

MEMORANDUM TO: R. E. Crum W. V. Summers
C. A. McNeill G. W. Wulfert
K. B. Purintan

FROM: T. L. Grittie

DATE: February 26, 1986.

SUBJECT: Results of Qualitative Analysis Of Lint From
Vogue-Swift

COPY TO: D. A. Boggs

Attached, please find the results of the qualitative analysis for asbestos performed on the samples of lint removed from the Vogue-Swift washing machines. Please note that a small amount of asbestos was indeed found.

This information leads me to recommend that we continue to provide laundering services to the insulators when they are working with asbestos. This service provides the vital function of preventing a man from possibly contaminating his family by carrying asbestos home on his clothing. In addition, laundry bags containing these clothes should continue to be labelled as asbestos contaminated so as to provide adequate warning to the employees of Vogue-Swift.

If you have any questions on the results or recommendations, feel free to call me at 521.

Sincerely,


T. L. Grittie

TLG/le
4527A
Enclosure

*This - Copies sent on 2/27.
Please put in my
correspondence file.*

FIBER IDENTIFICATION
QUALITATIVE ANALYSIS

Client: Union Carbide Corporation

Report Date 2/19/86

State Rt. 2

KEMRON Sample No. 5610696

Long Reach, WV 26175

Date/Analyst 2/6/PL

Attn: K. Williams

Purchase Order No. 0380-506066

Approved By Laboratory Supervisor *Sarah Vandenberg*

Sample I.D.

Z-7698

Sample Location:

Analytical Method (enter number)

1. PLM
2. PLM with dispersion staining

1

Gross Sample Appearance:

Gray fibrous dust

Microscopic Observations:

Fibrous Materials Present

Synthetic Cellulose Hair Fiberglass Chrysotile

Nonfibrous Materials Present

Silicates Carbonates

Does the Sample Contain Any Asbestos Fibers

Yes

Type of Asbestos Present

Chrysotile (Found in Small Amount)

Copies to -

KEMRON ENVIRONMENTAL SERVICES

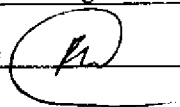
BORG-WARNER CORPORATION

INTER-OFFICE CORRESPONDENCE

Date February 12, 1986

Subject Asbestos Content -- Sample 5610696

To Sarah Vandenberg Location Williamstown

From Ron Huttie  Location Huntington

Analyses was performed using polarized light microscopy in accordance with EPA (Environmental Protection Agency) methods. Since the sample consisted of fragments of many different bulk materials; a qualitative analyses was performed. (A quantitative percentage for each component is not given). The results list the types of fibrous and nonfibrous components present in the sample.

UCC 007232

INDUSTRIAL HYGIENE MONITORING

DATE: June 30, 1987.

PROJECT: Monitor insulator for asbestos exposure while stripping insulation using a glove bag. Second level Rectification Tower - Silanes.

DATE OF SAMPLES: 4/21/87

SUMMARY:

<u>SAMPLE</u>	<u>TYPE</u>	<u>TIME START</u>	<u>TIME STOP</u>	<u>MINUTES</u>	<u>VOLUME</u>	<u>CONC.</u>	<u>PEL</u>	<u>RESP?</u>
Z-9208	BZ	11:07	11:30	23	92 l	<0.05 fibers/ cc	0.2 f/cc	A

A = Airline

BZ = Breathing Zone

RECOMMENDATIONS: Share this information with insulators.

DISCUSSION: The insulator's exposure was well below the TWA₈ of 0.2 fibers/cc for asbestos. Continue using proper procedure.

METHOD OF ANALYSIS: Microscopy

DATA AND REPORT BY: C. R. McMillan/T. L. Grittie

ANALYSIS BY: JHM Labs

COPY TO: D. G. Beddow, D. A. Boggs, A. A. Cosper, E. L. Doerflein, J. K. Kyle, R. P. Lechlitter, K. B. Purinton, W. V. Summers, G. W. Wulfert.


T. L. Grittie

TLG/le
5605A

WV-0220 #22

INDUSTRIAL HYGIENE RESULTS

DATE: July 1, 1987.

PROJECT: Monitor K-57 area and personnel in area for exposure to asbestos. Painters had used air to blow dirt off of the top of ventilation ductwork in preparation for painting to be done. IH took a bulk sample of material which had been blown off the ductwork. Upon analysis, it was determined that the sample contained a small amount of asbestos. According to Poly II operators, the area had been quite dusty while the painters were working. After IH had been called, the painters were told to stop the operation.

DATE OF SAMPLES: 4/23/87 to 4/24/87

SUMMARY:

SAMPLE	DATE	TYPE	TIME		MINUTES	RESULTS	COMMENTS
			START	STOP			
Z-9218	4-23	Area	11:05	13:00	115	<0.01 f/cc	Desk at SW wall near K-57. Kettlehouse No one in area.
Z-9219	4-23	Area	11:08	13:00	112	0.005 f/cc	Near K-57 handhole. No one in area
Z-9220	4-23	BZ	13:00	18:00	300	0.10 f/cc	Insulator performing cleanup of K-57 area
Z-9206	4-24	Area	00:10	8:25	495	<0.005 f/cc	After cleanup completed. On breaker box at wall of kettle area
Z-9207	4-24	BZ	9:54	10:50	56	<0.004 f/cc	Operator performing regulator duties at K-57. Protective equipment was worn.

BZ = Breathing Zone

DISCUSSION: All samples show concentrations below both the TWA₈ and the TWA₁₂. Sample Z-9220 was taken during cleanup and is at the action level of a TWA₈. The insulator wore protective clothing and an airline respirator. Samples Z-9206 and Z-9207 were taken after cleanup completion and priority analyzed to determine if the area was cleaned adequately to allow entry. The results of analysis were communicated over the phone and at approximately 2:00 p.m. on the 24th the area was opened for entry.

