



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

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

April 2024

# Forward Looking Statement



**U** <sup>92</sup>  
Uranium  
238.029



**Nd** <sup>60</sup>  
Neodymium  
144.24



**Pr** <sup>59</sup>  
Praseodymium  
140.908



**Dy** <sup>66</sup>  
Dysprosium  
162.50



**Tb** <sup>65</sup>  
Terbium  
158.93

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.

Although Appia has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking statements, there may be other factors that cause results not to be as anticipated, estimated or intended. Anyone reviewing this Site should not place undue reliance on forward-looking statements. While the Company anticipates that subsequent events and developments may cause its views to change, Appia specifically disclaims any obligation to update these forward-looking statements, except as required by law. The factors identified above are not intended to represent a complete list of the factors that could affect the Company.

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, Vice President Exploration and a Qualified Person 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

### *PCH, GOIAS, BRAZIL*

- High-grade critical REE (containing MREE & HREE) hosted in ionic clays
- Rare Earths in ionic clays are generally more easily extractable with lower Opex & Capex costs
- **MRE & NI 43-101 Technical Report completed with SGS**
- *Ongoing exploration & well-developed infrastructure*

## Monazite Rare Earths

### *ALCES LAKE, SASK, CANADA*

- *High-grade monazite prospect on surface and near-surface of up to 80% coarse-grained monazite*
- *World-class critical REE with grades up to 50% TREO plus gallium*
- Most Attractive Mining Jurisdiction in Canada with access to SRC monazite processing facility

## Uranium, Saskatchewan

### *LORANGER, SASK, CANADA*

- *Forthcoming drilling campaign to cover 1,000 - 1,200 metres across 8 to 10 drill holes*
- *Previous drill campaigns covered 4,630.8 metres drilled across 34 holes to date*
- *Spanning 26,408.8 hectares, measuring 57 kilometres by 9 kilometres*

## Uranium, Ontario

### *ELLIOT LAKE, ON, CANADA*

- *Holds an extensive Indicated & Inferred Mineral Resource Estimate (MRE) of over 55 million pounds Uranium*
- *Well-developed infrastructure & 58 Km from Cameco's uranium refining facility near Blind River, ON*
- *Spanning 13,008 hectares (32,143 acres)*



# 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

The Company recently released its NI 43-101 Technical Report on PCH in support of its maiden Mineral Resource Estimate on Target IV and Buriti Zones prepared in collaboration with SGS Geological Services.

Appia will continue to provide timely updates to investors as assay results are received from both PCH (Brazil) & Alces Lake (Canada) from completed 2023 drill programs.

Exploration campaigns continue on PCH, Alces Lake, and 4 uranium exploration projects.

## Uranium Market Discussion

*"I would say that even though the price has broken out to \$100, we still think that there's a lot of opportunity here because we look at the supply deficit that the industry needs to solve. Whether you take the base case or the more aggressive scenario, it's somewhere in the neighborhood of 1.5 billion to 2.3 billion pounds of uncovered requirements that utilities have between now and 2040. The only way you solve, that is you need to basically double production globally between now and 2040..." ~ John Ciampaglia, CEO of Sprott Asset Management*  
Full article [HERE](#).

## Capital Structure

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

### Issued:

136.4M shares  
(Insiders approx. 27 %)

### Fully Diluted:

144.5M shares

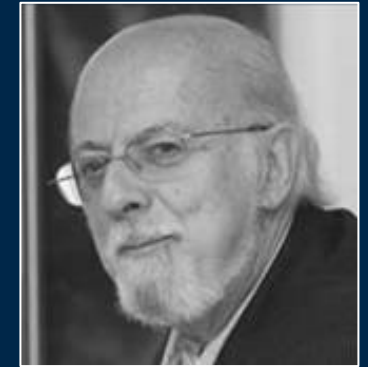
**Cash on Hand:** Approx.  
CAD \$2.0 M

**Debt:** None



# Executive Leadership & Advisors

Appia's Management and Board has over 250 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.

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

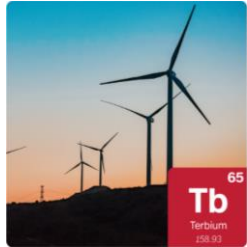
40+ years' experience as a consulting geologist and QP, with highly advanced Industrial Minerals and Ionic Adsorption Clay expertise.

Jack Lifton

## SR. TECHNICAL ADVISOR

Consultant, author, and lecturer on the market fundamentals of technology metals.

# Critical Minerals: Rare Earths and Uranium



## Uranium & 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



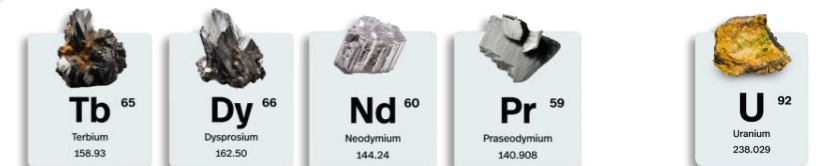
## Rare Earth Elements

- 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, reaching **\$9.6 billion by 2027 at a CAGR of 7.1%**. Read more [HERE](#).



## 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



# Our Projects

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

## Canada

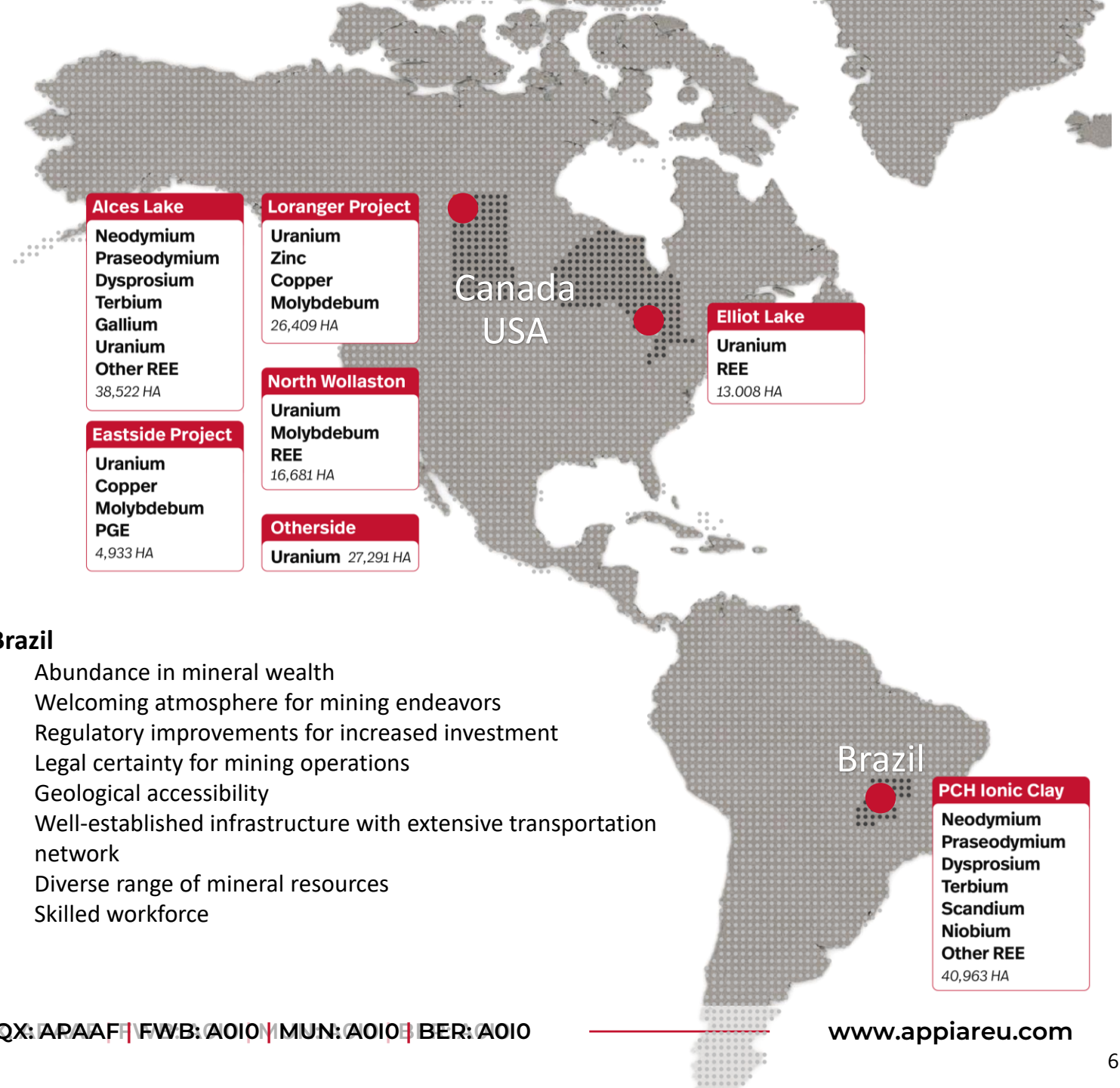
- Renowned for political stability and robust legal framework
- Beacon of security for mining investments
- Rich endowment of mineral resources
- Well-established mining industry
- Secure environment safeguarding investor interests
- Geological diversity for vast resource exploration
- Experienced mining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

