



Public Meeting
OMCC Indoor Air Sampling
Program

Background and History



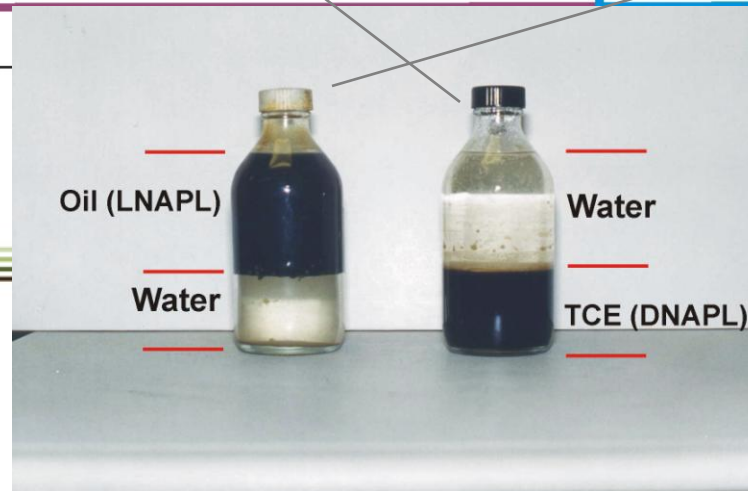
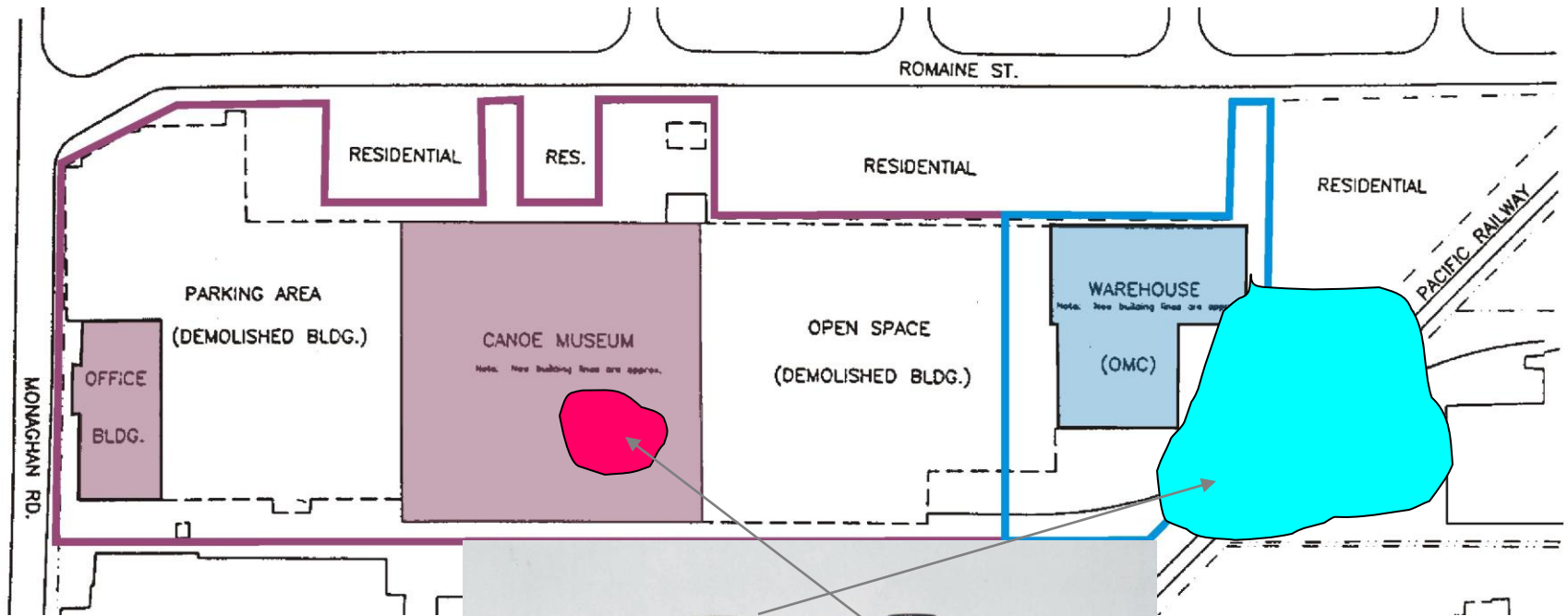
Background

- In January 2000, MOE issued a Director's order to OMCC to investigate and as necessary implement a Remedial Action Plan (RAP) to comply with the Guideline for Use at Contaminated Sites
- A RAP was submitted to MOE in 2001

