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MOUNT SINAI SCHOOL OF MEDICINE

of The City University of New York

FIFTH AVENUE AND 100TH STREET • NEW YORK, N.Y. 10029



Department of Community Medicine

August 1, 1973

Mr. Richard A. Meyer
Independent Oil Workers
OCAW 3-831
911 Billingsport Road
Gibbstown, New Jersey 08027

Dear Mr. Meyer:

We have reviewed our findings obtained during examination of 137 current and former employees of the Mobile Oil Company, Paulsboro Refinery.

I am enclosing a summary report of these findings for your review.

Although the investigation cannot be taken as definitive, it is evident that the findings suggest that significant asbestos-related diseases may exist among workers in this plant. It might properly be considered, then, that an appropriate examination and surveillance program be established, to minimize and avoid any serious consequences from the health hazards which may be present.

Should you feel that our Laboratory might be of assistance to you in the evaluation of such a program, we would be happy to provide whatever help we can.

Sincerely yours,

Irving J. Selikoff
Irving J. Selikoff, M.D.
Professor

EJS:sa

Enc.

cc: Mr. Tony Mazzocchi

PLAINTIFF'S EXHIBIT

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RESPONSIVE, OFTEN BY WAY OF
ILLUSTRATION, TO INTERROG. NO. 17
PREVIOUSLY ANSWERED IN JULY 1990

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I. INTRODUCTION

Physical examinations made of two groups of refinery workmen from the Mobil Oil Co., Paulsboro refinery. One group of 118 was examined in Paulsboro on January 20 and 21, 1973. A pilot group of 19 had been examined on November 7, 1972 in Paterson, N.J. The former group was selected from plant seniority lists to represent, in general, a cross section of the working population having at least twenty years seniority. Included in this group were 13 retirees. Because of special concern with disease associated with asbestos exposure, many of the workmen heavily exposed to asbestos dust were examined in 1971. These included insulators, masons and bricklayers, and some welders. The total group of 124 current employees represented approximately a 10% sample of the production and maintenance work force.

The examination of the 118 men included an occupational history, medical history, smoking questionnaire, physical examination of the chest, blood pressure, blood chemistry analysis, urinalysis, and audiometric screening, pulmonary function screening and chest X-ray examination. The examination of the 1971 group included appropriate histories, chest examination and X-ray. A detailed statistical summary of the examination results of the 118 workmen follows. For completeness, the X-ray results of the 19 workmen earlier examined are included in the summary tables. (Without such inclusion the individuals most heavily exposed to asbestos would be inappropriately represented.)

II. EXAMINATION GROUP

The age and refinery employment of the January examination group is shown in Table I. It was relatively homogenous in age. Most men were employed shortly before, during, or shortly after World War II when production sharply increased. As plant work force reductions took place during the late 1950's, these men

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sufficient seniority to retain their jobs. Table II lists type of work and number of men examined in several work categories. In both groups examined 57 men were production workers and 30 were maintenance employees.

III. Results

A. X-ray Examinations

The selection of workmen with at least twenty years from onset of refinery work served to emphasize the presence of X-ray abnormalities as such changes are seldom seen in young individuals. Moreover, occupational exposures to materials which can produce lung damage usually give rise to significant observable changes only after 15 or 20 years since onset of exposure.

Overall, nearly 50% of the two groups examined showed some X-ray evidence abnormalities. The type of X-ray abnormality was generally consistent with that seen following long exposure to asbestos. Virtually all of these changes were minimal and none were accompanied by more serious disease, such as bronchogenic cancer. As expected, those workmen directly exposed to asbestos had the greatest percentage of abnormal X-rays. 80% of those examined with such exposures had abnormal X-rays. Moreover, the degree of abnormality was greater than in any other group.

It is important to note that these data were obtained on a group of workmen who represented only a small sample of the work population and included only individuals who were readily willing to be examined. The data cannot be construed as generally representing refinery workmen. More extensive examination could reveal either a greater or lesser prevalence of disease. The data do suggest, however, that asbestos dust does not respect craft jurisdictions.

The dust produced by insulators or during maintenance and repair is breathed by the nearby pipefitters, welders, etc. and also by production operators working nearby.

