

TECHNICAL CENTER SERVICES
UNION CARBIDE CORPORATION
ENGINEERING AND TECHNOLOGY SERVICES
SOUTH CHARLESTON, WEST VIRGINIA

MEMORANDUM

February 1, 1984



To: J. W. Karn
Sistersville Plant

cc: J. W. Barna D. R. Paugh
M. E. Bell R. E. Peele
M. W. Bosserman H. H. Price
C. P. Maxwell B. H. Avashia, M.D.
M. L. Mills R. G. Rowe, M.D.
R. L. Noble

From: M. A. Patel

Subject: Asbestos Monitoring of Construction Employees at
the Sistersville Plant

On January 12, 1984, Mark Bell and this writer of the Technical Center Industrial Hygiene group visited the Sistersville Plant to conduct personal exposure monitoring for asbestos fibers while Construction Department employees stripped asbestos-containing insulation from pipes at the Steam Plant.

The monitoring was done during the entire stripping operation for that day. The balance of the day when there was no monitoring done, the insulators used that time to insulate the stripped pipes with non-asbestos insulation. The results of monitoring are shown in the attachment which show that all the employees who were monitored worked in the area where the potential for exposure to asbestos was below the current Federal OSHA standard of 0.5 fibers per cc of air. All employees involved in the stripping operation wore full body hooded coveralls, gloves, safety glasses and respirator approved for use for asbestos. The area was properly barricaded, insulation was wetted down while stripping and the grating was covered to collect any insulation which might fall down.

Please notify all monitored employees of their exposure results.

Mark A. Patel



PERSONAL EXPOSURE MONITORING FOR ASBESTOS

AT THE SISTERSVILLE PLANT

January 12, 1984

<u>NO.</u>	<u>NAME</u>	<u>CRAFT</u>	<u>SAMPLING TIME/MIN</u>	<u>EXPOSURE LEVEL Fibers/cc</u>
1	R.L. Pauley	Insulator	89	.27
2	B.E. Kelly	Laborer	82	.08
3	H.P. Stewart	Insulator	88	.15
4	R.L. Hilverding	Insulator	88	.24
5	L.R. Shaffer	Insulator	86	.17



INTERNAL
CORRESPONDENCE



UNION CARBIDE CORPORATION TECHNICAL CENTER

P.O. BOX 8361, SOUTH CHARLESTON, WV 25303

To: R. C. Proffitt
From: 511-2009
Subject: 512

Date: June 21, 1983

Originating Dept: 511 Industrial Hygiene/
Environmental Protection

Area:

Subject: Asbestos Monitoring in
Storeroom, 511 Construction
Department

M. E. Bell
C. W. Maxwell
M. L. Mills
L. R. Noble
D. R. Paugh
R. E. Peele
A. L. Postlethwait
W. F. Williams

Dear Mr. Proffitt:

On May 9, 1983, the Technical Center Industrial Hygiene group conducted a monitoring survey for determining the exposure of employees to asbestos dust particles while handling asbestos containing gaskets in the storeroom at the 512 Construction Department. This work was done by M. E. Bell of our group.

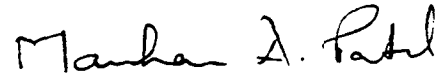
Mr. J. H. White was monitored for asbestos exposure when he received one hundred asbestos spiral-wound gaskets in three bundles. During the monitoring period, Mr. White removed these gaskets from the box, counted and placed them in a storage bin in the storeroom. Mr. White wore a dust respirator approved for asbestos while performing the job. In addition to the personal sample, an area sample was also collected. The results of monitoring shown in the attachment indicate that exposure to asbestos fibers above the permissible exposure limit of 2 fiber/cc are unlikely.

It is our observation that while unpacking and placing gaskets in the bin the probability of exposure is minute; however, it is believed that once the gaskets are stored in the bin some dust will become loose due to friction and may build up over a period of time. We recommend that the gasket storage bin be cleaned once every month. The person cleaning the bin should wear a dust respirator. The method of cleaning the bin should be wet. The easiest way would be to rinse the bin with water in the sink.

Please notify Mr. White of his exposure results. If we can

be of further assistance, please call us at extension 3750.

Very truly yours,

A handwritten signature in cursive script, reading "Manhar A. Patel".

Manhar A. Patel

MAP/sc

Attachment



ASBESTOS SAMPLING

May 9, 1983

<u>Name or Location</u>	<u>Sampling Time (Mins)</u>	<u>Concentration Fibers/cc</u>
1. J. H. White	10	0
2. Area Sample	9	< .07

The permissible exposure limit is 2 fibers > 5 μ m/cc of air

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: R. F. Painter, Trlr. 5583

Computer Ref. W-1315Date April 26, 1982

cc: B. H. Avashia, M.D., 23-512

L. R. Noble, 2149-512

G. W. Bott, 701-330

R. E. Peele, 701-334

M. L. Mills, 2149-512

E. C. Shipley, 2009-512

PERSON MONITORED D. C. ShamblinLocation Bldg. 706Date 04/21/82

EXPOSURE RESULTS

Sample No.	Conc.	Sampling Time	Comments
1	1.2 fibers >5 $\mu\text{m}/\text{cc}$	92 Mins.	Personal sample
2	1.0 fibers >5 $\mu\text{m}/\text{cc}$	93 Mins.	Area sample
3			
4			
5			
6			

Time-Weighted Average Concentration (TWA) -Ceiling Concentration -

ALLOWABLE EXPOSURE

TWA 2 fibers >5 $\mu\text{m}/\text{cc}$ X OSHA UCC Other
Ceiling OSHA UCC Other

COMMENTS

Personal and area samples were collected while Mr. Shamblin and Mr. Templeton were stripping insulation from a steam line and condensate line in the old compressor room, Building 706. We recommend the insulators continue to wear protective clothing, respirators, gloves and the area to be stripped wet down. Please inform IH Department of the next stripping job in this area and inform concerned employees of their exposure.

WORK BY

Mark E. Bell
Mark E. Bell

APPROVED BY

Manhar A. Patel
Manhar A. Patel

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: R. F. Painter, Trlr. 5583

Computer Ref. W-1315Date April 26, 1982cc: B. H. Avashia, M.D., 23-512
G. W. Bott, 701-330
M. L. Mills, 2149-512L. R. Noble, 2149-512
R. E. Peele, 701-334
E. C. Shipley, 2009-512PERSON MONITORED R. E. TempletonLocation Bldg. 706 Date 04/21/82

EXPOSURE RESULTS

Sample No.	Conc.	Sampling Time	Comments
1	0.9 fibers	92 Mins.	Personal sample
2	>5 $\mu\text{m}/\text{cc}$		
3			
4			
5			
6			

Time-Weighted Average Concentration (TWA) -Ceiling Concentration -

ALLOWABLE EXPOSURE

TWA	<u>2 fibers >5 $\mu\text{m}/\text{cc}$</u>	<u>X</u> OSHA	<u> </u> UCC	<u> </u> Other
Ceiling	<u> </u>	<u> </u> OSHA	<u> </u> UCC	<u> </u> Other

COMMENTS

Personal and area samples were collected while Mr. Shamblin and Mr. Templeton were stripping insulation from a steam line and condensate line in the old compressor room, Building 706. We recommend the insulators continue to wear protective clothing, respirators, gloves and the area to be stripped wet down. Please inform IH Department of the next stripping job in this area, and inform concerned employees of their exposure.

WORK BY

Mark E. Bell
Mark E. Bell

APPROVED BY

Manhar A. Patel
Manhar A. Patel



BUSINESS
CONFIDENTIAL

INDUSTRIAL HYGIENE MONITORING FOR

ASBESTOS

P. 1 of 2

*Called Duck and ask him
to talk with Painter about
Crowder Results, and to
get him crowder had
to be informed of the results*

Computer Ref. W-1401

Date March 19, 1982

297 (2)

TO: J. E. Midkiff, Trlr. 5583 (511)

cc: L. R. Noble, 511-2149
R. F. Painter, 511-5583
R. E. Peele, 701-334

R. G. Rowe, M.D., 791
W. T. Shelton, 704 Shop
E. C. Shipley, 511-2009

PERSON MONITORED Warren Abbot, Paul Crowder, and Dave Shamblin

Location Building 701-100 Date 02/16/82

EXPOSURE RESULTS

Sample No.	Conc.	Sampling Time	Comments
1	1.16 fibers/cc	50 Mins.	Personal sample - Warren Abbot (Construc.) 1105-1155 hours (morning)
2	0.09 fibers/cc	150 Mins.	Personal sample - Warren Abbot (Construc.) 1305-1535 hours (afternoon)
3	4.4 fibers/cc	50 Mins.	Personal sample - Paul Crowder (Construc.) 1105-1155 hours (morning)
4	0.14 fibers/cc	150 Mins.	Personal sample - Paul Crowder (Construc.) 1305-1535 hours (afternoon)
5	1.07 fibers/cc	50 Mins.	Personal sample - Dave Shamblin (Insulat) 1105-1155 hours (morning)
6	0.27 fibers/cc	115 Mins.	Personal sample - Dave Shamblin (Insulat) 1305-1500 hours (afternoon)



297(4)

INDUSTRIAL HYGIENE MONITORING FOR

ASBESTOS

P. 2 of 2

Computer Ref. W-1401Date March 19, 1982

TO:

See Page 1

cc:

PERSON MONITORED Area SampleLocation Building 701-100Date 02/16/82

EXPOSURE RESULTS

Sample No.	Conc.	Sampling Time	Comments
7	1.32 fibers/cc	47 Mins.	Area sample - North end Room 100 1108-1155 hours (morning)
8	0.37 fibers/cc	143 Mins.	Area sample - North end Room 100 1310-1533 hours (afternoon)
9	1.35 fibers/cc	47 Mins.	Area sample - South end Room 100 1108-1155 hours (morning)
10	0.56 fibers/cc	143 Mins.	Area sample - South end Room 100 1310-1533 hours (afternoon)

Time-Weighted Average Concentration (TWA) Not enough sampling time to determine TWA

Ceiling Concentration -

ALLOWABLE EXPOSURE (8-Hour Shift)

TWA 2 Fibers/cc X OSHA UCC Other

Ceiling - OSHA UCC Other

COMMENTS

Two Construction workers and one insulator were monitored for exposure to asbestos fibers during an insulation cleanup operation in Building 701-100. The insulator worked on stripping old insulation from a small section of steam line while the two Construction workers vacuumed old insulation particles and dust from the tops of the fume hoods, the ceiling, duct work, walls, and instrument panels. All workers wore gloves, coveralls, shoe covers, safety goggles, and fresh air masks. Workers were monitored during the entire work period. Please report results to employees.

WORK BY

Mario F. Stowers
Mario F. Stowers

APPROVED BY

Manhar A. Patel
Manhar A. Patel

UCC 016619



File Asbestos-193
297(5)

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: J. E. Midkiff, Trlr. 5583 (511)

Computer Ref. W-1402
Date March 19, 1982

cc: L. R. Noble, 511-2149
R. F. Painter, 511-5583
R. E. Peele, 701-334

R. G. Rowe, M.D., 791
W. T. Shelton, 704 Shop
E. C. Shipley, 511-2009

PERSON MONITORED Warren Abbot
Location Building 701-100 Date 02/17/82

EXPOSURE RESULTS

Sample No.	Conc.	Sampling Time	Comments
1	0.13 fibers/cc	190 Mins.	Personal sample - Warren Abbot (Construction) 0820-1130 hrs. - morning
2	0.04 fibers/cc	140 Mins.	Personal sample - Warren Abbot (Construction) 1310-1530 hrs. - afternoon
3	0.03 fibers/cc	183 Mins.	Area sample - North end Room 100 0822-1125 hrs. - morning
4	0.01 fibers/cc	136 Mins.	Area sample - North end Room 100 1316-1532 hrs. - afternoon
5	0.10 fibers/cc	183 Mins.	Area sample - South end Room 100 0822-1125 hrs. - morning
6	0.02 fibers/cc	136 Mins.	Area sample - South end Room 100 1316-1532 hrs. - afternoon

Time-Weighted Average Concentration (TWA) 0.06 fibers/cc
Ceiling Concentration -

ALLOWABLE EXPOSURE (8-Hour Shift)

TWA 2 Fibers/cc X OSHA UCC Other
Ceiling OSHA UCC Other

COMMENTS

Construction worker monitored for exposure to asbestos fibers while performing cleanup operation of old insulation and dust in Building 701-100. Insulation and dust particles were collected by means of a vacuum cleaner. Worker wore gloves, coveralls, shoe covers, safety goggles, and a fresh air mask. Monitoring done during entire work period. Time-weighted average computed based on results of personal exposure over the entire day. Please notify employee of results.

