

⊕ PC 5ME 2/23/76

A. W. Mc Donald



facts & opinions

*Q → J. R. Lees
for Ethyl Corp. testimony*

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The attached was assembled by Dr. Richard McBurney
of Diamond Shamrock and is reproduced for your information.

J. R. Lees

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I have prepared the following data as general information based on scientific fact. It deals with the health effects of vinyl chloride monomer and cancer in general.

1. Vinyl Chloride Monomer - Cancer

At high levels and long term exposure causes a cancer of the liver (angiosarcoma). Cases now in U.S. 18, World 20, Total 38.

Diamond workers present and past show no cancer cases nor do we feel their present health is other than that of unexposed workers.

The low levels in our plants now are recognized as safe by most health authorities.

2. Infant Abnormalities or Cancer of the Central Nervous System in General Population near VCM-PVC Plants

Based on research internally at Diamond and by scientists at the Federal Center for Disease Control there is no evidence linking vinyl chloride exposure and either birth defects or cancers of the central nervous system in the Ohio communities studied.

3. Increased Abortions in Wives of VCM-PVC Exposed Workers - Firestone, Pottstown Study

We doubt the reliability of this study. Based on a small number of exposed workers at Firestone's Pottstown plant the workers were asked by several interviewers if they remembered any miscarriages in their wives. The study has questionable scientific validity.

While not directly applicable, a study by Dow has shown VCM is not teratogenic in three species of experimental animals.

However, if true the Firestone study does clearly demonstrate that at the low level of exposure now present such effects could not take place.

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4. Cancer in the World & United States

- a. There is no overall increase in cancer mortality rates in the United States if the national cancer mortality statistics are adjusted for the growth in lung cancer, 90% of which experts believe is attributable to smoking, and for the increased length of life of the population.

Source - "76 Cancer Facts and Figures" American Cancer Society.

- b. The United States is not a world leader in cancer deaths but ranks 19th of 44 countries in deaths from cancer per 100,000 male population, and 18th for women.

Source - "76 Cancer Facts and Figures" American Cancer Society.

- c. The overall mortality rate of cancer has increased in recent decades for men but not for women. Death rates from all types of cancer per 100,000 population (age adjusted) declined 11% among women between 1947 and 1970. The rate increased 18% among men. This is mainly due to a large increase in lung cancer which American Cancer Society says is due to cigarette smoking.

Source - "76 Cancer Facts and Figures" American Cancer Society

- d. Over a period of time, cancer has become a major cause of death ranking second behind cardiovascular diseases. Most of the increase would appear to be due to the increase in the average life span by cure or prevention of once-common "killer" diseases. To a smaller extent it may also be due to changes that have taken place in the living habits, diets and other environmental factors.

Source - "76 Cancer Facts & Figures" American Cancer Society

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- e. Cancers known to be related to chemicals or "occupational" form a relatively small proportion of all cancers (less than 1%), according to John Higginson, Director of the International Agency for Research on Cancer.

The major types of cancer (lung, breast, colon-rectum) may be associated with various environmental factors such as smoking, diet, and cultural practices, but cannot be accounted for by more than a minor degree by occupational exposures.

Source - "76 Cancer Facts and Figures" American Cancer Society
Dr. John Higginson - Essays in Toxicology (In Press)

- f. There is no clear evidence that industrial activity is linked to the incidence of cancer in the general population. Some lesser industrialized countries have higher cancer death rates than certain more industrialized countries..

Source - "Leading Cause of Death in Selected Areas of the World"
1972 Report, Senate Committee on Labor and Public Welfare.

- g. Claims that the types of cancer most prevalent in the general population are tied to industrial occupations cannot be supported statistically.

