Lamboo Resources is an Australian exploration company focusing on substantial flake graphite assets located in the East Kimberley and South Korea



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# High Grade Graphitic Carbon (Cg) Assays from the South Korean - Taehwa Graphite Project

# **Highlights**

- Highly significant surface rock chip sample assays up to 27.10% Cg have enhanced the prospectivity of the Taehwa Flake Graphite Project.
- High-grade medium-jumbo size flake graphite confirmed by petrographic studies.
- Taehwa Flake Graphite Project is located close to global markets for flake graphite.
- Proposed drilling program designed to extend the existing resources at Taehwa.

Lamboo Resources Limited is pleased to announce the following highly significant surface rock chip sample assays, recorded from the graphitic gneiss unit at the Taehwa graphite project, with graphitic carbon assays of 27.10% Cg, 20.10% Cg, 7.32% Cg, 5.47% Cg and 3.60% Cg.

**Richard Trevillion** Lamboo Resources Managing Director, commented:

"Once again these are highly significant results reinforcing Lamboo's strategy to develop a flake graphite project in the world's fastest growing end market"



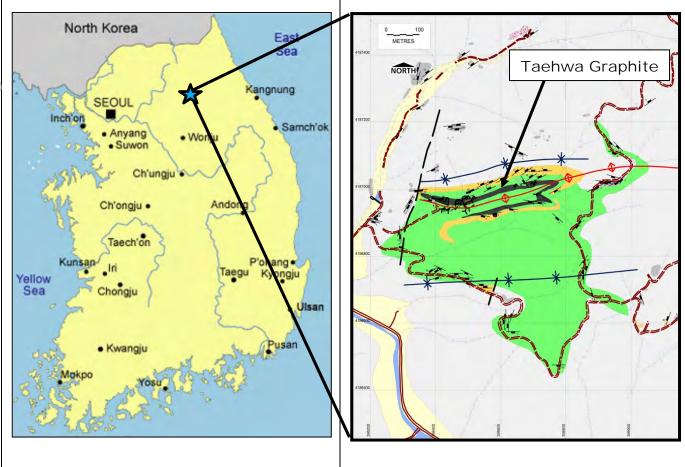


Figure 1. Taehwa Graphite - Location and Prospect Area.

# **Taewha Flake Graphite Project**

The Taehwa flake graphite deposit is situated 80 km east-northeast of Seoul in the northern part of South Korea, about 10km southeast of Chuncheon City, in Hongcheon County of Gangwon-Do Province (Figure 1). The deposit lies in rugged, mountainous terrain that is forested with conifers and oak trees.

Lamboo Resources Limited subsidiary Won Kwang Mines Inc holds one granted Mining Right over Taehwa (Registered No 79948; Hongcheon 91-2). Won Kwang Mines Inc has applied for a Mining Right over block Hongcheon 91-1.

#### **Exploration Program**

Detailed geological mapping at 1:1,000 scale, completed over the Taehwa flake graphite project in South Korea, has confirmed that the target graphitic gneiss horizon occurs within a shallow, east plunging anticline, with potential of finding the down dip extensions of the target graphitic unit (Figure 1).

Rock chip sampling was undertaken to check and confirm the tenor of previously identified graphite mineralization. A total of 16 rock samples were submitted to *Activation Laboratories Ltd* ("ACTLABS") in Canada, for assay. Eight (8) samples were also submitted for petrographic and SEM (scanning electron microscope) analysis.



#### **Graphite Market in South Korea**

South Korea was the largest global producer of graphite during the 1950-1992, when China dumped stockpiled graphite into the market over a sustained period to 2005, putting many producers in Europe and South Korea out of business. The graphite price has now recovered substantially (refer Figure 2).

