

NI 43-101 PRELIMINARY ECONOMIC ASSESSMENT • ULTRA-HIGH-PURITY GRAPHITE PEA SUMMARY

Albany Graphite Project

Most graphite studies model concentrate. This one models finished product.



Disclaimers.

Forward-looking information

This presentation contains forward-looking information within the meaning of applicable Canadian securities legislation, including statements regarding the results of the Preliminary Economic Assessment, projected economics, product pricing, production levels, capital and operating costs, the proposed work program, permitting, and the potential markets for the Company's products. Forward-looking information is based on assumptions and is subject to risks and uncertainties that may cause actual results to differ materially. Readers should not place undue reliance on forward-looking information, which speaks only as of the date of this presentation. The Company undertakes no obligation to update it except as required by law.

Preliminary Economic Assessment

The PEA is preliminary in nature. It includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability, and may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues. Readers are cautioned not to assume that all or any part of the Indicated or Inferred Mineral Resources will ever be converted into Mineral Reserves or that the PEA represents, or will result in, an economically viable operation.

Bench-scale results

Purification results described in this presentation were obtained at bench scale. They have not been demonstrated at continuous commercial scale and have not completed customer qualification.

Qualified Person

The scientific and technical information in this presentation has been reviewed and approved by Peter Wood, P.Eng., P.Geo., Vice President, Development of Albany Graphite Corp., a Qualified Person as defined under National Instrument 43-101.

Technical report

This presentation is a summary only and is qualified in its entirety by the 2026 Preliminary Economic Assessment Technical Report.

Title: NI 43-101 Preliminary Economic Assessment Technical Report on the Albany Graphite Project
Prepared by: Micon International Limited in accordance with National Instrument 43-101 - Standards of Disclosure for Mineral Projects

Date: Effective date of June 30, 2026, and a report date of September 18, 2026.

The full technical report is available on SEDAR+ (www.sedarplus.ca) under the Company's profile. Readers should review the technical report in full.

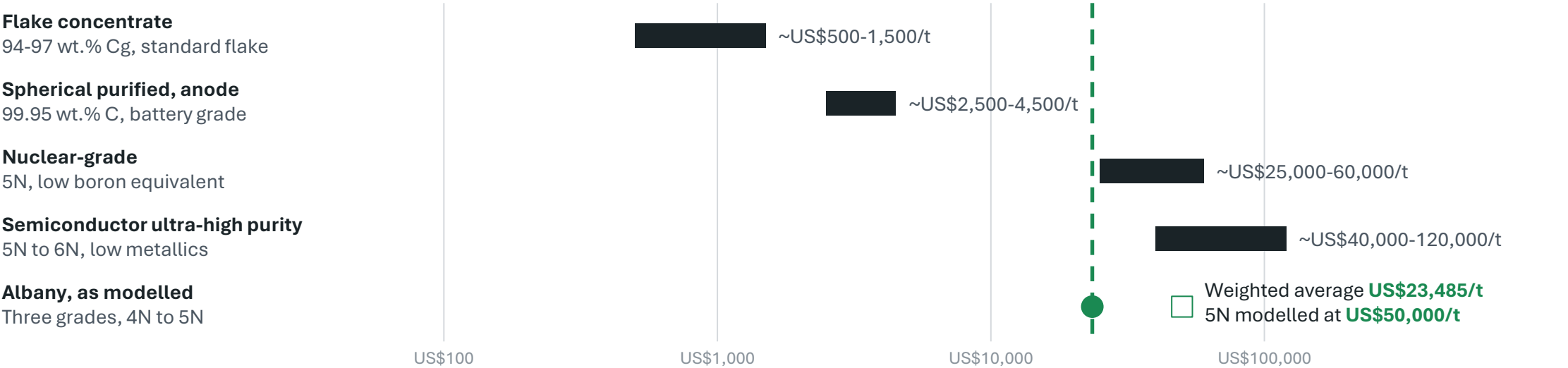
Technical contributors

The technical report was prepared by Micon International Limited, with contributions from Halyard Inc. and AppEco Consulting Ltd. Process testwork was completed at an independent laboratory in the United States. Product pricing inputs were provided by an independent United States-based advanced graphite materials company engaged by the Company.

