

Ohio's in-house field capabilities

Jessica Page

Ohio EPA

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Presentation Summary

- Advantages of in-house field capabilities.
- Review of field equipment and capabilities available to Ohio EPA.
- Use of in-house services to conduct targeted brownfield assessments.

Ohio EPA's field capabilities

Unlike most state environmental agencies, Ohio EPA maintains its own field staff and equipment.



Ohio EPA's field capabilities



- Communities for which the cost of assessment would otherwise be prohibitive can reallocate their funds.
- Ohio EPA can provide supplemental work which would otherwise need to be contracted out.

Ohio EPA's field capabilities

Field screening:

- Provides real-time results.
- Allows targeted sampling, reducing lab costs.
- Can delineate hot spots or areas of concern.



Ohio EPA's field capabilities

- Ohio EPA's Site Investigation Field Unit (SIFU) has conducted assessments at potential Superfund sites under agreement with U.S. EPA since 1993.
- SIFU can conduct site assessments at brownfields in compliance with ASTM and/or Voluntary Action Program (VAP) standards.



Services Available

- Soil and groundwater investigations
- Field screening for metals and organics
- GIS and GPS capabilities
- Contaminated sediment investigations
- Ecological assessments
- Contract laboratory services



Geoprobe[®]



The Geoprobe[®] soil probing tool drives a sampling device directly into the ground, rather than drilling to remove soil to make a path for the sampling instrument.

Geoprobe®

The Geoprobe® can be used to:

- Obtain continuous soil cores
- Obtain discrete soil or groundwater samples
- Install piezometers
- Drive a conductivity probe to map subsurface lithology



Geoprobe®

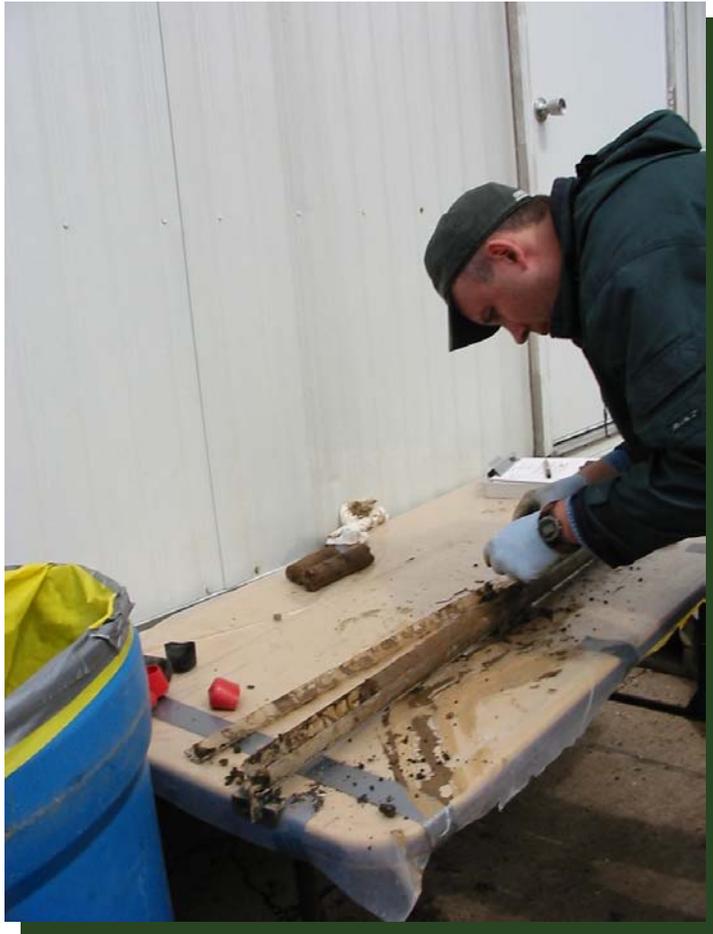


Soil cores are contained within a 4-foot PVC or acetate liner.

