

FILE NAME: Caterpillar (CAT)

DATE: 1985 Aug 26

DOC#: CAT054

DOCUMENT DESCRIPTION: Air Monitoring for Asbestos - Significant Quantities
on Workbench where Gaskets Unpacked

**CATERPILLAR TRACTOR CO.**

MOSSVILLE

DATE August 26, 1985

PLANT OR OFFICE Mossville

Manufacturing BB

DEPT. Assembly Planning VV

ATTN. G. E. Schlesier

W. E. Miller

PLANT OR OFFICE	DEPARTMENT	ATTENTION	
		FEK	✓
		WML	✓
☐ DESTROY		FILE UNTIL (DATE)	

CONFIDENTIAL

cc: R.S. Puentes, M.D.
 C.E. Lowery
 H.K. Thompson
 D.J. Crane, M.D.

AIR MONITORING FOR ASBESTOS - 3406 ASSEMBLY - USE OF GASKETS

Personal monitoring for airborne asbestos was recently conducted on two employees on the 3406 Assembly Line due to employee complaints about their potential exposure to asbestos from gaskets used on the line (part #4W6858). A warning label stating that the product contained asbestos and may cause serious bodily harm recently appeared on the cardboard boxes in which these gaskets are received. Wipe sampling of a workbench in the area and a bulk analysis of the gasket was also conducted. Gaskets are received in a cardboard box, placed onto a workbench, pieces are separated along perforations, and assembled onto engines.

Air sampling results are listed in the attached table as time-weighted average values over the indicated sampling period.

The OSHA Permissible Exposure Limit (PEL) for asbestos is 2 fibers/cm³ of air (greater than 5 µm in length) as an 8-hour time-weighted average value (TWA). All samples were well below the OSHA PEL. In fact, two samples were none detected (essentially, zero) and one was just barely above the detection limit.

A bulk analysis conducted on a piece of the gasket (4W6858) detected ~87% chrysotile asbestos (PLM method of analysis).

Wipe sampling conducted on a workbench in the area where the gaskets are placed before assembly detected a significant quantity of fibers. In an area of approximately 1 square foot, 260,000 fibers/filter were detected. Work areas shall be maintained as free as practical from asbestos fibers, due to the potential inhalation hazard of asbestos. It is also important so that the personal clothing of employees is not contaminated with fibers.

Conclusions

- (1) Gasket 4W6858 contains a significant quantity of asbestos.
- (2) No inhalation hazard currently exists.
- (3) The control of loose fibers in the work area needs to be much better controlled. Work areas shall be maintained as free as practical from loose fibers.

Recommendations

The following potential solutions, to control the accumulation of loose fibers in the work area, were discussed in our meeting on August 23.

- (a) Eliminate the current gasket and replace with a non-asbestos substitute.
- (b) Use a special vacuum cleaner equipped with a high-efficiency filter.
- (c) Use the same asbestos-containing gasket, but have it coated with an encapsulating agent.
- (d) Use a wet rag to periodically clean off the workbench and area.

It was decided in our meeting that Assembly Planning would pursue with Engine Engineering the replacement of this gasket with a non-asbestos substitute, as soon as possible. For this one gasket, this would accelerate the policy of removal of all forms of asbestos from current models, originally scheduled for January 1, 1987. In the meantime, the workbench and immediate area would be periodically cleaned (at least once/day) with a wet rag to prevent the accumulation of loose fibers.

I recommend that the rag should be fairly wet and only used once. According to Mark Hynes in Plant Engineering, after use the rags should be sealed in a plastic bag, labelled as containing asbestos, and sent to Building ZZ for disposal. If you have any further questions on disposal please contact Mark (-8914).

Dry sweeping or compressed air shall not be used to clean up loose fibers.

Please call me if you have any further questions or comments.

G.E. Williams
GEWilliams
Industrial Hygiene Engineer
Ext. 4549
pl
a:asbestos.gew

PERSONAL MONITORING FOR ASBESTOS - 3406 ASSEMBLY

<u>Date</u>	<u>Location</u>	<u>Part #</u>	<u>Employee</u>	<u>ID #</u>	<u>Job Class</u>	<u>Sampling Time (min)</u>	<u>Fibers greater than 5 μm in length (fiber/cc)*</u>
8-12-85	BB-37-N	4W6858	C.J.Goodwin	03831	2A22	263 (10:20am-2:43pm)	N.D.
8-13-85	BB-37-N	4W6858	M. Webber	58828	2A22	271 (7:35am-12:06pm)	N.D.
8-13-85	BB-37-N	4W6858	M. Webber	58828	2A22	151 (12:06pm-2:37pm)	0.02
						OSHA PEL	2
						(8-hr TWA)	

* N.D. is none detected above the detection limit of 3,000 fibers/filter.