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Location – Ethiopia Prospect, Eyre Peninsula, South Australia



Campoona Graphite undergoing battery testing in 2019. ARC Graphene Research Lab, University of Adelaide.

CAMPOONA GRAPHITE BATTERY ANODE TEST WORK UNDERWAY

SUMMARY:

- Bulk sample of Campoona Graphite run-of-mine ore received by graphite processing specialist ANZAPLAN GmbH (ANZAPLAN) in Germany
- Metallurgical test program underway to optimise production of spherical graphite for anode material in Li-ion batteries
- Process to include environmentally friendly, low-cost “green” purification pathway
- Test work leveraged off extensive “proof of concept” development work undertaken by Archer Materials
- Progressing towards updated scoping study to incorporate new processes

iTech Minerals Ltd (ASX: ITM, iTech or Company) continues to build its portfolio of critical minerals projects with delivery of a bulk sample (600 kg) of run-of-mine (ROM) graphite ore to ANZAPLAN in Germany. ANZAPLAN has commenced test work on producing spherical graphite for use in the anodes of Lithium-Ion (Li-ion) batteries using a low-cost, eco-friendly processing route with a smaller environmental footprint. This collaboration will build on the test work completed by Archer Materials between 2015-2019, where they successfully produced battery-grade graphite using a traditional hydrofluoric-acid process.

Updates on progress are expected in the coming months with final project results to be delivered within 9 months. Results will be integrated into an updated scoping study to be undertaken in conjunction with the metallurgical test work.

The Campoona Graphite Project contains a JORC 2012 graphite Mineral Resource of 8.55 Mt @ 9.0% Total Graphitic Carbon (TGC), a granted mining lease and approved multipurpose licences for processing infrastructure and groundwater extraction¹. iTech is currently investigating the best pathway to produce “green” graphite, including the use of abundant renewable energy available in South Australia.

“iTech is excited to partner with industry leader, ANZAPLAN, to develop a lower cost, eco-friendly process for producing spherical graphite. We believe this will position the Campoona Graphite as a premium product in a market that is quickly transitioning to greener energy storage solutions.”

