



FOR IMMEDIATE RELEASE

## **Alabama Graphite Receives Positive Evaluation Results for ULTRA-PMG™ product from RSRT Technologies; Improved Dynamic Charge Acceptance (DCA) by 194%**

*The Energy Graphite™ Company  
Sourced and Manufactured in the United States of America*

TORONTO, CANADA — (September 21, 2017) — [Alabama Graphite Corp.](#) (“AGC” or the “Company”) (TSX-V:[CSPG](#)) (OTCQB:[CSPGF](#)) (FRANKFURT:[1AG](#)) - <https://www.youtube.com/watch?v=rx9pxAjuOe0&t=28s> is pleased to announce positive evaluation results for its downstream high-purity, natural flake Purified Micronized Graphite (“PMG”) product — marketed under the tradename ULTRA-PMG™ — from Dallas, Texas-based RSR Technologies Inc. (“RSRT”). RSRT is a leading research and development company focused on advancing lead-acid battery technologies. AGC’s ULTRA-PMG™ was used as a leady-oxide additive for lead-acid batteries and was tested in 48 battery cells built by RSRT.

The most critical evaluation metric in RSRT’s analysis was battery-cell testing, which included micro-hybrid test (“MHT”), dynamic charge acceptance (“DCA”), Capacity (C20 and C), and breakdown analysis. When AGC’s ULTRA-PMG™ was added to RSRT’s control, there was an improvement in capacity of 7%, from 87 to 93 mAh/mg. MHT improved 63% (from 8,000 to 13,000 cycles), and DCA increased more than 194% (from 0.17 to 0.50 A/Ah) with the addition of ULTRA-PMG™. When ULTRA-PMG™ was added to RSRT’s SUPERSOFT-HYCYCLE™ formulation — RSRT’s top-of-the-line leady-oxide active material product — there was negligible improvement in capacity; however, the already significant MHT test results improved 5%, from 42,000 cycles to 44,000 cycles. DCA increased 64% (from 0.55 to 0.90 A/Ah). ULTRA-PMG™ prolonged cycle life approximately 4.5 times longer when compared to conventional leady oxide. RSRT’s MHT cycling test typically takes 45 days to complete; however, due to ULTRA-PMG’s significant cycle life increase, testing data took more than 200 days to acquire.

Dr. Matthew Raiford, RSRT's Process Engineer, and supervisor of the evaluation, commented, *"Alabama Graphite's ULTRA-PMG™ product outperformed all other standard commercially available carbon products we have tested, including carbon black. There are barely any impurities, and of the impurities none of them are even a remote concern for gassing in lead-acid batteries. This was the purest graphite product we have ever studied and analyzed — by a significant margin."*

Lead-acid battery technology has existed for more than 150 years, is the oldest rechargeable battery electrochemistry technology, and still dominates the global energy storage market. There are more than 254 million cars and trucks in the United States alone, each containing at least one lead-acid battery. The industry continues to improve lead-acid battery technology. RSRT is working to enhance lead-acid battery performance by adding high-purity ULTRA-PMG™ to the lead paste precursor to increase lead-acid battery performance.

AGC President and Chief Executive Officer, Donald Baxter, stated *"We are very pleased with RSRT's evaluation of our ULTRA-PMG™ graphite product. ULTRA-PMG™ is a byproduct of AGC's Coated Spherical Purified Graphite ("CSPG") production. The lead-acid battery market is an important, well-established multi-billion-dollar industry in the United States, and almost all of these batteries are manufactured in the USA. The lead-acid market represents an area of significant potential demand for AGC's premium graphite products, as the industry now adds carbon into batteries' negative active materials — representing approximately 1% by weight or 11% by volume of the battery."*

*"AGC is actively engaging with several potential end users for our expected future battery-ready graphite products and intends to supply the American lead-acid battery industry with our U.S.-sourced-and-manufactured PMG graphite product,"* said Mr. Baxter. *"Although the lithium-ion battery market has the highest-growth rate, with significant forecasted demand for the foreseeable future, the lead-acid battery industry is currently the largest battery market, representing approximately a 90% share of the of the USD\$65-billion battery market in 2016 (source: Avicenne Energy; 2017). Recent innovations in the lead-acid battery industry underscore the enduring potential of lead-based batteries to meet future energy market needs. We are pleased that our ULTRA-PMG™ has demonstrated the potential to assist with continuing the advancement and optimization of this critical battery technology."*

