ASX ANNOUNCEMENT

27 NOVEMBER 2023

Testwork Results Highlight Exceptional Potential of Burke Graphite as Battery Anode Material

SUMMARY

- Pending Chinese graphite export restrictions highlight the importance of Lithium Energy's Burke Graphite from Australia as a critical source of Battery Anode Material (BAM) for global battery supply chains.
- Spheronising and purification testwork results conducted in Germany confirm that Burke Graphite has the potential to be exceptional feedstock to the BAM market.
- Outstanding purification results of >99.97% Total Graphitic Carbon (TGC) have been achieved with potentially low-cost, environmentally safer, non-hydrofluoric acid processes.
- High quality spheronised material produced in multiple typical industry size categories.
- Two industry standard sized spherical graphite materials produced from one graphite flake stream, introducing wider scope for product marketing,
- Extremely positive 63% overall graphite recovery in spheronising process.
- Key design criteria metrics have now been developed to support the BAM component of the Pre-Feasibility Study (PFS).

Lithium Energy Limited (ASX:LEL) (**Lithium Energy** or the **Company**) is pleased to confirm excellent spheronisation and purification testwork results with graphite concentrate produced from the Company's Burke Graphite Project (**Burke**) located in north-west Queensland. This provides the key design criteria metrics to progress the Battery Anode Material (**BAM**) Facility component of the Company's current Pre-Feasibility Study (**PFS**).

The completed BAM testwork has defined the process flowsheet requirements to produce high purity 99.97% Total Graphitic Carbon (**TGC**) spheronised graphite material, which will be suitable as feedstock for the battery anode making process. The key metrics including reagent consumption, product size, product recovery and purification conditions have been determined and will now be used as inputs to the BAM Facility process design in the PFS.

Table 1 highlights the importance of graphite in a Li-ion battery, regardless of the cathode chemistry - on average, there is 8 times more graphite in a Li-ion battery than there is lithium.

As shown in Figure 1, it is forecast that 97 new graphite mines, with production of at least 56,000t per annum of graphite concentrate, will be required to come online by 2035 to meet the Li-ion battery demand forecasts.[1]

1 Source: https://source.benchmarkminerals.com/article/more-than-300-new-mines-required-to-meet-battery-demand-by-2035 (September 2022)

In addition to this huge demand forecast, the Company notes that the recent announcement by the Chinese Government regarding pending graphite export restrictions will further fuel graphite demand by non-Chinese battery makers.[2]

This highlights the importance of Lithium Energy's Burke Graphite BAM from Australia as a valuable source of feed material for global battery supply chains, given that approximately 74% of anode material is currently supplied by China[3].

Table 1: Battery Chemistry Mineral Elements[4]

HOW BATTERY CHEMISTRIES DIFFER, BY MINERAL CONTENT
FOR A 60KWH LITHIUM-ION BATTERY

The name of the battery chemistry typically indicates the composition of the cathode.

	NMC811 Nickel (80%) Manganese (10%) Cobalt (10%)	**NMC523** Nickel (50%) Manganese (20%) Cobalt (30%)	**NMC622** Nickel (60%) Manganese (20%) Cobalt (20%)	**NCA+** Nickel Cobalt Aluminum Oxide	**LFP** Lithium iron phosphate
LITHIUM	5KG	7KG	6KG	6KG	6KG
COBALT	5KG	11KG	11KG	2KG	0KG
NICKEL	39KG	28KG	32KG	43KG	0KG
MANGANESE	5KG	16KG	10KG	0KG	0KG
GRAPHITE	45KG	53KG	50KG	44KG	66KG
ALUMINUM	30KG	35KG	33KG	30KG	44KG
COPPER	20KG	20KG	19KG	17KG	26KG
STEEL	20KG	20KG	19KG	17KG	26KG
IRON	0KG	0KG	0KG	0KG	41KG

ELEMENTS

2 Refer: https://source.benchmarkminerals.com/article/china-graphite-export-restrictions-could-hinder-ex-china-anode-development (20 October 2023) and https://www.reuters.com/world/china/china-require-export-permits-some-graphite-products-dec-1-2023-10-20/ (21 October 2023)

3 Source: https://source.benchmarkminerals.com/article/infographic-china-controls-three-quarters-of-graphite-anode-supply-chain (November 2023)

4 Source: https://elements.visualcapitalist.com/the-key-minerals-in-an-ev-battery/ (May 2022)

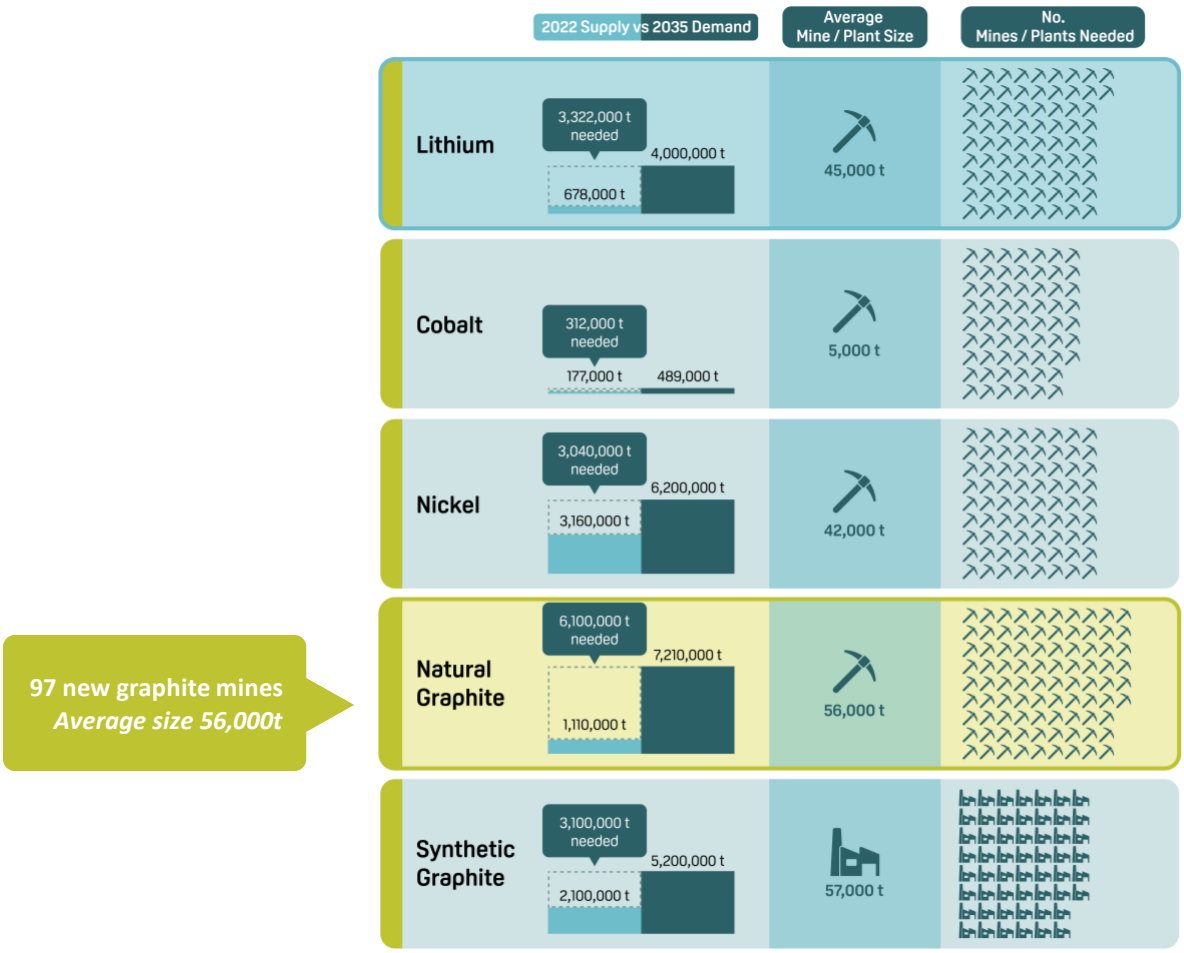

Figure 1: Increased Battery Demand Needs Graphite Supplies[1]