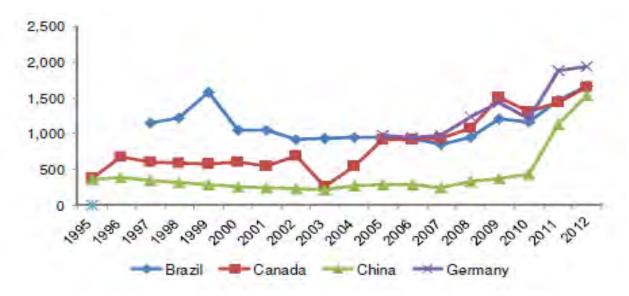


Figure 2. Average value (\$US/t) of natural flake graphite exports by major exporters 1995 to 2012 (Source: Global Trade Atlas)

South Korea is the third largest Asian economy, with major steel, automobile and heavy chemical industries. Well-developed downstream graphite processing industry exists in South Korea. Demand for graphite is expected to grow in North Asia at a higher rate than any other region over the next 5 years.

There is an opportunity to substitute flake graphite into some synthetic graphite markets because of its cost competitiveness. South Korea is the world's second largest importer of synthetic graphite, estimated to be 52,000t in 2011 and growing at a rate of 27%pa.

A new graphite mining and processing operation in South Korea will have several key advantages over most potential global competitors, including:

- \* Favourable geology, with world class graphite deposits situated in the North China craton.
- Close proximity to the largest markets for graphite in North Asia (China, Japan and South Korea). South Korean companies are at the leading edge of technological developments in electronics, batteries and automobiles, the principle sectors that are driving new demand for graphite. In addition, major Japanese players are investing in new synthetic graphite plants in South Korea.
- Minimal transportation freight costs.
- Low sovereign risk for investment.
- Highly efficient container ports, linked to an excellent modern road and rail transportation network.
- Low electrical power costs for industry (base load nuclear power).
- Highly educated and skilled workforce.
- Stable, democratically elected government.
- Workable Mining Act.



# <u>Geology</u>

Geologically, the Taehwa area consists of biotite gneiss and hornblende gneiss of the Precambrian Gyeonggi Gneiss Complex, granite gneiss of the Soebaegsan Gneiss Complex and quartzite, chlorite schist, crystalline limestone/marble, banded and augen gneiss of the Chuncheon Supergroup.

A graphitic gneiss bed is exposed in a creek as an east-west striking antiform structure (Figure 4), with the limbs dipping gently-moderately to the north and south.

The northern limb of the graphitic gneiss unit can be traced over an outcrop strike length of 250m and is 4.9m thick, with an average grade of 6.8% Cg (KMPC, 1984). The southern limb of the graphitic gneiss unit has a strike length of 300m and thickness of 5.8m, with an average grade of 6.9% Cg (KMPC, 1984).

A total of 11 trenches and 4 adits were excavated by KMPC (1979) to confirm continuity of the graphitic gneiss units. The northern limb of the graphitic gneiss unit was subsequently worked by a small open pit and adit.

Graphite flakes observed at Taehwa range in size from 200-1500µm, averaging 800µm in length (AMDEL, 2012), readily classifying Taehwa as a jumbo flake deposit.

The graphitic gneiss unit is interpreted to have originally been either a tectonized/recrystallised granitoid or a high grade metamorphosed carbonaceous metasediment.

Sericite alteration is observed in the biotite gneiss country rock, apparently forming an alteration halo above the graphitic gneiss unit.

#### **Historical Resource Estimate**

Independent Geologist *Veronica Webster Pty Ltd* (2012) has reported an inferred JORC resource of 170,000 tonnes @ 7% Cg at Taehwa. This resource estimate was based on outcrop, trench and adit rock chip sampling by the *Korean Mining Promotion Corporation* (1984).

#### **Historical Metallurgical Studies**

Metallurgical test work was undertaken by KMPC (1980) on 2 bulk samples collected from Taehwa. Test work involved comminution and flotation studies, using a variety of "collector" types and concentrations, regrinding, followed by further flotation to determine an optimum yield flotation concentrate.

The KMPC (1980) test work indicated flotation produced an excellent medium-jumbo flake graphite concentrate with a grade of >90% Cg, at a recovery of 89%.

#### **Historical Mining Operation**

A small mining operation was undertaken on the northern limb of the graphitic gneiss unit, with high grade graphite extracted from an open cut and the 180m long Main Adit. The remains of a small flotation plant are scattered on site. No further details are known.

#### **Exploration Results**

A total of 16 rock chip samples were collected during the 1:1,000 scale detailed geological mapping program at Taehwa. These samples were collected to confirm the previously identified graphitic gneiss unit, but also to evaluate the tenor of graphite mineralization in the overlying sericite alteration halo.

