

October 2022

A critical materials company

Corporate Presentation Exploring for high-grade critical rare earth elements (monazite) and uranium in Canada

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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", "int ends", "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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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. Anyon ereviewing 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 affe ct the Company.

Qualified Person

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.





Why Appia?

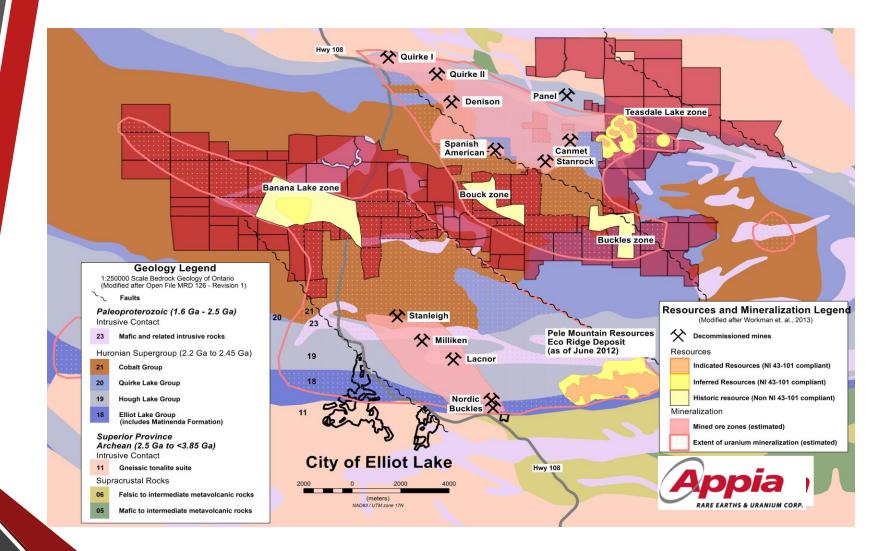
- Appia's Alces Lake Project is the highest-grade critical rare earths and gallium prospect in North America and one of the highest-grade rare earth prospects in the world. Metallurgic testing confirms processing potential similar with other producing mines
- Appia is dept free and its goal is to become a major producer of critical materials
- Appia has a sizable NI 43-101 Uranium and Rare Earths Resource in Elliot Lake, Ontario
- Appia holds four uranium exploration properties in and around the Athabasca Basin, Saskatchewan
- All Appia's projects located in stable and mining friendly jurisdictions within Canada and are owned 100% by Appia
- Historical prices for Critical REEs have increased by 100%-300% since 2017 and uranium prices have at least doubled in the past two years
- REE and Uranium demand and prices are forecasted to increase drastically during the next few years



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Elliot Lake, ON: Uranium and REE Resource





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Elliot Lake NI 43-101 Resource

	NI 43-101 Resource*														
		Indicate	ed Resource	Inferred Resource											
				Zone											
	Tonnage (M tons)	Average Grade (lbs./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							

* "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.

* See slide 24 (Appendix A) for qualifying notes for Mineral Resources, and individual element grades supporting reported TREE results



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Rare Earth Elements (REE) Primer

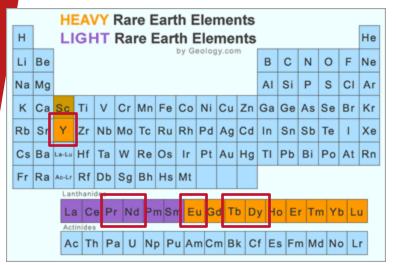
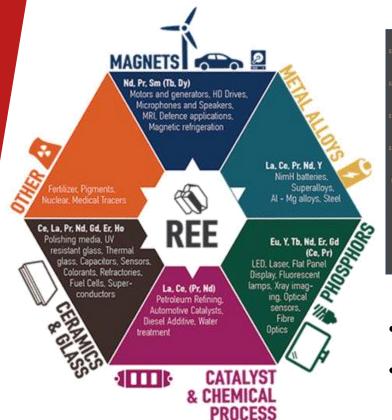


