

SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF LOS ANGELES

ANNA BUCHAJ, GREG BUCHAJ
AND NINA MARIE MOTRUK,
PLAINTIFFS,
VS. NO. C 710 535
TEXACO, INC.,
A DELAWARE CORPORATION;
STANDARD OIL,
A CALIFORNIA CORPORATION;
SHELL OIL COMPANY,
AND DOES 1 THROUGH 75 , INCLUSIVE,
DEFENDANTS

DEPOSITION OF RICHARD D. IRONS. PH.D.

TAKEN ON

TUESDAY, NOVEMBER 20, 1990

1 SUPERIOR COURT OF THE STATE OF CALIFORNIA
2 FOR THE COUNTY OF LOS ANGELES
3
4 ANNA BUCHAJ, GREG
5 BUCHAJ AND NINA MARIE MOTRUK,
6 PLAINTIFFS,
7 VS. NO. C 710 535
8 TEXACO, INC., A DELAWARE
9 CORPORATION; STANDARD OIL, A CALIFORNIA
10 CORPORATION; SHELL OIL COMPANY, AND DOES 1
11 THROUGH 75, INCLUSIVE,
12 DEFENDANTS.

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18 DEPOSITION OF RICHARD D. IRONS, PH.D., TAKEN
19 ON BEHALF OF THE PLAINTIFF AT 333 SOUTH HOPE
20 STREET, SUITE 2400, LOS ANGELES, CALIFORNIA,
21 COMMENCING AT 9:45 A.M. ON TUESDAY, NOVEMBER 20,
22 1990, BEFORE TAMARA D. WICKHAM, CSR #4117.

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1 APPEARANCES OF COUNSEL :

2

3 FOR THE PLAINTIFFS:

4 SIMKE, CHODOS, SILBERFELD & ANTEAU

5 BY: HELEN EISENSTEIN, ESQ. 6300 WILSHIRE BOULEVARD

6 SUITE 9000 LOS ANGELES, CALIFORNIA 90048

7

8 FOR THE DEFENDANTS SHELL OIL COMPANY, TEXACO, INC., AND STANDARD OIL:

9 LANE, POWELL, SPEARS, LUBERSKY

10 BY: LAURENCE F. JANSSEN, ESQ. 333 SOUTH HOPE STREET

11 SUITE 2400 LOS ANGELES, CALIFORNIA 90071

12

13 FOR THE DEFENDANT ABF FREIGHT SYSTEMS:

14 PARKER, STANBURY, MCGEE, BABCOCK & COMBS

15 BY: DOUGLASS H. MORI, ESQ. 611 WEST SIXTH STREET

16 33RD FLOOR LOS ANGELES, CALIFORNIA. 90071

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1 I N D E X

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3 WITNESS

4 RICHARD D. IRONS, PH.D.

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1 LOS ANGELES, CALIFORNIA; TUESDAY, NOVEMBER 20, 1990
2 AT 9:45 O'CLOCK A.M.

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7 RICHARD D. IRONS, PH.D.,
8 CALLED AS A WITNESS BY THE PLAINTIFFS, HAVING BEEN
9 FIRST DULY SWORN, WAS EXAMINED AND TESTIFIED AS
10 FOLLOWS:

11

12 EXAMINATION

13 BY MS. EISENSTEIN:

14 Q. WOULD YOU PLEASE STATE YOUR FULL NAME FOR
15 THE RECORD?

16 A. RICHARD D. IRONS.

17 Q. AND CAN YOU TELL US WHAT YOUR CURRENT
18 PROFESSION IS?

19 A. I'M A TOXICOLOGIST.

20 Q. IS THAT A PH.D.?

21 A. YES.

22 Q. YOU'RE NOT AN M.D., ARE YOU?

23 A. NO, I'M NOT.

24 Q. HAVE YOU HAD YOUR DEPOSITION TAKEN
25 BEFORE?

5

1 A. YES.
2 Q. ON HOW MANY OCCASIONS?
3 A. THIS IS THE FOURTH.
4 Q. I WILL JUST REMIND YOU THAT THE OATH THAT
5 YOU'VE TAKEN IS THE SAME OATH THAT YOU'D TAKE IN A
6 COURT OF LAW AND HAS THE SAME FORCE AND EFFECT IN
7 TERMS OF THE PENALTY OF PERJURY. DO YOU
8 UNDERSTAND?
9 A. YES.
10 Q. ALL RIGHT. IF MY QUESTIONS ARE UNCLEAR,
11 JUST ASK ME TO REPHRASE THEM, I'LL DO MY BEST TO
12 MAKE THEM CLEARER. IF YOU WANT TO TAKE A BREAK AT
13 ANY TIME LET US KNOW.
14 WHEN WAS THE FIRST TIME YOU TESTIFIED IN
15 DEPOSITION?
16 A. I BELIEVE IT WAS SEPTEMBER OF 1988.
17 Q. WAS THAT IN A CIVIL LAWSUIT?
18 A. YES.
19 Q. WHAT WAS THE NAME OF THAT CASE?
20 A. SKEEN.
21 Q. AND FOR WHAT PARTY DID YOU TESTIFY IN
22 THAT CASE?
23 A. FOR THE DEFENSE.
24 Q. WHO SPECIFICALLY WERE YOU RETAINED BY?
25 A. MONSANTO.

1 Q. AND DID YOU EXPRESS OPINIONS IN THAT
2 CASE?

3 A. YES, I DID.

4 Q. AND WHAT OPINIONS SPECIFICALLY DID YOU
5 EXPRESS IN THAT CASE?

6 A. THAT CHRONIC MYELOGENOUS LEUKEMIA OR CML
7 IS NOT CAUSED BY EXPOSURE TO BENZENE.

8 Q. DID YOU TESTIFY IN ANY OF THE TRIALS OF
9 THAT CASE?

10 A. YES.

11 Q. IN HOW MANY?

12 A. ONE.

13 Q. WAS THAT THE FIRST TRIAL?

14 A. YES. NO, SECOND, EXCUSE ME.

15 Q. DID YOU EXPRESS ANY OTHER OPINIONS OTHER
16 THAN THAT ONE DURING THAT SECOND TRIAL?

17 A. NOT THAT I RECALL.

18 Q. ALL RIGHT. DID YOU HAVE YOUR DEPOSITION
19 TAKEN MORE THAN ONCE DURING THE COURSE OF THAT
20 TRIAL?

21 A. YES.

22 Q. HOW MANY TIMES?

23 A. TWICE.

24 Q. WHAT WAS THE REASON THAT YOU DIDN'T
25 TESTIFY IN THE FIRST TRIAL? DO YOU KNOW?

1 A. I WASN'T ASKED, I WASN'T APPROACHED.

2 Q. GOOD REASON.

3 DID YOU RENDER AN OPINION IN BOTH
4 DEPOSITIONS?

5 A. I DON'T THINK SO, ALTHOUGH I CAN'T
6 REMEMBER PRECISELY.

7 Q. WAS THE OPINION THAT CML IS NOT CAUSED BY
8 EXPOSURE TO BENZENE YOUR OPINION IN THE FIRST
9 DEPOSITION?

10 A. YES.

11 Q. WAS IT YOUR OPINION IN THE SECOND
12 DEPOSITION?

13 A. YES.

14 Q. WHAT WAS THE PURPOSE OF TAKING YOUR
15 DEPOSITION A SECOND TIME?

16 A. I'M NOT FAMILIAR WITH ALL THE LEGAL
17 FORMALITIES, BUT AS I RECALL IN MY OWN -- TO MY
18 OWN RECOLLECTION, IT WAS FOR THE PURPOSE OF
19 INTRODUCING ADDITIONAL MATERIAL THAT WAS AFTER
20 DISCOVERY HAD CLOSED.

21 Q. WHAT TYPE OF MATERIAL ARE YOU REFERRING
22 TO?

23 A. LITERATURE.

24 Q. THAT YOU HAD REVIEWED?

25 A. YES.

1 Q. OKAY.
2 A. I COULD BE IN ERROR ON THAT. BUT I'M
3 NOT -- I'M NOT EXACTLY POSITIVE WHAT THE REASONING
4 WAS BUT THAT'S WHAT WAS MY ASSESSMENT.
5 Q. WHEN WAS THE SECOND TIME YOU TESTIFIED IN
6 DEPOSITION?
7 A. IT WAS IN AUGUST OF THIS YEAR.
8 Q. WHAT CASE WAS THAT, DOCTOR?
9 A. THE CASE GOES BY THE NAME OF CARTER,
10 SLUDER AND RIDDLE.
11 Q. AND WHERE IS THAT CASE PENDING?
12 A. ROANOKE, VIRGINIA.
13 Q. I'VE BEEN THERE. AND FOR WHOM HAVE YOU
14 BEEN RETAINED IN THAT CASE?
15 A. SHELL, UNOCAL. THERE'S A THIRD BUT I
16 CAN'T RECALL.
17 Q. CHEMICAL MANUFACTURERS?
18 A. YES.
19 Q. WHAT ATTORNEY DO YOU WORK FOR IN THAT
20 CASE?
21 A. JEFF SHERWOOD AT AIKEN, GUNN.
22 Q. IS THAT IN WASHINGTON D.C.?
23 A. YES.
24 Q. AND DID YOU EXPRESS OPINIONS IN THAT CASE
25 AT THAT TIME OF THE DEPOSITION IN AUGUST OF '90?

1 A. YES.

2 Q. AND WHAT OPINION DID YOU EXPRESS AT THAT
3 TIME?

4 A. I'M GOING TO HAVE -- I HAVE SOME PROBLEMS
5 WITH RECOLLECTION ON THAT ONE. THE DEPOSITION WAS
6 WIDE RANGING AND DID NOT TOUCH ON THE INDIVIDUAL
7 CASES.

8 Q. HOW MANY CASES -- ARE WE TALKING ABOUT
9 THREE INDIVIDUAL CASES?

10 A. YES.

11 Q. WHAT WAS THE NATURE OF YOUR TESTIMONY IN
12 THAT DEPOSITION?

13 A. DEALT WITH STEM CELL REGULATION,
14 HEMATOPOIESIS, TOUCHED ON CAUSATION FOR AML, ACUTE
15 MYELOGENOUS LEUKEMIA, IT MAY HAVE TOUCHED ON A.L.L.
16 I'M TRYING TO REMEMBER WHAT THE OTHER
17 ISSUES WERE. THE PARTICULAR CASES INVOLVED WERE
18 RARELY BROUGHT UP IN THE CASE OF THE DEPOSITION.

19 Q. WHAT WAS THE SECOND TOPIC THAT YOU
20 MENTIONED THAT YOU BELIEVE YOU TESTIFIED AS TO?

21 A. A.L.L.?

22 Q. YOU MENTIONED -- YOUR FIRST ONE AS I
23 UNDERSTAND IT WAS STEM CELL REGULATION?

24 A. YES.

25 Q. AND AFTER THAT YOU MENTIONED SOMETHING I

10

1 DID NOT UNDERSTAND.
2 A. REGULATION OF HEMATOPOIESIS.
3 Q. COULD YOU SPELL THAT?
4 A. H-E-M-A-T-O-P-O-I-E-S-I-S.
5 Q. AND WHAT IS THAT?
6 A. THAT'S THE PROCESS OF FORMATION OF THE
7 BLOOD.
8 Q. WHAT WAS YOUR OPINION IN AUGUST OF 1990
9 IN THOSE THREE CASES REGARDING CAUSATION.OF AML?
10 A. AML -- AT HIGH CONCENTRATIONS OF
11 EXPOSURE, BENZENE IS ASSOCIATED WITH AN INCREASED
12 INCIDENCE OF ACUTE MYELOGENOUS LEUKEMIA.
13 Q. HOW DO YOU DEFINE "HIGH CONCENTRATIONS OF
14 EXPOSURE"?
15 A. CERTAINLY CONCENTRATIONS IN EXCESS OF 100
16 PARTS PER MILLION, PROBABLY 50.
17 Q. ANYTHING UNDER 50 PARTS PER MILLION TO
18 YOU IS NOT A HIGH CONCENTRATION OF BENZENE?
19 A. IN TERMS OF BONE MARROW TOXICITY AND
20 LEUKEMOGENESIS THERE'S NO DATA TO SUPPORT IT. IT
21 BECOMES PROGRESSIVELY MORE DIFFICULT TO
22 DEMONSTRATE ANY EFFECTS BELOW THAT.
23 Q. BASED ON WHAT? THE LITERATURE?
24 A. BASED ON THE EVIDENCE, THE LITERATURE.
25 Q. AND WHAT WAS YOUR OPINION REGARDING
11

1 A.L.L. AT THAT TIME?
2 A. MY OPINION WAS THAT THE PATTERN OF
3 DISEASES, A.L.L., LYMPHOMA, AND LEUKEMIA THAT HAD
4 BEEN ASSOCIATED WITH EXPOSURE IN THE RUBBER
5 INDUSTRY IS NOT CONSISTENT WITH BENZENE EXPOSURE.
6 Q. WERE THE CARTER, SLUDER AND RIDDLE CASES
7 WRONGFUL DEATH CASES WHERE THE PLAINTIFFS ALLEGED
8 EXPOSURE TO BENZENE?
9 A. I BELIEVE SO.
10 Q. WHO WAS THE PLAINTIFF'S LAWYER THAT TOOK
11 YOUR DEPOSITION IF YOU RECALL?
12 A. HERSHEL HOBSON.
13 Q. IS THAT CASE -- ARE THOSE CASES STILL
14 PENDING?
15 A. YES. TO MY KNOWLEDGE.
16 Q. YOU HAVEN'T TESTIFIED IN TRIAL IN THOSE
17 CASES?
18 A. (NO AUDIBLE RESPONSE.)
19 Q. WHEN IS THE THIRD TIME THAT YOU TESTIFIED
20 IN DEPOSITION?
21 A. HERE.
22 Q. SO TWO IN SKEEN, ONE IN ROANOKE, VIRGINIA
23 IN THOSE THREE CASES, AND THIS IS THE ONLY OTHER
24 TIME.
25 A. YES.
12

1 Q. HOW MANY TIMES HAVE YOU TESTIFIED AT A
2 TRIAL?
3 A. TWICE.
4 Q. ONCE WAS IN SKEEN?
5 A. YES.
6 Q. WHAT WAS THE OTHER OCCASION?
7 A. CASE CALLED MASON.
8 Q. WHERE WAS THAT?
9 A. IT'S KANSAS, WICHITA.
10 Q. AND WHAT COMPANIES DID YOU TESTIFY FOR IN
11 THAT CASE?
12 A. TEXACO.
13 Q. WHO WAS THE ATTORNEY YOU WORKED FOR?
14 A. KEN PETERSON.
15 Q. WHO WAS THE PLAINTIFF'S LAWYER IN THE
16 MASON CASE?
17 A. MR. MASHOW.
18 Q. CAN YOU SPELL THAT, PLEASE?
19 A. NO.
20 Q. CAN YOU SAY IT AGAIN?
21 A. MASHOW.
22 Q. DO YOU KNOW WHERE HIS OFFICE WAS
23 LOCATED?
24 A. ACTUALLY I DON'T, NO.
25 Q. AND WHAT WAS THE SUBJECT MATTER OF THE
13

1 MASON CASE?
2 A. IT WAS AN AML CASE.
3 Q. WAS IT A WRONGFUL DEATH CASE?
4 A. YES.
5 Q. WERE THE PLAINTIFFS ALLEGING THAT THE
6 DECEDENT HAD BEEN EXPOSED TO BENZENE?
7 A. YES.
8 Q. DID YOU RENDER AN OPINION AT THE TRIAL?
9 A. YES.
10 Q. AND WHAT WAS THAT OPINION?
11 A. BASED UPON THE EXPOSURE EVIDENCE AND THE
12 LATENCY PERIOD INVOLVED, THAT IT WAS HIGHLY
13 UNLIKELY THAT THE DECEDENT'S AML WAS CAUSED BY
14 EXPOSURE TO BENZENE.
15 Q. WHEN DID YOU TESTIFY AT THAT TRIAL?
16 A. I BELIEVE IT WAS OCTOBER -- IT WAS
17 OCTOBER OR NOVEMBER OF LAST YEAR.
18 Q. DO YOU RECALL THE OCCUPATION OF THE
19 DECEDENT IN MASON?
20 .A. HE WAS A WARRANT OFFICER IN THE COAST
21 GUARD.
22 Q. AND DO YOU RECALL THE NATURE OF HIS
23 EXPOSURE?
24 A. IT WAS -
25 Q. ALLEGED EXPOSURE?
14

1 A. ALLEGED EXPOSURE WAS QUITE MINIMAL.
2 Q. DO YOU RECALL HOW IT WAS ALLEGED THAT HE
3 HAD EXPOSURE TO BENZENE?
4 A. HE TAUGHT MECHANICS IN THE COAST GUARD,
5 AND ONE OF THE TESTS THAT HE TAUGHT FOR A BRIEF
6 PERIOD OF TIME INVOLVED DETERMINING THE AMOUNT OF
7 WATER IN DIESEL OIL, AND THAT WAS ACCOMPLISHED
8 USING A SOLUTION THAT CONTAINED BENZENE.
9 Q. IN THE THREE CASES IN ROANOKE, VIRGINIA,
10 DO YOU RECALL THE OCCUPATION OF THE DECEDENT IN
11 THOSE CASES?
12 A. THEY'RE RUBBER WORKERS.
13 Q. IS THERE A LATENCY PERIOD OR AN AVERAGE
14 LATENCY PERIOD FOR LEUKEMIA?
15 MR. JANSSEN: OBJECT TO THE FORM OF THE
16 QUESTION, IT'S VAGUE AND AMBIGUOUS. IT DOESN'T
17 SPECIFY THE TYPE OF LEUKEMIA.
18 NOTWITHSTANDING THE OBJECTION, DOCTOR, IF
19 YOU CAN ANSWER THE QUESTION PLEASE GO AHEAD.
20 THE WITNESS: WELL, IT VARIES SOMEWHAT WITH
21 THE TYPE OF LEUKEMIA, DEPENDS WHICH LEUKEMIA
22 YOU'RE TALKING ABOUT.
23 IN THE CASE OF ACUTE MYELOGENOUS LEUKEMIA
24 THE LATENCY PERIOD IS APPROXIMATELY ON AN AVERAGE
25 ABOUT NINE YEARS.
15

