IN THE CIRCUIT COURT FOR THE COUNTY OF HURON

STATE OF MICHIGAN

DALE L. SCHULZ, ET AL,	)	
	)	
VS.	)	FILE NO. 77-002552 NP
	)	
MICHIGAN SILO COMPANY, ET AL	)	
ROGER A. HALEY, ET AL,	)	
	)	
VS.	)	FILE NO. 77-002593 NP
	)	
MICHIGAN SILO COMPANY, ET AL	)	
RONALD L. SCHULZ, ET AL,	)	
	)	
VS.	)	FILE NO. 77-002672 NZ
	)	
MICHIGAN SILO COMPANY, ET AL	)	
RONALD L. HYZER, ET AL,	)	
	)	
VS.	)	FILE NO. 77-002677 N Z
	)	
MICHIGAN SILO COMPANY, ET AL	)	

DEPOSITION OF WILLIAM GAFFEY
TAKEN ON BEHALF OF THE PLAINTIFF, ROGERT A. HALEY

GORE REPORTING COMPANY
408 OLIVE STREET
ST. LOUIS, MISSOURI 63102
241-6750

IN THE CIRCUIT COURT FOR THE COUNTY OF HURON

STATE OF MICHIGAN

DALE L. SCHULZ, ET AL,	)	
	)	
VS.	)	FILE NO. 77-002552 NP
	)	
MICHIGAN SILO COMPANY, ET AL,	)	
ROGER A. HALEY, ET AL,	)	
	)	
VS.	)	FILE NO. 77-002593 NP
	)	
MICHIGAN SILO COMPANY, ET AL,	)	
RONALD L. SCHULZ, ET AL,	)	
	)	
VS.	)	FILE NO. 77-002671 NZ
	)	
MICHIGAN SILO COMPANY, ET AL,	)	
RONALD L. HYZER, ET AL,	)	
	)	
VS.	)	FILE NO. 77-002677 NZ
	)	
MICHIGAN SILO COMPANY, ET AL,	)	

DEPOSITION OF WILLIAM GAFFEY, PRODUCED, SWORN AND EXAMINED ON THE 25TH DAY OF JANUARY, 1983, BETWEEN THE HOURS OF 8 A.M. AND 6 P.M. OF SAID DAY, AT MONSANTO COMPANY, 800 NO. LINDBERGH BLVD., ST. LOUIS, MISSOURI, BEFORE GERALYN L. WASHAUSEN, CERTIFIED COURT REPORTER, A NOTARY PUBLIC IN AND FOR THE STATE OF MISSOURI, IN A CERTAIN CAUSENOW PENDING IN THE CIRCUIT COURT FOR THE COUNTY OF HURON, STATE OF MICHIGAN, BETWEEN DALE L. SCHULZ, ET AL, VS. MICHIGAN SILO COMPANY, ET AL; ROGER A. HALEY, ET AL, VS.

HARTOLDMON0044148

MICHIGAN SILO COMPANY, ET AL; RONALD L. SCHULZ, ET AL,
VS. MICHIGAN SILO COMPANY, ET AL; AND RONALD L. HYZER, ET AL,
VS. MICHIGAN SILO COMPANY, ET AL.

TAKEN ON BEHALF OF THE PLAINTIFF, ROGER A. HALEY.

APPEARANCES:

FOR THE PLAINTIFFS - DALE L. SCHULZ,
RONALD L. SCHULZ, AND RONALD L. HYZER:

MR. H. DALE CUBITT
186 EAST HURON AVE.
P. O. BOX 178
BAD AXE, MICHIGAN 48413

FOR THE PLAINTIFF - ROGER A. HALEY:

MR. JOHN W. MC GRAW
MR. PATRICK J. MC GRAW
MC GRAW & BORCHARD
1100 COURT STREET
SAGINAW, MICHIGAN 48602

MR. JAMES N. WOODWORTH
125 NO. HEISTERMAN STREET
P. O. BOX 187
BAD AXE, MICHIGAN 48413

FOR THE DEFENDANT MONSANTO COMPANY:

MR. WILLIAM E. JUNGERHELD
CHAKLOS, JUNGERHELD & DELLA SANTINA
5525 COLONY DR. N.
SAGINAW, MICHIGAN 48603

MR. JOSEPH G. NASSIF
800 NO. LINDBERGH BLVD.
ST. LOUIS, MISSOURI 63167

IT IS HEREBY STIPULATED AND AGREED BY AND BETWEEN COUNSEL FOR THE PLAINTIFFS AND COUNSEL FOR THE DEFENDANTS THAT THIS DEPOSITION MAY BE TAKEN IN SHORTHAND BY

HARTOLDMON0044149

GERALYN L. WASHAUSEN, A CERTIFIED COURT REPORTER, AND AFTERWARDS TRANSCRIBED INTO TYPEWRITING, AND THEN SIGNED BY THE DEPONENT.

- - - - -

WILLIAM GAFFEY,

OF LAWFUL AGE, PRODUCED, SWORN AND EXAMINED ON BEHALF OF THE PLAINTIFF, ROGER A. HALEY, DEPOSES AND SAYS:

DIRECT EXAMINATION

QUESTIONS BY MR. MC GRAW:

Q IT'S DR. GAFFEY, RIGHT?

A THAT'S CORRECT.

Q AND HOW OLD ARE YOU NOW, DOCTOR?

A FIFTY-EIGHT.

Q WHERE WERE YOU BORN?

A IN JERSEY CITY, NEW JERSEY.

Q AND YOUR PRESENT EMPLOYMENT IS WHAT?

A I AM MANAGER OF EPIDEMIOLOGY FOR MONSANTO.

Q HOW LONG HAVE YOU HELD THAT JOB, SINCE WHEN?

A SINCE JULY, 1979.

Q AND PRIOR TO THAT TIME WHERE HAD YOU WORKED?

A AT STANFORD RESEARCH INSTITUTE, NOW KNOWN AS SRI INTERNATIONAL.

Q WHAT WAS THE STANFORD RESEARCH INSTITUTE, WHAT DID THEY DO?

HARTOLDMON0044150

A THEY CONDUCT CONTRACT RESEARCH FOR GOVERNMENT AND FOR PRIVATE COMPANIES.

Q IN WHAT AREAS?

A IN THE AREAS OF DEFENSE-RELATED RESEARCH, ECONOMICS AND IN OCCUPATIONAL HEALTH.

Q ANY IN CHEMISTRY?

A I BELIEVE SO.

Q WHAT WAS YOUR JOB WITH THEM?

A I WAS SENIOR EPIDEMIOLOGIST.

Q AND HOW LONG HAD YOU HELD THAT JOB, FROM WHAT YEAR TO WHAT YEAR?

A FROM MARCH, 1976 UNTIL JULY, 1979.

Q AND PARTICULARLY WHAT DID YOU DO AS A SENIOR EPIDEMIOLOGIST?

