

15 December 2016

New EM targets identified on Mining Licence

Highlights

- **Fixed Loop Electromagnetic (FLEM) survey identifies four untested, high quality targets on the Chilalo Mining Licence – all within close proximity to the Shimba deposit**
- **Potential to further increase Chilalo's graphite Mineral Resources**

Graphex Mining Limited (ASX: GPX) is pleased to report that a Fixed Loop Electromagnetic ('FLEM') survey conducted over the Chilalo Mining Licence area has identified four strongly conductive, high quality drill targets in close proximity to the existing high-grade Shimba Mineral Resource, at its Chilalo Graphite Project.

Conductors 1, 2 and 3 are located to the north of the Shimba Mineral Resource, all of which have FLEM responses that indicate the potential for thick and/or high grade graphitic mineralisation and are yet to be drilled. Conductor 4 located to the south of Shimba has a single historic drill hole (NRC12-111) which was part of a nickel exploration program conducted by IMX Resources Limited in 2012. Geological logging from this hole identifies that it includes an intersection of 41m of graphitic gneiss, with the mineralisation open at the end of the hole (see Appendix A). Figure 1 shows the location of the four high-conductance targets.

The FLEM survey was carried out as a cost effective means of sterilising the Chilalo Mining Licence area for the dual purpose of confirming that the assumed locations of infrastructure in the PFS remain suitable and to identify targets in close proximity to the existing Shimba Mineral Resource. FLEM has proven itself to be an effective technique at identifying the conductors indicative of high-grade and/or thick graphite mineralisation.

Managing Director, Phil Hoskins commented, "*Chilalo is a highly mineralised area and our exploration to date has only scratched the surface. The success of the recent drilling program (ASX announcement 16 November 2016) was largely due to the effectiveness of FLEM surveys in identifying high quality drill targets. We therefore have great confidence that these four new targets will enable us to progressively grow Chilalo's graphite resources as required.*"

Work continues on the Shimba Mineral Resource upgrade following the recently completed drill program, with an announcement expected in early 2017.

A handwritten signature in black ink, appearing to read "PHIL", followed by a horizontal line.

PHIL HOSKINS
Managing Director

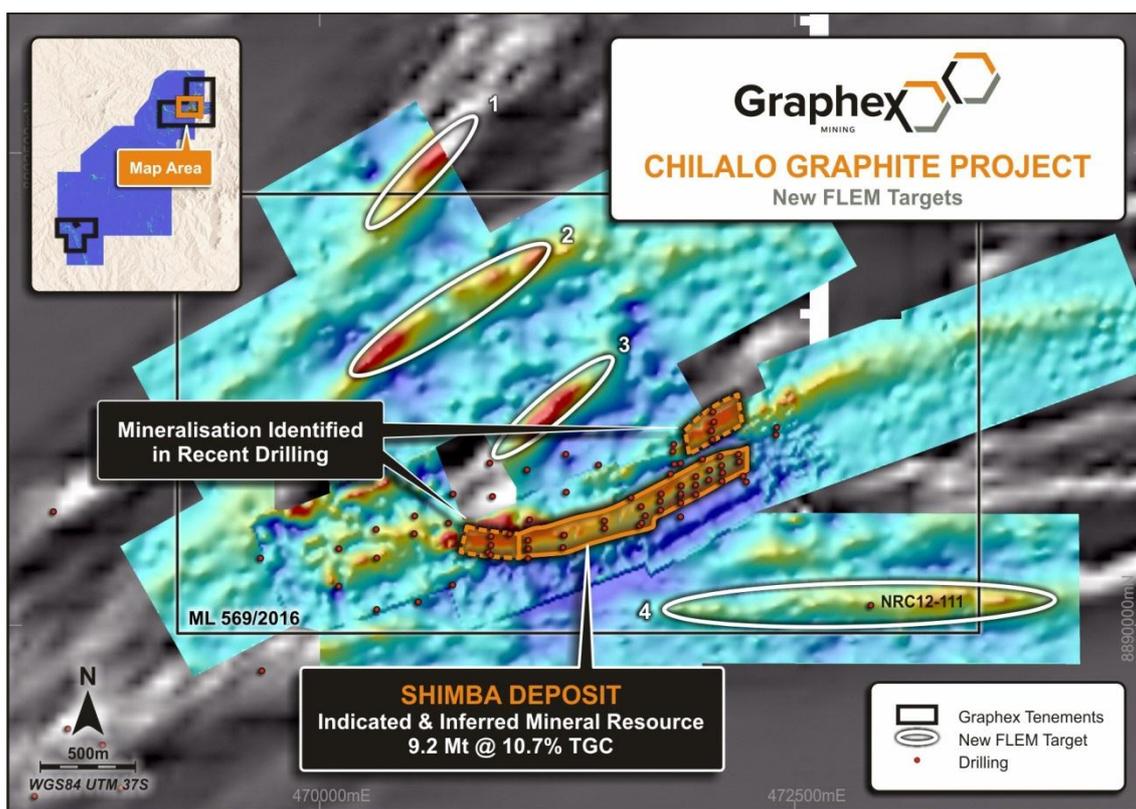
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Figure 1: Location of recently identified FLEM targets – Conductors 1, 2, 3 and 4



