

# PHILIS - Castle Rock, CO & Edison, NJ

## Portable High-Throughput Integrated Laboratory Identification System



- PHILIS is EPA's mobile laboratory asset for remote or on-site analysis for:
  - ✓ **Natural disasters, accidental releases, terrorist and other incident response actions**
- Address gaps in Nation's capability and capacity to analyze chemical warfare agents (CWAs) contaminated environmental samples – **soils, waters, surface wipes, air matrices**
- Detection limits down to Health-based Clearance levels
- Organic analysis in support of regional emergency response actions
- NELAP Accredited & CWA Certified Laboratories
- Mobile asset for EPA's Emergency Response Laboratory Network (ERLN)



- **Accelerates recovery time: TIME = MONEY**
  - ✓ Reduces turn-around time for data for real-time, on site decisions
  - ✓ **Provides reliable on-site data for facility clearance decisions**
  - ✓ Circumvents need to ship/analyze samples off-site
- **Dual Use of PHILIS systems**
  - ✓ CWA preparedness, training, preparedness exercises
  - ✓ TIC/Superfund on site analysis
  - ✓ Disaster response (natural/man-made)



- **Road worthy within 4 hours of notification**; Set up and running within 6 hours of arrival on site; proposing pre deployed to area and call-in staff if needed or can fully pre-deploy with staff onsite
- **Able to run 4 days before restocking/refueling required**; operated via diesel generators or connection to shore power; arrives fully stocked (consumables, chemical standards, etc.) and can resupply via courier
- Automated sample prep equipment, **able to process a minimum of 100 samples/day** total for fully staff 24-hr work cycle; separate prep and analytical areas

**Brick and mortar lab on wheels**

## Capabilities

- SVOCs via 8270D – NELAP accredited, all matrices
  - ✓ Includes PAH (18) subset method
  - ✓ Low, med & high range methods, “Twister” rapid prep methods
- VOCs via 8260C – NELAP accredited, all matrices
  - ✓ Includes BTEX subset method
  - ✓ Rapid head space VOC method
  - ✓ Low, med & high range methods
- PCBs via 8082A – NELAP accredited, all matrices (9 Aroclors)
- Air toxics via TO17 (VOCs/BTEX) – proficient, pursuing NELAP certification
  - ✓ Sorption tubes, Tedlar bags, SUMMA canisters
- Carbamates via ASTM D7645-10, LC/MSMS fixed lab
- Misc CWA breakdown products via LC/MSMS fixed lab
  - ✓ Ethanolamines (4), Nitrogen Mustard breakdown products
  - ✓ Organophosphates (7), Nerve agent breakdown products
- Oil Dispersants via EPA R5/7 method, LC/MSMS fixed lab
- Personal Care Products, LC/MSMS fixed lab

## Analytical Trailers - Edison, NJ

- 9 GC/MS, 1 GC/ECD, 1 LC/MS/MS, 2 P&T units, 1 TDU system in 2 Freightliner trucks
- Sample Preparation Trailer
- Rapid automated prep for soil, water, air, & wipe samples via SPE, PSE

## Analytical Trailer - Castle Rock, CO

- 6 GC/MS, 1 LC/MS/MS, 2 P&T units, 2 TDU systems in mobile 53' trailer
- Sample Preparation Trailer
- Rapid automated prep for soil, water, air, & wipe samples via SPE, PSE
- Sample Log-In & Standards Storage Trailer
- 3 Time of Flight (TOF) GC/MS in mobile analytical bus

## Analyte Suite

- Chemical Warfare Agents
  - ✓ Sarin, Soman, Sulfur Mustard, Cyclosarin, VX
  - ✓ Secured cabinet for storage of Ultradilute CWA for QA purposes
  - ✓ Forth Generation Agents
- Pharmaceutical Based Agents - Fentanyl
- VOCs, SVOCs, PCBs
- Air Methods
- Confirmatory & Trace Levels and Methods Development

## Data Packages

- Premium based LIMS
- All mobile assets connected via wireless, encrypted LIMS
- Electronic Data Deliverables - Flexibility
  - ✓ Daily Prelims via Excel Spreadsheets
  - ✓ Tier 1, 2 & 3 EDD
- Scribe compatible
- WebEDR compatible
- Can Generate a “CLP-like” Data Package



**Primary Contacts – PHILIS Program – Call for Costs**  
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