A I PREPARED PROPOSALS FOR EPIDEMIOLOGICAL STUDIES, I PRESENTED THESE TO PROSPECTIVE CLIENTS, AND IF WE WERE AWAREDED THE CONTRACT, I DIRECTED -- I SUPERVISED THE CONDUCT OF THE STUDIES, WROTE THE REPORTS, PRESENTED THEM TO THE CLIENT, AND ON OCCASION PREPARED CONDENSED VERSIONS FOR PUBLICATION IN PROFESSIONAL JOURNALS.

Q WAS IT GENERALLY THAT YOUR WORK WAS IN MANAGEMENT OR ADMINISTRATION RATHER THAN IN TECHNICAL?

A NO. IT WAS ALMOST EXCLUSIVELY TECHNICAL.

Q IN YOUR EDUCATION WHERE DID YOU GET YOUR BASIC DEGREE, AND WHAT DEGREE DID YOU RECEIVE?

HARTOLDMON0044151

A I RECEIVED A PH.D. IN MATHEMATICAL STATICS FROM THE UNIVERSITY OF CALIFORNIA AT BERKELEY IN 1955.

Q AND DID YOU RECEIVE A MASTER'S AND A BACHELOR'S?

A I RECEIVED A BACHELOR'S IN PSYCHOLOGY IN 1948.

Q FROM WHERE?

A FROM THE UNIVERSITY OF CALIFORNIA AT BERKELEY.

Q AND THE MASTER'S DEGREE?

A NO MASTER'S DEGREE.

Q RIGHT FROM BACHELOR'S TO PH.D.?

A THAT'S RIGHT.

Q WERE YOU IN THE SERVICE?

A YES.

Q WHAT SERVICE WERE YOU IN?

A UNITED STATES ARMY.

Q WERE YOU -- AFTER YOU WENT THROUGH YOUR BACHELOR'S IN '48 YOU MUST HAVE BEEN IN THE ARMY JUST BEFORE THAT?

A I WAS IN THE ARMY FROM 1942 UNTIL 1945.

Q AND WHAT WAS THE NATURE OF YOUR THESIS FOR YOUR PH.D.?

A THE PROBLEM OF WITHIN FAMILY CONTAGION.

Q MEANING WHAT?

A THE STUDY OF EPIDEMICS IN SMALL POPULATIONS.

Q WITH REGARD TO EPIDEMICS, WHAT KIND?

A THE THESIS RESULTS WERE APPLIED TO INFECTIOUS

HARTOLDMON0044152

DISEASE EPIDEMICS SUCH AS MEASLES, SCARLET FEVER, AND POLIO.

Q ALL RIGHT. WOULD THESE BE CONSIDERED A SYSTEMIC DISEASE?

A THEY ARE INFECTIOUS DISEASES. I'M AFRAID I DON'T KNOW WHAT YOU MEAN BY SYSTEMIC.

Q WHAT DO YOU MEAN BY SYSTEMIC?

A I WOULD THINK A DISEASE WAS SYSTEMIC IF IT WERE WIDELY DISPERSED THROUGH THE BODY.

Q THOSE DISEASES WERE SPECIFICALLY LOCATED INFECTIOUS PROBLEMS, THEN?

A THAT'S CORRECT.

Q FOLLOWING YOUR THESIS EVIDENTLY YOU WENT TO WORK FOR SOMEBODY, AND WHO WAS THAT?

A THE SCHOOL OF PUBLIC HEALTH AT THE UNIVERSITY OF CALIFORNIA IN BERKELEY.

Q AND HOW LONG WERE YOU THERE?

A I WAS THERE FROM 1955 UNTIL 1960.

Q AND DOING WHAT?

A I WAS AN ASSISTANT PROFESSOR, I TAUGHT COURSES, I CARRIED OUT RESEARCH, AND I DID SOME CONSULTATION.

Q CONSULTATION IN WHAT FIELD?

A IN THE FIELD OF BIOSTATISTICS.

Q AND THEN FOLLOWING YOUR STINT AT SCHOOL, WHERE DID YOU GO TO WORK?

A I WENT TO THE CALIFORNIA DEPARTMENT OF HEALTH

HARTOLDMON0044153

SERVICES WHERE I WAS A STATISTICAL CONSULTANT.

Q AND WHAT DID THAT JOB CONSIST OF?

A I PROVIDED STATISTICAL CONSULATION TO THE RESEARCH ACTIVITIES THAT WERE CARRIED ON BY THE DEPARTMENT IN BOTH EXPERIMENTAL WORK AND IN EPIDEMIOLOGY.

Q WHAT IS EPIDEMIOLOGY?

A EPIDEMIOLOGY IS THE STUDY OF ILLNESS RATES IN SPECIFICALLY DEFINED POPULATIONS.

Q IS IT MORE OR LESS OF A STATISTICAL JOB RATHER THAN A HEALTH JOB?

A IT INVOLVES ELEMENTS OF BOTH.

Q BUT PRIMARILY STATISTICAL?

A I WOULDN'T SAY SO. THE TRAINING THAT AN EPIDEMIOLOGIST GETS, WHETHER IT'S IN COURSE WORK OR IN ACTUAL PRACTICE, INVOLVES DEALING WITH TOPICS IN PHYSIOLOGY AND ZOOLOGY AS WELL AS IN STATISTICS, AND MOST PEER STATISTICIANS WOULD, I THINK, BE NOT VERY COMPETENT IN EPIDEMIOLOGY.

MR. MC GRAW: OFF THE RECORD.

(DISCUSSION OFF THE RECORD)

Q WHAT COURSES, IF ANY, DID YOU TAKE IN COLLEGE FOR YOUR BACHELOR'S DEGREE OR IN WORKING TOWARD YOUR THESIS THAT HAD ANYTHING TO DO WITH HEALTH OF THE HUMAN BEING, SUCH AS THE BEGINNINGS OF, I'M THINKING OF, IN MEDICAL WORK, OF THE BASIC SCIENCES AND ANATOMY?

HARTOLDMON0044154

A I TOOK COURSES IN PHYSIOLOGY AND ZOOLOGY AND CLINICAL PSYCHOLOGY, AND THEN SUBSEQUENTLY WHILE I WAS A GRADUATE STUDENT I SPENT SEVERAL YEARS WORKING UNDER AN M.D., A DR. CARROLL PALMER, WHO WAS ON LEAVE FROM THE PUBLIC HEALTH SERVICE.

Q CARROLL PALMER?

A PALMER.

Q P-A-L-M-E-R?

A THAT'S CORRECT.

Q WAS HE AN M.D.?

A YES, HE WAS AN M.D.

Q CONNECTED WITH THE PUBLIC HEALTH OF CALIFORNIA?

A NO. WITH THE UNITED STATES PUBLIC HEALTH SERVICE.

Q AND WHAT WAS HIS DISCIPLINE IN MEDICINE?

A HE FUNCTIONED AS AN EPIDEMIOLOGIST, I DO NOT KNOW WHAT SPECIFICALLY HIS BOARDS WERE IN.

Q DID HE HAVE BOARDS OR WAS HE A GENERAL PRACTITIONER?

A HE HAD WORKED FOR THE PUBLIC HEALTH SERVICE IN, AMONG OTHERS, AS A TUBERCULOSIS EXPERT FOR MANY DECADES.

