

Quarterly Activity Report and Appendix 5B for 31 March 2023

Operational Highlights

Design of Long Duration Energy Storage (LDES) Pilot

During the quarter, the design of the LDES pilot was completed by the Company's joint venture partner Sunlands Co. Completion of the design followed receipt of the detailed results from the thermal storage test work program conducted at TU Frieberg by INEMET. The results, announced on 28 November 2022, also provided the necessary data to finalise QSP's manufacture of the thermal storage media (Uley Media) for the LDES pilot.

QSP and ProTherm have prepared the detailed specifications and design of the LDES pilot's three components as originally described in the Sunlands Co. Commercialisation Report, consisting of:

- the TES Cell;
- the heat transfer fluid plant (see Figure 1.0); and
- the steam turbine generator package.

The parties have shortlisted key vendors and are negotiating key contractual arrangements. Subject to finalising these arrangements, construction of the LDES pilot is expected to commence during the June 2023 quarter.

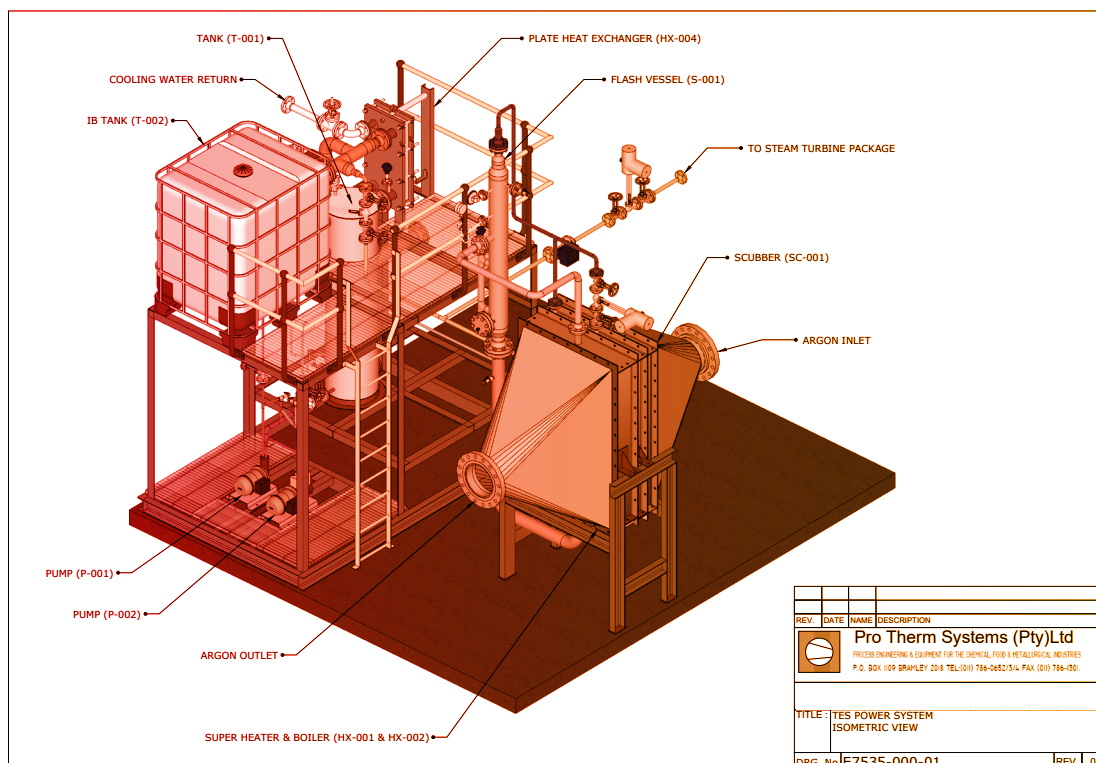


Figure 1.0 Heat transfer fluid plant



ABOUT QUANTUM GRAPHITE LIMITED

QGL is the owner of the Uley flake graphite mineral deposits located south-west of Port Lincoln, South Australia. The company's Uley 2 project represents the next stage of development of the century old Uley mine, one of the largest high-grade natural flake deposits in the world. For further information, [qgraphite.com](https://www.qgraphite.com).



