IN THE CIRCUIT COURT OF 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 JAMES P. MIEURE
TAKEN ON BEHALF OF THE PLAINTIFF ROGER A. HALEY

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

WATER_PCB-SD0000034814

STATE OF MICHIGAN)
) SS
COUNTY OF HURON)

IN THE CIRCUIT COURT FOR THE COUNTY OF HURON

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VS.	)	FILE NO. 77-002677 NZ
	)	
MICHIGAN SILO COMPANY, ET AL,	)	
	)	

DEPOSITION OF JAMES P. MIEURE, 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 CAUSE

WATER_PCB-SD0000034815

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

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IT IS HEREBY STIPULATED BY AND BETWEEN COUNSEL FOR THE PLAINTIFFS AND COUNSEL FOR THE DEFENDANTS THAT THIS DEPOSITION MAY BE TAKEN IN SHORTHAND BY GERALYN L. WASHAUSEN, A CERTIFIED COURT REPORTER, AND AFTERWARDS TRANSCRIBED INTO TYPEWRITING, AND THEN SIGNED BY THE DEPONENT.

- - -

JAMES P. MIEURE,

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:

MR. JUNGERHELD: I BELIEVE, BY THE WAY, AS LONG AS WE'RE WAITING HERE, WE'LL RESERVE THE RIGHT TO HAVE MR. MIEURE READ AND SIGN THE DEPOSITION.

Q MR. MIEURE, WE INTRODUCED OURSELVES EARLIER, AND I'M JOHN MC GRAW, IN CASE YOU FORGOT WITH ALL THE PEOPLE AND NAMES AROUND HERE. HAVE YOU EVER GIVEN A DEPOSITION BEFORE?

A YES, I HAVE.

Q MANY OCCASIONS?

A NO.

Q HOW MANY?

A ONE.

Q OKAY. YOU'RE FAMILIAR, THEN, WITH THIS SETUP

WATER_PCB-SD0000034817

HERE?

A BASICALLY.

Q ALL RIGHT. I'M GOING TO BE ASKING YOU QUESTIONS, GIVE ME THE BEST ANSWERS YOU CAN. IF I ASK A QUESTION YOU DON'T UNDERSTAND, YOU'RE FREE TO SAY "I DON'T UNDERSTAND IT." PLEASE DON'T ANSWER ME UNLESS YOU DO. AND YOU MAY ASK TO REPHRASE IT, OR IF YOU DON'T UNDERSTAND OR WHATEVER, OKAY?

A OKAY.

Q AND I'M NOT HERE TO TRAP YOU, I'M JUST HERE TO GET INFORMATION, FAIR ENOUGH?

A OKAY.

Q THE FULL NAME IS JAMES P. MIEURE?

A THAT'S CORRECT.

Q OKAY. WHAT'S YOUR AGE?

A I'M FORTY-ONE.

Q AND WHERE DO YOU LIVE NOW?

A 1308 RUSTIC VIEW DRIVE, R-U-S-T-I-C V-I-E-W.

Q AND THAT'S IN --

A BALLWIN, MISSOURI.

Q IS THAT NEAR ST. LOUIS?

A IT'S A SUBURB.

Q WHERE DID YOU GO TO SCHOOL FOR YOUR BACKGROUND EDUCATION, APART FROM YOUR GRADUATE SCHOOL?

A I HAVE A PH.D. FROM TEXAS AMERICAN UNIVERSITY,

WATER_PCB-SD0000034818

A MASTER'S DEGREE FROM PURDUE UNIVERSITY, AND A BACHELOR'S DEGREE FROM KENYON COLLEGE.

Q FROM WHAT COLLEGE?

A KENYON, K-E-N-Y-O-N.

Q WHERE IS THAT LOCATED?

A GAMBIER, OHIO.

Q HOW LONG HAVE YOU BEEN WORKING FOR MONSANTO?

A FOURTEEN YEARS.

Q SINCE WHAT YEAR?

A 1968.

Q AND WHAT WAS THE YEAR THAT YOU RECEIVED YOUR PH.D.?

A 1968.

Q SO AFTER GOING THROUGH YOUR EDUCATION YOU CAME TO MONSANTO TO WORK?

A THAT'S CORRECT.

Q AND WHEN YOU CAME TO MONSANTO, WHAT WAS THE NATURE OF YOUR JOB HERE?

A I WAS AN ANALYTICAL CHEMIST.

Q AND BASICALLY OVERALL THROUGH YOUR EDUCATIONAL PROCESS HAVE YOU LIMITED YOUR STUDIES OF ANALYTICAL CHEMISTRY OR ARE YOU BROADENED BEYOND THE ANALYTICAL CHEMISTRY AREA?

A MY MAJORS WERE ALL ANALYTICAL CHEMISTRY.

Q IS THAT WHAT YOU STARTED OUT WITH AND ARE CURRENTLY DOING NOW WITH MONSANTO?

A THAT IS HOW I STARTED OUT WITH MONSANTO.

WATER_PCB-SD0000034819

Q WHAT ARE YOU DOING NOW WITH MONSANTO?

A WELL, MY JOB RESPONSIBILITY IS PRODUCT ACCEPTABILITY FOR PLASTICIZERS AND RUBBER CHEMICALS.

Q WHAT DOES THAT MEAN?

A I'M RESPONSIBLE FOR HAVING THESE PRODUCTS TESTED.

Q ALL RIGHT. AND HOW LONG HAVE YOU HAD THAT JOB?

A SINCE THE FIRST OF THIS YEAR.

Q AND BEFORE THAT WHAT WERE YOU DOING WITH THE COMPANY?

A I WAS MANAGER OF THE ENVIRONMENTAL SCIENCES LABORATORY.

Q FOR HOW LONG?

A TWO YEARS.

Q WHAT YEARS?

A MUST HAVE BEEN 1969 AND 1970 -- I'M SORRY, 1979 AND 1980.

Q OKAY. SO THAT THE FIRST TIME THAT YOU GOT INTO THE ENVIRONMENTAL AREA WAS IN 1979?

A NO.

Q WHEN DID YOU FIRST GET INTO THE ENVIRONMENTAL AREA?

A I'M NOT QUITE SURE HOW TO ANSWER THAT QUESTION.

Q DID YOUR JOB HERE AT MONSANTO TAKE YOU INTO ENVIRONMENTAL PROBLEMS AT ANY TIME SINCE YOUR ARRIVAL FROM 1968 TILL NOW?

WATER_PCB-SD0000034820

A YES.

Q WHEN DID YOU FIRST BEGIN?

A PROBABLY 1968.

Q AND IN THAT CAPACITY AT THAT TIME WHAT DID YOU DO?

A I WAS DEVELOPING ANALYTICAL METHODS.

Q FOR WHAT?

A FOR CHEMICALS.

Q WHAT CHEMICALS?

A MONSANTO'S CHEMICALS.

Q WHAT CHEMICALS?

A I CAN'T BE THAT SPECIFIC AT THIS TIME.

Q OKAY. WERE YOU, AT ANY TIME IN YOUR JOB WITH MONSANTO, DEALING WITH AROCLORS OR PCB'S?

A YES.

Q WHEN DID YOU BEGIN WITH THOSE?

A 1968.

Q IN 1968 WITH REFERENCE TO THE AROCLORS OR PCB'S WHAT, IF ANYTHING, DID YOUR JOB CONSIST OF?

A DEVELOPING METHODOLOGY FOR DETERMINING THE COMPONENTS OF THE PCB MIXTURES.

Q WERE THOSE COMPONENTS KNOWN AT THAT TIME OR UNKNOWN? I UNDERSTAND FROM YOUR QUESTION -- ANSWER, THAT YOU WERE DEVELOPING HOW TO TEST AND DETERMINE WHAT THE COMPONENTS WERE OF PCB'S AND THE THOUGHT WOULD BE THAT THEY ALREADY KNEW THAT.

WATER_PCB-SD0000034821

A WE KNEW BASICALLY WHAT WAS PRESENT IN THE PCB MIXTURE. THE METHODOLOGY WAS NECESSARY TO IDENTIFY THE INDIVIDUAL COMPONENTS.

Q WHAT INDIVIDUAL COMPONENTS WERE THERE?

A THERE ARE SEVENTY OR EIGHTY POSSIBLE COMPONENTS IN PCB MIXTURES AND MOST OF THEM ARE THERE.

Q AND PRIOR TO THAT TIME YOU DIDN'T KNOW HOW TO IDENTIFY THEM?

A WE DIDN'T HAVE METHODS, SPECIFIC METHODS FOR IDENTIFYING THEM.

Q HOW DID YOU KNOW THEY WERE THERE WITHOUT THE METHODOLOGY?

A A CHEMIST CAN DO A THEORETICAL CALCULATION TO DETERMINE HOW MANY COMPONENTS SHOULD BE PRESENT.

Q AND PRIOR TO 1968 DO YOU KNOW IF IN THE LITERATURE THERE HAD BEEN A DETERMINATION AS TO WHAT COMPONENTS WERE IN THE MIXTURES OF PCB'S?

A I'M NOT AWARE OF ANY.

Q IN OTHER WORDS, PRIVATE INDUSTRY OR GOVERNMENTAL AGENCIES OF WHATEVER KIND OR NATURE DIDN'T KNOW WHAT WERE IN PCB'S UNTIL 1968?

A NO, I DIDN'T SAY THAT.

Q THAT'S WHAT I'M TRYING TO GET OUT OF YOU, IF YOU CAN EXPAND A LITTLE BIT WITHOUT A SPECIFIC QUESTION. WHY, IN 1968, ALL OF A SUDDEN WERE YOU ASSIGNED TO DETERMINE

WATER_PCB-SD0000034822

WHAT WAS THE MIXTURE OF PCB'S THAT HAD BEEN MADE SINCE 1920 -- SINCE THE BEGINNING OF THE CENTURY?

A INSTRUMENTATION WAS AVAILABLE WHICH MADE IT POSSIBLE TO IDENTIFY AND CHARACTERIZE THE MIXTURES IN A MORE REFINED FASHION THAN WHAT HAD BEEN ACCOMPLISHED IN THE PAST.

Q IN THE PAST THERE WERE INSTRUMENTS AND METHODS BY WHICH YOU COULD IDENTIFY PCB'S, WERE THERE NOT, PRIOR TO 1968?

