

# ASX Announcement 13 Sep 2024

ASX:MLS

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# MLS Continues to Advance and Expand its Flagship Lac Carheil Graphite Project Towards PFS

- Lac Carheil's strategic value also stands to be significantly enhanced by Canadian Government moves to potentially impose tariffs on Chinese critical mineral imports

Metals Australia Ltd (ASX: MLS) continues to make significant progress advancing its flagship Lac Carheil high-grade flake-graphite development project in the Tier 1 global mining province of Quebec, including:

- Comprehensive metallurgical testwork<sup>1</sup> confirming higher quantities of higher-value coarse flake graphite in the Northwest zone of the Mineral Resource<sup>2</sup> (Figure 1 & Table 1), with average mass recoveries of 32.4% in the + 100# product fraction (+149 micron), compared to ~ 25.5% in the Southeast portion of the resource. This represents a 27% increase in the proportion of coarse flake graphite in this zone of the resource where coarse flake attracts premium pricing, as outlined in our scoping study<sup>3</sup>.
- Enhanced processing capability achieved in design updates to the flake graphite concentrator flowsheet<sup>4</sup> to maximise recovery of coarse flake and optimise production efficiency at an initial production rate of 100,000 tonnes per annum of concentrate (+95% Graphitic Carbon Cg) (Figure 2).
- Land holding at Lac Carheil increased by 62% to 11,905 hectares through pegging of further claims covering potential southeast extensions of the existing resource and for placement of key infrastructure.
- Downstream design work<sup>4</sup> set to commence to test and select the preferred graphite purification technology, conduct a plant site location study and develop a **Project Economic Assessment (PEA) for the downstream Battery Anode Material (BAM) refinery,** with a bulk concentrate sample being generated by SGS Canada for shipment to Dorfner Anzaplan facilities in Germany.
- Applications lodged with Government agencies to access grants under various funding programs, with further submissions planned, to advance Pre-Feasibility Study.
- Extensive local consultation and engagement with consultants, contractors, government and First Nations organisations, including the economic development arm of the Uashat Mak Mani-Utenam, in line with the Company's commitment to establish a socially acceptable project for all stakeholders.
- Contract award readiness for additional work scopes integral to the broader PFS study following approval of a drilling permit, including Mineral Resource Estimation, mining design and scheduling and Environmental and Social Impact Assessment (ESIA) studies.



In addition to the advancements being made by the Company, the strategic value of the Lac Carheil high-grade flake-graphite project stands to be significantly enhanced from the outcome of a 30-day consultation period announced by the Canadian Government on August 26<sup>th</sup> 2024 (September 10 to October 10, 2024) seeking inputs on the potential application of a surtax on a range of Chinese imports related to critical manufacturing sectors, including critical minerals.

This follows the imposition of a 100% surtax on Chinese-made EVs due to come into effect on October 1, 2024, and a 25% surtax on imports of steel and aluminium from China, effective October 15, 2024. Lac Carheil's strategic significance is also linked directly to, and referenced in, Quebec's *Plan for The Development of Strategic Minerals*<sup>5</sup> (2020-2025).

Based on its reviews of the projects outlined in the above plan, Metals Australia is unaware of any graphite projects actively progressing in Canada that have both the resource grade and upside potential that Lac Carheil exhibits.



Figure 1 - Lac Carheil Graphite Project – Existing Mineral Resource Locations<sup>2</sup> (grey shading / black hole positions) & planned resource extension and infill drilling (blue holes). Location of Quebec Hydro High Voltage Powerline Corridor (dashed line) & general topography.



#### Metals Australia CEO Paul Ferguson commented:

"We are delighted to report progress on multiple fronts at Lac Carheil as we continue to advance our flagship highgrade flake-graphite project in Quebec to Pre-Feasibility Study status.

This progress comes as we wrap up our phase one field exploration program at our Corvette River project in Canada, where we expect to receive assay results later this month, and the recent launch of aggressive exploration programs across our three Australian gold and critical minerals projects – Warrambie, Big Bell North and Warrego East.

Over the last couple of weeks, I have had the pleasure of engaging in person with a broad range of stakeholders on country in Ontario and Quebec regarding the development of Lac Carheil. The very clear message from those discussions is that our project is rapidly developing a profile as one of the best graphite projects advancing in North America today.

Earlier this week, the Lac Carheil project received a further potential tailwind when Canada's Department of Finance launched a 30-day consultation process on a range of potential new surtaxes, including on critical minerals, in response to what it claimed were unfair Chinese trade practices. The Government has already shown its teeth on this issue by imposing a 100% surtax on all Chinese-made EVs, effective October 1, 2024, and a 25% surtax on imports of steel and aluminium, effective October 15, 2024.

Our project can contribute to forecasted shortfalls of graphite required to meet national and homeland security requirements across North America. This future stands in stark contrast to the state of domestic market supply for graphite in North America today. There is extremely limited onshore production of graphite in North America. Nearly all graphite used in the growing North American battery industry is sourced from offshore jurisdictions. This places Lac Carheil as a project of strategic importance for a domestic supply of high-quality graphite. This is essential for securing the supply chain certainty required for the clean energy transition.

The work we committed to completing as part of our planned PFS is rapidly advancing. Comprehensive metallurgical test work for the PFS level flowsheet design of the planned 100,000 tonnes per annum concentrate plant is well progressed – as are the plant designs for the concentrate plant. We are very close to dispatching the bulk concentrate sample to Germany that will launch the downstream design phase of the project, on schedule.

