

# **The Company**



## **A History of Exploration Success**

- 50+ years of exploration success.
- Management continuity.
- Track record of spinning out projects to create value.
- Current assets provide platform to create value by establishing standalone companies.

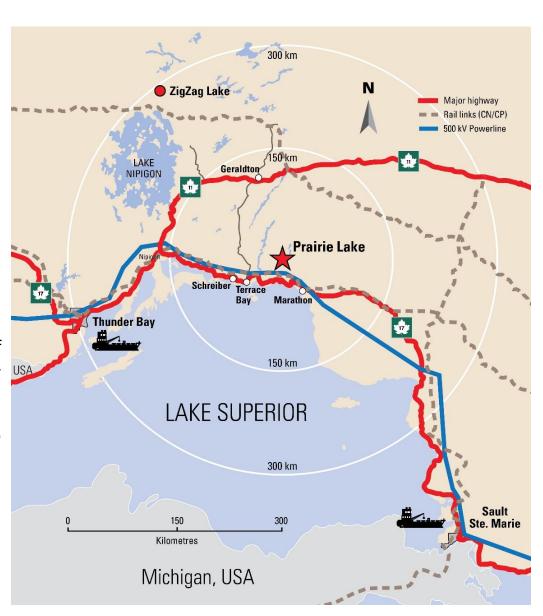


# **Prairie Lake – Advanced Exploration**

# AVAI NUINSCO RESOURCES LIMITED

## **Highlights**

- Maiden Mineral Resource Estimate("MRE") announced May 2022.
  - 871.8 million tonne Inferred Mineral Resource including 2.01 kg/t total rare earth oxides ("TREO"), plus niobium and phosphate.
  - 15.6 million tonne Indicated Mineral Resource including
     1.67 kg/t TREO, plus niobium and phosphate.
- Situated in Ontario, Canada, one of the world's most stable, miningfriendly jurisdictions.
- Superb access and infrastructure logistics. Close to:
  - TransCanada Highway
  - Railways (CP and CN)
  - Power Supply (500kV)
  - Ports and shipping (Marathon, Thunder Bay, Sault Ste Marie)

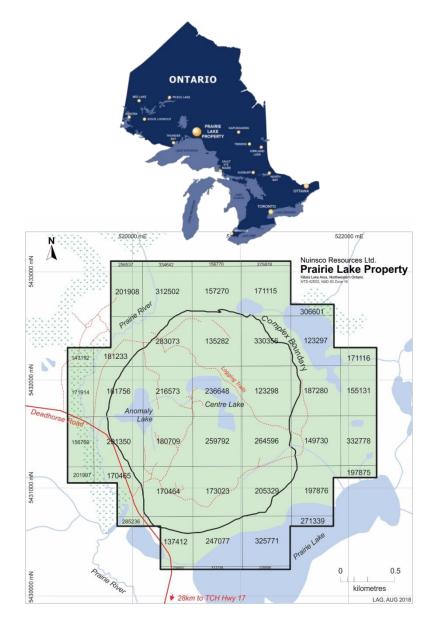


# **Prairie Lake – Advanced Exploration**

# **Highlights**

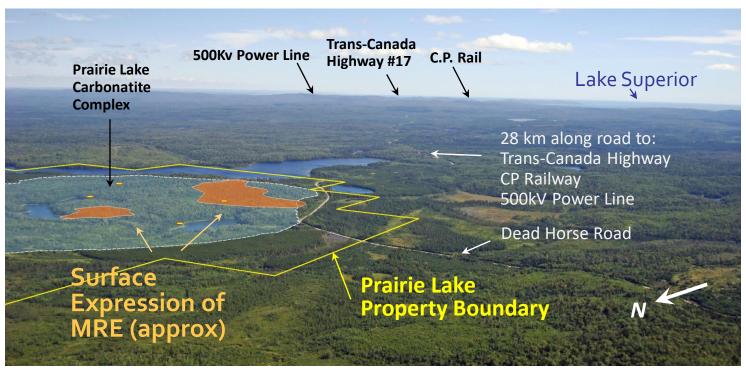
- 100%-owned, multi-commodity mineral asset, located near Marathon and Terrace Bay, Ontario.
- Potential key North American source of Critical Minerals to meet the anticipated enormous expansion in demand for such products.
- Located in the heart of North America ideally situated to provide secure supply of critical minerals
- Products from Prairie Lake project are required to meet demands of global electrification, for implementation of "green technologies" to combat climate change, and to sustain agricultural productivity
- Can be exploited with simple/conventional mining methods.
- Wide open for expansion.