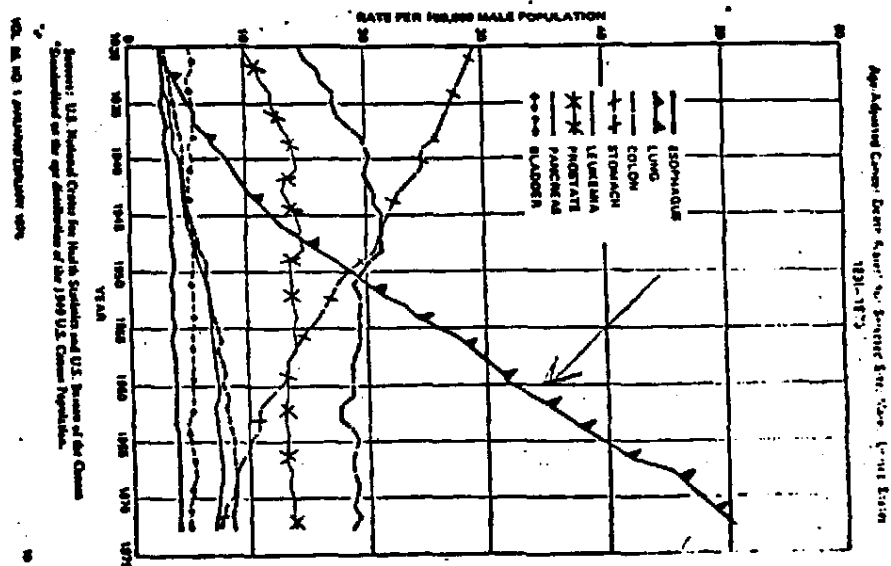
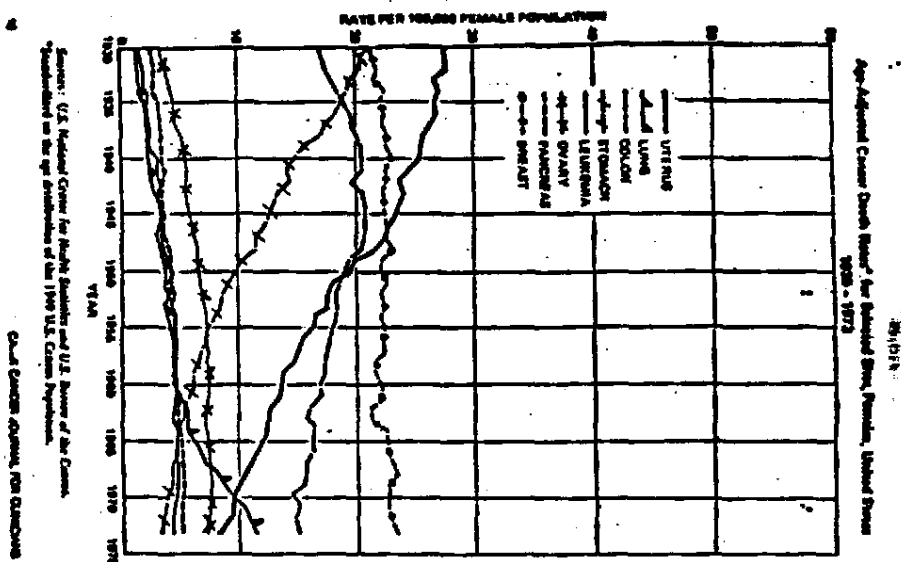
Source - Congressional Research Service Memorandum
January 23, 1975 from P. A. Fredlund
Science Policy Research Division

- h. Age-adjusted male and female cancer death rates by sites, United States, 1930-1973 are duplicated. With the exception of lung cancer most trends are downward or stationary.

Source: U. S. National Center for Health Statistics
CA - A Cancer Journal for Clinicians - Jan-Feb 1976

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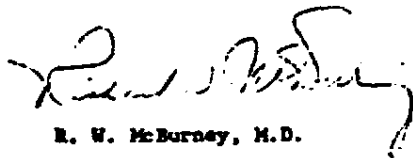
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1. No major or obvious alterations in nationwide mortality data can now be associated with the period of onset of major use of modern pesticides.

Source - National Research Council Report - February 5, 1976


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RWM:mk
February 26, 1976

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