ENVIRONMENTAL X-RAY ANALYTICAL SENSOR

The state of the art in X-ray fluorescence (XRF) spectroscopy now allows sensors to be constructed that meet requirements imposed by *in situ* and/or field deployment. These devices allow elements to be sampled in concentrations of parts-per-million (ppm). Miniaturized XRF sensors can be incorporated in systems for lowering into tanks or bilges or performing non-destructive materials evaluation.

NRL has developed a cone penetrometer XRF system for *in situ* analysis of subsurface soil or underwater sediment.

Features and advantages include:

- Rapid, *in situ* characterization of any solid or liquid material
- Sensitive at ppm levels
- *In situ* analysis minimizes excavation of soils
- Real-time analysis reduces costs

Applications include:

- Environmental remediation (groundwater and soil)
- Environmental monitoring of leaks or groundwater plumes
- Real-time soil analysis for mining, oil exploration, and agriculture
- Safety/industrial hygiene monitoring and assurance

Licenses are available to companies with commercial interest.

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