## Company's Projects in Canada

- 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

- Large REE Ionic Adsorption Clay project



## Brazil

- Abundance in mineral wealth
- Welcoming atmosphere for mining endeavors
- Regulatory improvements for increased investment
- Legal certainty for mining operations
- Geological accessibility
- Well-established infrastructure with extensive transportation network
- Diverse range of mineral resources
- Skilled workforce



# PCH Project, Goiás, Brazil

## Highlights:

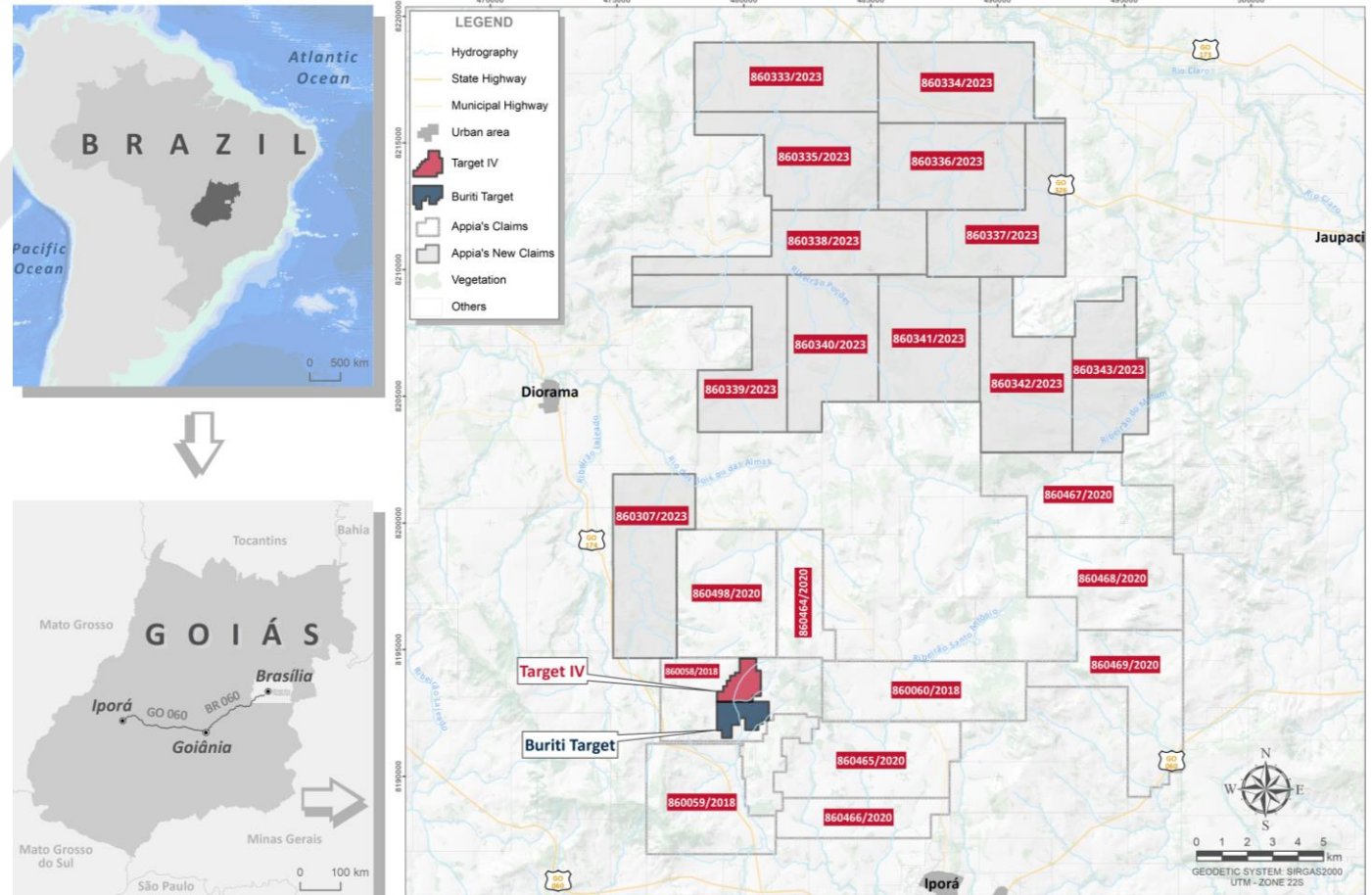
- 40,963 hectares in Tocantins Structural Province, Brasília Fold Belt, Goiás, Brazil.
- Characterized by high-grade REE mineralization from surface and open at depth with low radioactivity
- Soft clay formations facilitate easy access to discovering mineralization zones through RC, Auger, and Diamond drilling campaigns.
- Unprecedented TREO assay results returned within Target IV zone.
- Mining-friendly jurisdiction with well-developed infrastructure and substantial government support 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, cobalt, & niobium
  - Experienced Brazilian team including renowned QP Geologist, **Don Hains**.
  - 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 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

