

## **Analysis of Soil and Mine Tailings for Pollutants and Heavy Metals using portable XRF and FTIR Analyzers**

Speaker: Mike Toalson, Western Analytical Solutions LLC

### **Abstract**

This presentation will show some of the latest developments and capabilities for using field portable analyzers like X-Ray Fluorescence (XRF) and Infrared Spectrometers (FTIR) to quickly screen for pollutants and heavy elements like Lead, Mercury, Arsenic, Cadmium, Petroleum, PCB's and many other by-products left over from historic mining or smelting practices. This technique is also used to locate deposits of exposed sulfides, copper, zinc and other metals prone to mobilization by and/or promoting the potential for acid mine drainage. Various agencies routinely use these type units to determine the location and extent of concentrated deposits so that remediation specialists are able to effectively determine treatment solutions while minimizing disturbance to surrounding areas. These systems are being adopted by local agencies to monitor locations prone to pollutant accumulations and determine the extent of remediation necessary.

### **Speaker Biography**

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Mike Toalson has been working in the field of analytical instrumentation and engineering for over twenty five years, assisting companies in aerospace, energy research, mining, petrochemicals and many other industries. As an avid outdoorsman, he is keenly aware of the needs for a healthy ecosystem, with respect for the needs of the environment and industry. Mr. Toalson holds a B.S. in Engineering from the University of South Carolina.