Executive Chairman, William Johnson*:*

The exceptional results of the BAM testwork conducted on the 95% TGC Burke Graphite concentrate have surpassed expectations. The development of a flowsheet that supports a two-product strategy, along with the exceptional purity of the final spherical purified graphite of 99.99% TGC, underpins the quality of the Burke Graphite and supports the vertically integrated BAM strategy Lithium Energy is implementing.

We anticipate that the restrictions placed on graphite exports by China will further tighten the market and accelerate the demand for natural graphite, which is a key battery anode material required in all Li-Ion batteries.

Given the high quality BAM results from the Burke Graphite deposit, the overall metallurgical characteristics and favourable location in North-West Queensland, the Burke Graphite Project is very well positioned to take advantage of this expected massive growth in demand for battery anode material.

We are excited to be taking this next step in the advancement of Burke and to be playing an important role in supporting the decarbonisation of the world.

Key Testwork Results

The Company appointed the German based consulting company, ProGraphite GmbH, to conduct the spheronising and purification testwork.[5] The testwork programme identified and validated the metallurgical and process design criteria for the BAM Facility in Queensland utilising graphite concentrate from the Burke Deposit (produced by the Beijing General Research Institute for Mining and Metallurgy Technology Group (**BGRIMM**) in-house pilot plant) as feedstock.[5]

ProGraphite were provided with ~15kg of 95.6% TGC Burke Graphite concentrate for the testwork programme.

Spheronisation

Three primary and one secondary spheronised materials were produced to assess the effectiveness and impact of the mechanical shaping process on the Burke Graphite concentrate.

The secondary material, designated SPG10, was produced from the by-product from the primary spheronisation processes that produced the primary materials, designated SPG 20, SPG16 and SPG15.

Table 2 shows the analytical results obtained during the spheronisation process.

This is highly positive as the ability to generate two product streams provides for an improved recovery and a diversity in product size and value, which will have a positive impact on eventual product sales.

Table 2: Burke Graphite Spheronisation Results

Metric	Units	SPG15	SPG16	SPG20	SPG10
d_{10}(1) SPG	µm	9.1	10.2	12.5	6.8
d_{50}(2) SPG	µm	14.7	16.3	20.1	10.5
d_{90}(3) SPG	µm	24.2	25.3	31.7	16
Ratio d_{90} : d_{10}		2.66	2.49	2.55	2.4
Tap Density	kg/l	0.92	0.91	0.94	0.85
BET(3)	m^2/g	8.1	7.3	6.6	8.7
Yield SPG	%	51	52	52	11(4)

Notes:

(1) d_{10} means the portion of particles with diameters smaller than this value is 10%

(2) d_{50} means the portion of particles with diameters smaller and larger than this value are 50%; also known as the median diameter

(3) d_{90} means the portion of particles with diameters below this value is 90%

(4) BET means Specific Surface Area

(5) Yield reported for SPG10 is in terms of overall yield = 22.5% yield of the balance of the material not recovered in the primary spheronisation step

The two-product spheronising flowsheet achieved an overall recovery of 63% which is considered to be extremely positive by reference to general industry standards of between 45% to 55% recovery. The Tap densities and BET values fall within the medium range of typically accepted SPG products - which will be a focus of further testwork and pilot plant testwork to optimise by varying the spheronising equipment speeds, durations and loading.

Figure 2 and Figure 3 below show the excellent spherical shape and homogenous size distribution of the spheronised materials from the testwork from scanning electron microscope (**SEM**) images.