# PCH Mineral Resource Estimate (MRE) Project:

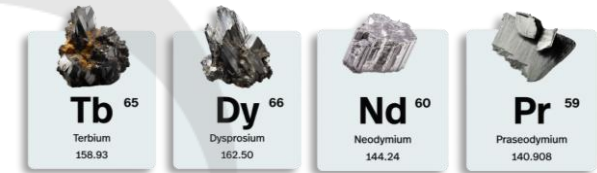
Mineralized Zone	Classification	Volume	SG	Tonnes	TREO	MREO	HREO	Sm <sub>2</sub> O <sub>3</sub>	Tb <sub>4</sub> O <sub>7</sub>	Dy <sub>2</sub> O <sub>3</sub>	Pr <sub>6</sub> O <sub>11</sub>	Nd <sub>2</sub> O <sub>3</sub>	Sc <sub>2</sub> O <sub>3</sub>	Co
		Mm <sup>3</sup>		Mt	ppm	ppm	ppm	ppm	ppm	ppm	ppm	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
	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
<b>TOTAL</b>	<b>Indicated</b>	<b>3.3</b>	<b>1.97</b>	<b>6.6</b>	<b>2513</b>	<b>562</b>	<b>186</b>	<b>58.3</b>	<b>5.8</b>	<b>31.1</b>	<b>109</b>	<b>358</b>	<b>15.9</b>	<b>22</b>
	<b>Inferred</b>	<b>23.6</b>	<b>1.96</b>	<b>46.2</b>	<b>2888</b>	<b>591</b>	<b>168</b>	<b>54.0</b>	<b>5.0</b>	<b>27.0</b>	<b>123</b>	<b>381</b>	<b>55.7</b>	<b>111</b>

- 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 Whittle™ software was used to provide an optimized pit envelope to demonstrate reasonable prospecting 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 = Y<sub>2</sub>O<sub>3</sub> + Eu<sub>2</sub>O<sub>3</sub> + Gd<sub>2</sub>O<sub>3</sub> + Tb<sub>2</sub>O<sub>3</sub> + Dy<sub>2</sub>O<sub>3</sub> + Ho<sub>2</sub>O<sub>3</sub> + Er<sub>2</sub>O<sub>3</sub> + Tm<sub>2</sub>O<sub>3</sub> + Yb<sub>2</sub>O<sub>3</sub> + Lu<sub>2</sub>O<sub>3</sub> + La<sub>2</sub>O<sub>3</sub> + Ce<sub>2</sub>O<sub>3</sub> + Pr<sub>2</sub>O<sub>3</sub> + Nd<sub>2</sub>O<sub>3</sub> + Sm<sub>2</sub>O<sub>3</sub>
- Magnetic Rare Earth Oxides: MREO = 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<sub>2</sub>O<sub>3</sub>
- Heavy Rare Earth Oxides: HREO = Sm<sub>2</sub>O<sub>3</sub> + Eu<sub>2</sub>O<sub>3</sub> + Gd<sub>2</sub>O<sub>3</sub> + Tb<sub>4</sub>O<sub>7</sub> + Dy<sub>2</sub>O<sub>3</sub> + Ho<sub>2</sub>O<sub>3</sub> + Er<sub>2</sub>O<sub>3</sub> + Tm<sub>2</sub>O<sub>3</sub> + Yb<sub>2</sub>O<sub>3</sub> + Lu<sub>2</sub>O<sub>3</sub>
- The MRE may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.



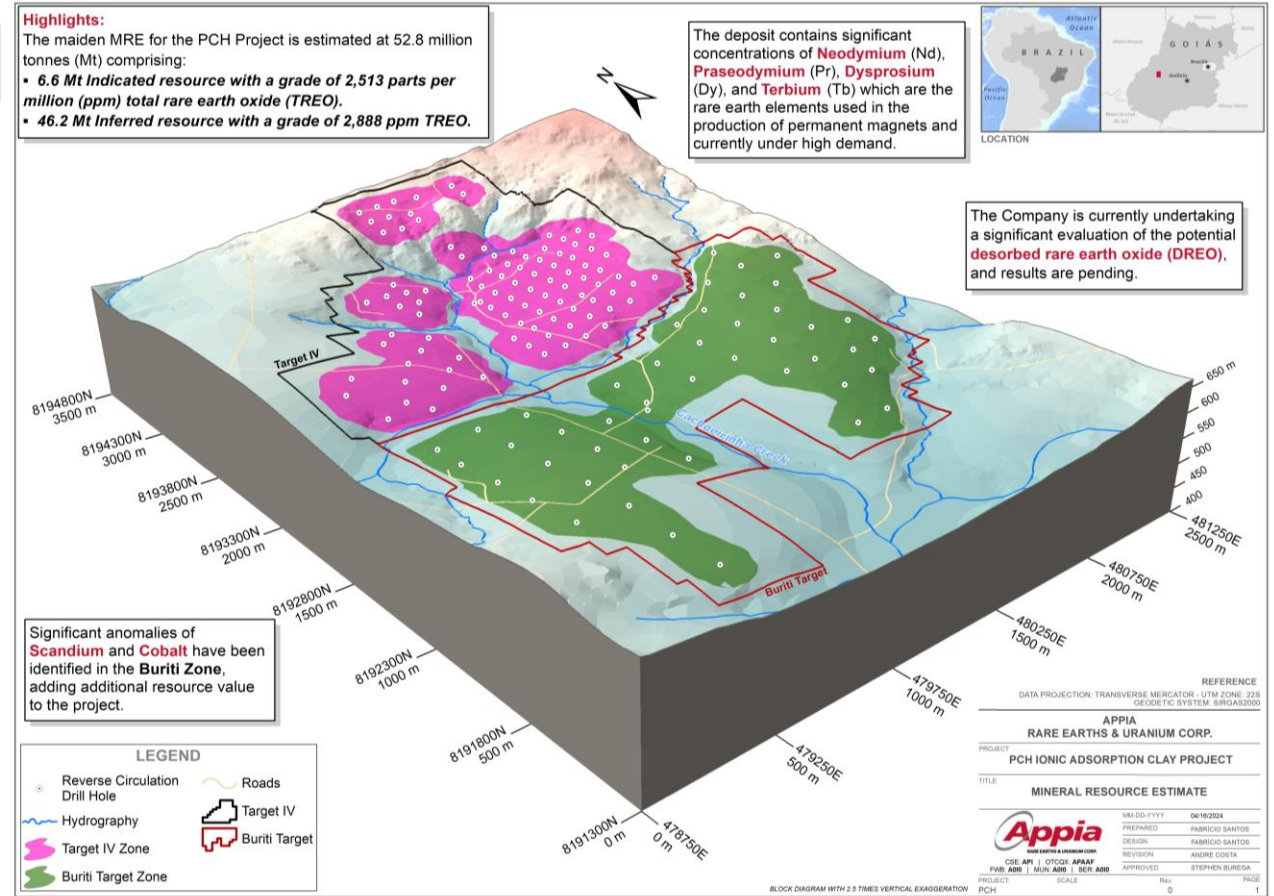
# Target IV and Buriti Zone: MRE Highlights

## Magnet Rare Earths (MREO)



### 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.
- The Company is currently undertaking a significant evaluation of the potential desorbed rare earth oxide (DREO), and results are pending.
- Significant anomalies of Scandium and Cobalt have been identified in the Buriti Zone, adding additional potential resource value to the project.



# PCH REE IAC Project: Overview

**Earn-in Agreement:** Appia has the option to earn up to 70% of the PCH project within 5 years

**Technical Reports:** NI 43-101 & MRE completed in partnership with SGS

**Community Support:** Supported by surrounding landowners and community.

**Team:** Strong and experienced local Brazilian technical and support team including renowned QP Geologist, **Don Hains**.

**Geology:** 40,963 hectares in Tocantins Structural Province, Brasília Fold Belt, Goiás, Brazil.

South from Serra Verde project (currently in production of REE as of Q1, 2024, with an expected 900 million tonnes reserves at 1200 ppm TREO).

