

### CRITICAL RARE EARTHS & URANIUM EXPLORATION IN THE AMERICAS

CSE: API | OTCQX: APAAF | FWB: A0I0 | MUN: A0I0 | BER: A0I0

May 2024



# **Forward Looking Statement**

This presentation contains forward-looking statements which may include but are not limited to statements with respect to the future financial or operating performance of Appia and its projects, the future price of uranium, capital operating and exploration expenditures, success of exploration activities, permitting timelines, government regulation and environmental risks and costs. Appia has tried to identify these statements by using words such as "plans", "proposes", "expects" or "does not expect", "is expected", "estimates", "intends", "anticipates" or "does not anticipate", or "believes", or variations of such words and phrases or statements that certain actions, events or results "may", "could", "would", "might" or "will" be taken, occur or be achieved.

Forward-looking statements are not based on historical facts and involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company, or events, to be materially different from any future results, performance, achievements or events express or implied by the forward-looking statements. These forward-looking statements reflect current expectations of management regarding future events and performance. Such forward-looking statements are based on a number of assumptions which management believes to be reasonable but may prove to be incorrect and involve significant risks, including but not limited to: the general risks associated with the mining industry, lack of operating history, dependence on key personnel, conflicts of interest, the need to raise additional capital, title to properties, competition, speculative nature of the business, acquiring additional properties, uninsured risks, external market factors, government regulation, environmental regulations, exploration risk, calculation of resources, insufficient resources, barriers to commercial production, maintaining property interests, commodity prices, exchange rates, lack of dividends, lack of public trading market, currency risk and controlling shareholder.

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The technical information in this Presentation has been prepared in accordance with the Canadian regulatory requirements set out in National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101"). The information was reviewed and approved by Dr. Irvine R. Annesley, P.Geo, Consulting Geologist, and Mr. Andre Costa, VP of Exploration, Brazil and Qualified Persons as defined by National Instrument 43-101.



## **Company Overview**

**Appia** is a publicly traded mineral exploration company that aims to strategically position and capitalize on the increasing demand for critical minerals, such as rare earth elements (REE) and uranium. These resources are essential for meeting the high demand for electric vehicles, wind turbines, advanced renewable electronics, and driving the transition towards a greener environment. Appia is committed to advancing multiple rare earths and uranium projects in mining-friendly regions, including Goiás State, Brazil, the Athabasca Basin area in Saskatchewan, Canada and Elliot Lake, Ontario, Canada.

#### **Ionic Clay Rare Earths Monazite Rare Earths Uranium**, Ontario **Uranium**, Saskatchewan ALCES LAKE, SASK, CANADA ELLIOT LAKE, ON, CANADA PCH, GOIAS, BRAZIL Uranium Projects, SASK, CANADA Holds an extensive **Indicated** *4 exploration projects in the* Critical REE (containing MREE High-grade **monazite** & Inferred Mineral Resource Athabasca Basin & HREE) hosted in ionic clays prospect on surface and Estimate (MRE) of over 55 Loranger, Eastside, Otherside near-surface of up to 80% Rare Earths in ionic clays are million pounds Uranium and North Wollaston generally more easily coarse-grained monazite Well-developed projects extractable with lower World-class critical REE with infrastructure & 58 Km from Plans for exploration in grades up to 50% TREO plus Opex & Capex costs *Cameco's uranium refining Summer of 2024 include* MRE & NI 43-101 Technical aallium • facility near Blind River, ON drilling at Loranger, and *Report completed with SGS* Most Attractive Mining Spanning 13,008 hectares further ground prospecting Initial desorption testing Jurisdiction in Canada with (32,143 acres) and exploration on the other proves IAC characteristics access to SRC monazite 3 projects Ongoing exploration & wellprocessing facility developed infrastructure



# Why Appia?

Appia offers a unique opportunity to tap into **the growing demand for rare earth elements and uranium**, which are pivotal in powering various industries. As the world transitions to cleaner energy sources and advanced technologies, the demand for rare earth elements and uranium is on the rise. Appia's strategic positioning in these markets, coupled with its commitment to environmentally conscious exploration practices, makes it a compelling choice for investors looking to align their portfolios with the future of clean energy, high-tech innovation, and responsible resource development.

### **Strategic Outlook**

- 1. Working towards becoming a major supplier of a secure source of critical minerals, including Uranium and Rare Earths, to supply North American and European markets.
- 2. Increasing the NI 43-101 resource, and further exploration, at the PCH project. And will work towards identifying potential partners for off-take and/or strategic investment at the PCH project in Brazil. Moving towards the development of a Preliminary Economic Assessment (PEA).
- **3.** Monetizing our non-core assets to fund the PCH project.
  - Announced on May 15<sup>th</sup> 2024 a MoU for the sale of the Elliot Lake project for \$75 million and a 2% NSR.
- 4. Continue exploration at the Alces Lake project to identify further high-grade targets along the +20 KM structural corridor
- 5. Drilling and ground exploration at Appia's 4 uranium projects in Saskatchewan.

### **Capital Structure**

(at April 16<sup>th</sup>, 2024)

Issued: 136.4M shares (Insiders approx. 27 %)

Fully Diluted: 145M shares

**Cash on Hand:** Approx. CAD \$1.5 M

Debt: None



### **Executive Leadership & Advisors**

Appia's Management and Board has over 300 years combined industry experience



Anastasios (Tom) Drivas

#### **CEO & DIRECTOR**

Business entrepreneur with over 30 years of experience in various industries, including over 20 years in the mineral resource industry.



Stephen Burega

PRESIDENT

Brings 15 years of management and operations experience in the international mining and natural resources sectors, plus 15 years of experience in finance & communications.



Andre Costa M.Sc., FAIG

VP EXPLORATION

30 years' Experience in Canada and Brazil managing exploration projects for Diamond, Potash, Uranium, Gold, Lithium, REE and copper



Antonio Vitor

COUNTRY MANAGER

Track record as a portfolio manager and valued board member. Since 2015 exclusive dedication to mining industry – Graphite, REE and Silica sands



Constantine Karayannopoulos

SR. TECHNICAL ADVISOR

30 years of expertise and leadership at NEO Performance Materials as COO, CEO, Chairman of the Board and CEO again from 2020-2023.



Don Hains, P. Geo

SR. TECHNICAL

ADVISOR

40+ years' experience as

a consulting geologist

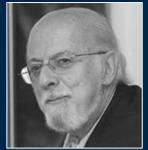
and QP, with highly

advanced Industrial

Minerals and Ionic

Adsorption Clay

expertise.



Jack Lifton

SR. TECHNICAL ADVISOR Consultant, author, and lecturer on the market fundamentals

of technology metals.



# Critical Minerals: Rare Earths and Uranium



### **Transition to Clean Energy**

- Global transition to clean energy is underway
- US, Europe, Canada and Australia have listed rare earths and uranium as critical materials due to their strategic economic importance for the transition to clean energy
- Uranium is primarily used in the generation of clean energy, medicine, and scientific research



### **Rare Earth Elements**

- The highest REE demand is for Heavy (Dysprosium and Terbium) and Light (Neodymium and Praseodymium)
- These heavy and light REEs are used primarily for permanent magnets, in EV drivetrains, wind turbines, technological, and military applications
- The global rare earth metals market grew from \$6.58 billion in 2022 to \$7.29 billion in 2023, with a 10.8% CAGR. Projections indicate further growth, potentially reaching **\$9.6 billion by 2027 at a CAGR of 7.1%.**

### **Global REEs Supply**

- China controls up to 90% of the supply of REEs and the market for permanent magnets
- Western world is desperately working to build a supply of critical materials (including REEs) outside of China
- International REEs demand will exceed supply and therefore pricing for REEs is forecast to dramatically increase over the coming years



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### **Our Projects**

**Appia** is strategically positioned with mining projects in two of the world's most mining-friendly jurisdictions, Canada and Brazil.

