



Limitations and Disclaimers

Reports produced by Global Analytical Laboratories are confidential, and are not to be reproduced, except in full, without the written approval of the laboratory. The report does not represent an endorsement by accrediting organizations or any external agency. Quantified percentages are visually estimated by volume using both stereomicroscopy and polarized light microscopy (PLM), and are calibrated, but not calculated. For estimates less than or equal to 1%, the sample will be deemed non-asbestos containing by means of stereomicroscopy in conjunction with PLM under the EPA accepted methods (EPA 600/R-93/116) for the detection of asbestos.

Samples containing distinct and separable layers will be treated as discrete samples for analysis. If Test Till Positive (TTP) is requested, analysis on a sample or sample pair will cease upon determining asbestos constituency greater than 1%. Global Analytical Laboratories will confirm testing procedures with the client before proceeding with analysis.

PLM is limited by fiber visibility: PLM is not powerful enough to identify very fine asbestos fibers, and is biased towards false positives/negatives for certain interference materials. Despite these limitations, PLM is considered sufficient by the EPA Atmospheric Research and Exposure Assessment Laboratory (EPA/AREAL) for the detection of asbestos. X-ray diffraction (XRD) and analytical electron microscopy (AEM) can identify serpentine and amphibole minerals very conclusively, but each has their own limitations. AEM has a lower detection limit nearing 0.0001%, but requires time intensive sample preparation that seldom provides a cost benefit to the client. XRD can clearly identify crystalline materials based on their crystalline lattice, but cannot distinguish fibrous from nonfibrous minerals and thus must be utilized in conjunction with PLM or AEM.

PLM is not consistently reliable for non-friable and vermiculite samples, though provides the necessary initial screening. The gravimetric reduction processes described by the EPA 600 Method and utilized by Global Analytical Laboratories serve as an acceptable determination means for the presence of asbestos. Analytical electron microscopy (AEM) is currently the only definitive means of determining asbestos content in these non-friable samples. Global Analytical Laboratories provides a time and cost efficient service for the detection of asbestos, but is cognizant of PLM limitations and can recommend external laboratories if further analyzation is desired.