1 BY MS. EISENSTEIN:

2 Q. IS THERE A LATENCY PERIOD FOR CLL

3 MR. JANSSEN: I WANT TO INTERPOSE ANOTHER

4 OBJECTION IN THAT THE QUESTION IS VAGUE AND

5 AMBIGUOUS UNLESS THE TERM "LATENCY PERIOD" IS

6 DEFINED. IT HAS DIFFERENT MEANINGS IN DIFFERENT

7 DISCIPLINES.

8 NOTWITHSTANDING THE OBJECTION, IF YOU CAN

9 ANSWER, DOCTOR, GO AHEAD.

10 THE WITNESS: LATENCY PERIOD IMPLIES THAT

11 THERE'S AN INTERVAL BETWEEN CAUSATION AND THE

12 EXPRESSION OF THE DISEASE. IN THE CASE OF CLL

13 THERE IS NO EVIDENCE TO INDICATE THAT CLL IS

14 CAUSED BY ANY AGENT AND THEREFORE THE LATENCY -

15 THE QUESTION OF LATENCY IS REALLY MOOT IN THAT

16 CONTEXT.

17 BY MS. EISENSTEIN:

18 Q. OTHER THAN THE TRIAL TESTIMONY THAT

19 YOU'VE JUST TOLD US ABOUT AND THE DEPOSITION

20 TESTIMONY, YOU BELIEVE THAT WHAT YOU'VE TESTIFIED

21 HERE TODAY COVERS ALL OF YOUR TRIAL AND DEPOSITION

22 TESTIMONY?

23 A. YES.

24 Q. WHAT IS YOUR HOURLY FEE?

25 A. \$300 AN HOUR.

16

1 Q. HOW LONG HAS THAT BEEN YOUR HOURLY FEE?
2 A. SINCE I STARTED CONSULTING.
3 Q. APPROXIMATELY HOW MUCH MONEY DID YOU MAKE
4 FROM YOUR WORK ON THE SKEEN CASE?
5 A. FROM SKEEN ITSELF?
6 Q. YES.
7 A. I COULDN'T TELL YOU.
8 Q. HOW ABOUT FROM THE THREE CASES IN
9 VIRGINIA?
10 A. INDEPENDENTLY I COULDN'T TELL YOU.
11 Q. WHAT DO YOU MEAN BY INDEPENDENTLY
12 A. WELL, I KNOW ROUGHLY HOW MUCH I MAKE BUT
13 WITH RESPECT TO THE INDIVIDUAL CASE I CAN'T.
14 Q. OKAY. WHAT PERCENTAGE OF YOUR INCOME
15 LAST YEAR WAS DERIVED FROM MEDICAL-LEGAL
16 CONSULTATIONS? AND THAT INCLUDES DEPOSITION
17 TESTIMONY.
18 A. IF YOU INCLUDE ALL MY CONSUL -- ALL MY
19 CONSULTING BUSINESS, IT ACCOUNTS FOR APPROXIMATELY
20 HALF OF MY INCOME.
21 Q. AND THAT WOULD HAVE BEEN LAST YEA&?
22 A. YES.
23 Q. HOW ABOUT IN 1988?
24 A. IT'S TRIVIAL. IT PROBABLY WOULD HAVE
25 REPRESENTED TEN PERCENT MAYBE. MAYBE TWENTY,
17

1 SOMEWHERE IN THERE.
2 Q. TEN TO TWENTY PERCENT?
3 A. YEAH.
4 Q. APPROXIMATELY HOW MANY HOURS DO YOU
5 BELIEVE YOU WORKED ON THE SKEEN CASE?
6 A. I COULDN'T -- I CAN'T RECALL. IT WAS A
7 SUBSTANTIAL PERIOD OF TIME.
8 Q. CAN YOU APPROXIMATE FOR US OR ESTIMATE?
9 A. I WOULD SAY IT WAS PROBABLY IN EXCESS OF
10 20 DAYS.
11 Q. TOTAL PREPARATION TIME?
12 A. YEAH.
13 Q. HOW ABOUT IN ROANOKE -- THE CARTE,
14 SLUDER AND RIDDLE CASES? APPROXIMATELY HOW MUCH
15 TIME -
16 A. I DON'T HAVE A CLUE.
17 Q. HOW ABOUT MASON?
18 A. MASON WAS TWO WEEKS.
19 Q. AT THE PRESENT TIME IS HALF OF YOUR TIME
20 SPENT ON MEDICAL-LEGAL WORK?
21 A. NO.
22 Q. WHAT PERCENTAGE OF YOUR TIME AT THE
23 PRESENT TIME IS SPENT ON MEDICAL-LEGAL WORK?
24 A. WELL, IF YOU INCLUDE ALL MY CONSULTING,
25 WHICH INCLUDES BUT IS NOT RESTRICTED TO
18

1 MEDICAL-LEGAL WORK, IT'S BETWEEN TEN AND FIFTEEN
2 PERCENT.
3 MR. JANSSEN: JUST FOR PURPOSES OF
4 CLARIFICATION, WHEN YOU'VE TALKED ABOUT 50 PERCENT
5 EARLIER, YOU ALSO USED THE QUALIFICATION "IF YOU
6 INCLUDE ALL MY CONSULTING WORK."
7 THE WITNESS: YES.
8 MR. JANSSEN: WAS THAT 50 PERCENT FIGURE WHICH
9 YOU GAVE EARLIER EXCLUSIVELY MEDICAL-LEGAL
10 THE WITNESS: NO.
11 BY MS. EISENSTEIN:
12 Q. WHAT PERCENTAGE THEN OF YOUR WORK LAST
13 YEAR WAS MEDICAL-LEGAL?
14 A. PERCENTAGE OF WORK? COULD YOU -
15 Q. PERCENTAGE OF YOUR TIME LAST YEAR WAS
16 SPENT ON MEDICAL-LEGAL.
17 A. OH. ABOUT NINE -- ABOUT NINE PERCENT.
18 Q. HOW MANY HOURS A WEEK DO YOU SPEND
19 WORKING ON MEDICAL-LEGAL WORK AT THE PRESET
20 TIME?
21 A. VARIES DRAMATICALLY DEPENDING UPON WHAT
22 I'M DOING. INTEGRATED OUT, THIS YEAR IT'S LESS
23 THAN TEN PERCENT OF MY TOTAL TIME. THAT'S ABOUT
24 THE BEST I CAN -
25 Q. OKAY.
19

1 A. -- GIVE YOU.
2 Q. ARE YOU ON A RETAINER AGREEMENT WITH ANY
3 CHEMICAL COMPANY?
4 A. NO.
5 Q. HOW MANY CASES HAVE YOU CONSULTED ON,
6 WHETHER THEY REACHED DEPOSITION OR TRIAL, FOR A
7 CHEMICAL COMPANY?
8 A. I CANNOT -- I DON'T KNOW. I REALLY
9 COULDN'T TELL YOU.
10 Q. CAN YOU APPROXIMATE?
11 A. HUH-UH.
12 Q. IS THAT A NO?
13 A. THAT'S A NO. SORRY.
14 Q. I DON'T MEAN TO BE RUDE, JUST TO MAKE
15 SURE WE GET A GOOD RECORD.
16 HOW MANY CASES THIS YEAR ARE YOU
17 CONSULTING ON, ON BEHALF OF A CHEMICAL COMPANY, OR
18 BY THAT I INCLUDE OIL COMPANIES?
19 A. PROBABLY BETWEEN FIVE AND SIX, INCLUDING
20 THE ONES THAT WE'VE MENTIONED.
21 Q. HOW MANY WITH MR. JANSSEN'S OFFICE?
22 A. THIS ONE.
23 Q. HAVE YOU EVER WORKED WITH HIS OFFICE
24 BEFORE?
25 A. WE'VE DISCUSSED A NUMBER OF ISSUES, BUT
20

1 THIS HAS BEEN THE -- BASICALLY THE ONLY CASE I'VE
2 WORKED ON.
3 Q. BY "DISCUSSED A NUMBER OF ISSUES" WHAT DO
4 YOU MEAN?
5 A. HE'S ASKED ME TO REVIEW LITERATURE AND TO
6 EXPRESS MY OPINIONS ON THE BASIS OF THAT
7 LITERATURE.
8 Q. NOT JUST IN THIS PARTICULAR CASE?
9 A. NOT JUST IN THIS PARTICULAR CASE.
10 Q. WHEN WAS THE FIRST TIME YOU DID ANY WORK
11 OF ANY KIND ON BEHALF OF OR FOR A CHEMICAL COMPANY
12 OR OIL COMPANY?
13 A. IN MOST OF '88.
14 Q. AND WHAT WORK WAS THAT?
15 A. THAT WAS PREPARATION FOR SKEEN.
16 Q. ON HOW MANY OCCASIONS HAVE YOU MET
17 ATTORNEYS REPRESENTING CHEMICAL COMPANIES OR OIL
18 COMPANIES FOR PURPOSES OF CONSULTATION?
19 A. I -- I DON'T HAVE ANY IDEA.
20 Q. OF THE MEDICAL-LEGAL WORK OR THE
21 LITIGATION WORK THAT YOU DO, WHAT IS THE SUBJECT
22 MATTER OF THE CASES?
23 A. IT VARIES WIDELY.
24 Q. CAN YOU EXPLAIN FOR ME THE SUBJECT
25 MATTER, PLEASE?
21

1 A. USUALLY TOXICOLOGY AND/OR HEMATOLOGY.
2 Q. WHEN YOU SAY "TOXICOLOGY," CAN YOU BE
3 MORE SPECIFIC AS TO WHAT THE ISSUE IS?
4 A. DEATH OR INJURY ASSOCIATED WITH EXPOSURE
5 TO CHEMICALS.
6 Q. AND WHEN YOU SAY "HEMATOLOGY," CAN YOU
7 TELL ME WHAT THE ISSUE IS, PLEASE?
8 A. USUALLY ISSUES RELATED TO CAUSATION OF
9 VARIOUS HEMATOLOGIC DISORDERS.
10 Q. ARE YOU A HEMATOLOGIST?
11 A. I'M AN EXPERIMENTAL HEMATOLOGIST, NOT A
12 CLINICAL HEMATOLOGIST.
13 Q. WHAT IS AN EXPERIMENTAL HEMATOLOGIST?
14 A. IT'S AN INDIVIDUAL WHOSE RESEARCH IS
15 FOCUSED ON HEMATOLOGY, UNDERSTANDING THE
16 MECHANISMS OF HOW THE BLOOD WORKS.
17 Q. AND WHO CONFERS THE TITLE OF EXPERIMENTAL
18 HEMATOLOGIST?
19 A. WHO CONFERS THE TITLE? WELL, I'VE BEEN
20 ELECTED TO THE INTERNATIONAL SOCIETY OF
21 EXPERIMENTAL HEMATOLOGISTS SO I GUESS THAT WOULD
22 COME AS CLOSE TO A TITLE AS ANY.
23 Q. BY ELECTED WHAT DO YOU MEAN?
24 A. ELECTED BY THE MEMBERSHIP.
25 Q. AS A MEMBER?
22

1 A. YES.
2 Q. AND FROM THAT BASIS YOU USED THE TERM
3 EXPERIMENTAL HEMATOLOGIST?
4 A. IF YOU REVIEW MY PUBLISHED ARTICLES
5 YOU'LL SEE THAT, THAT IS IN FACT THE FIELD I HAVE
6 PUBLISHED THE MOST IN SO THAT IS BASICALLY WHY I
7 CHARACTERIZE MYSELF AS AN EXPERIMENTAL
8 HEMATOLOGIST.
9 Q. IS THERE A BOARD CERTIFICATION CALLED
10 EXPERIMENTAL HEMATOLOGY?
11 A. NO.
12 Q. CAN YOU DESCRIBE FOR ME, PLEASE -- WELL,
13 STRIKE THAT.
14 OTHER THAN TESTIFYING IN TRIALS AND AT
15 DEPOSITIONS THAT WE'VE ALREADY DISCUSSED, HAVE YOU
16 TESTIFIED IN FRONT OF ANY GOVERNMENTAL ENTITIES?
17 A. YES.
18 Q. OKAY. AND WHEN WAS THE FIRST TIME YOU
19 DID THAT?
20 A. FOR OSHA IN I BELIEVE 19 -- I COULD BE
21 OFF BY YEARS ON THIS, I THINK IT WAS 1981.
22 Q. AND ON WHOSE BEHALF DID YOU TESTIFY?
23 A. I TESTIFIED ON MY OWN BEHALF.
24 Q. WHAT WAS THE NATURE OF YOUR TESTIMONY?
25 A. I PRESENTED DATA IN A HEARING THAT WAS
23

1 EVALUATING BENZENE EMISSIONS FROM THE MALEIC
2 ANHYDRIDE PLANTS, AND I PRESENTED DATA ON
3 POTENTIAL MECHANISMS OF TOXICITY.

4 Q. AND DID YOU DRAW ANY CONCLUSIONS FROM
5 THAT DATA THAT YOU PRESENTED TO OSHA?

6 A. I DON'T RECALL IF I DREW ANY
7 CONCLUSIONS. I PRESENTED DATA WITH RESPECT TO
8 POTENTIAL MECHANISMS OF ACTION.

9 Q. BY "MECHANISMS OF ACTION" WHAT ARE YOU
10 REFERRING TO?

11 A. HOW BENZENE CAUSES THE TOXICITY THAT IT
12 DOES TO TARGET CELLS.

13 Q. WHERE WERE THESE PLANTS?

14 A. I DON'T HAVE ANY IDEA.

15 Q. HAD YOU BEEN ASKED TO TESTIFY?

16 A. YES.

17 Q. WHO HAD ASKED YOU TO TESTIFY?

18 A. I DON'T KNOW WHAT THE SOURCE WAS. IT
19 MIGHT HAVE BEEN OSHA. BUT I TESTIFIED IN THE
20 CONTEXT OF MY EMPLOYMENT AS A MEMBER OF THE
21 CHEMICAL INDUSTRY INSTITUTE OF TOXICOLOGY.

22 Q. CHEMICAL INDUSTRY INSTITUTE OF
23 TOXICOLOGY?

24 A. YES.

25 Q. ARE YOU CURRENTLY A MEMBER OF THAT

24

1 INSTITUTE?
2 A. NO.
3 Q. HOW LONG WERE YOU A MEMBER OF THAT
4 INSTITUTE?
5 A. 11 YEARS.
6 Q. FROM WHEN TO WHEN?
7 A. 1977 TO 1988.
8 Q. AND OTHER THAN BEING A MEMBER, DID YOU
9 HOLD ANY OTHER STATUS IN THAT INSTITUTE?
10 A. I WAS AN EMPLOYEE OF THE INSTITUTE.
11 Q. IS THAT LISTED ON YOUR C.V., DOCTOR?
12 A. MM-HMM.
13 Q. IS THAT A YES?
14 A. YES.
15 Q. I'M GOING TO HAVE YOU WHAT I'LL IDENTIFY
16 AS THE C.V. OF RICHARD D. IRONS AND ASK YOU TO
17 LOOK AT IT IF YOU WOULD.
18 A. MM-HMM.
19 Q. IS THAT A CURRENT C.V.?
20 A. YES.
21 Q. CAN YOU FIND FOR ME, PLEASE, WHERE YOU
22 INDICATE THAT YOU WERE AN EMPLOYEE OF THE CHEMICAL
23 INDUSTRY INSTITUTE FOR TOXICOLOGY?
24 A. (WITNESS COMPLIES.)
25 Q. THANK YOU.
25

1 WHAT IS THE CHEMICAL INDUSTRY INSTITUTE
2 OF TOXICOLOGY?

3 A. IT'S A NON-PROFIT RESEARCH INSTITUTE,
4 IT'S DEDICATED TO RESEARCH AND TEACHING AND
5 TRAINING IN TOXICOLOGY.

6 Q. WHERE DOES IT RECEIVE ITS FUNDING?

7 A. I THINK THE MAJORITY OF ITS FUNDING COMES
8 FROM MEMBER COMPANIES WHICH ARE BASICALLY CHEMICAL
9 COMPANIES.

10 Q. IS TEXACO A MEMBER?

11 A. YES.

12 Q. HOW ABOUT SHELL?

13 A. I DON'T KNOW IF SHELL IS OR NOT.

14 Q. HOW ABOUT STANDARD?

15 A. I BELIEVE THEY ARE.

16 Q. HOW MANY MEMBERS ARE THERE?

17 A. WHEN I WAS EMPLOYED BY THE INSTITUTE
18 THERE WERE APPROXIMATELY 35 MEMBERS. I HAVE NO
19 IDEA WHAT THE MEMBERSHIP IS LIKE TODAY.

20 Q. WHAT DID YOUR WORK ENTAIL DURING THAT
21 11-YEAR PERIOD?

22 A. MY MAJOR EFFORTS WERE FOCUSED ON
23 UNDERSTANDING MECHANISMS OF TOXICITY ON THE BLOOD
24 AND BONE MARROW ASSOCIATED WITH CHEMICAL
25 EXPOSURE.

26

1 Q. AND HOW DID YOU GO ABOUT DOING THAT
2 RESEARCH?
3 A. ANIMAL STUDIES, STUDIES WITH CELLS,
4 PATHOLOGY, HEMATOLOGY, VARIETY OF DIFFERENT
5 TECHNIQUES.
6 Q. HOW MANY ARTICLES DID YOU PUBLISH -
7 WELL -- FROM 1977 TO 1988, APPROXIMATELY?
8 A. ROUGHLY 50 PEER REVIEWED ARTICLES.
9 Q. HOW MANY EMPLOYEES WERE THERE DURING THE
10 TIME THAT YOU WORKED FOR THE CHEMICAL INDUSTRY
11 INSTITUTE OF TOXICOLOGY?
12 A. APPROXIMATELY 100, PLUS OR MINUS.
13 Q. WAS DR. MICHAEL KEATING A MEMBER OR
14 EMPLOYEE?
15 A. NO.
16 Q. HOW ABOUT DR. WALLERSTEIN?
17 A. NO.
18 Q. DR. WILSON, RICHARD WILSON?
19 A. NO.
20 Q. WILLIAM ELLIS?
21 A. NO.
22 Q. RICHARD CAVALLI?
23 A. NO.
24 Q. JOHN A. DEL PUP?
25 A. NO.
27

1 Q. JOHN C. WILLETT?

2 A. NO.

3 Q. WHEN YOU TESTIFIED IN 1981 AT THAT OSHA
4 HEARING, AT THAT TIME WAS OSHA CONSIDERING
5 ALTERING CERTAIN REGULATIONS THAT PERTAINED TO THE
6 CHEMICAL INDUSTRY?

