Lithium Exploration on the LaCorne South and PegaLith Properties

Exploration goal:

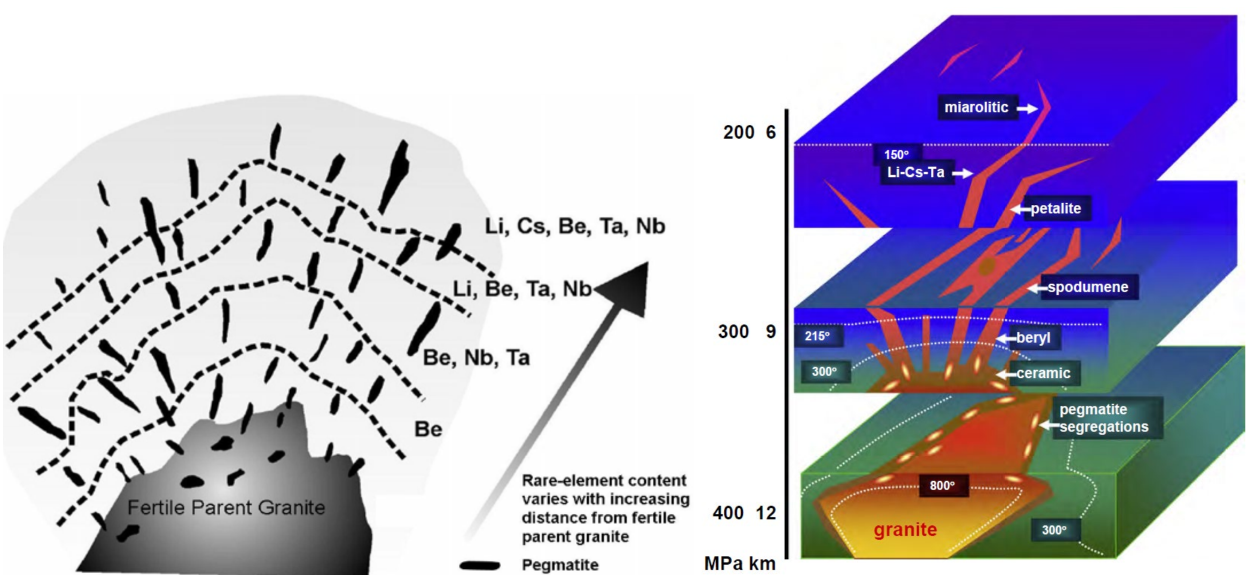
The target while exploring on the LaCorne South and PegaLith Properties will be to define lithium deposits greater than 7 Mt at 1 wt. % Li2O. While exploring for lithium, other rare earth elements will be investigated due to their importance in the Canadian Critical Minerals Strategy and widespread economic value.

Bradley et al. (2017) provides a comparison of major economic LCT pegmatites. The study establishes that **economic pegmatites** typically have minimum grades of **1 wt. % Li2O** and 0.1 wt. % Ta2O5, and are expected to have tonnages of **7 Mt** and 0.01 Mt, respectively. It also states that rare element pegmatites frequently have unevenly distributed ore grades which can add complications to extraction.

Prospective area and geologic model:

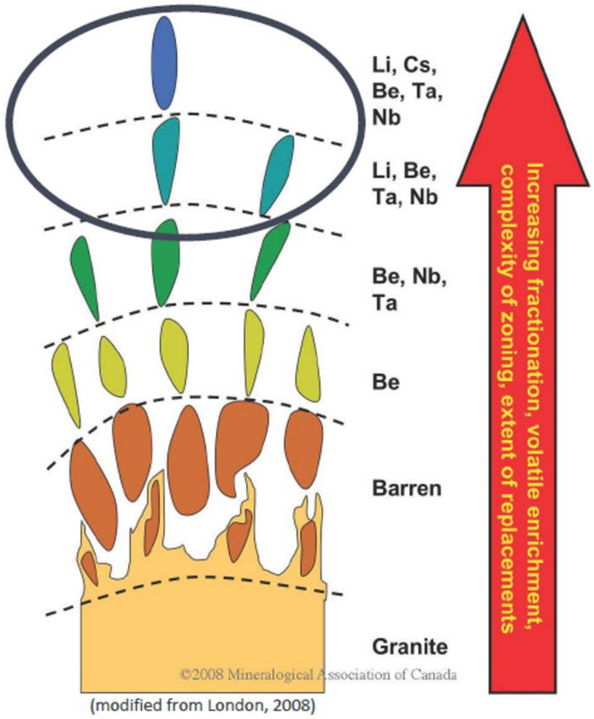
Prospective LCT (lithium, caesium, tantalum) pegmatites are found in areas that underwent crustal growth and reworking of voluminous metasedimentary source materials, which coupled with a heat source, mobilised the ore elements from the source rock to form peraluminous melts. This is illustrated below as 'Fertile Parent Granite'.

