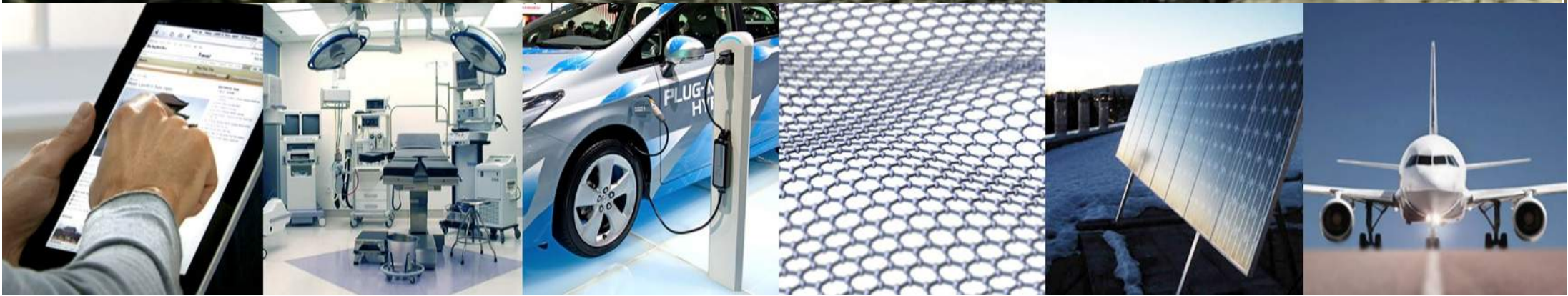




# LANKA GRAPHITE LIMITED

THE NEW BLACK GOLD

Corporate Presentation  
June 2016



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# Lanka Graphite Corporate Vision



Australian-based Graphite Exploration Company focused on exploring high purity Vein Graphite in Sri Lanka. To date Lanka Graphite holds more than 240km<sup>2</sup> of granted and pending exploration licenses.

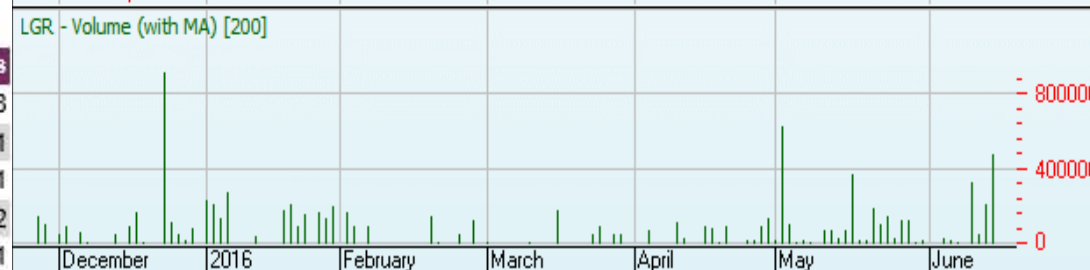
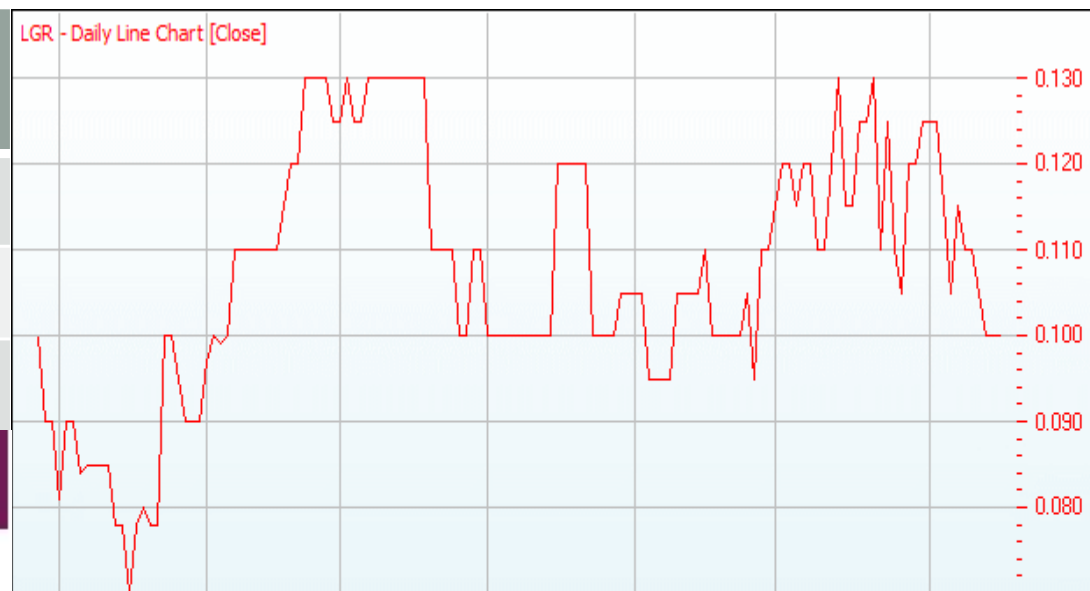
## OUR VISION AND GOALS

