Stephen Burega of Appia Provides Updates on Advancing its Rare Earths Projects in Canada and Brazil

written by InvestorNews | May 17, 2023
In this InvestorIntel interview, Byron W King talks with Appia Rare Earths & Uranium Corp.'s (CSE: API | OTCQX: APAAF)
President Stephen Burega about the completion of due diligence to acquire a rare earths ionic clay project in Brazil. Situated in a mining-friendly jurisdiction, accessible by road, with several mining operations nearby, Stephen says that the project's mineralogy is similar to that of Serra Verde which has one of the largest ionic clay deposits outside of China.

Highlighting the expertise of their consulting geologist, Don Hains, who wrote the NI 43-101 report for Serra Verde, Stephen discusses how a positive evaluation from Don reinforced their excitement and confidence in the project.

Stephen also provides <u>an update</u> on Appia's flagship Alces Lake Rare Earths (REE) Property in Northern Saskatchewan where they have a work program scheduled to start in June on the highest-priority areas of a major structural corridor.

Stephen also indicates that the Company has approximately C\$7 million in the bank with C\$3 million dedicated to the Alces Lake project and C\$1 million earmarked for the Brazil project once the due diligence is completed.

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 Loranger, North Wollaston, Eastside, and Otherside 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 approximately 12,545 hectares (31,000 acres), with rare earth element and uranium deposits over five mineralized zones in the Elliot Lake Camp, Ontario.

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

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Tom Drivas of Appia Rare Earths & Uranium Discusses Alces Lake and "Exciting" Brazilian Acquisition

written by InvestorNews | May 17, 2023
In this InvestorIntel interview, Tracy Weslosky talks to Appia

Rare Earths & Uranium Corp.'s (CSE: API | OTCQX: APAAF) CEO and Director Tom Drivas about signing a <u>letter agreement</u> to acquire up to 70% interest in a prospective rare earths ionic clay project in Brazil. Currently doing its due diligence, Tom discusses how the new Brazilian project, if finalized, would not interfere with their main focus on the Alces Lake project. Tom goes on to say that the Brazilian project will have a new team with direct ionic clay expertise.

With an extensive exploration program planned for this year at the Alces Lake project in northern Saskatchewan, Tom discusses the company's focus on delineating high-grade critical rare earth elements and gallium. Tom also provides an update on Appia's ongoing relationship with the Saskatchewan Research Council ("SRC") which is developing a rare earths processing facility in Saskatoon and the plans for the SRC to process monazite from the Alces Lake project as early as next year.

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Appia Rare Earths & Uranium by the numbers

written by | May 17, 2023

Appia Rare Earths & Uranium Corp. (CSE: API | OTCQX: APAAF) recently reported results from its 2021 drilling program and work completed this year on its Alces Lake property in Northern Saskatchewan. While results are still pending from the 34 holes drilled at the recently renamed site Magnet Ridge (formerly Augier), other areas returned values as high as 14.95% TREO over 0.66 metres. This is high compared to most deposits. As of early July Appia has drilled over 14,000 metres in 2022 and plans to drill up to 20,000 metres this year, which should provide them with valuable information on the Alces Lake deposit. Magnet ridge is interesting as Appia has reported it outcrops at surface with a strike length of about 300 metres and a width of 175 metres, and has been penetrated to over 100 metres deep.

The mineral hosting the rare earths at Alces Lake is monazite. Monazite is regularly processed in China to produce rare earths, so making a concentrate and separating the rare earths is an

established technology. In several jurisdictions, this could be a problem as monazite is typically associated with the radioactive elements Thorium (Th) and Uranium(U). However, it comes down to the old paradigm, location, location, location. Being situated in Saskatchewan, Appia is in a jurisdiction that understands radioactive materials and that they can be properly handled and stored, and in the case of uranium can be a valuable resource. The other advantage for Appia being in Saskatchewan is that the Saskatchewan Research Council is building a pilot plant for rare earth separation over the next 2 years. This will give Appia the ability to test their material locally, which is a significant advantage.