LCT pegmatites are created by the fractional crystallisation of granitic magma plutons or through partial melting of crustal or mantle rocks with the involvement of fluids. The siliceous melt separates from parent granites through filter pressing and intrudes into country rocks, where it solidifies and gives rise to either unzoned or zoned pegmatites.



Modified from London, D. 2008. and David London, 2021

Matt Krukowski, P.Geo., B.Sc.
mat@waldosciences.com
1-778-868-6288



- Rare-element – Li pegmatites are a very diverse subclass of the rare-element class of pegmatites
- Schematic showing the chemical evolution of a lithium-rich pegmatite group with distance from granitic source.

A prospective area for LCT pegmatites should contain a fertile parent felsic intrusion (granite) that is peraluminous and quartz-rich. LCT pegmatites are normally distributed over an area which is within 10km radius of the fertile parent felsic intrusion with most economic deposits sitting distally to the intrusion.

LaCorne South Property Summary:

Property Information

- ~2484 ha located about 23km north of Val d'Or
- 47 claims blocks
- Boily-Bérubé mineral showing:
  - The presence of pyrite, chalcopyrite, and molybdenite in the documented vein system has sparked the interest of Q Metals in further exploring its copper and molybdenum potential. Additionally, the proximity of the LaCorne South to the PG Highway claims, where VMS mineralization has been found, makes it an attractive site for potential exploration for this type of deposit.
  - Stripping carried out in 1989 uncovered a N-S oriented pegmatite quartz vein at the showing, which contains molybdenite in concentrations ranging from 10 to 30%, as well as small amounts of pyrite and traces of chalcopyrite and malachite. Given the presence of pegmatitic rock and associated molybdenum and other metals, this site is a promising candidate for lithium testing.

Matt Krukowski, P.Geo., B.Sc.
mat@waldosciences.com
1-778-868-6288

- The LaCorne South claims cover part of a regional geologic feature that has been shown to host lithium:
    - The Quebec database indicates 14 lithium projects associated with the margins of the La Corne Batholith.
    - Sections of the batholith are pegmatitic which host the lithium.
    - One of the most prominent lithium deposits in this group is located 10 kilometres northwest of the LaCorne South claims. The North American Lithium (Mine Quebec Lithium) project is a historic lithium mine that has a reported proven ore reserve of 1.2 million tonnes of 0.92% Li_2O and inferred reserve of 28 million tonnes of 0.96% Li_2O.
    - The LaCorne South claims cover the margin of the LaCorne Batholith and adjoining rocks that contain potential pegmatitic mineralization that are of interest for lithium.

Historical Work

- Multiple generations of assessment work dating back to the 1950's
- 21 historic drill holes mainly targeting sulphide mineralization (underexplored and not assayed/targeted for lithium)
- Q Metals completed an airborne magnetic survey and ground-based deep penetrating electromagnetic survey, as well as bedrock sampling in 2021/2022

Matt Krukowski, P.Geo., B.Sc.
mat@waldosciences.com
1-778-868-6288

PegaLith Property Information:

Property Information

- ~ 636.195 ha located ~36km north of Ottawa
- 11 claim blocks
- 4historical non-metallic mineralized showings that are hosted in coarse mica and feldspar pegmatites
- Grassroots level project hosted in an underexplored region with great potential for new discoveries
- The historic Mine Leduc, which is situated about six kilometres southwest of the PegaLith property, harbours a limited lithium-bearing resource (approximately 230 tonnes of 5.39% Li_2O) derived from pegmatitic rocks. This deposit suggests that other lithium bearing pegmatites can exist in the surrounding area.
- The pegmatites at Leduc, as well as those underlying the PegaLith property, are situated within a northwest-oriented belt of metamorphic rocks that has been documented at a regional scale. These metamorphic rocks consist of paragneiss and quartzite.