Image source: REE - Rare Earth Elements - Metals, Minerals, Mining, Uses

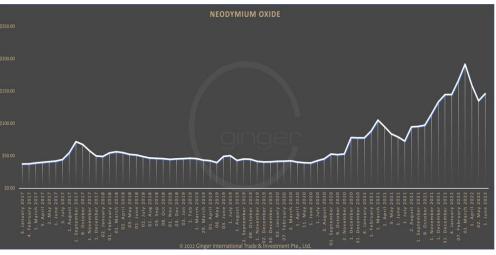
- 17 Rare Earth Elements, divided into Heavy and Light REE (see table)
- Critical REEs include Neodymium (Nd), Praseodymium (Pr), Europium (Eu), Terbium (Tb), Dysprosium (Dy) and Yttrium (Y)
- Primary demand growth is accelerating for permanent magnets used in the EV market
- About 90% magnet production is from China
- Critical materials emergency declared by US in 2020 – rebuild domestic supply chain, including rare earths
- Market for magnet Rare Earth Oxides (REO) expected to increase five-fold by 2030
- Global Critical REE shortages currently forecast as supply only meets current demand
- Lack replacement, recycling or re-invention



Rare Earth Elements (REE)



Neodymium Oxide Pricing (2017 – current)



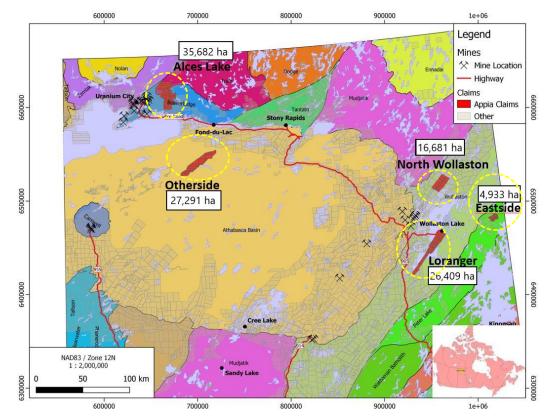
Price source: <u>Rare Earth Prices (giti.sg</u>) June 27, 2022

- Global pricing is "opaque"
- Historical prices for Critical REEs have increased by 100%-300% since 2017
- 2019 Production: 220,000 tonnes REO (oxides) (2021 US Geological Survey summary)



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Project Portfolio, Northern Saskatchewan



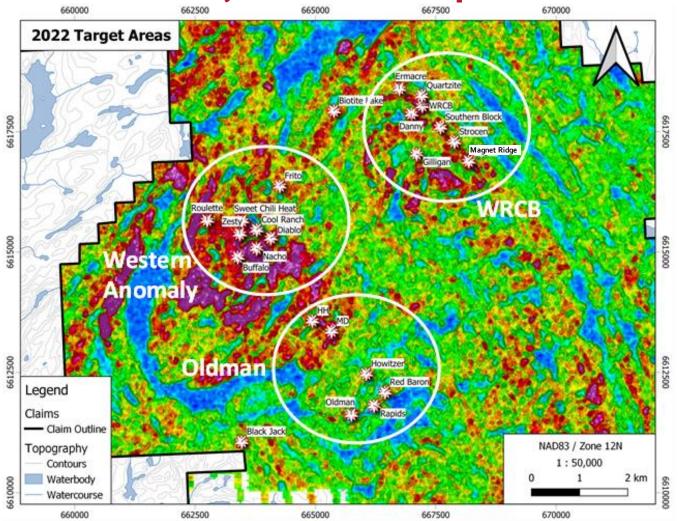
- Saskatchewan is a pro-mining jurisdiction; politically stable
- Athabasca Basin historic uranium-focus
- Rare earths discovery at Alces Lake has world class potential
- Appia's discovery is one of a kind massive monazite exposure at/near surface
- Excellent local infrastructure mills, power, labour, highway, air strips, wellestablished summer and winter access routes



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Alces Lake Project – 2022 Exploration Drilling



2022 drilling program of 17,481 metres of diamond drilling more than double meterage drilled 2017-2021



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Alces Lake Project Meets Criteria for a Viable REE Project Massive Monazite Exposed at Surface