7 A. I BELIEVE SO BUT I'M NOT SURE AS TO WHAT
8 THE ISSUE WAS AT THAT TIME.

9 Q. DO YOU KNOW WHETHER THE SUBSTANCE OF YOUR
10 TESTIMONY WAS THAT THEY SHOULD -- WELL, LET ME
11 WITHDRAW THAT.

12 DO YOU HAVE A COPY OF THAT TESTIMONY?

13 A. SOMEPLACE I PROBABLY DO.

14 MS. EISENSTEIN: COUNSEL, I'D LIKE TO REQUEST
15 A COPY OF THAT TESTIMONY IF POSSIBLE.

16 Q. WOULD THAT BE POSSIBLE FOR YOU TO FIND
17 THAT?

18 A. I'M NOT SURE WHERE IT IS. I CAN PROBABLY
19 HAVE ONE DUG UP BUT IT MAY TAKE AWHILE. I HAVEN'T
20 SEEN IT IN YEARS.

21 Q. WHERE IS THAT YOU TESTIFIED?

22 A. WASHINGTON D.C.

23 Q. THAT WAS IN 1981?

24 A. YES.

25 Q. WHO SPECIFICALLY DID YOU TESTIFY IN FRONT

28

1 OF?

2 A. IT WAS A PANEL.

3 Q. DO YOU RECALL WHO WAS ON THE PANEL?

4 A. PETER INFANTE, AND I CAN'T REMEMBER

5 ANYBODY ELSE. THERE WAS QUITE A FEW PEOPLE.

6 Q. WAS OSHA AT THAT TIME CONSIDERING

7 LOWERING THE LEVEL OF EXPOSURE OF BENZENE IN THE

8 WORK PLACE?

9 A. NO.

10 Q. CHANGING THE LEVEL OF EXPOSURE IN ANY

11 WAY?

12 A. NO.

13 Q. FROM YOUR WORK IN THE FIELD DO YOU HAVE

14 AN OPINION AS TO WHETHER THERE IS A KNOWN SAFE

15 LEVEL OF EXPOSURE TO BENZENE AT WHICH AML WILL NOT

16 OCCUR?

17 A. I THINK I'VE ALREADY TOLD YOU WHAT I

18 THINK THE EVIDENCE IS FOR EXPOSURE LEVELS.

19 Q. WITH ALL DUE RESPECT, DOCTOR, I DON'T

20 THINK YOU HAVE AND I'D LIKE THE COURT REPORTER TO

21 REPEAT THE QUESTION.

22 MR. JANSSEN: WELL, I THINK THOSE COMMENTS ARE

23 ARGUMENTATIVE, IN FACT YOU HAVE, BUT, DOCTOR, IF

24 YOU HAVE THE QUESTION IN MIND GO AHEAD AND TELL

25 HER AGAIN.

29

1 THE WITNESS: I THINK THERE IS SUBSTANTIAL
2 EVIDENCE THAT EXPOSURES IN EXCESS OF 100 PARTS PER
3 MILLION, CHRONIC EXPOSURE TO BENZENE, PRODUCES
4 BONE MARROW TOXICITY, SUPPRESSION, AND IN A SMALL
5 NUMBER OF INDIVIDUALS AML.

6 I HAVE REASONABLE CONCERN ABOUT EXPOSURES
7 50 PARTS PER MILLION OR GREATER. I THINK THE
8 EVIDENCE FOR A CAUSAL RELATIONSHIP BETWEEN BENZENE
9 EXPOSURE AND AML BELOW 50 PARTS PER MILLION IS
10 PROGRESSIVELY -- AS YOU GO LOWER PROGRESSIVELY
11 LESS DEFINITIVE, AND CERTAINLY BELOW 25 PARTS PER
12 MILLION THERE'S JUST NO DATA TO SUPPORT THAT
13 RELATIONSHIP.

14 BY MS. EISENSTEIN:

15 Q. I UNDERSTAND, DOCTOR, BUT I BELIEVE MY
16 QUESTION WAS SLIGHTLY DIFFERENT. MY QUESTION IS:
17 FROM YOUR WORK IN THE FIELD AND YOUR REVIEW OF THE
18 LITERATURE, IS THERE A KNOWN SAFE LEVEL OF BENZENE
19 EXPOSURE AT WHICH AML WILL NOT OCCUR?

20 MR. MORI: OBJECTION, VAGUE AND AMBIGUOUS,
21 ARGUMENTATIVE.

22 MR. JANSSEN: ASKED AND ANSWERED.

23 GO AHEAD, DOCTOR, TELL HER FOR A THIRD
24 TIME.

25 THE WITNESS: I BELIEVE THE DATA SUPPORTS A

30

1 RELATIONSHIP BETWEEN BENZENE EXPOSURE AND TOXICITY
2 ON THE BLOOD AND BONE MARROW FROM A RANGE OF
3 CERTAINLY 50 PARTS PER MILLION UPWARD. BELOW 50
4 PARTS PER MILLION IT IS PROGRESSIVELY MORE
5 DIFFICULT TO ASSIGN ANY RELATIONSHIP, AND BELOW 25
6 PARTS PER MILLION THERE IS NO EVIDENCE TO SUPPORT
7 A CAUSAL RELATIONSHIP.

8 BY MS. EISENSTEIN:

9 Q. ARE YOU SAYING, DOCTOR, THAT FROM YOUR
10 REVIEW OF THE LITERATURE AND YOUR EXPERIENCE, IT
11 IS YOUR OPINION AS YOU SIT HERE TODAY THAT THE
12 SAFE LEVEL OF EXPOSURE TO BENZENE AT WHICH OR
13 BELOW WHICH AML WILL NOT OCCUR IS 25 PARTS PER
14 MILLION?

15 MR. MORI: OBJECTION, VAGUE AND AMBIGUOUS,
16 ARGUMENTATIVE.

17 THE WITNESS: NO.

18 BY MS. EISENSTEIN:

19 Q. OKAY. DO YOU BELIEVE -- AND I DON'T MEAN
20 TO BE RUDE BUT I'M ENTITLED TO GET ANSWERS TO
21 REASONABLY CLEAR QUESTIONS.

22 DO YOU BELIEVE THAT THE LITERATURE
23 INDICATES A KNOWN SAFE LEVEL OF EXPOSURE TO
24 BENZENE BELOW WHICH OR AT WHICH AML WILL NOT
25 OCCUR?

31

1 MR. MORI: OBJECTION, VAGUE AND AMBIGUOUS,
2 ARGUMENTATIVE.
3 MR. JANSSEN: I OBJECT TO THE FORM OF THE
4 QUESTION, IT'S COMPLEX, COMPOUND AND
5 ARGUMENTATIVE.
6 GO AHEAD AND ANSWER IF YOU CAN, DOCTOR.
7 THE WITNESS: WOULD YOU REPEAT THE QUESTION,
8 PLEASE?
9 (THE RECORD WAS READ BY THE REPORTER.)
10 THE WITNESS: I BELIEVE THERE IS A THRESHOLD
11 FOR BENZENE TOXICITY ON THE BONE MARROW, AND I
12 BELIEVE THAT, THAT THRESHOLD IS IMPORTANT IF NOT
13 CRITICAL IN DETERMINING THE POTENTIAL FOR THE
14 DEVELOPMENT OF AML FOLLOWING EXPOSURE.
15 THE EXACT CONCENTRATION AT WHICH THAT
16 THRESHOLD OCCURS HAS NOT BEEN DEFINITELY
17 DEMONSTRATED ONE WAY OR THE OTHER.
18 BY MS. EISENSTEIN:
19 Q. DO YOU HAVE AN OPINION AS YOU SIT HERE
20 TODAY AS TO WHAT THAT THRESHOLD-IS?
21 A. I'VE GIVEN YOU ALL THE EVIDENCE THAT I
22 HAVE. ANYTHING ELSE WOULD BE SPECULATIVE AND I'M
23 NOT PREPARED TO SPECULATE ON IT.
24 Q. IS YOUR OPINION AS YOU SIT HERE TODAY
25 THAT THE THRESHOLD IS 25 PARTS PER MILLION?
32

1 A. NO.
2 Q. IS YOUR OPINION AS YOU SIT HERE TODAY, OR
3 IS YOUR TESTIMONY AS YOU SIT HERE TODAY THAT YOU
4 CANNOT SAY WHAT THE THRESHOLD OF EXPOSURE FOR
5 BENZENE IS AT WHICH OR BELOW WHICH AML WILL NOT
6 OCCUR?
7 MR. MORI: OBJECTION, ARGUMENTATIVE.
8 THE WITNESS: I'M SORRY, THERE ARE TOO MANY
9 NEGATIVES IN THERE, I DON'T UNDERSTAND THE
10 QUESTION. COULD YOU REPEAT IT?
11 MS. EISENSTEIN: CAN YOU GET THE QUESTION READ
12 BACK?
13 (THE RECORD WAS READ BY THE REPORTER.)
14 MR. JANSSEN: THERE'S NO QUESTION PENDING.
15 BY MS. EISENSTEIN:
16 Q. DO YOU NOT UNDERSTAND THAT QUESTION,
17 DOCTOR?
18 MR. JANSSEN: HE'S ALREADY SAID HE DIDN'T
19 UNDERSTAND THE QUESTION.
20 THE WITNESS: I DON'T UNDERSTAND IT THE SECOND
21 TIME.
22 BY MS. EISENSTEIN:
23 Q. ALL RIGHT. IS IT YOUR, YOUR TESTIMONY AS
24 YOU SIT HERE TODAY THAT IT WOULD BE SPECULATION ON
25 YOUR PART TO GIVE A SPECIFIC NUMBER ON THE
33

1 THRESHOLD FOR EXPOSURE TO BENZENE AT WHICH THE
2 DISEASE WILL NOT OCCUR?
3 MR. JANSSEN: WHAT DISEASE?
4 MS. EISENSTEIN: AML.
5 THE WITNESS: THEN WE'D BE SPEC -- YOU'RE
6 ASKING ME IF THAT WOULD BE SPECULATION ON MY
7 PART. YES, IT WOULD.
8 BY MS. EISENSTEIN:
9 Q. HAVE YOU EVER TESTIFIED THAT THERE IS A
10 LEVEL OF EXPOSURE TO BENZENE WHICH YOU CONSIDER TO
11 BE SAFE?
12 A. I PROBABLY HAVE.
13 Q. AND WHAT WAS THAT LEVEL?
14 A. CERTAINLY ANY CONCENTRATIONS IN THE PART
15 PER BILLION RANGE.
16 Q. IS THAT ONE PART -
17 A. ANYTHING IN THE PARTS PER BILLION RANGE.
18 THERE IS NO EVIDENCE TO SUPPORT A RELATIONSHIP
19 BETWEEN EXPOSURE IN PARTS PER BILLION BENZENE AND
20 BONE MARROW TOXICITY.
21 Q. HOW ABOUT PARTS PER MILLION?
22 A. I -- WE'RE GETTING BACK TO THE SAME
23 QUESTIONS YOU'VE ASKED BEFORE. I DO NOT KNOW WHAT
24 THE THRESHOLD IS. IT WOULD REQUIRE SPECULATION ON
25 MY PART. WE DO NOT HAVE EVIDENCE, RELIABLE
34

1 SCIENTIFIC EVIDENCE TO SUPPORT A SPECIFIC NUMBER.
2 Q. OKAY. WELL, IF I UNDERSTAND WHAT YOUR
3 TESTIMONY IS TODAY, YOU'RE SAYING THAT YOU BELIEVE
4 THAT A SAFE EXPOSURE TO BENZENE IS IN -- CERTAINLY
5 WITHIN THE REALM OF ONE PART PER BILLION;
6 CORRECT?
7 A. NO, IT'S NOT THAT SIMPLE. THIS IS AN
8 AREA OF TREMENDOUS SCIENTIFIC COMPLEXITY.
9 AS I'VE TOLD YOU BEFORE, BELOW 25 PARTS
10 PER MILLION IN MAN, THE DATA SUPPORTING BONE
11 MARROW TOXICITY OR A RELATIONSHIP BETWEEN BENZENE
12 EXPOSURE AND AML DOES NOT EXIST.
13 ONE CAN CERTAINLY SAY ON THE BASIS OF
14 EXPOSURES THAT I'VE DESCRIBED TO YOU THERE 'THAT
15 THERE'S NO EVIDENCE THAT THERE'S ANY TOXICITY
16 ASSOCIATED WITH EXPOSURE. AS TO WHERE PRECISELY
17 THE THRESHOLD IS, I DO NOT KNOW.
18 Q. WHEN YOU SAY "BONE MARROW TOXICITY," CAN
19 YOU DEFINE THAT FOR US, PLEASE?
20 A. DEMONSTRABLE DAMAGE TO THE BLOOD FORMING
21 CELLS OF THE MARROW.
22 Q. HAVE YOU EVER TESTIFIED IN A CIVIL CASE
23 ON BEHALF OF A PLAINTIFF?
24 A. I'VE CONSULTED FOR PLAINTIFFS. IN
25 CONSULTING FOR PLAINTIFFS I HAVE NOT TESTIFIED IN
35

1 A CIVIL CASE ON BEHALF OF A PLAINTIFF.
2 Q. HOW MANY TIMES HAVE YOU CONSULTED FOR
3 PLAINTIFFS?
4 A. THREE.
5 Q. AND CAN YOU TELL ME THE SPECIFIC NATURE
6 OF THOSE CASES?
7 A. ONE OF THEM IS CONFIDENTIAL, HASN'T BEEN
8 FILED, AND I CAN'T RELEASE THE DETAILS OF THAT.
9 Q. I'M NOT ASKING FOR THE DETAILS, I'M JUST
10 ASKING FOR GENERALLY WHAT ARE THE ALLEGED INJURIES
11 IN THAT CASE.
12 A. ONE INVOLVES A LYMPHADENOPATHY.
13 Q. WHAT IS THAT?
14 A. REACTIVE LYMPHOID HYPERPLASIA.
15 Q. AND WHAT IS THE ALLEGED CAUSE?
16 A. I DON'T FEEL THAT I CAN DIVULGE THAT. I
17 CAN TELL YOU IT'S NOT BENZENE OR ANYTHING RELATED
18 TO BENZENE.
19 Q. WHAT'S THE OTHER CASE?
20 A. I WORK AS A CONSULTANT FOR THE ATTORNEY
21 GENERAL FOR THE STATE OF COLORADO ON A CRIMINAL
22 MATTER. IT REMAINS AT THIS POINT CONFIDENTIAL.
23 AND I SERVED AS A CONSULTANT FOR THE AIR FORCE.
24 Q. ANY OF THOSE CASES INVOLVE EXPOSURE TO
25 SOLVENTS?
36

1 A. NO.
2 Q. EXPOSURE TO BENZENE?
3 A. NO.
4 Q. THE CASE THAT YOU'RE INVOLVED IN FOR THE
5 ATTORNEY GENERAL, THAT'S A CRIMINAL MATTER?
6 A. POTENTIALLY.
7 Q. BEING CONTEMPLATED BY THE STATE?
8 A. YES.
9 Q. SO IT'S NOT ACTUALLY AN INDIVIDUAL
10 PLAINTIFF IN A CIVIL LAWSUIT.
11 A. NO.
12 Q. AND THE CASE FOR THE AIR FORCE, THAT IS
13 NOT A CASE OF A CIVIL LAWSUIT BROUGHT BY A
14 PLAINTIFF ALLEGING INJURIES; CORRECT?
15 A. NO.
16 Q. ANY OTHER CASES?
17 A. NOT AT THIS TIME.
18 Q. HAVE YOU EVER CONSULTED ON BEHALF OF A
19 PLAINTIFF WHERE THE ALLEGATION WAS AN INJURY
20 ASSOCIATED WITH BENZENE EXPOSURE?
21 A. NO.
22 Q. IN EVERY -- WELL, LET ME ASK YOU THIS:
23 APPROXIMATELY HOW MANY CASES HAVE YOU CONSULTED IN
24 WHERE THERE WAS -- ONE OF THE ISSUES WAS EXPOSURE
25 TO BENZENE?
37

1 A. I COULDN'T SAY.

2 Q. IS IT MORE THAN TWENTY?

3 A. NO.

4 Q. HOW MANY CASES HAVE YOU CONSULTED IN
5 WHERE ONE OF THE ISSUES WAS EXPOSURE TO
6 CHEMICALS?

7 A. VIRTUALLY ALL OF THEM. I'M A
8 TOXICOLOGIST, THAT'S WHAT I DO.

9 Q. AND IN HOW MANY OF THOSE CASES WERE YOU
10 RETAINED BY A CHEMICAL MANUFACTURER OR OIL
11 COMPANY?

12 A. THAT -- EXCUSE ME, THAT'S THE SAME
13 QUESTION AS BEFORE. I DON'T KNOW THE PRECISE
14 NUMBER. IT'S LESS THAN 20. IT'S PROBABLY MUCH
15 LESS THAN 20 BUT I DON'T KNOW THE PRECISE NUMBER
16 AS I SIT HERE.

17 Q. OTHER THAN THE 1981 OSHA HEARING, HAVE
18 YOU EVER TESTIFIED IN FRONT OF ANY OTHER
19 GOVERNMENTAL BODIES?

20 A. NO.

21 Q. AND THAT INCLUDES THE STATE LEVEL?

22 A. I HAVE SERVED AS A CONSULTANT TO SEVERAL
23 STATES IN THE EPA ON MATTERS RELATED TO EVALUATING
24 CRITERIA FOR STANDARD SETTING AND LITERATURE, BUT
25 I HAVE NOT TESTIFIED.

