

WRG 002188

PLAINTIFF'S
EXHIBIT
WRG-821

Clayton Environmental Consultants, Inc.

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Survey of Airborne Fiber Concentrations
and
Assessment of Suspect Asbestos-Containing
Materials
at the
~~Biomedical Applications~~
for
National Medical Care, Inc.
Clayton Project No. 22187.00
May 26, 1989

R007731

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1.0 INTRODUCTION

Mr. Larry Park, Corporate Manager of Safety, Industrial Hygiene and Loss Prevention, of National Medical Care, Inc. authorized Clayton Environmental Consultants, Inc. to conduct an assessment of suspect asbestos-containing materials and collect air samples to determine prevalent airborne fiber concentrations at the Biomedical Applications facility in Torrance, California. The scope of the services provided by Clayton is described in Clayton's proposal no. 89-F-046 dated February 27, 1989, which includes an explanation of the terms and conditions under which the work was provided. A description of the assessment conducted is provided in Section 4.3 of this report.

On March 9, 1989, Ms. Paula Fell and Mr. John Moore, Associate Industrial Hygienists at Clayton, conducted a walkthrough assessment of the building. They were accompanied by Mr. Mark Halloran, Chief Technician of Biomedical Applications.

This walkthrough assessment provided a visual inspection of the readily accessible portions of the building. Ms. Fell recorded the areas of the building inspected, as well as areas where friable materials or materials suspected of containing asbestos were located. A friable material is one which, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

When materials suspected of containing asbestos were found, representative bulk samples were collected from each homogeneous material, as recommended by the Environmental Protection Agency (EPA). Areas with similar-appearing materials were identified and recorded. The Clayton laboratory analyzed the samples for asbestos content using the technique of polarized light microscopy (PLM) and following the EPA PLM protocol for determining asbestos fibers in bulk insulation materials.

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In addition, four air samples were collected inside the building and one sample outside the building. The samples were analyzed using phase-contrast microscopy (PCM) in Clayton's American Industrial Hygiene Association (AIHA) - accredited laboratory in Kennesaw, Georgia, using the National Institute for Occupational Safety and Health (NIOSH) method 7400, A Counting Rules.

Appendix A presents bulk sample analytical results. Appendix B presents results of the sampling for airborne fibers. Appendix C briefly describes the analytical methods used. Appendix D summarizes precautionary measures for routine maintenance activities and remodeling operations involving asbestos-containing materials. Appendix E describes the health hazards associated with asbestos exposure.

2.0 SUMMARY AND RECOMMENDATIONS

The following summary and recommendations are based on the results of analyses of samples collected and on Ms. Fell's subjective observations.

2.1 SUMMARY OF ASSESSMENT

Asbestos was identified in floor tiles, linoleum, baseboard, thermal system insulation and sprayed-on acoustical treatment. PCM analysis of the five air samples collected indicated airborne fiber concentrations ranging from 0.002 to 0.005 fibers per cubic centimeter (f/cc).

2.2 RECOMMENDATIONS

2.2.1 Future Testing

Quarterly air sampling should be conducted in areas with the greatest potential for generating airborne asbestos fibers, such as the storeroom and water treatment room. If corrective action is necessary, air sampling will help establish priorities for such action by identifying areas where asbestos-containing materials pose an immediate concern. However, the results of air sampling are indicative of the status of airborne fibers only at the time of sampling; therefore, an asbestos management program in all areas containing asbestos materials is warranted.

2.2.2 Asbestos Control and Management Program

It has been our experience that, unless damaged or disturbed, cohesive asbestos-containing materials do not tend to become airborne. However, it is conceivable that water damage, maintenance activities, or vandalism could disturb the asbestos-containing materials, thereby increasing the risk of generating significant airborne asbestos fiber concentrations. To prevent this potential health hazard, you may wish to consider removing, encapsulating, or enclosing all exposed asbestos-containing materials. In each case, the optimum control option will depend on the amount of material present and its location and condition. We will be available to work with you to select and implement the best option.

As an alternative to removal, or in the interim, steps should be taken to prevent the potential release of fibers by maintaining all asbestos-containing materials in good repair. These materials should be examined and repaired regularly to prevent the release of airborne fibers. In addition, an effective asbestos management program should be implemented, which would include taking precautions to protect employees during routine

maintenance and building renovation activities. A brief summary of these precautions are provided in Appendix D.