**Project Overview:** Announced November 28, 2023, Appia discovered an unprecedented high-grade mineralized zone demonstrating a total weighted average grade Of 7,578 ppm or 0.76% TREO across 10 reverse circulation drill holes. This further delineation of the SW Extension Zone uncovered the significant high-grade REE mineralized zone located in the Southwest (SW) corner of the Target IV zone. This discovery spans an area of over 1,000 metres by 500 metres, with an average depth of approximately 19 metres.

## Exploration Milestones

**Target IV:** maiden Mineral Resource Estimate (MRE) underway.

Ionic Adsorption Clay REE

Drill Hole PCH RC-063: Mineralization from 0-24 metres & open at depth

- Total Weighted Average of 38,655 ppm or 3.87% TREO, 6,869 ppm or 0.69% MREO, 1,380 ppm or 0.14% HREO, and 37,275 ppm or 3.28% LREO.

Highest-Grade Intercepts:

- 92,758 ppm or 9.28% TREO across 2m (from 10m to 12m ) with 13,798 ppm or 1.38% MREO; 2,241 ppm or 0.22% HREO; and 90,516 ppm or 9.05% LREO.

**Buriti Zone:**

Scandium, Cobalt & REE

Drill Hole PCH RC-116: Mineralization from 0-24 metres & open at depth

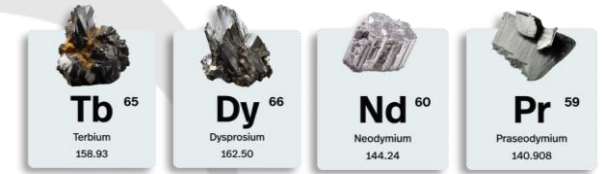
- Total Weighted Average of 128 ppm or 0.013% Sc<sub>2</sub>O<sub>3</sub>, 272 ppm or 0.027% CoO, and 2,106 ppm or 0.21% of TREO.

Highest-Grade Intercepts:

- 133 ppm or 0.013% Sc<sub>2</sub>O<sub>3</sub>, 359 ppm or 0.036% CoO, and 2,461 ppm or 0.24% TREO across 15 m (from 4-19 m),
  - Including, 183 ppm or 0.018% Sc<sub>2</sub>O<sub>3</sub>, 414 ppm or 0.041% CoO, and 2,401 ppm or 0.24% TREO across 6 m (from 10-16 m).

# Target IV Zone: Exploration

## Magnet Rare Earths (MREO)



Target IV encompasses 193.28 hectares within claim number 860058/2018, which encompasses 1,874.6 hectares. This is one of 22 claims at PCH.

### Reverse Circulation (RC) Drill Program

- 147 vertical holes
- Total of 2,019 Metres
- Average 13.7 Metres per hole

### Diamond Drill Program

- One drill hole 243.5m

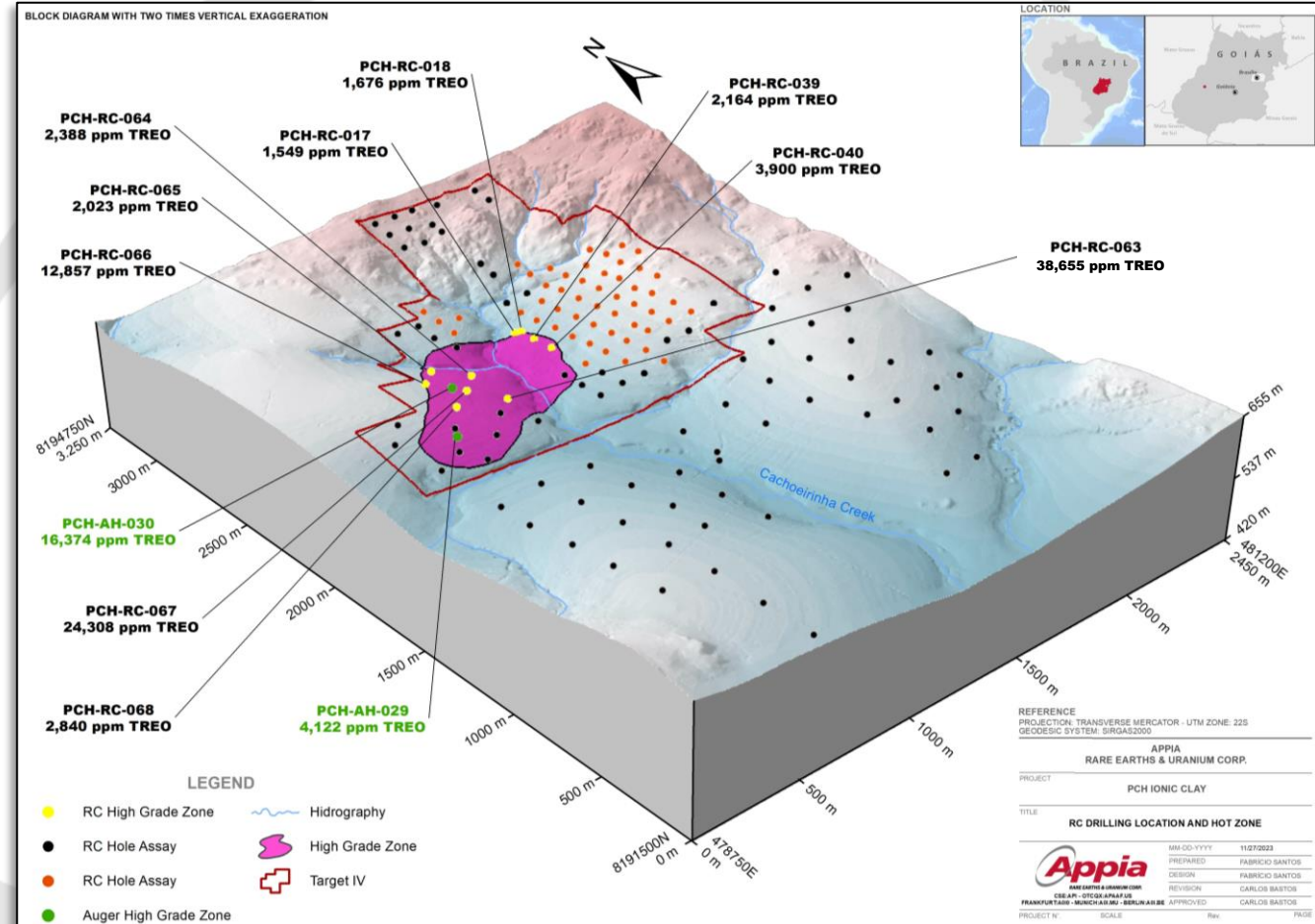
### Auger Exploration Program

- 84 auger holes
- Total of 585 Metres
- Average 8-10 Metres per hole

### QA/QC

- Sample lengths are 1.0 metre
- QA/QC: implemented control samples: BLK, DUP, and CRM