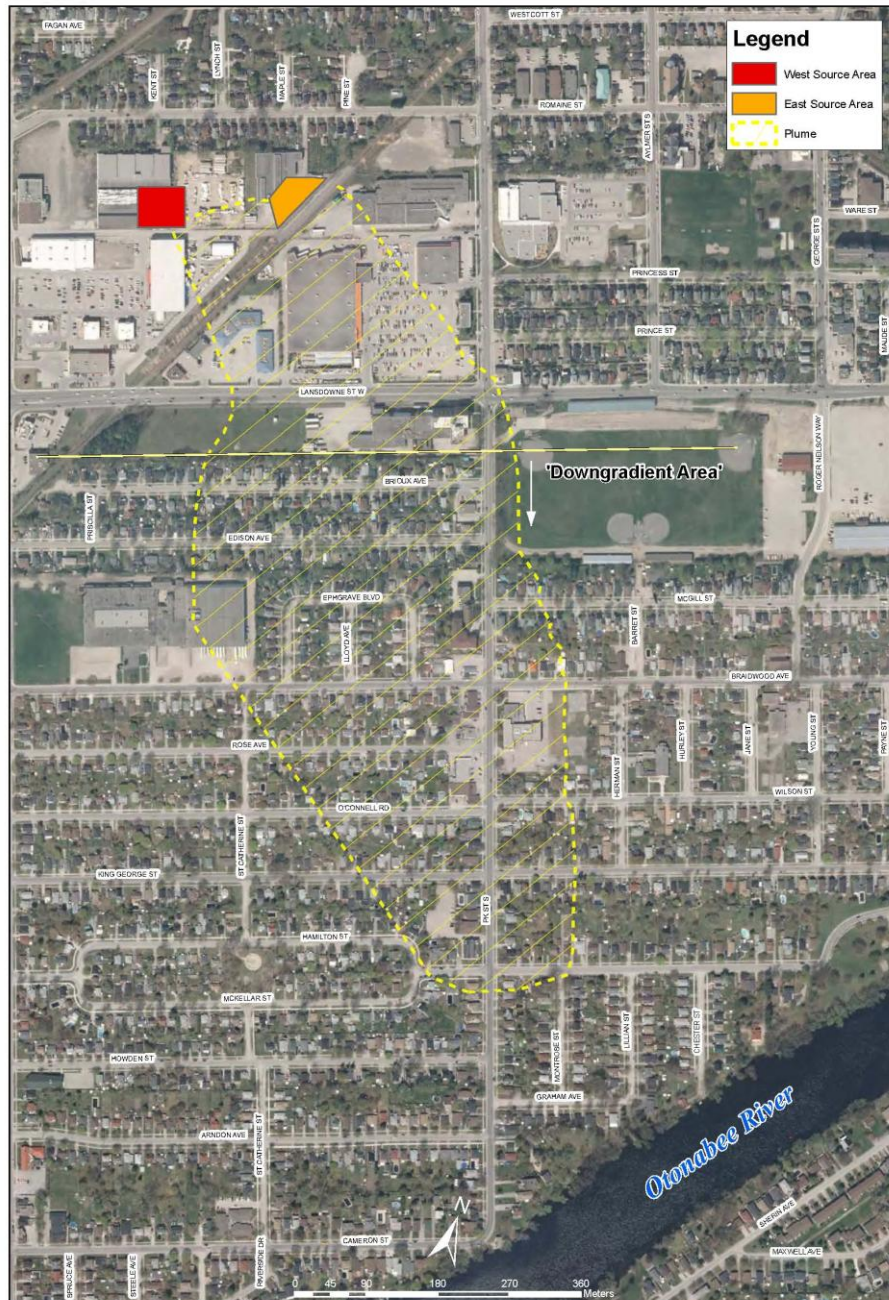
Background

- OMC (US) files in Dec. 2000
- OMC Canada files CCAA in March 2001
- OMC Canada into receivership in November 2001
- Twin Receivers (Court-Appointed):
 - Ernst & Young as Disbursement Receiver
 - Dillon Consulting as Environmental Remediation Receiver (ERR)
- Receivership provides ability to apply OMC Canada funds to environmental matters, with Court approval