A WHAT DO YOU MEAN WHEN YOU SAY IDENTIFY?

Q WELL, THAT'S WHAT YOU KEEP SAYING, AND I DON'T KNOW WHETHER WE'RE IN TUNE WITH EACH OTHER HERE OR PLAYING A SEMANTIC GAME. YOU ADVISED THAT YOU WERE DETERMINING THE METHODOLOGY TO PINPOINT WHAT THE COMPONENTS OF PCB'S WERE IN 1968, YET THEY WERE MADE SINCE THE 1900'S, SO THAT WAS DONE BEFORE YOU STARTED IN '68 TO DETERMINE WHAT COMPONENTS WERE IN THERE, IF ANYTHING?

A THE CHARACTERIZATION PRIOR TO THAT WERE OF A MORE GENERAL NATURE, NOT FOCUSING ON INDIVIDUAL COMPONENTS.

Q EXPLAIN THAT.

A WELL, AN INFRA-RED SPECTRUM, FOR EXAMPLE, WOULD TELL A SPECTROSCOPIST THAT HE HAD A MIXTURE OF CHLORINATED BIPHENYL, BUT IT WOULDN'T TELL HIM HOW MUCH NONACHLORO OR DICHLORO OR TRICHLORO, FOR EXAMPLE, WERE PRESENT.

Q AND THERE WASN'T ANY INSTRUMENTATION OR METHODS PRIOR TO 1968 TO MAKE THAT DETERMINATION?

WATER_PCB-SD0000034823

A THE INSTRUMENTS EXISTED FOR A FEW YEARS PRIOR TO 1968, BUT AS FAR AS I KNOW, THEY HAD NOT BEEN APPLIED TO THE CHARACTERIZATION OF PCB MIXTURES.

Q DO YOU KNOW WHY NOT? IF THE INSTRUMENTS WERE THERE, WASN'T SOMEBODY USING THEM FOR THAT PURPOSE?

A THE ANSWER IS A HIGHLY TECHNICAL ONE. THE INSTRUMENTS WOULD NOT SCAN FAST ENOUGH TO LOOK AT THE EFFLUENT FROM A COLUMN.

Q WHAT WAS IT THAT CAME AROUND IN '68 THAT ALLOWED YOU TO DO IT?

A A FASTER SCANNING MASS SPECTROMETER.

Q WHY WAS THAT DEVELOPED, WHAT WAS THE PURPOSE OF IT?

A I DON'T KNOW.

Q SO A CHEMIST CAN BREAK IT DOWN MORE NOW, WHAT BENEFIT DID THAT HAVE TO MONSANTO OR TO YOU AS A CHEMIST?

A COULD YOU REPEAT THE QUESTION?

Q WHAT BENEFIT DID IT HAVE TO YOU AS A SCIENTIST OR CHEMIST OR TO MONSANTO THAT YOU COULD NOW BREAK DOWN THE COMPONENTS WITH THE NEW METHOD?

A ONE COULD GET A MUCH MORE COMPLETE CHARACTERIZATION FROM WHATEVER SAMPLE HE WAS LOOKING AT.

Q FOR WHAT PURPOSE?

A FOR WHATEVER PURPOSE HE WAS LOOKING AT THE SAMPLE, FOR ANY PURPOSE.

Q WAS THERE ANY PARTICULAR PURPOSE IN 1968 AS TO

WATER_PCB-SD0000034824

WHY YOU WERE TRYING TO BREAK THEM DOWN?

A AS TO WHY WE WERE TRYING TO BREAK SOMETHING DOWN?

Q AS TO WHY YOU WERE TRYING TO BREAK THE PCB COMPONENTS DOWN INTO MORE IDENTIFIABLE CHARACTERS.

A WE WEREN'T TRYING TO BREAK THEM DOWN, WE WERE TRYING TO IDENTIFY THEM.

Q ALL RIGHT. IDENTIFY THEM.

A NOW, ALL AT ONCE, COULD YOU GIVE ME WHAT THE QUESTION IS, PLEASE?

MR. MC GRAW: READ IT BACK.

(THE REPORTER READ AS DIRECTED)

A IS THE QUESTION WHY WERE WE DOING THIS WORK, IS THAT BASICALLY THE QUESTION?

Q YES.

A WE WERE DOINGTHIS WORK TO --

Q WHAT I'M TRYING TO DO IS, I'M A LAYMAN AND YOU'RE AN EXPERT WITH A PH.D., YOU'RE GOING TO HAVE TO BEAR WITH ME BECAUSE I'M NOT IN YOUR CATEGORY OF KNOWLEDGE AND EXPERTISE IN THAT AREA, SO TRY TO GET THE QUESTION AS I THINK I'M DOING IT JUST AS YOU POSED IT SIMPLY BACK TO ME. IF YOU DON'T UNDERSTAND IT THAT WAY, AS YOU'VE DONE, ASK ME AND WE'LL TRY TO REVISE IT. GO AHEAD.

A THE REASON WE WERE DOING THIS WORK WAS TO BE ABLE TO DEFINITIVELY CHARACTERIZE SAMPLES THAT WERE BROUGHT TO US OF VARIOUS TYPES FOR ANALYSIS FOR PCB'S.

WATER_PCB-SD0000034825

Q THEN WHY WERE THE SAMPLES BEING BROUGHT TO YOU FOR ANALYSIS FOR PCB'S?

A WELL, THE SAMPLES WERE BROUGHT TO ME TO GET A DEFINITIVE IDENTIFICATION ON WHETHER PCB'S WERE OR WERE NOT PRESENT.

Q IN THOSE SAMPLES?

A THAT'S CORRECT.

Q ALL RIGHT. AND FOR WHOM WERE YOU DOING IT?

A WELL, I WAS WORKING SPECIFICALLY UNDER THE GUIDANCE OF A GENTLEMAN NAMED SCOTT TUCKER.

Q WHO IS HE?

A HE WAS A PH.D. CHEMIST WITH MONSANTO WHO --

Q WHAT'S THE OVERALL PURPOSE OF THIS? HERE YOU ARE STANDING IN THE LABORATORY PERFORMING THIS WORK AND THEY BROUGHT IN SOME SAMPLES AND SAY "FIND THE PCB'S"; WHAT WAS THE OVERALL PURPOSE OF IT, TO YOUR KNOWLEDGE, OR DID ANYBODY TELL YOU?

A MONSANTO HAD RECEIVED REPORTS THAT PCB'S WERE PERSISTENT IN THE ENVIRONMENT, SO WE WERE CONDUCTING A RESEARCH PROGRAM TO DETERMINE IF, INDEED, PCB'S COULD BE FOUND IN THE ENVIRONMENT.

Q AND AFTER YOUR RESEARCH AND YOUR LOOKING AT THE SAMPLES, WERE THERE PCB'S IN THE ENVIRONMENT?

A SOME OF THE SAMPLES THAT WE ANALYZED HAD PCB'S IN THEM. I DON'T ALWAYS KNOW JUST WHAT THE ORIGIN OF THE

WATER_PCB-SD0000034826

SAMPLES WERE.

Q DID YOU AT THAT TIME KNOW FROM WHAT SOURCE THESE SAMPLES CAME?

A WELL, SOME OF THE SAMPLES THAT WE WORKED ON WERE ENVIRONMENTAL SAMPLES, SOME WERE SPIKED SAMPLES, SOME WERE STANDARDS, AND THE WAY A LABORATORY WOULD NORMALLY FUNCTION, THE ANALYST WOULD NOT BE TOLD WHAT THESE SAMPLES ARE.

Q ULTIMATELY, AFTER HAVING THESE SAMPLES ANALYZED AND YOUR WORKING ON THE ANALYSIS OF THEM IN 1968, DID YOU COME TO A CONCLUSION AS TO WHETHER, ONE, THERE WERE PCB'S IN THE SAMPLES, AND, TWO, DID YOU LEARN THEN WHERE THE SAMPLES CAME FROM?

A WELL, AS I'VE EXPLAINED, SOME OF THESE SAMPLES THAT I ANALYZED HAD PCB'S IN THEM.

Q DID YOU THEN LEARN WHERE THEY CAME FROM?

A NO, I DID NOT.

Q OKAY. THEN WAS THERE A TIME AFTER THIS INITIAL WORK THAT YOU DID IN '68 THAT YOU DID LEARN WHERE THOSE SAMPLES CAME FROM?

A NO.

Q NEVER, EVER LEARNED?

A NOT THOSE INDIVIDUAL SAMPLES, NO.

Q IN 1968 DID YOU DO ANY MORE TESTING FOR PCB'S IN THE ENVIRONMENT OTHER THAN WHAT YOU'VE JUST TOLD US?

A NO.

WATER_PCB-SD0000034827

Q YOU DON'T KNOW WHETHER THOSE SAMPLES WERE SOIL OR ANIMALS OR ANIMAL FLESH OR OTHER SOURCES?

A NO.

Q AT THAT TIME WAS THERE A PROGRAM IN MONSANTO SET UP WITH MAYBE A TEAM OF RESEARCHERS, ANALYSTS AND SO ON, LOOKING INTO THE QUESTION OF PCB'S IN THE ENVIRONMENT?

A YES, THERE WAS.

Q WHO WAS THE HEAD OF THAT ORGANIZATION OR TEAM?

A THE EXPERIMENTAL LIST IN THE LABORATORY LEADING THE TEAM WAS DR. SCOTT TUCKER.

Q IS HE STILL WITH THE COMPANY?

A NO, HE IS NOT.

Q IS HE ALIVE?

A TO THE BEST OF MY KNOWLEDGE, YES.

Q DID HE RETIRE?

A NO, JUST LEFT THE COMPANY.

Q IS HE WITH ANOTHER COMPANY?

A HE LEFT --

Q DO YOU HAVE ANY IDEA WHERE HE IS?

A NO, I DO NOT. HE LEFT MONSANTO ABOUT EIGHT YEARS AGO, I WOULD GUESS.

Q WHAT WAS THE TEAM CALLED?

A I'M NOT AWARE THAT IT HAD A SPECIAL NAME.

Q NO IDENTIFICATION OF THIS IS THE MONSANTO PCB RESEARCH TEAM?

