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ASX Symbol  
FGR, FGROA, FGROB

## December, 2015 Quarterly Report

# First Graphite makes strong progress in strategy to be major supplier of high-grade graphite and graphene in 2016

First Graphite (ASX: FGR) is pleased to report on what has been a successful December Quarter which has progressed its strategy to become a significant supplier of high-grade graphite and premium-priced graphene in 2016.

### Graphene testing

First Graphite has provided approximately 50kg of high-grade Sri Lankan graphite to the University of Adelaide for the next phase of graphene optimisation testing. This work is aimed at establishing the parameters required to construct a pilot-scale production plant in Adelaide.

A further six tonnes of high-grade Sri Lankan graphite has been shipped to Adelaide for graphene testing and production.

In addition to this test work, graphene produced by the University over the past month will be provided to First Graphite's partner Imagine Intelligent Materials (IIM). IIM has provided First Graphite with the material specifications necessary to manufacture its graphene-based product Imgne X-3 GT. Imgne X-3 GT will be the subject of field trials in February 2016 and subject to the First Graphite material meeting the price and performance objectives, First Graphite will become a Certified Supplier of graphite or graphene to IIM.

The Company has also signed an agreement to provide graphene samples to a large Australian based drilling fluids manufacturer and supplier. Successful testing may lead to potential future offtake agreements subject to meeting commercial requirements.

### Graphite production set to start in early 2016

#### Pandeniya

Construction of the Pandeniya project is complete, hoist load testing was conducted and the shaft liner boxes have been run in during January.

While the Company continues to await final Central Environmental Authority sign off on its permit, it will be able to complete all preparations needed to commence underground activities once the licence is obtained.



Pandeniya headframe and support facilities



View up the Pandeniya shaft after running in liner boxes and ventilation system

### Aluketiya

First Graphite has commenced construction work at its Aluketiya project in Sri Lanka with a target of being underground in March/April on Shaft H and a little later on Shaft J.

With the first concrete pad completed, the Company is now proceeding with construction of the headframe as part of its strategy to become one of the highest-grade graphite producers in the world.

The second concrete pad for the shaft J development is currently being installed along with the completion of required retaining walls. The site office and maintenance area is completed.



Concrete pad completed for Shaft H at Aluketiya.



Shaft H at Aluketiya - Headframe construction will commence in February 2016

### Exploration Licences

As previously outlined, the Company's strategy has been to build a pipeline of exploration licences as it progresses its plan to develop up to 20 graphite production shifts over the next two years.

First Graphite has recently secured a further two exploration licences covering a total 12,900ha.

This brings the Company's total exploration land bank to 39,500ha, making it the largest holder of high-grade exploration licences in Sri Lanka.

### 5<sup>th</sup> Annual Graphite and Graphene Conference

First Graphite Managing Director Craig McGuckin was invited to present at the above conference, which was held in London in December. This was the first time a specific presentation had been given on the background and status of the Sri Lankan graphite industry.

Following the presentation, the Company was approached by parties interested in buying the Sri Lankan graphite produced by the Company.

Test samples will be provided to these parties before the month end.

### Corporate

During the quarter's end the Company completed a two tranche placement to raise approximately \$4m before costs.

Far East Capital Limited, the Lead Manager, had advised the placement was strongly bid by strategic investors and high net worth individuals.

The proceeds will be used to progress development of FGRS's high-grade graphite projects in Sri Lanka and to fund the next round of tests aimed at establishing the optimised scaling process of FGR's graphite for producing commercial quantities of premium-priced graphene.

FGR Managing Director Craig McGuckin said it had been a significant quarter for the Company as it marched towards production.

Mr McGuckin said First Graphite was making rapid progress towards its goal of becoming a substantial supplier of high-grade graphite and graphene in 2016.

