



Prairie Lake Project

May 2021

The Company

A History of Exploration Success

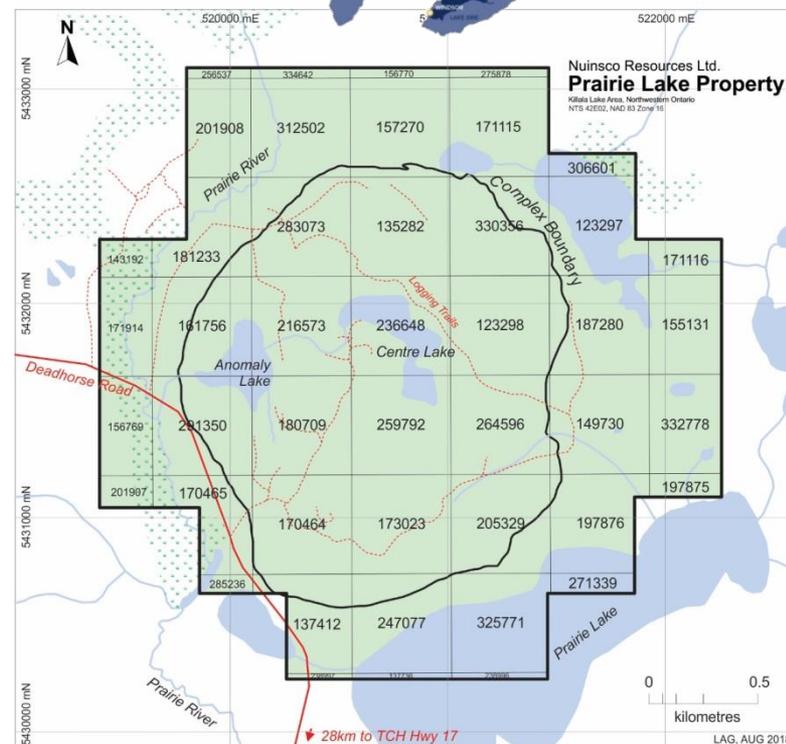
- 50 years of exploration success
- Management continuity
- Track record of spinning out projects to create value
- Current assets provide platform to create value by establishing standalone companies



Prairie Lake – Advanced Exploration

Highlights

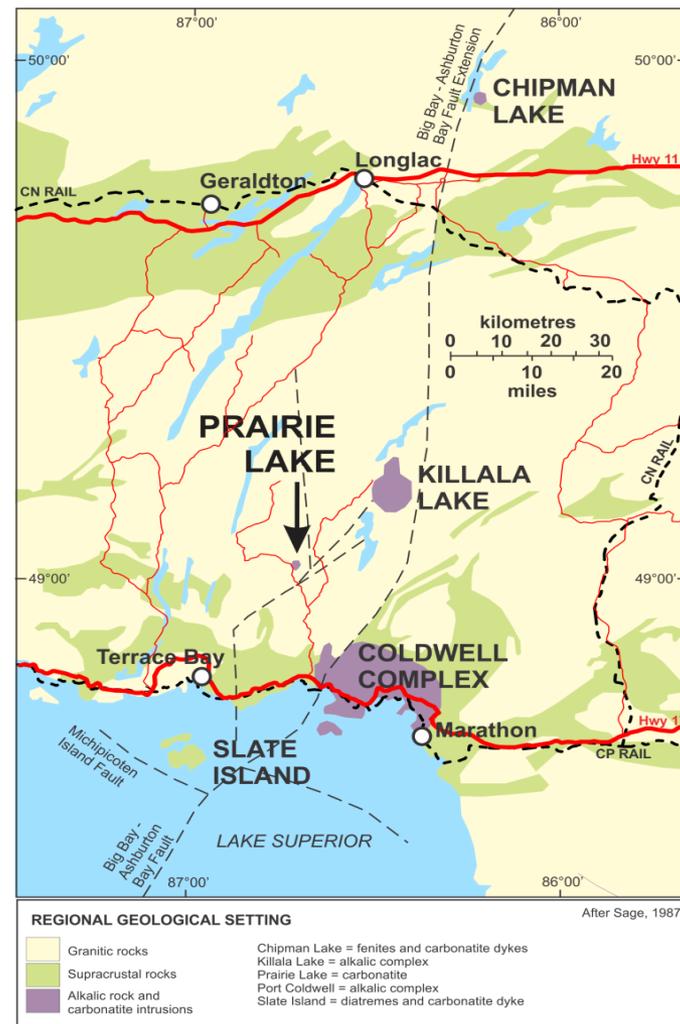
- 100%-owned, multi-commodity mineral asset, located near Marathon and Terrace Bay, Ontario.
- Superb access and infrastructure logistics. Can be exploited with quarry methods.
- Project hosts phosphate, REEs, niobium, tantalum and others with industrial applications.
- Second largest carbonatite-hosted niobium deposit by tonnage in North America (#1: Iron Hill Project in Colorado) and one of world's top 10 by size.
- Exploration Target (as per NI 43-101) of 515-630 million tonnes @ 3.0% to 4.0% P_2O_5 and 0.09% to 0.11% Nb_2O_5 (0.9-1.1 kg/tonne) – **wide open for expansion.**
- **The carbonatite rock has been listed by the Organic Materials Review Institute (OMRI) as suitable for use in organic food processing and production.**