Q BUT YOU DON'T KNOW WHETHER HE WAS BOARD CERTIFIED IN ANY DISCIPLINE?

A I DON'T.

Q YOU DON'T KNOW WHETHER HE WAS A MEMBER OR BOARD CERTIFIED OF THE TUBERCULOSIS SOCIETY?

HARTOLDMON0044155

A I DON'T KNOW.

Q WHAT WORK DID YOU DO WITH DR. -- WHAT WAS HIS NAME, IT SLIPPED ME.

A PALMER.

Q PALMER.

A I ASSISTED IN TEACHING CLASSES OF PHYSICIANS WHO WERE DOING GRADUATE WORK IN PUBLIC HEALTH AND I ASSISTED IN SOME RESEARCH WORK CONSTRUCTING MATHEMATICAL MODELS FOR THE OCCURRENCE OF DISEASE USUALLY IN ANIMAL POPULATIONS.

Q OKAY. SO REALLY YOUR WORK, THEN, AGAIN WITH DR. PALMER, WAS IN THE STATISTICAL AREA AS APPLIED TO EPIDEMIOLOGY?

A THAT IS CORRECT.

Q YOU DID NOT FUNCTION AT ANY TIME DURING YOUR CAREER AS A MEDICAL DOCTOR?

A I DO NOT HAVE A DEGREE IN MEDICINE.

Q AND YOU DID NOT FUNCTION IN ANY CAPACITY OF THE HEALTH FIELD WHEREBY YOU WOULD ANALYZE AND DIAGNOSE ILLNESSES, DISEASE AND SICKNESS, WOULD THAT BE CORRECT?

A I HAVE NOT WORKED IN AREAS WHERE I DIAGNOSED ILLNESS OR DISEASES IN INDIVIDUALS.

Q A DIAGNOSIS IS PECULIARLY WITHIN THE PRACTICE OF MEDICINE, AM I CORRECT?

A THAT'S CORRECT.

Q AND THAT WOULD HAVE TO BE, IN YOUR FIELD AND YOUR

HARTOLDMON0044156

BACKGROUND AND EDUCATION, LEFT UP TO THE PHYSICIANS TO MAKE THE DIAGNOSIS AND THEN WITH THAT DIAGNOSIS YOU COULD APPLY STATISTICAL INFORMATION ON EPIDEMIOLOGY?

A THAT IS CORRECT.

Q WHEN YOU HAD THAT JOB -- HOW LONG WERE YOU IN THATJOB AT THE PUBLIC HEALTH, WHAT YEARS?

A FROM 1960 TO APPROXIMATELY 1969.

Q ALL RIGHT. AND WAS THAT ALL OUT IN CALIFORNIA?

A YES.

Q AND WERE YOU A PUBLIC HEALTH OFFICER AT THAT TIME?

A I WAS AN OFFICIAL OF THE CALIFORNIA STATE DEPARTMENT OF HEALTH, I WAS A FULL-TIME EMPLOYEE ALTHOUGH MY TITLE WAS STATISTICAL CONSULTANT, AND FOR THE LAST YEAR OF THAT TIME I WAS CHIEF OF THE BUREAU OF STATISTICAL SERVICES IN THAT DEPARTMENT.

Q OKAY. AND WOULD THIS TAKE YOU OUT INTO THE FIELD WORKING WITH PHYSICIANS ON DISEASE PROBLEMS THAT MIGHT BE CONSIDERED ON THE -- ON THE BAND OF AN EPIDEMIC?

A YES. WE CONDUCTED STUDIES OF HYPERTENSION IN DIFFERENT SOCIAL GROUPS IN NEIGHBORING COUNTIES.

Q HIGH BLOOD PRESSURE?

A HIGH BLOOD PRESSURE RELATED TO SOCIAL AND RACIAL FACTORS AND SEXUAL FACTORS. I PARTICIPATED IN WRITING THE REPORT FOR A STUDY WHICH WAS THE PRECURSOR OF THE CURRENT NATIONAL HEALTH SURVEY, A PILOT STUDY WAS DONE IN CALIFORNIA

SEVERAL YEARS BEFORE THE NATIONAL HEALTH SURVEY BEGAN AND I WAS ONE OF THE CO-AUTHORS OF THE REPORT WHICH WENT TO THE U. S. PUBLIC HEALTH SERVICE.

Q WOULD THAT HAVE ANYTHING TO DO WITH, WHEN YOU'RE TALKING ABOUT HYPERTENSION, AS TO WHAT THE CAUSES OF HYPERTENSION WERE AND THAT YOU WOULD DIAGNOSE IT AND THEN PLAN THE TREATMENT AREAS FOR IT AND/OR MEDICATIONS AND/OR ORGAN REMOVALS IN ORDER TO HELP HYPERTENSIVE PATIENTS?

A NO.

Q OR THE INDEX INTO THE RADICULAR ENDOTHELIAL SYSTEM THAT WOULD HELP SUPPLANT ANY OF THE HIGH BLOOD PRESSURE PROBLEMS THAT YOU MIGHT GET FROM OTHER ORGANS OF THE BODY?

A NO.

Q DO YOU KNOW WHAT THAT SYSTEM IS?

A NOT SPECIFICALLY.

Q WHEN YOU LEFT THAT JOB OF THE PUBLIC HEALTH -- IN 1970, WAS IT?

A YES.

Q WHERE DID YOU GO THEN?

A BETWEEN 1970 AND 1971 I WAS A BIOSTATISTICIAN AT THE -- IT WAS THEN CALLED PRESBYTERIAN HOSPITAL, PRESBYTERIAN MEDICAL CENTER IN SAN FRANCISCO.

Q WHAT DID YOU DO THERE?

A THIS WAS AN ORGANIZATION DEVOTED PRIMARILY TO

HARTOLDMON0044158

RESEARCH IN VARIOUS MEDICAL AREAS AND I PROVIDED STATISTICAL CONSULTATION TO THE PEOPLE WHO WERE CARRYING OUT THOSE INVESTIGATIONS.

Q OKAY. AND HOW LONG WERE YOU THERE?

A FROM 1971 UNTIL LATE 1972 -- I BEG YOUR PARDON, FROM 1970 UNTIL '71.

Q AND THEN WHAT DID YOU DO?

A I RETURNED TO THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES AND BECAME ASSOCIATE DIRECTOR OF THE HUMAN POPULATION LABORATORY.

Q THAT DIDN'T HAVE ANYTHING TO DO WITH CLONING, DID IT?

A NOT THEN.

Q WHAT DID YOU DO IN THAT POSITION?

A THIS WAS A LONGITUDINAL STUDY OF HEALTH IN A RANDOM SAMPLE OF THE POPULATION FROM THE AREAS SURROUNDING THE HEALTH DEPARTMENT. I DIRECTED A GROUP OF PROFESSIONALS IN ANALYZING THE RESULTS OF SEVERAL SUCCESSIVE HEALTH QUESTIONNAIRES THAT WERE GIVEN TO THIS POPULATION.