*"November and December have been very busy and exciting months for the Company," Mr McGuckin said.*

*"Graphene test work on the second phase started in Adelaide during November. With the excellent results received on previously conducted test work, we anticipate very positive outcomes in Q1 2016.*

*"We look forward to announcing these results as they become available.*

*"Work also progressed rapidly on the Aluketiya project during the last months of 2015.*

*"In December, experienced analyst and corporate advisor Warwick Grigor joined the First Graphite Board as Chairman. We have also appointed an experienced Country Manager to help accelerate our developments in Sri Lanka."*

### The March Quarter Program

FGR is now immersed in an active March Quarter, which includes:

- Further drilling at the Aluketiya mining license in un-explored areas that may provide further production potential.
- Complete construction of the initial two headframes for the Aluketiya project area.
- Commencing optimisation of scalable pilot graphene test work following successful first pass test work at the University of Adelaide to set the parameters for full scale production.
- Continue land access agreements to provide the future exploration path in the FGR priority areas
- Continue to engage with prospective graphite and graphene off take parties.

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

*First Graphite is aiming to develop an underground mining operation to extract high-grade, crystalline vein graphite, which is unique to Sri Lanka. The Company holds exclusive rights to exploration licenses covering approximately 39,500 hectares in area, with historical workings located within nearly all license grids.*

### *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.*

### *Nature of vein graphite*

*Sri Lankan graphite deposition model is best described from the 'bottom up': tension fractures formed in the metamorphic sediments, caused by the folding of the sediments, creating 'conduits' for the hydrothermal deposition of high quality vein graphite. Historically, mining of these veins has found the veins generally increase in thickness and grade quality with increasing depth. Graphite veins generally dip steeply at  $-70^{\circ}$  to near vertical, enabling 'narrow vein' extraction mining techniques similar to those used on narrow vein, high-grade gold deposits. The method commonly used is an overhead retreat stoping technique where the high-grade vein graphite is mined and hauled to surface without contamination. The graphite selvages, in contact with the surrounding waste, is hauled to surface and stockpiled for upgrading. The balance of the waste is used to fill the floor of the stope.*

*Due to the nature of the vein graphite, it is anticipated vein widths of ~25cm, using narrow vein mining techniques can be economically extracted from underground operations.*

For further information:

**Craig McGuckin**

Managing Director

First Graphite Ltd

**Peter R. Youd**

Executive Director

First Graphite Ltd

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Information in this report relating to Metallurgical interpretation, analysis, mineral distribution and recommendations has been compiled by Mr Denis Geldard, MAusIMM in consultation with Dr Slobodanka Vukcevic, Senior Metallurgist at Nagrom the Mineral Processors. Dr Slobodanka Vukcevic has sufficient experience and expertise relevant to this type of test work through her job experience and expertise and qualifies as a competent person in the field of metallurgy. Mr Geldard consents to the inclusion in the report of the matters based on the information reported in the form and context in which it appears.

Information in this report relating to Exploration Results is based on information compiled by Mr Denis Geldard, MAusIMM working in consultation with consulting Geologist Mr Chris Banasik, MAusIMM and FGRS's Senior Sri Lankan Geologist who has 35 years of vein graphite experience in Sri Lanka. Their experience is relevant to the type of deposit under consideration. Mr Geldard is signing as competent person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Geldard consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