AGC conveyed samples of various particle sizes of its ULTRA-PMG™ to RSRT for characterization and evaluation. The first series of analytic testing determined elemental concentrations of impurities using inductively coupled plasma optical emission spectrometry ("ICP-OES"), which confirmed the ultra-high purity of AGC's graphite. The AGC ULTRA-PMG™ samples were introduced during the paste-making process, and studies were conducted at each phase. The battery testing and performance summaries for the battery cells, including MHT, DCA and Capacity, can be seen in Table 1 below. RSRT's positive test results demonstrate when AGC's ULTRA-PMG™ is added to either a typical standard lead paste (control) or to RSRT's proprietary SUPER-SOFT HCYCLE™ formulation, *all* performance metrics improve.

**TABLE 1: Performance Summary for Battery Cells Built with and without AGC's ULTRA-PMG™**

Product	Capacity mAh/mg	Micro- Hybrid Test Cycle Life	Dynamic Charge Acceptance (A/Ah)	17.5% Depth of Discharge (DoD)
Control	87	8,000	0.17 (2V)	1,000 (2V)
<b>Control +3.8 μm AGC ULTRA- PMG™</b>	<b>93</b>	<b>13,000</b>	<b>0.50 (2V)</b>	<b>1,000 (2V)</b>
RSRT SUPERSOFT- HYCYCLE™	114	42,000	0.55 (2V)	1,900 (2V)
<b>RSRT SUPERSOFT- HYCYCLE™ +3.8 μm AGC ULTRA-PMG™</b>	<b>115</b>	<b>44,000</b>	<b>0.90 (2V)</b>	<b>1,900 (2V)</b>
<i>Test Method</i>	<i>Battery Council International (BCI)</i>	<i>European Standard (EN) EN- 50432-6</i>	<i>European Standard (EN) EN- 50432-7</i>	<i>Battery Council International (BCI)</i>

*Note: mAh/mg = milliampere hour (mAh) per milligram (mg); A/Ah = amperes (A) per ampere hour (Ah) of battery capacity.*

*Micro-Hybrid Test or MHT evaluates the ability of a battery to provide the power to restart an engine after frequent stop phases, recovering state of charge (“SoC”) and aging effects due to shallow load pulses.*

*Dynamic Charge Acceptance or DCA is the ability of a battery to accept instantaneous energy during charging. The higher the DCA of a battery, the more the energy recovered and stored.*

*Depth of Discharge or DoD is used to describe how deeply the battery is discharged. If a battery is 100% fully charged, the DoD of the battery is 0%. If a battery has delivered 17.5% of its energy (meaning, 82.50% energy reserved), the DoD of the battery is 17.5%. If a battery is 100% empty, the DoD of the battery is 100%. DoD always can be treated as how much energy the battery delivered.*

Most technical parameters of modern lead-acid batteries are now markedly enhanced or can be enhanced to match the requirements of automotive original equipment manufacturers (“OEMs”), including, improved DCA, reduced water loss at normal and elevated temperatures, higher cold-cranking power, extra-long cycle life at high-rate partial state of charge, and steady performance at elevated temperatures.

AGC’s natural flake graphite is sourced exclusively from the Company’s flagship [Coosa Graphite Project](#) property, located in Coosa County, Alabama, United States of America. AGC is 100% owner of the only advanced-stage graphite project in the contiguous USA and all requisite downstream secondary processing to manufacture AGC’s battery-ready graphite products is

conducted in the contiguous USA. Although AGC's proprietary, environmentally sustainable process to purify and produce battery-ready graphite is source agnostic, the Company's secondary process flowsheet is being optimized for Coosa Graphite Project material.

Readers are cautioned that AGC is not yet in production and there is no guarantee that the Company will advance to full-scale production. If, following the completion of a Feasibility Study — which has not yet been commenced — AGC is able to advance the Coosa Graphite Project into production, the resulting graphite would be sourced from within the contiguous United States and the Company may have a potential competitive advantage over other producers of value-added graphite materials sourced from other countries, regardless of whether said materials were processed and/or manufactured in the United States of America.

