It is Caterpillar's candid opinion that the prohibition of asbestos from brake linings would place a severe penalty on the performance and safety of earthmoving equipment.

B. Brake Wear Products

In the December 1968, Air Pollution Control Association Journal, Jeremiah Lynch presented the results of his study entitled "Brake Lining Decomposition Products." In an initial study, dust samples taken from automobile brake drums were examined. Electron micrographs did not reveal the presence of any free fiber. Additional study, on a laboratory basis, was conducted. Decomposition products of various brake linings were sampled under simulated operating conditions. In all but a very few cases the linings tested showed less than 1% free absestos fiber in the decomposition product. This is a significant finding since the original linings averaged 50% asbestos by weight. In the isolated cases where significant free asbestos fiber was found, the test conditions were such that brake failure would have occurred if the linings had been subjected to like conditions in a vehicle.

Lynch states that in all but the most extreme driving conditions, only a very small fraction of the 30% - 50% asbestos present in brake lining escapes into the ambient atmosphere as a free fiber. Wear apparently occurs not by abrasion but in minute areas of intense heat at points of contact between the drum and lining. At these temperatures, about 900°F., decomposition products do not generally contain free fiber, but are a different mineral resulting from the thermal breakdown of the asbestos.

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