

## **ASX ANNOUNCEMENT**

13 April 2016

# DATA REVIEW UPGRADES SOUTH KOREAN PROJECTS

- Detailed assessment by Hexagon's new management team has highlighted significant upside at its South Korean projects
- Flake size distribution in graphite concentrate from historical mining at Geumam indicates >30% to be in the large to extra-large 'jumbo' category and >30% in the medium category making it well suited for production of spherical graphite for use in lithium-ion batteries
- Outcropping regional scale fold hinge at Geumam has the potential to produce large to jumbo flake at high grades along with good recoveries
- Review of historical mine data from Geumam has highlighted that the open pit operation targeted the synformal structure and confirmed the high quality of the Geumam flake graphite product
- Significant potential to grow current JORC resources

Hexagon Resources Limited (ASX: HXG) is pleased to announce that a detailed review of the South Korean projects by the company's new management team has identified significant upside by targeting specific geological structures. The review, which focussed primarily on the Geumam project, being the most advanced of the South Korean projects was based on lessons learnt from the ongoing development of the company's flagship flake graphite project at McIntosh in Western Australia. A detailed review of historical mine data from Geumam was also completed.

"Using the knowledge gained from the development of the McIntosh Flake Graphite project, where we successfully targeted the regional scale fold hinges, and applying this knowledge to our South Korean projects has highlighted the potential for significant upside by targeting these areas of structural complexity" commented Tony Cormack, Hexagon's CEO / Head of Operations.



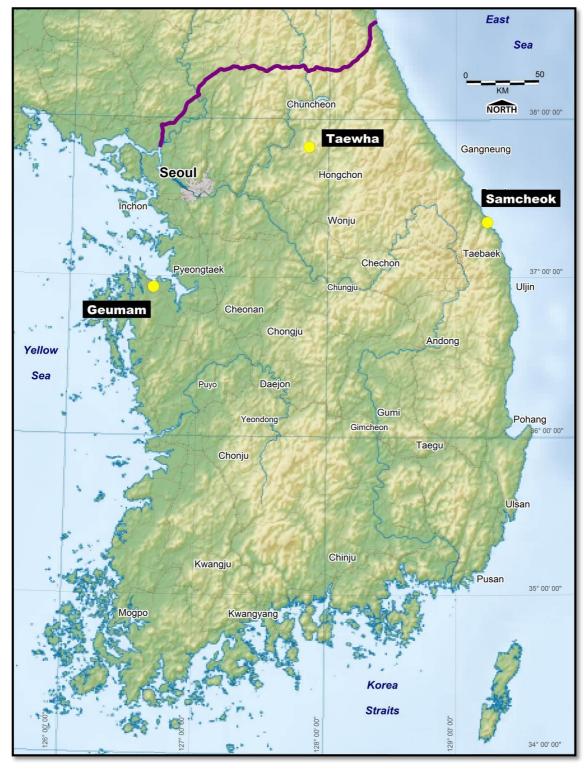


Figure 1: Hexagon Resources South Korean Flake Graphite project locations



### **GEUMAM FLAKE GRAPHITE PROJECT**

Geumam was a historical flake graphite mine operating between 1985 and 1992. A small mining operation and flotation processing plant was established at Area B in 1986, consisting of a run-of-mine stockpile, conveyor, feed hopper, ball mill, two flotation cells (rougher and cleaner cells) and a regrind ball mill. The plant was capable of producing 6tpd flake graphite concentrate (>85% Cg) which was sold to export markets in Japan and Europe (source: Korean Mining Promotion Corporation KMPC).

The Geumam Flake Graphite project is an advanced project located in a semi-rural setting surrounded by world class infrastructure. The project currently has a JORC 2012 compliant resource of 5.5Mt @ 5.4% Cg at Area B (See Table 1 and Figure 2) completed by independent consultant RungePincockMinarco (RPM). The mineral resource estimate is limited to only a portion of the Area B prospect with significant potential for resource upgrade based on the exploration potential identified across another six prospects.

