ASX ANNOUNCEMENT 16 August 2017

POSITIVE PRELIMINARY BATTERY TEST WORK RESULTS FROM MCINTOSH FLAKE GRAPHITE CONCENTRATE

Hexagon Resources Limited (**Hexagon or the Company**) is pleased to report positive results from preliminary test work aimed at assessing the quality and amenability of the Company's flake graphite concentrate for use in lithium ion batteries. The concentrate material was sourced from Hexagon's 100% owned McIntosh Flake Graphite Project located in northern Western Australia.

The Company is delighted that these results, supported by previous assay data confirming low impurities, demonstrates that the McIntosh flake concentrate appears well suited for lithium-ion batteries. This information will be critical for future discussions with partners, customers and potential off-take parties. It will also provide a focus for optimisation and verification test work which can now be undertaken to enhance the material properties further.

1. Battery Anode Preliminary Test Work Results

A summary of first pass McIntosh spheroidised material results compared to a "typical" battery feed specification (including JC/T 2315-2016 from China) is presented in Table 1. The McIntosh graphite flake concentrate test results fulfil all early parameters for the battery industry. These results have been achieved without optimisation or having undergone any further purification or modification processes (compared to the reference specifications).

Table 1: Battery Anode Utility – McIntosh Preliminary Test Results

Parameter Tested	Units	McIntosh Sample	Reference Material
Yield	%	58	c.50%
Particle Size (D50)	Microns (µm)	15.3	15.1
Particle Size Distribution (D90/D10)	Ratio	2.2	2.4
Tap Density	g/cm^3	0.92	1.07
Surface Area	m^2/g	8.9[1]	2 - 5
Reversible Capacity[2]	mAh/g	370	>360

1. *Ideal values post purification. HXG material analysis indicates good potential for significant decrease in surface area – to around 5 m^2/g with further treatment (refer section 2.3).*
2. *Coin cell data, electrode 91.9% graphite (not spherical but raw flake concentrate), 2% conducting carbon and 6.1% binder.*

2. Battery Anode Test Work

2.1 Introduction

Graphitic carbon is used in lithium-ion batteries as anode material. Its layered structure facilitates the movement of lithium ions in and out of the lattice space as the battery is charged and discharged. The tests carried out to date by Hexagon were to establish the basic electrochemical property of charge capacity, which indicates how much charge can be stored per gram of graphite, as well as broader production parameters such as purity, flake size and production yield.

China currently dominates the production of graphite material for batteries. The main steps towards producing "anode-ready" graphite materials from natural flake graphite are:

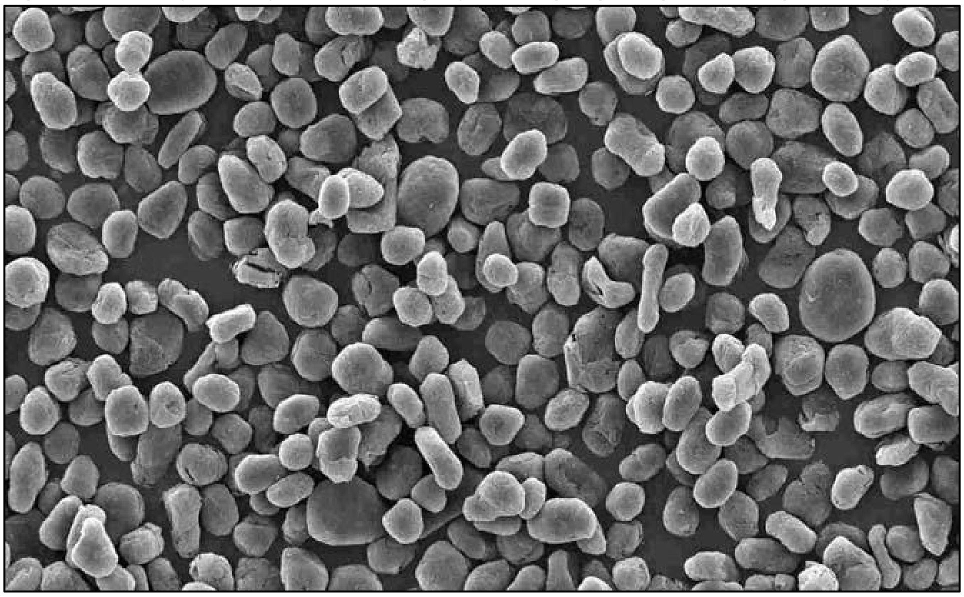
(i) Spheroidisation (sometimes referred to as "spheronisation") – involves size reduction of the graphite flakes and shaping into an elongate spheroidal shape, as shown in Figure 1. Target size ranges from 8 to 30 microns with the majority of the distribution in the 15-20 micron range.