5 Refer LEL ASX Announcement dated 28 July 2023: Burke and Corella Graphite Projects Testwork Update

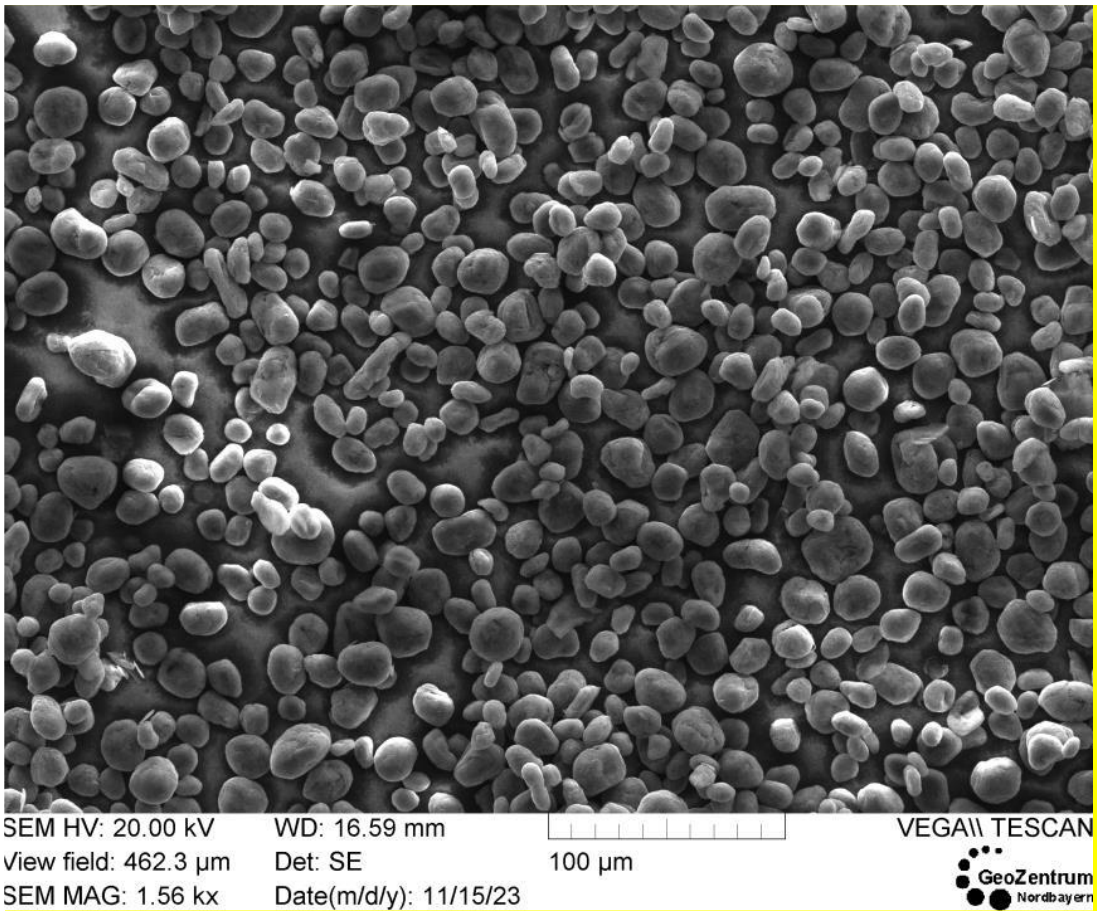

Figure 2: SPG20 Spherical Graphite SEM Image at Magnification of 1.56kx

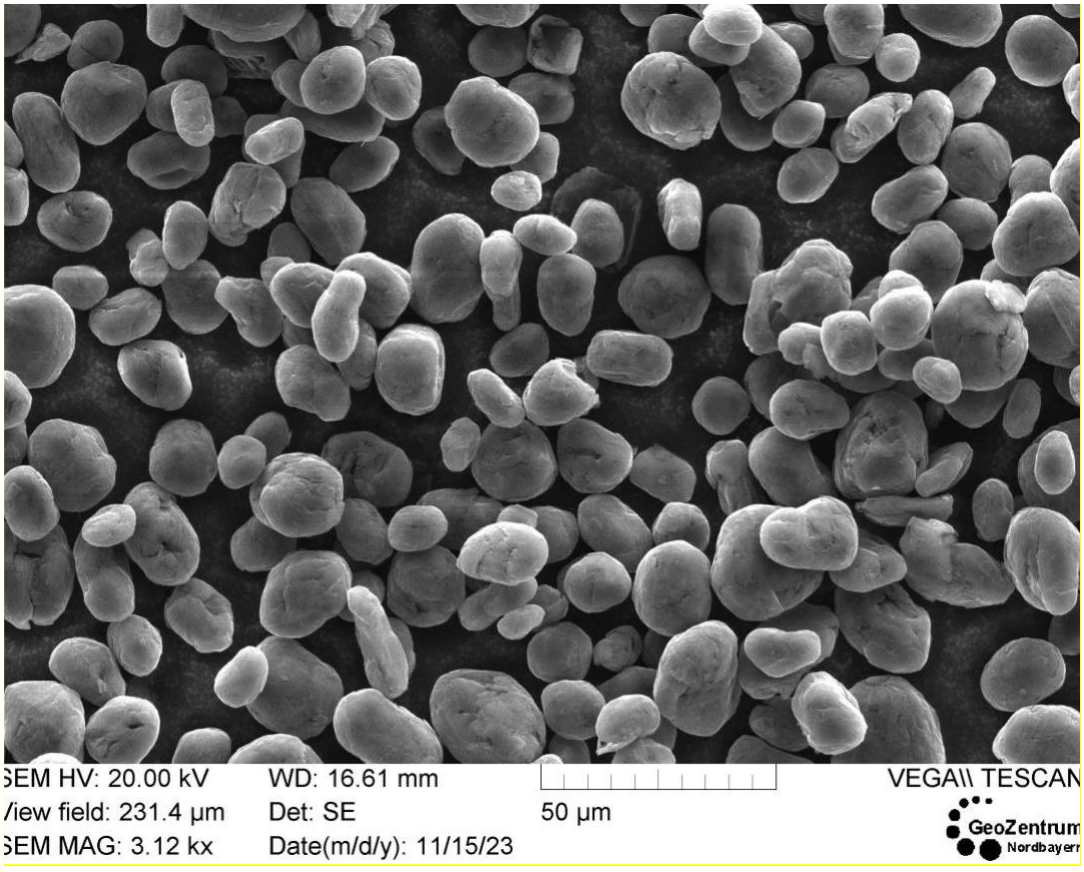

Figure 3: SPG20 Spherical Graphite SEM Image at Magnification of 3.12kx

Purification

Two non-hydrofluoric acid purification processes were conducted on the spheronised Burke Graphite with each process conducted at different temperatures, durations and material inputs. The low temperature process produced outstanding results as shown in Table 3.

Table 3:Burke Graphite Purification Results

Mineral Elements	Unit	Feed Material	Low Temp Process	Industry Std*
Total Graphitic Carbon (TGC)	%	95.5	99.97	≥99.95%
Fe (Iron)	ppm	2,056	6.8	≤30
Si (Silicon)	ppm	10,549	29.8	≤30
Al (Aluminium)	ppm	6,203	4.7	≤10
Ni (Nickel)	ppm	<15	0.7	≤10
Pb (Lead)	ppm	199	<0.1	≤5
Cr (Chrome)	ppm	<16	<0.1	≤10

* Based on the Chinese Spherical Graphite Standard Specification GB/T 38887-2020

Next Steps

With the purification process and criteria identified, sufficient product will be generated at the ProGraphite laboratory to allow electrochemical testing to be undertaken on the Burke BAM. The electrochemical testing will provide (1) the first cycle efficiency (discharge capacity / charge capacity), which defines the charge efficiency by which electrons are transferred in batteries and (2) the discharge specific capacity of the anode in a Li-ion battery, which is the maximum amount of energy the battery can deliver under certain specific conditions. These are the key characteristics that define the ultimate performance of the battery anode material. It is anticipated the results of the electrochemical testing will be completed in Q1, 2024.

These highly encouraging results from the laboratory testing will also provide design and target data to develop and install a BAM pilot plant, which will allow for further product optimisation and scale up metrics for production plant design to be determined. A key outcome from the pilot plant will to be able to produce high quality spherical purified graphite which will be used in the BAM material pre-qualification process which is required to secure offtake agreements.

About ProGgraphite

ProGraphite GmbH is a leading company in the field of natural graphite testwork and development. ProGraphite offers comprehensive consulting and laboratory services and can conduct pilot-scale test work to evaluate graphite samples and to determine the suitability for various applications. ProGraphite is also a globally recognised specialist for all aspects of the natural graphite business, including marketing and sales of graphite.

ProGraphite
PROFESSIONAL GRAPHITE SOLUTIONS

Burke and Corella Graphite Projects (Queensland, Australia) (100%)

Lithium Energy is actively developing a vertically integrated Battery Anode Material (**BAM**) business in Australia. The Company plans to utilise the high grade graphite from Burke and Corella Graphite Deposits as feed sources to a BAM manufacturing facility located in Queensland.

The Burke Graphite Project comprises EPM 25443 (the **Burke Tenement**) and the Corella Graphite Project comprises EPM 25696 (the **Corella Tenement**) totalling ~26km^2 located in the Cloncurry region in North Central Queensland, where there is access to well-developed transport infrastructure to an airport at Mt Isa (~122km) and a port in Townsville (~783km). The Burke Tenement is located 125km north of Cloncurry adjacent to the Mt Dromedary Graphite Project held by Novonix Limited (ASX: NVX). The Corella Tenement is located 40km west of Cloncurry near the Flinders Highway that links Mt Isa to Townsville.