# NUINSCO RESOURCES LIMITED

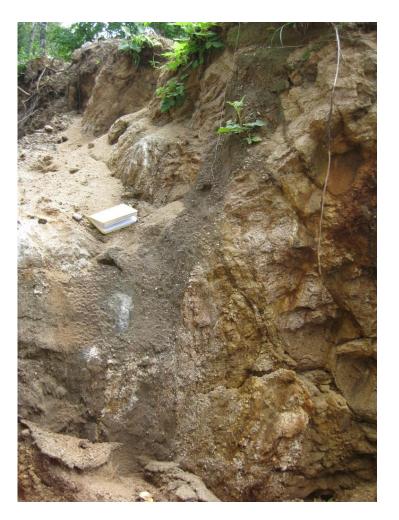
# **Superior Access & Infrastructure**





# **Trenching in Carbonatite**





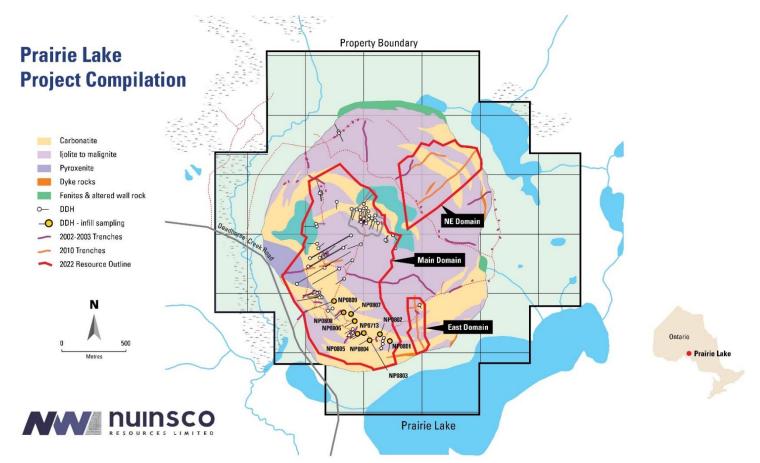


Weathering profile over carbonatite – typically 1 to 3m thick





- 2.8 km<sup>2</sup> (at surface) carbonatite-alkalic complex.
- Surface Expression of MRE is circa 46% of total surface area of complex (room to expand MRE).
- Pronounced circular topographic expression, up to 70m of relief, well developed weathered cap, up to 2.5m thick.
- Irregular complexly interfingered curvilinear domains of ijolite and carbonatite.







## **Maiden Mineral Resource Estimate**

			Rare Earth Oxides								Niobium	Tantalum	Phosphate
Class	Cut-Off	Tonnes	$Nd_2O_3$	$Pr_6O_{11}$	Sc <sub>2</sub> O <sub>3</sub>	CeO <sub>2</sub>	La <sub>2</sub> O <sub>3</sub>	Sm <sub>2</sub> O <sub>3</sub>	$Y_2O_3$	TREO	Nb <sub>2</sub> O <sub>5</sub>	Ta <sub>2</sub> O <sub>5</sub>	$P_2O_5$
	NSR C\$/t	M	g/t	g/t	g/t	g/t	g/t	g/t	g/t	kg/t	%	g/t	%
Indicated	30	15.6	344	96	15	754	300	58	100	1.67	0.16	28	3.71
Inferred	30	871.8	409	82	18	905	388	79	127	2.01	0.10	17	3.39

\*TREO = Total Rare Earth Oxides: neodymium,  $Nd_2O_3$ ; praseodymium,  $Pr_6O_{11}$ ; scandium,  $Sc_2O_3$ ; Cerium,  $CeO_2$ ; lanthanum,  $La_2O_3$ ; samarium,  $Sm_2O_3$ ; yttrium,  $Y_2O_3$ .