Based on the results of this assessment, we recommend that the forementioned surveillance and controls be implemented whenever employees are engaged in activities such as those described above involving any asbestos-containing materials. These materials are identified and described in Section 4.4 of this report.

2.2.3 Renovation/Demolition

The U.S. EPA requires that asbestos-containing materials (1 percent or greater asbestos content) be removed prior to demolition of a building.

During renovation and demolition operations, materials may be uncovered which are different from those accessible for sampling during this assessment. Additional sampling to identify asbestos-containing materials may be necessary during these activities. Personnel in charge of renovation or demolition should be alerted to note materials uncovered during these operations which differ substantially from those included in this assessment. Additional sampling should be performed to determine the composition of the materials.

2.2.4 Additional Analytical Work

Analysis of floor tiles and other resinously bound materials by the EPA technique (PLM) may yield false negative results because of method limitations in separating closely-bound fibers and in detecting fibers of small length and diameter. When analysis of such materials by the EPA technique yields negative results for the presence of asbestos, Clayton recommends utilizing confirmatory methods of identifications, such as transmission electron microscopy (TEM).

We recommend TEM analysis for the samples collected from the following material:

- 12-by-12-inch orange and brown floor tiles in the storeroom
- Roofing material

3.0 STANDARDS AND GUIDELINES

The Occupational Safety and Health Administration (OSHA) standards and guidelines apply to employees. The OSHA asbestos standard mandates a permissible exposure limit (PEL) of 0.2 fibers (longer than 5 micrometers per cubic centimeter of air (f/cc) determined as an 8-hour time-weighted average (TWA) and an excursion limit of 1 f/cc as a 30-minute TWA. The OSHA action level is 0.1 f/cc, the level at which medical monitoring and other activities are required.

Under its AHERA regulations for schools, the EPA recommends performing clearance air sampling after a response action involving asbestos-containing materials. The EPA's clearance criteria are based on statistical comparison of airborne asbestos concentrations inside a work area against those outside the work area. Where phase-contrast microscopy (PCM) is an acceptable analytical method, the EPA has recommended 0.01 f/cc as a limit for airborne fiber concentrations.

In addition to these exposure criteria, the U.S. EPA National Emissions Standard for Hazardous Air Pollutants (NESHAPS) (40 CFR 61, Subparts A and M) must also be followed during any maintenance or renovation activities which might disturb the asbestos-containing materials.

The state of California also has specific regulations regarding asbestos. California standards for the workplace are issued primarily by the Division of Occupational Safety and Health (DOSH). Specific asbestos requirements are contained in Title 8 of the California Code of Regulations (CCR) and in the California Health and Safety Code. Effective January 1, 1989, an addition to the California Health and Safety Code mandated by AB 3713 requires building owners to provide written notice to employees and other persons concerning specific matters related to asbestos.

The EPA has limited the asbestos content of some materials to 1 percent, however, asbestos has not been eliminated from all manufactured building materials. Therefore, the age of a building or remodeling project cannot be the basis for assuming that a material does not contain asbestos.

4.0 RESULTS AND DISCUSSION

4.1 SOURCES OF INFORMATION

During the course of the assessment, the following individual provided information or assistance to the Clayton investigator:

<u>Name</u>	<u>Affiliation</u>
Mark Halloran	Biomedical Applications

The information supplied to Clayton during the course of this project were assumed to be complete, true, and correct and were relied upon by the Clayton investigator. The findings presented herein must be reviewed giving due regard that the assessment, inspection, and sampling procedures contain inherent limitations, as is the case with any sampling procedure, and were conducted based on observations that were visually apparent at the time of the inspection of the site.

4.2 DESCRIPTION OF BUILDING/BUILDING USE

The two-story medical building consists of offices, a storeroom and water treatment room on the first floor, and a break room and dialysis room on the second floor.

4.3 DESCRIPTION OF ASSESSMENT

The Clayton investigator inspected each floor of the building for suspect asbestos-containing materials, such as those listed below:

Thermal Insulation

- Pipe wrap
- Fittings, elbows, joints
- Duct insulation
- Heat shields
- Insulation on chillers, heaters, boilers, and air conditioning units

Surfacing Materials

- Fireproofing
- Acoustical plaster
- Decorative plaster
- Spray-applied insulation

Miscellaneous Materials

- Floor tiles
- Ceiling tiles
- Transite, board/pipe
- Dry Wall

Sampling certain building materials requires destructive techniques. Therefore, the following materials were not sampled during the building assessment:

- Exterior building materials such as siding
- Coated wall and ceiling materials such as dry wall tape, and spackling
- Caulking
- Gaskets or other similar materials
- Concrete or cinder block
- Pressed wood products

Two air samples were collected on each floor and one sample was collected outside the building.