One name. Two industries.

Albany’s PEA is based entirely on the specialty market: specification-gated, contract-priced, and an order of magnitude above battery graphite.

PUBLISHED REFERENCE PRICING BY TIER, PER TONNE, LOG SCALE



Published price series for natural graphite at 4N and above were not identified, so nuclear-grade synthetic graphite was used as the closest observable analogue for the 5N product. Nuclear-grade reference pricing is for isostatic block material. Public reference ranges from Fastmarkets, Argus, Benchmark Mineral Intelligence, IAEA and OECD-NEA literature, and published DOE and NNSA contract awards. Reference values may reflect processed materials or engineered components rather than bulk feedstock, and actual transaction pricing is specification dependent. **These are not Zentek pricing assumptions.** Albany prices as modelled in the PEA, Table 19.2.

Why Now? Supply is already being contracted. Downstream capacity is not being built in Canada.

Reactors are buying graphite now, in size

US\$140M+

X-energy graphite supply agreements for its first four-unit plant

Ten-year framework agreement with SGL Carbon, initial award over US\$100 million across the first three years

Source: SGL Carbon SE / X-energy joint press release, January 15, 2026.

The load behind the reactors is AI

Up to 25 GW

of SMR capacity in plans of varying maturity, in large part to meet growing electricity demand for data centres

Commitments from Amazon, Google, Meta and Oracle

Many of those designs use graphite in the reactor core

Source: IEA [report title and date required]

Canada is funding the sector, but not the value chain to end product

5 of 167

projects in Canada's investment prospectus relate to graphite, each framed around battery downstream

One project processes a critical mineral to nuclear-grade specification: uranium

Source: M. Jiwan, "The finishing line between a Canadian mine and an allied customer," National Newswatch, September 15, 2026.

That demand is specification-driven, which is why the deposit origin matters.

A different kind of graphite deposit.

Most graphite is flake, formed by regional metamorphism. Albany likely formed from carbon-dioxide-rich fluids released from a degassing magma, which mineralized two graphite-bearing breccia pipes within an igneous host.