38

1 Q. DURING WHAT TIME PERIOD HAVE YOU SERVED
2 AS CONSULTANT FOR THE EPA?
3 A. I AM NOW AND CONTINUE TO. I HAVE DONE
4 THIS FOR APPROXIMATELY THE LAST THREE OR FOUR
5 YEARS I GUESS. IT'S -- I THINK IT'S IN MY C.V.
6 Q. AND WHAT IS THE NATURE OF THIS
7 CONSULTATION WORK?
8 A. EVALUATING THE QUALITY OF RESEARCH
9 APPLICATIONS FOR FUNDING BY EPA, EVALUATING THEIR
10 SCIENTIFIC MERIT.
11 Q. AND WHO SPECIFICALLY RETAINED YOU TO DO
12 THAT?
13 A. THE EPA.
14 Q. WHO SPECIFICALLY?
15 A. I COULDN'T TELL YOU SPECIFICALLY.
16 Q. HOW MUCH TIME DO YOU SPEND DOING
17 CONSULTING FOR THE EPA?
18 A. THREE TIMES A YEAR, APPROXIMATELY THREE
19 TO FOUR DAYS A YEAR -- THREE TO FOUR DAYS AT A
20 TIME.
21 MS. EISENSTEIN: AT THIS TIME I'D LIKE TO HAVE
22 THE COURT REPORTER MARK AS PLAINTIFF'S 1
23 DR. IRONS' C.V.
24 MAY WE USE THIS COPY OR DO YOU HAVE
25 OTHERS?
39

1 THE WITNESS: THAT'S FINE WITH ME.
2 (WHEREUPON PLAINTIFF'S EXHIBIT 1 WAS
3 MARKED FOR IDENTIFICATION BY THE REPORTER.)
4 BY MS. EISENSTEIN:
5 Q. WHAT IF ANY ORGANIZATIONS DO YOU BELONG
6 TO WHICH THERE'S AN AFFILIATION WITH THE CHEMICAL
7 AND/OR OIL INDUSTRY?
8 A. ORGANIZATIONS?
9 Q. TRADE ORGANIZATIONS.
10 A. NONE.
11 Q. OTHER THAN THE JOB THAT YOU HAD FROM '77
12 TO '88, HAVE YOU HAD ANY OTHER JOBS WHERE YOU'VE
13 BEEN EMPLOYED BY A CHEMICAL OR OIL COMPANY?
14 MR. JANSSEN: WELL, WAIT A SECOND, I OBJECT TO
15 THE FORM OF THAT QUESTION. THE JOB THAT HE HAD IN
16 1977 AND 1978 WAS NOT ONE IN WHICH HE WAS EMPLOYED
17 BY THE OIL OR CHEMICAL COMPANY.
18 MS. EISENSTEIN: FORGIVE ME. I'LL WITHDRAW
19 THE QUESTION.
20 Q. HAVE YOU HAD ANY JOBS WHERE YOU'VE BEEN
21 DIRECTLY EMPLOYED -- OTHER THAN FOR THIS LEGAL
22 WORK WE'VE BEEN DISCUSSING TODAY -- BY A CHEMICAL
23 OR OIL COMPANY?
24 A. NO.
25 Q. HAVE YOU EVER BEEN CONTACTED DIRECTLY BY
40

1 ANY COMPANY AT ALL AND ASKED TO DO SPECIFIC
2 STUDIES FOR THEM?
3 A. YOU MEAN ON A CONTRACTUAL BASIS?
4 Q. ON ANY BASIS.
5 MR. MORI: I'LL OBJECT, VAGUE AND AMBIGUOUS.
6 THE WITNESS: I'M NOT QUITE SURE WHAT YOU
7 MEAN.
8 BY MS. EISENSTEIN:
9 Q. HAS ANYONE EVER APPROACHED YOU THAT YOU
10 BELIEVED REPRESENTED A CHEMICAL OR OIL COMPANY AND
11 SAID, "WE ARE INTERESTED IN YOUR DOING A STUDY ON
12 SUCH AND SUCH"?
13 A. YES.
14 Q. AND WHEN WAS THE FIRST TIME THAT
15 OCCURRED?
16 A. IN 1989.
17 Q. AND WHO APPROACHED YOU?
18 A. THE AMERICAN PETROLEUM INSTITUTE.
19 Q. AND WHO SPECIFICALLY CONTACTED YOU?
20 A. VARIETY OF INDIVIDUALS-WHO ARE
21 REPRESENTATIVES OF THE API, NO ONE SINGLE
22 INDIVIDUAL.
23 Q. WHAT IS API?
24 A. AMERICAN PETROLEUM INSTITUTE.
25 Q. AND DO YOU UNDERSTAND WHAT THEIR FUNCTION
41

1 IS?
2 A. YES, THEY ARE A -- AS I UNDERSTAND IT, A
3 TRADE ORGANIZATION.
4 Q. FOR THE PETROLEUM INDUSTRY?
5 A. YES.
6 Q. AND DID YOU HAVE A MEETING WITH THEM?
7 A. YES.
8 Q. HOW MANY MEETINGS?
9 A. TWO OR THREE.
10 Q. AND WHAT WAS DISCUSSED AT THOSE
11 MEETINGS?
12 A. POTENTIAL RESEARCH ON MECHANISMS OF BONE
13 MARROW TOXICITY ASSOCIATED WITH CHEMICAL
14 EXPOSURE.
15 Q. WHAT SPECIFICALLY WERE YOU ASKED TO DO?
16 A. WELL, BASICALLY THEY WERE ASKING WHETHER
17 OR NOT I WOULD BE WILLING TO CONTINUE STUDIES
18 LOOKING AT THE MECHANISMS OF BENZENE TOXICITY ON
19 THE BLOOD AND BONE MARROW.
20 Q. AND WHAT WAS YOUR RESPONSE?
21 A. YES, THAT'S ONE OF MY MAIN AREAS OF
22 RESEARCH.
23 Q. DID THE ISSUE OF FUNDING COME UP?
24 A. YES.
25 Q. AND WHAT WAS DISCUSSED IN REGARDS TO
42

1 FUNDING?
2 A. WHETHER OR NOT THEY WOULD BE WILLING TO
3 PROVIDE A GRANT TO CONDUCT THOSE STUDIES.
4 Q. AND DID THEY EXPRESS A WILLINGNESS TO
5 PROVIDE A GRANT FOR YOU TO CONDUCT THOSE STUDIES?
6 A. YES.
7 Q. AND HOW MUCH IS THAT GRANT?
8 A. IT -- I DON'T KNOW WHAT IT'S LIKELY TO BE
9 THIS YEAR. LAST YEAR IT WAS ON THE ORDER OF
10 200 -- ABOUT \$240,000.
11 Q. MADE PAYABLE TO WHO?
12 A. UNIVERSITY OF COLORADO.
13 Q. DO YOU RECEIVE A SALARY FROM THE
14 UNIVERSITY OF COLORADO?
15 A. YES.
16 Q. AND IS THAT A FIXED SALARY?
17 A. YES.
18 Q. DO YOU RECEIVE ANY PORTION OF THE GRANT
19 MONEY FROM THE AMERICAN PETROLEUM INSTITUTE
20 DIRECTLY?
21 A. NO.
22 Q. HOW ABOUT INDIRECTLY?
23 MR. MORI: I'LL OBJECT, VAGUE AND AMBIGUOUS.
24 THE WITNESS: COULD YOU CLARIFY THAT? I'M NOT
25 SURE WHAT YOU MEAN. I'M PAID A SALARY BY THE
43

1 UNIVERSITY OF COLORADO. 2 BY MS. EISENSTEIN:
3 Q. WHAT IS YOUR UNDERSTANDING OF HOW THAT
4 \$240,000 IS OR WAS SPENT?
5 A. IT'S SPENT ON RESEARCH.
6 Q. IS IT SPENT ON YOUR RESEARCH?
7 A. YES.
8 Q. ALL RIGHT. AND DO YOU ANTICIPATE
9 RECEIVING A GRANT AGAIN THIS YEAR FROM THE
10 AMERICAN PETROLEUM INSTITUTE?
11 A. YES.
12 Q. AND DO YOU KNOW HOW MUCH THAT GRANT WILL
13 BE?
14 A. IT SHOULD BE IN THE SAME GENERAL AREA.
15 Q. HOW LONG DO YOU ANTICIPATE THIS RESEARCH
16 TAKING?
17 A. ANOTHER THREE YEARS.
18 Q. DO YOU ANTICIPATE RECEIVING A GRANT EACH
19 YEAR FOR YOUR WORK?
20 A. YES.
21 Q. OTHER THAN THIS OCCASION WHERE YOU WERE
22 APPROACHED BY THE AMERICAN PETROLEUM INSTITUTE TO
23 DO RESEARCH, HAVE YOU EVER BEEN APPROACHED BY ANY
24 OTHER TRADE ORGANIZATION OR COMPANY AND ASKED TO
25 DO SPECIFIC RESEARCH?
44

1 A. NO.
2 Q. THIS RESEARCH THAT YOU'RE DOING FOR THE
3 AMERICAN PETROLEUM INSTITUTE, DO YOU COMMUNICATE
4 WITH THEM ON A REGULAR BASIS TO TELL THEM ABOUT
5 YOUR FINDINGS?
6 A. ONCE A YEAR.
7 Q. AND HOW IS THAT COMMUNICATION MADE?
8 A. BASICALLY IN A PRESENTATION.
9 Q. IS THERE A WRITTEN COMMENT THAT YOU
10 SUBMIT TO THEM?
11 A. NO.
12 Q. WHO IS PRESENT AT THE PRESENTATION?
13 A. MEMBERS OF WHAT I BELIEVE THEY CALL THE
14 STEERING COMMITTEE FOR BENZENE RESEARCH.
15 Q. DO YOU HAVE ANY PRELIMINARY CONCLUSIONS
16 ON THE WORK THAT YOU'VE DONE FOR THEM SO FAR?
17 A. AT THIS POINT IT'S FAR TOO EARLY TO
18 COMMENT ON THOSE. I HAVE NOTHING READY FOR
19 PUBLICATION.
20 Q. I UNDERSTAND. WHAT SPECIFICALLY ARE YOU
21 RESEARCHING?
22 A. THE MECHANISMS WHEREBY HEMATOPOIETIC STEM
23 CELLS ARE REGULATED, AND HOW THOSE -- HOW THAT
24 REGULATION MAY BE ALTERED FOLLOWING EXPOSURE TO
25 METABOLITES OF BENZENE.
45

1 Q. ARE YOU DOING ANY WORK ON THE LEVEL OF
2 EXPOSURE THAT WOULD CAUSE A CHANGE, CELLULAR
3 CHANGE?
4 A. NOT DIRECTLY.
5 Q. ARE YOU DOING THAT WORK INDIRECTLY?
6 A. WELL, INDIRECTLY IN THE SENSE THAT IN
7 QUANTITATING THE EFFECTS THAT METABOLITES HAVE ON
8 THOSE CELLS, SO IN A VERY INDIRECT WAY, YES.
9 Q. DO YOU HAVE A CONTRACT WITH THEM, WRITTEN
10 CONTRACT?
11 A. NO. I HAVE A GRANT.
12 Q. AND IS THE GRANT IN WRITTEN FORM?
13 A. I THINK WE HAVE A LETTER OF AGREEMENT.
14 Q. WHERE IS THAT LETTER OF AGREEMENT
15 MAINTAINED?
16 A. I HAVE IT.
17 MS. EISENSTEIN: I'M GOING TO REQUEST,
18 COUNSEL, AT THIS TIME A COPY OF THAT LETTER OF
19 AGREEMENT. I THINK IT BEARS DIRECTLY ON THIS
20 WITNESS' BIAS.
21 ARE YOU AGREEING TO PRODUCE IT?
22 MR. JANSSEN: NO, BUT I'M NOTING YOUR
23 REQUEST.
24 BY MS. EISENSTEIN:
25 Q. IN THAT LETTER OF AGREEMENT, DOES IT
46

1 STATE THE TERMS OF THE GRANT?
2 A. SUCH THAT -- SUCH AS THEY ARE, YES.
3 Q. DO YOU HAVE AN UNDERSTANDING AS TO
4 WHETHER YOU WILL DRAFT A FINAL PAPER AS A RESULT
5 OF THIS RESEARCH?
6 A. THE WHOLE FIELD OF RESEARCH, CERTAINLY
7 MEDICAL RESEARCH, INVOLVES PUBLISHING. THAT'S
8 WHAT ONE DOES. BASICALLY ONE HAS NOT COMMUNICATED
9 OR EFFECTIVELY CONTRIBUTED TO SCIENCE UNLESS ONE
10 PUBLISHES.
11 THE BASIC UNWRITTEN UNDERSTANDING IS THAT
12 THE WORK WE WILL DO WILL BE PUBLISHED IN PEER
13 REVIEWED LITERATURE WHEN IT IS IN A FORM THAT
14 WOULD SUPPORT THAT.
15 Q. DO YOU INTEND TO SUBMIT YOUR PAPER WHEN
16 IT IS READY TO THE AMERICAN PETROLEUM INSTITUTE
17 PRIOR TO PUBLICATION?
18 A. THEY CERTAINLY IN THE COURSE OF THE
19 DISCUSSIONS WE HAVE ANNUALLY WILL BE APPRISED OF
20 WHAT WE'RE DOING, AND I THINK CONTINGENT WITH
21 SUBMISSION FOR PUBLICATION WE WOULD ALLOW THEM TO
22 REVIEW IT, YES.
23 Q. PRIOR TO PUBLICATION?
24 A. YES. THAT IS COMMON PRACTICE WITH ANY
25 GRANTING INSTITUTION.
47

1 Q. DO THEY HAVE THE RIGHT TO DETERMINE
2 WHETHER OR NOT IT WILL ULTIMATELY BE PUBLISHED?
3 A. ABSOLUTELY NOT. THAT'S MY RIGHT
4 TOTALLY.
5 Q. OTHER THAN THIS GRANT FROM THE AMERICAN
6 PETROLEUM INSTITUTE, HAVE YOU RECEIVED ANY OTHER
7 GRANTS FOR RESEARCH FROM ANY CHEMICAL OR PETROLEUM
8 ORGANIZATION?
9 A. NO.
10 Q. HOW ABOUT ANY COMPANIES SPECIFICALLY?
11 A. COMPANIES, NO.
12 Q. HOW ABOUT ANY COMPANY AT ALL? HAVE YOU
13 EVER RECEIVED -- LET ME STRIKE THAT. ANY TRADE
14 ORGANIZATION?
15 A. I HAVE OTHER RESEARCH GRANTS. THEY
16 INCLUDE RESEARCH SUPPORT AND EQUIPMENT FUNDS FROM
17 THE UNIVERSITY -- OR FROM THE STATE OF COLORADO
18 AND THE UNIVERSITY, AND I HAVE A GRANT FROM THE
19 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION TO
20 STUDY POTENTIAL EFFECTS ON THE BONE MARROW AND
21 IMMUNE SYSTEMS ASSOCIATED WITH EXTENDED SPACE
22 FLIGHT AND REGULATION OF HEMATOPOIESIS IN A LOW
23 GRAVITY ENVIRONMENT.
24 Q. ANY OTHER GRANTS?
25 A. AT THE TIME -- AT THE PRESENT TIME I HAVE

48

1 ANOTHER GRANT PENDING BEFORE THE NATIONAL
2 INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES. OTHER
3 THAN THAT, NONE.

4 Q. HAVE YOU DONE ANY CONSULTATION WORK IN
5 THE AREA OF WORKMEN'S COMPENSATION?

6 A. YES.

7 Q. AND WHAT TYPE OF CONSULTATION WORK HAS
8 THAT BEEN?

9 A. THAT'S THE PLAINTIFF'S CASE THAT I
10 REFERRED TO EARLIER.

11 Q. ANYTHING OTHER THAN THAT?

12 A. NOT THAT I KNOW OF. I WILL CONFESS
13 CONSIDERABLE IGNORANCE WITH RESPECT TO LEGAL
14 FORMALITY, SO IF IN FACT I AM CONSULTING IN A -
15 IN ANY OTHER WORKMEN'S COMPENSATION CASE, I DON'T
16 KNOW.

17 Q. WHEN WAS THE FIRST TIME YOU WERE
18 CONTACTED REGARDING THE BUCHAJ CASE?

19 A. I BELIEVE BUCHAJ, MR. JANSSEN CONTACTED
20 ME IN MARCH OR APRIL OF LAST YEAR.

21 Q. AND DID HE TELL YOU HOW HE HAD-BECOME
22 AWARE OF YOUR WORK?

23 A. YES, HE DID AS A MATTER OF FACT.

24 Q. AND WHAT DID HE SAY?

25 A. HE SAID SOME TIME AGO THAT HE HAD DONE A

1 SEARCH, LIBRARY LITERATURE SEARCH, AND HAD FOUND
2 MY NAME; AND MORE RECENTLY HE'D REVIEWED A
3 DEPOSITION BY DR. DANIEL TEITELBAUM IN WHICH
4 DR. TEITELBAUM SAID I WAS DOING INTERESTING WORK
5 IN THE AREA, AND THEREFORE HE CALLED ME AND ASKED
6 ME WHETHER I'D REVIEW SOME MATERIAL, AND LATER WE
7 MET.

8 Q. LET ME JUST VEER OFF INTO ANOTHER
9 DIRECTION FOR A MOMENT. HAVE YOU EVER SPOKEN TO A
10 GROUP OF INDIVIDUALS, LIKE DONE PUBLIC SPEAKING
11 FOR A GROUP IN WHICH YOU KNEW THAT THERE WERE
12 MEMBERS OF THE PETROLEUM INDUSTRY IN THE
13 AUDIENCE?

14 A. SURE.

15 Q. ON HOW MANY OCCASIONS?

16 A. INNUMERABLE.

17 Q. WHAT DOES THAT MEAN?

18 A. I'M A MEMBER OF THE SOCIETY OF
19 TOXICOLOGY. I'VE GIVEN NUMEROUS SYMPOSIA
20 PRESENTATIONS, LECTURES, ABSTRACTS, TALKS OF
21 VARIOUS TYPES.
22 THE SOCIETY OF TOXICOLOGY IS MADE UP OF
23 TOXICOLOGISTS FROM GOVERNMENT ACADEMIA, INDUSTRY,
24 PRIVATE SECTOR, CONSULTING.
25 I'VE GIVEN LECTURES AND TALKS ON TOXICITY
50

1 OF THE BLOOD AND BONE MARROW ON A VARIETY OF
2 OCCASIONS IN VARIOUS PLACES FOR VARIOUS REASONS,
3 AND I'M POSITIVE THAT -- I'M CERTAIN THAT THERE
4 HAVE BEEN REPRESENTATIVES OF THE CHEMICAL INDUSTRY
5 PRESENT AT THOSE TALKS.

6 Q. HAVE YOU EVER BEEN ASKED SPECIFICALLY TO
7 GIVE A PRESENTATION TO ANY PETROLEUM OR CHEMICAL
8 INDUSTRY MEETINGS?

9 A. I BELIEVE I HAVE. OCCASIONALLY THE
10 AMERICAN PETROLEUM INSTITUTE, THE CHEMICAL
11 MANUFACTURERS ASSOCIATION, OCCASIONALLY THE
12 HEALTH -- I BELIEVE IT'S THE HEALTH EFFECTS
13 INSTITUTE. I'M NOT SURE ABOUT THE NAME.
14 VARIOUS ORGANIZATIONS LIKE THIS HAVE
15 SYMPOSIA OR MEETINGS USUALLY DEALING WITH AREAS
16 SUCH AS RISK ASSESSMENT OR TOXICOLOGY, AND I HAVE
17 BEEN ASKED TO PRESENT AT THOSE ON OCCASION.