4.4 RESULTS

Our assessment resulted in the collection of samples of materials for testing. As detailed in Appendix A, asbestos was identified in some of the materials we tested

Samples were collected from the following materials:

- Roofing material
- Floor Tiles
- Baseboard
- Thermal System Insulation
- Linoleum
- Ceiling Tiles
- Dry Wall
- Sprayed-on Acoustical Treatment

Three types of floor tiles were identified as containing chrysotile asbestos in the range of 1% to 3%. These floor tiles were found in good to fair condition and were easily accessible. Two types of linoleum were identified as containing chrysotile asbestos in the range of 2% to 35%. The two types of linoleum were found in good to fair condition and were easily accessible. One type of baseboard was identified as containing 1% chrysotile asbestos. This baseboard was found in good condition and easily accessible. Domestic hot water pipe elbow insulation

located above the 2nd floor false ceiling was identified as containing 10% chrysotile asbestos. This pipe elbow insulation was found in good condition and difficult to access.

Sprayed-on acoustical treatment was identified as containing chrysotile asbestos in the range of 10% to 20%. The acoustical treatment was in good condition at the time of the assessment. This material is very accessible to building occupants and therefore has potential for damage.

Results of analysis for the air samples collected on March 9, 1989, indicated airborne fiber concentrations ranging from 0.002 to 0.005 f/cc. Fibers were not detected by PCM in the sample collected outside the building (less than 0.001 f/cc). All fiber levels were below the EPA recommended guideline of 0.01 f/cc for clearance after construction activities involving asbestos-containing materials and below the OSHA action level of 0.1 f/cc and OSHA PEL of 0.2 f/cc. Because of the easy friability and accessibility of the sprayed-on acoustical treatment Clayton recommends quarterly air monitoring to document airborne fiber concentrations.

This report prepared by:

Paula Fell

Paula Fell
Associate Industrial Hygienist

This report approved by:

Cindy J. Mueller

Cindy J. Mueller
Supervisor, Industrial Hygiene Services
Southern California Operations

This report approved by:

Lisa K. Simkins

Lisa K. Simkins, P.E., C.I.H.
Assistant Vice President and Manager
Industrial Hygiene Services
Western Operations

May 26, 1989

APPENDIX A
BULK SAMPLING ANALYTICAL RESULTS

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The tables in Appendix A include the following information:

A. Material Sampled

A physical description of the material sampled in the assessed building or structure.

B. Location of Material in Building

The location of the material (e.g., pipe wrap or joint insulation) in the assessed building or structure).

C. Amount Asbestos Present

The approximate amount of asbestos-containing materials present in the building based on observations, drawings, or other sources of information.

D. Condition

The condition of the material present, which was subjectively evaluated by the investigator (e.g., good, fair, or poor).

E. Accessibility

The accessibility to the material is evaluated as follows:

- S (Staff-only) -- materials behind locked doors (e.g., boiler rooms) and materials above dropped ceilings (e.g., pipe joint wrap)
- M (Moderate) -- materials that can be seen but not reached without some effort (e.g., high ceilings)
- E (Easy) -- materials within the employees' reach (e.g., low or stairwell ceilings, wrap on pipes)

F. Friability

The ability of a material, when dry, to be crumbled, pulverized, or reduced to powder by hand pressure. Friability was subjectively evaluated by the investigator as low, moderate, or high.

G. Field Identification

The first letters in the column are an abbreviation for the client. The number is the material identification number assigned by the Clayton investigator. At least three representative samples were collected for each type of friable or suspect material sampled as material content is not always uniform.

H. Sample Location

The physical location where the sample was collected in the assessed building or structure.

I. Estimated Percent and Type

The numbers indicate the percent of each type of asbestos present in the sample. Percentages are not reported for materials not containing asbestos.

TABLE I
BULK SAMPLING ANALYTICAL RESULTS

Department: Biomedical Applications
Building: 1123 W. Carson Street
Design of Ventilation:
Investigator: P. Fell/J. Moore

Client: National Medical Care, Inc.
Date: March 9, 1989
Project No.: 22187.00

[illegible]

• **Analysis performed in accordance with EPA Protocol for asbestos using polarized light microscopy (PLM).**

G = Good	F = Fair	P = Poor	Dia	= Diameter	Access	= Accessibility	Chrys	= Chrysoile
S = Staff Only	M = Moderate	E = Easy	Sq Ft	= Square Feet	Fri	= Friability	Croc	= Crocidolite
H = High	L = Low		Cond	= Condition	Amos	= Amosite	NID	= None Detected

TABLE I

Department: Biomedical Applications
Building: 1123 W. Carson Street
Design of Ventilation: P. Fell/J. Moore
Investigator:

[illegible]

- Analysis performed in accordance with EPA Protocol for asbestos using polarized light microscopy (PLM).