#### Canada

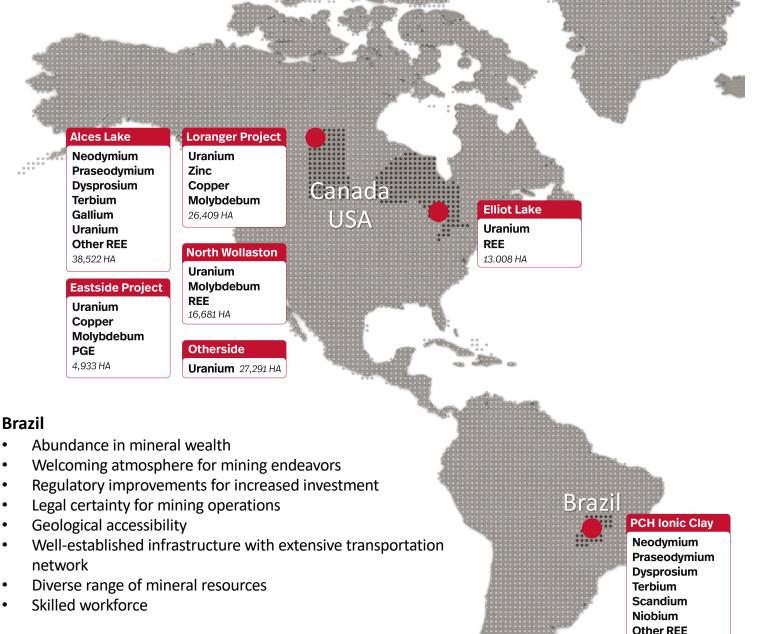
- Renowned for political stability and robust legal framework
- Beacon of security for mining investments
- Rich endowment of mineral resources
- Well-established mining industry
- Secure environment safeguarding investor interests .
- Geological diversity for vast resource exploration
- Experienced mining workforce for efficient project execution
- Developed infrastructure supporting mining operations

### **Company's Projects in Canada**

- Alces Lake REE project is a high-grade Monazite project
- Large uranium ground position in Elliot Lake
- Four highly prospective uranium exploration projects in Athabasca Basin area: Loranger, North Wollaston, Eastside, Otherside

### **Company's Project in Brazil**

PCH Project is a large REE Ionic Adsorption Clay project



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40.963 HA



# PCH Project, Goiás, Brazil Highlights:

- 40,963 hectares in Tocantins Structural Province, Brasília Fold Belt, Goiás, Brazil.
- Characterized by IAC REE mineralization associated with the weathered Ipora Granite.
- High-grade REE mineralization associated with Carbonatitic dykes with unprecedented TREO assay results.
- Mining-friendly jurisdiction with well-developed infrastructure and substantial government support and initiatives.
- Supported by surrounding landowners and community.

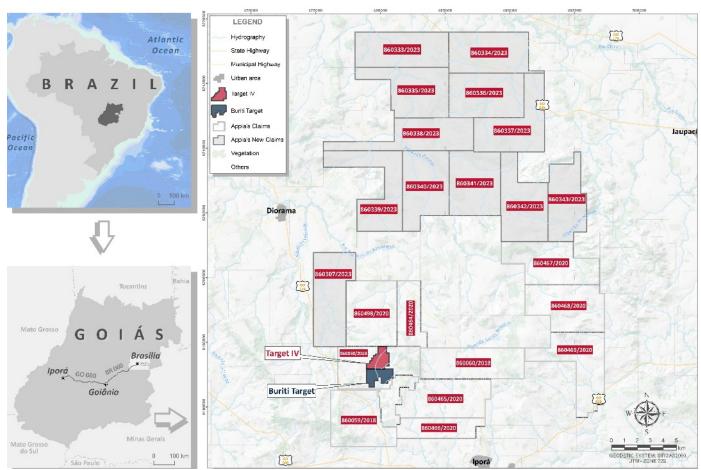
# PCH REE Ionic Adsorption Clay (IAC) Project: Brazil

### **The PCH Ionic Clay Project**

- Located in the Goiás state of Brazil in the Brasilia fold belt, 216 km from Goiânia & 410 km from Brasília.
- 30 km from Iporá, ensuring access to skilled labour.
- Infrastructure includes power and water, & is easily accessible via well-developed regional roads
- The property hosts rare earths including Tb, Dy, Nd and Pr, also scandium, and cobalt
- Experienced Brazilian team.
- 70% Earn in agreement to be completed by 2028

✓ 2024 Mineral Resource Estimate on Target IV & Buriti
 ✓ 2024 NI 43-101 on PCH REE project.

 South of producing Serra Verde project (with an expected 900 million tonnes reserves at 1200 ppm TREO)

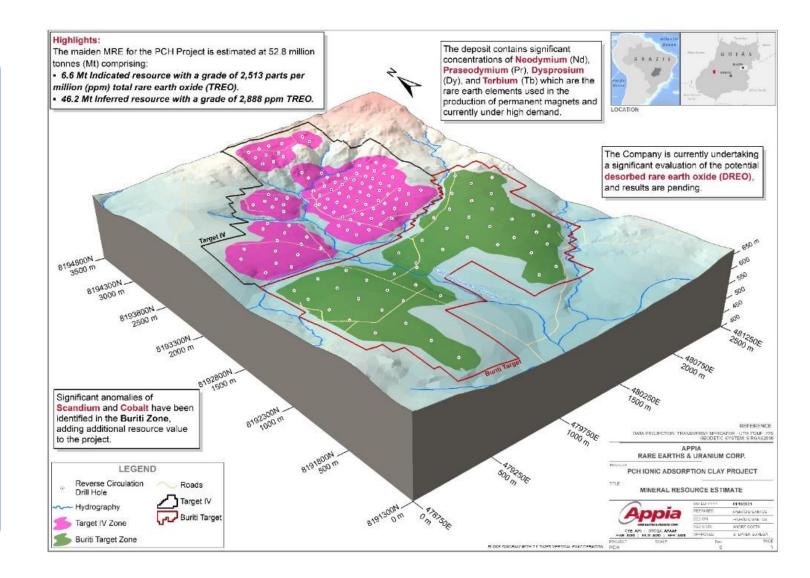


The 22-claim PCH Project spans a total of 40,963 hectares



# Target IV and Buriti Zone: MRE Highlights

- The maiden MRE for the PCH Project is estimated at 52.8 million tonnes (Mt) comprising:
  - 6.6 Mt Indicated resource with a grade of 2,513 ppm TREO.
  - 46.2 Mt Inferred resource with a grade of 2,888 ppm TREO.
- The deposit contains significant concentrations of Neodymium (Nd), Praseodymium (Pr), Dysprosium (Dy), and Terbium (Tb) which are the rare earth elements used in the production of permanent magnets and currently under high demand.





