# Thermal Management Strategy Update - Graphite - Enabled Growth and U.S. Market Entry

- **Graphite as a thermal management input:** Building on the graphite review commenced at Garnet Hills Creek, Pure has confirmed the strategic relevance of graphite as a critical carbon input for advanced thermal management solutions, particularly in high-performance heat dissipation environments such as hyperscale data centres and defence weapons systems.
- **Thermal management sector to be strongly pursued:** The Company intends to aggressively progress into thermal management supply chains, focusing on:
  - **Data centre cooling** (including heat sinks, thermal interface materials, and next-generation conductor solutions); and
  - **Defence applications** (including weapons cooling and high-temperature composite platforms).
- **Strategic U.S. collaboration initiated with an expanded scope:** Investigations and discussions commenced in July 2025 are now advancing across several U.S. institutions and Department of Energy (**DoE**) funded academic groups, with a clear mandate to accelerate downstream alignment and mining-technology pathways.
- U.S.focused technology sourcing underway:
  - **REE extraction from industrial garnet:** Pure has initiated workstreams to identify and evaluate U.S. technologies capable of extracting Rare Earth Elements (**REE**) from industrial garnet streams.
  - **Graphite and garnet complementary R&D:** Engagement continues with technology groups focused on downstream products and processing innovations that can leverage Pure's graphite and garnet assets into higher-value markets.
- **Mine-to-market downstream opportunity for U.S. entry:** Pure has commenced and is advancing discussions with thermal management sector participants in the U.S., spanning suppliers and integrators of heat-dissipation systems for data centres and weapons cooling platforms.

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**Pure Resources Limited (ASX:PR1)** ("**Pure**" or "**Company**") is pleased to provide shareholders with a follow-up strategic update to the Company's 15 July 2025 "Reedy Creek – Garnet and Graphite Update: Downstream, REE and Thermal Management Initiatives" announcement.

This release outlines Pure's thermal management strategy, enabled by the Company's emerging graphite potential at its Garnet Hills Garnet and Graphite Project ("**Garnet Hills**" or "**Project**"), and details the next phase of U.S. focused downstream collaboration and market-entry initiatives in data centre cooling and defence-grade weapons cooling applications.

**Pure Resources Executive Director, Mr Patric Glovac, said:**

*"Since our July update, the strategic logic has only strengthened. Graphite is a high-value carbon input for thermal management, which is now a frontline industrial priority for both data infrastructure and defence.*

*"Our intent is clear, Pure will strongly pursue this sector and we will do it in a way that captures downstream value. We are building U.S. collaborations to validate performance, accelerate product alignment and open Tier-1 market pathways.*

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*"Garnet Hills gives us a rare platform including graphite potential, premium garnet and possible REE upside on a granted lease with excellent infrastructure. The combination positions Pure to participate in some of the fastest-growing and most strategically important industrial markets in the world.*

*"Thermal management is no longer a niche materials market. It is becoming a strategic industrial priority. Pure intends to operate accordingly."*

**STRATEGIC CONTEXT**

The July 2025 announcement established Pure's intention to position Garnet Hills as a multi-critical minerals hub, underpinned by a granted mining lease, strong infrastructure access, and dual exposure to garnet and graphite opportunities. It also marked the Company's first formal step into U.S.-centred downstream engagement aimed at thermal management and defence markets.

Since that time, the global thermal management supply chain has tightened further, driven by two structurally large demand vectors:

1. The exponential growth of AI compute and hyperscale data centres, where heat dissipation is now a limiting factor for performance, uptime, and energy efficiency; and
2. Rising defence procurement and modernisation programs, particularly in the U.S., where next-generation weapons and directed-energy systems require materials that can sustain extreme thermal loads while remaining lightweight, reliable and scalable.

**WHY GRAPHITE MATTERS FOR THERMAL MANAGEMENT**

Graphite is a uniquely effective material for thermal management because of its high thermal conductivity, stability at extreme temperatures. It also has the ability to be engineered into advanced carbon-based products including synthetic graphite, expandable graphite, graphite foils, and thermal interface composites.