WATER_PCB-SD0000034828

A I DON'T RECALL ANY SPECIFIC DESIGNATION, NO.

Q OR THE SAND LOT FIVE, ANYTHING?

A NO.

Q ALL RIGHT. WHO BESIDES TUCKER AND YOURSELF WERE IN THAT GROUP OR THAT TEAM?

A ORVILLE HICKS WAS ON THE TEAM, LET'S SEE, JERRY LITSCEGI, THAT'S L-I-T-S-C-E-G-I, I BELIEVE, BILL MEES, M-E-E-S.

Q ARE ALL OF THOSE PEOPLE STILL WITH MONSANTO?

A YES, ALL OF THOSE PEOPLE ARE STILL WITH MONSANTO.

Q AND THEIR JOBS ARE STILL IN RESEARCH?

A YES.

Q HOW LONG WERE YOU A MEMBER OF THAT GROUP?

A ABOUT FOUR YEARS.

Q '68 THROUGH '72?

A APPROXIMATELY.

Q WAS THERE A DEPARTMENT HEAD, A FIGUREHEAD OR A PERSON TO WHOM THE GROUP REPORTED?

A YES, THERE WAS.

Q WHO?

A DR. ROBERT KELLER.

Q K-E-L-L-E-R?

A YES.

Q IS HE STILL WITH THE COMPANY?

A YES, HE IS.

WATER_PCB-SD0000034829

Q WHAT'S HIS JOB NOW?

A MANAGER OF APPLIED SCIENCES.

Q AND THEN WHAT WAS HIS JOB?

A SAME TITLE.

Q WHAT DOES IT MEAN WITH REGARD TO APPLIED SCIENCES AND A MANAGER THEREOF, WHAT DID THAT ENTAIL?

A HE MANAGED A SECTION OF ANALYTICAL CHEMISTS WHO PERFORMED VARIOUS TYPES OF DETERMINATIONS AND CHARACTERIZATIONS AND MEASUREMENTS OF PHYSICAL PROPERTIES.

Q ALL RIGHT. WHAT DID THAT GROUP DO FOR THOSE FOUR YEARS?

A WHAT DID WHICH GROUP DO?

Q THE GROUP WE WERE TALKING ABOUT.

A WELL, WE'VE BEEN TALKING ABOUT TWO GROUPS.

Q THE GROUP FROM '68 TO '72 OF WHICH YOU WERE A MEMBER AND WHICH KELLER WAS THE HEAD.

A YOU'RE TALKING ABOUT THE SMALL GROUP, NOW, AND NOT THE WHOLE SECTION, THEN, THAT KELLER HEADED?

Q YES. YES.

A THAT GROUP PERFORMED -- FIRST DEVELOPED METHODS FOR DETERMINING PCB'S AND THEN ANALYZED SAMPLES FOR PCB'S.

Q WHAT METHODS DID THE GROUP DETERMINE WHICH THEY CAN USE TO ANALYZE PCB'S?

A I DON'T RECALL THE NAMES OF THE METHODS, I MEAN, THEY HAVE A NUMERICAL DESIGNATION AS WELL AS A TITLE

ACCORDING TO MONSANTO NOMENCLATURE, BUT I DON'T RECALL THE EXACT TITLES OR NAMES OF THEM.

Q HAD THEY CHANGED AFTER A PERIOD OF TIME, MAYBE IN '68 YOU HAD ONE AND THEN '69 ANOTHER METHOD, '70 ANOTHER METHOD, AND SO ON?

A THE METHODOLOGIES WERE PERIODICALLY REVISED AS NEW AND BETTER METHODS BECAME AVAILABLE.

Q IS THERE A METHOD THAT YOU COULD USE NOW TO ANALYZE PCB'S AND SAMPLES?

A I DON'T KNOW.

Q WHEN WAS THE LAST TIME THAT YOU ANALYZED SAMPLES FOR THE PRESENCE OF PCB'S?

A APPROXIMATELY 1974.

Q SINCE 1974 TILL NOW, I'M GOING TO JUMP AHEAD, HAVE YOU BEEN INVOLVED WITH PCB'S, '74 TILL NOW?

A LET'S MAKE THAT PREVIOUS ANSWER 1975, BECAUSE I BELIEVE 1975 WAS PROBABLY MY LAST INVOLVEMENT IN RESEARCH, AND HAVE I BEEN INVOLVED SINCE 1975, THEN?

Q YES.

A OCCASIONALLY ON AN ADVISORY CAPACITY, BUT I DON'T RECALL EVER HAVING PERFORMED ANY ANALYSES SINCE 1975.

Q FROM '75 TILL NOW WERE YOU INVOLVED IN ANY GROUP THAT REPORTED ON PCB'S IN THE ENVIRONMENT TO ANYBODY WITHIN THE COMPANY?

A I MANAGED A SECTION, A GROUP AT A SECTION WHICH

WATER_PCB-SD0000034831

MIGHT HAVE REPORTED, I DON'T KNOW WHETHER WE DID OR NOT.

Q DID YOU EVER MAKE ANY APPEARANCES BEFORE ANY STATE OR FEDERAL GOVERNMENTAL AGENCY REGARDING PCB'S IN THE ENVIRONMENT?

A THE ONLY ONE THAT IMMEDIATELY COMES TO MIND WAS THE -- A NATIONAL -- I GAVE A PRESENTATION AT A NATIONAL CONFERENCE ON PCB'S, I DON'T KNOW IF YOU WOULD CATEGORIZE THAT AS AN APPEARANCE BEFORE A GOVERNMENT BODY OR NOT. THIS MEETING WAS SPONSORED BY I THINK THE U.S.E.P.A.

Q WHAT YEAR WAS THAT, MONTH AND DATE, IF YOU CAN GIVE US?

A APPROXIMATELY 1975, BUT I'M NOT SURE.

Q WHAT PAPER WAS IT THAT YOU GAVE?

A AGAIN, I DON'T RECALL THE EXACT TITLE, BUT THE PAPER WAS ON THE CHARACTERIZATION OF PCB'S, THAT MIGHT HAVE BEEN THE TITLE, THE TITLE WOULD HAVE BEEN SOMETHING SIMILAR TO THAT.

Q WHEN YOU SAY PAPER, WHAT DO YOU MEAN BY PAPER, YOU GAVE A PAPER?

A I GAVE A TECHNICAL PRESENTATION TO A LARGE AUDIENCE.

Q THIS IS VERBAL?

A VERBAL.

Q BASED UPON AN OUTLINE THAT YOU MAY HAVE HAD AND USED FOR IT?

WATER_PCB-SD0000034832

A YES.

Q WHERE IS THAT OUTLINE NOW?

A I DON'T KNOW.

Q DID YOU KEEP THAT OUTLINE AS YOUR PRIVATE PAPERS?

A I KEPT IT FOR A FEW YEARS.

Q THEN WHAT DID YOU DO WITH IT?

A I DON'T KNOW.

Q DID YOU MAKE A COPY OF THAT FOR ANY SUPERIORS OR INFERIORS IN THE MONSANTO CORPORATION TO RETAIN SOME RECORD?

A I MAY HAVE. I DON'T RECALL.

Q IF YOU WANTED TO SEE IF YOU COULD GET THAT NOW TO REVIEW IT FOR YOURSELF, TO WHOM WOULD YOU GO?

A U.S.E.P.A.

Q AND DID YOU FILE A DIRECT COPY OF THAT WITH THEM?

A YES.

Q DO YOU KNOW IF -- WHETHER THEY UTILIZED IT OR KEPT IT OR NOT?

A IT WAS PART OF THE PROCEEDINGS OF THE MEETING, IT WAS PUBLISHED IN THE PROCEEDINGS OF THE MEETING.

Q BUT DO YOU KNOW IF THEY STILL HAVE IT OR KEEP IT?

A NO, I DON'T.

Q DO YOU KNOW IF THEY, IN USING IT IN ANY PUBLICATION, EDITED THE PAPER IN ANY WAY?

A NO, I DON'T KNOW.

WATER_PCB-SD0000034833

Q WAS THERE ANYBODY ELSE THAT CO-AUTHORED IT WITH YOU?

A I WOULD IMAGINE IT WAS CO-AUTHORED, BUT I'M NOT SURE.

Q WELL, YOU DON'T KNOW WITH WHOM IF IT WERE?

A NO.

Q WERE THERE ANY OTHER PRESENTATIONS OR PAPERS YOU GAVE, PRIVATE OR GOVERNMENTAL APPEARANCES?

A I GAVE A LOT OF PAPERS, BUT I'M TRYING TO THINK --

Q ON PCB'S --

A -- IF I GAVE ANY ON PCB'S. I DON'T RECALL ANY.

Q SO, BASICALLY FROM '68 THROUGH '75 IS WHERE YOU HAD SOME CONNECTION WITH PCB'S AS AN EMPLOYEE OF MONSANTO?

A YES.

Q AND DID YOU REMAIN IN THAT LITTLE NUCLEUS OR GROUP WITH DR. TUCKER AS YOUR SUPERIOR DURING THAT PERIOD OF '68 TO '74?

A YES. DR. TUCKER, THOUGH, WAS NOT MY SUPERIOR AS FAR AS MY DIRECT REPORTING RELATIONSHIP, BUT I WAS ASSIGNED TO HIM WITH WHAT WE CALL A DOTTED LINE RESPONSIBILITY.

Q DOTTED LINE?

A RIGHT.

Q WHAT'S THAT MEAN?

A THAT MEANS I WAS SUPPORTING HIS WORK BUT

WATER_PCB-SD0000034834

ADMINISTRATIVELY REPORTING TO SOMEONE ELSE.

Q TO WHOM WERE YOU REPORTING?

A DR. MARTIN DIETRICH.

Q DIETRICH?

A THAT'S CORRECT.

Q SPELL IT FOR US.

A D-I-E-T-R-I-C-H.

Q IS HE STILL WITH THE COMPANY?

A YES.

Q WHAT'S HIS JOB TITLE NOW?

A ANALYTICAL GROUP LEADER.

Q AND WHAT WAS IT THEN?

A ANALYTICAL GROUP LEADER.

Q WHILE DOING YOUR WORK FOR THIS GROUP IN REPORTING TO DR. DIETRICH, DID YOU MAKE UP REPORTS OF INQUIRY AND ANALYSIS IN YOUR WORK AND SUBMIT THEM TO HIM AND TO THE COMPANY?