The design work to date has also given rise to a prioritised list of follow-up projects that we intend to further refine and progress as we move from PFS level studies and into the Feasibility Study design. We have held discussions related to grant funding avenues in Canada, including in Quebec, and in the USA, with funding applications made and more to follow. The work we are proposing is innovative and the solutions to be generated match well with the criteria set by governments for grant funding.

While our recent endeavours have focused heavily on the engineering and scientific elements of design, we are cognizant of our need to engage broadly with stakeholders and communities to ensure we understand their concerns, identify solutions as we look to establish enduring partnerships with those communities and stakeholders.

In that regard, a large focus of my recent trip was spent engaging with government at the provincial and local levels and speaking with stakeholders, including existing and prospective service providers, First Nations economic development groups and to seek further meetings with governments and First Nations communities. I was appreciative of the many groups we were able to speak with face to face and to those who have committed to follow up discussions.

As a board and management team, we remain dedicated to collaborating with all stakeholders to develop this strategically significant project for the betterment of all."



### Metallurgical Test Program Reveals Coarse-Flake Graphite Potential in Northwest Resource

Variability testwork completed during the comprehensive met test program underway at SGS Canada Inc Lakefield Laboratories in Ontario has revealed the northwestern portion of the existing Mineral Resource has concentrate sizing results of 31.2% and 33.5% respectively in the + 100# (149 micron) coarse-flake product fraction. The average result of 32.4% represents a 27% increase in the cumulative mass of 100# mesh product when compared to composite samples used from the Southeastern resource (average of variability tests 3 to 8 in Table 1 below). While further variability testwork is planned and more definition is required from planned drilling to validate the average resource grade and product size distribution, understanding the potential for higher quantities of coarse-flake graphite product in this area of the Mineral Resource is an important consideration for extraction sequencing of the deposit. Importantly, as outlined in our Scoping Study, coarser products typically attract premium pricing. The average price used in the Scoping Study for +100# product was around 14% higher than the average price for all products.

This information is pertinent to our planning, given the current attractiveness of markets for coarse flake graphite. Fine to medium flake graphite product demand is anticipated to increase with the growth in batteries for EVs or energy storage. However, as these markets grow, it is important to develop a product offtake plan that is grounded by current demands. The flexibility of products and their market potential will be a focus of the review planned to be conducted by Lone Star Technical Minerals in their assessment of the optimum markets and product pricing for Lac Carheil products. The outcomes of this work will guide pricing outcomes for the PFS.

Variability Testwork 2024: Product Size distribution by location - Mass % of product at each # size

	Test / Product #	Sample location	AVG +100# CML%	+100# CML%	+32# %	+48# %	+80# %	+100# %	+150# %	+200# %	+325# %	-325# %
	Variability test (1)	NW Resource	32.4	31.2	0.2	4.6	16.8	9.6	18.2	20	17.8	12.8
	2	NW Resource	32.4	33.5	0.8	6.1	17.1	9.5	17.7	18.9	17.1	12.8
	3	SE Resource		18.8	0.5	4.2	9.5	4.6	9.5	13.7	20.8	37.2
	4	SE Resource		23.1	1.3	5.5	10.9	5.4	9.6	13.5	20.7	33.1
$\overline{}$	5	SE Resource	25.5	27.6	0.9	5.3	13.9	7.5	13.5	16.9	19.1	22.9
	6	SE Resource	25.5	28.9	0.4	5.6	14.9	8	14.9	18.4	19.2	18.5
L	7	SE Resource		28.4	0.6	6	14.4	7.4	13.4	17.2	19.4	21.6
	8	SE Resource		26.1	0.6	5.3	13.5	6.7	14.1	18.3	20	21.5

Table 1 – Graphite mass distribution by product size – Test 1 & 2 from NW & 3-8 from SE portions of existing resource

## Flake Graphite Concentrate Plant Design

The metallurgical testing program being conducted by SGS at their Lakefield Ontario laboratory is well advanced. Lock cycle testwork is currently being optimised and variability testwork, including the assessment of respective areas of the resource, as discussed above, is advancing. Approximately 22 variability tests are planned. Results continue to be communicated to Lycopodium Minerals Canada Inc. who are designing the Flake graphite concentrate plant and acting as lead study manager. Design of the Flake Graphite Plant is developing under the direction of MetPro Management (see Figure 2) but will require further refinements and finalisation of the tailings reprocessing scheme before completion and pricing as part of the PFS. The key design philosophies include the early recovery of coarse flake graphite to preserve size integrity early in the process, the optimum recovery/purity of graphite products and the design of the tailings process flowsheet aimed at floating and magnetic separation of sulphide material so that a benign tailings stream can be produced for co-disposal with waste rock from the mine. Work on this aspect of the flowsheet is underway and is not characterised in the flowsheet depicted in Figure 2 below.