### JORC TABLE 1 Report for Exploration Locations

#### Section 1 Sampling Techniques and Data

<i>Criteria</i>	<i>Explanation</i>
Sampling techniques	<ul style="list-style-type: none"> <li>Diamond core is collected and stored in core trays of 4m per tray. Vein graphite is readily identified visually (black in colour) and intersections recorded accordingly. Intersections will then be cut under the supervision of FGRS's Senior Sri Lankan Geologist and prepared for transport to Nagrom (Australia) for analysis.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>All future drilling will be undertaken utilising HQ Triple Tube (HQTT) drilling.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Diamond core recovery is recorded between core runs by the geological crew in the Core Logging Record. The unconsolidated surface material will be drilled using rotary wash method until competent material is intersected</li> </ul>
Logging	<ul style="list-style-type: none"> <li>All holes are logged on site by FGR geological personnel under the supervision of FGR's Senior Sri Lankan Geologist, using FGR's Core Logging Procedure Manual.</li> <li>Logging will record geological and geotechnical observations, and is undertaken on a continual basis throughout the entire drill hole.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>Half-core intersections of Vein Graphite will be submitted for analysis to Nagrom laboratories in Perth Western Australia. The remaining half-core is stored in the core boxes. Core &amp; bulk samples may be provided to potential off-take parties.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>All Vein Graphite core intersections will be analysed by Nagrom the Mineral Processors in Perth Western Australia and or Wuhan University of Technology (WUT). Nagrom and WUT will follow industry practice QA/QC procedures to ensure high quality sample assurance.</li> <li>Certified Sample Standards will be inserted routinely into sample analysis.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>All diamond core will be logged and photographed by FGR geologists under the supervision of FGR's Senior Sri Lankan Geologist. Independent consulting geologist will visit the FGR operation sites on a regular basis to oversee QA.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>Initial drill locations are positioned using hand-held Garmin GPS systems. FGR completes full topographical surveys of each drill location. All drill collars will be georeferenced to the Sri Lankan Transverse Mercator Projection. All final drill locations are set out by surveyor.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>Drill holes have been orientated in a position to intersect the expected vein mineralisation (based on historical shafts / adits and geophysical information) at the optimal angle for evaluation, whilst minimising surface land disturbance.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>Diamond Core Drill holes are designed to intersect potential graphite vein mineralisation perpendicular to strike, wherever possible, whilst taking into account expected deviation in dip and azimuth.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>Core Samples are collected and stored in core trays under the supervision of FGR geological crews and then transported at the end of each day, and secured in a locked container at the FGR site facility for further detailed logging. Security is managed by</li> </ul>

<i>Criteria</i>	<i>Explanation</i>
	FGR's Senior Sri Lankan Geologist and the FGR country General Manager.
Audits or reviews	<ul style="list-style-type: none"> <li>A review was undertaken by the consulting Geologist of all procedures, including retrieving of core samples from the core tube, through to logging and storage of core samples, during drilling activities. Consulting Geologist will undertake further reviews into the future.</li> </ul>