On behalf of the Board of Directors of  
ALABAMA GRAPHITE CORP.

**Donald K. D. Baxter, P.Eng.**

President, Chief Executive Officer and Executive Director

## QUALIFIED PERSON

Donald K. D. Baxter, P.Eng., President, Chief Executive Officer and Executive Director of Alabama Graphite Corp., is a Qualified Person as defined by National Instrument 43-101 ("N.I. 43-101") guidelines, and has reviewed and approved the content of this news release. Mr. Baxter met with and worked RSRT in order to have reasonable confirmation that RSRT's data was generated with the proper procedures and that the reported results have been accurately transcribed from the original sources and are suitable to be used.

RSR Technologies Inc. has reviewed and approved the content of this news release.

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## ABOUT ALABAMA GRAPHITE CORP.

[Alabama Graphite Corp.](#) is a Canadian-based flake graphite exploration and development company as well as an aspiring battery materials production and technology company. The Company operates through its wholly owned subsidiary, Alabama Graphite Company Inc. (*a company registered in the state of [Alabama](#)*). With an advancing flake graphite project in the United States of America, Alabama Graphite Corp intends to become a reliable, long-term U.S. supplier of specialty high-purity graphite products. A highly experienced team leads the Company with more than 100 years of combined graphite mining, graphite processing, specialty graphite products and applications, and graphite sales experience. Alabama Graphite Corp. is focused on the exploration and development of its flagship [Coosa Graphite Project](#) in Coosa County, Alabama, and its [Bama Mine Project](#) in Chilton County, Alabama as well the research and development of its proprietary manufacturing and technological processing process of battery materials.

Alabama Graphite Corp. holds a 100% interest in the mineral rights for these two U.S.-based graphite projects, which are both located on private land. The two projects encompass more than

43,000 acres and are located in a geopolitically stable, mining-friendly jurisdiction with significant historical production of crystalline flake graphite in the flake graphite belt of central Alabama, also known as the Alabama Graphite Belt (*source: U.S. Bureau of Mines*). A significant portion of the Alabama deposits are characterized by graphite-bearing material that is oxidized and has been weathered into extremely soft rock. Both projects have infrastructure in place, are within close proximity to major highways, rail, power and water, and are approximately three hours (by truck or train) to the Port of Mobile, the Alabama Port Authority's deep-seawater port and the ninth largest port by tonnage in the United States (*source: U.S. Army Corps of Engineers/USACE*). The state of Alabama's hospitable climate allows for year-round mining operations and the world's largest marble quarry (which operates 24 hours a day, 365 days a year in Sylacauga, Alabama), is located within a 30-minute drive of the Coosa Graphite Project.

On [November 30, 2015](#), Alabama Graphite Corp. announced the results of PEA for the Coosa Graphite Project, indicating a potentially low-cost project with potential positive economics. Please refer to the Company's technical report titled "*Alabama Graphite Corp. Preliminary Economic Assessment (PEA) on the Coosa graphite Project, Alabama, USA*" dated November 27, 2015, prepared by independent engineering firms AGP Mining Consultants Inc. and Metal Mining Consultants Inc., and filed on SEDAR at [www.sedar.com](http://www.sedar.com).

*Note: a Preliminary Economic Assessment or PEA is preliminary in nature, it includes inferred mineral resources that are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves and there is no certainty that the preliminary economic assessment will be realized.*

*\* Inferred Mineral Resources represent material that is considered too speculative to be included in economic evaluations. Additional trenching and/or drilling will be required to convert Inferred Mineral Resources to Measured or Indicated Mineral Resources. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. There is no guarantee that all or any part of the Mineral Resource will be converted into a Mineral Reserve.*

Alabama Graphite Corp. is a proud member of the National Association of Advanced Technology Batteries International ("[NAATBatt International](#)"), a U.S.-based, not-for-profit trade association commercializing advanced electrochemical energy-storage technology for emerging, high-tech applications.

For further information and updates on the Company or to sign up for [Alabama Graphite Corp. News](#), please visit [www.alabamagraphite.com](http://www.alabamagraphite.com) or follow, like and subscribe to us on [Twitter](#), [Facebook](#), [YouTube](#), and [LinkedIn](#).