Historical Work

- 4 historical non-metallic mineralized showings that were small-scale mined:

1. MINE DU LAC MCLEOD (DU LAC HARPER)
    a. Minerals : Feldspar, Mica, Quartz, Garnet, Tourmaline
    b. Production : 180 t of feldspar (1913-1914)
    c. Lithologies : A - PEGMATITE ; B- GNEISS
2. MINE OLD SKEAD
    a. Minerals : Feldspar, Mica, Quartz
    b. Production: 2250 and 2700 t of feldspar (1923-1924)
    c. Lithologies : A - PEGMATITE ; B - PARAGNEISS (GNEISS À SILLIMANITE-GRENAT)
3. MINE POLTIMORE-NE
    a. Minerals : Feldspar, Quartz, Mica
    b. Production: 270 t of feldspar (1926-1927)
    c. Lithologies : A - PEGMATITE ; B - GRANITE ; C - PARAGNEISS
4. MINE WINNING
    a. Minerals: Feldspar, Mica, Quartz, Hornblende, Sphene/titanite
    b. Production: 90 t of s(1928-1932)
    c. Lithologies : A - PEGMATITE ; B - PARAGNEISS

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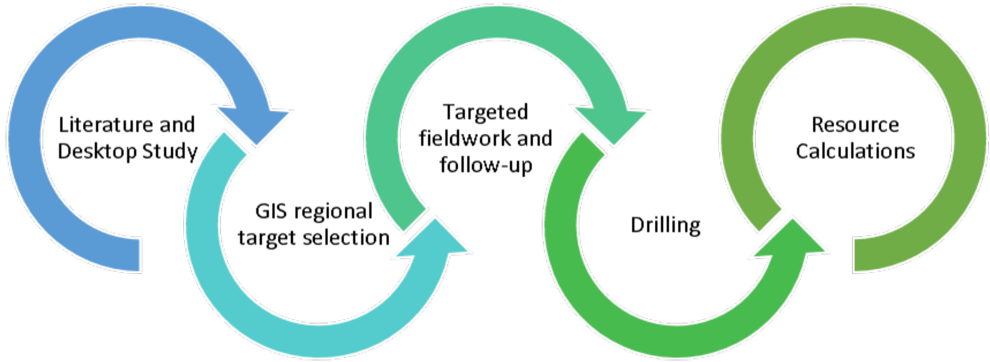
1-778-868-6288

Exploration Plan and Recommendations:



- Identify suitable geo-tectonic settings and evidence for partial melting and widespread anatexis of crustal, metasedimentary source rocks. Consider orogenic vs. anorogenic settings.
- Identify geological, mineralogical and geochemical evidence of highly fractionated and evolved melts related to S-type granites and crustal anatexis in migmatites and other metasedimentary rocks
- Compile historic exploration work and reports

- Compile mineral occurrences and abandoned mines databases
- Hyperspectral remote sensing: Map carbonate/ clay minerals, micas and Li-bearing silicates
- Regional radiometrics: Identify granites vs. country rock through K-Th-U
- Regional magnetics: Determine structural framework, dilational zones and link with known geochemical mineralization indicators
- Regional geochemistry: Ore and pathfinder element analysis, anomaly mapping

- Geological mapping: Identify highly fractionated melts by visual mineralogy, rock sampling and in-situ pXRF analysis.
- Structural analysis of pegmatite emplacement structures to reveal the regional distribution of pegmatite bodies
- Provenance analysis: Establish source of melts (anatectic vs. S-type granite pluton) by radiometric dating, isotope and REE geochemistry of pegmatite, granitic and metasedimentary host rocks.
- Detailed mineralogy: Identify ore mineral phases/ associations/ intergrowths/ liberation factors using XRD and SEM. Take into account the measurable mineralogical and structural criteria outlined in
- Surface Geochemical Exploration:
    1. Orientation study: Determine most suitable sampling factors, e.g. sample size, fraction, grid, digests and analytical suite
    2. Regional stream sediment geochemistry: 1-3 samples @ 4 km2 in 1st and 2nd order streams. Pan inspection for heavy minerals
    3. Target soil geochemistry: 15 m × 100 m soil grid perpendicular to geological strike, B or C horizon
    4. Lithogeochemical mapping: characterize regional lithologies by major and trace elements, identify evidence for highly fractionated melts containing Li, Cs, Ta, Nb, Sn, W, Be, B anomalies, correlate univariate and PCA anomaly domains with geological map
    5. Trenching to bedrock: 2m composite sampling, collect bulk samples (5-15 kg)
- Update mineral systems model with obtained geological, mineralogical and geochemical data

