

Gilsenan, Michael

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Sent: Wednesday, April 09, 2003 3:17 PM
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Subject: USEPA Background Study

Underlining and comments were inserted into the document. However, in brief....

The primary objective of the study was to determine the background levels of the selected contaminants. The plan was to use buildings with similar characteristics and a "selection" list of buildings (not impacted by the WTC collapse) was provided by HPD. This list was not used because of a high non-participation rate and so buildings were selected by ability to gain access for the performing the sampling. However, even after the introduction of bias into the study (this building selection process), non-participation rates were high (17% for residences and 29% for common areas).

The total number of samples was 1158 samples. Given the number of contaminants and the number of different sampling methods used for each, this is very limited sampling. Further, the samples were not consistently analyzed and thereby had different detection limits reported. The data based on different analytical and reporting mechanisms were not included in drawing conclusions, making the data set even smaller.

Limited sampling and the bias in this study make it very difficult to accept any of the conclusions. Further, when the conclusions were reached, sometimes the data from residences and common spaces were combined and sometimes common areas were excluded. The explanations were not convincing (decision based on how data fit).

For example the asbestos microvacuum samples indicate "the results from these analyses were quite variable between different surfaces and between the different spaces" (this is a limitation in the sampling strategy). A couch sample was removed as an "outlier" (p20 of the report). Asbestos was detected more frequently and at higher concentrations in the common spaces. Since there was variability, the results from the residential spaces were used to determine the background as more representative of what is found in the apartments. (The reported mean for common spaces was 7,145 s/cm²; the recommended background concentration for porous surfaces was 4,570 s/cm²)

For lead wipe samples, a value of 1.78µg/ft² using only the residential data "because of the marginal difference in the maximum detected concentrations in the common areas and residential areas". (p23)

For dioxin wipe samples, "the similarity between the data sets for the residential areas and the common areas permits the use of the entire data set for estimating the background concentration." (p23)

Theoretical concentrations were calculated when the samples were below the detection limit for a number of contaminants.

The report indicates that the data collected "was able to provide estimates of baseline levels or background concentrations of compounds... related to the WTC collapse" and "show that the estimated background studies and historical data, when comparison data was available. and "provide a source of data to help address data gaps in the scientific literature on back-ground concentrations of building-related materials". Based on the previous comments, this summary overstates what conclusions can be drawn from the data.

Table 4-1 and 4-2 provides a nice summary for a quick look at the procedures and the results. Table 8-1 provides the background concentrations derived based on the analytical results of the study. The values in italics indicate values that are below the detection limit.