



AIR & WASTE MANAGEMENT  
ASSOCIATION



Air & Waste Management Association's

# Vapour Intrusion: Understanding Scientific, Technical, and Legal Issues and Solutions

September 8-10, 2008

Renaissance Toronto Airport Hotel and Conference Centre • Toronto, ON, Canada

Professional Development Course:

SEPTEMBER 8, 2008 (8:00 – 16:30)

AIR-212: Assessment, Modeling and Mitigation of Soil Vapour Intrusion

Sponsored by:



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# ABOUT THE CONFERENCE

Vapour Intrusion: Understanding Scientific, Technical, and Legal Issues and Solutions will address the latest developments in science, technology, and legal approaches, to solutions for vapour intrusion. Join internationally-recognized scientists, engineers, regulators, communications experts, and

attorneys with firsthand experience in the evaluation and remediation of vapour intrusion to discuss the science and policy behind vapour intrusion, the latest advances in analytical and sampling methods, and legal risk and insurance.

## GENERAL INFORMATION

### Registration

To register, complete the attached registration form and return it with your payment to:

Registrar, Air & Waste Management Association  
420 Fort Duquesne Blvd., 3rd Floor  
Pittsburgh, PA 15222-1435 USA  
Fax: 412-232-3450

### Refund Policy

If written notice of cancellation is received on or before August 25, 2008, payment will be refunded, less a \$75 cancellation fee. (Cancellation fees apply regardless of payment method). Substitutions may be made at any time; payment for any difference is due at the time of substitution. This refund policy applies to all occurrences, including weather-related events and other natural disasters. In the unlikely occurrence of event cancellation, the Association is not liable for any expenses incurred by the registrant other than the full refund of registration fee(s) paid.

### Exhibition Information

An exhibition featuring related products and services complements this conference. If you are interested in exhibiting, please contact Carrie Hartz, Programs Manager, at 412-904-6008, or [chartz@awma.org](mailto:chartz@awma.org). Table-tops exhibits are available at a cost of \$500 USD.

### Continuing Education Credit Opportunities

Conference attendees may be eligible for continuing education credit. For more information, please contact Autumn Secrest, Programs Coordinator, at 412-904-6031, or [asecrest@awma.org](mailto:asecrest@awma.org).

### Conference Committee

#### General Conference Co-chairs:

Tony Van der Vooren, *AMEC Earth & Environmental, and Past-President, A&WMA*  
Ian Hers, *Associate/Global Vapour Intrusion Leader, Golder Associates Ltd.*

#### Technical Committee Co-chairs:

Jeanette Southwood, *Principal/Chair, Global Brownfields Initiative, Golder Associates Ltd.*  
John Willms, *Willms & Shier Environmental Lawyers LLP*

#### Conference Organizer:

G. Steve Hart, *President, Innovative Environmental Solutions*

### Presenters' Breakfast

Presenters and Session Chairs will meet for a complimentary continental breakfast on the day of their session involvement to review program details. Presenters should bring their presentations on a CD or memory stick to this meeting.

### Conference Proceedings

Conference proceedings will be posted on the A&WMA Web site. Attendees will be notified by e-mail once the presentations have been posted.

## About the Air & Waste Management Association

A&WMA is a not-for-profit, nonpartisan professional organization that enhances knowledge and expertise by providing a neutral forum for technology exchange, professional development, networking opportunities, public education, and outreach to more than 8,000 environmental professionals in 65 countries. A&WMA also promotes global environmental responsibility and increases the effectiveness of organizations to make critical decisions that benefit society. For more information, please visit [www.awma.org](http://www.awma.org).

A&WMA Federal Tax ID # 25-6048614.

The Air & Waste Management Association supports the Americans with Disabilities Act (ADA). Those attendees requiring specific equipment or services should contact Carrie Hartz, Programs Manager, at 412-904-6008 to make those needs known in advance. A&WMA will make every reasonable effort to accommodate them.

