



THE UNIVERSITY OF BRITISH COLUMBIA



NEWS RELEASE

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Groundwater Monitoring Research Project Launched for Northeast B.C.

The BC Oil and Gas Commission (Commission), Geoscience BC, the University of British Columbia (UBC), Simon Fraser University and the University of Calgary are collaborating on a research project to install 30 new groundwater monitoring wells within the Peace Region in northeast B.C.

“The Commission oversees the safe development and operation of oil and gas wells in British Columbia. Data from these new research groundwater monitoring wells will provide more information to our specialists and help strengthen the Commission’s oversight of the oil and gas industry,” said Commissioner Paul Jeakins.

“Potential impacts to groundwater from energy resource development are controversial and scientifically-based answers to many questions related to this are needed. In particular, more information is needed on groundwater conditions in areas of resource development in B.C., including levels of methane and other hydrocarbons close to oil and gas wells. This new research project will generate high quality scientific data to address concerns related to resource development in the Peace Region” said Dr. Aaron Cahill, Principal Investigator of the project and Co-Director of UBC’s Energy and Environment Research Initiative.

“These 30 wells will provide a legacy of permanent scientifically-designed monitoring wells. This infrastructure will allow ongoing monitoring of groundwater trends and cumulative effects in northeast B.C. for decades to come,” said Geoscience BC Chief Scientific Officer Carlos Salas.

Beginning this summer, a research team, led by the Energy and Environment Research Initiative (EERI) at UBC, with collaboration from the Commission and Geoscience BC, is establishing a groundwater monitoring network in the Peace Region consisting of 30 new scientifically designed wells. Combined with a regimented sampling program, the project will characterize if methane is present in northeast B.C. groundwater, and if so, how much, its origins and prevalence in areas near to oil and gas development.

The project team will install its first eight monitoring wells in the Peace Region this summer. The field program will continue next year, as more wells will be drilled in the spring and completed in the fall of 2019, with the project concluding in spring 2020.

The project will:

- Assess baseline groundwater conditions including methane levels in the Peace Region of northeast B.C.

- Build on and/or complement the existing suite of methane-related research underway at UBC and elsewhere.
- Provide data to support the Commission's regulatory policy and technical guidance related to groundwater protection and gas migration.
- Provide data to support other government science initiatives and regulatory policies related to groundwater (for example, the B.C. government's domestic well sampling program and aquifer mapping and science initiatives).
- Support the long term sustainability and viability of continued oil and gas development in the Montney region.
- Address recommendations related to groundwater monitoring made in several previous reports.
- Support the mandate of the Northeast Water Strategy.
- Include community and First Nations engagement as a key element.

Should you have any questions regarding this News Release, please contact any of the following individuals:

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Groundwater Monitoring Research Project FAQs:

Q. Who is undertaking this project?

A. The research team includes scientists with expertise on groundwater, geology and petroleum engineering. The project is being led by the Energy and Environment Research Initiative (EERI) at the University of British Columbia in collaboration with Simon Fraser University, the University of Calgary, the BC Oil and Gas Commission and Geoscience BC.

Q. What does the project involve?

A. The project will involve assessment of currently existing data followed by the installation of 30 new purpose-built, scientifically designed, and strategically located, groundwater monitoring wells. Before, during and after installation a comprehensive and regimented sampling program will be undertaken in the defined study area within the Peace Region of northeast B.C.

Q. Why undertake this project?

A. There is an overall lack of information and scientific research regarding groundwater in northeast B.C., and particularly concerning groundwater methane and its origins. Methane is naturally present in all groundwater systems at some level but can also be related to oil and gas development. Data gained from this project should help to fill in some knowledge gaps on both natural groundwater methane and methane that may potentially be related to oil and gas development.

Q. Where will the 30 monitoring wells be located and who determines that?

A. Exact locations for the new wells are currently being determined based on a comprehensive desk study and review of existing data. The locations will be decided by the research team with guidance from a technical advisory committee based on the scientific goals of the project.

Q. Will there be any community engagement?

A. Yes. A public open house and information sharing session is being planned for this spring, prior to commencing the project. Additionally, regular updates and information will be provided to communities throughout the project to ensure information regarding the proposed work plan and ongoing updates is available.

Q. Who funded the project and how much is it going to cost?

A. The project is funded primarily by Geoscience BC with a significant contribution being provided by the BC Oil and Gas Commission. It is expected the project will cost a total of \$1.5 million over three years.

Q. How long will the project last?

A. All wells are expected to be drilled and in place by the fall of 2019. After which, data from the wells will allow for long term monitoring of groundwater trends for years to come.

Q. Why can't the existing private and municipal water wells in the northeast be used to detect methane in groundwater?

A. While some groundwater data can be obtained by sampling private and municipal water supply wells, additional data locations are required in the Peace Region close to areas of oil and gas development to measure background levels of methane in groundwater.

Q. What are 'scientifically designed' groundwater monitoring wells?

A. Scientifically designed groundwater wells are 'precision' based monitoring wells designed and built to a much higher standard than a typical domestic water well. Very detailed information is collected on the geology before and during the drilling process which is then used to target specific zones in an aquifer. In comparison, domestic water wells are less exact and aim simply to get the most water from as shallow as possible and provide less information on the aquifer.

Q. Is there any risk from drilling these monitoring wells and what will the impact be to the surrounding environment?

A. No, these wells will be drilled according to all regulations and standards for water well drilling and with full safety and environmental plans in place.

Q. Will the results of this study and the data coming from the monitoring wells be publicly available?

A. Yes. Ultimately results will be provided in reports and also published in scientific journals. A key aim of the project is to make available the results and findings of the project.

Q. If, during the study, a monitoring well shows elevated methane levels in a specific aquifer – will there be action taken to halt oil and gas activities that might be in the area?

A. The intent of the project is that the results will be considered collectively to inform a broad understanding of general trends regarding groundwater methane and chemistry characteristics for the study region. Nearby oil and gas activities will not be halted based on the results of a sample from a groundwater monitoring well. Should elevated methane be indicated at a specific monitoring well location, the need for and approaches for any other further investigation would be assessed by the Commission, with consideration of other site-specific information as well as knowledge gained regarding groundwater methane determined from this study.

Q. How can people find out more about the project?

A. More information can be found by checking UBC's EERI website: <http://eeri.ubc.ca/>