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RESPONSE TO EPA REQUEST FOR RESULTS OF TESTS ON VERMICULITE & TREMOLITE WITH ATTACHMENT

Chemical Name (300 per name)	25	CAS No. (10)	24
VERMICULITE		999999994	
TREMOLITE ASBESTOS		77536-68-6	

GRACE

Health, Safety and
Toxicology Department
Industrial Chemicals Group

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EPA
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88-8300516

Document Control Officer
Management Support Division
Office of Toxic Substances
U.S. Environmental Protection Agency
401 "M" Street, S.W.
Washington, D.C. 20460

Subject: EPA Document Control No. 8EHQ-0383-0473
Frank D. Kover's Letter 25 April 1983

Dear Sir:

Mr. Kover, in his response to our 8(e) notification on asbestiform tremolite, requested certain information. The request included actual past and present exposure levels for current Libby employees who show signs of asbestos-related disease as well as the nature of the diseases. We have attached an exposure summary for each such employee which indicates the nature of the disease in each case. Other information includes age and service. This is preliminary data from several viewpoints. The exposure levels are estimates which are undergoing continuing refinement and may be further modified as a result of the NIOSH and McDonald studies. They are average for particular tasks and individual situations may differ significantly due to temporary assignments not recorded in our personnel records . Further, the data prior to 1970 is based upon estimates derived from employee interviews and interpolation of dust exposure evaluations done in a manner different from that after 1970. There is no good way to convert the pre-1970 data which rated total airborne dust in millions of particles per cubic foot (mppcf) to the current system of fibers per cubic centimeter (f/cc) of air.

The diseases listed are based upon x-ray evaluations done for our annual mass screening program and while adequate for those purposes may not be so for epidemiological purposes. A thorough evaluation of current employees will be part of the work which will be performed by Drs. J. C. McDonald and A. D. McDonald. Therefore, there may be some changes in this data in the final documents resulting from the study at Libby. We assume from Mr. Kover's letter and the attached staff report that your immediate desire is to use the data to obtain a general overview rather than to do a statistical evaluation.

02/14/1996 EPA TSCA DOCKET

We note that the CAS number used for Libby tremolite in the staff analysis document is in error. CAS No. 14567-73-8 refers to the non-asbestiform variety of tremolite. The Libby mine contains asbestiform tremolite and the appropriate CAS number is 77536-68-6.
If you have questions concerning the attached information or require additional information, please contact me.

Yours truly,

H. A. Eschenbach

HAE/cs

cc without attachments: Frank D. Kover

attachments

02/14/1996 EPA TSCA DOCKET

W. R. GRACE
CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 40

SERVICE 15

EMPLOYMENT DATES	WORK HISTORY	MONTHS ON JOB	EXPOSURE LEVEL
BEG 3/25/68			4.00
END 4/13/68	77 CONSTRUCTION	1	4.00
BEG 4/13/68			36.00
END 7/ 9/68	44 SWEEPER	3	36.00
BEG 7/ 9/68			20.00
END 2/21/69	48 SKIP OPRTR	7	20.00
BEG 2/21/69			7.00
END 5/12/69	46 TESTER	3	7.00
BEG 5/12/69			25.00
END10/26/69	41 DRY MILL OPRTR	5	25.00
BEG10/26/69			14.00
END10/22/71	45 MILL WRIGHT	24	14.00
BEG10/22/71			7.00
END11/ 5/71	46 TESTER	1	7.00
BEG11/ 5/71			25.00
END12/ 4/71	41 DRY MILL OPRTR	1	25.00
BEG12/ 4/71			7.00
END12/ 7/72	46 TESTER	12	7.00
BEG12/ 7/72			25.00
END12/30/73	41 DRY MILL OPRTR	13	25.00
BEG12/30/73			14.00
END11/20/74	45 MILL WRIGHT	11	.30
BEG11/20/74			1.50
END 3/29/79	78 EXPORT OPRTR	52	.65
BEG 3/29/79			.30
END12/31/82	77 CONSTRUCTION	45	.30

Minor diffuse fibrosis

000004

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W. R. GRACE
CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 63