### PCH Maiden Mineral Resource Estimate (MRE) Project:

| Mineralized | Classification | Volume          | SG   | Tonnes | TREO | MREO | HREO | Sm <sub>2</sub> O <sub>3</sub> | Tb <sub>4</sub> O <sub>7</sub> | Dy <sub>2</sub> O <sub>3</sub> | Pr <sub>6</sub> O <sub>11</sub> | $Nd_2O_3$ | Sc <sub>2</sub> O <sub>3</sub> | Co  |
|-------------|----------------|-----------------|------|--------|------|------|------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|-----------|--------------------------------|-----|
| Zone        |                | Mm <sup>3</sup> |      | Mt     | ppm  | ppm  | ppm  | ppm                            | ppm                            | ppm                            | ppm                             | ppm       | ppm                            | ppm |
| Target IV   | Indicated      | 3.3             | 1.97 | 6.6    | 2513 | 562  | 186  | 58.3                           | 5.8                            | 31.1                           | 109                             | 358       | 15.9                           | 22  |
| Target IV   | Inferred       | 6.9             | 1.96 | 13.5   | 7307 | 1391 | 331  | 114.4                          | 9.6                            | 49.4                           | 311                             | 907       | 24.6                           | 74  |
| Buriti      | Inferred       | 16.7            | 1.96 | 32.7   | 1059 | 259  | 101  | 29.0                           | 3.1                            | 17.8                           | 45                              | 164       | 68.6                           | 127 |
| TOTAL       | Indicated      | 3.3             | 1.97 | 6.6    | 2513 | 562  | 186  | 58.3                           | 5.8                            | 31.1                           | 109                             | 358       | 15.9                           | 22  |
| TOTAL       | Inferred       | 23.6            | 1.96 | 46.2   | 2888 | 591  | 168  | 54.0                           | 5.0                            | 27.0                           | 123                             | 381       | 55.7                           | 111 |

• The MRE has an effective date of the 1st of February 2024.

The Qualified Person for the MRE is Mr. Yann Camus, P.Eng., an employee of SGS.

• The MRE provided in this table were estimated using current Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Standards on Mineral Resources and Reserves, Definitions and Guidelines.

- Mineral Resources that are not Mineral Reserves have not demonstrated economic viability. Additional drilling will be required to convert Inferred and Indicated Mineral Resources to Measured Mineral Resources. There is no certainty that any part of a
  Mineral Resource will ever be converted into Reserves.
- All analyses used for the MRE were performed by SGS GEOSOL by ICM40B: Multi Acid Digestion / ICP OES ICP MS and by IMS95R: Lithium Metaborate Fusion / ICP-MS.
- MRE are stated at a cut-off total NSR value of 10 US\$/t. The full price list and recovery used to estimate the NSR is in Table 2. The estimated basket price of TREO is US\$26.98.
- GEOVIA's WhittleTM software was used to provide an optimized pit envelope to demonstrate reasonable prospection for economic extraction. Preliminary pit optimization parameters included overall pit slope of 30 degrees, in-pit mining costs of \$2.10, processing and G/A costs of \$9/t, and overall mining loss and dilution of 5%. Full details of the preliminary pit-optimization parameters can be found in Table 2. The basket price and oxides price list in Table 2 are based on forward-looking pricing. These future prices are predicted based on market trends, economic forecasts, and other relevant factors. The actual prices may vary depending on changes in these factors.
- Figures are rounded to reflect the relative accuracy of the estimate and numbers may not add due to rounding.
- Resources are presented undiluted and in situ, constrained within a 3D model, and are considered to have reasonable prospects for eventual economic extraction.
- Bulk density values were determined based on physical test work and assumed porosities for each type of material.
- Total Rare Earth Oxides: TREO = Y2O3 + Eu2O3 + Gd2O3 + Tb2O3 + Dy2O3 + Ho2O3 + Er2O3 + Tm2O3 + Yb2O3 + Lu2O3 + Lu2O3 + Ce2O3 + Pr2O3 + Nd2O3 + Sm2O3
- Magnetic Rare Earth Oxides: MREO = Sm2O3 + Tb4O7 + Dy2O3 + Pr6O11 + Nd2O3
- Heavy Rare Earth Oxides: HREO = Sm2O3 + Eu2O3 + Gd2O3 + Tb4O7 + Dy2O3 + Ho2O3 + Er2O3 + Tm2O3 + Yb2O3 + Lu2O3
- The MRE may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.



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# Preliminary Desorption Results From Target IV PCH

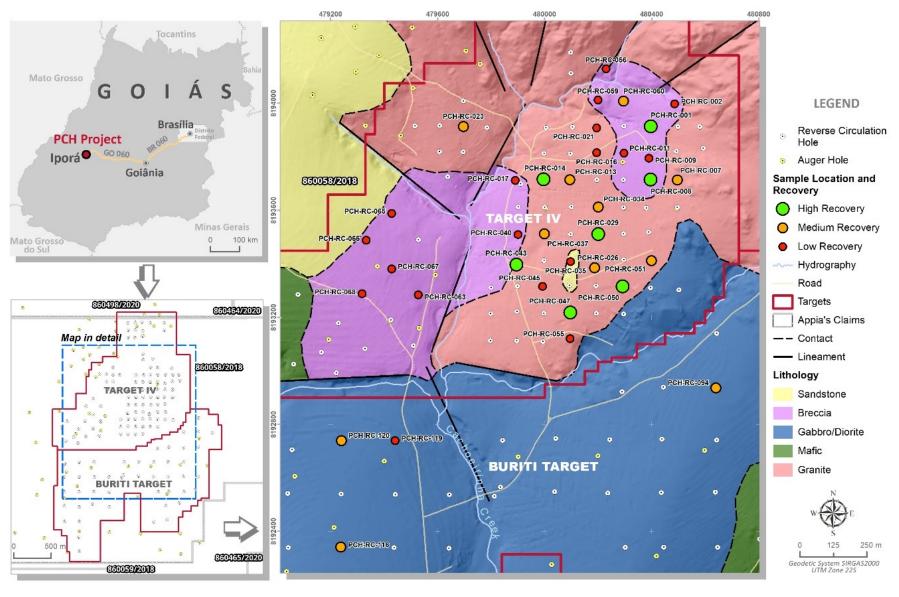
• Desorbable values from RC holes located in the weathered portion of the Ipora Granite show representative preliminary desorption results with Nd2O3 and Pr2O3 ranging from 39.7 ppm to 451.2 ppm, from 1.6% to 48.2% recovery, and Tb4O7 and Dy2O3 ranging from 5.7 ppm to 70.2 ppm, from 12.0 to 86.7% recovery.