Prairie Lake – Advanced Exploration

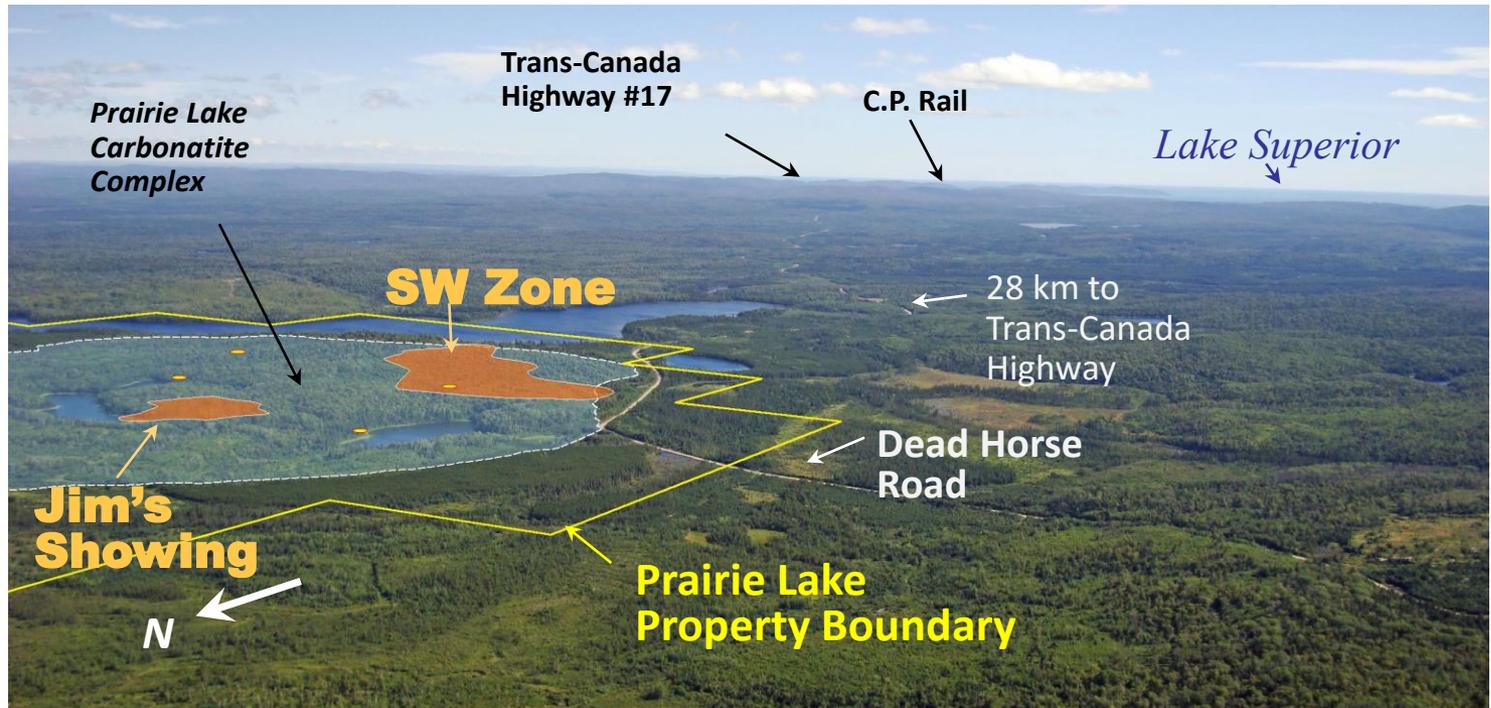
Highlights

- Simple, low-cost exploitation using quarry methods and quarry permit.
- Potential Markets:
 - Agricultural industry
 - High-tech industries (power production, vehicles, etc.)
 - Food and pharma-grade calcium sulphate (various foods and medicines)
