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Dr. J. J. Breen
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Dear Dr. Breen:

Thank you very much for the draft copies of the Asbestos Analytical Program and Appendix A. The information contained will be extremely useful and quite helpful in the work we have here. Since you mentioned you would appreciate comments of the draft, I will list a few that I have noted.

1) Chapter 11 Page 9 - it states that the volume percentage of the fiber should be specified, you might want to clarify whether the volume percentage should be percentage of asbestos fibers versus total fibers or percentage of asbestos fibers versus total particulate.

2) Chapter 11 Page 15 - you note that at least 25 split samples should be sent out to judge the acceptability of the analytical laboratory, I believe the cost of this number of samples could be quite steep for small school districts who may have less than 10 samples to be sent out for analysis. You might consider specifying that if the school district only requires a few analysis that they have two different types of analysis performed (such as polarized microscopy and x-ray diffraction analysis) at two different laboratories rather than having to go through this qualification procedure. If asbestos is found by either laboratory or either technique and an expensive asbestos removal or containment program is envisioned then the laboratory quality assurance practices might be followed.

3) Appendix A - I have a bit of trouble deciding the audience for which this report is meant. It seems to be too technical for most lay readers and not quite explicit enough to be used as a technique for identification of asbestos in insulation.

LLA 000744

Dr. Breen - 2

4) Appendix A Page 6 through 9 - is not very explicit on how one determines the difference between the rock wool and fibrous glass.

5) The insulation samples that I have observed often have small fibers which are not part of a fibrous bundle. It is difficult to perform many of the optical techniques specified on small fibers which are almost at the resolving limits of the microscope optics.

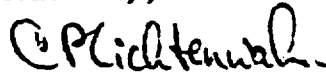
6) The draft copy of the report I received Appendix A - page 13 is missing.

7) Appendix A Page 9 - seems to do a poor job in describing cellulose fibers. This section mentions that cellulose fibers do not have the internal structure found in asbestos, however, it does not specify what internal structure is present in asbestos particles. I hope that the authors are not referring to the hollow core seen in chrysotile fibers by transmission electron microscopy since this is not visible by optical techniques.

8) Appendix A Page 22 - discusses transmission electron microscopy as a method for distinguishing asbestos in talc but there are no previous references to TEM in the report.

Again I thank you for the draft copy of the report and I hope that you will find these suggestions helpful.

Sincerely,



C. P. Lichtenwalner

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