# PROFESSIONAL DEVELOPMENT COURSE

SEPTEMBER 8, 2008 (8:00 – 16:30)

## **AIR-212: Assessment, Modeling and Mitigation of Soil Vapour Intrusion**

Instructors: Ian Hers, *Ph.D., P.Eng., Associate/Global Vapour Intrusion Leader, Golder Associates Ltd.*, Jeanette Southwood, *M.A.Sc., P.Eng., QPESA, QPRA, Principal/Chair, Global Brownfields Initiative, Golder Associates Ltd.*, Mike Z'Graggen, *M.R.M., QPRA, Risk Assessment and Toxicology Team Leader, Golder Associates Ltd.*, and John Goodin, *M.Sc., C.Chem., QPRA, Senior Human Health Risk Assessor, Golder Associates Ltd.*

This comprehensive one-day course will address key aspects for assessment and site characterization, predictive modeling and mitigation of soil vapour intrusion into buildings and will be given by leading experts in this field. The course will address recent developments for vapour intrusion, why this pathway is important for brownfields redevelopment, environmental health and safety and indoor air quality, and local and national regulatory context. Different conceptual site models will be discussed followed by the site characterization process with particular emphasis on soil vapour sampling and analysis, which is increasingly being used for the assessment of soil vapour intrusion. Data evaluation issues and the role and use of predictive models will be addressed followed by strategies and methods for structure sampling (indoor air, subslab vapour) and mitigation of vapour intrusion. The course is intended for a wide range of persons, including regulators, industry representatives, consultants, etc. Course registration includes refreshment breaks, lunch, and a copy of the course manual. For more information about the course and instructors visit the A&WMA Web site at [www.awma.org/events](http://www.awma.org/events), or contact Autumn Secrest, Programs Coordinator, at 412-904-6031, or [asecrest@awma.org](mailto:asecrest@awma.org).

## LOCATION & LODGING

Renaissance Toronto Airport Hotel and Conference Centre  
801 Dixon Road  
Toronto, Ontario, M9W 1J5  
Phone: 416-675-6100  
Fax: 416-675-4022

Club. Yield to temptation, and indulge at Olio, A Mediterranean Grille, where you can enjoy exquisite meals with regional specialties created by the award winning culinary team. Whatever it is you are looking for the Renaissance Toronto Airport Hotel & Conference Centre would be delighted to serve.

### Hotel Reservations

A block of rooms has been reserved for conference attendees at the Renaissance Toronto Airport Hotel and Conference Centre at the rate of \$179 single/double. To ensure availability, reserve your room by August 19, 2008. After that date, the reserved hotel room block is released for general sale. Make your reservations by calling the hotel and referencing the Air & Waste Management Association Vapour conference.

### Location and Directions

Located 20 minutes from Toronto, and just minutes from Toronto Pearson International Airport, the Renaissance Toronto Airport Hotel & Conference Centre offers luxury, warmth and comfort in a convenient location backing onto Woodbine Golf

### Area Airport:

Toronto Pearson International Airport - YYZ  
1-866-207-1690  
Hotel Direction: 1.0 km East

### Driving Directions:

From all Terminals follow the signs for Airport/Dixon Road. Turn right onto Dixon Road. Hotel is located on right hand side of Dixon Road at the corner of Skyway Avenue.  
Airport shuttle service, complimentary  
Estimated taxi fare: 18.0 CAD (one way)

### Parking:

On-site parking, fee: 2.5 CAD hourly, 15 CAD daily  
Valet parking, fee: 20 CAD daily

# PRELIMINARY AGENDA

## Monday, September 8, 2008

- 7:30 – 19:00 **Course and Conference Registration**
- 8:00 – 16:30 **Professional Development Course**
- 18:00 – 19:30 **Cash Bar/Mixer**