	G = Good	F = Fair	P = Poor	Dia	= Diameter	Access	= Accessibility	Chrys	= Chrysotile.
	S = Staff Only	M = Moderate	E = Easy	Sq Ft	= Square Feet	Fri	= Friability	Croc	= Crocidolite
	H = High	L = Low		Cond	= Condition	Amos	= Amosite	ND	= None Detected

TABLE I

BULK SAMPLING ANALYTICAL RESULTS

Department: Biomedical Applications
 Building: 1123 W. Carson Street
 Design of Ventilation:
 Investigator: P. Fell/J. Moore

Client: National Medical Care, Inc.
 Date: March 9, 1989
 Project No.: 22187.00

Material Sampled	Location of Material In Building	Estimated Amount Present												Percent Asbestos (+/- 5%) ^a											
		L												A											
		E	N	G	T	H	A	S	Q	C	O	N	D	G	M	I	C	H	R	O	S	A	M	O	S
Sprayed-on acoustical treatment	1st floor							200																	
Sprayed-on acoustical treatment	1st floor							200																	
Sprayed-on acoustical treatment	1st floor							300																	
Sprayed-on acoustical treatment	1st floor							600																	
Sprayed-on acoustical treatment	1st floor							600																	
Sprayed-on acoustical treatment	1st floor							600																	
Sprayed-on acoustical treatment	1st floor							300																	

^a Analysis performed in accordance with EPA Protocol for asbestos using polarized light microscopy (PLM).

G = Good F = Fair P = Poor Dia = Diameter Access = Accessibility Chrys = Chrysotile
 S = Staff Only M = Moderate E = Easy Sq Ft = Square Feet Fri = Friability Croc = Crocidolite
 H = High L = Low Cond = Condition Amos = Asbestos ND = None Detected

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TABLE I

Client: National Medical Care, Inc.
Date: March 9, 1989
Project No.: 22187.00

Percent Asbestos (+/- 5%)*

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Accessibility

TABLE 2

RESULTS OF SAMPLING FOR AIRBORNE FIBER CONCENTRATIONS

AT

BIOMEDICAL APPLICATIONS

1123 W. CARSON STREET

TORRANCE, CALIFORNIA

FOR

NATIONAL MEDICAL CARE, INC.

CLAYTON PROJECT NO. 22187.00

MAY 24, 1989

Sample Number	Description	Sampling Period Start Stop	Air Volume (Liters)	Concentration		95% Upper Confidence Limit (f/cc)
				Fibers Per Filter	Fibers Per cc*	
ANM-0308--1	Storeroom, 1st floor	0921 1233	2918	5,000	0.002	0.007
ANM-0308-02	Conference room, 1st floor	0924 1232	2902	15,000	0.005	0.016
ANM-0308-03	Dialysis room, second floor	0931 1236	2816	11,000	0.004	0.013
ANM-0308-04	West stairwell, second floor	0923 1241	2938	9,000	0.003	0.01
ANM-0308-05	Roof	0938 1239	2825	<2,000	<0.001	<0.003

/X/ Background (prevalent)

// During removal

// Clearance

*Fed/OSHA PEL = 0.2 f/cc

OSHA Action Level = 0.1 f/cc

EPA Recommended Clearance Level = 0.01 f/cc

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APPENDIX C
ANALYTICAL METHOD

**METHOD OF ANALYSIS FOR BULK ASBESTOS USING
POLARIZED LIGHT MICROSCOPY (PLM)**

When a bulk asbestos sample is received, several representative portions of the sample are removed and put into a labeled petri dish. The sample parts are examined through a stereobinocular microscope and fibers are extracted using forceps. These extracted fibers are then placed on a microscope slide and mounted using a refractive index solution [high dispersion (HD) Cargille liquid].

After being mounted, the fibers are identified using PLM, supplemented by dispersion staining¹. After fiber identification by PLM, an estimation is made as to the percentage (area) composition of asbestos. The estimated percentages are based on size, number, shape, and density of each of the components, and comparison to a standard set of samples previously quantitated by the interim Research Triangle Institute (RTI) method².