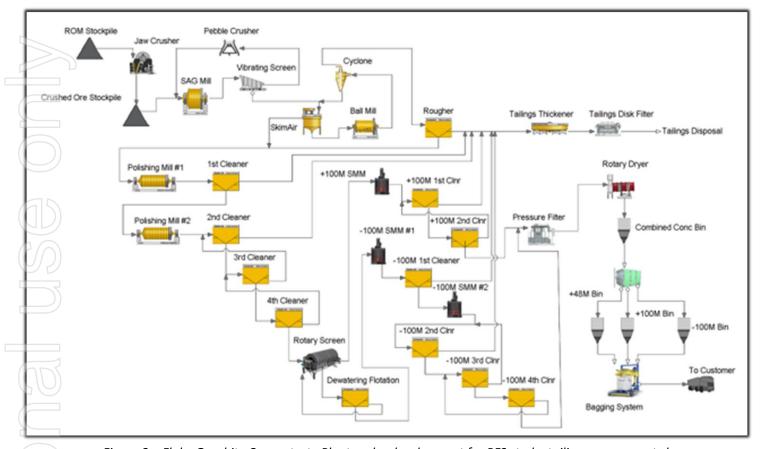


Figure 2 – Flake Graphite Concentrate Plant under development for PFS study, tailings process not shown

## **Downstream Battery Anode Refinery**

A bulk concentrate sample is being prepared as part of the metallurgical testing program conducted by SGS at their Lakefield Ontario laboratory. This is on track to be finalised and sent to Germany later this month. This will trigger the commencement of the downstream design work to test, select and then optimise the preferred purification technology. The purification method selection will be used to conduct a location study for the positioning of a Battery Anode Material (BAM) purification refinery. It is envisaged that the refinery will be situated in either Quebec, Canada or in the USA. Selection criteria will include accessible industrial land, rail access for receipt of concentrate and dispatch of product, ease of access to utilities such as power, water and required chemical supplies. An accepting community that can help supply the necessary skills and business services required for manufacturing will be essential. The Company has already commenced early screening and discussions with economic development groups, with several locations appearing favourable. The identification of a preferred location will then allow the development of a Project Economic Assessment (PEA) to be undertaken. It is envisaged that company will move efficiently through PFS and Feasibility Study work programs for the plant design. It is highly likely, given the relative infancy of demonstrated commercially viable graphite purification refineries, in North America, that a pilot plant will need to be constructed to validate the design basis and produce suitable product for customer acceptance testing.



### **Research & Development Grant Funding**

As part of the development of the PFS, the Company has conducted reviews of processing equipment, technologies and innovations that can further enhance flowsheet design for improved recovery, preservation of graphite size, efficiency in process screening and floatation and overall tailings management. Similar opportunities will emerge for downstream processing and broader reviews of the complete system will also be considered such that the impacts of change in concentrate production are also understood in downstream graphite refining outcomes. To date, this work has resulted in a list of prioritised testwork programs and processing equipment evaluations and innovations that require further work. It is envisaged that much of this additional work will occur between PFS and the Feasibility Study and will utilise representative sample of the larger resource, following the planned drilling program.

To help support this work, the Company has investigated the grant funding ecosystems in Canada and in the USA. Other avenues are also being explored. Given the project's strategic significance as a defined Critical and Strategic Mineral, numerous opportunities for grant funding have been identified, with applications having already been made in both the USA and Canada for support.

Funding support can take several forms. Avenues include R&D for innovation that can be applied to the processing of graphite or its waste streams. Metals Australia has engaged SGS Canada to assist in providing advice for and assisting with the development of additional grant applications in this regard. SGS Canada, through its R&D centre, will work with MetPro Management and Metals Australia's CEO directly to advance these applications. Other avenues include the end-to-end project, from Mineral Resource to battery anode material production being presented as a packaged solution to meet the considerable shortfalls in the secure supply of domestic graphite production that have been forecast<sup>5</sup>. Applications for the full solution proposal have also been submitted.

Given the relative infancy of high-purity graphite processing in commercial application today in North America, it is also envisaged the Company's BAM refinery design may require pilot plant validation prior to commercial scale up. The networking and project awareness achieved as part of the funding application process are all extremely positive for our project and its profile – which continues to grow positively.

#### **Consultation & Engagement**

The CEO of Metals Australia, its consultants and exploration team, conducted multiple engagements and meetings across Quebec during August 2024. Information was shared about the project and its future benefits, while listening to the inputs of stakeholders and better understanding the expectations of the ITUM First Nations. The Company was grateful to have met with so many groups, including representatives from the Ministry of Natural Resources and Forests (MNRF) in Quebec City to local government groups, economic development agencies from regional communities and representatives of the ITUM First Nations economic development arm, based in Sept Iles, Quebec. The Company also met with respective service providers with the skills required to complete various project phases. Further meetings are planned. Opportunities were also taken in Sept Iles to visit the Shaputuan Museum, dedicated to the history of the Innu people and their ancestral lands and view the Moisie River as it discharges into the Saint Lawrence River. The Moisie is one of the largest rivers in Quebec which flows from Labrador. The river represents an important passageway for the Innu peoples who have traditionally trapped and fished along its extent. The river is renowned for its Atlantic Salmon and its protection gives rise to the aquatic reserves which prohibit mining and exploration in more sensitive tributaries and flood plains (see Figure 3 – excluded zones in orange and purple).







Photograph – Left: Shaputuan Museum, Sept Iles: Paul Ferguson (CEO - MLS), Dominic Vezina (Partner - Transfert Environment & Société – community engagement) & Frederic Bergeron (President - Magnor Exploration Inc.) & Right – The Moisie River close to its mouth with the Saint Lawrence River.