Geoprobe®



Geoprobe[®]



- A geologist is on site to examine and log soil cores.
- Soil samples collected with the Geoprobe[®] can be screened on site or sent to a fixed-based lab for analysis.

Mobile Laboratory



The Mobile Lab can be used to obtain on-site screening of large numbers of samples for a fraction of the cost of fixed-base laboratories.

Mobile Laboratory



Ohio EPA staff can conduct same-day screening for contaminants while they are in still in the field.

Mobile Laboratory

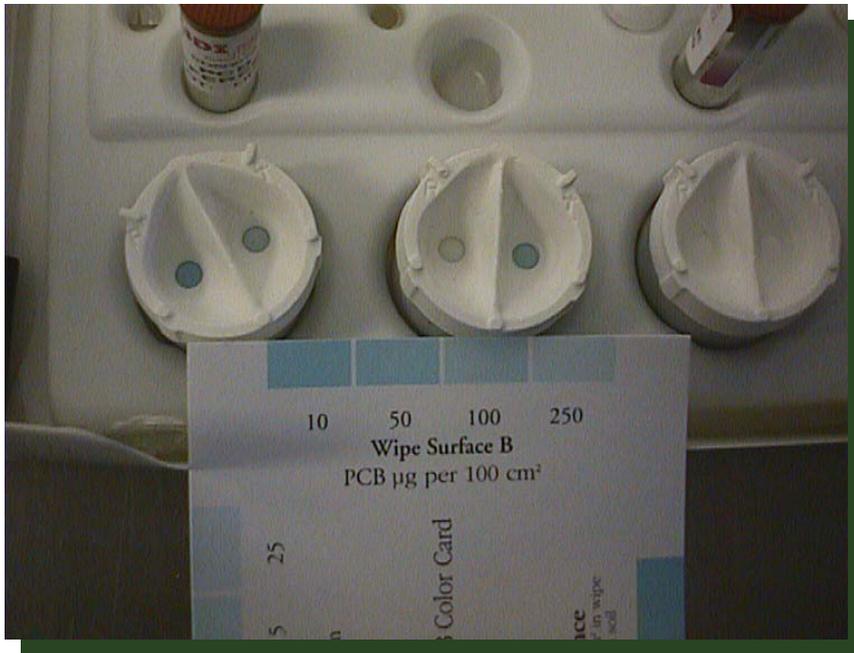
Capabilities

- Field gas chromatograph for soil and water VOC screening.
- X-ray fluorescence (XRF) unit for metals detection in soils and sediment.



XRF unit

Mobile Laboratory



PCB immunochemistry kit

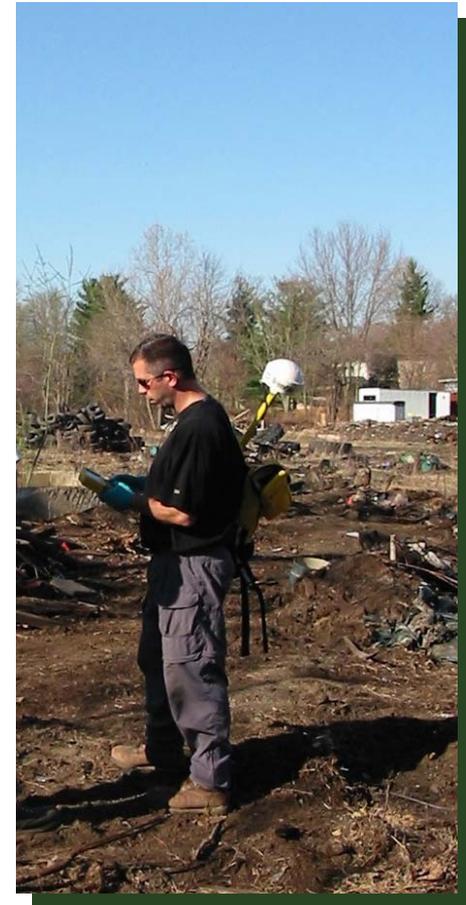
Capabilities, cont.