- DEFINE AND DEVELOP A LONG-LIFE, VERY HIGH GRADE VEIN GRAPHITE DEPOSIT
- BUILD AND OPERATE A HIGH MARGIN GRAPHITE MINE
- SUPPLY PREMIUM SPECIFICATION GRAPHITE PRODUCTS FOR HIGH VALUE END USERS
- WORK WITH GLOBAL GRAPHENE RESEARCH CENTRES TO RESEARCH AND DEVELOP ECONOMIC GRAPHENE PRODUCTION IP
- BECOME KEY GLOBAL SUPPLIER TO HIGH TECH INDUSTRY LEADERS

# Corporate Overview



Share Price [20 June 2016]	A\$ cents	10.0
Shares On Issue (LGR)	m	71.2
Options	m	16.25
Market Capitalisation	A\$m	7.12



LANKA GRAPHITE LIMITED

## Top Holders Snapshot - Ungrouped

Rank	Name	Units	% of Units
1.	HSBC CUSTODY NOMINEES (AUSTRALIA) LIMITED	11,660,508	16.38
2.	CITY WINNER HOLDINGS LTD	3,000,000	4.21
3.	SHI CHUNG CHANG	1,500,000	2.11
4.	MS PEI-FEN LEE	1,013,600	1.42
5.	BICCACINI PTY LTD <THE NEWPORT A/C>	1,002,500	1.41

# Board & Management



**Jitto Arulampalam**  
**Executive Chairman**

Experienced Chairman, currently Chair of TBG Diagnostics (ASX: TDL) and formerly Chairman of Fortis Mining ( ASX:FMJ ), Great Western Exploration (ASX:GTE) and Medic Vision ( ASX:MVH )

**Emily Lee**  
**Managing Director**

Managing Director of Mercer Capital, Director TBG Diagnostics (ASX: TDL). Member of Australian Company Directors

**Alison Coutts**  
**Non-Executive Director**

Chairman of NuSep Ltd (ASX:NSP). International Engineering Project Manager – Bechtel, Boston Cons, Egon Zehnder, former Chair CSIRO Health Sector Advisory Council, Bachelor Chem Eng, MBA

**Alex Cowie**  
**Non-Executive Director**

Director Research Canaccord Genuity Aust, former Editor of Diggers and Drillers. Master of Applied Fin, Mining Valuation, Strategy and Marketing

**Supun Wimalanath**  
**GM Technical Services**

Former Senior Technical Officer (Geology) Sri Lankan Geological Survey and Mines Bureau (GSMB)

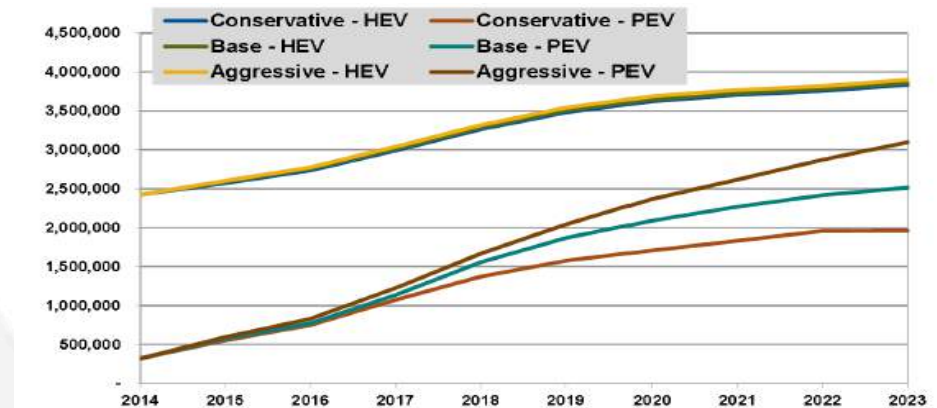
# Graphite Sector Overview

## Growing demand for Graphite

- Li-ion batteries (electric vehicle market)
- Fuel Cells
- Pebble bed nuclear reactors
- Lubricants
- Refractories
- Replacement of Petroleum Coke in Steel Industry
- Graphene

