LANKA GRAPHITE LIMITED
THE NEW BLACK GOLD

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ASX Announcements Office
Australian Securities Exchange

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# New Mapping and Geophysics confirm and extend Lanka's vein graphite targets

**Key Points**

- **Reconnaissance geological mapping has confirmed the locations of historical workings and identified structural targets for new vein graphite deposits across Lanka Graphite's licences in south-western Sri Lanka**
- **Very Low Frequency (VLF) Electromagnetic (EM) surveys have verified the presence of conductive zones below and between old shafts and adits historically mined for vein graphite**
- **VLF anomalies extend away from known occurrences of vein graphite, suggesting strike extensions, in some cases of several hundred metres**
- **Results of the VLF survey will underpin a proposed second phase of detailed geophysical surveying. It is anticipated that the second survey phase will identify targets for core drilling in 2016.**

Lanka Graphite Limited (ASX: LGR) is pleased to announce the first set of results from an ongoing VLF geophysical survey and geological mapping exercise being undertaken over its Exploration Licences in southwestern Sri Lanka.

Geological mapping has identified more than 50 existing pits, shafts and adits on Exploration Licences (EL) EL266, 267 and 268. The mapping also highlighted structural and lithological trends that may be related to vein graphite mineralisation.

The VLF survey initially targeted seven areas in EL266, 267 and 268 (Figure 1) where there are historical graphite workings. The VLF survey results suggest the presence of graphite mineralisation between and beyond the extent of the mine workings, indicating that the mineralisation may extend well beyond historical mining areas. Several of the conductors detected in the VLF surveys have no historical mine workings, and may be related to untested graphite mineralisation under cover.

Lanka Executive Chairman Mr Jitto Arulampalam said, "The survey results are an encouraging first stage of our campaign to identify economic vein graphite resources in Lanka's tenements in southwestern Sri Lanka.

"The VLF survey has proven to be a useful and very cost-effective first-pass tool in verifying the presence of conductors, interpreted to represent graphite mineralisation, in the vicinity of old adits and shafts, and these results would help to focus a second phase of detailed geophysical surveying to enable drilling planning."

**Geological model**

Sri Lankan graphite generally occurs as high-purity veins (>95%), ranging in thickness from veinlets less than 1mm thick to massive veins more than 1m thick. The veins are usually located in the hinge zones of antiforms within highly metamorphosed, granulite facies, rocks of the Precambrian Basement terrain that underlies much of Sri Lanka.

Vein graphite mineralisation is commonly associated with pegmatites and vein quartz, both related to tensional zones of open space in fold hinges and cross cutting structures. The graphite veins follow linear, sub-vertical, zones aligned with the axes of antiforms and is considered to have been derived from $CO_2$ in late hydrothermal fluids, produced during metamorphism.

Graphite was also deposited in secondary fractures at right angles or at steep angles to the strike of the antiformal hinge zones, although not all such fractures are so infilled. These types of secondary fracture veins can form the bulk of the graphite resource in a deposit in Sri Lanka.

Given that Sri Lanka was previously a major world supplier of high-quality vein graphite, extensive mining and prospecting for graphite occurred in the country over the past two centuries. Old shafts, adits and prospecting pits are therefore a common starting point for present day exploration.