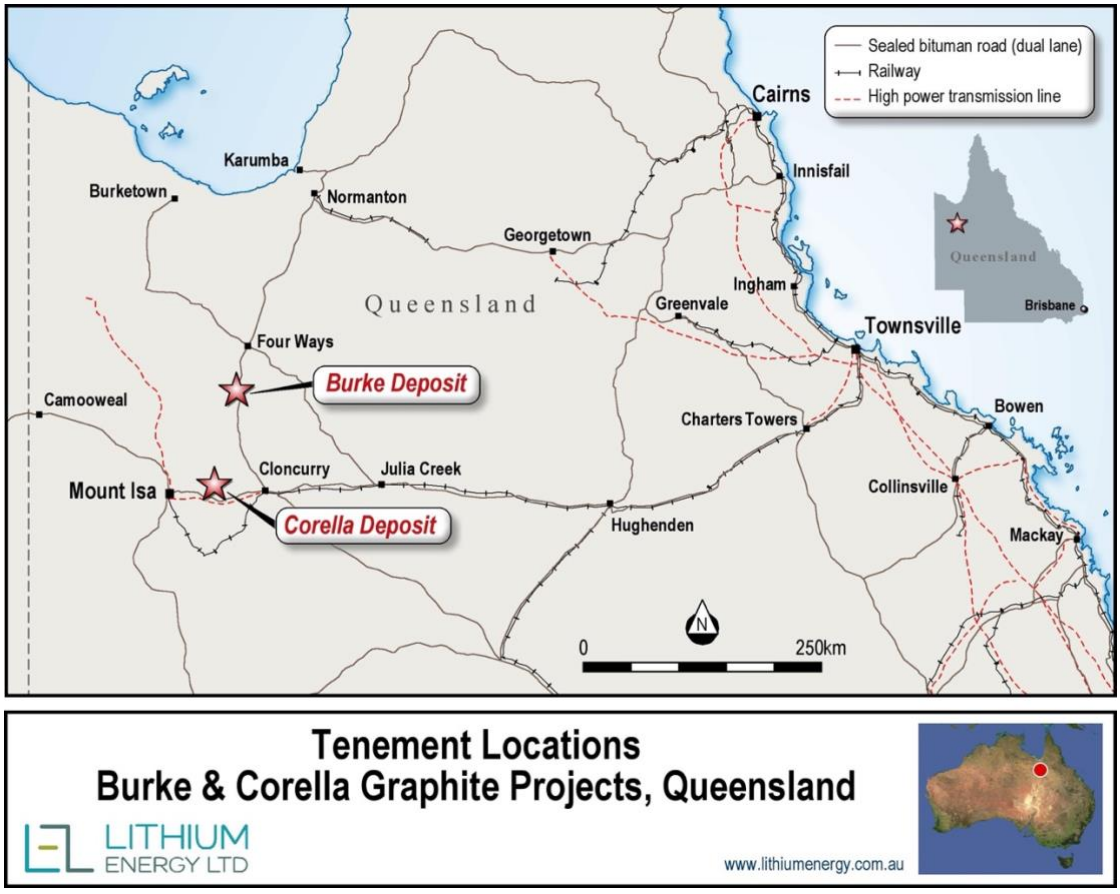

Figure 4: Burke & Corella Graphite Projects Location Map in Queensland, Australia

Townsville in North Queensland is emerging as an important location for the production of critical materials for battery technologies in Australia.

Lithium Energy succeeded in doubling its Total Graphite Inventory to **2.6Mt of contained graphite**, with the delineation of a maiden JORC Inferred Mineral Resource Estimate of **13.5Mt at 9.5% total graphitic carbon (TGC)** for 1.3Mt contained graphite at Corella Tenement[6] and an upgrade of the Burke Deposit to a total JORC Indicated and Inferred Mineral Resource of **9.1Mt at 14.4% TGC** for a total of 1.3Mt contained graphite[7].

Lithium Energy is undertaking a Pre-Feasibility Study (**PFS**) for the development of a vertically integrated BAM manufacturing facility in Queensland.[8]

6 Refer LEL ASX Announcement 16 June 2023: Maiden Corella Graphite Mineral Resource Delivers Doubling of Graphite Inventory

7 Refer LEL ASX Announcement 5 April 2023: Burke Graphite Mineral Resource Upgrade Delivers Significant Increases in Size and Confidence

8 Refer LEL ASX Announcement dated 23 May 2023: Excellent Metallurgical Testwork Results at Burke Graphite Project Pave Way for Commencement of PFS

The PFS envisages mining graphite from the Burke Graphite Deposit and producing a +95% TGC graphite flake concentrate at the mine site. The flake concentrate will then be transported to a proposed BAM manufacturing facility in Queensland for processing by firstly mechanically shaping and spheronising the flakes and then chemically purifying the spheronised graphite to form a high quality BAM product.

It is proposed that this BAM product will be sold as a battery anode material for use in lithium-ion battery manufacturing or for battery energy storage solutions.

Figure 5 illustrates the basic steps required to create a BAM product.

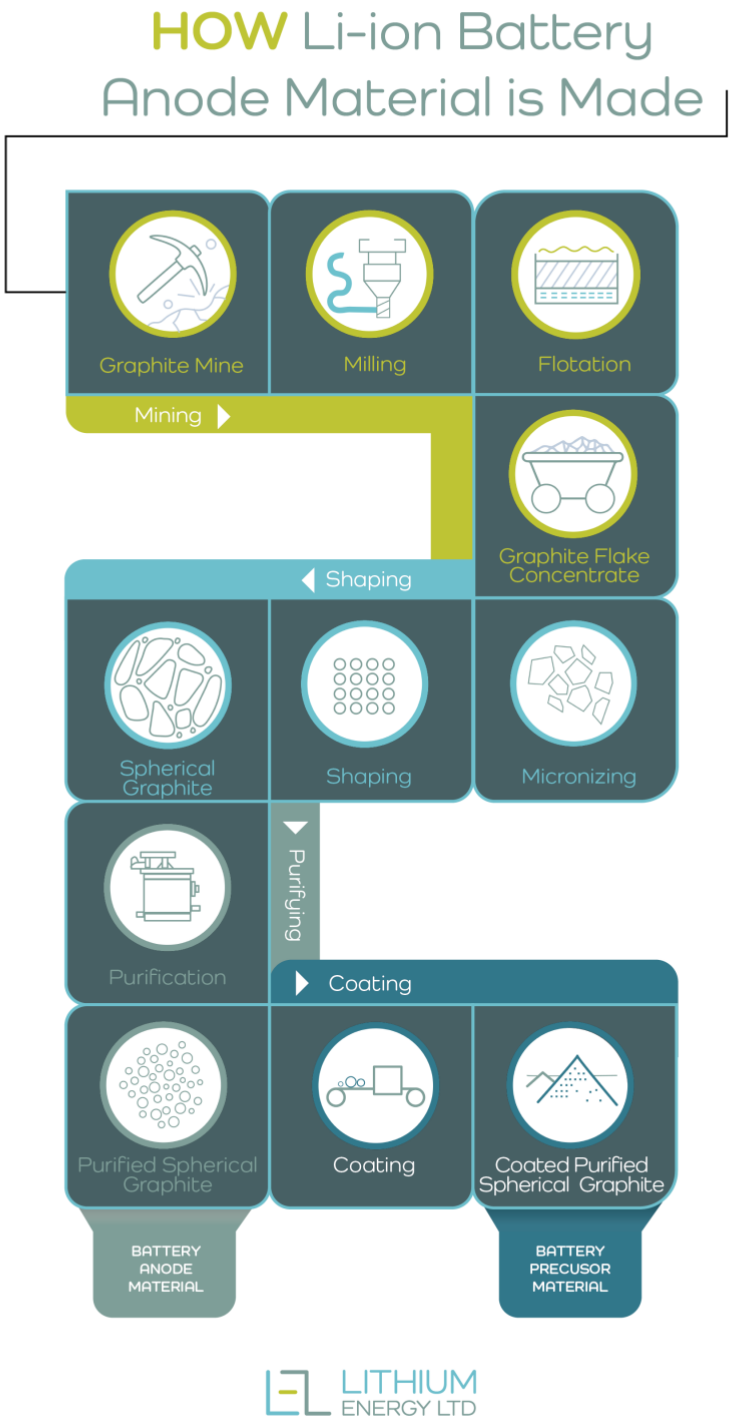

Figure 5: Illustrative Vertically Integrated Operations from Graphite Mine to Production of BAM