A 2020 Appia presentation indicates Neodymium (Nd) oxide levels of 17.4% and Praseodymium (Pr) oxide of 5.4% which gives a combined total of just under 23%. This is close to the Lynas levels from its Mt. Weld deposit, which Roskill's Market Outlook 2015 indicates to be 23.8%. The Mountain Pass Mine, the deposit in California owned by MP Materials, has Nd+Pr levels at 16.3%. so they would have to process up to 50% more material to get the same revenue levels as Appia or Lynas. In addition, Appia's report shows added value in Terbium (Tb) and Dysprosium (Dy). Looking at recent pricing in Shanghai Metal Markets (SMM), the Nd/Pr holds 87.8% of the total value. Terbium and Dysprosium add another 0.3%. This assumes that all the elements are sold, which typically is impossible, especially the Cerium, which is over 49% of the total volume. However, there may be markets in North America and possibly Europe for Cerium and Lanthanum. Their current price in China is \$1.22 and \$1.15 per kg respectively and freight can be a high proportion of the total cost of the product outside of Asia.

One way to look at the value of the deposit is to see what potential revenue can be generated from the four main magnetic elements (Neodymium, Praseodymium, Terbium and Dysprosium).

Assuming the long range plans would be to build a 20,000 TPY plant, which is similar to the previous Molycorp output and just below the Lynas present output of around 22,000 TPY, their projected revenues would be around US\$500 million per year. This assumes 90% recoveries and revenues only from Nd+Pr. Any sales of Cerium and Lanthanum would be minimal but an added bonus.

In addition, Appia has properties in the Elliot Lake area in Ontario. This is in the right area code as from the mid-late 1950s to 1990 there were 10 mines producing Uranium. Again location, location, location. Given the push for electric vehicles and the corresponding increase in electrical demand, countries are going to review their long term needs including Germany and China, and possibly India, and given alternative producing options nuclear is a cleaner way than coal or gas to produce electricity. Also given the current Russian situation more focus will come on nuclear and correspondingly Uranium. Thorium may also come into demand as it can reduce the operating temperature and thereby improve safety.

All things considered, Appia has an interesting opportunity and with the grades shown so far, and is poised to take the next steps to becoming a potential domestic producer of rare earths.

Frederick Kozak of Appia Rare Earths & Uranium talks about

new REE discoveries at Alces Lake

written by InvestorNews | May 17, 2023
In this InvestorIntel interview with host Tracy Weslosky, Appia
Rare Earths & Uranium Corp. (CSE: API | OTCQB: APAAF) President
Frederick Kozak talks about the discovery of a significant new
mineralized zone at its Alces Lake rare earths property.

In the interview, which can also be viewed in full on the InvestorIntel YouTube channel (click here), Frederick discusses how Appia's drill program identified the continuity of shallow high-grade REE mineralization at their WRCB Area with a strike length of approximately 100 metres and consistently strong assay values. The new discovery of the massive AMP Zone has revealed it is large and continuous across all of the WRCB area and open along strike. Frederick also tells InvestorIntel that Appia is currently in the middle of the largest ever drilling program at its Alces Lake property, as well as on "another project that's a kilometer and a half away that looks like something similar to the AMP Zone but much, much thicker..."

Frederick also talks about Appia's five uranium projects and their upcoming appearance at PDAC.

To access the full InvestorIntel interview, click here

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Tom Drivas and Frederick Kozak on Appia Rare Earths & Uranium's best in class rare earths deposit and its prospective uranium property

written by InvestorNews | May 17, 2023

In a recent InvestorIntel interview, Tracy Weslosky spoke with Tom Drivas, CEO and Director, and Frederick Kozak, President of Appia Rare Earths & Uranium Corp. (CSE: API | OTCQB: APAAF) about how "Appia is part of the solution" to the current energy shortage and the global push towards electrification of vehicles.

In this InvestorIntel interview, which may also be viewed on YouTube (click here to subscribe to the InvestorIntel Channel), Tom Drivas provided an update on Appia's recently acquired contiguous uranium mineral claims in the Athabasca Basin which "has a lot of similarities to other known high-grade uranium deposits in the Athabasca Basin." In the interview, Frederick Kozak highlighted the gap in the rare earths market given that "China still controls about 90% of the global rare earths industry and the demand for magnet rare earths expected to grow five times by 2030." He went on to provide an update on Appia's Alces Lake Rare Earths Property and explained why it "looks to be one of the best rare earth discoveries in the world."

