

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NEW YORK

SHIRLEY IVY, Individually and	[]	
as Representative of the Estate	[]	
of DONALD IVY, et al.	[]	
	[]	
Plaintiffs,	[]	
	[]	CV-89-03361 (E.D.N.Y.) (JBW)
V.	[]	
	[]	[B-89-00559-CA (E.D.TEX.)]
	[]	
DIAMOND SHAMROCK CHEMICALS	[]	
COMPANY, et al.	[]	
	[]	
Defendants.	[]	
	[]	

AFFIDAVIT OF ADMIRAL ELMO R. ZUMWALT, JR.

BEFORE ME, the undersigned authority, appeared Admiral Elmo R. Zumwalt, Jr., USN (Ret.), 1500 Wilson Blvd., Arlington, VA 22209, and after being duly sworn does testify and declare as follows:

1. From 1968 to 1970 I served as the Commander of U.S. Naval Forces, Vietnam. From 1970 to 1974 I served as the Chief of Naval Operations and a member of the Joint Chiefs of Staff.
2. On October 6, 1989 I was appointed Special Assistant to Secretary Derwinski of the Department of Veterans Affairs ("VA") to assist the Secretary in determining whether there is a significant ("as likely as not") statistical association between exposure to Agent Orange and any specific adverse health effect.
3. As Special Assistant, it was my duty, with the assistance of independent scientific experts, to do the following: 1) evaluate scientific studies regarding the health effects of Vietnam veterans exposed to Agent Orange, as well as numerous studies concerning the health hazards of civilian exposure to dioxin contaminants; 2) review and evaluate the protocol and standards employed in the major government sponsored studies, in order to assess their credibility, fairness and consistency with generally accepted scientific practices; and 3) review and evaluate the work of the Scientific Council of the Veterans' Advisory Committee on Environmental Hazards.

X

I. NEW EVIDENCE SHOWING A SIGNIFICANT ASSOCIATION BETWEEN AGENT ORANGE EXPOSURE AND CERTAIN HEALTH EFFECTS

4. There is mounting evidence of a causal connection between certain illnesses and exposure to dioxins. After reviewing the scientific literature, I have concluded that the following illnesses are significantly associated with exposure to Agent Orange: non-Hodgkin's lymphoma, chloracne and other skin disorders, lip cancer, bone cancer, soft tissue sarcoma, birth defects, skin cancer, lung cancer, porphyria cutanea tarda and other liver disorders, Hodgkin's disease, hematopoietic diseases, multiple myeloma, neurological defects, auto-immune diseases and disorders, liver cancer, nasal/pharyngeal/esophageal cancers, leukemia, malignant melanoma, kidney cancer, testicular cancer, pancreatic cancer, stomach cancer, prostate cancer, colon cancer, brain cancer, psychosocial effects, gastrointestinal diseases, diabetes, and cardiovascular abnormalities.

5. In addition to my report on the scientific studies showing an association between health effects and Agent Orange exposure, I have reviewed the affidavit of Dr. Cate Jenkins submitted in this action. Dr. Jenkins' affidavit compiles a growing number of studies showing a link between dioxin exposure and serious health effects. This extensive list of positive studies, all published in 1984 or later, further supports my conclusions stated above.

II. FAULTY CONCLUSIONS, FLAWED METHODOLOGY AND NOTICEABLE BIAS OF THE VA ADVISORY COMMITTEE ON ENVIRONMENTAL HAZARDS

6. In 1984, Congress passed the Veterans' Dioxin and Radiation Exposure Compensation Standards Act, Pub. L. No. 98-542, 98 Stat. 2727 (1984) (the "Dioxin Standards Act") to provide disability compensation to Vietnam veterans exposed to herbicides containing dioxin. Congress authorized the VA to conduct rulemaking to determine which diseases were entitled to compensation as a result of a service-related exposure to Agent Orange. The Dioxin Standards Act required the VA to appoint a Veterans' Advisory Committee on Environmental Hazards (the "Advisory Committee") to review the scientific literature on dioxin and submit periodic recommendations and evaluations to the Administrator of the VA. The Advisory Committee is composed of experts in dioxin and epidemiology, as well as interested members of the public. The responsibility of the experts is to evaluate the scientific evidence pursuant to regulations promulgated by the VA and thereafter to submit recommendations and evaluations to the Administrator of the VA (subsequently the Secretary of Veterans Affairs) on whether "sound scientific or medical evidence" indicated a connection between exposure to Agent Orange and the manifestation of various diseases.