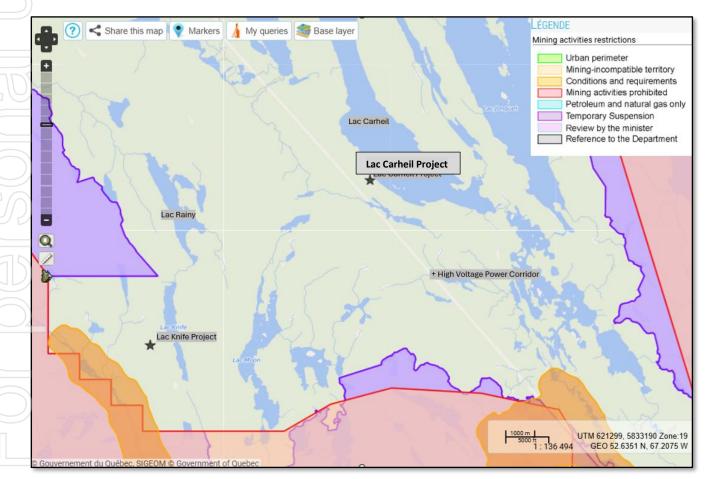


Figure 3: Lac Carheil Graphite Project position, the High Voltage Powerline Corridor & Mining Activity Restriction Areas that form part of the Moisie River Aquatic Reserve (Source – SIGEOM, Govt of Quebec).



## Increased Land Holding (Claims) Package Acquired

Given the project focus to grow and further define the current Carheil Trend resource, situated between the high voltage Quebec Hydro powerline corridor and Lac Carheil (See Figure 4), further land assessments have been conducted on trend from the highly prospective Carheil graphite trend and the emerging West Carheil trend (eastern half of the current claims package). Following detailed reviews, a further 81 claims have been added to the land package that supports the project (see Figure 4 & 5 below). The objectives of the claim additions are twofold. The first is to provide certainty of project footprint for key infrastructure, including proposed plant access road to the new 389 highway re-route, currently under construction (amounting to 34 claims), and the second is to add claims to the Southeast of the existing graphite resource (47 claims) that align with available magnetic low trend data that is highly indicative of graphite extensions to the south east (see Figure 5). The additions respect the limits of the aquatic reserve limitations as outlined in Figure 3.

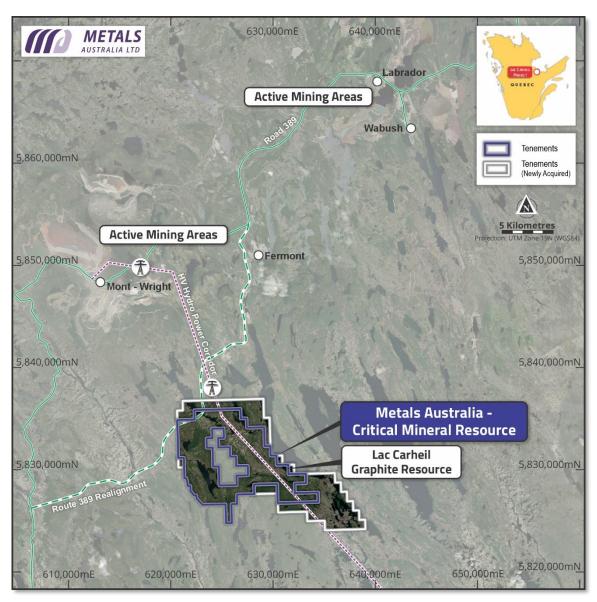


Figure 4: Lac Carheil Graphite Project location, Lac Carheil, Mining Communities, Mining operations, Position of Hydro Quebec 315 KV powerline and existing and proposed route of main highway (389) to Fermont.



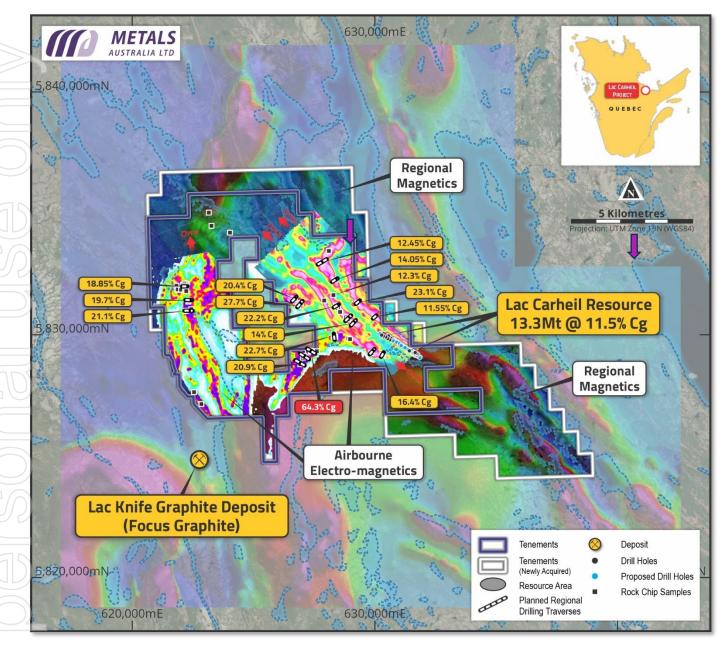


Figure 5: Lac Carheil Graphite Project – existing graphite trends shown via electromagnetic survey data and field sample results and additional claims extensions with available magnetic low survey data<sup>4</sup>

#### **Contract Award Readiness on Additional Project Work Scopes**

Metals Australia is well advanced with proposals, including contract-ready proposals, from companies with the skills and experience capable of completing the remaining scope of work items necessary to deliver a comprehensive PFS.

These work scopes are planned to commence following granting of a drilling permit, since the outputs from the drilling program are either required as inputs into these work scopes or the drilling provides the certainty that the next steps should be commenced, given their considerable undertakings in terms of both time and cost.



These work scopes include Mineral Resource Estimation (MRE) work that will be undertaken based on the anticipated results of the planned drilling program (see Figure 1) – targeting to at least double the existing Mineral Resource<sup>2</sup>.