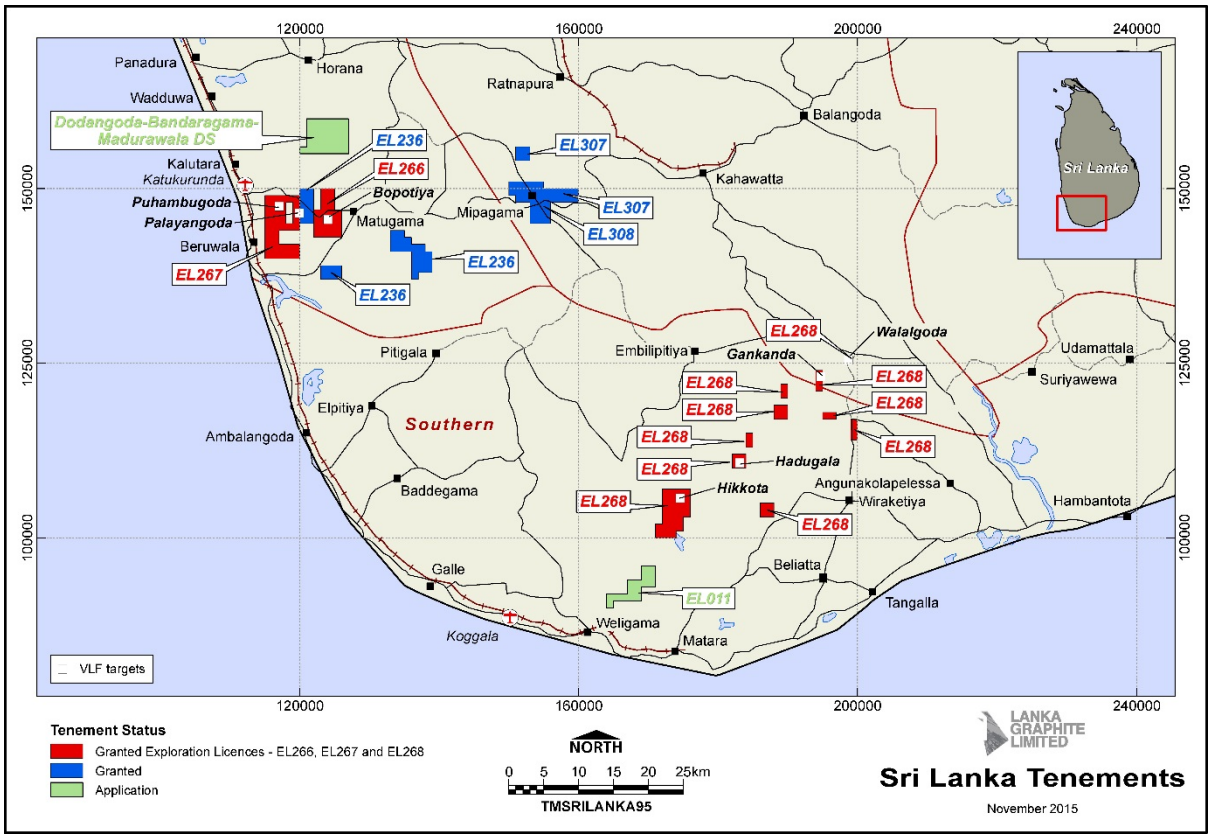


*Figure 1. Location of Lanka's tenements in the surveyed part of south-western Sri Lanka. VLF survey grids shown as white squares*

**Geological mapping**

Reconnaissance geological mapping has been completed over portions of EL266, EL267 and EL268. This work identified structural and lithological trends, and a range of cross cutting joint/fracture directions. Fifty one historical pits, shafts and adits were identified and mapped; an example of the historical workings is shown in *Figure* 2.

The distribution of the graphite occurrences together with the geological information will assist in prioritising targets for follow-up.


*Figure 2. Abandoned Graphite mine site 4 in Grid 34 (a) Partially filled shaft covered by thick Diyapara vegetation (b) Two adits opened to the main Shaft (c) Graphite flakes associated with Quartzite (d) Interconnected series of adits (e) Graphite associated with a pelitic band going through laterite observed at adit mouth (f) A shaft totally filled with debris.*

**Geophysical Surveying**

VLF surveys were undertaken to identify conductors within graphite mineralised areas around and between old adits and shafts. A total of seven prospects (two in EL266, one in EL267 and five in EL268) were selected for VLF geophysical surveys. All survey areas contain old graphite mine shafts, adits or pits.

The VLF survey employed a Geonics EM-16 receiver, using the VLF EM signal transmitted from the Northwest Cape (NWC 22.3) VLF transmitter tower in Western Australia. The acquired EM data were gridded and imaged (with a reverse colour stretch) to highlight EM responses interpreted to be caused by local electrical conductors, such as graphite.