4. Pulmonary Function Screening

As is often the case, positive X-ray changes for interstitial lung disease and decreased vital capacity tend to occur together. Table III shows such a correlation. 25% of those with abnormal X-rays also had restrictive pulmonary function. Only 9% of those with normal X-rays had such restricted lung capacity. Obstructive lung function, e.g. obstruction of air flow in bronchial passages, is shown to be more strongly associated with past smoking history than with the presence of X-ray abnormalities, as was to be expected. Table IV gives the detailed smoking history of both groups and Table V, the prevalence of changes consistent with chronic bronchitis in relation to smoking history.

5. Hearing Screening

The striking feature of the audiometric screening is the general prevalence of hearing loss among virtually all workers. Figures I and II show the hearing loss by age category for the refinery workmen compared with a group of similarly aged individuals in the general population. The comparison is only an approximate one as the conditions for hearing tests were inadequate. However, the consistent presence, in all age groups, of a sharp drop in hearing ability at 4000 cycles/sec. suggests even here, the possibility of substantial noise induced hearing loss.

6. History of Disease

Table VI lists the history of previous cancer in the group of 110 men. It is not remarkable except for the presence of two bladder cancer

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These are sufficiently rare in the general population that two present in this group is somewhat unusual. The possibility of this association with refinery exposures may be considered.

IV. SUMMARY

X-ray changes, largely consistent with asbestos exposure, were seen in nearly half of 137 men examined from the Paulsboro refinery. In general, the changes were limited in extent. The percentage and degree of changes were greatest in men directly working with asbestos. However, the prevalence of some abnormalities in other maintenance workers and in production workers indicates that indirect occupational exposure to asbestos can be a significant problem in refinery work.

Limited audiometric screening suggested that wide spread noise induced hearing loss was present in the group of workers examined.

Finally, the history of bladder cancers in two of 118 men suggests the need for review of the possibility that this may be a significant problem.

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Table 1
Age distribution of 137 refinery workers,
by years since first exposure

Years since first exposure	Length of exposure (years)	Number	Age range	Average age
20-29	20-29	65	41-65	50.0
30-39	30-39	55	48-70	53.4
	15	1	81	81
40-49	40-47	12	59-66	63.1
	36-39	4	64-70	68.2

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Table II

Work Activities of 137 Production and Maintenance Employees

Type of Work	Active	Retirees
"Clean Work" (Docks, Case-Can, Auto Shop)	10	1
"Dusty" Production Work (Bead Plant, Filter Dept.)	5	
Fume Exposure (All other production units)	28	7
Mixed Fumes and Dust	6	
"Clean" Maintenance (Carpenters, Machinists, Electricians, etc.)	21	2
High Asbestos Exposure (Insulators, Masons, and Bricklayers)	13	3
Other Maintenance (Pipefitters, Welders, and Boilermakers)	41	
Totals	124	13

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Table III

Pulmonary function abnormalities
in relation to X-ray changes
and smoking

	Restriction				Obstruction			
	Smokers	Ex-smokers	Non-smokers	Total	Smokers	Ex-smokers	Non-smokers	Total
Parenchymal and/or pleural changes	7	6	3	16	11	9	0	20
Number of persons 65	11%	9%	5%	25%	17%	14%		31%
No charges	2	2	2	6	8	5	3	16
Number of persons 71	3%	3%	3%	9%	11%	7%	4%	22%

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Table IV

Smoking Habits

Length of exposure (years)	Number of Workers	Smoking Habits		
		Smokers	Ex-smokers	Non-smokers
20-29	65	22 34%	23 35%	20 31%
30-39	56	19 34%	21 37%	16 29%
40+	16	4 25%	10 52%	2 13%
Total	137	45 33%	54 39%	38 28%

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Table V

Prevalence of Chronic Bronchitis

Length of exposure (years)	Number of Persons	Smokers	Ex-Smokers	Non-Smokers	Total
20-29	65	9	4	3	16 25%
30-39	56	11	3	1	15 27%
40+	16	1	1	0	2 12.5%
Total	137	21	8	4	33 24%

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Table VI

History of previous cancer
in 113 refinery workers

Cancer	Number of cases	
Skin	2	1.6%
Bladder	2	1.6%
Colon	1	0.8%
Abdominal	1	0.8%
Lung	1	0.8%
Total	7	6%

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40

60

80

$400 - 56 = 50$

100

120

140

160

180

200

220

240

260

280

300

$400 - 61 = 100$

$400 - 66 = 70$

Robert Winkler

Norma L.