A I MADE REPORTS OF MY WORK, I DON'T RECALL WHETHER I SUBMITTED THEM TO HIM OR TO DR. TUCKER.

Q AND THIS HAD TO DO WITH ANALYSIS OF PCB'S IN THE ENVIRONMENT?

A THIS HAD TO DO WITH DETERMINATION OF PCB'S IN THE SAMPLES THAT WERE GIVEN TO ME.

Q DID YOU EVER KNOW, FROM '68 THROUGH '75, WHERE THESE SAMPLES WERE COMING FROM, ANYBODY EVER TELL YOU

WATER_PCB-SD0000034835

"HERE'S A SAMPLE FROM A RIVER, HERE'S A SAMPLE FROM A FISH, HERE'S A SAMPLE FROMA RAT, HERE'S A SAMPLE FROM THE SOIL," WHATEVER?

A I DON'T RECALL WHETHER I WAS TOLD SPECIFICALLY OR NOT. THE GENERAL GUIDANCE, AS I MENTIONED PREVIOUSLY, WAS THAT I WAS NOT TOLD.

Q ALL RIGHT. SO YOU HAVE NO PRESENT RECOLLECTION OF THE SOURCE OF ANY SAMPLES THAT YOU WORKED ON FROM '68 THROUGH '75 BASICALLY?

A THAT'S CORRECT.

Q WAS THERE ANY TYPE OF PROGRAM THAT YOU WORKED ON, EITHER ALONE OR ASSIGNED WITH OTHERS, THAT HAD TO DO WITH THE ANALYSIS OF THE EFFECT OF PCB'S ON HEALTH?

A THERE MIGHT HAVE BEEN.

Q CAN YOU THINK OF ANY?

A I THINK DURING THAT TIME PERIOD WE WERE ANALYZING RESIDUE FROM RATS WHICH HAD BEEN THE SUBJECT OF TOXICOLOGICAL STUDIES, I SUSPECT THAT WOULD FIT WITHIN THE REALM OF THE QUESTION YOU ASKED.

Q IS IT KNOWN IN THE SCIENTIFIC WORLD THAT THE STUDY OF ANIMALS, THE EFFECTS OF TOXICITY ON ANIMALS IS EXTRAPOLATED SOME WAY INTO WHAT EFFECTS MAY OCCUR IN MAN?

A THOSE EXTRAPOLATIONS HAVE BEEN MADE.

Q AND THAT'S A PROCEDURE BY WHICH DRUGS AND CHEMICALS AND OTHER MATTER ARE TESTED RATHER THAN DOING IT

WATER_PCB-SD0000034836

ON HUMAN BEINGS?

A THAT'S CORRECT.

Q AND TO SOME EXTENT A RELIABLE SOURCE?

A WELL, I DON'T KNOW THAT ANYONE BELIEVES THAT A MAN WOULD BEHAVE THE SAME AS A RAT WHEN SUBJECTED TO A CHEMICAL.

Q IS THERE ANY OTHER WAY YOU CAN DETERMINE HOW A MAN WILL REACT TO A CHEMICAL OTHER THAN TESTING ANIMALS?

A THAT'S THE GENERALLY ACCEPTED WAY.

Q OKAY. THEN DID YOU HAVE ANY -- DID YOU AT ANY TIME HAVE ANY TESTS WHEREBY YOU MADE A CONCLUSION AS TO THE EFFECTS, IF ANY, ON LIVE TISSUES --

A NO.

Q -- BE THEY ANIMAL OR OTHERWISE?

A NO.

Q DID YOU EVER STUDY THAT TOPIC IN THE SCIENTIFIC LITERATURE?

A NO.

Q DO YOU REMEMBER WORKING DURING '68 TO '75 ON ANY PLASTICIZERS OR RESINS THAT CONTAINED PCB'S?

A WHAT WAS THE TIME FRAME THAT YOU MENTIONED?

Q '68 TO '75.

A ANY PLASTICIZERS THAT CONTAINED PCB'S?

Q YES.

A PLASTICIZERS THAT CONTAINED PCB'S. NO.

WATER_PCB-SD0000034837

Q WHAT IS A PLASTICIZER?

A PLASTICIZER IS A SUBSTANCE WHICH MAKES RIGID PLASTIC MORE FLEXIBLE.

Q PCB IS, IN ITSELF, A PLASTICIZER, THOUGH, ISN'T IT?

A I BELIEVE THEY HAVE BEEN USED FOR THAT APPLICATION.

Q AND THEY ALSO HAVE BEEN USED IN MIXTURES THAT RESULT IN ANOTHER FORM OF PLASTICIZER?

A I DON'T KNOW.

Q DO YOU KNOW IF THEY-- PCB'S HAVE BEEN USED IN RESINS?

A I DON'T KNOW.

Q DO YOU KNOW WHAT USES PLASTICIZERS HAVE BEEN PUT TO IN THE OUTSIDE WORLD FROM MONSANTO THAT CONTAIN PCB'S?

A THE USE THAT I HAVE HEARD THE MOST ABOUT HAS BEEN AS A DIELECTRIC FLUID.

Q WHAT ABOUT ANY NON-ELECTRIC USES?

A I UNDERSTAND THEY WERE USED IN CARBONLESS COPY PAPER, THOSE ARE THE USES THAT IMMEDIATELY COME TO MIND.

Q DO YOU KNOW IF THEY WERE -- PCB'S OR AROCLORS WERE USED IN ANY WAY FOR SEALANTS, PAINTS, VARNISHES?

A I BELIEVE I READ THAT THEY HAVE BEEN USED THAT WAY.

Q DO YOU HAVE ANY PERSONAL KNOWLEDGE OR WORK WHILE

WATER_PCB-SD0000034838

AN EMPLOYEE OF MONSANTO THAT SUCH USES WERE ACCOMPLISHED?

A NO, I DON'T.

Q DID YOU EVER ANALYZE OR BREAK DOWN THE PCB'S IN ANY PLASTICIZER OR RESIN OR PAINT OR VARNISH TO DETERMINE WHAT PCB'S, IF ANY, EXISTED AND THEN TO DETERMINE THEIR TYPE AND WEIGHT?

A ON ONE OCCASION I ANALYZED SAMPLES THAT PROBABLY WERE A PAINT FORMULATION.

Q DID YOU KNOW THAT BEFORE YOU STARTED, THAT IT WAS A PAINT THAT YOU WERE ANALYZING?

A I KNEW THAT IT WAS A PAINT FORMULATION.

Q AND WHAT WAS THE PURPOSE OF BREAKING IT DOWN?

A TO DETERMINE IF PCB'S WERE THERE.

Q AND DID YOU?

A DID I DO THE WORK, YOU MEAN, YES.

Q DID YOU -- AND DID YOU DETERMINE THAT THEY WERE THERE?

A THERE WERE PCB'S THERE.

Q DID YOU DETERMINE WHAT KIND OF PCB'S, THEIR IDENTIFICATION?

A I PROBABLY DID.

Q WHAT WERE THEY?

A I DON'T RECALL.

Q IS IT GENERALLY KNOWN THAT MOST OF YOUR NON-ELECTRICAL USES FOR PLASTICIZERS AND RESINS ARE EITHER

WATER_PCB-SD0000034839

OF THE 1254, 1260?

A WOULD YOU REPEAT THE QUESTION, PLEASE?

Q YES. IS IT GENERALLY KNOWN THAT MOST OF THE PCB'S THAT ARE USED IN PLASTICIZERS OR RESINS ARE FROM THE 1254 OR 1260 FAMILY?

A I DON'T KNOW THAT. THAT'S NOT KNOWN TO ME.

Q DO YOU KNOW WHAT ROLE MONSANTO PLAYED IN THE PRODUCTION AND SALE OF PCB'S THROUGHOUT THE UNITED STATES AS COMPARED TO ANYBODY ELSE?

A I UNDERSTOOD WE WERE THE LARGEST PRODUCER.

Q DO YOU UNDERSTAND ALSO THAT THE LITERATURE INDICATES FROM THE FEDERAL GOVERNMENT THROUGH MANY STATE GOVERNMENTS AND ALSO SCIENTIFIC LITERATURE THAT MONSANTO WAS THE SOLE DISTRIBUTOR IN THE UNITED STATES?

A I'M NOT AWARE THAT WE WERE THE SOLE DISTRIBUTOR.

Q WHAT IS THE SOURCE OF YOUR INFORMATION AS TO HOW MUCH MONSANTO WAS INVOLVED IN ITS MANUFACTURE AND PRODUCTION AND USE IN THE UNITED STATES?

A HEARSAY.

Q FROM WHOM? FROM WHAT SOURCE?

A I DON'T KNOW.

Q YOU MEAN HEARSAY, SOMEBODY TOLD YOU?

A YES.

Q WAS THAT RECENTLY?

A NO.

WATER_PCB-SD0000034840

Q DID YOU EVER MAKE A STUDY ON PCB'S AND WHERE THEY CAME FROM AND HOW THEY WERE DEVELOPED, USED THROUGHOUT THEIR BEGINNINGS, I BELIEVE IN THE EARLY 1900'S TILL NOW?

A NO.

Q DO YOU KNOW OF ANY TESTS THAT MONSANTO GOT INVOLVED WITH WITH ANIMALS REGARDING PCB'S AND THE EFFECT ON THE ANIMAL?

A I MENTIONED PREVIOUSLY THAT TOXICOLOGICAL STUDIES WERE DONE AT LEAST ON MICE AND POSSIBLY OTHER SPECIES AND THEN WE ANALYZED THE ANIMAL CARCASSES FOR PCB'S.

Q WHEN WAS THIS?

A SOMEWHERE IN THE EARLY 70'S.

Q AND I THINK MAYBE, AS YOU'RE RECALLING IT BACK TO ME NOW, YOU DON'T REMEMBER WHAT THOSE STUDIES REVEALED AS TO THE EFFECTS ON THE ANIMALS?

A THESE STUDIES ARE PUBLISHED, THE ONES THAT I'M THINKING OF ARE PUBLISHED.

Q BY WHOM?

A BY MONSANTO SCIENTISTS IN A TECHNICAL JOURNAL, PUBLICLY AVAILABLE TECHNICAL JOURNAL, I DON'T RECALL WHICH ONE.