A Fraser filter was used to transform inflections into peaks to identify the conductor locations. The resulting Fraser filtered tilt angle VLF data were imaged, highlighting the crossover trends, and therefore possible conductor locations, in red. The images showing the results are presented below in Figure 3–Figure 9.

Many of these conductors correspond to known historical graphite locations, suggesting these conductors are related to graphite mineralisation. The interpreted conductor locations are displayed as the pink and white lines in Figures 2–8. These conductor traces are considered a very rough approximation only, and are not considered adequate to define drill targets because the uncertainties associated with VLF data.

The VLF survey results suggest the presence of untested graphite mineralisation. The length of the interpreted conductors are often longer than the extent of the mine workings, indicating the mineralisation may extend well beyond the areas of historical mining.

Several of the conductors detected in the VLF survey blocks have no historical mine workings, and may be related to untested graphite mineralisation under cover.

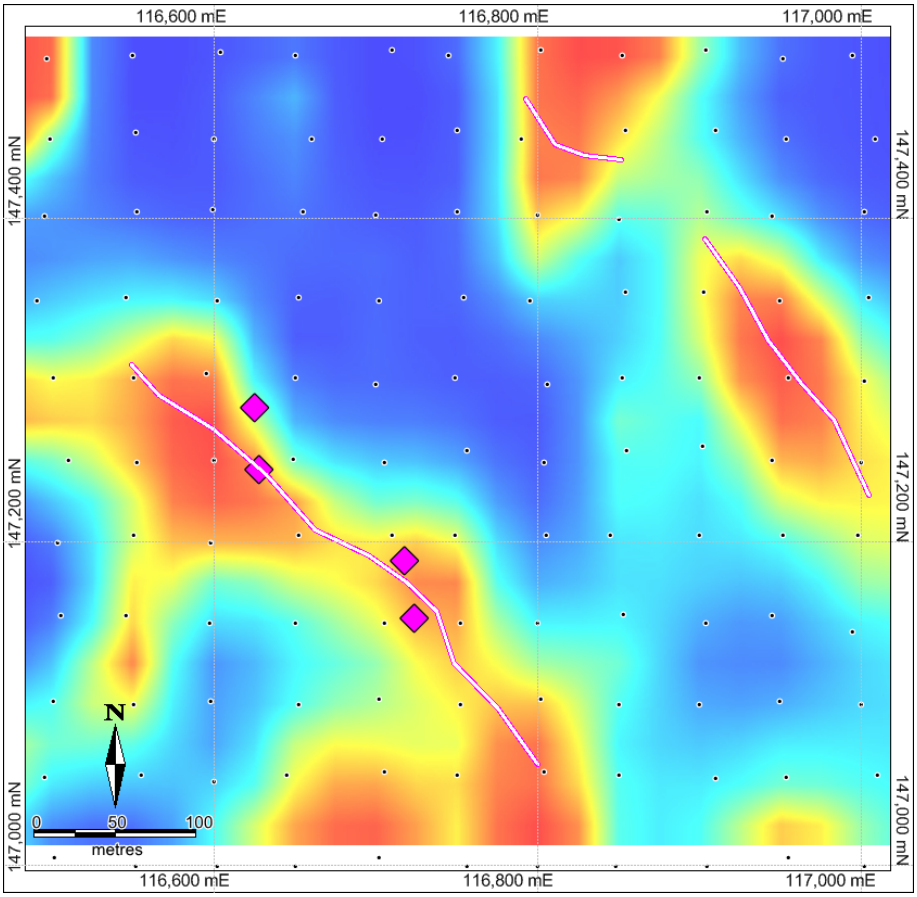


*Figure 3. EL266 Palayangoda graphite prospect map with the VLF survey stations (black and white dots), the interpreted conductor location traces (pink and white lines) and known historical graphite mine workings (pink diamonds) overlain on a Fraser filtered VLF tilt angle survey data image.*

