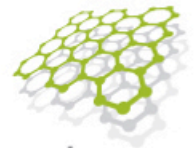


# ASX Announcement

31 July 2017

## June Quarterly Activities Report



**first graphite**  
A high-quality graphene producer

First Graphite Limited (ASX:FGR) is pleased to report on another significant quarter of development on multiple fronts for technology and mining activities.

### Highlights

- Leased 960m<sup>2</sup> premises to provide the Company with a dedicated facility in which to expand its graphene production and packaging.
- Optimisation of the Graphene Cell provided significant increases in capacity.
- Finalised agreements for the development of the BEST Battery, while increasing equity which can be earned in the global licence from 60%, to 70%.
- Commenced research and development with three university projects.
- First run-of-mine graphite hoisted to surface.
- Strategic marketing alliance with Traxys, covering graphite and graphene marketing.

### Overview

The Company has been making good progress through the quarter on a number of fronts. A significant initiative was the leasing of premises in the Australian Marine Complex in Henderson, south of Fremantle in Western Australia. The new 960m<sup>2</sup> premises will provide the Company with a dedicated facility in which to expand its graphene production and packaging capability, which will provide industry the ability to source graphene in bulk. Together with working closely with Traxys, one of the world's largest specialist commodity and material trading organisations in the development of the graphene market, this is expected to significantly accelerate FGR's market penetration and exposure.

Subsequent to the quarter's end the Company advised it had been granted a Works Approval by the Department of Environment Regulation (DER) for its facility.

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#### ASX Symbol

FGR





Approval has been received to construct a Commercial Graphene Facility at FGR's premises in the Australian Marine Complex, Henderson

## Research and Development

During the quarter, the Company finalised its agreements and commenced Research and Development with three universities for several exciting graphene projects.

### University of Adelaide (UoA)

At the University of Adelaide, FGR is a Tier 1 Partner in Australian Research Council Research Hub for Graphene Enabled Industry Transformation (ARC Graphene Research Hub). The ARC hub is a 4 to 5 year program designed to bring to market graphene enabled products that meet industry expectations.

FGR will run three Nodes under the HUB being;

- 1) Fire Retardants – This is an extremely exciting project area with a product that is ready for development and testing to international standards. Examples of the potential can be viewed from the links provided at the end of this release.
- 2) Conductive Coatings and Films – Previous research conducted by UoA and FGR has shown FGR graphene to have superior conductivity when compared to other flake and rGO. Please refer to previous Announcement on 15<sup>th</sup> December 2016.
- 3) Development of Graphene Polymer Composites - FGR has a number of international industrial parties testing the use of our graphene in polymers. This Node will provide high level testing and development of polymer blends that meet industry requirements

