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RARE EARTHS & URANIUM CORP.

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Corporate Presentation

Critical Rare Earths and **Uranium** Discoveries in the Americas

CSE: API | OTCOX: APAAF | FRA: AOIO

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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.

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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, Vice President Exploration and a Qualified Person as defined by National Instrument 43-101.



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Capital Structure

(at June 5, 2023)

- Issued: 130.5 million shares (Insiders approx. 27 %)
- Fully Diluted: 143.5 million shares
- 52 Week Range: \$0.15 \$0.55 CAD
- Share Price: \$0.18 CAD
- Market Capitalization: \$21.9 million CAD
- Cash on Hand: Approx. \$6.8 million CAD
- Debt: None
- Symbols: CSE: API || OTCQX: APAAF || FRA: A010





Why Appia?

- Four in-demand rare earths and uranium projects in mining-friendly jurisdictions:
 - Alces Lake Project in Saskatchewan's Athabasca Basin is the highestgrade critical rare earths - Neodymium (Nd), Praseodymium (Pr), Dysprosium (Dy) and Terbium (Tb) - and gallium prospect in North America and one of the highest-grade rare earth prospects in the world.
 - **THE PCH Project** located in Goiás State, Brazil, under acquisition. Recent geochemical exploration work carried out to date indicates the potential for REEs and Niobium in lateritic ionic adsorption clays.
 - Elliot Lake Property, in Ontario's historic mining camp, with a large NI 43-101 Uranium and Rare Earths resource.
 - Loranger Project is located on the southeastern shores of Wollaston Lake, northern Saskatchewan. Cameco's Rabbit Lake uranium mill and Eagle Point mine operations are approximately 28 km to the northwest.
- Experienced management.
- Almost \$7 million in cash with no debt.





Management Team and Advisors

Anastasios (Tom) Drivas - CEO & Director

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

Stephen Burega - President

Stephen brings 16 years of management and operations experience in the international mining and natural resources sectors

Dr. Irvine R. Annesley, Ph.D, P.Geo. - Vice President Exploration & Qualified Person

Over 35 years experience in Global Exploration and Applied Research, principally in uranium, REEs, thorium, and gold.

Frank van de Water, B.Com, CPA, CA - CFO, Secretary & Director

Involved in international mining, metals and resource companies in North and Latin America, Europe and Africa for over 40 years.

Dr. John Belhumeur, Ph.D - Senior Advisor, First Nations, Métis & Government Relations

Spent over 30 years as a consultant for Aboriginal affairs with regard to project development in the resource industry.

Don Hains, P. Geo – Senior Technical Advisor

Consulting Industrial Minerals Expert

Jack Lifton – Senior Technical Advisor

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







Project Locations - Northern Saskatchewan



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Alces Lake Project

- Located in Saskatchewan's prolific Athabasca Basin: the "Most Attractive Jurisdiction in Canada"
- World-class Total and Critical REO grades plus gallium
- Enriched with Critical REEs (Nd, Pr, Dy, Tb) used for permanent magnets
- Extensive high-grade monazite mineralization
- Surface and near-surface showings/prospects of coarse-grained monazite found intermittently over 27 sq km
- Multiple zones of REE discoveries along geological strike, on sub-parallel trends and with sub-surface zones open in all directions
- Simple mineralogy metallurgical testing confirms processing potential, similar to other producing mines
- Access to new REE processing facility in Saskatoon, Saskatchewan



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Dylan Zone

vertical relief

4.0 wt% TREO cutoff 0.1 wt% TREO cutoff

2 m

Average grades 31.827 wt% TRE

31.827 wt% TREO 7.259 wt% CREO 7.163 wt% NdPr Oxide



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2023 Exploration Plans

- 2023 exploration and drilling program now underway focused on determining high priority drill targets along the mineralized structural corridor trending SSE from the Magnet Ridge for 20+ kms
- Summer exploration began May 25th, 2023
- Property-scale exploration program
 - Regional shear zone
 - Regional fold
 - Detailed mapping of previously discovered zones



2023 Exploration Plans

- + 5,000 m drilling
- Shallow, 100 m 200m holes to test regional shear zone, regional fold, and Western Anomaly viability
- Completion of Airborne Mag-Spec-Gravity survey (TBD)



2023 Exploration Program at Alces Lake

- Fully funded program with mobilization in early June, 2023.
- Highly focused on determining high priority drill targets along the mineralized structural corridor leading South-Southeast from the Magnet Ridge for 20+ kms.
- Targets chosen based on radiometric signature, followed-up by extensive groundtruthing with spectrometers and handheld XRF unit to guide drill campaign along the continuity of mineralization controlled by the structural corridor.
- Goal is to identify additional high-grade REE mineralization as well as near surface bulk tonnage variable-grade mineralization with the potential to increase total volume/tonnage on the property.
- 5-phase program based on 2022 drilling results comprising an aggressive prospecting & sampling program, followed up by selective drilling of priority targets, and airborne gravity-magnetics-radiometrics at 100 m line spacing on two of the identified high priority areas on the property (the eastern structural corridor and Alces Lake North).



