

Expo '03

Port Hope High School
Friday, October 24, 2003: 6:00 - 9:00 p.m.
Saturday, October 25, 2003: 10:00 a.m. - 4:00 p.m.

Study highlights

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Ltd., a paint and dye plant) and the Port Hope Pollution Control Plant storage cell, containing dried sewage

sludge with elevated heavy metals. The study identified and quantified the contaminants and recommended methods for excavation, treatment and long-term management.

Check out our web site...

Our updated web site has new features to help you discover more about the LLRWMO and the Port Hope Area Initiative:

- ▶ Library
- ▶ Programs and Projects
- ▶ Port Hope Area Initiative
- ▶ Links
- ▶ What's new?
- ▶ F.A.Q.s
- ▶ About the LLRWMO

...and much, much MORE!!



Here's how to reach us:

Project Information Exchange
110 Walton Street, Port Hope
Hours: Open 1:00 p.m. to 5:00 p.m.
Monday through Friday
Saturday by appointment

Telephone: 905-885-0291
Toll-free: 1-866-255-2755
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Low-Level Radioactive Waste Management Office

Summer 2003

News

Expo '03 goes to school

Building on the success of Expo '02, last year's trade show-style Open House, the Low-Level Radioactive Waste Management Office (LLRWMO) will move this year's Expo '03 to a larger setting – the gymnasium at Port Hope High School.

The public is invited Friday, October 24, and Saturday, October 25, to visit the interactive displays and talk with staff about the progress of the Port Hope and Port Granby long-term low-level radioactive waste management projects. As host of Expo '03, the

LLRWMO will present a variety of perspectives from participating groups. Last year's participants included the municipalities of Port Hope and Clarington, Natural Resources Canada, the Canadian Nuclear Safety Commission, Durham Nuclear Health Committee, Port Hope Chamber of Commerce, Nuclear Environmental Watchdogs, Community Health Concerns Committee and other interested groups. Arrangements are underway for students to preview the show before it opens to the general public.

Booths are still available at no charge. Contact the Project Information Exchange at 905-885-0291 or 1-866-255-2755 for more information.

NATURE WALK: Dominique Evans of AMEC Earth & Environmental records local flora and fauna during the summer campaign for the Initiative's terrestrial study. Information from a year's worth of environmental baseline studies will be featured at the upcoming Expo '03. See story on page 2.



In This Issue

- Studying the human environment
- Highlights from technical studies
- A look at five alternative concepts
- Understanding property compliance
- You asked?

Studying the human environment

The following studies recently began as part of the Port Hope Area Initiative:



Port Hope Tourism Survey

As part of the socio-economic study, this survey is providing a statistically valid “snapshot” of tourism activity including why people visit Port Hope, where and how long they stay and where they come from. Interviewers are working in the downtown during the summer and fall of 2003. Data from the survey will be used to assess how activities arising from the Port Hope Project may affect tourism. Recommendations for reducing any potential adverse effects will be developed.

Development of Clean-up Criteria

This study is identifying and describing key contaminants of

potential concern. It is reviewing and updating earlier data and applying changes in scientific knowledge, dose assessment and regulatory standards in the development of new clean-up criteria that will form the basis for the cleanup. The municipalities, stakeholder groups and the public will be consulted.

Health Effects Assessment Study

By pulling together existing health studies, relevant environmental data and international practice, this study is characterizing the health of the communities. Potential human health effects of the projects will be assessed using a number of factors including potential pathways for exposure, radiation dose estimates and duration of potential health effects on the public and workers. Health professionals, the municipalities and communities will be consulted.

Environmental data collection winds up

After a long and cold winter, the frog call was late this spring. Environmental specialists will share this, along with other information they've collected, as they complete a year's worth of fieldwork this fall into the area's natural environment. An overview of this work will be presented at Expo '03 on October 24 and 25, at Port Hope High School.

Baseline information about the terrestrial, aquatic, atmospheric and geophysical environments will be



used in the Port Hope Area Initiative to help predict and minimize potential effects during the projects. Data on sensitive “indicator” species like frogs, for example, illustrate the type of information being collected.

On follow-up visits to local wetlands later this spring, choruses of croaking frogs greeted field staff. Ice reached a thickness of up to 50 cm in some wetlands this year, says the terrestrial consultant, making the frogs reluctant to emerge until warmer weather.

Technical Studies

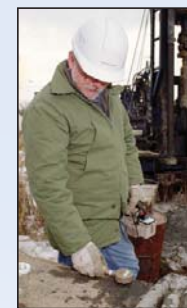
Highlights from four reports

We wind up summaries, begun in the last issue of *Port Hope Area Initiative News*, of four studies undertaken for the Port Hope and Port Granby Projects.

