



Report to:
Thompson, Hine and Flory

ASBESTOS SAMPLING AT
FLINTKOTE
NEW ORLEANS

Date: 9 April 1979

MA Number: 7510

Copy of

walter c. mc crone associates, inc.
2820 SOUTH MICHIGAN AVENUE • CHICAGO, ILLINOIS 60616

Baron & Budd
Butler County
August 1, 1997

ASBESTOS SAMPLING AT FLINTKOTE NEW ORLEANS

We have completed our examination of filters from personal samplers used by workmen disassembling insulated outdoor storage tanks at the Flintkote location in New Orleans LA, and found no evidence of asbestos that was derived from Thermalkote®.

INTRODUCTION

At the request of Thompson, Hine and Flory, McCrone Associates was asked to conduct tests to determine the exposure to asbestos of workers as they removed asbestos bearing insulation from outdoor storage tanks. On 1 March 1979, Howard J. Humecki of McCrone Associates visited the Flintkote plant located at 4500 North Galvez Street, New Orleans, LA, for the purpose of obtaining samples. These samples were returned to McCrone Associates laboratories where they were analyzed for asbestos by recommended methods.

SITE DESCRIPTION

The plant is located in a highly industrialized area of New Orleans, the closest operation being a paper shredding plant approximately 50 yards from the storage tank.

It did not rain on the day of the test nor for two days previous to the test. The temperature was in the mid 60's and the wind calm to light and variable. Figure 1 shows the sampling locations.

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TEST PROCEDURE

Insulation is applied to the tank in three layers. The innermost consisting of blocks 1-1/2 inch in thickness is composed largely of amosite and crocidolite with pumice, diatoms, clay and miscellaneous substances in low concentrations.

The blocks are coated with a substance referred to as "mud" which contains chrysotile in a binder. The mud is coated with Thermalkote® to a thickness of 1/8 to 1/4 inch. Thermalkote® consists of chrysotile in a tarry matrix.

In order to remove the insulation from the tank, workers must cut through the Thermalkote® and mud with a hatchet until they can grasp a large section and pull it down (see photographs at end of report). The Thermalkote® contains the tougher matrix and pulls most of the mud along with it. This exposes the blocks which are held in place with steel bands. When these bands are cut, the blocks fall in large numbers since there is nothing more to hold them to the tank.

A worker was equipped with a Mine Safety Appliance, personal sampler fitted with a 0.45 µm membrane filter in a plastic cartridge. A preliminary sample was obtained at a flow rate of 1.2 liters per minute (lpm) for a period of 10 minutes. The filter was examined microscopically on-site in order to estimate particle loading. The purpose of preparing this sample was to aid in selecting sampling conditions that would yield filters with sufficient numbers of particles to be meaningful, and yet not so overladen that individual

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TEST PROCEDURE

fibers could not be identified. As a result of this examination, a flow rate of 1.4 lpm for a period of 20 minutes was considered ideal. Three samples were obtained under these conditions.

ANALYSES

Samples of Thermalkote®, mud and insulating block removed during sampling were examined microscopically in order to determine if the minerals from the three layers of insulation could be distinguished from one another.

The Thermalkote® consists of chrysotile asbestos in a tarry matrix. Chrysotile consists of bundles of mineral fibers that cleave longitudinally. In the case of Thermalkote®, the bundles have spaces extending along the fibers which are filled with tar. Even when the bundles are broken, the tar coated fibers are easily identifiable (Figure-2).

Chrysotile is also present in the mud, but since no tar is present, it can be differentiated from that found in the Thermalkote® (Figure 3).

The block insulation consists of amosite, crocidolite, pumice, diatoms and some clay. It does not contain any chrysotile (Figure 4).

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ANALYSES

The differences among the three materials makes the identification of asbestos derived from the Thermalkote® a simple matter: only chrysotile fibers bearing evidence of tar need be considered.

Actual determinations were made on three sample filters in accordance with procedures set down in U.S. Department of Health, Education and Welfare publication titled Criteria for a Recommended Standard...Occupational Exposure to Asbestos. A total of 100 fields of view were examined on each filter with the following results. Figure 5 is a typical field of view observed.