(ii) Purification – by either very high temperatures and/or acids, generally a mixture of nitric, sulphuric and hydrofluoric, and/or strong caustic mixtures; all targeted to remove deleterious elements such as Si, Mg, Na, Ca, V and U to achieve a 99.95% or 99.99% graphitic carbon material.

(iii) Coating – involves applying ultrafine carbon material to the purified, spheroidised graphite to improve homogeneity and overall enhance anode properties. Battery manufacturers are increasingly developing their own coating specifications and preferred technologies, making this an increasingly specialised part of the process.

*Hexagon is aiming to produce spheroidised, purified graphite (**SPG**), a material that can achieve price uplifts of 3 to 5 times compared to natural flake graphite concentrate.*

Figure 1: Example of spheroidised graphite highlighting the elongate or "potato" shapes.



To assess Hexagon's flake graphite concentrate suitability for battery anode material a first pass series of tests were completed to examine:

- Spheroidisation Yield (%) – measures the proportion of concentrate feed that is collected as spherical graphite, with the balance generally being less than 5 micron sized material. Typical yields, without any pre-screening are 30% to 50% according to industrial-scale producers in China.

- Particle size (D50) – is the median size of the spheroidised graphite after grinding and shaping. Typical D50 values sought by customers are around 15 to 17 microns.
- Particle size distribution (D10 & D90 which refers to the 10th and 90th percentile particle sizes) – is a measure of spread of the particle size distribution and is often described as the ratio of D90/D10 with a preferred value of between 2 and 3.
- Tap Density (g/cm^3) – is a measure of the density of the spherical graphite powder as settled or tapped, but not compressed into a test measuring cylinder. It represents a measure of the anode capacity to hold lithium ions (or charge density) within a defined volume, with favourable outcomes being greater than 0.9 g/cm^3.
- Surface Area (m^2/g) – indicates the capacity for the sphericals to "yield back" or not "lose" the lithium ions that are being stored in the anode material. For example, a very rough surface or many large pores on the graphite surface would produce very high surface area readings, causing retained lithium ions and reducing the overall cycling efficiency of the anode material. *Also sometimes referred to as BET after the 3 authors of the test process-see below.*
- Reversible Capacity (mAh/g) – measures the efficiency of the movement of ions in and out of the graphite lattice structure i.e. while charging and then discharging under load. The theoretical maximum possible is 372 mAh/g and the target is to exceed 360 mAh/g.

2.2 Test work methods and results

The recent test work was undertaken by a China based powder materials testing and equipment supplier (for confidentiality reasons, referred to here as **"ChinaLab"**), which has been established for over 20 years and has expertise in fine particle and powder grinding and classification, including the spheroidisation of flake graphite for battery anode materials. In addition, the University of Queensland undertook the surface area determinations.

ChinaLab was asked to prepare spheroidised graphite from Hexagon's bulk flake concentrate material, to a particle size similar to that of a reference specification from a major battery manufacturer. Outputs from this testing were Yield, Tap Density, median particle size and particle size distribution.

(i) Yield

The work was done using a laboratory sized planar mill in which both graphite size reduction and shaping-into elongate spheres (sphericals) occurs simultaneously (refer Figure 1). This process differs from the production process which typically has two stages; size reduction followed by the shaping stage. Hence the yield results obtained from the laboratory process are only an approximation to results that may be achieved in production. Yields in production, following further test work and optimisation, can generally be expected to be higher than the preliminary results from the one-stage laboratory test work according to ChinaLab.

Hexagon has presented ChinaLab's Yield outcomes in Table 1 without any adjustments for "production scale", following a series of five test runs. In runs 4 and 5, yields of 58% were achieved based on 100% of the flake concentrate feed entering the mill, without any pre-screening.

