FILE NAME: Allied Signal Bendix (ASB)

DATE: 1979

DOC#: ASB044

DOCUMENT DESCRIPTION: Multiple Asbestos Air Samples Bendix - Windsor, Canada

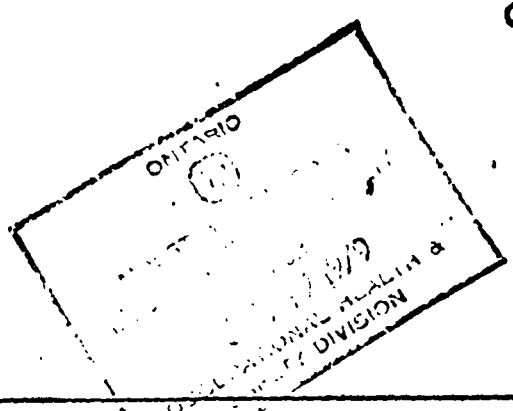
Ontario
Ministry of
Labour

O.H.B. File No. 05778kEOA
I.H.S.B. File No. 328-00041-0001

Occupational Health Branch

FIELD VISIT REPORT

01/3.



Date: January 9, 1979

From: O.P. Malik, Ph.D., P.Eng.

Plant:	Bendix Automotive of Canada Ltd.
Address:	1473 Argyle Road Windsor, Ontario
Contacts:	Mr. G. Detenbeck Manager, Health & Safety Mr. J. McCann Union Safety Representative U.A.W. Local 195
Hazard:	Asbestos

Requested by:	I.H.S.B.
Date of Request:	November 7, 1978
Accompanied by:	Mr. L.D. Ouellette
Date of Visit:	November 23, 1978
Copies to:	Dr. P.L. Pelmear Mr. J. McNair (3) Mr. H. Todd Mr. S. Morton Mr. G. Detenbeck

Abstract: An engineering visit was made to assess the asbestos exposure to approximately 10 to 12 employees involved in drilling, rivetting and grinding of asbestos containing brake linings at the above mentioned plant. The grinding wheels and drilling machines are adequately exhausted but some concern of exposure is expressed at the rivetting operation where no mechanical local exhaust is provided.

Air sampling will be carried out by this branch to measure the airborne concentration of asbestos.

Recommendations are made to confine and capture airborne asbestos at the grated table where drilled brakelinings are dropped to shakeout loose dust in the drilled holes. No directions are suggested to be issued.

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In the above mentioned plant, brakelinings are received in a shaped form, are drilled and rivetted to brake shoes. They are finally tappered by turning on the face of grinding wheels. A detailed description of the process is described in previous field visit reports of Messrs. H.M. Nelson and G.S. Rajhans.



Bendix Automotive of Canada Ltd.
January 9, 1979

Comments:

1. According to the Company, the brakelinings contain between 50 to 60% chrysotile asbestos. The asbestos content of a particular batch depends upon the supplier of the linings. Local mechanical exhaust is provided at the two most dust producing operations, drilling (two machines) and grinding (four grinding wheels). Air velocity measurements were made using a velometer and are listed in the table below:

Location or Operation	Type of Hood	Face Opening	Face Velocity FPM (f/min)	Air Volume CFM (f^3/ min)	Air Volume CFM in 1976
Grinder #1	3/4 enclosed	22" x 6"	1200	1100	1100
Grinder #2	3/4 enclosed	22" x 6"	1200	1100	1100
Grinder #3	3/4 enclosed	22" x 6"	950	870	855
Grinder #4	3/4 enclosed	22" x 6"	950	870	855

2. At the rivetting machines, no local mechanical exhaust is provided. Concern was expressed that some loose dust in the drilled holes gets airborne during rivetting. The amount of dust in these holes appeared quite small but the workers informed me that with certain types of brake linings a significant amount of dust is released. Some fibers were also observed on the machines as rafter dust. Although significant exposure is not expected, air sampling at or near the rivetting operation will be carried out by this branch.

3. The drilling operation is enclosed and it was not possible to measure the exhaust rate. However, the mechanical exhaust appeared to be quite effective.

4. After the linings are drilled, they are dropped on a grated table approximately 23" x 21" x 27" high to remove the loose dust which is collected in a polyethylene bag tied under the grated surface. This table is not exhausted and some of the loose dust gets airborne as drilled linings are dropped. The concentration of airborne asbestos did not appear to be excessive as most particles were quite coarse. However, air sampling in the vicinity will be carried out to evaluate the airborne concentration of asbestos.

