

Michigan Department of Community Health

Division of Environmental and Occupational Epidemiology
Lead Hazard Remediation Program
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SOIL SAMPLE COLLECTION PROTOCOL

The following Soil Collection Protocol is a basic protocol to be utilized when collecting composite soil samples for hazard evaluation in an EBL Environmental Investigation.

Supplies:

♦ Disposable gloves ♦ Disposable wipes ♦ Centrifuge tubes ♦ DCH Form No. 0558 – Chain-of-Custody
♦ Diagram master ♦ Soil sample log ♦ Roll-a-tape or tape measure ♦ Permanent marker ♦ Gallon “Ziplock”-type bags for sample shipment and waste disposal ♦ Metal or plastic disposable spoon ♦ Shipping supplies

Definitions:

Target area is the bare soil perimeter or play area being addressed; **Primary sample** is the sample comprising several **secondary samples** collected in a particular target area.

- 1) Establish a sampling plan by first creating a site plan. The plan should be oriented the same as the site diagram which was generated for interior risk assessment purposes. Sketch a schematic lay-out for the house, all out-buildings, fences, heavy traffic areas, play areas, other bare soil areas and the lot boundaries. Be sure to identify the drawing by address, and indicate North on the diagram, as well as the location of the address side of the unit.
- 2) Number each target area (bare, perimeter or play) on the diagram and enter the number with an area description in the space at the bottom of the diagram master and soil sample log. Estimate the square footage of each target area.
- 3) Enter data on the soil sample log for soil characteristics, accessibility, target area square footage, etc., and take photos of each target area.
- 4) Sketch in sampling routes over target areas. For perimeter sampling draw an axis parallel and within 2 feet of the foundation, fence or other structure. For odd-shaped areas draw diagonals, creating an “X” over the area. Spot secondary sample locations equally along these lines.
- 5) Calculate the number of primary samples and secondary samples needed. One primary sample can be collected for up to 800 square feet of ground area. Spot from 3 to 10 secondary samples 2 to 6 feet apart, depending on the square footage of the target area being addressed. Group numerous small bare spots as one target area. Group areas with a common function (e. g, multiple play, multiple garden, multiple pet, etc.), Do not group areas with a significant potential for hazard; treat these areas separately. For example, if one particular area is next to a badly deteriorated structure, identify it as a separate target area. The purpose is to isolate areas for future soil lead hazard control.
- 6) Using an approved sampling device, collect samples from the first one-half inch of surface soil and transfer into clean, first-use centrifuge tubes. The centrifuge tube itself may be used if appropriately decontaminated before placing in the sample shipping bag. De-contaminate equipment between target samples. It is not necessary to decontaminate between secondary collections.
- 7) Enter sample area and target sample number on centrifuge tube before proceeding to next sample; place tube in the sample shipping bag.
- 8) Once all samples have been collected, decontaminate equipment and seal all related waste in a disposal bag. Dispose of waste off-site as ordinary household waste. Wash face and hands and complete the remaining information on the soil sample log. Transcribe necessary information from the log to the laboratory chain of custody form and mark the sample shipping bag with identifier information.