Burke Graphite Project (Queensland, Australia) (100%)

The Burke Deposit (on Burke EPM 25443 tenement) has a JORC Mineral Resource as follows:

- **Total Mineral Resource** of **9.1Mt at 14.4% Total Graphitic Carbon (TGC)** for a total of **1.3Mt contained graphite** (at a 5% TGC cut-off grade), comprising:
  - **Indicated Mineral Resource** of **4.5Mt at 14.7% TGC** for **670kt of contained graphite**; and
  - **Inferred Mineral Resource** of **4.5Mt at 14.2% TGC** for **640kt of contained graphite**.
- Within the mineralisation envelope, there is included a higher grade **Total Mineral Resource** of **7.1Mt at 16.2% TGC** for **1.1Mt of contained graphite** (at a 10% TGC cut-off grade).[9]

Table 4 : Burke Tenement - JORC Indicated and Inferred Mineral Resource Estimate

Mineral Resource Category	Weathering State	Resource (Mt)	Total Graphitic Carbon (TGC) (%)	Contained Graphite (kt)
Indicated Mineral Resource	Weathered	0.2	12.5	30
	Primary	4.3	14.8	640
	Sub-total	**4.5**	**14.7**	**670**
Inferred Mineral Resource	Weathered	0.1	8.1	10
	Primary	4.4	14.4	630
	Sub-total	**4.5**	**14.2**	**640**
Total Indicated and Inferred Mineral Resource	Weathered	0.3	11.1	40
	Primary	8.7	14.6	1,270
	TOTAL	**9.1**	**14.4**	**1,310**

Notes:

(a) Mineral Resource estimates are reported above a cut-off grade of 5% TGC; Mineral Resources reported on a dry in-situ basis; Totals may differ due to rounding.

(b) For further details, refer to the Company's ASX Announcement dated 5 April 2023 entitled "Burke Graphite Mineral Resource Upgrade Delivers Significant Increases in Size and Confidence"

Corella Graphite Project (Queensland, Australia) (100%)

The Corella Deposit (on Corella EPM 25696 tenement) has a JORC Mineral Resource as follows:

- Inferred Mineral Resource of **13.5Mt at 9.5% TGC f**or **1.3Mt contained graphite** (at a 5% TGC cut-off grade).
- Within the mineralisation envelope, there is included a higher grade Inferred Mineral Resource of **4.5Mt at 12.7% TGC** for 0.57Mt of contained graphite (at a 10% TGC cut-off grade).[10]

Table 5: Corella Tenement - JORC Inferred Mineral Resource Estimate

Mineral Resource Category	Weathering State	Resource (Mt)	TGC (%)	Contained Graphite (kt)
Inferred Mineral Resource	Weathered	4.5	9.7	440
	Primary	9.0	9.3	840
	TOTAL	**13.5**	**9.5**	**1,280**

Notes:

(a) Mineral Resource estimates are reported above a cut-off grade of 5% TGC; Mineral Resources reported on a dry in-situ basis; Totals may differ due to rounding.

(b) For further details, refer to the Company's ASX Announcement dated 16 June 2023 entitled "Maiden Corella Graphite Mineral Resource Delivers Doubling of Graphite Inventory"

9 Refer Mineral Resource estimates at different %TGC cut-off grades reported in Table 2 of LEL ASX Announcement dated 5 April 2023: Burke Graphite Mineral Resource Upgrade Delivers Significant Increases in Size and Confidence

10 Refer Mineral Resource estimates at different %TGC cut-off grades reported in Table 3 of LEL ASX Announcement dated 16 June 2023: Maiden Corella Graphite Mineral Resource Delivers Doubling of Graphite Inventory

AUTHORISED FOR RELEASE - FOR FURTHER INFORMATION:

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ABOUT LITHIUM ENERGY LIMITED (ASX:LEL)

Lithium Energy Limited is an ASX listed battery minerals company which is developing its flagship Solaroz Lithium Brine Project in Argentina and the Burke and Corella Graphite Projects in Queensland. The Solaroz Lithium Project (LEL:90%) comprises 12,000 hectares of highly prospective lithium mineral concessions (where a JORC Indicated and Inferred Mineral Resource of lithium has been delineated) located strategically within the Salar de Olaroz Basin in South America's "Lithium Triangle" in north-west Argentina. Lithium Energy shares the lithium rights in the Olaroz Salar basin with lithium carbonate producers Allkem Limited (ASX/TSX:AKE) and Lithium Argentina Corporation (TSX:LAAC). Lithium Energy has completed a Scoping Study on Solaroz and is investigating the development of a 20/40ktpa lithium carbonate equivalent (LCE) production facility using conventional evaporation ponds; the Company is also evaluating direct-lithium extraction (DLE) technologies. The Burke and Corella Graphite Projects (LEL:100%) in Queensland, Australia, contains high grade JORC Indicated and Inferred Mineral Resources of graphite; Lithium Energy is investigating the proposed development of a vertically integrated battery anode material manufacturing facility in Queensland.

JORC CODE (2012) COMPETENT PERSON STATEMENTS

(1) The information in this document that relates to testwork results in relation to the Burke Tenement (EPM 25443) is based on information compiled by Mr Graham Fyfe, who is a Member of the Australian Institute of Mining and Metallurgy (**AusIMM**). Mr Fyfe is an employee (General Manager, Projects) of Lithium Energy Limited. Mr Fyfe has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he has undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves' (**JORC Code (2012)**). Mr Fyfe consents to the inclusion in this document of the matters based on this information in the form and context in which it appears.

(2) The information in this document that relates to Mineral Resources in relation to the Burke and Corella Graphite Projects is extracted from the following ASX market announcements made by Lithium Energy Limited dated:

- 16 June 2023 entitled "Maiden Corella Graphite Mineral Resource Delivers Doubling of Graphite Inventory"
- 5 April 2023 entitled "Burke Graphite Mineral Resource Upgrade Delivers Significant Increases in Size and Confidence"

The information in the original announcements is based on information compiled by Mr Shaun Searle, a Competent Person who is a Member of the Australian Institute of Geoscientists (**AIG**). Mr Searle is an employee of Ashmore Advisory Pty Ltd, an independent consultant to Lithium Energy Limited. Mr Searle has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the JORC Code. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements (referred to above). The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements (referred to above).

(3) The information in this document that relates to metallurgical test work results in relation to the Burke Graphite Project is extracted from the following ASX market announcement made by Lithium Energy Limited dated:

- 23 May 2023 entitled "Excellent Metallurgical Testwork Results at Burke Graphite Project Pave Way for Commencement of PFS".