## Section 2 Reporting of Exploration Results

<i>Criteria</i>	<i>Explanation</i>																																																												
Mineral tenement and land tenure status	<p>The Warakapola / Bopitiya / Pandeniya project exploration license areas EL228 are 100% owned by MRL Graphite (Pvt) Ltd. The exploration Licenses when granted have a two year term which can be renewed prior to the 2 year anniversary.</p> <table border="1" data-bbox="536 770 1362 1279"> <thead> <tr> <th>License No.</th> <th>MRL Graphite Interest</th> <th>Status</th> <th>General Location</th> </tr> </thead> <tbody> <tr><td>EL/225</td><td>100%</td><td>Granted</td><td>Central</td></tr> <tr><td>EL/226</td><td>100%</td><td>Granted</td><td>Central</td></tr> <tr><td>EL/228</td><td>100%</td><td>Granted</td><td>Central</td></tr> <tr><td>EL/243</td><td>100%</td><td>Granted</td><td>Central</td></tr> <tr><td>EL/318</td><td>100%</td><td>Granted</td><td>Central</td></tr> <tr><td>EL/321</td><td>100%</td><td>Granted</td><td>Central</td></tr> <tr><td>EL/227</td><td>100%</td><td>Granted</td><td>South Central</td></tr> <tr><td>EL/322</td><td>100%</td><td>Granted</td><td>South Central</td></tr> <tr><td>EL/231</td><td>100%</td><td>Granted</td><td>South West</td></tr> <tr><td>EL/244</td><td>100%</td><td>Granted</td><td>South West</td></tr> <tr><td>EL/262</td><td>100%</td><td>Granted</td><td>Central</td></tr> <tr><td>EL/325</td><td>100%</td><td>Granted</td><td>Central</td></tr> <tr><td>EL/326</td><td>100%</td><td>Granted</td><td>Central</td></tr> </tbody> </table> <table border="1" data-bbox="536 1312 1362 1346"> <tbody> <tr> <td>IML/C/HO/8416</td> <td>100%</td> <td>Granted</td> <td>Western</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>First Graphite Ltd has informed the Consulting Geologist all granted licenses are in good standing and comply with the reporting requirements of the exploration licence.</li> </ul>	License No.	MRL Graphite Interest	Status	General Location	EL/225	100%	Granted	Central	EL/226	100%	Granted	Central	EL/228	100%	Granted	Central	EL/243	100%	Granted	Central	EL/318	100%	Granted	Central	EL/321	100%	Granted	Central	EL/227	100%	Granted	South Central	EL/322	100%	Granted	South Central	EL/231	100%	Granted	South West	EL/244	100%	Granted	South West	EL/262	100%	Granted	Central	EL/325	100%	Granted	Central	EL/326	100%	Granted	Central	IML/C/HO/8416	100%	Granted	Western
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Exploration done by other parties	<ul style="list-style-type: none"> <li>Initial Exploration and Review of the Warakapola / Bopitiya / Pandeniya / Dedigama project was carried out by Geological Survey and Mines Bureau (GSMB) Technical Services (Pvt) Ltd with reports provided to FGR. FGR has established a regional office in the EL228 area to support the company geologists and underground exploration crews.</li> <li>Historical mining has taken place with several shafts and adits evident.</li> <li>FGR continues exploration in all license areas</li> </ul>																																																												



Geology	<ul style="list-style-type: none"> <li>• Warakapola / Bopitiya / Pandeniya / Aluketiya / Dedigama</li> <li>• Geologically, the area covered by the selected grid units belong to the Wannu Complex of Sri Lanka. The Wannu Complex is mainly characterised by thick sequences of orthogneisses, comprising amphibolite, migmatitic, granitic and granodioritic gneisses. These rocks represent a series of antiformal and synformal structures. A characteristic feature of the exploration area is the alignment of identified abandoned graphite mines / pits within a NNW-SSE trending corridor.,(GSMB 2013)</li> </ul>
Drill hole Information	<p>Planned Diamond Core Drill Holes</p> <ul style="list-style-type: none"> <li>• FGR is undertaking exploration drilling presently at its Dedigama location and will report on commercial intersections when they occur.</li> <li>• All Diamond Core Drill holes are planned to be accurately surveyed for dip and azimuth using a GlobalTech Pathfinder multi-shot, electronic, down-hole survey tool.</li> <li>• A GlobalTech core orientation tool is being used to orientate the core during the drilling.</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>• Intersections of diamond core containing vein graphite will be visually selected for analytical testing with accurate lengths recorded to ensure 100% of mineralisation is analysed and reported.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li>• Planned Drill hole orientation is based on observations from historical shafts / adits and geophysics, and planned to intersect any vein graphite mineralisation as close to perpendicular as practical.</li> </ul>
Diagrams	<ul style="list-style-type: none"> <li>• NA</li> </ul>
Balanced reporting	<ul style="list-style-type: none"> <li>• First Graphite Ltd will endeavour to produce balanced reports accurately detailing the results from any exploration activities.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>• No other substantive exploration data is available at this time.</li> </ul>
Further work	<ul style="list-style-type: none"> <li>• First Graphite Ltd continues to complete further site investigations on all licenses. Following the completion of progressive site investigations and evaluation the next phase of exploration for each location will be undertaken and reported.</li> <li>• Land access agreements continue at Pujapitiya, Dedigama and Hikkaduwa</li> <li>• Further drilling is planned at Aluketiya, Dedigama &amp; Pujapitiya and other license areas as land access is obtained.</li> </ul>