



Course Syllabus

Field School – Virtual Edition

Field Sampling Methods for Contaminated Lands Investigation

June 6 and 13 (two Mondays), 830 AM to 1230 PM Pacific - Zoom

Held annually in Spring

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Course Description

“Field School” is designed to address key elements of field methods and protocols for contaminated sites investigations following latest guidance and best practices. The collection of environmental field data is a fundamental and critical aspect of contaminated site investigation, as this data is relied upon to characterize contaminated sites and to provide recommendations for future site management. The methodology used to collect field samples must conform to best practices and regulatory guidance so as to reduce the risk of collecting unusable or invalid data. There are also often multiple methods or ways to collect samples that may depend on project and data objectives and site-specific conditions. There continue to be advances in site investigation and environment data collection, including refinement to sampling methods in best practice and guidance, or ways to optimize or improve the investigation and sampling process. In this course, we bring that information together, in a highly practical and digestible format where we introduce a number of sampling methods, describe how to collect field data and samples while providing examples and tips based on our experiences, describe key quality assurance and quality control metrics, and test knowledge using interactive discussion. The learning process will be enhanced through video demonstrations and step-by-step procedures with class discussion and exercises.

Course Goals

Students who complete this course successfully will be able to:

- Develop a field sampling plan for different media
- Connect the sampling plan to basic elements of the conceptual site model
- Identify different drilling methods and describe the basic components of soil classification and borehole logs
- Understand how to construct a groundwater well and vapour probe
- Implement with confidence sampling protocols for key media (soil, groundwater, soil vapour)
- Be aware of sampling methods for surface water and sediment
- Understand advantages and disadvantages of different sampling methods
- Understand field screening and laboratory analysis methods
- Be able to develop a QA/QC plan and meaningfully review QA/QC results
- Review example templates of field method write-ups



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- Be aware of approaches for expedited field programs and incremental sampling, direct push methods (MIP/LIF/HPT)

Required Texts, Materials, or Equipment

- Links to reference materials and PDFs of hand outs will be made available following registration
- Will include a) CCME 2016 Guidance Manual for Environmental Site Characterization in Support of Environmental and Human Health Risk Assessment, V1-4; b) CSAP Soil Vapour Guidance; and c) BC ENV Field Sampling Manual and other relevant guidance and protocols
- Participants are expected to have a personal computer with access to Zoom

Work/Homework

There will be two in-class exercises that students will work on, and as necessary, complete at home. The exercises may be individual, or they may involve interacting with other students. In addition, sampling videos and documents will be made available for viewing and review in preparation for each session or afterwards (for a limited time) as a resource.

Class Participation

Students are expected to participate during each learning module. The course will begin with an informal “getting to know one another” session. We encourage participation in discussion sessions on field sampling methods. Two non-mandatory tutorial sessions will be offered to answer questions and discuss assignments.

During live sessions, all interactions will be civil, respectful, and supportive of an inclusive learning environment. Any concerns about participation and learning dynamics can be addressed to info@geoenviropo.com

Course Completion and Certificates

Upon successful completion of the course, including documented attendance at all live module sessions or viewing of recorded sessions, a Certificate of Completion will be issued to the attendee. The Certificate will include the number of professional development hours earned.

Course-Specific Support

As noted above, optional tutorials will be offered on a weekly basis to the participants as an informal means to answer questions and discuss assignments. The tutorials will be conducted virtually using Zoom meetings.



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PROGRAM SCHEDULE – 2022

Session 1: June 6 – 8:30 AM -12:30 PM

Tutorial 1: June 10 – 10:00-11:00 AM (optional attendance)

Session 2: June 13 – 8:30 AM -12:30 PM

Tutorial 2: June 17 – 10:00-11:00 AM (optional attendance)

Detailed outline to be provided upon course initiation