ABOUT THE QUANTUM SUNLANDS PARTNERSHIP

QSP is our joint venture with Sunlands Co. for the manufacture of coarse natural flake based thermal storage media. The flake will be sourced exclusively from the QGL's Uley mine. The manufactured media will be fitted within Sunlands Co.'s long duration energy storage cells. <https://www.sunlandscs.com/>

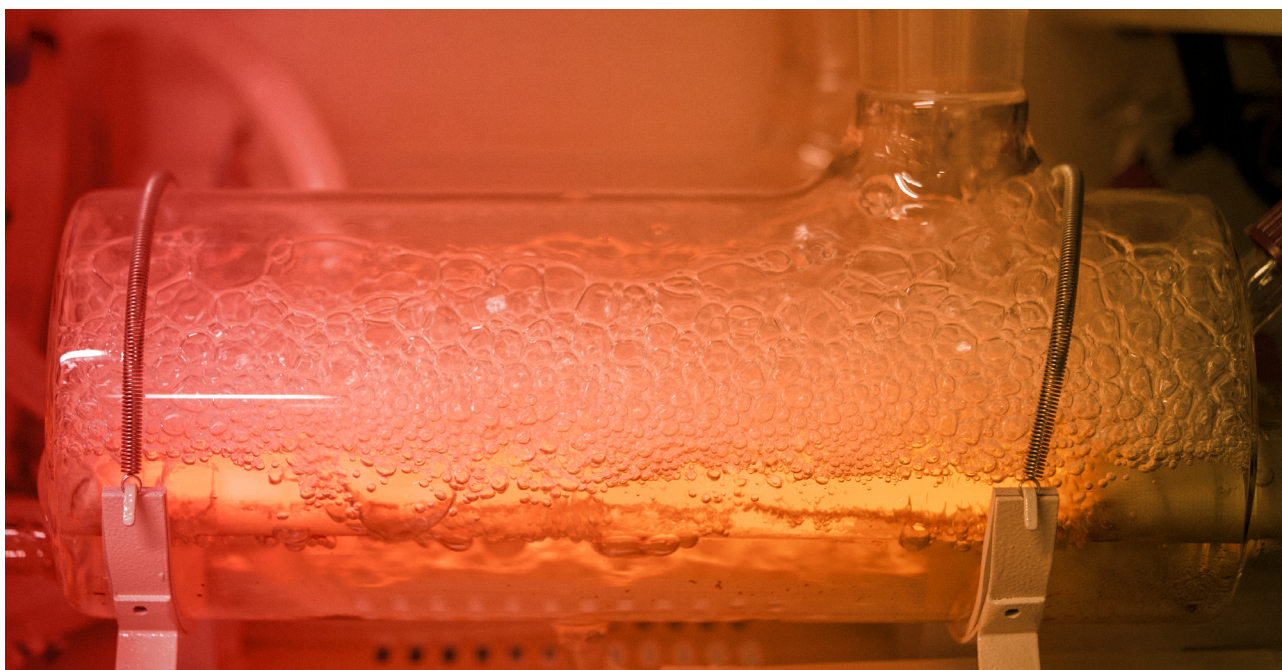
Operation of the LDES pilot, including the production of key data from the continuous energy cycle (i.e., charge and discharge of the TES cell), is the final milestone prior to commencement of commercialisation of the Sunlands Co. LDES technology.

Continued Analysis of the INEMET Testwork

QSP's analysis of the available Uley Media manufacturing options continued during the period. The form of Uley Media successfully tested by INEMET provides more versatile design options and superior manufacturing scalability than high-grade isostatic graphite whilst delivering the same thermodynamic properties including:

- excellent thermal conductivity and (uniform) distribution and;
- high-capacity heat storage levels,

The analysis targeted large scale forming of Uley Media especially for TES LDES cells constructed as retrofitting options for coal fired power stations. The LDES cells supply direct heat to these power stations thereby eliminating the need to burn coal.