To watch the full interview, <u>click here</u>

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Biden, the Chinese raw material hunt and the 'massive' monazite results of Appia Rare Earths & Uranium

written by InvestorNews | May 17, 2023

While the Biden Administration fixates on solving the port problem in the United States, China continues to dominate the Western world's supplies of, when it comes to the bigger picture, critical metals and materials. Literally, at the same time the US government is trying to focus on the issues right in front of it that may disrupt Christmas (heaven forbid), Chinese companies continue to seek out and lock up more of the raw materials that will drive the future. In just the last few days, Zijin Mining Group Co., Ltd. launched a C\$960 million takeover bid for Canadian domiciled Neo Lithium Corp. (TSXV: NLC | OTCQX: NTTHF), while Contemporary Amperex Technology Co. Limited (CATL), the world's largest battery supplier and ironically already part owner of Neo Lithium, signed a battery supply deal with U.S. commercial EV maker, Electric Last Mile Solutions Inc. (NASDAQ: ELMS). Three weeks ago CATL made a C\$377 million takeover bid for Canada's Millennial Lithium Corp. (TSXV: ML). Zijin is no stranger to taking out Canadian mining companies having previously acquired Nevsun Resources (C\$1.86 billion), Guyana Goldfields (C\$323 million), and Continental Gold (C\$1.4 billion), and those were just some of its Canadian targets.

From an investor's perspective, I guess this takeover activity can be viewed as a good thing given that these Chinese entities

are paying full value for their acquisitions. So you get your liquidity event and hopefully have made money to go off and find the next possible target. But it is disappointing to see the West talk the talk about our greener future but not walk the walk as our leaders appear to be completely oblivious as to how we'll get there if we let China control all the raw materials. I will save that rant for another day. In the meantime let's have a look at a company that could tick the boxes for a potential acquisition by the Chinese.

Of late it seems the flavour of the day is lithium but that isn't the only critical material out there. The Chinese have long since cornered the market for rare earths but if no one is willing to stop them, or even slow them down, then why wouldn't they continue to acquire everything the world will let them. One Canadian junior mining company that could fit the bill is Appia Rare Earths & Uranium Corp. (CSE: API | OTCQB: APAAF), or perhaps you know it by its former name Appia Energy Corp. but that was so yesterday (today is literally the first day trading under its new name). Appia is a Canadian publicly-listed company in the uranium and rare earth element sectors and is currently in its largest exploration and diamond drilling program in the Company's history, focusing on delineating high grade critical rare earth elements, gallium, and uranium on its 100% owned Alces Lake property, as well as exploring for high-grade uranium, in the prolific Athabasca Basin, on its Loranger, North Wollaston, and Eastside properties. Appia has found some of the highest grade samples of neodymium rich monazite on its properties in Saskatchewan.

The Alces Lake discovery of an accessible extensive hard rock deposit of monazite is very important to the world's demand for magnet rare earths. This is because Appia's monazite is neodymium rich, which is the most desirable for the production of rare earth permanent magnets. Not only is it rich in

neodymium (Nd) and praseodymium (Pr), but also contains 1% of xenotime, the best heavy rare earth bearing hard rock mineral. The good news is that yesterday the Company announced it has discovered new and previously unknown occurrences of massive and semi-massive monazite in the Wilson North area of Alces Lake. A total of 27 drill holes (2,460 m) have been completed at the Wilson-Richard-Charles-Bell zones (WRCB), with at least 27 holes (2,360 m) remaining. In total the Company has completed 61 drill holes (4,575 m) including drilling at Biotite Lake (13 holes – 685 m), Danny (7 holes – 430 m) and Sweet Chili Heat (14 holes – 995 m) with monazite occurrences identified in each area. One drill continues to test the continuity and depth extent of the WRCB zones, while the other moves across the property, exploring new drill targets, named Diablo and Oldman River.