## Current Production

- Current world production 1.2Mtpa
  - 45% flake
  - 54% amorphous
  - 1% lump/vein
- China produces 70-80% world graphite



**Estimated Electric Vehicle Sales**

Source: Navigant Resource

Year	2015	2016	2017	2018	2019	2020
Electric vehicles (millions)	0.5	1	1.5	2.5	4	6
Tonnes of graphite (thousands)	133	265	397	662	1060	1589
Tonnage annual increase (thousands)		132	132	265	397	530

**Estimate Graphite Demand from Electric Vehicle Market**

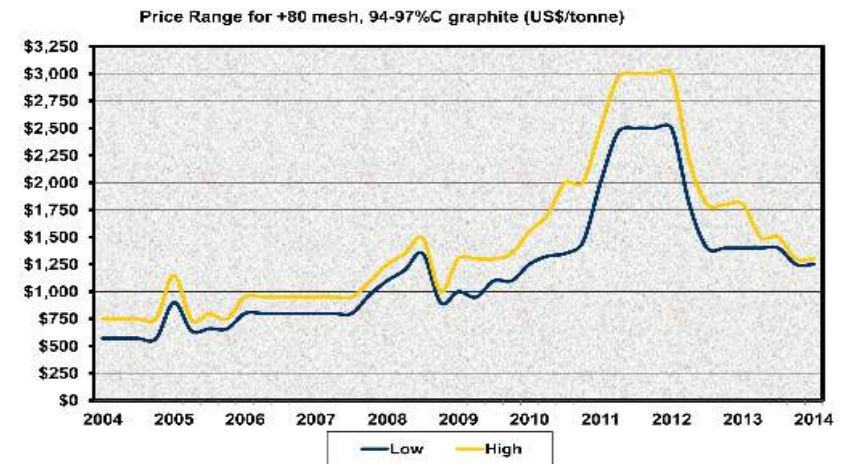
Source: Investor Intel

# Graphite Price

2012 Industrial Minerals Graphite Prices per Tonne				
FCL CIF main European port				
Purity % and mesh size	Price range US\$/tonne		Mesh Size equivalent microns	
99% to 99.9% C, +50 mesh	\$4,500	\$6,000	+300	Coarse
94% to 97% C, +80 mesh CIF	\$2,500	\$3,000	+180	
90% C, +80 mesh	\$2,000	\$2,500	+180	
94% to 97% C, +100-80 mesh	\$2,200	\$2,500	+150-180	Medium
90% C, +100-80 mesh	\$1,500	\$2,000	+150-180	
85% to 87% C, +100-80 mesh	\$1,500	\$1,900	+150-180	
94% to 97% C, -100 mesh	\$2,000	\$2,400	-150	Fine
90% C, -100 mesh	\$1,400	\$1,800	-150	
Amorphous powder 80% to 85C	\$600	\$800	-75	
Synthetic 99.95% C2	\$7,000	\$20,000		

source www.lndmin.com

Price range for +80 mesh, 94-97%C graphite (US\$/t)



# Sri Lankan Vein Graphite



The existence of Graphite was first recorded in Sri Lanka in 1675. Mining activities of Graphite in Sri Lanka has a long history dating back into 1800's with peak production in the first two decades of twentieth century. During WW1, 35% of world's graphite consumption in 1916 was exported from Sri Lanka.

