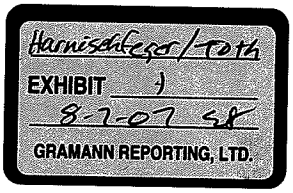
IN THE COURT OF COMMON PLEAS
TRUMBULL COUNTY, OHIO

WALTER A. CROSS, et al.	*	CASE NO. 00-CV-00117
Plaintiffs,	*	JUDGE CHARLES J. BANNON
~vs~	*	
FIBREBOARD, et al.,	*	
Defendants.	*	

* * *

PLAINTIFFS' NOTICE TO TAKE DEPOSITION OF DEFENDANTS BABCOCK BORSIG, BALDOR ELECTRIC, HARNISCHFEGER, PITTSBURGH DESIGN SERVICES, REDLON AND JOHNSON, ROCKWELL AUTOMATION, AND SQUARE D

The Defendants will take notice that the Plaintiffs will take the oral depositions of the following Defendants under the provisions of Ohio Civil Rule 30(B)(5) as follows: Babcock Borsig Power Inc.: August 14, 2007, at 3:00 by telephone; Baldor Electric: Aug.7, 2007, at 10:00 a.m. at 1 US Bank Plaza (7th and Washington) St. Louis, Missouri or by telephone; Harnischfeger: Aug. 7, 2007, at 2:00 pm in Milwaukee, Wisconsin or by telephone; Pittsburgh Design Services: August 13, 2007, at 1:30 p.m. by telephone; Redlon and Johnson: August 14, 2007, at 11:30 a.m. at Premium Court Reporting, 80 South Summit Street, Third Floor, Akron, Ohio; Rockwell Automaton:



August 14, 2007, at 8:00 a.m. in Milwaukee, Wisconsin or by telephone; and Square D: August 8, 2007 at 3:00 or 4:00 p.m. (the exact time will be confirmed) by telephone; and any individuals identified by name herein. All depositions will be under cross-examination by means of stenotype before a notary public or before some other officer authorized by law to administer oaths. The oral examination will continue from day to day until completed.

I. ITEMS TO BE COVERED IN THE DEPOSITION SHALL INCLUDE ALL INFORMATION KNOWN OR AVAILABLE TO DEFENDANT (INCLUDING THE *WHO, WHAT, WHEN, WHERE, WHY, HOW, and WHAT DEFENDANT DID BASED UPON THIS INFORMATION)* REGARDING:

1. Defendant's knowledge of their own or any of Defendant's predecessors-in-interest's sales of asbestos-containing products.

2. Any records from any of Defendant's predecessors-in-interest received or obtained by Defendant.

3. The identities of any employees of Defendant and/or Defendant's predecessors-in interest and your chain of command.

4. The incorporation and history of the Defendant's Corporation or company.

5. Defendant's sales and/or distribution and/or servicing of asbestos-containing products, including those in Ohio.

6. Defendant's knowledge and awareness of the dangers and potential dangers of asbestos, including but not limited to what Defendant did based upon this knowledge, awareness.

7. Any information possessed or received by Defendant indicating that exposure to asbestos had the potential to cause lung disease, asbestosis, lung cancer and/or mesothelioma, including but not limited to when Defendant became aware of this information.

8. Any documents produced by Defendant to Plaintiff in this case.

9. Defendant's membership in any organizations that discussed or dealt with the hazards of asbestos or asbestos-containing products, and any receipt of digested and abstracted asbestos scientific and medical information through those organizations or any other sources.

10. Defendant's establishment and maintenance of any corporate medical department or any corporate industrial hygiene department, and the documents maintained by those departments.

11. Defendant's efforts, actions, and knowledge obtained regarding: detecting and/or treating asbestos-related problems, injuries, or diseases among its employees or among persons it believed to be exposed to asbestos in its products.

12. Defendant's record destruction or retention policies.

13. Defendant's destruction of sales records relating to asbestos-containing products.

14. When Defendant first destroyed records and each time records were destroyed thereafter.

15. All information you possessed regarding potential litigation regarding asbestos or asbestos-containing products at the time of record destruction.

