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Lanka vein graphite assay achieves exceptional high grade 99.97% purity with potential for Nuclear Grade graphite

Highlights

- Assay of vein graphite powder sample, after flotation testing by ALS Metallurgy returned grade of 99.97% TC. Assay of supplied rock sample returned 99.90% TC.
- Excellent recovery rates circa 96% from supplied samples indicates very high purity vein graphite from Lanka's project.
- Assay laboratory confirms that both products can be sold as premium battery-grade graphite (\$5,000 – \$20,000 per ton).
- ALS Minerals Division also confirms samples can be processed further through low-temperature thermal purification process for Nuclear-Grade graphite.
- Very low cost production of graphite product as no chemical leach requirement. Simple wash and flotation process.
- Assay testing conducted by ALS Metallurgy in Perth, on samples collected from Lanka's Exploration Licences, EL 266, EL267 and EL268 at the company's Sri Lankan graphite project.

Lanka Graphite Limited (ASX: LGR) (the Company) is very pleased to report that assays from vein graphite rock and powder samples taken from across the company's exploration licences in South West Sri Lanka have returned exceptionally high grades of more than 99% TC (Total Carbon) which indicates the product is suitable as premium battery grade graphite.

The assay laboratory also notes that with simple purification, the product could be further upgraded to Nuclear Grade graphite.

ALS Metallurgy assay laboratory in Perth assayed a number of rock and powder samples of vein graphite which were taken from Lanka Graphite's Exploration Licences EL266, EL267 and EL268 located within the company's vein graphite project situated in the South West region of Sri Lanka.

Significantly, the results indicate that the graphite samples, sourced from within Lanka's project area, with minimal processing would be suitable for use in nuclear reactors, where graphite is an important material in construction and in temperature moderation, due to its purity and its ability to withstand extremely high temperatures.

ALS confirmed, "both products can be sold as premium battery grade graphite and can be processed further through a low-temperature thermal purification process for Nuclear grade graphite."

Battery Grade Graphite

Battery-grade graphite requires very high purity levels, typically >99.9% carbon-as-graphite (Cg). This material also needs to be spheroidized using careful processes that convert the flat graphite flakes into potato-like shapes, which pack much more efficiently into a given space. The high purity levels are important for producing the high electrical conductivity that is required during anode operation. Battery Grade Flake Graphite of 99.9% TC can command prices of between US\$5,000 and US\$20,000 per tonne. New technology lithium-ion batteries require a very high grade purity graphite to ensure safe and efficient operation.

Nuclear Grade Graphite

Nuclear grade graphite is very high purity grade, usually electrographite, specifically manufactured for use as a moderator in reactors where its ability to withstand extremely high temperatures makes it ideal. Nuclear reactor-grade graphite must be free of neutron absorbing materials, in particular, Boron.

Lanka Executive Chairman Mr Jitto Arulampalam said, "We are extremely pleased with the results of these assays which show that the product we have at our Sri Lanka graphite project is of the highest purity vein graphite and which, once in production, will command premium prices while coming in at the lowest costs in the market."

"These results indicate Lanka will be able to supply a premium product to the high end users in the market that would normally be forced to buy expensive synthetically produced graphite. This is a major turning point in the development of Australian based Lanka Graphite in its ambitions to be a significant high grade vein graphite supplier."

Justyn Stedwell
Company Secretary

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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.

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 CO₂ 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 Graphite Exploration Licences in South Western Sri Lanka

