DOW CHEMICAL CANADA INC.
Modeland Road, P.O. Box 1012, Sarnia, Ontario, N7T 7K7

February 15, 1988

PLAINTIFF'S EXHIBIT
DOW-1306

D.T. Buzzelli, 1020 Modeland
R.R. Cook, 1803 Bldg., Midland
J.S. Kelyman, 1020 Modeland
J.M. Lanham, M.D., 1803 Bldg., Midland
M.N. Trask, 1020 Modeland

I have attached 2 newspaper articles reporting the Sarnia Division mortality study. Both are positive in nature and factual in content. The results of our study were also covered extensively on the Sarnia radio stations on February 10, 1988.

Sincerely,

Ron Egedahl, M.D.

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attachments

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SARNIA OBSERVER - February 10, 1988

Death rate low for former workers at Dow Chemical

By MIKE FISHER
of The Observer

The death rate of males who worked at the Dow Chemical Canada Inc. site is well below that expected for the general Canadian and Ontario population, according to a study.

The study by Dow and Statistics Canada examined the causes of death within a group of 3,479 males employed at the Sarnia division for at least 12 months from 1945 to 1984.

Significant decreases in the death rate in areas including lung cancer, heart diseases, blood vessels, liver and general accidents can be attributed in part to the effectiveness of Dow's occupational health and safety programs, said spokesman Alex Pollock.

But increases were noted for cancer of the lung lining. Inhalation of asbestos fibres is suspected as being the cause.

Asbestos was used as pipe insulation until the early 1970s and has been used in the production of chlorine since 1952.

Three deaths occurred that the company suspects resulted from the inhalation of asbestos fibres, compared with an expected death rate of 0.1 in the 3,479 males observed in the study, said Mr. Pollock.

There were 367 deaths expected in the study group, based on general population statistics. But 240 actually died.

The study included process and office workers.

Extensive safe handling programs were introduced in 1970 to minimize exposure to asbestos.

ST0164501

Plant's death rate below average

By Mary Kehoe
Sarnia Bureau

SARNIA — A group of 3,479 men employed at Dow Chemical Canada Inc. had a death rate well below that expected for average Canadian and Ontario males, a study by Dow and Statistics Canada has found.

Only 240 died in the study group comprised of men of various ages who worked at least 12 months at Dow's Sarnia division between 1945 and 1984. About 367 deaths is expected in the general population, said Dow spokesman Alex Pollock. Men in the study were an average 26 years old when Dow hired them, so there was a wide range of ages involved. There also was a variety of expected lifespans, he said, because Statistics Canada based its projections on many factors.

Dow officials attribute the low death rate to the effectiveness of the Sarnia division's occupational health and safety programs.

Circulatory causes such as heart attack and stroke were involved in 110 deaths, compared with 148 expected statistically. Cancer caused 63 deaths, compared with 81 expected. Accidents were involved in 33 deaths, where 74 were expected.

Only one category associated directly with work-related activities showed a higher-than-expected rate — cancer of the lung lining. Pollock said three men died of that rare disease while data indicated only 0.1 deaths would be expected in a population group of that size. Inhalation of asbestos fibres is the suspected cause.

Pollock said Dow used asbestos as pipe insulation until the early 1970s and has used it in producing chlorine since 1952. Extensive safe-handling programs have been under way since 1970 to minimize workers' exposure.

Pollock, now superintendent of environmental services but once the manager of industrial hygiene, said Dow tries to limit workers' exposures to workplace stresses such as noise and contaminants.

He said the study with Statistics Canada in Ottawa, completed just recently, reinforces findings in Dow's own research. Males were studied because they comprise the bulk of the work force.

The study has been submitted for publication in scientific literature. Follow-up research will be done every five years.