The revised MRE will then be used to develop the detailed mining plans for optimum extraction sequencing of a much larger initial open cut mining plan. The mine planning work will include all designs, mining equipment and parameters, production schedules, waste disposal plans and required infrastructure.

The third work scope includes all the biophysical surveys required to complete the Environmental and Social Impact Assessment (ESIA) required for assessment for certificate of authorisation. This work scope is an approximate two-year undertaking, given the seasonal specifics for surveys and the requirement to conduct successive season surveys in some cases to validate results.

#### About Metals Australia Ltd

Metals Australia Ltd (ASX: MLS) has a proven track record of **Critical Minerals and metals discovery** and a quality portfolio of advanced exploration and pre-development projects in the highly endowed and well-established mining jurisdictions of Quebec – Canada, and Western Australia and the Northern Territory.

The Company is advancing exploration and development of its flagship Lac Carheil high-grade flake-graphite project in Quebec (formerly Lac Rainy graphite project), a high-quality project which is well placed for the future delivery of premium, battery-grade graphite to the North American lithium-ion/EV battery market, and other flake-graphite products.

The Company recently announced widespread and exceptionally high-grade graphite sampling results from Lac Carheil, including 10 results of over 20% Cg and averaging 11% Cg across a 36km strike-length of graphitic trends identified within the project<sup>6</sup>. The existing Mineral Resource of 13.3Mt @ 11.5% Cg (including Indicated: 9.6Mt @ 13.1% Cg and Inferred: 3.7Mt @ 7.3% Cg)<sup>2</sup> has been defined from just 1km strike-length of drill-testing of the Carheil Trend. An extensive new drilling program is planned to test priority new high-grade zones identified from the sampling program and to significantly upgrade and expand the Lac Carheil Mineral Resource.

The Company has commenced an extensive further testwork program on Lake Carheil, building on previous work which generated high-grade flotation concentrate results of up to 97% graphitic carbon (Cg)<sup>7</sup>, including 24% in the medium and large flake category. Subsequent spherical graphite (SpG) battery testwork produced high-quality battery grade (99.96% Cg) SpG<sup>8</sup> and electrochemical (battery charging and durability) tests showed excellent charging capacity and outstanding discharge performance and durability<sup>9</sup>. Lycopodium is in the process of advancing a pre-feasibility Study (PFS) on flake-graphite concentrate production and Anzaplan has been commissioned to carry out a Scoping Study on downstream battery-grade SpG production<sup>4</sup>.

The Company is also advancing its lithium and gold exploration projects in the world-class James Bay region of Quebec at the Corvette River Project<sup>10</sup>. The Company discovered lithium-bearing pegmatites immediately along strike from Patriot Battery Metals' world-class lithium pegmatite discoveries, as well as a new LCT pegmatite trend at Corvette South, parallel to Patriot's Corvette Lithium Trend<sup>11</sup>. Several high-grade gold targets have also been identified on these tenements, and the Company has recently completed a trenching and sampling program across multiple lithium and gold target zones<sup>12</sup>.

The Company's other key projects include its advanced **Manindi Critical Minerals Project** in the Murchison district of Western Australia, where metallurgical testwork has located spodumene in samples from a high-grade lithium intersection of **12m @1.38% Li<sub>2</sub>O** including **3m @ 2.12% Li<sub>2</sub>O**<sup>13</sup>. The Company also has a high-grade zinc Mineral Resource of **1.08Mt @ 6.52% Zn, 0.26% Cu, 3.19% Ag** (incl. Measured: 37.7kt @ 10.22% Zn, 0.39% Cu, 6.24 g/t Ag;



Indicated: 131.5kt @ 7.84% Zn, 0.32% Cu, 4.60 g/t Ag & Inferred: 906.7kt @ 6.17% Zn, 0.25% Cu, 2.86 g/t Ag)<sup>14</sup>. Drilling has also intersected significant vanadium-titanium (with Cu-Ni-Co sulphide mineralisation) at Manindi West prospect<sup>15</sup>.

This Company has also recently released an update providing details of three key gold and Critical Minerals exploration projects in the in world-class mineral provinces in the Northern Territory and Western Australia<sup>16</sup>. They include the **Warrambie project**<sup>17</sup>, located just 10km east of Azure Minerals' (ASX:AZS) Andover lithium discovery in Western Australia's northwest Pilbara region, which has produced drilling intersections of up to 209.4m @ 1.42% Li<sub>2</sub>O<sup>18</sup>. The other key projects are large exploration licences at **Big Bell North** in Western Australia's **Murchison Province**, along strike from the >5Moz Big Bell gold deposit<sup>19</sup> where drilling of gold targets is planned, and the **Warrego East tenements** in the Tennant Creek copper-gold province in the Northern Territory, including a large, granted exploration licence immediately to the east of the Warrego high-grade copper-gold deposit (production **6.75Mt @ 1.9% Cu, 6.6 g/t Au<sup>20</sup>**).