- The MRE is based on 73 inclined diamond drill holes performed between 1969 and 2010 totalling 12,180 metres.
- Additionally 2,068 metres of surface trenching is included in the MRE.
- A total of 5,409 drill core samples and 1,042 channel samples are incorporated into the MRE, excluding QA/QC samples.
- A length of 1.5 metres was used for composites and they were capped as follows: 1,850 g/t  $Nd_2O_3$ , 250 g/t  $Pr_6O_{11}$ , no cap  $Sc_2O_3$ , 1%  $Nb_2O_5$ , 14%  $P_2O_5$ , 3,700 g/t  $CeO_2$ , 1,700 g/t  $La_2O_3$ , 520 g/t  $Sm_2O_3$ , no cap  $Ta_2O_5$  and 570 g/t  $Y_2O_3$ .
- Grade interpolation was undertaken with the ID2 method on 10m x 10m x 10m blocks.
- Indicated mineral resources were classified within a 55m x 55m x 40m search ellipse and three drill holes.
- Inferred mineral resources were classified in two passes with a 110m x 110m x 80m search ellipse with two drill holes and subsequently a 220m x 220 m x 160m search ellipse with one drill hole.

# **Prairie Lake – Advanced Exploration**



## **Maiden Mineral Resource Estimate**

#### Resource Sensitivity to NSR Cutoff

Class	Cut- Off	Tonnes	Nd <sub>2</sub> O <sub>3</sub>	Pr <sub>6</sub> O <sub>11</sub>	Sc <sub>2</sub> O <sub>3</sub>	CeO <sub>2</sub>	La <sub>2</sub> O <sub>3</sub>	Sm <sub>2</sub> O <sub>3</sub>	Ta <sub>2</sub> O <sub>5</sub>	Y <sub>2</sub> O <sub>3</sub>	TREO*	Nb <sub>2</sub> O <sub>5</sub>	P <sub>2</sub> O <sub>5</sub>
	NSR C\$/t	M	g/t	g/t	g/t	g/t	g/t	g/t	g/t	g/t	kg/t	%	%
Indicated	50	14.5	358	100	16	787	306	60	28	101	1.73	0.17	3.75
	40	15.2	349	98	15	766	302	59	28	101	1.69	0.17	3.73
	30	15.6	344	96	15	754	300	58	28	100	1.67	0.16	3.71
	20	15.7	343	96	15	751	300	58	27	100	1.66	0.16	3.70
	10	15.7	343	96	15	751	300	58	27	100	1.66	0.16	3.70
Inferred	50	815.1	419	83	19	930	394	81	17	127	2.06	0.10	3.43
	40	860.1	412	82	19	911	389	80	17	128	2.02	0.10	3.40
	30	871.8	409	82	18	905	388	79	17	127	2.01	0.10	3.39
	20	873.4	409	82	18	904	387	79	17	127	2.01	0.10	3.38
	10	873.5	409	82	18	904	387	79	17	127	2.01	0.10	3.38

- 1. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
- 2. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
- 3. The Inferred Mineral Resource in this estimate has a lower level of confidence than that applied to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of the Inferred Mineral Resource could potentially be upgraded to an Indicated Mineral Resource with continued exploration.
- 4. The Mineral Resources were estimated in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards Mineral Resources and Reserves, Definitions (2014) and Best Practices Guidelines (2019) prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council.
- 5. US\$ Metal prices used were \$80/Kg  $Nd_2O_3$ , \$80/Kg  $Pr_6O_{11}$ , \$1,500/Kg  $Sc_2O_3$ , \$50/Kg  $Nb_2O_5$ , \$250/t  $P_2O_5$ , \$1.35/Kg  $CeO_2$ , \$1.35/Kg  $La_2O_3$ , \$3.50/Kg  $Sm_2O_3$ , Nil\$/t  $Ta_2O_5$  and \$13.00/kg  $Y_2O_3$ , 0.78 FX all with combined process recoveries and payables of 50%, except  $P_2O_5$  at 75%.
- 6. The constraining pit optimization parameters were C\$2.50/t mining cost for all material, C\$25/t process cost, C\$5/t G&A cost and 45-degree pit slopes with a C\$30/t NSR cut-off.