Table 1: JORC 2012 Mineral Resource Estimate for Area B, Geumam

Geumam Area B Deposit Mineral Resource Estimate (1% C graphite Cut-off)							
Indicated Mineral Resource							
Туре	Tonnes (Mt)	C graphite %	C total %	S total %	Contained Graphite (t)		
Oxide	0.5	7.2	8.8	0.8	36,000		
Fresh	1.0	6.3	8.9	1.0	65,000		
Total	1.5	6.6	8.9	0.9	101,000		
Inferred Mineral Resource							
Туре	Tonnes (Mt)	C graphite %	C total %	S total %	Contained Graphite (t)		
Oxide	0.1	7.8	9.5	0.8	11,000		
Fresh	3.8	4.8	8.4	0.9	183,000		
Total	4.0	4.9	8.4	0.9	195,000		
Total Mineral Resource							
Туре	Tonnes (Mt)	C graphite %	C total %	S total %	Contained Graphite (t)		
Oxide	0.6	7.3	9.0	0.8	47,000		
Fresh	4.9	5.1	8.5	0.9	249,000		
Total	5.5	5.4	8.6	0.9	296,000		



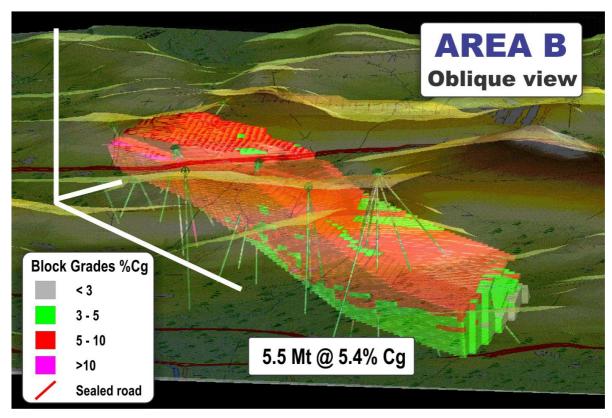


Figure 2: Geumam Area B resource block model coloured by Cg grade and showing diamond drill hole traces

Historical metallurgical reports from KMPC indicate from a ROM head grade of 7.5% Cg, a flotation concentrate grading 87.6% Cg was produced with only 2 cleaner flotation cycles, with a recovery of 79.2%. Recovered graphite flake distribution is tabulated below (See Table 2), indicating 30% of the flake is high value large and coarse 'Jumbo' flake product. Table 2 below shows flake size distribution of the historic concentrate which demonstrate that through simple flotation good recovery's of large to extra-large 'jumbo' flake graphite, suitable for spherical feed, can be obtained.

Table 2: Flake size distribution in concentrate from historical mining at Geumam

Classification	Microns (µm)	Mesh Size (#)	% in interval
Very fine	<75	-200	15.9
Fine	75-106	-150 to +200	16.8
Small	106-150	-100 to +150	15.6
Medium	150-180	-65 to +100	30.7
Large	180-300	-48 to +65	21.6
Extra Large 'Jumbo'	>300	+48	9.4



Comminution studies have concluded that the ore types ranged from soft to moderate hardness and would present no difficulties in milling. Separation test work has finalised the optimum grinding and flotation roughing conditions with optimum grind size is moderately coarse at 80% passing 212µm for the Area B deposit and slightly finer at 80% passing 180µm for Area C (similar to historic KMPC results, 1983).

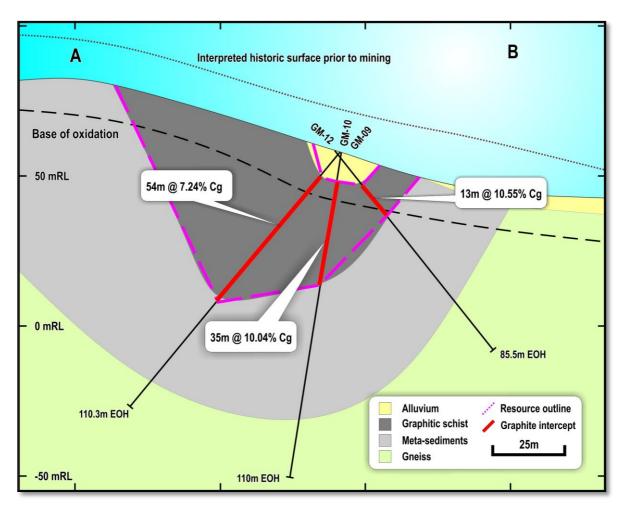


Figure 3: Cross-section A – B at the Guemam Flake Graphite project showing synformal structure of the deposit along with diamond drill holes and the historic surface

The geological structure of the Geumam project is a regional scale fold hinge (syncline), similar to the structure found at Hexagon's Wahoo deposit in Western Australia (See Figure 3 and 4). These fold hinge areas due to the high levels of stress on the lithology have an increased metamorphic grade, which test work has highlighted also correlates with an increased flake graphite grade as well as superior flake size.