16. All communications and warnings issued by this Defendant to Mr. Cross's employers and others regarding the dangers of asbestos.

17. This Defendant's corporate history (including subsidiary and parent relationships) including names, ownership, and dates thereof.

18. Defendant's sales and/or distribution of asbestos-containing products in Ohio

19. Defendant's sales and/or distribution and/or servicing of asbestos-containing products in general.

20. The manufacturer of each of the asbestos-containing products that you sold or supplied to: Copperweld Steel Company, Warren, Ohio; Seiberling Tire & Rubber Co., Barberton, Ohio; or PPG Industries, Inc. (fka Pittsburgh Plate Glass or Columbia Chemical Co.), Barberton, Ohio.

21. Your purchase or receipt of any asbestos-containing products from any other Defendant named in Plaintiff's Complaint including from whom they were purchased or received; the products and quantities you purchased or received, the dates each product was purchased or received, any distributors, brokers, middlemen or wholesalers who

distributed such products to you, and the name and address of the manufacturer of each of these products.

22. Your sale of any products (asbestos containing or otherwise) to Copperweld Steel Company, Warren, Ohio; Seiberling Tire & Rubber Co., Barberton, Ohio; or PPG Industries, Inc. (fka Pittsburgh Plate Glass or Columbia Chemical Co.), Barberton, Ohio, including to whom they were sold or supplied, the products and quantities you sold or supplied, the dates each product was sold or supplied, the names of your employees or agents who made any contacts for or on your behalf, and whether or not the product contained asbestos.

23. Your record retention and organization, including destruction of records, storage, indexing, computerizing, electronic records and retention, and any other method including those in Ohio.

24. Your sales methods, processes, and data bases, including those in Ohio.

25. The name and address of the person(s) of whom you are aware who are most knowledgeable with respect to each of the respective topics, including those relating to Ohio, contained in this Notice to Take Deposition (This means there may be a different person named for each of the topics).

26. The name and address of the person(s) within your organization who is most knowledgeable with respect to each respective topic, including those relating to Ohio, contained in this Notice to Take Deposition (This means there may be a different person named for each topic).

II. PERSONS TO HAVE PRESENT:

1. The person or persons who are most knowledgeable about each of the respective items outlined in Section I. (This means that there may be a different person named for each topic.)

2. Also please have present the person or persons most knowledgeable concerning the destruction of records, the person or persons most knowledgeable concerning how Defendant's records were maintained, including storage, indexing, computerizing, or any other method.

3. Also please have present the person or persons most knowledgeable concerning Defendant's sales methods, processes, and databases, including those in Ohio.

III. ITEMS AND DOCUMENTS TO HAVE PRESENT:

1. All records and all documents pertaining to the items identified in Section I to be covered at the deposition.

2. All records concerning all other asbestos litigation that Defendant or any of their predecessors-in-interest have been involved in.

IV. DEPOSITION SCOPE:
All persons who are deposed will be deposed regarding the materials set forth in this Notice to Take Deposition and any other discoverable information they may possess.

RUSSELL SMITH, #0020920
503 Key Building
159 S. Main Street
Akron, Ohio 44308
(330) 434-7167

CERTIFICATE OF SERVICE

I hereby certify that on this 3rd of August, 2007, a true copy of the foregoing was sent by facsimile to all counsel of record.

Russell Smith

APPLIED OCCUPATIONAL AND ENVIRONMENTAL HYGIENE

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Asbestos Fiber Release from the Brake Pads of Overhead Industrial Cranes

John W. Spencer, Marc J. Plisko, and J. LeRoy Balzer
Environmental Profiles, Inc., Baltimore, Maryland

The purpose of this evaluation was to determine the actual contribution of airborne asbestos fibers to the work environment from the operation of overhead cranes and hoists that use asbestos composition brake pads. The evaluation was conducted in a working manufacturing facility. Other potential sources of asbestos were accounted for by visual inspection and background air monitoring. An overhead crane assembly comprised of a trolley and two hoists was employed for this study. The crane was operated for two consecutive eight-hour shifts representative of a heavy-duty cycle. Forty-four personal and area air samples were collected during the assessment. Asbestos fibers were analyzed for by phase contrast (NIOSH 7400), and transmission electron (NIOSH 7402) microscopy methods. Eight-hour time-weighted average (TWA) asbestos fiber concentrations ranged from <0.005 to 0.011 fibers/cc (PCM), and <0.0026 to <0.0094 f/cc (TEM). There were no asbestos fibers detected by the TEM method from air samples collected during the operation of the cranes.

