LOMIKO METALS®

A responsible developer of choice
in Quebec, Canada

A partner of excellence
in North America

for a shared
climate success story

TSXV: LMR
OTC: LMRMF
Frankfurt: DH8C

May 2024

ECOLOGO
MINERAL EXPLORATION PROCESSES CERTIFIED FOR RESPONSIBLE ENVIRONMENTAL AND SOCIAL BEST PRACTICES.
UL.COM/EL
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Land Acknowledgement

The land/projects where we operate are located within the traditional land of the Algonquin Anishnaabeg and Cree Eeyou Istchee Peoples.

Our vision is to embrace Indigenous people and Indigenous values within our projects to develop a sustainable approach on our path to critical minerals development, while honouring the lives, memories, and hopes of all seven generations close.

The La Loutre graphite project site is located within the Kitigan Zibi Anishinabeg (KZA) First Nation's territory. The KZA First Nation is part of the Algonquin Nation and the KZA traditional territory is situated within the Outaouais and Laurentides regions.

The Bourier lithium project site is located south-east of the Eeyou Istchee James Bay territory in Quebec, near Nemaska Lithium and Critical Elements.

Sustainability is at the heart of our core values

Cindy Valence appointed to Chief Sustainability Officer. Cindy resides in the Laurentides region in Quebec, Canada and has vast experience and applied knowledge of the energy transition sector

- Three strategic pillars:
  1. Full integration in the battery value chain in Québec and North America
  2. Regional approach and open to M&A
  3. Responsible operator of choice in Québec & Canadian critical minerals

- Excellence, Respect, and Ingenuity drive all day-to-day decisions.

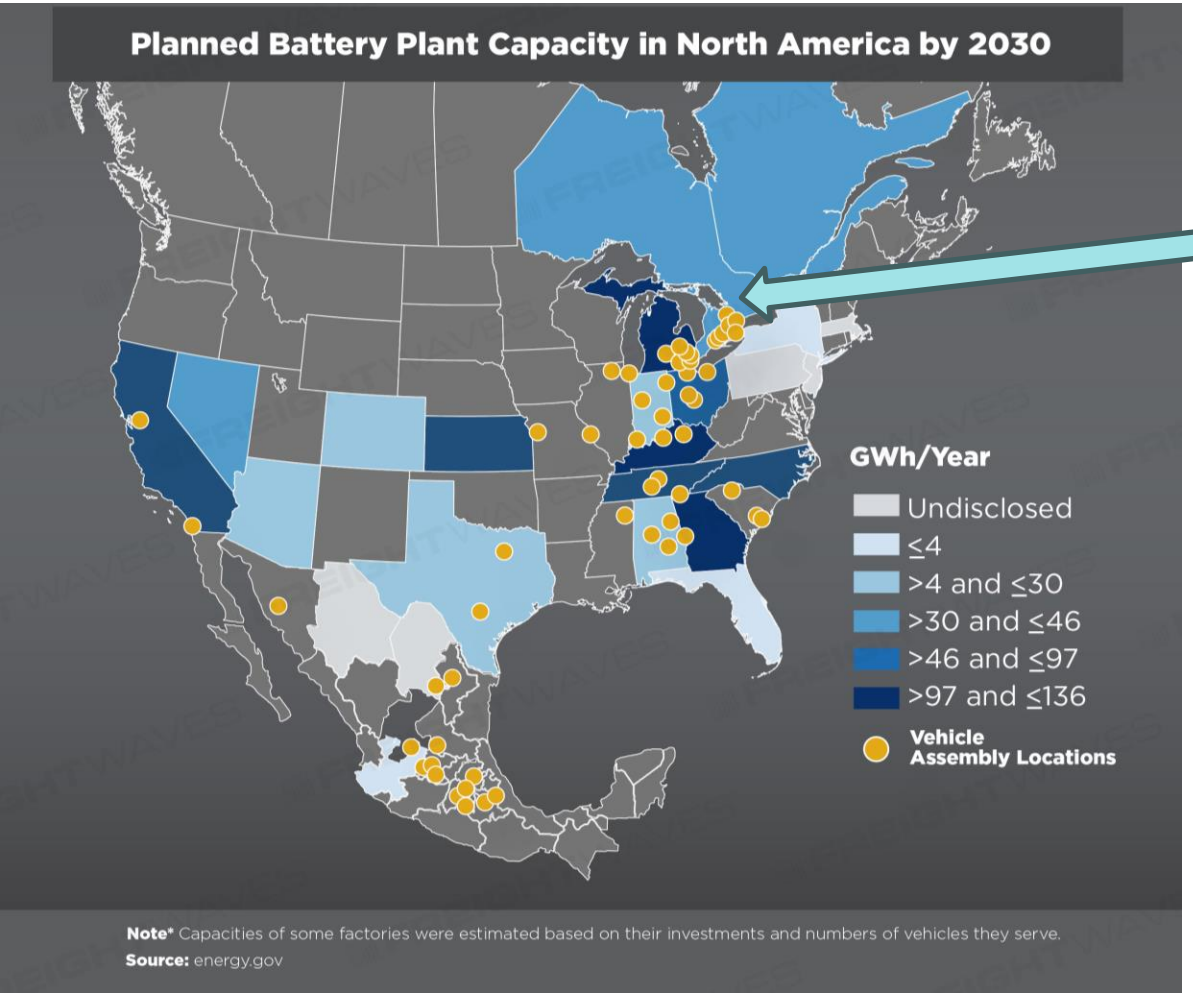
- People first company: Our approach is based on open discussion, understanding and collaboration with local communities to create a fully responsible and sustainable project.