Graphite occurs mainly as individual flakes concentrated in different layers with variable concentrations, or as small, loosely clustered acicular aggregates weakly parallel to the layering. Individual graphite flakes display curved or crumpled shapes and the size distribution of graphite flakes was calculated at 99.75µm by the *Equivalent Circle* method and 191.60µm using the *Maximum Diameter* method.

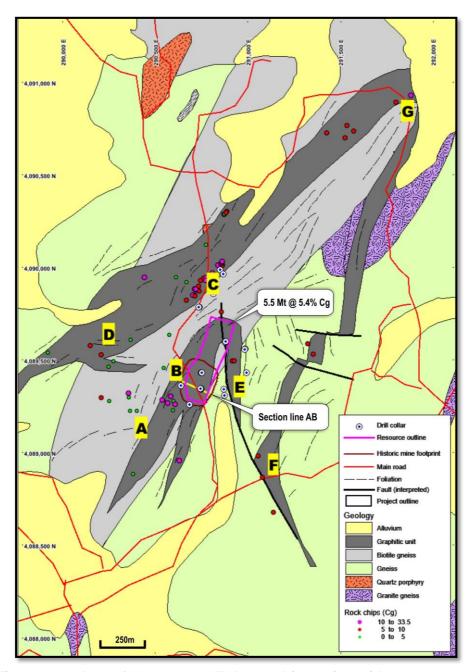


Figure 4: Geology of the Geumam Flake Graphite project with resource outline projected to the surface



Geological mapping, sampling and a review of all the historical exploration data reported by the KMPC has identified zones of graphite of significant size and grade at prospect Areas A, B, C, D, E, F and G. These zones outcrop from surface and the moderately-dipping graphite mineralisation is considered amenable to open pit mining methods.

### TAEWHA FLAKE GRAPHITE PROJECT

According to the KMPC (1984), mining operations commenced about 1979 at the Taehwa graphite mine with trial flotation mill operations were undertaken in about 1982. The plant consisted of a jaw crusher, ball mill, spiral classifier, flotation cells, and a regrind rod mill. High-grade flake graphite was extracted from adits and an open pit.

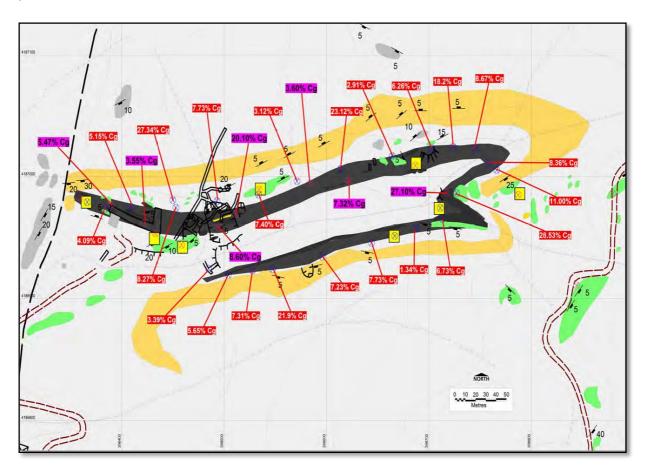


Figure 5: Hexagon assay results are highlighted in purple (>1% Cg) and yellow (0.1-1% Cg) boxes. Historical rock chip assays from the KMPC (1984) sampling are indicated in red boxes



The Taewha project contains high-grade, medium to jumbo size flake graphite as confirmed by petrographic studies with >30% of graphite considered to be large to extra-large 'jumbo' flake.

Flake graphite occurs with other wispy fibrous minerals (sericite, sillimanite and biotite). Surface rock chip sample assays up to 27.10% Cg (See Figure 5) have been recorded with individual graphite flakes displaying curved, wavy or crumpled shapes, ranging from 50μm up to 1500μm in length, averaging about 250μm and confirmed by MLA as 224.77μm (*Equivalent Circle*) or 416.67μm (*Maximum Diameter*).

The Taewha project contains an Inferred resource of 170,000 t @ 7% Cg estimated by an independent geologist (2012) (ASX: 16 May 2013). The limbs of the graphite unit are open and inferred to extend further to the north and south. Although limited by topographic constraints, the graphitic gneiss unit could also extend along strike to the east.

Historic metallurgical test work was undertaken by KMPC (1980) on two bulk samples and produced an excellent medium to extra-large 'jumbo' flake graphite concentrate with a grade of >90% Cg, at a high recovery of 89%.