WORK BY Mario F. Stowers
Mario F. Stowers

APPROVED BY Manhar A. Patel
Manhar A. Patel



2070

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: J. E. Midkiff, 511-5583 (Trlr)

Computer Ref. W-1405

Date March 19, 1982

cc: L. R. Noble, 511-2149
R. F. Painter, 511-5583
R. E. Peele, 701-334

R. G. Rowe, M.D., 791
W. T. Shelton, 704 Shop
E. C. Shipley, 511-2009

PERSON MONITORED Paul Crowder

Location Building 701-100 Date 02/17/82

EXPOSURE RESULTS

Sample No.	Conc.	Sampling Time	Comments
1	0.11 fibers/cc	190 Mins.	Personal sample - Paul Crowder (Construction) 0820-1130 hrs - morning
2	0.08 fibers/cc	140 Mins.	Personal sample - Paul Crowder (Construction) 1310-1530 hrs. - afternoon
3			
4			
5			
6			

Time-Weighted Average Concentration (TWA) 0.09 fibers/cc

Ceiling Concentration -

ALLOWABLE EXPOSURE

TWA 2 Fibers/cc X OSHA UCC Other
Ceiling UCC Other

COMMENTS

Construction worker monitored for exposure to asbestos fibers while performing cleanup operation of old insulation and dust in Building 701-100. Insulation and dust particles were collected by means of a vacuum cleaner. Worker wore gloves, coveralls, shoe covers, safety goggles, and a fresh air mask. Monitoring done during entire work period.

WORK BY Mario F. Stowers
Mario F. Stowers

APPROVED BY Manhar A. Patel
Manhar A. Patel

BUSINESS
CONFIDENTIAL

297(1)

INDUSTRIAL HYGIENE MONITORING FOR

ASBESTOS

TO: W. T. Shelton, 704 Shop

Computer Ref. W-1274

Date Feb. 1, 1982

cc: B. H. Avashia, M.D., 23-512
J. R. Hall, 8745-514
L. R. Noble, 511-2149
M. A. Patel, 701-330

D. R. Paugh, 511-2009
R. E. Peele, 701-334
R. G. Rowe, M.D., 791

PERSON MONITORED W. G. Wheeler

Location 704 Powerhouse

Date 1/26/82

EXPOSURE RESULTS

Sample No.	Conc.	Sampling Time	Comments
1	3.6 fibers >5 $\mu\text{m}/\text{cc}$	28 Minutes	Personal sample
2			
3			
4			
5			
6			

Time-Weighted Average Concentration (TWA)

-

Ceiling Concentration

-

ALLOWABLE EXPOSURE

TWA 2 fibers >5 $\mu\text{m}/\text{cc}$

X OSHA

UCC

Other

Ceiling

-

OSHA

UCC

Other

COMMENTS

Personal samples were collected while Mr. Agosti and Mr. Wheeler were stripping insulation from aerator and connecting lines on the second level in 704 Powerhouse. The levels of asbestos fibers found were in excess of OSHA standard of 2 fibers <5 $\mu\text{m}/\text{cc}$. We recommend the insulators continue to wear protective clothing, respirators, gloves and the area to be stripped wet down. Please inform IH Department of the next stripping job in this area and inform concerned employees of their exposure.

WORK BY

Mark E. Bell
M.E. Bell

APPROVED BY

G.W. Bott
G. W. Bott

UCC 016622



BUSINESS
CONFIDENTIAL

INDUSTRIAL HYGIENE MONITORING FOR

ASBESTOS

Copy To 297(2)
C.E. Richardson
2/4/82

Computer Ref. W-1274

Date Feb. 1, 1982

TO: W. T. Shelton, 704 Shop

cc: B. H. Avashia, M.D., 23-512
J. R. Hall, 8745-514
L. R. Noble, 511-2149
M. A. Patel, 701-330

D. R. Paugh, 511-2009
R. E. Peele, 701-334
R. G. Rowe, M.D., 791

PERSON MONITORED P. J. Agosti

Location 704 Powerhouse Date 1/26/82

EXPOSURE RESULTS

Sample No.	Conc.	Sampling Time	Comments
1	3.08 fibers >5 $\mu\text{m}/\text{cc}$	26 Minutes	Personal sample
2			
3			
4			
5			
6			

Time-Weighted Average Concentration (TWA) -

Ceiling Concentration -

ALLOWABLE EXPOSURE

TWA 2 fibers > 5 $\mu\text{m}/\text{cc}$ ☒ OSHA ☐ UCC ☐ Other
Ceiling - ☐ OSHA ☐ UCC ☐ Other

COMMENTS

Personal samples were collected while Mr. Agosti and Mr. Wheeler were stripping insulation from aerator and connecting lines on the second level in 704 Powerhouse. The levels of asbestos fibers found were in excess of OSHA standard of 2 fibers >5 $\mu\text{m}/\text{cc}$. We recommend the insulators continue to wear protective clothing, respirators, gloves and the area to be stripped wet down. Please inform IH Department of the next stripping job in this area and inform concerned employees of their exposure.

WORK BY

Mark E. Bell

M. E. Bell

APPROVED BY

G. W. Bott

G. W. Bott

UCC 016623



2900

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: R. F. Painter, Trlr. 5583

Computer Ref. W1167
04/22/81CC: C. W. Carman, 725-105 R. E. Peele, 701-334 E. J. Tawney, Trlr. 558
L. R. Noble, 511-2149 H. L. Robinson, 701-401
D. R. Paugh, 511-2009 E. C. Shipley, 511-2009PERSON MONITORED J. F. ChandlerLocation West end - Bldg. 773 Date 04/20/81
Outside at tank pad

EXPOSURE RESULTS

	Conc.	Sampling Time	Comments
Sample 1	fibers > 5 <.1 $\mu\text{m}/\text{cm}^3$	78 minutes	A.M. - Stripping
2	fibers > 5 <.1 $\mu\text{m}/\text{cm}^3$	125 minutes	P.M. - Stripping, bagging and cleanup
3			
4			
5			
6			

Time-Weighted Average Concentration (TWA) <.1 Fiber > 5 $\mu\text{m}/\text{cm}^3$
Ceiling Concentration _____

ALLOWABLE EXPOSURE

TWA 2 Fibers > 5 $\mu\text{m}/\text{cm}^3$ OSHA UCC Other
Ceiling _____ OSHA UCC Other

COMMENTS

Insulator monitored while stripping approximately 100 feet of 1-1/2" pipe of suspected asbestos containing insulation. He wore coveralls and a disposable Norton dust respirator. The insulation was properly bagged and tagged for disposal at the landfill.

WORK BY Ruth CliseAPPROVED BY Marion A. Paul



BUSINESS
CONFIDENTIAL

290(2)

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: R. F. Painter, Trlr. 5583

Computer Ref. W1167
04/22/81

CC: C. W. Carman, 725-105 R. E. Peele, 701-334 E. J. Tawney, Trlr. 55
L. R. Noble, 511-2149 H. L. Robinson, 701-401
D. R. Paugh, 511-2009 E. C. Shipley, 511-2009

PERSON MONITORED D. C. Shamblin

Location West end - Bldg. 773 Date 04/20/81
Outside at tank pad

EXPOSURE RESULTS

	Conc.	Sampling Time	Comments
Sample 1	fibers > 5 .1 $\mu\text{m}/\text{cm}^3$	85 minutes	A.M. - Stripping
2	fibers > 5 .2 $\mu\text{m}/\text{cm}^3$	123 minutes	P.M. - Stripping, bagging and cleanup
3			
4			
5			
6			

Time-Weighted Average Concentration (TWA) .1 Fiber > 5 $\mu\text{m}/\text{cm}^3$
Ceiling Concentration _____

ALLOWABLE EXPOSURE

TWA 2 Fibers > 5 $\mu\text{m}/\text{cm}^3$ OSHA UCC Other
Ceiling _____ OSHA UCC Other

COMMENTS

Insulator monitored while stripping approximately 100 feet of 1-1/2" pipe of suspected asbestos containing insulation. He wore coveralls and a disposable Norton dust respirator. The insulation was properly bagged and tagged for disposal at the landfill.

WORK BY

Ruth Clise

APPROVED BY

Manish A. Patel



BUSINESS
CONFIDENTIAL

File Release -1981
290(3)

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: R. F. Painter, Trlr. 5583

Computer Ref. W-1198

Date July 17, 1981

cc: C. W. Carman, 725-105
L. R. Noble, 511-2149
D. R. Paugh, 511-2009
R. E. Peele, 701-334

H. L. Robinson, 701-401
E. C. Shipley, 511-2009
E. J. Tawney, Trlr. 5583

PERSON MONITORED J. F. Chandler

Location West end Bldg. 774 behind Date 07/10/81
parking lot to south end of parking lot

EXPOSURE RESULTS

Sample No.	Conc.	Sampling Time	Comments
1	fibers >5 .4 $\mu\text{m}/\text{cm}^3$	160 Minutes	A.M. sample - stripping insulation
2	fibers >5 .1 $\mu\text{m}/\text{cm}^3$	164 Minutes	P.M. sample - stripping insulation
3			
4			
5			
6			

Time-Weighted Average Concentration (TWA) _____

Ceiling Concentration _____

ALLOWABLE EXPOSURE

TWA 2 fibers >5 $\mu\text{m}/\text{cm}^3$ X OSHA UCC Other
Ceiling OSHA UCC Other

COMMENTS

Stripping approximately 450 feet of 4-inch steam line which had been turned off so the line could cool.