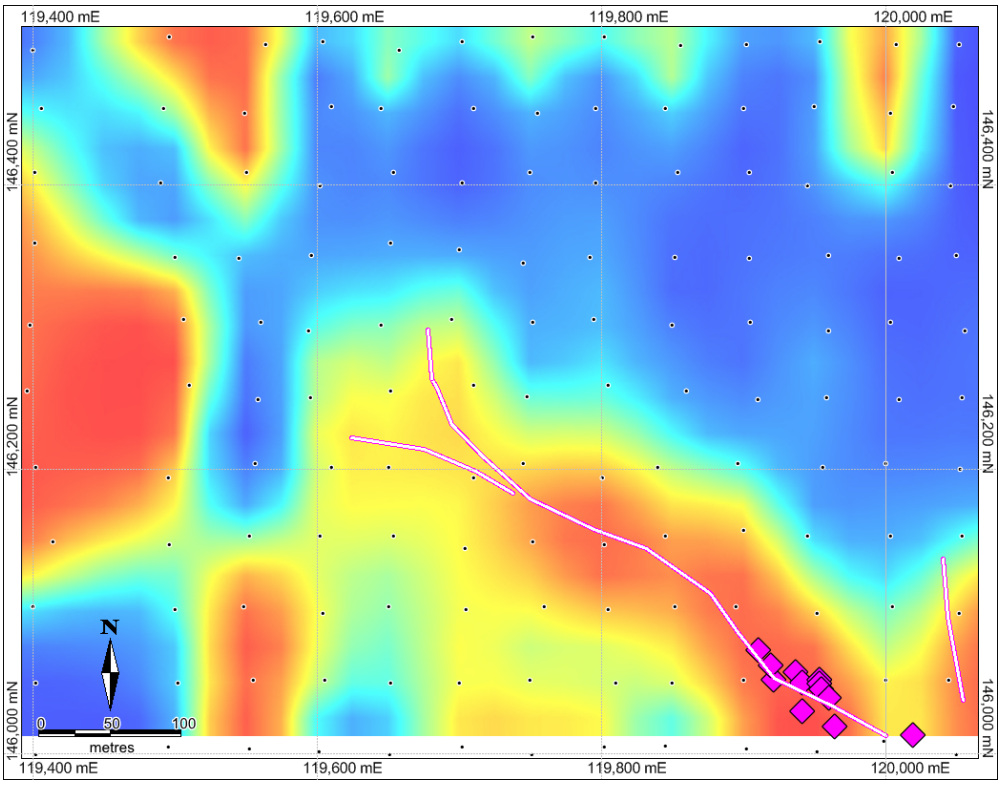

*Figure 4. EL266 Puhambugoda graphite prospect map with the VLF survey stations (black and white dots), the interpreted conductor location traces (pink and white lines) and known historical graphite mine workings (pink diamonds) (LHS) overlain on a Fraser filtered VLF tilt angle survey data image.*