- **Grade** Alces Lake grade of up to 49 wt% TREO plus massive low-grade zones
- Mineralogy rare earths are completely hosted in coarse-grained monazite
- Composition 23-25% is Critical Rare Earth Oxide (CREO Neodymium (Nd), Praseodymium (Pr), Dysprosium (Dy), Terbium (Tb))
- Location Saskatchewan is one of the most attractive jurisdictions in Canada and the world for mining investment (2021 Fraser Institute Annual Survey of Mining Companies, Apr 14, 2022)
- Environmental Management and Radiation well understood in Saskatchewan
- Future Processing Facility under construction by Saskatchewan Research Council



High-grade REE mineralization surface outline

Wilson Zone (North)





Alces Lake – High-Grade REE Zones at Surface

Ivan Zone >85% monazite (53.01 wt% TREO over 1.23 m)

Dylan Zone >57% monazite (avg. 34.38 wt% TREO for this body)





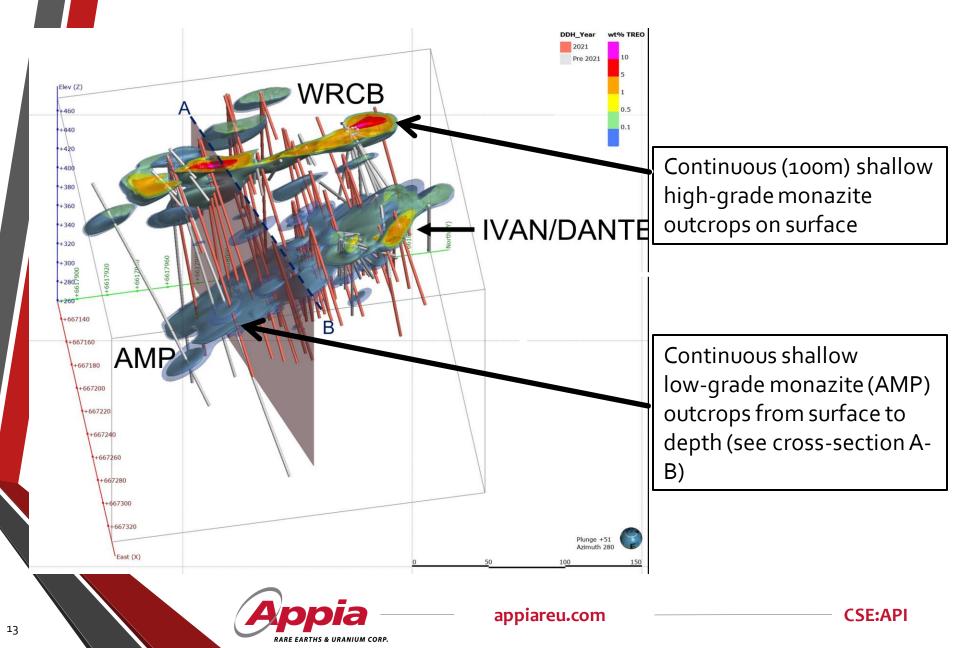


Alces Lake Project – Exploration (2017 – 2020)

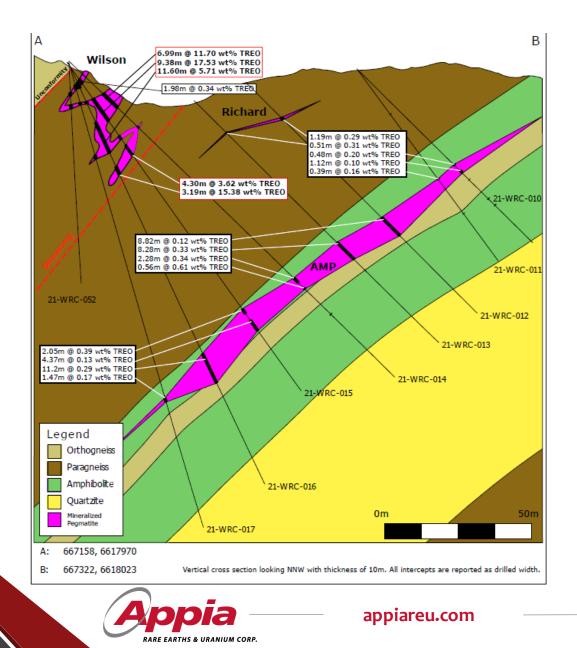
- Highlight drill hole IV-19-012
- Returned 16.06 wt% TREO over 15.55 m starting at 8.7 m down hole depth (red arrows) which includes 49.17 wt% TREO over 3.70 m at 9.7 m down hole depth (yellow arrows)



