



INTERNAL CORRESPONDENCE

UC-2833

MINING AND METALS DIVISION

P. O. BOX K, KING CITY, CALIFORNIA 93930

To (Name) Mr. Paul A. McDaniel
 Division Union Carbide Corporation
 Location 270 Park Avenue
 New York, New York

Date Feb. 1, 1967

Originating Dept.

Answering letter date

Copy to

Subject

Dear Mr. McDaniel:

Here are the latest series of dust counts. As you may notice, they have decreased from last time. This, I believe is due to high moisture in the product. Personnel were wearing respirators in the bagging room.

1-24-67	Location	PPM
	End of Bag Conveyor	2.6
	Same as above	2.2
	Bagging Room	3.8
	Same as above	4.2
	Rock Fiber Area	1.2
	Refiner Area	1.2
	General Mill	1.3
	Same as above	1.5
	Maintenance Bldg.	1.0
	Inside Michigan Loader	1.1
	Car Loading Operation	212
	Same as above	2.1
	Blank	5

Weather: Cloudy, light rain - High Purity Open - High moisture.

Very truly yours,

D. S. Kamens

DSK/jcb

cc: J. A. Riddle ✓

J. L. Myers



INTERNAL CORRESPONDENCE

MINING AND METALS DIVISION

P. O. BOX K, KING CITY, CALIFORNIA 93930

To (Name) P. W. McDaniel
 Division HS & EA 22nd Floor
 Location New York, NY

Date December 21, 1979

Originating Dept.

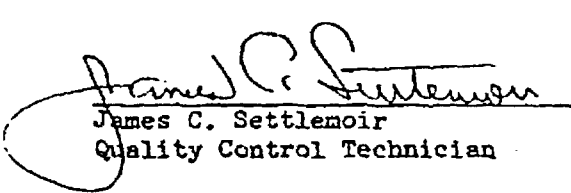
Answering letter date

Copy to W. B. DeAtley
 R. J. Kronkhyte
 O. J. Malacarne
 E. A. Piersall
 J. C. Settlemoir

Subject

PERSONAL AIR SAMPLES TAKEN FOR THE MONTH OF DECEMBER 1979

<u>Subject</u>	<u>Job Classification</u>	<u>Sampling Time min.</u>	<u>Average + 5m/ml</u>
Harry Roof	038 Bagger Operator	21-69	1.46
Thomas Moore	RG-244 Bagger Operator	60-71	0.74
Clyde Bailey	Press-Dryer Circuit Operator	56-87	0.21
Isabel Flores, Sr.	Outside Operator	53-78	0.78
Andy Anderson	Shift Supervisor	59-74	0.33
Adene Andrade	Labor Operator	21-64	1.69


 James C. Settlemoir
 Quality Control Technician

/dm

12/20/79

Subject:

Harry Roof - 038 Bagger Operator

Area:

Main Bagging Room

Conditions:

- 1) Full bagging, shrink wrapping, palletizing operation on Super Visbestos.
- 2) Light forklift traffic.
- 3) 5 - 10 mph wind from the south all day.
- 4) Clear to cloudy day, west door open.
- 5) Upper bagger enclosure partly filled with product from an inspection door being loose.
- 6) Circuit down due to maintenance repairs.

<u>Time</u>	<u>Work Performed</u>	<u>Average + 5m/ml</u>
8:57 A.M. - 9:35 A.M.	Circuit down, moved pallets of SVC around bagging room for double wrapping.	0.98
9:36 A.M. - 10:13 A.M.	Started circuit; worked around bagging room; took a break.	3.39
10:14 A.M. - 10:54 A.M.	Circuit down; vacuumed inside the upper bagger enclosure.	1.70
10:55 A.M. - 11:35 A.M.	Same as above until 11:15.	2.07
11:36 A.M. - 11:57 A.M.	Checked around bagging room.	1.12
12:33 P.M. - 1:40 P.M.	Put plastic bags into drums; moved pallets from the east door to the palletizer area.	0.40
1:41 P.M. - 2:50 P.M.	Placed SSG press cake in sample drums. Total 6 Drums.	0.54
	Average	1.46

12/18/79

Subject:

Thomas Moore - RG-244 Bagger Operator.