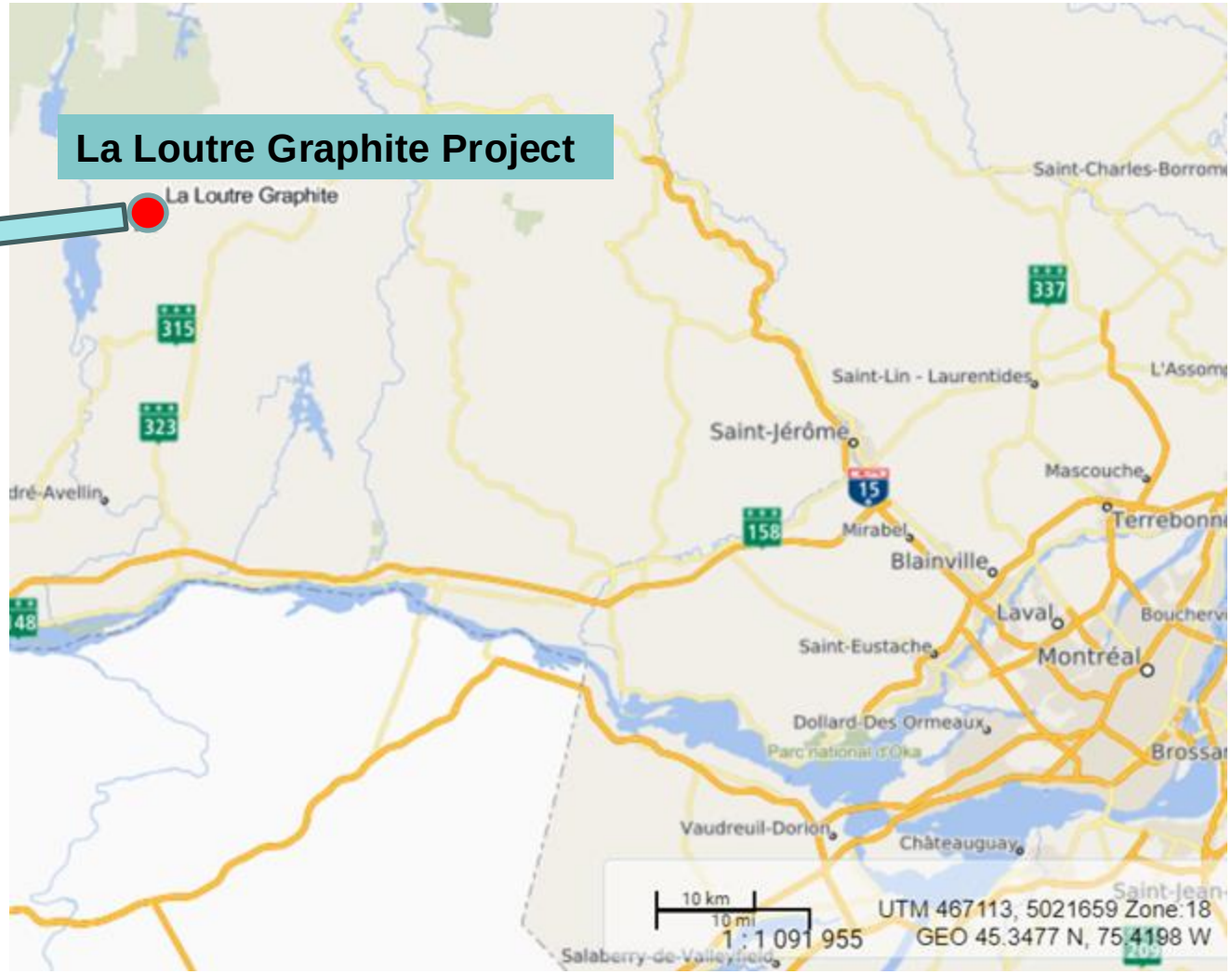
- Inclusive and diverse operations at all levels: 50% of directors are women and 3 of 4 Executive Officers are female

- Committed to Truth and Reconciliation Call to Action #92

La Loutre Graphite Project

Lomiko is poised to be the responsible developer of choice in the South of Quebec



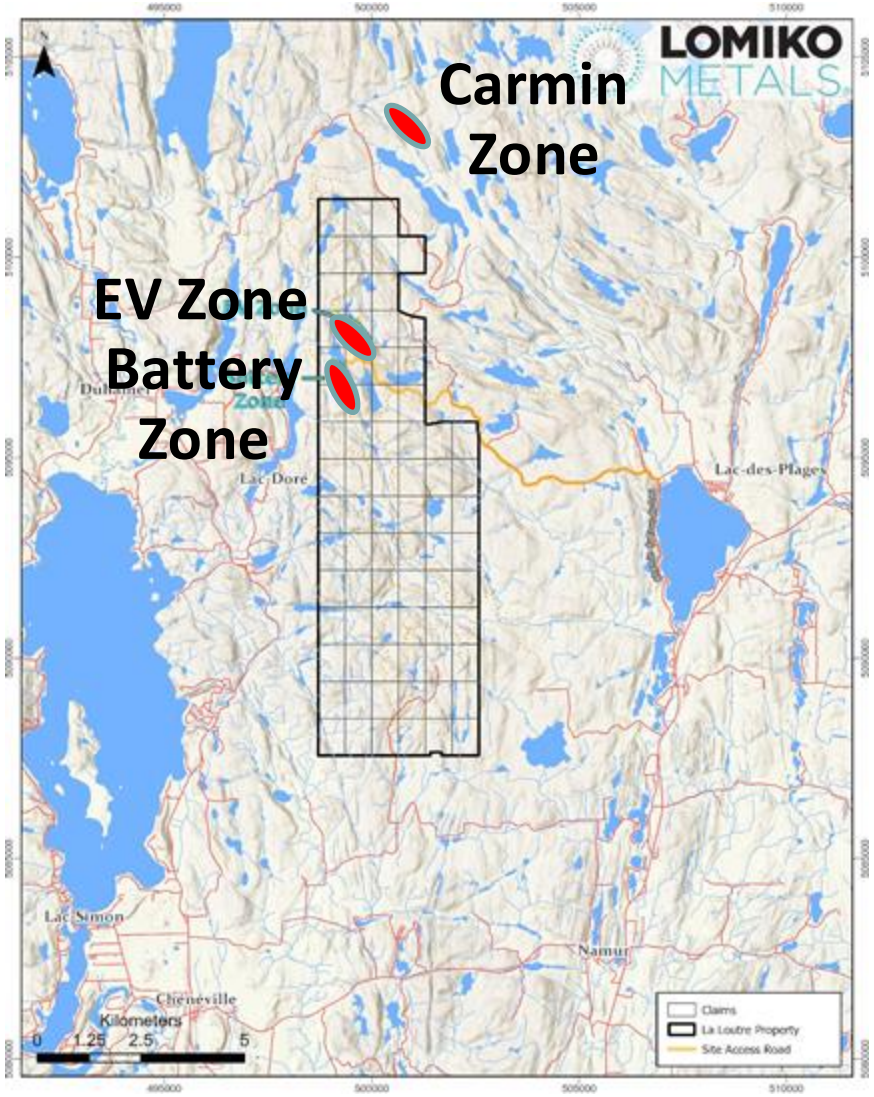


Source: NI 43-101 Technical Report and Preliminary Economic Assessment (July 2021)

La Loutre PEA details dated September 2021

- Two known deposits currently being explored: EV Zone and Battery Zone
- LOM plant production of 21.8 Mtonnes of mill feed at 6.78% Cg diluted
- **Graphite concentrate** production **at 1.43 Mtonnes** grading **95.0% Cg**
- 14.7-year mine life producing 100,000tpy of graphite
- **Exceeded PEA test with PFS level testing** - Open circuit variability flotation tests produced concentrate grades between **97.9% and 99.7% Cg with 9.47% recoveries!**
- Focused footprint relative to claim size

Carmin Acquisition – historic PFS



Source: Company Data

Achieving 184% Increase in Tonnage Indicated Mineral Resources

La Loutre Resource Estimate (Effective Date: March 31, 2023)

