ASX Release

25th January 2024

GRAPHITE BULL UPDATE – Anode Testing Success

- **Successful electrochemical work demonstrates suitability of Graphite Bull feed for Li-ion Battery Anode manufacture**
- **Graphite Bull uncoated Purified Spherical Graphite (uPSG) performed better in anode testing than uPSG from other projects**
- **Critical milestone reached after 14 months of work in WA and Germany**
- **This very positive result green-lights further development work**

Buxton Resources Ltd ('**Buxton**'; **ASX:BUX**) is pleased to update shareholders on progress at Buxton's 100% owned Graphite Bull Project, Gascoyne Region, WA.

Graphite industry specialist ProGraphite GmbH in Germany has been managing mid- and downstream testwork on Graphite Bull concentrate for Buxton since April 2023. Final results now confirm that the uncoated Purified Spherical Graphite (uPSG) made from Graphite Bull concentrate is suitable for manufacture of Li-ion battery anodes, yielding above-average, to good, performance characteristics.

Work involved constructing an anode and Li-ion battery from Graphite Bull uPSG (see Figure 1). Subsequent electrochemical testwork included multiple charging and discharge tests to determine electrical capacity and durability characteristics. ProGraphite concluded the following in a report:

"The results obtained for both samples of uncoated PSG from Buxton are good for uncoated material: approx. 90% Coulombic efficiency during the 1st cycle…the graphite can be charged to good capacity levels. Charging to values above 350 mAh/g is considered good for uncoated graphite. The values achieved…were 370 and 369 mAh/g (for S#2634 and S#2635). The performance compared to other graphite tested is good...almost no degradation…the material is very stable."

This is a major milestone for Graphite Bull after 14 months of metallurgical work. Buxton is delighted to keep building on previous project successes including;

- high-grade concentrate by simple flotation (>98% TGC - ASX 13/3/2023)
- relative ease of micronizing and spheronising, excellent purification without the use of any HF acid (99.97% Cg - ASX 7/8/2023)
- demonstrated Resource upside (ASX 7/2/2023 and 19/4/2023)

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Buxton's CEO Marty Moloney said; "*Graphite Bull continues to over-deliver at every turn. Buxton is delighted to have a critical battery mineral project of this calibre in our portfolio. We also note UBS's recent comments about the likelihood of a two-tier pricing structure for graphite from 2025, suggesting a premium for battery quality graphite products and recognising coming realities for the global battery anode industry. Graphite Bull is the right project in the right place, at the right time.*"

Buxton thanks ProGraphite for their focus, diligence, and professionalism in this challenging time of high demand for globally-limited battery anode testing capacity.