## Tuesday, September 9, 2008

- 7:00 – 18:00 **Conference Registration**
- 7:00 – 8:00 **Presenters' Breakfast**
- 7:00 – 8:30 **Coffee Service**
- 8:30 – 8:35 **Conference Opened by Conference Co-chair**  
Tony Van der Vooren, *AMEC Earth & Environmental, and Past-President, A&WMA*
- 8:35 – 9:15 **Keynote Speaker: Vapour Intrusion: Growing Awareness of the Challenge**  
Henry Schuver, *U.S. EPA*

### Session 1: The Science and Policy Behind Vapour Intrusion

**Co-chair:** Ian Hers, *Associate/Global Vapour Intrusion Leader, Golder Associates Ltd.*

**Co-chair:** John Willms, *Willms & Shier Environmental Lawyers, LLP*

- 9:15 – 9:35 **Regulatory Policy and Standard Setting**  
Sarah Powell, *Barrister and Solicitor, Davies, Ward, Phillips and Vineberg LLP*
- 9:35 – 9:55 **Brownfields Redevelopment, Risk Assessment and Vapour Intrusion**  
Jeanette Southwood, *Principal/Chair, Global Brownfields Initiative, Golder Associates Ltd.*
- 9:55 – 10:10 **Refreshment Break**
- 10:10 – 10:30 **Practical Approach to Implementation of a Vapour**

**Intrusion Control System at a Brownfield Site**  
Richard German, *Senior Principal, Decommissioning Consulting Services Limited*

- 10:30 – 10:50 **Vapour Intrusion Assessment at Federal Contaminated Sites: Health Canada 2008 Update**  
Lindsay Smith, *Risk Assessor, Safe Environments Program, Health Canada*

- 10:50-11:10 **Upcoming Provincial Guidance on the Assessment of Soil Vapour Intrusion**  
Camilo Martinez, *Coordinator, Community Posed Risk Assessment, Ontario Ministry of the Environment*

- 11:10 – 11:30 **Atlantic Canada's Guidance for Soil Vapour and Indoor Air Monitoring**  
Danny McInnis, *Field Supervisor, Pollution Prevention Division, Prince Edward Island Department of the Environment*

- 11:30 – 12:00 **Panel Discussion with All Speakers in Session 1 and the Audience**

- 12:00 – 13:30 **Luncheon & Speaker: "ASTM E 2600 Vapour Intrusion Standard: Experience in the Market Place"**  
Anthony Buonicore, *CEO, Buonicore Group, LLC and Past President, A&WMA*

### Session 2: Vapour Intrusion – Background Information

**Co-chair:** Randy Rudolph, *Principal, Millenium*

**Co-chair:** Mike Z'Graggen, *Risk Assessment and Toxicology Team Leader, Golder Associates Ltd.*

- 13:30 – 13:50 **Naturally Occurring Methane**  
Thomas Dance, *Principal, EBA Engineering Consultants Ltd.*
- 13:50 – 14:10 **Hydrocarbon Migration/Infusion**  
Warren Kindziarsky, *Environmental Engineering & Science Department, University of Alberta*

# PRELIMINARY AGENDA

Wednesday, September 10, 2008

14:10 – 14:30 **Test Methods on Behaviour – Chlorinated Solvent Vapour Intrusion**  
Dan Bunner, *Principal, ENVIRON Canada Inc.*

14:30 – 14:50 **Vapour Intrusion Mitigation Systems**  
Karen Berry-Spark, *Geosyntec Consultants Ltd.*

14:50 – 15:10 **Refreshment Break**

15:10 – 15:30 **Indoor Air Quality Monitoring: Indoor Sources and Other Confounding Factors**  
Paul MacKinnon, *Partner, EHS Partnerships Ltd.*

15:30 – 15:50 **Guidance, Guidance Everywhere, But What Does it Mean?**  
Todd McAlary, *Practice Leader, Vapour Intrusion, Geosyntec Consultants Ltd.*

15:50 – 16:10 **A Discussion of the Relation Between Soil Radon and Radon in Homes**  
Doug Chambers, *Senes Consultants Ltd.*

16:10 – 16:30 **Hydrocarbon Vapour Intrusion, Atlantic RBCA, CWS and Emerging Reality**  
David Rae, *Golder Associates Ltd.*

