

# Protium Clean Energy Corp. Announces Results from Satellite Gas Surveys

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[Protium Clean Energy Corp.](#) (CSE: GRUV) (FSE: G071), is pleased to announce further results from its satellite gas surveys over its Temiskaming Claim Block and the surrounding 11,000 sq. km area centered on Lake Temiskaming and the Quebec Innovative Materials Corp. ("QIMC") Saint Bruno de Guiges hydrogen showings. Hydrogen targets were outlined on Protium's Firstbrook Claims (see December 3, 2024 press release) and numerous areas, including the QIMC Saint Bruno de Guiges claims in the surveyed region and other four gases (helium, radon, methane, and carbon dioxide) were detected in the area.

The deep hydrogen mapping successfully delineated target areas for further field follow-up soil testing on the Firstbrook Claims. Regionally, it identified further areas having the potential for deep-sourced hydrogen, including deep-rooted fault systems and potential buried hydrogen reservoirs

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Hydrogen accumulation in graben structures has gained significant attention recently due to its potential as a clean energy source. Grabens, elongated depressions bounded by parallel faults, provide favourable conditions for natural hydrogen formation and accumulation. Grabens offer several key features that make them suitable for hydrogen accumulation:

- Deep-rooted fault systems: These faults can be conduits for hydrogen migration from deep sources to shallower depths.
- Sedimentary layers: Grabens often contain sedimentary rocks that can serve as reservoirs for hydrogen storage.
- Structural traps: The horst and graben structures can create conditions that trap accumulating gases, including hydrogen

Lake Timiskaming area's geology is particularly conducive to natural hydrogen formation:

- It features a long-lived pre-existing basement structure associated with crustal extension, and these deep-rooted fault systems can act as conduits for hydrogen migration from deep sources to shallower depths.
- It contains down-dropped outlier blocks of Ordovician-Silurian limestone preserved within the graben, which creates a favourable environment for hydrogen accumulation as structural traps.
- Mafic dykes and sills, similar to those found in known hydrogen deposits elsewhere, may act as impermeable barriers, trapping hydrogen beneath. On the Firstbrook claims, the Cobalt Group are injected by numerous Nipissing mafic dykes and sills, which can act as impermeable barriers that limit the ascent of hydrogen to the surface, similar to hydrocarbon trap in oil and gas fields.

It has the conditions favourable for hydrogen accumulation:

- Geothermal gradient: Higher geothermal gradients can promote hydrogen production.
- Radiogenic elements: Enrichment in radiogenic elements in the basement rocks can contribute to hydrogen generation through radiolysis.
- Ultramafic rocks: Serpentinization of ultramafic rocks in the basement can generate hydrogen.

- Carbonate reservoirs: These can serve as temporary hydrogen accumulation zones.

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The Temiskaming Graben is seismically active in the Western Quebec Seismic Zone. Reactivating faults have resulted in earthquakes, with earthquake epicenters close to several major graben faults. Survey results returned 13 out of 1,000+ lakes containing five gases-hydrogen, helium, radon, methane, and carbon dioxide-along a four-kilometer length of the Cross Lake Fault.

The results confirm the region's potential for natural hydrogen, with the Firstbrook Claims being 60 km and 40 km from the Lithosphere-Asthenosphere Boundary (LAB), respectively. The findings are particularly noteworthy as the world's largest natural hydrogen deposit was discovered in 2024 in Albania, approximately 30 km from an LAB line. On the North American continent, hydrogen and helium were also found close to an LAB line in Kansas.

The Timiskaming Graben, being a seismically active structure, further enhances the potential for hydrogen accumulation and migration through its fault systems.

John Ryder P.Geo, a "Qualified Person" as that term is defined under NI 43-101, has reviewed and approved the technical information contained in this news release. Mr. Ryder is also a consultant of the Company.

About Protium Clean Energy Corp.

Protium Clean Energy Corp. is a junior exploration and development company focused on identifying, acquiring, and exploring prospective minerals in Canada's extensive natural resources portfolio. We focus on exploring and developing our 100% owned Nakina Lithium and Firstbrook Hydrogen properties in Ontario, located in Northern Canada, and identifying and pursuing further opportunities by region using various satellite surveys. This allows Protium Clean Energy Corp. to evaluate large tracts of land quickly and cost-effectively to delineate targets for natural gasses and critical minerals required for the modern world.

On Behalf of the Board of Directors,

"Marc Branson"  
CEO and Director  
Email: [investors@protium.ca](mailto:investors@protium.ca)  
Website: [protium.ca](http://protium.ca)  
Phone: 604-816-2555

#### Forward-looking Information Cautionary Statement

This news release contains forward-looking statements regarding the potential for natural hydrogen accumulation within the Temiskaming Graben, planned exploration and follow-up activities on the Firstbrook Claims, and the significance of regional geological comparisons to known hydrogen-bearing systems in Albania and Kansas. These forward-looking statements are based on a number of assumptions, including the accuracy of satellite gas survey results, the validity of geological models supporting hydrogen generation and retention, and the Company's ability to conduct further exploration activities in a timely and effective manner. However, these statements are subject to various risks and uncertainties, including but not limited to the possibility that hydrogen may not be present in economically recoverable quantities, challenges associated with permitting and regulatory approvals, evolving geological interpretations that may alter exploration priorities, and broader market and economic conditions affecting the commercial viability of natural hydrogen as an energy source. There is no assurance that exploration activities will confirm the presence of economic hydrogen accumulations, and actual results may differ materially from those anticipated. Protium undertakes no obligation to update or revise forward-looking statements, except as required by applicable securities laws. Additional information identifying risks and uncertainties that could

affect financial results is contained in the Company's filings with Canadian securities regulators, which are available at [www.sedarplus.ca](http://www.sedarplus.ca).

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