Uley 2 Flake Anode Application - Successful Completion of Initial Thermal Purification Treatment

On 23 March 2023 the Company completed the first phase of the thermal purification analysis of the test work program conducted jointly by INEMET, ProTherm Systems and QSP.

The test work program highlighted the benefits of Uley flake's clean geochemistry for use as anode material in Li-ion batteries, especially the lack of any material heavy element impurities. Outside Titanium (Ti) with a concentration of 224 parts per million (ppm) or 0.0224%, the presence of any other heavy element fell below the detectable limits of the test equipment.

The results confirmed within the sensitivity levels of the test equipment that:-

- Impurity removal efficiency (IRE) utilising heat treatment was estimated to achieve 95% removal of all impurity elements
- Thermal treatment of Uley flake samples at a temperature of 2,200°C eliminated all impurities with a boiling point of up to 2,200°C and achieved a purity of 97.59% graphitic carbon (gC)
- Based on the correlation of boiling point data, thermal treatment at 3,000°C of Uley flake samples is predicted to achieve a purity ranging from 99.50% gC (80% IRE) to 99.86% gC (95% IRE)

A summary of predicted Uley flake samples purity following thermal purification at 3,000°C, for various IRE factors, is presented in Table 1 and Figure 2.0. Four efficiency factors were considered, 80%, 85%, 90%, and 95%. Since no process is completely efficient, a 100% efficiency factor was excluded from the purity predictions.

Uley Flake Sample	Thermal Treatment Temperature					
	No thermal treatment	2,200°C	3,000°C Impurity Removal Efficiency			
			80%	85%	90%	95%
+195	95.3%	97.7%	99.5%	99.6%	99.7%	99.8%

Table 1: Predicted Graphite Purity after Thermal Treatment at 3,000°C Next and Final Phase of Thermal Testwork