| Holeid     | Inte | rval | TREO    | TREO D   | %TREO D        | HREO   | HREO D   | %HREOD         | NdPr   | NdPr D   | %NdPr D        | DyTb  | DyTb D   | %DyTb D        |
|------------|------|------|---------|----------|----------------|--------|----------|----------------|--------|----------|----------------|-------|----------|----------------|
|            | From | То   |         | Desorbed | TREOD/TREO*100 |        | Desorbed | HREOD/HREO*100 |        | Desorbed | NdPrD/NdPr*100 |       | Desorbed | DyTbD/DyTb*100 |
|            | m    | m    | ppm     | ppm      | %              | ppm    | ppm      | %              | ppm    | ppm      | %              | ppm   | ppm      | %              |
| PCH-RC-001 | 3.0  | 4.0  | 4505.8  | 495.1    | 11.0           | 724.6  | 147.4    | 20.3           | 889.4  | 120.4    | 13.5           | 124.9 | 20.3     |                |
| PCH-RC-001 | 5.0  | 6.0  | 4215.9  | 760.9    | 18.0           | 806.6  | 266.9    | 33.1           | 822.9  | 169.7    | 20.6           | 141.6 | 37.9     | 26.8           |
| PCH-RC-001 | 6.0  | 7.0  | 3404.6  | 488.5    | 14.3           | 815.9  | 193.4    | 23.7           | 574.3  | 99.6     | 17.3           | 121.6 | 26.1     | 21.5           |
| PCH-RC-007 | 10.0 | 11.0 | 2214.6  | 338.9    | 15.3           | 362.8  | 136.0    | 37.5           | 471.0  | 74.1     | 15.7           | 46.1  | 15.8     | 34.3           |
| PCH-RC-008 | 5.0  | 6.0  | 2545.4  | 858.1    | 33.7           | 453.0  | 241.8    | 53.4           | 508.0  | 245.0    |                | 71.3  | 35.2     | 49.4           |
| PCH-RC-008 | 6.0  | 7.0  | 7940.4  | 1617.8   | 20.4           | 1523.5 | 471.8    | 31.0           | 1720.5 | 451.2    | 26.2           | 249.7 | 70.2     |                |
| PCH-RC-008 | 7.0  | 8.0  | 5708.1  | 1184.3   | 20.7           | 1146.6 | 359.4    | 31.3           | 1180.0 | 318.2    | 27.0           | 181.6 | 51.3     | 28.3           |
| PCH-RC-008 | 8.0  | 9.0  | 2645.2  | 648.7    | 24.5           |        | 206.3    | 42.7           | 535.4  | 168.5    | 31.5           | 72.4  | 29.2     | 40.4           |
| PCH-RC-008 | 9.0  | 10.0 | 5741.7  | 514.3    | 9.0            |        | 171.1    | 17.3           | 908.1  | 122.2    | 13.5           | 153.9 | 24.1     | 15.6           |
| PCH-RC-023 | 9.0  | 10.0 | 2163.1  | 215.2    |                |        | 80.1     | 33.8           | 416.3  | 39.7     | 9.5            | 37.9  | 7.8      |                |
| PCH-RC-029 | 3.0  | 4.0  | 1548.1  | 256.3    | 16.6           |        | 45.7     | 48.8           | 263.3  | 81.8     | -              | 15.5  | 5.8      |                |
| PCH-RC-034 | 9.0  | 10.0 | 5357.4  | 398.6    | 7.4            |        | 138.5    | 22.9           | 1089.0 | 108.8    | 10.0           | 80.6  | 16.5     | 20.4           |
| PCH-RC-037 | 4.0  | 5.0  | 3166.1  | 178.9    | 5.7            | 96.8   | 52.6     | 54.3           | 499.6  | 48.6     | 9.7            |       | 6.2      | -              |
| PCH-RC-043 | 3.0  | 4.0  | 2046.5  | 380.9    | 18.6           |        | 64.3     | 91.1           | 417.9  | 133.3    |                | 9.2   | 8.0      | 86.7           |
| PCH-RC-047 | 6.0  | 7.0  | 1870.7  | 333.8    | 17.8           |        | 105.7    | 35.5           | 425.8  | 109.8    |                | 38.7  | 13.1     | 33.8           |
| PCH-RC-047 | 7.0  | 8.0  | 2224.2  | 212.8    | 9.6            | 132.1  | 70.2     | 53.2           | 417.7  | 66.7     | 16.0           | 18.5  | 8.1      | 43.7           |
| PCH-RC-050 | 3.0  | 4.0  | 1059.0  | 307.6    | 29.0           |        | 94.1     | 80.4           | 245.6  | 97.9     |                | 16.3  | 11.9     | 73.4           |
| PCH-RC-050 | 4.0  | 5.0  | 1262.0  | 229.2    |                |        | 82.4     | 51.5           | 218.0  | 69.1     | 31.7           | 21.1  | 8.7      | 41.3           |
| PCH-RC-050 | 5.0  | 6.0  | 1236.2  | 294.2    | 23.8           |        | 98.9     | 65.9           | 276.6  | 91.2     | 33.0           | 19.5  | 12.5     | 64.1           |
| PCH-RC-051 | 4.0  | 5.0  | 9259.6  | 560.1    | 6.0            |        | 60.7     | 28.2           | 2042.7 | 218.6    | 10.7           | 41.1  | 8.1      | 19.6           |
| PCH-RC-051 | 5.0  | 6.0  | 17538.4 | 617.5    | 3.5            |        | 70.7     | 16.7           | 3698.9 | 242.0    | 6.5            | 73.0  | 9.3      | 12.8           |
| PCH-RC-051 | 7.0  | 8.0  | 7110.6  | 630.8    | 8.9            | 202.9  | 91.2     | 44.9           | 1557.1 | 220.0    | 14.1           | 31.1  | 10.4     | 33.4           |
| PCH-RC-060 | 2.0  | 3.0  | 3001.4  | 393.6    | 13.1           | 122.1  | 49.8     | 40.8           | 631.5  | 106.8    | 16.9           | 20.6  | 5.9      | 28.7           |
| PCH-RC-066 | 8.0  | 9.0  | 39881.2 | 637.6    | 1.6            | 1299.9 | 302.9    | 23.3           | 8089.2 | 126.7    | 1.6            | 166.9 | 20.1     | 12.0           |



### **Preliminary Desorption Results**

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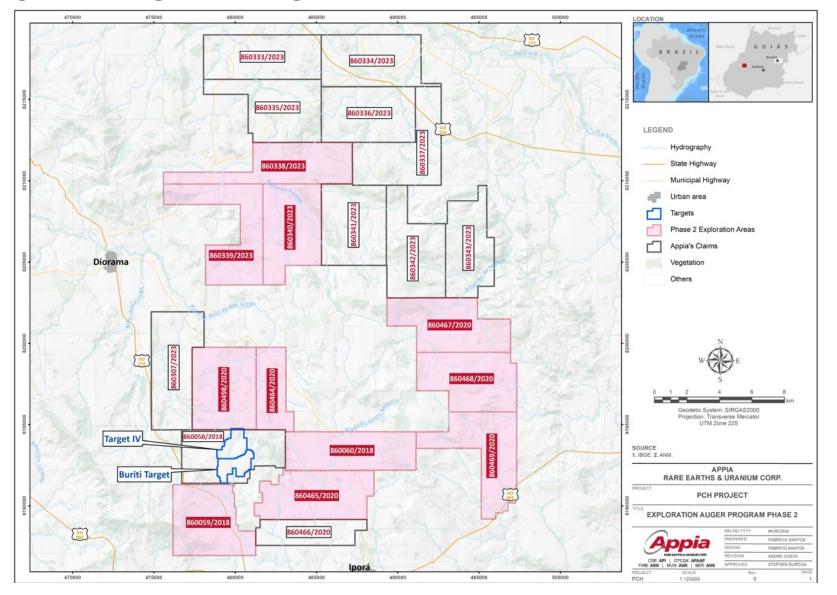


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### Phase II Exploration: Auger Drilling New Targets

The IAC style of mineralization is related to the Ipora Granite and the next phase exploratory auger drilling has started across 11 claim blocks.

- A similar geological formation;
- Similar weathering profile development with welldeveloped transition zone between Pedolith and Saprolite where the Ionic Adsorption Clays occur; and
- Positive showing of the related gammaspectometric geophysical response.





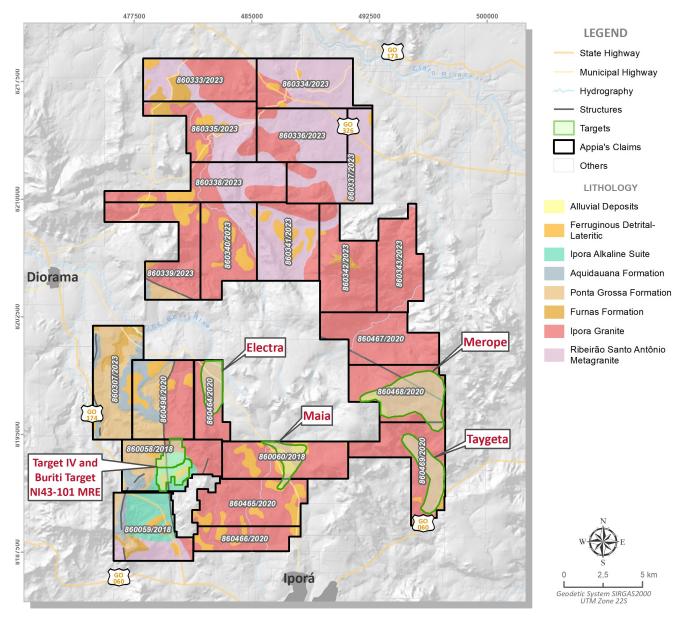
### PCH REE Ionic Adsorption Clay (IAC) Project: Brazil

Currently, the four new target zones (Merope, Taygeta, Maia and Electra) equal approximately 2,400 hectares in total area

- The Electra and Maia targets cover an area of 395 and 321 hectares respectively.
- The Taygeta and Merope targets cover an area of 546 and 1,134 hectares respectively.