18 Q. AND HAVE YOU BEEN PAID FOR THE
19 PRESENTATIONS?

20 A. NO.

21 Q. NEVER?

22 A. I DON'T BELIEVE SO. I MIGHT HAVE
23 RECEIVED \$100 AT ONE POINT FOR SOMETHING AS AN
24 HONORARIA, BUT I CAN'T RECALL SPECIFICALLY.

25 Q. YOUR EXPENSES PAID?

51

1 A. YES. USUALLY.

2 Q. OKAY.

3 A. SOME OF THOSE MEETINGS ARE COSPONSORED
4 BY GOVERNMENT, SOME ARE BASICALLY JOINT REGULATORY
5 AGENCY AND INDUSTRY SPONSORED CONFERENCES.

6 Q. WHEN YOU MET WITH MR. JANSSEN IN MARCH
7 OF -- OR APRIL OF -- WAS IT LAST YEAR OR THIS
8 YEAR?

9 A. THIS YEAR.

10 Q. HOW LONG A TIME DID YOU SPEND TOGETHER?

11 A. I BELIEVE IT WAS A COUPLE OF HOURS. IT
12 WAS AT THE AIRPORT.

13 Q. AND WHAT WAS DISCUSSED AT THAT TIME?

14 A. BASICALLY MR. JANSSEN INTRODUCED THE
15 BUCHAJ CASE, GAVE ME SOME MATERIALS TO READ, AND
16 ASKED ME TO RENDER AN OPINION.

17 Q. WHAT MATERIALS WERE YOU GIVEN AT THAT
18 TIME?

19 A. I BELIEVE THE MEDICAL RECORDS OF
20 MR. BUCHAJ, I THINK THAT WAS WHAT I RECEIVED, THE
21 MEDICAL RECORDS, AND THEN I CONDUCTED MY OWN
22 SEARCH OF THE LITERATURE.

23 Q. WHEN WAS YOUR NEXT CONTACT WITH ANYONE
24 FROM THIS OFFICE REGARDING THIS CASE?

25 A. I BELIEVE IT WAS PROBABLY A TELEPHONE

52

1 CONVERSATION WITH MR. JANSSEN SOMETIME IN MAY OR
2 JUNE AS I RECALL.

3 Q. AND WHAT OCCURRED DURING THAT
4 CONVERSATION?

5 A. I THINK AT THAT POINT I GAVE HIM MY
6 OPINION AND THE BASIS FOR THAT OPINION.

7 Q. AND WHAT WAS THE OPINION YOU GAVE AT THAT
8 TIME?

9 A. BASICALLY TWO: ONE, THAT THERE IS NO
10 CONSISTENT OR RELIABLE EVIDENCE THAT WOULD
11 ASSOCIATE CLL WITH BENZENE EXPOSURE, AND IN FACT
12 THERE IS NO AGENT KNOWN TO CAUSE CLL.

13 AND THE OTHER IS THAT BASED ON AN
14 EVALUATION OF THE KINETICS AND DOUBLING TIME FOR
15 CLL, WHICH IS WELL CHARACTERIZED AND DESCRIBED IN
16 THE LITERATURE, I FELT THAT IT WAS IMPOSSIBLE THAT
17 MR. BUCHAJ'S DISEASE WAS INITIATED DURING HIS
18 EMPLOYMENT WITH TEXAS MOTOR FREIGHT.

19 MR. JANSSEN: HELEN, MIGHT THIS BE A GOOD
20 PLACE TO STOP? WE'VE BEEN AT IT FOR OVER AN HOUR,
21 AND LET'S TAKE ABOUT A FIVE TO TEN-MINUTE BREAK
22 AND THEN CONTINUE

23 MS. EISENSTEIN: FINE.

24 (A RECESS WAS TAKEN.)

25

53

1 BY MS. EISENSTEIN:

2 Q. DOCTOR, I BELIEVE THAT YOU HAD JUST
3 EXPRESSED THE TWO OPINIONS THAT YOU GAVE
4 MR. JANSSEN REGARDING THIS CASE ON THE SECOND
5 OCCASION THAT YOU MET OUT AT THE AIRPORT; IS THAT
6 CORRECT?

7 A. AS I RECALL, I MAY HAVE DONE THAT OVER
8 THE PHONE. WHEN WE FIRST MET I THINK HE DESCRIBED
9 THE CASE TO ME AND THEN I RECEIVED THE MEDICAL
10 RECORDS, AND I THINK THAT I PROBABLY RENDERED MY
11 OPINION TO HIM OVER THE PHONE.

12 Q. AFTER REVIEWING THE MEDICAL RECORDS?

13 A. YES.

14 Q. ANY OTHER REVIEW AFTER THAT? I'M SORRY,
15 THAT'S NOT CLEAR.

16 OTHER THAN REVIEWING THE MEDICAL RECORDS,
17 WHAT OTHER MATERIAL DID YOU REVIEW BEFORE GIVING
18 HIM THOSE TWO OPINIONS?

19 A. THE LITERATURE ON CLL, BOTH THE
20 EPIDEMIOLOGY AS WELL AS THE BENZENE LITERATURE.

21 Q. DO YOU MEAN EPIDEMIOLOGY REGARDING CLL?

22 A. CLL.

23 Q. AND THE EPIDEMIOLOGY REGARDING BENZENE
24 EXPOSURE?

25 A. BENZENE.

54

1 Q. ANY OTHER LITERATURE?

2 A. THE HEMATOLOGY LITERATURE.

3 Q. WHEN YOU SAY HEMATOLOGY LITERATURE, WHAT
4 ARE YOU REFERRING TO?

5 A. THE LITERATURE -- HEMATOLOGY IS THE STUDY
6 OF DISEASES OF THE BLOOD, BOTH NORMAL FUNCTION AND
7 THE DISEASES OF THE BLOOD. IT'S NOT ALWAYS
8 EPIDEMIOLOGY.

9 SOME OF IT DEALS WITH MECHANISM AND/OR
10 LABORATORY TECHNOLOGY AND VARIOUS OTHER SUBJECTS
11 THAT DEAL WITH THE SUBJECT OF HEMATOLOGY. SO I
12 REVIEWED THAT LITERATURE AS WELL.

13 Q. WHAT SPECIFIC HEMATOLOGY LITERATURE DID
14 YOU REVIEW?

15 A. I PREPARED A BINDER FOR YOU THAT HAS THE
16 ARTICLES THAT I FEEL ARE RELEVANT TO THIS CASE.
17 IN ADDITION TO THAT I REVIEW A NUMBER OF TEXTBOOKS
18 WHICH I DO IN THE COURSE OF MY NORMAL ACTIVITIES.

19 Q. THE BINDER THAT YOU'RE REFERRING TO, IS
20 IT THIS BLUE BINDER THAT I'M HOLDING?

21 A. YES.

22 Q. ALL RIGHT. ARE THE ARTICLES CONTAINED IN
23 THIS BINDER ARTICLES THAT YOU PUT TOGETHER THAT
24 YOU'VE RELIED UPON IN RENDERING YOUR OPINION IN
25 THIS CASE?

55

1 A. YES.
2 Q. ARE THERE ANY ARTICLES THAT YOU HAVE
3 RELIED UPON SPECIFICALLY THAT COME TO MIND TODAY
4 THAT ARE NOT IN THIS BINDER?
5 A. JANDL'S TEXTBOOK OF HEMATOLOGY WOULD BE
6 ONE.
7 Q. -ANY PARTICULAR CHAPTER?
8 A. CERTAINLY THE CHAPTER ON CHRONIC
9 LYMPHOCYTIC LEUKEMIA.
10 Q. CAN YOU SPELL JANDL, PLEASE?
11 A. J-A-N-D-L.
12 Q. ANY OTHER MATERIAL THAT YOU RELY UPON
13 OTHER THAN THAT TEXTBOOK AND THE BLUE BINDER IN
14 FRONT OF US TODAY?
15 A. THE LITERATURE IN GENERAL, BUT
16 SPECIFICALLY THE ARTICLES THAT ARE THERE. I
17 DIDN'T BRING MY ENTIRE FILE ON THE SUBJECT OF
18 BENZENE TOXICITY OR IT WOULD FILL THE ROOM.
19 Q. DID YOU PICK OUT THE ARTICLES THAT YOU
20 THOUGHT WERE MOST SALIENT?
21 A. YES.
22 Q. ARE THERE ANY ARTICLES SPECIFICALLY THAT
23 YOU CAN THINK OF AS YOU SIT HERE TODAY THAT YOU
24 WILL BE RELYING UPON AT THE TIME OF TRIAL THAT YOU
25 DID NOT BRING WITH YOU?
56

1 A. IT DEPENDS ON THE NATURE OF THE
2 QUESTIONING AND WHAT I'M ASKED. IF I'M ASKED
3 QUESTIONS THAT REQUIRE ME TO RELY ON OTHER
4 INFORMATION THAT I AM AWARE OF, I WILL DO SO, BUT
5 IN THE ABSENCE OF THAT I WILL RELY ON THE ARTICLES
6 THAT I BROUGHT WITH ME.

7 Q. YOU'VE EXPRESSED TWO OPINIONS SO FAR
8 TODAY; CORRECT?

9 A. YES.

10 Q. FOR THOSE TWO OPINIONS DO YOU RELY UPON
11 THE INFORMATION THAT YOU'VE PROVIDED HERE IN THE
12 BINDER AND JANDL'S TEXTBOOK AND POLLIACK AND
13 CATOVSKY'S TEXTBOOK?

14 A. YES.

15 Q. AS YOU SIT HERE TODAY, ARE THERE ANY
16 OTHER SPECIFIC MATERIALS THAT COME TO MIND FOR
17 THOSE TWO OPINIONS THAT YOU WILL BE RELYING UPON
18 THAT YOU HAVEN'T PROVIDED US EITHER BY NAME OR THE
19 ACTUAL DOCUMENTS?

20 A. NO.

21 MS. EISENSTEIN: AT A CONVENIENT POINT I'M
22 GOING TO ASK THE COURT REPORTER TO MARK THESE
23 ARTICLES AS PLAINTIFF'S 2, THE ARTICLES IN THE
24 BINDER, UNLESS THESE ARE THE EXACT SAME ARTICLES
25 THAT WE MARKED YESTERDAY.

57

1 WOULD YOU HAVE ANY WAY OF KNOWING,
2 LARRY?
3 MR. JANSSEN: YOU I BELIEVE ALREADY HAVE ALL
4 OF THOSE ARTICLES, BUT I DO NOT WANT YOU TO RELY
5 ON THAT REPRESENTATION BECAUSE I HAVE NOT CROSS
6 REFERENCED THEM.
7 BUT, AS BETWEEN TEITELBAUM, WOLIN,
8 DAHLGREN, KEATING AND NOW IRONS, I THINK YOU'RE
9 JUST DUPLICATING ARTICLES YOU ALREADY HAVE.
10 MS. EISENSTEIN: LET'S HOLD OFF ON MARKING IT,
11 I MAY JUST ATTACH A BIBLIOGRAPHY OF THESE OR A
12 LIST OF THESE.
13 Q. AFTER RENDERING THOSE TWO OPINIONS EITHER
14 PERSONALLY OR OVER THE PHONE TO MR. JANSSEN, DID
15 YOU HAVE ANOTHER MEETING WITH HIM?
16 A. YES.
17 Q. AND WHEN WAS THAT?
18 A. I BELIEVE OUR NEXT MEETING WAS IN EARLY
19 NOVEMBER OF THIS YEAR.
20 Q. WHO WAS PRESENT AT THAT MEETING?
21 A. MYSELF, MR. JANSSEN, MR. RIFE,
22 DR. KEATING AND DR. WILSON.
23 Q. WHAT WAS THE PURPOSE OF THAT MEETING?
24 A. IT WAS BASICALLY AN EXCHANGE OF VIEWS AND
25 PERSPECTIVES FROM THE THREE OF US PRESENT, AND I
58

1 THINK IN LARGE PART IT WAS A EDUCATION SESSION FOR
2 MR. JANSSEN.

3 Q. AND WHAT SPECIFICALLY WAS DISCUSSED AT
4 THAT TIME?

5 A. THE NATURE OF CLL, ITS -- WHAT'S KNOWN
6 ABOUT HOW IT BEGINS, HOW IT PROGRESSES, THE
7 RELATIONSHIP IF ANY BETWEEN EXPOSURE TO VARIOUS
8 AGENTS AND CLL, AND THAT WAS BASICALLY IT.

9 Q. DID YOU DO A PRESENTATION FOR THE GROUP
10 AT THAT MEETING?

11 A. PRESENTATION? YES, I BELIEVE SO.

12 Q. AND WHAT WAS THE NATURE OF THAT
13 PRESENTATION?

14 A. JUST SIMPLY MY PRELIMINARY EVALUATION OF
15 THE CELL KINETICS ASSOCIATED WITH MR. BUCHAJ'S
16 CLL.

17 Q. AND WAS THAT THE SAME DISCUSSION THAT YOU
18 HAD EARLIER WITH MR. JANSSEN REGARDING THE OPINION
19 OF CELL KINETICS IN THIS CASE?

20 A. YES.

21 Q. DID IT CHANGE IN ANY WAY FROM THE FIRST
22 TIME YOU DISCUSSED IT WITH HIM TO THE SECOND TIME
23 YOU DISCUSSED IT WITH THE GROUP?

24 A. I THINK IT WAS SLIGHTLY MORE DETAILED. I
25 WAS PRESENTING IT IN A MEETING WITH PEERS SO IT

59

1 WAS A LITTLE BIT MORE SOPHISTICATED.
2 Q. OKAY.
3 MR. JANSSEN: WAIT A SECOND. I DON'T KNOW HOW
4 TO TAKE THAT, DOCTOR.
5 MS. EISENSTEIN: THAT'S JUST REALITY.
6 Q. HAVE YOU HAD ANY OTHER COMMUNICATIONS
7 REGARDING~THIS CASE OTHER THAN THOSE YOU'VE
8 DESCRIBED?
9 A. YES. I MET BRIEFLY WITH MR. JANSSEN, I
10 THINK IT WAS THE WEEK FOLLOWING, IT WAS EITHER THE
11 WEEK FOLLOWING OR THE WEEK AFTER THAT.
12 Q. WHAT WAS DISCUSSED AT THAT TIME?
13 A. THE DATE FOR THIS PARTICULAR DEPOSITION
14 AS WELL AS DISCUSSION OF THE CELL KINETIC DOUBLING
15 TIME ANALYSIS THAT I PERFORMED.
16 Q. YOU'VE SAID THAT THREE TIMES AND YOU
17 UNDERSTAND THE TOPIC. YOU SHOULD UNDERSTAND IT BY
18 NOW.
19 MR. JANSSEN: I'M A SLOW LEARNER.
20 MS. EISENSTEIN: I UNDERSTAND.
21 Q. HOW MANY HOURS HAVE YOU PUT INTO THIS
22 CASE, APPROXIMATELY, SO FAR?
23 A. BETWEEN FOUR AND AND FIVE DAYS. BETWEEN
24 30 AND 40 HOURS.
25 Q. DO YOU INTEND TO DO ANY MORE WORK ON THIS
60

1 CASE, UNSOLICITED, PRIOR TO TRIAL?
2 A. IN ALL LIKELIHOOD, YES.
3 Q. AND WHAT WORK WOULD THAT BE?
4 A. JUST REVIEWING THE MATERIALS THAT I
5 BROUGHT WITH ME TODAY.
6 Q. WHAT IS YOUR FEE TO MR. JANSSEN'S
7 OFFICE? .OR HIS CLIENT?
8 A. \$300 AN HOUR.
9 Q. ALL RIGHT. OTHER THAN REVIEWING THE
10 MATERIALS THAT YOU'VE ALREADY DISCUSSED HERE
11 TODAY, DO YOU INTEND TO REVIEW NEW MATERIALS?
12 UNSOLICITED?
13 A. NO.
14 Q. OKAY. WHEN WERE YOU GIVEN THE DEPOSITION
15 OF MR. BUCHAJ?
16 A. IT WAS EITHER IN AUGUST OR IT WAS IN
17 NOVEMBER.
18 Q: WHEN WERE YOU GIVEN THE DEPOSITION OF
19 MR. LARSON?
20 A. SAME TIME.
21 Q. HAVE YOU READ THOSE DEPOSITIONS?
22 A. YES, I HAVE.
23 Q. WHEN DID YOU RECEIVE DR. WOLIN'S
24 DEPOSITION?
25 A. I'M NOT CERTAIN. SHORTLY AFTER IT WAS
61

1 TAKEN.
2 Q. WOULD THE SAME BE TRUE FOR
3 DR. TEITELBAUM'S?
4 A. YES.
5 Q. THE TWO OPINIONS THAT YOU EXPRESSED
6 EARLIER, ARE THOSE STILL YOUR OPINIONS IN THIS
7 CASE?
8 A. YES, THEY ARE.
9 Q. OKAY. HAVE YOU ANY OTHER OPINIONS THAT
10 YOU INTEND TO EXPRESS AT THE TIME OF TRIAL
11 REGARDING THIS CASE? OTHER THAN THE TWO YOU'VE
12 ALREADY MENTIONED, THAT YOU'RE AWARE OF.
13 A. NOT THAT I'M AWARE OF, NO.
14 Q. OKAY.
15 IS YOUR FIRST OPINION THAT THERE'S NO
16 CONSISTENT EVIDENCE ASSOCIATING CLL WITH BENZENE
17 EXPOSURE?
18 A. YES.
19 Q. AND WHAT DO YOU BASE THAT UPON?
20 A. THE EPIDEMIOLOGY, THE LITERATURE
21 ASSOCIATED WITH LYMPHOID NEOPLASMS IN GENERAL AND
22 CLL IN PARTICULAR.
23 Q. IS IT YOUR TESTIMONY TODAY THAT THERE IS
24 NO EPIDEMIOLOGICAL LITERATURE THAT YOU CONSIDER
25 RELIABLE WHICH MAKES AN ASSOCIATION BETWEEN CLL
62

1 AND BENZENE EXPOSURE?

2 A. THERE WAS A STUDY DONE BY MCMICHAELS,
3 ET AL., IN THE RUBBER INDUSTRY, INITIALLY IN I
4 BELIEVE IT'S 1982, WHICH SUGGESTED THAT THERE
5 MIGHT IN FACT BE SUCH A RELATIONSHIP.
6 HOWEVER, FURTHER STUDIES BY THE SAME
7 GROUP IN-THE SAME POPULATION DOING A MUCH MORE
8 EXTENSIVE JOB OF EVALUATING THE EXPOSURE SCENARIOS
9 THAT EXIST IN THE RUBBER INDUSTRY CAME TO QUITE
10 THE OPPOSITE CONCLUSION, THAT IN FACT LYMPHOID
11 NEOPLASMS AND CLL IN PARTICULAR WERE NOT
12 ASSOCIATED WITH BENZENE EXPOSURE.