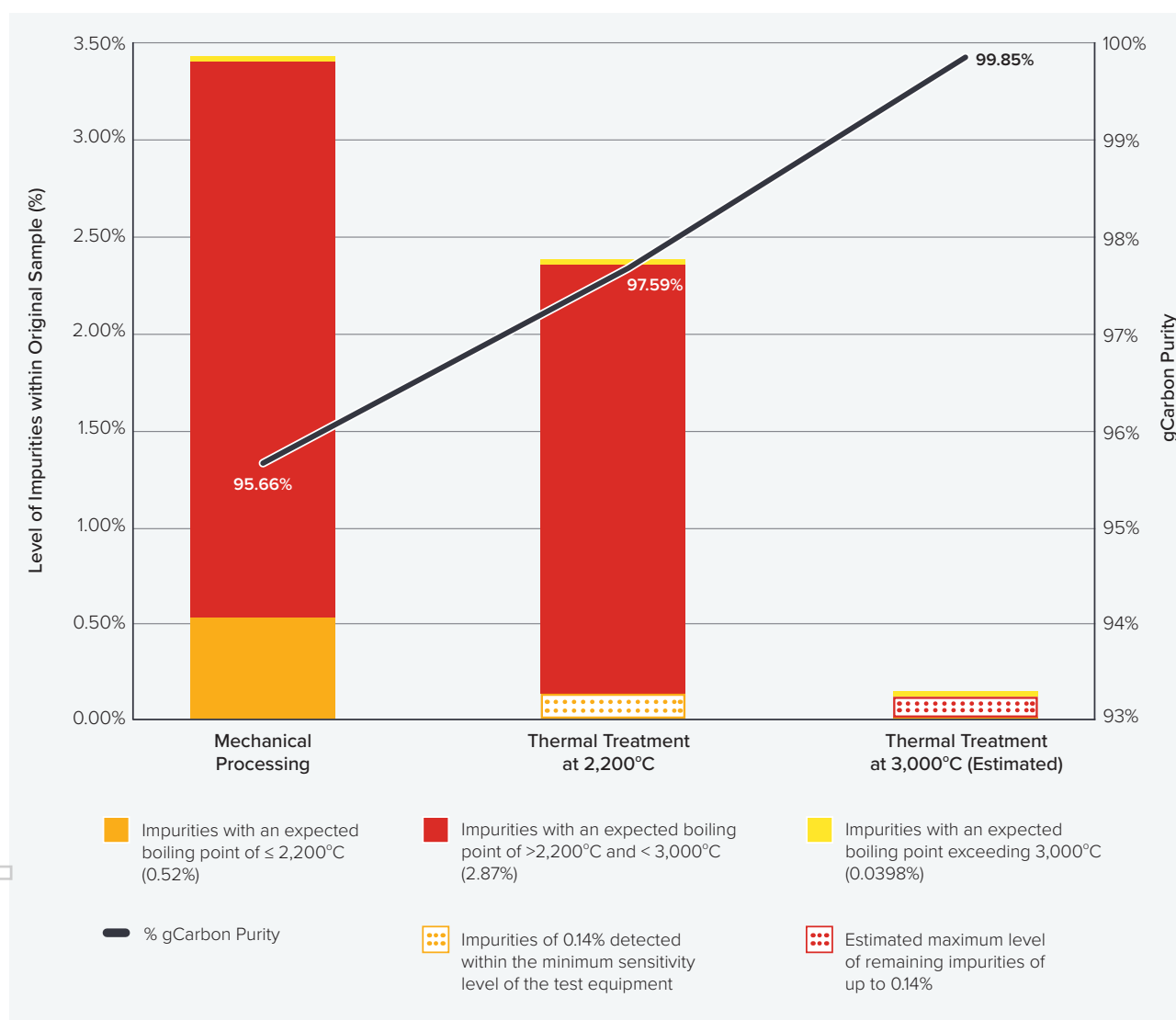


Figure 2.0: Summary of Findings

Next and Final Phase of Thermal Testwork - Treatment at 3,000°C - The next and final phase of the thermal test work program is the treatment of Uley flake samples at 3,000°C. The program design and test work have been scheduled to commence in the June 2023 quarter. The successful completion of this program will deliver yet another market for Uley flake, in addition to the downstream supply to QSP for the manufacture of LDES Uley Media and the traditional supply to European and North Asian refractory manufacturers.

Corporate Highlights

Update to Uley 2 Definitive Feasibility Study (DFS)

In anticipation of the bond financing of the Uley 2 Project (see below), Lycopodium Minerals was instructed to update the Company's Uley 2 project DFS. The update will include options for the expansion of production beyond the DFS capacity of 55,000 tonnes per annum and certain other enhancements to ensure that the Company can meet the increased demand from QSP.

Renewal of Exploration Licence 6224

On 22 February 2023 the Company received confirmation from the South Australian Department of Energy and Mining that Exploration Licence 6224 has been renewed until 12 October 2027.

Bond Financing – Terms Sheet Preparation and Insurance Negotiations

The Company has previously announced the bond financing structure for the financing of Uley 2 by way of the issue of corporate bonds on the Luxembourg Stock Exchange. The Company has finalised the legal structure for the issuance and, importantly, the key environmental targets that ensure that the Company's issuance will qualify as Sustainably Linked Bonds (SLB bond issue). The environmental targets relate to the sustainable supply and management of infrastructure, including water and power and will be incorporated in the SLB bond issuance documentation.

The SLB bond issue will contain several credit enhancements including fixed asset security and the comprehensive insurance package.

Preparation of the summary terms sheet for the SLB bond issue will be progressed during the June 2023 quarter and finalised once the Company receives the formal offer for the Uley 2 project insurance package.

During the period the Company executed a non-binding insurance proposal with a highly rated major global insurer and delivered formal presentations to a number of highly rated global insurers in Sydney and London. Negotiations with major insurers continue and the insurance package is expected to include policies covering all facets of the Uley 2 project including procurement (marine cargo), construction and commissioning, delayed start up for a period of up to two years and trade credit.