- RC drilling is preferred: collect large diameter bulk samples to reduce "nugget effect"
- Collect geotechnical data through diamond drilling early on in the exploration process
- Produce geological and grade 3D model and take into account the shape and geometry of pegmatites as well as potential irregular grade distribution
- Utilize obtained drill material in advanced mineralogical and liberation/ mineral

Modified from Benedikt M. Steiner, 2019

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The Exploration Plan detailed above is the process recommended to commence with the geological exploration of the LaCorne South and PegaLith Properties, and it is also advised that further compiling of available information and reviews of the historic and GIS data be done. After compiling all available data, the initial targets generated should be examined in the field through geological mapping and geochemical sampling programs. The most critical techniques for providing directional vectors to LCT pegmatites are detailed mineralogical analysis and geochemical sampling of rock, soil, and stream sediments. Analyzing mineralogical phases, deportment and liberation characteristics, along with geochemical metallogenic markers such as K/Rb, Nb/Ta, and Zr/Hf ratios, can identify highly evolved rocks that contain enriched incompatible elements (lithium, caesium, tantalum) of economic value.

LCT pegmatites are geophysically shy with many not having distinct features on traditional geophysical methods. Some companies are having success using remote sensing techniques such as ASTER (Advanced Spaceborne Thermal Emission and Reflection Radiometer) and Hyperspectral imaging for early targeting of lithium bearing rocks. Lithium minerals such as spodumene, petalite, and lepidolite have distinctive spectral features that can be detected using hyperspectral data. Hyperspectral data can also be used to create detailed maps of the mineralogy of an area. Lithium mineralization is often associated with hydrothermal alteration of the host rocks. Hyperspectral data can be used to identify areas of alteration, which can be an indicator of potential lithium mineralization. Remote sensing data can also be used to identify structural features that may be associated with lithium mineralization, such as faults, fractures, and intrusions. It would be beneficial to run these surveys before field work commences in the spring/summer to better generate targets for sampling programs.

The summer exploration program should first target the known outcrops/showings and systematically sample the found pegmatites and felsic intrusives to get a vector on the enriched incompatible elements. The primary objective of this sampling program for lithium is to survey the properties for pegmatite and to assess their potential. This will involve examining the regional distribution of fertile granites and pegmatite dykes, as well as utilizing bulk whole-rock compositions and bulk K-feldspar and muscovite compositions to determine the degree of fractionation of the granites and pegmatites, and to detect the presence of Li, Ta and other rare earth elements.

A property wide soil/till sampling program could also be deployed with field workers to create heatmaps for blind targets under overburden. Once positive results are confirmed a drill program should commence checking the mineralization at depth.

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Conclusions:

The LaCorne South Property has multiple records of intersecting granitic material from historical drill holes, as well as confirmed pegmatitic material found at the Boily-Bérubé mineral showing. With the presence of the other exploration on the La Corne Batholith and the Quebec Lithium Mine 10km to the northwest it is known the felsic intrusive is fertile and has undergone the needed differentiation to form LCT pegmatites. Due to these factors the LaCorne South project is highly prospective and should be the priority for exploration by Q Metals.

The PegaLith property is also prospective as 4 different non-metallic pegmatite occurrences were small-scale mined in the 1910-1930's for feldspar used in ceramics. Lithium was of less economic interest at that time and was not sought after leaving the property underexplored for lithium potential. These separate occurrences illustrate diverse pegmatite formation across the property and the historic Leduc mine 6km to the southwest confirms fertility of the pegmatites in the area.

Both properties have high potential for hosting significant LCT pegmatites and potential lithium deposit as they are situated distally to fertile parent peraluminous granites, and both have recorded pegmatite outcropping on surface. Further exploration is recommended on both of these properties with precedence placed on the LaCorne South property due to the high possibility of finding spodumene in LCT pegmatites associated to the LaCorne Batholith. The PegaLith property has a higher potential to host lithium bearing mica's which are less desirable for the electric vehicle market due to being harder to refine.

Ultimately, visually confirming and sampling of discovered pegmatites and granites will give the most conclusive data for the lithium potential on these properties. Once a fertile granite pluton has been identified, the geographic direction in which it is fractionating must be determined with further fieldwork, systematic sampling, and drilling programs. This will allow for the most cost-efficient development of mineral potential and defining a lithium deposit.