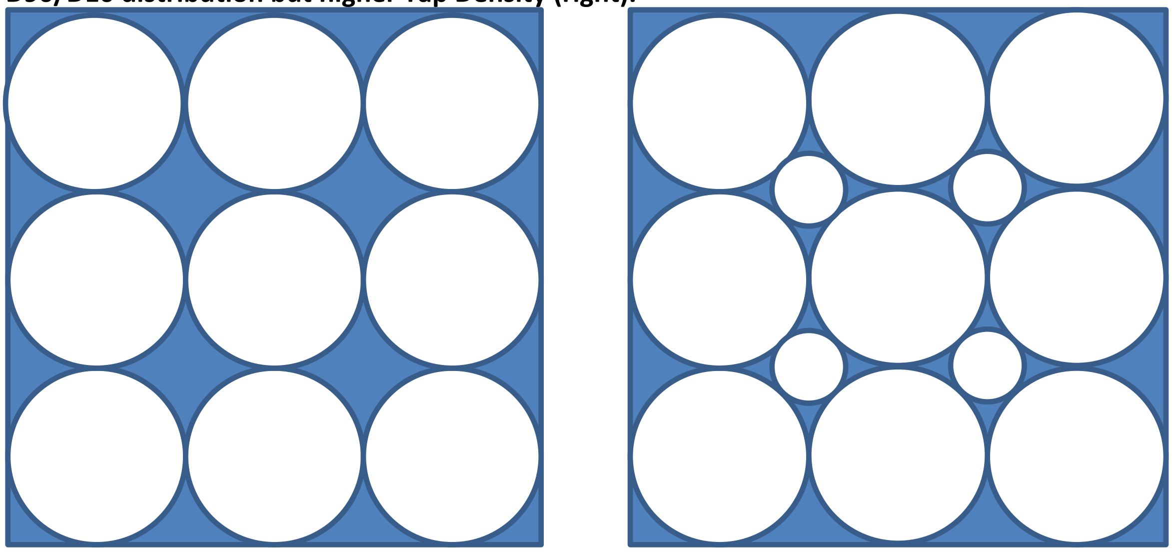
(ii) Particle Size and Distribution

The median (D50) particle size obtained was 15.3 µm compared to the target of 15.1 µm with the distribution, defined by D90/D10 ratio of 2.2, which is also close to the reference material target of 2.4. The size reduction and shaping is a "recirculating" grinding and classification process, so it is very pleasing to hit this reasonably fine target size while maintaining a high yield and after relatively few test runs.

(iii) *Tap Density*

The Tap Density was determined using internationally accredited equipment utilising a method combining vertical vibration and horizontal movement of a fixed mass of spheroidised graphite to achieve maximum settling or "tapped density". Tap Density is related to the particle size distribution as shown in Figure 2 and generally has an inverse relationship with Yield; so it is very encouraging to achieve Tap Density numbers that meet the specification criteria at high yields in these preliminary results.

Figure 2: Concentrated particle size distribution but low Tap Density (left) compared to a higher D90/D10 distribution but higher Tap Density (right).



(iv) *Surface Area*

Surface area determinations are a function of particle size, and surface structure. Nitrogen adsorption using the Brunauer–Emmett–Teller (BET) method to calculate the specific surface areas was completed at the University of Queensland.

The sample material was the spheroidised product from Test Run 5 and generated a result of 8.9 m^2/g, which is on the high-side – but an acceptable result at this stage of processing as discussed further below.

(v) *Reversible capacity*

Measurements of the Reversible Capacity, presented in Table 1, are from test work undertaken in late 2016 and reported in October, 2016. The tested material was bulk flake concentrate generated from 300kg of core samples in mid-2016. The test work was undertaken in the USA and verified that primary concentrate grading 97.6% TGC had a reversible capacity of ¬370 mAh/g. This result is reported here again so a complete preliminary data set of battery attributes is presented as determined from test work on McIntosh flake graphite material and not only the spheroidised concentrate material.

2.3 Discussion of Test Results

To convey meaningful results that provide broad insight into the potential utilisation of a flake concentrate for lithium-ion batteries, Hexagon consider that it is important to:

(i) Describe the sample material that was tested, for example, flake concentrate or spheroidised product, as well as any pre-test modifications such as screening or acid purification; and

(ii) Report all the key test outcomes together, because these attributes are highly-interrelated; Yield varies with Tap Density, Tap Density varies with the particle size distribution; and surface area is strongly related to particle size. For proper reporting and comparisons Yield, Tap Densities and Surface Areas should be compared with results for similarly sized particles.

Hexagon has reported here new test work results for "raw" flake graphite concentrate produced from the recently completed piloting work on the 2.5t ore sample that generated approximately 100kg of high-grade flake concentrate. The 2.5t sample comprised composited drill core samples from the Emperor deposit to reflect the global total graphitic carbon grade and representative mineralogy. The resultant concentrate sample had not undergone any screening or size classification, chemical or thermal purification treatment prior to this test work.

The Company and its technical consultants consider that further improvement in the test work outcomes is likely based on:

(i) Further optimisation test work. For example, based on its 20 years of experience, ChinaLab forecast a likely Tap Density of .94 g/cm^3 and a Yield of 55% to 60% at production scale; and

(ii) The positive effects of further processing required as part of the purification stage. In particular, analysis of the structure of the graphite indicates that further processing has excellent potential to decrease surface area. Tap Density may also improve through the purification due to annealing or smoothing effects.

In summary, these preliminary results are considered to be highly encouraging, because the sample material has "passed" on all the key preliminary assessment criteria with an excellent outlook to make further improvements to more closely conform to likely specifications required for lithium ion batteries.