RECOMMENDATIONS:

Before air is used on dusty areas it should routinely be checked for asbestos content to avoid similar situations in the future. If anyone suspects asbestos in a dusty area I.H. should be called immediately. Share these results with all affected personnel.

METHOD OF ANALYSIS:

Microscopy

DATA AND REPORT BY:

C. R. McMillan/T. L. Grittie

ANALYSIS BY:

JHM Labs

COPY TO:

D. A. Boggs, E. L. Doerflein, J. K. Kyle, D. L. Mullins, K. B. Purinton, R. D. Smith, W. V. Summers, G. W. Wulfert.



T. L. Grittie

5619A

UV-0220#23

INDUSTRIAL HYGIENE MONITORING

DATE: 6/30/87
PROJECT: Routine area monitoring for asbestos on first level of Rectification Tower (N.W. side) in Silanes.

DATE OF SAMPLES: 4/1/87

SUMMARY:

<u>SAMPLE</u>	<u>TYPE</u>	<u>TIME</u>		<u>MINUTES</u>	<u>FLOW</u>	<u>VOLUME</u>	<u>CONC.</u>	<u>PEL</u>
		<u>START</u>	<u>STOP</u>		<u>RATE</u>			<u>TWA12</u>
Z-9149	Area	13:36	16:15	159	4000 cc/min.	636 l	0.008	0.133 f/cc

RECOMMENDATIONS: Share this information with area personnel.

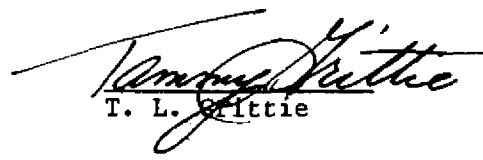
DISCUSSION: The concentration of asbestos in the Rectification Tower during the sampling period was well below the TWA₁₂ PEL of 0.133 f/cc.

METHOD OF ANALYSIS: Microscopy

DATA AND REPORT BY: C. R. McMillan/T. L. Grittie

ANALYSIS BY: JHM Labs

COPY TO: D. G. Beddow, D. A. Boggs, A. A. Cosper, E. L. Doerflein, R. P. Leichliter.


T. L. Grittie

TLG/le
5607A

WV-0220 # 24

INDUSTRIAL HYGIENE RESULTS

DATE:

June 30, 1987.

SUBJECT:

Monitor UCC Design and Construction insulators for exposure to asbestos during removal using a glove bag. In Polymers I tank farm in area outside, behind 8" mill.

DATE OF SAMPLES:

2/13/87

SUMMARY:

SAMPLE	TIME		TOTAL (Min.)	FLOW RATE	VOLUME	TYPE	RESULTS	PEL
	START	STOP						
Z-8969	9:50	12:52	182	3900 cc/min	709.8 l	BZ	0.22 f/cc	0.2 f/cc
Z-8970	9:52	12:52	180	4000 cc/min	720 l	BZ	0.09 f/cc	0.2 f/cc

DISCUSSION:

During the three hour sample period one of the insulators (sample #Z-8969) exceeded the TWA_g permissible exposure limit of 0.2 fibers per cubic centimeter of air. Protective clothing and Comfo II half-face respirators with HEPA filters were worn. The respirators were more than adequate to protect against these fiber concentrations. Wet methods were used. The area in which the work was being performed was a small, cramped corner with little room for free movement. This may have contributed to the above results.

RECOMMENDATIONS:

Use caution when removing asbestos using the glove bag method. Wet methods of removal must be stringently enforced even when used in glove bags. Continue wearing respiratory protection when using the glove bag method. Continue IH monitoring. Inform insulators of the results of these tests.

METHOD OF ANALYSIS:

Microscopy

DATA AND REPORT BY:

C. R. McMillan/T. L. Grittie

ANALYSIS BY:

JHM Labs

COPY TO:

D. A. Boggs, J. E. Boley, E. L. Doerflein,
T. K. Ioannou, K. B. Purinton, L. P. Smith,
S. M. Walker, G. W. Wulfert.

5598A✓


T. L. Grittie

INDUSTRIAL HYGIENE RESULTS

DATE: July 1, 1987.

PROJECT: Monitor area near exposed asbestos on vertical line on fourth deck of east side of Rectification tower, Silanes.

DATE OF SAMPLES: 4/29/87

SUMMARY:

SAMPLE	TYPE	TIME		MINUTES	RESULTS
		START	STOP		
Z-9223	Area	9:38	16:04	386	<0.003 f/cc

DISCUSSION: The sample pump was placed approximately 1 1/2 ft. downwind from the exposed line. The concentration during the sample period of nearly 6 1/2 hours was well below the PEL TWA₈ and the action level.

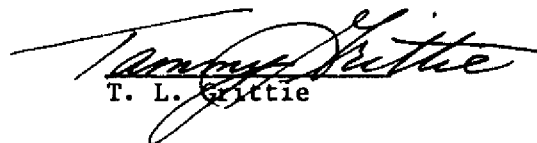
RECOMMENDATIONS: Request IH monitoring when personnel are in the area and/or the potential for disturbing the asbestos exists.

METHOD OF ANALYSIS: Microscopy

DATA AND REPORT BY: T. L. Grittie

ANALYSIS BY: JHM Labs

COPY TO: D. G. Beddow, D. A. Boggs, A. A. Cosper, E. L. Doerflein, R. P. Leichliter.


T. L. Grittie

TLG/le
5616A ✓

INDUSTRIAL HYGIENE MONITORING

DATE: June 20, 1987.

PROJECT: IH monitoring was requested as a result of concern over potential asbestos exposure in the Monomers control room. This concern was raised when it was found that loose insulation had dropped onto the roof of the building near the ventilation system intake.