- Flotation processing can produce concentrate >30% P₂O₅.
- **Initial field evaluation of the carbonatite as a soil amendment has been very positive – effective soil amendment.**
- **Suitable for use organic food production.**



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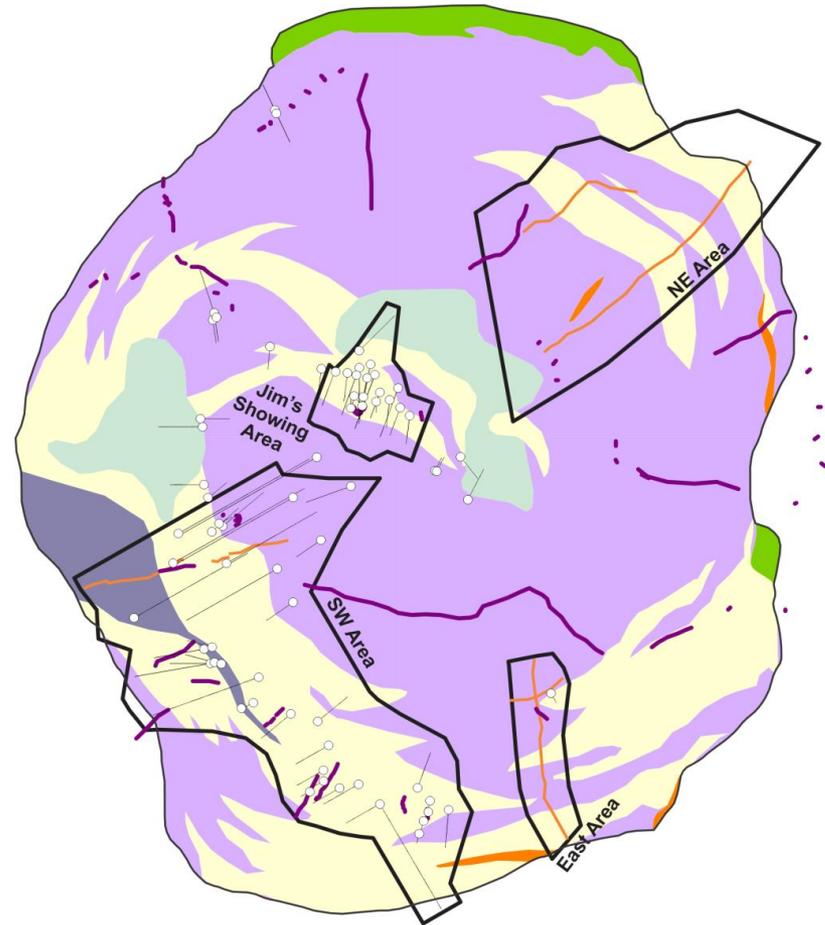
Superior Access & Infrastructure