Q AND THEN PUT IT INTO STATISTICAL INFORMATION AS TO HEALTH PROBLEMS AND WHERE THEY WERE LOCATED?

A YES.

Q HOW LONG WERE YOU IN THAT JOB?

A FROM 1971 UNTIL LATE 1972.

Q OKAY. THESE JOBS NOW THAT WE'RE TALKING ABOUT

WOULD TAKE INTO ACCOUNT YOUR EXPERTISE IN MATHEMATICS AND ECONOMICS AND YOUR EXTRAPOLATION FROM SHOWING HOW MANY PEOPLE WERE INVOLVED IN WHAT AREAS AND WHAT YOU COULD EXPECT AND KIND OF PROGNOSTICATE WHERE THESE EPIDEMICS MIGHT GO TO AND HOW LONG THEY WOULD LAST?

A I HAVE NO BACKGROUND IN ECONOMICS, BUT THE MAJOR TASK OF THE HUMAN POPULATION LABORATORY WAS TO IDENTIFY PERSONAL AND SOCIAL CHARACTERISTICS OF PEOPLE THAT WERE ASSOCIATED WITH EXCESS RISK OF SUCH THINGS AS CANCER AND HEART DISEASE.

Q AND THAT WOULD BE THE STATISTICAL INFORMATION AS TO WHERE THEY WERE LOCATED AND WHAT EFFECTS WERE MAYBE IN THAT AREA THAT MIGHT BE INVOLVED IN THESE DISEASES?

A YES.

Q BUT NOT, AS FAR AS YOU WERE CONCERNED, TO DIAGNOSE WHAT WAS THE CAUSE OR POSSIBLE CAUSES OF ANY DISEASE, INFECTION OR OTHERWISE, IS THAT CORRECT?

A THAT'S CORRECT.

Q FROM '72 ON WHAT DID YOU DO?

A I WAS DIRECTOR OF HEALTH STUDIES FOR A COMPANY CALLED TABERSHAW COOPER.

Q CAN YOU SPELL THAT FOR THE REPORTER?

A T-A-B-E-R-S-H-A-W COOPER, WHOSE NAME WAS LATER CHANGED TO EQUITABLE ENVIRONMENTAL HEALTH.

Q AND WHAT DID YOU DO THERE?

HARTOLDMON0044160

A I DIRECTED SEVERAL EPIDEMIOLOGY STUDIES AND LATER PREPARED PROPOSALS, DIRECTED STUDIES, PRESENTED REPORTS TO CLIENTS, AND IN SOME CASES PUBLISHED THE RESULTS OF THESE IN JOURNALS.

Q WHEN DID YOU FINISH THAT JOB?

A I CAME TO SRI INTERNATIONAL IN MARCH OF 1976.

Q AND REMAINED WITH THEM UNTIL '79 WHEN YOU WENT TO MONSANTO?

A THAT'S CORRECT.

Q DURING YOUR ENTIRE CAREER FROM '49 UP UNTIL '79 YOU HAD NOTHING WHATSOEVER TO DO WITH THE CHEMICAL INDUSTRY AT ALL, WOULD THAT BE CORRECT?

A NO. IN THE COURSE OF MY WORK FOR TABERSHAW COOPER AND LATER FOR MONSANTO I DID SOME CONTRACT STUDIES FOR CHEMICAL INDUSTRY.

Q I'M NOT INCLUDING MONSANTO, I MEAN UP UNTIL YOU WENT WITH MONSANTO.

A I DID HAVE ONE CONTRACT WITH MONSANTO BEFORE I BECAME AN EMPLOYEE.

Q WHEN WAS THAT?

A THAT WAS IN 1978.

Q WHICH PROBABLY WAS THE PRODROMUS OF YOUR EMPLOYMENT WITH MONSANTO?

A NO.

Q THEY MUST HAVE LIKED YOUR WORK.

HARTOLDMON0044161

A THE WORK WAS QUITE DIFFERENT ON THAT PARTICULAR CONTRACT FROM WHAT I CAME TO DO AT MONSANTO.

Q WHAT WAS THAT CONTRACT ABOUT?

A IT INVOLVED PHOTOCOPYING, CODING AND COMPUTERIZING PAST WORK HISTORIES FROM THE RECORDS OF SEVERAL MONSANTO PLANTS.

Q WERE YOU PHYSICALLY DOING THE PHOTOCOPYING AND PHOTOSTATING?

A TWO OR THREE RESEARCH ASSISTANTS WHO WORKED FOR ME WERE PHYSICALLY DOING THE PHOTOCOPYING.

Q AND THEN YOU WOULD TAKE THE INFORMATION FROM THEM?

A I WOULD DEVELOP CODES THAT CODING CLERKS USED TO COMPUTERIZE THE DATA AND DEVELOP QUALITY CONTROL CHECKS TO SEE THAT THE ERROR RATE WAS MINIMUM.

Q SO THAT THIS WOULD BE SOMETHING, AGAIN, BACK THERE TO THE EXPERTISE IN MATHEMATICS AND STATISTICAL INFORMATION FOR QUALITY CONTROL?

A IT WAS REALLY -- IT CAME OUT OF MY EXPERIENCE AT TABERSHAW COOPER IN DOING SIMILAR LARGE SCALE STUDIES.

Q BASED UPON YOUR EXPERIENCE IN EDUCATION IN MATHEMATICS AND STATISTICS?

A PRIMARILY ON MY EDUCATION IN THE DEPARTMENT OF HEALTH AND IN THE EARLY YEARS THAT I SPENT WITH TABERSHAW COOPER.

Q THAT WORK DID NOT ENTAIL ANY KNOWLEDGE OF THE

HARTOLDMON0044162

CHEMICAL INDUSTRY ITSELF, THOUGH, DID IT?

A NO.

Q AND AS FAR AS HAVING ANY CHEMISTRY BACKGROUND, DO YOU HAVE ANY WHATSOEVER?

A I'VE COMPLETED COURSES IN ORGANIC CHEMISTRY AND HAVE READ VERY ELEMENTARY TEXTS IN -- I'M SORRY, I COMPLETED COURSES IN INORGANIC CHEMISTRY AND HAVE READ ELEMENTARY TEXTS IN ORGANIC CHEMISTRY.

Q WHEN?

A THE ORGANIC CHEMISTRY THAT I READ WOULD HAVE BEEN ABOUT FOUR YEARS AGO.

Q WHAT DID YOU DO, JUST GET A BOOK ON ORGANIC CHEMISTRY AND STUDY IT YOURSELF?

A YES.

Q YOU DIDN'T GO TO A UNIVERSITY OR TAKE ANY COURSES IN SCHOOL FOR CREDIT OR ANYTHING LIKE THAT?

A NO.

Q AND THE SAME WITH INORGANIC CHEMISTRY?

A INORGANIC, I HAD TAKEN COURSES FOR CREDIT AT THE UNIVERSITY OF CALIFORNIA AS AN UNDERGRADUATE.

Q BACK IN THE 40'S?

A IN THE EARLY 50'S.

Q AND IN YOUR WHOLE CAREER, PRIOR TO COMING TO MONSANTO, DID YOU EVER HEAR OF POLYCHLORINATED BIPHENYLS?

