

Public Summary

Site-Wide Environmental Investigation Report (SWEIR)

Port Hope Conversion Facility

Cameco Corporation's (Cameco) Port Hope Conversion Facility (PHCF or site) is located in Port Hope, Ontario on the northern shore of Lake Ontario. The site has a long history of industrial use dating back to the mid to late 1800s, including uranium processing and related activities that pre-date modern environmental controls. The facility operates under a licence issued by the Canadian Nuclear Safety Commission (CNSC) and consists of the Main Site and Dorset Street storage area.

In order to support environmental protection and long-term site management, Cameco completed a Site-Wide Environmental Investigation Report (SWEIR). The SWEIR was undertaken to develop a comprehensive understanding of soil and groundwater conditions at the site and to support future environmental assessments and management programs.

The SWEIR was completed to address the following question: What is the nature and extent of legacy subsurface contamination at the PHCF and how does it behave within the site and surrounding environment? This guiding objective ensured that the investigation was focused on both the characterization of contamination and the understanding of environmental pathways.

The investigation followed a structured approach consistent with industry practice. Historical records were reviewed and field investigations were conducted, including drilling, sampling, and groundwater monitoring. Analytical results were used to define contaminant distribution and to identify areas of potential concern across the site.

A conceptual site model (CSM) was developed as part of the SWEIR. The CSM identifies contaminant sources, environmental media, and transport pathways. It integrates geological and hydrogeological conditions to describe how contaminants move through soil and groundwater and how they may interact with surface water systems.

The SWEIR identified groundwater as an important pathway for contaminant migration. Site-specific data showed that groundwater flow is influenced by subsurface conditions and infrastructure. The investigation considered potential migration toward Port Hope Harbour and Lake Ontario to support long-term environmental protection.

Results from the SWEIR indicated that contamination is associated primarily with historical activities and is localized to specific areas. Conservative assumptions were used to ensure that the extent of contamination was not underestimated. These findings support the identification of contaminants of potential concern for further assessment.

The SWEIR provided a technical foundation for subsequent studies and environmental management planning. It supports a risk-informed approach to managing historical site impacts and protecting human health and the environment.

Environmental management measures developed based on the SWEIR include groundwater monitoring programs, pump-and-treat systems, and targeted remediation strategies. These controls are designed to reduce contaminant migration and support long-term improvement in environmental conditions.

In summary, the SWEIR provides a comprehensive and defensible understanding of subsurface conditions at the PHCF. The findings support ongoing environmental protection programs and ensure that site conditions are effectively managed in accordance with regulatory requirements.