5. Floors and machines are vacuum cleaned using a 'NILFISK' (3-pump type GA 73-7111) portable vacuum cleaner. No dry sweeping is permitted in the asbestos handling area.

6. One of the employees working on the rivetting machine was seen wearing an approved respirator (3M Co. Type 8710).

7. Concern was expressed that the water fountain is located in one corner of the room where asbestos is being handled and it may be a potential source of hazard for all workers in the plant.

In my opinion the fibre concentration near the fountain is not likely to be significant as judged from the ventilation system and the results of previous surveys carried out near the dust producing operations. In order to assess the exact level of asbestos hazard at this location, air sampling will be carried out.

Further Action by O.H.B.

Personal and Area sampling for Asbestos will be carried out near the following location:

Rivetting machines
Drilling machines
Grinding machines
Near the water fountain.

Recommendations:

When dealing with hazardous substances such as asbestos, the best practice is to keep their airborne concentration as low and as confined as possible. At the grated table (see comment #4) asbestos fibres are allowed to get airborne and dissipate in the room. In order to confine and capture these fibres, it is recommended that the grated table should be enclosed (e.g. a hood with one side open) and adequately exhausted (150-200 CFM per sq. foot of the face of hood).

2. Further comments will be made after the air sampling results are known.

O.P. Malik

OPM:ss

ONTARIO MINISTRY of the ENVIRONMENT
LABORATORY SERVICES BRANCH
Asbestos Analysis Report

SAMPLE No: 79SWR/A76 SAMPLE TYPE: Air
LOCATION: WINDSOR-BENDIX AUTOMOTIVE TOTAL SAMPLE FLOW: 316.10 Mt3
REGION: SOUTH-WEST FILE: 13 - 56
FILTER TYPE: 0.4 um 200x250
DATE SAMPLED: 07AUG79
DATE REC'D: 10AUG79
DATE REPT'D: 25OCT79

SUMMARY of RESULTS (CONCENTRATION at 95% CONFIDENCE LIMIT)

	FIBRES COUNTED	FIBRES SIZED	> 5 uM IN LENGTH
Chrysotile	44	11	0
Amphibole	0	0	0
TOTAL	44	11	0
Other	301	39	0

	ALL FIBRES	> 5 uM in LENGTH
FIBRE CONCENTRATION: Fibre/cc		
Chrysotile	4.3E-02 (2.6E-02, 6.1E-02)	0.0E 00 (0.0E 00, 0.0E 00
Amphibole <mdl	0.0E 00 (0.0E 00, 0.0E 00)	0.0E 00 (0.0E 00, 0.0E 00
TOTAL	4.3E-02	0.0E 00
Other	3.0E-01 (2.1E-01, 3.9E-01)	0.0E 00 (0.0E 00, 0.0E 00
MASS CONCENTRATION: ng/cc		
Chrysotile	4.9E-05 (2.9E-05, 6.9E-05)	0.0E 00 (0.0E 00, 0.0E 00
Amphibole <mdl	0.0E 00 (0.0E 00, 0.0E 00)	0.0E 00 (0.0E 00, 0.0E 00
TOTAL	4.9E-05	0.0E 00
Other	3.5E-03 (2.5E-03, 4.6E-03)	0.0E 00 (0.0E 00, 0.0E 00

ANALYST'S COMMENTS:
EMPLOYEE PARKING LOT

SAMPLE No: 79SWR/AS2 SAMPLE TYPE: Air
LOCATION: WINDSOR-BENDIX AUTOMOTIVE TOTAL SAMPLE FLOW: 333.10 MT2
REGION: SOUTH-WEST FILE: 13 - 53
FILTER TYPE: 0.4um 200x250mm
DATE SAMPLED: 22AUG79
DATE REC'D: 25AUG79
DATE REPT'D: 25OCT79

SUMMARY of RESULTS (CONCENTRATION at 95% CONFIDENCE LIMIT)

	FIBRES COUNTED	FIBRES SIZED	> 5 uM IN LENGTH
Chrysotile	61	29	1
Amphibole	0	0	0
TOTAL	61	29	1
Other	38	20	0