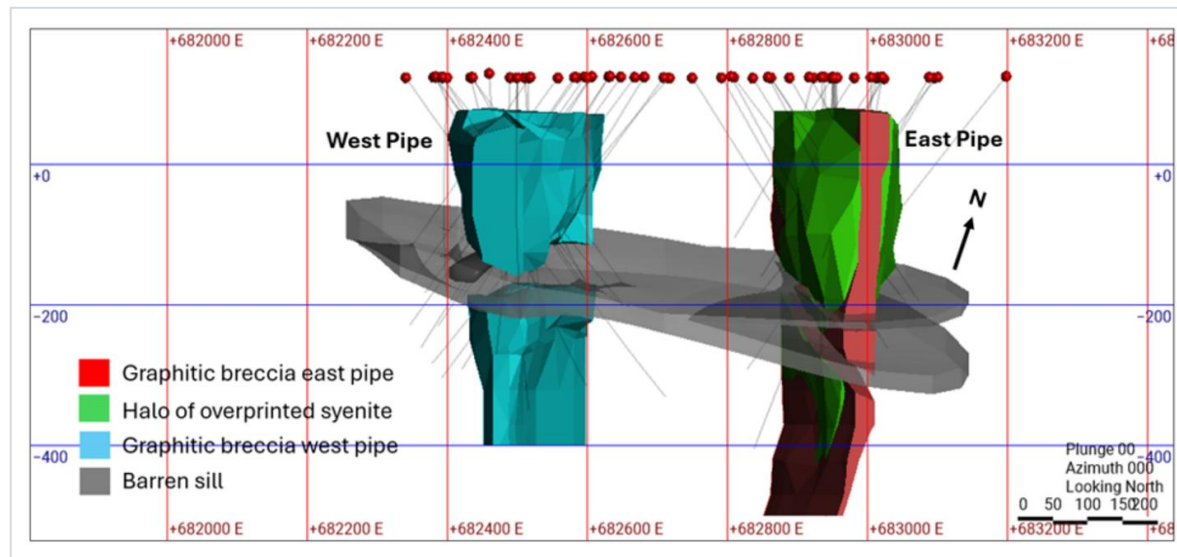


Figure reproduced from Micon International Limited, 2026, Figure 14.1.

Mineral Resource Estimate effective June 30, 2026, reported for a combined open pit and underground scenario at cut-off grades of 1.48 wt.% Cg and 1.77 wt.% Cg. Mineral resources that are not mineral reserves do not have demonstrated economic viability. Deposit description, Sections 7 and 8.1.

23.1 Mt

Indicated at 4.14 wt.% graphitic carbon (Cg)

13.3 Mt

Inferred at 2.88 wt.% Cg

2 pipes

East and West breccia pipes, both open at depth

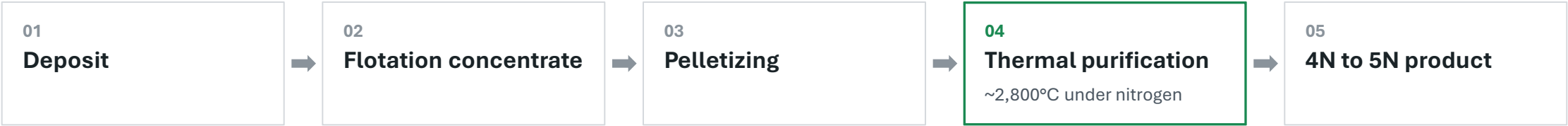
68 km

Northwest of Hearst, Ontario

The technical report describes Albany as a globally unique example of this style of graphite mineralization.

From 85.6 wt.% carbon to nuclear-grade purity levels.

No hydrofluoric acid, no caustic bake, and no halogen gases.



WHAT THE TESTWORK PRODUCED INITIALLY

85.6 wt.%
Flotation concentrate

→

99.9991 wt.%
After thermal purification

SUBSEQUENT SPECIFICATION COMPARISON TESTWORK

	NUCLEAR-GRADE MATRIX POWDER REQUIRES	ALBANY BENCH-SCALE RESULT
Carbon	>5N	99.9992 wt.%
Equivalent boron content	<3 ppm	<3 ppm, within specification

Results obtained at bench scale at an independent laboratory in the United States. They have not been demonstrated at continuous commercial scale and have not completed customer qualification.

Above battery grade; made differently.

Multiple grades ranging from 4N to 5N, intended for use in nuclear fuel-element matrix, synthetic graphite replacement markets, specialized battery materials and conductive coatings.