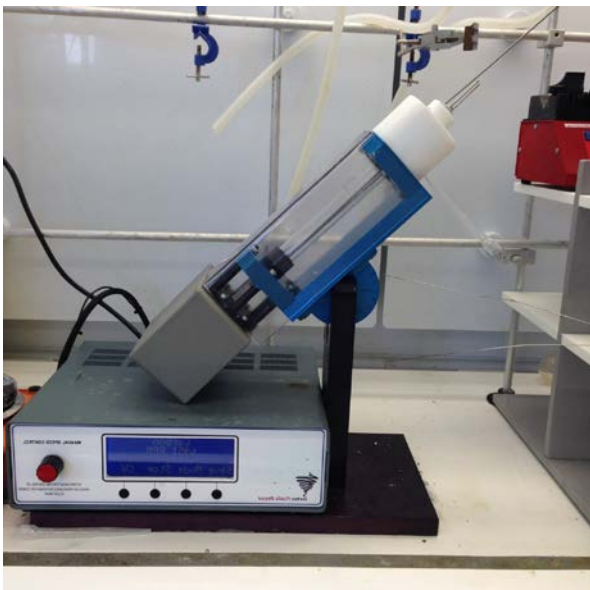


## Flinders University

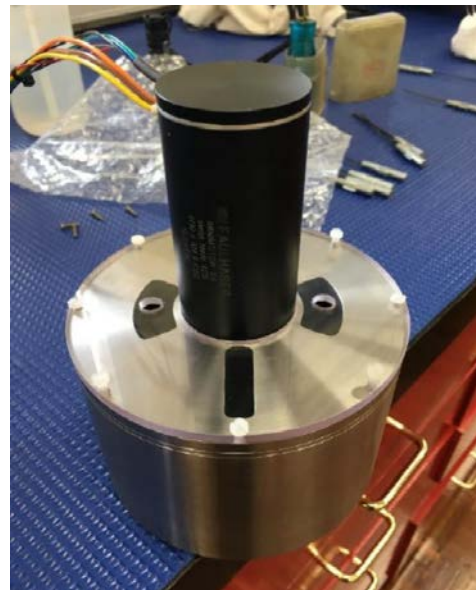
Flinders University and FGR has entered a strategic partnership to develop and commercialise graphene manufacturing technology using the Vortex Fluidic Device and Turbo Fluidic Device. Initial base trials using both devices have been successfully undertaken and a program of optimisation is planned over the next 6 months.

The technology has the potential to significantly enhance the following areas;

- 1) Be a delivery device for the dispersion and functionalisation of graphene powders into the client's production stream.
- 2) Further enhance the graphene produced from the FGR production process as required.
- 3) Produce graphene and GO using water as the solvent.
- 4) Creation of other carbon Nano products.



Laboratory scale Vortex Fluidic Device



Turbo Fluidic Device (T²FD)

## Swinburne University of Technology

FGR is working with the Swinburne University of Technology on the development of the BEST Battery, a project with impressive performance compared with existing supercapacitors and based on patent pending technology developed by Swinburne. In completing the negotiations on the BEST Battery FGR increased the level of equity it can earn in the global licence from 60%, to 70%

## Sri Lankan Graphite Development Work

### Aluketiya

During the quarter **Aluketiya Shaft H** ore extraction continued from the shaft. Access Drive H036196 has continued to a length of 18 metres from the Shaft, H036196 cross cut and strike development drives have been extended to a total length of 12 metres realising in excess of 10 tonnes of graphite during July. Future developments include, the construction of drive H036041 to the mineralised area associated with ALK18 and 21, deepening of the shaft initially to the 42 RL to 56RL and production focus will continue with winzings of strike drive H036196 to provide the first long-term development stope block.

Work has also commenced on the H036041 Development drive towards the East. When completed this will be the second, long-term development stope block and provide future access to the ALK18 mineralisation.

As previously disclosed, the amended mine plan will enable a longer term sustainable production and maximise the extraction of the ultra-high grade (99.27% TGC) vein intersections previously intersected in ALK18, being three zones of mineralisation comprising a total of 1.72 metres of graphite within a 2.8 metre interval of core. With the additional prospectivity shown from the DHTM it would have been unwise and short sighted not to have amended the initial plans.

On-going work in relation to ore recoveries, while minimising waste removal, continue with the adaptation of the more traditional working methods to suit the geology of the Aluketiya mines. On the completion of the lower level development drives the majority of waste produced will remain underground, thereby enabling increased production advancement.

**Shaft J** has successfully completed the access drive J026113 to target borehole ALK13, and delivered the first graphite ore from this intersection. Mining efficiencies for the month improved with the mining cycle (drill, blast, haul) being within two shifts on some occasions. FGR expects further improvements as the work force become more familiar with the development process.

The September quarter for J Shaft will realise the deepening of the shaft to RL38 to RL46 and an additional two development drives, J030164 and J038087. Drive J030164 will complement current drive J026113, forming the lower access to the graphite plane defined by ALK13 and form the first long term stope block for Shaft J, while J030164 will open up the graphite intersects in ALK15 and associated areas south of the shaft.

Mined ore from both Shaft H and J is being transported and stored at the company warehouse ready for sorting and packaging. This process will commence over the coming month.

## Exploration

### Aluketiya Geology

The geological mapping of development towards ALK13 at Shaft J is providing valuable data to assist in constructing a geological model for the mine area. The current level drive is designed to intersect the possible up dip continuation of DHTM plates, which were generated as a result of work completed in August 2016. This drive will allow geological personnel to correlate the fact geology with the geophysical interpretation that will be important for the future of exploration and the ongoing use of DHTM in the area.