In practical terms, high-specification graphite products enable:

- Rapid heat spreading in constrained spaces, which is essential for server racks, GPU/ASIC modules, and compact weapons platforms;
- Lower operating temperatures, extending equipment life and reducing failure rates;
- Improved energy efficiency, reducing cooling loads and power draw; and
- Compatibility with next-gen manufacturing, including 3D carbon architectures and composite laminates.

Pure's graphite review at Garnet Hills, which is already underway, was initially framed as a resource value-unlocking initiative. That remains true, but the strategic lens has sharpened, graphite potential is now viewed as a pathway into a high-margin, geopolitically prioritised market segment.

**PURE'S THERMAL MANAGEMENT STRATEGY**

Pure's strategy is structured around a mine-to-market model. The Company is not seeking to be a commodity graphite producer exposed to spot cycles. Instead, it aims to build an integrated downstream alignment that captures margin at each step.

**1. Resource Confirmation and Quality Definition**

Garnet Hills sits on a granted mining lease and is adjacent to and surrounded by the McIntosh Graphite Project, one of Australia's largest graphite systems. Pure's ongoing graphite review is prioritising:

- Confirmation of graphite mineralisation through reassessment of historical drilling that intersected graphite schist units;
- VTEM conductor targeting to identify untested conductive horizons with potential to host laterally extensive graphite mineralisation; and
- Quality analysis, including flake size distribution and impurity profiling, to determine suitability for thermal management feedstock pathways.

The Company expects to update the market as these workstreams mature into defined exploration or resource programs.

**2. Downstream Product Alignment**

Industrial customers in thermal management do not buy "graphite tonnes", they buy performance. Pure's downstream work therefore targets qualification processes that translate ore characteristics into thermal metrics.

Initial downstream alignment is focusing on:

- Graphite concentrates suitable for thermal interface materials (**TIMs**);
- Potential feedstock for graphite heat spreaders and foils; and
- Carbon-based composite precursors for defence cooling systems.

This is why U.S. technology and academic collaboration is not optional, it is the fastest path to validation, product design and market entry.

**3. U.S. Market Entry – Tier-1 End Users**

Pure has already commenced discussions with thermal management suppliers and integrators in the U.S., including groups focused on heat sinks and defence weapons cooling. These discussions are broad by design, spanning:

- Data centre cooling suppliers;
- Defence platform materials groups;
- Advanced manufacturing and composite developers; and
- DoE-linked academic institutions.

The objective is straightforward: secure U.S. pathways early, then build toward offtake or strategic partnerships as feedstock and product suitability are confirmed.

**4. ESG and Strategic Supply Chains**

The U.S. is actively re-shoring critical material supply chains. Thermal management inputs, especially carbon-based systems used in data and defence, are a major part of this push.

Pure intends to position itself as:

- A secure, reliable, ESG-aligned supply partner;
- A strategic entrant into U.S. downstream systems, not merely an exporter; and
- A multi-commodity supplier where garnet, graphite and associated REE potential reinforce a single integrated development thesis.

**STRATEGIC U.S. COLLABORATION – EXPANDED DETAIL**

Pure confirms that its July 2025 U.S. collaboration initiative has progressed into active investigation and relationship development across multiple institutions and technology providers.

The collaboration scope includes:

**A) REE Extraction from Industrial Garnet**

Pure is assessing pathways to extract REE from industrial garnet streams using U.S.-developed technologies. Garnet skarn horizons at Garnet Hills are already being advanced through metallurgical test work and end-user sampling. The new collaboration layer is aimed at unlocking additional value in garnet processing residues, potentially creating a parallel REE revenue stream.

Work to date includes:

- Identification of candidate U.S. extraction technologies;
- Early-stage engagement with technology owners and research groups; and
- Scoping of pilot-scale testing parameters aligned to Pure's garnet metallurgy program.

**B) Mine-to-Market Thermal Management Alignment**

Pure has commenced discussions with U.S. thermal management suppliers, including those focused on:

- Heat sink manufacturing and integration for data centres; and
- Weapons cooling systems for modern defence platforms.