Area:

RG-244 Bagging Room

Conditions:

- 1) Full bagging, shrink wrapping, palletizing operation on RG-244.
- 2) North door open, fair day.
- 3) 5 - 10 mph wind from south all day.
- 4) New product return system to Raymond mill.
- 5) Moved pallets from RG-bagging room to storage area and took samples to the laboratory.
- 6) He was wearing a respirator.
- 7) Bulk car fill pipe plugged up at 1:50 P.M.

<u>Time</u>	<u>Work Performed</u>	<u>Average + 5m/ml</u>
9:25 A.M. - 10:25 A.M.	Normal conditions.	0.64
10:26 A.M. - 11:28 A.M.	" "	0.44
11:29 A.M. - 12:40 P.M.	" "	0.67
1:00 P.M. - 2:03 P.M.	" "	1.09
2:03 P.M. - 3:03 P.M.	" " , took break.	0.88
	Average	0.74

12/18/79

Subject: Clyde Bailey - Press-Dryer Circuit Operator

Area: Press-Dryer Circuit

Conditions: 1) Usual mill operating conditions.
2) East/south door closed; 5 - 10 mph wind from the south all day.

<u>Time</u>	<u>Work Performed</u>	<u>Average + 5m/ml</u>
9:15 A.M. - 10:20 A.M.	Normal conditions.	0.18
10:21 A.M. - 11:17 A.M.	" "	0.26
11:18 A.M. - 12:45 P.M.	" " , lunch for 30 min.	0.14
12:46 P.M. - 2:09 P.M.	" "	0.16
2:10 P.M. - 3:10 P.M.	" "	0.37
	Average	0.21

12/18/79

Subject: Isabel Flores, SR. - Outside Operator
Area: Mill, Mill Ore Loading System
Conditions: 1) Usual mill operating conditions.
2) Loaded ore into feed hopper.
3) Worked in RG-244 bagging room and took a bulk car sample to laboratory every hour.
4) Bulk car fill pipe plugged causing a pellet dust spill - 5 - 7 mph wind from south.
5) He was wearing a respirator.

<u>Time</u>	<u>Work Performed</u>	<u>Average + 5m/ml</u>
9:42 A.M. - 10:35 A.M.	Normal conditions.	0.84
10:36 A.M. - 11:39 A.M.	" "	0.61
11:40 A.M. - 12:46 P.M.	" " , changed bulk car.	1.08
12:47 P.M. - 2:05 P.M.	" "	0.71
2:06 P.M. - 3:07 P.M.	" "	0.67
	Average	0.78

12/18/79

Subject:

Andy Anderson - Shift Supervisor

Area:

Mill and Office

Conditions:

- 1) Usual mill operating conditions.
- 2) He was wearing a respirator as needed.
- 3) Main circuit down all day.

<u>Time</u>	<u>Work Performed</u>	<u>Average + 5/ml</u>
9:32 A.M. - 10:32 A.M.	Normal conditions.	0.28
10:33 A.M. - 11:32 A.M.	" "	0.24
11:33 A.M. - 12:37 P.M.	" "	0.28
12:38 P.M. - 1:52 P.M.	" "	0.36
1:53 P.M. - 3:04 P.M.	Checked bulk car for plugged up, normal conditions.	0.47
	Average	0.33

12/19/79

Subject:

Adene Andrade - Labor Operator

Area:

Storage and Shipping Area.

Conditions:

- 1) Usual loading trucks operating conditions.
- 2) 10 - 15 mph wind from the south in the morning and 0 - 7 mph wind from the south in the afternoon.
- 3) Cloudy day.
- 4) She was wearing a respirator as needed.