Keywords Asbestos, Brake Pads, Cranes, Hoists

Asbestos has been used in thermal insulation, building materials, gaskets and packings, friction products, and many other end-user goods for decades. Several asbestos-containing products such as gaskets, packing materials, and equipment brake pads remain in use as integral parts of industrial machinery systems. Previous studies have reported that asbestos fibers released from brake linings tend to be in the electron-microscope size range.[1] The purpose of this study was to determine the actual contribution of optically (phase contrast microscopy (PCM)) visible airborne asbestos fibers to the work environment from the operation of overhead cranes and hoists which use asbestos-composition brake pads.

The term *asbestos* refers to fibrous, naturally occurring silicate minerals that exhibit properties rendering them useful in commerce.[2] Such properties include resistance to heat, chemical corrosion, and frictional wear; high tensile strength; and flexibility.

Asbestos-composition friction products have been utilized for many years in brake/friction applications, including automobile and truck brakes, elevator brakes, and clutch assemblies. Traditionally, friction products have contained blends of asbestos, cellulose, synthetic fibers, and non-fibrous binding materials.

In July 1989, the Environmental Protection Agency (EPA) issued a final rule under the Toxic Substances Control Act (TSCA) to prohibit the manufacture, importation, processing, and distribution of asbestos in almost all products. This final rule sought to eliminate the use of asbestos in most commercial products in three stages over seven years beginning in 1990. In October 1991, the Fifth Circuit Court of Appeals vacated and remanded most of the ban and phase-out rule. As a result, asbestos-composition brake pads are still manufactured on a limited basis.

BACKGROUND

Overhead cranes are utilized for a variety of material handling needs and other industrial applications. They are available in a range of capacities, typically from 1 to 250 tons, and may be found in thousands of plants and facilities nationwide. Industrial uses include shipbuilding, automotive and heavy equipment assembly, and other industrial operations where heavy material loads have to be moved.

Overhead, or bridge cranes, are supported above the working surface by a movable bridge. The bridge travels horizontally along parallel girders which may be either self-supported or supported by the structure housing the crane. The bridge contains the essential working elements of the crane including the bridge motor and bridge drive systems, electrical controls, an operator's cab, and the trolley supporting the hoist(s).

The trolley is supported by wheels which move along a track perpendicular to the directional movement of the bridge. The trolley contains a motor and drive machinery that allow its movement to be controlled independently from the bridge. The movement of the bridge, and perpendicular movement of the trolley

enable operation of the crane in all directions with respect to an x-y (Cartesian) coordinate system.

The trolley also contains the hoists, the hoist motors, and the hoist gear assemblies. Many overhead cranes operate with two hoists—the main hoist which performs the majority of the work, and the auxiliary hoist which often has a lift capacity less than that of the main hoist.

The operation of overhead cranes is usually controlled in one of three ways—an operator's control cab attached to the crane, a pendant push-button control operated from the floor, or a wireless radio control. The inertia generated during the movement of the bridge, trolley, and hoists is controlled using friction brake products. The typical overhead industrial crane may contain four sets, or pairs, of brake shoes. One pair each may be found attached to the bridge drive gearing, the trolley drive gearing, the main hoist drive system, and the auxiliary hoist drive system. The brake shoes consist of friction materials bonded or riveted to metal brake shoes, which are in turn attached to brake calipers.

GENERAL PROCESS DESCRIPTION

This evaluation was performed in a building utilized for product subassembly and light welding at a mining equipment manufacturing plant. No manufacturing activities were in progress during the evaluation. The building size was approximately 107′ × 270′ × 30′.