Q IT WOULD BE A TECHNICAL BULLETIN OF MONSANTO COMPANY?

A NO. IN THE OPEN SCIENTIFIC PRESS.

Q DO YOU REMEMBER WHICH ONE?

WATER_PCB-SD0000034841

A NO, I DON'T.

Q COULD YOU FIND OUT?

A I COULD.

Q AND HOW WOULD YOU FIND OUT?

A THROUGH ABSTRACTING SERVICES.

Q AT MONSANTO HERE?

A NO. PUBLICLY AVAILABLE ABSTRACTING SERVICES.

Q WHAT WOULD YOU LOOK FOR, WHAT TITLE AND AUTHOR WOULD YOU LOOK FOR?

A SCOTT TUCKER, I THINK, WAS THE AUTHOR.

Q DO YOU KNOW THE TITLE?

A NO, I DON'T.

Q BUT IT WAS A MONSANTO TESTING INVOLVING MONSANTO EMPLOYEES RATHER THAN SOME OUTSIDE LABORATORIES BEING HIRED AND DOING THE TESTING?

A I IMAGINE THE OUTSIDE LABORATORIES DID THE ANIMAL FEEDING STUDIES AND THEN MONSANTO SCIENTISTS ANALYZED --

Q THE TISSUES?

A -- THE TISSUES.

Q AND YOU WERE INVOLVED IN THAT?

A YES.

Q AND MADE REPORTS?

A YES.

Q AND THIS REPORT THAT WOULD BE PRESENTED IN A JOURNAL BY DR. TUCKER WOULD BE -- WOULD CONTAIN YOUR

WATER_PCB-SD0000034842

REPORTS AS WELL?

A IT WOULD CONTAIN THE SUMMARY CONCLUSIONS OF THE GROUP.

Q OKAY. BUT WHO WOULD HAVE THE ORIGINAL REPORTS, NOT THE FINISHED MANUSCRIPT THAT WENT TO A JOURNAL?

A I DON'T KNOW.

Q ARE THOSE USUALLY KEPT IN THE REGULAR COURSE OF BUSINESS HERE AT MONSANTO?

A YES.

Q AND IF YOU WANTED TO GET THOSE ORIGINAL REPORTS, TO WHOM WOULD WE GO?

A I'D HAVE TO CHECK TO SEE.

Q WHAT WOULD BE YOUR FIRST THOUGHT AS TO WHERE TO GET THEM?

A I WOULD GO TO OUR INFORMATION -- MONSANTO'S INFORMATION SYSTEM AND ASK THEM HOW TO RETRIEVE THEM.

Q WHAT IS THE MONSANTO INFORMATION SYSTEM?

A IT'S PART OF OUR LIBRARY, CORPORATE LIBRARY.

Q IS IT SOME SORT OF COMPUTER INDEX WHERE YOU CAN PUNCH IN TITLES AND INFORMATION AND GET BACK THE MATERIALS?

A I DON'T KNOW.

Q DID YOU EVER USE IT?

A YEARS AGO.

Q IS IT FAIRLY SIMPLE TO UTILIZE AND GET BACK INFORMATION?

WATER_PCB-SD0000034843

A AT THAT TIME IT WAS.

Q YOU WOULD EXPECT IT TO BE EASIER BY NOW, WOULDN'T YOU, IMPROVED?

A NOT NECESSARILY.

Q WERE YOU EVER INVOLVED IN ANY EXAMINATION OF SAMPLES OF ANY KIND THAT WERE IDENTIFIED FROM FARMS, BE THEY SOIL, ANIMALS, TISSUE, SILOS, FEED?

A IT'S POSSIBLE SOIL SAMPLES, BUT I'M NOT SURE, BUT I DON'T THINK SO ON ANY OF THE OTHERS.

Q DO YOU REMEMBER WHEN THE SOIL SAMPLES MIGHT HAVE BEEN ANALYZED BY YOU?

A NO. I'M NOT EVEN SURE THAT I ANALYZED SOIL SAMPLES FROM FARMS, I JUST WANTED TO MAKE IT CLEAR THAT IT COULD HAVE BEEN ENCOMPASSED WITHIN THE SAMPLES WE LOOKED AT.

Q BUT IN A GENERAL WAY, AS FAR AS YOU KNOW, IN 1968 UP THROUGH '75 MONSANTO WAS INVOLVED WITH ITS OWN LABORATORIES, ITS OWN EMPLOYEES, IN ANALYZING SAMPLES WITH REGARD TO PCB'S IN THE ENVIRONMENT?

A THAT'S CORRECT.

Q AND DID YOU KNOW WHETHER OR NOT ANY OF THE ANALYSES OR ANY OF THE CONCLUSIONS, DURING THAT PERIOD OF TIME, '68 TO '75, WERE EVER SENT OUT TO ANY OF THE MONSANTO CUSTOMERS THAT BOUGHT AROCLORS OR PCB'S?

A WELL, I WOULD NOT HAVE BEEN PART OF THAT

WATER_PCB-SD0000034844

INFORMATION TRANSMISSION.

Q DO YOU KNOW IF IT HAD BEEN DONE?

A WHAT WAS THE TIME FRAME AGAIN?

Q YOUR TIME FRAME WAS '68 TO '75.

A I'M CONFIDENT THAT THERE WERE COMMUNICATIONS DURING THAT TIME, BUT I CAN'T SPECIFICALLY SAY THIS INFORMATION WAS TRANSMITTED TO THIS CUSTOMER, I WAS NOT PART OF THAT COMMUNICATION NETWORK.

Q HOW DID YOU KNOW THAT IT WOULD HAVE BEEN DONE, IF AT ALL?

A AGAIN, IT WOULD HAVE BEEN HEARSAY.

Q ALL RIGHT. DURING THAT PERIOD OF TIME AGAIN, '68 TO '75, DID YOU EVER WORK WITH ANY GROUP OR ANY INDIVIDUAL INVESTIGATING FARMS IN ANY EQUIPMENT OR MATERIALS OR BUILDINGS ON FARMS THAT WERE SUSPECTED OF CONTAINING PCB'S?

A NOT TO MY RECOLLECTION.

Q DID YOU EVER HEAR OF AN INVESTIGATION BY ANY EMPLOYEES OR GROUPS OF EMPLOYEES OF MONSANTO INVESTIGATING ANY COMPLAINTS REGARDING PCB'S ON FARMS?

A WOULD YOU READ THAT BACK, PLEASE?

(PREVIOUS QUESTION WAS READ BY THE REPORTER)

A I'M NOT SURE I CAN ANSWER THAT WITH A DIRECT YES OR NO. I WAS AWARE OF SOME INCIDENTS THAT MONSANTO EMPLOYEES MIGHT HAVE LOOKED AT IN OHIO.

WATER_PCB-SD0000034845

Q WHAT EMPLOYEES?

A I DON'T KNOW WHICH SPECIFIC EMPLOYEES.

Q WAS IT MADE PART OF THIS GROUP THAT YOU WERE WITH ANALYZING SAMPLES OR PCB CONTAMINATION FROM '68 TO '75?

A NOT THAT I KNOW OF.

Q TO YOUR KNOWLEDGE WAS THAT THE ONLY GROUP OR INDIVIDUAL EMPLOYEES THAT WERE LOOKING, THE ONE THAT YOU BELONGED TO, THAT WERE LOOKING INTO PCB'S IN THE ENVIRONMENT?

A YES.

Q DO YOU HAVE ANY EXPERIENCE WITH ANALYZING MILK SAMPLES WITH PCB'S IN THEM?

A NO.

Q DID YOU EVER HEAR THAT MILK WAS FOUND IN THE ENVIRONMENT IN DIFFERENT FORMS WHICH CONTAINED PCB'S?

A I BELIEVE I READ THAT IN THE POPULAR PRESS.

Q DID YOU KNOW OF IT THROUGH MONSANTO AND YOUR WORK HERE?

A NO.

Q DID YOU KNOW THAT FARMERS HAD PCB'S IN THEIR CATTLE AND/OR THEIR MILK COWS AND CALVES DURING THAT PERIOD OF TIME?

A NO.

Q DO YOU HAVE ANY KNOWLEDGE, FROM YOUR OWN EXPERTISE, AS TO WHETHER OR NOT MILK CONTAINING PCB'S IS CONTAMINATED AS TO CONSUMPTION?

WATER_PCB-SD0000034846

A I'M SORRY, WOULD YOU ASK THE QUESTION AGAIN, PLEASE?

Q I MIGHT REPEAT IT FOR YOU. IS MILK WHICH CONTAINS PCB'S CONSIDERED CONTAMINATED?

A I DON'T KNOW.

Q WHAT DO YOU MEAN BY CONTAMINATION?

A WHAT DOES CONTAMINATION MEAN TO ME AS AN ANALYTICAL CHEMIST?

Q YES.

A SOMETHING WHICH WOULD BE PRESENT WHICH WOULD NOT NORMALLY BE PRESENT.

Q WOULD PCB'S NORMALLY BE PRESENT IN MILK?

A I DON'T KNOW.

Q FOOD?

A I DON'T KNOW.

Q FEED FOR ANIMALS?

A I DON'T KNOW.

Q SILOS, FARMS?

A I DON'T KNOW.

Q DID YOU EVER HEAR OF A CHEMICAL CALLED CUMAR, C-U-M-A-R?

A NO.

Q NOT AT ALL?

A NO.

Q EVER TO THIS DAY?

WATER_PCB-SD0000034847

A I HEARD ABOUT IT A DAY OR TWO AGO.

Q HOW DID YOU LEARN ABOUT IT A DAY OR TWO AGO?

A I WAS TOLD THAT YOU MIGHT ASK ABOUT IT.

Q BY WHOM?

A OUR ATTORNEYS.

Q WHICH ATTORNEYS?

A I DON'T RECALL.

Q THE ATTORNEYS PRESENT?

A PROBABLY.

Q WHEN WAS THAT, LAST WEEK?

A YES.

Q WHAT DID YOU HEAR ABOUT CUMAR?

A THAT YOU MIGHTASK ABOUT IT.

Q WAS THERE ANY INSTRUCTIONS GIVEN TO YOU ABOUT CUMAR?