Source: InnovExplo March 2023

		2023 MRE			2021 MRE		
Deposit		**EV**	**Battery**	**TOTAL**	EV	Battery	TOTAL
Cut-off (%) Cg		1.5	1.5	1.5	1.5	1.5	1.5
Indicated mineral resource	**Tonnage (kt)**	**24,267**	**40,429**	**64,696**	8,158	15,007	23,165
	Graphite (%)	**5.80**	**3.86**	**4.59**	6.48	3.44	4.51
	Graphite (kt)	**1,407**	**1,562**	**2,969**	529	516	**1,045**
Inferred mineral resource	Tonnage (kt)	3,067	14,384	17,452	12,829	33,992	46,821
	Graphite (%)	4.29	3.60	3.72	5.81	3.33	4.01
	Graphite (kt)	132	518	650	745	1,132	1,878

Notes to accompany the Mineral Resource Estimate:

1. The independent and qualified persons for the mineral resource estimate, as defined by NI 43 101, are Marina Iund, P.Geo. (InnovExplo Inc.), Martin Perron, P.Eng. (InnovExplo Inc.)., Simon Boudreau, P.Eng. (InnovExplo Inc.). and Pierre Roy, P.Eng. (Soutex Inc.). The effective date of the estimate is March 31st, 2023.
2. These mineral resources are not mineral reserves as they do not have demonstrated economic viability. The mineral resource estimate follows current CIM Definitions (2014) and CIM MRMR Best Practice Guidelines (2019).
3. The results are presented undiluted and are considered to have reasonable prospects of economic viability .
4. The estimate encompasses two mineralized domains (EV and Battery) using the grade of the adjacent material when assayed or a value of zero when not assayed.
5. No capping was applied on 1.5m composites.
6. The estimate was completed using sub-block model in Leapfrog Edge 2022 with user block size of 5m x 5m x 5m and minimum block size of 2.5m x 2.5m x 2.5m. Grades interpolation was obtained by ID2 using hard boundaries.
7. Bulk density values were applied by lithology (g/cm3): low grade zone = 2.82; high grade zone = 2.82; paragneiss = 2.8; quartzite = 2.73; pegmatite = 2.63, marble = 2.75 and OB = 2.0.
8. The mineral resource estimate is classified as indicated and inferred. The Indicated mineral resource category is defined with a minimum of three (3) drill holes in areas where the drill spacing is less than 55 m, and reasonable geological and grade continuity have been demonstrated. The Inferred category is defined with a minimum of two (2) drill holes in areas where the drill spacing is less than 100m, and reasonable geological and grade continuity have been demonstrated. Clipping boundaries were used for classification based on those criteria.
9. The mineral resource estimate is pit-constrained with a bedrock slope angle of 45° and an overburden slope angle of 30°. It is reported at a graphite cut-off grade of 1.5%. The cut-off grade was calculated using the following parameters: processing cost = C$13.04; product transporting cost = C$41.16; mining cost (rock) = C$3.70; mining cost (OB) = C$2.90; graphite price = US$1,098.07 /tonne of graphite; USD:CAD exchange rate = 1.32; graphite recovery to concentrate product = 94.7%. The cut-off grade should be re-evaluated in light of future prevailing market conditions (metal prices, exchange rates, mining costs etc.).
10. The number of metric tons was rounded to the nearest thousand, following the recommendations in NI 43 101 and any discrepancies in the totals are due to rounding effects.
11. The authors of MRE are not aware of any known environmental, permitting, legal, title-related, taxation, socio-political, or marketing issues, or any other relevant issue not reported in the Technical Report, that could materially affect the Mineral Resource Estimate.

Natural flake graphite is highly amenable product for the EV battery industry

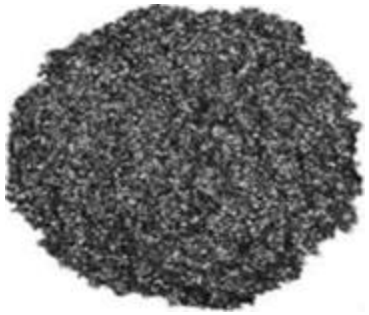
Natural Graphite deposits of economic interest are grouped into three main categories

- Amorphous (microcrystalline) Cg % - 60 - 99.9
- Vein Graphite (lump and chip) Cg % - 90 - 99.0
- **Flake Graphite (crystalline) Cg % - 80 - 99.9**

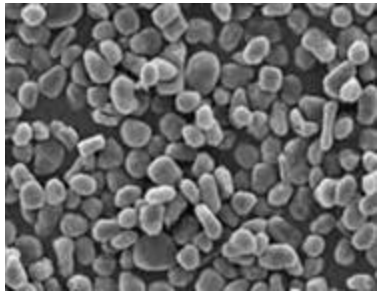
Spherical Graphite is the product that is consumed as an anode in lithium-ion batteries. Flake graphite concentrate is processed into ultra-high-purity graphite which is used as a battery anode material
It takes 2.2 tonnes of flakes to produce 1 tonne of spherical graphite