DATE OF SAMPLES: 2/13/87

SUMMARY:

<u>SAMPLE</u>	<u>TYPE</u>	<u>TIME</u>		<u>MINUTES</u>	<u>FLOW RATE</u>	<u>VOLUME</u>	<u>CONC.</u>	<u>TWA8</u>
		<u>START</u>	<u>STOP</u>					
Z-8973	Area	11:02	18:52	470	3050 cc/min.	1433.5 l	<0.003 fibers/ cc	0.133 f/cc

RECOMMENDATIONS: Report these results to operators and staff in Monomers.

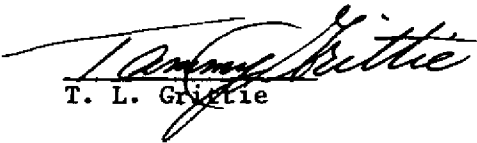
DISCUSSION: Operators should be commended for bringing this situation to the attention of I.H. Fiber concentrations were well below the 12-hour time weighted average PEL. Continued recognition/reporting/monitoring and correction of possible problem situations is strongly encouraged.

METHOD OF ANALYSIS: Microscopy

DATA AND REPORT BY: C. R. McMillan/T. L. Grittie

ANALYSIS BY: JHM Labs

COPY TO: D. G. Beddow, D. A. Boggs, A. A. Cosper, E. L. Doerflein, R. P. Leichliter.


T. L. Grittie

TLG/le✓
5609A

INDUSTRIAL HYGIENE MONITORING

DATE: June 30, 1987.

PROJECT: Monitor area N.E. of tank farm number 3 in Silanes for asbestos. White fibers were seen floating in the air. These fibers were never identified. Area sampling was performed upon request.

DATE OF SAMPLES: 3/24/87

SUMMARY:

<u>SAMPLE</u>	<u>TYPE</u>	<u>TIME</u>		<u>MIN.</u>	<u>FLOW</u>	<u>VOLUME</u>	<u>CONC.</u>	<u>TWA12</u>
		<u>START</u>	<u>STOP</u>		<u>RATE</u>			
Z-9109	Area	10:48	15:48	300	3050 cc/min	915 1	<0.005 f/cc	0.133 fibers/cc

RECOMMENDATIONS: Communicate results to area personnel.

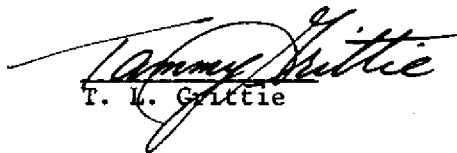
DISCUSSION: Concentrations during the sampling period were well below the TWA₁₂ PEL for asbestos. This is based on the assumption that the material was asbestos even though it was never identified. Caution should be used when making such assumptions.

METHOD OF ANALYSIS: Microscopy

DATA AND REPORT BY: C. R. McMillan/T. L. Grittie

ANALYSIS BY: JHM Labs

COPY TO: D. G. Beddow, D. A. Boggs, A. A. Cosper, E. L. Doerflein, R. P. Leichliter.


T. L. Grittie

TLG/le
5608A ✓

INDUSTRIAL HYGIENE RESULTS

DATE: July 1, 1987.

PROJECT: Monitor Poly I control room for exposure potential to asbestos. Asbestos insulation is above the ceiling tiles and concern was expressed over the potential for a hazard to exist in the control room.

DATE OF SAMPLES: 4/29/87

SUMMARY:

SAMPLE	TYPE	LOCATION	TIME		MINUTES	RESULTS	PEL
			START	STOP			TWA ₁₂
Z-9221	Source	Next to crawl space near missing ceiling tile above Bailey	9:20	16:10	410	<0.003 f/cc	0.13 f/cc
Z-9222	Area	Operators desk	*	*	98	0.01 f/cc	0.13 f/cc

*The pump shut off at some point during the sampling but ran for 98 minutes at the flow rate.

DISCUSSION: Both samples were below the TWA₁₂ PEL as well as the action level.

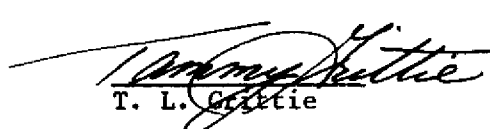
RECOMMENDATIONS: Conduct personnel monitoring for operator spending the most time in that area. Share the above results with personnel in that area. Notify IH if the ceiling tiles are to be removed.

METHOD OF ANALYSIS: Microscopy

DATA AND REPORT BY: T. L. Grittie

ANALYSIS BY: JHM Labs

COPY TO: D. G. Beddow, D. A. Boggs, E. L. Doerflein, T. K. Ioannou, J. K. Kyle, L. P. Smith.


T. L. Grittie

TLG/le ✓
617A

WV-0220 #29

INDUSTRIAL HYGIENE RESULTS

DATE: July 1, 1987.

PROJECT: Monitor insulators for asbestos exposure while using glove bags to strip T-111 in Tank Farm 4 in Silanes.

DATE OF SAMPLES: 4/30/87

SUMMARY:

<u>SAMPLE</u>	<u>TYPE</u>	<u>TIME</u>		<u>MINUTES</u>	<u>RESULTS</u>	<u>PEL</u>
		<u>START</u>	<u>STOP</u>			<u>TWA8</u>
Z-9225	BZ	12:54	13:34	40	0.14 f/cc	0.2 f/cc
Z-9226	BZ	12:57	13:34	37	<0.03 f/cc	0.2 f/cc

DISCUSSION: During the short sample time the fiber concentrations were below the PEL TWA₈ of 0.2 f/cc. Sample Z-9225 was slightly above the action level. Due to the short duration of sampling neither are truly indicative of an 8 hour exposure. The insulators wore breathing air. Glove bag method was used.

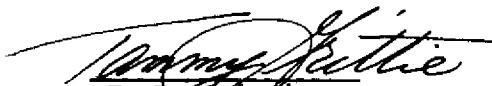
RECOMMENDATIONS: Share this information with insulators. Continue to request I.H. monitoring.