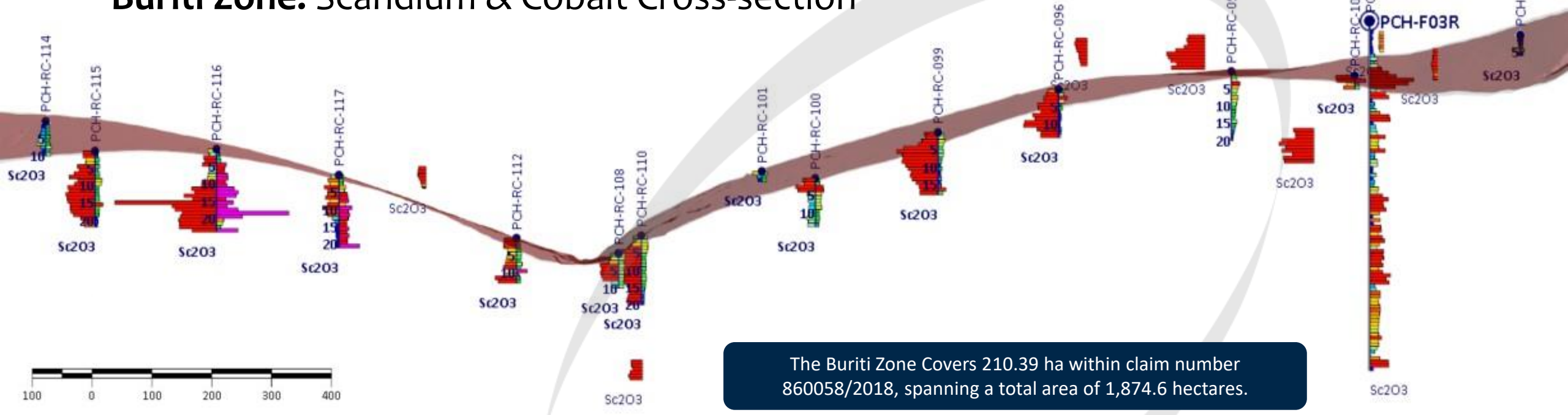
NI 43-101 on PCH & MRE on Target IV are currently under development in partnership with SGS.



\*Map of RC and Auger drilling locations at the high-grade SW extension zone of Target IV.



# Buriti Zone: Scandium & Cobalt Cross-section

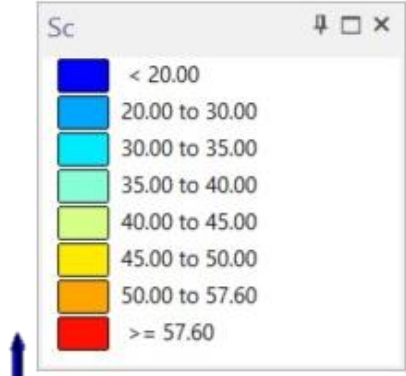


The Buriti Zone Covers 210.39 ha within claim number 860058/2018, spanning a total area of 1,874.6 hectares.

The cross-section spans 2,000 metres, with an envelope of 50 metres on each side (100 metres wide). It includes 10 Reverse Circulation (RC) holes and 6 historic auger holes.





The RC holes, with an average depth of 16 metres, show continued mineralization from the surface, mostly ending with over 57 ppm Sc2O3 and averaging 85 ppm Sc2O3, 176 ppm CoO, 3.17% TiO2, 0.014% Nb2O5, and 0.50% P2O5.

The historic auger holes, averaging a depth of over 8 metres, exhibit an average of 181 ppm Sc2O3, 119 ppm CoO, 4.22% TiO2, 0.031% Nb2O5, and 0.43% P2O5.



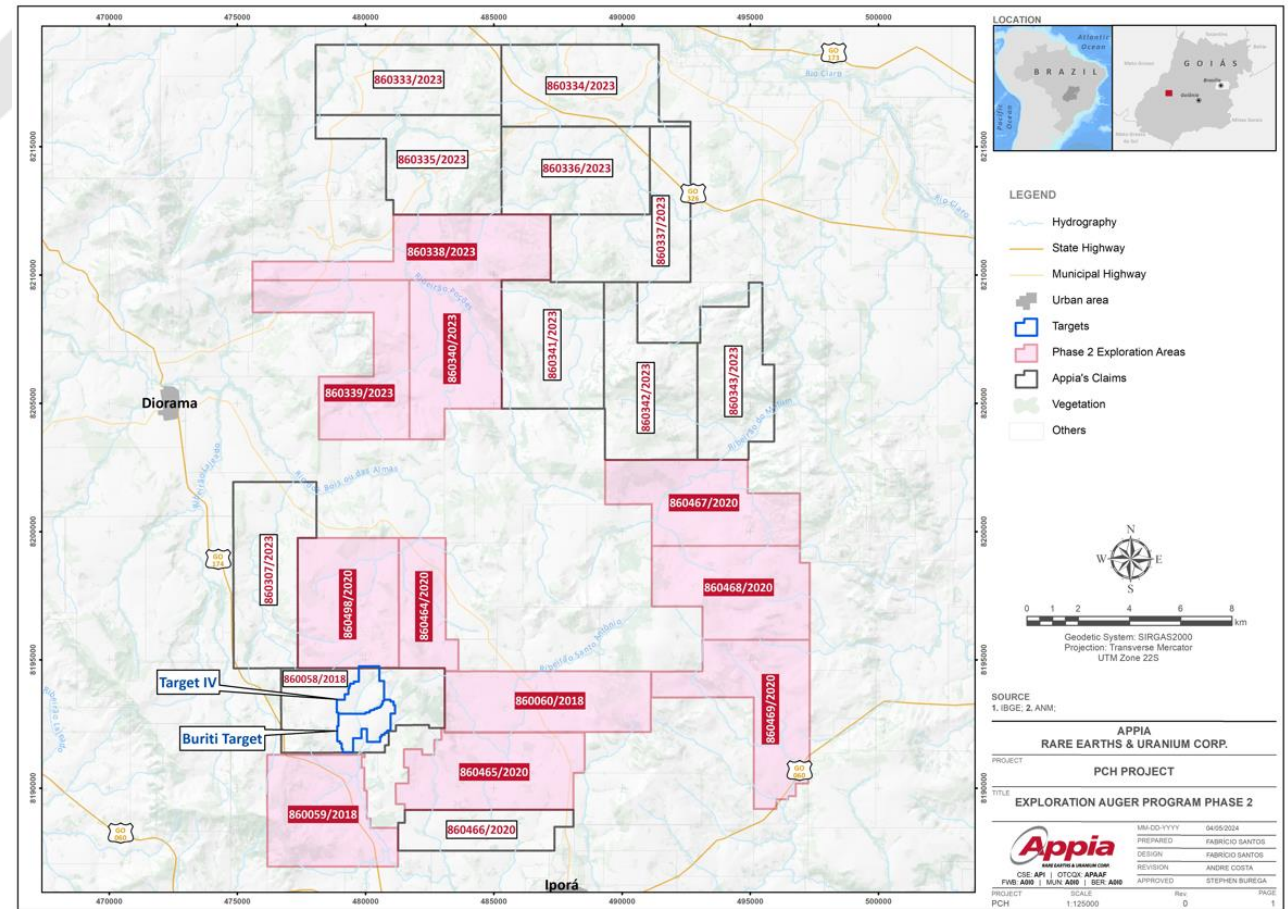
# Phase II Exploration: Auger Drilling New Targets

Magnet Rare Earths (MREO)

 <b>Tb</b> <sup>65</sup> Terbium 158.93	 <b>Dy</b> <sup>66</sup> Dysprosium 162.50	 <b>Nd</b> <sup>60</sup> Neodymium 144.24	 <b>Pr</b> <sup>59</sup> Praseodymium 140.908
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The IAC style of mineralization is related to the Ipora Granite and the next phase exploratory auger drilling has started across 11 claim blocks.

