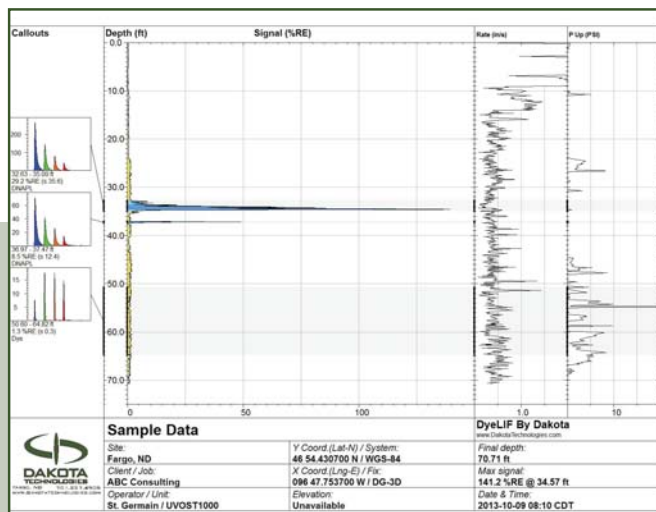
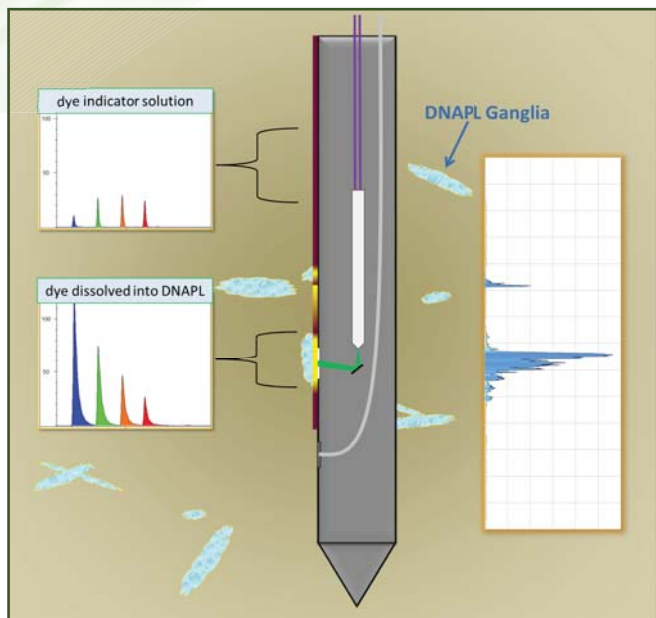


DyeLIF™

Dye-enhanced Laser Induced Fluorescence

Dye-enhanced laser induced fluorescence system, or DyeLIF™, is Dakota's new chlorinated DNAPL sensing technology. DyeLIF has the ability to rapidly and precisely delineate DNAPL because it does not respond to dissolved-phase chlorinated solvents.



DyeLIF benefits include:

- **Real-time data**— allows for “on-the-fly” guidance of the next bore-hole location, leading to better bounding of source term
- **No IDW**— true in-situ information without investigation derived waste, carryover, or handling and storage of samples
- **Fast**— production rates of 200 to 500 feet per day (typical direct push conditions)
- **Flexible**— delivery with percussion (i.e. Geoprobe®) or cone penetration test (CPT)
- **High data density**— one inch/data point. A typical day's probing provides the equivalent of ~12,000 oil red O shake tests
- **Sensitive**— 0.1 to 1.0% pore saturation limit of detection
- **Selective**— fluorescence time-domain waveforms offer positive DNAPL identification and interference rejection - with ZERO response from dissolved-phase chlorinated solvent
- **Proven**— based on mature LIF technology; all performance objectives were achieved when evaluated under Environmental Security Technology Certification Program (ESTCP ER-201121) - final report dated April 2016 available for download
- **Geology**— uphole and downhole injection pressure sensors on the dye injection system provide hydraulic profiling information useful for remedy design
- **“100% recovery”**— no partial recoveries, sloughing, or questionable sample representativeness

The DyeLIF system renders typically non-fluorescent chlorinated DNAPLs fluorescent by injecting an indicator dye through an injection port that is situated below the LIF sapphire window. As the probe is advanced through the subsurface, the injected dye continuously contacts the soil and instantly partitions into any DNAPL that may be present. Our standard LIF tooling is used to detect the fluorescence emitted by the dye-labeled DNAPL.



www.dakotatechnologies.com
info@dakotatechnologies.com
701.237.4908

Atlanta, GA
Boston, MA
Minneapolis, MN
Morris, MN
Kansas City, MO
Fargo, ND
Columbus, OH
Charleston, SC
Virginia Beach, VA