METHOD OF ANALYSIS: Microscopy

DATA AND REPORT BY: C. R. McMillan/T. L. Grittie

ANALYSIS BY: JHM Labs

COPY TO: D. G. Beddow, D. A. Boggs, A. A. Cosper, E. L. Doerflein, J. K. Kyle, R. P. Leichliter, K. B. Purinton, W. V. Summers, G. W. Wulfert.


T. L. Grittie

TLG/le
5618A ✓

INDUSTRIAL HYGIENE RESULTS

DATE: June 30, 1987.

PROJECT: Monitor insulators for asbestos exposure while removing insulation from Emulsion Building, Polymers II.

DATE OF SAMPLES: 2/15/87 and 2/17/87

SUMMARY:

<u>SAMPLE</u>	<u>TYPE</u>	<u>DATE</u>	<u>TIME START</u>	<u>TIME STOP</u>	<u>MINUTES</u>	<u>RESULTS</u>	<u>COMMENTS</u>
Z-9050	BZ	2/15	13:15	14:20	65	<0.02 f/cc	Glove Bag
Z-9051	BZ	2/15	13:17	14:20	63	0.09 f/cc	Glove Bag
Z-9052	BZ	2/17	10:30	11:30	60	0.68 f/cc	Inside negative pressure enclosure

BZ = breathing zone

DISCUSSION:

All insulators monitored wore airline respirators. As one can see from the above data, the use of glove bags where feasible, significantly reduces personnel exposure and should be the engineering control of choice if possible. Sample Z-9052 shows a fiber concentration above the PEL, TWA₈ of 0.2 f/cc during the sampling period. This concentration is, however, well below the limitations of the respirator.

RECOMMENDATIONS:

Use glove bags wherever feasible. Regardless of the method of choice, the material must be thoroughly wetted to minimize fibers in the air. Share this information with insulators.

METHOD OF ANALYSIS:

Microscopy

DATA AND REPORT BY:

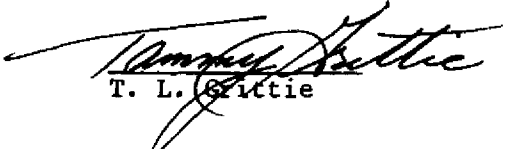
C. R. McMillan/T. L. Grittie

ANALYSIS BY:

JHM Labs

COPY TO:

D. A. Boggs, E. L. Doerflein, J. K. Kyle, D. L. Mullins, K. B. Purinton, W. V. Summers, G. W. Wulfert.


T. L. Grittie

TLG/le
5601A ✓

100-000000-31

INDUSTRIAL HYGIENE MONITORING

DATE: June 30, 1987.

PROJECT: Monitor insulators for asbestos exposure while
patching exposed insulation on T-3 methyl chloride
tank in Monomers.

DATE OF SAMPLES: 3/26/87

<u>SAMPLE</u>	<u>TYPE</u>	<u>TIME</u>		<u>MIN.</u>	<u>FLOW RATE</u> (cc/min)	<u>VOLUME</u> (liters)	<u>CONC.</u>	<u>PEL TWA8</u>	<u>RESP.</u>
		<u>START</u>	<u>STOP</u>						
Z-9132	BZ	10:27	11:24	57	4000	228	<0.0022 f/cc	0.20 f/cc	A
Z-9133	BZ	10:30	11:24	54	4000	216	0.03 f/cc	0.20 f/cc	A
Z-9134	BZ	10:28	11:24	56	4000	224	<0.02 f/cc	0.20 f/cc	A

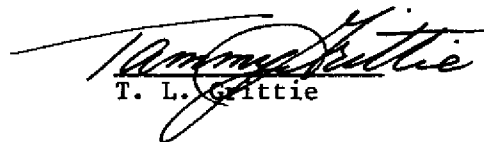
RECOMMENDATIONS: Share this information with the insulators

DISCUSSION: All samples were well below the PEL during the
sample period.

METHOD OF ANALYSIS: Microscopy

DATA AND REPORT BY: C. R. McMillan/T. L. Grittie

ANALYSIS BY: JHM Labs

COPY TO: D. G. Beddow, D. A. Boggs, A. A. Cosper, E. L.
Doerflein, J. J. Kyle, R. P. Leichliter, K. B.
Purinton, W. V. Summers, G. W. Wulfert.
T. L. GrittieTLG/le✓
5610A

UNION CARBIDE CORPORATION

Specialty Chemicals

Sistersville Plant

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE PLANT

was monitored for exposure to asbestos on 3/26/87. His exposure averaged <0.0022 fibers/cc during a sampling period of 57 minutes, 10:27 to 11:24, while patching exposed insulation on T-3 methyl chloride tank in Monomers. His exposure was less than the PEL of 0.2 f/cc, TWA 8 hours, for asbestos. wore disposable coveralls, gloves, and an airline respirator.


T. L. Grittie

TLG/le✓
5611A
cc: Medical

G. W. Wulfert
Sample No. Z-9132

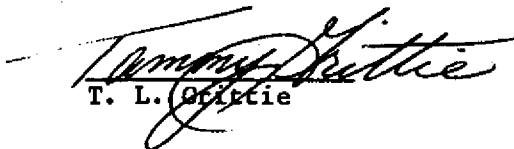
UV-0220 #33

UNION CARBIDE CORPORATION
Specialty Chemicals

Sistersville Plant

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE PLANT

was monitored for exposure to asbestos on 4/24/87. His exposure averaged < 0.004 f/cc during a sampling period of 56 minutes, 9:54 to 10:50, while operating K-57. His exposure was less than the PEL of 0.133 f/cc, TWA 12 hours, for asbestos. wore disposable coveralls and a half facepiece HEPA filter dual cartridge respirator.


T. L. Spittie

TLG/le ✓

5620A

cc: Medical

IH

D. L. Mullins

Sample: Z-9207

WV-0220 #34

UNION CARBIDE CORPORATION
Specialty Chemicals

Sistersville Plant

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE PLANT

was monitored for exposure to asbestos on 3/26/87. His exposure averaged 0.03 fibers/cc during a sampling period of 54 minutes, 10:30 to 11:24, while patching exposed insulation on T-3 methyl chloride tank in Monomers. His exposure was less than the PEL of 0.2 f/cc, TWA 8 hours, for asbestos. wore disposable coveralls, gloves and an Airline respirator.


