

# QIMC Announces Landmark Discovery of Hydrogen Soil Samples over 1000ppm on Recently Completed 9.7km North-South Line, Outlining Highly Charged 70km<sup>2</sup> Hydrogen Area

Quebec City, Quebec--(Newsfile Corp. - September 4, 2024) - Quebec Innovative Materials Corp. (CSE: QIMC) (FSE: 7FJ) ("QI Materials", "QIMC" or the "Company"), is proud to announce a landmark discovery made in collaboration with our Quebec partner, the Institut National de la Recherche Scientifique (INRS). The findings from the recently completed 9.7km north-south line 7 have uncovered hydrogen soil samples with concentrations exceeding 1000 parts per million (ppm). Significantly, we observed 8 readings exceeding 600 ppm, with 2 of those surpassing 1000 ppm. Additionally, the average measured 531.9 ppm over a 450 ms interval between the readings above 1000 ppm (Fig. 1). Professor Marc Richer-Lafleche, Scientific Head of Applied Geoscience Laboratory comments, "These highly anomalous values can be considered first-class given the absolute values that, locally, exceed the instrumental detection limit of 1000 ppm. The results from Line 7 validate the geological hydrogen model interpretations we outlined in previous announcements."

The data distribution is illustrated in Figure 2, which maps the anomalies against a backdrop of satellite imagery.

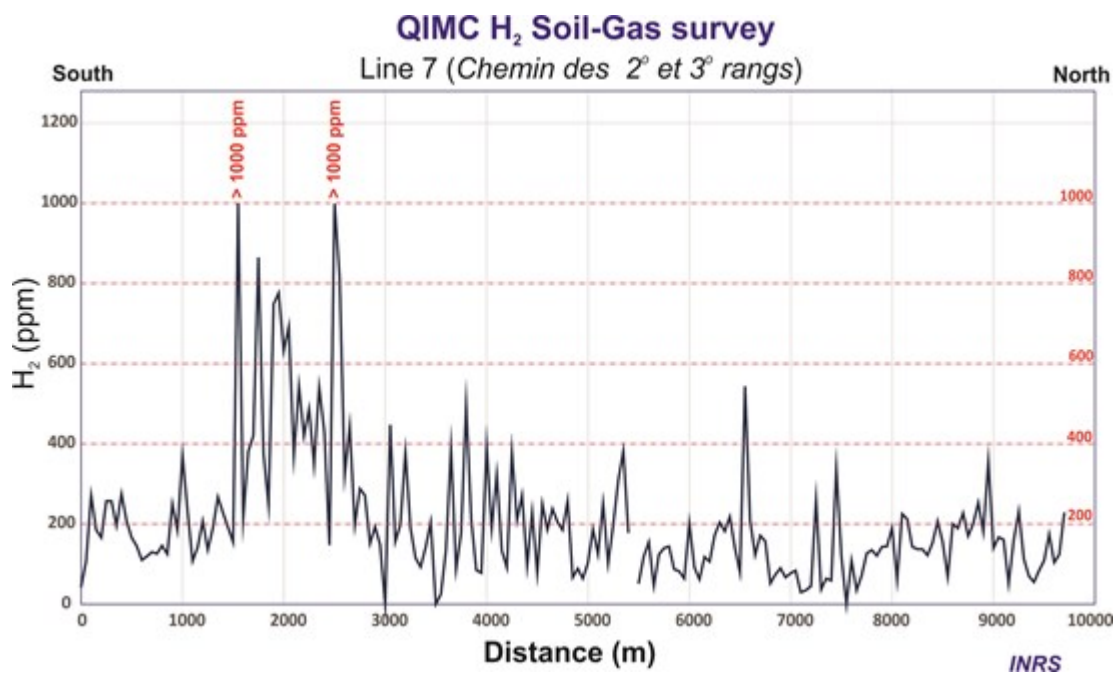


Figure 1. Section showing the variability of H<sub>2</sub> concentrations measured in the soils of line 7 at St-Bruno-de-Guigues. Data are given as a function of distance in meters