16:30 – 17:00 **Panel Discussion with All Speakers in Session 2 and the Audience**

17:30 – 19:00 **Cash Bar/Mixer**

7:00 – 15:00 **Conference Registration**

7:00 – 8:00 **Presenters' Breakfast**

7:00 – 8:30 **Coffee Service**

## Session 3: Analytical and Sampling Methods

**Co-chair:** Todd McAlary, *Practise Leader, Vapour Intrusion, Geosyntec Consultants Ltd.*

**Co-chair:** Anne Breckenridge, *Environmental Specialist, City of Calgary*

8:30 – 8:50 **Data Analysis Strategies for Evaluating the Influence of Background Sources of Vapour Intrusion**

Ian Hers, *Associate/Global Vapour Intrusion Leader, Golder Associates Ltd.*

8:50 – 9:10 **Techniques for Soil Gas Sampling**

Petro Oh, *Senior Technical Sales Representative, Maxxam Analytics Inc.*

9:10 – 9:30 **Alternative Model Based Approach for Assessing VI at Hydrocarbon Sites**

George Devaull, *Shell Global Solutions U.S. Inc.*

9:30 – 9:50 **Use of Passive Diffusive Samples for Vapour Intrusion Investigation**

Hester Groenevelt, *Geosyntec Consultants Inc.*

9:50 – 10:10 **Refreshment Break**

10:10 – 10:30 **Cost Effective Evaluation of Vapour Intrusion: Human Health Risks from Sub-surface Chlorinated Solvents**

Elizabeth Miesner, *Principal, ENVIRON Canada Inc.*

# PRELIMINARY AGENDA

- 10:30 – 10:50 Use of Forensics to Identify Sources of Methane**  
Court D. Sandau, *Senior Partner and Manager, Venture Sciences and Technology, Trium Environmental Solutions Inc.*
- 10:50 – 11:10 Sampling Methods for VI in the Real World**  
Stuart Bailey, *AMEC Earth and Environmental*
- 11:10 – 11:30 Characterization of the Significance of Uncertainties in Modeling and Monitoring Vapour Intrusion for Remedial Decisions**  
Thomas Dance, *Principal Consultant, EBA Engineering Consultants Ltd.*
- 11:30 – 12:00 Panel Discussion with All Speakers in Session 3 and the Audience**
- 12:00 – 13:30 Luncheon & Speaker**  
Tony Van der Vooren, *AMEC Earth & Environmental, and Past-President, A&WMA*
- Session 4:  
Legal Risks and Insurance**
- Co-chair:** Diane Freeman, *Principal, Conestoga-Rovers & Associates*
- Co-chair:** Andrew Masters, *Vice President, Maxxam Analytics Inc.*
- 13:30 – 13:50 Vapour Intrusion Meets Reality – Practice Pointers Based on the U.S. Experience**  
Jeff Gracer, *Sieve, Paget & Riesel PLC*
- 13:50 – 14:10 Impacts of Vapour Intrusion on Insurability**  
George Boire, *Senior Vice President, Environmental Solutions, Marsh Canada Ltd.*
- 14:10 – 14:30 Vapour Intrusion and the Regulatory Process**  
Mark Madras, *Gowlings, Lafleur, Henderson LLP*
- 14:30 – 14:50 Vapour Intrusion Risk in Brownfield Redevelopment**  
David Harper, *Managing Partner, Kilmer Brownfield Equity Fund*
- 14:50 – 15:10 Refreshment Break**
- 15:10 – 15:30 Soil Vapour Intrusion in the U.S. – Recent Developments and Risk Management Options: What Works and What Doesn't**  
Pete Zimmerman, *Environmental Liability Management of New York, LLC*
- 15:30 – 15:50 Case Studies in Vapour Intrusion**  
Steve Harris, *Associate Senior Risk Assessor, Conestoga-Rovers & Associates*
- 15:50 – 16:10 Damages and Class Actions – How to Mitigate the Legal Risks at VI Sites – Case Studies and Recommendations**  
John Willms, *Willms & Shier Environmental Lawyers, LLP*
- 16:35 – 16:50 Panel Discussion with All Speakers in Session 4 and the Audience**
- 16:50 – 17:00 Conference Wrap-up**