7. To assess the validity and competency of the work of the Advisory Committee, I asked several impartial scientists to review the Advisory Committee transcripts. Without exception, these independent experts who reviewed the work of the Advisory Committee disagreed with its findings. They specifically questioned the validity of the Advisory Committee's review of studies on non-Hodgkin's lymphomas. The Secretary subsequently exercised his discretionary authority to find a significant statistical association between Agent Orange exposure and non-Hodgkin's lymphoma, notwithstanding the failure of his own Advisory Committee to recommend such action in the face of overwhelming contrary scientific data.

8. On February 20, 1990, experts from the Fred Hutchinson Cancer Research Institute in Seattle, Washington ("Hutchinson Cancer Institute"), having reviewed the VA's analysis of studies on non-Hodgkin's lymphoma, concluded that the VA Advisory Committee's work was "not sensible" and was "rather unsatisfactory" in its review and classification. These scientists regarded certain members of the Advisory Committee as being "less than objective" in their review of the various studies.

9. On March 1, 1990, after assessing numerous cancer studies relevant to herbicide exposure, Dr. Jeanne Stellman, Ph.D., and Dr. Steven D. Stellman, Ph.D., reached the same conclusions as the experts from the Hutchinson Cancer Institute concerning the validity of the VA Advisory Committee's findings. The Stellmans' assessment of numerous cancer studies relevant to herbicide exposure strongly criticizes the Advisory Committee's scientific interpretation and policy judgments regarding the link between Agent Orange and Vietnam veterans. See Stellman & Stellman, "A Selection of Papers with Commentaries Relevant to the Science Interpretation and Policy: Agent Orange and Vietnam Veterans," (March 1, 1990).

10. On March 7, 1990, Dr. Robert Hartzman, one of the U.S. Navy's top medical researchers, also confirmed the views of the scientists from the Hutchinson Cancer Institute. Dr. Hartzman stated, "an inadequate process is being used to evaluate scientific publications for use in public policy." He further concluded that "the preponderance of evidence from the papers reviewed [by the Advisory Committee] weighs heavily in favor of an effect of Agent Orange on increased risk for non-Hodgkin's lymphoma."

11. Dr. Richard Albanese, a scientist intimately associated with government sponsored studies on the effects of exposure to Agent Orange, also reviewed the Advisory Committee's findings. He concluded that the Advisory Committee's work "has little or no scientific merit, and should not serve as a basis for compensation or regulatory decisions of any sort . . ." In

another paper, Dr. Albanese stated, "I estimate that the [Vietnam] Veterans are experiencing a 40% to 50% increase in sarcomas and non-Hodgkin's lymphoma rates."

12. In the course of my duties as Special Assistant to the Secretary of Veterans Affairs, I concluded that the Veterans' Advisory Committee on Environmental Hazards has not acted with impartiality in its review and assessment of the scientific evidence related to the association of Agent Orange with adverse health effects.

III. FRAUD, MANIPULATION, AND INTERFERENCE IN THE CENTERS FOR DISEASE CONTROL (CDC) STUDIES

13. In addition to the numerous new scientific studies published after 1984 showing an association between Agent Orange exposure in Vietnam and certain adverse health effects, there is new evidence that the data for studies conducted by the Centers for Disease Control (CDC) was manipulated by CDC in an effort to deny the link between Agent Orange exposure and health effects. New evidence also shows that political interference obstructed the CDC exposure study.