LONDON FREE PRESS - February 11, 1988

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For further information contact:
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February 10, 1988

DIVISION'S FIRST MORTALITY STUDY COMPLETED

A study completed recently by Dow and Statistics Canada at Sarnia Division of Dow Chemical Canada Inc., concluded that the mortality rate of males who had worked at the site is well below that expected for the general Canadian and Ontario male populations.

The study examined the causes of mortality within a group of 3,479 males employed at the Sarnia Division for at least 12 months from 1945 to 1984.

Significant decreases in mortality were recorded in areas including lung cancer, diseases of the heart, blood vessels and liver and in general accidents. These decreases can be attributed in part to the effectiveness of the Division's Occupational Health and Safety programs.

Only one category associated with work related activities showed an elevation above expected values. Increases were noted for cancer of the lung lining and inhalation of asbestos fibres is suspected as being the cause. Asbestos was used as pipe insulation until the early 1970's and has been used in the production of chlorine since 1952. Extensive safe handling programs were introduced in 1970 to minimize exposure to asbestos.

This study reinforces previous Dow research that the mortality rate among males who have worked at Dow sites is below population norms.

It has been decided that further followup studies will be done at five year intervals.

This study has been submitted for publication in scientific literature.

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MORTALITY STUDY QUESIONS - SARNIA DIVISION - FEBRUARY 10, 1988

JOINT HEALTH & SAFETY COMMITTEE:

1. WHAT WAS THE AVERAGE AGE OF DEATH (ALSO IN SESSION 3, 7, 9, 4). (COMPARE TO CANADA, WITH NORTH AMERICA, ONTARIO).

2. ARE THERE ANY DEATHS THAT WOULDN'T SHOW UP?
WERE RETIREES INCLUDED? (ALSO IN SESSION 2).
SOMEONE HIRED IN 1957, WORKED TWO YEARS AND DIED IN A FOREIGN COUNTRY

IS THAT A PROBLEM? (SESSION 5 ALSO).
DID YOU INCLUDE PEOPLE WHO DIED OUTSIDE COUNTRY? (SESSION 7 ALSO).

3. IF DONE IN A UNIVERSITY TOWN WOULD BREAKDOWN BE DIFFERENT?

4. HOW MANY AUTOPSIES WERE DONE IN THIS GROUP? (SESSION 8).

5. COMPANIES HIRE REAL HEALTHY PEOPLE. HOW DOES THIS AFFECT RESULTS? (SESSION 7)

6. HOW MANY PEOPLE HANDS ON VERSUS OFFICE?
HAVE WE BROKE DOWN BY JOB? (SESSION 3).
ARE THESE EMPLOYEES HOURLY OR SALARY? (SESSION 7).
ACCURACY NOT THAT GREAT IF INCLUDING OFFICE WORKER - WHY NOT FRONT LINE PEOPLE ONLY? (SESSION 7).

7. IS STUDY GOING TO BE BROKEN DOWN INTO SHIFT WORKER VERSUS NON SHIFT WORKER? (SESSION 7).
HOW MANY DIRECTLY OCCUPATIONALLY RELATED? (SESSION 8).
ANY STUDY TO INDICATE WHICH GROUP HAS HIGHER MORTALITY RATES? (SESSION 8).
HOW MANY OF THE 3500 WERE OFFICE WORKERS? (SESSION 8).
WHEN WILL FURTHER STUDIES ON INDIVIDUAL GROUPS BE MADE? (SESSION 8).
ANY EFFORT MADE TO DISTINGUISH OCCUPATIONS - OFFICE, PLANT? (SESSION 9).

8. ARE WE GOING TO LOOK AT SPECIAL AREAS?
DO YOU TAKE INTO CONSIDERATION WHERE PEOPLE ARE WORKING? (SESSION 5).

9. WE ALL KNOW CASES WHERE PEOPLE WERE OVEREXPOSED - WE ALL KNOW STRANGE CANCERS - THIS IS BOTHERING PEOPLE AROUND THIS ROOM.
EXPOSURES - ARE THEY DOCUMENTED? (SESSION 9).