<u>Sample Number</u>	<u>Fibers per filter</u>	<u>Fibers per cc of air</u>
1	53,166	1.91
2	47,905	1.70
3	64,796	2.30
Total	165,867	1.97

Although 300 fields of view were examined, and approximately, 3,000 fibers were observed, none of these fibers were chrysotile. No tar coated particles of any kind were observed.

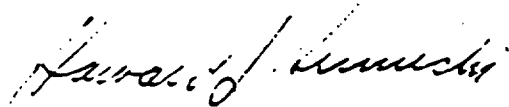
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CONCLUSIONS

Tests were conducted at the Flintkote plant in New Orleans LA, to determine if workers disassembling an insulated storage tank risked exposure to asbestos derived from Thermalkote®. Although asbestos was found on filters attached to sampling apparatus the workers were wearing, it was firmly established that none of the asbestos was derived from the Thermalkote®.

Respectively submitted,



Howard J. Humecki

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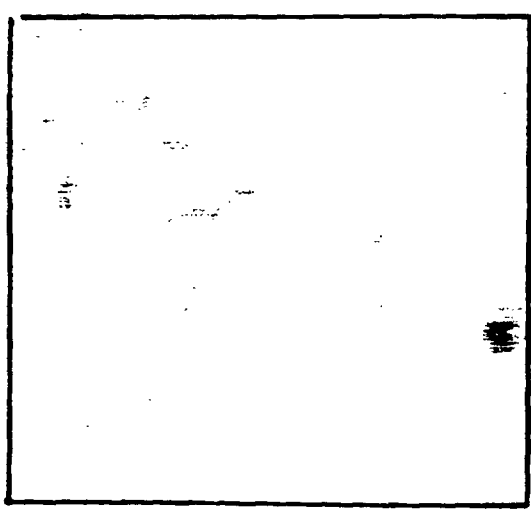
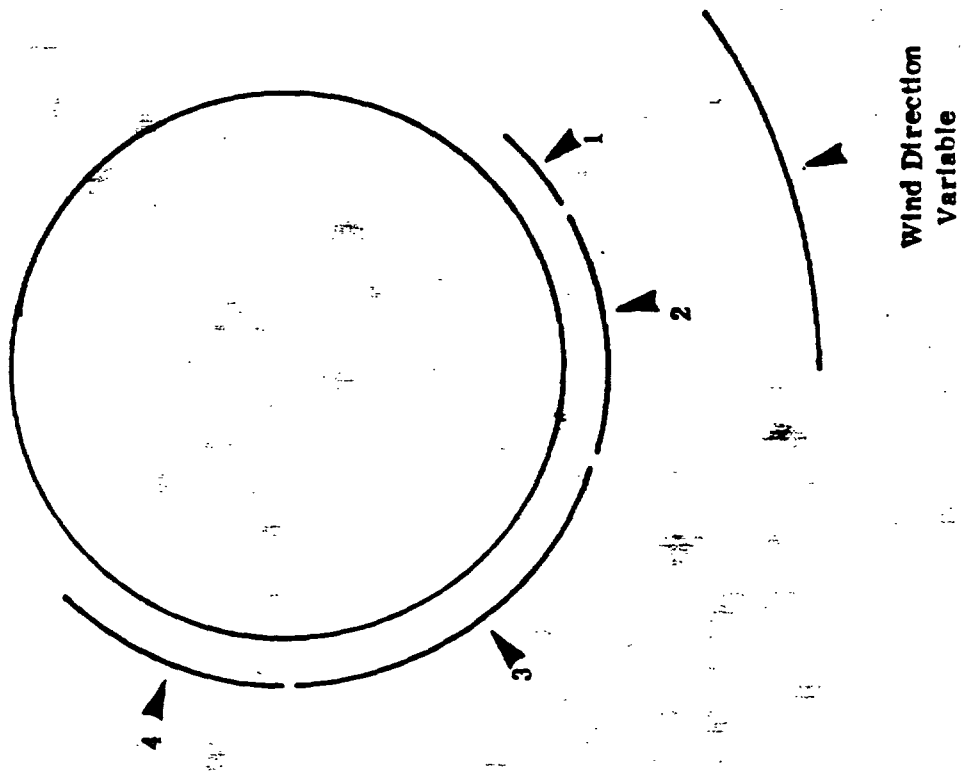