14. As concerns grew following the initial studies connecting Agent Orange exposure to adverse health effects, Congress commissioned a large scale epidemiological study to determine the potential health effects of Agent Orange on exposed Vietnam veterans. The Veterans Health Programs Extension and Improvement Act of 1979, Pub. L. No. 96-151, 93 Stat. 1097 (1979), authorized the VA to design and conduct the study. In 1981, Congress enacted the Veterans Health Care, Training, and Small Business Loan Act, Pub. L. No. 97-72, 95 Stat. 1061 (1981), which expanded the scope of the VA study to include a health study of Vietnam veterans, using service during the war as an exposure factor. However, in 1983 Congress transferred the responsibility for the study to CDC when it became evident that the VA's efforts were mired in delay. Three years after the passage of this legislation, the VA had not even begun the study.

15. The Human Resources and Intergovernmental Relations Subcommittee (the "Subcommittee") has investigated CDC studies conducted from 1982 to 1987. As a part of the Subcommittee's year-long investigation, public hearings were conducted on July 11, 1989 and on June 26, 1990 at which time I presented testimony on the findings of my report as Special Assistant to the Secretary of Veterans Affairs. As the hearings revealed, the design, implementation and conclusions of the CDC dioxin exposure study were so ill conceived and unscientific as to suggest that political pressures interfered with the kind of professional, unbiased review Congress sought to obtain. Oversight Review of CDC's Agent Orange Study: Hearing Before the Human Resources and Intergovernmental Relations Subcommittee of the Committee on

Government Operations, House of Representatives, 101st Cong., 1st Sess. (1989) ("1989 Agent Orange Hearing"). Links Between Agent Orange and Other Herbicides With Diseases: Hearing Before the Human Resources and Intergovernmental Relations Subcommittee of the Committee on Government Operations, House of Representatives, 101st Cong., 2d Sess. (1990).

16. On August 9, 1990, the Committee on Government Operations (the "Committee") submitted its Twelfth Report to Congress. The Committee's report is based on extensive investigation of the studies of Agent Orange exposure and Vietnam veterans' health conducted by the Centers for Disease Control (CDC) from 1982 to 1987. The Agent Orange Coverup: A Case of Flawed Science and Political Manipulation, Twelfth Report by the Committee on Government Operations Together with Dissenting Views, H.R. Rep. No. 672, 101st Cong., 2d Sess. 1-43 (1990).

17. The following statements include findings from the July 11, 1989 hearing and the July 26, 1990 hearing at which I testified. My statements also refer to the conclusions of the Committee on Government Operations which I support and adopt based on my own independent review of the evidence, in my capacity as Special Assistant to the Secretary of Veterans Affairs during the period in which I conducted the study for him.

18. In September 1987, CDC canceled the Agent Orange Exposure Study. The Committee believes, as I do, that there was a two-part strategy selected by the CDC that guaranteed the eventual cancellation of the study. As the Committee concluded, first, CDC ignored the military records experts at the Pentagon, created its own use of the records to establish exposure levels, and then diluted the study to the point that numerous veterans who were most likely to have high exposure were eliminated from the study; second, CDC attempted to justify its flawed exposure definition by testing it against a blood serum assay program which, itself, was based on false assumptions about the chemical's half-life in the human body. These unsound assumptions about the half-life of dioxin were thus used to validate the conclusions from a badly-designed exposure definition. Given these restrictions, it would have been impossible to validate exposure levels.

19. From my independent review of the evidence stated below, which I conducted as Special Assistant to the Secretary of Veterans Affairs, I agree with the Committee on Government Operations' conclusion that the Agent Orange exposure study should not have been canceled because CDC did not document its conclusion that exposure could not be assessed, nor did it explore alternative methods of determining exposure. The Committee concluded, as I do, that as discussed below, other methods of determining exposure were available but that CDC had intentionally disregarded them.