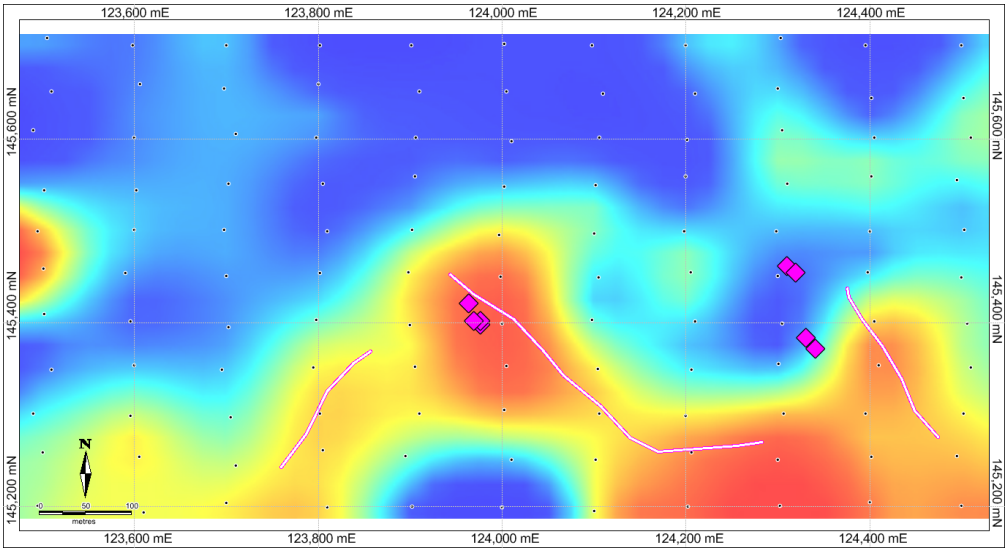


*Figure 5. EL267 Bopotiya graphite prospect map with the VLF survey stations (black and white dots), the interpreted conductor location traces (pink and white lines) and known historical graphite mine workings (pink diamonds) (LHS) overlain on a Fraser filtered VLF tilt angle survey data image.*

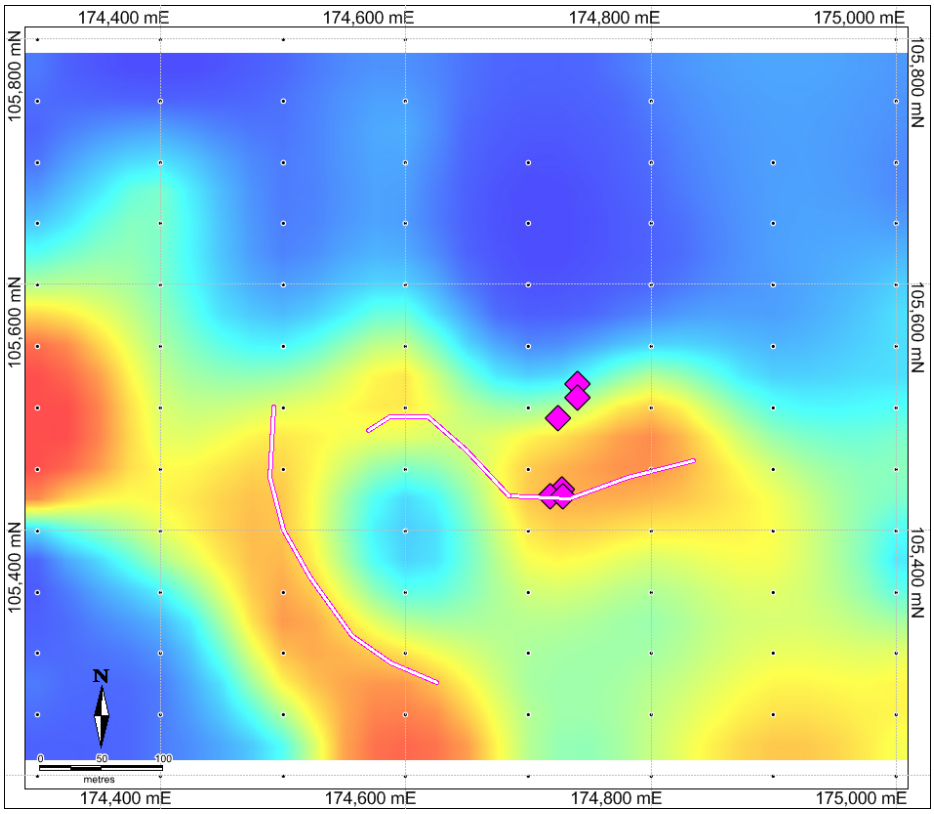


*Figure 6. EL268 Hikkota graphite prospect map with the VLF survey stations (black and white dots), the interpreted conductor location traces (pink and white lines) and known historical graphite mine workings (pink diamonds) (LHS) overlain on a Fraser filtered VLF tilt angle survey data image.*