WORK BY

Ruth Clise
Ruth Clise

APPROVED BY

Manhar A. Patel
Manhar A. Patel

UCC 016626



290(4)

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: R. F. Painter, Trlr. 5583

Computer Ref. W-1198Date July 17, 1981

cc: C. W. Carman, 725-105
L. R. Noble, 511-2149
D. R. Paugh, 511-2009
R. E. Peele, 701-334

H. L. Robinson, 701-401
E. C. Shipley, 511-2009
E. J. Tawney, Trlr. 5583

PERSON MONITORED M. D. Coleman

Location West end of Bldg. 774, behind Date 07/10/81
the parking lot to south end of
parking lot

EXPOSURE RESULTS

Sample No.	Conc.	Sampling Time	Comments
1	fibers .3 >5 $\mu\text{m}/\text{cm}^3$	159 Minutes	A.M. - bagging stripped insulation
2	fibers .3 >5 $\mu\text{m}/\text{cm}^3$	152 Minutes	P.M. - bagging stripped insulation
3			
4			
5			
6			

Time-Weighted Average Concentration (TWA) _____

Ceiling Concentration _____

ALLOWABLE EXPOSURE

TWA 2 fibers >5 $\mu\text{m}/\text{cm}^3$ X OSHA UCC Other
Ceiling OSHA UCC Other

COMMENTS

WORK BY

Ruth Clise
Ruth Clise

APPROVED BY

Manhar A. Patel
Manhar A. Patel

UCC 016627



BUSINESS
CONFIDENTIAL

2018

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: R. F. Painter, Trlr. 5583

Computer Ref. W-1198

Date July 17, 1981

cc: C. W. Carman, 725-105
L. R. Noble, 511-2149
D. R. Paugh, 511-2009
R. E. Peele, 701-334

H. L. Robinson, 701-401
E. C. Shipley, 511-2009
E. J. Tawney, Trlr. 5583

PERSON MONITORED B. J. Agosti

Location West end Bldg. 774 behind Date 07/10/81
parking lot to south end of
parking lot

EXPOSURE RESULTS

Sample No.	Conc.	Sampling Time	Comments
1	fibers .5 >5 $\mu\text{m}/\text{cm}^3$	149 Minutes	A.M. - stripping insulation
2	fibers .4 >5 $\mu\text{m}/\text{cm}^3$	156 Minutes	P.M. - stripping insulation
3			
4			
5			
6			

Time-Weighted Average Concentration (TWA) _____

Ceiling Concentration _____

ALLOWABLE EXPOSURE

TWA 2 fibers >5 $\mu\text{m}/\text{cm}^3$ X OSHA UCC Other
Ceiling OSHA UCC Other

COMMENTS

WORK BY

Ruth Clise

Ruth Clise

APPROVED BY

Manhar A. Patel

Manhar A. Patel

UCC 016628



BUSINESS
CONFIDENTIAL

2906

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: R. F. Painter, Trlr. 5583

Computer Ref. W-1198

Date July 17, 1981

cc: C. W. Carman, 725-105
L. R. Noble, 511-2149
D. R. Paugh, 511-2009
R. E. Peele, 701-334

H. L. Robinson, 701-401
E. C. Shipley, 511-2009
E. J. Tawney, Trlr. 5583

PERSON MONITORED R. E. Templeton

Location West end Bldg. 774 behind Date 07/10/81
parking lot to south end of
parking lot

EXPOSURE RESULTS

Sample No.	Conc.	Sampling Time	Comments
1	fibers .2 >5 $\mu\text{m}/\text{cm}^3$	148 Minutes	A.M. - bagging insulation
2	fibers .2 >5 $\mu\text{m}/\text{cm}^3$	155 Minutes	P.M. - bagging insulation
3			
4			
5			
6			

Time-Weighted Average Concentration (TWA) _____

Ceiling Concentration _____

ALLOWABLE EXPOSURE

TWA 2 fibers >5 $\mu\text{m}/\text{cm}^3$

X OSHA

 UCC

 Other

Ceiling

 OSHA

 UCC

 Other

COMMENTS

WORK BY

Ruth Clise

Ruth Clise

APPROVED BY

Manhar A. Patel

UCC 016629



INTERNAL
CORRESPONDENCE

UNION CARBIDE CORPORATION TECHNICAL CENTER

P.O. BOX 8361, SOUTH CHARLESTON, WV 25303

To (Name) W. L. Browning
Division J. W. Perry, Jr.
Location Institute Plant
Area

Date October 23, 1981

Originating Dept. IH/EP

Area

Copy to C. W. Carman
M. L. Mills
L. R. Noble
D. R. Paugh
R. E. Peele
H. H. Frazier
R. J. Sexton, M.D.
F. Williams

Subject Asbestos Monitoring in Gasket
Shop, 512 Construction

Gentlemen:

In my letter of October 20, 1981, concerning asbestos monitoring in the Gasket Shop - 512 Construction, an error was made due to misinterpretation of the data we received from the 512 Industrial Hygiene group. Please replace the letter dated October 20, 1981 from your file with the one attached to this note.

Very truly yours,

Manhar A. Patel

MAP/sc

Attachment



INTERNAL
CORRESPONDENCE

UNION CARBIDE CORPORATION TECHNICAL CENTER
P.O. BOX 8361, SOUTH CHARLESTON, WV 25303

To (Name) W. L. Browning
Division J. W. Perry, Jr.
Location Institute Plant
Area

Date October 23, 1981

Originating Dept. IH/EP

Area

Copy to C. W. Carman
M. L. Mills
L. R. Noble
D. R. Paugh
R. E. Peele
H. H. Frazier
R. J. Sexton, M.D.
F. Williams

Subject Asbestos Monitoring in Gasket Shop, 512 Construction

(Replaces letter of October 20, 1981 - front page only.)

Gentlemen:

Attached are the results of the area and personal exposure monitoring done for asbestos in the Gasket Shop - laundry, Building 3 of the Construction Department, Institute Plant. This monitoring was done by the Institute Plant Industrial Hygiene group on October 2, and 9, 1981.

The gasket cutting is done infrequently and it would generally last for a short period of time. The results of the survey indicate that the asbestos exposure in excess of the permissible limit of 2 fibers per centimeter cube of air did not occur.

The workers did not wear a respiratory protective device while working with the gasket material. It is emphasized that all workers wear a disposable 3M #8710 dust respirator which is approved by NIOSH for protection from asbestos exposure. Please notify the monitored workers of their exposure results.

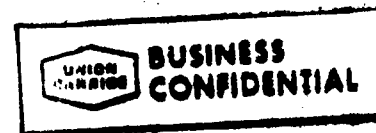
If I can be of further assistance, please give me a call at extension 3750.

Very truly yours,

Manhar A. Patel
Manhar A. Patel

MAP/sc
Attachment

UCC 016631

ASBESTOS MONITORING CONSTRUCTION GASKET SHOPINSTITUTE PLANT

<u>#</u>	<u>Name/Area Monitored</u>	<u>Date</u>	<u>Sampling Time Minutes</u>	<u>Asbestos Conc. Fibers >5 $\mu\text{m}/\text{cm}^3$</u>
1	F. M. Hatfield	10/2/81	18	< 0.1
2	3 Feet from cutting blade	10/2/81	17	< 0.1
3	F. M. Hatfield	10/9/81	15	0.4
4	3 Feet from cutting blade	10/9/81	15	0.2



INTERNAL
CORRESPONDENCE

File Asbestos Monitoring
29089

UNION CARBIDE CORPORATION TECHNICAL CENTER

P.O. BOX 8361, SOUTH CHARLESTON, WV 25303

To (Name) W. L. Browning
Division J. W. Perry, Jr.
Location Institute Plant
Area

Date October 20, 1981

Originating Dept IH/EP

Area

Ccy, to C. W. Carman
M. L. Mills
L. R. Noble
D. R. Paugh
R. E. Peele
H. H. Frazier
R. J. Sexton, M.D.
F. Williams

Subject Asbestos Monitoring in Gasket Shop, 512 Construction

Gentlemen:

Attached are the results of the area and personal exposure monitoring done for asbestos in the Gasket Shop - laundry, Building 3 of the Construction Department, Institute Plant. This monitoring was done by the Institute Plant Industrial Hygiene group on October 2, and 9, 1981.

The gasket cutting is done infrequently and it would generally last for a short period of time. The results of the survey indicate that the asbestos exposure in excess of the permissible limit of 2 fibers per centimeter cube of air did not occur.

The workers wore a respiratory protective device while working with the gasket material. It is emphasized that all workers continue to follow this practice while working in the area during gasket cutting. Please notify the monitored workers of their exposure results.

If I can be of further assistance, please give me a call at extension 3750.

Very truly yours,

Manhar A. Patel

Manhar A. Patel

MAP/sc

Attachment

UCC 016633

ASBESTOS MONITORING CONSTRUCTION GASKET SHOP

INSTITUTE PLANT

<u>#</u>	<u>Name/Area Monitored</u>	<u>Date</u>	<u>Sampling Time Minutes</u>	<u>Asbestos Conc. Fibers >5 $\mu\text{m}/\text{cm}^3$</u>
1	F. M. Hatfield	10/2/81	18	< 0.1
2	3 Feet from cutting blade	10/2/81	17	< 0.1
3	F. M. Hatfield	10/9/81	15	0.4
4	3 Feet from cutting blade	10/9/81	15	0.2

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS2910
File: 4305705
MONITOR

TO: R. F. Painter, 5583 (511)

Computer Ref. 1064CC: C. W. Carman, 725-105
D. H. Cook, 5583 (511)
G. F. Hurley, 701-334L. R. Noble, 511-2149
D. R. Paugh, 511-2009
H. L. Robinson, 701-401
E. C. Shipley, 5PERSON MONITORED D. C. ShamblinLocation Basement of Bldg. 789 Date 7/3/80
(Cooling Tower)

EXPOSURE RESULTS

	Conc.	Sampling Time	Comments
Sample 1	fibers > 5 .7 $\mu\text{m}/\text{cm}^3$	108 minutes	A.M. Sample - Stripping Insulation
2			
3	*		P.M. Sample - Stripping Insulation
4			
5			
6			

Time-Weighted Average Concentration (TWA) Not Calculated
Ceiling Concentration

ALLOWABLE EXPOSURE

TWA 2 fibers > 5 $\mu\text{m}/\text{cm}^3$ OSHA UCC Other
Ceiling OSHA UCC Other

COMMENTS

Because part of the insulation being stripped was believed to contain asbestos, the workers in the area still are required to wear disposable dust masks and keep the insulation to be stripped well wetted. Barricades and signs must be present to warn others in the area of the potential hazard. In the future, when there is doubt about the insulation containing asbestos, either full precautions for handling asbestos will be observed or a sample of the insulation will be tested for asbestos content prior to starting the job.

WORK BY Ruth CliseAPPROVED BY G. F. Hurley

*The P.M. sample could not be analyzed because it got wet.

UCC 016635

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: R. F. Painter, 5583 (511)

Computer Ref. 1064

CC: C. W. Carman, 725-105

~~L. R. Noble, 511-2149~~

E. C. Shipley, 512

D. H. Cook, 5583 (511)

D. R. Paugh, 511-2009

G. F. Hurley, 701-334

H. L. Robinson, 701-401

PERSON MONITORED

C. MillerLocation Basement of Bldg. 789 Date 7/3/80
(Cooling Tower)

EXPOSURE RESULTS

	Conc.	Sampling Time	Comments
Sample 1	^{fibers > 5} .3 $\mu\text{m}/\text{cm}^3$	108 minutes	A.M. Sample - Stripping Insulation
2			
3	*		P.M. Sample - Stripping Insulation
4			
5			
6			

Time-Weighted Average Concentration (TWA) Not Calculated
Ceiling Concentration

ALLOWABLE EXPOSURE

TWA 2 fibers > 5 $\mu\text{m}/\text{cm}^3$
Ceiling OSHA
OSHA

UCC

UCC

Other

Other

COMMENTS

Because part of the insulation being stripped was believed to contain asbestos, the workers in the area still are required to wear disposable dust masks and keep the insulation to be stripped well wetted. Barricades and signs must be present to warn others in the area of the potential hazard. In the future, when there is doubt about the insulation containing asbestos, either full precautions for handling asbestos will be observed or a sample of the insulation will be tested for asbestos content prior to starting the job.

WORK BY

Ruth Clise

APPROVED BY

G. F. Hurley

*The P.M. sample could not be analyzed because it got wet.