The focus is on moving beyond generic talks and into structured qualification work where possible, including:

- Feedstock specification requirements;
- Potential pre-qualification sample pathways;
- Co-development concepts; and
- Identification of priority performance benchmarks.

**C) DoE-Funded Academic Engagement**

Pure confirms engagement has begun across multiple DoE-funded academic institutions. The DoE network provides access to cutting-edge thermal materials research, pilot facilities, and industrial partners already embedded in U.S. procurement ecosystems.

The Company's mandate in these collaborations is:

- Downstream alignment;
- Mining and processing technology enhancements; and
- R&D pathways complementary to Pure's graphite and garnet assets.

Pure will provide further updates as specific programs and scopes are formalised.

**MARKET OPPORTUNITY – DATA CENTRES AND DEFENCE**

**Data Centre Cooling**

Global compute infrastructure is in a heat race. AI-heavy workloads drive thermal density up, forcing operators to seek higher-performance heat spreaders and TIMs. Graphite-based systems are increasingly deployed for:

- GPU module heat spreading;
- High-throughput server rack cooling;
- Advanced liquid-cool interface components; and
- Compact edge-compute units.

Pure sees an opportunity to position Garnet Hills graphite into these "performance first" supply chains, where margin is linked to functionality rather than bulk tonnage.

**Defence Weapons Cooling**

Modern defence systems generate intense thermal loads. Cooling is mission-critical. Graphite and carbon composites are used in:

- Directed-energy and laser systems;
- High-rate-of-fire weapons platforms;
- Thermal shielding and phase-change interface designs; and
- Lightweight heat dissipation structures.

With U.S. defence procurement prioritising secure and allied mineral supply, Pure considers this market a strategic fit for its U.S. focused collaboration path.

**NEAR-TERM EXECUTION PLAN**

Over the coming quarters, Pure will prioritise:

1. Completion of the graphite review, including resource-target refinement and exploration planning to define scale and quality parameters.
2. Progression of garnet metallurgical test work, including concentrate dispatch to end users and validation of abrasive and industrial suitability.
3. Formalisation of U.S. collaboration agreements, particularly those tied to DoE-linked research, thermal management downstream qualification and REE extraction opportunities.
4. Development of a U.S. market entry roadmap, covering:
    - Priority thermal management subsectors;
    - Target customer qualification sequence; and
    - Sample/bench testing milestones.

Pure intends to update shareholders as each workstream reaches decision points or material outcomes.

**- End -**

This announcement is approved for release by the Board of Pure Resources Limited.

Mr Patric Glovac
Executive Chairman
**Pure Resources Limited**

**About Pure Resources**
Pure's vision is to build a modern, ESG-aligned critical minerals company focused on high-value industrial applications. The Company's Garnet Hills Project provides a dual-commodity development platform in graphite and garnet, with downstream technology and U.S. market alignment aimed at thermal management, defence applications, and potential REE extraction pathways.

**Forward Looking Statements**
Statements contained in this release, particularly those regarding possible or assumed future performance, costs, dividends, production levels or rates, prices, resources, reserves or potential growth of Pure Resources, are, or may be, forward looking statements. Such statements relate to future events and expectations and, as such, involve known and unknown risks and uncertainties. Actual results and developments may differ materially from those expressed or implied by these forward-looking statements depending on a variety of factors.

**Competent Persons Statement**
The information in this report which relates to Exploration Results is based on information compiled by Dr. James Warren, a Competent Person who is a member of the Australian Institute of Geoscientists. Dr. Warren is a consultant to Pure Resources Limited. Dr. Warren has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves". Dr. Warren consents to the inclusion in this report of the matters based on the information in the form and context in which it appears

The Company confirms that the Exploration Results referenced in this announcement were previously disclosed in the Company's ASX announcements titled High-Value Jumbo Flake Graphite Identified at Garnet Hills – Dated 9 December 2025. The Company confirms that it is not aware of any new information or data that materially affects the information included in those earlier announcements. All material assumptions and technical parameters underpinning the Exploration Results continue to apply and have not materially changed.