DISCUSSION

The results for the vacuum funnel *vs.* blow-off experiment and for the vacuum brush versus blow-off are shown in Table 1. It can be seen that the background concentrations during the fifth hour had re-established at the original level after a 2 hr latent period and therefore the blow-off operation carried out during the second hour did not affect the concentrations observed in the vacuum funnel samples collected in the sixth hour. The funnel appears to reduce personal exposure by 2 per cent for particles and 40 per cent for fibres; concentrations observed in the adjacent bay are increased and a reduction in peak concentrations of about 80:1 was achieved.

During the second experiment there was more variability in the background concentrations between the first and fifth hours but the effect of blow-off on the vacuum brush test may be discounted. Personal exposure by use of the brush is reduced by 75 per cent for both particles and fibres and the static samples show a reduction of 20 per cent for particles but an increase of 12 per cent for fibres. A reduction of 80:1 in peak concentrations was again observed.

CONCLUSION

The experiments demonstrated that the vacuum brush was better in reducing operator's exposure; it had the added advantages over the funnel of being easier to handle, consisted of fewer, simpler parts and was much quicker than the vacuum funnel.

There are three major reasons for the relative inefficiency of the funnel; its use increased brake cleaning time (and thus exposure time) by a factor of 8, it was difficult to obtain a good seal at the skirt, and imbalance occurred between the necessary air input and the capacity of the available exhaust system, with resulting leakage of dust.

REFERENCE

COMMITTEE ON HYGIENE STANDARDS, BRITISH OCCUPATIONAL HYGIENE SOCIETY (1968) *Hygiene Standards for Chrysotile Asbestos Dust.* Pergamon Press, Oxford.

HFM - 007829