20. The Centers for Disease Control cited the inadequacy of military records regarding troop movements and the spraying of Agent Orange as the primary reason for the cancellation of the exposure study. The former Director of the U.S. Army and Joint Services Environmental Support Group ("ESG"), Lt. Col. Richard S. Christian (Ret.), disagreed with the CDC claim that military records were insufficient. Lt. Col. Christian testified that adequate military records do exist with which to identify company-specific movements, as well as spray locations, and that he had personally informed CDC of the existence of these records. 1989 Agent Orange Hearing 40-43 (statement of Richard S. Christian). The Committee found that CDC had unjustifiably discredited the military records provided to it by ESG.

21. Dr. Jeanne Stellman of Columbia University, who conducted a peer reviewed epidemiologic study for the American Legion, testified before the Subcommittee that available records were quite sufficient to establish a reliable exposure classification system. This American Legion-Columbia University study conclusively demonstrated that computerized data could be used to determine exposure to Agent Orange. 1989 Agent Orange Hearing 155-220 (statements of Steven Stellman, Ph.D. and Jeanne M. Stellman, Ph.D.), See also "American Legion and Columbia University Vietnam Experience Study," Environmental Research (December, 1988).

22. Dr. Dennis Smith, who worked on the CDC Agent Orange Project, was one of the people responsible for evaluating records provided to CDC by the Department of Defense. Dr. Smith testified that he and others at CDC believed that sufficient information existed to compensate for gaps in the military records transmitted by the Pentagon. He testified, however, that his superiors were resistant to exploring the alternatives. 1989 Agent Orange Hearing 76-110 (statement of Dennis M. Smith, M.D.).

23. In addition to CDC's false claim that military records were inadequate, there were other flaws with the CDC exposure study effort. When the protocol for this study and blood test procedures were examined, there appeared to be a purposeful effort to sabotage any chance of a meaningful Agent Orange exposure analysis. The Committee found, as I do, that the protocol for the CDC study had been changed from its original format, making it unlikely that the soldiers who received the heaviest exposure to the herbicide would be identified.

24. The Committee found, consistent with my analysis, that from the start CDC had disregarded the records of soldiers who would have been among the most likely to have been exposed. The original protocol contained numerous restrictions which had the effect of arbitrarily limiting the number and type of veterans selected for the study. Thus, only a small percentage of

available records were reviewed by CDC.

25. CDC further diluted the study by adding more restrictions to the criteria for the inclusion of subjects that were not contained in the original protocol.

26. The Committee found, as I do, that CDC made four serious modifications in the original protocol, the most serious being the selection of study subjects from battalions rather than companies. Originally, the study had called for subject veterans to be tracked by company level location. Company units of 200 men, rather than battalions of 1,000 men, were to be tracked to obtain greater precision for determining troop movements and to prevent misclassifying whether or not veterans had been exposed. Then, in 1985, CDC changed its protocol to have battalions serve as the basis for cohort selection and unit location. This change, as CDC admitted, diluted the study.

27. Another protocol change made by CDC involved the alteration of the protocol as to the length of time study subjects were to have served in Vietnam. For example, where the original protocol required subjects to have served a minimum of 9 months in combat companies, the CDC reduced the minimum to 6 months. These changes further diluted the study by reducing both the possibility that study subjects would have been exposed to Agent Orange and the degree of exposure. 1989 Agent Orange Hearing 46-49. See also 1989 Agent Orange Hearing at 149 (statement of John F. Sommer, Jr., Director National Veterans Affairs and Rehabilitation Commission, the American Legion).

28. As mentioned previously, CDC and the White House Agent Orange Working Group ("AOWG") primarily based its decision not to go forward with the study on its criticism of the ESG records. However, before the study was canceled, CDC tested its exposure definition by means of a "verification study" comparing blood tests with company placement records. At a meeting of the AOWG Science Panel on June 17, 1986, the Science Panel concluded that, "There is unanimous agreement that if a well-designed exposure verification study fails to validate individuals' exposures as determined from military records, the Agent Orange Epidemiological Study should be discontinued."