FIBRE CONCENTRATION: Fibre/cc

	ALL FIBRES	> 5 uM in LENGTH
Chrysotile	1.8E-01 (1.3E-01, 2.3E-01)	6.2E-03 (4.2E-04, 1.3E-02
Amphibole <mdl	0.0E 00 (0.0E 00, 0.0E 00)	0.0E 00 (0.0E 00, 0.0E 00
TOTAL	1.8E-01	6.2E-03
Other	1.1E-01 (6.1E-02, 1.6E-01)	0.0E 00 (0.0E 00, 0.0E 00

MASS CONCENTRATION: pg/cc

Chrysotile	6.1E-04 (4.4E-04, 7.8E-04)	8.4E-05 (5.8E-06, 1.6E-04
Amphibole <mdl	0.0E 00 (0.0E 00, 0.0E 00)	0.0E 00 (0.0E 00, 0.0E 00
TOTAL	6.1E-04	8.4E-05
Other	6.0E-03 (3.3E-03, 8.7E-03)	0.0E 00 (0.0E 00, 0.0E 00

ANALYST'S COMMENTS:
LANEWAY WEST OF BUILDING

Asbestos Analysis Report

3

SAMPLE No: 79SWR/A86
LOCATION: WINDSOR Bendix Automotive
REGION: SWR
FILTER TYPE:
DATE SAMPLED: 270879
DATE REC'D: 130979
DATE REPT'D:

SAMPLE TYPE: Air
TOTAL SAMPLE FLOW: 305.90 M†2
FILE: 13 - 58

SUMMARY of RESULTS (CONCENTRATION at 95% CONFIDENCE LIMIT)

	FIBRES COUNTED	FIBRES SIZED	> 5 uM IN LENGTH
Chrysotile	35	35	2
Amphibole	0	0	0
TOTAL	35	35	2
Other	6	6	3

	ALL FIBRES	> 5 uM in LENGTH
FIBRE CONCENTRATION: Fibre/cc		
Chrysotile	5.9E-02 (3.8E-02, 8.0E-02)	3.4E-03 (0.0E 00, 7.9E-0
Amphibole <mdl	0.0E 00 (0.0E 00, 0.0E 00)	0.0E 00 (0.0E 00, 0.0E 0
TOTAL	5.9E-02	3.4E-03
Other	1.0E-02 (0.0E 00, 2.1E-02)	5.1E-03 (0.0E 00, 1.0E-0
MASS CONCENTRATION: pg/cc 10^{-12} gram		
Chrysotile	1.4E-03 (8.9E-04, 1.9E-03)	1.8E-04 (0.0E 00, 4.1E-0
Amphibole <mdl	0.0E 00 (0.0E 00, 0.0E 00)	0.0E 00 (0.0E 00, 0.0E 0
TOTAL	1.4E-03	1.8E-04
Other	9.0E-03 (0.0E 00, 1.9E-02)	8.8E-03 (0.0E 00, 1.8E-0

ANALYST'S COMMENTS:
Laneway N.W. of Bendix Automotive Ltd..

Ontario Ministry of Labour

MEMORANDUM

Date: June 19, 1979

File:

To: Dr. P. Pelmear, Chief
Occupational Health Services
cc: Mr. J. McNair
Mr. G. Rajhans
Mr. G. Detenbeck

From: I. Taraschuk, M.D.
Medical Consultant
80 Dundas St.
London, Ontario

RE: Bendix Automotive of Canada Limited
945 Prince Rd.
Windsor, Ontario
A.Q.A. Report # 1501

Comments:

1. On May 2 air sampling was done at this plant for : trichloroethane and total dust.

2. The airborne concentrations of trichloroethane were within the levels acceptable for occupational exposure in Ontario.

3. From the total dust measurements it may be concluded that a person could be exposed to an airborne concentration of 1.26mg/m^3 of zinc dimethyl dithio carbamate at most. As stated in the discussions with both Company and Union, since a TLV does not exist for zinc dimethyl dithio carbamate there is no standard with which to compare this exposure. However, it should be stressed that mucus membrane and skin irritation may occur with this substance.

4. It is felt that the working environment is within acceptable standards at this plant with regard to trichloroethane. For those workers that are irritated by the zinc dimethyl dithio carbamate protective equipment should be provided as outlined in the original report.