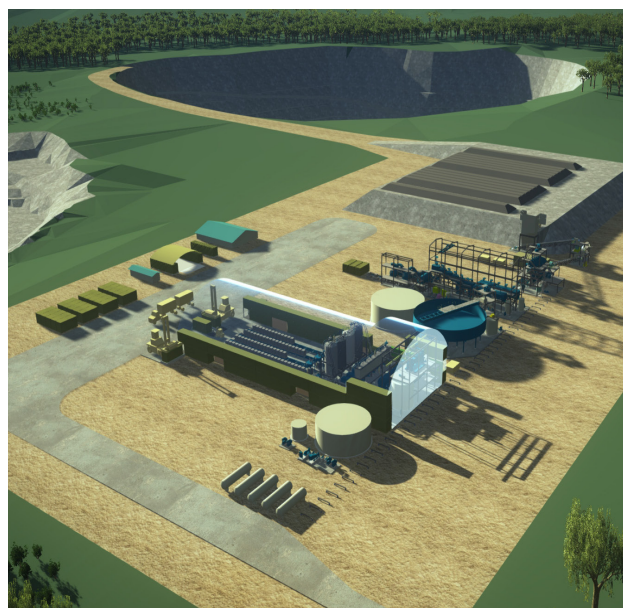
Lincoln Minerals Limited Takeover Offer Extension

During the period, the Company extended the takeover offer announced on 9 August 2022 for Lincoln Minerals Limited until 7.00pm (Melbourne time), 15 May 2023.

Uley 2 Phase 1 Mining Study and Feasibility Summary Financial Metrics

Total undiscounted cash flow	A\$310.5million ¹
Crusher feed	500,000 tonnes per annum
Graphitic carbon grade	11.89%
Graphitic carbon recovery	84%
Concentrate purity	>97% graphitic carbon
Capital expenditure	A\$79.98 million
Processing cost (PCAF)	A\$55.3 per tonne
Mining cost (MCAF)	A\$2.5/t milled at surface plus 5c for every 4m
Production	55,000 tonnes per annum
Product Cost (Av LOM)	US\$368 dmt
Product Price (Ex-works)	US\$919 dmt

¹ Includes JORC 2012 Reserves and Resources



Schedule of JORC 2012 Minerals Reserves and Resources

JORC 2102 Mining Study and Reserve Statement, November 2019²

Reserve	Classification	Tonnes (kt)	Total Graphitic Carbon (%)
Uley 2	Proved	811	11.66
Uley 2	Probable	3,191	11.95
	Total	4,003	11.89

JORC 2012 Mineral Resource Estimate, November 2021³

Resource	Classification	Tonnes (kt)	TGC (%)	Density (t/m ³)	TGC (kt)
Uley 3	Inferred	900	6.6	2.1	59
	Uley 3 Total	900	6.6	2.1	59
Uley 2	Measured	800	15.6	2.1	125
	Indicated	4,200	10.4	2.1	435
	Inferred	1,300	10.5	2.2	137
	Uley 2 Total	6,300	11.1	2.1	697
Uley Project Total	TOTAL	7,200	10.5	2.1	757

² Released to the market on 1 December 2019

³ Released to the market on 18 November 2021

Schedule of Tenements (ASX Listing Rule 5.3.3)

Tenement	Tenement Type	Interest ⁴	Changes during the Quarter
ML5561	Mining Licence	100%	Nil
ML5562	Mining Licence	100%	Nil
RL66	Retention Licence	100%	Nil
RL67	Retention Licence	100%	Nil
EL6224 ⁵	Exploration Licence	100%	Nil

⁴ All interests are registered in the name of the company's subsidiary, Quantum Graphite Operations Pty Ltd and held as at the end of the quarter.

⁵ An application has been lodged for the renewal of EL6224.