¹ McCrone, Walter C., The Asbestos Particles Atlas, Ann Arbor Science Publishers, Inc., 1980.

² Research Triangle Institute, "Interim Method for the Determination of Asbestiform Minerals in Bulk Insulation Samples," Page 8 to 12, 1982.

**SAMPLING AND ANALYTICAL METHOD
PHASE-CONTRAST MICROSCOPY (PCM)
ACETONE-TRIACETIN**

Samples for the evaluation of airborne fibers are collected using portable pumps to draw air at measured flow rates through filters. The filters are contained in open-faced cassettes. The filter type is 25-millimeter diameter mixed cellulose ester membrane.

Samples are collected with the filter facing downward. Area samples are positioned so that the filter is between 3 and 5 feet above the floor to approximate workers' breathing zone heights. Unless mentioned otherwise in the sample description, all area samples are collected at fixed locations throughout the sampling period. Personal samples are collected using portable pumps worn by the worker, with the cassette in the breathing zone.

Each sample is analyzed for fibers using the microscopic technique currently specified by the National Institute for Occupational Safety and Health (NIOSH) Manual of Analytical Methods No. 7400. Briefly, the technique consists of the following steps:

1. A wedge-shaped sector of each filter is cut carefully from the sample and mounted on a standard microscopy slide. The acetone-triacetin technique is used to render the filter transparent.
2. Fibers (defined as particles having an apparent length to width of three or greater) that are visible on the surface of the film are counted. This is accomplished using a binocular microscope equipped with 10x eyepieces and a 40x objective with phase-contrast illumination.
3. Walton-Beckett recticle fields, selected at random on the sample, are examined. Fibers greater than 5 micrometers in length are counted until either of two conditions is satisfied: (a) A minimum of 100 fibers is counted in 20 or more fields; (b) A minimum of 100 fields is examined.

Results of the microscopic analyses are used with field sampling data (measured flow rates and duration of sampling) to calculate the concentrations of airborne fibers corresponding to each sample. The results are expressed in units of fibers greater than 5 micrometers in length per cubic centimeter of air (f/cc).

APPENDIX D
PRECAUTIONARY MEASURES FOR ROUTINE
MAINTENANCE AND REMODELING OPERATIONS

PRECAUTIONARY MEASURES FOR ROUTINE MAINTENANCE AND REMODELING OPERATIONS

A. Maintenance Activities

The following precautions should be taken whenever maintenance activities may potentially disturb or release asbestos fibers. Many of these precautions are required by the Occupational Safety and Health Administration's (OSHA) new asbestos standard contained in the Code of Federal Regulations (29 CFR 1926.58).

Maintenance activities should be performed when the affected area is unoccupied. If any asbestos-containing materials have been dislodged during maintenance work, the affected area should be cleaned with a vacuum system equipped with high efficiency particulate air (HEPA) filters. Accumulations of asbestos dust should be cleaned up with a HEPA vacuum or by wet mopping. Dry sweeping causes fibers to become airborne.

Persons performing maintenance work should be monitored to determine their exposures to asbestos fibers. Maintenance personnel should be provided with and required to wear respirators approved by the National Institute for Occupational Safety and Health (NIOSH). Each maintenance employee should be trained in the correct use and maintenance of these respirators, evaluated by a physician to determine his or her ability to use a respirator and be fit-tested to determine that the respirator selected will provide adequate protection for that individual.

Maintenance workers should receive instruction in the potential health effects of asbestos and in safe work practices, including what precautions to take to minimize disturbance of the asbestos-containing materials.

B. Renovation Activities

Any plans for building renovation should be carefully evaluated to determine if such activities will involve disturbance of asbestos-containing material; if so, the following precautions should be taken.

Any work involving 100 square feet or more of asbestos-containing materials must be performed by a contractor certified by the Contractors' State License Board and registered by the California Division of Occupational Safety and Health to perform asbestos-related work.

The renovation area should be isolated from the remainder of the facility. Typically, this involves the construction of a temporary plastic barrier with an "air lock" for worker entry. Ventilation in the zone should be temporarily isolated (the air movement system between the renovation area and neighboring areas should be shut off) and an exhaust fan should be used to place the renovation area under a slight negative air pressure in relation to the rest of the facility. The fan should exhaust out-of-doors and be equipped with a HEPA filter.