SERVICE 26

EMPLOYMENT DATES		WORK HISTORY	MONTHS ON JOB	EXPOSURE LEVEL
BEG 3/20/57				9.00
END 7/ 1/57	46	TESTER	4	9.00
BEG 7/ 1/57				33.00
END 6/18/58	41	DRY MILL OPRTR	12	33.00
BEG 6/18/58				3.00
END10/18/58	16	EUCLID OPRTR	4	3.00
BEG10/18/58				4.00
END10/16/59	77	CONSTRUCTION	12	4.00
BEG10/16/59				3.00
END 4/20/66	91	CONCENTRAT HLR	78	3.00
BEG 4/20/66				8.00
END12/31/82	95	LOADING DK FOR	200	.65

Pleural plaque

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W. R. GRACE
CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 53

SERVICE 34

EMPLOYMENT DATES	WORK HISTORY	MONTHS ON JOB	EXPOSURE LEVEL
BEG 4/25/49			4.00
END 8/24/49	77 CONSTRUCTION	4	4.00
BEG 8/24/49			15.00
END 9/ 9/49	93 ORE LOADER	1	15.00
BEG 9/ 9/49			3.00
END 1/ 1/50	12 MINE OPRT MISC	4	3.00
BEG 1/ 1/50			4.00
END 3/ 3/50	77 CONSTRUCTION	2	4.00
BEG 3/ 3/50			
END 4/ 1/50	99 TERMINATED		
BEG 4/ 1/50			4.00
END 6/ 1/50	77 CONSTRUCTION	2	4.00
BEG 6/ 1/50			3.00
END 6/ 1/50	16 EUCLID OPRTR		3.00
BEG 6/ 1/50			4.00
END10/ 1/50	77 CONSTRUCTION	4	4.00
BEG10/ 1/50			3.00
END 5/ 2/51	16 EUCLID OPRTR	7	3.00
BEG 5/ 2/51			3.00
END 1/ 4/54	12 MINE OPRT MISC	32	3.00
BEG 1/ 4/54			3.00
END 9/ 1/54	16 EUCLID OPRTR	8	3.00
BEG 9/ 1/54			3.00
END 7/29/68	12 MINE OPRT MISC	167	3.00
BEG 7/29/68			2.00
END12/31/62	21 FORMAN/MINE ENG	173	.25

Pleural disease and fibrosis

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W. R. GRACE
CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 48

SERVICE 18

EMPLOYMENT DATES		WORK HISTORY	MONTHS ON JOB	EXPOSURE LEVEL
BEG 7/ 2/53				25.00
END 4/26/61	54	MILLWRIGHT D M	93	20.00
BEG 4/26/61				
END11/15/65	99	TERMINATED		
BEG11/15/65				4.00
END 5/24/66	77	CONSTRUCTION	6	4.00
BEG 5/24/66				7.00
END 6/12/67	46	TESTER	13	7.00
BEG 6/12/67				36.00
END 8/14/67	44	SWEEPER	2	36.00
BEG 8/14/67				7.00
END11/26/67	46	TESTER	3	7.00
BEG11/26/67				5.00
END 3/14/68	42	W MILL OP UPPR	4	5.00
BEG 3/14/68				17.00
END 7/ 7/76	54	MILLWRIGHT D M	100	.30
BEG 7/ 7/76				.40
END 7/30/81	79	STEAM ENGNR	61	.40
BEG 7/30/81				.20
END12/31/81	74	ELECTRICIANS	5	.20
BEG12/31/81				.20
END12/31/82	74	ELECTRICIANS	12	.20

Parenchymal and pleural fibrosis

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CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 61

SERVICE 37

EMPLOYMENT DATES	WORK HISTORY	MONTHS ON JOB	EXPOSURE LEVEL
BEG 6/13/46			3.00
END11/ 1/49	16 EUCLID OPRTR	41	3.00
BEG11/ 1/49			4.00
END 1/ 2/50	77 CONSTRUCTION	2	4.00
BEG 1/ 2/50			3.00
END 3/ 1/50	12 MINE OPRT MISC	2	3.00
BEG 3/ 1/50			4.00
END 3/23/50	77 CONSTRUCTION	1	4.00
BEG 3/23/50			3.00
END 8/31/63	12 MINE OPRT MISC	161	3.00
BEG 8/31/63			2.00
END12/31/82	21 FORMAN/MINE ENG	232	.25