The information in the original announcement is based on information compiled by Mr Graham Fyfe, who is a Member of the AusIMM. Mr Fyfe is an employee (General Manager, Projects) of Lithium Energy Limited. Mr Fyfe has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the JORC Code. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement (referred to above). The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement (referred to above).

FORWARD LOOKING STATEMENTS

This document contains “forward-looking statements” and “forward-looking information”, including statements and forecasts which include without limitation, expectations regarding future performance, costs, production levels or rates, mineral reserves and resources, the financial position of Lithium Energy, industry growth and other trend projections. Often, but not always, forward-looking information can be identified by the use of words such as “plans”, “expects”, “is expected”, “is expecting”, “budget”, “scheduled”, “estimates”, “forecasts”, “intends”, “anticipates”, or “believes”, or variations (including negative variations) of such words and phrases, or state that certain actions, events or results “may”, “could”, “would”, “might”, or “will” be taken, occur or be achieved. Such information is based on assumptions and judgements of management regarding future events and results. The purpose of forward-looking information is to provide the audience with information about management’s expectations and plans. Readers are cautioned that forward-looking information involves known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of Lithium Energy and/or its subsidiaries to be materially different from any future results, performance or achievements expressed or implied by the forward-looking information. Such factors include, among others, changes in market conditions, future prices of minerals/commodities, the actual results of current production, development and/or exploration activities, changes in project parameters as plans continue to be refined, variations in grade or recovery rates, plant and/or equipment failure and the possibility of cost overruns.

Forward-looking information and statements are based on the reasonable assumptions, estimates, analysis and opinions of management made in light of its experience and its perception of trends, current conditions and expected developments, as well as other factors that management believes to be relevant and reasonable in the circumstances at the date such statements are made, but which may prove to be incorrect. Lithium Energy believes that the assumptions and expectations reflected in such forward-looking statements and information are reasonable. Readers are cautioned that the foregoing list is not exhaustive of all factors and assumptions which may have been used. Lithium Energy does not undertake to update any forward-looking information or statements, except in accordance with applicable securities laws.

ANNEXURE A

JORC CODE (2012 EDITION)
CHECKLIST OF ASSESSMENT AND REPORTING CRITERIA
FOR EXPLORATION RESULTS

Section 1 Sampling Techniques and Data

Criteria	Explanation	Comments
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *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.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.*	**Sampling Methodology – Diamond Drill Core** Detailed geochemical sampling was routinely conducted on a 1-metre interval basis of Quarter-Split Triple Tube HQ drill core collected from the Burke Tenement. The HQ and PQ triple tube drill core was initially split 50% using a diamond core saw cutting machine. Half-split core is being retained initially as a visual reference and for use as a bulk metallurgical sample. The remaining half-core was then split 50% into quarter-core, again using a manual core saw. The quarter-split core was routinely submitted for geochemical analysis. Samples were analysed for %TGC (Total Graphitic Carbon) by Intertek method C73/CSA and for %TC by Intertek method CSA01. Sulphur was assayed on drill core by Intertek method FP1/OM. The remaining Quarter-Split Core was used as a metallurgical sample. Selective Petrological sampling of some lithological units identified in drill core was undertaken. These petrology samples are by necessity a small sample, but were selected on the basis of being "typical" of the lithological unit from which they were collected.
Drilling techniques	• *Drill type (eg core, reverse circulation, open hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).*	**Diamond Drill Core** DDH1 Drilling undertook the diamond drilling programme and supplied a UDR650 multi-purpose track mounted rig. HQ and PQ Triple Tube diamond core was selected as the optimum sampling method for drilling the graphite mineralised zones at the Burke Graphite Project, on the basis of maximising recovery of graphite, as the method minimises disturbance to core, limiting potential losses in drilling water. Drill core was oriented with a Reflex Act III orientation tool.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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.*	**Diamond Drilling** Diamond Drill Core recovery was routinely recorded every drill run (core barrel of 6m), with overall recovery of > 92.5% achieved for the drillhole.
Logging	• *Whether core and chip samples have been geologically and geotechnically*	**Logging Drill Core**

Criteria	Explanation	Comments
	logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	Core was initially cleaned to remove drill mud and greases. The core was then orientated using "Top of Core" marks from the Reflex orientation tool, marked into 1m intervals and the core recovery recorded. The core was then photographed using high-resolution digital camera and then geologically logged. Geological logging of Drill Core was routinely undertaken on a systematic one-metre interval basis, recording the following geological data: 1. Core Recovery 2. Rock Lithology 3. Colour 4. Minerals 5. Texture 6. Hardness 7. Minerology 8. Oxidation 9. Graphite Content Geotechnical data was collected, including Rock Quality Designation (RQD), Fracture Density and orientations of structures such as faults, fractures, joints, foliation, bedding, veins recorded. The Specific Gravity was collected using an *Archimedes Principle* water displacement device. The core was then split into one half and then into 2x quarters using a manual core saw. One ¼ split core was used for geochemical analysis and the other ¼ split core used for bulk Variability metallurgical testing. The core was then stored in a secured container in Mt Isa.
Subsampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all subsampling stages to maximise representivity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	One-metre intervals of quarter-split drill core were submitted into an Intertek sample preparation laboratory in Townsville, Queensland. Geochemical analysis was subsequently performed at an Intertek laboratory in Perth, Western Australia. Samples were analysed for %TGC by Intertek method C73/CSA and for %TC by Intertek method CSA01. Sulphur was assayed on drill core by Intertek method FP1/OM. No work has been completed to determine if sample size is appropriate to the grain size of the material being sampled, with grain size of the graphite being determined post drilling by combination of petrology and metallurgical analysis.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations*	**Geochemical Analysis** One-metre intervals of Quarter-Split Drill Core were submitted into Intertek sample preparation laboratory in Townsville. Geochemical analysis was subsequently performed at Intertek laboratory in Perth. The laboratory inserted its own standards, Certified Reference Material (CRM) plus blanks and completed its own QAQC. Company standards, duplicates and blanks were routinely inserted every 25th sample.

Criteria	Explanation	Comments
	factors applied and their derivation, etc. • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	No geophysical methods or hand-held XRF units have been used.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	The QA/QC protocols adopted for the December 2022/January 2023 Burke Tenement drilling programme involved routinely inserting a Certified Graphite Reference Standard (2 different Standards used), duplicates or Blank sample into the tag book number sequence every 25 samples. The QA/QC sample density is considered to be adequate and robust. Additional QA/QC controls were also provided by internal laboratory repeats and standards. Laboratory performance and all reported analytical results was statistically evaluated using QA/QC monitoring software. All Certified Reference Materials reported within 1 Standard Deviation of the Certified value. Significant intersections were visually field verified by Company Geologists and also by the Competent Person for the Burke Tenement (5 April 2023) Mineral Resource Estimate (Shaun Searle of Ashmore Advisory Pty Ltd) during a site visit in January 2023 and the Competent Person (Graham Fyfe) during a number of site visits in December 2022 and January 2023.
Location of data points	• *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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	*M.H. Lodewyk Pty Ltd* licensed surveyors of Mt Isa were contracted to accurately survey each drillhole collar to sub-metre accuracy, using a Differential Positioning System (DGPS) instrument, in the MGA Zone 54 projection. Downhole surveys were routinely collected every 18m, using a *Reflex* Gyro after completion of the hole, with surveying carried out both going into the hole (inside of rods), and also coming out of the hole. Results were averaged to determine the final drillhole deviation information.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.* • *Whether sample compositing has been applied.*	Data was routinely collected on a continuous one-metre interval basis. Samples were collected at one-metre intervals down each hole.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *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.*	**Drill Hole Orientation** Drill holes were designed to intersect graphite mineralisation at perpendicular to strike observed in outcrop. **Core Orientation** Core orientation was routinely undertaken during drilling using a *Reflex ACT III* tool. The unit is attached to the top of the core inner tube barrel and initialised. The unit is removed and the orientation marked on the Top of Core using a coloured paint marker or chinagraph pencil.
Sample security	• *The measures taken to ensure sample security.*	All samples were collected by Company consultants/contractors, retaining chain of custody until delivery to the laboratory.