13 Q. AND SPECIFICALLY WHAT STUDY ARE YOU
14 REFERRING TO?

15 A. THE TWO, THE TWO MOST SALIENT STUDIES ARE
16 WILCOSKY, ET AL., AND CHECKOWAY, ET AL., BOTH OF
17 WHICH WERE PUBLISHED IN 1984.

18 Q. AND IS IT YOUR TESTIMONY AS YOU SIT HERE
19 TODAY THAT THOSE TWO STUDIES NEGATE A FINDING OR A
20 SUGGESTION THAT WAS FOUND IN 1982 IN MCMICHAEL'S
21 RUBBER INDUSTRY STUDY OF AN ASSOCIATION BETWEEN
22 BENZENE EXPOSURE AND CLL?

23 A. YES. THE MCMICHAELS STUDY IS -- THE
24 EXPOSURES ARE ILL DEFINED. HE REALLY DIDN'T MAKE
25 AN EFFORT TO DO AN EXTENSIVE EVALUATION OF THE

63

1 EXPOSURE, WHICH IN THE RUBBER INDUSTRY IS
2 INCREDIBLY COMPLICATED.
3 THE NEXT TWO FOLLOW-UP STUDIES DID
4 PRECISELY THAT, CASE CONTROL STUDIES, AND IN FACT
5 DEMONSTRATED THAT THERE WAS NO ASSOCIATION BETWEEN
6 BENZENE EXPOSURE AND THE ELEVATIONS IN CLL.
7 Q. .OTHER THAN MCMICHAEL'S 1982 STUDY IN THE
8 RUBBER INDUSTRY, HAVE YOU EVER SEEN ANY OTHER
9 LITERATURE THAT SUGGESTED AN ASSOCIATION BETWEEN
10 CLL AND BENZENE EXPOSURE?
11 MR. JANSSEN: WAIT A MINUTE. I OBJECT TO THE
12 FORM OF THE QUESTION IN THAT THE WORD "LITERATURE"
13 IS VAGUE AND UNDEFINED.
14 GO AHEAD AND ANSWER IF YOU CAN, DOCTOR.
15 THE WITNESS: AKSOY IN HIS STUDIES SUGGESTS A
16 RELATIONSHIP BUT HIS OWN DATA NEGATES THAT
17 RELATIONSHIP. HE SHOWS A MUCH STRONGER
18 ASSOCIATION BETWEEN UNEXPOSED WORKERS AND CLL THAN
19 HE DOES FOR INDIVIDUALS EXPOSED TO BENZENE.
20 BY MS. EISENSTEIN:
21 Q. ARE YOU AWARE OF ANY OTHER ARTICLES OR
22 STUDIES IN THE LITERATURE THAT SUGGESTED ANY
23 ASSOCIATION BETWEEN BENZENE EXPOSURE AND CLL?
24 A. NO.
25 Q. SO IS IT YOUR TESTIMONY THEN THAT THERE

64

1 WERE ONLY TWO STUDIES THAT EVEN SUGGESTED IT?
2 A. NO, THAT'S NOT TRUE. THERE ARE TWO OTHER
3 AUTHORS THAT HAVE SUGGESTED A RELATIONSHIP WITH
4 LYMPHOID NEOPLASMS IN PARTICULAR, BUT NOT CLL
5 SPECIFICALLY, AND THOSE WOULD BE -- I BELIEVE IT'S
6 GOGOEL AND TAREEF.
7 BUT THOSE STUDIES ARE -- THE EXPOSURES
8 ARE ILL DEFINED, THE DIAGNOSES ARE ILL DEFINED,
9 AND I DON'T RELY ON THOSE.
10 Q. BY "THE DIAGNOSES ARE ILL DEFINED," DO
11 YOU QUESTION WHETHER THE INDIVIDUALS ACTUALLY HAD
12 CLL AS OPPOSED TO SOME OTHER FORM OF LEUKEMIA?
13 A. OR LYMPHOMA, YES.
14 Q. DO YOU CONSIDER BENZENE TO BE A POTENTIAL
15 CARCINOGEN?
16 A. BENZENE IS A HUMAN LEUKEMOGEN. IT AT
17 HIGH CONCENTRATIONS IS ASSOCIATED WITH ACUTE
18 MYELOGENOUS LEUKEMIA.
19 Q. DO YOU BELIEVE THERE'S A DOSE RESPONSE
20 RELATIONSHIP?
21 A. YES.
22 Q. AND CAN YOU DEFINE FOR US WHAT THAT IS,
23 OR WHAT THAT MEANS TO YOU?
24 A. WE'VE BEEN OVER THAT THIS MORNING
25 ALREADY.
65

1 Q. ARE YOU DECLINING TO ANSWER, DOCTOR?
2 A. NO, I CAN REPEAT IT IF YOU'D LIKE.
3 Q. YES, PLEASE.
4 MR. MORI: LET ME JUST INTERPOSE THE OBJECTION
5 ASKED AND ANSWERED.
6 MR. JANSSEN: GO AHEAD, DOCTOR.
7 THE WITNESS: I BELIEVE THAT EXPOSURES 50
8 PARTS PER MILLION OR GREATER ARE ASSOCIATED
9 CONSISTENTLY WITH A DOSE DEPENDENT TOXICITY TO THE
10 BONE MARROW THAT IS MANIFESTED BY A NUMBER OF -- A
11 VARIETY OF DIFFERENT PHENOMENON INCLUDING APLASTIC
12 ANEMIA, THROMBOCYTOPENIA, LYMPHOCYTOPENIA, AND IN
13 CERTAIN INDIVIDUALS ACUTE MYELOGENOUS LEUKEMIA.
14 BY MS. EISENSTEIN:
15 Q. WHAT DID YOU MEAN BY THE PHRASE "DOSE
16 DEPENDENT"?
17 A. AS YOU INCREASE THE CONCENTRATION THAT AN
18 INDIVIDUAL IS EXPOSED TO, YOU INCREASE THE
19 SEVERITY OF THE DAMAGE THAT IS SEEN WITH RESPECT
20 TO BONE MARROW TOXICITY.
21 Q. OTHER THAN THE 1982 MCMICHAEL STUDY, THE
22 GOGOEL AND CHARIF -
23 A. TAREEF.
24 Q. -- TAREEF STUDIES AND -
25 A. I'D HAVE TO CHECK ON THOSE TO BE PRECISE
66

1 BUT I BELIEVE THAT'S IT.
2 Q. .OTHER THAN THOSE THREE STUDIES, ARE THERE
3 ANY OTHERS WHERE YOU'VE OBSERVED A SUGGESTION OR
4 AN ASSOCIATION BETWEEN CLL AND BENZENE EXPOSURE?
5 MR. JANSSEN: I OBJECT TO THE FORM OF THE
6 QUESTION. IT'S COMPOUND AND IT'S VAGUE.
7 .GO AHEAD AND ANSWER THE QUESTION,
8 DOCTOR.
9 THE WITNESS: BASED ON THE WAY YOU FRAMED THE
10 QUESTION I HAVE TO ANSWER NO.
11 BY MS. EISENSTEIN:
12 Q. ALL RIGHT. WHY DO YOU SAY BASED ON THE
13 WAY I FRAMED THE QUESTION?
14 A. BECAUSE YOU -- AS I UNDERSTAND IT YOU'VE
15 ASKED ME OF ANY OTHER STUDIES THAT SPECIFICALLY
16 SUGGEST A RELATIONSHIP BETWEEN CLL AND BENZENE
17 EXPOSURE.
18 I THINK THERE ARE A NUMBER OF STUDIES
19 THAT SUGGEST A RELATIONSHIP BETWEEN OCCUPATION IN
20 THE RUBBER INDUSTRY PER SE AND INCREASED INCIDENCE
21 OF LYMPHOID NEOPLASMS VERY POORLY DEFINED, BUT
22 THEY ARE INCONSISTENT WITH RESPECT TO THE TYPE OF
23 DISEASE THAT'S FOUND.
24 AND THE ASSOCIATION WITH BENZENE AS I
25 SAID BEFORE HAS BEEN DEMONSTRATED NOT TO BE
67

1 RELATED TO THE INCIDENCE OF THOSE NEOPLASMS IN THE
2 RUBBER INDUSTRY PER SE.

3 Q. AND HOW DO YOU COME TO THAT CONCLUSION?

4 A. FROM MY READING OF THE PAPERS THAT WE'VE
5 DISCUSSED THIS MORNING. WHERE YOU HAVE RELIABLE
6 EXPOSURE HISTORY INVOLVING BENZENE, STUDIES
7 DEMONSTRATE AN INCREASED INCIDENCE OF AML. ONE
8 DOES NOT SEE LYMPHOID NEOPLASMS OR CLL.

9 Q. ARE THERE ANY OTHER DISEASES OR PHYSICAL
10 ABNORMALITIES WHICH YOU HAVE BEEN ABLE TO
11 DETERMINE WHICH HAVE BEEN ASSOCIATED WITH BENZENE
12 EXPOSURE?

13 A. AT EXTREMELY HIGH CONCENTRATIONS, WE'RE
14 TALKING NOW CERTAINLY IN EXCESS OF 300 PARTS PER
15 MILLION, PROBABLY HIGHER, THERE ARE SOME ACUTE
16 NEUROLOGICAL PHENOMENON INCLUDING DEPRESSION, LOSS
17 OF CONSCIOUSNESS AT EXTREMELY HIGH CONCENTRATIONS,
18 THOUSANDS OF PARTS PER MILLION.

19 Q. SO OTHER THAN AML AND NEUROLOGICAL
20 ABNORMALITIES, IS IT YOUR TESTIMONY THAT THERE ARE
21 NO OTHER ABNORMALITIES OR DISEASES THAT-HAVE BEEN
22 ASSOCIATED WITH BENZENE EXPOSURE?

23 MR. JANSSEN: WELL, THAT MISSTATES HIS PRIOR
24 TESTIMONY. HE'S ALREADY TOLD YOU ABOUT APLASTIC
25 ANEMIA, PANCYTOPENIA, AND OTHER EFFECTS.

68

1 GO AHEAD AND REPEAT YOUR -
2 BY MS. EISENSTEIN:
3 Q. LET ME JUST GET IT DEFINITELY ONCE AND
4 FOR ALL BY ASKING YOU THIS QUESTION: CAN YOU LIST
5 FOR ME, PLEASE, EVERY SINGLE DISEASE OR PHYSICAL
6 ABNORMALITY THAT YOU HAVE DETERMINED HAS BEEN
7 ASSOCIATED WITH BENZENE EXPOSURE.
8 A. DAMAGE TO THE BONE MARROW AND BLOOD
9 FORMING ORGANS IN GENERAL, WHICH CAN BE MANIFESTED
10 VARIOUSLY AS, DEPENDING UPON THE DOSE AND THE
11 INDIVIDUAL, A DECREASE IN ONE OR MORE OF THE
12 CIRCULATING WHITE CELLS AND/OR PLATELETS, SUCH AS
13 THROMBOCYTOPENIA, LYMPHOCYTOPENIA, VERY RARELY
14 GRANULOCYTOPENIA, IT'S ALMOST NEVER SEEN AS A
15 SELECTIVE EVENT, APLASTIC ANEMIA, WHICH WOULD
16 INCLUDE ANEMIA PER SE; AN ACUTE MYELOGENOUS
17 LEUKEMIA INCLUDING SEVERAL OF ITS VARIANTS, SUCH
18 AS ERYTHRO LEUKEMIA, MYELOBLASTIC LEUKEMIA.
19 Q. ANYTHING ELSE?
20 A. I WOULD INCLUDE UNDER APLASTIC ANEMIA
21 MYELOYDYSPLASTIC SYNDROME, MYELOYDYSPLASIAS.
22 Q. DO YOU BELIEVE THAT MR. BUCHAJ SUFFERED
23 FROM MYELOYDYSPLASTIC SYNDROME?
24 A. NO.
25 Q. HAVE YOU SEEN ANY EVIDENCE OF THAT IN ANY
69

1. OF HIS MEDICAL RECORDS?
2 A. THAT HE SUFFERED FROM MYELODYSPLASTIC
3 SYNDROME? NO.
4 Q. DO YOU BELIEVE FROM YOUR REVIEW OF
5 MR. BUCHAJ'S MEDICAL RECORDS THAT HE SUFFERED FROM
6 ANY PHYSICAL ABNORMALITY THAT THE LITERATURE
7 ASSOCIATES WITH EXPOSURE TO BENZENE?
8 MR. JANSSEN: I OBJECT TO THE FORM OF THE
9 QUESTION BECAUSE THE USE OF THE WORD "OTHER"
0 ASSUMES THAT HE SUFFERED FROM ANY PHYSICAL
11 ABNORMALITY ASSOCIATED WITH EXPOSURE TO BENZENE.
12 NOW, DOCTOR, YOU CAN ANSWER THE
13 QUESTION.
14 THE WITNESS: NO.
15 BY MS. EISENSTEIN:
16 Q. DID YOU SEE ANYTHING IN MR. BUCHAVS
17 MEDICAL RECORDS OR IN ANY OF THE REPORTS OF ANY OF
18 THE DOCTORS THAT INDICATED THAT HE HAD ANY TYPE OF
19 PHYSICAL ABNORMALITY THAT THE LITERATURE HAS
20 ASSOCIATED WITH BENZENE EXPOSURE?
21 MR. MORI: OBJECTION, ASKED AND ANSWERED.
22 THE WITNESS: CAN I ASK FOR A CLARIFICATION OF
23 THE QUESTION?
24 BY MS. EISENSTEIN:
25 Q. ABSOLUTELY.
70

1 A. WHEN YOU SAY "LITERATURE" WHAT DO YOU
2 MEAN? THAT'S EVER BEEN HYPOTHESIZED OR FOR WHICH
3 THERE IS CREDIBLE SCIENTIFIC EVIDENCE IN SUPPORT
4 OF?

5 Q. LET'S START WITH WHATEVER HAS BEEN
6 HYPOTHESIZED AND WE'LL WORK FROM THERE.

7 MR. MORI: LET ME INTERPOSE AN OBJECTION OF
8 VAGUE AND AMBIGUOUS.

9 THE WITNESS: IT HAS BEEN HYPOTHESIZED THAT
10 CLL MIGHT IN FACT BE ASSOCIATED WITH BENZENE
11 EXPOSURE, BUT THE LITERATURE DOES NOT SUPPORT
12 THAT.

13 BY MS. EISENSTEIN:

14 Q. IN YOUR OPINION.

15 A. IN MY OPINION.

16 Q. OTHER THAN CLL, DID YOUR REVIEW OF HIS
17 MEDICAL RECORDS AND THE DOCTORS' REPORTS INDICATE
18 THAT HE SUFFERED FROM ANY PHYSICAL ABNORMALITY OR
19 DISEASE THAT THE LITERATURE HAS HYPOTHESIZED IS
20 ASSOCIATED WITH BENZENE EXPOSURE, EXCLUDING CLL?

21 A. NO.

22 Q. YOU MENTIONED A MOMENT AGO THE TERM
23 "RELIABLE EXPOSURE HISTORY" IN REFERENCE TO I
24 BELIEVE THE RUBBER INDUSTRY STUDIES.

25 A. YES.

71

1 Q. WHAT DID YOU MEAN BY THE TERM "RELIABLE
2 EXPOSURE HISTORY"?

3 A. THE RUBBER INDUSTRY HAS A VERY COMPLEX
4 EXPOSURE ENVIRONMENT. IT INVOLVES EXPOSURE TO A
5 VARIETY OF DIFFERENT SOLVENTS AND CHEMICALS AND
6 PARTICULATES, CARBON PLAQUE AND PLASTICIZERS,
7 CATALYSTS. AND A VARIETY OF OTHER AGENTS.
8 IT'S A VERY DIFFICULT INDUSTRY TO
9 EVALUATE IN TERMS OF EXPOSURE HISTORY WITHOUT A
10 GREAT DEAL OF EFFORT AND CAREFUL ATTENTION TO
11 EXPERIMENTAL DESIGN AND EVALUATION OF EXPOSURES.

12 Q. YOU USED THE TERM "RELIABLE EXPOSURE
13 HISTORY." TO YOU WHAT IS A RELIABLE EXPOSURE
14 HISTORY, OR AN EXAMPLE OF IT?

15 A. ONE IN WHICH YOU CAN REASONABLY DOCUMENT
16 THE NUMBER OF AGENTS TO WHICH AN INDIVIDUAL IS
17 EXPOSED AND THE CONCENTRATIONS TO WHICH HE IS
18 EXPOSED.

19 Q. IN THE RUBBER INDUSTRY STUDIES, WAS IT
20 DOCUMENTED THAT ONE OF THE NUMEROUS SUBSTANCES
21 THESE INDIVIDUALS WERE EXPOSED TO WAS BENZENE?

22 A. IT DEPENDS ON WHAT YOU DEFINE AS A
23 MEANINGFUL EXPOSURE. YOU CAN REDEFINE ZERO WITH
24 RESPECT TO CONCENTRATIONS OF JUST ABOUT ANYTHING
25 INCLUDING BENZENE.

1 EARLY STUDIES OF RUBBER WORKERS WERE
2 ENTERED INTO WITH THE ASSUMPTION THAT BENZENE
3 WOULD BE A MAJOR PLAYER BECAUSE BENZENE HAS BEEN
4 ASSOCIATED WITH AML, BUT WITH PROGRESSIVE STUDY OF
5 THAT OCCUPATIONAL POPULATION, AS I'VE MENTIONED
6 BEFORE, IT'S BECOME CLEAR THAT IN FACT THE
7 EXPOSURES TO BENZENE DO NOT CORRELATE WITH THE
8 LYMPHOID NEOPLASMS THAT HAVE BEEN FOUND IN THE
9 RUBBER INDUSTRY, AND THEY -- IT IS A DIFFERENT
10 PATTERN OF INCIDENCE FOR HEMATOPOIETIC AND
11 LYMPHOID NEOPLASMS THAN SEEN IN STUDIES WHERE THE
12 EXPOSURE TO BENZENE IS BOTH HIGH AND RELATIVELY
13 UNIQUE.

14 Q. I UNDERSTAND, DOCTOR, BUT I DON'T BELIEVE
15 THAT WAS RESPONSIVE TO MY QUESTION. I DON'T MEAN
16 TO BE RUDE BUT I'M GOING TO ASK THE COURT REPORTER
17 TO READ IT BACK.