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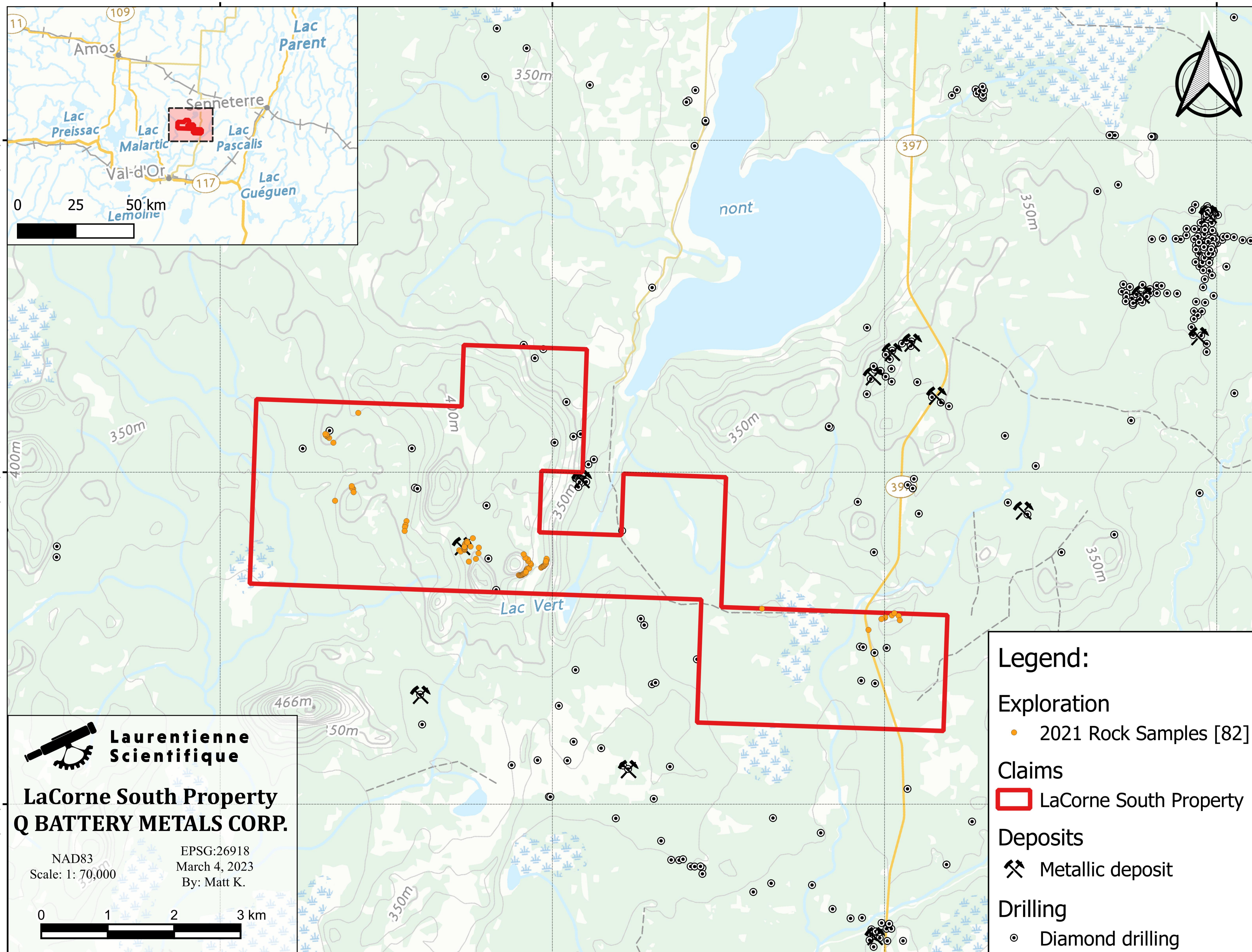
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Val-d'Or
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Lac Vert
397
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LaCorne South Property