All persons entering the renovation area should be provided with and required to use NIOSH-approved respirators and disposable coveralls and caps. Requirements for fit-testing and medical evaluation as described above for maintenance workers also apply to renovation workers. Air monitoring should be performed routinely around the perimeter of the renovation area to ensure that asbestos fibers are not released into other areas of the building. Personal sampling should also be conducted to evaluate potential exposures of renovation workers to asbestos and to determine the type of respiratory protection required.

Construction debris that may contain asbestos must be sealed in impermeable containers, labeled, and disposed in accordance with U.S. EPA and OSHA requirements.

Warning signs must be posted around the renovation area. These signs must meet current OSHA requirements.

Whenever possible, the asbestos-containing materials should be wetted prior to any disturbance to reduce asbestos fiber emission. Prior to dismantling the barriers at the completion of work, the area should be cleaned thoroughly using wet mops or vacuums with HEPA filters. Clearance air sampling should be conducted at this time to ensure that asbestos concentrations are at or below 0.01 fibers (longer than 5 micrometers) per cubic centimeter of air (f/cc). The 0.01 f/cc limit is the EPA recommended clearance criterion for reoccupancy after construction activities involving asbestos-containing materials.

APPENDIX E
TOXICOLOGICAL INFORMATION

ASBESTOS

Asbestos is a generic term referring to various fibrous mineral silicates, including chrysotile (hydrated magnesium silicate), amosite (iron-magnesium silicate), crocidolite (sodium-iron silicate), tremolite (calcium-magnesium silicate), anthophyllite (another iron-magnesium silicate), and actinolite (calcium-magnesium-iron silicate).

The potential health hazards associated with exposure to asbestos result from inhaling the airborne fibers. Small asbestos fibers can pass readily through the upper respiratory tract and be deposited in the terminal bronchioles of the lung. Once there, they can produce a local irritation, which the body attempts to overcome by initiating a tissue response. This response includes encapsulation of the fibers and consequent formation of "asbestos bodies." Asbestos fibers are the causative agents in cases of asbestosis, a progressive disease characterized by diffuse interstitial fibrosis, and, at times, pleural changes of fibrosis and calcification. Clinical signs of asbestosis include rales and dyspnea. In its severe form, asbestosis can contribute to, and result in, death by inhibiting the body's ability to obtain oxygen, and the heart's ability to pump blood through the asbestos-scarred lungs.

Exposure to airborne asbestos fibers has also been associated with bronchogenic carcinoma (a malignancy of the interior of the lung), mesothelioma (a diffuse malignancy of the lining of the chest cavity or abdomen), and cancer of the stomach, colon, and rectum. Cigarette smoking can enhance the incidence of bronchogenic carcinoma.

In order to protect workers from such occupational hazards, the Occupational Safety and Health Administration (OSHA) has established a permissible exposure limit of 0.2 fibers (longer than 5 micrometers) per cubic centimeter of air (f/cc) as an 8-hour, time-weighted average (TWA) concentration limit. This OSHA standard also specifies an action level of 0.1 f/cc of air averaged over an 8-hour workday and an excursion limit of 1 f/cc over a 30 minute period. The National Institute for Occupational Safety and Health (NIOSH) has recommended an 8-hour, TWA exposure limit of 0.1 f/cc, with a peak concentration limit of 0.5 f/cc based on a 15-minute sampling period.

The American Conference of Governmental Industrial Hygienists (ACGIH) has adopted 8-hour, TWA threshold limit values (TLVs), which vary according to the type of asbestos. They are listed as follows:

Amosite:	0.5 f/cc
Chrysotile:	2.0 f/cc
Crocidolite:	0.2 f/cc
Other forms:	2.0 f/cc

ACGIH lists all forms of asbestos under the category of human carcinogens.

BMA Los Angeles
South Bay Dialysis Unit
1123 West Carson Street
Torrance, CA 90502
213-320-4093

To: Larry Park
From: Kathy Smith *KWS*
Date: July 20, 1989
Re: Asbestos Monitoring

cc: E.M. Lowrie
G. Swett

The Governing Body met yesterday and discussed the recommendations of Clayton Environmental for monitoring asbestos levels in the L.A. unit. It was decided to have the air sampling done quarterly for a period of one year after which we will reevaluate the frequency of further testing. I am making the arrangements for air testing directly with the Clayton group.

We are also interested in hearing from you regarding the asbestos management program recommended by the W.R. Grace people of New York. Do not hesitate to call if you have any questions. We will keep you informed of any developments. Thank you.

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