

## PHILIS: Portable High Throughput Integrated Laboratory Identification Systems

PHILIS units are the EPA’s mobile laboratory assets, under the [Environmental Response Laboratory Network](#) (ERLN), designed to detect Chemical Warfare Agents (CWA) and Toxic Industrial Chemicals (TIC) in environmental samples. They are currently stationed in Edison, NJ and Castle Rock, CO and can be deployed to any locations in the contiguous U.S., typically within 24-48 hours. PHILIS labs were designed to provide confirmatory on-site analysis on air, soils, waters and wipe matrices for both CWAs and TICs, down to clearance goal levels. PHILIS may be deployed to terrorist attacks, natural disaster sites, Superfund sites or exercises, and to perform environmental analysis at the request of EPA’s regional offices. PHILIS assets can be mobilized via EPA’s Office of Emergency Management (OEM) and the ERLN.

- Deployable within 6 hours of notification; operational within 6 hours of being on-site.
- Operate via internal generators/supplies for 4 days before restocking/refueling required.
- National Environmental Laboratory Accreditation Conference (NELAC) certified for VOCs, SVOCs and PCBs in water, soil, sediments, and wipes matrices using EPA Methods 8260/8270/8082. Pursuing certification for air methods.
- Estimate 100-200 samples/day for CWAs and TICs (24hr operations) for all matrices.
- Analysis of environmental samples for CWAs via ERLN’s Ultra-dilute agent (UDA) program. Detection limits to health-based clearance via EPA’s [Selected Analytical Methods \(SAM\)](#).



New Jersey	Colorado
2 - Analytical Trucks: 10 GC/MS instruments, for VOCs, SVOCs, PCBs. 2- P & T systems for VOCs. Marks TDU unit for air samples via TO methods. Air, soil, water and wipe matrices.	1- Analytical Trailer: 6 GC/MS systems w/FPDs, for VOCs, SVOCs. 2- P&T systems for VOCs, one LC/MS/MS system. 2 Marks TDU units for air samples via TO methods. Air, soil, water and wipe matrices.
Sample Preparation Trailer for automated (SPE, PSE) and manual prep of soil, water, air, and wipe samples.	Sample Preparation Trailer for automated (SPE, PSE) and manual prep of soil, water, air, and wipe samples.
Sample Log-In trailer w/ Secure room for UDA/CWAs standards storage. Pre-screening samples	Sample Log-In trailer w/ Secure room for UDA/CWAs standards storage. Pre-screening samples
Wirelessly connected Promium LIMS system, SEDD electronic data deliverable. Compatible with ERLN, SCRIBE and WebEDR data platforms.	Wirelessly connected Promium LIMS system, SEDD electronic data deliverable. Compatible with ERLN, SCRIBE and WebEDR data platforms.
One LC/MS-MS system in fixed lab location for CWA degradation products and special analysis.	One LC/MS-MS system for CWA degradation products and special analysis.
<a href="http://www.epa.gov/oemerIn1/index.html">http://www.epa.gov/oemerIn1/index.html</a> <a href="http://www.epa.gov/sam/">http://www.epa.gov/sam/</a>	Additional mobile bus w/ 3 Time of Flight (TOF) GC/MS systems, for development of rapid CWA methods.