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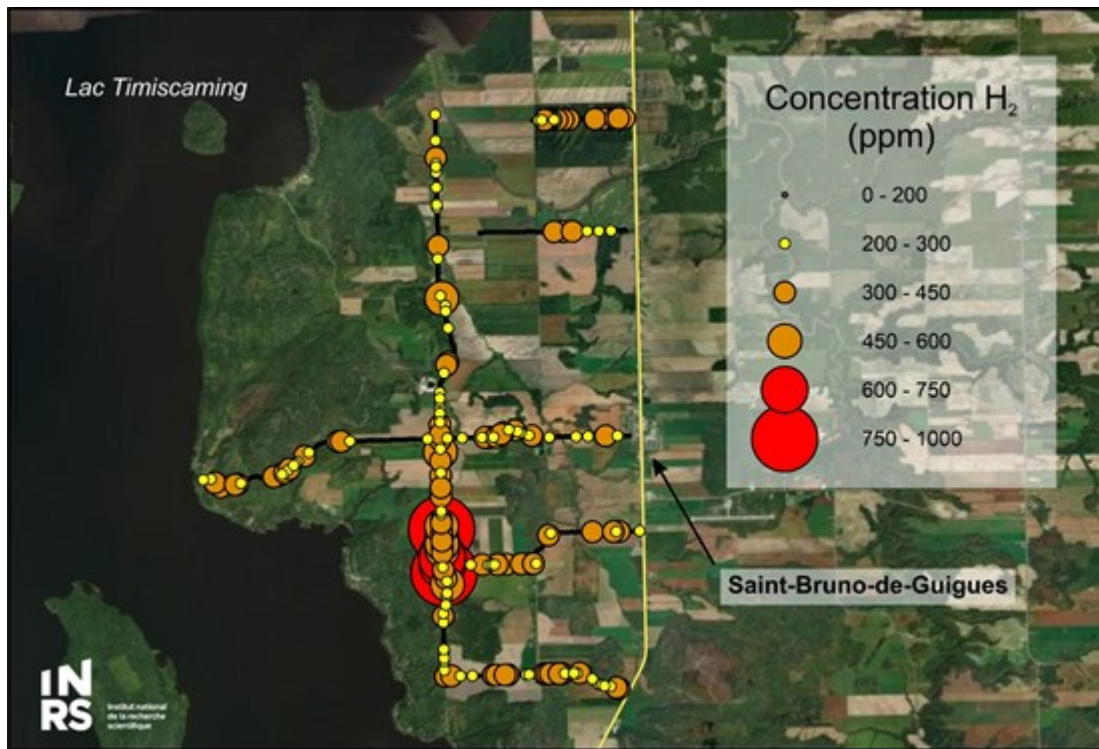


Figure 2: Map of the distribution of hydrogen anomalies in the soils of the St-Bruno-de-Guigues area. Data projected onto satellite image background.

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### Exceptional natural hydrogen levels

"We are thrilled to announce this transformative discovery outlining a highly charged 70km<sup>2</sup> hydrogen area within our 250km<sup>2</sup> Ville Marie property," said John Karagiannidis, CEO of QIMC. "The hydrogen concentrations identified by INRS mark a significant advancement in our pursuit of clean, renewable energy solutions. This breakthrough highlights our leadership in the hydrogen sector and strengthens our commitment to advancing sustainable technologies that support Quebec's clean emission goals. We eagerly anticipate the next steps in developing and commercializing this remarkable hydrogen resource."

### Strategic Impact

To delineate the area of high hydrogen values observed along line 1 of the July 2024 soil gas survey, the INRS field crew extended line 1 westward during the first week of August 2024. This extension begins at the boundary between forest and agricultural land and ends near the chemin des secondes et troisième rangs of St-Bruno-de-Guigues (line 7). "As initially predicted in our hydrogen model, the intensity of the soil hydrogen anomalies gradually decreased towards the west (Figure 3)", notes Professor Marc Richer-Lafleche. "This decrease in concentration emphasizes a westward closure of the hydrogen anomaly domain. This spatial variability may reflect, among other things, the presence of contrasting geological units (arkosic sandstones, Cobalt Group conglomerates, Ordovician dolomitic limestones) and also the probable presence of the Rivière-Blanche fault, which may be present in the St-Bruno-de-Guigues area beneath the thick glacial-lacustrine sediments", states Professor Marc Richer-Lafleche.

