

2019 ENVIRONMENTAL SITE ASSESSMENT FIELD SCHOOL

June 11, 12 and 13, 2019

1480 Sutherland Avenue
Kelowna, BC



Course Overview

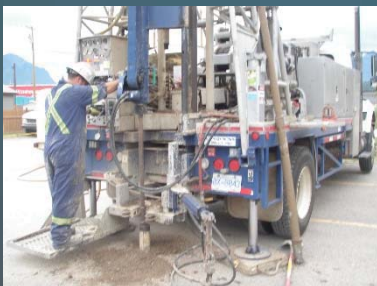
- Provide an introduction to field methods for environmental site assessments (ESAs) and an introduction to soil logging, description and characterization.
- Attendees will be exposed to the technical aspects of conducting a detailed ESA in a classroom setting and also gain valuable field training regarding current groundwater, soil and soil vapour screening and sampling methods and around an operational drill rig under the guidance of highly qualified and experienced trainers.
- Attendees get the opportunity to meet and socialize with other junior to intermediate field staff in a safe and secure environment.

Course Facilitators

Allan Robison, ASCT, EP
25 years experience in the
environmental and geotechnical
consulting fields

Hayley Shearer, MEng, PGeo
14 years experience in the
environmental consulting field

Roger Therrien, ASCT
40 years experience in the
geotechnical consulting field



KELTECH ENVIRONMENTAL

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Keltech Environmental 2019 Environmental Site Assessment Field School

Keltech Environmental Ltd. is pleased announce our 2019 Environmental Site Assessment Field School. The Field School has been designed for the environmental professional and the curriculum will cover a variety of topics that are critical to you and your field staff. Participation will prepare you and your staff with the fundamentals to collect better data as part of your environmental site assessment investigations.

The information that follows will tell you what you can expect to get out of the ESA Field School, course logistics and a little about our firm and the terrific facilitators for the 2019 Environmental Site Assessment Field School.

What you can expect to learn from participating in the Environmental Site Assessment Field School

The course curriculum has been designed to be practical and is a combination of both classroom and hands-on learning. It will be led by engineering and technical professionals who have over 75 years of combined experience in the environmental and geotechnical fields.

The ESA Field School is a thorough review and practice of field methods for environmental site assessments (ESAs) including a detailed module for soil logging, description and characterization. The three-and-a-half-day course will consist of the following modules:

- **General Site safety and investigation planning considerations:** *Planning a successful and safe investigation.*
- **Utility locates:** *The importance of how to do it well, and the risks if you don't.*
- **Borehole drilling methods:** *A review of the most common drilling methods, the pros and cons of each method, and a demonstration using a truck mounted drill rig during a field module.*
- **Test pit excavation:** *The pros and cons, how to be safe, and best practices for logging your findings.*
- **Monitoring well and vapour probe installations:** *Learn about best practices and observe the complete installation of both during a field module.*
- **Soil and stockpile sampling methods:** *Best practices for collecting quality soil samples, bulk soil characterization and soil headspace vapour screening techniques.*
- **Soil logging, description and characterization:** *Based on the ASTM Unified Soil Description Method. Get hands-on experience identifying fine grained soils and their behavior as moderated by Roger Therrien, soil specialist.*
- **Groundwater sampling techniques:** *Review types of water quality monitoring equipment, learn equipment care and calibration procedures. Observe demonstrations and hand-on practice setting up and collecting quality water samples from on Site monitoring wells using inertial foot-valve pump, peristaltic pump, and bladder pump methods.*
- **Soil vapour sampling techniques:** *Observe and practice vapour sampling from both an installed vapour probe and a sub-slab installation. Learn about and observe a vapour probe integrity test using helium leak tracer test method.*
- **Hydraulic response testing:** *Learn about hydraulic response testing and complete a falling and rising head test in the field (slug test).*
- **Sample handling and laboratory practices:** *A guest speaker from CARO labs will provide some insider information about laboratory practices and analytical methods for common sample analysis.*

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2019 Environmental Site Assessment Field School

How will we fit all of that information in just three days?