T. L. Gattie

TLG/le
5612A

cc: Medical
IH

G. W. Wulfert

Sample: Z-9133

UNION CARBIDE CORPORATION
Specialty Chemicals

Sistersville Plant

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE PLANT

, was monitored for exposure to asbestos on 3/26/87. His exposure averaged < 0.02 fibers/cc during a sampling period of 56 minutes, 10:28 to 11:24, while patching exposed insulation on T-3 methyl chloride tank in Monomers. His exposure was less than the PEL of 0.20 f/cc, TWA 8 hours, for asbestos. He wore disposable coveralls, gloves, and an airline respirator.

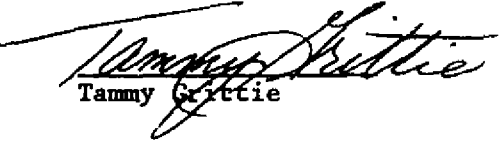

T. L. Grittie

TLG/18
5613A
cc: Medical
IH

G. W. Wulfert
Sample: Z-9134

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE

was monitored for exposure to asbestos on 2/13/87. His exposure averaged 0.22 fibers/cc during a sampling period of 182 minutes, 9:50 to 12:52, while stripping asbestos insulation from piping associated with Polymers I tanks behind the 8" mill area. His exposure was 0.22 fibers/cc of air which is above the 8 hour time weighted average permissible exposure limit of 0.2 fibers/cc of air. The glove bag method of removal was utilized as well as wet methods within the bag. wore protective clothing and a half facepiece respirator with dual HEPA filter cartridges.


Tammy Grittie

TLG/le✓

5595A

cc:

M. Patel
S. Walker
380 IH

Sample Z-8969

UNION CARBIDE CORPORATION
Specialty Chemicals

Sistersville Plant

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE

, was monitored for exposure to asbestos on 2/13/87. His exposure averaged 0.09 fibers/cc during a sampling period of 180 minutes, 9:52 to 12:52, while stripping asbestos insulation from piping associated with Poly I tanks behind the 8" mill area. His exposure was less than the PEL of 0.2 fibers/cc, TWA 8 hours, for asbestos. The glove bag method of removal was utilized as well as wet methods within the bag.

wore protective clothing and a half face piece respirator with dual HEPA filter cartridges.


Tammy Grittie

TLG/le✓
5597A
cc:

M. Patel
S. Walker
380 IH

Sample Z-8970

UNION CARBIDE CORPORATION
Specialty Chemicals

Sistersville Plant

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE PLANT

was monitored for exposure to asbestos on 4/23/87. His exposure averaged 0.10 fibers/cc during a sampling period of 300 minutes, 13:00 to 18:00, while cleaning up asbestos-containing debris in the Poly II kettlehouse in the K-57 area. His exposure was less than the PEL of 0.20 fibers/cc, TWA 8 hours, for asbestos. He wore disposable coveralls and an airline respirator.


T. L. Grifflie

TLG/le✓

5621A

cc: Medical
IH

G. W. Wulfert
Sample: Z-9220

WV-0220 #39

UNION CARBIDE CORPORATION

Specialty Chemicals

Sistersville Plant

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE PLANT

, was monitored for exposure to asbestos on 4/30/87. His exposure averaged 0.14 fibers/cc during a sampling period of 40 minutes, 12:54 to 13:34, while stripping insulation from T-111 in Silanes Tank Farm 4. His exposure was less than the PEL of 0.2 f/cc, TWA 8 hours, for asbestos. wore disposable protective clothing and an airline respirator. A glove bag was being used.


T. L. Grittie

TLG/le✓

5614A

cc: Medical

IH

G. W. Wulfert

Sample: Z-9225

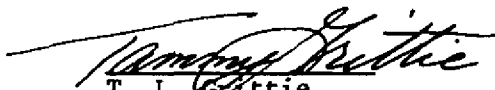
UNION CARBIDE CORPORATION

Specialty Chemicals

Sistersville Plant

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE PLANT

was monitored for exposure to asbestos on 4/30/87. His exposure averaged <0.03 fibers/cc during a sampling period of 37 minutes, 12:57 to 13:34, while stripping insulation from T-111 in Silanes Tank Farm 4. His exposure was less than the PEL of 0.2 f/cc, TWA 8 hours, for asbestos. He wore disposable protective clothing and an airline respirator. A glove bag was being used.


T. L. Gittie

TLG/le✓

5615A

cc: Medical

IH

G. W. Wulfert

Sample: Z-9226

WV-0270 #41

UNION CARBIDE CORPORATION
Specialty Chemicals

Sistersville Plant

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE

was monitored for exposure to asbestos on 2/15/87. His exposure averaged <0.02 fibers/cc during a sampling period of 65 minutes, 13:15 to 14:20, while removing insulation using a glove bag in the Emulsion Building. His exposure was less than the PEL of 0.2 fibers/cc, TWA 8 hours, for asbestos wore disposable protective clothing and an airline respirator.


T. L. Grittie

TLG/le✓
5604A

cc: Medical
IH

G. W. Wulfert
Sample Z-9050

WV-0270#42

UNION CARBIDE CORPORATION

Specialty Chemicals

Sistersville Plant

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE

, was monitored for exposure to asbestos on 2/15/87. His exposure averaged 0.09 fibers/cc during a sampling period of 63 minutes, 13:17 to 14:20, while removing insulation in the Emulsion Building using a glove bag. His exposure was less than the PEL of 0.2 f/cc, TWA 8 hours, for asbestos. wore disposable protective clothing and an airline respirator.