Pleural thickening and fibrosis

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W. R. GRACE
CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 54

SERVICE 16

EMPLOYMENT DATES	WORK HISTORY		MONTHS ON JOB	EXPOSURE LEVEL
BEG 8/30/67				4.00
END 1/ 9/68	77	CONSTRUCTION	5	4.00
BEG 1/ 9/68				5.00
END 3/ 6/68	42	W MILL OP UPPR	2	5.00
BEG 3/ 6/68				7.00
END 6/20/70	46	TESTER	27	7.00
BEG 6/20/70				25.00
END 3/15/71	41	DRY MILL OPRTR	9	25.00
BEG 3/15/71				7.00
END10/19/71	46	TESTER	7	7.00
BEG10/19/71				25.00
END11/30/71	41	DRY MILL OPRTR	1	25.00
BEG11/30/71				36.00
END 1/ 3/72	44	SWEEPER	2	36.00
BEG 1/ 3/72				17.00
END 1/17/72	54	MILLWRIGHT D M		17.00
BEG 1/17/72				36.00
END 2/11/72	44	SWEEPER	1	36.00
BEG 2/11/72				17.00
END 3/26/73	54	MILLWRIGHT D M	14	17.00
BEG 3/26/73				3.00
END 4/ 2/73	16	EUCLID OPRTR	1	3.00
BEG 4/ 2/73				
END 4/19/73	99	TERMINATED		
BEG 4/19/73				3.00
END 5/13/74	16	EUCLID OPRTR	13	3.00
BEG 5/13/74				3.00
END 4/18/77	91	CONCENTRAT HLR	35	.60
BEG 4/18/77				.25
END12/31/82	53	SCREEN PLT OPR	68	.25

Pleural thickening and minimal fibrosis

000009

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W. R. GRACE
CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 42

SERVICE 23

EMPLOYMENT DATES	WORK HISTORY	MONTHS ON JOB	EXPOSURE LEVEL
BEG 3/25/60			45.00
END 5/ 9/61	44 SWEEPER	14	45.00
BEG 5/ 9/61			9.00
END 6/ 1/61	46 TESTER	1	9.00
BEG 6/ 1/61			3.00
END10/ 2/61	19 DUMP MAN	4	3.00
BEG10/ 2/61			3.00
END 6/ 3/63	16 EUCLID OPRTR	21	3.00
BEG 6/20/63			4.00
END10/ 1/75	77 CONSTRUCTION	148	.30
BEG10/ 1/75			.30
END12/31/82	52 W MILL SUPERVR	87	.30

Pleural plaques and fibrosis

02/14/1996 EPA TSCA DOCKET

W. R. GRACE
CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 51

SERVICE 23

EMPLOYMENT DATES	WORK HISTORY	MONTHS ON JOB	EXPOSURE LEVEL
BEG 1/19/60			4.00
END 2/ 4/60	77 CONSTRUCTION	1	4.00
BEG 2/ 4/60			45.00
END 5/16/60	44 SWEEPER	3	45.00
BEG 5/16/60			2.00
END 8/ 8/60	71 MECHANICS	3	2.00
BEG 8/ 8/60			45.00
END 3/ 6/61	44 SWEEPER	7	45.00
BEG 3/ 6/61			3.00
END 5/ 1/61	19 DUMP MAN	2	3.00
BEG 5/ 1/61			3.00
END 4/12/65	16 EUCLID OPRTR	47	3.00
BEG 4/12/65			4.00
END 6/26/67	71 MECHANICS	26	4.00
BEG 6/26/67			4.00
END 9/25/72	73 SHEET METAL	63	1.00
BEG 9/25/72			7.00
END 3/12/73	46 TESTER	6	7.00

Minor pulmonary scarring

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W. R. GRACE
CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 17