A I BELIEVE I MAY HAVE HEARD THE TERM PCB'S BEFORE

HARTOLDMON0044163

I CAME TO MONSANTO.

Q WHEN?

A I DON'T RECALL.

Q AND FROM WHOM?

A I CAN'T REMEMBER.

Q OKAY. WHEN YOU CAME TO MONSANTO DID YOU GET INVOLVED IN POLYCHLORINATED BIPHENYLS IN ANY WAY?

A AT THE TIME I CAME TO MONSANTO A STUDY OF MONSANTO EMPLOYEES WAS IN PROGRESS.

Q THE ONES THAT WORKED AT THE ANNISTON PLANT AND SAUGET.

Q THE STUDY WAS LIMITED TO EMPLOYEES AT SAUGET?

A WAS IT?

Q AND THAT WAS WITH REGARD TO THEIR EXPOSURE TO THE MANUFACTURING OF PCB'S?

A THAT'S CORRECT.

Q AS TO WHETHER OR NOT THERE IS A LARGE SCALE, SMALL SCALE, OR WHATEVER THAT IS AFFECTED BY THE FUMES OR TOUCHING OF THE SKIN OF THE PRODUCT BEING MANUFACTURED, WOULD THAT BE CORRECT?

A WE IDENTIFIED PEOPLE FOR STUDY WHOSE WORK HISTORY SHOWED THAT THEY WERE IN THE UNIT IN WHICH PCB'S WERE PRODUCED.

MR. MC GRAW: LET ME INTERRUPT AGAIN OFF THE RECORD.

HARTOLDMON0044164

(DISCUSSION OFF THE RECORD)

Q IN YOUR STUDY, THEN, AT THE SAUGET, ILLINOIS MONSANTO PLANT, DID YOU GATHER TOGETHER FACTS AND MATERIALS WITH REGARD TO THEIR EXPOSURES TO PCB'S, AIRBORNE AND SKIN CONTACT?

A NO.

Q WHAT DID YOU DO?

A WE IDENTIFIED PEOPLE WHOSE WORK HISTORIES LOCATED THEM IN THE AREA WHERE PCB'S WERE PRODUCED.

Q FOR WHAT PURPOSE?

A IN ORDER TO FOLLOW THEM, IN ORDER TO DETERMINE, FOR COMPARITIVE PURPOSES, WHAT THEIR MORTALITY RATE WAS SUBSEQUENT TO THEIR EXPOSURE.

Q THAT WOULD INCLUDE A MORBIDITY RATE, THEN?

A NO.

Q ALL RIGHT. YOU WERE LOOKING TOWARD MORTALITY RATE, LONG LIFE, DEATH?

A WE CALCULATED ON THE BASIS OF A FOLLOWUP THE MORTALITY RATES IN THIS GROUP AND COMPARED THEM TO A COMPARABLE GROUP IN THE GENERAL POPULATION.

Q WHICH GROUP IN THE POPULATION WAS THE COMPARISON?

A UNITED STATES WHITE MALES.

Q ARE THERE ANY -- WERE THEY ALL WHITE MALES IN THE CONTROLLING GROUP AT MONSANTO, SAUGET?

A IN THE EXPOSED GROUP AT MONSANTO THEY WERE ALL

HARTOLDMON0044165

WHITE MALES.

Q WHY DID YOU PICK ON WHITE MALES?

A THEY WERE THE GROUP THAT EXISTED AND WERE WORKING IN THE PCB AREA.

Q WERE THERE NO HISPANICS OR BLACKS OR WOMEN?

A HISPANICS ARE WHITE.

Q YOU CONSIDER THEM -- OKAY.

A THE CENSUS BUREAU CONSIDERS THEM WHITE.

Q ALL RIGHT.

A THERE WERE NO WOMEN, I'M NOT AWARE THAT THERE WERE ANY BLACKS.

Q DID THAT INCLUDE GERMANS?

A THEY'RE WHITE FOR U. S. CENSUS PURPOSES.

Q OKAY. WHAT WAS THE END RESULT OF YOUR STUDY?

A THE MORTALITY THAT WE SAW IN THIS POPULATION DID NOT DEVIATE SIGNIFICANTLY FROM WHAT WOULD BE EXPECTED IN A SIMILAR GROUP OF U. S. WHITE MALES.

Q TO WHAT DEGREE AND EXTENT WERE THESE WHITE MALE SUBJECTS SUBJECTED TO PCB'S?

A THE EVIDENCE WE HAVE AS TO THEIR PCB EXPOSURE WAS THE FACT THAT THEIR WORK HISTORIES ASSIGNED THEM TO THE UNIT IN WHICH PCB'S WERE PRODUCED.

Q WHAT WERE YOUR DETERMINATIONS OF THE SAFETY FACTORS IN THE WORK AREA AGAINST EXPOSURES TO PCB'S?

A THAT'S AN INDUSTRIAL HYGIENE QUESTION WHICH IS

HARTOLDMON0044166

BEYOND MY COMPETENCE.

Q ALL RIGHT. SO AS TO THE DOSAGE AND THE AMOUNT OF EXPOSURE AND THE LENGTH OF TIME OF EXPOSURE AND THE DEGREE OF EXPOSURE, DID THAT -- THOSE THINGS DID NOT ENTER INTO YOUR STUDY?

A ONLY IN THE SENSE THAT WE STUDIED PEOPLE WHO WORKED IN THE AREA.

Q OKAY. AND THESE PEOPLE WOULD BE ONLY INVOLVED WITH, AS FAR AS YOU KNOW, WOULD IT, WITH THE INGESTION BY BREATHING THE FUMES, IF ANY, OF PCB'S IN THEIR MANUFACTURE OR THE POSSIBILITY OF TOUCHING A LIQUID OR COMPOUND WITH PCB'S IN IT?

A PCB'S ARE SO PERSISTENT IN THE ENVIRONMENT BECAUSE THEY ARE NOT VOLATILE, SO EXPOSURE TO PCB'S BY INHALATION WOULD BE UNUSUAL UNLESS ONE HAD AN ENVIRONMENT IN WHICH THERE WERE HOT LIQUIDS. THEIR EXPOSURE WAS BY SKIN CONTACT AND WHATEVER INGESTION MAY HAVE OCCURRED AS A RESULT OF SMOKING OR EATING.

Q WHAT WOULD THEY EAT, IF ANYTHING, THAT WAS KNOWN TO CONTAIN PCB'S?

A I DON'T KNOW.

Q WHAT WOULD THEY DRINK, IF ANYTHING, THAT WAS KNOWN TO CONTAIN PCB'S?

A I HAVE NO KNOWLEDGE OF THEIR PERSONAL DIET.

Q AND THAT WASN'T INCLUDED IN YOUR STUDY?

HARTOLDMON0044167

A NO, IT WAS NOT.

Q IN THE PLANT -- HAVE YOU EVER BEEN OVER IN THE SAUGET PLANT?

A YES.

Q WHILE YOU WERE CONDUCTING THAT STUDY?

A YES.