You will spend mornings in the classroom learning the technical and theoretical aspects of field investigations and the afternoons putting that information to use and quite literally “getting very hands-on field experience”.

In the classroom you will learn from highly qualified, experienced professionals who have completed countless environmental and geotechnical field investigations and you will gain valuable hand-on experience during the field component of the Field School.

We will have a demonstration of utility locating and field training in the areas of assessing and clearing your Site for hazards and underground utilities. Safe practices while working around and proper soil sampling techniques from an operational drill rig. Practice soil logging and soil description as it is collected by the drillers and get to observe and practice operating and collecting groundwater samples using a variety of different pumping equipment. Observe how to assess the integrity of a soil vapour probe, use of field screening equipment, and collect of a vapour sample.

Dates and Location

Dates: June 11, 12 and 13

The Field School will commence on Tuesday, June 11 at 8:00 am and end at 5:00 pm Thursday, June 13.

Location: 1480 Sutherland Avenue, Kelowna

The classroom sessions will be held at the Salvation Army boardroom, 1480 Sutherland Avenue in Kelowna, BC. The field sessions will be completed on property within 50 meters from the classroom.

Mid-morning coffee and snacks, and lunch will be provided.

Investment

Your investment for this program is \$1,100 (plus applicable taxes) per attendee with an additional discount available for students.

At completion, Attendees will be provided with:

- A certificate of completion;
- A soil classification field reference sheet and reference manual; and,
- Reference vials of fine, medium and coarse sand for visual soil classification purposes.

For additional information about the Field School or enrollment, please contact Allan Robison at 250-870-2939, by email to keltechenvironmental@shaw.ca or visit Keltech’s website at keltechenvironmental.com.

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Our Firm

Keltech Environmental Ltd. is a Kelowna, BC based, independently owned and operated company specializing in environmental consulting services. With over 25 years of industry experience in environmental site assessments, remediation, and geotechnical investigations, our highly qualified professionals focus on providing our clients with the most up to date tools and strong technical skills.



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Your Facilitators

Allan Robison, Senior Environmental Consultant, ASCT, EP



With over 25 years of experience, Allan has extensive experience in environmental site assessments, remediation, reclamation monitoring and inspections, remedial air sparging and vapour extraction system installations. Environmental and geotechnical field investigations including groundwater, soil and soil vapour sampling. Over the past decade, Allan has provided both technical and field training to junior and intermediate field staff, municipal and private system operators, as well as one of the lead facilitators for an environmental site assessment field school.

Hayley Shearer, Senior Geoscientist, MEng, PGeo



Hayley has over 14 years of effective project management experience in a consulting engineering setting with experience in environmental site assessments, remediation programs, compliance and monitoring programs. Hayley has experience developing technical investigation plans, coordinating project staffing, and carrying out and instructing on environmental assessment field investigation methods and techniques. She has in-depth knowledge and practice in field investigation planning that includes, health and safety considerations, various drilling and soil sampling methods, well installation methods, vapour sampling methods and investigations for hydrogeological properties.

Roger GJ Therrien, Senior Geotechnical Technologist, ASCT (Guest Facilitator)



Mr. Therrien has 40 years of experience working on many projects in the geotechnical engineering discipline throughout Canada and across the world for private and public clients. He has been involved with geotechnical investigations, project management, construction supervision, inspection and testing for municipal infrastructures, forest and mining industries, slope instability investigations and remediation related to glacio-lacustrine deposits. Mr. Therrien specializes in forensic engineering and technical reviews, construction supervision, training junior technical and engineering staff, senior review of reports, preparation of technical papers, and 3D modeling for landfill optimization and closures. Other specialties include investigations for ground improvement techniques consisting of vibro-compaction and vibro-replacement, preload site treatments, landslide investigations and remediation options, electronic cone penetration (CPTu and seismic SCPT) investigations and data analysis and reviews, remedial foundation designs, and the preparation of contract drawings and specifications.