Source

With assays pending for all 61 holes drilled to date in the 2021 program, it's certainly exciting times for Appia. The Wilson North 21-WRC-015 drill hole showed monazite mineralization over 8.85 m from 15.74 m — 24.59 m. As noted above, three other locations also saw monazite occurrences. If the grades in this season's drill holes match the world class grades previously announced things could get very interesting very quickly. The Company is well funded to complete this season's drilling with plans to prepare an NI 43-101 report following the conclusion of the current exploration program later this year. With 107.6 million shares outstanding, the current market cap for Appia stands at roughly \$82 million. That's chump change given what some of these Chinese companies are throwing around for quality assets.

Keep in mind that for the last few years China has been buying monazite concentrates, thrown off as residues from heavy

mineral sands' mining, from all over the world including, until recently, from the USA! China bought 30,000 tonnes last year from Rio Tinto in Southern Africa; and up to another 20,000 tons from Indonesia, Brazil. It is logical to assume that China would have a great interest in a higher grade neodymium rich monazite deposit than Lynas' Mt Weld especially since the Appia material has 1 percent xenotime, which is a higher grade of heavy rare earth rich, xenotime, than Lynas' deposits at Mt Weld.

Appia may be on the cusp of an exciting future.

Frederick Kozak on Appia Energy's rare earths and uranium exploration program, recent financing and Jack Lifton appointment

written by InvestorNews | May 17, 2023 In a recent InvestorIntel interview, Tracy Weslosky speaks with Frederick Kozak, President of Appia Energy Corp. (CSE: API | OTCQB: APAAF) about Appia's fully-funded summer rare earths and uranium exploration program plans in the prolific Athabasca Basin.

In this InvestorIntel interview, which may also be viewed on YouTube (click here to subscribe to the InvestorIntel Channel), Frederick went on to explain why there is so much industry

interest in Appia Energy and explained the significance of Appia's recently closed \$5.75 million bought deal financing. Having closed the financing only a month ago on May 19th, Frederick said, "...the equity holders in the financing are looking at a great return on their investment so far." Appia recently announced the appointment of global rare earths expert, Jack Lifton, as a consultant and advisor to the Board of Directors. "If you are going to have a strategic advisor on your board of Board of Directors in the rare earths space, certainly Jack Lifton is who to have," Frederick commented.

To watch the full interview, click here

About Appia Energy Corp.

Appia is a Canadian publicly-listed company in the rare earth element and uranium sectors. The Company is currently focusing on delineating high-grade critical rare earth elements ("REE") on the Alces Lake property, as well as exploring for high-grade uranium in the prolific Athabasca Basin on its Loranger, North Wollaston, and Eastside properties. The Company holds the surface rights to exploration for 65,601 hectares (162,104 acres) in Saskatchewan.

The Company also has a 100% interest (subject to a 1% Uranium Production Payment Royalty and a 1% Net Smelter Return Royalty on any precious or base metals payable, provided that the price of uranium is greater than US\$130 per pound) 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 Camp historically produced over 300 million pounds of $\rm U_3O_8$ and is the only Canadian camp that has had significant rare earth element (yttrium) production. The deposits are largely unconstrained along strike and down dip.

To learn more about Appia Energy Corp., click here

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Appia Increases Bought Deal Financing as it Ramps Up Rare Earths Drill Program

written by InvestorNews | May 17, 2023

Appia Energy Corp. (CSE: API | OTCQB: APAAF) announced upsizing its previously announced bought-deal financing to \$5 million that it expects to close later this month.

Appia plans to use part of the proceeds on a multi-million dollar summer exploration program on its Alces Lake property, which includes at least 5,000 meters of drilling and property-wide geophysical work. It also aims to upgrade the camp for winter use and access to extend the drilling season.

Appia is a Canadian-based mineral exploration company targeting the rare earth element (REE) and uranium sectors. The Company is currently focusing on delineating REE and uranium targets on its Alces Lake property, and plans to change its name to Appia Rare Earths & Uranium Corp.

The Alces Lake property is located in the Athabasca Basin of northern Saskatchewan, almost 30 kilometers northeast of Uranium City, which is a major centre in the area with good infrastructure including hydroelectric power, an airstrip, and an ice road connection.