Competent Person's Statement

Information relating to exploration results at the Chilalo Project, located in south-east Tanzania, is based on data collected under the supervision of Mr Nick Corlis, in his capacity as General Manager – Technical. Mr Corlis, BSc (Hons) MSc, is a registered member of the Australian Institute of Geoscientists and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and the activity being undertaken to qualify as a Competent Person under the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 edition. Mr. Corlis has verified the data underlying the information contained in this announcement and approves and consents to the inclusion of the data in the form and context in which it appears.

About Graphex

Graphex Mining Limited is an Australian exploration and development company, dedicated to advancing the world class Chilalo Graphite Project, located in south-east Tanzania. Chilalo is host to a high-grade mineral resource and has demonstrated an ability to produce a premium graphite concentrate with a substantial portion of large and jumbo flake material. Chilalo graphite possesses outstanding expandability characteristics, making it ideally suited to the rapidly growing expandable graphite market.

Graphex's current focus of effort is on securing offtake and financing agreements for the development of Chilalo. In accordance with an existing MOU, Graphex is working closely with CN Docking Joint Investment & Development Co. Ltd, a subsidiary of China National Building Materials and China Gold Group Investment Co. Ltd. on the negotiation of such agreements.

Graphex has an experienced board and management team with specific skills and extensive experience in African based project development, exploration, mining and processing. Tanzania is a stable democracy, with a globally competitive tax and regulatory regime. The Company has a long and well-established presence in Tanzania.

For more information, visit www.graphexmining.com.au.

APPENDIX A. DRILLHOLE INFORMATION – NRC12-211¹

HoleID	East	North	RL	Dip	Azi	Depth
NRC12-111	472901.9	8900106	244.07	-70	360	85

HoleID	mFrom	mTo	Geology
NRC12-111	2	10	Granitic gneiss
	10	18	Amphibolite
	18	24	Mafic gneiss
	24	26	Quartzite
	26	44	Mafic gneiss
	44	75	Graphitic schist
	75	76	Amphibolite
	76	85	Graphitic schist

1. Drillhole NRC12-211 was drilled in 2012 by IMX Resources Limited as part of a nickel sulphide exploration program and as a result, was not assayed for Total Graphitic Carbon.

