B. Bulk Sampling

Once a building material has been identified as possibly containing asbestos or as a "suspect material" that material must be tested according to AHERA requirements or assumed to contain asbestos and treated as such. The untrained and naked eye cannot determine if a material contains asbestos without the aid of laboratory analysis. Bulk sampling is performed to determine the asbestos content of a building material. A piece of the material is extracted and sent to an accredited laboratory to be analyzed under a microscope. Laboratories performing analysis for school districts must be accredited by the National Bureau of Standards, National Voluntary Laboratory Accreditation Program (NVLAP) as well as be certified in the Environmental Laboratory Approval Program (ELAP) through the NY State Department of Health. Laboratories involved in asbestos analysis must also possess an asbestos contractor license issued by the NY State Department of Labor.

Common methods of bulk sample analysis include ***Polarized Light Microscopy*** (PLM) and ***Transmission Electron Microscopy*** (TEM). AHERA defines an asbestos containing materials as a material or products containing greater than one percent asbestos. Therefore, materials that are one percent or less asbestos can be classified as non-ACM. For a material to be proven to be negative for asbestos a series of samples from the particular homogenous area must be analyzed at one percent or less for asbestos. Asbestos content can vary widely within a homogeneous area, particularly surfacing materials and thermal system insulation, due to on-site mixing during construction.

AHERA is very specific as to the number of samples that are required to be taken for each homogeneous area and type of material such as surfacing, thermal system insulation and miscellaneous building materials. Consult AHERA 40 CFR 763.86 for specific details.

Laboratory bulk sample analysis typically uses PLM methods. PLM has been determined to be inadequate for ***non-friable organically bound materials*** (NOBs), such as floor tile, mastics and roofing materials. It was found that PLM is not highly reliable in detecting low percentages of asbestos for NOBs. In September of 1992, the NY State Department of Health ruled that PLM is not an acceptable method to determine a NOB material negative for asbestos. NOBs found to be negative must be sent on to be analyzed by TEM to confirm negative status. However, PLM can continue to be used to determine a NOB sample positive for asbestos. NOBs previously determined to be negative by PLM must be resampled as renovations or demolition dictates.

Another potential issue of concern with bulk material sampling is when the material being sampled is multi-layered. Lack of knowledge about the possible asbestos content of different strata in layered materials can lead to increased risk of exposure through improper removal. To accurately determine asbestos content, a representative sample of each layer present (i.e. skim coat/base coat) must be obtained and the laboratory instructed to analyze each sample or layer separately . See EPA “Asbestos Sampling Bulletin”, Sept. 30, 1994