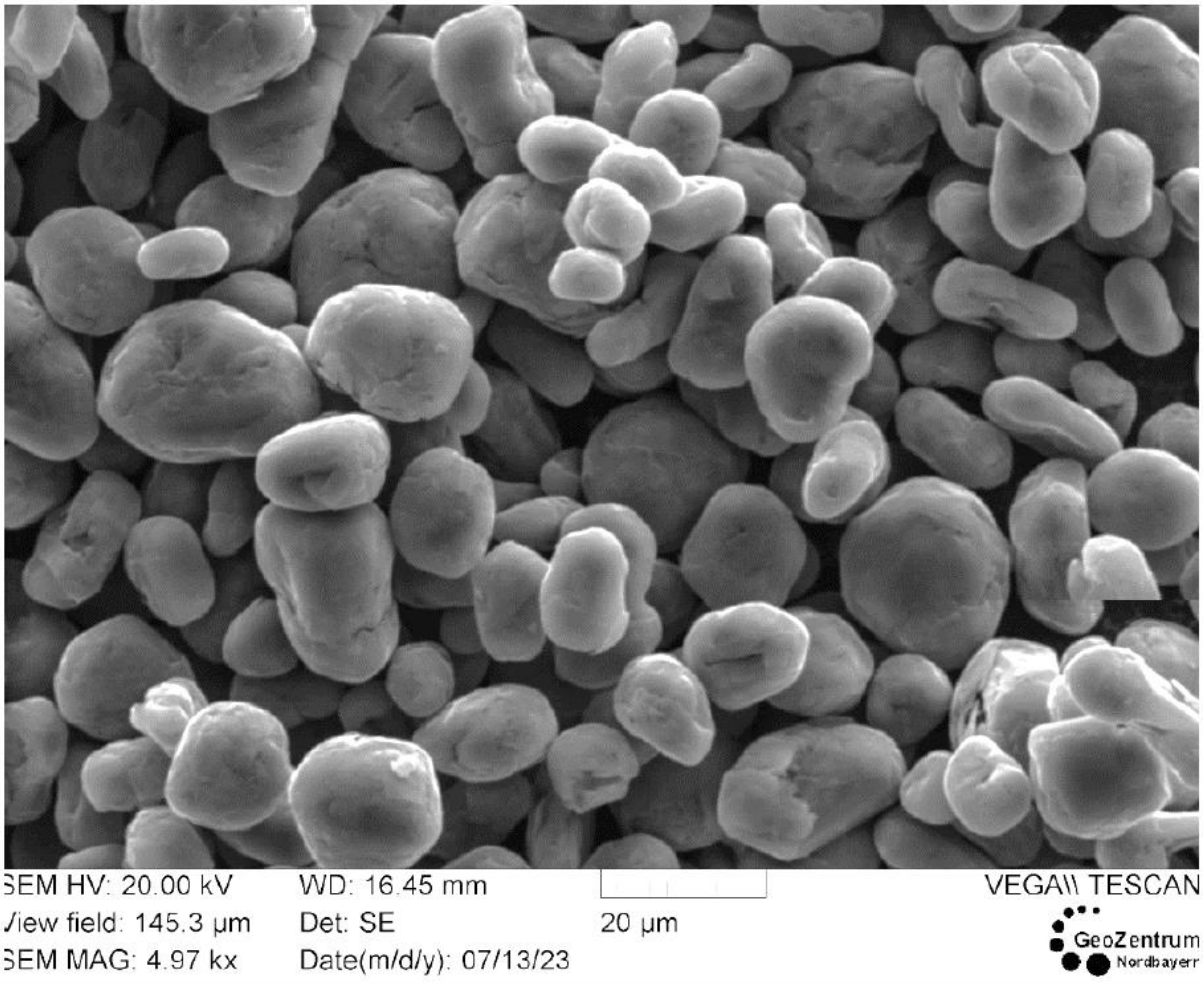

Figure 1: Electron photomicrograph of 15 micron uPSG produced from Graphite Bull concentrate, and as used in anode and battery construction for electrochemical testwork (PSG results reported ASX 7/8/2023)

ProGraphite managed construction of a Li-ion battery (Swagelok® T-Cell) from Graphite Bull material, and supervised completed assessments as follows;

- Composition of anode, cathode, electrolyte
- Test parameters (C-rates) and conditions

- Charging (lithiation) capacity for different C-rates (mAh/g)
- Discharging (delithiation) capacity for different C-rates (mAh/g)
- Irreversible capacity (mAh/g)
- Coulombic efficiency (%)
- comparison of results with uPSG from other sources

A second bulk concentrate sample is currently being evaluated by Dorfner Anzaplan GmbH also in Germany, with results expected progressively from May.

Note that these are simplified laboratory tests to confirm general suitability as feed for battery anode manufacture. To "qualify" for usage by a particular manufacturer, more tests are usually conducted by the anode producers or battery makers themselves.

Buxton is taking a measured approach to de-risking Graphite Bull. These excellent electrochemical test results reaffirm the Li-ion battery space and uPSG production as a leading option for Graphite Bull concentrate.

Buxton looks forward to providing regular updates to shareholders on this exciting WA graphite project.

This announcement is authorised by the Board of Buxton Resources Ltd.