<u>Time</u>	<u>Work Performed</u>	<u>Filter</u>	<u>Average + 5m/ml</u>
9:37 A.M. - 10:30 A.M.	Hand loading containers of HPPEX with wrapped bags. (25mm)		Too much dirt.
10:47 A.M. - 11:08 A.M.	Same as above.	(35mm)	4.19
11:09 A.M. - 11:30 A.M.	Same as above until 11:20.	(35mm)	2.06
11:32 A.M. - 11:59 A.M.	Cleaned up around storage area. (35mm)		2.06
12:33 P.M. - 1:25 P.M.	Moved bulk car to a pick up area. (35mm)		0.52
1:26 P.M. - 2:30 P.M.	Cleaned up around storage area. (35mm)		0.94
3:00 P.M. - 3:57 P.M.	Same as above; took all empty paraplex drums to treasure island. (35mm)		1.11
		Average	1.69

Jan - Sept on Location
October - Dec on Personal

Personal

started to
head down

Location

OPERATOR	1963	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	
039 Engineer														3.63	3.03	1.67	2.50	1.67
Rolling Mill														1.82	1.12	0.82	1.16	1.17
Roller														1.02	0.88	0.39	1.03	0.63
Shipping Forklift														0.62	0.44	0.61	0.64	0.83
Maintenance														1.24	1.02	0.81	0.65	0.40
Press Driver														0.77	0.67	0.70	0.74	0.42
Outside														2.49	1.45	0.99	1.20	0.52
Rolling Mill														0.52	0.55	0.64	0.70	0.46
LABOR														—	—	—	—	1.56
Millwright														—	—	0.42	0.91	0.14
Trucks														—	—	0.49	0.22	0.07
LABORER														0.39	—	0.64	0.42	0.36
R.C. mill operator																2.03	0.70	—
Office																0.37	0.51	0.18
Plant Supervisor																0.46	1.12	0.46
Shift Supervisor																—	0.20	0.13
Main Office																		
														</				

PERSONAL AIR SAMPLE - YEAR

	1974	1975	1976	1977	1978	1979
MAIN BOYER-PALLETER OPERATOR	3.08	3.64	3.03	1.67	3.50	1.67
RG-244 Buggy Operator	1.65	1.52	1.12	0.82	1.26	1.17
Rock-Fiber Circuit OPERATOR	0.69	1.02	0.88	0.39	1.03	0.63
Shipping Forklift OPERATOR	0.87	0.62	0.44	0.61	0.64	0.83
Maintenance	1.12	1.24	1.02	0.81	0.65	0.40
Press-Dryer Operator	0.80	0.77	0.61	0.70	0.74	0.43
outside Operator	2.18	2.49	1.45	0.99	1.20	0.92
RG-244 wet Circuit operator	0.86	0.52	0.55	0.64	0.70	0.46
office (downstairs & upstairs)	-	-	-	-	0.30	0.13
shifter foreman	-	-	-	0.44	1.12	0.40
LABORATORY	-	0.39	-	0.64	0.50	0.38
mine site	-	-	-	0.42	0.91	0.14
KC bulldozer operator & stockpile	-	-	-	2.03	-	-
ORE TRUCKER	-	-	-	0.49	0.22	0.07

OCTOBER - DECEMBER (personal air sample)
 (2) JANUARY - SEPTEMBER (Breathing zone)

SAMPLE (1974) (AVERAGE $\pm$ MICRONS PER ML)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL AVE.
038 Bagging Room													
06244 Bagging Room													
06244 west Sulfur													
Pulverizer bumper area to Com. bin													
Product storage area													
Mill ore stockpile													
on board operating dust sweeper													
038 Hawk stacking area													
South fence line													
A board bulldozer													
Mine pit area, east side													
mine pit area, west side													
Screening area													
Top of ore stockpile													
Top of future stockpile													
Maintenance Mechanic													
COYER all change room													
street clothes change room													
Upstairs office													
Downstairs office													
Shipping operator													
(Center) Empty at start of sample													
(Center) Man taking lunch break													
on board sweeper													
LABORATORY													
change room location near room heater													
(Men changing for shift change)													
Same as above (Men changing mostly Mechanics)													
Change room near hand washing area													
Same as above (mostly mechanics)													
Outside operator													
LABOR operator													
Filter Press-digger operator													

