

Field-portable XRF Application Seminar for EPA Region 3 (1-day)
Outline dated: December 21, 2006

Seminar being developed & delivered through EPA's Technology Innovation & Field Services Division, Technology Information & Integration Branch. EPA contacts: Deana Crumbling (703-603-0643) & Steve Dymant (703-603-9903)

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Seminar Synopsis

- Sampling considerations for XRF: data representativeness & extrapolating results to make decisions
 - Measurement support
 - Sample support
 - Decision support
 - Particle size effects
 - Options for sample preparation & handling
- XRF Calibration & QC: what kind & how much do you need
 - Calibration options & why choose one over another
 - "Standards" vs. "control samples"
 - NIST reference materials: uses & limitations
 - How do I know when the XRF isn't working right?
- Establishing XRF comparability to fixed lab methods
 - What if the methods are not measuring the same things?
 - Data comparability vs. decision comparability
 - "Collaborative" data sets to achieve decision-quality (definitive) data
- Decision-making aids
 - Regression analysis
 - Non-parametric optimization of decision error rates
 - GeoBayesian approach to add statistical rigor to a conceptual site model (CSM)
 - Using XRF's dynamic/adaptive capability to speed up projects

Concepts & practice will be illustrated using experiences from actual field projects. EPA's Environmental Response Team will bring an XRF instrument & test soils.