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Property Geology

- 2.8 km² (at surface) carbonatite-alkalic intrusion
- Proterozoic (~1150 Ma) intrusion emplaced into Archean aged continental shield within the Trans-Superior Tectonic Zone (TSTZ)
- Pronounced circular topographic expression (up to 70m of relief)
- Somewhat oval subvertical cylindrical shape
- Irregular complexly interfingered curvilinear domains of ijolite (dominant pyroxene-nepheline phase) and carbonatite
- Well developed up to 2.5m thick weathered cap



Legend

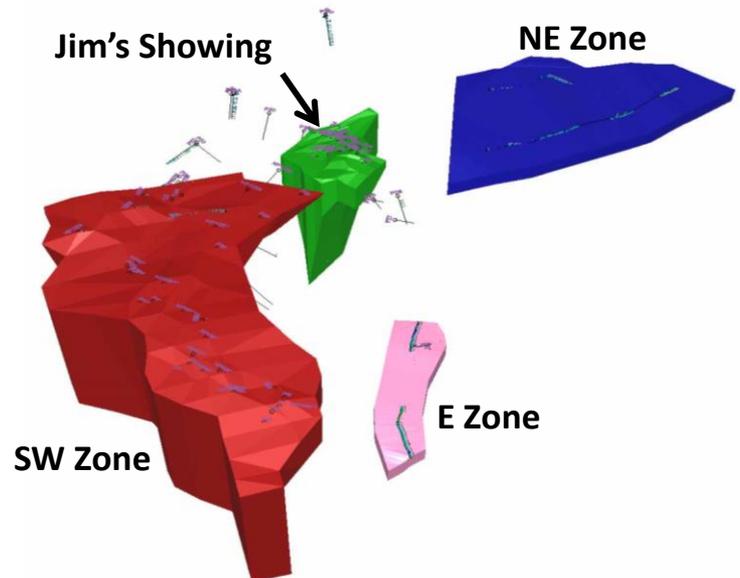
Carbonatite	TB ### Claim Boundaries & Number	2002-2003 Trenches
Ijolite to Malignite	DDH	2010 Trenches
Pyroxenite		Exploration Target Areas
Dyke Rocks		
Fenites & Altered Wall Rock		

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2011 Exploration Target

	Main/SW	Jim's Showing	East	NE	Total
La (ppm)	275 - 340	295 - 360	305 - 370	200 - 250	280 - 340
Ce (ppm)	650 - 790	670 - 820	670 - 820	450 - 550	650 - 790
Sm (ppm)	55 - 70	55 - 70	55 - 70	50 - 60	55 - 70
Nd (ppm)	295 - 360	290 - 360	320 - 390	235 - 290	300 - 360
Y (ppm)	85 - 100	90 - 110	80 - 100	135 - 170	85 - 100
La + Ce + Sm + Nd + Y (ppm)	1360 - 1660	1400 - 1720	1430 - 1750	1070 - 1320	1370 - 1660
P2O5 (%)	3.0 - 4.0	3.5 - 4.5	2.5 - 3.0	2.5 - 3.5	3.0 - 4.0
Nb2O5 (%)	0.095 - 0.115	0.100 - 0.120	0.040 - 0.050	0.085 - 0.105	0.090 - 0.110
Ta2O5 (ppm)	18 - 25	25 - 30	5 - 7	10 - 12	18 - 21
U3O8 (%)	0.005 - 0.007	0.015 - 0.020	0.002 - 0.003	0.004 - 0.005	0.006 - 0.007
Volume - m3 (million)	140 - 175	12 - 14	13 - 16	2 - 3	170 - 210
Tonnes (million)	435 - 530	35 - 45	40 - 50	7 - 8	515 - 630

- 2010 drilling and trenching data incorporated into an updated ET – expanding the SW Zone to the NW and adding the E and NE Zones
- 2011 ET of 515-630 Mt @ 0.09-0.11% Nb₂O₅ and 3.0-4.0% P₂O₅
- ET represents <30% of the total surface area of the intrusion with the E & NE zones only tested by shallow trenching