## **AGC's COMMITMENT TO ENVIRONMENTAL SUSTAINABILITY**

AGC's graphite is purified via the Company's propriety, low-temperature thermal purification process. AGC's environmentally responsible and sustainable graphite purification process does not utilize caustic chemicals or harsh acids that are commonly regarded as dangerous and environmentally harmful (e.g. hydrofluoric acid, as is commonly used in Chinese graphite production hydrochloric acid, sulfuric acid, nitric acids, or alkali roasting, caustic-soda roasting, etc.), nor does the process require copious amounts of clean water or costly, energy-intensive high-temperature thermal upgrading. Please refer to the Company's [February 17, 2017](#) announcement, '[Alabama Graphite Corp. Achieves 99.99997% Graphite Purity via Proprietary](#),

*Environmentally Responsible and Sustainable Purification Process; Exceeds Nuclear Graphite Purity Requirements.*

For more information about AGC's specialty, secondary processing to produce its CSPG please refer to the June 2016 comprehensive independent report, '*Alabama Graphite's Coated Spherical Purified Graphite for the Lithium-ion Battery Industry*,' written, researched and prepared by Dr. Gareth P. Hatch, CEng, FIMMM, FIET, prior to his joining the AGC Board of Directors. Dr. Hatch is also President of Innovation Metals Corp., Founding Principal of Technology Metals Research, LLC, and Independent Director of the Company.

## **FORWARD-LOOKING STATEMENTS**

This press release contains forward-looking information under applicable Canadian securities laws ("**forward-looking statements**"), which may include, without limitation, statements with respect to any potential relationships between the Company and any end users and/or the DoD. The forward-looking statements are based on the beliefs of management and reflect Alabama Graphite Corp.'s current expectations. When used in this press release, the words "estimate", "project", "belief", "anticipate", "intend", "expect", "plan", "predict", "may" or "should" and the negative of these words or such variations thereon or comparable terminology are intended to identify forward-looking statements. Such statements reflect the current view of Alabama Graphite Corp. with respect to risks and uncertainties that may cause actual results to differ materially from those contemplated in those forward-looking statements.

By their nature, forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements, or other future events, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Such factors include, among other things, the interpretation and actual results of current exploration activities; changes in project parameters as plans continue to be refined; future prices of graphite; possible variations in grade or recovery rates; failure of equipment or processes to operate as anticipated; the failure of contracted parties to perform; labor disputes and other risks of the mining industry; delays in obtaining governmental approvals or financing or in the completion of exploration, as well as those factors disclosed in the Company's publicly filed documents. Forward-looking statements are also based on a number of assumptions, including that contracted parties provide goods and/or services on the agreed timeframes, that equipment necessary for exploration is available as scheduled and does not incur unforeseen breakdowns, that no labor shortages or delays are incurred, that plant and equipment function as specified, that no unusual geological or technical problems occur, and that laboratory and other related services are available and perform as contracted. Forward-looking statements are made based on management's beliefs, estimates and opinions on the date that statements are made and Alabama Graphite Corp. undertakes no obligation to update forward-looking statements (unless required by law) if these beliefs, estimates and opinions or other circumstances should change. Investors are cautioned against attributing undue certainty to forward-looking statements. Alabama Graphite Corp. cautions that the foregoing list of material factors and assumptions are not exhaustive. When relying on Alabama Graphite Corp. forward-looking statements to make decisions, investors and others should carefully consider the foregoing factors and assumptions and other uncertainties and potential events.

Alabama Graphite Corp. has also assumed that the material factors and assumptions will not cause any forward-looking statements to differ materially from actual results or events. However,

the list of these factors and assumptions is not exhaustive and is subject to change and there can be no assurance that such assumptions will reflect the actual outcome of such items or factors.

*NEITHER THE TSX VENTURE EXCHANGE NOR ITS REGULATION SERVICE PROVIDER (AS THAT TERM IS DEFINED IN THE POLICIES OF THE TSX VENTURE EXCHANGE) ACCEPTS RESPONSIBILITY FOR THE ADEQUACY OR ACCURACY OF THE CONTENT OF THIS NEWS RELEASE.*

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