PLAINTIFF'S EXHIBIT
DOW-284

DOW CHEMICAL U.S.A.

March 2, 1978

MIDLAND, MICHIGAN 48640

B. B. Holder, M.D.
U.S. Area Medical Director
Dow Chemical U.S.A.
2030 Dow Center

RE: MEETING WITH WILLIAM R. PAUL, M.D.
CORPORATE MEDICAL DIRECTOR, JOHNS-MANVILLE WORLD HEADQUARTERS,
DENVER, COLORADO ON TUESDAY, FEBRUARY 28, 1978

Dr. Paul and Helen Young, RN, Corporate Industrial Nurse, discussed the sputum cytology program involving asbestos workers at J.M. which is emphasized as a research program. They have selected 5 of the country's 10 cytopathologists to read their slides at a cost of 30-40 dollars per slide. The specimens are collected by an industrial nurse at each of 12 plant locations at the U.S. and Canada and are forwarded to one of 4 regional cytopathologists for analysis. We were provided with handouts which describe this in detail (attached).

Gene Saccomanno, M.D. of Grand Junction, Colorado, whom you visited several years ago, has been invaluable in the guidance of this project.

The program has been underway since January, 1977 and will eventually be offered voluntarily to 8,000 asbestos workers. As of February 18, 1978, 12 J.M. plants have a program going. We were given this information in table form:

No. of Plants	Total Sputums Done	Unsatisfactory Specimens	Negative Sputums	Mild Atypia	Moderate Atypia On Up
12	3,123	262	2,343	487	31

Not all plants are "on stream" as yet in this program so it is growing.

The results so far have yielded lesions in five asbestos workers who also were cigarette smokers. One lesion was never confirmed by chest X-ray - it was found on bronchoscopy with a fiberoptic instrument. The other lesions were confirmed on X-ray. Four men have had definitive lung surgery and are still alive and working. One man has refused surgical intervention. He is still alive and working.

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It was emphasized that sputum cytology is only (useful) for early detection of lung carcinomas. It is of no value whatever in the worker who may be developing a pleural mesothelioma.

At lunch Dr. George Wright, who is a J.M. consultant and sends you his warmest greetings, discussed Dr. Selikoff's research program in the treatment of pleural mesothelioma. Apparently it involves making an autogenous vaccine from the tumor and injecting it back into the patient for a positive immunologic response. No data is available from Mt. Sinai on this yet and apparently J.M. is helping to fund the work. Dr. Wright did say this method was used years ago in South Africa and at first was thought promising but apparently has not proved useful. BCG vaccine, you will recall, has also been used to challenge the reticuloendothelial system in a mesothelioma patient, but results have been disappointing.

Dr. Paul Kotin, V.P. Health, Safety and Environmental Department, also joined us for lunch and; among other things, indicated asbestos workers were not screened for occult blood in the stool but he does not believe asbestos exposure causes G.I. cancer. He discussed the many etiologies involved including diet and said we are at the stage in knowledge of G.I. cancer that we were with lung cancer 40 years ago. He did allow that he might be wrong about asbestos and G.I. cancer but only time will tell. He emphasized laryngeal cancer is caused by cigarette smoking not by working with asbestos.

One particularly interesting thing we learned from Dr. Paul was his belief that any type of lung cancer (oatcell, adenocarcinoma, etc.) can be occupationally caused by asbestos exposure again with cigarette co-carcinogen depending upon whether asbestos bodies are found at the tumor site at the time of autopsy. That would be the time workman's compensation would be decided.

Jean Townsend spent time with the biostatistician and discussed the company's data systems. Thus far, their major epidemiological efforts are concentrated at building their data bases (i.e., computerizing work histories and industrial hygiene information). As already indicated, the sputum cytology program is too young for any statistical conclusions. It seems that Dr. Saccomanno may have more historical data.

In summary, this is a research program. It is too early to tell whether earlier diagnosis of a lung malignancy by sputum cytology will make any difference in the patient's prognosis and longevity. The union apparently had a hand at the bargaining table in getting this program started and the workers who have participated have accepted the both favorable and unfavorable results very well. In fact, it has helped many asbestos workers to stop smoking altogether. As you know, it is a condition of employment at J.M. that one does not smoke if one works with asbestos.

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One final item - the moderate atypias are managed according to the judgement of the regional cytopathologist. All, of course, get repeat sputum cytologies and it has been found that smoking or having a respiratory infection can result in atypia which reverts back to normal or negative when smoking has stopped or respiratory infection has cleared.

We raised the question of iatrogenic disease with false positive cytology even though subsequent slides were "normal." To date they claim to have no problem. We doubt this would be the case with Dow employees.

We were treated most graciously by everyone at J.M. World Headquarters and felt they were very open and honest with us in sharing their experiences.

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