## Potential of Graphite Mining in Sri Lanka

- High Grade Vein Graphite with Purity of 97.0 - 99.9% TGC and size (lump to fines)
- Low mining and Operating costs
- Minimal further processing required
- Diverse applications for end users
- High level of demand
- Low Export Duty – 5%
- Relatively under exploited industry
  - *Large areas of deeper reserves in Sri Lanka have not been explored*

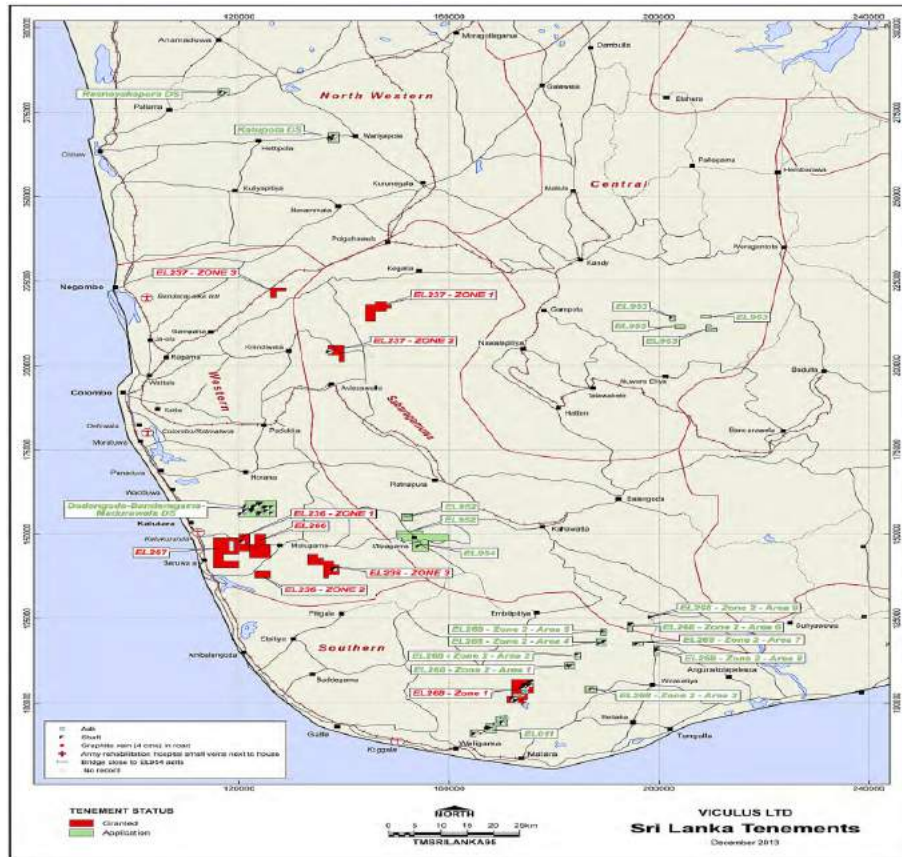


# Lanka Graphite Project Overview



- Historically mined **high grade/lump vein graphite project with purity over 99%C**
- Exploration Licences EL 236/237/266/267/268/952/954 and applications cover over 240km<sup>2</sup> of highly prospective ground including historic high grade vein graphite mines
- Completed Phase 1 Exploration Program on granted Exploration Licenses
- Commenced Phase 2 Geophysical Survey to identify core drilling targets
- **Core drilling program expected to commence in Q4 2016**
- Strong local Community and Government support

# Lanka Graphite Project Location



Ideal location for supply to Asian markets

Lanka Graphite tenements are located in Central and South Western Sri Lanka ~ 100km by road to Colombo Port, close proximity to nearby townships, labour, energy and roads.

Historic mining on location produced high grade vein graphite

Graphite was mined in shallow mines with further mineralisation at depth

Low Cost operation can commence near term

# Lanka Graphite Project Infrastructure

- **Roads:** Exploration licenses are accessed by a combination of primary, secondary, and tertiary roads
- **Port:** within 100km of 3 ports including Colombo Port (Only deep sea port in South Asia)
- **Water and Power:** Readily available at the project site
- **Geographic:** Accessible terrain, simple clear and free digging



# Lanka Graphite Project - Metallurgical Results



- **Assay of vein graphite sample**, after floatation testing by ALS Metallurgy returned grade of **99.9% TC**
- **Excellent recovery rates circa 96%** from Lanka Graphite samples indicates very high purity vein graphite
- **Assay laboratory confirms that graphite samples can be sold as premium battery-grade graphite (\$5,000 - \$20,000 per ton)**
- ALS Minerals Division confirms graphite samples can be processed further through low-temperature thermal purification process for **Nuclear-Grade Graphite (>\$10,000 per ton)**