ג'ק

UCC 025099

DATE	MAIN PRODUCT	MAIN OPERATOR	RG-244 OPERATOR	ROCK FIBER CIRCUIT OPER.	SHIPPING PORT/LIFT OFF.	MAINTENANCE	PRESS-DRYER CIRCUIT OPER.	CUTS/OFF OPERATOR	RG-244 WET CIRCUIT OPER.	OTHERS (SPECIFY)
JAN	SG103	1.87	1.29	1.27	0.26	0.30	0.46	1.43	0.47	0.18
FEB	SG103	1.87	1.29	1.27	0.26	0.30	0.46	1.43	0.47	0.18
MAR	SG103	1.87	1.29	1.27	0.26	0.30	0.46	1.43	0.47	0.18
APR	SG103	1.87	1.29	1.27	0.26	0.30	0.46	1.43	0.47	0.18
MAY	SG103	1.87	1.29	1.27	0.26	0.30	0.46	1.43	0.47	0.18
JUN	SG103	1.87	1.29	1.27	0.26	0.30	0.46	1.43	0.47	0.18
JUL	SG103	1.87	1.29	1.27	0.26	0.30	0.46	1.43	0.47	0.18
AUG	SG103	1.87	1.29	1.27	0.26	0.30	0.46	1.43	0.47	0.18
SEP	SG103	1.87	1.29	1.27	0.26	0.30	0.46	1.43	0.47	0.18
OCT	SG103	1.87	1.29	1.27	0.26	0.30	0.46	1.43	0.47	0.18
NOV	SG103	1.87	1.29	1.27	0.26	0.30	0.46	1.43	0.47	0.18
DEC	SG103	1.87	1.29	1.27	0.26	0.30	0.46	1.43	0.47	0.18

SUMMARY OF JOB EXPOSURES

Division

METALS

Page 1 of 1

Facility

KING CITY, CA.

Bldg. No.

Report Period

1ST HALF 1979

Job Description or Title	ID Code	Dept. s/o Operation	Air Contaminants and/or Physical Hazards	Number of Measurements	Range of Measurements (units)	Geometric Mean (GM)	Geometric Std. Dev. (GSD)	Current TLV (units)	Exposure as % of TLV	Comments or Notes
Bureau Maint No. I		MAINT.	Asbestos Dust	0	0.0 TO 2.0	-		2m/ft 4	-	
Mechanic No. I		"	"	0	"	-		"	-	
Electrician No. I		"	"	0	"	-		"	-	
Shift Leadman		MILL	"	0	"	-		"	-	
Mechanic No. II		MAINT.	"	2	"	.35		"	0.36	0.10 0.46
Bureau Maint No. II		"	"	0	"	-		"	-	
Mine Equip. Operator No. I		MINE	"	1	"	0.63		"	0.83	
Rock Fiber Operator		MILL	"	2	"	.71		"	0.83	1.17 0.815
Press Dyer Operator		"	"	2	"	.47		"	0.47	0.46 0.67
Ex-244 M/E Operator		"	"	2	"	.47		"	0.47	0.47 0.67
Mine Equipment Operator No. II		MINE	"	1	"	0.18		"	0.18	
Maintenance No. II		MAINT.	"	1	"	0.36		"	0.26	
Outside Operator		MILL	"	1	"	1.45		"	1.45	

$$\text{Geometric Mean (GM)} = \sqrt[n]{(x_1)(x_2) \dots (x_n)}$$

where: x_1 = value of first measurement x_n = value of last measurement n = the nth root of the product

$$\text{Geometric Standard Deviation (GSD)} = 10^{s_1}$$

* - Source of Standards:

1 - OSHA

2 - ACGIH or NIOSH

3 - UCC-NSEA

$$s_1 = \sqrt{\frac{1}{n-1} [(y_1^2 + y_2^2 + \dots + y_n^2) - n(\bar{y})^2]}$$

 $y_1, y_2, \dots, y_n$ = log of each measurement

SUMMARY OF JOB EXPOSURES

Division

METALS

Facility

KING CITY, CO.

Bldg. No.