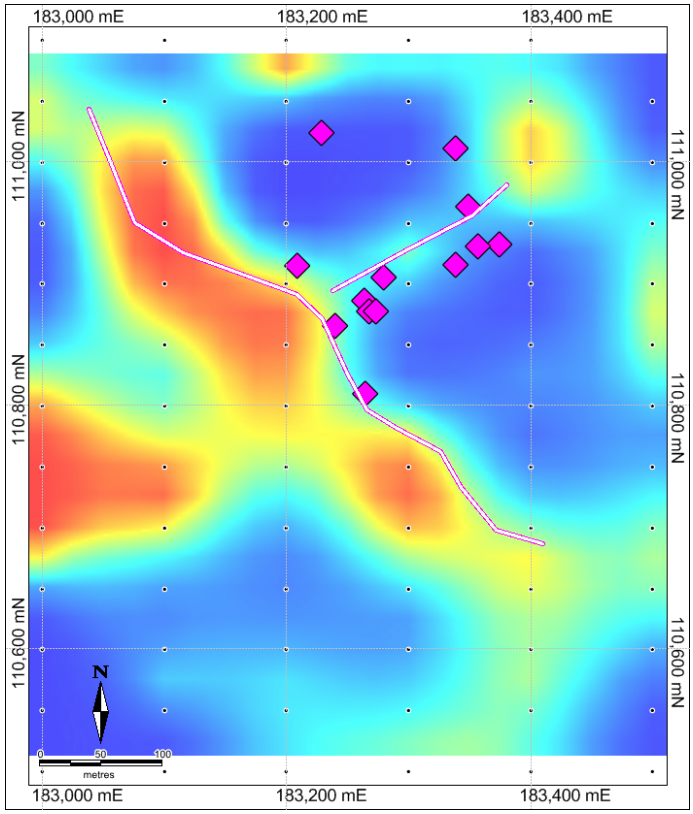


*Figure 7. EL268 Hadugala graphite prospect map with the VLF survey stations (black and white dots), the interpreted conductor location traces (pink and white lines) and known historical graphite mine workings (pink diamonds) (LHS) overlain on a Fraser filtered VLF tilt angle survey data image.*

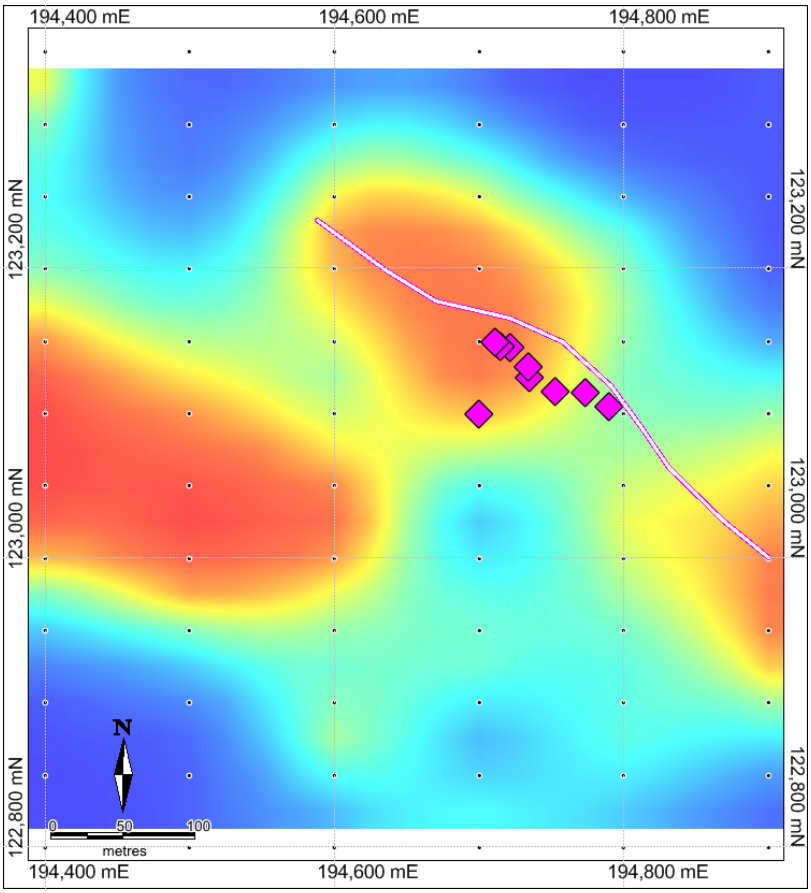

*Figure 8. EL268 Gankanda graphite prospect map with the VLF survey stations (black and white dots), the interpreted conductor location traces (pink and white lines) and known historical graphite mine workings (pink diamonds) overlain on a Fraser filtered VLF tilt angle survey data image.*