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About the Graphite Bull Project

The at-surface, high-grade Graphite Bull (formerly Yalbra) Project is in the Tier 1 jurisdiction of Western Australia, Gascoyne region, on granted Exploration License E09/1985. Graphite Bull was acquired by Buxton in 2012; by 2014 an airborne EM survey, several drilling programs and two resource estimates were completed. The Graphite Bull project currently has a JORC (2012) compliant Inferred Resource of 4 Mt @ 16.2 % TGC (ASX 24/10/2014).

Due to projected growth of the global Lithium-ion battery market, and the essential part graphite will play in that – graphite is the single largest component of Li-ion batteries – Buxton recommenced work at Graphite Bull in 2022. Work since then has been focused on metallurgical testwork through to final product (Activated Anode Material), and increasing Resource confidence and size, with very promising results to date.

Forecast battery-related demand (Benchmark Mineral Intelligence) means that by 2027, global graphite production needs to double; by 2040, eight times current production will be required to supply the world's lithium-ion battery anode market. Non-China battery Anode capacity, and investment, is being spurred by US IRA legislation. Graphite Bull is therefore a very attractive project, being a high-grade deposit located in a Tier 1, US FTA mining jurisdiction, with outstanding Resource growth potential.

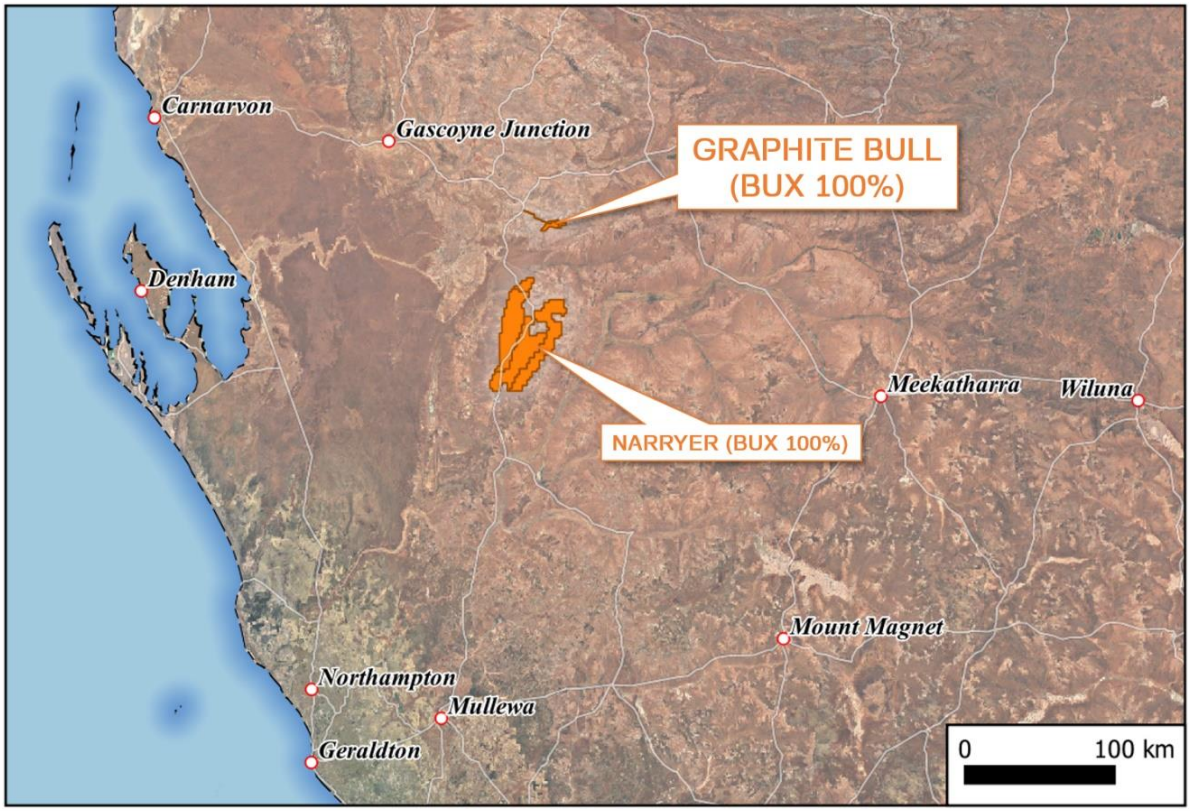

Figure 2: Location of Buxton's Graphite Bull Project, 750km north of Perth.