29. Thus, CDC based its conclusion that an exposure study could not be done, not only on the purported inadequacy of herbicide spray and troop movement records, but also on the results of blood tests of Vietnam veterans which ostensibly demonstrated that no association existed between serum dioxin levels and CDC's estimates of the likelihood of exposure to Agent Orange based on those same records. Inexplicably, the CDC then used these "negative" findings to conclude that not only could an exposure study not even be done, but that the "study," which was never even conducted, proves that Vietnam veterans were never exposed

to harmful doses of Agent Orange.

30. As the Committee concluded, the blood serum analysis, used as proof that an exposure study could not be conducted, was based on erroneous assumptions and a flawed analysis. For example, CDC's conclusion that the half-life of dioxin in the human body is 7.1 years was reached in disregard of warnings from CDC's own scientists and the National Academy of Sciences Institute of Medicine ("IOM") peer review committee that there was not sufficient evidence to support the longer half-life. IOM informed CDC that, because of the incorrect assumptions about the half-life of dioxin, the conclusions of the blood study were not supportable. IOM also rejected CDC's conclusion about the inadequacy of military records as a basis for exposure estimates, independent of any blood serum analysis.

31. In his testimony, under questioning from the Subcommittee Chairman, Rep. Weiss, Dr. Vernon Houk admitted that the senior statistician on the Agent Orange project believed that the dioxin blood analysis was so flawed that it had "a substantial likelihood that there would be essentially no correlation" between the exposure scores and the blood levels. Dr. Houk disagreed with this officially expressed opinion of the project's senior statistician and supported the validity of CDC's blood serum analysis. 1989 Agent Orange Hearing at 67 (statement of Vernon N. Houk, M.D., Director, Center for Environmental Health and Injury Control, Centers for Disease Control, U.S. Department of Health and Human Services).

32. In the course of my duties as Special Assistant to the Secretary of Veterans Affairs I have specifically reviewed the work of Dr. Vernon Houk in connection with Agent Orange studies, both in his capacity as a member of the AOWG and as a CDC official. It is my conclusion that Dr. Vernon Houk has made it his mission to manipulate scientific data and procedures so as to prevent the true facts about dioxin from being determined. Continuing to pursue this effort, Dr. Houk has been recently quoted in Time magazine, Aug. 26, 1991, The New York Times, Aug. 15, 1991, St. Louis, Washington, and other newspapers and media outlets, in an apparent public relations campaign, falsely claiming that previous assessments of the harmful effects of dioxin have been overestimated. These articles cite no credible basis for Dr. Houk's opinion. I consider this media campaign further evidence of Dr. Houk's attempts to cover up emerging evidence strongly confirming the harmful effects of dioxin.

33. Dr. Houk's politically motivated efforts to cover up the true effects of dioxin, and manipulate public perception, coincide with the similar, economically motivated, efforts of chemical companies that produce dioxin. They are, in my judgment, responsible for letters and articles that have been published in the media discounting the effects of dioxin on human

health. These chemical companies that place profits above other concerns, were very cunning in working out the 1984 Agent Orange settlement deal before all the scientific information -- such as that now presented in Dr. Jenkins' affidavit in this case or the disclosures recounted here about the way in which the supposedly objective government studies were manipulated -- became available. It is apparent that these same companies are now attempting to support the validity of that settlement, at the very time it is under review in this case, by means of a public relations campaign centered around the statements of Dr. Vernon Houk, whose work on the CDC Agent Orange study has been thoroughly discredited.

34. Upon discovering the irregularities in CDC procedures, Dr. Philip Landrigan, who was the former Director of the Environmental Hazards Branch at the CDC, stated: "Suspicion abounds that CDC did not look deeply enough into the existing records and did not exercise sufficient ingenuity in seeking to identify a potentially heavily exposed subset of veterans. . . . Further, I would argue that CDC should itself be raising the question." 1989 Agent Orange Hearing at 229 (statement of Philip J. Landrigan, M.D.).