UCC 016636

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: R. F. Painter, 5583 (511)

Computer Ref. 1064

CC: C. W. Carman, 725-105 L. R. Noble, 511-2149 E. C. Shipley, 512
D. H. Cook, 5583 (511) D. R. Paugh, 511-2009
G. F. Hurley, 701-334 H. L. Robinson, 701-401

PERSON MONITORED R. R. Burgess

Location Basement of Bldg. 789 Date 7/3/80
(Cooling Tower)

EXPOSURE RESULTS

	Conc.	Sampling Time	Comments
Sample 1	fibers > 5 .3 $\mu\text{m}/\text{cm}^3$	90 minutes	A.M. Sample - Bagging Stripped Insulation
2			
3	*		P.M. Sample - Bagging Stripped Insulation
4			
5			
6			

Time-Weighted Average Concentration (TWA) Not Calculated
Ceiling Concentration

ALLOWABLE EXPOSURE

TWA 2 fibers > 5 $\mu\text{m}/\text{cm}^3$ OSHA UCC Other
Ceiling OSHA UCC Other

COMMENTS

Because part of the insulation being stripped was believed to contain asbestos, the workers in the area still are required to wear disposable dust masks and keep the insulation to be stripped well wetted. Barricades and signs must be present to warn others in the area of the potential hazard. In the future, when there is doubt about the insulation containing asbestos, either full precautions for handling asbestos will be observed or a sample of the insulation will be tested for asbestos content prior to starting the job.

WORK BY Ruth CliseAPPROVED BY G. F. Hurley

*The P.M. sample could not be analyzed because it got wet.

UCC 016637

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: R. F. Painter, 5583 (511)

Computer Ref. W-1078

CC: C. W. Carman, 725-105 D. R. Paugh, 511-2009 E. J. Tawney, 5583
G. F. Hurley, 701-334 H. L. Robinson, 701-401
L. R. Noble, 511-2149 E. C. Shipley, 511-2009

PERSON MONITORED R. E. Templeton

Location Bldg. 777 - Between eastern date 8/25/80
of ACR Unit and Dewatering Shed
on second level of elevator shaft

EXPOSURE RESULTS

	Conc.	Sampling Time	Comments
Sample 1	0.2 ^{fibers > 5} $\mu\text{m}/\text{cm}^3$	68 minutes	A.M. Sample - Bagging
2	<0.1 "	73 minutes	Insulation
3			P.M. Sample - Bagging
4			insulation and
5			cleaning area
6			

Time-Weighted Average Concentration (TWA) <0.1 fibers > 5 $\mu\text{m}/\text{cm}^3$
Ceiling Concentration _____

ALLOWABLE EXPOSURE

TWA 2 fibers > 5 $\mu\text{m}/\text{cm}^3$ OSHA UCC Other
Ceiling _____ OSHA UCC Other

COMMENTS

Stripping was done outside and it was very well wetted by rain.

WORK BY

Ruth Clise

APPROVED BY

George Hurley

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: R. F. Painter, 5583 (511)

Computer Ref. W-1078

CC: C. W. Carman, 725-105 D. R. Paugh, 511-2009 E. J. Tawney, 5583
G. F. Hurley, 701-334 H. L. Robinson, 701-401
L. R. Noble, 511-2149 E. C. Shipley, 511-2009

PERSON MONITORED D. C. Shamblin

Location Bldg. 777 - Between eastern Date 8/25/80
of ACR Unit and Dewatering Shed
EXPOSURE RESULTS on second level of elevator shaft

	Conc.	Sampling Time	Comments
Sample 1	fibers > 5 0.1 $\mu\text{m}/\text{cm}^3$	71 minutes	A.M. - Stripping insulation
2	0.2 "	64 minutes	P.M. - Stripping insulation
3			
4			
5			
6			

Time-Weighted Average Concentration (TWA) <0.1 fibers >5 $\mu\text{m}/\text{cm}^3$
Ceiling Concentration _____

ALLOWABLE EXPOSURE

TWA 2 fibers > 5 $\mu\text{m}/\text{cm}^3$ OSHA UCC Other
Ceiling _____ OSHA UCC Other

COMMENTS

Stripping was done outside and it was very well wetted by rain.

WORK BY

Ruth Clise

APPROVED BY

George Hurley

UCC 016638A

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: R. F. Painter, 5583 (511)

Computer Ref. W-1078

CC: C. W. Carman, 725-105 D. R. Paugh, 511-2009 E. J. Tawney, 5583
G. F. Hurley, 701-334 H. L. Robinson, 701-401
L. R. Noble, 511-2149 E. C. Shipley, 511-2009

PERSON MONITORED C. MillerLocation Bldg. 777 - Between east end Date 8/25/80of ACR Unit and Dewatering ShedEXPOSURE RESULTS on second level of elevator shaft

	Conc.	Sampling Time	Comments
Sample 1	fibers >5 0.1 $\mu\text{m}/\text{cm}^3$	74 minutes	A.M. Sample - Stripping
2	<0.1 "	63 minutes	Insulation P.M. Sample - Stripping
3			Insulation
4			
5			
6			

Time-Weighted Average Concentration (TWA) <0.1 fibers >5 $\mu\text{m}/\text{cm}^3$
Ceiling Concentration _____

ALLOWABLE EXPOSURE

TWA 2 fibers >5 $\mu\text{m}/\text{cm}^3$ OSHA UCC Other
Ceiling _____ OSHA UCC Other

COMMENTS

Stripping was done outside and it was very well wetted by rain.

WORK BY

Ruth Clise

APPROVED BY

George Hurley

UCC 016639

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOSTO: R. F. Painter, Trlr. 5583
511Computer Ref. W-1076CC: C. W. Carman, 725-105 D. R. Paugh, 511-2009 E. J. Tawney, 5583
G. F. Hurley, 701-334 H. L. Robinson, 701-401 R. G. Rowe, M.D., 75
L. R. Noble, 511-2149 E. C. Shipley, 511-2009PERSON MONITORED R. E. TempletonLocation Bldg. 777 - Room 111 Date 8/19/80

EXPOSURE RESULTS

	Conc.	Sampling Time	Comments
Sample 1	10.1 5 $\mu\text{m}/\text{cm}^3$ fibers	118 minutes	P.M. - Wetting and bagging
2			insulation and cleaning
3			up area
4			
5			
6			

Time-Weighted Average Concentration (TWA) 2.5 fibers > 5 $\mu\text{m}/\text{cm}^3$
Ceiling Concentration _____

ALLOWABLE EXPOSURE

TWA 2 fibers > 5 $\mu\text{m}/\text{cm}^3$ OSHA UCC Other
Ceiling _____ OSHA UCC Other

COMMENTS

Even though the workers had been advised to keep the insulation well wetted, it didn't appear as if they had done so.

WORK BY

Ruth Chise

APPROVED BY

George Hurley

UCC 016640

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOSTO: R. F. Painter, Trlr. 5583
511Computer Ref. W-1075CC: C. W. Carman, 725-105 D. R. Paugh, 511-2009 E. J. Tawney, 5583
G. F. Hurley, 701-334 H. L. Robinson, 701-401 R. G. Rowe, M.D.,
L. R. Noble, 511-2149 E. C. Shipley, 511-2009PERSON MONITORED R. E. TempletonLocation Bldg. 777 - Room 111 Date 8/18/80

EXPOSURE RESULTS

	Conc.	Sampling Time	Comments
Sample 1	6.3 ^{fibers} $5 \mu\text{m}/\text{cm}^3$	42 minutes	A.M. - Wetting and bagging insulation
2			
3	3.9 "	149 minutes	P.M. - Wetting and bagging insulation and cleaning up area
4			
5			
6			

Time-Weighted Average Concentration (TWA) 2.8 fibers > 5 $\mu\text{m}/\text{cm}^3$
Ceiling Concentration _____

ALLOWABLE EXPOSURE

TWA 2 fibers > 5 $\mu\text{m}/\text{cm}^3$ OSHA UCC Other
Ceiling _____ OSHA UCC Other

COMMENTS

More water needs to be used in keeping the insulation wetted. Disposable dust respirators should be worn while in the stripping area and until the cleanup is completed.

WORK BY

Ruth Clise

APPROVED BY

George Hurley

File

B. E. Bess, 514
P. W. Young, 512

September 12, 1980

IH/EP

Asbestos Exposure Monitoring

L. R. Noble, 512
H. L. Robinson, 511
E. C. Shipley, 512
F. Williams, 512

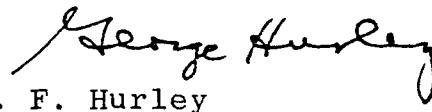
Gentlemen:

Asbestos monitoring in the SEVIN operations area on September 3, 1980 showed an air concentration of 0.1 fiber per cc which is well below the present OSHA standard.

Six samples of breathing zone air were taken on Messrs. D. R. Smith, J. F. Sampson and P. D. Coyner. Due to an error in analytical procedure only one valid sample, that for Mr. Smith, was obtained. Since all the recommended procedures for stripping asbestos-containing insulation were followed it is felt that the 0.1 result obtained represents the breathing air concentration in the ambient air.

Please give the people sampled the results. The actual sampling was done by members of Fred William's Industrial Hygiene group at Institute.

Very truly yours,


G. F. Hurley

GFH/sc

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOSTO: R. F. Painter, Trlr. 5583
511Computer Ref. W-1076CC: C. W. Carman, 725-105 D. R. Paugh, 511-2009 E. J. Tawney, 5583
G. F. Hurley, 701-334 H. L. Robinson, 701-401 R. G. Rowe, M.D.,
L. R. Noble, 511-2149 E. C. Shipley, 511-2009PERSON MONITORED D. C. ShamblinLocation Bldg. 777 - Room 111 Date 8/19/80

EXPOSURE RESULTS

	Conc.	Sampling Time	Comments
Sample 1	14.4 5 $\mu\text{m}/\text{cm}^3$ fibers >	125 minutes	P.M. Stripping insulation and cleanup of area.
2			
3			
4			
5			
6			

Time-Weighted Average Concentration (TWA) 3.8 fibers > 5 $\mu\text{m}/\text{cm}^3$
Ceiling Concentration _____

ALLOWABLE EXPOSURE

TWA 2 fibers > 5 $\mu\text{m}/\text{cm}^3$ OSHA UCC Other
Ceiling _____ OSHA UCC Other

COMMENTS

The concentration of fibers was as great the second day even though the men had been advised to keep the insulation well watered.

WORK BY

Ruth Clise

APPROVED BY

George Hurley

UCC 016643

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOSTO: R. F. Painter, Trlr. 5583
511Computer Ref. W-1075

CC: C. W. Carman, 725-105

D. R. Paugh, 511-2009

E. J. Tawney, 5

G. F. Hurley, 701-334

H. L. Robinson, 701-401

R. G. Rowe, M.I

L. R. Noble, 511-2149

E. C. Shipley, 511-2009

753

PERSON MONITORED D. C. ShamblinLocation Bldg. 777 - Room 111 Date 8/18/80

EXPOSURE RESULTS

	Conc.	Sampling Time	Comments
Sample 1	fibers > 15.4 5 $\mu\text{m}/\text{cm}^3$	41 minutes	A.M. Stripping insulation
2	11.3 "	149 minutes	P.M. Stripping insulation
3			and helping with cleaning of area
4			
5			
6			

Time-Weighted Average Concentration (TWA) 4.1 fibers > 5 $\mu\text{m}/\text{cm}^3$
Ceiling Concentration _____

ALLOWABLE EXPOSURE

TWA 2 fibers > 5 $\mu\text{m}/\text{cm}^3$ OSHA UCC Other
Ceiling _____ OSHA UCC Other

COMMENTS

More water should be used to wet the insulation before stripping. Those stripping and bagging should always wear their disposable dust respirator while in the area and until the cleanup is finished.

WORK BY Ruth CliseAPPROVED BY George Hurley



INTERNAL CORRESPONDENCE

Copy To : C.W. Carman
D.H. Johnson
12/7/81 R.S. Howell
C.S. Richards
HRC

AGRICULTURAL PRODUCTS COMPANY, INC.