The REE assays are reported as Total Rare Earth Oxides (TREO) and the Alces Lake property hosts some of the highest REE grades in the world and the second-highest average grade at 16.65%

TREO.



SOURCE:

Re-analyzing Previous Samples Confirm Gallium Mineralization

Since 2016, Appia has been working on the Alces Lake project and focused on uranium and the critical rare earth elements (CREE) including neodymium (Nd), praseodymium (Pr), dysprosium (Dy), and terbium (Tb).

Recently, Appia re-analyzed some historical samples with high-grade rare earth oxide (REO) results to determine the extent of gallium mineralization over the property and the correlation between REO and gallium.

The results returned gallium concentrations ranging from 0.01% to 0.104% Ga_2O_3 and a positive linear correlation between gallium and REO.

According to the Company, gallium is considered high-grade when the weight percentage Ga_2O_3 is greater than 0.010% and the combination of the high-grade REO system and gallium gives it the potential of becoming a world-class asset for critical metals.

Frederick Kozak, Appia's President, commented, "The gallium concentrations on the Property are remarkable. Gallium was found in naturally occurring high-concentrations on the Property that far exceed current concentrations required for global production of gallium."

Gallium is primarily used in electronics, semiconductors, and light-emitting diodes (LEDs) as it is able to turn electricity into light.

In March, the current price of high-grade gallium metal (99.99%) was US\$376.71/kg compared to Nd at US\$105/kg, Pr at US\$74.95/kg, Dy at US\$\$424.95/kg, and Tb at US\$1,468.02/kg. Being able to recover gallium would increase the ore value to Appia.

Targeting Ore from Deposit in Next 24 Months

Appia's Alces Lake property has the REE hosted in coarse-grained monazite that is exposed at the surface in high-grade outcrops, making it economic to extract.

Monazite processing for REE extraction has a long history of economic viability and was started in the 1950s at the Steenkampskraal Mine in South Africa.

The company is following a low capital pathway to initial production by focusing on the potential of bulk mining the surface mineralization akin to a gravel pit operation and believes it could start production as early as 2023.

Appia would then use gravity and magnetic separation to create a concentrate to ship to a third-party plant and extraction facility for further processing.



SOURCE:

Leveraging SRC's Rare Earth Facility

In August 2020, the Saskatchewan government announced C\$31 million in funding for a Rare Earths processing facility in Saskatoon that will be owned and operated by the <u>Saskatchewan Research Council</u> (SRC).

The SRC facility will be the first-of-its-kind in Canada and will establish an REE supply chain in Saskatchewan.

In February, Appia announced that <u>bench-scale monazite</u> <u>processing</u> and metallurgical testing had started at the SRC facility using sample materials from Appia's Alces Lake property and SRC's current Separation Pilot Plant.

The goal of the test is to process monazite-bearing rocks from the property to determine the ease of metallurgical processing and recovery of REE end products.

The testing results will be a factor in determining the economic viability of the project and are expected to take at least three months before a report is issued by SRC to Appia.

REE Solvent Extraction Process at the SRC Facility in Saskatoon, Saskatchewan



SOURCE:

Shifting Towards a Green Economy

North American and European economies are focused on developing more environmentally friendly ("green") economies by shifting to low-carbon power generation and renewable energy, including solar and wind, as well as the swing from fossil fuel to electric vehicles. REE play a critical role in these industries.

Last year, the governments of Ontario and Canada announced plans to each spend C\$295 million to help Ford upgrade its assembly plant in Oakville, Ontario to start making electric vehicles.

But it is not just the green economy that requires these metals, they are critical in specialized alloys and magnets for airplanes, computer and military systems, high-speed transit, and satellites. A secure supply chain has become of strategic importance.

Governments Focusing on Critical Metals that Include REE

According to the <u>Center for Strategic and International Studies</u>, China produced approximately 85% of the world's rare earth oxides and 90% of rare earth metals, alloys, and permanent magnets in 2019. This dominance is a concern for other governments and businesses that want to ensure a stable supply of critical metals.

In 2018, the U.S. Secretary of the Interior published a list of 35 critical minerals or mineral material groups and voiced their concerns about their dependence on imports to meet the demand and supply chain risk due to the source concentration of just one or two countries.