- Managing Director Mike Schwarz -

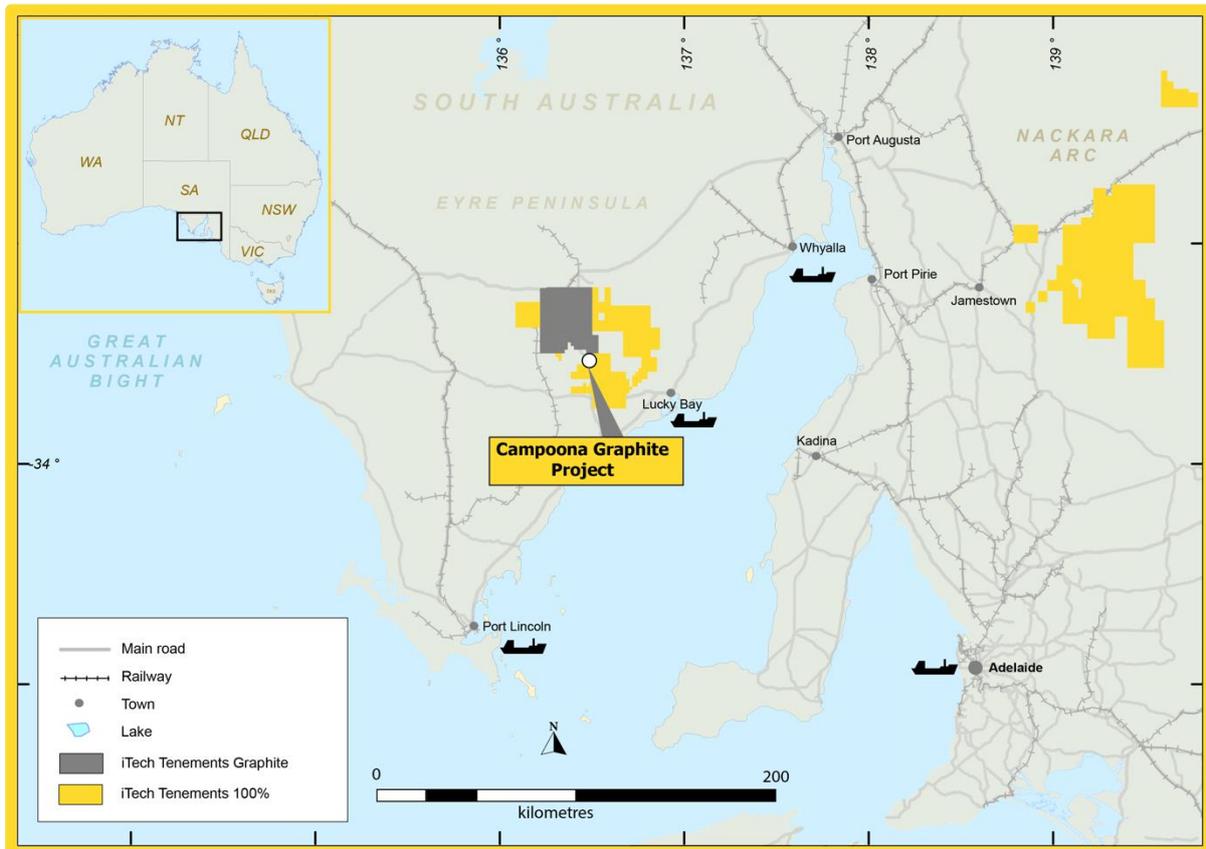


Figure 1. Location of the Ethiopia Prospect – Eyre Peninsula, South Australia

The Campoona Graphite Project

iTech believes the Campoona Graphite Project is a significantly de-risked opportunity to supply graphite into the growing battery technology market. It has a JORC 2012 Global Mineral Resource of 8.55 million tonnes at an average grade of 9.0% TGC (5% TGC cut off) across three project areas: Campoona, Central Campoona and Wilclo South¹. The grant of a mining lease to the Company to process graphite and two miscellaneous purposes licences to transport water from a nearby bore field makes this project well advanced and a high priority for the Company.

As stated in the prospectus, the Company intends to investigate the potential to produce graphene and spherical graphite for use in battery anodes. Archer Materials released a positive scoping study² on the Campoona Graphite Project and made significant progress on development of the project, including establishing that Campoona graphite;

- is structurally near-perfect down to the atomic scale³;
- is a versatile feedstock to high-value graphene materials⁴;
- can be used to produce commercially scalable full-cell configuration Li-ion batteries⁵;
- can be converted into high value spherical graphite for integration into Li-ion batteries⁶.

While battery grade spherical graphite has been successfully produced from Campoona graphite in trials undertaken by Archer Materials¹, the test work and scoping study was undertaken over 6 years ago. **With advancements in technology and processing techniques, iTech believes the opportunity exists to significantly improve on the economics and environmental footprint of the process by partnering with European based graphite processing specialists ANZAPLAN.**

ANZAPLAN is a specialist industrial metals consulting and engineering group with a strong focus on strategic minerals and metals businesses (e.g. graphite, lithium minerals, rare earth elements, high purity quartz), providing a one-stop shop solution across all phases of the economic evaluation and process development of strategic minerals projects. ANZAPLAN possesses the technological expertise from its own laboratories, test centre and pilot plant processing facilities including basic and advanced engineering services and extensive experience in the processing of strategic minerals.

Based on its experience, ANZAPLAN has set up a tailored test work program for the beneficiation and downstream processing (targeting a battery grade graphite product) of a graphite mineral sample from the Campoona graphite Project that addresses the specifics of the material building on historic test work results provided by iTech.

ANZAPLAN proposes to conduct a bench scale metallurgical test work program for the development of a beneficiation process capable of upgrading iTech Minerals' bulk graphite mineral sample(s) into high value saleable products including graphite concentrate and purified spherical graphite for use in anodes of Lithium Ion Batteries.