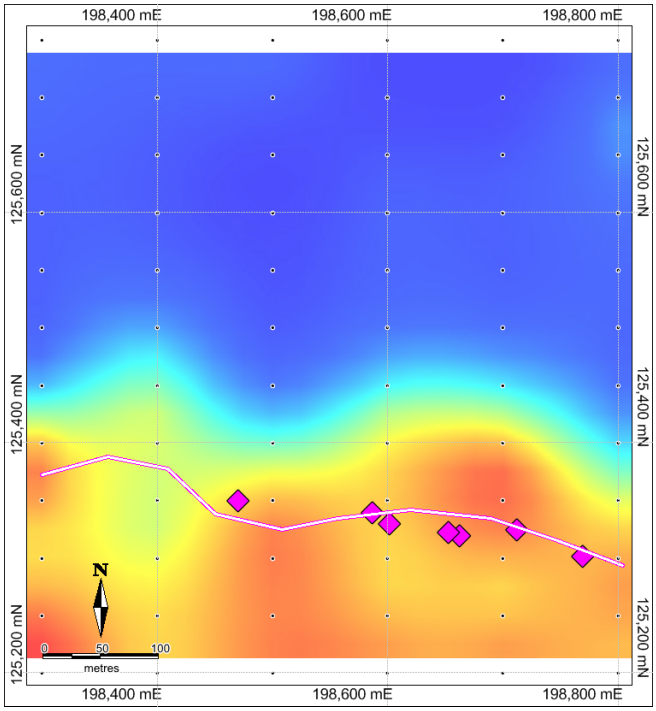


*Figure 9. EL268 Walalgoda graphite prospect map with the VLF survey stations (black and white dots), the interpreted conductor location traces (pink and white lines) and known historical graphite mine workings (pink diamonds) overlain on a Fraser filtered VLF tilt angle survey data image.*

**Future geophysical surveys**

The VLF surveys are essentially a semi-quantitative approach. To define testable targets and also explore for blind graphite veins away from historical workings, Lanka proposes to complete modern high-powered fixed loop, time-domain, electromagnetic surveys (FLEM).

FLEM data provides high resolution data that can be modelled in 3D, to produce geophysical models of the conductive targets. These conductor models can then be used to assist in drill planning.

Following completion of the reconnaissance VLF programme, Lanka will review all the new data and integrate it with existing geological information to rank targets for FLEM follow-up.

Justyn Stedwell
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Lanka Graphite Limited

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**Competent Persons' Statement**

The information in this release that relates to Geophysical Results is based on information compiled by Dr Jayson Meyers who is a Fellow of the Australian Institute of Geoscientists. Dr Meyers is an employee of Resource Potentials Pty Ltd and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking, to qualify as a Competent Person in terms of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code 2012 Edition).[1] Dr Meyers consents to the inclusion in this report of the matters based on information provided by him and in the form and context in which it appears.

This report was compiled in conjunction with Dr. Andrew Scogings who is a full-time employee of CSA Global Pty Ltd and who takes overall responsibility for the report. Dr Scogings is a Member of both the Australian Institute of Geoscientists and Australasian Institute of Mining and Metallurgy and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as a Competent Person in terms of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code 2012 Edition).[1] Dr. Scogings consents to the inclusion of such information in this announcement in the form and context in which it appears.

1. Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The JORC Code, 2012 Edition. Prepared by: The Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC 2012).

**About Lanka Graphite**

Lanka Graphite Limited (ASX:LGR) is an ASX listed graphite exploration company that is focused on exploration of a number of historic and new mining tenements in Central and South Western Sri Lanka. Historic mining at a number of the granted tenements produced very high grade 'lump' or vein style graphite with grades >95%C. High purity vein graphite was historically produced from Lanka's tenements at a grade that is also well suited to graphene derivation. Lanka Graphite will commence exploration of its granted tenements with the intention to develop high grade graphite production that can supply nearby Asian end user companies particularly focused on new technology graphene applications.