- Immunochemistry kits to screen for PCBs, PAHs, BTEX, pesticides and herbicides in soils and water.
- HazCat kits to screen for unknowns.

Mobile Laboratory

Capabilities, cont.

- GIS mapping capabilities to document data point locations.
- GPS unit with sub-meter accuracy to locate data points.



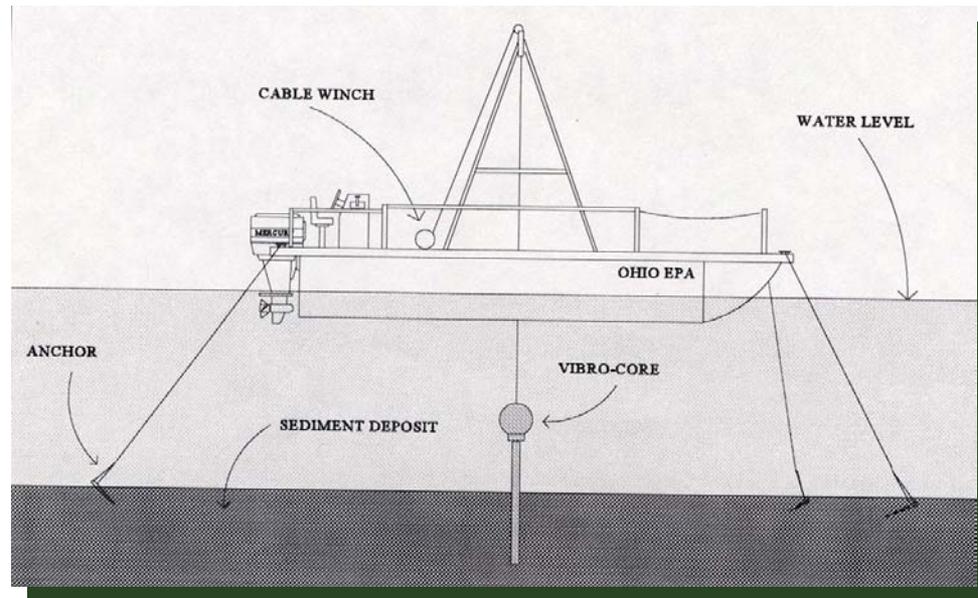
Trimble™ GPS

Sediment Core Sampling

Vessel



Sediment Core Sampling Vessel



- □ Sampling points are located using GPS and the vessel is anchored in place.
- □ Cores are collected using 10 foot long, 4 inch diameter polycarbonate core tubes.

Sediment Core Sampling Vessel



The coring tube is attached to a Vibracore head and raised above the deck.

Sediment Core Sampling Vessel

The Vibracore and coring tube assembly is lowered to the sediment surface where the vibrating head is activated.



Sediment Core Sampling

Vessel

- The assembly is lowered into the sediments until it stops lowering or is refused.
- The core is raised by winch, capped, labeled and processed at the field lab.



Recent field work □



The former Starkey Junkyard, Uhrichsville, OH.

- Ohio EPA provided site sampling support for a VAP Phase II investigation, which will be used as part of an application for Clean Ohio Fund cleanup money.

Recent field work



- Ohio EPA staff visited the site and learned the community's assessment needs.
- A DQO scoping meeting was held with the community and their CP prior to developing a work plan.

Recent field work □



- □ The Geoprobe[®] was used to sample soil and install piezometers.
- □ A hand auger was used to collect soil samples in terrain not accessible with the Geoprobe[®].



Recent field work

Samples were screened for VOCs, PCBs and metals on-site using the mobile lab.



Recent field work □

- □ Confirmatory samples were sent to the State-contract VAP certified lab.
- □ An aquatic ecological assessment is scheduled to occur in late summer, 2003.



Acknowledgements

Ohio EPA Site Assessment and Brownfield Revitalization and Site Investigation Field Unit staff.

