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PCB Analysis

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I had an opportunity to talk the other day with Bill Donaldson who is chief of the National Water Contaminants Characterization Research Program at FWPCA's Athens Laboratory. We discussed the status of analytical methods for PCB's.

Donaldson says that the method used in his program is gas/liquid chromatography which is not too satisfactory because of interference from chlorinated pesticides. He says that the most work to develop a reasonable method has been done by a Mrs. Stoner at Stoner Laboratories located somewhere in California. Another person having information on an improved method for PCB's is Dr. Fred Lee at the University of Wisconsin, whose interest is in eliminating the PCB's to get an accurate pesticide analysis. Donaldson also volunteered that at the recent Organic Analysis Section of the ASTM meeting in Miami, PCB was one of the subjects having most discussion centered around it.

It is expected that toxicity of polychlorinated compounds will vary with the geometric arrangement of the isomers. Although the FDA may be doing some testing of toxicity along these lines, Donaldson says that very little results have been reported to date. He therefore wasn't very positive about the required level of removal of these kind of materials from wastewater. He did say, however, that DDT (sampled from a stream rather than a source of discharge) has been analyzed at a level of 50 parts per trillion which can therefore be regarded as a goal for stream quality. These extremely difficult analyses were accomplished using electron capture techniques.

Donaldson indicated that in his experience the PCB's have shown up in analytical data only during the past five years, which to him indicated that they come from another source than from decomposition of chlorinated pesticides. When I

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asked him whether this might be due to improved analytical techniques which missed the PCB's before, he was unable to give me an answer. He suggested that we talk with Mrs. Stoner about the history of PCB analysis if we need this kind of information. One other fact which he added was that the Cincinnati Laboratory which analyzes interior streams as part of the National Pollution Surveillance Program has reported no PCB's in any of its samples.

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