Environmental Issues



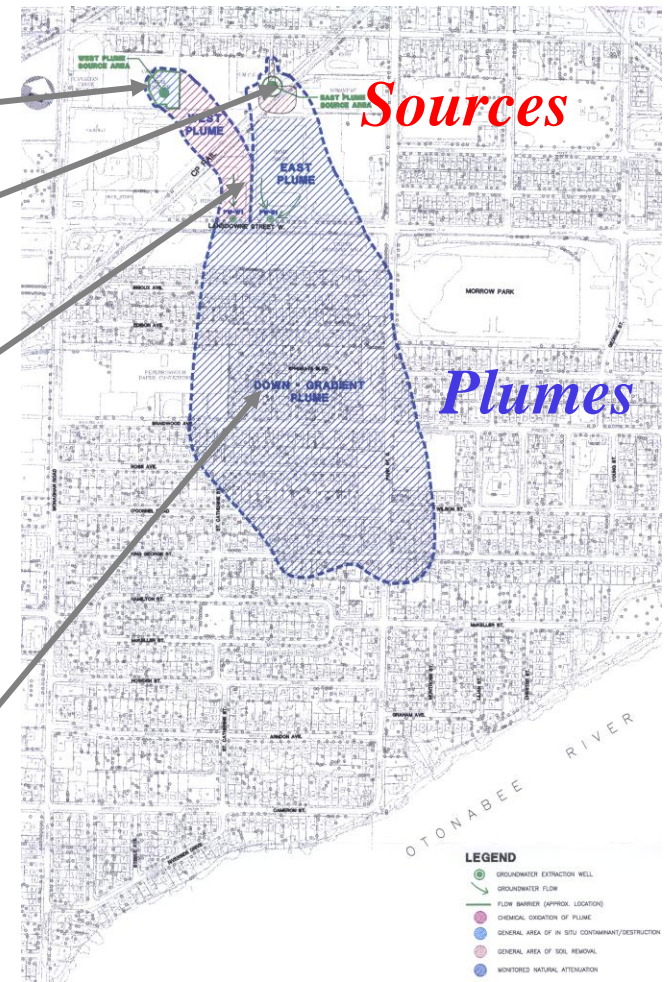
- Plumes approximately 1 km long
- West plume has elevated concentrations of TCE in groundwater.
- East plume is more dilute



- Commercial and industrial land use north of Lansdowne Street West (and immediately south of OMCC); residential area south of Lansdowne Street
- Area is municipally serviced

Remedial Action Plan

	WEST PLUME	EAST PLUME
SOURCE AREAS	<ol style="list-style-type: none"> 1. Groundwater flow barrier to isolate source area 2. Extraction/destruction technology to remove materials of concern. 	<ol style="list-style-type: none"> 1. Removal, by wells and excavation, of shallow source materials (LNAPL, soil). 2. Groundwater monitoring 3. <i>In situ</i> treatment of residuals if needed.
PLUMES - North of Lansdowne Street West	Capture both plumes in existing Lansdowne Street interception/extraction wells. Treatment of groundwater at 511 Romaine Street. Short-term disposal of water to sewer; ultimately discharge of treated water through reinjection to the subsurface will be considered.	
	<i>In situ</i> treatment (oxidation) of dissolved phase materials to speed remediation.	Monitoring of east plume and potential implementation of monitored natural attenuation (MNA).
PLUMES - South of Lansdowne Street West (Down-gradient)	Application of Monitored Natural Attenuation (MNA) protocol. Pre-implementation analysis to verify application. Post-implementation monitoring to ensure effective application.	



Project Achievements

- The following activities have been undertaken using funds from OMCC:
 - 2001 / 2002 - Groundwater flow barrier installed in the West Source Area (not a permanent solution for addressing the source zone)
 - 2001 – Groundwater pumping wells on and Lansdowne Street (3) installed and treatment system commissioned (1 of these wells continues to be pumped)
 - 2002- East Source Area Excavation (dig and dump)
 - 2001 – 2005 – ongoing groundwater investigations and interpretation of data