In comparison, the Target IV and Buriti zones, where Appia's maiden Mineral Resource Estimate (MRE) was calculated, equal a total area of 483 hectares.

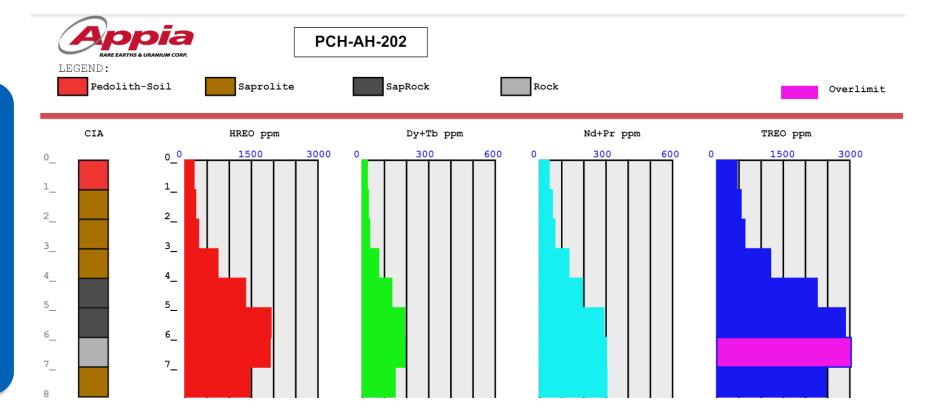
The grade distribution signature found at depth in the auger drill holes is compatible with the pattern commonly found on IAC REE deposits





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# Phase II Exploration Targets : Merope and Taygeta



Assay results showed high concentrations of Neodymium + Praseodymium and Dysprosium + Terbium associated with the boundary of Pedolith and saprolite. This is the main characteristic of an IAC REE mineralization.



# PCH REE IAC Project: Milestone And Next Steps

#### **Exploration Milestones**

- Total drilling completed with 1 year Approximately 400 Auger and RC holes
- Approximately \$1 million USD budget
- Target IV and Buriti zones: *maiden Mineral Resource Estimate (MRE)* completed with 52.8 million tonnes (Mt) comprising:
  - 6.6 Mt Indicated resource with a grade of 2,513 ppm TREO.
  - 46.2 Mt Inferred resource with a grade of 2,888 ppm TREO.
- Desorption results confirmed the IAC REE mineralization associated with the Ipora Granite.
- Distinction of two REE mineralization styles:
  - IAC REE.
  - High-grade REE associated with Carbonitite Dike-Sill.
- Discovery of new IAC REE targets Taygeta and Merope.

Indications point to the PCH project's potential to develop into a premier resource in terms of tonnage and grade within an IAC.

#### International focus to secure critical materials

- Advantage of the IAC
  - Low radioactivity
  - Desorbable
  - Low capex/opex relative to hardrock mining
  - Most environmentally friendly processing use of small quantities of re-agents
  - Highly enriched in heavy and magnet REE

#### **Next Steps**

- 1. Complete further REE desorption assays for the remainder of Target IV intervals including an update to the maiden MRE and NI-43101 report.
- 2. RC drilling on new target discoveries (Taygeta and Merope) to delineate the extent of mineralization and to develop an initial resource estimate including desorption testing.
- 3. Exploring the remaining tenements through initial auger drilling of new exploration targets.
- 4. Initiate the development of a Preliminary Economic Assessment report



# Alces Lake Project, Saskatchewan, Canada Geology: Pegmatites

Alces Lake

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Regina 💿

Saskatchewa

- Pegmatites are a type of intrusive igneous rock characterized by exceptionally coarse grain size, often containing minerals such as quartz, K-feldspar, plagioclase, biotite, muscovite, and monazite.
- While not specifically classified as carbonatites or alkaline rocks, pegmatites can contain rare earth elements (REE) and other valuable elements/metals.
- Pegmatites are known for their enriched compositions, which can include economically significant concentrations of rare elements/metals.
- These rocks often form in the final stages of magma crystallization and can be found intruding into other rocks or as dikes and veins within the Earth's crust.



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## Alces Lake REE Project: Current Exploration

#### **Resource Characteristics:**

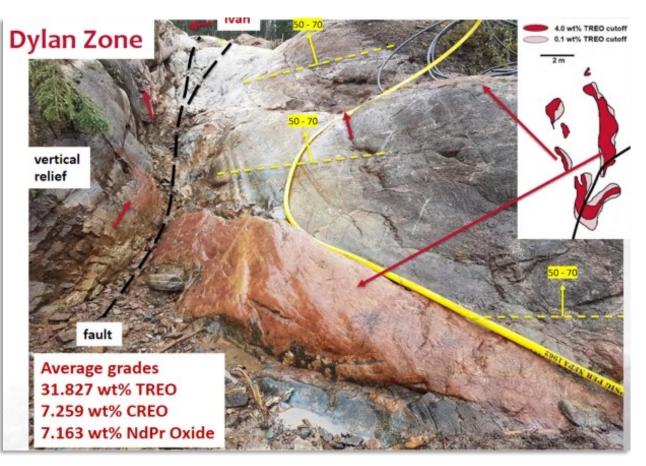
- World-class critical REE with grades up to 50% Total Rare Earths Oxide (TREO) plus gallium.
- Extensive high-grade monazite mineralization.
- Surface and near-surface showings/prospects of up to 80% coarse-grained monazite.
- Simple mineralogy metallurgical testing confirms processing potential similar to other producing mines.

#### **Exploration and Discoveries:**

- Multiple zones of REE discoveries along geological strike, on sub-parallel trends, and with sub-surface zones open in all directions.
- Awaiting results from the summer 2023 exploration program
   40 diamond drill holes.

#### **Geographical and Regulatory Context:**

- Located in Saskatchewan's prolific Athabasca Basin: the "Most Attractive Mining Jurisdiction in Canada."
- Access to new REE processing facility at Saskatchewan Research Council facility in Saskatoon, Sask.



High-grade monazite outcrop WRCB zone, Alces Lake Saskatchewan



### Alces Lake REE Project: Overview

High-grade monazite outcrop WRCB zone range from 4.209 to 32.17 wt.% total rare earth oxide (TREO)

**2023** - Diamond drill results: **11 drill holes spanning 1,223 Metres completed** in southern extension of Magnet Ridge. Five drill holes showcased substantial mineralization intersections, with **widths up to 19 Metres**, **indicating a potential increase in grade and thickness**.

2022 - Diamond drill results: 17,481 Metres of diamond drilling reported 8.98m @ 9.46 wt.% TREO including 0.87 m @ 17.1 wt.% TREO in hole 22-WRC-024 at Wilson Zone & 12.13 m @ 0.33 wt.% TREO including 5.7 m @ 0.55 wt.% TREO from hole 22-WRC-016 at AMP Zone in a structural corridor.