## Ville-Marie H<sub>2</sub> project Soil-Gas Survey lines

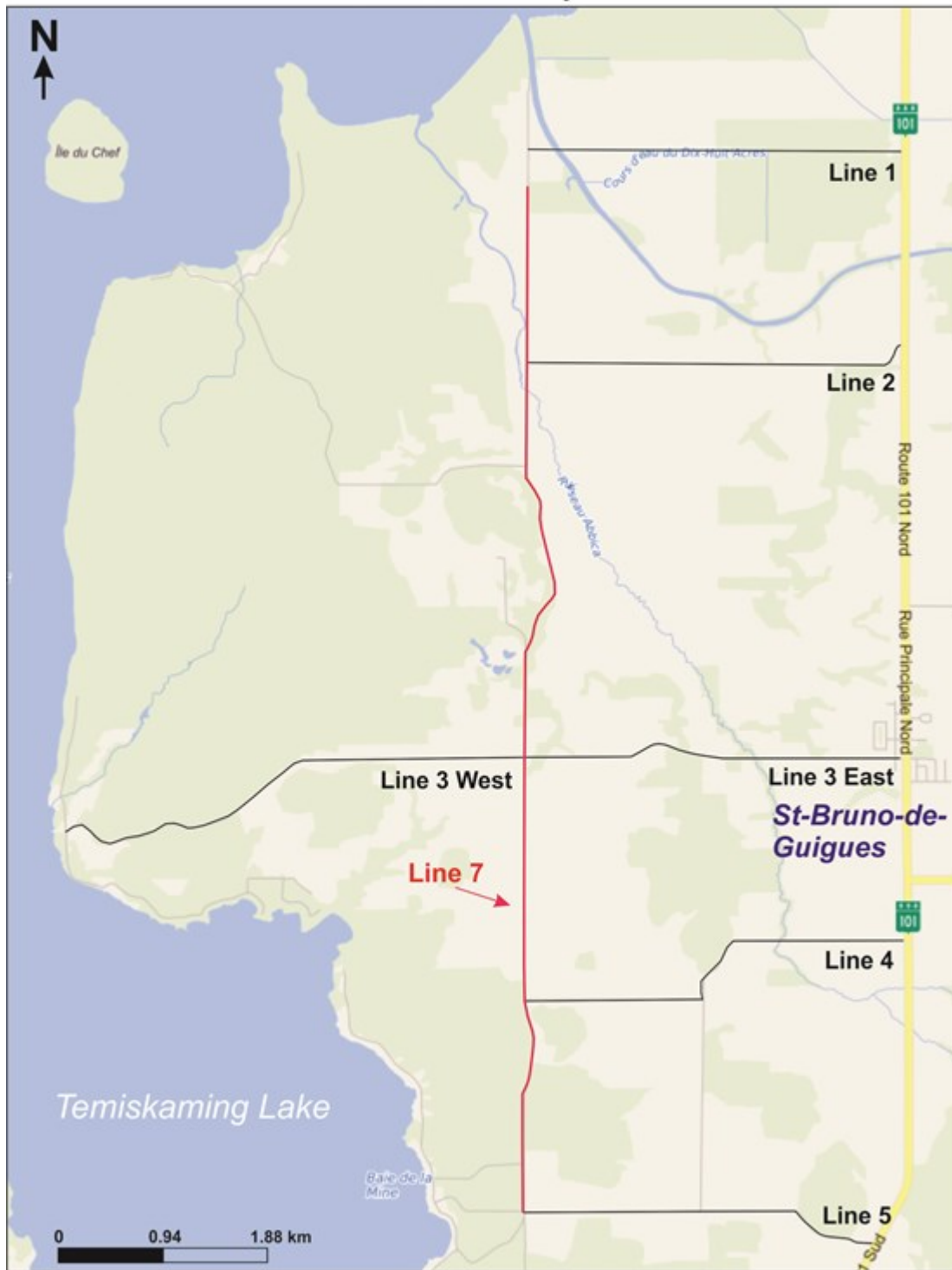


Fig. 3: Location map of the soil gas survey for Line 7 (North-South) and East-West Lines 1, 2, 3, 4 and 5.

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"We believe that this fault is partly responsible for the emplacement of hydrogen in the St-Bruno-de-Guigues area," said John Karagiannidis, CEO of QIMC. The location of this fault is a priority for QIMC and INRS and will be the subject of a high spatial resolution audiomagnetotelluric survey to be carried out in the fall of 2024.