The building contained a total of six overhead cranes and two light-duty jib cranes. The main runway, situated along the center of the building, contained two overhead cranes, each with a 15-ton main hoist and a 5-ton auxiliary hoist. Two additional runways, each situated on either side of the main runway, contained two 5-ton overhead cranes.

One of the two 15-ton cranes which plant personnel reported as being manufactured and installed in 1941, was used for this evaluation. As reported by the plant's test engineer, the brake shoes on the bridge, trolley, and auxiliary hoist were original (i.e., installed in 1941). The brake shoes on the main hoist were replaced in the mid- to late 1960s. Prior to our arrival at the site, the unused 15-ton crane was parked at one end of the main runway opposite the end where the work was performed. With only a few exceptions, an 80-foot portion of the approximate 270-foot-long runway was used during the study. See Figure 1.

The evaluation was performed over two consecutive eight-hour shifts. Based on normal plant operations, a test duty cycle was prepared by a crane engineer. The duty cycle analysis was prepared to reflect a representative worst-case scenario of a duty cycle for cranes in manufacturing facilities operating at a Crane Manufacturer's Association of America (CMAA) Class "C" rating. The test loads included a 6.75-ton weight for the main hoist and a 1.98-ton weight for the auxiliary hoist.

The first shift duty cycle included eight steps, with a total cycle time of approximately six minutes per cycle. This resulted in a frequency of 10 duty cycles per hour. The first shift duty cycle included the following steps:

1. main hoist lowering 15 feet unloaded
2. main hoist raising 15 feet under load with 2 "jogs" (i.e., engage brakes)
3. trolley motion $\frac{1}{2}$ span (20 feet)
4. bridge motion of 80 feet
5. trolley motion $\frac{1}{2}$ span (20 feet)
6. main hoist lowering 15 feet under load with 2–3 jogs
7. reverse above 5 steps unloaded
8. crane remained stationary for 3 minutes

During the first shift duty cycle, the auxiliary hoist was intermittently raised and lowered, though no load was attached.

The second shift duty cycle was similar to the first shift duty cycle; however, operation of the auxiliary hoist with a weighted load attached was added during the second shift. Operation of

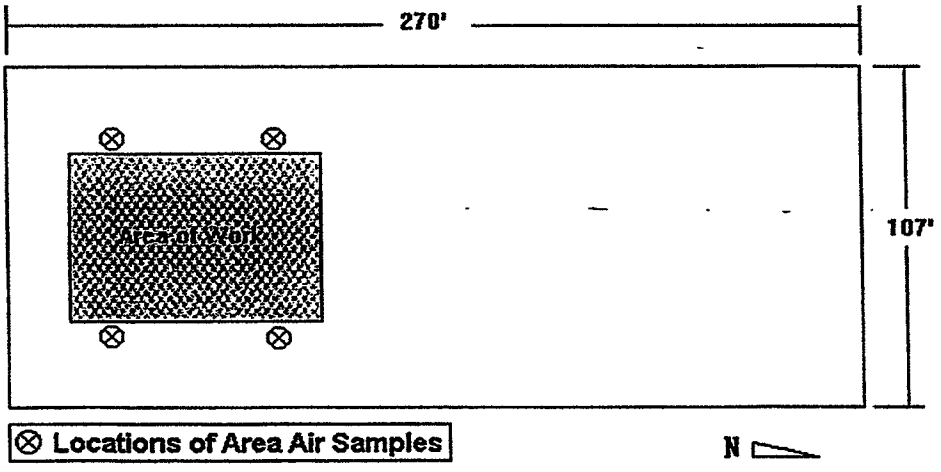

FIGURE 1
Facility layout.

TABLE II
Sample distribution for first shift and second shift sampling

Location	No. of first shift samples	No. of second shift samples	Total
Floor level	8	8	16
Crane control	0	1	1
Crane level	2	2	4
Outdoors	1	1	2
Personal (operator)	1	0	2
Personal (bystanders)	0	3	2
Blank	2	3	5
Total	14	18	32

Technology (NIST), and the American Industrial Hygiene Association (AIHA) for PLM analysis.