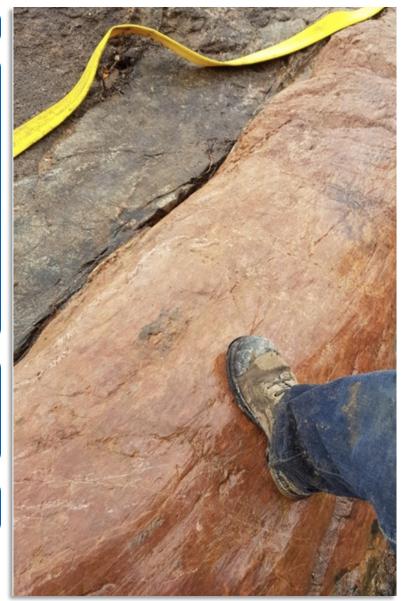
2021 - Diamond Drill results: 21-WRC-015 hole at Wilson North intersected 9.38 metres of 17.53 wt% TREO from 15.22 m- 24.60 m, including 2.14 Metres of 32.17 wt% TREO with assays up to 37.92 wt% TREO

Exploration strategy covers priority zones, extending approximately **20 kilometres in length and 5 to 7 km in width.** 

Bench-scale monazite processing and metallurgical testing results comparable to other producing rare earth projects. Preliminary work done at the Saskatchewan Research Council (SRC) **achieved flotation concentrate TREO of 48% with 73% TREO recovery**. Improvements are expected from future testing.

**Permanent 35-person camp with year-around accessibility and promoting** Work, Resources, and Employment Expansion for the Local First Nations Community of Fond-du-Lac

#### High-grade monazite outcrop WRCB zone, Alces Lake Saskatchewan





### SRC REE Processing Facility: Saskatoon, Saskatchewan, Canada

#### Landmark Initiative

In August 2020, the Saskatchewan Research Council (SRC), a Provincial Crown Corporation, and the Government of Saskatchewan unveiled ground-breaking plans to finance and establish a unique Rare Earths Processing Facility in Saskatoon, Canada. This strategic move represents a pioneering effort to enhance rare earths processing capabilities and foster regional economic growth.

#### SRC: A Research Powerhouse

As Canada's second-largest research and technology organization, SRC boasts a global footprint, serving 1,600 clients across 22 countries. This extensive reach positions SRC as a leading force in driving innovation and research in various sectors.

#### Monazite Processing Expertise

Leveraging existing pilot facilities, SRC has already achieved significant milestones in rare earths processing. By optimizing a monazite processing flow sheet, SRC's facilities have successfully processed monazite sourced from Appia's Alces Lake project. This achievement underscores the practical application of research outcomes in advancing rare earths processing technologies.



SRC Rare Earth Element Extraction Lab

The processing facility is expected to be operational in 2024



# Loranger Project, Saskatchewan, Canada



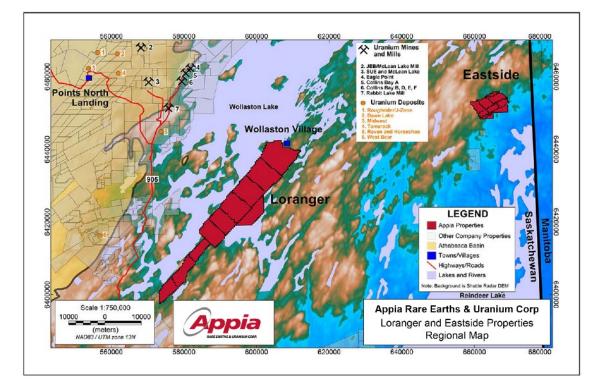
Loranger

0

Saskatchewan



### Loranger Uranium Project: Athabasca Basin Area, Saskatchewan, Canada



The property is situated within the Eastern Wollaston Domain, next to the Western Wollaston Domain & Wollaston-Mudjatik Transition Zone (WMTZ), which is renowned for hosting over **1 billion pounds of high-grade U\_3O\_8.** 

### **Project Highlights:**

- Upcoming diamond drilling program is anticipated to include 1,000 to 1,200 metres across 8 to 10 drill holes, aiming to uncover new uranium discoveries following up on 2017 and 2019 exploration.
- Previous drilling campaigns covered 4,630.8 metres across 34 drill holes
- Up to 0.34 wt% U3O8 has been uncovered through previous exploration in the core drill-zone.
- Uranium exploration at Loranger boasts surface rights of approximately 26,408.8 hectares, measuring 57 km by 9 Km.
- Exploration in the Nuhenéné region will progress through a collaborative partnership with the Ya'thi Néné First Nations and local Wollaston residents.
- Appia's Athabasca Basin area properties are located near Cameco's Rabbit Lake uranium mill and Eagle Point mine operations.





### Elliot Lake Uranium & REE Project: Ontario, Canada

#### **Ownership and Size:**

- Appia holds a 100% interest in the Elliot Lake property.
- The property spans approximately 13,008 hectares (32,143 acres).

#### **Strategic Location:**

• Adjacent to Denison Mines Corp. and Rio Algom Limited past-producing uranium and REE mines.

#### **Historical Significance:**

- The Elliot Lake camp has a rich history, having produced over 300 million lbs. of U3O8.
- Unique distinction as the only Canadian mining camp with significant historical commercial rare earth element production (yttrium).

#### **Exploration Potential:**

- Current resources show substantial potential for expansion.
- Resources are largely open along strike and at depth based on historical drilling data.

#### **Metallurgical Testing:**

- · Various process methods employed in metallurgical testing.
- Indications of a high recovery rate, approximately 90% for uranium and most REE falling in the 80% to 90% range.

#### **Geological Features:**

- Uranium and REE metals are hosted within quartz-pebble conglomerate beds.
- These beds are situated in the Matinenda Formation, the basal unit of the Elliot Lake Group.
- The uranium and REE-bearing horizon is characterized as a clean, well-sorted, coarse-pebble conglomerate.



CSE: API OTCQX: APAAF FWB: A010 MUN: A010 BER: A010

### Elliot Lake Uranium & REE Project: Historical Mineral Resource Estimate (Non-Compliant

| The Company holds a large ground p<br>199 | position in Elliot Lake with a<br>million Ibs. of uranium at a g |                          | t) totaling approximately |
|---|--|--------------------------|---------------------------|
| Zone                                      | Quantity<br>(tons)   | Grade<br>(Ibs. U3O8/ton) | Contained<br>U3O8 (Ibs.)  |
| Teasdale Lake                             | 17,458,200   | 1.206                    | 20,787,200                |
| Gemico Block #3                           | 42,800,000   | 0.38                     | 16,264,000                |
| Gemico Block #10                          | 20,700,000   | 0.75                     | 15,525,000                |
| Banana Lake Zone                          | 175,800,000  | 0.76                     | 133,608,000               |
| Canuc Zone                                | 7,000,000  | 1.86                     | 13,020,000                |
| Total                                     | 263,758,200  | 0.76                     | 199,204,200               |

#### Notes

- 1. The historical resource was not estimated in accordance with definitions and practices established for the estimation of Mineral Resources and Mineral Reserves by the Canadian Institute of Mining and Metallurgy ("CIM"), is not compliant with Canada's security rule National Instrument 43-101 ("NI 43-101"), and unreliable for investment decisions.
- 2. Neither Appia nor its Qualified Persons have done sufficient work to classify the historical resource as a current mineral resource under current mineral resource terminology and are not treating the historical resources as current mineral resources
- 3. Most of the historical resources were estimated by mining companies active in the Elliot Lake camp using assumptions, methods and practices that were accepted at the time, and based on corroborative mining experience.