35. In 1986, the Subcommittee on Oversight and Investigations of the Committee on Energy and Commerce documented how political officials of the Office of Management and Budget ("OMB"), who were untutored in science, interfered with and second-guessed the professional judgments of agency scientists and multidisciplinary panels of outside peer review experts to effectively alter or forestall CDC research on the effects of Agent Orange, primarily on the grounds that "enough" dioxin research had already been done. OMB Review of CDC Research: Impact of the Paperwork Reduction Act; A report Prepared for the Subcommittee on Oversight and Investigations of the Committee on Energy and Commerce, 99th Cong., 2nd Sess. (1986).

36. The Committee on Government Operations' Agent Orange hearings revealed additional examples of political interference in the CDC's Agent Orange projects by members of the White House Agent Orange Working Group. Evidence of political interference in the design and implementation of the CDC study and drafting of the results of the CDC study by Administration officials rather than CDC scientists, further destroys the credibility of the CDC exposure study efforts. The Committee concluded from this evidence, as do I, that the CDC study of the effects of dioxin on Vietnam veterans was controlled and obstructed by the White House, primarily through its AOWG and the OMB so as to prevent any useful findings by the CDC concerning the effects of Agent Orange. This obstruction was done pursuant to a strategy for denying liability in cases of toxic contamination.

IV. POLITICAL INTERFERENCE, SUPPRESSION OF CRITICAL DATA, AND THE ALTERATION OF RESULTS IN AIR FORCE "OPERATION RANCH HAND" STUDIES

37. The Air Force Health Study is a separate government sponsored epidemiologic investigation to determine whether certain adverse health effects among Air Force veterans who participated in the "Operation Ranch Hand" Agent Orange spraying missions, were caused by exposure to the herbicide. This study consists of both mortality and morbidity components.

38. On January 24, 1984, Air Force scientists studying Vietnam veterans who had participated in the Ranch Hand spraying missions, issued a draft of baseline morbidity study results. The draft was prepared for the Ranch Hand Advisory Committee. In its final conclusion, the study states, "It is incorrect to interpret this baseline study as 'negative'. . . The Ranch Hand study discloses numerous medical findings, a few of concern but most of a minor nature that merit complete and proper follow-up in accordance with the study protocol. The fact that the study findings are not wholly [sic] consistent with the bulk of RVN [Republic of Vietnam] veteran complaints may be somewhat reassuring to the Ranch Handers and to their families at this time." "Air Force Health Study (Project Ranch Hand II): An Epidemiologic Investigation of Health Effects in Air Force Personnel Following Exposure to Herbicides: Baseline Morbidity Results." Air Force Working Draft Prepared for Advisory Committee (January 24, 1984).

39. Then, on February 24, 1984, after the Ranch Hand Advisory Committee, which operates under the White House Agent Orange Working Group of the Domestic Policy Council, had reviewed the January 1984 working draft, the Air Force issued the final version of the baseline morbidity study results. The Ranch Hand Advisory Committee had changed the final conclusion of the report from the January working draft version in some very important ways. The February 1984 version no longer stated "It is incorrect to interpret this baseline study as 'negative.'" The February final draft conclusion stated, "This study has disclosed numerous medical findings, mostly of a minor or undetermined nature, that require detailed follow-up. In full context, the baseline study results should be viewed as reassuring to Ranch Handers and to their families at this time, because this study has not identified statistical group differences for illnesses commonly attributed to dioxin exposure. . . . This baseline report concludes that there is insufficient evidence to support a cause and effect relationship between herbicide exposure and adverse health in the Ranch Hand group at this time." Lathrop, G.D., W. H. Wolfe, R. A. Albanese, and P.M. Moynahan "Air Force Health Study (Project Ranch Hand II): An Epidemiological Investigation of Health Effects In Air Force Personnel Following

Exposure to Herbicides: Baseline Morbidity Results" (February 24, 1984).

