FILE NAME: JH

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DOCUMENT DESCRIPTION: J-M Memo RE Evaluation of James Hardie's Personal Dust Sampling Pump - Filter Doesn't Clear

CE 100 to 1704

Johns-Manville

# Internal Correspondence

To: W.B. Reitze - 1-06

Date: January 5, 1977

From: D.R. Christensen - R&D

Copies: G.L. Swallow - 1-06

Subject: EVALUATION - JAMES HARDIE, LTD
PERSONAL DUST SAMPLING PUMP
YOUR LETTER 10-21-76

Over the past two months the Rocky Mountain Laboratory has done some pump performance work in the laboratory and some simultaneous sampling in the field for asbestos exposure determinations. The results of this work is as follows:

PERFORMANCE

Enclosed is a graph depicting the performance of the pump over an 8 hour sample period. A mean flow rate of 54.0 cc/min for the eight hour period with a ± 2.5% variation is exceptional performance. In comparison the MSA pumps currently used characteristically exhibit a variation of ± 8%.

FILTER

Unexplainably the filter does not clear very good. This same phenomena was noticed when observing Dr. McCullagh's samples he brought from Australia. It is definately not the filter media or the clearing procedure. It is something to do with the actual taking of the sample with the Hardie pump.

SIMULTANEOUS SAMPLING

Samples were taken in the field at Denison in the finishing department. The results are as follows:

| Sample Number | Sample Time | Sample Volume USA | Sample Volume Australian | USA Method Determination | Australian Method Determination |
|---|---|---|---|---|---|
| 1 | 94 min | 188Liters | 5.1 liters | 0.22 F/cc | 0.33 F/cc |
| 2 | 150 | 300 | 8.1 | 0.43 | 0.26 |
| 3 | 88 | 176 | 4.8 | 0.09 | 0.00 |
| 4 | 138 | 276 | 7.5 | 0.22 | 0.11 |

Knowing what we do relative to the accuracy of the Asbestos sampling/analytical method we can state that the above numbers are essentially the same when compared for each sample.

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General comments relative to the use of this pump are that it is very convient due to it's compactness and location during sampling (breast pocket). Also due to it's simplistic design, maintenance seems to be minimal. The only drawback to date is the problems encountered with clearing the filter.

If you are interested is seeing the piece of equipment in operation let me know and I will bring it up to WHQ for a demonstration.

Denny

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Pressure / Sampling Diagram

Hours

Pressure

MT004976