Q AND IN THE MANUFACTURE OF PCB'S IS THERE A LOT OF HEAT GENERATED IN ORDER TO MANUFACTURE THE COMPOUND?

A I WAS NEVER IN THE PCB AREA WHILE I WAS AT THE PLANT.

Q WAS THERE ANY FEAR OF YOUR GOING IN THERE FROM BEING EXPOSED?

A NO. I WAS AT THE PLANT PURSUING A NUMBER OF OTHER QUESTIONS ABOUT RECORDS IN THE PLANT.

Q BUT YOU NEVER WENT IN THE PLANT TO SEE HOW THESE PEOPLE, THESE WHITE MALES WORKED, TO SEE HOW THEY MAY HAVE BEEN EXPOSED AND TO WHAT EXTENT?

A IT WAS IMPOSSIBLE BECAUSE PCB'S WERE NOT MADE AT THE TIME THAT I CAME TO MONSANTO.

Q THEY QUIT MANUFACTURING THEM IN 1977, I CAN REMEMBER.

A I BELIEVE SO.

Q WERE THEY MANUFACTURING ANY PCB'S AT ALL OVER THERE AT SAUGET WHEN YOU WERE THERE?

A NO.

HARTOLDMON0044168

Q HOW WOULD YOU HAVE DONE THE STUDIES, THEN, AND THROUGH WHAT SOURCES WOULD YOU GET THE INFORMATION AS TO THE CONTACT WITH PCB'S BY THESE WORKERS?

A WE FOUND OUT THE NAMES OF THE DEPARTMENTS AND AREAS WHICH HAD BEEN INVOLVED IN THE PRODUCTION OF PCB'S, AND THEN BY RESEARCHING WORK HISTORY RECORDS WE IDENTIFIED EVERYONE WHO HAD SPENT AT LEAST ONE YEAR ASSIGNED TO THAT AREA BETWEEN 1946 AND 1966.

WE THEN TRACED THESE PEOPLE TO DETERMINE WHETHER THEY WERE STILL LIVING, AND IN THE CASE OF THOSE THAT WERE DECEASED WE DETERMINED THEIR CAUSE OF DEATH FROM DEATH CERTIFICATES.

Q THE GROUP, THEN, WOULD BE A CONTROL GROUP FROM '46 TO '66?

A THIS WAS A GROUP, AN EXPOSED GROUP WHO HAD SPENT AT LEAST ONE YEAR WORKING WITH PCB'S IN THAT PERIOD OF TIME.

Q '46 TO '66?

A THAT'S RIGHT.

Q IN 19 -- UP UNTIL 1966 WAS THERE ANY KNOWN METHOD BY WHICH YOU COULD DETERMINE THE CAUSE OF DEATH AS POSSIBLY BEING RELATED TO PCB'S, EITHER AS A CONTRIBUTING FACTOR SECONDARILY OR AS A GROUP OF MALADIES?

A IT'S POSSIBLE WITH THAT STUDY DESIGN TO DETERMINE THE UNDERLYING CAUSE OF DEATH AS LISTED ON THE DEATH CERTIFICATE, IT'S POSSIBLE TO EXAMINE THE RELATIONSHIP

HARTOLDMON0044169

WITH PCB'S BY ASKING WHETHER THE RATE OF DEATH FROM THESE VARIOUS CAUSES WAS SIGNIFICANTLY GREATER IN THESE PEOPLE THAN ONE WOULD EXPECT ON THE BASIS OF THE EXPERIENCE OF THE UNITED STATES POPULATION AS A WHOLE.

Q BUT UP UNTIL THAT PERIOD OF TIME IN 1966 DO YOU HAVE ANY KNOWLEDGE AS TO WHETHER OR NOT PRIVATE INDUSTRY OR GOVERNMENT HAD ANY KNOWLEDGE AS TO WHETHER OR NOT PCB'S WERE A CAUSE AND EFFECT IN ANY WAY TO DAMAGE TO THE HUMAN BEING?

A I HAVE KNOWLEDGE FROM A REVIEW I CONDUCTED OF EPIDEMIOLOGY STUDIES THAT -- SOME OF WHICH WERE DONE IN THE LATE 1960'S AND EARLY 1970'S. BEYOND THAT I HAVE NO KNOWLEDGE.

Q IN THAT AREA IN THE LATE 60'S AND EARLY 70'S, WERE THERE STUDIES THAT YOU REVIEWED THAT SHOWED THAT PCB'S AFFECTED HUMAN HEALTH?

A YES, THERE WERE.

Q WHAT WERE THEY?

A THERE WERE SEVERAL STUDIES OF HEAVILY EXPOSED, HEAVILY OCCUPATIONALLY EXPOSED WORKERS IN WHOM DERMATITIS WAS FOUND.

Q CHLORACNE?

A CHLORACNE WAS REPORTED IN SOME STUDIES, DERMATITIS NOT FURTHER SPECIFIED IN OTHER STUDIES.

Q HEPATIC PROBLEMS?

HARTOLDMON0044170

A NO.

Q NO STUDIES AT ALL WITH REGARD TO HEPATIC PROBLEMS?

A ONE STUDY REFERRED TO THE PAUCITY OF LIVER PROBLEMS IN THE COHORT.

Q WHAT STUDY WAS THAT, DO YOU REMEMBER?

A IT WAS DONE -- THE SENIOR AUTHOR WAS NAMED FISHBEIN AND HE WAS FROM MT. SINAI.

Q IN NEW YORK?

A IN NEW YORK.

Q SINCE THAT TIME SILLIKOFF AND OTHERS HAVE INDICATED THAT THERE IS A CAUSAL RELATIONSHIP BETWEEN HEPATIC DISEASES, ISN'T THAT CORRECT?

A NOT TO THE BEST OF MY KNOWLEDGE.

Q THE UNIVERSITY OF WISCONSIN STUDIES AFFECTING LIVER ENZYMES?

A THAT'S A DIFFERENT QUESTION.

Q OKAY. LIVER FUNCTION.

A THERE HAVE BEEN STUDIES OF LIVER FUNCTION, ENZYMES PRODUCED BY THE LIVER IN WHICH, FOR, AGAIN, PEOPLE WITH HEAVY EXPOSURES, THERE WERE SOME INCREASES IN THE LEVELS OF SOME OF THOSE ENZYMES.

Q AND WHAT ABOUT INJURIES TO THE LIVER IN TOTO, ENLARGEMENT OF THE LIVER, AND SUCH THINGS?

A I'M AWARE OF NO STUDIES OF THAT KIND. I'M AWARE OF THE STUDY BY SINAI AND ONE STUDY BY THE CENTER FOR

HARTOLDMON0044171

DISEASE CONTROL THAT SPECIFICALLY MENTIONED THESE LIVER ENZYME LEVELS AND SAID THEY OCCURRED IN THE ABSENCE OF ANY CLINICAL ILLNESS.

Q IN OTHER WORDS, THEY COULDN'T RELATE TO OR NOT RELATE TO THE EXPOSURE TO PCB'S?

A WHAT WAS FOUND WAS THAT THE ENZYME LEVELS THAT WERE FOUND WERE ACCOMPANIED BY NO UNUSUAL LEVEL OF ILLNESS.