A YES.

Q WHAT?

A TO ANSWER YOU TRUTHFULLY.

Q ALL RIGHT. AND TO ANSWER ME TRUTHFULLY, WHAT INSTRUCTIONS WERE GIVEN YOU OTHER THAN THAT?

A WHAT INSTRUCTIONS WERE GIVEN TO ME OTHER THAN THAT?

Q YES. THAN TO ANSWER TRUTHFULLY.

A THAT WAS IT.

Q HOW LONG WAS THE CONFERENCE?

A ABOUT AN HOUR.

WATER_PCB-SD0000034848

Q DID YOU DISCUSS CUMAR DURING THAT HOUR?

A YES. I JUST ACKNOWLEDGED THAT WE DISCUSSED IT.

Q AND HOW LONG DID YOU TALK ABOUT CUMAR?

A VERY FEW -- VERY SHORT.

Q WHAT WAS THE NATURE OF YOUR DISCUSSION ON CUMAR?

A THAT YOU MIGHT ASKABOUT IT.

Q THAT'S THE ONLY THING?

A YES.

Q NOTHING ELSE WAS MENTIONED ABOUT IT?

A WELL, OBVIOUSLY THAT IT WAS INVOLVED IN THE REASON FOR YOUR BEING HERE.

Q AND WHAT WAS THE -- HOW WERE YOU TOLD IT WAS INVOLVED?

A I WAS TOLD THAT YOU MIGHT ASK ABOUT IT.

Q WEREN'T YOU TOLD HOW CUMAR WAS INVOLVED IN THIS CASE WHERE MONSANTO WAS BEING SUED?

A WAS I TOLD HOW IT WAS INVOLVED?

Q YES.

A NO.

Q DID YOU READ A BROCHURE THAT WAS -- THAT SET UP THE BACKGROUND AND FACTS AND CIRCUMSTANCES THAT WAS SUBMITTED ON BEHALF OF THE HALEY FAMILY --

A NO, I DID NOT.

Q -- IN THE USE OF THEIR SILOS AND CUMAR?

A NO, I DID NOT.

WATER_PCB-SD0000034849

Q DO YOU KNOW WHAT THE CHEMICAL MAKEUP OF CUMAR IS?

A NO, I DO NOT.

Q WERE YOU SHOWN ANY DOCUMENTS THAT SHOWED YOU THE CHEMICAL MAKEUP?

A NO.

Q DID YOU READ ANY MATERIALS ON CUMAR?

A NO.

Q DID YOU READ ANY MATERIALS FROM THE LYNN WILLETT ARTICLE?

A NO.

Q DO YOU KNOW A DR. WILLETT?

A NO, I DON'T KNOW A DR. WILLETT.

Q IN OHIO UNIVERSITY OR DEPARTMENT OF AGRICULTURE?

A NO.

Q DID YOU EVER ANALYZE ANY SAMPLES THAT CONTAINED OR ALLEGEDLY CONTAINED CUMAR?

A NOT TO MY KNOWLEDGE.

Q DID YOU KNOW CUMAR WAS MADE SOMEWHERE BACK -- MADE UP BY A CHEMIST BY THE NAME OF "SPRAUL" ABOUT THE 1941 AREA, EARLY 40'S?

A NO.

Q DID YOU KNOW THAT CUMAR WAS USED AS A SILO SEALANT?

A NO.

Q DID YOU KNOW THAT CUMAR CONTAINED AROCLORS?

WATER_PCB-SD0000034850

A NO.

Q WERE YOU TOLD THAT CUMAR CONTAINED AROCLORS?

A NO.

Q WERE YOU TOLD THAT -- SPECIFICALLY THAT THERE WAS AROCLOR 1254 AND/OR 5460 IN CUMAR?

A NO.

Q WERE YOU TOLD THAT THE 1254 AROCLOR WAS THE SUBJECT OF THIS LAWSUIT?

A NO.

Q I SUPPOSE I COULD SHORTEN DOWN ALL OF THIS AND ASK WHAT YOU TALKED ABOUT FOR AN HOUR.

A IS THAT A QUESTION?

Q YES.

A I WAS INSTRUCTED ON WHAT THE MECHANICS OF A DEPOSITION ARE.

Q AND THAT'S ALL?

A BASICALLY.

Q NO FACTS WERE GIVEN TO YOU ABOUT THE CASE AS TO HOW THESE PEOPLE WERE OR CLAIMED TO BE INJURED?

A I DON'T RECALL FACTS.

Q OR THEIR FARM?

A NO.

Q DID YOU EVER HEAR OF A TECHNICAL BULLETIN CALLED O/PL-306 A, AROCLOR PLASTICIZERS?

A I DON'T KNOW OF ANY PUBLICATION BY THAT NAME.

WATER_PCB-SD0000034851

Q WE MARKED IT WITH MR. PAPAGEORGE'S DEPOSITION AS NUMBER 31. HAVE YOU EVER SEEN THAT?

A I DON'T RECALL HAVING SEEN IT. I WOULDN'T TRY TO SAY THAT I'VE EVER SEEN IT OR NOT, BUT I DON'T RECALL EVER SEEING IT.

Q WHEN YOU WERE TALKING A LITTLE WHILE AGO, DR. MIEURE, ABOUT DIFFERENT PUBLICATIONS AND BULLETINS, IS THAT THE KIND YOU WERE TALKING ABOUT, TECHNICAL BULLETINS OF THE MONSANTO COMPANY?

A I DON'T RECALL REFERRING TO TECHNICAL BULLETINS OF MONSANTO.

Q I THOUGHT WE DID A LITTLE EARLIER.

A I REFERRED TO TECHNICAL PUBLICATIONS IN THE OPEN LITERATURE.

Q OKAY. BUT NOT -- DO YOU EVER GET TECHNICAL BULLETINS LIKE THIS 306?

A I SEE BULLETINS OF THIS TYPE IN MY CURRENT JOB, I DID NOT SEE BULLETINS OF THIS TYPE WHEN I WAS AN ANALYTICAL CHEMIST.

Q AS AN ANALYTICAL CHEMIST WERE YOU GIVEN TECHNICAL BULLETINS?

A NOT TO MY RECOLLECTION.

Q DO YOU HAVE ANY KNOWLEDGE AS TO WHETHER OR NOT THE AROCLOR, SPECIFICALLY AROCLOR 1254, WERE USED FOR SEALERS ON CEMENT, CONCRETE?

WATER_PCB-SD0000034852

A NO, I DO NOT.

Q IS IT -- WAS IT GENERALLY FOUND IN THAT PERIOD OF '68 THROUGH '75 WHEN YOU WERE WORKING IN THAT GROUP THAT PCB RESIDUES THAT ARE GENERALLY FOUND IN WILDLIFE ARE MOST SIMILAR TO AROCLOR 1254 AND 1260 CHROMATOME -- CHROMATOCHROMES?

A CHROMATOCHROMES? I AM SORRY, I DON'T UNDERSTAND THE QUESTION, CHROMATOCHROMES.

Q CHROMATOGRAMS.

A WHAT WAS THE BEGINNING OF THE QUESTION?

Q OKAY. WAS IT GENERALLY BELIEVED IN 1968 THROUGH 1975 THAT PCB RESIDUES THAT WERE GENERALLY FOUND IN WILDLIFE WERE MOST SIMILAR TO AROCLOR 1254 AND AROCLOR 1260?

A I BELIEVE THAT'S AN ACCURATE REPRESENTATION.

Q AND HOW WOULD YOU HAVE DETERMINED THAT 1254 OR 1260 WAS THE AROCLOR AND WAS AROCLOR THAT YOU WERE LOOKING AT?

A WELL, IN THE FIRST PLACE, YOU CAN'T DETERMINE AROCLOR, PER SE. IF I ANSWERED -- IF THE PREVIOUS QUESTION SAID LOOKED LIKE AROCLOR 1254, YES, BUT IF I SAID IT WAS AROCLOR 1254, THAT CANNOT BE DETERMINED AT THIS TIME. PCB'S ARE MADE IN VARYING DEGREES OF CHLORINATION AND ONE USES -- AN ANALYTICAL CHEMIST USES A STANDARD WHEN THEY ARE PERFORMING THE ANALYSIS AND THEY WOULD USE A MIXTURE, A PCB PRODUCT WHICH IS A MIXTURE WHICH WOULD HAVE DIFFERENT

WATER_PCB-SD0000034853

DEGREES OF CHLORINATION AND THEY WOULD COMPARE THE PATTERNS THEY OBSERVE ON THEIR INSTRUMENTS TO THE PATTERN THAT THEY OBSERVE COMING FROM THE SAMPLE, AND IT WAS COMMON DURING THAT TIME PERIOD TO RELATE THE PATTERN FROM THE SAMPLE TO THE PATTERN FROM THE STANDARD THAT IT MOST CLOSELY REPRESENTED.

Q AND WOULD THAT GIVE YOU AN IDEA THAT IT WAS THE AROCLOR 1254, 1260, 1242 AND SO ON?

A THAT WOULD GIVE YOU AN IDEA THAT IT WAS A PCB MIXTURE WITH THAT APPROXIMATE MIXTURE, FOR EXAMPLE, A 54 PERCENT CHLORINATED PCB.

Q AND THAT WAS SOMETHING THAT WAS RELIABLE AND USED IN THE INDUSTRY?

A USED IN THE INDUSTRY?

Q TO MAKE THE DETERMINATIONS OF PCB'S AND THAT WAS SIMILAR TO THE 1254, 1260, WHATEVER IT WAS?

A MONSANTO'S PCB PRODUCTS WERE FREQUENTLY USED AS STANDARDS, WHICH ONE THEN WOULD -- AND THE REPORTS WERE MADE, ASSUMING THAT IT WAS.

Q SO IF YOU HAD A SAMPLE AND YOU TESTED FOR PCB'S AND FOUND PCB'S IN THE SAMPLE AND THEN UTILIZED THE STANDARD OF MONSANTO FOR AROCLOR 1254, SAY, AND THAT TEST SAMPLE THAT YOU MADE COMPARED, ON THE GAS LIQUID CHROMATOGRAPHY GRAPH, WITH YOUR STANDARD AND YOUR SAMPLE, THEN YOU COULD BE REASONABLY ASSURED THAT IT IS AROCLOR 1254?