The proposed test work program comprises the following processes:

- **Review of historical test work data**
- **Development of a beneficiation process (flake graphite)**
- **Flake graphite sample production (50 kg)**
- **Screening of alternative (non-HF acid) chemical purification routes**
- **Optimisation of chemical purification**
- **Spherical graphite sample production (2 kg)**
- **Confirmation of purification of spherical graphite**

Next Steps

Subject successful completion of the test work and incorporation of the proposed process flow sheet into a positive scoping study iTech has the option to progress to a pilot plant trial for gathering engineering data required for scale up. Piloting can additionally provide a large bulk sample of flake and spherical graphite which will enable iTech Minerals to provide potential off take partners with bulk graphite spherical graphite samples for technical tests and approval.

To become competitive in a global market that increasingly demands sustainable and environmentally friendly source material for the clean energy revolution, iTech intends to develop a battery anode product with exceptional "green" credentials. This test work aims to remove potentially environmentally toxic hydrofluoric acid from the spherical graphite purification process. In addition, the spheronisation process is very energy intensive. The Company is investigating the use of cheap, renewable energy power, of which South Australia is a leading supplier, to further improve the green credentials of the Campoona Graphite Project.

Updated Scoping Study

iTech is currently liaising with M.Plan International Limited on undertaking an updated scoping study. Archer Materials previously released a positive scoping study in 2013². Considering there have been material changes to the prices and assumptions used, iTech intends to update the study with current prices and the optimised process flow sheet developed by ANZAPLAN.

M.Plan International Limited is a joint venture of globally recognized ANZAPLAN GmbH in Germany and Micon International, Toronto, Canada that provides integrated consulting services in the specialty minerals and metals sector such as mineral/reserve estimation, mine design, process development and engineering, metallurgy, environmental assessment, and economic analysis for seamless development of projects from preliminary economic assessment to pre-feasibility and feasibility studies.

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ABOUT iTech MINERALS LTD

iTech Minerals Ltd is a newly listed mineral exploration company exploring for and developing battery materials and critical minerals within its 100% owned Australian projects. The company is exploring for kaolinite-halloysite, ion adsorption clay rare earth element mineralisation and developing the Campoona Graphite Deposit in South Australia. The company also has extensive exploration tenure prospective for Cu-Au porphyry mineralisation, IOCG mineralisation and gold mineralisation in South Australia and tin, Tungsten, and polymetallic Cobar style mineralisation in New South Wales.

Announcements crossed referenced in this release:

¹ iTech Minerals ASX announcement “Replacement Prospectus” on 19 October 2021.

² Archer Materials (ASX:AXE) announcement “Positive results from SA Graphite Project scoping study” on 19 September 2016.

³ Archer Materials (ASX:AXE) announcement “Technical analysis proves high quality of Campoona graphite” on 6 April 2018.

⁴ Archer Materials (ASX:AXE) announcement “Archer graphite a versatile graphene feedstock” on 23 July 2018.

⁵ Archer Materials (ASX:AXE) announcement “Full cell Li-ion batteries produced with Campoona graphite” on 21 August 2018.

⁶ Archer Materials (ASX:AXE) announcement “Spherical graphite produced from Campoona deposit” on 12 March 2019.

iTech Minerals 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 underpinning the estimates continue to apply and have not materially changed.

Area	Resource Category	Tonnes (Mt)	Graphitic Carbon (%)	Contained Graphite (t)
Campoona Shaft	Measured	0.32	12.7	40,600
	Indicated	0.78	8.2	64,000
	Inferred	0.55	8.5	46,800
Central Campoona	Indicated	0.22	12.3	27,100
	Inferred	0.30	10.3	30,900
Wilclo South	Inferred	6.38	8.8	561,400
Combined	Total Resource	8.55	9.0	770,800

Table 1. Mineral Resource Estimate, Campoona Graphite Project – Eyre Peninsula, South Australia