Criteria	Explanation	Comments
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	The Competent Person for the Burke Tenement (5 April 2023) Mineral Resource Estimate (Shaun Searle of Ashmore Advisory Pty Ltd) reviewed drilling and sampling procedures during a site visit in January 2023 and confirmed that all procedures and practices conformed to industry standards. The Competent Person (Graham Fyfe) undertook and confirmed the same during a number of site visits in December 2022 and January 2023. Mr Fyfe attended and witnessed the core cutting process and sample selection and also visited the Beijing General Research Institute for Mining and Metallurgy Technology Group (**BGRIMM**) laboratories in China during their metallurgical testwork programme (in April 2023).

Section 2 Reporting of Exploration Results

Criteria	Explanation	Comments
Mineral tenement and land tenure status	• *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.* • *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.*	Exploration Permit for Minerals (**EPM**) No. 25443 "Mt Dromedary" (**Burke Tenement**) was lodged with the Queensland Government Department of Mines and Energy on 2 December 2013. The tenement was granted on 4 September 2014 to Burke Minerals Pty Ltd (**BMPL**), for an initial period of five years, which was renewed for a further 5 years in October 2019 (expiring on or about 4 September 2024). Lithium Energy Limited (ASX:LEL) (**LEL**) is the ultimate parent company of BMPL. The Burke Tenement is in good standing with no known impediments.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	The Mt Dromedary graphite occurrences were first identified by Bill Bowes in the 1970's. Mr Bowes was the manager of the nearby Coolullah Station. A few small pits were excavated and no further work was carried out. The Mt Dromedary area was explored by Nord Resources (Pacific) Pty Ltd (EPM 6961) from 1991-1999, Nord collected numerous rock chips and submitted them for petrological and preliminary metallurgical appraisal by *Peter Stitt and Associates.* The preliminary flotation studies were encouraging and indicated 60-70% flake graphite (>75um size), whilst the floatation techniques utilised failed to achieve suitable recoveries. CRAE Exploration entered into a JV with Nord focusing on Copper exploration, and also did further rock chip sampling and trenching. CRAE's internal Advanced Technical Development division did a brief petrographical review which indicated the samples were predominately < 75um. Based on this advice exploration activity by CRAE for Graphite ceased.
Geology	• *Deposit type, geological setting and style of mineralisation.*	The Mt Dromedary graphite project on EPM25443 was identified by previous exploration dating back to the 1970's, and is hosted by a mapped graphitic schist (Qld Dept NRM) as a sub unit of the Corella Formation, within the Mary Kathleen Group and is of Proterozoic age. The graphitic schists within EPM 25443, are intruded by the Black Mountain (1685-1640Ma) gabbro, and sills, with subsequent metamorphism to amphibolite grade during the Isan Orogeny 1600-1580Ma. The style of mineralisation sought is crystalline graphite within the graphitic schists

Criteria	Explanation	Comments
Drill hole Information	• *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:* – *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* – *dip and azimuth of the hole* – *down hole length and interception depth* of *hole length.* • *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.*	Holes were orientated to intersect outcropping graphitic schists with a dip angle of 60o, the drillhole azimuth was aimed to perpendicular intersect graphite beds. Downhole surveys were taken with the Reflex Gyro every 20m. With the survey being done within the drill rods, by running the Gyro down the inside of the rods at the end of the drillhole, surveying going down and coming out of the hole. **Diamond Drill Core** Diamond core drilling was undertaken and HQTT core recovered in 6m core barrels. Core orientation was routinely undertaken during drilling using a *Reflex ACT III* tool. Full details of the collar location, azimuth, depth for Drillhole ID's BGDD002 to BGDD008 are reported in Table 6. The Competent Person (Graham Fyfe) has access to all information in the drill hole/drilling database.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	No data aggregation results are reported. No metal equivalent values are reported.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	Foliation structural data from the borehole televiewer and structural core measurements indicates the graphite mineralisation was intersected orthogonally down-dip and is close to true width. The graphite schist is relatively undisturbed other than broad folding, offset faulting and the foliation is interpreted to represent original bedding. Intercept widths are down hole widths.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts would be included for any significant discovery being reported. These should include, but not be limited too plan view of*	Figure 8 shows the location of drillholes on the Burke Tenement. The Reverse Circulation (**RC**) holes in the 2022/2023 drilling programme are designated as "BGRC" and the diamond core holes are designated as "BGDD".

Criteria	Explanation	Comments
	drill hole collar locations and appropriate sectional views.	The location of drillholes in respect of the 2022/2023 drilling programme on the Burke Tenement have also been previously reported - refer the Company's ASX Announcements dated 22 February 2023 entitled "Update – Infill Drilling Results at Burke Graphite Deposit" (Figure 1) and 16 February 2023 entitled "Significant High Grade Graphite Intercepts Continue at Burke Graphite Deposit" (Figure 1).
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.*	The information reported in this document is factual in nature and considered to be balanced.
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 containing substances.*	The Beijing General Research Institute for Mining and Metallurgy Technology Group (BGRIMM) in China utilise their in-house Pilot Plant to produce bulk flake concentrate which will be used as test feedstock material for a planned Anode development testwork programme to define and optimise the metallurgical and process conditions to produce battery anode material (**BAM**) suitable for use in Lithium-ion battery anodes. This representative bulk graphite concentrate sample from was sent to ProGraphite in Germany, who conducted the spheronising and purification testwork. ProGraphite conducted spheronising and purification testwork on the Burke graphite concentrate to determine spheronised product sizes and recoveries and purification processing pathway effectiveness to achieve the required industry standard purification requirements for the spheronised product to be acceptable batter anode material. Further details in relation to the BGRIMM metallurgical testwork programme/results which produced the bulk graphite concentrate sample are as follows: • Half core samples from the 2022/2023 drilling programme were collected from diamond drillholes BGDD002, 003, 004, 005, 006 and 008. Samples were collected across all depths to create a 2.5 tonne representative sample across depth, lithology and grade zones. A one tonne representative sample was shipped to BGRIMM. • The sample was homogenised and crushed to -3mm. The sample was riffled and assayed to determine the average grade, which was 13.3%TGC. • Multiple specific test were conducted on the sample to assess and determine reagents, grind time, flotation time and regrind time. • The results of these individual tests were collated into a number of open circuit tests to determine the number of flotation and regrind steps required to achieve the concentrate grade target of +95%TGC. • The flowsheet developed in the open circuit tests was used as the basis for the closed loop circuit tests in which recovery, final reagent and equipment residence times were optimised. • A number of closed loop tests were conducted to finalise the flowsheet and the associated conditions resulting in a concentrate product with a grade of +95%TGC and recoveries of >85%.

