Tips for Consultants
Clearance Air Samples by PCM in Massachusetts

The Department of Labor Standards ("DLS") provides the following reminder to consultants regarding the requirements of NIOSH 7400 for clearance air monitoring samples after asbestos abatement projects. Clearance air sampling that fails to comply with the sampling and analysis procedures specified in NIOSH 7400 and 453 CMR 6.14(5)(b)2.a through d. will be determined to be in noncompliance with 453 CMR 6.00.

Scope
These requirements apply to all settings where Phase Contrast Microscopy ("PCM") analysis of clearance air monitoring samples is conducted for asbestos response actions, including schools, commercial buildings, and residences. This reminder does not introduce new requirements but highlights some, but not all, of the NIOSH requirements that Project Monitors and Analytical Service Providers/laboratories are responsible for performing.

Air Sample Method
Clearance air monitoring samples may be analyzed by PCM when the amount of asbestos abated during an Asbestos Response Action is less than or equal to 160 square feet or 260 linear feet in school facilities subject to AHERA, or for Asbestos Response Actions conducted in all non-school facilities. A certified Asbestos Project Monitor must collect samples in accordance with the NIOSH 7400 Method, fourth edition dated August 15, 1994 and 453 CMR 6.14(5)(b)2.a through d. The NIOSH method has specific requirements in order to achieve accuracy and precision. These requirements include, but are not limited to:

- Collection Filter: 25 mm 8 micron MCEF with extension cowl, open face.
- Sample Rate: 0.5 to 16 liters per minute. Cannot be more than 16 liters per minute to ensure collection efficiency.
- Minimum Sample Volume: Adjust flow rate and sample time to yield a sample result that will provide statistical confidence that the air concentration is below 0.01 f/cc. This calculation includes both the Limit of Detection, and the Limit of Quantitation achieved by fiber loading and laboratory quality control.
- Calibration: Air pumps must be calibrated immediately before and immediately after collecting each clearance air monitoring sample. Pump calibration must be verified to a primary standard.
- Aggressive sampling: Must be done for all clearance air monitoring, inside the containment.

Air Sample Report
To demonstrate compliance with the NIOSH 7400 Method, Project Monitors are expected to provide documentation that identifies the date of sample collection, location of samples, the start and stop times for each specific sampling pump, the volume of air sampled, the flow rate, pump calibration, and the name and certification of the Project Monitor. Laboratory documentation should include a unique identification number for each sample, the date of analysis, the total number of fibers detected per filter, the total fields counted, the fiber density, the name and signature of the analyst, and the intralaboratory and interlaboratory relative standard deviations.

Analyst Qualifications
Analysts must have completed the NIOSH 582 training course, or equivalent. All analysts, whether analyzing samples in a laboratory, work site or other remote location, are required by 453 CMR 6.00 to be an employee of a Certified Class C Asbestos Analytical Service Provider which maintains a quality assurance program.

Laboratory Qualifications
Asbestos Analytical Service Providers providing PCM analysis of air samples in accordance with 453 CMR 6.00 must be certified by DLS, possess a Class C Certificate and have a quality assurance program that complies with NIOSH 7400. Pursuant to 453 CMR 6.00, Asbestos Analytical Service Providers must participate in the AIHA Proficiency Analytical Testing (PAT) program and maintain a rating of "Proficient."

Laboratory Quality Control for PCM
In accordance with NIOSH 7400, each laboratory is expected to maintain a set of reference slides. These slides consist of filter preparations including a range of loadings and background dust levels from a variety of sources, including 5-20 fibers in 100 graticule fields, 20-50 fibers in 100 graticule fields, and 50-100 fibers in 100 graticule fields.

- Each analyst should analyze a minimum of one reference slide per workday, which is changed periodically.
- Each analyst should analyze blind recounts on 10% of samples that he or she analyzed.
- Laboratory staff should perform blind recounts on reference slides.

Each laboratory is expected to maintain records for DLS review to verify that analysis is performed with accuracy and precision, analysts are proficient, and equipment is properly calibrated.

Conflict of Interest
At schools and sites subject to the AHERA regulations, a Project Monitor who conducts a post-abatement visual inspection and clearance air testing cannot be a subcontractor of the Asbestos Contractor. At any site, the Asbestos Contractor cannot perform duties for which a Project Monitor certification is required.