Testwork Enhances Graphite Electrode Performance

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TORONTO, Oct. 16, 2019 - Hexagon Resources Ltd. (ASX:HXG) (“Hexagon” or the “Company”) has completed key testwork directed at enhancing graphite electrodes used in electric-arc furnaces (“EAF”) worldwide. Graphite electrodes are an essential part of the EAF steel production process and comprise a significant portion of cost. The market for these graphite electrodes is growing and any technology advances that will extend their service life and lower consumption rates have significant market appeal.

Hexagon is pleased to report the results of its successful preliminary downstream technical development work on the addition of its treated natural graphite as an additive to synthetic graphite electrodes utilized in the high-growth EAF market, to manufacture steel. Testing of flake graphite from its McIntosh Project treated with a proprietary ingredient and branded as “*Performance+*”, has demonstrated a positive and direct correlation between the addition of Performance+ and increased electrical conductivity and durability in synthetic graphite electrodes.

EAF steel producers are the dominant consumers of graphite electrodes, accounting for 90% of all production *(GrafTech International Ltd., 2019)*. With continued strong demand, prices are 135% higher than they were in Q1 2017 *(Roskill, 2019)*.

Graphite electrodes are consumed every 8 to 10 hours in EAF steel production and are therefore an essential input, the purchase of which alone accounts for 3 to 5% of steel manufacturing costs *(GrafTech International Ltd., 2019)*. Testing indicated that Hexagon was able to successfully extend the service life of graphite electrodes by reducing electrode lateral consumption/erosion (oxidative degradation). This was achieved by pre-treating its purified graphite with the Company’s proprietary coating, then subsequently mixing the performance-enhancement additive with synthetic graphite to manufacture graphite electrodes.

Extending Electrode Service Life and Lower Energy Consumption.

With Hexagon’s specialized natural-graphite performance additive for EAF graphite electrodes, the Company was able to demonstrate reduced energy consumption whilst minimising electrode consumption in normal EAF operations.

Graphite electrodes have high thermal shock resistance *(structural integrity)* and are used to conduct electricity, while maintaining the ultra-high temperatures *(thermal conductivity)* of molten steel during EAF steelmaking. Hexagon’s technical development work demonstrated a consistent increase in electrical conductivity and lower coefficient of thermal expansion, thereby maximising electrical efficiency and reducing energy consumption.

Hexagon’s Managing Director, Mike Rosenstreich commented, *“the results for Performance+ highlight the potential for reduced downtime and lower power consumption leading to reduced costs and smaller carbon footprints in the smelting industry. These are essential challenges facing the steel industry and leading to a major transitioning to EAF furnaces in China for example. This strongly endorses our strategy of seeking high-value, deep-market opportunities for our natural graphite as set out in our recent downstream scoping study. Indeed, we are focused on executing that strategy utilising key elements of the scoping study and the vital technical know-how gained by studying the natural graphite flake from the McIntosh Project, doped with a specific ingredient, which together, offer cost efficiencies in steelmaking.”*

KEY POINTS

- Hexagon developed and tested its ultra-high-purity[1] natural-graphite concentrate[2] treated with a specific antioxidant additive to optimize performance and reduce the cost of extruded synthetic graphite electrodes. It has branded this material as “*Performance+*”.
- Scanning electron micrographs *(“SEM” in Figures 1 and 2)* illustrate the detailed microscopic internal structure of the enhanced electrodes being proposed by this testwork.
- The company manufactured a total of 38 extruded graphite electrodes; electrodes manufactured with Performance+ additive demonstrated consistent enhanced electrode performance — including true density, bulk density and electrical conductivity performance — versus the control group *(100% synthetic graphite electrodes)*, specifically;
  ° 12% increase in true density
  ° 4.5% increase in bulk density
  ° 25% increase in electrical conductivity
- These results highlight the potential of increasing electrical performance and increasing durability/service lifetime in graphite electrodes to reduce operating costs. Hexagon’s technical development work indicates a potential significant new market opportunity for its transformed graphite material, consistent with the outcomes of its Downstream Scoping Study released in May 2019.
- EAF technology is regarded as the most efficient and environmentally sustainable steel manufacturing process in the world and represents the largest market for graphite electrodes.
- All downstream technical work was performed by NAmLab[3], Hexagon’s US-based independent laboratory and commercial partner. Natural graphite used to manufacture Performance+ was sourced from the Company’s McIntosh Graphite Project in Western Australia.
- Hexagon is in discussions with multiple US-based graphite electrode consumers and manufacturers.