I. Taraschuk

I. Taraschuk, M.D.

IT:jv

Ontario Ministry of Labour

Company Address: BENDIX AUTOMOTIVE OF CANADA LTD.
945 PRINCE ROAD
WINDSOR

Date: MAY 2, 1979

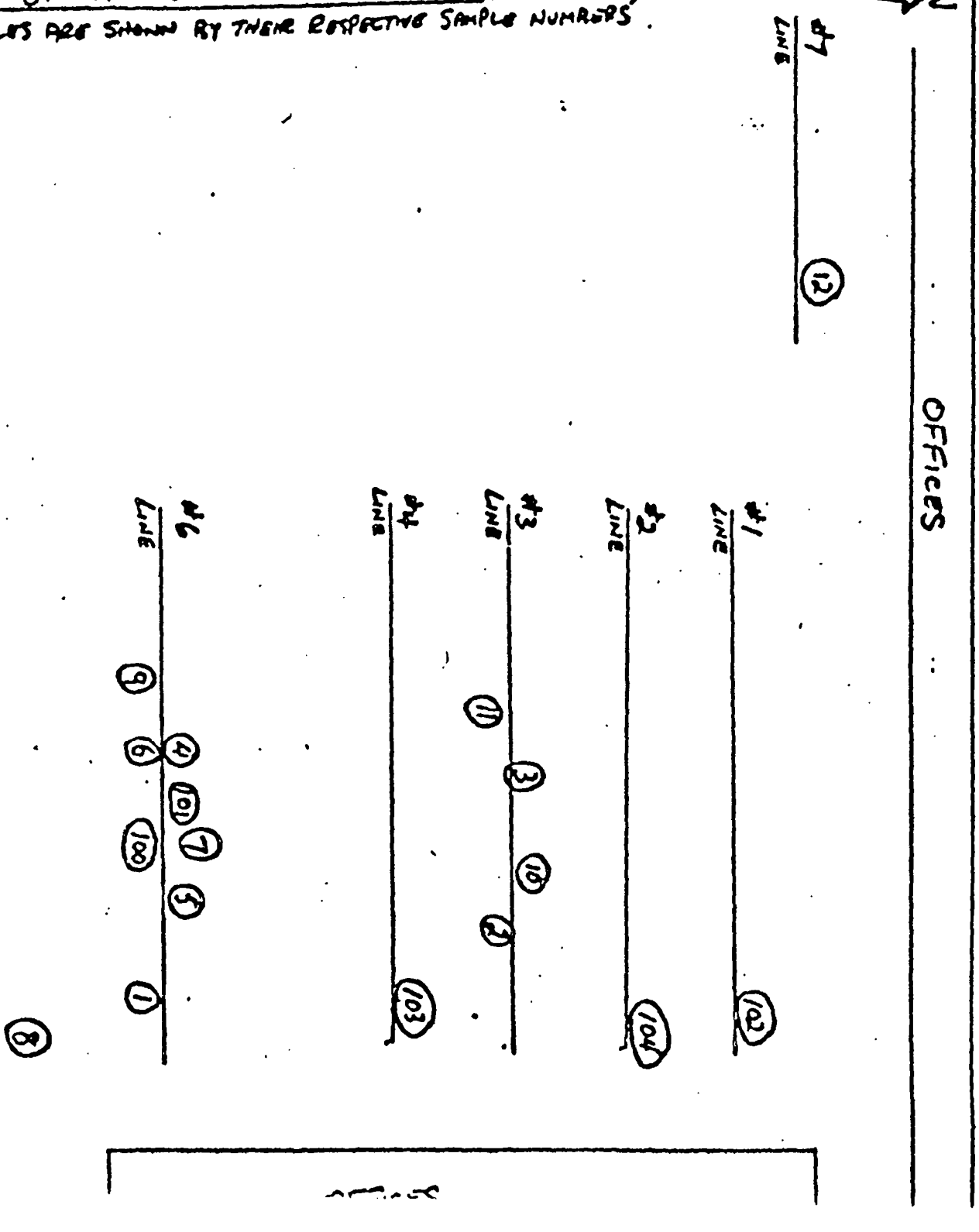
A.Q.A. No. 1501

Field Visit Number: 1577 9DEAB-M

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DIAGRAM OF AIR SAMPLING LOCATIONS (NOT TO SCALE)

AIR SAMPLES ARE SHOWN BY THEIR RESPECTIVE SAMPLE NUMBERS.