Amorphous Graphite

Vein Graphite



Flake Graphite



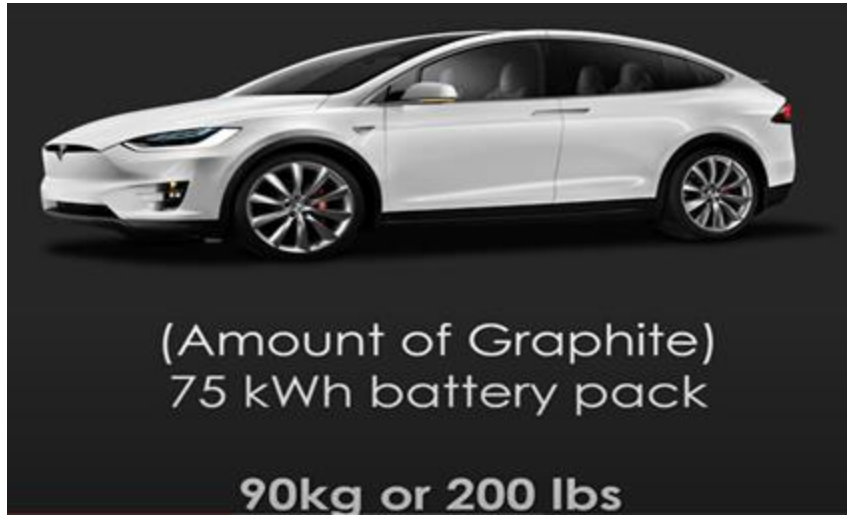
Spherical Graphite

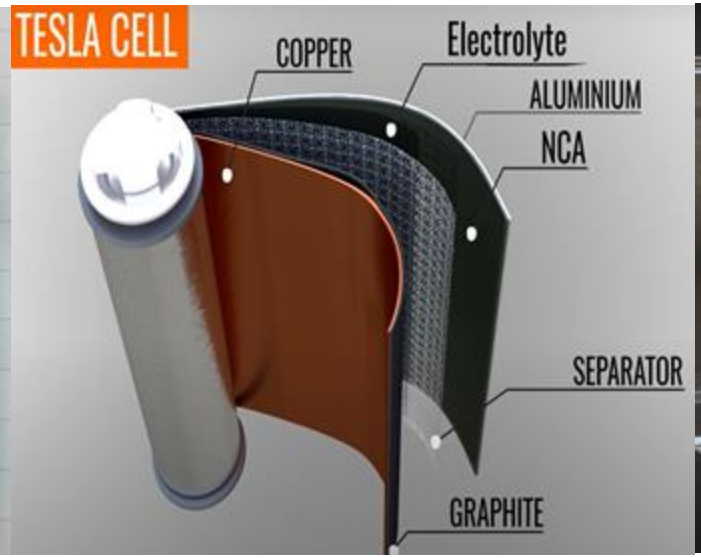
Synthetic Graphite

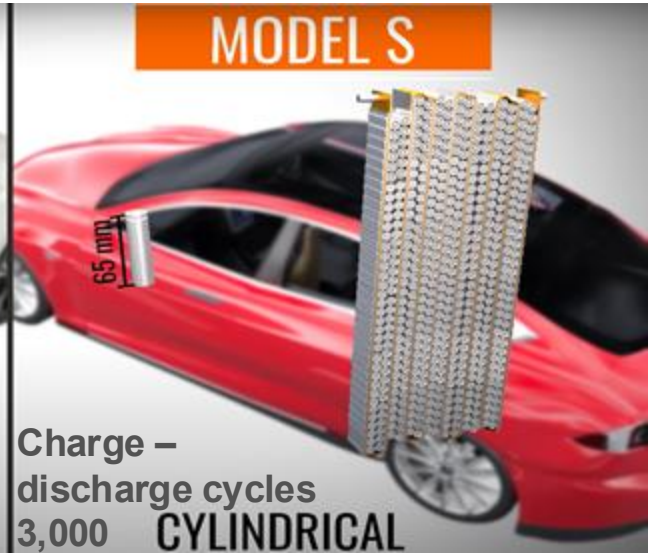
Electric Vehicles Batteries

Tesla plans to replace 18650 with 4680 DBL (dry battery electrode)
Raw materials in an electric car battery of 100 kWh, weighing 600kg:

- 7 kg of lithium (70g per kWh)
- 10 kg of manganese
- 11 kg cobalt (4.5kg for 75kWh)
- 70 kg of nickel (Ni-Co-Al~ 8:1:1)
- **125 kg graphite**



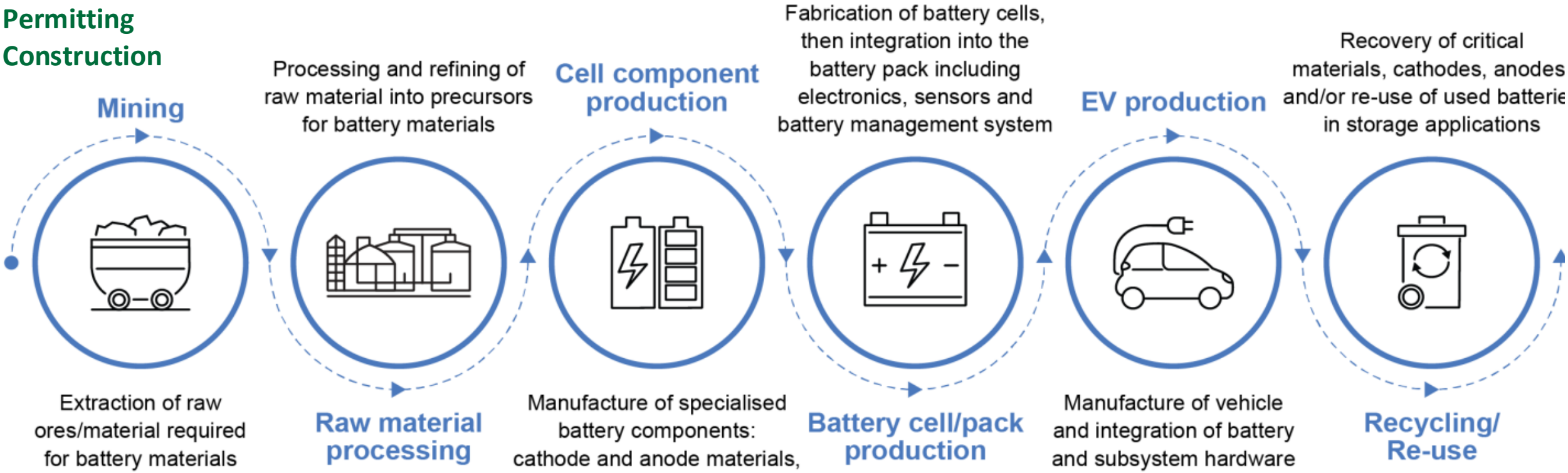




Source: Science Direct and Wikipedia

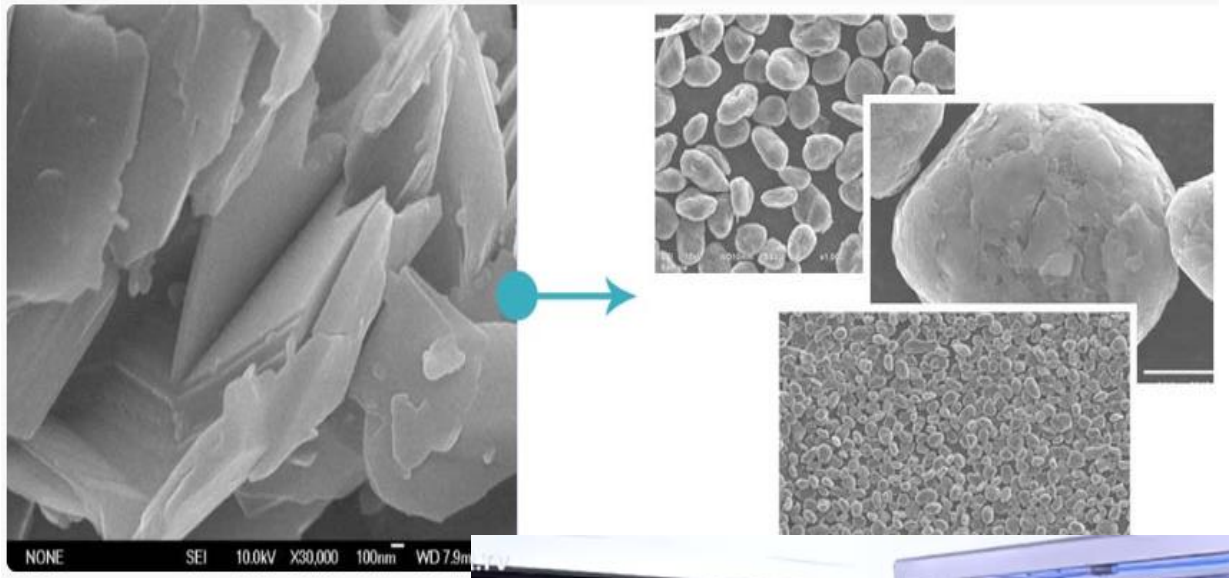
Extraction of battery minerals is a critical first step in the EV battery supply chain

