



# Moving Ahead

## Conference studies clay barriers

**T**he Port Hope Area Initiative is one of many projects for the long-term management of low-level radioactive waste world-wide. Recently, two senior technical staff from the local Initiative joined their counterparts from around the globe to exchange information and study the effectiveness of clay as an impermeable barrier in radioactive waste management facilities.

The four-day conference provided Paul Conlon, the Low-Level Radioactive Waste Management Office's Manager of Environment, Health and Safety, and Gary Vandergaast, Manager of the long-term projects, a unique opportunity to share knowledge and experience with international experts from industry, research institutes and universities. "The conference allowed us to network and make personal connections that will lead to continued information sharing," Dr. Conlon said.

## Toured underground research facility

The conference setting in Reims, France, was located near an operating low-level radioactive waste management facility and a new underground radioactive waste research laboratory, to which tours were organized. The more than 400 participating delegates included scientists, engineers and government representatives from over 20 countries. Dr. Conlon explained that the focus of the conference on the use of clays applies directly to the local projects. The design concepts for the above-ground mounds proposed for the long-term waste management facilities at Port Hope and Port Granby incorporate an impermeable layer. Clay may be included in the encapsulating barriers that isolate the waste from

the surrounding environment. "That is precisely why we selected this conference," said Dr. Conlon, who wrote his doctoral thesis on this subject.



Gary Vandergaast



Paul Conlon

"Clay is the natural geological medium which is often considered for repositories for radioactive waste," said Mr. Vandergaast, an environmental scientist. "Clay and clay-like materials, such as bentonite, combined with synthetic membranes, can also be used to backfill or seal materials within an above-ground engineered storage system."

## Unique properties of clays

Mr. Vandergaast said clay is ideal for containment because its fine particles retard the flow of groundwater. Clay particles also have properties that cause contaminants from the waste to adhere to the clay, providing a "kind of secondary containment," he explained. "Much scientific research has been devoted to clay as a component of these containment systems."

Dr. Conlon pointed out that the Low-Level Radioactive Waste Management Office, which is directing the Port Hope Area Initiative, has a considerable body of in-house relevant expertise, but the office does not rely on that alone. "We can translate what leading authorities from around the world have learned to fit our own circumstances. By doing this, we will ensure the very best outcome for this local project."



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This regular column is published by the Low-Level Radioactive Waste Management Office to inform local residents of progress on the clean-up and safe long-term storage of low-level radioactive waste in the area.

For copies of this column or additional information call 905 885-0291, or visit the Project Information Exchange at 110 Walton Street in Port Hope.

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