Ontario
Ministry of
Labour

325-0004/-000

I.H.S.B. File No.: 325-00041-0001
O.H.B. File No.: 14079BEOB-M
A.Q.A. No.: 1398

01 03

OCCUPATIONAL HEALTH BRANCH

AIR QUALITY ASSESSMENT REPORT

ONTARIO
MINISTRY OF LABOUR
INDUSTRIAL HEALTH & SAFETY BRANCH
JUN 14 1979
OCCUPATIONAL HEALTH & SAFETY DIVISION

Date: June 7, 1979

From: E. Latty

Plant: Bendix Automotive of Canada

Address: 1473 Argyle Road
Windsor, Ontario

Contacts: Mr. G. Detenbeck, Manager
Health & Safety
Mr. J. McCann, Union Safety Rep.,
UAW-Local 195

Hazard: Asbestos

Requested by: O.P. Malik, O.H.S.,
February 21, 1979

Accompanied by: Mr. L. Ouellette, IHSB
Mr. N. Nagalingam, OHB

Date of Visit: March 15, 1979

Copies to: Dr. P. Pelmear
Mr. J. McNair (3)
Mr. S. Morton
Dr. O. Malik
Dr. J. Vingilis
Mr. G. Detenbeck

Abstract: An Air Quality Assessment visit was made to the above plant. (Department #25) The attached table lists the results of personal and area air samples collected for asbestos.

The samples were taken using an air flow rate of two liters per minute, on open face 0.8 micron, 37 millimeter diameter cellulose acetate filters.

Comments

1. No local mechanical exhaust was observed at the rivetting machines.

2. Changing of Dust Collector waste box was of short duration (10 minutes). Spillage of material was also observed at the time of the visit.

3. The samples were taken during the morning period, approximately 9:30 a.m. - 11:30 a.m.

Ernest A. Latty

E. Latty
O.H. Technician

EL:lm
Att.

Ontario Ministry of Labour | Occupational Health Branch | Occupational Health Engineering Service

Table of Results

☒ Personal Samples
☒ Area Samples

Company: Bendix Automotive of Canada
Address: (Argyle Rd), Windsor

Date: 15/03/79
OHB File No.: 14079BE0B-M

Table: 1
AQA: 139

Air Samples

Ontario Interim Standard - 2 f/cc

Hazard: ASBESTOS

Sample No.	Employees Name and ☒ Job Description or ☒ Location	Pump Name and Code No.	Time Minutes	Volume ~~Litres corrected for Temp. Press~~	Total Fibres Greater than 5 Micrometers in Length per cc of Air	Conc T.L
1.	P. Knuckle, Pivetter	B 89	105	210	0.91	0.4
2.	T. Delicata, Grinder	B 98	105	210	0.35	0.1
3.	V. Barisha, Inspector	B 5	105	210	0.71	0.3
4.	N. Nadon, Grinder	B 82	105	210	0.33	0.1
5.	P. Perovic, Inspector	B 3	105	210	0.92	0.4
6.	M. Bryant, Driller	B 35	105	210	0.21	0.1
7.	L. Droullard, Rivetter	B 24	105	210	0.28	0.1
8.	D. Pindus, Grinder	B 30	105	210	0.50	0.2
9.	P. Dunn, Inspector	B 23	105	210	0.42	0.2
10.	D. Jacques, Rivetter	B 39	105	210	0.22	0.1
11.	Background, near entrance to Dept. #25	M 28	105	210	0.15	0.0
12.	Background, by repair bench, Dept. #25	M 34	105	210	0.35	0.1
13.	Background, near Tool Room on column	M 38	105	210	0.28	0.1
14.	Background, near water fountain	M 38	105	210	0.44	0.2
15.	A. Bortolazzo, Vacuumer	M 34	30	60	0.36	0.1
16.	C. Scandale, Rivetter	B 23	105	210	0.26	0.1
17.	D. Beaudoin, Rivetter	B 82	60	120	0.42	0.2
18.	A. Bortolazzo, Changing of Dust collector waste box	B 38	10	20	1.1	0.5
19.	M. Kelzen, Repairman	B 5	105	210	0.82	0.4
20.	B. Gadd, Rivetter	B 3	105	210	1.3	0.6

Results were obtained sequentially.