# **Prairie Lake Project Potential Economic Drivers**



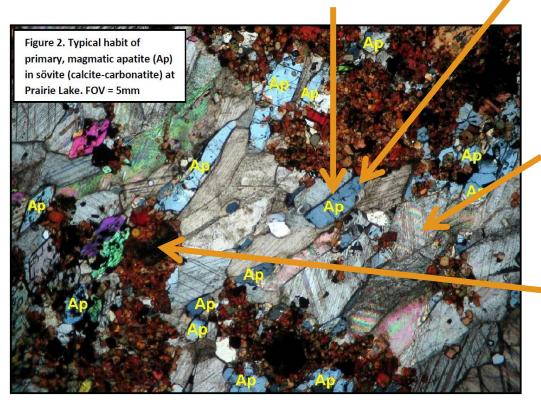
- Neodymium (Nd) trading at circa US\$140-145/kg (Nd-oxide 99.5% pure). Central to the development and production of permanent magnets used in electric and hybrid vehicles and wind turbines. Demand is projected to greatly expand with the electrification of the global vehicle fleet and expansion of the capacity for renewable electric-power generation worldwide.
- Praseodymium (Pr) currently trading at circa US\$140-145/kg (Pr-oxide 99.5% pure). Can be used as a substitute for neodymium in fabrication of permanent magnets.
- Scandium (Sc) currently trading at circa US\$1,500/kg (Sc-oxide 99.9% pure). Applications in fuel-cell technology, lighting components, and is alloyed with aluminum to impart heat-resistance and strength where it is used in aerospace components. Greatly expanded use in aerospace and automobile sectors is projected with the expansion of supply.
- Niobium (Nb) currently trading at circa US\$50/kg (Nb $_2$ 0 $_5$  in concentrate). By far the greatest use is in structural steel and in the transportation sector. Nb added to steel reduces weight thus improving energy efficiency and reducing adverse environmental emissions. Ceramics with niobium oxide have wide application in electronics applications (e.g. cell phones).
- Phosphate  $(P_2O_5)$  currently trading at circa US\$250/t (phosphate concentrate >30%). Has enormous global agricultural applications as a fundamental component of fertilizers.



### **Marketable Products**

## PHOSPHATE (as CaPO<sub>4</sub>)

From apatite mineralization (meets the specs of both agricultural and industrial applications)



#### RARE EARTH ELEMENTS

From various minerals – principally apatite, but monazite, bastnaesite, ancylite also identified

#### **CALCIUM SULPHATE**

From sovite - carbonatite (very high-purity product meeting food and pharma grade specs)

### **NIOBIUM/TANTALUM**

From pyrochlore mineralization



### **Rare Earth Elements**

- Mineralogical analysis of apatite from Prairie Lake apatite indicates unusually high concentrations of light rare-earth oxides (LREO) of 1.54% (13,157 ppm), and in particular neodymium oxide (Nd<sub>2</sub>O<sub>3</sub>) of 0.33% (2829 ppm) Nd<sub>2</sub>O<sub>3</sub>.
- LREO (and Nd<sub>2</sub>O<sub>3</sub>)-rich character of Prairie Lake apatite indicates that there is excellent potential for apatite concentrates to return economically significant neodymium: a potential supported by the results of apatite concentrate (COREM, Test #35), which returned a Nd<sub>2</sub>O<sub>3</sub> grade of 0.22%.
- Neodymium (and praseodymium) particularly valued because of the critical importance of Ndbased permanent magnets in the manufacture of a range of new technological products including the high-performance electric motors and generators used in hybrid-electric vehicles and megawatt-scale wind turbines.
- When considered in the context of the current scope of the Prairie Lake Project MRE, the
  potential for the recovery of neodymium and praseodymium from Prairie Lake concentrate is
  significant.