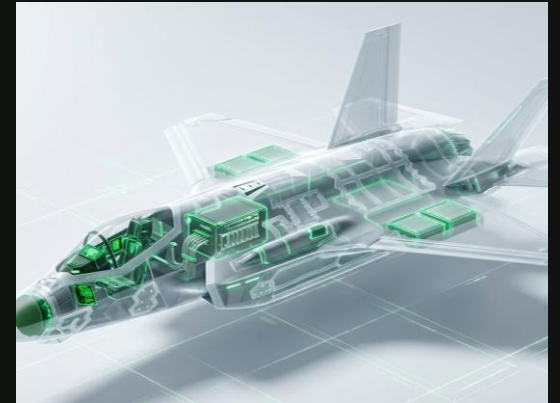
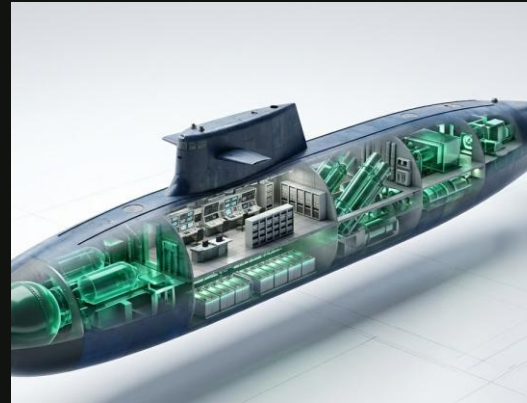
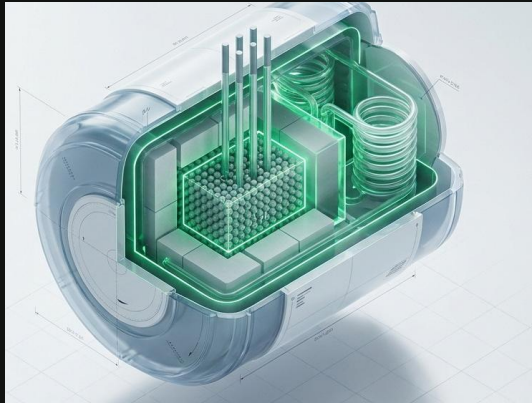
	SUPPLIED TODAY	ALBANY
Where it is made	Most is purified in China. In nuclear, the qualified material is synthetic, from a few producers in Germany, Japan and the United States	One deposit in Northern Ontario
How it is purified	Battery and specialty grades: caustic soda and hydrofluoric acid. Nuclear-grade natural graphite: thermal, then halogen treatment for boron	Thermally, at approximately 2,800°C under nitrogen. No acid, no caustic bake, no halogens. Bench-scale material met the referenced nuclear-grade specification criteria without halogen treatment
How pure it gets	Commercial battery-grade natural graphite: typically 99.95 wt.% carbon	Maximum purity of 99.99985 wt.% carbon at bench scale, 5N+. A separate bench-scale test achieved 99.9992 wt.% carbon with equivalent boron content under 3 ppm

Purified natural graphite supply sits largely outside allied jurisdictions. Nuclear supply is allied but concentrated among very few producers. Albany has the potential to support both in Canada.

Sources: Micon PEA Section 19.4; University of Manchester, Graphite as a core material for Generation IV nuclear reactors; published literature on thermal and halogen purification of natural graphite; NIOSH. Albany results are at bench scale and have not been demonstrated at continuous commercial scale or completed customer qualification.

Target markets.

Multiple grades ranging from 4N to 5N, intended for use in nuclear fuel-element matrix, synthetic, specialised battery materials and conductive coatings.



Illustrative renders of platforms that may use specification-grade graphite materials. They do not represent customers, qualification status, offtake agreements, supply arrangements or projected sales.

Source: Micon PEA Section 19.4. Albany purity results are at bench scale and have not been demonstrated at continuous commercial scale or completed customer qualification.

Zentek.

Albany.

Economics: purity and price driven.

US\$3.85B

Post-tax NPV, 5% discount rate

27.4%

Post-tax IRR

US\$817M

Initial capital

4.4 yrs

Post-tax payback

30 years

Production period

THE MARGIN, PER TONNE OF FINISHED PRODUCT

US\$23,485/t

Realized price

–

US\$8,014/t

Operating cost, excludes capital

=

~66%

Approximate operating margin

On a pre-tax basis: NPV US\$4,179M, IRR 27.7%, payback 4.4 years. At an 8% discount rate, the post-tax NPV is US\$2.29 billion. Figures as modelled in the PEA. Product prices depend on commercial production, product qualification and customer acceptance, none of which has been demonstrated.

What determines our price.

Product prices reflect market-specific product assumptions rather than purity alone.