The U.S. Defense Logistics Agency, a combat support agency in the U.S. Department of Defense that manages the global supply chain, currently stores 42 commodities, including chromium, cobalt, iridium, palladium, platinum, and zinc, with a current market value of over \$1.1 billion.

In March, the rare earth's and critical minerals sectors received another boost as the Canadian government unveiled its "Critical Minerals" list that included 31 minerals the government considers "essential to Canada's economic security, required for Canada's transition to a low-carbon economy, and a sustainable source of critical minerals for our partners."

The mineral list was comprised of base metals, battery metals, energy metals, and other elements, including aluminum, cobalt, copper, gallium, lithium, nickel, niobium, REE, uranium, and zinc.

The government of Canada wants Canadian mining to become a global leader and supplier of choice and plans to support Canadian critical mineral projects with policy development,

coordinate international engagements, and strengthen research & development in the sector.

Canada's list reaffirms its alignment with the U.S. on its list of "Minerals Deemed Critical to U.S. National Security and the Economy" and Canada's commitment to a "critical minerals" cooperation agreement that was initiated in 2019 and currently in the working-group phase.

Final thoughts

Appia's planned financing should strengthen its Balance Sheet and fund its exploration plans for 2021.

In addition, Appia is not a one-trick pony as it holds exploration rights to 656 square km (162,104 acres) in Saskatchewan, including the Alces Lake, Eastside, Loranger, and North Wollaston properties, and over 125 square km (31,000 acres) of prospective REE and uranium deposits in the Elliot Lake area of Ontario.

If you think it's time to add some REE exposure to your portfolio, Appia might be a candidate to add to your watchlist.

Appia closed yesterday at C\$0.65 with a Market Cap of C\$63.4 million.

Appia well-positioned with

recent Critical Materials Executive Order, the 'planned nearby' SRC Rare Earths Processing Facility, and a recent round of drilling completed at Alces Lake

Appia Energy Corp. (CSE: API | OTCQB: APAAF) ('Appia') has just completed a round of drilling at their 100% owned Alces Lake Property, in the Athabasca Basin area of northern Saskatchewan, Canada. The project has monazite ore containing valuable rare earths Neodymium (Nd), Praseodymium (Pr), Dysprosium (Dy), and Terbium (Tb). Alces Lake hosts the 2nd highest average rare earth element (REE) grade in the world at 16.65 wt% TREO.

The key <u>result of the drilling campaign</u> was that Appia was able to confirm the REE minerals system over a **875m strike length**, as deep as **340m from surface**, still open in all directions and in two sub-parallel trends.

The original trend includes the high grade REE zones of Wilson, Richard, Charles and Bell which now look to be all joined at depth over a strike length of 145m. As a result the 4 zones have now been combined into one larger zone and named the WRCB zone.

Another positive was that 15 out of the 18 drill holes intersected the REE mineralized system. Assay results from the drill campaign are expected to be released soon.

Source

Shown below from a different rotation is one of the newer trends which includes the Ivan/Dylan and the Mikaela/Dante zones. The other has the Cone Zone.

Alces Lake REE mineralization is running in two sub-parallel trends to the original trend



Source

Appia Vice-President, Exploration and Development, James Sykes, commented:

"This suggests that the System (total REE mineralized zones at Alces Lake), and both first-order lithological emplacement controls, could be present across the entire 45 km geological strike length of the Property at/near surface and continuing at depth."

The Alces Lake Project's rare earths start from or near surface and hence are 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. The fairly recent development by the Government of Saskatchewan to develop a "first-of-its-kind" Rare Earth Processing Facility in Saskatchewan is also very promising for Appia.

Other properties owned by Appia (rare earths and uranium)

In total at Appia's Athabasca Basin properties Appia has 57,048 hectares which includes Alces Lake, Loranger, North Wollaston, and Eastside properties. They all have uranium.

At Elliot Lake Camp, Ontario, Canada, Appia has 12,545 hectares with both rare earth element and uranium deposits over five mineralized zones.