10. HEARD OF PEOPLE IN THE DIVISION WITH ENLARGED LIVERS - ARE WE LOOKING AT THE LIVING?
HOW MANY PEOPLE LIKE FRANK FUTCHER?
HE ISN'T IN THIS STUDY (SESSION 7).

11. STUDY LOOKS GREAT - MAY HAVE PROBLEM WITH SOME MANAGERS DEEMPHASIZING PROGRAMS.

12. HAS ANYONE ELSE IN THE VALLEY DONE A STUDY?

13. SOME FEAR IN OLDER PEOPLE IN INSULATOR'S GROUP - CAN PUT FEAR IN THESE PEOPLE.

14. PEOPLE OFF WITH BRONCHIAL PROBLEMS - IS THIS DUE TO CL2 SCARING?

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SUBJ: MORTALITY STUDY QUESTIONS

SESSION 2:

1. HOW ARE 95% CONFIDENCE LEVELS CALCULATED?
WHY AREN'T NUMBERS PERCENTAGES? (SESSION 3)
HOW DO YOU ESTABLISH EXPECTED DEATHS? (SESSION 3)
ADJUSTED FOR RACE? (SESSION 4)
DOES STATISTICALLY HIGH MEAN THERE IS A PROBLEM? (SESSION 5)
WHAT IS THE DEFINITION OF EXPECTED? (SESSION 5)
AVERAGE DOESN'T FALL IN MIDDLE OF CONFIDENCE INTERVAL. (SESSION 5).
BASE POPULATION FOR EXPECTED DEATH RATE? (SESSION 7).

2. WHY ARE NUMBERS LOOKING GOOD? IF NUMBERS STATISTICALLY SIGNIFICANT THERE MUST BE A CAUSE? ANY FEELING WHAT IT IS? (SESSION 9).

3. CAUSES OF LUNG CANCER OUTSIDE OF ASBESTOS?

4. WHAT IS THE MORTALITY TREND FROM YEAR TO YEAR?
WILL SMR INCREASE AS POPULATION AGES? (SESSION 3).

5. COMPARE AGAINST CANADIAN POPULATION SPECIFIC AGAINST WHAT GROUPS?

SESSION 3:

1. WHAT IS THE MESSAGE? TAKE OUR NUMBERS AND COMPARE TO WHAT?

2. MESOTHELIOMA - RELATED TO SPECIFIC JOBS?
ANY COMMONALITY ON MESOTHELIOMA CASES? (SESSION 4).
WHERE ARE MESOTHELIOMA'S? (SESSION 7)
6 DEATHS - WHAT EXPOSURES?

3. ARE THESE PEOPLE STILL WORKING?

SESSION 4:

1. DIFFERENCE BETWEEN CHEMICAL AND PATHOLOGICAL CAUSES OF DEATH?

2. ANY DATA ON CANADIAN WORKERS FOR COMPARISON?
HOW DOES RESULT COMPARE TO U.S.? (SESSION 4).
HOW DO OUR RESULTS COMPARE TO U.S. AREAS? (SESSION 6).
IS THERE ANY CROSS-REFERENCE BETWEEN DIFFERENT COMPANIES IN THE VALLEY? (SESSION 7).
HOW DOES SARNIA COMPARE TO OTHER STUDIES IN U.S.? (SESSION 8).
COMPARISON WITH REST OF CHEMICAL INDUSTRY? - OTHER DOW SITES? (SESSION 9).

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3. WAS ASBESTOS USED IN THE '70'S?