Figure 1
Flintkote New Orleans Site
Showing sampling points



Figure 2 Thermalkote® showing
chrysotile fibers coated with tar.
Note blob of tar dissolving in
mounting media (300X)



Figure 3 Mud, showing clean
chrysotile fibers (300X)

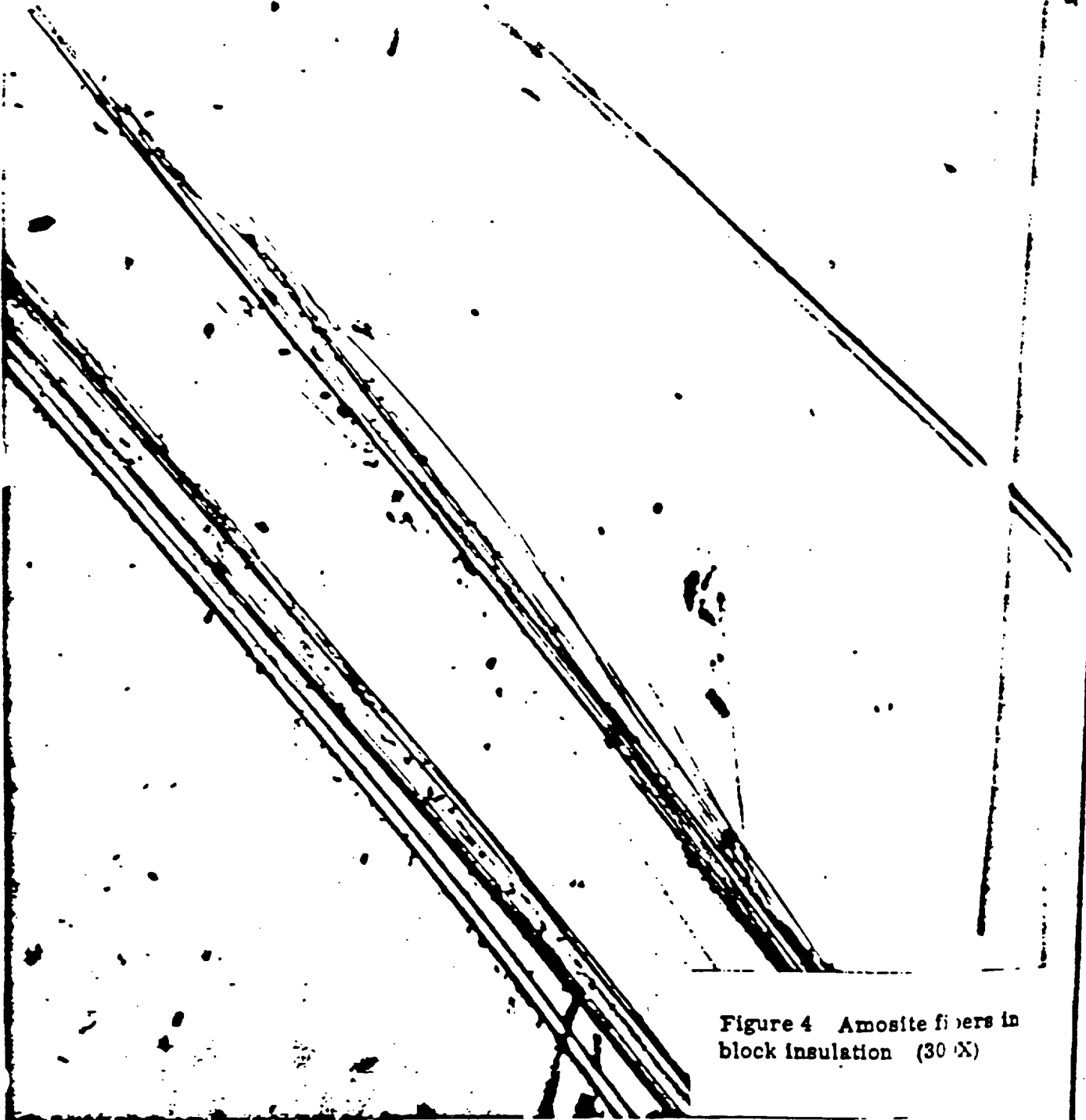


Figure 4 Amosite fibers in
block insulation (30 X)