Uley 2 Location and Resource Extension Priorities

Priority 1 Short Term Ore Reserve extension

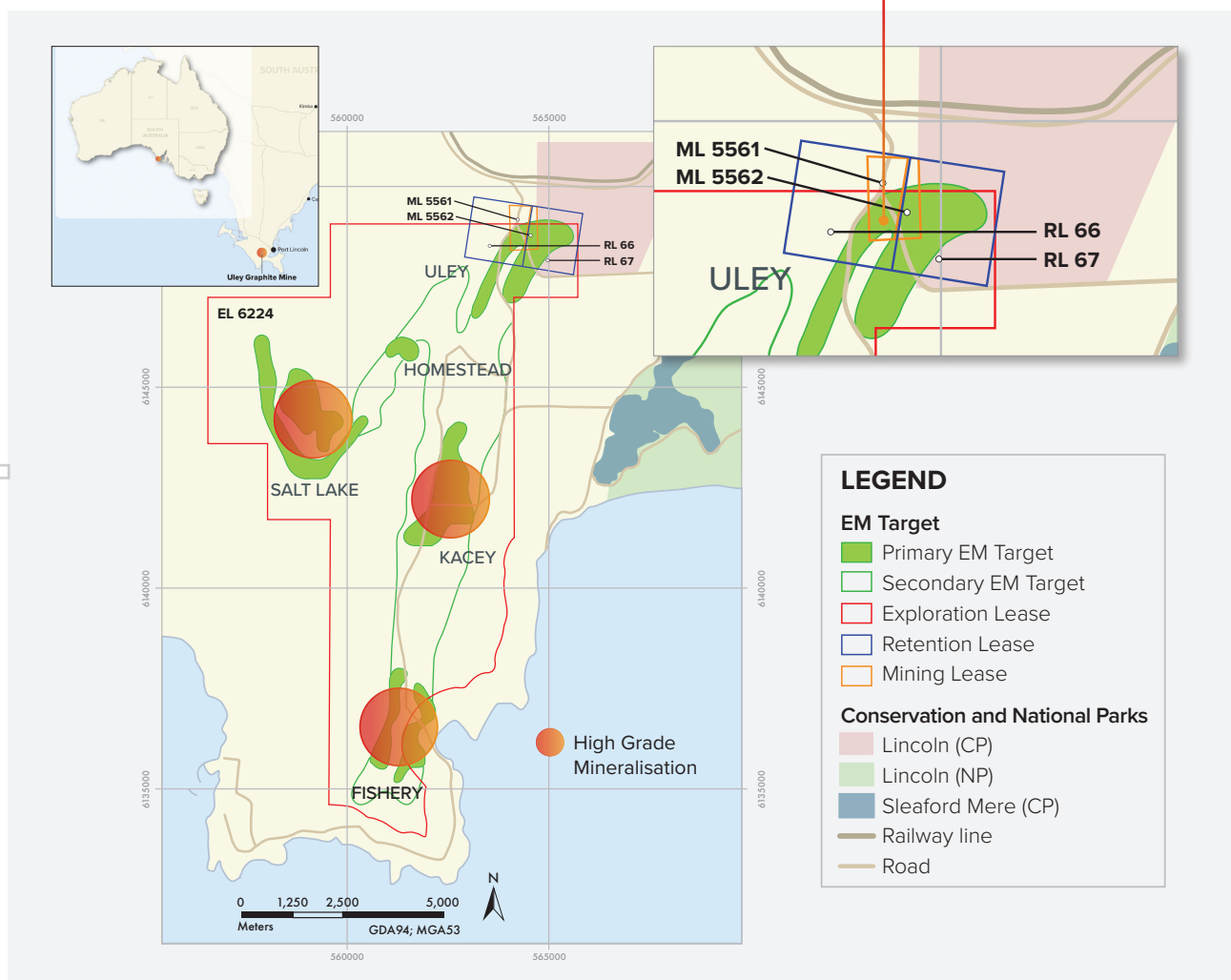
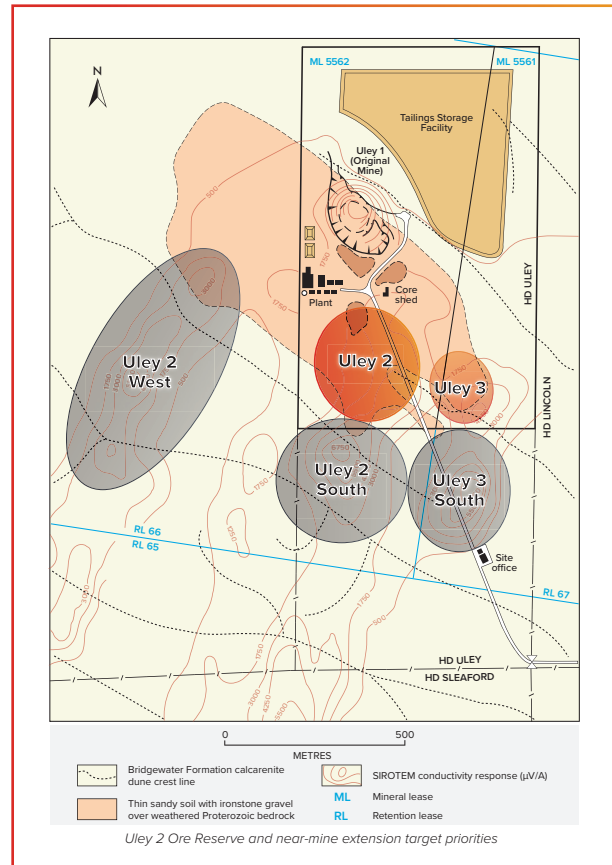
- Uley 2 South 50m
- Infill drilling at Uley 3