Figure 1:
https://www.globenewswire.com/NewsRoom/AttachmentNg/9f3a0de1-a458-475b-8ca8-58d1c92827ae

[1] Thermally purified to ≥ 99.95% *Carbon* total percentage by *weight* (*wt*% C).
[2] Graphite flake size fraction of -60/+100 mesh.
[3] NAmLab refers to Hexagon’s US-based, downstream technical and commercial partner whose identity cannot be disclosed due to confidentiality obligations.

1. COMMENTARY

Electric-arc furnaces (“EAFs”) are used to manufacture steel and are regarded as the most efficient and environmentally sustainable production technology currently available. Due to unique physical properties, graphite electrodes are a critical, non-substitutable industrial consumable in EAF-based steel production.

With an average selling price of approximately US$10,000 per tonne, worldwide graphite electrode production capacity was approximately 800,000 tonnes in 2018, forecast to reach 850,000 tonnes in 2019 (*GrafTech International Ltd., 2019)*. Roskill *(2019)* reports that electrode production consumed approximately 750,000 tonnes of synthetic graphite in 2018, consistent with Graftech’s production estimates and underpinning the deep nature of this market opportunity

Made from a petroleum coke precursor, synthetic graphite is engineered to exacting specifications with high purity and predictable electrical, thermal and mechanical properties, but is less conductive and significantly more expensive than natural graphite. Unlike synthetic graphite, natural flake graphite cannot be sintered *(meaning, formed into blocks)* and can therefore only be utilized as an additive for electrode applications.

However, given the significant size and strong, enduring demand profile of the graphite electrode industry and in keeping with Hexagon’s stated focus on producing downstream highly specialized industrial and energy graphite products, the Company sought to develop a natural-graphite additive to enhance the electrical performance of the synthetic graphite electrodes. In addition to increasing electrical performance, Hexagon sought to extend the service life of graphite electrodes by partially inhibiting electrode decomposition through building an oxidation-resistant layer. Oxidation is the primary limitation to the operational life of graphite electrodes.

2. ‘PERFORMANCE+’ — DEVELOPMENT OBJECTIVES

High-quality graphite electrodes have low electrical resistivity and strong durability. Hexagon believed it could improve both these performance characteristics by hybridising a natural-graphite additive in synthetic graphite electrodes.

Purified natural flake graphite exhibits a much higher crystalline structure than synthetic and is therefore more electrically and thermally conductive. The fewer the elemental impurities in the graphite, the better its electrical conductivity. With this understanding, Hexagon sought to achieve maximum electrical conductivity utilising ultra-high-purity natural flake graphite, as opposed to non-purified materials.

Graphite electrode consumption during smelting is a significant component of the cost of steel production in EAF operations. Increased electrical conductivity holds the potential to reduce consumption losses in electrodes by utilising higher voltages and lower currents *(long-arc operation)*. To further enhance electrode service, Hexagon developed a low-consumption-rate antioxidant pre-treatment coating in order to reduce electrode consumption losses due to lateral oxidation. Oxidative degradation involves the disintegration of macromolecules by the action of oxygen on the graphite substrate of the electrode.

Oxidation causes graphite to be consumed or burned off during use in the smelting process. When heated in air at elevated temperatures *(e.g. when graphite electrodes are dipped into an EAF’s molten metal)* graphite burns *(or gets oxidized)*, leading to the formation of volatile carbon dioxide. This parasitic loss of carbon as volatile gases is the primary limitation to the operational life of graphite electrodes. By lowering the linear coefficient of thermal expansion (“CTE”), Hexagon’s antioxidant pre-treatment coating of the natural flake, improves electrode structural integrity by increasing density *(reducing porosity)*. A low CTE minimizes electrode consumption by maximizing efficient use of electricity in the EAF while maintaining its structural integrity.

Figure 2:
https://www.globenewswire.com/NewsRoom/AttachmentNg/d71ac590-51f9-4ceb-b1c3-b92bb4691b49

3. BACKGROUND — INDUSTRIAL APPLICATION

To provide context to the significance of the results described above and detailed further below it is useful to provide a brief overview of the industrial electrode manufacturing process and EAF utilisation in steel making — whilst acknowledging other EAF furnace applications may also be relevant.