4. THERE WAS A CONTROVERSY THAT THE CANCER RATE WAS HIGH IN MIDLAND. WHAT HAPPENED?

5. THOUGHT ASBESTOS CAUSED LUNG CANCER AS WELL AS MESOTHELIOMA?

6. ARE STUDIES DONE IN ACCORDANCE TO DESIGNATED SUBSTANCES?

7. WILL YOU BE GATHERING ANY DATA ON THE EFFECT ON THE FETUS?
ANY STUDIES OF CHILDREN OF WORKERS? (SESSION 5).
HOW ABOUT CHILDREN OF DOW EMPLOYEES? - LEUKEMIA (SESSION 7).
WILL YOU LOOK AT REPRODUCTIVE EFFECTS? (SESSION 8).
IS THERE ANYTHING BEING DONE FOR STUDYING FEMALES FOR REPRODUCTIVE PROBLEMS? (SESSION 8).
ANY STUDY OF FAMILY MEMBERS?
SEEMS TO BE A HIGH RATE OF CHILD LEUKEMIA. (SESSION 10).

SESSION 4:

1. GIRLS AND COMPUTER TERMINALS A LINK WITH MISCARRIAGES AND BIRTH DEFECTS?

SESSION 5:

1. ALMOST EVERY CAUSE OF DEATH WAS NOT REALLY SIGNIFICANT STATISTICALLY?

2. HEART DISEASE AND CANCER SHOW UP IN THE '50'S - DOES SURVEY REFLECT THIS?

3. WHAT IS THE EFFECT OF GRADE 12+ EDUCATION AND UPPER MIDDLE CLASS INCOME?

4. IF I DIE IN A TRAFFIC ACCIDENT AND HAVE CANCER, WHAT IS MY CAUSE OF DEATH?

5. IS THE WHOLE POPULATION GOING FOR SHIT?

6. WHAT IS THE REASON FOR DATA ON MEN ONLY?

SESSION 6:

1. TOTAL DEATHS COMPARED TO WHAT IS EXPECTED. IS IT A FAIR COMPARISON?

2. COULD WE FIND A BETTER POPULATION TO COMPARE TO?

3. DO YOU ADJUST FINDINGS TO INCREASE IN LIFE EXPECTANCY OVER THAT TIME PERIOD?

4. DOES THE MEDICAL CENTRE PLAN TO DO MORE ASBESTOS MONITORING?

SESSION 7:

1. IS MESOTHELIOMA MAINLY CAUSED BY ASBESTOS? IS IT AFFECTED BY SMOKING?

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SESSION 8:

1. IS DATA SCEWED BECAUSE OF NO POOR PEOPLE IN THE GROUP?

2. IS THIS STUDY MEANT TO APPEASE US?
HAVE SEEN PEOPLE RETIRE AND DIE.

3. YOU ARE NOT TELLING US THE TRUTH ABOUT HOW MANY PEOPLE HAVE DIED BECAUSE OF CHEMICAL EXPOSURES.

SESSION 9:

1. THESE PEOPLE YOU HAVE STUDIED ARE STILL HERE. STOPPED IN 1984, WHY END IT?

2. DO YOU EXPECT THE MORTALITY TO GO UP, FOR US WORKING WITH ASBESTOS?

3. 15 YEARS AGO DID WE KNOW HOW BAD ASBESTOS WAS?

4. WHAT KIND OF MEDICAL MONITORING ARE YOU DOING?

5. DO NORMAL X-RAYS SHOW UP ASBESTOS?

SESSION 10:

1. OTHER FORMS OF HEART DISEASE - WERE THEY ALL VERY OLD?

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MOST FREQUENTLY ASKED:

		NUMBER	%
1.	NEED BREAKDOWN BY JOB CLASS	10	10.4
2.	STATS. RELATED.	8	8.3
3.	NEED DATA ON FETUS, CHILDREN, REPRODUCTIVE PROBLEMS.	5	5.2
4.	NEED TO COMPARE TO A MORE RELEVANT GROUP.	6	6.3
5.	ARE THERE DEATHS MISSED?	5.	5.2
6.	WHAT IS AVERAGE AGE OF DEATH?	5	5.2
7.	MESOTHELIOMA - TIED TO SPECIFIC JOB, EXPOSURE?	4	4.2

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