Priority 2 Medium Term Resource extension

- Uley 3 South
- Extension drilling to 50m-by-50m intervals

Priority 3 Long Term Resource extension

- Uley 2 West geophysical anomaly target
- Uley 2 South beyond Priority 1 along strike of the geophysical anomaly.



Corporate Information and Announcements

As at 31 March 2023 the company had 337,000,000 ordinary shares and 3,000,000 unlisted options on issue and 1,955 shareholders. The top 20 shareholders held 56.37% of the issued ordinary shares in the company.

As at 31 March 2023 the company held cash at bank of \$1,818,876.69.

Related party payments in the amount of \$306,900 were made in the period. These were payments to either Chimaera Capital Limited for the provision of corporate, administrative, technical and asset management services to the Company including provision of the registered and main business office or payments to SC Capital Pty Ltd in connection with Sal Catalano's position as an executive of the Company.

As at 28 April 2023 the Company held cash at bank of \$1,552,511.63. This report should be read in conjunction with all prior announcements made by the Company and available at <http://quantumgraphite.com/investors>.

The pro forma Appendix 5B (Mining exploration entity and oil and gas exploration entity quarterly report) is attached to this report.

Competent Persons Statement

The Company confirms that it is not aware of any new information or data that materially affects the information included in this announcement and that all material assumptions and technical parameters relating to Mineral Resources is based on, and fairly represent, the Mineral Resources and information and supporting documentation extracted from the reports prepared by a competent person in compliance with the JORC Code (2012 edition) and released to the ASX (including under the company's previous code, VXL on 17 December 2014, 5 May 2015 and 15 May 2015 respectively).

Forward Looking Statements

All statements other than statements of historical fact included in this announcement including, without limitation, statements regarding future plans and objectives of are forward-looking statements. When used in this announcement, forward-looking statements can be identified by words such as 'may', 'could', 'believes', 'estimates', 'targets', 'expects' or 'intends' and other similar words that involve risks and uncertainties. These statements are based on an assessment of present economic and operating conditions, and on a number of assumptions regarding future events and actions that, as at the date of this announcement, are expected to take place. Such forward-looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties, assumptions and other important factors, many of which are beyond the control of the company, its directors and management of QGL, that could cause QGL's actual results to differ materially from the results expressed or anticipated in these statements.

QGL cannot and does not give any assurance that the results, performance or achievements expressed or implied by the forward-looking statements contained in this announcement will actually occur and investors are cautioned not to place undue reliance on these forward-looking statements. QGL does not undertake to update or revise forward-looking statements, or to publish prospective financial information in the future, regardless of whether new information, future events or any other factors affect the information contained in this announcement, except where required by applicable law.