Manufacturing of graphite electrodes is a highly technical industrial process with very demanding technical specifications that require compliance to ensure efficient EAF operations.

In size, the electrodes maybe up to ~81 cm *(32 inches)* in diameter, more than ~3.4 m *(11 feet)* in length and can weigh more than 2.6 tonnes. The manufacturing timeline is between 3 to 6 months.

Operationally, electrode consumption varies between 2 to 3 kg per tonne of steel and 8 to 10 hours of production.

3.1 Graphite Electrode Manufacturing

The graphite electrode manufacturing process includes the following main processes set out below with reference to the testwork samples:

1. *Screening and mixing of raw materials* (green or raw petroleum coke) *and blending with coal tar pitch to form a dense paste.*
   Hexagon’s Performance+ additive material was added to synthetic graphite.
2. *Formation or extrusion of the electrode.*
   The paste was passed through a proprietary extruder mixer to form elongated rods of uniform diameter.

3. *Calcining or Baking of the electrode to decompose and devolatilize* (purify) *the petroleum needle coke by removing organic materials, moisture and volatile combustible matter, thereby increasing the fixed carbon content, electrical conductivity and real/true density in the resultant calcined petroleum coke (“CPC”).*
   Hexagon’s extruded graphite rods were calcined at 900 ̊C in an inert (nitrogen gas) *atmosphere for 15 hours.*

4. *First Pitch Impregnation (“1PI”) which consists of impregnating/soaking the electrode with tar pitch binder to reduce porosity or void fractions within the graphite rod to improve strength. Following calcination, the graphite rods were soaked in a solution of tar pitch for 1 hour.*

5. *Re-Calcining or Re-Baking — this step is to ensure that all voids within the rods are filled with pitch coke binder.*

6. *Second Pitch Impregnation (“2PI”) — to ensure that all gaps within the rods are filled with pitch coke binder.*

7. *Graphitization — removes additional impurities and improves the electrodes’ key qualities: thermal and electrical conductivity, thermal shock resistance performance, lubricity, and abrasion resistance.*

8. *Machining to create the exact sizes and smooth surface.*

3.2 EAF Steel Industry

EAF steelmaking grew at an annual pace of approximately 14% in 2017, compared with 4% for steelmaking overall. As a result of the increasing global availability of steel scrap and the more resilient, high variable cost and environmentally friendly EAF model. Electric vehicle (“EV”) battery demand for petroleum needle coke has constrained supply and pushed market prices higher.

Roskill reports *(2018)* that EAF steel production accounts for approximately 27% of global production, but only 7% of Chinese steel production. There is a positive growth outlook particularly in China where government initiatives are forcing a transition to EAF smelting from the historical dominance of basic oxygen furnace (“BOF”) steel producers. These initiatives are the result of efforts to eliminate excess steelmaking production capacity and to improve environmental conditions. The EAF method produces approximately 25% of the carbon dioxide (or CO_2) emissions of a BOF facility and does not require the smelting of virgin iron ore or the burning of coal. Additionally, as a result of significantly increased steel production in China since 2000, the supply of Chinese scrap is expected to increase substantially, which may result in lower scrap prices and provide the Chinese steel manufacturing industry with local scrap feedstock that was not historically available. Hexagon believes these trends will allow EAF steel producers to increase their market share and grow at a faster rate than BOF steel producers, resulting in increasing demand for graphite electrodes, which in turn, will create a potentially significant demand and commercial adoption for EAF electrode enhancement additives that reduce costs and increase performance in EAF electrodes.

4. TEST RESULTS

Performance+ testing in graphite electrodes indicated a direct relationship between the amount of natural graphite added to the electrode matrix and increased performance of several electrode properties, including *(refer Tables 1-3)*:

- *increased electrical conductivity*
- *higher bulk density*
- *improved mechanical properties*
- *a potential for extended electrode service life*

As weight percent addition of natural graphite to synthetic increased, the density of electrodes increased reaching an impressive 1.62 g/cm^3 at 2.5 wt.% flake addition to the electrode mix.

Further, testing consistently outperformed the all-synthetic control in density and conductivity.

The following section discusses three key testwork parameters; Bulk Density, True Density and Electrical Conductivity.

4.1 Bulk Density

Bulk Density is also called apparent density or volumetric density. It is a characteristic of a volume of divided material such as powders, grains, and granules.

