

GeoEnviroLogic Professional Development
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**Chlorinated Solvents:
Common Issues to Consider for Investigation,
Remediation and Risk Assessment**

November 30, 2007 at UBC Robson Square

**GeoEnviroLogic Professional Development
Technical Seminars in environmental science and
contaminated site investigation, remediation and risk
assessment**

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**Chlorinated Solvents:
Common Issues to Consider for
Investigation,
Remediation and Risk Assessment**

**November 30, 2007 from 8:00 am to 4:30 pm at UBC
Robson Square, Vancouver, BC**

SEMINAR SYNOPSIS

Today's seminar provides an in-depth review of chlorinated solvent contamination, common issues in site investigation, proven and innovative methods for remediation, and risk assessment approaches. Dry cleaners and other case studies will be presented. Assessment and modeling of both the soil vapour and the groundwater pathways will be covered. Remediation options, including excavation and several in-situ methods, will be presented. Implications of current and revised BC regulatory guidance will be discussed. Key issues will be illustrated through mini group exercises.

LEARNING OBJECTIVE

To become familiar with the unique and challenging characteristics of chlorinated solvent contamination in soil, groundwater and soil vapour; to recognize key components of a well-designed site investigation program; to understand important principles of chlorinated solvent contaminant migration; and to be familiar with both risk management and remediation options and how they are often combined for successful site redevelopment.

PRESENTERS, in presentation order

- ✓ Reidar Zapf-Gilje, PhD, PEng, Approved Professional, Chair – Roster Steering Committee, Adjunct Professor – UBC Civil Eng, RZG Consulting

- ✓ Guy Patrick, PEng, Approved Professional, Member – Roster Steering Committee, Golder Associates

- ✓ Ian Hers, PhD, PEng, Approved Professional, Director - SAB, Golder Associates

- ✓ Ross Wilson, MSc, RPBio, Approved Professional, Wilson Scientific

MANUAL TABLE OF CONTENTS

This manual is organized by presenter as listed above. Each Presenter has one section, defined by a tab. Within each presenter's section, individual presentations, if more than one, are separated by a colour sheet of paper.

SEMINAR OUTLINE

Part 1: Introduction and Overview (R. Zapf-Gilje)

- Chlorinated solvent use and characteristics
- Common contaminated sites problems and solutions
- Implications for site investigation and remediation practice in BC

Part 2: Contamination Source and Groundwater Pathway (G. Patrick)

- Problem definition
- Investigation rationale and methods
- Remediation and risk management options
- Case studies and mini exercises

Part 3: Soil Vapour Pathway (I. Hers)

- Problem definition
- Investigation rationale and methods
- Remediation and risk management options
- Case studies and mini exercises

Part 4: Risk Assessment Considerations (R. Wilson)

- Why some chlorinated solvents cause cancer
- Where to find toxicity reference values for human health exposure
- How to estimate risk at BC sites

Part 5: Policy/Technical Questions and Answers