FOR FURTHER INFORMATION CONTACT:

Company Secretary
Quantum Graphite Limited
E: info@qgraphite.com

ABOUT LDES

A scalable energy storage system that can store energy predominantly from renewable sources for more than 12 hours and deliver dispatchable, inertia restoring energy to grid networks as required especially when renewables generation is not available. LDES is the critical solution underpinning the decarbonisation of grid networks.



ABOUT PROTHERM

Protherm Systems, founded in July 1987, is a leading thermal process engineering company, based in South Africa. The Company designs and supplies a wide range of thermal and related thermal processing plant and equipment for industrial users world wide, such as Plate Heat Exchangers, Shell and Tube Heat Exchangers, Air Dryers and Evaporators.



ABOUT INEMET

The Institute for Non-Ferrous Metallurgy and High Purity Materials focuses on sustainable and innovative processes that rethink existing production processes and the handling of supposed waste products in the spirit of the circular economy and zero waste thinking. INEMET's dedicated team work toward a greener future and the revolutionizing of non-ferrous metallurgy. It develops existing processes within pyrometallurgy, hydrometallurgy and the semiconductor industry in working groups and in a variety of projects. <https://tu-freiberg.de/en/fakult5/inemet>

Appendix 5B

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity

Quantum Graphite Limited

ABN

41 008 101 979

Quarter ended ("current quarter")

31 March 2023

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (9 months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) exploration & evaluation	-	-
	(b) development	-	-
	(c) production	-	-
	(d) staff costs	(75)	(230)
	(e) administration and corporate costs	(668)	(2,921)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	4	4
1.5	Interest and other costs of finance paid	-	(34)
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	-	-
1.8	Other (provide details if material)	-	-
1.9	Net cash from / (used in) operating activities	(739)	(3,181)
2.	Cash flows from investing activities		
2.1	Payments to acquire or for:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	-	-
	(d) exploration & evaluation	(42)	(523)
	(e) investments	-	-
	(f) other non-current assets	-	-

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (9 months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	(20)	200
	(d) investments	-	-
	(e) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	Net cash from / (used in) investing activities	(62)	(323)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	4,318
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	-
3.4	Transaction costs related to issues of equity securities or convertible debt securities	-	-
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	Net cash from / (used in) financing activities	-	4,318

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	2,620	1,005
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(739)	(3,181)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(62)	(323)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	4,318

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (9 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	1,819	1,819

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	-	-
5.2	Call deposits	1,819	2,620
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	1,819	2,620

6.	Payments to related parties of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	(307)
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-
<i>Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.</i>		

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

7.	Financing facilities <i>Note: the term "facility" includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.</i>	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
7.1	Loan facilities	1,777	1,777
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	-	-
7.4	Total financing facilities	1,777	1,777
7.5	Unused financing facilities available at quarter end		-
7.6	Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well. The finance facility was provided by Chimaera Capital Limited at an interest rate of 8.25%, the maturity date has been extended to the earlier of 24 January 2024 or the date of any capital raising being undertaken by the Company.		

8.	Estimated cash available for future operating activities	\$A'000
8.1	Net cash from / (used in) operating activities (item 1.9)	(739)
8.2	(Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	(42)
8.3	Total relevant outgoings (item 8.1 + item 8.2)	(781)
8.4	Cash and cash equivalents at quarter end (item 4.6)	1,819
8.5	Unused finance facilities available at quarter end (item 7.5)	-
8.6	Total available funding (item 8.4 + item 8.5)	1,819
8.7	Estimated quarters of funding available (item 8.6 divided by item 8.3)	2.3
	<i>Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.</i>	
8.8	If item 8.7 is less than 2 quarters, please provide answers to the following questions: 8.8.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not? Answer: 8.8.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful? Answer:	

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

8.8.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer:

Note: where item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.

Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: 28 April 2023

Authorised by: ROCHELLE PATTISON
COMPANY SECRETARY
(Name of body or officer authorising release – see note 4)

Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.