SANBORN HEAD

CORE Discrete Fracture Network Webinar 1: Overview and Application Focusing on VOC-Contaminated Sites

BY: JESSICA BULOVA, PMP ON NOVEMBER 12, 2025

You're invited to a watch this two-part webinar series exploring the CORE Discrete Fracture Network (CORE^{DFN}) – an innovative, research-backed and field-tested approach to bedrock investigations involving VOCs and PFAS.

Conventional bedrock characterization methods focus primarily on contamination in the aqueous phase within fractures. But at most bedrock sites, the majority of contaminant mass occurs within the bedrock matrix. Dr. Beth Parker, director of the Morwick G360 Groundwater Research Group (Morwick G360) and a professor at the University of Guelph, and Dr. Tadeusz Gorecki of the University of Waterloo developed the CORE^{DFN} bedrock investigation approach to better quantify the contaminant mass distribution in bedrock and to accelerate the pace at which the analysis can be completed.

Sanborn Head and Pace® Analytical are licensed providers of this innovative investigation and analysis approach. While CORE^{DFN} has focused on VOCs, Sanborn Head, Pace®, and Morwick G360 have also applied this method to emerging contaminants (e.g., PFAS and 1,4-dioxane).

The field method includes collection of high-quality bedrock core and careful logging and characterization of the bedrock and fracture network. Based on this logging, high-resolution samples for contaminants and bedrock physical properties are collected, prepared, and preserved for analysis. For volatile organic compounds (VOCs), the laboratory approach includes microwave assisted extraction process followed by analysis by gas chromatography / mass spectrometry.

Webinars:

- Part 1: CORE^{DFN} Overview and Application, Focusing on VOC-Contaminated Sites
- Part 2: CORE^{DFN} Adaptation for PFAS Sites

Why watch?

The first 1-hour session of this two-part series focuses on the development of the technology and the application of the methodology for chlorinated solvent contaminated bedrock, including the specialized field and analytical methods required. It finishes with a case study highlighting the benefits to the Conceptual Site Model and how its use can lead to a more informed remediation strategy.

What you'll learn:

Led by experts from Sanborn, Head & Associates, Inc. and Pace® Analytical, this series covers:

- Illustration of how CORE^{DFN} can inform your conceptual site model and remediation strategy.
- Explanation of CORE^{DFN} and why it is a superior strategy to quantify contaminant mass in complex fractured bedrock versus other existing methodologies.
- Identification of specific use cases where CORE^{DFN} would be an effective option for high resolution site characterization in fractured bedrock conditions.

- Understanding of why customized analytical methods matter.