Appia Energy Corp. is currently trading on a market cap of just C\$27m. Given the high rare earths grades at Alces Lake, the planned nearby Saskatchewan Government Rare Earth Processing Facility, renewed interest by governments (the recent US Executive Order on critical materials), and Appia's potential also with uranium; things are looking very promising for Appia Energy.

The EV sector sizzles, will rare earths be next? Spotlight on Appia Energy...

written by InvestorNews | May 17, 2023

The electric vehicle (EV) sector has been one of the hottest sectors the past 3 months as investors chase everything 'electric'. For example, Tesla (NASDAQ: TSLA) is up over 7 fold the past 14 months and is now the world's most valuable car company. The past 3 months NIO is up 3 fold and Nikola is up 5 fold. The battery manufacturers have also surged.

So what's next? Following the EV thematic one would say the EV metal miners should be next, and that includes the rare earths miners, as rare earths are a key component in the most powerful magnets used in EV motors. Last year Roskill reported that "Tesla extends EV range using 'permanent magnets' motors in

Models S, X, and 3. This resulted in a 10% increase in the overall drivetrain efficiency of Tesla's EVs, and hence an improvement in range. Roskill then expressed the following view:

"Permanent magnets that offer the best performance and optimisation potential in electric motors are rare earth neodymium-iron-boron (NdFeB) magnets. Over 90% of EV models currently use NdFeB-based permanent magnet motors as part of the EV drivetrain."

Additionally, the US Senate will soon consider <u>various Acts</u>, including the <u>ORE Act</u>, that aim to secure US supply of critical elements such as rare earths. This has the potential to be another catalyst for the rare earths sector in the near future.

One of the most promising rare earths junior miners is <u>Appia Energy Corp.</u> (CSE: API | OTCQB: APAAF). Appia is currently exploring and developing uranium and rare earth deposits at its <u>Alces Lake Property</u>, in the Athabasca Basin area of northern Saskatchewan, Canada. They also have a promising uranium-rare earths project in Ontario, Canada.

Appia 100% own the Alces Lake property spread over 14,334 hectares. 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 4 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. By comparison rare earths producer Lynas Corporation's Mt Weld mine has an average grade $\sim 10 \text{ wt}$ % TREO, and is perhaps the most successful non-Chinese rare earth mine in the world today.

Appia Energy's Alces Lake property has exceptionally high grade critical rare earths in Northern Saskatchewan, Canada

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Source: Appia Energy company presentation

The high grade TREO at the Alces Lake Project hosted in monazite is an ideal potential western located source of the most valuable key rare earths needed in future industries such as EV motors and catalysts etc.

Rare earths key uses include powerful magnets (21% of demand and growing) used in EVs, electronics, and wind turbines etc

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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. There is also an existing pilot plant and extraction facility in Saskatchewan the Project can use to start up a small scale production of rare earth oxides.

Appia Energy's Alces Lake ticks all the right boxes

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Appia Energy President and CEO, Tom Drivas, stated exclusively to InvestorIntel:

"Appia is currently exploring its Alces Lake project located in Saskatchewan Canada. Alces Lake has a number of surface zones with up to 85% monazite and can become one of the highest grade critical rare earth producer in the world. Appia could supply the critical rare earth needed to the developing industry in the

US and Canada."

Appia recently <u>announced</u> that they have begun further exploration at the Alces Lake property. It is expected that between late July and early August Appia will commence -2,000 to 3,000 m of a drilling program to potentially expand the resource.

Closing remarks

Appia Energy trades on a market cap of just C\$14 million, which is very low given their super high grades, valuable critical rare earths, and good location. The only possible explanation can be the relatively early stage of the project.

Rare earths expert Jack Lifton recently <u>stated</u> Appia Energy's Alces Lake "is probably the best choice for development into a producing rare earth magnet materials' mine in North America."

Finally, Appia also offer investors exposure to several other projects in Canada that are highly prospective for both rare earths and uranium. Early investors in junior miners such as Appia have the potential for tremendous returns, especially if the Alces Lake project achieves funding and production. The recent surge in EV related companies, the US Senate considering rare earths Acts, and Appia's potential for excellent near term news flow should all serve as strong catalysts for the stock in the year ahead.