Exploration
Studies including
PEA, PFS. FS, bulk testing,
Permitting
Construction



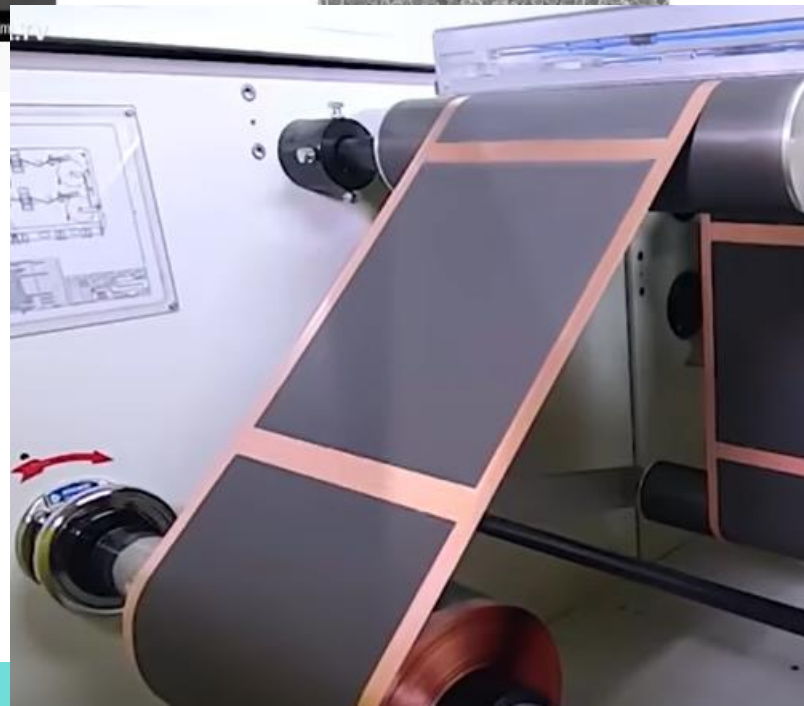
Graphite – main component of the anode – negative electrode

- The graphite particles are platelet-shaped but need to be shaped into little spheres in order to compact better.
- Natural flake graphite, particle size ≤100 mesh (150microns), carbon content of 90%-95% is first upgraded to 98-99%Cg prior to input into Spherical Graphite (SPG) process



CSPG (Coated SPG) Process (increases storage capacity, fast charging, service life and conductivity):

- Grinding (20-25 microns)
- Spheroidization (16-17 microns) & Classifying
- Purification (+99.95%Cg)
- Coating (carbon black) - Carbonization (heat treatment at 900°C-1400°C)
- **Electrode Production**: CSPG dispersed in solvent, added polymer - Spraying/Baking on a copper sheet
- Drying in a tunnel & compressing in the roll



La Loutre Graphite Met Studies - Summary

✓ **SGS & Metpro Characterization Study, Feb 2023**

640kg core sample that was homogenized and used to test the graphite mineralization. Optimization of the flotation circuit resulted in achieving 94.7% recovery and reconciled LCT (Locked Cycle Testing) testing grades at 99.1%Cg

✓ **ProGraphite SPG Study, May 2023**

A 10.5 kg bulk flotation sample was micronized, spheroidized, and purified to produce spheroidized and purified graphite (SPG). All physical characterization tests meet the target values for Electric Vehicles and other lithium-ion based battery applications

La Loutre Graphite Met Studies - Summary

✓ **Polaris Study Phase 1 & Phase 2, January & April 2024**

Polaris tested electrochemical characteristics of cSPG (coated spherical graphite) by subjecting a half-cell coin and a single-layer pouch full-cell batteries demonstrating that La Loutre cSPG quality is meeting or surpassing industry standards.

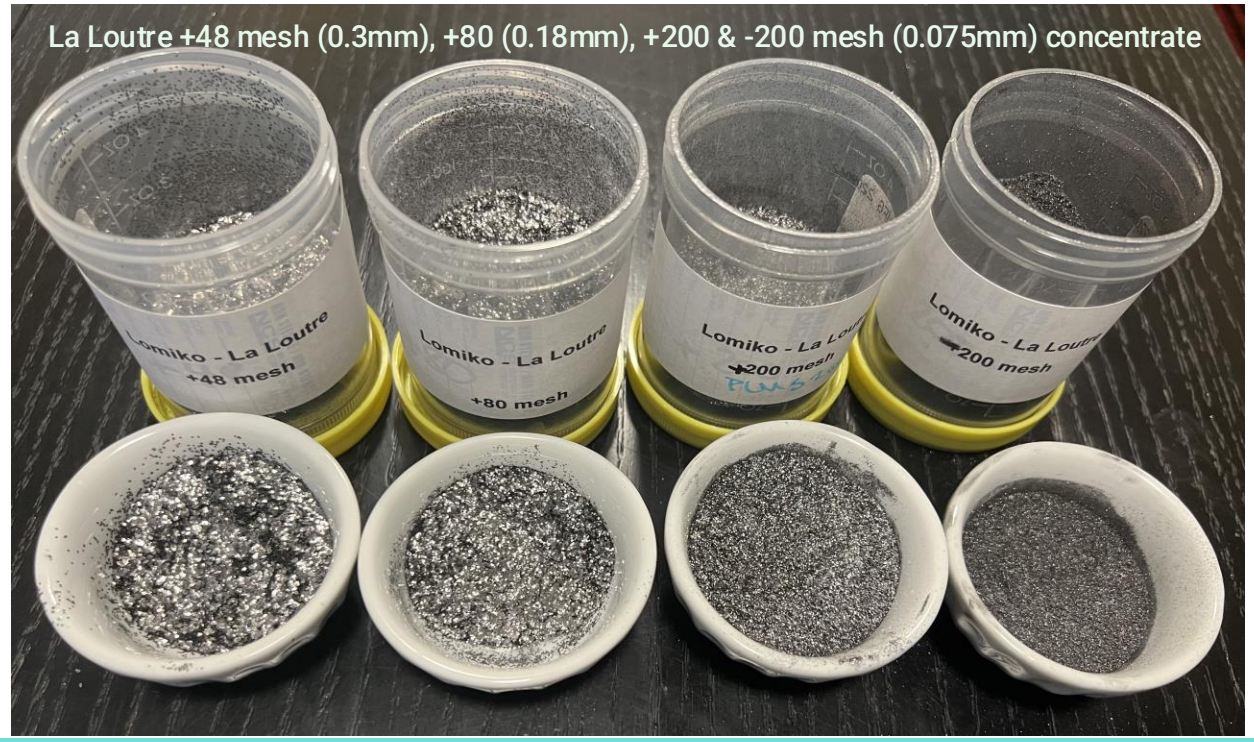
Both SPG16 and SPG20 perform well as compared to commercial graphite reference material for charge and discharge capacities, first cycle loss coulombic efficiency, and gravimetric capacity. With these electrochemical performance results produced by Polaris