Project Achievements

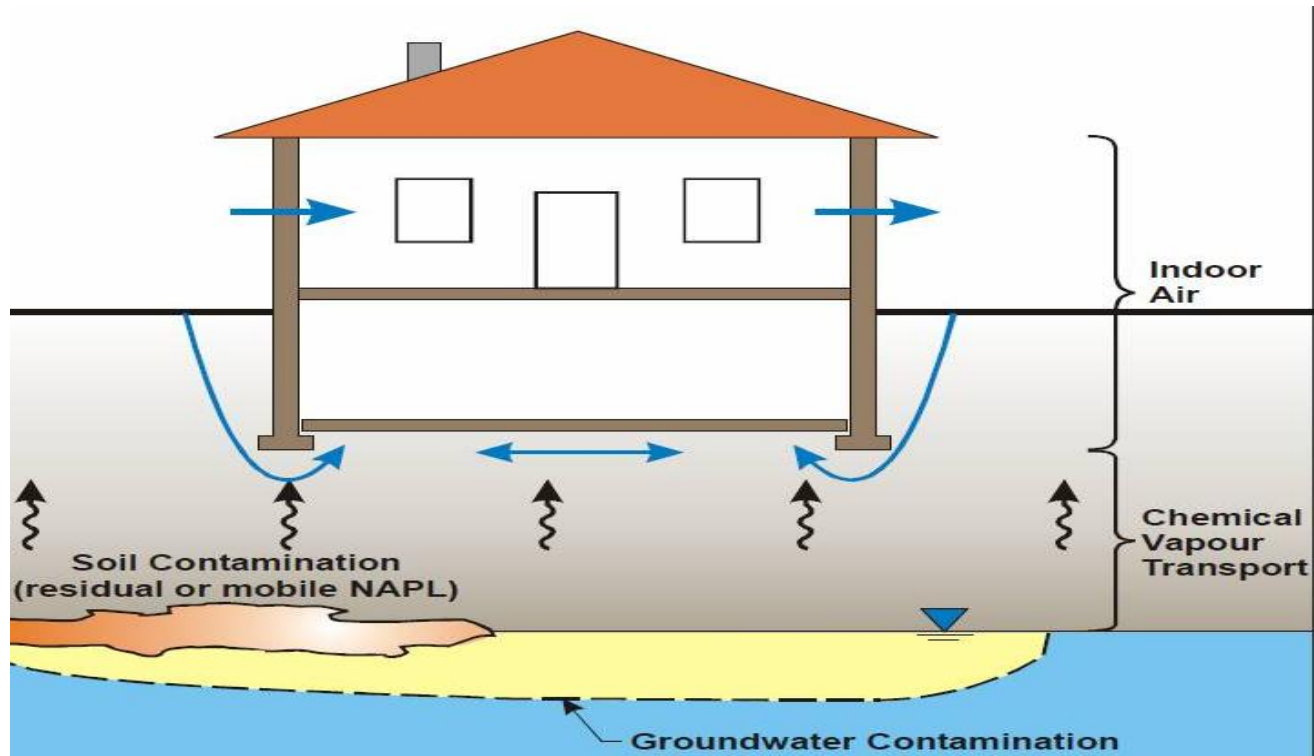
- 2005 – Groundwater pumping wells on RONA property installed (12) and connected to treatment system (6 of these wells continue to be pumped)
- 2006 / 2007 – Contaminant collection / hydraulic control system installed in WSA - 4500 litres of product phase TCE removed by collection system in WSA
- 2007 – In-Situ Chemical Oxidation in WSA (for portion of contaminants found outside of the groundwater flow barrier)

Project Achievements

- 2008 (ongoing) - Risk assessment to develop on-site groundwater remediation targets
- 2008-2011 – work on risk assessment, additional groundwater investigation / interpretation of data, preparation for WSA remediation
- 2011 - Thermal remediation for capture of contaminants in WSA - 2000 litres of product / residual phase TCE removed by aggressive thermal remediation approach
- Ongoing plume Interception (Pump & Treat) at Lansdowne St. W. and RONA extraction wells

Soil Vapour Monitoring and Indoor Air Sampling

What is Soil Vapour Intrusion?





UTM Zone 17 (NAD 1983)
 Information Provided by: Ministry of Natural Resources,
 Ministry of the Environment,
 Ministry of Municipal Affairs and Housing.
 Imagery Provided by DRAPE

The maps shown here are for illustration purposes only and are not suitable for site-specific use or applications. Ministry of the Environment provides this information with the understanding that it is not guaranteed to be accurate, correct or complete and conclusions drawn from such information are the responsibility of the user. While every effort has been made to use data believed to be accurate, a degree of error is inherent in all maps. Map products are intended for reference purposes only, and the Ministry of the Environment will accept no liability for consequential and indirect damages arising from the use of these maps. These maps are distributed "as-is" without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use. © Queen's Printer for Ontario and its licensors. 2012 May Not Be Reproduced without Permission. THIS IS NOT A PLAN OF SURVEY.



Action Levels

$\leq 0.5 \mu\text{g}/\text{m}^3$	No Further Action
$0.5 - 5 \mu\text{g}/\text{m}^3$	Annual Monitoring
$5 - 50 \mu\text{g}/\text{m}^3$	Semi-annual monitoring with option to mitigate
$> 50 \mu\text{g}/\text{m}^3$	Monitoring and high-priority for mitigation

$20 \mu\text{g}/\text{m}^3$ - serves as the threshold that drives more immediate action where pregnant women may be exposed

Indoor Air Sampling

- 46 homes were included in the program.
- Participation at 26 different locations.
- $0.5 \mu\text{g}/\text{m}^3$ is the Ministry's Vapour Intrusion Target Level (VITL)
- $2.58 \mu\text{g}/\text{m}^3$ was the highest reported concentration.
- 3 homes had TCE concentrations exceeding the VITL.

Next Steps

- Second sampling event within the same target area scheduled for next winter.
- Continued operation of the groundwater pump and treat system
- Continued groundwater monitoring
- Assessment of the remediation of the West Source Area