Highly significant assay results recorded in rock chip samples collected from the graphitic gneiss unit at Taehwa included 27.10% Cg, 20.10% Cg, 7.32%Cg, 5.47% Cg and 3.60% Cg (Figure 4). Similar high-grade graphite results were recorded in the historical sampling by KMPC (1984) as shown on Figure 4.

Sericite alteration is observed in the biotite gneiss country rock, mapped as an alteration halo above the graphitic gneiss unit. This alteration halo was sampled and found to contain anomalous graphite up to 0.5% Cg (yellow boxes in Figure 4). Anomalous graphite in the overlying sericite alteration is considered to be indicative of graphite mineralization at depth. The company intends testing this exploration concept with drilling.



# Graphite Mineralization

Two samples collected from Taehwa were analysed by the Geometallurgy Section of ACTLABS, using a Mineral Liberation Analyser ("MLA") and Scanning Electron Microscope ("SEM").

The MLA indicates Taehwa has a flake distribution of 125-500µm (D50), classifying the graphite as medium-jumbo size (Figure 3).

Approximately 40% of the jumbo graphite occurs as "free flakes". The remainder of the graphite flakes are incorporated within quartz and feldspar-bearing particles (Figure 5). This has important and encouraging ramifications for flotation processing methods, potentially enabling the jumbo size "free flakes" to be recovered (using a coarse initial grind) early before finer regrinding is used to liberate the medium size grains. Detailed metallurgical studies are required to confirm this.

The MLA indicates graphite (6%) is accompanied by ash minerals, comprising quartz (35%), K- feldspar (20%) and plagioclase (25%), with muscovite (4%), biotite (3%) and chlorite (4%).

## **Exploration Target**

The limbs of the graphite unit at Taehwa are open and inferred to extend further to the north and south. Although limited by topographic constraints, the graphitic gneiss unit at Taehwa could extend along strike to the east.

The Exploration Target at Taehwa, based on a strike length of 400m x average thickness of 5.2m x 420m width x specific gravity of 2.40g/cc), is 1-3Mt @ 5-10% Cg for a potential 105,000-210,000 contained tonnes of medium-jumbo flake graphite<sup>1</sup>.

The location of the Taehwa deposit is in a sparsely populated mountainous region and is in an ideal location for a mining development. The near surface, flat-lying nature of graphite mineralization is conducive to open pit mining methods.

## **Competent Persons Statement**

Information in this "ASX Announcement" relating to Exploration Results and geological data has been compiled by Consulting Geologist Mr Christopher Sennitt, who is a Fellow of the *Australian Institute of Geoscientists*. Mr Sennitt has sufficient experience that is relevant to the types of deposits being explored for and qualifies as a Competent Person as defined in the 2012 Edition of the "*Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves*" (JORC Code 2012 Edition). Mr Sennitt consents to the inclusion of this information in the form and context in which it appears in this report.

<sup>&</sup>lt;sup>1</sup> Cautionary Statement: This "Target for Further Exploration" estimate was prepared by Mr Christopher M. Sennitt MSc Economic Geology, BSc Applied Geology, FAIG, SEG and is based on geological mapping completed in 2012 by Senlac Geological Services Pty Ltd and historical mapping and sampling undertaken by the Korean Mining Promotion Corporation (1979 & 1984). The estimate is conceptual in nature, as there is insufficient exploration to define a resource. It is uncertain if further exploration will produce a resource.



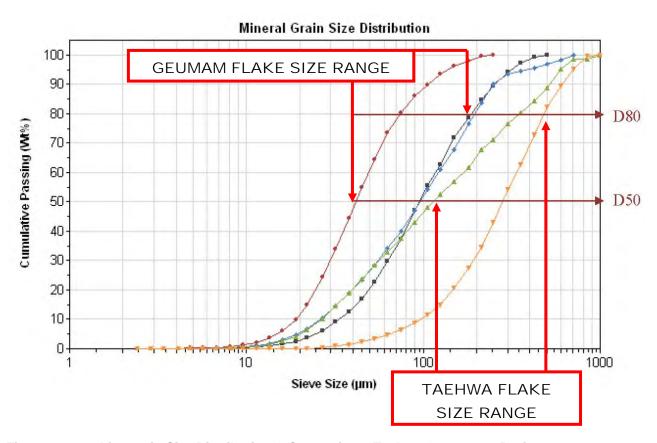


Figure 3. Graphite Grain Size Distribution & Comparison, Taehwa & Geumam Projects.