#### References

- $^{\dagger}$ Metals Australia Ltd, 25 March 2024. "Metallurgical Programs to Advance Lac Rainy Development."
- $^2$ Metals Australia Ltd, 15 June 2020. "Metals Australia Delivers High-Grade Maiden JORC Resource at Lac Rainy."
- $^3$ Metals Australia Ltd, 3 February 2021. "Scoping Study Results for Lac Rainy Graphite Project, Quebec."
- $^4$ Metals Australia Ltd, 8 May 2024. "Major Contracts Awarded to Advance Lac Rainy."
- <sup>5</sup>https://www.quebec.ca/en/government/policies-orientations/quebec-plan-development-critical-strategic-minerals (refer to full document, Figure 1)
- <sup>6</sup> Metals Australia Ltd, 16 January 2024. Exceptional 64.3% Graphite and New Drilling at Lc Rainy.
- $^{7}$ Metals Australia Ltd, 30 June 2020. Metallurgical Testing Confirms Lac Rainy Graphite High Purity and Grade.
- <sup>8</sup> Metals Australia Ltd, 28 February 2023. Battery grade 99.96% Spherical Graphite for Lac Rainy.
- <sup>9</sup> Metals Australia Ltd, 23 May 2023. Outstanding Battery Test Results for Lac Rainy Graphite.
- <sup>10</sup>Metals Australia Ltd, 02 October 2023. 63 Pegmatite Samples from Corvette River Tenements in Lab.
- $^{11}$  Metals Australia Ltd, 02 October 2023. LCT Pegmatite Discovery with High-Lithium on New Trend.
- <sup>12</sup> Metals Australia Ltd, 21 May 2024. Permitted to Drill Key Au, Ag and Li Targets Corvette River
- <sup>13</sup> Metals Australia Ltd, 19 July 2022. Exceptional Lithium Pegmatite Intersections at Manindi.
- 🋂 Metals Australia Ltd, 25 July 2017. C4 Conductor Delivers High-Grade Zn Intersection at Manindi.
- <sup>15</sup> Metals Australia Ltd, 09 June 2022. Substantial Vanadium (Iron-Titanium) Intersection at Manindi.
- 16 Metals Australia Ltd, 10 September 2024. "New Gold, Critical Minerals Drilling Underway Aus Projects."
- $^{17}$ Metals Australia Ltd, 07 December 2023. Lithium Program Commenced at Warrambie, 10km East of Andover.
- <sup>18</sup> Azure Minerals Ltd (ASX:AZS), 04 August 2023. 209m High-Grade Lithium Intersection at Andover.
- <sup>19</sup> Portergeo.com.au/database/mineinfo.asp?mineid=mn238. Big Bell, Western Australia. 31 December 2018.
- Portergeo.com.au/database/mineinfo. Tennant Creek Gecko, Warrego, White Devil, Nobles Nob, Juno, Peko, Argo

## **Cautionary Statement Regarding Forward Looking Information**

This document contains forward-looking statements concerning Metals Australia Limited. Forward-looking statements are not statements of historical fact and actual events and results may differ materially from those described in the forward-looking statements as a result of a variety of risks, uncertainties, and other factors. Forward-looking statements are inherently subject to business, economic, competitive, political, and social uncertainties, and contingencies. Many factors could cause the Company's actual results to differ materially from those expressed or implied in any forward-looking information provided by the Company, or on behalf of, the Company. Such factors include, among other things, risks relating to additional funding requirements, metal prices, exploration, development and operating risks, competition, production risks, regulatory restrictions, including environmental regulation and liability and potential title disputes.



Forward looking statements in this document are based on the company's beliefs, opinions and estimates of Metals Australia Limited as of the dates the forward-looking statements are made, and no obligation is assumed to update forward looking statements if these beliefs, opinions, and estimates should change or to reflect other future developments.

## **Competent Persons Statements**

The information in this report that relates to exploration results, Mineral Resources and Exploration Targets has been reviewed, compiled, and fairly represented by Mr Jonathon Dugdale. Mr Dugdale is a Technical Advisor to Metals Australia Ltd and a Fellow of the Australian Institute of Mining and Metallurgy ('FAusIMM'). Mr Dugdale has sufficient experience, including over 35 years' experience in exploration, resource evaluation, mine geology and finance, relevant to the style of mineralisation and type of deposits under consideration to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee ('JORC') Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves. Mr Dugdale consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

The information in this document that relates to metallurgical test work is based on, and fairly represents, information and supporting documentation reviewed by Mr Oliver Peters M.Sc., P. Eng, who is a member of the Professional Engineers of Ontario (PEO). Mr Peters is the principal metallurgist and president of Metpro Management Inc., who has been engaged by Metals Australia Ltd to provide metallurgical consulting services. Mr Peters has approved and consented to the inclusion in this document of the matters based on his information in the form and context in which it appears.

## **ASX listing Rules Compliance**

In preparing this announcement the Company has relied on the announcements previously made by the Company as listed under "References". The Company confirms that it is not aware of any new information or data that materially affects those announcements previously made, or that would materially affect the Company from relying on those announcements for the purpose of this announcement.

This announcement was authorised for release by the Board of Directors.

\*\*\*ENDS\*\*\*

#### Further Information:

Additional information is available at <u>metalsaustralia.com.au/</u> or contact:

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## Appendix 1: JORC Code, 2012 Edition – Table 1 – Section 1 Sampling Techniques & Data

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Sampling techniques	Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.	reported diamond core which formed the basis of the Lake Carheil Mineral Resource is half-core sampling of HQ diamond dril core (HQ:63.5mm). Quarter-core sampling
	<ul> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>QAQC procedures as per industry best practice, delivered by ALS.</li> <li>Diamond drilling completed using WL66 coring equipment. Drillholes have been sampled on geological intervals on nominal 1.5 m intervals where appropriate (approx. 3kg/sample). All samples have been crushed, dried and pulverised (tota prep) to produce a sub sample for multi-element analysis by four acid digest with ICPMS, total graphitic carbon and sulphus by Leco.</li> </ul>
Drilling techniques	Drill type (e.g., core, reverse circulation, openhole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, facesampling bit or other type, whether core is oriented and if so, by what method, etc.).	<ul> <li>Diamond drilling completed by Magnor Exploration</li> <li>WL66 (HQ) conventional diamond drilling with core diameter of 63.5 mm.</li> <li>All drillholes have been orientated.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul> <li>Core recoveries are measured by the drillers for every drill run. The core length recovered is physically measured for each run, recorded and used to calculate the core recovery as a percentage of core recovered. Any core loss is recorded on a core block by the drillers.</li> <li>Careful drilling techniques in areas of broken ground are employed with communication between the geologist and drillers to maximise core recovery.</li> <li>A sampling bias has not been determined.</li> </ul>



CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Sampling techniques	Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.	Sampling method of previously drilled an reported diamond core which formed the basis of the Lake Carheil Mineral Resource is half-core sampling of HQ diamond dracore (HQ:63.5mm). Quarter-core sampling utilised where a duplicate sample has been taken.
	<ul> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Sampling was carried out using Magne Exploration Inc sampling protocols an QAQC procedures as per industry berpractice, delivered by ALS.</li> <li>Diamond drilling completed using WLG coring equipment. Drillholes have bee sampled on geological intervals comminal 1.5 m intervals where appropriat (approx. 3kg/sample). All samples have been crushed, dried and pulverised (totoprep) to produce a sub sample for multiplement analysis by four acid digest wit ICPMS, total graphitic carbon and sulphubly Leco.</li> </ul>
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	All drillcore has been transported from the drill sites to the laboratory by compar representatives for cleaning, reconnection of core lengths and measurement of metimarks where required, over the entire hole.
	<ul> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Geological logging has been complete on the entire length of all holes by Magnor exploration who has significant experience in this style of exploration and mineralisation.</li> <li>The lithological, mineralogical, alteration and structural characteristic of the core has been logged in digital format and following established procedures.</li> </ul>
		All drillholes have been photographed is both wet and dry states.



CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Sub- sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub- sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second- half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Sample preparation follows industry best practice standards and is conducted by internationally recognised laboratories - ALS Laboratories Ltd in Val d'Or, Quebec. Code RX1-graphite was completed as preparation. Samples are crushed to 80% passing 10 mesh, riffle split (250 g), and pulverized to 95% passing 105 micron.</li> <li>Analysis used ALS packages Code 4F-C,S, and 4F-C-Graphite using a graphite specific preparation (RX1-Graphite). Total carbon as well as graphitic carbon are the primary deliverables.</li> <li>Sampling techniques utilized, as described above, ensure adequate representativeness and sample size During the drilling, industry standards sampling techniques were followed with fresh material sampled.</li> <li>No blanks or standards were submitted by the company with laboratory blanks standards, and duplicates relied upon with results reviewed by the company: consultants and found to be satisfactory with no material concerns. Maxwells Data management systems for appraisa of the QA/QC indicated no issues</li> <li>The sample sizes are considere appropriate for the type of mineralisation under consideration.</li> </ul>



CRITERIA
Quality of assay data and laboratory tests



CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Quality of assay data and laboratory tests (cont.)	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy</li> </ul>	<ul> <li>Micronising was conducted by a hammer mill with an internal classifier to removultrafine material</li> <li>Spheroidising was conducted using hammer mill with different settings and impactors to change the shape of the particles into spheres. This mill also has a internal classifier to remove any ultrafine material generated during this process.</li> <li>Tap density and specific surface area (BET measurements were completed on the spheroidised material.</li> </ul>
	(i.e. lack of bias) and precision have been established.	<ul> <li>Size analysis of the spheroidised material was determined by a laser sizer.</li> <li>In order to purify the spheroidised graphite, caustic soda was added to the spheroinised graphite which was their roasted at low temperature. The residue was then leached with hydrochloric acid followed by a final hydrofluoric acid leach to remove the final impurities Intermediate water washes were conducted to remove any residual chemicals and dissolved ions.</li> </ul>



CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> </ul>	Determination of the reported downhole intervals of mineralisation have been verified by alternative company personnel both in person and via electronic photographic data.
	<ul> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	No twin-hole drilling completed to date although several neighboring holes have been completed and showed excellent correlation.
		All geological and location data is stored in Excel spreadsheets prior to being uploaded to the Company's database. Data entry has been by manual input and validation of the data has been done by checking input on-screen prior to saving.
		No adjustments or calibrations were made to any assay data used in this report.
Pocation of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Drillhole locations were planned using a combination of GIS software packages.</li> <li>Drillhole locations were determined originally using a Garmin handheld GPS unit with an accuracy of +/- 1m. Drill collar azimuths were determined with a handheld Sunto compass that has a precision of +/- 0.5 degrees.</li> <li>Subsequent DGPS survey methods established drill collars to a 0.25 m level of accuracy.</li> <li>Downhole surveys were completed using a Devico Deviflex downhole survey instrument at regular intervals.</li> <li>Original Grid system is UTM NAD 84 Z 19</li> <li>Topographic control has been established by handheld GPS and cross- correlation with digital laser topographic imagery.</li> </ul>



CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Drill hole profile spacing varies from 25-40, to 120 metres on the margins is at 50m, 25m or 12.5m. See attached location plans, cross sections and tables.</li> <li>Previous work including mapping, trenching, rock chip sampling of outcropping ore and detailed electromagnetic (EM) geophysical data show and confirm excellent continuity of the stratigraphic graphite unit. The current drillhole spacing at the East and West deposit is considered appropriate to allow for the JORC-compliant Mineral Resource Estimate (MRE) to be completed at the Indicated and Inferred resource categories.</li> </ul>
		Through the main graphite zones, nominal 2m sampling has been applied where appropriate and sampled to geological boundaries elsewhere.
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	The drillhole orientation is considered appropriate with the drill holes being drilled perpendicular to the interpreted strike of the geological units and graphite mineralisation. The graphite units across the Project dip steeply (80- 90°) to the west and drilling to date has been completed drilling across-dip.
Sample security	The measures taken to ensure sample security.	All drill core was transported by courier transport from the project to the ALS laboratory in Quebec
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No external audits or reviews of the sampling techniques and data have been completed to date. Results have been reviewed internally by the company's geologists, with independent assessment of the QA/QC by Mawells. With no issues have been identified.



