

# Global Energy Metals Reports on Strong Lithium Recovery Testing with GEO40 and Production of 99.9% Battery Grade Lithium Carbonate Product

23.06.2025 | [The Newswire](#)

[Global Energy Metals Corp.](#) TSXV:GEMC | OTCQB:GBLEF | FSE:5GE1 ("Global Energy Metals", the "Company" and/or "GEMC"), is a multi-jurisdictional, multi-commodity critical mineral exploration, development and project generating company focused on growth-oriented projects supporting the global transition to clean energy.

Global Energy Metals previously reported that it has entered into a non-binding Letter of Intent (the "Agreement") with NeoLithica Ltd. ("NeoLithica") to acquire an eighteen month option to acquire a 19.9% interest and a 1% Net Smelter Return ("NSR") royalty over NeoLithica's Peace River Lithium Project ("Peace River" and/or the "Project"). For additional information on the terms of the Agreement and details on the Project please refer to Global Energy's news release dated February 4, 2025.

GEMC is pleased to announce testing results from brine sourced from NeoLithica's Peace River Project in NW Alberta, Canada. NeoLithica is currently undertaking a strategic evaluation to assess development options available to service growing North American lithium market demand while maximizing the long-term value of one of Canada's largest lithium brine inferred resource. Please refer to the mineral resource prepared by Fluid Domains in accordance with the Canadian Securities Administration's National Instrument 43-101 Standards for Disclosure of Mineral Projects and Canadian Institute of Mining and Metallurgy guidelines and definition standards. The effective date of this report is January 30, 2023.

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Figure 1. Location at the Peace River project in Alberta of lithium-brine collected and transported to the DLE Test Facility.

NeoLithica entered into a Pilot Test Agreement with Geo40, LLC (Geo40) in Q1 2025, for Geo40 to demonstrate its brine pre-treatment regime, Direct Lithium Extraction (DLE) technology, and the interface between the two. NeoLithica transported 6,000 litres of lithium-bearing oilfield brine from a third-party well at its Peace River 10 million tonne lithium carbonate equivalent ("LCE") asset to Geo40's Estevan, SK pilot site. After completion, Geo40 delivered a Pilot Report on its DLE technology (summarized as follows), which included a preliminary OPEX estimate based on the results of the test campaign.

Mitchell Smith, President, CEO and Director commented:

"Despite prices languishing and expected to remain flat this year, lithium remains critical and at the forefront for North American energy independence, underpinning the long-term fundamentals of the industry and necessity for security of supply. We are extremely pleased by Geo40's lithium brine testing results from NeoLithica's Peace River project in Alberta and look forward to working together to further unlock value for our shareholders and place the Peace River project in the vanguard of lithium brine resources under development in Canada."

Geo40's direct lithium extraction (DLE) technology was able to effectively extract lithium from NeoLithica's Peace River brine, demonstrating its brine pre-treatment regime, DLE technology and the interface between the two worked very effectively. The brine samples were treated using Geo40's proprietary brine pre-treatment process prior to conducting the lithium extraction process through the pilot plant. The DLE process was performed in a system where Geo40's proprietary lithium-selective Geosieve sorbent is recycled to the front end of the process at the conclusion of each cycle for re-use.

When testing new brine chemistries, Geo40 will typically conduct significant optimization on the brine to achieve pilot results that match its expected piloting program outcomes. As anticipated, this was the case with the Peace River brine. A key efficiency and cost driver is achieved by optimizing Geo40's brine pre-treatment process and determining the required interface with the DLE pilot unit to optimize Geosieve's effectiveness. This resulted in a lithium chloride eluate averaging 749 mg/L lithium, a 13-fold increase in concentration from the brine provided, and overall lithium recoveries consistently averaging 97%. Geo40 reports that further process optimizations has the potential to ultimately produce an eluate with a lithium concentration of up to 3,000mg/L.

At the end of the trial, a small volume of lithium-rich liquor, in the form of lithium chloride (LiCl) as the final product, was shipped to Geo40's lab for further evaluations. A small sample of battery grade lithium carbonate was precipitated from the NeoLithica eluate. The purity of the sample was measured by ICP-OES, and when compared the Albemarle and SQM specifications for battery grade product, the NeoLithica sample exhibited >99.9% purity meeting the main battery grade specifications, noting that a third party has not verified the results and this is solely based on the internal ICP results. A sample of the eluate and lithium carbonate were shipped to NeoLithica in Calgary.

This report also detailed piloting results, including preliminary OPEX modelling of a commercial scale DLE plant. Based on the results achieved to date, Geo40's technology has the potential to recover lithium from NeoLithica's Peace River oilfield brine at a competitive cost, which is expected to be reduced further through process optimization and potentially lower input costs including locally sourced chemicals, electricity, and water.