Geological mapping of development at Shaft H is providing fact data for the geological model in the mine area. As development approaches the area near the ALK7 intercept, this will be a very good indication of the positional accuracy of drilling.

As indicated in the March Quarterly Activity statement, the refurbished drill rig started work in June. The plan is to drill an East-West traverse of holes east of Shaft H to provide targets for possible development drives to the east of the shaft. These holes will also provide stratigraphic information for the area above drill holes ALK17, ALK18 and ALK 19, which were drilled in 2016.

Following the completion of the programme above, the drill will move to an area south east of shaft J to drill a series of holes below ALK13, ALK14 and ALK15. This will provide data approximately 30 meters below the current drilling and the results will be used to extend the mine plan.

Further details of this quarter's activities can be found in previous ASX releases as detailed below;

Commenting on this quarterly report, FGR's Managing Director Craig McGuckin said

*"The Company has continued to make material progress on all its operational fronts. The leasing of premises at Henderson and the commencement of work on a Commercial Graphene Facility is a major step forward for the Company. Subsequent post-quarter end announcements on ARC and fire retardant technologies demonstrate the continuing progress on advanced material developments. In Sri Lanka the Company has continued to develop the H and J Shafts at Aluketiya and extend the strike drives."*

## The September Quarter Program

FGR has made a positive start to the September Quarter, which includes:

- Receipt of government approvals for the Commercial Graphene Production facility.
- Advances in graphene based fire retardant technology.
- Work continues on development of BEST battery.
- Production Mining in Shaft's H and J at Aluketiya.

<b>Significant June Quarter Announcement</b>			
<b>Date</b>	<b>Subject Matter</b>	<b>URL Link</b>	
26 April 2017	Strategic Marketing Alliance with Traxys	<a href="#">26-04-2017strategic-marketing-alliance-with-traxys</a>	
4 May 2017	New Premises to Provide Capacity for Graphene Expansion	<a href="#">04-05-2017new-premises-to-provide-capacity-for-graphene-expansion</a>	
8 May 2017	Optimisation of Graphene Cell Provides Significant Increase	<a href="#">08-05-2017new-premises-to-provide-capacity-for-graphene-expansion</a>	
16 May 2017	BEST Battery Development Agreement Finalised	<a href="#">16-05-2017best-battery-development-agreement-finalised</a>	
29 May 2017	Operational Update Graphene Production and Mining Activities	<a href="#">29-05-2017operational-update-graphene-production-mining-activities</a>	

### About First Graphite Ltd (ASX: FGR)

First Graphite is an advanced materials company seeking to position itself in the lowest cost quartile of global graphene suppliers. It has developed an environmentally sound and safe method of converting its supplies of ultra-high-grade graphite into the lowest cost highest quality graphene, in bulk quantities. In so doing it is addressing the three greatest impediments to the commercialisation of graphene, being reliable quality at realistic prices in sufficient volumes at facilitate the development of applications in modern materials, energy storage devices and polymers. It aims to use these competitive advantages to access new technologies and processes to gain maximum leverage to the entire graphene supply chain, from sourcing the raw material to end use, with development of associated intellectual property for licencing and sales.

### About Graphene

Graphene, the well-publicised and now famous two-dimensional carbon allotrope, is as versatile a material as any discovered on Earth. Its amazing properties as the lightest and strongest material, compared with its ability to conduct heat and electricity better than anything else, mean it can be integrated into a huge number of applications. Initially this will mean graphene is used to help improve the performance and efficiency of current materials and substances, but in the future it will also be developed in conjunction with other two-dimensional (2D) crystals to create some even more amazing compounds to suit an even wider range of applications.

One area of research which is being very highly studied is energy storage. Currently, scientists are working on enhancing the capabilities of lithium ion batteries (by incorporating graphene as an anode) to offer much higher storage capacities with much better longevity and charge rate. Also, graphene is being studied and developed to be used in the manufacture of supercapacitors which are able to be charged very quickly, yet also be able to store a large amount of electricity.



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