Q WITH REGARD TO THE DEATH CERTIFICATES THAT YOU FOUND AND UTILIZED IN THE STUDY GROUP THAT YOU MADE THE REPORT ON FROM '46 TO '66, WAS THERE SOME WAY BY WHICH YOU COULD GO BEHIND THE STATEMENT OF DEATH AS THE PRIMARY AND SECONDARY CAUSES TO DETERMINE WHETHER OR NOT PCB'S WERE OR WERE NOT INVOLVED?

A NO, THERE WAS NOT.

Q AND LITERALLY YOU HAD TO TAKE ON ITS FACE VALUE WHAT THE DEATH CERTIFICATE SAID ABOUT THE CAUSE OF DEATH?

A THAT'S CORRECT.

Q SINCE ARRIVING AT MONSANTO IN '79 UNTIL NOW HAVE YOU PARTICIPATED IN ANY OTHER STUDIES THAN THE ONE YOU JUST TOLD US ABOUT?

A NO, I HAVE NOT. I BEG YOUR PARDON -- NO, I HAVE NOT PARTICIPATED IN ANY OTHER STUDIES OF PCB'S.

Q OF PCB'S, YES. THAT WAS THE SOLE CONTACT THAT YOU HAVE HAD WITH PCB'S, IS THE STUDY YOU MENTIONED AT THE SAUGET PLANT?

A THE STUDY AND MY REVIEW OF THE LITERATURE ON PCB STUDIES.

Q OKAY. IN PREPARATION FOR THIS DEPOSITION WERE THERE ANY ARTICLES, PAPERS OR MATERIALS OF MONSANTO THAT YOU REVIEWED TO HELP PREPARE YOURSELF?

A NO. I REVIEWED MY OWN LITERATURE REVIEW AND REFRESHED MY MIND ON SOME OF THE PAPERS THERE.

Q WHAT DO YOU HAVE IN YOUR OWN LITERATURE?

A MY LITERATURE REVIEW COVERED SEVENTEEN STUDIES OF PCB EFFECTS OTHER THAN CANCER AND FOR STUDIES OF SPECIFICALLY -- OR PRIMARILY DIRECTED TOWARD THE CARCINOGENICITY OF PCB'S. I HAVE REPRINTS OF ALL OF THOSE STUDIES EXCEPT SOME IN THE LATE 1960'S THAT WERE DONE IN JAPAN AND PUBLISHED IN JAPANESE.

Q AND THIS IS THE GROUP OF PAPERS AND MATERIALS THAT YOU REVIEWED TO PREPARE FOR YOUR DEPOSITION?

A YES.

Q WAS THERE ANY PAPERS OTHER THAN THE OUTSIDE LITERATURE, OTHER THAN -- THAT YOU STUDIED THAT WERE FORMULATED BY MONSANTO THROUGHOUT THE YEARS WITH REGARD TO THEIR INVESTIGATIONS AND TESTS INVOLVING PCB'S?

A NO. OTHER THAN THE SAUGET STUDY WHICH, AS I SAY, WAS IN PROGRESS WHEN I ARRIVED AT MONSANTO.

Q IS THAT IN YOUR GROUP OF PAPERS THAT YOU HAVE AS WELL?

HARTOLDMON0044173

A YES.

Q IS THERE A PARTICULAR JOURNAL TO WHICH YOU SUBSCRIBE IN YOUR EXPERTISE?

A YES.

Q WHAT IS IT?

A THE AMERICAN JOURNAL OF EPIDEMIOLOGY.

Q HAVE YOU, TO YOUR KNOWLEDGE, READ ANY ARTICLES IN THAT JOURNAL THAT'S APPLICABLE TO POLYCHLORINATED BIPHENYLS AND THEIR EFFECT ON THE ENVIRONMENT?

A YES. THERE WAS, I BELIEVE THERE WERE TWO SUCH STUDIES.

Q DO YOU HAVE THOSE IN THE GROUP OF MATERIALS THAT YOU REVIEWED?

A -- ONE OF THEM WAS TOO RECENT TO BE INCLUDED IN MY REVIEW, THE OTHER ONE I HAVE.

Q WHAT YEAR WAS THE ONE YOU READ?

A THE SENIOR AUTHOR WAS BAKER AND I BELIEVE IT WAS 1980 OR '81.

Q THE OTHER ONE YOU'RE TALKING ABOUT WAS ONE THAT'S JUST RECENTLY PUBLISHED?

A IN 1982, I BELIEVE.

Q AUTHOR AND THE DATE?

A THE AUTHOR WAS -- THE SENIOR AUTHOR'S LAST NAME WAS CHASE, I CAN'T BE MORE PRECISE THAN TO SAY 1982 FOR THE DATE.

HARTOLDMON0044174

Q DO YOU HAVE ANY PERSONAL KNOWLEDGE OR EXPERTISE IN THE FIELD OF APPLICATIONS OF POLYCHLORINATED BIPHENYLS?

A NO.

Q DO YOU KNOW ANYTHING ABOUT THE STUDIES, IF ANY, FROM '68 UP UNTIL '77 WHEN THEY CEASED MANUFACTURE OF PCB'S THAT MONSANTO WAS INVOLVED IN PERSONALLY, THROUGH THEIR EMPLOYEES OR THEIR SCIENTISTS OR LABORATORIES?

A NO, I DO NOT.

Q DID YOU EVER READ ANY OF THOSE ARTICLES OR REPORTS THAT MAY HAVE BEEN PRODUCED BY MONSANTO DURING THAT PERIOD?

A NO.

Q DID YOU EVER INVESTIGATE ON YOUR OWN ANY EFFECTS OF PCB'S ON THE FARM ENVIRONMENT?

A NO, I HAVE NOT.

Q DO YOU HAVE ANY EXPERTISE AT ALL AS TO HOW PLASTICIZERS AND RESINS COULD BE USED, EITHER BY AROCLORS ALONE OR IN MIXTURES IN OTHER COMPOUNDS?

A I HAVE NO KNOWLEDGE IN THAT AREA.

Q OKAY. DID YOU EVER ENGAGE IN ANY PROCEDURES AT MONSANTO SINCE YOUR ARRIVAL TO CONTACT CUSTOMERS, CURRENT CUSTOMERS OR PAST CUSTOMERS WITH REGARD TO THE UTILIZATION OF PCB'S IN THEIR BUSINESS?

A NO.

Q EVER WRITE LETTERS TO THEM?

HARTOLDMON0044175

A NONE.

Q DID YOU EVER GIVE ANY TALKS REGARDING THE PCB'S IN THE ENVIRONMENT TO ANY GROUP OF PROFESSIONALS ANYWHERE?

A YES.

Q WHEN AND WHERE?

A I GAVE THE RESULTS OF THE LITERATURE REVIEW THAT I HAVE DESCRIBED TO THE AMERICAN CHEMICAL SOCIETY, I BELIEVE THAT WAS IN 1980, AND THE FOLLOWING YEAR TO A SYMPOSIUM IN MICHIGAN ON PCB'S.