WATER_PCB-SD0000034854

A NO, NOT AT ALL.

Q WHY NOT?

A SAMPLES ARE ALTERED SIGNIFICANTLY IN THE ENVIRONMENT.

Q WELL, IF YOU CAME UP WITH AN EXACT PATTERN AS TO YOUR STANDARD, WOULDN'T THAT BE AT LEAST SOME INDICATION TO YOU THAT YOU COULD SAY IT'S SIMILAR TO 1254?

A YOU COULD SAY THAT THE MATERIAL THAT WAS FOUND WAS SIMILAR IN COMPETITION TO AROCLOR 1254, BUT THAT DOES NOT NECESSARILY IMPLY THAT THE SAMPLE CAME FROM AROCLOR 1254 OR THAT IT EVEN WAS AN AROCLOR.

Q WELL, IF YOU DETERMINED THAT IT'S A PCB AND IT'S SIMILAR TO THE 1254, WHAT COULD IT BE IF NOT THAT?

A IT COULD BE A PCB OF A DIFFERENT MANUFACTURER OR IT COULD BE A PCB WHICH STARTED OUT AS A DIFFERENT DEGREE OF CHLORINATION AND WAS ALTERED BY THE ENVIRONMENT.

Q WHAT KNOWLEDGE DO YOU HAVE PERSONALLY OR ON BEHALF OF MONSANTO THAT ANY OTHER MANUFACTURERS OF PCB'S ARE INVOLVED IN THE UNITED STATES ENVIRONMENT?

A WHAT KNOWLEDGE DO I HAVE?

Q YES.

A THAT OTHER PCB'S ARE INVOLVED IN THE UNITED STATES?

Q OTHER THAN MONSANTO'S.

A I HAVE NO DIRECT KNOWLEDGE.

MR. MC GRAW: WHAT WAS THE EXHIBIT NUMBER FOR THE

WATER_PCB-SD0000034855

ARTICLE ON DR. WILLETT, FROM HIS ARTICLE?

MR. NASSIF: I'VE GOT WHAT I PUT DOWN IN MY NOTES.

MR. MC GRAW: WHAT NUMBER, AND THEN I CAN REFER TO IT.

MR. NASSIF: IT MUST HAVE BEEN AN EARLIER NUMBER. EXHIBIT 9. I HAVE EXHIBIT 9 THAT YOU ONLY MARKED ONE PAGE OUT OF IT, THOUGH, JOHN, PAGE 4 OF THE LYNN WILLETT PAPER IS WHAT I HAVE DOWN. IS THAT THE PAGE YOU HAVE THERE?

MR. MC GRAW: YES. THAT'S THE ONE WITH THE FORMULA ON IT. I'LL REFER TO IT, THEN, AS EXHIBIT 9.

MR. NASSIF: IT WAS EXHIBIT 9 OF PAPAGEORGE'S DEPOSITION.

Q I'M GOING TO SHOW YOU WHAT IS LISTED HERE AS A FORMULATION OF CUMAR SILO COATING; CAN YOU IDENTIFY THAT FORMULA FOR ME AS ONE THAT YOU MIGHT HAVE SEEN BEFORE?

A NO. I DON'T RECALL EVER HAVING SEEN THIS BEFORE.

Q DID YOU EVER HAVE ANYBODY TELL YOU THAT OR SHOW YOU THIS ITEM, THAT THIS IS PURPORTEDLY THE CUMAR INGREDIENT?

A NO.

Q IN THAT INGREDIENT ARE THERE AROCLORS PROPOSED?

A THIS TABLE ON PAGE 138 LISTS TWO AROCLORS.

Q 5460 AND 1254?

A THAT'S CORRECT.

Q WHAT'S THE DIFFERENCE BETWEEN THOSE, DR. MIEURE?

A AROCLOR 1254 IS A CHLORINATED BIPHENYL PRODUCT,

WATER_PCB-SD0000034856

AROCLOR 5460 IS A CHLORINATED TERPHENYL.

Q ALL RIGHT. IF I MAKE THE ASSUMPTION THAT THE CUMAR SILO COATING IS SAMPLED AND YOU DO A GAS LIQUID CHROMATOGRAPHY SAMPLE OF SUCH A SAMPLE OR TEST OF SUCH A SAMPLE, WOULD YOU EXPECT THAT YOU WOULD COME UP WITH A RESULT OF PCB'S APPEARING TO BE AROCLOR 1254, WOULD THAT BE REASONABLE TO MAKE THAT FINDING?

THE WITNESS: WOULD YOU READ THAT BACK, PLEASE?

(PREVIOUS QUESTION WAS READ BY THE REPORTER)

A I THINK A REASONABLY QUALIFIED ANALYTICAL CHEMIST WOULD BE ABLE TO FIND PCB'S IN THAT PRODUCT WHICH WOULD BE SIMILAR IN CHARACTER -- WHICH HE WOULD IDENTIFY AS BEING SIMILAR IN CHARACTER TO AROCLOR 1254.

Q DID YOU EVER, I JUST WANTED TO NAIL THIS DOWN, DID YOU EVER OR WERE YOU EVER ASKED, PUT IT THIS WAY, WERE YOU EVER ASKED TO TEST CUMAR TO SEE WHETHER OR NOT ANY OF THE AROCLORS WERE CONTAINED IN THAT MIXTURE?

A NOT TO MY KNOWLEDGE.

Q DO YOU KNOW IF ANYBODY IN THE MONSANTO GROUP WAS ASKED TO DO THAT?

A NO, I DO NOT.

Q DID YOU EVER HEAR OF THE TESTS THAT WERE PERFORMED IN SWEDEN IN ABOUT '66 WHERE THEY FOUND PCB'S IN WILDLIFE OVER THERE?

A I HAVE NOT READ THOSE REPORTS MYSELF, BUT I HAVE

WATER_PCB-SD0000034857

HEARD OF THEM.

Q HAVE YOU ATTEMPTED TO MAKE ANY KIND OF STUDY ON YOUR OWN WHEN YOU WERE IN THAT GROUP FROM '68 TO '75 AS TO WHETHER PCB'S HAVE BEEN FOUND IN THE ENVIRONMENT AND HOW THEY HAVE BEEN FOUND AND WHAT PCB'S ARE INVOLVED?

A NO.

Q CAN YOU TELL US WHETHER OR NOT PCB'S ARE A PERSISTENT TYPE OF COMPOUND OR CHEMICAL AND GENERALLY RESIST BIODEGRADATION?

A LOWER CHLORINATED PCB'S BIODEGRADE FAIRLY READILY, HIGHER CHLORINATED PCB'S BIODEGRADE MORE SLOWLY.

Q THE HIGHER GRADES WOULD BE WHAT?

A OCTACHLORO, NONACHLORO, AND DECACHLOROBIPHENYL.

Q 1254?

A WHAT IS THE QUESTION, PLEASE?

Q WOULD 1254 BE IN THAT CATEGORY THAT DO NOT BIODEGRADE READILY?

A AROCLOR 1254 BIODEGRADED MORE SLOWLY THAN THE NONACHLORO AND DICHLORO COMPONENTS.

Q DO YOU HAVE ANY KNOWLEDGE, FROM EITHER THE SCIENTIFIC WORLD OR LITERATURE OR FROM YOUR OWN TESTING OR MONSANTO'S, THAT 1254 WILL BIODEGRADE AND DISAPPEAR ENTIRELY FROM THE ENVIRONMENT ON ITS OWN?

A WE KNOW THAT IT BIODEGRADES, AS TO WHETHER IT WOULD DISAPPEAR ENTIRELY OUR STUDIES DID NOT RUN LONG ENOUGH

WATER_PCB-SD0000034858

TO SHOW THAT.

Q WHAT ABOUT BIOACCUMULATION OF PCB'S IN THE ENVIRONMENT, HAVE YOU MADE ANY STUDIES ON THAT, AND IF SO, WHAT WERE THE CONCLUSIONS?

A WHAT DOES BIOACCUMULATION MEAN?

Q WELL, DO YOU KNOW WHAT BIOACCUMULATION MEANS? WHAT IS YOUR DEFINITION?

A I KNOW WHAT IT MEANS TO ME.

Q LET'S GET YOUR DEFINITION.

A THAT WOULD MEAN CONCENTRATION BUILDING UP IN A LIVING ORGANISM.

Q DO PCB'S DO THAT?

A CERTAIN PCB'S HAVE BEEN REPORTED TO DO THAT.

Q 1254, WILL THAT DO IT?

A IT WOULD DEPEND ON THE SPECIES AND ON THE TIME FRAME THAT ONE WAS CONSIDERING.

Q ON ANIMALS HAS IT BEEN FOUND TO BIOACCUMULATE?

A IT'S BEEN REPORTED.

Q ON HUMANS?

A I DON'T KNOW.

Q WHAT HEALTH EFFECTS, IF ANY, DO YOU KNOW THAT OCCUR FROM A BIOACCUMULATION OF 1254 OR AROCLORS?

A I DON'T KNOW OF ANY. THAT'S NOT MY REALM OF EXPERTISE.

Q DO YOU KNOW WHETHER OR NOT THE INGESTION BY

WATER_PCB-SD0000034859

EATING OR DRINKING OF PCB'S WILL INHIBIT REPRODUCTION OF ANIMAL LIFE?

A NO, I DON'T KNOW.

Q HAVE YOU EVER MADE ANY STUDIES ON THAT?

A NO.

Q OR HUMANS?

A NO.

Q DO YOU KNOW WHETHER OR NOT THERE ARE -- THERE IS LITERATURE AND STUDIES OF YOUR OWN OR MONSANTO'S THAT INDICATE THAT PCB'S CAN BE A -- CAN POSSESS CHARACTERISTICS OF A PROMOTING AGENT AS A CARCINOGENIC ON ANIMALS OR HUMANS?

A NO, I'M NOT AWARE OF THAT.

Q DO YOU KNOW IF THEY MIGHT INCREASE TUMORS THAT EXIST?

A NO.

Q OR AFFECT TUMORS IN ANY WAY?

A I DON'T KNOW THAT.

Q DO YOU SUBSCRIBE TO THE JOURNAL OF INDUSTRIAL HYGIENE AND TOXICOLOGY?

A NO, I DO NOT.