Lomiko has now successfully demonstrated the full value chain

from ore to battery anode material on samples from the La Loutre project

SGS Characterization Study, 2023
67% fines content in the flotation concentrate

- La Loutre flake distribution is ~67% fines - suitable for anode market **37% growth year over year!**
- -100 mesh is used most commonly in SPG (spherical graphite) as a precursor for battery production



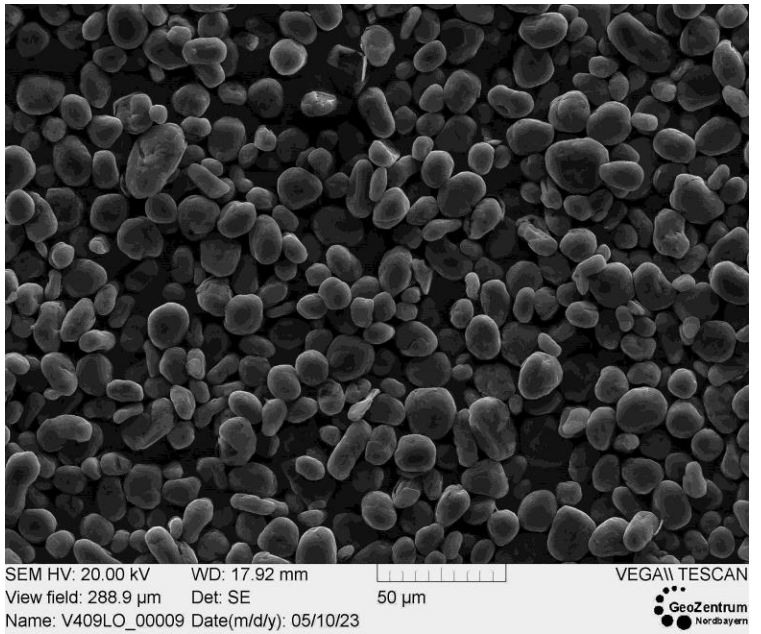
Size Fraction Analysis of Combined Concentrate of LCT – PFS Level MetPro Report Feb 2023

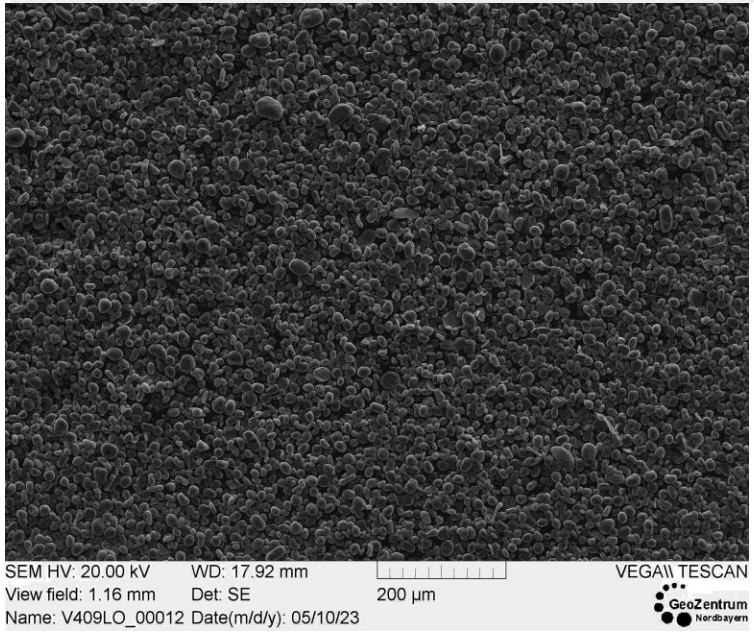
33% of +100 mesh

Size (Mesh)	Size (µm)	Mass (%)	C(t) (%)	C(t) Distribution (%)
32	500	0.4	98.3	0.4
48	300	5.6	98.7	5.5
80	180	18.1	98.3	17.9
100	150	9.5	98.8	9.4
150	106	17.0	99.4	17.1
200	75	18.6	99.6	18.7
325	45	18.2	99.5	18.2
-325	-45	12.7	99.1	12.7
Final Concentrate		**100**	**99.1**	**100**

La Loutre metallurgical program 99.99% purified graphite content

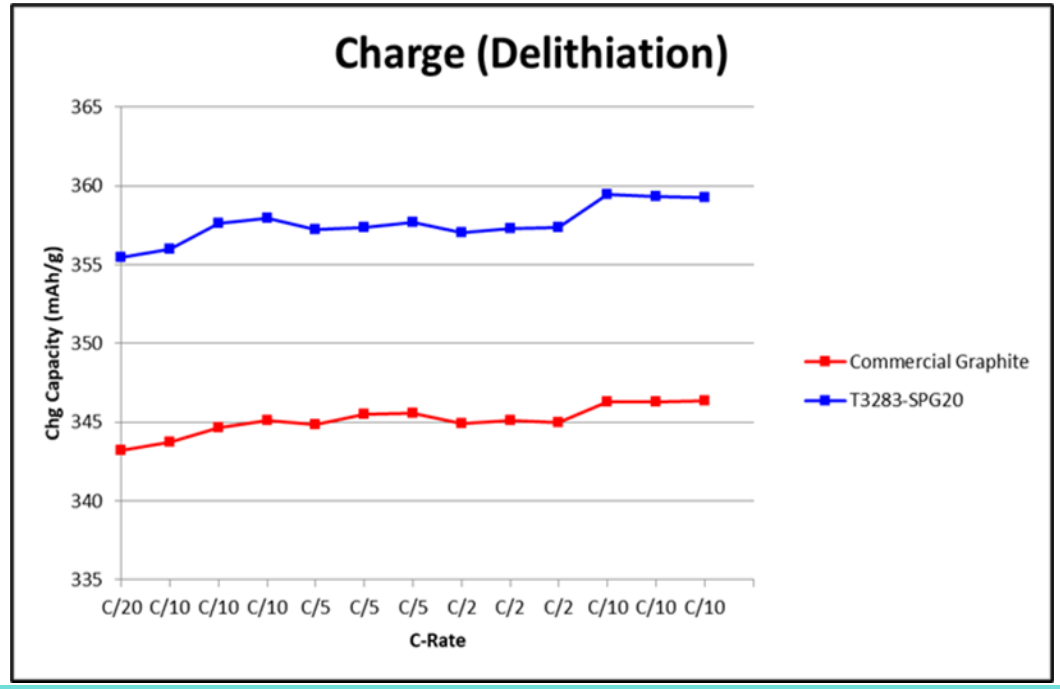
- ✓ Completed PFS level met testing and optimized flow sheet
- ✓ Completed value-added testing with ProGraphite – micronization, spheroidization, and purification:
- ✓ **Proved that La Loutre material is suitable for battery applications - Spherical Graphite production yielded excellent results**
- ✓ **Achieving excellent 99.99%Cg SPG and flake purity**
- ✓ All physical characterization tests produced excellent results
- ✓ Achieved continuous and reliable production of micronized products with homogenous properties.
- ✓ Low specific energy input to convert the La Loutre flotation concentrate to micronized material.