## **Metallurgical Test Work**

#### Previous metallurgical testing:

- Multiple composite samples of drill core delivered to COREM in Quebec City including a 1,000kg sample grading 3.18%  $P_2O_5$ , 0.13%  $Nb_2O_5$
- Focus on P<sub>2</sub>O<sub>5</sub> beneficiation.
- Apatite concentrate, containing >75% apatite, has been produced peak grades of >30% P<sub>2</sub>O<sub>5</sub> obtained.
- Other, non-optimized, analytical and beneficiation studies aimed at REE potential apatite concentrate contains 8kg/t total rare earth elements ("TREO").
- Additional preliminary work aimed to produce a niobium-tantalum concentrate.
- Further met studies with SGS (Lakefield) have been commissioned.

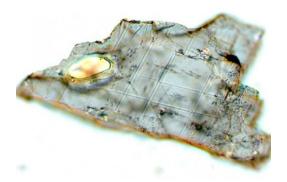


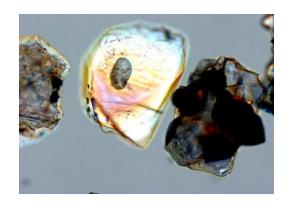
# AVAI NUINSCO

## **Phosphate Potential**

- Phosphate at Prairie Lake has potential application to both agriculture and industry.
- Phosphate is predominantly contained in the mineral apatite.
- Apatite concentrate (containing >75% apatite) has been produced from Prairie Lake rock.
- Apatite grains are very clear, typically well liberated, bearing only minor inclusions.
- Average  $P_2O_5$  content of apatite is 43.1%.
- Average F content ranges from 0.62%-0.83%.
- Average Cl content ranges from 0.009%-0.043%.
- Best result for apatite flotation tests at COREM concentrate of  $30.6\%~P_2O_5$  with 41.9% recovery produced through apatite flotation from pre-concentrate.
- Very clean apatite product that meets specs for both agricultural quality concentrate and industrial applications (e.g. detergents).









## **Summary**

- 871.8 million tonne Inferred mineral resource including 2.01 kg/t TREO, plus niobium and phosphate.
- 15.6 million tonne Indicated mineral resource including 1.67 kg/t TREO, plus niobium and phosphate.
- Substantial potential remains to expand and upgrade the initial MRE.
- Situated in Ontario, Canada, a stable, mining friendly, jurisdiction a potential key North American source of Critical Minerals to meet an anticipated enormous expansion in demand for such products.
- Project is exceptionally close to the TransCanada Highway, rail, power, shipping, and electrical infrastructure reduced capital burden to build project.
- Metallurgy to date has demonstrated the potential to produce a clean apatite concentrate with TREO and phosphate content of economic significance.
- Metallurgy to continue shortly optimized to rare earth element beneficiation.
- Further drilling to increase quantity and quality of the initial MRE is planned.

# **The Company**



## **Disclaimer**

#### Cautionary Note Regarding Forward-Looking Information

This document contains forward-looking statements or information (collectively, "FLI") within the meaning of applicable Canadian securities legislation. FLI is based on expectations, estimates, projections and interpretations as at the date of this document.

All statements, other than statements of historical fact, included herein are FLI that involve various risks, assumptions, estimates and uncertainties. Generally, FLI can be identified by the use of statements that include words such as "seeks", "believes", "anticipates", "plans", "continues", "budget", "scheduled", "estimates", "expects", "forecasts", "intends", "projects", "prodicts", "proposes", "potential", "targets" and variations of such words and phrases, or by statements that certain actions, events or results "may", "will", "could", "would", "should" or "might", "be taken", "occur" or "be achieved."

FLI herein includes, but is not limited to: future drill results; the Company's ability to convert Inferred Mineral Resources into Measured and Indicated Mineral Resources; environmental matters; stakeholder engagement and relationships; parameters and methods used to estimate the Mineral Resource Estimates (each an "MRE") at the Fenelon and Martiniere properties (collectively the "Deposits"); the prospects, if any, of the Deposits; future drilling at the Deposits; and the significance of historical exploration activities and results.

