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# First Graphite Limited

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# **ASX Symbol**

FGR, FGROB

# **Operations Update**

# Personnel and procedural changes boost productivity early in 2017

First Graphite (ASX: FGR) provides an operational update on its mining and drilling activities in Sri Lanka.

In December changes were made to personnel engaged by the Company and new procedures were implemented. This has had a beneficial effect and resulted in significant progress being made in early 2017.

# Highlights

- Shaft H makes significant progress to enter more competent ground conditions and stop mud inflows.
- Shaft J shaft sinking commenced and is making excellent progress.
- Pandeniya uncovers further historical workings.
- Drilling continues at Pandeniya.

# Aluketiya - Shaft H - RL 30.5

Since the personnel and procedural changes were implemented at Shaft H progress has been much more satisfactory with a further 6m being sunk, taking the workings into more competent ground. Instrumental in achieving this was the utilisation of better pressure grouting systems which enabled improved speed and efficiency in the installation of shaft liners. Once the shaft sinking extends through the final section of the transition zone the focus will be on driving to the first ore zone, expected to be only 10m from the shaft. Three zones are to be accessed initially, including the high grade intersection previously reported in ALK18. ALK18 intersected three zones of mineralisation comprising a total of 1.72metres of graphite within a 2.8m interval of core.



Figure 1: Managing Director, Craig McGuckin, providing instruction on pressure grouting at Shaft H



Figure 2: Shaft H site development area

# Aluketiya – Shaft J - RL 7.5m

In the December quarter, all infrastructure for Shaft J works was completed and commissioned. Shaft sinking commenced in mid-January with 2.5 metres liners being used and the implementation of strategies gained from prior experience has seen the shaft sunk to a depth of 7.5 metres, a far better rate than all our other works and a reflection of the improvements also seen in the H Shaft workings. The transition zone for Shaft J is considerably shallower than Shaft H and at current rates will be in a position to strike drive to ore early in the second quarter.

As development has progressed the shaft has unearthed a series of weathered graphite veins which had been identified in previous drilling.



Figure 3: Shaft J 2.5 metres liner showing weathered graphite vein in shaft



Figure 4: Weathered vein graphite extracted from Shaft J as it is being sunk



Figure 5: Shaft J site development area



Figure 6: Shaft J mine water management & silt filtration system

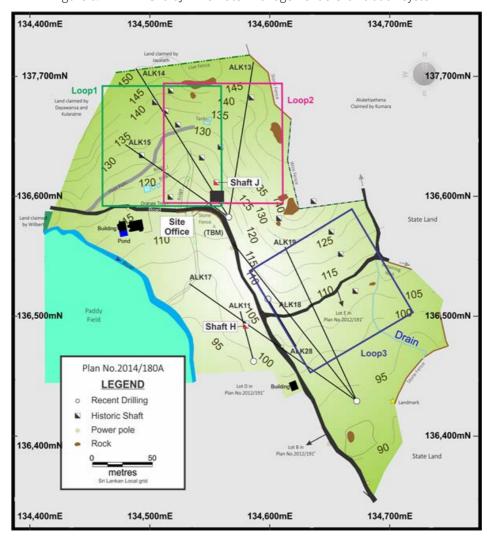


Figure 7: Aluketiya project site plan with Shafts H and J and exploration drill hole traces and transmitter loop locations



# Pandeniya RL 43.8

Drilling at Pandeniya has revealed yet more historical workings near the shaft which has been rehabilitated and sunk by the Company. As has previously been identified this makes work in the area slower as safely entering and working in these areas is of paramount importance.

The shaft has been sunk to a depth of 44 metres.

# **Drilling Activities**

Since being commissioned in August 2015 the Company's T400THD Drilling Rig has been in continual operation. It has become necessary for a maintenance break to be undertaken. During this period the drill rig will be re-powered with a larger, single 125kw Cummins diesel engine having been purchased during 2016. Equipping the drill rig with the larger engine will enable deeper exploration holes to be completed in future programs in a quicker time frame. All of these works will realise an increase in productivity of the rig and reduce production decision times. The work will require approximately six weeks to complete.

FGR's Managing Director Craig McGuckin said he was pleased with the progress made in early 2017.

"The changes implemented in December have begun to pay dividends," Mr McGuckin said, "The revision of personnel and procedures in Sri Lanka improved our operational efficiency in mining and has resulted in shaft sinking rates improving considerably. I would like to thank our Sri Lankan employees for their active involvement in implementing these changes"



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

First Graphite produces high quality graphene from high grade Sri Lankan vein graphite.

First Graphite seeks to develop graphene production methods and acquire graphene related intellectual property which can provide further revenue related opportunities.

# 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.

#### For further information:

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**Executive Director** 

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