The best result was a 4.5% improvement from 1.55 g/cm^3 to 1.62 g/cm^3 for the 2.5% Performance+ addition.

Density can be both an indicator and result of the particle size, strength and porosity inherent in a specific graphite material, because the larger the particle size and more openings filled with air, the lower the density.

The density of graphite can be adjusted by the raw materials, formulation and manufacturing processes used to create the specific material grade during initial production. The finished graphite material's density may also be increased though the use of additives and impregnations that will fill in the open porosity of the base graphite material.

Porosity is an undesirable phenomenon in electrodes as porosity leads to reduced electrode density, and typically, lower mechanical strength and electrical conductivity.

When graphite flakes have been compressed under a high pressure, each of them will come closer and, consequently, the density of bulk graphite becomes higher. Higher density of bulk graphite leads to higher electrical conductivity because there is greater connectivity for the electrons to move across the graphite particle. In contrast, a lower density of the bulk graphite indicates a high level of voids which strongly reduces electron mobility, thus, resulting in a lower electrical conductivity of the bulk graphite.

Bulk density is typically how this value is reported on most graphite material specification sheets.

Table 1: Bulk Density Determinations.

Graphite Electrode	Addition of Natural Graphite (%)	Addition of Synthetic Graphite (%)	Weight before Graphitization (g)
Hexagon Performance+ additive	2.5	97.5	82.9
Hexagon Performance+ additive	5	95	64.7
Hexagon Performance+ additive	7.5	92.5	58.1
Hexagon Performance+ additive	10	90	73.5
Control *(100% Synthetic Graphite)*	0	100	51.1

4.2 True Density Data

True density is determined by taking the mass of a particle and dividing by its volume, excluding open and closed pores. A constant value for a matter, true density is the density of the near net shape.

True density in this case is a measure of how graphitic a material is. The best result was a 12% increase from 1.95 g/cm^3 in the control sample to 2.18 g/cm^3 with a 5% Performance+ addition.

The high true densities suggest that the electrodes are made of highly graphitized material that should be as conductive as possible to furnish the best level of current carrying capability. By testing true density, the graphitization degree variable was effectively eliminated.

The highest density recorded was the 10% addition of Performance+, although 5% is ideal when the mechanical strengths component is added to the overall equation.

Table 2: True Density Determinations

Graphite Electrode	Addition of Natural Graphite (%)	Synthetic Graphite Content (%)	Electrode True Density (g/cm^3)
Hexagon Performance+ additive	2.5	97.5	1.83
Hexagon Performance+ additive	5	95	2.18
Hexagon Performance+ additive	7.5	92.25	*no data*
Hexagon Performance+ additive	10	90	2.24
Control *(100% Synthetic Graphite)*	0	100	1.95

All electrodes were double pitch-impregnated (2PI).

4.3 Electrical Resistivity Data

Electrical resistivity *(also referred to as resistivity, specific electrical resistance, or impedance)*, is an intrinsic property that quantifies how strongly a given material resists the flow of electric current. A low resistivity indicates a material that readily allows the flow of electric current. Electrical conductivity or specific conductance is the reciprocal of electrical resistivity and measures a material's ability to conduct an electric current.

The best result was a 25% enhanced conductivity with resistivity (the inverse of conductivity) declining from 11.88 μΩ·m in the control sample to 9.01 μΩ·m in the electrode, with a 5% addition of Performance+.

Electrical conductivity of bulk graphite is regarded as a function of its volume density and temperature. In general, increasing the compression pressure mechanically reduces the gaps between carbon particles, directly enhancing the electrical contact. The electrical conductivity of graphite depends on the separation distance between each particle and the average particle size.

The higher the concentration of Hexagon’s natural flake graphite in the composition of extruded shapes, the lower the resistivity. This demonstrates that Hexagon’s Performance+ additive has a positive effect on the conductivity enhancement phenomenon in graphite electrodes. At 5% and higher, test series became better than the synthetic control with greater percent addition of flake additive to the electrode formulation. Refined flake reached the resistivity level of the 3PI control formulation at 5 wt. % addition of flake to synthetic.