APPENDIX B. JORC 2012 TABLE 1 REPORTING

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	<ul style="list-style-type: none"> Ground based fixed loop electromagnetic (FLEM) surveying was carried out by Graphex personnel and equipment consisting of a SMARTem 24 receiver, a SMART fluxgate sensor and a Zonge ZT-30 transmitter. Internal SMARTem receiver GPS and additional handheld GPS units were used for acquiring location information. A low transmitter base frequency of 0.333Hz (equivalent to 750msec recording time) was used to detect bedrock conductors with very high conductances, which are typical for thick and high-grade graphite mineralisation.
Drilling techniques	<ul style="list-style-type: none"> Not applicable – no drilling was undertaken.
Drill sample recovery	<ul style="list-style-type: none"> Not applicable – no drilling was undertaken.
Logging	<ul style="list-style-type: none"> Not applicable – no drilling was undertaken.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> Not applicable – no drilling or geochemical sampling was undertaken.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> Not applicable – no drilling or geochemical sampling was undertaken.
Verification of sampling and assaying	<ul style="list-style-type: none"> FLEM survey design, data QC, processing, imaging, plate modelling and interpretation carried out by 3rd party geophysical consultants, Resource Potentials. Senior Graphex geological personnel supervised the FLEM survey work. Data was captured electronically in the field and sent to geophysicist consultants engaged by the Company. Quality control measures were undertaken both in the field and in the office.
Location of data points	<ul style="list-style-type: none"> The FLEM survey was designed to cover all conductive bedrock trends identified from VTEM survey data within the mine lease.
Data spacing and distribution	<ul style="list-style-type: none"> The FLEM survey used large, 1,000m x 700m wire transmitter loops on the ground. FLEM survey receiver stations were located outside of and adjacent to transmitter loops. 3 component receiver data were recorded at 50m spaced survey stations along transects. FLEM survey transect lines were spaced 50m apart over the main Shimba trend (acquired in 2015) and 100m transect line spacing was used over the surrounding FLEM survey areas within the mine lease. All FLEM transmitter loop layouts and survey transect lines were oriented perpendicular to the geological strike direction and conductive trends identified from the VTEM data.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> Target conductor orientation information was obtained from drilling, geological mapping, magnetic anomaly images, VTEM anomaly images and conductor plate modelling. This orientation information was then used for planning FLEM transmitter loop locations to ensure that the primary EM field was electrically coupled with the conductor targets.
Sample security	<ul style="list-style-type: none"> Not applicable – no drilling or geochemical sampling was undertaken.
Audits or reviews	<ul style="list-style-type: none"> All results were reviewed by Company personnel, including the General Manager-Technical and by specialist consultants. No negative issues were identified from these reviews.

Section 2 Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> The exploration results reported in this announcement are from work carried out on granted Mining Licence ML/5969/2016 which is owned by Ngwena Tanzania Limited, a wholly owned subsidiary of Graphex.
Exploration done by other parties	<ul style="list-style-type: none"> Exploration has been performed by Ngwena Tanzania Limited, an incorporated subsidiary company of Graphex. Previously conducted stream sediment surveys carried out historically by BHP were not assayed for the commodity referred to in the announcement.
Geology	<ul style="list-style-type: none"> The regional geology is comprised of late Proterozoic Mozambique mobile belt lithologies consisting of mafic to felsic gneisses interlayered with amphibolites and metasedimentary rocks. The mineralisation consists of a series of intercalated graphitic horizons within felsic gneiss (aluminous rich sediments), amphibolites (mafic sourced material) and rarely high purity marble horizons.
Drill hole Information	<ul style="list-style-type: none"> Not applicable – no drilling was undertaken.
Data aggregation methods	<ul style="list-style-type: none"> Not applicable – no drilling or geochemical sampling was undertaken.
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> Not applicable – no drilling or geochemical sampling was undertaken.
Diagrams	<ul style="list-style-type: none"> Refer to figures within the main body of this report.
Balanced reporting	<ul style="list-style-type: none"> All reported visual estimate intervals are downhole intervals from drilling aimed at being as perpendicular to mineralisation as practical.
Other substantive exploration data	<ul style="list-style-type: none"> 25Hz, 200m spaced helicopter-borne versatile time-domain EM (VTEM) surveys have been previously carried out over the Chilalo Project, providing magnetic and electromagnetic data. The survey flight lines were oriented N-S in the eastern areas of the Chilalo Prospect, and E-W in the western areas. The surveys overlap over the Simba Deposit, providing data acquired from both flight orientations. The data were provided using datum WGS84 and projection SUTM37. All results are reported. All other meaningful exploration data concerning the Chilalo Project has been reported in previous reports to the ASX. No other exploration data is considered material in the context of the information reported in this announcement. All relevant data has been described in Section 1 of JORC Table 1.
Further work	<ul style="list-style-type: none"> Three areas within the Mining Licence area will be surveyed to complete FLEM survey work across the entire area of the Mining Licence.