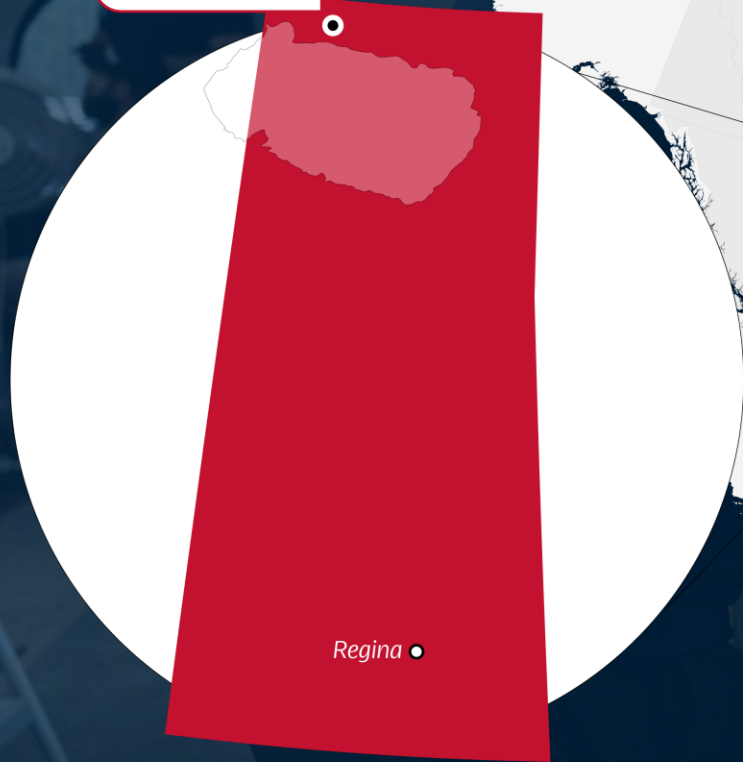
- A similar geological formation;
- Similar weathering profile development with well-developed transition zone between Pedolith and Saprolite where the Ionic Adsorption Clays occur; and
- Positive showing of the related gamma spectrometric geophysical response.





# Alces Lake Project, Saskatchewan, Canada *Geology: Pegmatites*

Alces Lake



Canada

Saskatchewan

USA

Mexico

Regina

- 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.



# Alces Lake REE Project: Current Exploration

## Resource Characteristics:

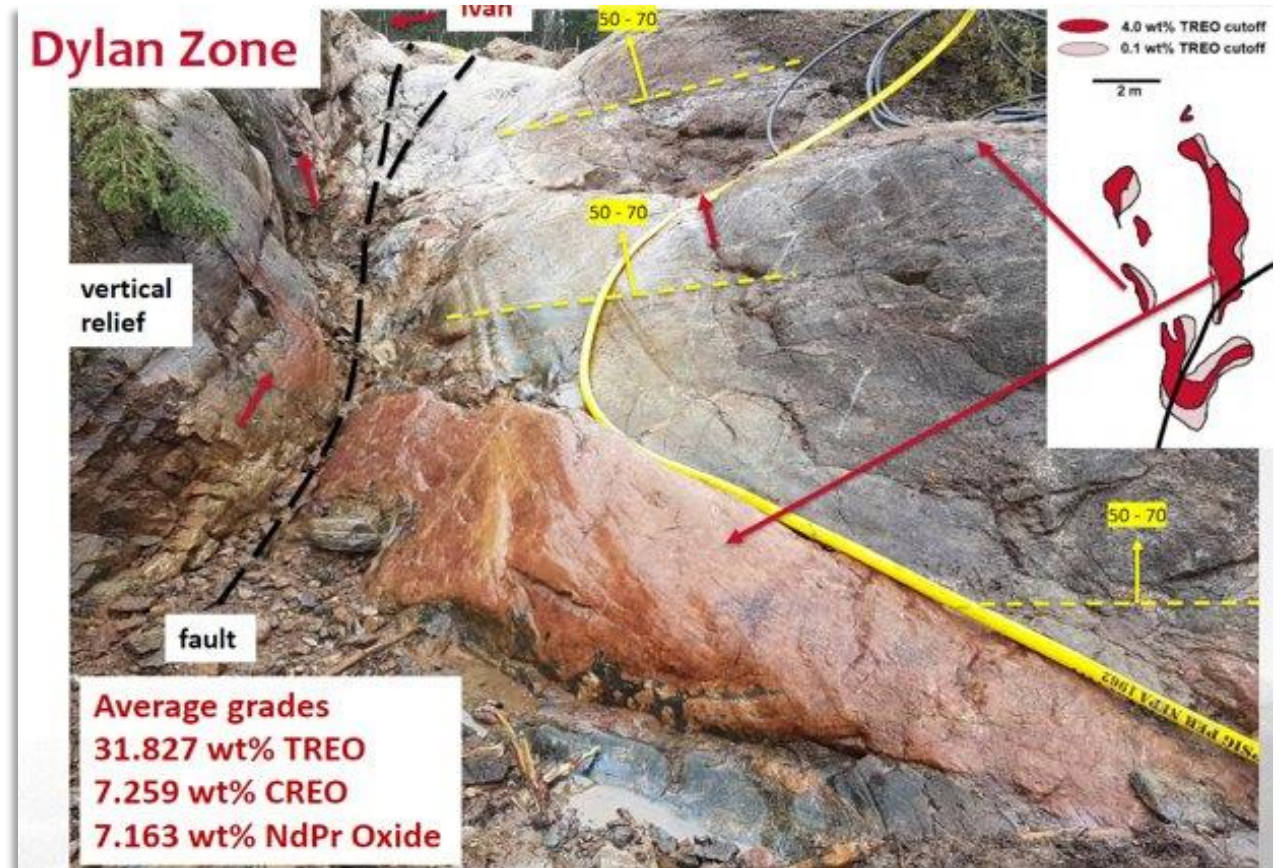
- World-class critical REE with grades up to 50% Total Rare Earths Oxide (TREO) plus gallium.
- Extensive high-grade monazite mineralization.
- Surface and near-surface showings/prospects of up to 80% coarse-grained monazite.
- Simple mineralogy - metallurgical testing confirms processing potential similar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