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 with >30% of graphite considered to be large to extra-large 'jumbo' flake.

## SAMCHEOK FLAKE GRAPHITE PROJECT

The Samcheok Flake Graphite project is situated on the eastern seaboard of South Korea in Donghae County of Gangwon-Do. The project has a JORC compliant inferred resource of 200,000 tonnes at 5% Cg which was completed by an independent consultant. There is a historical open cut mine at Samcheok with associated mine buildings in various conditions along with old mining stockpiles and waste dumps.

The graphitic unit is hosted within biotite schist of the Yongnam Gneiss Complex, near the schist's basal contact with gneiss. Foliation in the schist strikes north-northwest, dipping steeply to the east. Graphitic schist approximately 60-80m thick and can is clearly evident in limonite-hematite stained outcrops in road cuts and open pit exposures over a strike length of at least 700m



Flake graphite grades of 4-5% Cg were recorded in sampling of the graphitic unit by the KMPC (1977). The strike potential of Samcheok project is considered to be significant, the graphitic unit can possibly be traced for approximately 4,000m (See Figure 6).

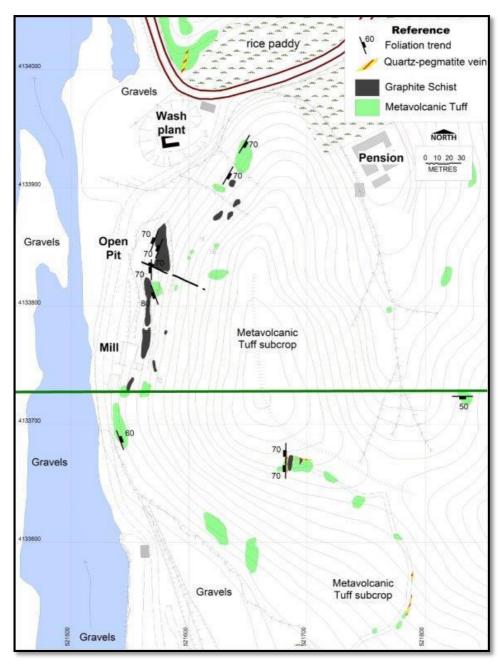


Figure 6: Geology of Samcheok Flake Graphite project showing prospect locations and mapping of the flake graphite schist



#### **SOUTH KOREA**

- Premier region for mineral exploration with potential for world-class high grade deposits
- Extensive history of mining and processing historical mining data accessible
- Numerous high grade mines not yet subjected to modern exploration methods
- Foreign investment welcome
  - Established statutory approvals systems reflective of world industry standards
  - Established financial and legal system
  - Security of exploration and mining titles guaranteed by law
  - No government mining royalties
  - Corporate tax rate of 22%
- Excellent high quality road, rail and power infrastructure

"South Korea represents a fantastic opportunity for our exploration efforts. The people and government in South Korea are open to mining, exploration and development, and extremely open to foreign companies doing business within their country. We have been in constant contact with the South Korean government since we arrived and have engaged locals in the approval process to allow us to understand the policies and procedures to enable this opportunity.

South Korea is a country that has a vast mining history, but it has been subject to very little modern day mining or exploration techniques. A series of wars, depressions and finally an industrial revolution has seen the country explode with education and manufacturing opportunities, but this has meant that mining has been overlooked as a core industry for many decades.

As a result, we believe there is huge potential for upside. In that respect, South Korea is very similar to the Yilgarn area of Western Australia during the 1960's. Lots of small workings, but no real consolidation and modern exploration data. There is an amazing resource potential that we can access. South Korea has a significant point of difference to other countries. It is a developed country with the 11th biggest economy in the world. They have processes and legislation in place that works well and allows companies to quickly commence operations.

The South Korean government has developed a Minerals First Program which offers incentives to develop the industry in South Korea. An added benefit to the prospect of operating in South Korea is that there is currently no mining royalties." commented Tony Cormack, Hexagon's CEO / Head of Operations.



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The information in this report relating to Resource Estimates, Exploration Target Estimates, Exploration Drilling, Assay Results and Geological Data at the Geumam, Taewha and Samcheok Projects is based on information previously compiled and / or reviewed by Mr. Tony Cormack, who is a Member of the Australasian Institute of Mining and Metallurgy and a full-time employee of Hexagon Resources Limited. Mr. Cormack has sufficient experience which is relevant to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Cormack consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.