# Table of Contents

## Overview

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Seminar Schedule  

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## SECTION 1

### Part 1. Regulatory Background

- Preview Part 1
- Federal Programs
- State Programs
- Brownfields Programs
- Remedial Action Plans/Technologies
- Review

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


- Preview Part 2
- The Issue
- The Response—Advisory Opinion 9
- Applicable USPAP Provisions
- Extraordinary Assumptions and Hypothetical Conditions
- Competency Rule of USPAP
- Relevant Property Characteristics
- Specialized Terms and Definitions
- Valuation Framework
- Review

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Part 3. The Three Effects and the Remediation Lifecycle

- Preview Part 3
- Risk Effects – Environmental Stigma and Risk
- Cost Effects – Remediation Costs and When They Should Be Deducted
- Use Effects – Limitations on Site Utility and Highest and Best Use
- The Remediation Lifecycle
- Review

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION 2

Part 4. Methods and Techniques for Valuing Contaminated Properties

Preview Part 4...........................................................................................................41
Specialized Valuation Methods..................................................................................43
USPAP and Competency ..............................................................................................44
Paired Sales Analysis .................................................................................................44
Environmental Case Studies ......................................................................................46
Multiple Regression Analysis .....................................................................................49
Income Capitalization Analysis ...................................................................................52
Review .........................................................................................................................53

Part 5. Paired Sales Analysis, Case Studies Analysis, and Regression Analysis Examples

Preview Part 5...........................................................................................................55
Paired Sales Analysis .................................................................................................57
Case Studies Analysis .................................................................................................64
Multiple Regression Analysis .....................................................................................73
Review .........................................................................................................................81

Part 6. Environmental Case Study

Preview Part 6...........................................................................................................83
Introduction to the Case Study ...................................................................................85
Case Study Exercises .................................................................................................87
Case Study Background and Assignment ...................................................................88
Case Study Issue 1 .......................................................................................................91
Case Study Issue 2 .......................................................................................................94
Case Study Issue 3 .......................................................................................................98
Case Study Issue 4 .....................................................................................................105
Case Study Issue 5 .....................................................................................................117
Case Study Issue 6 .....................................................................................................120
Review .......................................................................................................................129

Appendix

Table of Contents.......................................................................................................131
Site Layout ................................................................................................................133
Environmental Site Assessment Report for the Anderson Company Site ...........135
Remedial Actions Evaluation Report for the Anderson Company Site ...............145
Letter from E.T. Services, Inc., to Mr. Jordan Anderson ........................................153
Bibliography

Reference List ................................................................................................................. 155
Environmental Contamination Glossary from the Dictionary of Real Estate Appraisal ................................................................. 157
Appraisal Standards and Contaminated Property Valuation ........................................... 167
Case Studies Analysis: Environmental Stigma and Monitored Natural Attenuation ................................................................. 175
Evaluating Environmental Stigma with Multiple Regression Analysis ...................... 183
Methods and Techniques for Contaminated Property Valuation ................................ 191
The Analysis of Environmental Case Studies ................................................................. 201
Overview

Seminar Description

This seminar provides training in both the residential and general fields on the valuation of properties that may be impacted by environmental contamination consistent with the valuation framework in *Advisory Opinion 9: The Appraisal of Real Property That May Be Impacted by Environmental Contamination (AO-9)* and *The Appraisal of Real Estate, 14th Edition*. It begins with an overview of various regulatory issues and then focuses on the concepts in AO-9 and the three potential effects that contamination can have on real property: cost effects, use effects, and risk (stigma) effects.

The handbook also presents an overview of federal, state, and brownfields programs. Participants will understand when the use of a hypothetical condition or extraordinary assumption is needed in an appraisal report, as well as when the assignment requires an appraisal of the “as-is” condition of the property. Applicable USPAP provisions and the critical nature of the Competency Rule are covered.

Both generally accepted and recognized methods and techniques for valuing contaminated properties are covered, including paired sales analysis, environmental case studies analysis, multiple regression analysis, and adjustments that can be made in an income capitalization analysis. Several case studies are included to illustrate the use of these techniques.

Lastly, while the examples given will involve environmental contamination, these methods and techniques could also be applied to the analysis of other adverse conditions.
Learning Enhancements

The seminar has been designed with a variety of elements to enhance your learning experience.

- **Preview.** To give you a taste of what is to come, a Preview page begins each part and identifies learning objectives to consider as you move through the content.

- **Learning Objectives.** Each learning objective covers essential information you need to know to fully understand the concepts in the seminar. Look them over before each part begins so that you have a frame of reference as you move through the material. At the end of each part, reread the objectives. Are you able to perform what is stated? If not, this is the time to ask your instructor for help. Or, review the concepts that you do not understand.

- **Examples.** A number of examples are scattered throughout the handbook to provide everyday illustrations of what you are learning.

- **Case Study Exercises.** These exercises provide you with additional hands-on practice as you absorb what you are learning.

Classroom Guidelines

To make the learning environment a positive experience for everyone attending, please follow these guidelines when class is in session.

- 100% attendance is required. No exceptions.

- Limit use of laptops to classroom projects.

- Communicate with business associates during break time instead of class time.

- Put away reading materials such as newspapers and books that are not used in class.

- Silence cell phones and other communication devices.

- Use recording devices only if prior permission has been granted.

- Refrain from ongoing conversations with those seated near you and other distracting behavior.
**General Information**

- **Breaks.** There will be one 15-minute break during the morning session and one 15-minute break during the afternoon session unless noted otherwise by the program sponsor. The lunch break is one hour. A meal is not provided unless specified in the sponsor’s advertising or in your seminar confirmation materials.

- **Attendance sheets** will be distributed during class to verify your attendance during the morning and afternoon sessions. Attendance for the entire seminar is required.

- **Certificates of completion** will be distributed or mailed after completion of the program.

- **Materials required.** A calculator is required. The recommended model is the HP-12C.