SERVICE 16

EMPLOYMENT DATES	WORK HISTORY	MONTHS ON JOB	EXPOSURE LEVEL
BEG 9/ 6/67			5.00
END 9/11/67	42 W MILL OP UPPR		5.00
BEG 9/11/67			20.00
END 4/ 3/68	48 SKIP OPRTR	7	20.00
BEG 4/ 3/68			7.00
END 7/19/68	46 TESTER	4	7.00
BEG 7/19/68			5.00
END 1/23/69	43 W MILL OP LOWR	6	5.00
BEG 1/23/69			12.00
END 2/16/69	55 MILLWRIGHT W M	1	12.00
BEG 2/16/69			5.00
END 5/12/69	43 W MILL OP LOWR	3	5.00
BEG 5/12/69			12.00
END12/31/82	55 MILLWRIGHT W M	163	.30

Pleural fibrosis

000012

02/14/1996 EPA TSCA DOCKET

W. R. GRACE
CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 63

SERVICE 36

EMPLOYMENT DATES	WORK HISTORY	MONTHS ON JOB	EXPOSURE LEVEL
BEG 3/ 1/48			3.00
END 9/ 1/48	12 MINE OPRT MISC	6	3.00
BEG 9/ 1/48			5.00
END12/31/82	90 MANAGEMENT	411	.01

Pleural and parenchymal scarring

[redacted]

EMPLOYEE EXPOSURE SUMMARY

SERVICE 20
I.D. NO.

EMPLOYMENT DATES	WORK HISTORY	ON JOB	EXPOSURE LEVEL
BEG 7/ 1/63			4.00
END11/ 8/63	77 CONSTRUCTION		4.00
BEG11/ 8/63			5.00
END 2/17/64	42 W MILL OP UPPR	3	5.0
BEG 2/17/64			20.00
END 5/ 3/65	48 SKIP OPRTR	15	20.00
BEG 5/ 3/65			5.00
END 6/21/65	42 W MILL OP UPPR	2	5.00
BEG 6/21/65			36.00
END 7/19/65	44 _ EEPER	1	36.00
BEG 7/19/65			20.00
END 8/23/65	48 SKIP OPRTR	1	20.00
BEG 8/23/65			25.00
END10/30/66	41 DRY MILL OPRTR	14	25.00
BEG10/30/66			14.00
END 3/20/67	45 MILL WRIGHT	5	14.00
BEG 3/20/67			25.00
END 9/ 5/67	41 DRY MILL OPRTR	6	25.00
BEG 9/ 5/67			14.00
END 8/ 5/68	45 MILL WRIGHT	11	14.00
BEG 8/ 5/68			25.00
END12/30/73	41 DRY MILL OPRTR	65	25.00
BEG12/30/73			5.00
END 2/22/82	42 W MILL OP UPPR	98	.90
BEG 2/22/82			.30
END12/31/82	45 MILL WRIGHT	10	.30

Mild emphysema and interstitial fibrosis

000014

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CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 61

SERVICE 19

EMPLOYMENT DATES	WORK HISTORY	MONTHS ON JOB	EXPOSURE LEVEL
BEG 11/26/64			4.00
END 5/ 1/74	47 RESEARCH WKRS	114	.25
BEG 5/ 1/74			.20
END 8/26/74	74 ELECTRICIANS	4	.20
BEG 8/26/74			.15
END12/31/82	76 WAREHOUSEMAN	100	.15

Mild fibrosis left base

000015

W. R. GRACE
CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 44

SERVICE 20

EMPLOYMENT DATES	WORK HISTORY	MONTHS ON JOB	EXPOSURE LEVEL
BEG 8/ 5/63			4.00
END 8/23/63	77 CONSTRUCTION	1	4.00
BEG 8/23/63			4.00
END10/ 1/67	47 RESEARCH WKRS	50	4.00
BEG10/ 1/67			2.00
END12/31/82	21 FORMAN/MINE ENG	182	.25

Pleural fibrosis

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W. R. GRACE
CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 55

SERVICE 32

EMPLOYMENT DATES	WORK HISTORY	MONTHS ON JOB	EXPOSURE LEVEL
BEG 8/23/45			4.00
END 8/27/45	77 CONSTRUCTION		4.00
BEG 8/27/45			
END10/27/48	99 TERMINATED		
BEG10/27/48			4.00
END 2/18/50	77 CONSTRUCTION	16	4.00
BEG 2/18/50			
END 8/30/51	99 TERMINATED		
BEG 8/30/51			45.00
END 9/ 4/51	44 SWEEPER	1	45.00
BEG 9/ 4/51			15.00
END10/16/51	46 TESTER	1	15.00
BEG10/16/51			33.00
END 7/27/67	41 DRY MILL OPRTR	189	25.00
BEG 7/27/67			8.00
END12/31/82	74 ELECTRICIANS	185	.20

