Sunday 15 September 2024
Half Day Workshops

Time: 8:00 AM – 12:30 PM
Venue: Adelaide Convention Centre
Registration Fees: $345 inclusive GST

Workshop - 5

Faster, Better, Cheaper: Risk-Based Investigation and Remediation

About this workshop

"Risk-Based Corrective Action" or "RBCA" guidance and corresponding, pre-approved screening levels developed in the 1990s allowed for rapid identification of potential environmental concerns at contaminated sites and initial design of remedial actions. Delays in project completion, cost overruns and the discovery of contamination at sites that had been previously declared "clean" have persisted, however. Valuable properties are sometimes abandoned due to the lack of a clear endpoint. "Laboratory error" is often used as the scapegoat. Closer inspection reveals the majority of the blame to be associated with in the collection and use of "discrete" or "grab" samples of soil, sediment and other environmental media to characterize sites, rather than methods more directly tied to the assessment of risk.

This workshop will review the origin of early regulatory guidance for the use of "discrete" or "grab" samples to characterize environmental contamination and the inherent limitations of the resulting data. Circumstances behind the failure to heed early warnings by USEPA staff and other government and private experts will be explored. "Risk-based" sampling methods long used in the equally sampling intensive mining and agriculture industries will then be introduced as a solution to this dilemma. The Systematic Planning process presented directly ties methods used to collect, process and test samples with the assessment of risk and optimization of remedial actions. Upfront specification of "Investigation Questions" coupled with designation of risk- or remediation-based "Designation Units" and the collection of "Multi Increment" samples ensures that the resulting data will be both technically defensible and reliable for final decision making.

The approaches described will likely seem common sensical to new professionals in the environmental industry. The change in mindset and questions regarding the reliability of "traditional" types of sample data can be challenging for seasoned practitioners, however, as it was for the presenters of this workshop. Concepts such as the designation of specific Decision Unit areas for collection of soil samples will seem familiar, however, as will questions regarding the representativeness of a random, grab sample of soil from a single point in terms of the immediately surrounding soil. The workshop will end with a discussion of "next steps" for implementation of Risk-Based Investigation methods in Australia and topics for future, more focused workshops on specific topics. The risk-based investigation methods introduced can require more planning and effort at the beginning of a project but will help ensure that projects are completed on time and on budget and with a high degree of confidence in the results.

Workshop attendees will receive:

- 3.0 hrs of CPD point
- Link to the workshop paper
- Presentation slides (in secured PDF)
- a downloadable online resource folder on USB.

Program

Workshop Program

Time/Speaker	Speaker	Speaker/Topic
8:00 -8:45 AM	-	Registration and Coffee plus nibbles
8:45 -9:00 AM	Ross McFarland	Workshop Introduction
9:00 -9:45 AM	Roger Brewer	Why Change? Intro to Risk-Based Investigations
9:45 -10:15 AM	Marvin Heskett	Laboratory Analysis and RBI Case Studies from the US
10:15 -10:45 AM	-	Morning Tea Break
10:45 -11:15 AM	Jing Song	Case Study and Challenges of RBI Implementation in China
11:15 -11:45 AM	Ross McFarland	Case Study and Motivations for Implementation of RBI in Australia
11:45 -12:30 PM	Ross McFarland / Ravi Naidu	Open Discussion/Next Steps

Presenters

Ross McFarland
AECOM Chief Environmental Scientist,
Australia & NZ

Ross is AECOM's Chief Environmental Scientist for ANZ. He is a Certified Contaminated Land Practitioner (EIANZ SC41077) as well as national Asbestos Removalist Certification. Ross is a certified contaminated land auditor in NSW, ACT, NT, and WA, and works in all jurisdictions of Australia and New Zealand. He has more than 40 years local, national and international environmental chemistry experience, focused on risk-based contaminated sites management, especially for emerging contaminants such as ASBestos-IN-Soil (ASBINS) and PFAS.

Ross was the Australian consultant industry representative for both 1999 and 2013 Assessment of Site Contamination National Environment Protection Measure (ASC NEPM). The ASC NEPM is the nationally agreed technical framework for contaminated sites assessment work. To address a national guidance gap for remediation of contaminated sites, in 2010 Ross was asked to Chair the National Remediation Framework (NRF) Committee. In 2019 the NRF was published, consisting of twenty-four national remediation guidelines.

Ross has been involved in the technology transfer of innovative sampling techniques for more than 30 years, and since 2017, he has supported the local introduction of representative sampling such as the "incremental sampling methodology" into Australian and New Zealand practice. A recent podcast outlines Ross' involvement in sampling developments See "The Sampling Evolution" at:
(https://belowthesurfacepodcast.buzzsprout.com)

Roger Brewer
Senior Environmental Scientist,
Hawaii Department of Health, USA

Roger Brewer is senior environmental scientist with the Hawai'i Department of Health. His environmental experience includes regulatory compliance audits; characterization of contaminated soil, water and air; contaminant fate and transport; vapor intrusion and human health and ecological risk assessment. Current areas of focus include the PFASs, the chemistry and toxicity of petroleum fuels and improved methods for the collection of representative, environmental samples. He has also worked as an environmental consultant in the US, Asia and South America and as a senior geologist and environmental risk assessment specialist for the California Environmental ProtectionAgency. His academic background includes a PhD in geology and post-doctoral research at Nanjing University in China.

Marvin Heskett
Practicing Environmental Consultant
Element Environmental, Hawaii USA

Marvin Heskett was raised with sustainability at the heart of family life. He is currently a practising environmental consultant and an environmental chemist. Marvin received a B.S. in biochemistry from California Polytechnic San Luis Obispo and has worked as a mass spec. chemist, quality assurance officer, and laboratory director prior to taking on the role of a consultant. As a consultant, he has worked with the State of Hawaii Department of Health in innovating novel approaches to solving environmental problems throughout the Pacific Region.

Jing Song
Chinese Academy of Sciences

Detailed Biodata Awaited