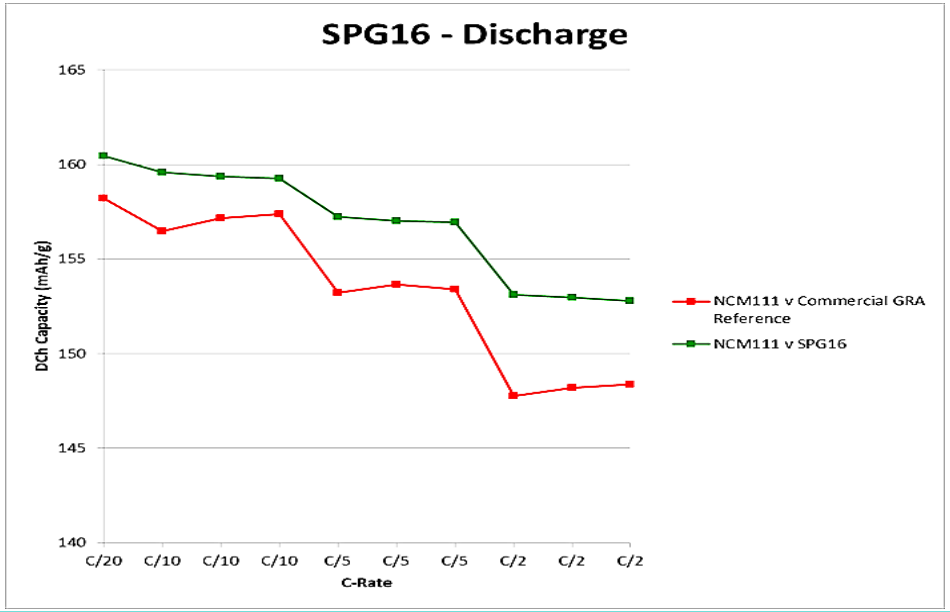
La Loutre half-cell battery testing surpassed commercial graphite results - Polaris

- ✓ Demonstrated that La Loutre material is suitable for battery applications – half-coin battery testing with Polaris Battery Labs, LLC, USA, is demonstrating higher reversible capacity compared to commercially available graphite, averaging 358mA/h
- ✓ Figure up - Lomiko graphite Half-cell batteries produced and tested by Polaris (SPG16 top, SPG20 bottom row)
- ✓ Figure bottom - SPG20 sample from La Loutre has superior charging capacity compared to commercial graphite in the market today in North America.



La Loutre single layer pouch full-cell battery testing met and surpassed commercial graphite results - Polaris

- ✓ Demonstrated that La Loutre material is suitable for battery applications – single layer pouch full cell battery testing completed with Polaris Battery Labs, LLC, USA,
- ✓ The single-layer pouch cells constructed with La Loutre graphite anode and standard cathode material: cSPG16 and cSPG20 samples from La Loutre reveal strong performance of the La Loutre cSPG with better discharging capacity compared to commercial graphite material in North America today.
- ✓ Both samples were put through a brief life cycle analysis for 25 cycles at C/2 and performed well.
- ✓ Figure top - Lomiko graphite Single layer pouch batteries produced and tested by Polaris
- ✓ Figure bottom - SPG20 sample from La Loutre has better charging/discharging capacity compared to commercial graphite in the market today in North America.



La Loutre thermal purification and half-cell battery testing surpassed commercial graphite results - NRC

- ✓ NRC Study Phase 1- half-cell coin battery testing demonstrated that La Loutre material is suitable for battery applications – half-coin battery testing with, is demonstrating higher reversible capacity compared to commercially available graphite, surpassing results achieved at Polaris at 358mA/h at an averages 367 mAh/g in the NRC Study
- ✓ High Temperature (HT) purification in a HT furnace. The sample was heated up to 2700 C in argon gas for 5-10 minutes, followed by a natural cooling of the furnace for several hours, kept under Argon gas. The HT purification by NRC was able to bring almost all elements below the 10 ppm target.
- ✓ Phase 2 of the NRC Study would build 5-layer batteries and test them for 500 cycles over 9 months.

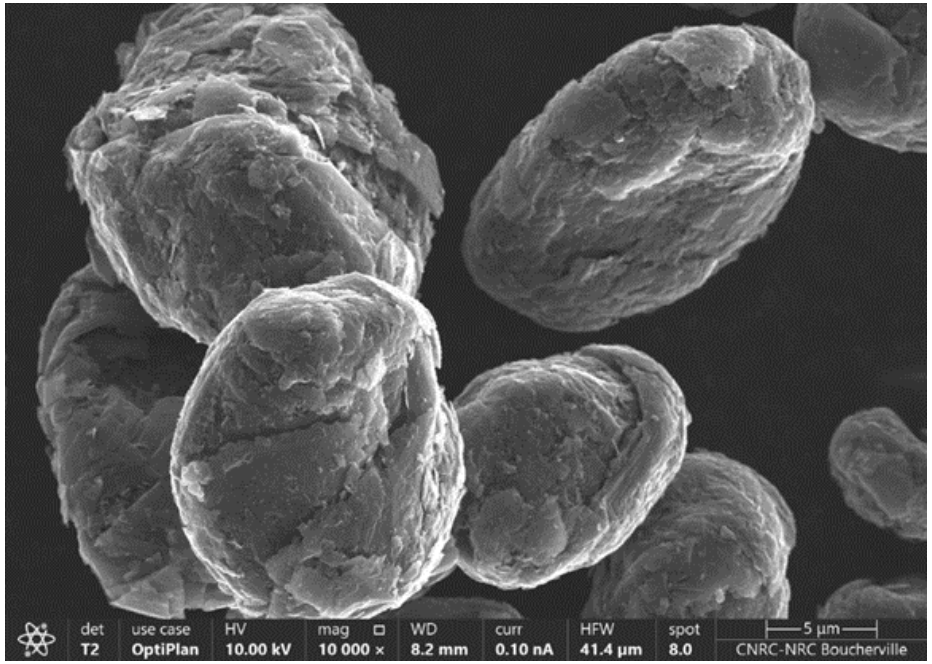


Figure - Lomiko graphite Half-cell batteries produced and tested by Polaris

La Loutre Graphite Project Next Steps

Summary of DoD Technology Investment Agreement

- ✓ Award: US$8.35m
- The TIA agreement entered into with the DoD is to complete three distinct phases of research and development work with independent experts and consultants over a 5-year period to develop, test and prove a production process from natural flake graphite into cSPG anode-grade material
- Lomiko has de-risked 50% of study costs to US$8.35m grant
- This funding supports the full vision and values of Lomiko for a decarbonized mine model, community-focused studies, and ongoing metallurgical test work

Phase 1: Completion of a Pre-Feasibility Study (PFS) and all environmental studies

Phase 2: Completion of metallurgical studies and bulk sample, including cSPG

Phase 3: Completion of a Definitive Feasibility Study (DFS)