P.O. BOX 2831, CHARLESTON, WEST VIRGINIA 25301

INSTITUTE PLANT

To (Name) Mr. G. F. Hurley
Division Building 701/334
Location Technical Center
Floor Number

Date January 5, 1981

Originating Dept. Industrial Hygiene

Floor Number

Copy to Mr. A. S. Howard
Mr. L. R. Noble ✓
Mr. H. L. Robinson
Dr. R. J. Sexton
Mr. E. C. Shipley
Mr. F. Williams

Answering letter date

Subject Asbestos Exposure Monitoring

Monitoring for personal exposure to asbestos at the No. 1 Steam Plant on December 12, 1980, showed a maximum airborne level of 4.1 fibers per cc of air.

Twelve 511 Construction insulators and laborers were measured for 15 minute sample periods over a time period of 150 minutes. Two results (see attached data sheet) were at or above the present OSHA standard of 2.0 fibers per cc of workplace air.

This monitoring occasion was scheduled during peak activity of demolition of asbestos material from No. 6 boiler at operating floor level. A minimum number of Plant 512 employees were in the area at the time work was in progress. The area was properly barricaded, signs in place and Construction employees involved in the demolition process wore MSA Dust Foe 77 or 3M Model 8710 dust masks. Material being demolished was generally wet down but some dust was generated from the interior surfaces. Laborers bagged the material for disposal as the project progressed.

This demolition of asbestos material was carried out according to acceptable guidelines and airborne material was maintained generally at permissible levels. Future jobs of similar nature need to be performed in a like manner and continued use of respiratory protection be required.

Please inform the above participating employees of their individual monitoring results.

H. H. Frazier

H. H. Frazier

HHF:mc
Attachment

UCC 016645

INDUSTRIAL HYGIENE SAMPLING

WORKPLACE LOCATION: No. 1 Steam Plant

BUILDING: 5

CONTAMINANT: Asbestos

OSHA TLV 2 f/cc

XXXX
ppm
XXXX

DATE: 12/29/80

NAME: J. L. Miller

Record Number	Sample Date	Sample Type/Name	Sample Time Min.	Results, ^{ppm} f/cc		Comments Location/Job Task
				Air Conc.	TWA ₈ *	
W-2306-7	12/12/80	G. W. Bradley, Jr.	15	0.4		Cleaning up asbestos insulation and loading it into plastic bags from the operating level floor.
W-2306-8	"	D. W. Price	15	0.1		"
W-2306-9	"	M. E. Drake	15	0.6		"
W-2306-10	"	S. L. Barnette	15	0.9		"
W-2306-11	"	G. D. White	15	1.5		"
W-2306-12	"	T. H. Hinzman, Sr.	15	<0.1		"
W-2305-1	12/12/80	G. H. Landers	15	4.1		Insulator, wetting down and removing insulation from No. 6 boiler at the operating level.
W-2305-2	"	M. L. Finney	15	0.1		"
W-2305-3	"	G. F. Sowards	15	0.8		"
W-2305-4	"	M. L. Wallace	15	2.0		"
W-2305-5	"	C. C. Bragg	15	<0.1		"
W-2305-6	"	R. M. Dunlap	15	0.3		"

*TWA₈ applicable to personal samples only.

UCC 016646

All Employees shall be notified of the monitoring results.

*File : MONITORING
ASBESTOS*

~~B. E. Bess, 514~~ *H. REVEAL*
~~P. W. Young, 512~~ *J. A. BYRD.*

September 12, 1980

IH/EP

Asbestos Exposure Monitoring

L. R. Noble, 512
H. L. Robinson, 511
E. C. Shipley, 512
F. Williams, 512

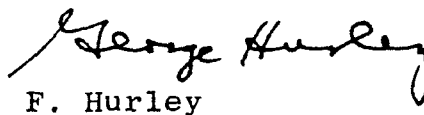
Gentlemen:

Asbestos monitoring in the SEVIN operations area on September 3, 1980 showed an air concentration of 0.1 fiber per cc which is well below the present OSHA standard.

Six samples of breathing zone air were taken on Messrs. D. R. Smith, J. F. Sampson and P. D. Coyner. Due to an error in analytical procedure only one valid sample, that for Mr. Smith, was obtained. Since all the recommended procedures for stripping asbestos-containing insulation were followed it is felt that the 0.1 result obtained represents the breathing air concentration in the ambient air.

Please give the people sampled the results. The actual sampling was done by members of Fred William's Industrial Hygiene group at Institute.

Very truly yours,


G. F. Hurley

GFH/sc

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: D. L. Johnson, 511-5518

Computer Ref. W-1040

CC: C. W. Carman, 725-105
G. F. Hurley, 701-334
C. R. Johnson, 511-2009
D. R. Paugh, 511-2009

P. A. Perry, 511-5583
~~E. R. Richardson, 511-2143~~
H. L. Robinson, 701-401
E. C. Shipley, 511-2009

PERSON MONITORED D. K. Naylor

Location #1 Powerhouse - Date 4/11/80
Institute

EXPOSURE RESULTS

	Conc.	Sampling Time	Comments
Sample 1	fibers .35 5 $\mu\text{m}/\text{cm}^3$	60 minutes	A.M. - Bagging insulation
2	fibers .81 5 $\mu\text{m}/\text{cm}^3$	105 minutes	A.M. - Bagging insulation
3	fibers .18 5 $\mu\text{m}/\text{cm}^3$	87 minutes	P.M. - Bagging insulation
4	fibers .06 5 $\mu\text{m}/\text{cm}^3$	49 minutes	P.M. - Bagging insulation and cleaning area
5			
6			

Time-Weighted Average Concentration (TWA) 0.3 fibers > 5 $\mu\text{m}/\text{cm}^3$
Ceiling Concentration _____

ALLOWABLE EXPOSURE

TWA 2 fibers > 5 $\mu\text{m}/\text{cm}^3$ OSHA UCC Other
Ceiling _____ OSHA UCC Other

COMMENTS

Bagging insulation that had been stripped from #2 boiler front and boiler front duct on second level of #1 Powerhouse at Institute. Mr. Naylor wore a disposable Norton dust respiratory and disposable coveralls during the bagging and cleanup. The insulation was placed in plastic bags for disposal and dropped from the second level to a truck below. At this point the full bags should be handled carefully. It is suggested that they could be lowered on a rope to prevent the bags from splitting.

WORK BY Ruth Clise

APPROVED BY G. F. Hurley

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: D. L. Johnson, 511-5518

Computer Ref. W-1040

CC: C. W. Carman, 725-105
G. F. Hurley, 701-334
C. R. Johnson, 511-2009
D. R. Paugh, 511-2009

P. A. Perry, 511-5583
~~E. C. Shipley, 511-2148~~
H. L. Robinson, 701-401
E. C. Shipley, 511-2009

PERSON MONITORED G. H. LandersLocation #1 Powerhouse - Institute Date 4/11/80

EXPOSURE RESULTS

	Conc.	Sampling Time	Comments
Sample 1	fibers > .35 5 $\mu\text{m}/\text{cm}^3$	60 minutes	A.M. - Stripping insulation
2	fibers > .42 5 $\mu\text{m}/\text{cm}^3$	105 minutes	A.M. - Stripping insulation
3	fibers > .09 5 $\mu\text{m}/\text{cm}^3$	80 minutes	P.M. - Stripping insulation
4	fibers > .65 5 $\mu\text{m}/\text{cm}^3$	38 minutes	P.M. - Stripping insulation and cleaning area.
5			
6			

Time-Weighted Average Concentration (TWA) 0.2 fibers > 5 $\mu\text{m}/\text{cm}^3$
Ceiling Concentration _____

ALLOWABLE EXPOSURE

TWA 2 fibers > 5 $\mu\text{m}/\text{cm}^3$ OSHA UCC Other
Ceiling _____ OSHA UCC Other

COMMENTS

Stripping suspected asbestos containing insulation from #2 boiler front and boiler front duct on second level of #1 Powerhouse at Institute. The last sample of the day was the highest concentration found. This may be attributed to the fact that they got in a hurry and didn't keep the insulation well-wetted. Mr. Landers wore a disposable Norton dust respirator, and disposable coveralls during the stripping.

WORK BY Ruth CliseAPPROVED BY G. Hurley

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: D. L. Johnson, 511-5518

Computer Ref. W-1041

CC: C. W. Carman, 725-105
G. F. Hurley, 701-334
C. R. Johnson, 511-2009
D. R. Paugh, 511-2009

P. A. Perry, 511-5583
~~C. E. Richardson, 511-2149~~
H. L. Robinson, 701-401
E. C. Shipley, 511-2009

PERSON MONITORED D. K. Milan

Location #1 Powerhouse - Institute Date 4/11/80

EXPOSURE RESULTS

	Conc.	Sampling Time	Comments
Sample 1	fibers > .69 5 $\mu\text{m}/\text{cm}^3$	68 minutes	P.M. - Stripping insulation
2	fibers > 2.72 5 $\mu\text{m}/\text{cm}^3$	27 minutes	P.M. - Stripping insulation
3			
4			
5			
6			

Time-Weighted Average Concentration (TWA) Not monitored long enough
Ceiling Concentration to calculate TWA.

ALLOWABLE EXPOSURE

TWA 2 fibers > 5 $\mu\text{m}/\text{cm}^3$ OSHA UCC Other
Ceiling OSHA UCC Other

COMMENTS

Stripping insulation from #2 boiler front and boiler front duct on second level of #1 Powerhouse at Institute. Mr. Milan wore a disposable Norton dust respirator and disposable coveralls during the stripping. The insulators got in a hurry toward the end of the day and didn't keep the insulation well wetted. This resulted in the last value being higher.

WORK BY Ruth Clise

APPROVED BY G. Hurley

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: D. L. Johnson, 511-5518

Computer Ref. W-1040CC: C. W. Carman, 725-105
G. F. Hurley, 701-334
C. R. Johnson, 511-2009
D. R. Paugh, 511-2009P. A. Perry, 511-5583
~~C. B. Richardson, 511-2149~~
H. L. Robinson, 701-401
E. C. Shipley, 511-2009PERSON MONITORED B. M. BeckettLocation #1 Powerhouse - Date 4/11/80
Institute

EXPOSURE RESULTS

	Conc.	Sampling Time	Comments
Sample 1	fibers .48 5 $\mu\text{m}/\text{cm}^3$	60 minutes	A.M. - Stripping insulation
2	fibers 1.24 5 $\mu\text{m}/\text{cm}^3$	84 minutes	A.M. - Stripping insulation
3			
4			
5			
6			

Time-Weighted Average Concentration (TWA) Not monitored long enough
Ceiling Concentration to calculate TWA.

ALLOWABLE EXPOSURE

TWA 2 fibers $> 5 \mu\text{m}/\text{cm}^3$ OSHA UCC Other
Ceiling _____ OSHA UCC Other

COMMENTS

Stripping suspected asbestos containing insulation from #2 boiler front and boiler front duct on second level of #1 Powerhouse at Institute. Mr. Beckett was not monitored in the afternoon because he was transferred to another job. During the stripping he wore a disposable Norton dust respirator and disposable coveralls.

WORK BY Ruth CliseAPPROVED BY G. Hurley



INTERNAL CORRESPONDENCE

AGRICULTURAL PRODUCTS COMPANY, INC.

P.O. BOX 2831, CHARLESTON, WEST VIRGINIA 25302

INSTITUTE PLANT

To (Name) Mr. G. F. Hurley
 Division Building 701, 334
 Location Technical Center
 Floor Number

Date July 25, 1980

Originating Dept. Industrial Hygiene

Floor Number

Copy to Mr. K. B. Drake
 Mr. S. E. Illikainen
 Mr. A. S. Howard
 Mr. S. W. Jensen
 → Mr. L. R. Noble
 Dr. R. J. Sexton
 Mr. E. C. Shipley
 Mr. Fred Williams

Answering letter date

Subject Asbestos Exposure Potential,
Precipitators, No. 1 Steam Plant

Concern has been expressed on various occasions relative to the condition of protective covering over asbestos containing insulation on the south side of the No. 1 Steam Plant precipitators. A recent storm apparently caused large sections of the protective cover to be torn from the precipitators, leaving some sections free to move according to wind direction and velocity.