"In the area of the sampling stations containing the hydrogen anomalies, there is no evidence in the field (or in the MRNF databases) of the presence of wells (former mining or oil wells), which could explain, among other things, the presence of H<sub>2</sub> anomalies from anthropogenic sources. What's more, unlike the

false H<sub>2</sub> anomalies regularly reported in the scientific literature, the H<sub>2</sub> anomalous zones at St-Bruno-de-Guigues extend for more than one kilometer (along north-south or east-west axes), which cannot be explained by anthropogenic sources.

It is also unlikely that the gas anomalies are the result of subsurface biogenic processes, as the glaciolacustrine sediments hosting the H<sub>2</sub> anomalies and also the H<sub>2</sub>-depleted zones (background) are very similar from one sampling site to another. These Quaternary sediments are essentially dominated by a mineral matrix with little potential to generate significant amounts of hydrogen through fermentation reactions with organic matter. In contrast to the study by Etiope et al. (2024), which was carried out on soils from the Pusteria Valley region (northern Italy), the H<sub>2</sub> concentrations observed in soils from the Lake Témiscamingue graben are not associated with very high CH<sub>4</sub> and CO<sub>2</sub> concentrations. Therefore, it is likely that the source of hydrogen in St-Bruno-de-Guigues soils is geological rather than biogenic," details Professor Marc Richer-Lafleche.

### **Next Steps:**

Soil sampling is scheduled in the fall of 2024 to further analyze the granulometric and elemental characteristics of glaciolacustrine sediments in the St-Bruno-de-Guigues area.

Gravimetry and audiomagnetotellurism (AMT) geophysics are also planned for the fall of 2024 to assess variations in the thickness of local sedimentary rock deposits (gravity troughs) over the Archean basement. These data will allow us to locate the areas most likely to contain reservoir rocks. AMT data will allow us to locate graben-related faults in the St-Bruno-de-Guigues area that are covered by Quaternary sediments.

"The high levels of hydrogen discovered by INRS underscore our commitment to leading the transition to sustainable, clean energy solutions," said John Karagiannidis. "We are excited about the upcoming phases of commercial development and the opportunity to advance our renewable energy initiatives."

**REF: Etiope, G., Ciotoli, G., Bena, E., Mazzoli, C., Rockmann, T., Sivan, M., Squartini, A., Laemmel, A., Szidat, S., Haghypour, N. and Sassi, R., 2024.** Surprising concentrations of hydrogen and non-geological methane and carbon dioxide in the soil . Science of the Total Environment, 948.

### **About the INRS and Pr. Marc Richer-LaFlèche, P.Geo.**

The Institut National de la Recherche Scientifique ("INRS") is a high-level research and training institute. Pr. Richer-LaFlèche's team has exceptional geological, geochemical and geophysical experience specifically in the regions of QIMC's newly acquired claims. They have carried out over six years of geophysical and geochemical work and collected thousands of C<sub>1</sub>-C<sub>4</sub> Soil-Gas analyses.

M. Richer-LaFlèche also holds an FRQNT grant, in partnership with Quebec MRN and the mining industry, to develop and optimize a Soil-Gas method for the direct detection of mineralized bodies and faults under Quaternary cover. In addition to sulphide gases, hydrogen was systematically analyzed in the numerous surveys carried out in 2023 in Abitibi, Témiscamingue and also in the Quebec Appalachians. M. Richer-LaFlèche is the Qualified Person responsible for the technical information contained in this news release and has read the information contained herein.

In addition, the INRS team has several portable gas spectrometers and the sampling equipment and logistics necessary for taking gas samples and geophysical measurements on the ground or in the aquatic environment. He is a professional geologist registered with the Ordre des géologues du Québec and is the Qualified Person responsible for the technical information contained in this news release and has read the information contained herein and approves the press release.

For more information about Quebec Innovative Materials Corp. and its products, please visit [www.qjmaterials.com](http://www.qjmaterials.com).

## **About Québec Innovative Materials Corp.**

Québec Innovative Materials Corp. is a mineral exploration, and development company dedicated to exploring and harnessing the potential of Canada's abundant resources. With properties in Ontario and Québec, QIMC is focused on specializing in the exploration of white (natural) hydrogen and high-grade silica deposits, QIMC is committed to sustainable practices and innovation. With a focus on environmental stewardship and cutting-edge extraction technology, we aim to unlock the full potential of these materials to drive forward clean energy solutions to power the AI and carbon-neutral economy and contribute to a more sustainable future.

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