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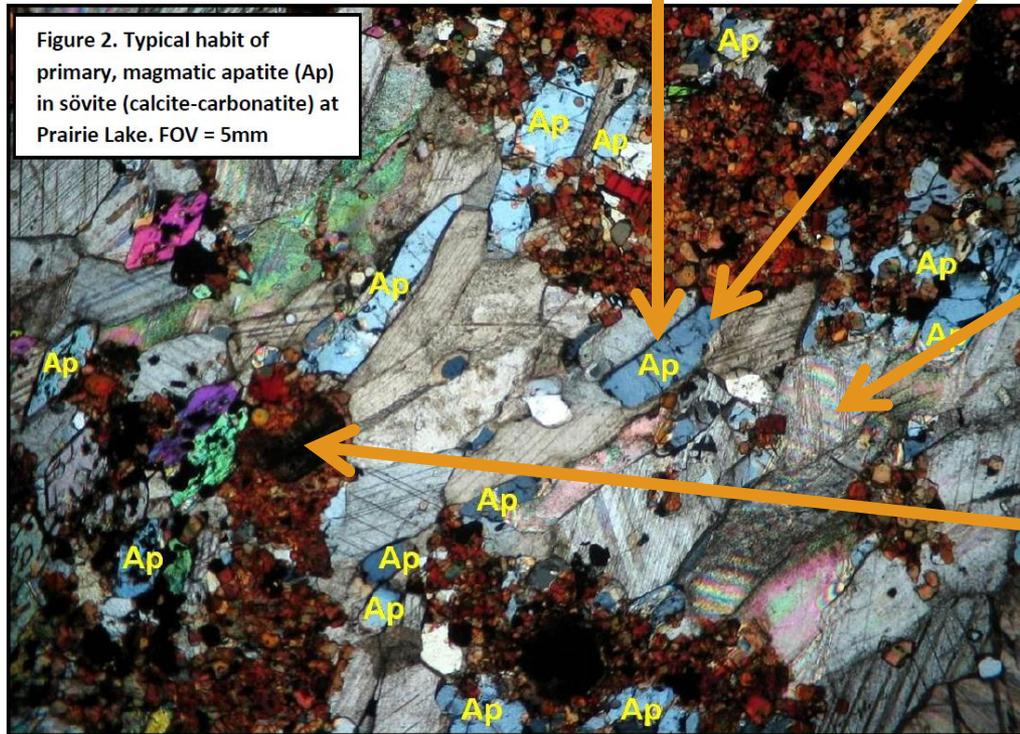
Marketable Products

PHOSPHATE (as CaPO_4)

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

RARE EARTH ELEMENTS

From various minerals – apatite, ancylite



CALCIUM SULPHATE

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

NIOBIUM/TANTALUM

From pyrochlore mineralization

Other potential products include **WOLLASTONITE**, **URANIUM** and **CEMENT**

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Trenching in Carbonatite



Weathering profile over carbonatite – typically 1 to 3m thick

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Metallurgical Test Work

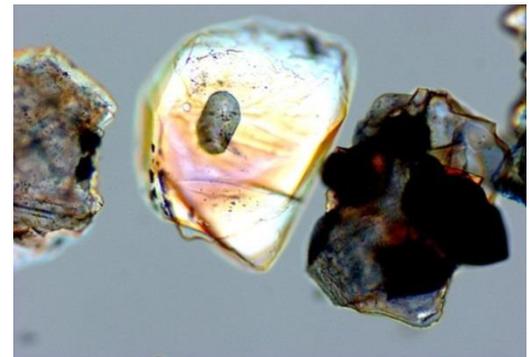
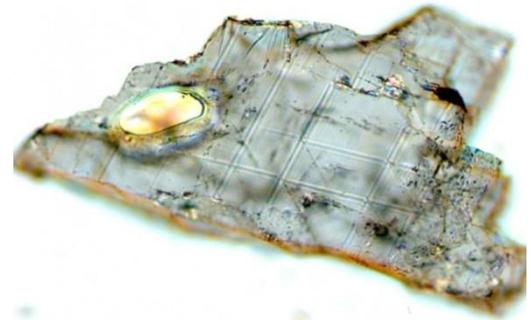
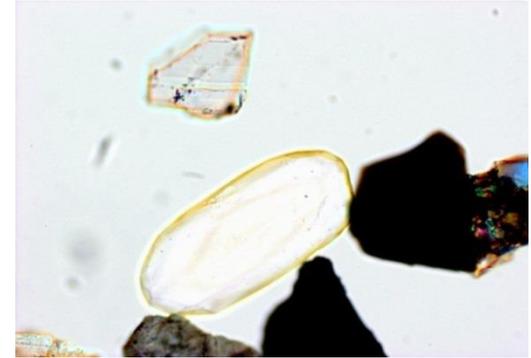
- Multiple composite samples of drill core delivered to COREM in Quebec City including a 1,000kg sample grading 3.18% P_2O_5 , 0.13% Nb_2O_5
- Testing aimed at determining whether material can be produced that meets the requirements of the fertilizer industry – namely P_2O_5 content of >30%, $CaO/P_2O_5 < 1.6$ and MgO content <1%
- Additional preliminary work aimed to produce a niobium-tantalum concentrate
- Other analytical and beneficiation studies aimed at REE potential
- Investigation into production of calcium sulphate and detergent/cleaner grade P_2O_5



