

workers, miners, and maintenance workers who comprised 20-30% of the entire study population.(Gibbs 1972) Gibbs based his dose estimates for these groups on an historical assessment of “visibility” reported in interviews with workers. In his PhD. thesis he noted, “Visibility, which was affected by fog and lighting, as well as dust, probably played a part in the workers’ assessment in underground mines and mills and may have led to an overestimation of dust levels.” [Emphasis added](Gibbs and LaChance 1972) We would add that lighting and distance variables per se, could result in particle estimate differences of one hundred fold.(Hemeon WCL 1963) This problem is compounded by the fact that visibility is a function of total particles and not fiber counts. The researchers stated that their “historical analysis” based on interviews indicated that the maintenance workers had high exposures compared to the miners. (Gibbs and LaChance 1972) This may be true, but Gibbs later reported that miners had twice as much pleural disease as the millers or rock crushers in the same mines and the maintenance workers generally worked in the mill or other process buildings.(Gibbs 1979) In 1971, Gibbs noted that there “was general agreement among” the workers questioned. (Gibbs and LaChance 1972) However, in another paper published 12 years later, the QAMA-McGill researchers noted that the occupational histories often conflicted with written records.(Liddell et al. 1984) (See below) The QAMA McGill researchers applied these dose estimates to particular worker jobs, which included 13,346 different job descriptions. (McDonald et al. 1971) Gibbs “reduced” these to 5,500 different jobs. He further reduced these jobs to thirteen general exposure categories. He then applied these individual exposure categories to individual work histories based on written records (on average each worker had ten different jobs). (Gibbs and LaChance 1972)