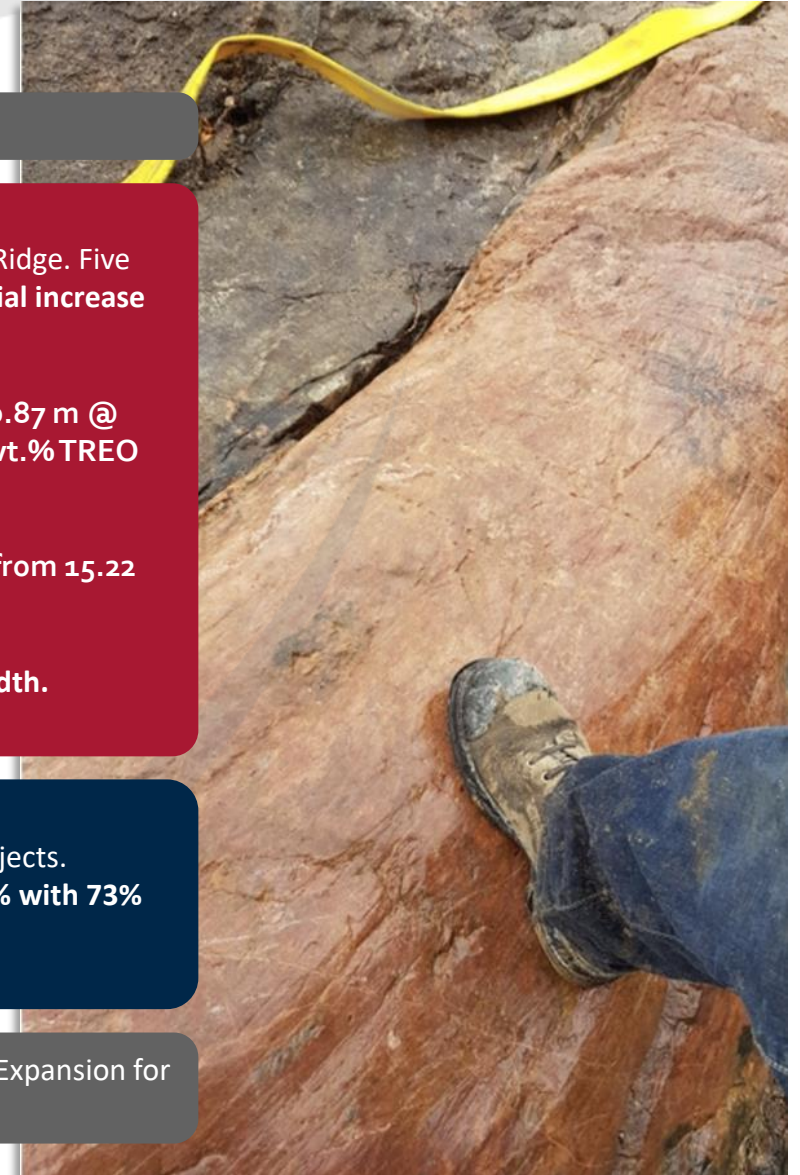
**2022** - Diamond drill results: 17,481 Metres of diamond drilling reported 8.98m @ 9.46 wt.% TREO including 0.87 m @ 17.1 wt.% TREO in hole 22-WRC-024 at Wilson Zone & 12.13 m @ 0.33 wt.% TREO including 5.7 m @ 0.55 wt.% TREO from hole 22-WRC-016 at AMP Zone in a structural corridor.

**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**





# 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

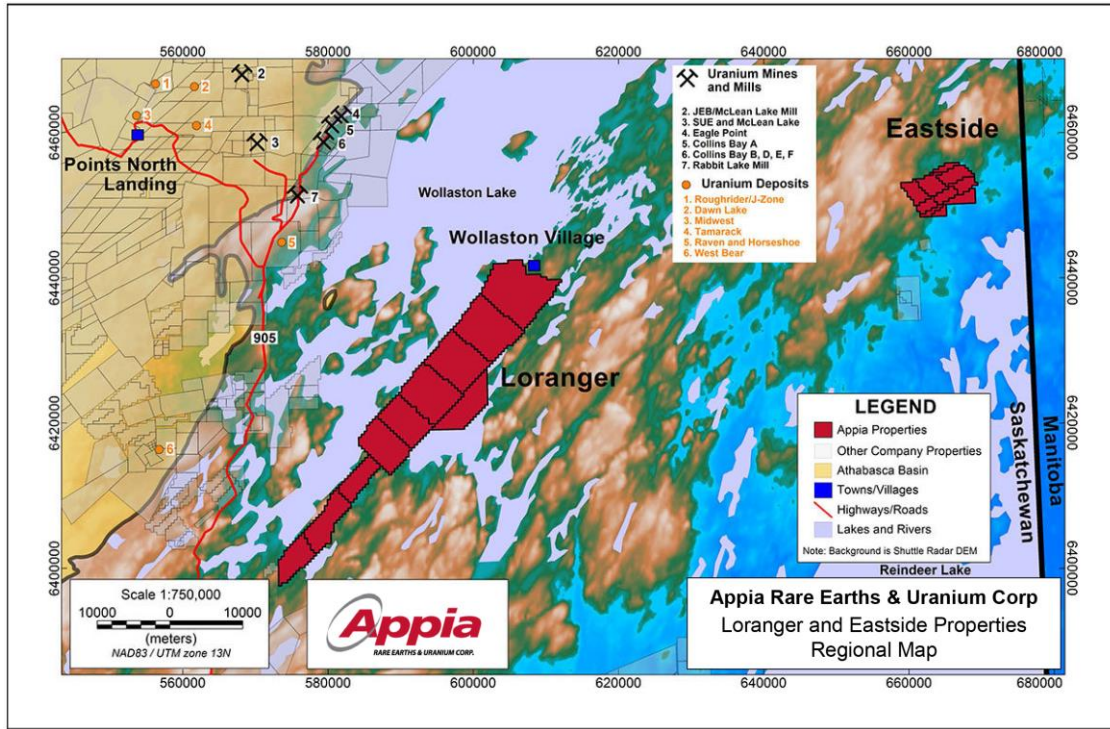
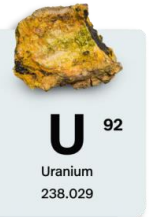


# Loranger Project, Saskatchewan, Canada





# Loranger 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<sub>3</sub>O<sub>8</sub>**.

- ### 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% U<sub>3</sub>O<sub>8</sub> 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.

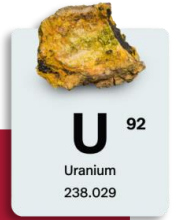


# Elliot Lake, Ontario, Canada





# 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 U<sub>3</sub>O<sub>8</sub>.
- 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.

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

Indicated Resource				Inferred Resource				
	Tonnage (M Tons)	Average Grade (lbs./ton)	Contained Metal U <sub>3</sub> O <sub>8</sub> (M lbs.)	Contained Metal TREE (M lbs.)	Tonnage (M tons)	Average Grade (lbs./ton)	Contained Metal U <sub>3</sub> O <sub>8</sub> (M lbs.)	Contained Metal TREE (M lbs.)
<b>Teasdale Lake Zone</b>								
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
<b>Banana Lake Zone</b>								
U <sub>3</sub> O <sub>8</sub>					30.3	0.912	27.6	
<b>Total for both zones</b>								
Total	14.4		8.0	47.7	72.8		47.7	133.2

## 2013 NI 43-101 Mineral Resource Estimate (Compliant)

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 U<sub>3</sub>O<sub>8</sub>/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 U<sub>3</sub>O<sub>8</sub>/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.

The Company holds a large ground position in Elliot Lake with a historical resource (non-compliant) totaling approximately 199 million lbs. of uranium at a grade of 0.76 lbs. U<sub>3</sub>O<sub>8</sub>/ton.