Industrial Hygiene was requested to evaluate the existing conditions in terms of personal exposure potential of personnel involved in the 511 Construction Project of retubing the boilers. By observation, the condition appeared to have serious potential and it was suggested to Mr. Jensen that "free-hanging" protective cover be removed and consideration be given to application of a binder material to the exposed insulation. Sampling at appropriate locations and personal sampling of selected workers for asbestos exposure was initiated to determine the degree of the apparent problem.

The current OSHA Standard for asbestos sets an eight-hour time-weighted average airborne concentration to which any employee may be exposed not to exceed two fibers, longer than 5 micrometers, per cubic centimeter of air. A ceiling concentration of 10 fibers has been established which is not to be exceeded for any time period.

Samples collected at this location on July 21, 1980, show results as follows:

<u>Name/Type Sample</u>	<u>Fibers/cm³</u>	<u>Job Task/Location</u>
D. R. Stephens	1.8	Rigger inserting piping in tube sheet. 3rd level.
W. P. Gilmore	0.08	Rigger guiding tubes into tube sheet. 4th level.
S. J. Edens	0.09	Rigger guiding tubes into tube sheet. 4th level.

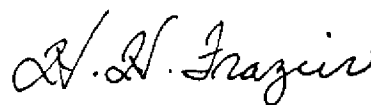
<u>Name/Type Sample</u>	<u>Fibers/cm³</u>	<u>Job Task/Location</u>
B. J. Wehrle	0.05	Rigger inserting piping in tube sheet. 3rd level.
Area	0.05	Face level No. 3 boiler (upwind) while pipe was inserted.
Area	0.09	Face level No. 3 boiler (downwind) while piping was inserted.
Area	None detected	South of No. 6 precipitator at source - undisturbed by workers.
Area	None detected	South of No. 4 precipitator at source - undisturbed by workers.
Area	None detected	South of No. 1 boiler while scaffold was erected at No. 3 (downwind).
Area	0.05	South of No. 2 boiler while scaffold was erected at No. 3 (downwind).

These data indicate that exposure potential to airborne asbestos is minimal from the large areas of exposed insulation material on the south side of the precipitators when the material is undisturbed. The four personal samples were collected during a time period when tubes were being inserted into the north side of the tube sheet and local disturbance of the insulation material was near a maximum. The extreme north tubes require manipulation of the piping against the insulation and it was observed that pieces of insulation up to half inch diameter were being released into the work area. Individual fibers, which are the real hazard, were not being released at the expected rate nor at an excessive degree.

Industrial Hygiene, therefore, recommends the following:

1. Energy Systems follow-up on a Maintenance request to remove all "free-hanging" protective covering which can be safely removed without scaffolding. Personnel involved should wear a 3M dust mask and the insulation side of the removed covering should be wet down for immediate disposal.
2. Plant 511 Construction personnel should continue to wear 3M dust masks while inserting tubes in the north side of the respective tube sheets and/or while raw insulation is being disturbed.
3. At the discretion of the Construction supervision, a sealer may be applied at local areas of exposed insulation proximal to where work is to be performed and insulation is likely to be disturbed.

Should there be questions or need for additional monitoring, please call me at 6161.


H. H. Frazier

MEMO

AVOID ORAL INSTRUCTIONS

DATE

Jan 28, 197*80*

TO

A.S. Howard

C.E. Richards

R.S. Howard

*Mr. East obviously used a mailing
list for 311 Steam plant work. This
will be corrected on future reports.*

514-686-D

✚ DO IT THE SAFE WAY ✚

SIGNED

UCC 016653



INTERNAL CORRESPONDENCE

Full Asbestos Monitoring

CHEMICALS AND PLASTICS

P. O. BOX 8361, SOUTH CHARLESTON, WEST VIRGINIA 25303

To (Name) Mr. D. L. Johnson
Division 511-5518
Location Institute Plant

Copy to Mr. C. W. Carman
Mr. G. F. Hurley
Mr. C. R. Johnson
Mr. L. R. Noble
Mr. D. R. Paugh
Mr. P. A. Perry
Mr. H. L. Robinson
Mr. E. C. Shipley

Date January 22, 1980

Originating Dept. Technical Center IH/EP

Subject Asbestos Monitoring - No. 1
Powerhouse, Institute Plant

PROJECT

Determine the exposure of Construction employees to asbestos during the stripping of old insulation from #1 boiler at the #1 Powerhouse, Location 512.

DATE OF SURVEY

January 15, 1980

SUMMARY

Although asbestos exposures to employees were higher than normal, the use of approved respirators and protective clothing as well as proper stripping and disposal procedures protected the workers from a potentially hazardous situation.

DISCUSSION

Construction insulators are in the process of stripping several thousand feet of old asbestos type insulation from the steam boilers at the #1 Powerhouse, Location 512. The job will be in progress for the next two years and will involve many crafts before completion.

The area to be stripped was barricaded, labeled and persons doing the work were protected by the use of approved respirators, disposable coveralls and gloves. They are required to wear hard hats while in this area.

UCC 016654

Four personal samples were collected as well as area samples on the first three floors of #1 boiler, north side. The results are listed in the attached "RESULTS". Although the results of two personal samples are greater than the OSHA standard of 2 fibers, the workers were protected.

RECOMMENDATIONS

1. Bags of stripped insulation should be handled carefully, not dropped from one level to another.
2. Cleanup should be thorough and inspected by Construction supervisor for completeness. Complaints can be easily generated by powerhouse employees or other workers in the area.
3. Protective clothing should be discarded in plastic bags along with the insulation.

REFERENCES

Volume 38C-29X4-R1a Asbestos, Dust Determination by Membrane Filter Technique Using Phase Contrast Microscopy

REPORT PREPARED BY

G. W. Bott
Technical Center Industrial Hygiene Group

G. W. Bott

APPROVED BY

George Hurley
G. F. Hurley

GWB/sc

Attachment

RESULTS

<u>DATE</u>	<u>SAMPLE TYPE</u>	<u>TIME (MIN.)</u>	<u>ASBESTOS FIBERS FOUND</u>	<u>TWA</u>	<u>REMARKS</u>
1/15/80	G.H. Landers	60	4.4	3.3	Stripping insulation
1/15/80	M.E. Drake	60	3.2	2.4	Laborer
1/15/80	J.F. Chandler	60	1.5	1.1	Stripping insulation
1/15/80	T.G. Grant	45	1.6	1.2	Laborer
1/15/80	Third Level	70	0.4	-	Directly above work area
1/15/80	Second Level	60	0.8	-	Center of work area
1/15/80	First Level	72	0.03	-	Directly below work area

TWA was calculated assuming that stripping was done for six hours out of eight.



INTERNAL CORRESPONDENCE

FILE

CHEMICALS AND PLASTICS

P. O. BOX 8361, SOUTH CHARLESTON, WEST VIRGINIA 25303

To (Name) Mr. D. L. Johnson
Division 511-5518 - Institute Plant
Location

Date April 9, 1980

Originating Dept Technical Center IH/EP

Copy to Mr. G. F. Hurley
Mr. L. R. Noble
Mr. H. L. Robinson
Mr. E. C. Shipley
Mr. E. J. Tawney

Subject Asbestos Monitoring at
Institute #1 Powerhouse

Copy to C.W.C 4/10/80

PROJECT

Monitor employee exposure to airborne asbestos fibers during removal of insulation from the #2 boiler in the #1 Powerhouse at Institute.

DATE OF SURVEY

April 3, 1980

DISCUSSION

Four Construction employees, three insulators and one laborer, removed insulation from boiler #2 on the third level in the Institute #1 Powerhouse. All employees wore disposable coveralls, gloves and respirators. The insulation was wetted before and during removal and the area was barricaded. An insulator, Mr. B. M. Beckett, and a laborer, Mr. R. D. Ward, wore personal samplers during the removal and bagging operations.

The air concentrations of the four samples taken ranged from 0.17 to 0.41 fibers per cubic centimeter of air (f/cc). Since there was no other exposure to asbestos the rest of the day, the eight-hour time-weighted average (TWA) exposures were 0.06 and 0.07 f/cc. The OSHA permissible exposure limit for an eight-hour TWA is 2 f/cc.

DATA

(Continued on next page)

4/9/80

<u>DATE</u>	<u>SAMPLE</u>	<u>SAMPLING TIME</u>	<u>AIR CONC. (f/cc)</u>	<u>TWA (f/cc)</u>
3/3/80	B.M. Beckett	0825-0945	0.23	-
3/3/80	B.M. Beckett	1010-1053	0.41	0.07
3/3/80	R.D. Ward	0825-0945	0.17	-
3/3/80	R.D. Ward	1010-1110	0.26	0.06

REPORT PREPARED BY

W. F. Blythe Jr.
W. F. Blythe, Jr.

WFB Jr/sc

29(w)

INTERNAL CORRESPONDENCE

CHARLESTON, WEST VIRGINIA

P. O. BOX 8361, SOUTH CHARLESTON, WEST VIRGINIA 25303

Mr. J. Byrd
Mr. G. F. Hurley
Mr. L. R. Noble
Mr. H. L. Reveal
Mr. H. L. Robinson

Date February 6, 1979
Originating Dept. Technical Center IH/EP
Subject Asbestos Monitoring at Sevin Shipping

INTRODUCTION On January 22, 1979, Messrs. C. C. Bragg and C. R. Lanier were monitored for exposure to asbestos during the removal of insulation from the flanges of a pipe line in Building 233, the Sevin Shipping area.

SUMMARY AND

CONCLUSIONS The asbestos concentrations in the breathing zones of the insulators were 7.75 and 5.37 fibers/cc while an area sample indicated a concentration of 0.3 fibers/cc. Both men wore respirators during the entire operation, but facial hair on each man possibly prevents an adequate seal. The OSHA ceiling limit for asbestos is 10 fibers/cc. The OSHA standard for an eight-hour time-weighted exposure is 2 fibers/cc. Due to the short exposure time (25 minutes), the insulators' TWAs would not exceed the OSHA standard without further exposure. However, in future operations where large amounts of water cannot be used to reduce emission of airborne asbestos fibers, a garden sprayer might be used since a finer spray and smaller volumes of water can be used.

DISCUSSION Mr. C. C. Bragg and Mr. C. R. Lanier wore personal samplers while removing insulation from the flanges of a pipe line in Building 233. Due to the storage of Sevin directly under the pipe line being worked on, the insulation could not be watered down during removal. Both men wore respirators. One man stripped the insulation while the other held a plastic bag directly under the flange to catch the insulation. The effectiveness of this procedure in keeping down airborne asbestos dust in the surrounding area was indicated by a sample taken eight feet below the first flange which showed a concentration of 0.3 fibers/cc. The personal samples indicated concentrations of 7.75 fibers/cc and 5.37 fibers/cc for a twenty-five-minute exposure. Further exposure was minimal since the pipe was to be

dismantled at the flanges and taken outside where it could be wetted with water before, during, and after removal.