GRADE	ANNUAL PRODUCTION	SHARE	PRICE
4N	24,240 t	80.8%	US\$20,541/t
4N+	2,640 t	8.8%	US\$19,300/t
5N	3,120 t	10.4%	US\$50,000/t
Weighted average	30,000 t	100%	US\$23,485/t

AVERAGE ANNUAL, AS MODELLED

US\$651.3M

Revenue, gross

US\$639.3M

Revenue, net of transport, insurance and royalty

US\$222.2M

Operating cost

US\$2,063M

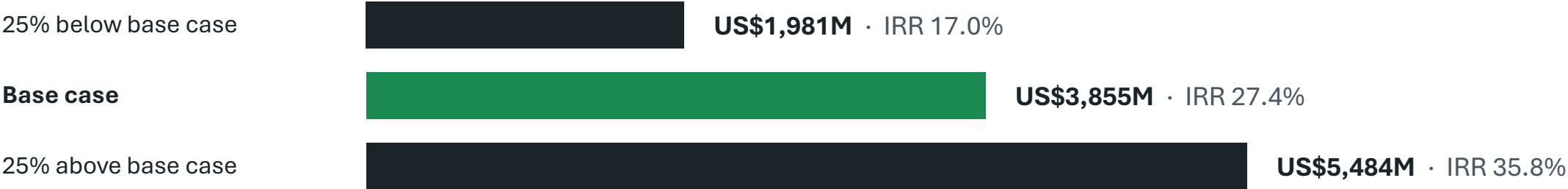
Total capital over the life of the project, including sustaining capital and closure

Albany prices as modelled in the PEA, Table 19.2. Product prices depend on commercial production, product qualification and customer acceptance, none of which has been demonstrated.

Product price matters most.

Product price has a greater impact on project economics than capital or operating costs. Sensitivity was evaluated at ±25%.

POST-TAX NPV AT 5%, BY PRICE CASE



Production is sized to expected market demand, not resource limits.
Output is held at about 34,500 tonnes of concentrate a year. The deposit remains open at depth.

The mine was limited to 30 years.
Additional years contributed little incremental discounted cash flow.

Costs carry a 25% contingency.
Applied across every category, in addition to the ±50% estimate accuracy range typically associated with a PEA.

The infrastructure is there.