Thorium-230 Impact Assessment

This study assessed Thorium-230 (Th-230) concentrations and their effects at the Port Hope area waste management facilities, with special focus on Port Granby's East Gorge. It found that Th-230, unlike other radioactive contaminants in the waste, was unlikely to cause serious groundwater or surface water contamination, as it is relatively insoluble and immobile. Inhalation was identified as the most likely route of exposure, but standard dust mitigation measures (e.g. misting, air filters) would effectively protect the public and workers. The total public dose from Th-230 and other low-level radioactive waste during excavation was estimated at well below the allowable limit of 1 mSv/yr above background exposure.

proposed waste management facility at the existing Port Granby site. Events that could trigger implementation of the plan include failure of the proposed shoreline protection structure or rupture of the on-site waste cover system from excessive ground settling. The contingency plan does not identify an alternate site but describes criteria for its selection, waste relocation methods and new facility design.



Environmental testing at former coal gasification plant

Port Hope Coal Gasification Plant Site Characterization

The vacant 0.3-hectare site at the northwest corner of John and Alexander Streets was the location of the former Port Hope Gas Light Company for nearly 80 years

until 1939. The buildings were demolished in the late 1960s. The site remains contaminated by various hydrocarbons and heavy metals — residues from coal processing used to produce gas for lighting. Cleanup could involve excavation, disposal and site restoration. The small site and near-surface groundwater table will add to the complexity of the cleanup.



Port Granby Waste Management Facility

Port Granby Conceptual Contingency Plan

This plan addresses relocating the waste to a new facility in case of an unresolvable system failure of the

Port Hope Chemetron Lagoon Area Site Characterization

This site, east of Rose Glen Road South on the Lake Ontario shoreline, includes the former Chemetron lagoon (former Chemetron of Canada

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Two projects: Five Alternative Concepts

The Port Hope Area Initiative moved closer this summer to answering two important questions: How and where will the long-term waste management facilities be built? Here are some features of the five concepts that remain on the table for further study under the Port Hope and Port Granby Projects.

The Port Hope Project Short List

Concept B:

Only Highland Drive area marginally contaminated soils managed at proposed new Ward 1 Waste Management Facility (WMF) near the sports complex; Highland Drive area low-level radioactive waste, existing Welcome facility waste and all other Port Hope waste managed at proposed new Ward 2 WMF near Welcome

Concept C:

All Highland Drive area waste (soil and low-level radioactive) managed at proposed new Ward 1 WMF; Welcome facility waste managed at proposed new Ward 2 WMF and all other Port Hope waste managed at the more appropriate WMF

Note: "More appropriate" to be determined by waste volumes, available space and transportation considerations

Concept D:

All waste managed at single WMF in Ward 2 (near Welcome or Wesleyville)

Concept A was eliminated during the technical review stage because of an anticipated lack of space at the proposed Ward 1 facility. Concept A was to manage all Ward 1 waste in Ward 1 and all Ward 2 waste in Ward 2.

For the above concepts, stabilizing and managing in place low-level radioactive waste currently at the former municipal Highland Drive landfill site is being considered.

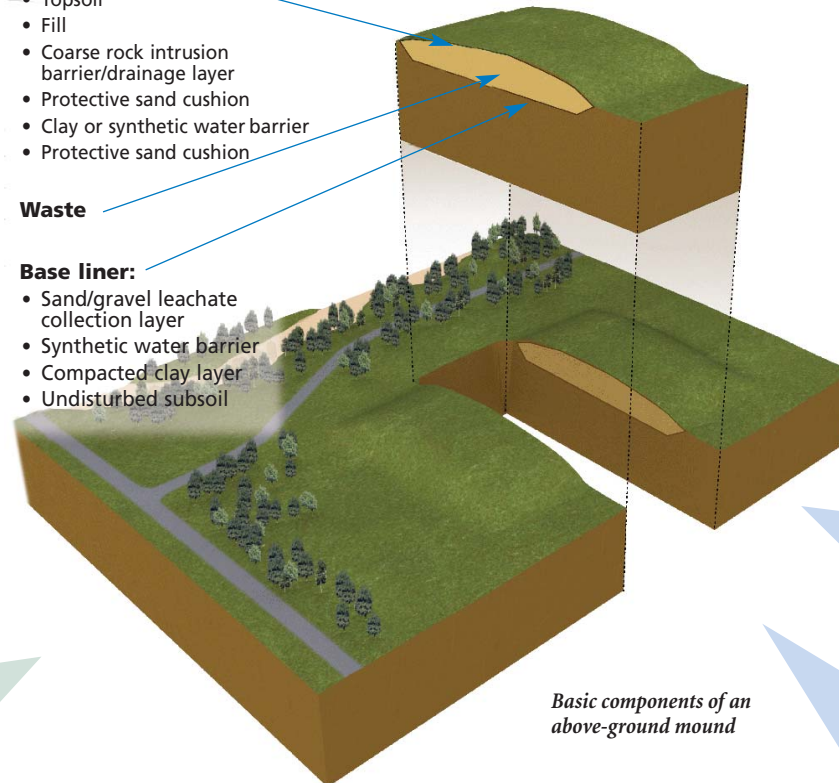
Cover layer:

- Topsoil
- Fill
- Coarse rock intrusion barrier/drainage layer
- Protective sand cushion
- Clay or synthetic water barrier
- Protective sand cushion

Waste

Base liner:

- Sand/gravel leachate collection layer
- Synthetic water barrier
- Compacted clay layer
- Undisturbed subsoil



Basic components of an above-ground mound

Above-Ground Mound Waste Management

Concepts B, C and D (Port Hope Project) and Concepts IA and II (Port Granby Project):

- Above-ground engineered containment mound with base liner, leachate collection and low-permeability cover systems;
- Controlled and monitored excavation;
- Separation of waste types for placement in separate cells within engineered mounds;
- Long-term environmental monitoring.