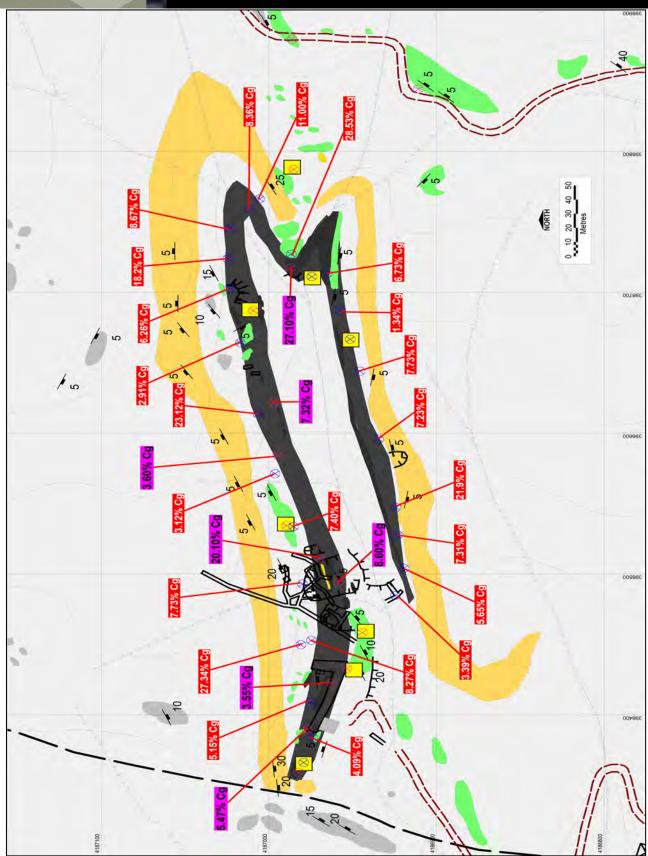
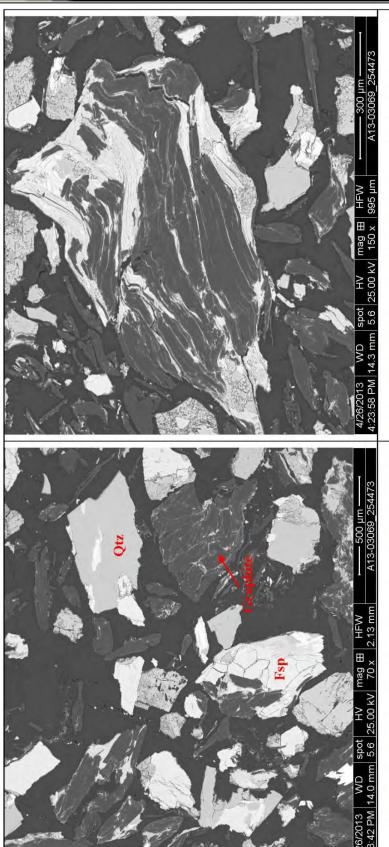


Figure 4. Geology and Rock Chip Assay Map, Taehwa Graphite Project. The latest assay results are highlighted in purple (>1% Cg) and yellow (0.1-1% Cg) boxes. Historical rock chip assays from the KMPC (1984) sampling are indicated in red boxes.





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Figure 5. Back Scatter Electron Microscope Images of graphite and ash minerals from the Taehwa Project. The scale bar indicates the size of the graphite flakes.

Sample 254473. BSE image showing a general view of the sample. Sample 254473. BSE image showing intergrowth of graphite and Most of the graphite in the sample occurs as large flakes. Other muscovite.

Most of the graphite in the sample occurs as large flakes. Other minerals present are quartz, K feldspar, plagioclase and muscovite.