T. L. Grattie

TLG/le

5603A✓

cc: Medical
IH

G. W. Wulfert
Sample: Z-9051

WV-0220743

UNION CARBIDE CORPORATION
Specialty Chemicals

Sistersville Plant

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE

was monitored for exposure to asbestos on 2/17/87. His exposure averaged 0.68 fibers/cc during a sampling period of 60 minutes, 10:30 to 11:30, while removing insulation within a negative pressure enclosure erected in the emulsion building. His exposure was greater than the PEL of 0.2 f/cc, TWA 8 hours, for asbestos. He wore disposable protective clothing and an airline respirator. The fiber concentration during the sampling period is well within the limitations of an airline respirator.


T. L. Grittie

TLG/le ✓

5602A ✓

cc: Medical
IH

G. W. Wulfert
Sample: Z-9052

WV-0270#44

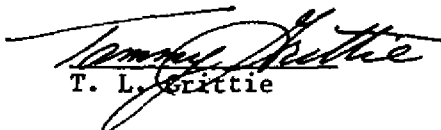
UNION CARBIDE CORPORATION
Specialty Chemicals

Sistersville Plant

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE PLANT

was monitored for exposure to asbestos on 4/21/87. His exposure averaged <0.05 fibers/cc during a sampling period of 23 minutes, 11:07 to 11:30, while stripping asbestos using a glove bag on the 2nd level of the Rectification Tower in Silanes.

His exposure was less than the PEL of 0.2 f/cc, TWA 8 hours, for asbestos. wore disposable coveralls and an airline respirator.


T. L. Grittie

TLG/le✓
5606A

cc: Medical
IH
G. W. Wulfert

Sample: Z-9208

MEMORANDUM TO: C. A. Gorrell
K. B. Purinton
G. W. Wulfert
Mechanic Foremen
Pipefitter Foremen

FROM: T. L. Grittie

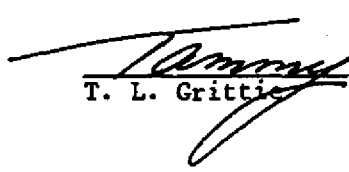
DATE: May 5, 1987.

SUBJECT: Monitoring Asbestos Exposure During Gasket Removal

COPY TO: D. A. Boggs
E. L. Doerflein
C. R. McMillan

To comply with the new asbestos standard, it is necessary to monitor all employees who could potentially be exposed to asbestos. An exposure potential exists for those craftsmen who remove asbestos gaskets. From the small amount of historical I.H. data that we have, exposure should be inconsequential. Our data base is, however, not large enough to statistically support this premise. Therefore I must ask that you or your craftsman notify I.H. when asbestos gaskets are being removed. Please provide as much lead time as possible so that we will have monitoring equipment available and won't cause any delay in the work. Please call either myself (ext. 521) or Chuck McMillan (ext. 475).

Thank you for your cooperation.


T. L. Grittie

TLG/le
5523A

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE

was monitored for exposure to asbestos on 2/11/87. His exposure averaged <0.005 f/cc during a sampling period of 332 minutes, 9:15 to 15:37, while removing roofing (part transite) from the Polymers I Kettle House. His exposure was less than the PEL of 0.2 f/cc, TWA 8 hours, for asbestos. wore full body covering and a Comfo II respirator with HEPA filters.

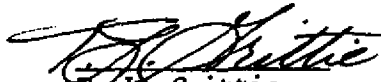

F. L. Grittie

TLG/le
5474A
cc:

J. Boley
IH
Medical

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE

was monitored for exposure to asbestos on 2/11/87. His exposure averaged 0.05 fibers/cc during a sampling period of 333 minutes, 9:13 to 15:36, while removing roofing (part transite) from the Polymers I Kettlehouse. His exposure was less than the PEL of 0.2 f/cc, TWA 8 hours, for asbestos. wore full body covering and a Comfo II respirator with HEPA filters.


I. L. Grittie

TLG/le
5473A
cc:

J. Boley
IH
Medical

UV-0220 #88

INDUSTRIAL HYGIENE RESULTS

DATE: April 7, 1987.

PROJECT: Monitor contractors for exposure to asbestos while working on roof, part of which was transite. Polymers I, Kettlehouse roof.

DATE OF SAMPLES: 2/11/87

<u>SAMPLE</u>	<u>TYPE</u>	<u>TIME START</u>	<u>TIME STOP</u>	<u>RESPIRATOR?</u>	<u>LOCATION</u>	<u>RESULTS</u>
Z-8965	A	8:41	10:38	N/A	Top of T-234	< 0.001 f/cc
Z-8966	BZ	9:13	15:36	Comfo II HEPA filter	Poly I Kettle- house roof	0.05 f/cc
Z-8967	BZ	9:15	15:37	Comfo II HEPA filter	Poly Kettle- house roof	< 0.005 f/cc
Z-8968	A	8:32	15:39	N/A	Kettle- house roof	< 0.003 f/cc

A = Area
BZ = Breathing Zone

DISCUSSION: All samples were below the OSHA PEL TWA₈ of 0.2 fibers/cc as well as below the action level of 0.1 fibers/cc.

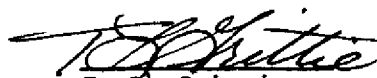
RECOMMENDATIONS: Share this information with both contractor and area personnel. Request I.H. monitoring when working with transite.

METHOD OF ANALYSIS: Microscopy

DATA AND REPORT BY: C. R. McMillan/T. L. Grittie

ANALYSIS BY: JHM Labs

COPY TO: D. G. Beddow, D. A. Boggs, J. E. Boley, E. L. Doerflein, T. K. Ioannou, F. M. Plechaty, L. P. Smith, W. V. Summers, G. W. Wulfert


T. L. Grittie

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE

was monitored for exposure to asbestos on 2/4/87. Her exposure averaged 40.008 f/cc during a sampling period of 159 minutes, 13:33 to 16:12, while operating in the emulsion building. Her exposure was less than the PEL of 0.133 f/cc, TWA 12 hours, for asbestos.