# ADVANCE REGISTRATION FORM

## Vapour Intrusion: Understanding Scientific, Technical, and Legal Issues and Solutions

September 8-10, 2008

Renaissance Toronto Airport Hotel and Conference Centre • Toronto, ON, Canada

- Questions? Call 412-232-3444 or 1-800-270-3444.
- Credit card registrations can be faxed to Conference Registrar at 412-232-3450.
- Check or purchase order registrations should be mailed to:

Registrar, Air & Waste Management Association • One Gateway Center, 3rd Floor  
420 Fort Duquesne Boulevard • Pittsburgh, PA 15222-1435 USA

PLEASE PRINT

Last name \_\_\_\_\_ First name \_\_\_\_\_  
Name/Nickname for badge \_\_\_\_\_  
Title \_\_\_\_\_ Affiliation/Employer \_\_\_\_\_  
Street address \_\_\_\_\_  
City \_\_\_\_\_ State/Province \_\_\_\_\_  
Country \_\_\_\_\_ Zip/Postal Code \_\_\_\_\_  
Telephone \_\_\_\_\_ Fax \_\_\_\_\_  
E-mail \_\_\_\_\_  I am a session chair  I am a speaker

## CONFERENCE REGISTRATION FEE

Full registration includes technical sessions, luncheons, refreshment breaks, and access to the conference proceedings.

	Advance	After August 19, 2008
Full member	\$450	\$550
Full nonmember	\$550	\$650
Daily member*	\$300	\$350
Daily nonmember*	\$400	\$450
Student member**	\$100	\$150
Student nonmember**	\$140	\$190

## COURSE REGISTRATION FEE

Course registration includes refreshment breaks, lunch, and a copy of the course manual. Anyone who registers for the conference at the nonmember rate and takes advantage of the membership offer is eligible to register for the professional development course at the member rate.

SEPTEMBER 8, 2008 (8:00 – 16:30)

AIR-212: Assessment, Modeling and Mitigation of Soil Vapour Intrusion

	Advance	After August 19, 2008
Member	\$395	\$495
Nonmember	\$575	\$675
Student member**	\$200	\$300
Student nonmember**	\$235	\$335

All amounts are in Canadian dollars.

\*If daily, please specify day of attendance:  Tuesday, September 9  Wednesday, September 10

\*\* Valid ID required; student IDs also require proof of enrollment as a full-time student.

## REGISTRATION TOTAL

Conference Registration \$ \_\_\_\_\_ CAD 5% GST \$ \_\_\_\_\_ CAD  
Course Registration \$ \_\_\_\_\_ CAD **Total Payment** \$ \_\_\_\_\_ CAD

## PAYMENT INFORMATION

Form of payment:  MasterCard  Visa  American Express  Check  Purchase order (attached)

Credit card number \_\_\_\_\_ Exp. Date \_\_\_\_\_

Signature \_\_\_\_\_

Name (printed) as it appears on card \_\_\_\_\_

I authorize A&WMA to charge my credit card in the amount of \$ \_\_\_\_\_

Yes, I have paid a full nonmember or daily nonmember registration rate and would like to receive a 1-year membership at no extra cost.

A&WMA attempts to promptly notify all advance registrants in the event of a cancellation. In the event of a cancellation, the Association is not liable for any expenses by the registrant, other than the refund of the registration fees(s) paid.

**DEADLINE FOR ADVANCE REGISTRATION IS AUGUST 19, 2008**

Fax to: 412-232-3450



**AIR & WASTE MANAGEMENT**  
A S S O C I A T I O N

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420 Fort Duquesne Blvd.  
Pittsburgh, PA 15222-1435 USA

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