18 (THE RECORD WAS READ BY THE REPORTER.)

19 MR. JANSSEN: I THINK HIS ANSWER WAS
20 COMPLETELY RESPONSIVE. WHERE DO YOU WANT TO GO
21 FROM HERE?

22 MS. EISENSTEIN: I THINK IT REQUIRES A YES OR
23 A NO.

24 MR. JANSSEN: NO, NO, IT DOESN'T REQUIRE A YES
25 OR NO. IF THE WITNESS NEEDS TO TESTIFY IN

1 NARRATIVE FORM IN ORDER TO GIVE A RESPONSIVE
2 ANSWER HE'S PERFECTLY ENTITLED TO DO SO.
3 MS. EISENSTEIN: ABSOLUTELY. I DON'T BELIEVE
4 THAT THE ANSWER WAS RESPONSIVE. IF YOU INSTRUCT
5 HIM NOT TO ANSWER OR THE DOCTOR REFUSES TO ANSWER
6 WE'LL ADDRESS THE ISSUE WITH THE JUDGE. I'D
7 RATHER NOT DO THAT.
8 IT'S A SIMPLE QUESTION, AND IF THE DOCTOR
9 WOULD LIKE TO REVIEW THE STUDIES THEY'RE HERE IN
10 FRONT OF US. BUT I'M JUST TRYING TO FIND OUT
11 WHETHER ONE OF THE CHEMICALS IDENTIFIED IN THOSE
12 STUDIES WAS BENZENE.
13 MR. JANSSEN: WELL, THE DOCTOR HAS ALREADY
14 TOLD YOU WHAT THE ANSWER IS TO YOUR QUESTION. YOU
15 JUST DON'T WANT TO LISTEN OR UNDERSTAND
16 APPARENTLY.
17 BUT, DOCTOR, IF YOU WANT TO GO AHEAD
18 WITH -- AND ANSWER AGAIN, YOU'RE NOT COMPELLED TO
19 ANSWER YES OR NO, YOU CAN ANSWER IN ANY WAY IN
20 WHICH YOU DECIDE IS NECESSARY TO GIVE AN HONEST
21 AND RESPONSIVE ANSWER.
22 MS. EISENSTEIN: OKAY. AND BEFORE YOU DO
23 THAT, COUNSEL, I'M GOING TO SAY ON THE RECORD THAT
24 I HAVE REFRAINED FROM ALL PERSONAL REMARKS ABOUT
25 YOU AND I'M REQUESTING THE SAME COURTESY OF YOU.
74

1 I HAVE NOT COMMENTED ON YOUR APPROACH, AND I WOULD
2 APPRECIATE IT IF YOU NOT COMMENT ON MINE.
3 LET'S GET THE QUESTION READ BACK.
4 MR. JANSSEN: COUNSEL, I'M TRYING TO SPEED
5 THIS ALONG. I'D APPRECIATE IT IF YOU'D DO THE
6 SAME.
7 (THE RECORD WAS READ BY THE REPORTER.)
8 MR. MORI: IS COUNSEL REASKING THE QUESTION?
9 MS. EISENSTEIN: THAT'S CORRECT.
10 MR. MORI: OKAY, I'LL OBJECT, ARGUMENTATIVE,
11 ASKED AND ANSWERED.
12 THE WITNESS: IF I GIVE YOU A YES OR NO ANSWER
13 TO THAT QUESTION IT IS MISLEADING. THE AMOUNT OF
14 ANY SUBSTANCE THAT WE ARE EXPOSED TO IS A FUNCTION
15 OF WHAT WE CAN MEASURE. IF YOU CAN MEASURE IT
16 IT'S THERE.
17 WE HAVE THE ABILITY TO MEASURE BENZENE
18 CONCENTRATIONS IN THE LOW PARTS PER BILLION OR
19 PERHAPS THE HIGH PARTS PER TRILLION RANGE UNDER
20 CERTAIN CIRCUMSTANCES. THOSE ARE NOT IN MY
21 OPINION SIGNIFICANT EXPOSURES.
22 IF THE QUESTION IS AT THOSE
23 CONCENTRATIONS OR ANY CONCENTRATION IS BENZENE
24 PRESENT IN CONDITIONS WITHIN THE RUBBER INDUSTRY
25 THAT OCCUR IN AN OCCUPATIONAL SETTING I WOULD HAVE
75

1 TO SAY YES, BUT I THINK IT'S MISLEADING.
2 BY MS. EISENSTEIN:
3 Q. IS IT YOUR TESTIMONY THAT THE LITERATURE
4 THAT WE HAVE BEEN DISCUSSING REGARDING THE RUBBER
5 INDUSTRY IDENTIFIED BENZENE IN SOME LOW
6 CONCENTRATION?
7 A. AND IN VARIOUS WORK SETTINGS, YES, ALONG
8 WITH A MYRIAD NUMBER OF OTHER CHEMICALS. THEY -
9 SEVERAL OF THESE ARE DISCUSSED AND LISTED IN THE
10 ARTICLES THAT I BROUGHT WITH ME TODAY.
11 Q. HAVE YOU SEEN ANY EVIDENCE IN THE
12 EPIDEMIOLOGICAL LITERATURE WHICH WOULD INDICATE OR
13 SUGGEST AN ASSOCIATION BETWEEN SOLVENT EXPOSURE
14 AND ANY PHYSICAL ABNORMALITIES OR DISEASE?
15 MR. JANSSEN: OBJECTION TO THE FORM OF THE
16 QUESTION, IT'S VAGUE AND AMBIGUOUS IN THAT
17 "SOLVENT" IS UNDEFINED.
18 MR. MORI: I'LL JOIN.
19 THE WITNESS: I DON'T THINK I CAN REASONABLY
20 ANSWER THAT QUESTION.
21 BY MS. EISENSTEIN:
22 Q. AND WHY IS THAT?
23 A. BECAUSE SOLVENT -- SOLVENT BY DEFINITION
24 IS A HUGE ARRAY OF COMPOUNDS, AND ANY MALADY IS A
25 HUGE ARRAY OF POTENTIAL MALADIES. IF YOU COULD
76

1 FOCUS ON ONE PARTICULAR ASPECT I WOULD BE HAPPY TO
2 ANSWER THE QUESTION.

3 THE ANSWER TO THE QUESTION HAS TO BE YES,
4 SOLVENTS LIKE EVERYTHING ELSE ARE CHEMICALS AND AT
5 SOME CONCENTRATIONS CHEMICALS ARE TOXIC.

6 Q. HOW DO YOU DEFINE THE TERM "TOXIC"?

7 A. PRODUCE ADVERSE EFFECTS TO THE BODY.

8 Q. IN YOUR REVIEW OF THE LITERATURE AND IN
9 YOUR RESEARCH, HAVE YOU SEEN ANY EVIDENCE THAT
10 SOLVENT EXPOSURE IS ASSOCIATED WITH ANY FORM OF
11 LEUKEMIA?

12 MR. MORI: OBJECTION, VAGUE AND AMBIGUOUS,
13 OVERLY BROAD.

14 MR. JANSSEN: SAME OBJECTION.

15 THE WITNESS: IN THE CASE OF BENZENE, AS I'VE
16 SAID BEFORE, BENZENE IS A SOLVENT, BENZENE IS
17 ASSOCIATED -- EXPOSURE TO BENZENE AT HIGH
18 CONCENTRATIONS FOR LONG PERIODS OF TIME IS
19 ASSOCIATED WITH DAMAGE TO THE BLOOD FORMING ORGANS
20 OF THE BONE MARROW, AND WITH AN INCREASED
21 INCIDENCE OF A VARIETY OF DISEASES INCLUDING ACUTE
22 MYELOGENOUS LEUKEMIA.

23 BY MS. EISENSTEIN:

24 Q. OTHER THAN BENZENE, ANY OTHERS?

25 A. NO. EXCUSE ME, COULD YOU REPEAT THAT

77

1 QUESTION? I WANT TO MAKE SURE I UNDERSTOOD IT
2 CORRECTLY.

3 MS. EISENSTEIN: I BELIEVE IT'S NOT THAT LAST
4 QUESTION BUT THE QUESTION BEFORE.

5 THE WITNESS: THE QUESTION -- YEAH -

6 MS. EISENSTEIN: THE SECOND QUESTION BACK.

7 THE WITNESS: I LOST TRACK OF YOUR QUESTION
8 WHILE I WAS ANSWERING IT SO I'D LIKE TO HEAR IT
9 AGAIN TO SEE WHETHER I'VE GIVEN YOU A RESPONSIBLE
10 ANSWER.

11 (THE RECORD WAS READ BY THE REPORTER.)

12 THE WITNESS: IN ADDITION TO THAT THAT I HAVE
13 MENTIONED, THERE IS REFERENCE IN THE WILCOSKY AND
14 CHECKOWAY ARTICLES TO A POTENTIAL ASSOCIATION
15 BETWEEN CARBON TETRACHLORIDE AND CARBON DISULFIDE
16 AND CLL. THAT APPEARS NOWHERE ELSE IN THE
17 LITERATURE, AND AT THIS POINT IN TIME I HAVE TO
18 CONSIDER IT AS SPURIOUS, OR POTENTIALLY SPURIOUS.

19 Q. AND WHY IS THAT?

20 A. BECAUSE EPIDEMIOLOGY STUDIES ARE VERY
21 DIFFICULT TO DO WELL AND THEY HAVE VERY LITTLE
22 POWER WITH RESPECT TO PROVIDING YOU WITH DATA IN A
23 CONTROLLED EXPERIMENTAL SETTING. YOU HAVE TO LOOK
24 FOR PATTERNS OF DISEASE AND MULTIPLE STUDIES IN
25 ORDER TO REACH FIRM CONCLUSIONS.

78

1 AND THIS IS THE FIRST TIME THAT THOSE TWO
2 SOLVENTS HAVE BEEN ASSOCIATED IN ANY WAY THAT I
3 KNOW OF WITH CLL OR ANY OTHER LEUKEMIA. SO IT
4 REMAINS TO BE DETERMINED WHETHER IN FACT THAT'S A
5 SPURIOUS FINDING OR IN FACT IS REAL.

6 Q. IS THAT ONE PARTICULAR STUDY WHERE THAT
7 WAS DOCUMENTED?

8 A. YES.

9 Q. AND IS THAT IN YOUR BINDER HERE?

10 A. YES.

11 Q. WHAT IS YOUR UNDERSTANDING OF

12 MR. BUCHAJ'S EXPOSURE HISTORY?

13 MR. JANSSEN: I OBJECT TO THE FORM OF THE

14 QUESTION. EXPOSURE TO WHAT? WHEN?

15 MS. EISENSTEIN: TO ANY CHEMICALS.

16 MR. JANSSEN: AT ANY TIME IN HIS LIFE?

17 MS. EISENSTEIN: SURE.

18 MR. MORI: WELL, OBJECTION, VAGUE AND

19 AMBIGUOUS, OVERLY BROAD, LACKS FOUNDATION, CALLS
20 FOR SPECULATION.

21 BY MS. EISENSTEIN:

22 Q. LET ME NARROW THE QUESTION DOWN FOR YOU,

23 DOCTOR. DO YOU HAVE ANY UNDERSTANDING AS YOU

24 TESTIFY HERE TODAY AS TO TO WHAT MR. BUCHAJ'S

25 EXPOSURE WAS AT EAST TEXAS MOTOR FREIGHT?

79

1 A. YES.

2 Q. AND WHAT'S THAT UNDERSTANDING?

3 A. THAT HE WAS -- THAT HE USED CHEMICAL
4 DEGREASERS IN THE COURSE OF HIS DUTIES, AND THAT
5 THESE ARE MOST LIKELY STODDARD SOLVENT OR A
6 STODDARD SOLVENT BASED PRODUCT THAT BASED ON MY
7 KNOWLEDGE OF THE INDUSTRY WOULD LIKELY CONTAIN
8 VERY LITTLE BENZENE.

9 Q. WHAT DO YOU BASE THE STATEMENT ON THAT HE
10 USED CHEMICAL DEGREASERS, PROBABLY STODDARD
11 SOLVENTS OR SOLVENTS DERIVED FROM STODDARD
12 SOLVENTS? I'M SORRY, I'M NOT SURE THAT'S WHAT YOU
13 SAID EXACTLY.

14 A. FROM MY REVIEW OF MR. BUCHAJ'S
15 DEPOSITION, MR. LARSON'S DEPOSITION, AND FROM
16 STATEMENTS MADE TO ME BY MR. JANSSEN.

17 Q. WHAT STATEMENTS WERE MADE TO YOU BY
18 MR. JANSSEN REGARDING MR. BUCHAJ'S EXPOSURE?

19 A. THAT THE MATERIALS THAT WERE SUPPLIED TO
20 TEXAS MOTOR FREIGHT WERE MOST LIKELY STODDARD
21 SOLVENT.

22 Q. DO YOU KNOW WHAT STODDARD SOLVENT IS?

23 A. IT'S A HIGH END DISTILLATE FRACTION, AND
24 IF IN FACT IT IS STODDARD SOLVENT TO MY
25 UNDERSTANDING IT CONTAINS VERY LITTLE BENZENE.

1 Q. AND WHAT DO YOU BASE THAT STATEMENT
2 UPON?
3 A. MY YEARS OF EXPERIENCE IN TOXICOLOGY.
4 I'VE NEVER HEARD OF TRUE STODDARD SOLVENT
5 CONTAINING APPRECIABLE AMOUNTS OF BENZENE.
6 Q. WHEN YOU SAY "VERY LITTLE BENZENE," WHAT
7 LEVEL OR PERCENTAGE ARE YOU REFERRING TO?
8 A. NOTHING IN PARTICULAR. I DON'T THINK OF
9 STODDARD SOLVENT AS CONTAINING APPRECIABLE AMOUNTS
10 OF BENZENE. IT'S NOT -- AS A PRODUCT
11 CHARACTERIZATION OR FORMULATION I WOULDN'T
12 CONSIDER BENZENE TO BE VERY HIGH.
13 AS TO WHAT PERCENTAGE WE'RE TALKING
14 ABOUT, I'M NOT PREPARED TO PROVIDE A DEFINITIVE
15 STATEMENT ON THAT BECAUSE I DON'T KNOW.
16 Q. DO YOU BELIEVE THAT THERE IS SOME
17 DETECTABLE LEVEL OF BENZENE IN STODDARD SOLVENTS
18 OR -- STRIKE THAT.
19 DO YOU BELIEVE THERE WAS SOME DETECTABLE
20 LEVEL OF BENZENE PRESENT IN THE STODDARD SOLVENTS
21 THAT MR. BUCHAJ WAS EXPOSED TO?
22 A. SOME DETECTABLE LEVEL?
23 Q. THAT'S MY QUESTION.
24 MR. JANSSEN: I OBJECT TO THE FORM OF THE
25 QUESTION.
81

1 THE WITNESS: THERE ARE DETECTABLE LEVELS OF
2 BENZENE rN EGGS, IN VIRTUALLY EVERYTHING WE EAT,
3 WATER. I WOULD EXPECT THAT THERE WOULD BE
4 DETECTABLE LEVELS OF BENZENE IN STODDARD SOLVENT
5 PROVIDING THAT THE OTHER SOLVENTS PRESENT DIDN'T
6 INTERFERE WITH THE ANALYSIS.

7 BY MS. EISENSTEIN:

8 Q. WHAT DOES THAT MEAN?

9 A. IT MEANS THAT THE ANALYSIS IS TECHNICALLY
10 LIMITED ON OCCASION BY THE -- BY OTHER COMPOUNDS
11 PRESENT. BUT, WE'RE TALKING ABOUT WHETHER WE CAN
12 MEASURE IN PARTS PER TRILLION OR VERY LOW PARTS
13 PER BILLION SO I MEAN IT'S REALLY -- IT'S -- IT
14 ONLY QUALIFIED IF YOU'RE LOOKING FOR VERY LOW
15 AMOUNTS OF BENZENE.

16 Q. DO YOU BELIEVE FROM THE WORK YOU'VE DONE
17 IN THE FIELD THAT STODDARD SOLVENTS CONTAIN A
18 HIGHER AMOUNT OF BENZENE THAN EGGS?

19 MR. JANSSEN: I OBJECT TO THE COMPETENCY OF
20 THIS WITNESS, AT LEAST BASED UPON THE FOUNDATION
21 YOU'VE LAID SO FAR, TO ANSWER THAT QUESTION.
22 GO AHEAD AND ANSWER IF YOU'RE COMPETENT.

23 THE WITNESS: I WOULD EXPECT THERE'S MORE
24 BENZENE PER UNIT WEIGHT IN STODDARD SOLVENT,
25 ALTHOUGH EGGS ARE PRETTY HIGH.