The Port Granby Project Short List

Concept I:

On-site management of waste at current site:

- Shoreline and bluff stabilization;
- Isolate and stabilize undisturbed waste using low-permeability covers;
- Groundwater diversion system;
- Ongoing collection and treatment of contaminated groundwater;
- Long-term environmental monitoring.

Two options are proposed under Concept I:

IA: Only East Gorge waste excavated and relocated to an on-site above-ground mound

IB: All waste remains in place; no above-ground mound proposed

Concept II:

Relocation of waste to a site north of existing facility using the above-ground mound waste management approach

Concepts involving the movement of waste across the boundary between Port Hope and Clarington were eliminated after consultation with the municipalities of Port Hope and Clarington.

For more detailed information, visit the Project Information Exchange at 110 Walton Street, Port Hope.

You asked?

When can I expect my property to be surveyed in preparation for the clean-up project?

If you live in Ward 1 Port Hope, you can expect a call asking for permission to conduct indoor radon and indoor and outdoor gamma radiation surveys in about three years. The LLRWMO plans to resurvey approximately 4,000 properties to verify previous results and confirm quantities of low-level radioactive waste and contaminated soil to be relocated to a new long-term waste management facility. Field trials to initiate the resurvey had previously been planned for this year but will now take place much closer to the start of construction of a new waste management facility.

Will you use international standards and leading-edge technologies to design the waste management facilities and clean up the waste?

Research into international as well as Canadian standards and regulatory requirements form a basic part of every study carried out for the Initiative. The majority of consultants working for the LLRWMO bring with them the resources and expertise of large, specialist firms that work extensively across the globe. Many of these individuals have first-hand international experience as do several members of the LLRWMO's own technical project team.

We often hear from the public that leading-edge technologies should be used, but people also want assurance that the final technologies will be tried and tested to stand up over time. The

answer to the question lies somewhere in between: innovative technologies will be considered and investigated, but the basic concept of above-ground, dry and isolated waste management is proven. The materials and techniques we use will be proven before we adopt them.

Are you involving First Nation people in your activities?

Yes. Under the coordination of an aboriginal communications consultant, the LLRWMO has invited First Nation communities and Métis organizations to participate in the Initiative. As part of the program to communicate with and involve aboriginal communities, the consultant and LLRWMO community relations staff meet with interested First Nation Chiefs and Councils to explain the projects and determine how First Nation

communities would like to be involved. For example, traditional knowledge about land and resource use, heritage and ecology could be especially relevant to the environmental assessments of the projects. Alderville, Curve Lake and Hiawatha First Nation members have participated in public workshops and meetings.

Why is soil being stored on the Centre Pier in Port Hope?

Port Hope's new state-of-the-art water treatment plant requires a site that is free from historic low-level radioactive waste. To assist the municipality in building the facility, the LLRWMO moved 16,500m³ of marginally contaminated soil to a temporary, engineered storage mound on the Centre Pier. The waste will be moved to a long-term management facility under the Port Hope Project.

Diverse roles for this specialist

In Summer 2001, when Marlo Savoie joined the LLRWMO as a Technical Specialist, the Port Hope Area Initiative was gaining momentum. With a degree in chemical engineering and mathematics, and eight years' experience in the uranium processing industry, she came prepared for the diverse roles awaiting her. As project manager for the waterworks project this summer, Marlo donned hardhat and work boots to oversee the removal of marginally contaminated



soil at Port Hope's waterfront. The project fell under the LLRWMO's Construction Monitoring Program (CMP) to identify and safely store marginally contaminated soil in Ward 1. Her experience with the CMP and Property Compliance Program (see box on facing page) has fit well with the technical studies she manages, including the development of clean-up criteria and the Thorium-230 impact assessment.

Marlo loves hiking and walking her dogs along the Waterfront Trail.

Understanding property compliance

ALLRWMO isn't providing information offered by the Property Compliance Program. Since 1988, the office has provided documentation, called radiological status information, to Ward 1 Port Hope homeowners about radiological monitoring that has been done at their property. Previous clean-up activities identified sources of contamination and took remedial action, as required. The Radiological Status Letter provides a summary of



existing information and is available, free of charge, to property owners on request.

The program has become a vital tool in the sale of properties by providing purchasers with information about a property's radiological history. When necessary, the office provides follow-up testing to confirm or complete information required for the letter. For more information on the Property Compliance Program, phone 905-885-9488.