### Elliot Lake Uranium & REE Project: NI 43-101 Mineral Resource Estimate

|                               |                     | Inc                         | licated Resource  |                                  | Inferred Resource   |                             |   |                                  |  |  |  |  |  |  |  |
|-------------------------------|---------------------|-----------------------------|---|----------------------------------|---------------------|-----------------------------|---|----------------------------------|--|--|--|--|--|--|--|
|                               | Tonnage<br>(M Tons) | Average Grade<br>(Ibs./ton) | Contained Metal U <sub>3</sub> O <sub>8</sub><br>(M lbs.) | Contained Metal TREE<br>(M lbs.) | Tonnage<br>(M tons) | Average Grade<br>(lbs./ton) | Contained Metal U <sub>3</sub> O <sub>8</sub><br>(M lbs.) | Contained Metal TREE<br>(M lbs.) |  |  |  |  |  |  |  |
|                               | Teasdale Lake Zone  |                             |   |                                  |                     |                             |   |                                  |  |  |  |  |  |  |  |
| U <sub>3</sub> O <sub>8</sub> | 14.4                | 0.554                       | 8.0   |                                  | 42.4                | 0.474                       | 20.1  |                                  |  |  |  |  |  |  |  |
| TREE                          | 14.4                | 3.30                        |   | 47.7                             | 42.4                | 3.14                        |   | 133.2                            |  |  |  |  |  |  |  |
|                               |                     |                             |   | Banana Lake                      | Zone                |                             |   |                                  |  |  |  |  |  |  |  |
| U <sub>3</sub> O <sub>8</sub> |                     |                             |   |                                  | 30.3                | 0.912                       | 27.6  |                                  |  |  |  |  |  |  |  |
|                               |                     |                             |   | Total for both                   | zones               |                             |   |                                  |  |  |  |  |  |  |  |
| Total                         | 14.4                |                             | 8.0   | 47.7                             | 72.8                |                             | 47.7  | 133.2                            |  |  |  |  |  |  |  |

#### 2013 NI 43-101 Mineral Resource Estimate

The NI 43-101 Indicated Mineral Resource for the Teasdale Lake Zone stands at 14,435,000 tons with a grade of 0.554 lbs U<sub>3</sub>O<sub>8</sub>/ton and 3.30 lbs TREE/ton, resulting in **a total of 7,995,000 lbs U<sub>3</sub>O<sub>8</sub>** and 47,689,000 lbs TREE. In the Inferred Mineral Resource category, the Teasdale Lake Zone comprises 42,447,000 tons, grading 0.474 lbs U3O8/ton and 3.14 lbs TREE/ton, **totaling 20,115,000 lbs U<sub>3</sub>O<sub>8</sub>** and 133,175,000 lbs TREE. Additionally, the Inferred Mineral Resource for the Banana Lake Zone is 30,315,000 tons, with a grade of 0.912 lbs U3O8/ton, resulting in **a total of 27,638,000 lbs U<sub>3</sub>O<sub>8</sub>**. The resources are largely unconstrained along strike and down dip. \*Refer to the NI 43-101 Mineral Resource Estimate page for qualifying notes regarding the Mineral Resource estimates, and individual element grades supporting the reported TREE results.



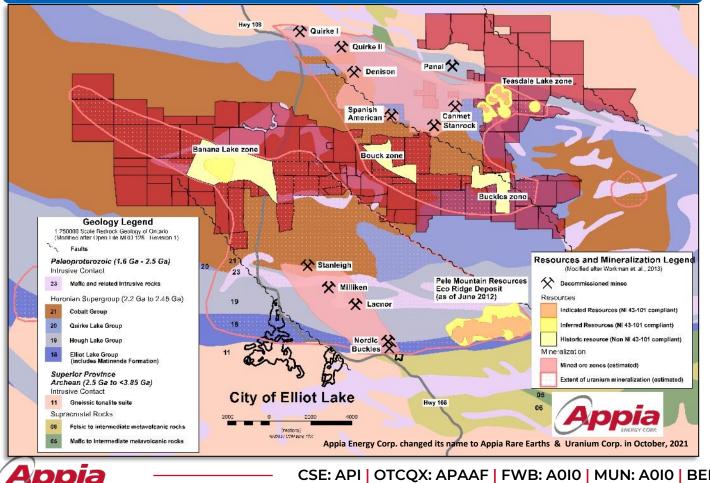
# **Elliot Lake Uranium & REE Projects**

Located in the historic mining camp of Elliott Lake, Ontario, Canada

RARE EARTHS & URANIUM CORP.

The Elliot Lake uranium-REE property comprises a group of 101 staked mineral claims, approximately 3 km north of the town of Elliot Lake.

Strong potential to increase the size of the current resources as they are largely unconstrained along strike and down dip.



2013 drilling program at Elliot Lake

CSE: API OTCQX: APAAF FWB: A0IO MUN: A0IO BER: A0IO



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May 2024

# Appendix A

### Alces Lake TREO Summary Chart (2017-2020 results)

| Zone                     | Slide # | La <sup>2</sup> O <sup>3</sup> wt% | CeO <sup>2</sup> wt% | Pr <sup>6</sup> O <sup>11</sup> wt% | Nd <sup>2</sup> O <sup>3</sup> wt% | Sm <sup>2</sup> O <sup>3</sup> wt% | Eu <sup>2</sup> O <sup>3</sup> wt% | Gd <sup>2</sup> O <sup>3</sup> wt% | Tb⁴O <sup>7</sup> wt% | Dy <sup>2</sup> O <sup>3</sup> wt% | Ho <sup>2</sup> O <sup>3</sup> wt% | Er <sup>2</sup> O <sup>3</sup> wt% | Yb <sup>2</sup> O <sup>3</sup> wt% | Lu <sup>2</sup> O <sup>3</sup> wt% | Y <sup>2</sup> O <sup>3</sup> wt% | ThO <sup>2</sup> wt% | U <sup>3</sup> O <sup>8</sup> wt% | TREO wt%* | CREO wt%** |
|--------------------------|---------|------------------------------------|----------------------|-------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|-----------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|-----------------------------------|----------------------|-----------------------------------|-----------|------------|
| Alces Lake Average       | 5,8     | 3.873                              | 8.203                | 0.896                               | 2.896                              | 0.390                              | 0.005                              | 0.214                              | 0.012                 | 0.037                              | 0.004                              | 0.010                              | 0.001                              | 0.000                              | 0.102                             | 2.069                | 0.057                             | 16.645    | 3.847      |
| Bell                     | 22      | 2.394                              | 5.156                | 0.538                               | 1.647                              | 0.232                              | 0.003                              | 0.137                              | 0.008                 | 0.027                              | 0.003                              | 0.009                              | 0.001                              | 0.000                              | 0.083                             | 1.309                | 0.038                             | 10.239    | 2.223      |
| Charles                  | 22      | 2.250                              | 4.640                | 0.517                               | 1.601                              | 0.216                              | 0.003                              | 0.125                              | 0.007                 | 0.022                              | 0.003                              | 0.007                              | 0.001                              | 0.000                              | 0.066                             | 1.164                | 0.036                             | 9.458     | 2.150      |
| Dante                    | 22      | 3.794                              | 8.310                | 0.868                               | 2.999                              | 0.414                              | 0.005                              | 0.215                              | 0.014                 | 0.036                              | 0.004                              | 0.008                              | 0.001                              | 0.000                              | 0.096                             | 2.209                | 0.056                             | 16.763    | 3.922      |
| Dylan                    | 22      | 7.407                              | 15.841               | 1.719                               | 5.444                              | 0.708                              | 0.010                              | 0.407                              | 0.020                 | 0.066                              | 0.008                              | 0.021                              | 0.001                              | 0.000                              | 0.174                             | 3.842                | 0.100                             | 31.827    | 7.259      |
| Ivan                     | 22      | 5.085                              | 10.961               | 1.211                               | 4.058                              | 0.546                              | 0.007                              | 0.287                              | 0.018                 | 0.050                              | 0.005                              | 0.011                              | 0.001                              | 0.000                              | 0.128                             | 2.804                | 0.073                             | 22.369    | 5.344      |
| Richard                  | 22      | 1.960                              | 4.225                | 0.470                               | 1.618                              | 0.228                              | 0.003                              | 0.104                              | 0.009                 | 0.025                              | 0.003                              | 0.005                              | 0.001                              | 0.000                              | 0.074                             | 1.163                | 0.032                             | 8.725     | 2.124      |
| Wilson                   | 22      | 2.267                              | 4.668                | 0.497                               | 1.535                              | 0.210                              | 0.003                              | 0.121                              | 0.006                 | 0.021                              | 0.002                              | 0.007                              | 0.001                              | 0.000                              | 0.060                             | 1.162                | 0.034                             | 9.398     | 2.062      |
| Ivan (Line 4)            | 16      | 12.343                             | 26.186               | 2.875                               | 9.260                              | 1.171                              | 0.016                              | 0.663                              | 0.033                 | 0.110                              | 0.013                              | 0.035                              | 0.002                              | 0.000                              | 0.302                             | 6.179                | 0.143                             | 53.007    | 12.293     |
| Dylan (Lines 4, 9 to 13) | 16, 18  | 8.000                              | 17.099               | 1.861                               | 5.901                              | 0.760                              | 0.011                              | 0.439                              | 0.022                 | 0.071                              | 0.008                              | 0.023                              | 0.001                              | 0.000                              | 0.183                             | 4.182                | 0.111                             | 34.379    | 7.865      |
| Ermacre                  | n/a     | 0.908                              | 1.965                | 0.239                               | 0.821                              | 0.128                              | 0.001                              | 0.059                              | 0.005                 | 0.017                              | 0.002                              | 0.004                              | 0.002                              | 0.000                              | 0.057                             | 0.506                | 0.012                             | 4.209     | 1.084      |
| Oldman                   | n/a     | 0.262                              | 0.535                | 0.061                               | 0.211                              | 0.029                              | 0.001                              | 0.012                              | 0.001                 | 0.001                              | 0.000                              | 0.000                              | 0.000                              | 0.000                              | 0.003                             | 0.137                | 0.005                             | 1.117     | 0.275      |
|                          |         |                                    |                      |                                     |                                    |                                    |                                    |                                    |                       |                                    |                                    |                                    |                                    |                                    |                                   |                      |                                   |           |            |