Criteria	Explanation	Comments
		A 9 hole RC and diamond core drilling programme (in 2017) and various geophysical surveys and metallurgical test work (on samples collected from the 2017 drilling programme) have been undertaken in respect of the Burke Tenement, which have been (where material and relevant) disclosed in ASX market announcements released by LEL and Strike Resources Limited (ASX:SRK) (**Strike**), the former parent company of LEL (and LEL subsidiaries) – LEL was spun out of Strike into a new ASX listing in May 2021. The Company conducted an infill drilling programme at the Burke Tenement in December 2022/January 2023, comprising a total of 29 Reverse Circulation (**RC**) holes (totalling ~2,600m) and 7 diamond core (metallurgical and geotechnical) holes (totalling ~700m), the details of which have been (where material and relevant) disclosed in ASX market announcements released by LEL – refer, in particular, the Company's ASX Announcements dated 22 February 2023 entitled "Update – Infill Drilling Results at Burke Graphite Deposit" and 16 February 2023 entitled "Significant High Grade Graphite Intercepts Continue at Burke Graphite Deposit". The results from the 2022/2023 drilling programme on the Burke Tenement was used to increase the size of and upgrade the Mineral Resource Estimate on the Burke Tenement - refer the Company's ASX Announcement dated 5 April 2023 entitled "Burke Graphite Mineral Resource Upgrade Delivers Significant Increases in Size and Confidence".
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step- out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, providing this information is not commercially sensitive.*	A review of the data from the (December 2022/January 2023) RC and diamond core drilling programme will be undertaken to increase the geological understanding of the graphite deposit on the Burke Tenement. The Company may seek to upgrade the current JORC Inferred and Indicated Mineral Resource on the Burke Tenement to a higher standard JORC Measured Mineral Resource and or Probable Ore Reserve category. The diamond core has also provided representative graphite samples for the current metallurgical testwork (being undertaken by the Beijing General Institute of Mining and Metallurgy (BGRIMM) in China) and the Purified Spherical Graphite (PSG) and anode testwork and development programme which was undertaken by ProGraphite in Germany. The April 2023 upgrade in the resource classification and the metallurgical and PSG optimisation testwork results will support the Pre-Feasibility Study, which is being undertaken to identify the requirements, operational outcomes and commercial parameters for a vertically integrated battery anode material (BAM) manufacturing facility in Queensland utilising graphite from the Burke Tenement as feedstock.

Table 6: Drillhole Collar Location, Azimuth and Depth for Diamond Holes BGDD002 to BGDD008

Hole ID	Easting	Northing	Elevation	Inclination	Azimuth(Grid)	Final Depth
	GDA94-MGA Zone 54		AHD	Degrees	Degrees	Metres
BGDDH02	417871.4	7830978.2	140.80	90	250	111
BGDDH03	417905.3	7831020.4	139.33	90	307	127
BGDDH04	417877.4	7831125.5	142.87	90	310	100
BGDDH05	417880.7	7831173.5	143.25	90	290	100
BGDDH06	417902.5	7831228.6	142.32	90	287	81
BGDDH07	417964.3	7831315.5	144.77	70	270	115
BGDDH08	417891.5	7830928.5	140.42	90	324	81

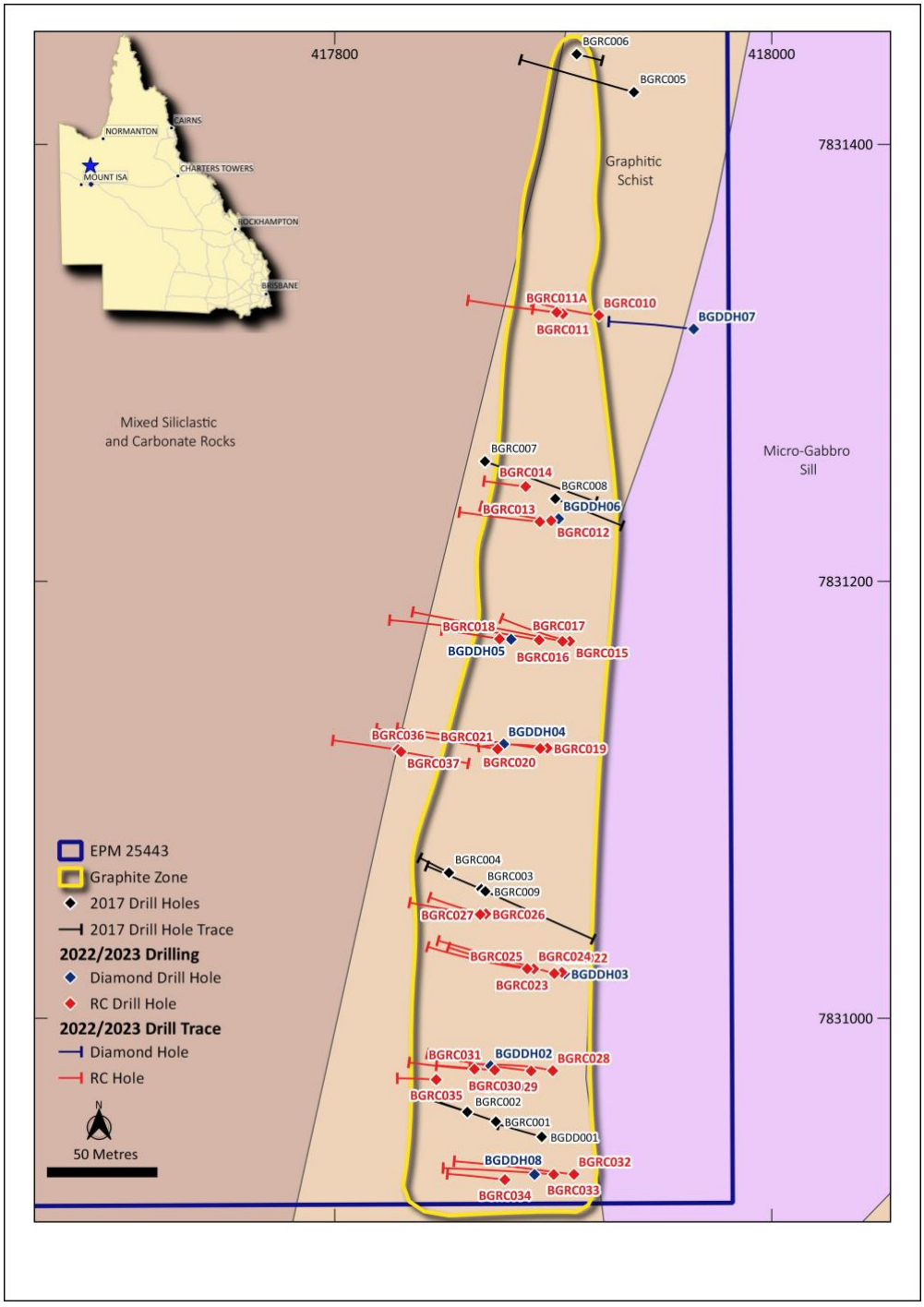

Figure 6: Location of RC (BGRC) and Diamond (BGDD) Drillholes
(undertaken During December 2022/January 2023 Drilling Campaign) on Burke Tenement