Competent Persons

The information in this report that relates to Exploration Results is based on information compiled by Mr Martin Moloney, Member of the Australian Institute of Geoscientists and Society of Economic Geologist. Mr Moloney is a full-time employee of Buxton Resources Ltd. Mr Moloney has sufficient experience which is relevant to the activity being undertaken 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, Mineral Resources and Ore Reserves. Mr Moloney consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

The information in this document that relates to metallurgical test work managed by ProGraphite GmbH and Battery Limits Pty Ltd (BL) and is based on, and fairly represents, information and supporting documentation reviewed by Mr David Pass, BSc (Mineral Science and Chemistry), who is a Member of The Australasian Institute of Mining and Metallurgy (AusIMM). Mr Pass is a full-time employee of BL, who has been engaged by Buxton Resources Ltd to provide metallurgical consulting services. Mr Pass 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.

Previously Reported Information

There is information in this announcement relating to exploration results previously announced on:

1. 24th October 2014 – Buxton significantly expands Graphite Resource At Yalbra
2. 7th February 2023 – Graphite Bull Exploration Update (Ground EM results)
3. 13th March 2023 – Graphite Bull Update – Metallurgy (Concentrate Grades)
4. 19th April 2023 – Graphite Bull Drilling Assays
5. 7th August 2023 - Graphite Bull - Downstream Processing Success

Validity of Referenced Results

Buxton confirms that it is not aware of any new information or data that materially affects the information from previous ASX announcements which has been referenced in this announcement.

JORC Table: Section 1 – Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
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.*	The metallurgical sample was collected from diamond drillhole YBDD002 and is a composite of PQ and HQ half core from 20-24m (PQ), 32-57m (HQ) and 112-134m (HQ) depths. The entire bulk core sample was processed by flotation to 11.6 kg of >95% TGC concentrate (92% recovery), and shipped to ProGraphite GmbH in Germany. Micronising, spheronising and purification was then completed to produce uncoated purified spheronised graphite averaging 15 microns in diameter. Multiple electrode disks 10.95mm in diameter where then produced from that material for electrochemical testwork.
	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 (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.	
Drilling techniques	*Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	The metallurgical sample was composited from core samples recovered from diamond drilling.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	Buxton undertook geotechnical logging at the time of drilling. The interval weighted average recovery of 93%
	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.	was recorded for all recovery logged core intervals within the metallurgical sample. No relationship between sample recovery and grade has been identified.
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 Buxton drill holes are geologically logged by qualified and experienced geologists, recording relevant data to a set template to metre intervals. All logging included lithological features, mineral assemblages, mineralisation percentages and basic graphite characteristics, all qualitative by nature.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	
	The total length and percentage of the relevant intersections logged.	
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	All material used for the metallurgical sample were selected from half-core samples of previously sawn Buxton diamond drill core from 2013-14 These intervals selected for the metallurgical sample represent a combination of Resource Domains 10, 40 and 50 which contribute 100% of the Inferred tonnes to the 2014 Resource. The metallurgical sample was also selected so as to provide a bulk sample which approximated the average grade of the Resource. The sample totalled 132.7 kg at an estimated grade of 15.8% TGC based on assay intervals of the other half of this cut core (not weighted by recovery). ALS Metallurgy subsequently determined the head grade of this sample to be 16.5% Total Carbon, matching expectations and the 2014 Resource grade of 4.0 Mt at a Total Graphitic Carbon grade of 16.2% (see ASX announcement 24th October 2014). Based on grade, location, lithologies, oxidation states and mineralogy the metallurgical sample is considered representative of the known Resource. Sample preparation is consistent with industry best practice and appropriate for the analysis being undertaken. See ASX announcement 24 October 2014 for further information relevant to the historic drilling campaigns. See ASX announcement 7 August 2023 for information relevant to the laboratory test work undertaken during bulk sampling, concentrate preparation, and uPSG production.
	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 sub-sampling 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.	
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.*	See ASX announcement 24 October 2014 for information relevant to the laboratory test work undertaken during previous drilling campaigns.
	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.	Not applicable for this release.