# VLF Survey and Geo-Mapping

- **Very Low Frequency (VLF) and Electromagnetic (EM) surveys conducted Nov 2015 verified conductive zones beneath old workings\***
- **VLF anomalies extend away from known historic vein graphite occurrences**
- **Geological Mapping identified >50 existing pits, shafts, adits across Els 266, 267, 268 as well as positive lithological and structural trends \***
- **Existing historic and new identified targets from VLF and Geo-mapping surveys for follow up program in 2016**

\* See Appendices

# Sri Lankan Government MOU



- **Signed MOU with Sri Lankan Government in Dec 2015 to undertake feasibility study to develop graphite and graphene industry in Sri Lanka**
- MOU provides opportunity for LGR to fast track its business plan from an exploration company to producer
- Completed feasibility study in June 2016
- **Commenced discussion with Sri Lankan Government towards a commercial agreement to develop graphite and graphene industry in Sri Lanka**

# Graphene Research Program



## GRAPHENE RESEARCH

- Collaboration with National Taiwan University (NTUST) successfully developed low cost breakthrough in Graphene production
- Liquid Phase Exfoliation (LPE) technique produced high yield and high quality Graphene with consistent reproducible results
- National Taiwan University (NTUST) Professor Wei-Hung Chiang, “High purity vein graphite samples were the key element in producing high quality Graphene”
- Two IP patents lodged on new graphene production method by NTUST with ownership rights held by Lanka Graphite

# Summary

- ✓ Commenced Phase 2 of EM survey over Exploration Licences to define drill program
- ✓ Employed experienced former Sri Lankan government mines technical manager
- ✓ Low mining and operating cost, good local and state infrastructure
- ✓ High quality value added product will be exported to end user markets in near term
- ✓ Collaboration on Research & Development for producing commercial scale Graphene
- ✓ Nuclear Grade Graphite and Premium Battery Grade potential with minimal processing
- ✓ Strategic location of project with supportive government
- ✓ Growing industry demand
- ✓ Fast tracking from explorer to producer in the next 6 months



# Contact Details



## **Jitto Arulampalam**

Executive Chairman

Lanka Graphite Limited

Level 18, 101 Collins St, Melbourne VIC 3000

Tel: +61 421 617 766

[jitto@lankagraphite.com.au](mailto:jitto@lankagraphite.com.au)

## **Ms. Emily Lee**

Managing Director

Lanka Graphite Limited

Level 18, 101 Collins St, Melbourne VIC 3000

Tel: +61 411 801 619

[emily@mercercapital.com.au](mailto:emily@mercercapital.com.au)

# Appendices



# Scientific Advisory Board



## **Dr Stanley Chang** **Chairman**

Current Chairman of Medigen Biotechnology Corporation, MD degree from National Taiwan University College of Medicine, Ph.D. degree in Laser Physics and Laser Biology from the University College London of London University, UK

## **Professor Wei-Hung Chiang**

Assistant Professor of the Department of Chemical Engineering at the National Taiwan University of Science and Technology. He graduated from National Taiwan University, and later pursued a Ph.D. in Chemical Engineering, Case Western Reserve University, USA, 2009.

## **Professor P.G.R. Dharmaratne**

Professor at the Department of Earth Resources at the University of Moratuwa and recognised by the industry as **“the vein graphite expert”** in Sri Lanka. He holds a BASc in Mining and Minerals Processing, MSc and PhD in Rock Mechanics and Excavation Engineering.

## **Dr. Bor Jang**

MS and PhD degree in Materials Science from MIT. Dr. Jang co-founded Angstrom Materials, Inc. the world’s first industry-scale producing 100 tons/ year of single-layer graphene oxide (GO). He is a pioneer in the field of graphene technology, including graphene for battery and supercapacitor applications. In April 2016 Dr Jang established a new Graphene production plant in Xiamen with a capacity of 5000 tons/year of single layer Graphene by 2020. Dr. Jang is also a co-founder of Nanotek Instruments, Inc., and Honeycomb Battery Co.