Q IN THE 1980 TALK DID YOU HAVE AN OUTLINE THAT YOU PREPARED FOR THAT TALK OR ANY DIAGRAMS FOR THAT TALK?

A I HAD A COMPLETE REVIEW OF THE LITERATURE, MY TALK WAS A CONDENSED VERSION OF IT AND I SPOKE FROM ROUGH NOTES.

Q DO YOU HAVE THOSE NOTES THAT YOU UTILIZED IN 1980 IN YOUR FILE?

A I DON'T BELIEVE I DO, BUT I'M NOT CERTAIN.

Q IN THE SYMPOSIUM IN MICHIGAN DID YOU HAVE ANY MATERIALS, SLIDES?

A YES.

Q DO YOU STILL HAVE THOSE?

A YES.

Q AND DO YOU HAVE THOSE IN YOUR POSSESSION OR CONTROL OR IS IT SOMEBODY ELSE THAT HAS THEM?

A THEY ARE IN MY POSSESSION.

HARTOLDMON0044176

Q DID YOU HAVE AN OUTLINE OF YOUR TALK THAT YOU GAVE AT THE MICHIGAN SYMPOSIUM OR A PRINT OF THE TALK THAT YOU GAVE?

A I AGAIN CONDENSED THE LARGE PAPER. I CAN'T RECALL WHETHER I STILL HAVE IN MY POSSESSION THE CONDENSED TALK. IT WOULD NOT HAVE BEEN AN OUTLINE, IT WOULD HAVE BEEN SIMPLY A BOILED DOWN VERSION OF THE PAPER. I DON'T KNOW WHETHER I HAVE THAT OR NOT.

Q OKAY. DO YOU HAVE ANY IDEA OR CONCEPT WITHIN YOUR KNOWLEDGE OF EXPERTISE AS TO WHETHER OR NOT PCB'S CAN BE A CONTAMINANT INTHE FOOD SUPPLY OF MAN?

A I'VE LOOKED AT SEVERAL STUDIES IN WHICH PEOPLE HAVE INGESTED PCB'S CONTAINED PARTICULARLY IN FISH, I'M NOT AWARE THAT THEY ARE CONTAMINANT BECAUSE THERE ARE NO HEALTH EFFECTS ON THESE PEOPLE.

Q THAT'S WHAT SOME STUDIES THAT YOU HAVE READ INDICATE?

A THAT'S CORRECT.

Q THERE ARE STUDIES, HOWEVER, THAT INDICATE THAT THERE IS SOME HEALTH EFFECT, ISN'T THAT TRUE?

A DO YOU MEAN STUDIES OF --

Q SCIENTIFIC STUDIES.

A DO YOU MEAN STUDIES OF INGESTION OF PCB'S?

Q EATING IT OR DRINKING IT.

A NO.

Q YOU HAVEN'T READ ANY?

A NO.

Q DO YOU KNOW HOW YOU CAN GET RID OF PCB'S ONCE IT'S IN THE BODYFAT OF ANIMALS?

A THAT'S BEYOND MY COMPETENCE.

Q DO YOU KNOW HOW YOU GET RID OF PCB'S THAT IS IN THE BODY FATS OF HUMANS?

A I DON'T KNOW.

Q DO YOU KNOW ANYBODY WHO DOES?

A NO.

Q DO YOU KNOW HOW MUCH PCB WAS PRODUCED IN THE UNITED STATES BY MONSANTO SINCE ITS INCEPTION UNTIL NOW -- UNTIL 1977?

A NO.

Q HAD YOU EVER GIVEN ANY DEPOSITIONS SUCH AS WE'RE DOING NOW IN ANY OTHER CASES WHERE PCB'S WERE THE SUBJECT MATTER?

A YES.

Q WHERE WAS THAT?

A IN CONNECTION WITH THE OUTBOARD MARINE SUIT.

Q IN CHICAGO?

A IN CHICAGO.

Q AND CAN YOU GIVE US THE DATE OF YOUR DEPOSITION?

A I'M AFRAID I CAN'T. IT WAS A GOOD MANY MONTHS AGO, BUT I CAN'T REMEMBER THE EXACT DATE.

HARTOLDMON0044178

Q WAS IT IN 1983 OR 1982?

A IN 1982.

Q JUST -- WHEN YOU'RE TALKING ABOUT MONTHS AGO, THEN, WITHIN SIX MONTHS OR MORE OR LESS?

A I WOULD SAY WITHIN SIX MONTHS.

Q AND WERE YOU INVOLVED IN ANY OF THE OTHER SUITS THAT MONSANTO HAS BEEN INVOLVED WITH WITH PCB'S?

A NO.

Q DO YOU KNOW OF ANY OTHER SUITS?

A NO.

MR. MC GRAW: THAT'S IT.

MR. JUNGERHELD: I HAVE NO QUESTIONS.

William R. Gaffey
WILLIAM GAFFEY

SUBSCRIBED AND SWORN TO BEFORE ME THIS 17th DAY OF February 1983.

MY COMMISSION EXPIRES: May 29 1985.

Shirley C Lee
NOTARY PUBLIC
County of St. Louis
State of Missouri

I, GERALYN L. WASHAUSEN, A NOTARY PUBLIC IN AND FOR THE STATE OF MISSOURI, DO HEREBY CERTIFY THAT PURSUANT TO AGREEMENT OF COUNSEL CAME BEFORE ME AT MONSANTO COMPANY, 800 NO. LINDBERGH, ST. LOUIS, MISSOURI, WILLIAM GAFFEY, WHO WAS BY ME FIRST DULY SWORN TO TELL THE WHOLE TRUTH OF HISKNOWLEDGE TOUCHING THE MATTER IN CONTROVERSY AFORESAID; THAT HE WAS EXAMINED ON THE DAY, BETWEEN THE HOURS AND AT THE PLACE IN THAT BEHALF FIRST AFORESAID, AND HIS EXAMINATION WAS TAKEN IN SHORTHAND AND LATER REDUCED TO TYPEWRITING; THAT THE DEPOSITION WAS SIGNED BY THE DEPONENT ON THE _____DAY OF _____1983, AND HIS DEPOSITION IS NOW HEREWITH RETURNED.

IN WITNESS WHEREOF I HAVE HERE NTO SET MY HAND AND AFFIXED MY NOTARIAL SEAL THIS ____DAY OF _____1983.

MY COMMISSION EXPIRES FEBRUARY 23, 1983.

_____
NOTARY PUBLIC IN AND FOR THE
STATE OF MISSOURI

DEPOSITION CORRECTION SHEET

In Re:

Upon reading the deposition and before subscribing thereto, the deponent indicated the following changes should be made:

Page 8 Line 16 Should read: "pure" instead of "peer"

Reason assigned for change: Confusion of homonyms by reporter

Page 27 Line 10 Should read: "for" should be "four"

Reason assigned for change: Confusion of homonyms by reporter

Page Line Should read:

Reason assigned for change:

Page Line Should read:

Reason assigned for change:

Page Line Should read:

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Reason assigned for change:

William R. Goffey
Deponent