Zone	Quantity (tons)	Grade (lbs. U <sub>3</sub> O <sub>8</sub> /ton)	Contained U <sub>3</sub> O <sub>8</sub> (lbs.)
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
<b>Total</b>	<b>263,758,200</b>	<b>0.76</b>	<b>199,204,200</b>

## Notes

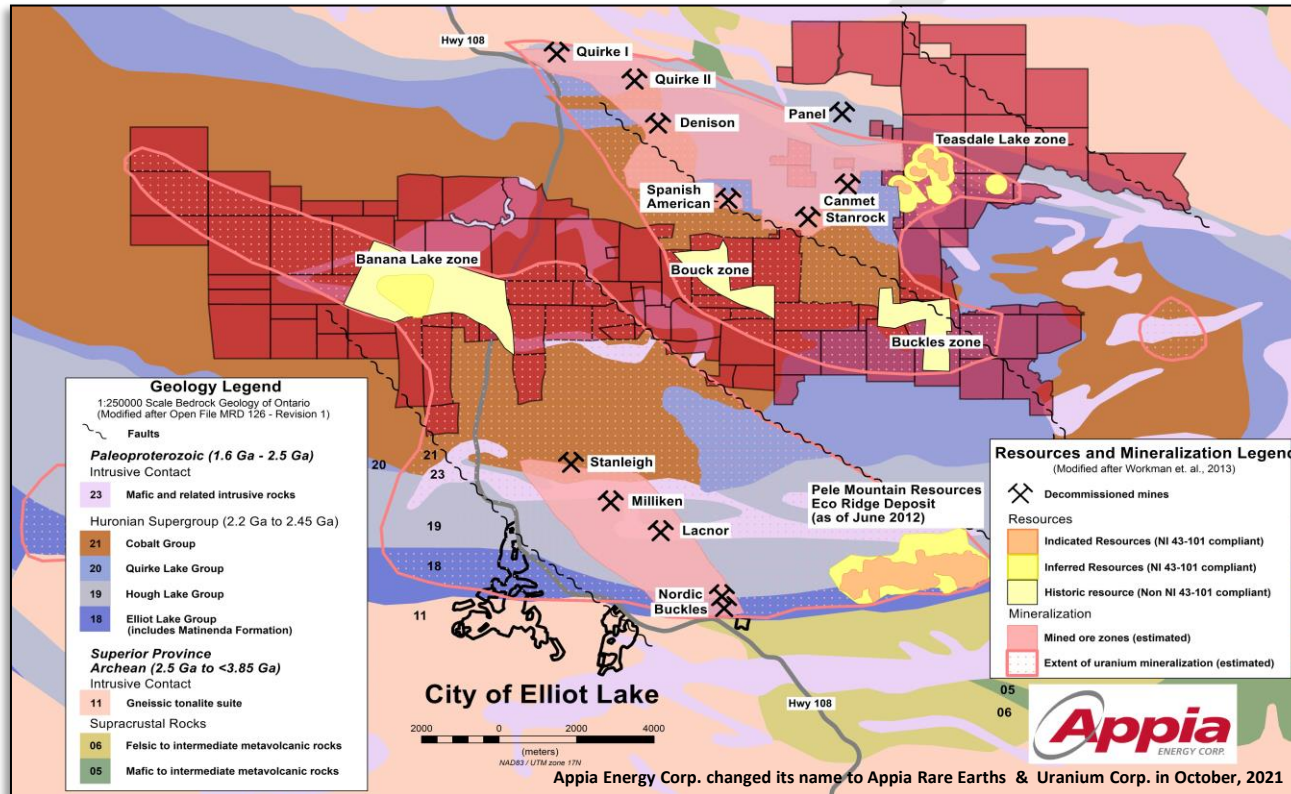
1. The historical resource was not estimated in accordance with definitions and practices established for the estimation of Mineral Resources and Mineral Reserves by the Canadian Institute of Mining and Metallurgy ("CIM"), is not compliant with Canada's security rule National Instrument 43-101 ("NI 43-101"), 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 Projects

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

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.



**U**<sup>92</sup>  
 Uranium  
 238.029



# Appendix A

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

Zone	Slide #	La <sub>2</sub> O <sub>3</sub> wt%	CeO <sub>2</sub> wt%	Pr <sub>6</sub> O <sub>11</sub> wt%	Nd <sub>2</sub> O <sub>3</sub> wt%	Sm <sub>2</sub> O <sub>3</sub> wt%	Eu <sub>2</sub> O <sub>3</sub> wt%	Gd <sub>2</sub> O <sub>3</sub> wt%	Tb <sub>4</sub> O <sub>7</sub> wt%	Dy <sub>2</sub> O <sub>3</sub> wt%	Ho <sub>2</sub> O <sub>3</sub> wt%	Er <sub>2</sub> O <sub>3</sub> wt%	Yb <sub>2</sub> O <sub>3</sub> wt%	Lu <sub>2</sub> O <sub>3</sub> wt%	Y <sub>2</sub> O <sub>3</sub> wt%	ThO <sub>2</sub> wt%	U <sub>3</sub> O <sub>8</sub> 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
- Highlighting Pr grades associated with high-grade Total REOs
- Highlighting "High-Grade" Total and Critical REOs (i.e. >1.897 wt% Total REO)
- Indicates light rare earth elements
- Indicates heavy rare earth elements
- Indicates radioactive elements

\*TREO = Total Rare Earth Oxide =  
 $\text{sum of La}_2\text{O}_3 + \text{CeO}_2 + \text{Pr}_6\text{O}_{11} + \text{Nd}_2\text{O}_3 + \text{Sm}_2\text{O}_3 + \text{Eu}_2\text{O}_3 + \text{Gd}_2\text{O}_3 + \text{Tb}_4\text{O}_7 + \text{Dy}_2\text{O}_3 + \text{Ho}_2\text{O}_3 + \text{Er}_2\text{O}_3 + \text{Yb}_2\text{O}_3 + \text{Lu}_2\text{O}_3 + \text{Y}_2\text{O}_3$

\*\*CREO = Critical Rare Earth Oxide =  $\text{sum of Pr}_6\text{O}_{11} + \text{Nd}_2\text{O}_3 + \text{Eu}_2\text{O}_3 + \text{Tb}_4\text{O}_7 + \text{Dy}_2\text{O}_3$

Conditions Used for Reporting Composite Summary Average Grades

The Alces Lake Average grade 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.

Individual "Zone" and "Line" 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 unique "Zone"/"Line" identifier

# Appendix B

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



Zone	DDH	From (m)	To (m)	Interval (m)	La <sub>2</sub> O <sub>3</sub> (wt%)	CeO <sub>2</sub> (wt%)	Pr <sub>6</sub> O <sub>11</sub> (wt%)	Nd <sub>2</sub> O <sub>3</sub> (wt%)	Sm <sub>2</sub> O <sub>3</sub> (wt%)	Eu <sub>2</sub> O <sub>3</sub> (wt%)	Gd <sub>2</sub> O <sub>3</sub> (wt%)	Tb <sub>4</sub> O <sub>7</sub> (wt%)	Dy <sub>2</sub> O <sub>3</sub> (wt%)	Ho <sub>2</sub> O <sub>3</sub> (wt%)	Er <sub>2</sub> O <sub>3</sub> (wt%)	Yb <sub>2</sub> O <sub>3</sub> (wt%)	Lu <sub>2</sub> O <sub>3</sub> (wt%)	Y <sub>2</sub> O <sub>3</sub> (wt%)	ThO <sub>2</sub> (wt%)	U <sub>3</sub> O <sub>8</sub> (wt%)	TREO (wt%)	CREO (wt%)
Ivan	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 (ppm)	Ce (ppm)	Pr (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Gd (ppm)	Tb (ppm)	Dy (ppm)	Ho (ppm)	Er (ppm)	Tm (ppm)	Yb (ppm)	Lu (ppm)	Y (ppm)	TREE (ppm)	CREE (ppm)
Teasdale 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 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. U3O8, 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: A010 | MUN: A010 | BER: A010**

***CONTACT:***

Suite 500 - 2 Toronto St.  
Toronto, ON, Canada  
M5C 2B6

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Tom Drivas, CEO  
Email: [tdrivas@appiareu.com](mailto:tdrivas@appiareu.com)  
Cell: +1 (416) 876-3957

Stephen Burega, President  
Email: [sburega@appiareu.com](mailto:sburega@appiareu.com)  
Cell: +1 (647) 515-3734

PDAC March 2024