# Criteria For Success



## EXPERIENCED TEAM

Experienced management team with strong connections in Sri Lanka and end user markets in Asia and vein graphite exploration skills

## HISTORIC HIGH GRADE PROJECT

Historically mined high grade graphite project with a supportive local community and government

## NUCLEAR GRADE GRAPHITE

ALS Metallurgy laboratory test in 2016 confirming potential **Nuclear-Grade Graphite**

## TECHNOLOGY AND RESEARCH

Ownership of technology process IP via the Graphene Research Collaboration with NTUS

# Global Graphite Production

- Since the year 2000 to 2012, consumption of Graphite has doubled from 600,000 tons to 1.2 M tons
- USA imports 100% of its graphite with no domestic production
- China is the largest supplier accounting for 70% of the world's graphite production (mostly lower grade amorphous graphite)
- Speculation that China might limit exporting Graphite in future like rare Earth (Chinese government imposing 20% export duty tax + 17% VAT)
- Due to environmental issues the Chinese authorities are closing dozens of graphite mines

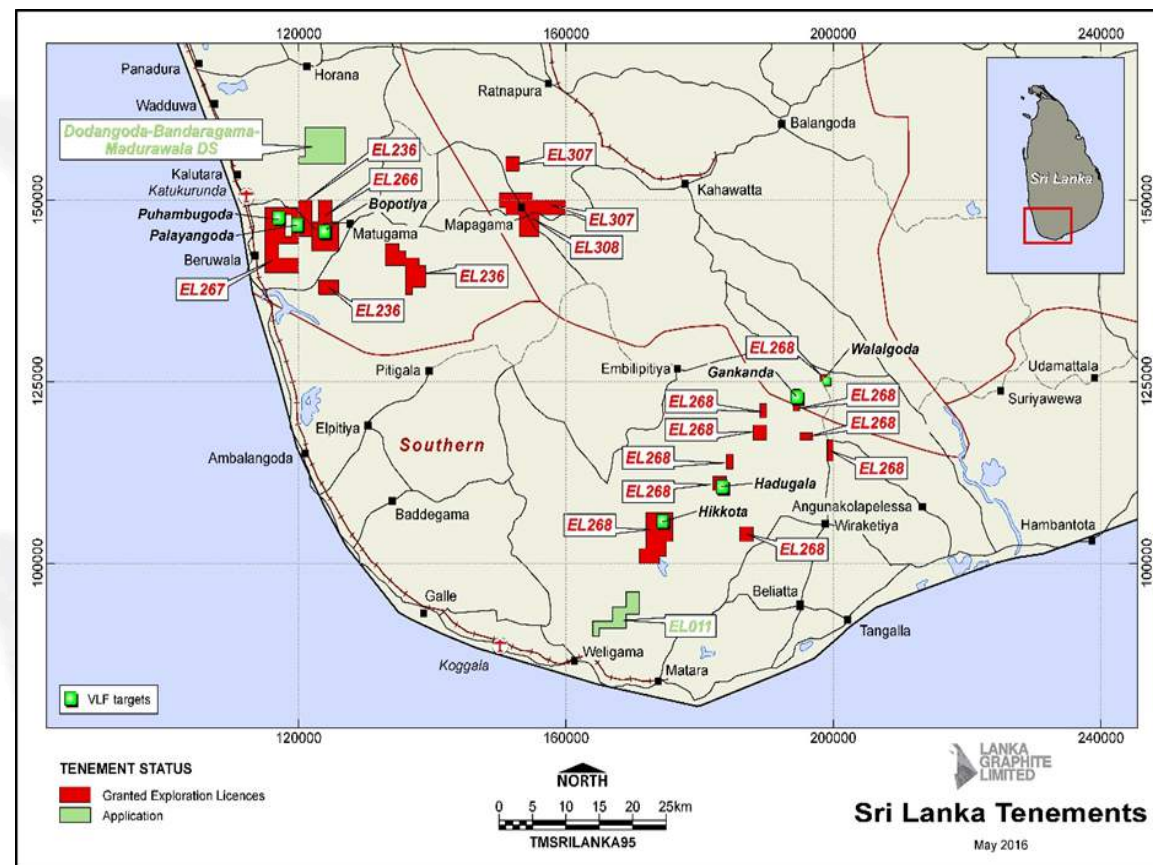
WORLD GRAPHITE PRODUCTION (USGS DATA)		
Country	Mine Production Tons 2012	Mine Production Tons 2013
United States	-----	-----
Brazil	110,000	105,000
Canada	25,000	25,000
China	800,000	810,000
India	160,000	160,000
North Korea	30,000	30,000
Madagascar	4,000	10,000
Mexico	8,000	8,000
Norway	2,000	2,000
Russia	14,000	14,000
Sri Lanka	4,000	5,000
Turkey	5,000	5,000
Ukraine	6,000	6,000
Zimbabwe	6,000	6,000
Other	2,000	2,000
World Total (rounded)	1,170,000	1,190,000