Interstitial fibrosis

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W. R. GRACE
CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 48

SERVICE 16

EMPLOYMENT DATES	WORK HISTORY	MONTHS ON JOB	EXPOSURE LEVEL
BEG 4/ 3/67			4.00
END 4/ 3/67	77 CONSTRUCTION		4.00
BEG 4/ 3/67			3.00
END 4/26/67	19 DUMP MAN	1	3.00
BEG 4/26/67			3.00
END 2/18/72	16 EUCLID OPRTR	58	3.00
BEG 2/18/72			2.00
END11/ 6/72	18 TRANSFER PT OP	9	2.00
BEG11/ 6/72			5.00
END 4/ 2/73	11 DRILLERS	5	5.00
BEG 4/ 2/73			2.00
END 4/ 9/73	18 TRANSFER PT OP		2.00
BEG 4/ 9/73			5.00
END 4/18/75	11 DRILLERS	24	5.00
BEG 4/18/75			3.00
END10/21/75	16 EUCLID OPRTR	6	3.00
BEG10/21/75			3.00
END 2/ 1/76	15 DUMP DOZ OPRTR	4	.40

Pleural thickening and parenchymal scarring

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W. R. GRACE
CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 44

SERVICE 23

EMPLOYMENT DATES	WORK HISTORY	MONTHS ON JOB	EXPOSURE LEVEL
BEG 5/ 6/60			4.00
END12/31/82	77 CONSTRUCTION	271	.30

Pleural and parenchymal scarring

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W. R. GRACE
CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 63

SERVICE 31

EMPLOYMENT DATES	WORK HISTORY	MONTHS ON JOB	EXPOSURE LEVEL
BEG 3/ 4/52			45.00
END 4/ 7/52	44 SWEEPER	1	45.00
BEG 4/ 7/52			15.00
END 5/ 1/52	46 TESTER	1	15.00
BEG 5/ 1/52			33.00
END11/13/53	41 DRY MILL OPRTR	18	33.00
BEG11/13/53			25.00
END 5/12/58	45 MILL WRIGHT	54	16.00
BEG 5/12/58			4.00
END11/10/58	77 CONSTRUCTION	6	4.00
BEG11/10/58			9.00
END 3/ 6/59	46 TESTER	4	9.00
BEG 3/ 6/59			16.00
END 5/23/62	45 MILL WRIGHT	39	16.00
BEG 5/23/62			2.00
END12/31/82	73 SHEET METAL	247	.15

Bilateral parenchymal scarring

000020

W. R. GRACE
CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 49

SERVICE 20

EMPLOYMENT DATES	WORK HISTORY		MONTHS ON JOB	EXPOSURE LEVEL
BEG 7/ 1/63				4.00
END 2/17/64	77	CONSTRUCTION	8	4.00
BEG 2/17/64				3.00
END 5/14/64	19	DUMP MAN	3	3.00
BEG 5/14/64				4.00
END 6/ 9/69	77	CONSTRUCTION	61	4.00
BEG 6/ 9/69				3.00
END11/ 2/69	91	CONCENTRAT HLR	5	3.00
BEG11/ 2/69				2.00
END 1/28/70	18	TRANSFER PT OP	3	2.00
BEG 1/28/70				25.00
END 1/ 9/71	41	DRY MILL OPRTR	12	25.00
BEG 1/ 9/71				17.00
END 1/15/71	54	MILLWRIGHT D M		17.00
BEG 1/15/71				25.00
END 6/24/71	41	DRY MILL OPRTR	5	25.00
BEG 6/24/71				17.00
END 6/ 6/74	54	MILLWRIGHT D M	36	.30
BEG12/ 8/75				.30
END 1/ 5/76	54	MILLWRIGHT D M	1	.30
BEG 1/ 5/76				.25
END 2/ 7/76	53	SCREEN PLT OPR	1	.25
BEG 2/ 7/76				.30
END12/ 7/76	54	MILLWRIGHT D M	10	.30
BEG12/ 7/76				.15
END 2/28/77	72	MACHINISTS	3	.15
BEG 2/28/77				.30
END 5/ 3/77	54	MILLWRIGHT D M	3	.30
BEG 5/ 3/77				.60
END 8/13/79	91	CONCENTRAT HLR	27	.60
BEG 8/13/79				.65
END10/11/79	78	EXPORT OPRTR	2	.65
BEG10/11/79				.30
END12/11/80	77	CONSTRUCTION	14	.30
BEG12/11/80				.65
END 4/10/81	78	EXPORT OPRTR	4	.65
BEG 4/10/81				.30
END 6/ 6/81	77	CONSTRUCTION	2	.30
BEG 6/ 6/84				.40
END12/31/82	79	STEAM ENGNR	19	.40