Alces Lake Project Located Near New North American Rare Earths Processing Facility

- In August 2020, the Saskatchewan Research Council ("SRC" a Provincial Crown Corporation) and the Government of Saskatchewan announced plans to fund and develop a "first-of-its-kind" Rare Earth Processing Facility in Saskatoon, Saskatchewan, Canada
- SRC is Canada's second largest research and technology organization with 1,400 clients in 23 countries around the world
- Alces Lake Project is in the same province as the planned processing facility
- Existing pilot facilities (right) have already optimized a monazite processing flow sheet and have successfully processed monazite from Alces Lake
- Processing facility is expected to be fully operational in 2024



SRC Rare Earth Element Extraction Lab





Brazilian Rare Earths Ionic Clay Project

- On March 7, 2023, Appia signed a Letter Agreement to acquire up to a 70% interest in a prospective Brazilian Rare Earths Ionic Clay Project.
- The PCH Project is 17,551 hectares located within the Tocantins Structural Province in the Brasília Fold Belt in the Goiás State of Brazil.
- It is classified as an alkaline intrusive rock occurrence with highly anomalous REE and niobium mineralization.
- Ionic adsorption clays are the main source of the critical rare earth permanent magnet metals, dysprosium and terbium.
- Positive results of the recent geochemical exploration work carried out to date indicate the potential for REE and Niobium within lateritic ionic adsorption clays.







Drilling & Sampling Ionic Clay Rare Earths

- The PCH Project in the state of Goiás, Brazil consists of 17,551.07 ha and is a rare earth project comprising both ionic clay development from weathering of alkaline granites and in-situ rare earth mineralization associated with the host granite and a carbonatite intrusion into the host granite.
- Total REE grades in numerous auger holes drilled range up to 16,648 ppm (1.66%), with an average of 1,291 ppm total REE and importantly, the valuable rare earths used in magnet applications (Pr, Nd, Tb and Dy) + Y account for approximately 14% of total rare earths, with a maximum of 28.4%.

- One of a few major ionic clay projects in the western world
- Easy to mine
- Simple processing
- Low radioactivity
- Low CapEx
- Low OpEx
- Environmentally friendly processing
- Near infrastructure
- Mining friendly jurisdiction
- Heavy and light critical rare earth





PCH Ionic Clay REE Project

- The PCH Project is located approximately 30 km from Iporá, a medium size city of approximately 31,500 population in the state of Goiás, Brazil. The region around Iporá has significant mineral exploration and mining activity.
- Active mines in the area include operations by Dundee Precious Metals and Yamana Gold.
- Infrastructure is well developed.
- Sampling data shows enrichment in rare earth minerals to between 8 m and 20 m depth.



PCH Ionic Clay REE Project

- Total rare earth assay values from auger drilling in Target 4 show values up to 16,648 ppm (1.66%) with an average of 1,291 ppm.
 - Heavy rare earths (HREEs) show maximum values of 1,624 ppm and average values of 1,291 ppm, primarily as terbium (Tb) and dysprosium (Dy).
 - Light rare earths (LREEs) show maximum values of 14,024 ppm (1.54%) with an average of 1.145 ppm. Neodymium (Nd) and praseodymium (Pr), the main magnetic light rare earths, show respective maximum values of 3,131 ppm (Nd) and 885 ppm (Pr) and average values of 216 ppm (Nd) and 61.7 ppm (Pr).
 - The overall HRRE/LREE ratio has a maximum of 39.5% and an average value of 16.67%.



PCH Ionic Clay REEs Project

- The PCH Project is an ionic-clay REEs deposit and one of the relatively few deposits of this type found outside of China.
- Ionic clays can be mined with low-cost open pit mining techniques and processed using simple technologies.
- Appia's due diligence testing of 269 samples by SGS labs near Belo Horizonte, Brazil, confirmed previously reported results, and Appia announced on May 30, 2023, it was proceeding with the acquisition of a 70% interest in the project.



Samples awaiting lab transport as part of Appia's due diligence testing





Brazilian Rare Earths Ionic Clay Project

- Prior exploration on the property has included stream sediment sampling, soil sampling, geophysical surveys, auger drilling, diamond drilling and trench sampling programs.
- Rare earth mineralization has been identified across a significant portion of the property.
- Rare earth and niobium mineralization comprising both ionic clay development arising from intensely weathered alkaline granites and from a carbonatite intrusion has been defined in an area approximately 2 km in diameter in Target 4, the most intensely investigated exploration target.