Alces Lake Project – WRCB 3D View



Alces Lake Project – WRCB Cross Section A-B

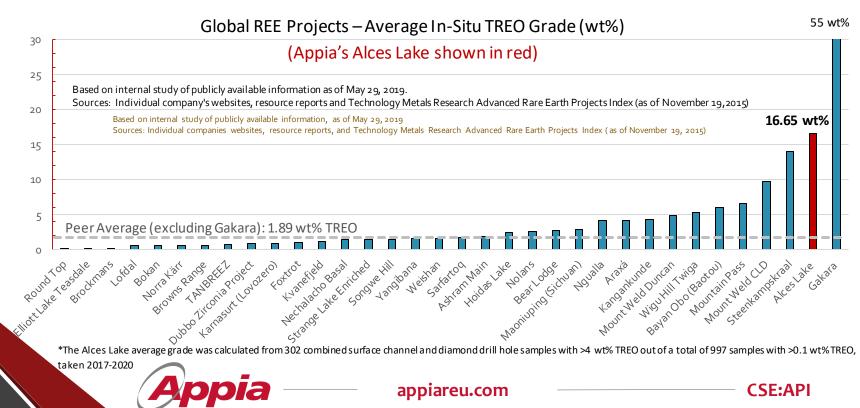


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Alces Lake Project - Grade

- High-Grade is KING... this is true for any commodity
- Alces Lake hosts some of the highest REE grades in the world (2nd highest average grade)
- At 4 wt% Total Rare Earth Oxide cutoff, Alces Lake average grade is 16.65 wt% TREO*
- Appia considers "high-grade" as greater than 4.0 wt% TREO
- Only the highest grade REE deposits have been developed into mines (e.g., Bayan Obo, etc.)
- To illustrate the grade at Alces Lake, one metric tonne of high-grade mineralization from Alces Lake would contain ~166.5 kg of TREO of which ~38.5 kg are CREO (the potential quantity and grade are both conceptual in nature. There has been insufficient exploration to define a mineral resource. It is uncertain if further exploration will result in the delineation of a mineral resource)

Note: See Appendix A on slide 24 for individual element grades supporting TREO results



Alces Lake Project Located Near Processing Facility

- In August 2020, Saskatchewan Research Council ("SRC" a Treasury Board Crown Corporation) and the Government of Saskatchewan announced the plans to fund and develop a "first-of-its-kind" Rare Earth Processing Facility in Saskatoon, Saskatchewan
- SRC currently employs world-renowned REE experts with over 30 years experience
- Alces Lake Project is in the same province as the planned Processing Facility
- Processing Facility is expected to be fully operational in 2024
- Existing pilot facilities (below) have already optimized a monazite processing flow sheet and have processed monazite from Alces Lake

Pilot Processing Plant (1,000 tonnes per annum capacity)

Rare Earth Element Extraction Lab



Images source: Saskatchewan Research Council; https://www.src.sk.ca (2018)





Rare earths found exclusively in Monazite

- 100% owned Alces Lake property (88,173 acres) holds high-grade and low-grade critical rare earths (CREO) project.
- Alces Lake has the potential to be one of the best monazite-hosted rare earths occurrences in the world with high-grade REE surface mineralization occurring intermittently over 27 square kilometres.
- High-grade Total Rare Earth Oxide (TREO) with up to 49 wt% TREO (average grades of 16.65 wt% TREO and 3.85 wt% CREO) on or near surface identified in WRCB exploration 2017-2021.
- 2021 drilling expanded WRCB and also discovered continuous lowgrade mineralization (AMP Zone) underlying high-grade WRCB Zone.
- 2022 drilling extended the strike on AMP Zone and the new Magnet Ridge Zone and at/near surface on-trend 1.5 kilometres southeast of WRCB.
- Alces Lake monazite contains high-grade gallium in addition to rare earths.





Why is Monazite so important?

