saskatchewan, Canada," he told InvestorIntel. "Appia is very pleased and excited to learn that the Saskatoon rare earth processing plant will be up and running by the end of 2022, especially since it is in such close proximity to Appia's high-grade critical rare earth Alces Lake project. Having the SRC plant in the same province as our project will substantially benefit Appia and its shareholders. Appia's Alces Lake project's rare earths are hosted in monazite, which the SRC plant will be processing. Appia has a well-established working relationship with SRC."

This comes on the heels of a recent string of exploration and other news for Appia. In July 2020 Appia reported a 1.0 meter channel sample line grading 0.471 wt% total rare earth oxide ("TREO") at Appia's Loranger Property. Appia also found over 65 metres of continuous uranium mineralization at surface grading 0.018 wt% $\rm U_3O_8$ at their Eastside Property.

"The composite U_3O_8 grades from Eastside are comparable to other world-class open pit uranium mines," <u>said Appia Vice-President</u>, Exploration and Development, James Sykes, "such as the Rössing

and Husab uranium mines in Namibia. Based on historic assay results and those obtained from Line 3 of Area 51, we believe zones with higher uranium grades are possible on the Property. The Property remains underexplored."

On August 4 Appia announced that it had staked 8,014 additional acres at its high-grade rare earth Alces Lake Property, expanding the total property to an area of 17,577 hectares (43,434 acres). The new staking around Hawker ensures that all of the historic surface occurrences and potential geological trends are located within the Alces Lake Property. The two new land acquisitions now provide Appia with an additional 11 km of prospective trends to explore for additional high-grade rare earth element and uranium zones, bringing the total to 41 km along a continuous regional geological trend.

On August 6 Appia <u>announced</u> that they had discovered at least seven surface rare earth and uranium zones on the Alces Lake Project. Mr. James Sykes <u>said</u>: "We continue to discover more of the REE mineral system at surface, and for many kilometers outside of the main area where we've been focusing exploration for the past couple of years. This suggests we're looking at a very large system across the property and also at depth."

Some uses for rare earths and hence a strong decade ahead



Source

The Alces Lake Property (100% owned by Appia)

The Alces Lake property has monazite ore that is enriched in valuable critical rare earth elements, particularly Neodymium (Nd), Praseodymium (Pr), Dysprosium (Dy), and Terbium (Tb). These four elements account for between 23-25% of the TREO, or

~85% of the potential value at Alces Lake. Alces Lake hosts the 2nd highest average REE grade in the world. At a 4 wt% Total Rare Earth Oxides (TREO) cutoff, Alces Lake average grade is exceptionally high at 16.65 wt% TREO. The Alces Lake Project's rare earths are near surface and hence suitable for an open pit mine. Permitting should be smooth being in northern Saskatchewan Canada and the CapEx and OpEx should be reasonably low given the good grades and near surface resource. Finally the recent development by the Government of Saskatchewan to develop a "first-of-its-kind" Rare Earth Processing Facility in Saskatchewan is extremely promising for Appia.

Appia Energy Alces Lake Project has one of the highest grade rare earths in the world with favorable monazite ore



Source

Closing remarks

Appia Energy continues to expand their rare earths and uranium resource potential via a very significant neighboring land acquisition and further exploration in their Summer campaign. Phase 1 has already uncovered numerous targets and phase 2 plans 2,000 to 3,000m of new diamond drilling on their Alces Lake Project.

The announced new SRC Saskatchewan rare earths processing facility is a potential game changer for Appia. All the pieces of the puzzle are coming into place — very high grade rare earths, expanded land package with exploration upside and success, and finally a nearby processing facility. As the renewable energy and EV boom take off this decade the demand for a secure supply of western-made rare earths will intensify. It is starting to look like Appia Energy can be a significant

Tom Drivas on Appia's high grade critical materials (rare earths, uranium) and MP Materials

written by InvestorNews | February 13, 2024

"Alces Lake, Appia's project which is located in northern Saskatchewan, has a number of surface and near surface zones with very unusual mineralization. There is upto 85% monazite right on the surface and upto 50% total weight percent rare earths. It is unique. It is high grade and it has the right mineralogy. All of the rare earths are contained in one mineral which is monazite, in the right province, in the right area and very close to pilot plant processing facilities...What we are working and like to see next is come up with our first resource and follow up with a PEA and prove to the market that we have an economically viable project." States Tom Drivas, CEO, President and Director of Appia Energy Corp. (CSE: API | OTCQB: APAAF), in an interview with InvestorIntel's Tracy Weslosky.

Tom went on to say that Appia's has both rare earths and uranium assets and the company is on track with its exploration and drilling programs. He also said that MP Materials' listing on NYSE will be very good for the rare earths industry and it will bring a lot of attention to Appia Energy. Appia's market cap is less 1% of that of MP Materials but Appia has a similar project

in Canada the initial grades of which look much better than MP Materials' rare earths grade.

To access the complete interview, click here

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