	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.	These Results are reported as interim information during a larger work program still being documented. Two previous sets of testwork from one sample, managed by two consultants, running in parallel through two different metallurgical facilities and two different analytical facilities, all well-credentialled leading practitioners in their fields, gives Buxton great confidence in the quality of work and results, including for this fourth tranche of testwork. Battery Limits used ALS Metallurgy, ALS Analytical, and ProGraphite GmbH in Germany, a well-established international graphite consultancy. See ASX announcement 24 October 2014 for information relevant to the QA procedures undertaken during previous drilling campaigns. See ASX announcement 7 August 2023 for information relevant to the laboratory test work undertaken during bulk sampling, concentrate preparation, and uPSG production.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	Not applicable for this release.
	The use of twinned holes.	Not applicable for this release. See ASX announcement 24 October 2014 for information related to the use of twinned holes during the historic drilling campaigns.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Drillhole data was hand entered to spreadsheets, imported to a Microsoft Access Database and then validated by company geologists using GIS and 3D visualisation software.
	Discuss any adjustment to assay data.	No adjustments to assay data have been made.
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.*	Not applicable for this release. See ASX announcement 24 October 2014 for information relevant to the historic drilling campaigns.
	Specification of the grid system used.	All surface surveying was completed using a handheld GPS to MGA94 / Zone 50 South grid system.
	Quality and adequacy of topographic control.	See ASX announcement 24 October 2014 for information relevant to the historic drilling campaigns.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	The metallurgical sample was derived from YBDD002, located towards the eastern end of the 2014 Resource extent. The metallurgical sample is a composite of the three Resource Domains (10, 40 & 50) that contributed to the 2014 Resource. See ASX announcement 7 August 2023 for information relevant to the laboratory test work undertaken during bulk sampling, concentrate preparation, and uPSG production.
	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.	
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.*	The metallurgical sample represents a composite of three intervals totalling a 51m intersection through the known resource that was selected to minimise any orientation bias that may have been introduced during drilling.
	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.	

Sample security	*The measures taken to ensure sample security.*	Graphite Bull drill core has been under Buxton's stewardship since drilling in 2014. Core and samples were packaged and stored in secure storage from the time of collection through to submission. Buxton staff collected the composite sample from core in November 2022 and personally delivered it to ALS Metallurgy in Balcatta. Best practice methods were employed by the laboratory upon receipt. The subsequent concentrate bulk sample (11.6 kg) was couriered directly by DHL International from ALS Balcatta, to ProGraphite in Nuernberg, Germany, via German customs in Leipzig.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	CSA conducted a field review of the sampling techniques and data collection methods in 2014 when the last drilling campaign was conducted. It was considered by CSA at that time that Buxton's sampling techniques and data acquisition procedures were acceptable for JORC 2014 compliant resource estimation.

JORC Table: Section 2 – Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
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.*	BUX have a 100% interest in exploration license E09/1985. A 0.75% Gross Revenue Royalty was granted under a Tenement Sale Agreement dated 31 March 2016, between Montezuma Mining Company Ltd ("Montezuma") and Buxton Resources Limited. This royalty is currently held by Electric Royalties Ltd (TSXV:ELEC & OTCQB:ELECF).
	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.	The tenement is in good standing with DMIRS and there are no known impediments for exploration on this tenement.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	Numerous exploration parties have held portions of the area covered by BUX tenure previously. The only substantive historical exploration was by Carpentaria Exploration Company in the 1970s. No other parties were involved in the exploration program that generated data used in this release.
Geology	*Deposit type, geological setting and style of mineralisation.*	The Graphite Bull Project area lies within the Errabiddy Shear Zone, situated at the contact between the Glenburgh Terrane of the Gascoyne Province and the Narryer Terrane of the Yilgarn Carton, on the SW margin of the Capricorn Orogen. The known graphitic mineralisation occurs as lenses in graphitic paragneiss assigned to the Quartpot Pelite. This unit has been interpreted to have been deposited between 2000 Ma and 1985 Ma in a fore-arc setting to the Dalgaringa continental margin arc (part of the Glenburgh Terrain), and subsequently deformed between 1965–1950 Ma during the Glenburgh Orogeny within the Errabiddy Shear Zone which represents the suture between the colliding Pilbara–Glenburgh and Yilgarn Cratons. All units at Graphite Bull show evidence for metamorphism in the amphibolite to granulite facies,