DATA

<u>Date</u>	<u>Sample</u>	<u>Sampling Time</u>	<u>Air Conc. Fibers/cc</u>
01/22/79	C. C. Bragg	0855 - 0920	7.75
01/22/79	C. R. Lanier	0855 - 0920	5.30
01/22/79	Area Sample below first flange	0855 - 0920	0.30

REFERENCES

- (1) UCC C/P Industrial Hygiene Method 38C-29X4-R1a
- (2) 29 CFR 1910.1001

REPORT

PREPARED BY

W. F. Blythe, Jr.
Technical Center Industrial Hygiene Group



W. F. Blythe, Jr.

WFB Jr/sc

POLICE

P. O. BOX 3311, SOUTH CHARLESTON, WEST VIRGINIA 25303

Mr. J. Byrd
Mr. G. F. Hurley
Mr. L. R. Noble
Mr. H. L. Reveal
Mr. H. L. Robinson

Date February 6, 1979
Organizational Dept Technical Center IH/EP
Project Asbestos Monitoring at Sevin
Shipping

*To: E.C. Shipley
Copy To: H.L. Reveal*

Ship, it appears that our craft supervisors are not taking any respiratory protection program seriously. The supervisors were instructed to not allow persons with facial hair to work where respiratory protection is required. The samples was told

INTRODUCTION On January 22, 1979, Messrs. C. C. Bragg and C. R. Lanier were monitored for exposure to the same asbestos during the removal of insulation from the flanges of a pipe line in Building 233, the Sevin Shipping area. *thing*

SUMMARY AND

CONCLUSIONS

The asbestos concentrations in the breathing zones of the insulators were 7.75 and 5.37 fibers/cc while an area sample indicated a concentration of 0.3 fibers/cc. Both men wore respirators during the entire operation, but facial hair on each man possibly prevents an adequate seal. The OSHA ceiling limit for asbestos is 10 fibers/cc. The OSHA standard for an eight-hour time-weighted exposure is 2 fibers/cc. Due to the short exposure time (25 minutes), the insulators' TWAs would not exceed the OSHA standard without further exposure. However, in future operations where large amounts of water cannot be used to reduce emission of airborne asbestos fibers, a garden sprayer might be used since a finer spray and smaller volumes of water can be used.

*Randy Noble
2/9/79
See attached memoranda*

DISCUSSION

Mr. C. C. Bragg and Mr. C. R. Lanier wore personal samplers while removing insulation from the flanges of a pipe line in Building 233. Due to the storage of Sevin directly under the pipe line being worked on, the insulation could not be watered down during removal. Both men wore respirators. One man stripped the insulation while the other held a plastic bag directly under the flange to catch the insulation. The effectiveness of this procedure in keeping down airborne asbestos dust in the surrounding area was indicated by a sample taken eight feet below the first flange which showed a concentration of 0.3 fibers/cc. The personal samples indicated concentrations of 7.75 fibers/cc and 5.37 fibers/cc for a twenty-five-minute exposure. Further exposure was minimal since the pipe was to be

dismantled at the flanges and taken outside where it could be wetted with water before, during, and after removal.

DATA

<u>Date</u>	<u>Sample</u>	<u>Sampling Time</u>	<u>Air Conc. Fibers/cc</u>
01/22/79	C. C. Bragg	0855 - 0920	7.75
01/22/79	C. R. Lanier	0855 - 0920	5.30
01/22/79	Area Sample below first flange	0855 - 0920	0.30

REFERENCES

- (1) UCC C/P Industrial Hygiene Method 38C-29X4-R1a
- (2) 29 CFR 1910.1001

REPORT

PREPARED BY

W. F. Blythe, Jr.
Technical Center Industrial Hygiene Group



W. F. Blythe, Jr.

WFBjr/sc

File - 1200245/1101010

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: D. L. Johnson, 511-5518

Computer Ref. W-1043

CC: C. W. Carman, 725-105
G. F. Hurley, 701-334
C. R. Johnson, 511-2009
L. R. Noble, 511-2149

D. R. Paugh, 511-2009
P. A. Perry, 511-5583
H. L. Robinson, 701-401
E. C. Shipley, 511-2009

PERSON MONITORED T. L. Jividen

Location #1 Powerhouse - Institute Date 4/28/80

EXPOSURE RESULTS

	Conc.	Sampling Time	Comments
Sample 1	fibers .52 5 $\mu\text{m}/\text{cm}^3$	57 minutes	A.M. - Stripping insulation
2	.62 "	111 minutes	A.M. - Stripping insulation
3			
4			
5			
6			

Time-Weighted Average Concentration (TWA) Not monitored long enough to
Ceiling Concentration calculate TWA

ALLOWABLE EXPOSURE

TWA 2 fibers $> 5 \mu\text{m}/\text{cm}^3$
Ceiling

OSHA UCC Other
OSHA UCC Other

COMMENTS

Stripping insulation from several steam lines on #1 boiler on the first level of #1 Powerhouse at Institute. Sometime during the afternoon, the filter cassette worn by Mr. Jividen was lost so a TWA was not calculated. During the stripping he wore a disposable dust respirator and disposable coveralls.

Even insulation that does not contain asbestos should be watered to help control the dust.

WORK BY Ruth Clise

APPROVED BY G. Hurley

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: D. L. Johnson, 511-5518

Computer Ref. W-1043CC: C. W. Carman, 725-105
G. F. Hurley, 701-334
C. R. Johnson, 511-2009
L. R. Noble, 511-2149P. A. Perry, 511-5583
D. R. Paugh, 511-2009
H. L. Robinson, 701-401
E. C. Shipley, 511-2009PERSON MONITORED F. E. CobbLocation #1 Powerhouse - Institute Date 4/28/80

EXPOSURE RESULTS

	Conc.	Sampling Time	Comments
Sample 1	fibers > .15 5 $\mu\text{m}/\text{cm}^3$	63 minutes	A.M. - Stripping insulation
2	.37 "	108 minutes	A.M. - Stripping insulation
3	.06 "	30 minutes	P.M. - Stripping insulation
4	.52 "	45 minutes	P.M. - Stripping insulation
5			
6			

Time-Weighted Average Concentration (TWA) .14 fibers > 5 $\mu\text{m}/\text{cm}^3$
Ceiling Concentration _____

ALLOWABLE EXPOSURE

TWA 2 fibers > 5 $\mu\text{m}/\text{cm}^3$ OSHA UCC Other
Ceiling _____ OSHA UCC Other

COMMENTS

Stripping insulation from several steam lines on #1 boiler on the first level of #1 Powerhouse at Institute. Mr. Cobb wore a disposable dust respirator and disposable coveralls during the stripping.

Even though part of the insulation being stripped did not contain asbestos, the insulation should be well watered to help control the dust.

WORK BY

Ruth Clise

APPROVED BY

G. Hurley

INDUSTRIAL HYGIENE MONITORING FOR ASBESTOS

TO: D. L. Johnson, 511-5518

Computer Ref. W-1043CC: C. W. Carman, 725-105
G. F. Hurley, 701-334
C. R. Johnson, 511-2009
L. R. Noble, 511-2149P. A. Perry, 511-5583
D. R. Paugh, 511-2009
H. L. Robinson, 701-401
E. C. Shipley, 511-2009PERSON MONITORED T. G. GrantLocation #1 Powerhouse - Institute Date 4/28/80

EXPOSURE RESULTS

	Conc.	Sampling Time	Comments
Sample 1	fibers > .43 5 $\mu\text{m}/\text{cm}^3$	58 minutes	A.M. - Bagging insulation
2	.64 "	116 minutes	A.M. - Bagging insulation
3	.34 "	89 minutes	P.M. - Bagging insulation
4			
5			
6			

Time-Weighted Average Concentration (TWA) .27 fibers > 5 $\mu\text{m}/\text{cm}^3$
Ceiling Concentration _____

ALLOWABLE EXPOSURE

TWA 2 fibers > 5 $\mu\text{m}/\text{cm}^3$ OSHA UCC Other
Ceiling _____ OSHA UCC Other

COMMENTS

Bagging insulation that had been stripped from several steam lines on #1 boiler on the first level of #1 Powerhouse at Institute. The stripped insulation was placed in plastic bags tagged and placed in a dumpster for proper disposal. Mr. Grant wore a disposable dust respirator and disposable coveralls.

WORK BY

Ruth Clise

APPROVED BY

G. Hurley



INTERNAL CORRESPONDENCE

FINE
Asbestos Monitor

CHEMICALS AND PLASTICS

P. O. BOX 8361, SOUTH CHARLESTON, WEST VIRGINIA 25303

To (Name)	Mr. D. L. Johnson	Date	March 3, 1980
Division	Mr. L. R. Noble	Originating Dept.	Technical Center IH/EP
Location	Mr. H. L. Robinson	Subject	Asbestos Monitoring at <u>Institute #2 Powerhouse</u>
Copy to	Mr. E. C. Shipley		
	Mr. E. J. Tawney		

PROJECT

Monitor exposure of employees to airborne asbestos fibers during the removal of insulation from a boiler at the #2 Powerhouse at Institute.

DATE OF SURVEY

February 20, 1980

DISCUSSION

Construction insulators and laborers wore personal samplers during the removal of insulation from the third level of the easternmost boiler in the #2 Powerhouse. All employees involved wore disposable coveralls and respirators. The insulation was adequately wetted with water during removal. The first set of samples was taken while the insulation was being removed from the front of the boiler and placed in plastic bags. The second set of samples was taken while insulation was being removed from a horizontal section of the boiler and shoveled into plastic bags.

The personal air samples indicated concentration from 0.2 to 0.8 f/cc. The OSHA standard sets a permissible exposure limit of 2 f/cc for an eight-hour time-weighted average exposure and a ceiling limit for a fifteen minute exposure of 10 f/cc. Continued use of the prescribed work procedures - use of water to wet insulation, respirators, barricading the area, etc. - should aid in keeping exposures below the OSHA standard.

DATA

See page 2.

UCC 016666

3/3/80

<u>DATE</u>	<u>SAMPLE</u>	<u>SAMPLING TIME</u>	<u>AIR CONC. (f/cc)</u>
2/20/80	G.H. Landers	0905 - 0935	0.2
↑	"	1010 - 1145	0.4
	"	0906 - 0935	0.1
	J.H. Johnston	0935 - 1058	0.3
	C.N. Cunningham	0911 - 0935	0.7
↓	T.G. Grant	1045 - 1145	0.8

REPORT PREPARED BY

W. F. Blythe, Jr.
Technical Center Industrial Hygiene Group

W. F. Blythe Jr.

APPROVED BY

G. F. Hurley

WFB Jr/sc



INTERNAL CORRESPONDENCE

CHEMICALS AND PLASTICS

P. O. BOX 8361, SOUTH CHARLESTON, WEST VIRGINIA 25303

to (Name)	Mr. D. L. Johnson	Date	March 29, 1979
Division	Mr. E. C. Shipley	Originating Dept.	Technical Center IH/EP
Location	Mr. E. J. Tawney	Subject	Asbestos Monitoring at Institute
Copy to	Mr. L. R. Noble		
	Mr. H. L. Robinson		

PROJECT

Monitor exposure of insulators to asbestos during the removal of insulation from a 3" steam line in East Area Complex Six.

DATE OF SURVEY

March 17 and 19, 1979

DISCUSSION

Construction insulators J. F. Sampson and G. P. Hall wore personal samplers while removing sections of insulation from a 3" steam line which crossed the road approximately 15 feet above the ground. The area below the insulators was evacuated initially with some walk-through traffic later. The insulators wore respirators during the entire operation. The insulation was not wetted with water during removal. The personal samples indicated asbestos concentrations of 3.4 and 1.7 fibers/cc. When it was determined that another section of insulation needed removed, more personal samples were taken. This time the air concentrations were 2.9 fibers/cc and 0.7 fibers/cc.

On March 19, 1979, Mr. J. F. Sampson and Mr. D. L. Carpenter wore respirators and personal samplers while removing insulation from the steam line which was taken down on the 17th of March. The insulation was wetted with water before and during removal. The air concentration indicated by the samplers were 0.2 fibers/cc and 0.4 fibers/cc. An area sample twenty feet downwind from the operation showed a concentration of 0.01 fibers/cc. The OSHA standard sets a ceiling limit for a 15-minute exposure of 10 fibers/cc and a limit of 2 fibers/cc for an eight-hour time-weighted average exposure.