- Monazite is one of the highest-value, rare earth-bearing minerals in the world
- Monazite is comprised of 50% to 60% of total rare earth oxides (TREO)
- Approximately 23% to 25% of monazite TREO are Critical Rare Earths: Neodymium (Nd), Praseodymium (Pr), Europium (Eu), Terbium (Tb), Dysprosium (Dy)
- Nd, Pr, Tb and Dy are extremely desirable for use in permanent magnets
- Extraction of REE from monazite has been successfully and economically proven and established since the 1950s
- Monazite is typically not concentrated. At Alces Lake, monazite occurs as isolated grains, 1 – 3 cm thick lenses and isolated clusters, and up to metres-thick massive clusters
- Monazite contains up to 50% more Critical Rare Earths when compared to bastnaesite





2022 Project Update

- \$15 million raised in 2021 fully funds 2022 program
- Commenced drilling in March 2022 at WRCB to date 17,481 metres in 100 holes have been drilled (results pending).
- New discovery has been made at Magnet Ridge (previously Augier), approximately 1.5 kilometres SSE of WRCB. Magnet Ridge is a zone of anomalous radioactivity similar in nature to the radioactive pegmatite in the AMP zone at WRCB and has approximately 300 metres strike length with a width of 50 metres and has been found down-dip to 100 metres. (see News Release July 26, 2022)
- WRCB and Magnet Ridge to make up preliminary NI 43-101 report. Timing subject to receipt of assay results.
- Planning exploration and drilling on three of Appia's Saskatchewan uranium projects (Loranger, N. Wollaston, and Eastside) to target at or near-surface, high-grade uranium mineralization which is located close to existing infrastructure
- Additional 2022 aerial geophysics (VTEM and radiometric). Loranger drilling is possible in winter/spring 2023 where known uranium mineralization is currently open along strike and at depth.
- Appia commenced an airborne magnetic and radiometric survey to survey the remaining ~50% of the property



- **Alces Lake Summary** 1. World-class Total and Critical REO grades plus gallium
- Enriched with Critical REEs (Nd, Pr, Dy, Tb) used for permanent magnets 2.
- 3. Coarse-grained monazite: easier to process, simple mineralogy at/near surface (within ~10 metres)
- Metallurgical testing confirms processing potential, similar to other 4. producing mines
- Access to REE processing facility in Saskatoon 5.
- Multiple zones of REE discoveries along geological strike, on sub-parallel 6. trends and with sub-surface zones open in all directions
- Extensive high-grade monazite mineralization found intermittently over 7. 27 sq km
- Manufacturers (USA, Japan, Germany, among others) seek long-term 8. supply chains outside of China
- 2022 drilling program is fully funded 9.
- 10. Saskatchewan: "Most Attractive Jurisdiction in Canada" for mining investment (2021 Fraser Institute Ann. Survey Mining Companies, 2022)



Appia Management (with over 300 years combined industry experience)

Anastasios (Tom) Drivas | Acting CEO, President & Director

- Business entrepreneur with over 30 years experience in various industries, including over 20 years in the mineral resource industry
- President and CEO of Romios Gold Resources Inc., a publicly traded company he founded in 1995

Dr. Irvine R. Annesley, P.Geo. | Vice President Exploration

- Retired Professor (Emeritus pending) Economic Geology, L'École nationale supérieure de géologie (ENSG), Nancy, France
- Over 35 years experience in Global Exploration and Applied Research, principally in Uranium, REEs, Thorium, and Gold
- 19 years as minerals exploration geoscientist/manager (geological mapping, applied exploration geophysics & geochemistry) with Saskatchewan Research Council; 6.5 years as Director Exploration with JNR Resources Inc.

David Murray | Alces Lake Project Manager

• David has a decade of experience in mineral exploration and project geology domestically and internationally. He also has extensive experience in modelling mineral resources and geology as well as interpretation of structural and geophysical data.

Frank van de Water | CFO, Secretary & Director

- Involved in international mining, metals and resource companies in North and Latin America, Europe and Africa for over 40 years
- Serves as COO and CFO of Romios Gold Resources Inc. and as a Director at Inter-Rock Minerals Inc. and American Critical Elements Inc.

Douglas Underhill | Director

• Geologist with more than 45 years of international experience in uranium including nearly 10 years with the International Atomic Energy Agency (IAEA) in Vienna and 10 years of experience evaluating international REE projects. He also serves as a Director at Stans Energy Corp.