Visual inspection of the installed brake shoes indicated moderate wear. Plant personnel reported that the brake shoes on the bridge, trolley, and auxiliary hoist were installed when the crane was manufactured. The brake shoes on the main hoist were reportedly replaced in the mid- to late 1960s.

Air sample collection focused on two levels within the building—the bridge/trolley level, and the main floor. Sample collection at the bridge/trolley level was conducted using portable, battery-operated air sampling pumps. The portable pumps were used to collect air samples on and around the trolley, and in the area formerly occupied by the operator's cab. The sample collected from the operator cab area was intended to represent fiber concentrations to which an operator may have been exposed, were the cab still present.

Sampling locations at the main floor level were evenly distributed within, and adjacent to, the crane areaway (also referred to as the hoisting area) and were obtained using high-flow air sampling pumps. The collection of samples within and adjacent to the crane areaway (hoisting area) was intended to represent fiber concentrations to which both floor-level crane operators and bystanders may be exposed. Representative personal samples were also collected using portable air sampling pumps.

Thirty-two air samples were collected during the process evaluation. The sample distribution for the first and second shifts is described in Table II. Four locations were selected for the collection of the floor-level (five to six feet above the floor) samples. The sample filter cassettes were changed halfway through each shift, resulting in eight floor-level samples per shift. The floor-level sample locations remained constant from the first to the second shift. During the second shift, a personal sampling pump was attached to the crane's pendant control to represent the operator's exposure. Three personal samples were also collected during the second shift. The personal samples were obtained from the breathing zones of the investigators, who were evaluating the duty cycles while observing from the hoisting and adjacent areas.

RESULTS AND DISCUSSION

The results of air sampling and analysis are presented in the following tables. Each table gives the sample location/description, flow rate duration, volume, and result. Table I lists sample data and test results for the Atmospheric Screening Test. The sample data and test results for the Baseline Samples are presented in Table III. The sample data and test results for the Process Evaluation are presented in Table IV. All sample results reported in Table I are based on sample analysis by PCM using NIOSH Method 7400. Sample results reported in Tables III and IV are based on analysis by PCM using NIOSH Method 7400 and confirmatory analysis by TEM using NIOSH Method 7402.

TABLE III
Air sample results summary table for baseline sample collection

Sample no.	Description/location	Flow rate (L/min)	Duration (min)	Volume (liters)	PCM result (f/cc)	TEM result (f/cc)
111596-MP1	Baseline: Outdoors	2.7	240	648	<0.010	<0.0054
111596-MP2	Baseline: Outdoors	2.9	240	696	<0.010	<0.0050
111596-MP3	Baseline: Outdoors	2.75	240	660	<0.010	<0.0053
111596-MP4	Baseline: Outdoors	2.6	240	624	<0.010	<0.0056
111596-MP5	Baseline: Outdoors	2.45	240	588	<0.010	<0.0060
111596-MP6	Baseline: Indoors	12.0	180	2160	<0.005	<0.0016
111596-MP7	Baseline: Indoors	12.0	180	2160	<0.005	<0.0016
111596-MP8	Baseline: Indoors	12.0	180	2160	0.006	<0.0016
111596-MP9	Baseline: Indoors	12.0	180	2160	<0.005	<0.0016
111596-MP10	Baseline: Indoors	12.0	180	2160	<0.005	<0.0016
111596-MP11	Blank	n/a	n/a	n/a	1 fiber/100 fields	—
111596-MP12	Blank	n/a	n/a	n/a	1 fiber/100 fields	—

PCM Results

All PCM results reported in Table I were below the limit of quantitation (LOQ). With one exception, all Baseline Sample results (Table III) were also below their respective LOQs. The one exception was marginally above its respective LOQ. PCM analysis indicated one fiber each on the blank samples. A total of 27 samples were collected during the Process Evaluation (Table IV). Fifteen of the 27 samples were reported by the laboratory as being below the respective LOQs.