Q BATTERY METALS CORP.
NAD83
Scale: 1: 70,000
EPSG:26918
March 4, 2023
By: Matt K.
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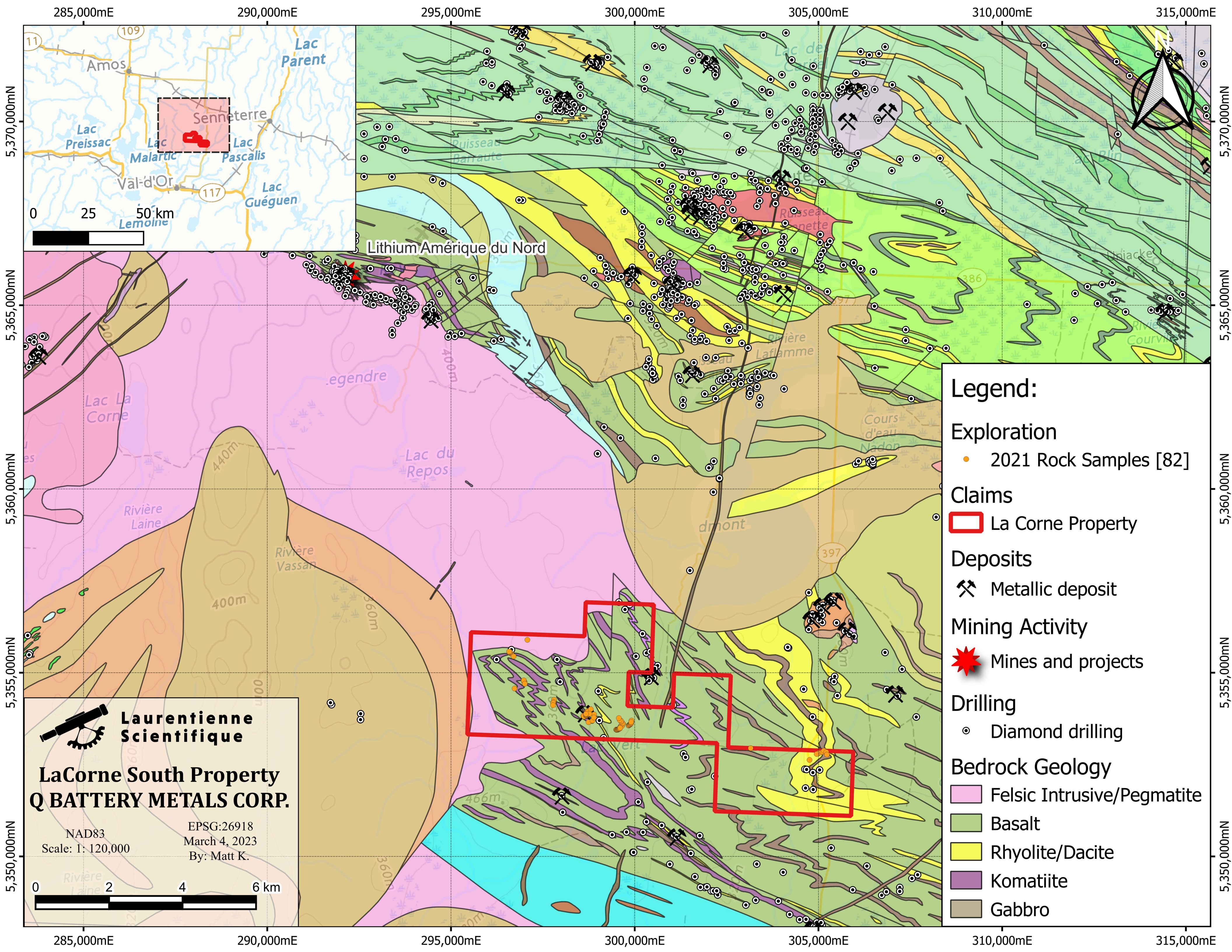
Legend:
Exploration
2021 Rock Samples [82]
Claims
LaCorne South Property
Deposits
Metallic deposit
Drilling
Diamond drilling



