

In-Situ Chemical Oxidation (ISCO)
LSP Course #: 1424
4.0 Technical (non-DEP) Credits

COURSE DESCRIPTION:

In-situ oxidation techniques have been utilized by the North American environmental industry to remediate organic compounds in subsurface environments for almost 20 years. Fenton's reagent was adopted initially and with the introduction of additional oxidizers and proprietary chemistries over the intervening years there are now multiple options available. The success or failure of an ISCO remediation project often hinges on a well constructed conceptual site model and, just as importantly, a significant understanding of the treatment capability of each oxidant.

This course is designed to provide LSPs with an in-depth understanding of each oxidant's strengths and limitations and will cover topics including; investigation parameters, reasonable treatment goals, strengths and weaknesses of each reagent, COC phase and oxidant selection, treatability test selection, methods of delivery, and pilot through full-scale implementation. There will be multiple case histories and a discussion of lessons learned through years of reagent applications.

COURSE SCHEDULE:

| | |
|--------|--|
| 7:30am | Registration |
| 8:00 | Overview for the Day |
| 8:15 | What is ISCO? <ul style="list-style-type: none">• Discussions of steps to be taken before ISCO selection, managing expectations, commonly used ISCO technologies with an introduction to oxidant reagents. |
| 9:00 | Introduction to oxidant reagents, reagent applicability, site characterization and oxidant selection |
| 10:00 | Break |
| 10:15 | Implementation Methods, Treatability Testing, Pilot Testing and Full-Scale Implementation |
| 11:00 | Case Histories |
| 11:45 | Summary and Questions |
| 12:00 | Adjourn |

INSTRUCTOR BIOGRAPHY:**William Caldicott****In-Situ Oxidation Technologies, Inc. (ISOTEC)**

Mr. Caldicott, Director of Remediation Technologies and Business Development at ISOTEC has over 20 years of environmental remediation experience treating both organic and inorganic contaminants. He has designed and performed numerous laboratory and field treatment programs. Mr. Caldicott is responsible for generating and maintaining business relationships and opportunities, technically evaluating client's sites, remedial option appraisal, oversight and project management. In addition, Mr. Caldicott evaluates new synergistic products and services that may be incorporated into the company's portfolio. He has helped to steer ISOTEC to adopt non-core technologies such as chemical reduction/metals remediation, bioremediation, soil mixing (chemox and ISS), Gas Thermal Remediation (GTR), C3 Technology, BOS 100® and BOS 200® Trap & Treat® Products. Additional technologies are currently under review.

Mr. Caldicott holds a BS Environmental and Earth Sciences from Southern Cross University, Australia. He went on to complete post-baccalaureate work in mathematics and astronomy at Cal-Berkeley and holds an MS in Environmental Science from Yale School of Forestry and Environmental Studies.