Missing Data Points

In 1972, Gibbs and Lachance hint at the inadequacy of the sampling locations when they report the results of new samples taken "to obtain information in areas where no dust measurements had previously been made" during the previous 60 years.(Gibbs and LaChance 1972) These areas included most of the job categories involving exposures. (See Table 1) While they report that this data was missing for only three mines, these actually represented ten mines, which had either previously merged or whose exposures the authors felt were comparable. Another five mines were closed at the time of the study and no data of any sort appears to be available for the workers at these mines.(Gibbs 1972) Gibbs collected some samples for each of the jobs listed in Table 1, but he created and used a new method for measurement, which is incompletely described. (Gibbs 1972) He made no effort to compare these results to the MI total particle counts that were available for the rest of the workers. (Gibbs 1972) Although "mean" values are reported in the published paper many of these represent a single sample result.(Gibbs 1972)

Gibbs and Lachance based much of the dose reconstruction on these results. For example, they reported that maintenance workers had higher exposures than millers but the range of exposures for maintenance workers was 1.1-61.8 and the mean (based on 2 samples) was 25. The range for mill workers was .3-159 and the mean was 31. Moreover the exposure measurements varied widely. Gibbs published the data on between mine variance but omitted data on the variation of dose at the same mine for the same job. In fact Gibbs found that exposures at the same mine for the same job had a range of as much as 200 fold.(Gibbs 1972)