FLI is designed to help you understand management's current views of its near- and longer-term prospects, and it may not be appropriate for other purposes. FLI by their nature are based on assumptions and involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by such FLI. Although the FLI contained in this document is based upon what management believes, or believed at the time, to be reasonable assumptions, the Company cannot assure shareholders and prospective purchasers of securities of the Company that actual results will be consistent with such FLI, as there may be other factors that cause results not to be as anticipated, estimated or intended, and neither the Company nor any other person assumes responsibility for the accuracy and completeness of any such FLI. Except as required by law, the Company does not undertake, and assumes no obligation, to update or revise any such FLI contained herein to reflect new events or circumstances, except as may be required by law. Unless otherwise noted, this document has been prepared based on information available as of the date of this document. Accordingly, you should not place undue reliance on the FLI or information contained herein.

Furthermore, should one or more of the risks, uncertainties or other factors materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described in FLI.

Assumptions upon which FLI is based, without limitation, include: the ability of exploration activities to accurately predict mineralization; the accuracy of geological modelling; the ability of the Company to complete further exploration activities; the legitimacy of title and property interests in the Deposits; the accuracy of key assumptions, parameters or methods used to estimate the MREs; the ability of the Company to obtain required approvals; the results of exploration activities; the evolution of the global economic climate; metal prices; environmental expectations; community and non-governmental actions; and any impacts of COVID-19 on the Deposits, the Company's financial position, the Company's ability to secure required funding, or operations. Risks and uncertainties about the Company's business are more fully discussed in the disclosure materials filed with the securities regulatory authorities in Canada, which are available at www.sedar.com.

# **The Company**



## **Disclaimer**

#### **Information Concerning Estimates of Mineral Resources**

The disclosure in this document and referred to herein was prepared in accordance with NI 43-101 which differs significantly from the requirements of the U.S. Securities and Exchange Commission (the "SEC"). The terms "Measured Mineral Resource", "Indicated Mineral Resource" and "Inferred mineral Resource" used in this document are in reference to the mining terms defined in the Canadian Institute of Mining, Metallurgy and Petroleum Standards (the "CIM Definition Standards"), which definitions have been adopted by NI 43-101. Accordingly, information contained in this document providing descriptions of our mineral deposits in accordance with NI 43-101 may not be comparable to similar information made public by other U.S. companies subject to the United States federal securities laws and the rules and regulations thereunder.

Investors are cautioned not to assume that any part or all of Mineral Resources will ever be converted into reserves. Pursuant to CIM Definition Standards, "Inferred Mineral Resources" are that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Such geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. However, it is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. Under Canadian rules, estimates of Inferred Mineral Resources may not form the basis of Feasibility or Pre-Feasibility studies, except in rare cases. Investors are cautioned not to assume that all or any part of an Inferred Mineral Resource is economically or legally mineable. Disclosure of "contained ounces" in a Mineral Resource is permitted disclosure under Canadian regulations; however, the SEC normally only permits issuers to report mineralization that does not constitute "reserves" by SEC standards as in place tonnage and grade without reference to unit measures.

Canadian standards, including the CIM Definition Standards and NI 43-101, differ significantly from standards in the SEC Industry Guide 7. Effective February 25, 2019, the SEC adopted new mining disclosure rules under subpart 1300 of Regulation S-K of the United States Securities Act of 1933, as amended (the "SEC Modernization Rules"), with compliance required for the first fiscal year beginning on or after January 1, 2021. The SEC Modernization Rules replace the historical property disclosure requirements included in SEC Industry Guide 7. As a result of the adoption of the SEC Modernization Rules, the SEC now recognizes estimates of "Measured Mineral Resources", "Indicated Mineral Resources" and "Inferred Mineral Resources". Information regarding Mineral Resources contained or referenced in this document may not be comparable to similar information made public by companies that report according to U.S. standards. While the SEC Modernization Rules are purported to be "substantially similar" to the CIM Definition Standards, readers are cautioned that there are differences between the SEC Modernization Rules and the CIM Definitions Standards. Accordingly, there is no assurance any Mineral Resources that the Company may report as "Measured Mineral Resources", "Indicated Mineral Resources" and "Inferred Mineral Resources" under NI 43-101 would be the same had the Company prepared the Mineral Resource Estimates under the standards adopted under the SEC Modernization Rules.