		with the production of voluminous leucosomes and leucogranites within the pelitic lithologies
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:* o *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* o *dip and azimuth of the hole* o *down hole length and interception depth* o *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.*	Not applicable.
Data aggregation methods	*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.* *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.*	Not applicable. All drillholes results have been previously 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').*	All drillholes have been drilled approximately perpendicular to the strike of the mineralisation.
Diagrams	*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.*	See text and figures in body of release.
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.*	This document is reporting interim headline results. Metallurgical data by nature consists of complex matrices of inter-linked results, the reporting of which in full would diminish the quality and clarity of communication. Final results will be reported in more detail as warranted.
Other substantive exploration data – Metallurgical testwork	*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.*	The metallurgical sample was delivered by BUX to ALS Metallurgy in Perth on 17 Nov 2022. ALS crushed and blended the sample to 100% passing 3.35 mm, conducted head assays and prepared splits for subsequent test work run by two separate consultants (and partner labs) in Perth in competitive collaboration; BatteryLimits (ALS) and IMO-Metallurgy (Intertek). A bulk run of 80kg was then completed by ALS using an optimised flotation protocol based on previous sighter work. The resultant 11.6 kg of Flake concentrate was despatched to ProGraphite in Nuernberg, Germany on 14/04/23, where it was classified, then run through standardised micronising and spheronising equipment.

		Two industry-standard caustic (NaOH) bake purifications at 250 deg C and 500 deg C were then performed on the resulting spheronised graphite. Electrode preparation - Water-based slurries were prepared containing 95.8 wt% graphite active material (uPSG), 1 wt% conductive carbon black Super C65 (Imerys, France), 1 wt% sodium carboxymethyl cellulose (Sunrose Na-CMC, Nippon Paper Industries Co., Ltd., Japan), and 2 wt% styrene-butadiene rubber (SBR, Nippon Zeon, Japan). Water was added to obtain a solid content of 51 wt%. The final slurry was then coated onto a copper foil (11 µm, Gelon LiB Group, China) using an automatic gap bar coater (RK Print-Coat Instruments, UK). The coatings were dried at room temperature in ambient air for 3 h. The areal capacity was 1.7 ± 0.1 mAh cm-2 (based on 372 mAh g-1). Cell Assembly – Electrode disks were prepared using a hand-held punch (Nogamigiken, Japan) with a diameter of 10.95 mm. Electrodes were dried under a dynamic vacuum at 120 °C overnight. Cells were assembled in a Swagelok® T-Cell setup with the respective graphite electrodes as working electrodes, a lithium metal (Rockwood Inc., USA) counter, and a reference electrode. Two glass fiber (VWR, USA) separators were used between the working and counter electrode with 60 µL of electrolyte, being 1 M LiPF6 in ethylene carbonate and ethyl methylcarbonate(EC:EMC) in a weight ratio of 30:70 wt% with an additional 2 wt% vinylene carbonate (VC), abbreviated as LP572 electrolyte (Gotion Inc., China). An additional separator to the lithium reference was soaked with 30 µL LP572. Rate performance tests were performed at a battery cycler (Series 4000, Maccor, USA) in a climate chamber (Binder, Germany) at 25 °C. The rate test was performed between 10 mV to 1.5 V vs. Li+/Li.
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).*	See text and figures in body of release.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Not applicable.