

Stray Gas Migration

Preparedness - Incident Response & Investigation™

Outline (~6 hour course)

Instructor: Fred Baldassare

- Introduction
- Recent Research, Regulatory & Policy Initiatives
- Physical/chemical properties: methane & light gases
 - Gas phase
 - Dissolved phase
- Sampling for Dissolved and Gas Phase Methane
 - Protocol for dissolved phase & gas phase sampling
 - GC & general chemistry parameters
 - Collecting & evaluating field & laboratory gas chemistry data
 - Isotope sampling protocol
- Stray Gas Origin & Source Correlation – Isotope Geochemistry
 - Basis & application
 - Types of isotope analyses
 - Fundamentals for data evaluation/interpretation
 - Secondary processes
 - Case Studies – naturally occurring or anthropogenic
- Evaluation of Gas & Groundwater Geochemistry data
 - Sampling Considerations – Baseline vs. Investigation
 - Considerations for processing gas and groundwater geochemistry data
 - Case Studies
- Stray Gas Migration Response Protocol – Site Investigation/Demonstration
 - Complainant Interview
 - Methodology to determine threat level
 - Combustible Gas Field Screening – gas phase and dissolved phase
 - Instrumentation
 - Protocol for Active Soil Gas Surveys
 - Short & Long-term monitoring - soils & groundwater
 - Data evaluation – sampling/temporal variability
 - Subsurface gas migration: fate and transport
 - Mechanism of transport
 - Factors affecting subsurface gas migration
 - Measures to protect public health & safety
 - Interim & Long-term Remedial Measures - Principles and design