## Appendix 2: JORC Code, 2012 Edition, Table 1 – Section 2 Reporting of Exploration Results

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul> <li>Metals Australia Limited is the 100% owner of the Lac Carheil Graphite Project (formerly known as Lac Rainy Graphite Project), pursuant to the binding acquisition agreement.</li> <li>There are no other known material issues affecting the tenements.</li> <li>Lac Rainy Graphite Inc., a wholly owned subsidiary of Metals Australia, is the owner of 100% of the graphite project, and ownership of the individual CDC claims is held by Lac Rainy Graphite Inc.</li> <li>All tenements are in good standing and have been legally verified by a Quebec lawyer specializing in the field.</li> <li>The licence is in good standing with no known impediments.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>No modern exploration has been conducted by other parties.</li> <li>Government mapping records multiple graphitic carbon bearing zones within the project area, but no data is available.</li> </ul>



CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Geology	Deposit type, geological setting and style of mineralisation.	The Lac Carheil graphite project is located in close proximity to Focus Graphite's Lac Knife Project, which is hosted in a similar geological environment.
		The projects were first discovered in 1989 and have been subject to basic geological review since then.
		The project area geology (hosting the La Carheil graphite deposits) is situated within the Gagnon Group, which is the metamorphosed equivalent of the Ferriman Group in the Labrador Trough. The formations within the Ferriman Group consist of Wishart (arenitic quartzite with variable mica and calcite), Ruth (ferruginou mudstone chert), Sokoman (iron formation) and Menihek (mudstone/mica schist), a well as intrusive basalt. The Nault Formation of the Gagnon Group, comprised of graphite-bearing quartz biotite garned paragneiss (metamorphized equivalent of the Menihek Formation), underlies the majority of the Lac Carheil Property and it the primary target rock unit.
		The host lithology consists of a sub-vertical lithologically continuous unit of very fine grained dark grey to black graphite rock containing between 1-28% graphitic carbo and appreciable quantities of sulphide ranging in grade from 0.01-18.8% sulphur. In number of parallel units have beeidentified from the mapping, channels sample and drilling.
		The lithological units are variably folded and faulted, with true widths up to 70m and have local continuity over hundreds of metres and regionally extend over many kilometres. Pyrite, pyrrhotite and trace chalcopyrite accompany the graphite mineralisation and the sub-vertical orientations present today.



CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	Drillhole information pertaining to the drilling at Lac Carheil is summarised in the figures and tables in the text of previous ASX releases related to the drilling results at Lac Carheil (formerly known as the Lac Rainy Graphite Project).
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>A nominal cut off of 5% graphite has been used in any reporting previously conducted.</li> <li>No high-grade cut-off has been used.</li> <li>Length-weighted averaging has been used to calculate all intercepts in this announcement. Length-weighted averaging has been used given that sampling intervals were determined geologically and not always nominally.</li> <li>No metal equivalents have been used.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').</li> </ul>	<ul> <li>The geometry of the graphite mineralisation at the Lac Carheil Project is quite well understood and all drilling has been completed perpendicular to the strike of the mineralisation. The main hangingwall graphite unit is sub-vertical and appears to have a variable dip (~80-90°). Several close spaced drillholes at Lac Carheil have highlighted the dip and azimuth of the mineralised zones.</li> <li>Tighter spaced drilling is required to confirm the dip of the units but the drillhole information received to date confirms any previous interpretation. as modelled.</li> </ul>



CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	Appropriate maps and cross-sections have been included in the text of previous announcements.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration results.	All significant intercepts above the nominal cut-off grade of 5% Cg have been reported in the text of previous ASX releases related to the drilling results at Lac Carheil (previously referred to as the Lac Rainy Graphite project).
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples — size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	<ul> <li>A flowsheet development program was completed that culminated in a flowsheet suitable to upgrade the Lac Carheil mineralization to a concentrate grading 94% C(t) at almost 97% graphite recovery.</li> <li>An alternative flowsheet configuration is currently being investigated with the objective to increase the minimum concentrate grade to 95% C(t) while maintaining the flake size distribution and overall recoveries.</li> <li>Preliminary results of the current flowsheet configuration test-work, including concentrate variability test work, has provided graphite flake-size distribution data which is shown in Table 1 of this release.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work         (e.g., tests for lateral extensions or depth         extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of         possible extensions, including the main         geological interpretations and future drilling         areas, provided this information is not         commercially sensitive.</li> </ul>	<ul> <li>Completion of downstream (Phase 3) metallurgical test work including spheronisation, purification and battery testing in Germany prior to upgrade studies to PFS level.</li> <li>Further exploration targeting and drilling of high-grade graphite extensions to be carried out.</li> <li>Drilling to generate of additional composite samples for concentrate variability testing and further downstream testwork for potential offtake partners.</li> </ul>