Report Period

1ST HALF 1979

Page 2 of 1

Description or Title	ID Code	Dept. a/o Operation	Air Contaminants and/or Physical Hazards	Number of Measurements	Range of Measurements (units)	Geometric Mean (GM)	Geometric Std. Dev. (GSD)	Current TLV (units)	Exposure as % of TLV	Comments or Notes
MAINT./PALE-ER - OPERATOR		MILL	Asbestos Dust	6	0.070-2.0	1.81		2.0/4.0	2.05	5.5 0.07 5.5 1.81 0.07 2.05
MAINT. NO. I		"	"	2	"	.310		"	0.31	0.16 0.31 0.37 0.31 5
MAINT. OILER		MAINT.	"	0	"	—		"	—	
66ER SCAR (038)		MILL	"	6	"	1.81		"	2.05	SAME AS P/PALE-ER -
66ER SCAR (039)		"	"	6	"	1.19		"	1.32	1.19 1.19 2.05 1.19 1.32
MAINT. NO. II		"	"	2	"	.80		"	0.81	SAME AS SHIPPING/PALE-ER
WE UTILITY SCAR (038)		MILL	"	1	"	0.19		"	0.19	UTILITY SUMMER HOLD.
WE BOILER		MILL	"	0	"	—		"	—	
MAINT. ASSEMBLER		MILL	"	1	"	0.19		"	0.19	SAME AS MAINT. OPERATOR
MAINT. ASSEMBLER		MILL	"	1	"	0.72		"	0.72	
MAINT. ASSEMBLER		"	"	0	"	—		"	—	
MAINT. ASSEMBLER		MAINT.	"	0	"	—		"	—	
MAINT. ASSEMBLER		MILL	"	1	"	0.17		"	0.17	

$$\text{Geometric Mean (GM)} = \sqrt[n]{(x_1)(x_2) \dots (x_n)}$$

where: x_1 = value of first measurement x_n = value of last measurement n = the nth root of the product

$$\text{Geometric Standard Deviation (GSD)} = 10^{s_1}$$

 $s_1 =$

$$\sqrt{\frac{1}{n-1} \left[(y_1^2 + y_2^2 + \dots + y_n^2) - n(\bar{y})^2 \right]}$$

* - Source of Standards:

1 - OSHA

2 - ACGIH or NIOSH

3 - UCC-HSEA

SUMMARY OF JOB EXPOSURES

Division

METALS

Page 5 of 1

Facility

Ling City, CA

Bldg. No. -

Report Period

15th March 1977

Description or Title	ID Code	Dept. a/o Operation	Air Contaminants and/or Physical Hazards	Number of Measurements	Range of Measurements (units)	Geometric Mean (GM)	Geometric Std. Dev. (GSD)	Current TLV (units)	Exposure as % of TLV	Comments or Notes
ACTIVITY MONITOR		LAB	Asbestos Dust	1	0.0 to 2.0	0.48		20% M.L.	4	0.48
OFFICE		OFFICE	"	1	"	0.11		"	"	0.11
HOUSEMAN		"	"	1	"	0.18		"	"	0.18
LABORER		LAB	"	3	"	0.22		"	"	0.32
AGENCY		OFFICE	"	1	"	0.06		"	"	0.06
SECRETARY		"	"	2	"	0.17		"	"	0.19
ACCOUNTING		"	"	1	"	0.14		"	"	0.14
SALES MANAGER		"	"	1	"	0.09		"	"	0.09
SALES MANAGER		"	"	1	"	0.05		"	"	0.05
SALES MANAGER		"	"	1	"	0.20		"	"	0.20

Geometric Mean(GM) = $\sqrt[n]{(x_1)(x_2) \dots (x_n)}$

where: x_1 = value of first measurement

x_n = value of last measurement

n = the nth root of the product

Geometric Standard Deviation(GSD) = 10^{s_1}

$s_1 = \sqrt{(1/n-1) [(y_1^2 + y_2^2 + \dots + y_n^2) - n(\bar{y})^2]}$

$y_1, y_2, \dots, y_n$ = log of each measurement

* - Source of Standards:

1 - OSHA

2 - ACGIH or NIOSH

3 - UCC-HSEA

DATE 2ND HALF ATTN

1

BUDG. NO.

6-6-49

[illegible]