TEM Results

TEM analysis was performed on the baseline and process evaluation samples to determine whether fibers detected by PCM analysis were asbestos fibers. The analysis was performed using

TABLE IV
Air sample results summary table for Process Evaluation Samples

Sample location	No. of samples	Sample period (min.)	PCM result (f/cc)	8-Hr. TWA (PCM f/cc)	TEM result (f/cc)
NE corner of hoisting area—1st shift	2	225	0.006	<0.006	<0.0026
		225	<0.005		<0.0026
NE corner of hoisting area—2nd shift	2	225	<0.005	<0.006	<0.0026
		225	0.006		<0.0026
NW corner of hoisting area—1st shift	2	225	<0.005	<0.005	<0.0026
		225	<0.005		<0.0026
NW corner of hoisting area—2nd shift	2	225	0.011	<0.008	<0.0026
		225	<0.005		<0.0026
SE corner of hoisting area—1st shift	2	225	0.005	<0.005	<0.0026
		225	<0.005		<0.0026
SE corner of hoisting area—2nd shift	2	225	<0.005	<0.006	<0.0026
		225	0.006		<0.0026
SW corner of hoisting area—1st shift	2	225	0.005	0.006	<0.0026
		225	0.006		<0.0026
SW corner of hoisting area—2nd shift	2	225	<0.005	<0.005	<0.0026
		225	<0.005		<0.0026
Center of crane bridge on guard rail—1st shift	1	435	<0.005	<0.005	<0.0031
Center of crane bridge on guard rail—2nd shift	1	401	<0.005	<0.004	<0.0036
Beneath bridge at former operator cab—1st shift	1	435	<0.005	<0.005	<0.0031
Beneath bridge at former operator cab—2nd shift	1	470	<0.005	<0.005	<0.0030
Beneath crane on pendant control—2nd shift	1	435	0.006	0.005	<0.0032
Personal (bystander)—1st shift	1	417	0.008	0.007	<0.0034
Personal (bystander)—2nd shift	1	149	0.035	0.011*	<0.0094
Personal (bystander)—2nd shift	1	225	0.011	0.005*	<0.0066
Personal (bystander)—2nd shift	1	206	0.010	0.004*	<0.0069
Outdoors—1st shift	1	465	<0.005	<0.005	<0.0025
Outdoors—2nd shift	1	435	<0.005	<0.005	<0.0027
Blanks	5	—	0.2 fibers/100 fids (average)	—	—

*Fibers were determined by TEM to be non-asbestiform.

TEM in conjunction with NIOSH Method 7402, which is recommended by NIOSH as a backup/verification for PCM analysis. The samples generated during the atmospheric screening test were not analyzed by TEM because the PCM results did not indicate interference due to particulate matter or other obstructive material.

The TEM analysis indicated the presence of asbestos fibers on only two of the 44 samples analyzed; one asbestos fiber each was reported on two of the baseline samples. No asbestos fibers were reported on any of the process evaluation samples, including the personal samples and the blanks.

All samples collected during this evaluation yielded analytical results below the OSHA eight-hour time-weighted average (TWA) permissible exposure limit (PEL) for asbestos of 0.1 f/cc.[8] With the exception of the personal air samples, all but one of the area samples were reported to be less than 0.01 f/cc, 10 times below the OSHA PEL as measured by PCM. The sample reported to be greater than 0.01 f/cc was only marginally above this value. The sample was further evaluated by NIOSH Method 7402, which revealed that the fibers were non-asbestiform.

CONCLUSIONS

The purpose of this evaluation was to determine the contribution of airborne asbestos fibers to the work environment from the operation of overhead cranes with asbestos-containing brake shoes. The air monitoring results revealed that airborne asbestos fiber concentrations were in all cases below the OSHA eight-hour TWA exposure limit of 0.1 f/cc. Further analysis of air samples by the TEM method determined that no asbestos fibers were detected in the size range determined by the NIOSH 7402 method during the operation of the crane and hoists. The operation of cranes and hoists fitted with asbestos-containing brakes did not contribute measurable (optically visible) airborne asbestos fiber concentrations to the crane operators or bystanders.

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