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Senneterre
Lac Parent
Lac Preissac
Lac Malartic
Lac Pascalis
Val-d'Or
Lac Guéguen
Lemoine
0 25 50 km
Lithium Amérique du Nord
Lac La Corne
Lac du Repos
Rivière Laine
Rivière Vassan
Rivière Laflamme
Legend:
Exploration
2021 Rock Samples [82]
Claims
La Corne Property
Deposits
Metallic deposit
Mining Activity
Mines and projects
Drilling
Diamond drilling
Bedrock Geology
Felsic Intrusive/Pegmatite
Basalt
Rhyolite/Dacite
Komatiite
Gabbro
Laurentienne Scientifique
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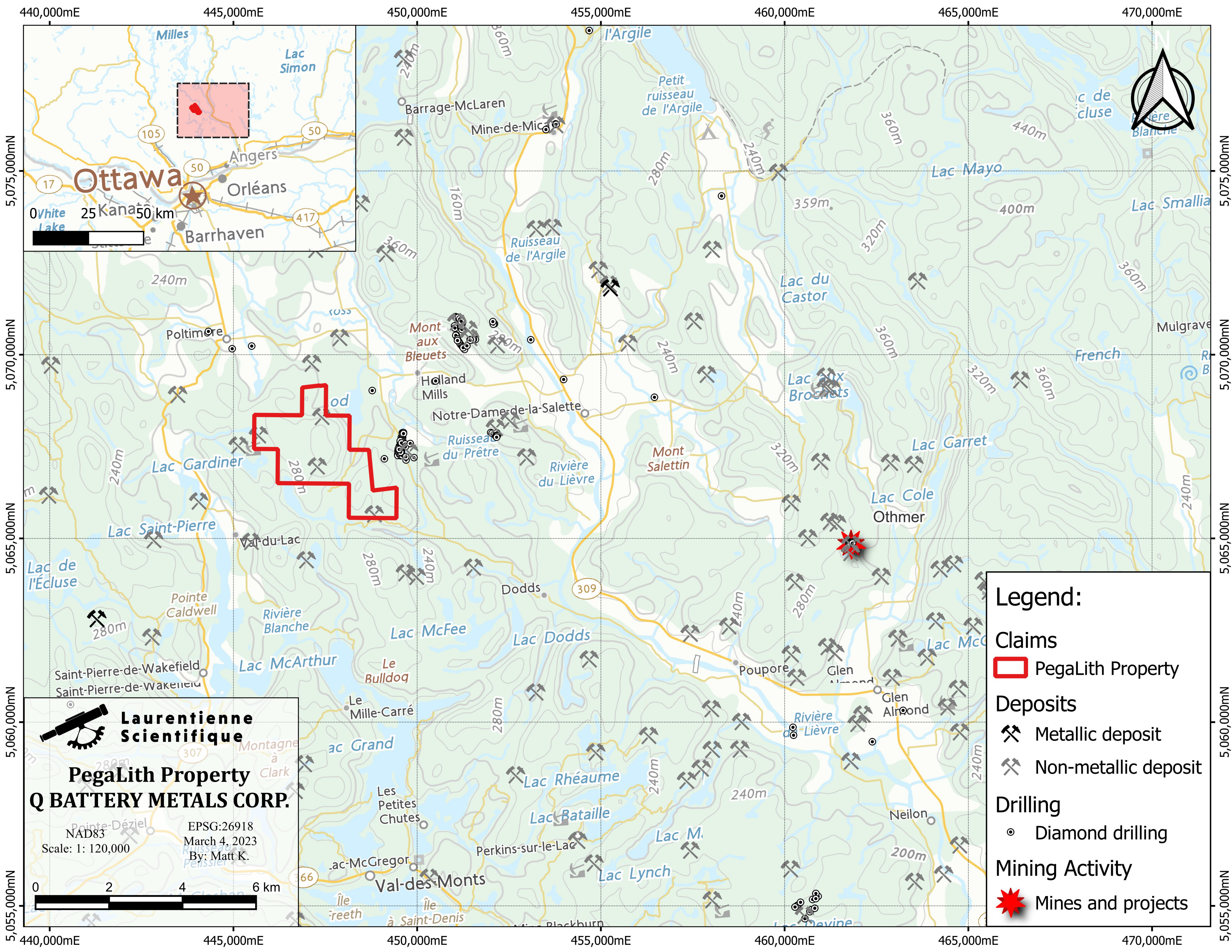