Table 3: Resistivity Determinations

Wt.% addition into synthetic graphite	Hexagon natural Performance+ additive (2 PI)	Synthetic Control (2 PI)	Synthetic Control (3 PI)
0	*n/a*	11.88 μΩ·m	9.24 μ&Omega
2.5	13.60 μΩ·m		
5.0	9.01 μΩ·m		
7.5	8.85 μΩ·m		
10	8.65 μΩ·m		

5. TEST METHODS

5.1 Electrode Manufacturing

Graphite electrodes were produced by first mixing petroleum tar pitch suspended in a compatible solvent system, varying amounts of synthetic graphite, Hexagon unpurified or thermally purified graphite, and the doping additive to form a thick paste. The resulting paste was passed through NAmLab’s proprietary extruder mixer to form elongated rods of uniform diameter as shown in Figure 3.

These rods were calcined (i.e. baked) at 900° C in an inert nitrogen atmosphere for 15 hours. Following calcination, the graphite rods were soaked in a solution of tar pitch for 1 hour to allow the pitch to fill any voids, allowed to air dry and then calcined again to convert the tar pitch into pitch coke. Depending on the specific samples, the soaking and calcination steps were repeated one to two more times (i.e. 2PI or 3PI) to ensure that all gaps within the rods are filled with pitch coke binder. Heat treatment makes electrodes harder, but after 2nd PI and especially 3rd PI they also gain strength.

After completion of the final calcination step, the dry weight of the un-graphitized electrodes was measured prior to being graphitized at 2,800° C. Once retrieved from the furnace, the mass of the electrodes was measured to assess the electrode weight loss during the graphitization process.

The resistivity of the resulting graphitized electrodes was tested in accordance with ASTM C611, which required the machining of electrodes using a lathe and precision cutting tools, to a length diameter ratio of between 6:1 and 4:1.

The true density of 23 electrodes was measured using the Quantachrome Helium Multipycnometer. Since this test required powdered material, testing the true density of the entire electrode was not possible. Instead, the leftover shavings produced during machining of the uneven electrode ends were set aside and crushed; the resulting powder was then used for true density testing. True density is a measure of how graphitic a material is; the theoretical true density of pure crystalline graphite is 2.254 g/cm^3, while a material with a true density of 1.9 g/cm^3 is synthetic and moderately graphitized. It has been argued that the theoretical true density of graphite cannot be measured via helium pycnometry due to the particles’ porosity but crushing the electrodes and pressing the powder allowed for a more accurate true density reading.

Figure 3:
https://www.globenewswire.com/NewsRoom/AttachmentNg/55572589-6a0a-4eb5-9b84-e10baf2c98fd

5.2 Bulk Density Determinations

The bulk density of electrodes has been determined by dividing the weight of the electrode after graphitization by its volume. Utilising NAmLab’s in-house extruder, the measured values were close to the bulk densities of industrially made electrodes, although some density values were slightly lower. The lowest bulk density recorded in the study was 1.31 g/cm^3 with the highest value at 1.63 g/cm^3*(refer to relevant results in Table 1)*. For reference, industrially made electrodes range in bulk density from 1.58 to 1.65 g/cm^3.

All electrodes produced in this study had a fixed diameter of 2.54 cm and varying length, which is indicated by the varying weight data in Table 1. Electrodes after a single pitch impregnation *(denoted as 1PI)* and a single calcination, lost up to 18-23% of mass upon graphitization. Those electrodes had the lowest density in a given test series, clearly revealing significant amounts of open porosity and are not reported further herein, as they are not relevant to the industry sector.

The electrodes denoted as 2PI had the lowest mass reduction of volatile matter during graphitization *(typically, 0.5 to 5 wt.%)*. Their resultant bulk density values where notably higher, possibly as a consequence of effective filling of pores in the extruded shapes by pitch.

Importantly, as mass additions of Performance+ natural flake graphite additive to the synthetic graphite increased, the bulk density of graphitized electrodes increased.

5.3 True Density Determinations

As part of this study. NAmLab sought to determine the density *(specific gravity)* of graphite materials using an analytical method of gas *(helium)* expansion pycnometry. This is a widely recognized technique for precision determination of volume of crystalline matter — such as graphite electrodes.

Helium pycnometer operates on a principle of gas displacement and the volume-pressure relationship *(Boyle's Law)*. Helium pycnometry is expected to deliver the value of 2.266 g/cm^3 at 293K for a 100%-pure monocrystalline graphite. A Quantachrome Instruments’ He/N_2 gas Multipycnometer was used in this study.