Thomas Skimming | Director

• Over 50 years of experience in the mineral resources industry and was instrumental in the discovery and development of several deposits including the world-class Teck-Corona gold deposit at Hemlo in Canada. He also serves as a Director at Romios Gold Resources Inc.

Brian Robertson | Director

Registered professional engineer with extensive experience in all aspects of mine operations, development and construction. Previously served in a
number of senior management positions with Mexican Gold Corp., Source Exploration Corp., Nuinsco Resources, Yukon Gold, Victory Nickel and is a
Director at Romios Gold Resources Inc.

William R. Johnstone | Legal Counsel & Director

- Partner at Gardiner Roberts LLP since 2005 practicing corporate and securities law and is the leader of the firm's Securities Law Group
- Director and Secretary at Big Tree Carbon Inc., Romios Gold Resources Inc., American Critical Elements Inc., Bold Ventures Inc. and Rockcliff Metals Corp.

Dr. Nick Bontis | Director

- Tenured professor of Strategic Management at the DeGroote School of Business, McMaster University
- Serves as an Executive Board Member and Director at Harvest Portfolios Group.

Dr. John Belhumeur | Senior Advisor to the Company regarding First Nations, Métis, and Government relations

- Served as an advisor and consultant to the Company since March 2021.
- Spent over 30 years as a consultant for Aboriginal affairs with regard to project development in the resource industry, coordinating between Aboriginal citizens, resource companies, and various levels of government.



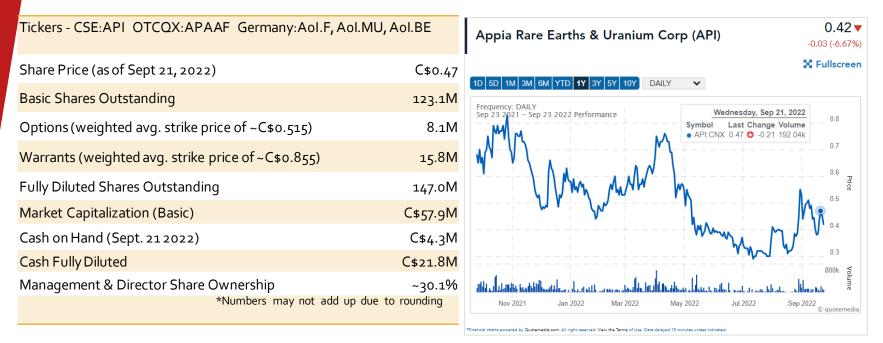




Appia Rare Earths & Uranium Corp. (CSE:API OTCQX:APAAF)

Capital Structure

Share Price Performance (Last 12 Months)









Appendix A

Alces Lake REO Summary Chart (2017-2020 results)

Zone	Slide #	La2O3 wt%	CeO2 wt%	Pr ₆ O ₁₁ wt%	Nd2O3 wt%	Sm2O3 wt9	Eu2O3 wt%	Gd2O3 wt%	Tb₄O⁊ wt%	Dy2O3 wt%	Ho2O3 wt%	Er2O3 wt%	Yb2O3 wt%	Lu2O3 wt%	aY₂O₃ wt%	ThO ₂ wt%	U₃Oଃ 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

sum of La2O3+CeO2+Pr6O11+Nd2O3+Sm2O3+Eu2O3+Gd2O3+Tb4O7+Dy2O3+Ho2O3+Er2O3+Yb2O3+Lu2O3+Y2O3

*TREO = Total Rare Earth Oxide =

**CREO = Critical Rare Earth Oxide = sum of Pre011+Nd203+Eu203+TbaO7+Dy203

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 (slide 16)

Zone	DDH	From (m)	To (m)	Interval (m)	La2O3 (wt%)	CeO₂ (wt%)	Pr₀O11 (wt%)	Nd2O3 (wt%)	Sm₂O₃ (wt%)	Eu2O3 (wt%)	Gd₂O₃ (wt%)	Tb₄O⁊ (wt%)	Dy₂O₃ (wt%)	Ho2O3 (wt%)	Er2O3 (wt%)	Yb₂O₃ (wt%)	Lu2O3 (wt%)	Y₂O₃ (wt%)	ThO₂ (wt%)	U₃O₅ (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. 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)