UCC 016668

3/29/79

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The exposures of the insulators were below the OSHA permissible exposure limits. Exposure requirements of the OSHA standard may be more easily satisfied by the use of wet methods to prevent emission of airborne asbestos fibers. One way to do this is the use of garden sprayers to wet asbestos-containing insulation in locations inaccessible to water hoses.

Also, in order to better protect other employees in the area from exposure to excessive concentrations of airborne asbestos fibers, barricade tape and warnings signs should be posted around every asbestos job. It may be useful to have stands made to which the tape and signs could be fastened.

DATA

<u>Date</u>	<u>Sample</u>	<u>Sampling Time</u>	<u>Air Conc. (F/cc)</u>
3/17/79	J. F. Sampson	0830 - 0940	3.4
3/17/79	J. F. Sampson	1023 - 1038	1.7
3/17/79	G. P. Hall	0830 - 0940	0.7
3/17/79	G. P. Hall	1021 - 1038	2.9
3/17/79	Area	0835 - 1040	0.3
3/19/79	J. F. Sampson	0850 - 0938	0.2
3/19/79	D. L. Carpenter	0850 - 0938	0.4
3/19/79	Area	0853 - 0940	0.01

REFERENCES

UCC C/P Industrial Hygiene #38C-29X4 - R1A
OSHA 29 CFR 1910.1001

REPORT PREPARED BY

W. F. Blythe, Jr.
Technical Center Industrial Hygiene Group

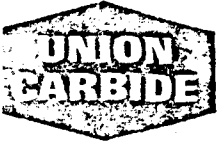
W. F. Blythe Jr.

W. F. Blythe, Jr.

APPROVED BY

George Hurley
G. F. Hurley

UCC 016669



INTERNAL CORRESPONDENCE

CHEMICALS AND PLASTICS

P. O. BOX 8361, SOUTH CHARLESTON, WEST VIRGINIA 25303

Copy to (Name) Mr. D. L. Johnson Date June 4, 1979
Division Mr. E. C. Shipley
Location Mr. E. J. Tawney Originating Dept. Technical Center IH/EP
Copy to Mr. L. R. Noble Subject Asbestos Monitoring

PROJECT

Monitor employee exposure to asbestos during the removal of insulation in Building 5 at Institute.

DATE OF SURVEY

April 30, 1979

DISCUSSION

Personal samplers were worn by Mr. K. A. Neal and Ms. H. F. Beaver while removing insulation from piping in the east end of the first level of Building 5. All the insulators on this job wore Norton 7170 respirators. The insulation had a layer of dust sitting on it. Although some water was used to wet the insulation during removal, enough dust was generated to interfere in the analysis of asbestos. The sample worn by Ms. Beaver was voided while the one on Mr. Neal indicated an asbestos concentration of 1.85 fibers/cc. The OSHA permissible exposure limit for an eight-hour time-weighted average (TWA) exposure is 2 fibers/cc.

CONCLUSION

Since this job did not take eight hours, Mr. Neal's TWA would be less than 1.85 fibers/cc and below the OSHA limit. However, the amount of dust and asbestos in the air indicates the need to use more water before, during and after the stripping of insulation.

REFERENCES

UCC C&P Industrial Hygiene #38C-29X4-R1A
29 CFR 1910.1001

6/4/79

REPORT PREPARED BY

W. F. Blythe, Jr.
Technical Center Industrial Hygiene Group

W. F. Blythe Jr.
W. F. Blythe, Jr.

APPROVED BY

George Harley
G. F. Harley

WFB Jr/sc



INTERNAL CORRESPONDENCE

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File

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SAFETY DEPT.

CHEMICALS AND PLASTICS

P. O. BOX 8361, SOUTH CHARLESTON, WEST VIRGINIA 25303

Name: Mr. D. L. Johnson
Phone: 511-5518 (512)
Address:
City to: Mr. C. W. Carman
Mr. G. F. Hurley
Mr. C. R. Johnson
Mr. D. R. Paugh
Mr. P. A. Perry
Mr. C. E. Richardson
Mr. H. L. Robinson
Mr. E. C. Shipley

Date: December 10, 1979
Originating Dept: Technical Center, IH/EP
Subject: Asbestos Monitoring
704 Powerhouse

PROJECT

Determine the exposure of Construction workers to asbestos fibers during insulation stripping in Building 704.

DATE OF SURVEY

November 26 and 27, 1979

DISCUSSION

On November 26 and 27, 1979, separate breathing zone samples were taken on Construction workers to determine their exposure to asbestos fibers while they were stripping and bagging suspected asbestos containing insulation from the exhaust ducts of Number 3 and Number 4 boilers in Building 704 - Powerhouse. During the stripping and clean-up procedure all Construction workers in the work area wore Norton disposable dust respirators, gloves, and coveralls. The boilers had been shut down so the insulation could be properly wetted before and during the stripping. Plastic was placed around the duct to prevent debris from the stripping from falling through the floor grating. Stripped insulation was placed in bags on site for disposal.

CONCLUSIONS

The results are given in the attached table. An 8-hour time-weighted average was calculated for November 26, 1979, since the

12/10/79

Construction workers were monitored during their total exposure for that day. The values are well below the OSHA standard of 2 fibers > 5 $\mu\text{m}/\text{cm}^3$ on a time-weighted average for eight hours.

REFERENCES

Volume 38C-29X4-R1a Asbestos, Dust Determination By Membrane Filter Technique Using Phase Contrast Microscopy

RESULTS

See attachment.

REPORT PREPARED BY

Ruth Clise
Technical Center Industrial Hygiene Group

Ruth Clise

REPORT APPROVED BY

George Hurley
G. F. Hurley

RC/sc

Attachment

(Attachment)

RESULTS

<u>DATE</u>	<u>SAMPLE TYPE</u>	<u>TIME (Minutes)</u>	<u>ASBESTOS FIBERS (Fibers >5 µm/cm3)</u>	<u>TIME- WEIGHTED AVERAGE</u>	<u>REMARKS</u>
11/26/79	S. M. Barker	45	2.04	----->0.7	Stripping - A.M.
	S. M. Barker	92	1.83		Stripping - A.M.
	S. M. Barker	64	.94		Stripping - P.M.
11/26/79	G. H. Landers	47	1.34	----->0.5	Stripping - A.M.
	G. H. Landers	91	.95		Stripping - A.M.
	G. H. Landers	70	.85		Stripping - P.M.
11/26/79	P. M. Brown	47	2.03	----->0.7	Cleaning and bagging - A.M.
	P. M. Brown	105	.95		Cleaning and bagging - A.M.
	P. M. Brown	80	.46		Cleaning and bagging - P.M.
	P. M. Brown	68	1.44		Cleaning and bagging - P.M.
11/26/79	D. R. Powell	47	.90	----->0.5	Cleaning and bagging - A.M.
	D. R. Powell	109	.47		Cleaning and bagging - A.M.
	D. R. Powell	83	.36		Cleaning and bagging - P.M.
	D. R. Powell	66	2.03		Cleaning and bagging - P.M.
11/27/79	C. N. Cunningham	54	0.49		Stripping
11/27/79	J. F. Chandler	54	0.62		Stripping
11/27/79	P. M. Brown	41	0.62		Bagging and cleaning
11/27/79	D. R. Powell	38	1.86		Bagging and cleaning

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INTERNAL CORRESPONDENCE

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SAFETY DEPT.
Branda Reed Randy
W.C. Perry

CHEMICALS AND PLASTICS

P. O. BOX 8361, SOUTH CHARLESTON, WEST VIRGINIA 25303

Name) Mr. D. L. Johnson
511-5518 (512)

Date November 16, 1979

Division

Originating Dept. Technical Center. IH/EP

Station

Copy to

Mr. C. W. Carman
Mr. G. F. Hurley
Mr. C. R. Johnson
Mr. D. R. Paugh
Mr. P. A. Perry
Mr. C. E. Richardson
Mr. H. L. Robinson
Mr. E. C. Shipley

Subject

Asbestos Monitoring
704 Powerhouse, First and
Second Level

PROJECT

Determine the exposure of Construction workers to asbestos fibers during insulation stripping in Building 704.

DATE OF SURVEY

October 26, 1979

DISCUSSION

On October 26, 1979, separate breathing zone samples were taken on J. C. Erwin, J. F. Chandler, S. M. Barker, D. R. Powell, and P. M. Brown to determine their exposure to asbestos fibers. They were stripping and bagging approximately thirty feet of an 8-foot by 6-foot exhaust duct coming from No. 3 boiler in Building 704 - Powerhouse on the first and second levels. During the stripping and clean-up procedure all Construction workers wore Norton disposable dust respirators, gloves, and coveralls. All others who needed to be working in the 704 Powerhouse operating area were given 3M disposable dust masks to wear during the stripping. Because the duct was hot and electric motors were situated near the duct, the insulation was only minimally wetted with a garden sprayer.

The dust created by the stripping and throwing the insulation to the floor became so heavy that the insulators were advised to

hand the insulation to the laborers to be bagged. The stripped asbestos was placed in plastic bags for disposal.

When the dust became so heavy at the site of stripping on the second level, samples were taken on the first level on the north and south side of the stack.

After the stripping of the duct on the second level was completed and the dust had settled some, breathing zone samples were taken on D. R. Powell and P. M. Brown as they finished bagging the stripped insulation and cleaned the second level area.

When the stripping started on the first level, only area samples were taken. Two samples were taken on the first level on the north and south side of the stack, and one sample was taken on the west wall north of the stack on the second level. All area samples were placed at breathing zone level.

CONCLUSIONS

The dust collected on the breathing zone samples of J. C. Erwin, J. F. Chandler, S. M. Barker, D. R. Powell, and P. M. Brown, was so heavy that it was impossible to determine the concentration of asbestos fibers on these samples. The results of the other samples are given in the attached table.

Since asbestos levels were so high on samples taken after some of the initial dust had cleared, they were likely higher during the period of greatest dust concentrations. Since all people in the area wore masks they were probably protected if a good mask fit was obtained.

RECOMMENDATIONS

It is suggested that all Construction workers that are involved with the stripping and disposal of suspected asbestos containing insulation be shown the Industrial Hygiene slide presentation on the proper handling of asbestos containing materials.

REFERENCES

Volume 38C-29X4-R1a Asbestos, Dust Determination By Membrane Filter Technique Using Phase Contrast Microscopy

RESULTS

<u>DATE</u>	<u>SAMPLE TYPE</u>	<u>TIME (MINUTES)</u>	<u>ASBESTOS FIBERS (Fibers >5 $\mu\text{m}/\text{cm}^3$)</u>	<u>REMARKS</u>
10/26/79	Area	32/2 LPM	0.28	First level, north side of stack while dust was settling after stripping on the second level. Cleanup being completed on second level.
10/26/79	Area	27/2 LPM	0.51	First level, south side of stack while dust was settling after stripping on the second level. Cleanup being completed on second level.
10/26/79	D.R. Powell	15/2 LPM	3.93	Bagging insulation after stripping on second level finished
10/26/79	P.M. Brown	15/2 LPM	2.97	Bagging insulation after stripping on second level finished
10/26/79	Area	51/2 LPM	1.01	First level, north of stack while first level being stripped.
10/26/79	Area	55/2 LPM	0.9	First level, south of stack while first level being stripped.
10/26/79	Area	48/2 LPM	1.16	Second level, on west wall, north of stack while first level being stripped.

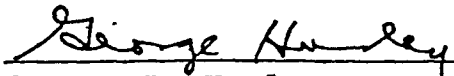
REPORT PREPARED BY

Ruth Clise
Technical Center Industrial Hygiene Group

Ruth Clise

Ruth Clise

REPORT APPROVED BY


George F. Hurley

RC/sc