40. By altering the study's conclusion just prior to the May 1984 settlement of In re Agent Orange Product Liability Litigation, opponents of Agent Orange compensation were able to point to "irrefutable proof" that Agent Orange is not a health problem. If those veterans most heavily exposed to Agent Orange did not manifest any serious health problems, they argued, then it could safely be deduced that no veteran allegedly exposed to Agent Orange in smaller doses could have health problems.

41. On March 9, 1990, Senator Daschle reported to Congress that the changes in the draft of the baseline morbidity study, after the Advisory Committee operating under the White House Agent Orange Working Group reviewed it, show political interference in the Air Force Ranch Hand study. When Senator Daschle inquired of Air Force scientists why discrepancies existed between an Air Force draft of the Ranch Hand Study and the final report actually released to the press, the answers suggested the perpetration of fraudulent conclusions. As Senator Daschle pointed out, Air Force and White House management representatives were involved in scientific decisions in spite of the study's protocol which prohibited such involvement. 136 Cong. Rec. S2551 (1990) (statement of Sen. Daschle).

42. Not until 1987 did it become clear that the Air Force had also suppressed critical data in 1984 when Ranch Hand scientists confirmed that an unpublished report had shown that birth defects among Ranch Hand children were double those of the control group. 135 Cong. Rec. S16543 (1989) (statement of Sen. Daschle).

43. This December 17, 1984, Air Force birth defects study concluding that "There was an increase in the risk of Ranch Hand birth defects with time (pre versus post - Southeast Asia), and this change is statistically significant," had remained unpublished. The study also concluded, "A significant change in risk of the occurrence of neonatal death was noted . . ." USAF School of Aerospace Medicine, "Project Ranch Hand II: An Epidemiological Investigation of Health Effects In Air Force Personnel Following Exposure to Herbicides: Reproductive Outcome Update," WORKING DRAFT - NOT FOR PUBLIC RELEASE (December 17, 1984).

44. In an August 25, 1987 letter to Senator Daschle, Colonel William Wolfe, Chief of the Epidemiology Division for the Air Force, explained the reason why the Air Force birth defects study remained unpublished. "A report of the analyses of these data was submitted to the Advisory Committee in 1984 but they recommended that it not be published."

V. CONCLUSION

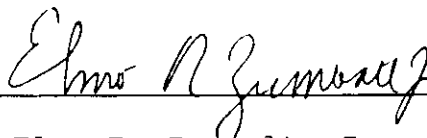
45. It is my conclusion drawn from my analysis of the available evidence, in connection with my duties while I served as special assistant to the Secretary of Veterans Affairs, that:

1) The major federal government health studies on the effects of Agent Orange on Vietnam veterans have significantly understated those effects as a result of deliberate political manipulation of scientific data and methodology.

2) Numerous studies done by scientists who work independently of either such political influence, or the conflicting interests of the corporations who produced Agent Orange, provide valid scientific evidence that Agent Orange has caused a variety of adverse health effects among veterans exposed to the herbicide in Vietnam.

46. The information upon which these conclusions are based has for the most part become available only after 1984. Any conclusion made in 1984 denying that Vietnam veterans were injured by their exposure to Agent Orange was made on the basis of inaccurate and incomplete data, and, therefore, in light of information currently available, has no scientific validity.

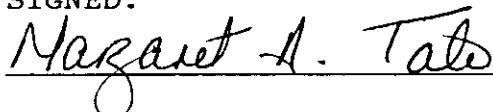
The foregoing affidavit is a true and accurate statement of my testimony in the above-captioned case to the best of my knowledge and belief.



Admiral Elmo R. Zumwalt, Jr.

Signed and sworn before me by ELMO R. ZUMWALT, JR.
this 28th day of AUGUST 1991.
My commission expires on the 9th day of August 1996.

SIGNED:



Notary Public