

Zentek's Albany Graphite Has Demonstrated Nuclear Grade Performance in Independent Testing, Opening Pathways Into a Range of High-Return Commercial Markets

GUELPH, ON / [ACCESS Newswire](#) / January 5, 2026 / Zentek Ltd. ("Zentek" or the "Company") (Nasdaq:ZTEK) (TSXV:ZEN) is pleased to announce that its wholly-owned subsidiary, Albany Graphite Corp. ("AGC"), has received final, positive results indicating that its ultra-high purity Albany graphite meets the threshold for applications in a range of high-return markets, including: nuclear energy; defense and national security infrastructure; advanced aerospace and hypersonics; and premium lithium-ion batteries.

This follows on previous press releases (dated September 22, 2025 and October 6, 2025) which confirmed that Albany graphite achieved five-nines (99.9992%) purity with an equivalent boron concentration of 2.60 ppm, meeting the less-than-3-ppm threshold generally referenced for nuclear applications. The latest independent testing of Albany graphite bricks represents the culmination of the current stage of AGC's nuclear suitability program and further validate Albany's broader ultra-high-purity performance. In practical terms, these results re-affirm that the unique Albany graphite material can perform to the same demanding standards as the specialized graphite blocks used in advanced nuclear reactors and other critical systems, a capability historically possessed by synthetic graphite supplied almost entirely from foreign states.

Independent market research estimates that the global ultra-high-purity graphite market is expected to grow at a compound annual growth rate of about 10.5% through 2030, driven by lithium-ion batteries, semiconductors, advanced nuclear reactors and high-temperature aerospace components. Independent market and policy work further indicates that purified natural graphite is the fastest-growing part of the natural graphite segment, as advances in purification and processing now routinely bring impurities down into the tens of mg/kg range and enable natural graphite to compete in applications that historically depended on synthetic graphite, while policymakers increasingly favour lower-carbon, non-foreign supply in response to ESG and critical-minerals initiatives in North America and Europe.

Management of the Company believes that the unique Albany material has the potential to target high-value specialized niches where purified natural material can substitute for synthetic graphite, particularly in nuclear-grade applications, premium lithium-ion battery anodes and specialty high-temperature components, markets which together are expected to require on the order of 100,000-200,000 tonnes per year of purified natural high-purity graphite over the next 15-20 years. Management believes this positions Albany to become a premier Canadian supplier of purified natural ultra-high-purity graphite into these specialty markets. This will decrease Canada's reliance on foreign sources and enhance Canada's security of supply in areas critical to our national defence as well as key strategic sectors.

Independent testing outcome: AGC commissioned independent laboratory testing to characterize three near-net-shaped graphite bricks produced using a blend that included up to 3 wt.% of Zentek's ultra-high purity Albany graphite, together with standard graphite industry inputs. Independent testing confirmed that graphite bricks made with Albany material met the key benchmarks currently used for nuclear-grade graphite blocks, including strength, density, electrical performance and extremely low impurity levels, demonstrating that Albany graphite can perform at nuclear specifications in finished components.

Strategic implications and next steps: These results further reinforce the potential of Albany graphite across a range of high-value specialty markets that demand ultra-high-purity, secure graphite supply. This includes applications in nuclear energy (large reactors and small modular reactors), defense and national security infrastructure, advanced aerospace and hypersonics, and premium battery and high-temperature industrial components, where long-term performance, reliability and traceable supply are increasingly critical. As global demand grows from AI-driven data centers, electrification and re-shoring of critical supply chains, Management believes that purified natural ultra-high-purity graphite such as Albany's can play an important role as a differentiated feedstock into these key markets.

"We continue to be encouraged by these nuclear suitability testing results, which demonstrate that our unique ultra-high purity Albany graphite meets and, in some cases, surpasses the stringent requirements for highly specialized applications such as nuclear-grade graphite," said Mohammed (Moe) Jiwan, CEO of Zentek. "Combined with our proven ability to reach five-nines purity and our North American resource base, these results support our strategy of positioning Albany as a premier Canadian potential supplier of purified natural graphite to high-value markets such as nuclear, advanced batteries and other mission-critical applications. This performance

could help support secure North American supply chains for nuclear energy, national defense and high-performance aerospace systems, reducing reliance on foreign, high-emissions synthetic graphite."

The Ultra-High Purity Graphite Speciality Market - Indicative Annual Demand ~115 kt/Year Across Key Applications



Mr. Peter Wood, P.Eng., P.Geo., Vice President, Development of AGC, a "Qualified Person" under National Instrument 43-101, has approved the technical information contained in this news release.

About the Albany Graphite Project

The Albany Graphite Project is a unique igneous-hosted, fluid-derived graphite deposit located in Ontario and advanced to an exploration stage. The project lies northwest of the communities of Constance Lake First Nation and Hearst, Ontario, within approximately 30 km of the Trans-Canada Highway and near existing infrastructure including roads, rail, power transmission lines and a natural gas pipeline. Albany is being advanced as a potential source of ultra-high-purity graphite to potentially support secure North American supply chains for nuclear, energy storage and other advanced material applications.

About Zentek Ltd.

Zentek Ltd. is a Canadian intellectual property development and commercialization company advancing a portfolio of graphene-enabled and advanced material technologies across healthcare, clean air and next-generation materials.

For further information

Investor Relations

Email: investorrelations@zentek.com

Ryan Shacklock

Senior VP, Strategy & Business Development

Email: rshacklock@zentek.com

Phone: 306-270-9610

To find out more about Zentek, please visit www.zentek.com. A copy of this news release and other material documents in respect of the Company may be obtained on Zentek's SEDAR+ profile at www.sedarplus.ca.

Forward-Looking Statements

This news release contains forward-looking statements. Since forward-looking statements address future events and conditions, by their very nature they involve inherent risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in the forward-looking statements. Such risks and uncertainties include, but are not limited to, operational risks in exploration, development and production; delays or changes in plans with respect to exploration or development projects or capital expenditures; the uncertainties involved in the discovery and delineation of mineral deposits, resources or reserves; the uncertainty of resource and reserve estimates and the ability to economically exploit resources and reserves; the uncertainty of estimates and projections in relation to production, costs and expenses; the uncertainty surrounding the ability of the Company to obtain all permits, consents or authorizations required for its operations and activities; market and regulatory risks; and health, safety and environmental risks.

Although Zentek believes that the assumptions and factors used in preparing the forward-looking information in this news release are reasonable, undue reliance should not be placed on such information, which only applies as of the date of this news release, and no assurance can be given that such events will occur in the disclosed time frames or at all. Zentek disclaims any intention or obligation to update or revise any forward-looking information, whether as a result of new information, future events or otherwise, other than as required by law. Further studies, financing, permits and approvals would be required before a production decision

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SOURCE: Zentek Ltd.