The samples comprised powders made from the crushed machine shavings of the 23 electrodes tested. A minimum of two true density measurements were taken for each electrode as a minimum, and the densities were averaged to determine the final true density values as presented in Table 3.

5.4 Electrical Resistivity

The resistivity of graphitized electrodes has been assessed in accordance with ASTM method C 611-98, entitled: *“Electrical Resistivity of Manufactured Carbon and Graphite Articles at Room Temperature”*.

According to the aforementioned test method, a low electric current is run through the graphite electrode to prevent sample heating while the voltage across a specified length of the surface of the graphite electrode is measured to enable calculation of the resistivity. To account for anisotropy in the cylindrical graphite electrode, this measurement is repeated following sequential 90-degree rotations of the electrode and/or by testing of a machined shape in the form of a bar. If testing a cylinder, these four measurements are then repeated using a reversed current flow and switched voltmeter electrode configuration to account for any material memory effects and voltage measurement biases. The result is 16 separate resistivity measurements that, when averaged, provide a representative measure of the graphite electrode’s resistivity.

A 4-point resistivity test was conducted on the electrodes and the results presented in Table 3.

Exploration Results and Mineral Resource Estimates
The information within this report that relates to exploration results, Exploration Target estimates, geological data and Mineral Resources at the McIntosh and Halls Creek Projects is based on information compiled by Mr. Mike Rosenstreich who is an employee of the Company. Mr. Rosenstreich is a Fellow of The Australasian Institute of Mining and Metallurgy and has 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 he consents to the inclusion of this information in the form and context in which it appears in this report.

Metallurgical Test Work Outcomes
The information within this report that relates to metallurgical test work outcomes and processing of the McIntosh material is based on information provided by a series of independent laboratories. Mr. Rosenstreich *(referred to above)* managed and compiled the test work outcomes reported in this announcement. A highly qualified and experienced researcher at NAmLab planned, supervised and interpreted the results of the NAmLab test work. Mr. Michael Chan was a full-time employee of Hexagon Resources Ltd. at the time these results were reported, and he also reviewed the metallurgical test work outcomes. Mr. Chan is a Metallurgical Engineer and a Member of the Australasian Institute of Mining and Metallurgy. Mr. Chan and the NAmLab principals have sufficient relevant experience relevant to the style of mineralisation and types of test-work 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 had consented to the inclusion of this information in the form and context in which it appears in this report.

About Hexagon Resources Limited
Hexagon Resources Ltd. is listed on the Australian Securities Exchange (“ASX”) under the ticker code “HXG”. The Company holds a 100% interest in the McIntosh Graphite Project in Western Australia and an 80% interest in the Ceylon Graphite Project in Alabama, USA. With a current focus on the downstream processing of graphite and other energy materials, Hexagon has attained formidable

technical knowledge based on test work of its McIntosh project flake-graphite material, which is applicable and highly valuable for a range of specialty-material applications. The Company’s focus is on creating sustained shareholder value by maximizing near-term growth opportunities to commercialize that downstream business in the USA, where it has forged strong technical, commercial and investor relationships.

Learn more at www.hexagonresources.com

Forward-Looking Statements
This news release contains projections and statements that may constitute "forward-looking statements" within the meaning of applicable United States, Canadian and other laws. Forward-looking statements in this release may include, among others, statements regarding the future plans, costs, objectives, or performance of Hexagon Resources Ltd. or the assumptions underlying any of the foregoing. In this news release, words such as "may", "could", "would", "will", "likely", "believe", "expect", "anticipate", "intend", "plan", “goal”, "estimate," and similar words, and the negative forms thereof, are used to identify forward-looking statements. Forward-looking statements are subject to known and unknown risks, uncertainties and other factors that are beyond the control of Hexagon Resources Ltd., and which may cause the actual results, level of activity, performance or achievements of Hexagon Resources Ltd. to be materially different from those expressed or implied by such forward-looking statements. Such risks and uncertainties could cause actual results, plans and objectives of Hexagon Resources Ltd. to differ materially from those expressed in the forward-looking information. Hexagon Resources Ltd. can offer no assurance that its plans will be completed. These and all subsequent written and oral forward-looking information are based on estimates and opinions of Hexagon Resources Ltd. management on the dates they are made and expressly qualified in their entirety by this notice. Except as required by law, Hexagon Resources Ltd. assumes no obligation to update forward-looking information should circumstances or the estimates or opinions of Hexagon Resources Ltd. management change.

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