It is anticipated that these results of the DLE pilot program will contribute to NeoLithica producing a preliminary economic assessment on the production of LiCl concentrate and further refined technical- and battery-grade  $\text{Li}_2\text{CO}_3$ , extracted from its lithium-bearing brines. In addition, it is intended that the lithium chloride and lithium carbonate chemistry will be made available to a number of potential customers for their qualification test work for battery applications. This is a critical step to potentially attracting industry participation and securing potential off-take agreements with global companies seeking sustainable and robust solutions to meet their demand for lithium.

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Figure 2. Battery-grade  $\text{Li}_2\text{CO}_3$  sample produced for NeoLithica.

The pilot tests already conducted by Geo40 and others, in conjunction with additional pilot tests to be conducted by additional innovative DLE solutions providers in 2025, will assist NeoLithica's in its selection of its primary DLE vendor. It is contemplated that in future larger-scale piloting campaigns, NeoLithica intends to process brine from the company's own wells as part of future drill plans.

Global Energy is relying on the information provided by NeoLithica Ltd and the Pilot Report authored by Geo40.

About Geo40 LLC

Geo40 sustainably recovers minerals from brines. It has mature technology for the extraction of silica nano-particles from hot geothermal fluids and operates two plants in New Zealand. Geo40 has also developed a unique ion-exchange DLE technology and is focussed on the recovery of lithium from North American produced waters. The Company's two pilot plants have travelled across all the significant oil and gas basins of North America. It plans to deploy a c100-200tpa LCE pre-commercial DLE plant in North America later in 2025.

About NeoLithica Ltd.

NeoLithica is an emerging lithium resource development company that plans to incorporate innovative direct lithium extraction ("DLE") and refining technologies to produce battery-grade lithium compounds in support of

Canada's critical mineral supply chain. The Company is headquartered in Calgary, Alberta.

## Market and Industry Data

This news release includes market and industry data and forecasts that were obtained from third-party sources, industry publications and publicly available information. Third-party sources generally state that the information therein has been obtained from sources believed to be reliable, but there can be no assurances as to the accuracy or completeness of included information. Although management believes it to be reliable, management has not independently verified any of the data from third-party sources referred to in this news release or analyzed or verified the underlying studies or surveys relied upon or referred to by such sources, or ascertained the underlying economic assumptions relied upon by such sources.

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Global Energy Metals Corporation

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Global Energy Metals Corp. offers investment exposure to the growing rechargeable battery and electric vehicle market by building a diversified global portfolio of exploration and growth-stage battery mineral assets.

Global Energy Metals recognizes that the proliferation and growth of the electrified economy in the coming decades is underpinned by the availability of battery metals, including cobalt, nickel, copper, lithium and other raw materials. To be part of the solution and respond to this electrification movement, Global Energy Metals has taken a 'consolidate, partner and invest' approach and in doing so have assembled and are advancing a portfolio of strategically significant investments in battery metal resources.

As demonstrated with the Company's current copper, nickel and cobalt projects in Canada, Australia, Norway and the United States, GEMC is investing-in, exploring and developing prospective, scaleable assets in established mining and processing jurisdictions in close proximity to end-use markets. Global Energy Metals is targeting projects with low logistics and processing risks, so that they can be fast tracked to enter the supply chain in this cycle. The Company is also collaborating with industry peers to strengthen its exposure to these critical commodities and the associated technologies required for a cleaner future.

Securing exposure to these critical minerals powering the eMobility revolution is a generational investment opportunity. Global Energy Metals believes Now is the Time to be part of this electrification movement.

#### Cautionary Statement on Forward-Looking Information:

Certain information in this release may constitute forward-looking statements under applicable securities laws and necessarily involve risks associated with regulatory approvals and timelines. Although Global Energy Metals believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance and actual results or developments may differ materially from those in the forward-looking statements. Except as required by law, the Company undertakes no obligation to update these forward-looking statements in the event that management's beliefs, estimates or opinions, or other factors, should change.

GEMC's operations could be significantly adversely affected by the effects of a widespread global outbreak of a contagious disease, including the recent outbreak of illness caused by COVID-19. It is not possible to accurately predict the impact COVID-19 will have on operations and the ability of others to meet their obligations, including uncertainties relating to the ultimate geographic spread of the virus, the severity of the disease, the duration of the outbreak, and the length of travel and quarantine restrictions imposed by governments of affected countries. In addition, a significant outbreak of contagious diseases in the human population could result in a widespread health crisis that could adversely affect the economies and financial markets of many countries, resulting in an economic downturn that could further affect operations and the ability to finance its operations.

For more information on Global Energy and the risks and challenges of their businesses, investors should review the filings that are available at [www.sedar.com](http://www.sedar.com).

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We seek safe harbour.

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<https://www.rohstoff-welt.de/news/696303--Global-Energy-Metals-Reports-on-Strong-Lithium-Recovery-Testing-with-GEO40-and-Production-of-99.9Prozent-B>

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