Source: USGS – U.S Geological Survey

# Lanka Graphite VLF Survey

## Lanka's tenements in South Western Sri Lanka.

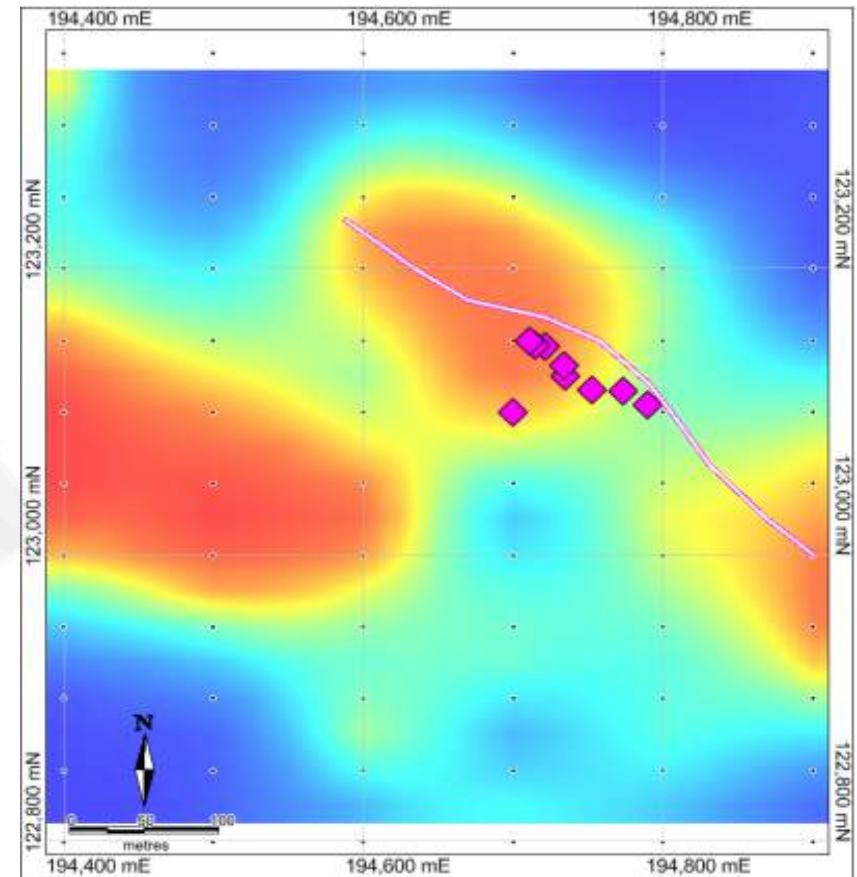
- VLF survey grids reported in November 2016 are shown in Green
- FLEM (Fixed Look Electromagnetic) survey planned to define the presence of old graphite workings and to interpret geological controls



# Lanka Graphite VLF Survey

## EL 268 Hadugala Graphite Prospect

- The interpreted conductor location traces (pink and white lines) and known historical graphite mine workings (pink diamonds) overlain on a Fraser filtered VLF
- Length of interpreted conductors are longer than extent of mine workings, indicating mineralisation may extend well beyond the areas of historical mining
- Several conductors detected in the VLF have no historical mine workings indicating untested graphite mineralisation under cover



# Geological Mapping

## Geological mapping

Reconnaissance geological mapping has been completed over portions of EL307 and 308, which are located near Mapagama in the Ratnapura District

Twenty two historical graphite pits, shafts and adits were identified and mapped. Distribution of the graphite occurrences together with geological information will assist in prioritising targets for follow-up.

Abandoned adits and shafts in the Kiramatihena graphite mine area at Paragala in EL 30 (pictured right)





# Geological Mapping

## Geological map of abandoned Kirimatihena graphite mine in grid 7 of EL 3007

- Reconnaissance geological mapping was carried out on grids 3, 4, 6 and 7 of Zone 2 of EL307 in the Paragala area, north of Mapagama.
- Seven old workings were identified.
- Target area graphite-bearing veins were mapped and noted to trend northeast, which is a similar direction to that inferred by the alignment of old shafts and pits.