Q ANY PUBLIC HEALTH REPORTS?

A NO.

Q WHAT JOURNALS DO YOU SPECIFICALLY OR SCIENTIFIC TREATISE DO YOU SUBSCRIBE TO?

A INDUSTRIAL ENGINEERING CHEMISTRY IS THE ONLY ONE.

Q ARE THOSE ITEMS THAT I JUST MENTIONED, THOSE JOURNALS AVAILABLE TO YOU AT THE MONSANTO LIBRARY?

A I DON'T KNOW.

Q DID YOU EVER USE THEM OR READ THEM?

A I DON'T KNOW IF THEY ARE AVAILABLE.

Q I MEAN DID YOU, WHETHER THEY ARE HERE OR NOT --

A NO, NOT THAT I RECALL.

Q DURING THAT '68 TO '75, THEN, YOU WOULD HAVE BEEN MAKING REPORTS OF VARIOUS TESTS THAT YOU MADE ON SAMPLES AND ANALYSIS WITH REGARD TO PCB'S IN THE ENVIRONMENT?

A THAT WAS ONE -- THAT WAS PART OF MY JOB RESPONSIBILITY.

Q AND THOSE REPORTS, WHERE WOULD I GET THEM?

A I DON'T KNOW.

Q WHERE WOULD YOU GET THEM?

A I WOULD GO TO OUR INFORMATION CENTER, AS I MENTIONED PREVIOUSLY.

Q THAT'S WHAT IT'S CALLED, I MEAN, IF I DESIGNATED SOMETHING TO MONSANTO TO GO TO YOUR INFORMATION CENTER AND GET ME THE FOLLOWING DOCUMENTS, IS THAT SOMETHING THAT IS COMMONLY UNDERSTOOD HERE AT MONSANTO, THE INFORMATION CENTER IS THE SOURCE OF ALL REPORTS AND DOCUMENTS AND MATERIALS OF MONSANTO?

A THAT'S WHERE I WOULD GO.

Q OKAY. DO YOU HAVE ANY KNOWLEDGE AS TO WHAT MAY

WATER_PCB-SD0000034861

OR MAY NOT BE A RECOMMENDED SAFE LEVEL OF PCB'S IN LIVING ANIMALS OR HUMANS?

A NO.

Q DO YOU HAVE AN IDEA, AT LEAST, THAT SOMEWHERE ALONG THE LINE THERE IS AN UNSAFE LEVEL OF PCB'S THAT COULD BE FOUND IN YOUR BODY TISSUE, IN YOUR FAT?

A SOMEWHERE ALONG THE LINE THERE IS AN UNSAFE LEVEL OF ANY MATERIAL, ANY SUBSTANCE.

Q DO YOU KNOW IF MONSANTO OR YOURSELF, BEING INVOLVED IN IT, HAVE EVER TESTED OR LOOKED TOWARD WHAT THAT LEVEL WOULD BE?

A NO, I DON'T KNOW THAT.

Q DO YOU KNOW OF ANY WAY THAT YOU CAN DISPOSE OF PCB'S, GET RID OF THEM FROM THE ENVIRONMENT?

A WELL, PCB'S CAN BE DISPOSED OF BY INCINERATION.

Q IF THEY ARE IN A LIQUID FORM?

A YES.

Q BUT NOT IF THEY'RE A SOLID FORM?

A THEY CAN BE DISPOSED OF IN A SOLID FORM BY INCINERATION.

Q HOW WOULD YOU DISPOSE OF CONCRETE, ASPHALT AND CONCRETE BLOCKS THAT ARE IMPREGNATED WITH PCB'S?

A I WOULD SEND IT TO A DISPOSAL FACILITY THAT HAD THE CAPABILITY FOR DISPOSING OF THAT TYPE OF MATERIAL.

Q WHICH WOULD BE WHAT KIND OF FACILITY AND WHERE?

WATER_PCB-SD0000034862

A I'M NOT -- I THINK THERE ARE LEGAL RESTRICTIONS ON HOW ONE CAN DISPOSE OF PCB'S AND I DON'T KNOW WHAT THOSE RESTRICTIONS ARE WITHIN EPA, SO IT WOULD PROBABLY BE INAPPROPRIATE FOR ME TO COMMENT.

Q WHY IS THERE, TO YOUR KNOWLEDGE, RESTRICTIONS ON HOW YOU DISPOSE OF PCB'S, WHY NOT JUST WASH THEM DOWN THE SINK, WHY DO YOU HAVE TO BURN THEM, WHY DO YOU HAVE TO PUT THEM IN CERTAIN AREAS; IS IT BECAUSE THERE IS SOME HAZARD TO THE ENVIRONMENT, ANIMAL LIFE, BIRDS AND SO ON AND POSSIBLY HUMANS?

A SPECIFICALLY IT'S BECAUSE EPA HAS PROMULGATED REGULATIONS CONTROLLING THE DISPOSAL OF PCB'S. I DON'T KNOW WHAT THEIR BASIS WAS FOR MAKING THEIR DECISIONS.

Q WELL, AS A SCIENTIST ISN'T THERE SOME RISK TO THE ENVIRONMENT AND TO THE ANIMALS AND TO HUMANS OF CERTAIN LEVELS OF PCB'S AND IT'S BETTER NOT TO JUST WASH THEM DOWN THE SINK AND OUT INTO THE RIVERS?

A IT'S A PRUDENT COURSE TO PROPERLY DISPOSE OF ANY CHEMICAL.

Q AND NOT WASH IT DOWN THE SINK?

A I WOULD SAY MOST CHEMICALS SHOULD NOT BE WASHED DOWN THE SINK.

Q AND IS THERE SOME RISK BY WHICH THE GOVERNMENT OR EPA ATTACHES TO YOUR KNOWLEDGE TO PCB'S THAT YOU HAVE GOT TO EITHER BURN THEM OR DISPOSE OF THEM IN A CERTAIN WAY

WATER_PCB-SD0000034863

AT CERTAIN LOCATIONS RATHER THAN JUST AT ANY DUMP ANY WAY?

A I DON'T KNOW WHAT THE BASIS FOR EPA'S REGULATIONS ARE.

Q DO YOU KNOW THAT THERE ARE CERTAIN PARTS PER MILLION THAT THE REGULATIONS PERMIT TO BE IN BODY TISSUES OF ANIMALS AND HUMANS BEFORE THEY ARE -- AND THAT ARE CONSIDERED HAZARDOUS?

A I DON'T KNOW WHAT THOSE LEVELS ARE.

Q EARLIER YOU TOLD US YOU GAVE A PREVIOUS DEPOSITION, DO YOU REMEMBER WHEN THAT WAS DONE?

A APPROXIMATELY TWO YEARS AGO.

Q IN WHAT CASE?

A IT WAS NOT A PCB CASE.

Q WHAT KIND OF CASE WAS IT?

THE WITNESS: SHOULD I ANSWER THAT?

MR. NASSIF: SURE.

A IT WAS AN ORTHO CHLOROPHENOL CASE.

Q WHAT IS THAT?

A ORTHO CHLOROPHENOL.

Q WHAT IS THAT?

A AN INDUSTRIAL ORGANIC CHEMICAL.

Q USED FOR WHAT?

A IT'S USED AS AN INTERMEDIATE IN MAKING OTHER CHEMICALS.

Q AND WAS THIS A LAWSUIT?

WATER_PCB-SD0000034864

A YES.

Q DO YOU KNOW THE TITLE OF IT?

A NO.

Q WERE PCB'S INVOLVED IN IT AT ALL?

A NO.

Q ARE PCB'S A PART OF THE CHEMICAL YOU NAMED?

A NO.

Q WERE THERE ANY OTHER LAWSUITS THAT YOU KNOW OF THAT WERE INVOLVING PCB'S THAN THIS ONE?

A I UNDERSTOOD THERE HAVE BEEN MANY, I DON'T HAVE DIRECT KNOWLEDGE OF THEM.

Q WERE YOU INVOLVED IN ANY OF THE OTHER PCB SUITS?

A NO.

Q NO DEPOSITIONS?

A NO.

Q NO COURT APPEARANCE?

A NO.

Q NO ASSISTANCE TO YOUR MONSANTO PEOPLE IN ANY WAY PROFESSIONALLY IN THE OTHER SUITS?

A THERE MIGHT HAVE BEEN SOME ASSISTANCE.

MR. JUNGERHELD: I HAVE NO QUESTIONS, JIM.

JAMES P. MIEURE

WATER_PCB-SD0000034865

SUBSCRIBED AND SWORN TO BEFORE ME THIS _____DAY OF

_____1983.

MY COMMISSION EXPIRES:_____198_.

_____

NOTARY PUBLIC

WATER_PCB-SD0000034866

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, JAMES P. MIEURE, WHO WAS BY ME FIRST DULY SWORN TO TELL THE WHOLE TRUTH OF HIS KNOWLEDGE 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 HEREUNTO 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

WATER_PCB-SD0000034867

DEPOSITION CORRECTION SHEET

In Re:

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

Page 5 Line 25 Should read: Texas A&M University

Reason assigned for change: misspelling

Page 10 Line 17 Should read: characterizations

Reason assigned for change: consistent with plural verb

Page 11 Line 8 Should read: effluent from a GC column

Reason assigned for change: left out part of description

Page 15 Line 9 Should read: experimentalist

Reason assigned for change: spelling

Page 16 Line 7 Should read: Litschgi

Reason assigned for change: spelling

Page 18 Line 25 Should read: a group and a section

Reason assigned for change:

Page 30 Line 16 Should read: information could

Reason assigned for change: typo

Page 30 Line 17 Should read: information could

Reason assigned for change: typo

James P Means

WATER_PCB-SD0000034868

DEPOSITION CORRECTION SHEET

In Re:

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

Page 42 Line 9 Should read: similar in composition

Reason assigned for change: typo

Page 45 Line 19 Should read: monochloro and dichloro

Reason assigned for change:

Page Line Should read:

Reason assigned for change:

Page Line Should read:

Reason assigned for change:

Page Line Should read:

Reason assigned for change:

Page Line Should read:

Reason assigned for change:

Page Line Should read:

Reason assigned for change:

Page Line Should read:

Reason assigned for change:

James P. Means

WATER_PCB-SD0000034869