Alkaline breccia from Hole PCH-01 containing 1,767 ppm SREE and 161 ppm Nb





Elliott Lake Uranium & Rare Earths Project

- 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 3km north of the town of Elliot Lake.

	NI 43-101 Resource*														
		Indicate	d Resource	Inferred Resource											
Teasdale Lake Zone															
	Tonnage (M tons)	Average Grade (Ibs./ton)	Contained Metal U ₃ O ₈ (M lbs.)	Contained Metal TREE (M lbs.)	Tonnage (M tons)	Average Grade (Ibs./ton)	Contained Metal U ₃ O ₈ (M lbs.)	Contained Metal TREE (M lbs.)							
U_3O_8	14.4	0.554	8.0		42.4	0.474	20.1								
REE	14.4	3.30		47.7	42.4	3.14		133.2							
	Banana Lake Zone														
U ₃ O ₈					30.3	0.912	27.6								
TOTAL	14.4		8.0	47.7	72.8		47.7	133.2							

• NI 43-101 Mineral Resource:

"A Technical Report on the Appia Energy Corp. Elliot Lake Uranium-Rare Earth Property", by Watts, Griffis and McOuat Limited (July 30, 2013). Mineral resources are not mineral reserves and do not have demonstrated economic viability. Numbers may not add to total due to rounding

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





Elliott Lake Uranium & Rare Earths Project

- Appia has a 100% interest in the Elliot Lake property totaling approximately 13,008 hectares (32,143 acres)
- Elliot Lake Property is adjacent to Denison Mines Corp. and Rio Algom Limited, past-producing uranium and REE mines
- The Elliot Lake camp has produced over 300 million lbs of U3O8 and is the only mining camp in Canada with significant historical commercial rare earth element production (yttrium)
- Significant potential to increase the size of the current resources as they are largely open along strike and at depth
- Metallurgical testing, using different process methods, indicates a recovery rate of approximately 90% for uranium and most REEs in the 80% to 90% range
- Uranium and REE metals are hosted within quartz-pebble conglomerate beds that are found in the Matinenda Formation, which is the basal unit of the Elliot Lake Group. The uranium and REE-bearing horizon is a clean, well-sorted, coarse-pebble conglomerate.





Elliot Lake Uranium & REE Project Ontario NI 43-101 Resource Areas





Investment Summary







Appendix A

Alces Lake REO Summary Chart (2017-2020 results)

Zone	Slide #	La₂O₃ wt%	<mark>CeO₂ wt%</mark>	Pr ₆ O ₁₁ wt%	Nd ₂ O ₃ wt9	% <mark>Sm₂O₃ wt%</mark>	Eu₂O₃ wt%	Gd₂O₃ wt%	% Tb₄O ₇ wt%	<mark>6 Dy₂O₃ wt%</mark>	Ho₂O₃ wt%	Er ₂ O ₃ wt%	Yb₂O₃ wt%	Lu₂O₃ wt%	Y₂O₃ wt%	ThO ₂ wt%	U₃O ₈ 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

*TREO = Total Rare Earth Oxide =

 $\label{eq:constraint} \begin{array}{l} sum of La_2O_3+CeO_2+Pr_6O_{11}+Nd_2O_3+Sm_2O_3+Eu_2O_3+Gd_2O_3+Tb_4O_7+Dy_2O_3+Ho_2O_3+Er_2O_3+Yb_2O_3+Lu_2O_3+Y_2O_3 \\ *CREO = Critical Rare Earth Oxide = sum of Pr_6O_{11}+Nd_2O_3+Eu_2O_3+Tb_4O_7+Dy_2O_3 \end{array}$

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.

Indicates radioactive elements

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

Lithogeochemical Results for Drill Hole IV-19-012

Zone	DDH	From (m)	To (m)	Interval (m)	La₂O₃ (wt%)	CeO₂ (wt%)	Pr ₆ O ₁₁ (wt%)	Nd ₂ O ₃ (wt%)	Sm ₂ O ₃ (wt%)	Eu ₂ O ₃ (wt%)	Gd2O3 (wt%)	Tb₄O7 (wt%)	Dy ₂ O ₃ (wt%)	Ho ₂ O ₃ (wt%)	Er ₂ O ₃ (wt%)	Yb ₂ O ₃ (wt%)	Lu ₂ O ₃ (wt%)	Y ₂ O ₃ (wt%)	ThO₂ (wt%)	U ₃ O ₈ (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

of Pr+Nd+Eu+Tb+Dy

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)

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