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Deposits
Metallic deposit
Non-metallic deposit
Drilling
Diamond drilling
Mining Activity
Mines and projects
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Barrhaven
Milles
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Barrage-McLaren
Mine-de-Mica
Petit ruisseau de l'Argile
Ruisseau de l'Argile
Lac Mayo
Lac Smallian
Lac du Castor
Mont aux Bleuets
Holland Mills
Notre-Dame-de-la-Salette
Ruisseau du Prêtre
Rivière du Lièvre
Mont Salettin
Lac aux Brochets
Lac Garret
Lac Cole
Othmer
Mulgrave
French
Poltimore
Lac Gardiner
Lac Saint-Pierre
Val-du-Lac
Lac de l'Écluse
Pointe Caldwell
Rivière Blanche
Lac McFee
Lac Dodds
Dodds
Lac McArthur
Le Bulldog
Saint-Pierre-de-Wakefield
Le Mille-Carré
Lac Grand
Poupore
Glen Almond
Rivière du Lièvre
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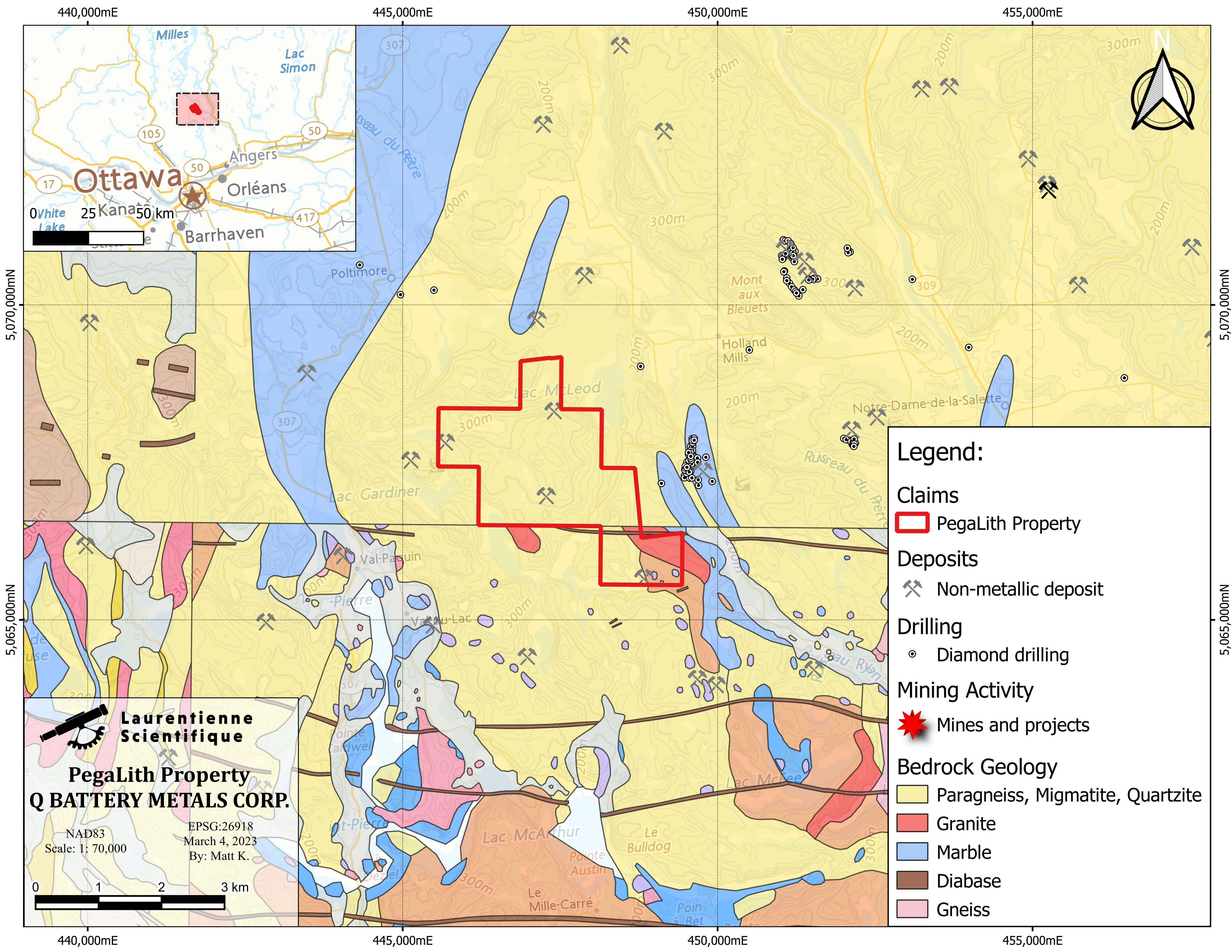
Les Petites Chutes
Perkins-sur-le-Lac
Lac Lynch
Lac-McGregor
Val-des-Monts
Neilon
309



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Poltimore
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