3. Outlook: Follow-up Test Work and Development Strategy

The Company is pleased to have verified, in a methodical manner, the attributes of its flake graphite concentrate and its McIntosh Flake Graphite Project through the recent release of positive Pre-Feasibility Study (**PFS**) outcomes (31 May 2017) and now through the encouraging preliminary battery test work results. It has also recently identified and reported a series of new opportunities to enhance the current project PFS economics through major process circuit enhancements, possible utilisation of ore-sorting technologies and possible product diversification into the expandable graphite sector.

The Company is planning a development strategy that incorporates the following separate but converging study threads:

(i) To undertake further test work on potential improvements to its primary processing circuit (as described in the PFS), aimed at reducing operating costs and preserving the larger flake size endowment apparent in the McIntosh deposits. This is likely to produce a quite different type of "enhanced" flake concentrate or a series of flake concentrate products comprising one for SPG and another for Expandable Graphite. Previous test work has demonstrated that approximately 30% of McIntosh flake is greater than 150 µm which is ideally suited for the Expandable Graphite market; another segment experiencing strong growth in demand for high-tech applications (phones, TV etc.) and fire retardants;

(ii) Advancing the battery test work – initial results expected to improve as the flake concentrate specifications improve with the implementation of optimisation work described in point (i) above as well as ongoing spheroidisation optimisation work. Hexagon is planning to further enhance the positive spheroidisation test results by undertaking purification test work (but excluding coating technology as this is considered to be too specialised).

(iii) Continuing to advance McIntosh project site requirements including the definition of additional Ore Reserves, environmental planning, engineering and services (power and water) which could all vary subject to the outcomes of issues raised in points (i) and (ii) above.

This is a complex but very exciting strategic program to implement. Having laid the foundations of the Project with the PFS outcomes, the Company can now focus on genuine operational and value enhancement opportunities. To this end, Hexagon is:

- currently liaising with several technology providers in Australia and Europe to develop a test work program for the ore-sorting initiative;
- undertaking a renewed geo-metallurgical deposit profiling study looking at mineralogical and flake size attributes relevant to the ore-sorting and the possible process flow sheet enhancements – prior to undertaking additional batch and locked cycle flotation test work aimed at the battery market and potentially also the expandable graphite sector; and
- progressing opportunities to do further preliminary battery related test work to:
  - ✓ Verify the ChinaLab results and then move to the next phase of preliminary purification test work. This would complete test work requirements to demonstrate the production of a spherical purified graphite for sale to battery producers who could then apply their own coating technologies; and
  - ✓ Undertake more detailed and advanced testing for battery performance, including assembling commercial cells and testing various electrochemical performance parameters such as rate capability, volumetric capacity and cycling stability.

In addition to this technical development program, the Company continues to engage with potential off-take parties and financing groups seeking to underpin these production opportunities with the financial and commercial support to build value within Hexagon based on the McIntosh Flake Graphite Project.

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About Hexagon Resources Ltd

Hexagon is ideally placed to take advantage of these favourable economics developing its large scale McIntosh Project in a stable political environment to meet this rising demand.

Hexagon Resources Ltd (**ASX; HXG**) is an Australian listed mineral development company seeking to produce a high purity graphite for use in lithium ion batteries and other high-tech applications from its McIntosh Flake Graphite Project located in northern Western Australia.

A Prefeasibility Study was completed in May 2017 which confirmed the technical and financial viability of the McIntosh Project and provides a significant step to the commercialisation of the project. The McIntosh Project is located close to roads, infrastructure and a suitable port "facing" the expanding technology manufacturing markets in SE Asia. Located in the stable geopolitical environment of Australia and underpinned by large scale resource potential – this project offers customers long-term stable supply of essential raw materials in batteries and other high-tech applications.

About Graphite

Graphite is a key component in the anode of lithium-ion batteries; indeed, most batteries contain significantly more graphite than lithium (in the cathode). Traditional graphite demand has been driven largely by the steel industry and dominated by production from China. Current modest demand of 7% of graphite for batteries is expected to increase dramatically driven by unprecedented interest in energy storage for electric cars, scooters and renewable energy. Demand for Expandable Graphite for use in tech-applications, electromagnetic shielding and fire retardants is also experiencing a strong surge in demand.

Competent Person

The information within this report that relates to exploration results, Exploration Target Estimates, geological data and Mineral Resources at the McIntosh Project is based on information compiled by Mr Shane Tomlinson and Mr Mike Rosenstreich who are both employees of the Company. Mr Rosenstreich is a Fellow of The Australasian Institute of Mining and Metallurgy and Mr Tomlinson is a Member of the Australian Institute of Geoscientists. They both, individually have sufficient experience relevant to the styles of mineralisation and types of deposits under consideration and to the activities currently being undertaken to qualify as a Competent Person(s) as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves and they consent to the inclusion of this information in the form and context in which it appears in this report.