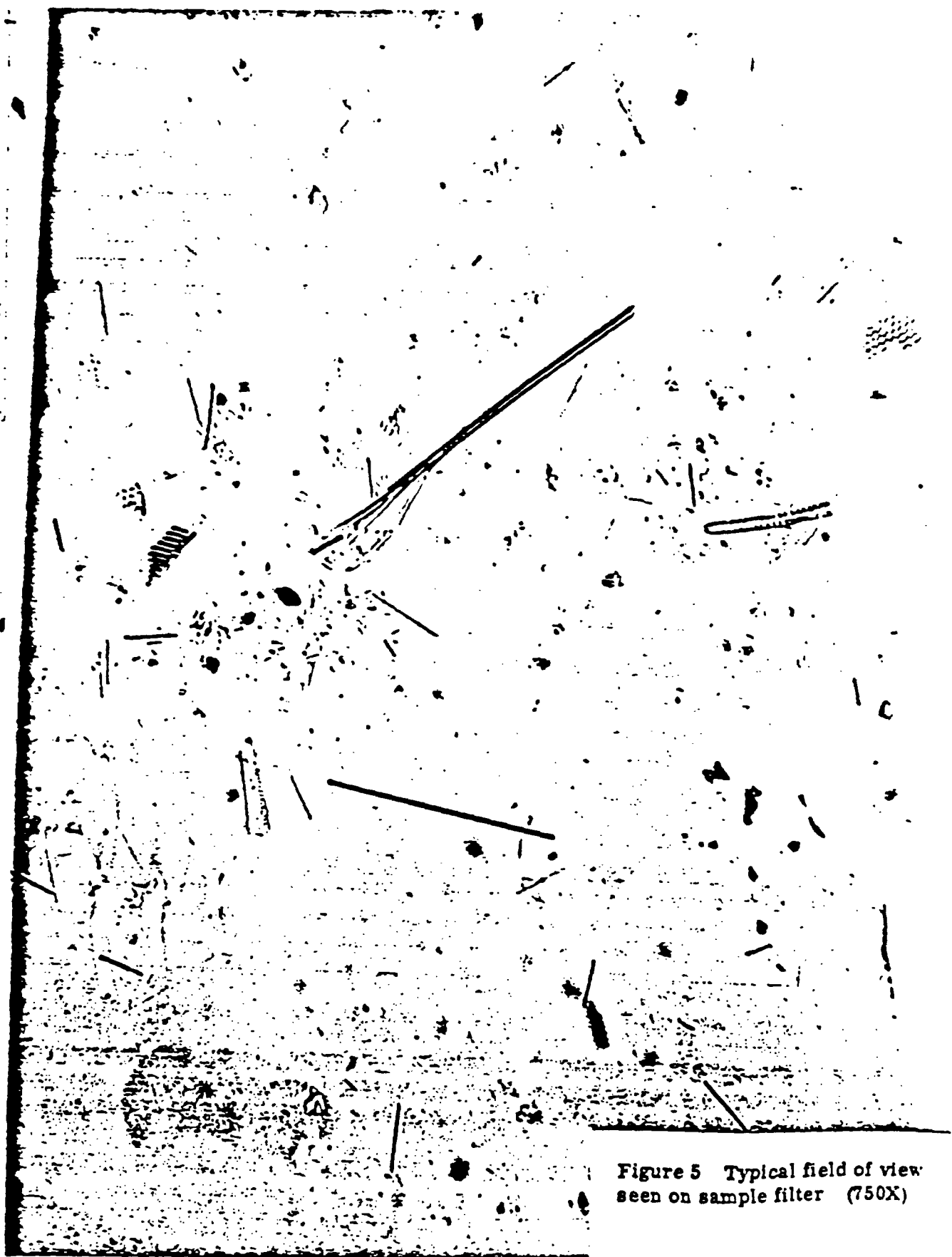


Figure 5 Typical field of view
seen on sample filter (750X)



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