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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)



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Phosphate Potential

Comparison of Prairie Lake concentrate to published standards

Prairie Lake Test Results

Bureau of Indian Standards (BIS) - IS: 11224-1985, reaffirmed 2003	Type I	Type II	Test 35 Conc. Apatite (30.6% P ₂ O ₅)	Test 35 Conc. -150+106um (38% P ₂ O ₅)	Test 35 Conc. - 106+75um (38.1% P ₂ O ₅)	Test 27 Conc. after Leach (34.4% P ₂ O ₅)
Total phosphate (P ₂ O ₅) % by mass	≥ 30	≥ 32	30.6	38	38.1	34.4
Silica (SiO ₂) % by mass	≤ 10	≤ 5	1.37	1.12	1.2	5
Fluoride (F) % by mass	≤ 2	≤ 4	0.62	0.72	0.83	(not enough material)
Mixed aluminum and iron oxide (Al ₂ O ₃ and Fe ₂ O ₃) % by mass	≤ 3	≤ 3.5	0.65	0.44	0.48	2.99
Magnesium oxide (MgO) % by mass	≤ 0.5	≤ 0.5	0.7	0.32	0.39	2.26
Chloride (Cl) % by mass	≤ 0.015	≤ 0.05	0.012	0.033	0.009	0.043

- Prairie Lake apatite contains very low levels of impurities – exceeds the standards required for agricultural applications (e.g. MAP and DAP). Also suited to produce (with addition of NaSO₄) sodium tri-polyphosphate, an industrial cleaner.

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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_2O_3) of 0.33% (2829 ppm) Nd_2O_3
- LREO (and Nd_2O_3)-rich character of Prairie Lake apatite indicates that there is excellent potential for apatite concentrates to return economically significant by-product neodymium: a potential supported by the results of the first apatite concentrate (COREM, Test #35), which returned a Nd_2O_3 grade of 0.22%
- Neodymium particularly valued because of the critical importance of Nd-based 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 scale of the Prairie Lake phosphate mineralization (ET of 515-630 million tonnes grading 3.0-4.0% P_2O_5), which is an order of magnitude larger than most commercial REE deposits, the potential for the recovery of by-product neodymium from Prairie Lake concentrate takes on added meaning

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Summary

- Superb property location and logistics – cost advantage over many peers
- Exceptional size – Exploration Target of >600Mt
- Second largest carbonatite -Nb resource in NA and in the top 10 globally
- Only a fraction of the entire complex has been explored – potential upside to tonnage and mineral potential
- Mineralization occurs at surface – simple, inexpensive, quarry methods used to exploit
- Mineralogically diverse – potential production of a range of potential elements/minerals/commodities
- Phosphorus, REEs, niobium, tantalum, calcium sulphate and other potential products with industrial uses
- Metallurgy/process testing demonstrating viability of beneficiation
- Concentrate produced containing >30% P_2O_5 , also low in deleterious elements – meets agriculture specs and other industry applications
- High-purity calcium sulphate production also possible with applications in food and pharmaceutical industries
- Low capex, rapid timeline to calcium sulphate production

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