Summary of CMRDD program administered by Natural Resources Canada

- ✓ Award: CA$4.9m
- The CMRDD program administered by Natural Resources Canada is to pilot the integrated graphite upgrading process with a 200 mt bulk sample over 3 years for a total contribution agreement of CA$6.6m where Lomiko will contribute 25% of this funding
- It supports four tasks: these tasks complement Phase 2 of the DoD grant
- All work and equipment will be in a Canadian lab setting

Task 1: Crushing, grinding and flotation of La Loutre graphite

Task 2: Chemical and thermal purification of graphite concentrate

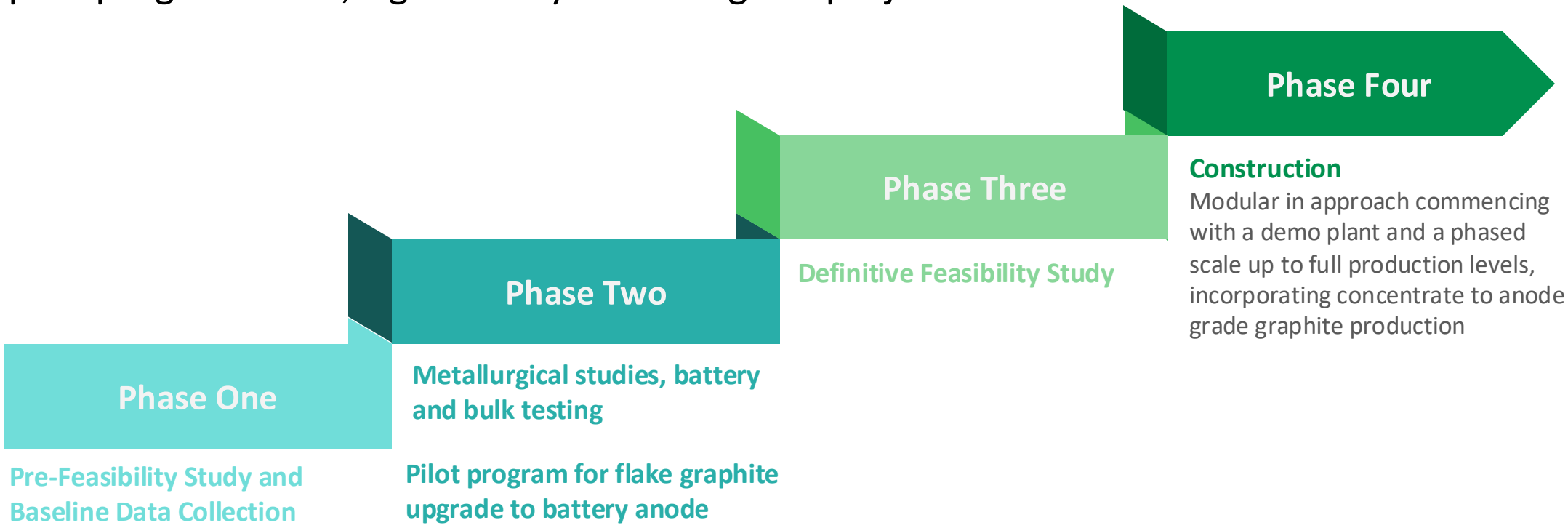
Task 3: Micronization and spheriodization of the flotation concentrate

Task 4: Carbon coating of purified graphite

La Loutre Development

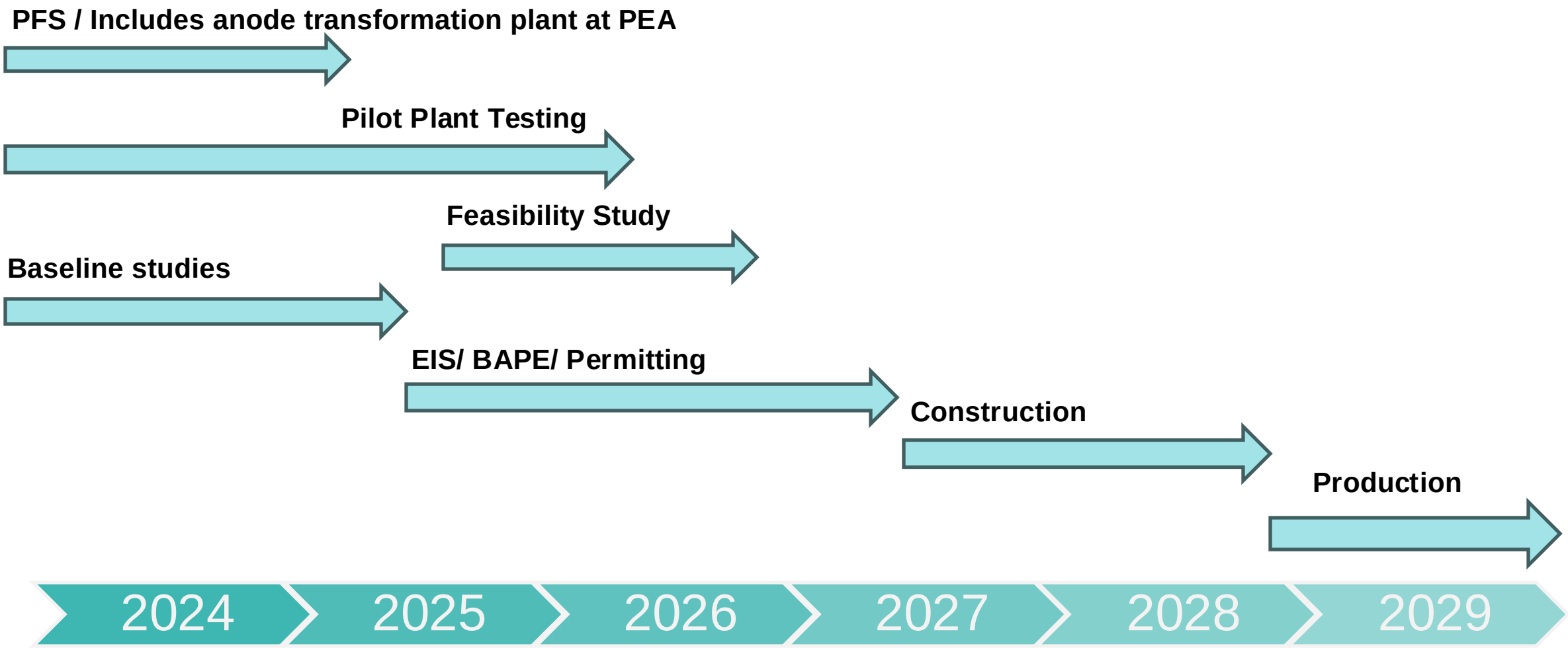
A de-risked path to continued development of this strategic critical mineral asset

- The U.S. DoD has provided a grant for **50%** of the study costs and NRCan is contributing **75%** of the pilot program costs, significantly de-risking the project.



La Loutre graphite development milestones

- Permitting and capital dependent – 100,000tpa flake concentrate



For more information

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