T. L. Grittie

TLG/le
5466A
cc:

R. Leichliter
IH
Medical

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE

was monitored for exposure to asbestos on 1/29/87. His exposure averaged 0.021 f/cc during a sampling period of 54 minutes, 14:36 to 15:30, while de-insulating R-6 in the Reactor Tower in Silanes. His exposure was less than the PEL of 0.2 f/cc, TWA 8 hours, for asbestos. wore full body, disposable coveralls and an airline respirator. A negative pressure enclosure was built around the reactor during the de-insulation.


T. L. Grittie

TLG/le
5462A
cc:

G. W. Wulfert
IH
Medical

INDUSTRIAL HYGIENE
PERSONNEL MONITORING REPORT
UCC, SISTERSVILLE

, was monitored for exposure to asbestos on 2/10/87. His exposure averaged 0.52 f/cc during a sampling period of 53 minutes, 10:32 to 11:21, while deinsulating R-2 in the Reactor Tower of Silanes. This concentration is above the OSHA PEL TWA_g of 0.2 f/cc. Full body covering and airline respiratory protection were worn by


T. M. Grittie

TLG/le
5469A
cc:

G. W. Wulfert
IH
Medical

INDUSTRIAL HYGIENE
PERSONNEL MONITORING REPORT
UCC, SISTERSVILLE

_____, was monitored for exposure to asbestos on 2/10/87. His exposure averaged 0.31 f/cc during a sampling period of 57 minutes, 10:30 to 11:23, while deinsulating R-2 in the Reactor Tower of Silanes. His exposure was higher than the OSHA PEL of 0.2 f/cc during the 57 minute monitoring period. It is not, however expected that this concentration would be maintained over the full 8-hour day. _____ wore full body covering and an airline respirator.


T. H. Grittie

TLG/le
5470A
cc:

G. W. Wulfert
Medical
IH

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE

was monitored for exposure to asbestos on 1/20/87. His exposure averaged 0.074 fibers/cc during a sampling period of 65 minutes, 14:38 to 15:43, while removing transite from the roof of Polymers I Kettlehouse. His exposure was less than the PEL of 0.2 f/cc, TWA 8 hours, for asbestos. wore disposable coveralls and a Comfo II respirator with HEPA filters.


F. D. Grittie

TLG/le

cc:

J. Boley
IH
Medical

5456A

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE

was monitored for exposure to asbestos on 1/16/87. His exposure averaged 0.035 fiber/cc during a sampling period of 64 minutes, 14:25 to 15:29, while removing asbestos gaskets. His exposure was less than the PEL of 0.20 f/cc, TWA 8 hours, for asbestos.


T. L. Grittie

TLG/le
5455A
cc:

G. W. Wulfert
IH
Medical

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE

was monitored for exposure to asbestos on 1/20/87. His exposure averaged 0.160 f/cc during a sampling period of 62 minutes, 14:40 to 15:42, while removing transite from the roof of the Polymers I kettlehouse. His exposure was less than the PEL of 0.20 PPM, TWA 8 hours, for asbestos. wore disposable coveralls and a Comfo II respirator with HEPA filters.


T. L. Grittie

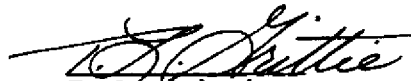
TLG/le
5457A

cc:

J. E. Boley
IH
Medical

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE

, was monitored for exposure to asbestos on 1/22/87. His exposure averaged <0.003 f/cc during a sampling period of 375 minutes, 8:45 to 15:00, while operating K-40. His exposure was less than the PEL of 0.133 f/cc, TWA 12 hours, for asbestos.

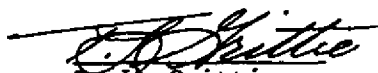

T. L. Crittie

TLG/le
5460A
cc:

J. E. Boley
IH
Medical

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE

, was monitored for exposure to asbestos on 1/29/87. His exposure averaged 0.109 f/cc during a sampling period of 67 minutes, 14:35 to 15:42, while deinsulating R-6 in the Reactor Tower in Silanes. His exposure was less than the PEL of 0.2 f/cc, TWA 8 hours, for asbestos. wore full body, disposable clothing and an airline respirator. A negative pressure enclosure was built around the reactor during the deinsulation.


T. E. Critt

TLG/le
5463A
cc:

G. W. Wulfert
IH
Medical

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE

was monitored for exposure to asbestos on 1/30/87. His exposure averaged 0.129 f/cc during a sampling period of 47 minutes, 12:53 to 13:40, while deinsulating R-6 in the Reactor Tower of Silanes. His exposure was less than the PEL of 0.2 f/cc, TWA 8 hours, for asbestos. wore full body, disposable coveralls and an airline respirator. A negative pressure enclosure was built around the reactor during the deinsulation.


T. A. Grittie

TLG/le
5464A

cc:

G. W. Wulfert
IH
Medical

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE

was monitored for exposure to asbestos on 1/30/87. His exposure averaged 0.026 f/cc during a sampling period of 43 minutes, 12:57 to 13:40, while deinsulating R-6 of the Reactor Tower of Silanes. His exposure was less than the PEL of 0.2 f/cc, TWA 8 hours, for asbestos. wore full body, disposable coveralls and an airline respirator. A negative pressure enclosure was built around the reactor during the deinsulation.


T. K. Grittie

TLG/le
5465A
cc:

G. W. Wulfert
IH
Medical

INDUSTRIAL HYGIENE
PERSONNEL MONITORING REPORT
UCC, SISTERSVILLE

was monitored for exposure to asbestos on 1/20/87. His exposure averaged <0.032 f/cc during a sampling period of 34 minutes, 10:33 to 11:01, while removing asbestos from a heater in the fluids lab. His exposure was less than the PEL of 0.2 f/cc, TWA 8 hours, for asbestos.