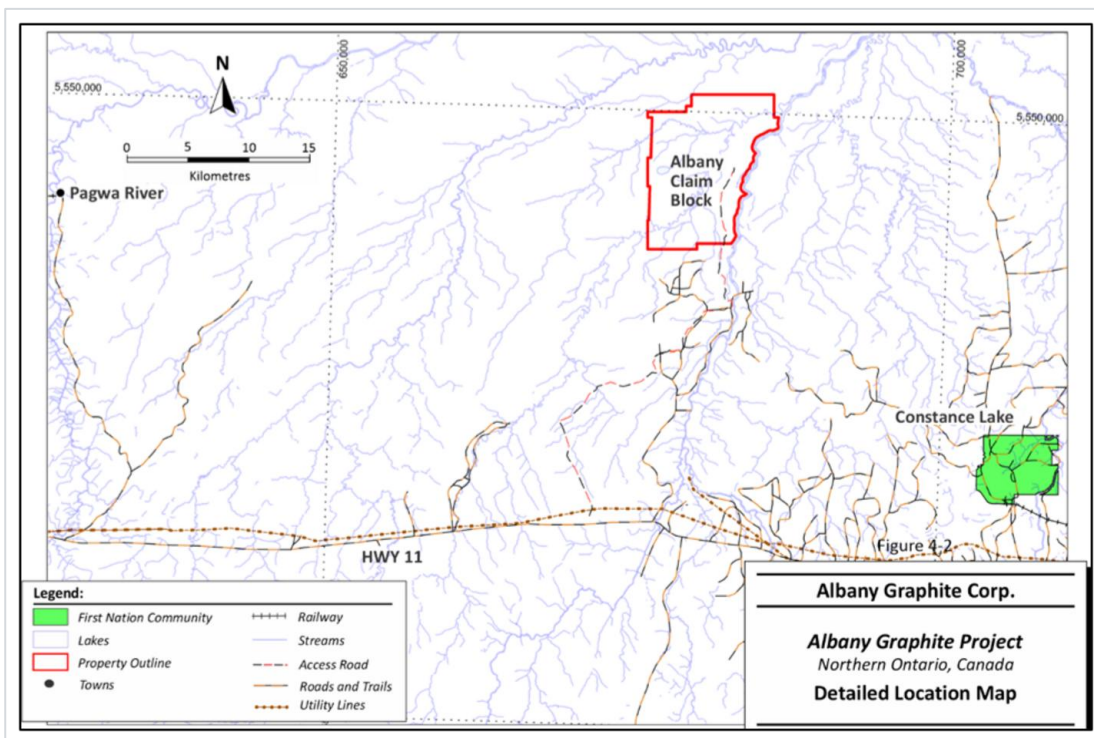


Figure reproduced from Micon International Limited, 2026, Figure 5.1.

Infrastructure

Within 30 km of the Trans-Canada Highway in Ontario, with existing road, rail, power transmission and natural gas infrastructure in the area.

The purification facility location will be selected during later stages of project development.

Permitting

Ontario's One Project, One Process framework is currently in the early stages of implementation and could provide a streamlined pathway for provincial permitting. Separate federal impact assessment requirements or other federal approvals may also be required.

No regulatory determination regarding applicable permitting processes has been made, and no permit applications have been submitted.

Constance Lake First Nation.

Setting a new standard for a compliant natural graphite study and benefit sharing.



Constance Lake First Nation.

~1,050

Construction positions

230

Operating positions

Project estimates, as announced on August 10, 2026.

Partnership

Albany is located within the traditional territory of Constance Lake First Nation (CLFN). CLFN has been engaged throughout earlier stages of project development, and that engagement has been renewed and remains ongoing under an Implementation Agreement. Engagement activities are being conducted directly by the Company's Chief Executive Officer.

Our commitment

Zentek's intent is clear: set a new standard for benefit sharing with CLFN, through specific, well-defined initiatives as the project advances.

Workforce and local benefits

Zentek intends to work with CLFN on training, employment, and business opportunities tied to the Project.

The next phase.

Micon recommends the project be advanced to a Pre-Feasibility Study, which reduces technical and economic uncertainty.

RECOMMENDED PRE-FEASIBILITY WORK PROGRAM

01 Geological studies	02 Geotechnical and hydrogeological studies
03 Metallurgical testwork	04 PFS engineering
05 Environmental baseline study	06 Purification plant design
07 Purification plant site engineering	

WHAT A PFS DOES

A Pre-Feasibility Study is the first stage at which mineral reserves can be declared, and it is typically the point at which financing, offtake and partnership discussions can become substantive. It is also the basis for front-end engineering design.

Material qualification can take years. A Pre-Feasibility Study moves Albany from a conceptual project toward one that potential customers, partners and financiers can evaluate.

Zentek.

Why Albany.

Premium pricing and economics

Modelled weighted average of **US\$23,485/t** against **US\$8,014/t** operating cost. Post-tax NPV of **US\$3.85B** at 5%, or **US\$2.29B** at 8%.

Contract-based pricing

Bought on specification, qualification status and negotiated terms rather than against a commodity index. The model assumes long-term supply agreements.

Nuclear-grade purity

99.9992 wt.% purity and equivalent boron content under **3 ppm** at bench scale. No hydrofluoric acid, no caustic bake, no halogens.

Capital efficiency

Initial capital of **US\$817M** supports average annual revenue of about **US\$651M**.

Allied supply and demand

Most purified natural graphite is made in China. Allied supply is concentrated among a small number of producers already expanding for reactor programmes.

Existing infrastructure

Road, rail, power transmission and natural gas within 30 km of the Trans-Canada Highway. Implementation Agreement with Constance Lake First Nation.

The technical report has been filed, and Micon has recommended advancing the project to Pre-Feasibility.

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The NI 43-101 technical report is filed on SEDAR+ under Zentek Ltd.

Albany.