| Highlighting Nd grades associated with high-grade Total REOs                  |  | *TREO = Total Rare Earth Oxide =   |
|---|--|--|
| Highlighting Pr grades associated with high-grade Total REOs                  |  | sum of La2O3+CeO2+Pr6O11+Nd2O3+Sm2O3+Eu2O3+Gd2O3+Tb4O7+Dy2O3+Ho2O3+Er2O3+Yb2O3+Lu2O3+Y2O3  |
| Highlighting "High-Grade" Total and Critical REOs (i.e. >1.897 wt% Total REO) |  | **CREO = Critical Rare Earth Oxide = sum of Pr6O11+Nd2O3+Eu2O3+Tb4O7+Dy2O3   |
| Indicates light rare earth elements   |  | Conditions Used for Reporting Composite Summary Average Grades   |
| Indicates heavy rare earth elements   | The Alces Lake Average grad                                  | e was calculated from 302 combined surface channel and diamond drill hole samples with >4 wt% TREO out of a total of 997 samples with >0.1 wt% TREO.   |
| Indicates radioactive elements  | Individual "Zone" and "Line"<br>unique "Zone"/"Line" identif | grades were calculated from the same 302 combined surface channel and diamond drill hole samples with >4 wt% TREO out of a total of 997 samples with >0.1 wt% TREO, but sorted based on<br>ier |



CSE: API | OTCQX: APAAF | FWB: A0I0 | MUN: A0I0 | BER: A0I0

# Appendix **B**

#### Alces Lake Lithogeochemical Results for Drill Hole IV-19-012

| Zone | DDH       | From (m) | To (m) | Interval (m) | La2O3<br>(wt%) | CeO₂<br>(wt%) | Pr6O11<br>(wt%) | Nd2O3<br>(wt%) | Sm₂O₃<br>(wt%) | Eu2O3<br>(wt%) | Gd2O3<br>(wt%) | Tb4O7<br>(wt%) | Dy2O3 (wt%) | Ho2O3<br>(wt%) | Er2O3<br>(wt%) | Yb2O3<br>(wt%) | Lu₂O₃<br>(wt%) | Y2O3<br>(wt%) | ThO₂<br>(wt%) | U₃Oଃ<br>(wt%) | TREO<br>(wt%) | CREO<br>(wt%) |
|------|-----------|----------|--------|--------------|----------------|---------------|-----------------|----------------|----------------|----------------|----------------|----------------|-------------|----------------|----------------|----------------|----------------|---------------|---------------|---------------|---------------|---------------|
| lvan | IV-19-012 | 8.70     | 24.25  | 15.55        | 3.653          | 7.798         | 0.889           | 2.946          | 0.413          | 0.005          | 0.205          | 0.014          | 0.036       | 0.004          | 0.006          | 0.001          | 0.000          | 0.089         | 2.081         | 0.054         | 16.059        | 3.890         |
|      | includes  | 9.70     | 17.60  | 7.90         | 7.130          | 15.219        | 1.735           | 5.748          | 0.805          | 0.010          | 0.400          | 0.027          | 0.071       | 0.007          | 0.012          | 0.002          | 0.000          | 0.173         | 4.058         | 0.105         | 31.339        | 7.591         |
|      | includes  | 9.70     | 13.40  | 3.70         | 11.233         | 23.833        | 2.753           | 8.996          | 1.258          | 0.016          | 0.626          | 0.042          | 0.110       | 0.011          | 0.019          | 0.002          | 0.001          | 0.266         | 6.365         | 0.164         | 49.165        | 11.918        |

#### Elliot Lake's Teasdale Lake Zone REE Resource Summary Chart

| Zone             | Category  | La<br>(ppm) | Ce<br>(ppm) | Pr<br>(ppm) | Nd<br>(ppm) | Sm<br>(ppm) | Eu<br>(ppm) | Gd<br>(ppm) | Tb<br>(ppm) | Dy<br>(ppm) | Ho<br>(ppm) | Er<br>(ppm) | Tm<br>(ppm) | Yb<br>(ppm) | Lu<br>(ppm) | Y<br>(ppm) | TREE<br>(ppm) | CREE<br>(ppm) |
|------------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|---------------|---------------|
| Teasdale<br>Lake | Indicated | 422.0       | 745.0       | 73.8        | 247.0       | 41.1        | 1.7         | 26.2        | 3.2         | 14.3        | 2.3         | 5.8         | 0.8         | 4.6         | 0.7         | 59.4       | 1647.9        | 344.1         |
| Teasdale<br>Lake | Inferred  | 401.0       | 709.0       | 69.9        | 232.0       | 39.0        | 1.6         | 24.6        | 3.0         | 13.5        | 2.1         | 5.5         | 0.7         | 4.4         | 0.6         | 56.5       | 1563.4        | 323.9         |

TREE = Total Rare Earth Elements = sum of La+Ce+Pr+Nd+Sm+Eu+Gd+Tb+Dy+Ho+Er+Tm+Yb+Lu+Y

CREE = Critical Rare Earth Elements = sum of Pr+Nd+Eu+Tb+Dy

Indicates light rare earth elements Indicates heavy rare earth elements

The Teasdale Lake zone Uranium and Rare Earth Element Mineral Resource Estimate is effective as of July 30, 2013

Mineral Resources were prepared from a polygonal model estimated at a cut-off value of \$100/tonne, using a uranium price of US \$70/lb. U308, a combined TREE price of \$78/kg, and a C\$:US\$ exchange rate of 1:0.9

A specific gravity (S.G.) of 2.85 tonnes/m3 (or 3.14 tons/m3) was used

Indicated amounts may not precisely sum due to rounding

The quantity and grade of reported Inferred Resources are uncertain in nature and there has been insufficient exploration to define these as Indicated or Measured Mineral Resources

The Mineral Resources were estimated using the CIM Mineral Resources and Reserves Guidelines (December 11, 2015)



CSE: API OTCQX: APAAF | FWB: A0I0 | MUN: A0I0 | BER: A0I0