Pleural and parenchymal scarring

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W. R. GRACE
CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 56

SERVICE 32

EMPLOYMENT DATES	WORK HISTORY	MONTHS ON JOB	EXPOSURE LEVEL
BEG 5/ 3/51			4.00
END 5/30/51	77 CONSTRUCTION	1	4.00
BEG 5/30/51			3.00
END 4/17/53	16 EUCLID OPRTR	23	3.00
BEG 4/17/53			3.00
END 1/ 4/54	12 MINE OPRT MISC	9	3.00
BEG 1/ 4/54			3.00
END 2/ 8/56	16 EUCLID OPRTR	25	3.00
BEG 2/ 8/56			3.00
END 8/ 3/56	12 MINE OPRT MISC	6	3.00
BEG 8/ 3/56			3.00
END11/23/56	16 EUCLID OPRTR	4	3.00
BEG11/23/56			3.00
END 1/ 9/67	12 MINE OPRT MISC	122	3.00
BEG 1/ 9/67			2.00
END 6/26/68	76 WAREHOUSEMAN	17.	.40
BEG 6/26/68			1.00
END 8/ 5/68	73 SHEET METAL	2	1.00
BEG 8/ 5/68			.40
END11/ 6/78	76 WAREHOUSEMAN	123	.15
BEG11/ 6/78			.90
END 5/21/79	42 W MILL OP UPPR	7	.90
BEG 5/21/79			.50
END 8/23/79	48 SKIP OPRTR	3	.50
BEG 8/23/79			.90
END12/31/82	42 W MILL OP UPPR	40	.90

Pleural disease

000022

W. R. GRACE
CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 62

SERVICE 26

EMPLOYMENT DATES	WORK DIVISION	MONTHS ON JOB	EXPOSURE LEVEL
BEG 8/14/50			4.00
END 1/ 1/51	77 CONSTRUCTION	5	4.00
BEG 1/ 1/51			3.00
END 1/ 1/52	16 EUCLID OPRTR	12	3.00
BEG 1/ 1/52			3.00
END 1/ 1/54	91 CONCENTRAT HLR	24	3.00
BEG 1/ 1/54			15.00
END 4/ 1/55	46 TESTER	15	9.00
BEG 4/ 1/55			
END 6/19/57	99 TERMINATED		
BEG 6/19/57			2.00
END12/31/82	21 FORMAN/MINE ENG	306	.25

Parenchymal fibrosis

000023

W. R. GRACE
CONSTRUCTION PRODUCTS DIVISION

EMPLOYEE EXPOSURE SUMMARY

AGE 45

SERVICE 16

EMPLOYMENT DATES	WORK HISTORY	MONTHS ON JOB	EXPOSURE LEVEL
BEG 4/20/67			20.00
END 9/26/67	48 SKIP OPRTR	5	20.00
BEG 9/26/67			25.00
END 9/11/68	41 DRY MILL OPRTR	12	25.00
BEG 9/11/68			17.00
END 9/11/73	54 MILLWRIGHT D M	60	17.00
BEG 9/11/73			20.00
END 5/ 8/74	48 SKIP OPRTR	8	3.00
BEG 5/ 8/74			.30
END 6/28/74	52 W MILL SUPERVR	2	.30
BEG 6/28/74			.40
END12/31/82	43 W MILL OP LOWR	102	.40

Minor parenchymal fibrosis

000024

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