T. L. Grittie

TLG/le
5453A
cc:

G. W. Wulfert
IH
Medical

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE

, was monitored for exposure to asbestos on 1/16/87. His exposure averaged 0.158 f/cc during a sampling period of 56 minutes, 10:34 to 11:30, while removing asbestos from K-36 system using a glove bag. His exposure was less than the PEL of 0.2 f/cc, TWA 8 hours, for asbestos. If this exposure level were maintained over the entire 8-hour day the results would be above the action level. Airline respirators were worn by all of the insulators.


T. L. Grittie

TLG/le
5445A

cc: Medical
IH

G. W. Wulfert

INDUSTRIAL HYGIENE
PERSONAL MONITORING REPORT
UCC, SISTERSVILLE

, was monitored for exposure to asbestos on 1/16/87. His exposure averaged 0.272 f/cc during a sampling period of 58 minutes, 14:31 to 15:29, while removing asbestos from K-36 system using a glove bag. If this exposure level were maintained over the entire 8-hour day the results would be above the OSHA PEL, TWA 8 hours. An airline respirator was worn during the entire 58 minute monitoring period.


T. L. Girtie

TLG/le
5448A
cc: Medical
IH

G. W. Wulfert

INDUSTRIAL HYGIENE RESULTS

DATE: April 6, 1987.

PROJECT: Monitor K-40 operator for asbestos exposure due to ambient air movement. The operator performed the regular duties of the K-40 operator.

DATE OF SAMPLES: 1/22/87

<u>SAMPLE</u>	<u>TYPE</u>	<u>TIME START</u>	<u>TIME STOP</u>	<u>RESPIRATOR?</u>	<u>RESULTS</u>
Z-8889	BZ	8:45	15:00	No	<0.003 f/cc

BZ = Breathing Zone

DISCUSSION: The results (<0.003 fibers/cc) are well below the OSHA permissible exposure limit of 0.133 fibers/cc TWA₁₂ and also well below the action level of 0.667 fibers/cc (for 12 hours). This indicates that during a normal day the K-40 operator was not overexposed to asbestos.

RECOMMENDATIONS: Request I.H. monitoring of other operators who may be concerned about asbestos exposure. This will assist in pinpointing any "trouble spots". Share this information with operators.

METHOD OF ANALYSIS: Microscopy

DATA AND REPORT BY: C. R. McMillan/T. L. Grittie

ANALYSIS BY: Kemron Environmental

COPY TO: D. A. Boggs, E. L. Doerflein, D. L. Mullins, F. M. Plechaty, R. D. Smith, W. V. Summers


T. L. Grittie

TLG/1e
5459A

WV-0220#64

INDUSTRIAL HYGIENE RESULTS

DATE: April 6, 1987.

PROJECT: Monitor Emulsion Building area as well as an operator to determine the exposure potential due to exposed asbestos in the area.

DATE OF SAMPLES: 2/4/87

<u>SAMPLE</u>	<u>TYPE</u>	<u>TIME START</u>	<u>TIME STOP</u>	<u>RESPIRATOR</u>	<u>RESULTS</u>
Z-8956	Area	13:30	16:15	N/A	<0.007 fibers/cc
Z-8957	BZ	13:33	16:12	No	<0.008 fibers/cc

BZ = breathing zone

DISCUSSION: The area sample was placed approximately 3 inches from exposed asbestos on a vibrating pipe. Both the personnel and the area samples show levels well below both the action level (0.0667 fibers/cc - 12 hour average) and the OSHA Permissible Exposure Limit (TWA₁₂ of 0.133 f/cc).

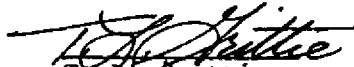
RECOMMENDATIONS: Where it is suspected that an exposure potential may exist, I.H. monitoring should be requested. Share these results with area operators.

METHOD OF ANALYSIS: Microscopy

DATA AND REPORT BY: T. L. Grittie

ANALYSIS BY: JHM Labs

COPY TO: D. A. Boggs, E. L. Doerflein, D. L. Mullins,
F. M. Plechaty, R. D. Smith, W. V. Summers.


T. L. Grittie

TLG/le
5467A

WV-0220 #65

INDUSTRIAL HYGIENE RESULTS

DATE: April 7, 1987.

PROJECT: Monitor insulators for asbestos during deinsulation of R-2 in the Reactor Area of Silanes. A negative pressure enclosure was built around the reactor for the purpose of deinsulation.

DATE OF SAMPLES: 2/10/87

<u>SAMPLE</u>	<u>TYPE</u>	<u>TIME START</u>	<u>TIME STOP</u>	<u>RESPIRATOR</u>	<u>RESULTS</u>
Z-8962	BZ	10:30	11:23	Airline	0.31 fibers/cc
Z-8963	BZ	10:32	11:21	Airline	0.52 fibers/cc

BZ = Breathing Zone

DISCUSSION: Both samples showed air concentrations above the OSHA PEL during the monitoring period. Respiratory protection was worn during the entire monitoring period. Even if one considers 4 - one hour exposure periods with no other exposures and averages this over 8 hours, sample Z-8963 would be above the PEL TWA_g of 0.2 fibers/cc. Obviously, these concentrations are unacceptable.

RECOMMENDATIONS: Wet methods must be used more effectively. The use of the enclosure keeps all ambient fibers in close proximity to the worker and therefore the methods used to prevent fiber release must be even more stringent. It goes without saying that respirators must continue to be used when working in the temporary enclosure. This will not be counted as an overexposure since respiratory protection prevented the employee from actually being exposed to the material.

METHOD OF ANALYSIS: Microscopy

DATA AND REPORT BY: T. L. Grittie

ANALYSIS BY: J.H.M. Labs

COPY TO: D. A. Boggs, E. L. Doerflein, J. K. Kyle, F. M. Plechaty, K. B. Purinton, W. V. Summers, G. W. Wulfert.


T. L. Grittie

TLG/1e
5468A