1 BY MS. EISENSTEIN:
2 Q. OKAY.
3 DO YOU BELIEVE THAT THERE IS MORE BENZENE
4 PRESENT IN STODDARD SOLVENT THAN IN WATER?
5 A. YES.
6 Q. WHAT SPECIFIC WORK HAVE YOU DONE
7 PERSONALLY ON STODDARD SOLVENTS?
8 A. ON STODDARD SOLVENT PER SE?
9 Q. YES.
10 A. NONE.
11 Q. AND HOW IS IT THAT YOU'VE BECOME FAMILIAR
12 WITH THEM?
13 A. I'M A TOXICOLOGIST, I'M TRAINED AS A
14 TOXICOLOGIST.
15 Q. I UNDERSTAND THAT, DOCTOR.
16 A. THAT'S MY FAMILIARITY WITH STODDARD
17 SOLVENT.
18 Q. OKAY, I DON'T BELIEVE THAT -- WELL,
19 SPECIFICALLY, HOW HAVE YOU BECOME FAMILIAR WITH
20 IT?
21 A. IF YOU PICK UP A TEXTBOOK SUCH AS -- I'M
22 BLANKING ON THE MAJOR TEXTBOOK IN TOXICOLOGY. IF
23 YOU PICK UP ANY TOXICOLOGY TEXTBOOK THAT DEALS
24 WITH POTENTIAL TOXICITY ASSOCIATED WITH CHEMICALS,
25 YOU ARE LIKELY TO FIND A REFERENCE SOMEPLACE TO A

83

1 HOST OF CHEMICALS ONE OF WHICH IS STODDARD
2 SOLVENT.
3 Q. FROM YOUR WORK AS A TOXICOLOGIST AND YOUR
4 REVIEW OF THE LITERATURE, HAVE YOU EVER SEEN ANY
5 STUDIES THAT WOULD SUGGEST AN ASSOCIATION BETWEEN
6 EXPOSURE TO STODDARD SOLVENT AND ANY DISEASE IN
7 HUMAN BEINGS?
8 A. I WOULD EXPECT THAT EXTREMELY HIGH
9 CONCENTRATIONS OF EXPOSURE, AND I AM NOT -- I DO
10 NOT REMEMBER SPECIFICALLY WHAT, YOU WOULD
11 EXPECT -- WHAT THOSE CONCENTRATIONS ARE, YOU WOULD
12 EXPECT TO SEE SOME ACUTE CENTRAL NERVOUS SYSTEM
13 PROBLEMS ASSOCIATED WITH VERY HEAVY EXPOSURE.
14 Q. ANYTHING OTHER THAN THAT?
15 A. NOT TO MY KNOWLEDGE.
16 Q. HAVE YOU EVER SEEN ANY STUDIES WHICH
17 WOULD SUGGEST AN ASSOCIATION BETWEEN STODDARD
18 SOLVENT AND ANY FORM OF LEUKEMIA?
19 A. NO.
20 Q. DID MR. JANSSEN INFORM YOU AS TO WHY HE
21 BELIEVED MR. BUCHAJ WAS EXPOSED TO STODDARD
22 SOLVENT?
23 MR. JANSSEN: I OBJECT TO THE FORM OF THE
24 QUESTION. I DON'T THINK HE TESTIFIED THAT I
25 BELIEVED HE WAS EXPOSED TO ANYTHING. WE'RE TRYING
84

1 TO FIGURE OUT WHAT IF ANYTHING HE WAS EXPOSED TO.
2 WE DON'T HAVE RECORDS AND WE DON'T HAVE KNOWLEDGE
3 AND WE'RE MAKING OUR BEST GUESS.
4 GO AHEAD, DOCTOR.
5 MS. EISENSTEIN: I'D APPRECIATE IT, COUNSEL,
6 IF YOU WOULD STATE YOUR OBJECTION ON THE RECORD
7 AND THEN WE CAN MOVE ON. I DON'T EVEN KNOW WHAT
8 YOUR OBJECTION WAS.
9 MR. JANSSEN: I OBJECTED BECAUSE IT MISSTATES
10 HIS TESTIMONY IN TERMS OF MY BELIEF.
11 BY MS. EISENSTEIN:
12 Q. YOU CAN ANSWER.
13 MR. JANSSEN: AND HIS TESTIMONY WAS THAT I WAS
14 TELLING HIM WHAT THE RECORDS SHOWED SO FAR ABOUT
15 WHAT LITTLE WE KNOW ABOUT IT.
16 BY MS. EISENSTEIN:
17 Q. YOU MAY ANSWER, DOCTOR.
18 A. AS I SAID BEFORE, THE TESTIMONY OF
19 MR. BUCHAJ INDICATED THAT HE USED DEGREASERS, AND
20 MR. JANSSEN HAS TOLD ME THAT DEGREASERS
21 MANUFACTURED OVER THAT PERIOD OF TIME WERE MOST
22 LIKELY STODDARD SOLVENT OR STODDARD SOLVENT BASED,
23 AND THAT IS THE INFORMATION ON WHICH I AM BASING
24 MY STATEMENTS.
25 Q. YOU ALSO STATED AS PART OF THAT FIRST
85

1 OPINION THAT THERE WAS NO AGENT KNOWN TO CAUSE
2 CLL; IS THAT CORRECT?
3 A. THAT'S RIGHT.
4 Q. AND WHAT DO YOU BASE THAT UPON?
5 A. WELL, I CAN GIVE YOU AN EXAMPLE.
6 RADIATION IS CONSIDERED TO BE VIRTUALLY THE
7 UNIVERSAL LEUKEMOGEN. IONIZING RADIATION IS
8 ASSOCIATED WITH A VARIETY OF DIFFERENT LEUKEMIAS,
9 VIRTUALLY A PANOPLY OF LEUKEMIAS, WITH THE
10 EXCEPTION OF CLL. IT'S NEVER BEEN DEMONSTRATED TO
11 CAUSE CLL.
12 THERE'S NO AGENT OR MYELOTXIC AGENT OR
13 CYTOTOXIC DRUG THAT I AM AWARE OF THAT HAS BEEN
14 ASSOCIATED WITH THE CAUSING OF CLL.
15 Q. CAN YOU TELL ME AT THE PRESENT TIME WHAT
16 IS YOUR OPINION, YOUR SECOND OPINION REGARDING
17 KINETICS AND DOUBLING TIME FOR CLL IN THIS CASE?
18 A. THAT MR. BUCHAJ -- ON THE BASIS OF
19 DOUBLING -- LYMPHOCYTE DOUBLING TIME ANALYSIS,
20 MR. BUCHAJ'S CLL ORIGINATED VERY EARLY IN HIS
21 LIFETIME, MOST LIKELY IT WAS CONGENITAL, BUT
22 CERTAINLY DID NOT BEGIN PRIOR TO THE MID
23 THIRTIES -- I MEAN, EXCUSE ME, AFTER THE MID
24 THIRTIES.
25 Q. AND WHAT DO YOU BASE THAT UPON?
86

1 A. AN ANALYSIS OF LYMPHOCYTE DOUBLING TIME,
2 BASICALLY EXTRAPOLATING BACK TO THE ORIGIN OF HIS
3 DISEASE.

4 Q. CAN YOU EXPLAIN TO ME THE ANALYSIS THAT
5 YOU WENT THROUGH IN DETERMINING THE KINETICS IN
6 THIS CASE?

7 A. I EVALUATED HIS BLOOD PICTURE FROM THE
8 MEDICAL RECORDS AT THE TIME OF HIS DIAGNOSIS IN
9 1975 BACK TO AND INCLUDING 1968, AND FROM THAT I
10 CALCULATED A ESTIMATED BODY BURDEN FOR TUMOR CELLS
11 OVER THAT PERIOD, AND THEN EXTRAPOLATED ON THE
12 BASIS OF DOUBLING TIME CALCULATED BETWEEN THOSE
13 TWO POINTS WHEN HIS TUMOR WOULD HAVE TO HAVE
14 INITIATED AS A SINGLE CELL.

15 Q. I WOULD LIKE YOU TO FIND FOR US AND
16 SPECIFY WHAT SPECIFIC INFORMATION REGARDING
17 MR. BUCHAJ THAT YOU USED IN REACHING THESE -
18 REACHING THIS ANALYSIS, OR DOING THIS ANALYSIS.

19 A. OKAY, I PROVIDED THAT INFORMATION TO
20 YOU. HERE, THIS IS THE ACTUAL ANALYSIS, AND I
21 USED TWO DIFFERENT CRITERIA.

22 Q. OKAY, EXCUSE ME, DOCTOR, LET'S JUST
23 IDENTIFY FOR THE RECORD WHAT THE DOCUMENT IS
24 YOU'RE REFERRING TO.

25 A. THIS IS THE ACTUAL ANALYSIS.

1 Q. OKAY, AND YOU ARE POINTING TO A GRAPH
2 THAT SAYS IN THE TOP RIGHT-HAND COLUMN, "1975 (5.2
3 TIMES 11 TO THE 11TH POWER CELLS)." IS THAT
4 CORRECT?
5 A. YES.
6 MS. EISENSTEIN: ALL RIGHT. LET'S HAVE THIS
7 MARKED AS PLAINTIFF'S NEXT IN ORDER.
8 (WHEREUPON PLAINTIFF'S EXHIBIT 2 WAS
9 MARKED FOR IDENTIFICATION BY THE REPORTER.)
10 THE WITNESS: AND MY NOTES WHICH ARE
11 ABSTRACTED FROM HIS MEDICAL RECORDS AND HIS
12 DEPOSITION.
13 BY MS. EISENSTEIN:
14 Q. OKAY. CAN YOU PLEASE READ TO US WHAT
15 YOUR NOTES SAY? IF IT WILL EXPLAIN THE DATA THAT
16 YOU USED FOR THIS ANALYSIS.
17 A. 1975, A DIAGNOSIS FOR CLL. MR. BUCHAJ
18 HAD A WHITE COUNT OF 25,000 CELLS PER CUBIC
19 MILLIMETER.
20 Q. AND WHERE DID YOU FIND THAT INFORMATION?
21 A. IN HIS MEDICAL RECORDS.
22 Q. SPECIFICALLY WHAT?
23 A. WOULD YOU LIKE ME TO FIND IT NOW?
24 Q. SURE.
25 (PAUSE IN THE PROCEEDINGS.)
88

1 (A RECESS WAS TAKEN.)
2 THE WITNESS: THE FIRST DATA THAT I USED WAS
3 THE PERIPHERAL BLOOD CBC THAT WAS DONE AT THE TIME
4 OF HIS DIAGNOSIS IN 1975, AND IT'S PAGE 82 OF THE
5 BEVERLY HOSPITAL RECORD THAT I HAVE.
6 BY MS. EISENSTEIN:
7 Q. MAY I SEE IT FOR A MOMENT, PLEASE.
8 THAT'S AN EXAM REQUESTED ON 1/15/75?
9 A. YES.
10 Q. OKAY. I JUST WANT TO IDENTIFY IT BECAUSE
11 OUR NUMBERING IS GOING TO BE DIFFERENT THAN
12 YOURS.
13 AND FORGIVE ME FOR MY IGNORANCE BUT WHERE
14 ON THERE DO YOU SEE A REFERENCE TO 2500?
15 A. IT'S 25,000, AND IT'S RIGHT HERE, 25.1.
16 Q. OKAY, THANK YOU. ALL RIGHT.
17 WHAT IS THE NEXT DATA THAT YOU USED?
18 A. I USED A LYMPHOCYTE DIFFERENTIAL COUNT OF
19 80 PERCENT.
20 Q. WHY?
21 A. WELL, ACTUALLY AS I SEE HERE IT SAYS 88,
22 BUT 80 IS REASONABLY CLOSE, IT DOESN'T CHANGE -
23 IN FACT IT DOESN'T CHANGE THE ANALYSIS.
24 THAT IS THE PROPORTION OF WHITE CELLS IN
25 THE PERIPHERAL BLOOD THAT ARE LYMPHOCYTES.
89

1 Q. WHAT DO YOU BASE THAT UPON?
2 A. THE DIFFERENTIAL WHICH IS -- THE
3 DIFFERENTIAL EXAM WHICH IS WRITTEN OUT HERE ON THE
4 RIGHT-HAND SIDE.
5 Q. WHICH SAYS 88 PERCENT?
6 A. YES.
7 MS. EISENSTEIN: OKAY. YOU'RE REFERRING TO A
8 PAGE OF NOTES. I'D LIKE TO HAVE THE COURT
9 REPORTER AT THIS TIME MARK THE PAGES WITH YOUR
10 ANALYSIS AS PLAINTIFF'S NEXT IN ORDER.
11 A. SURE.
12 (WHEREUPON PLAINTIFF'S EXHIBIT 3 WAS
13 MARKED FOR IDENTIFICATION BY THE REPORTER.)
14 THE WITNESS: ON THE 16TH HE HAD A
15 DIFFERENTIAL COUNT DONE THEN T00 AND IT WAS 80 AT
16 THAT POINT.
17 BY MS. EISENSTEIN:
18 Q. THE ONE YOU WERE LOOKING AT WAS A
19 DIFFERENTIAL COUNT FROM THE 15TH?
20 A. YEAH.
21 Q. OKAY. HOW MANY WERE ACTUALLY DONE ON
22 THAT OCCASION?
23 A. I'M NOT SURE, BUT I WOULD IMAGINE HE HAD
24 COUNTS DONE FREQUENTLY AT THAT TIME. I HAVEN'T
25 BOTHERED TO COUNT THEM. THEY'RE ALL REASONABLY
90

1 CLOSE.
2 THERE'S ANOTHER ONE DONE ON 20 -- WELL,
3 WAIT A MINUTE. I FOUND ANOTHER ONE IN ANY CASE,
4 I'M NOT SURE WHAT DATE IT WAS DONE ON.
5 Q. WHAT'S THE DIFFERENTIAL THERE?
6 A. 77.
7 Q. DOES THAT AFFECT YOUR ANALYSIS?
8 A. NO.
9 Q. ALL RIGHT.
10 A. NOT SIGNIFICANTLY.
11 I THEN USED THE DATA IN THE STRYCKMANS,
12 WHICH IS A PAPER IN HERE, TO ESTIMATE THE BODY
13 BURDEN OF LYMPHOCYTES, WHICH IN THIS CASE ARE
14 ABNORMAL LYMPHOCYTES, WHICH I HAVE DONE.
15 Q. AND HOW DID YOU PERFORM THAT ANALYSIS?
16 A. I USED THE GRAPH THAT'S PROVIDED IN
17 STRYCKMANS TO MAKE THAT ESTIMATE AND HIS WEIGHT AT
18 THE TIME HE WAS ADMITTED, WHICH WAS 65 KILOGRAMS.
19 Q. IS THE GRAPH THAT WAS DONE IN STRYCKMANS
20 THE SAME AS THE GRAPH THAT YOU USED IN PLAINTIFF'S
21 3?
22 A. NO.
23 Q. OKAY, THEN, CAN YOU POINT OUT FOR US,
24 PLEASE, WHAT GRAPH YOU'RE REFERRING TO.
25 A. FIGURE 1 ON PAGE 164 OF STRYCKMANS. I
91

1 COULD HAVE USED JUST THE ABSOLUTE LYMPHOCYTE COUNT
2 BUT THE ESTIMATE OF TOTAL BODY BURDEN IS MORE
3 RELIABLE ACCORDING TO THE LITERATURE. BUT I COULD
4 HAVE USED EITHER.

5 Q. ALL RIGHT. MAY I SEE THAT FOR A MOMENT.

6 THANK YOU.

7 WHAT DID YOU DO NEXT, DOCTOR?

8 A. I CHOSE ANOTHER SET OF HEMATOLOGIC DATA
9 FROM HIS FILE, AND I HAD AVAILABLE TOME DATA FROM
10 HIS 1972 ADMISSION FOR BACK PAIN, AND ALSO A '68
11 ADMISSION FOR EPIGASTRIC DISTRESS.

12 Q. AND WHAT SPECIFIC INFORMATION DID YOU USE
13 FROM 1972?

14 A. I DID NOT USE THE 1972 DATA BECAUSE THERE
15 WERE TWO ENTRIES AT THAT TIME AND THEY SUGGEST TO
16 ME LABORATORY ERROR AND SO I USED THE 1968 DATA
17 INSTEAD.

18 Q. CAN YOU PLEASE FIND THE TWO ENTRIES FROM
19 1972 FOR US.

20 (PAUSE IN THE PROCEEDINGS.)

21 THE WITNESS: YEAH. ONE IS ON PAGE 39, THE
22 OTHER IS ON PAGE 40 OF THIS DOCUMENT.

23 BY MS. EISENSTEIN:

24 Q. AND ARE YOU REFERRING TO -- WHICH
25 RECORDS, DOCTOR?

92

1 A. THE -- THE SAME TYPE OF CBC EXAM THAT
2 WAS -- THAT I USED FROM '75.
3 Q. OKAY. MAY I SEE IT FOR A MOMENT. I'D
4 LIKE TO FIND A WAY TO IDENTIFY THIS.
5 I'M GOING TO IDENTIFY THIS FOR THE RECORD
6 AS THE BEVERLY HOSPITAL LABORATORY REPORTS, DATE
7 AT THE BOTTOM IS 4/12/72 ON PAGE 39 OF THIS
8 DOCUMENT, AND -- WELL, THEY'RE BOTH 4/12/72, THE
9 SECOND ONE IS ALSO A LABORATORY REPORT.
10 ARE THESE A URINALYSIS, DOCTOR?
11 A. NO, IT'S HEMATOLOGY.
12 Q. THIS MUST BE COPIED OVER SOMETHING ELSE.
13 A. YEAH, I THINK YOU'RE RIGHT, THAT IS -
14 YEAH, THIS IS A HEMATOLOGY FORM AND THAT'S THE
15 BOTTOM OF A URINALYSIS FORM.
16 Q. ALL RIGHT.
17 A. I DIDN'T USE THE URINALYSIS.
18 Q. OKAY.
19 A. NOW I ELECTED NOT TO USE THAT DATA SET
20 BECAUSE BOTH ENTRIES ARE I BELIEVE WITHIN A DAY OF
21 EACH OTHER AND THE READINGS ARE TOO FAR OFF TO BE
22 CONSISTENT.
23 Q. WHAT'S TOO FAR OFF?
24 A. BOTH THE DIFFERENTIAL AND THE WHITE COUNT
25 ARE DIFFERENT. IN THIS FIRST ONE WE HAVE A
93

1 DIFFERENTIAL OF 53 PERCENT AND A WHITE COUNT OF
2 6800, AND IN THE OTHER ONE WE -- THE NEXT ONE WE
3 HAVE A LYMPHOCYTE DIFFERENTIAL OF 79 PERCENT AND A
4 WHITE COUNT OF 8600. AND THE RELATIVE DIFFERENCE
5 IS BEYOND THAT WHICH I WOULD ACCEPT FOR NORMAL
6 LABORATORY VARIATION.

7 I PERFORMED A QUICK CALCULATED ESTIMATE
8 ON MY CALCULATOR OF THE DIFFERENCE BETWEEN THE TWO
9 DATA SETS USING EITHER THE 72 POINT OR THE 68. I
10 CHOSE IT, AND THE 68 PROVIDES A MORE CONSERVATIVE
11 ESTIMATE. THAT IS TO SAY IF I'D USED THE 72 THE
12 DOUBLING TIME WOULD HAVE BEEN HIGHER.

13 Q. AND WHAT SIGNIFICANCE WOULD THAT HAVE HAD
14 FOR YOU?

15 A. IT WOULD BASICALLY -- THE -- IT PUSHES
16 BACK THE POINT OF INITIAL TUMOR DEVELOPMENT.

17 Q. TO PRIOR TO BIRTH?

18 A. ON THE BASIS OF HIS DOUBLING TIME, ONE
19 WOULD INTERPRET THAT DATA AS BEING SUGGESTIVE THAT
20 IT ORIGINATED AT BIRTH, OR AT LEAST WAS
21 CONGENITAL.

22 THE OTHER ANALYSIS THAT I PERFORMED THAT
23 IS ON "3" IS USING THE LYMPHOCYTE DOUBLING TIME
24 LITERATURE THAT'S IN HERE THAT SEGREGATES OR
25 PREDICTS SURVIVABILITY OR SURVIVAL WITH CLL.

1 BASED ON MR. BUCHAJ'S SURVIVAL TIME I
2 USED A CONSERVATIVE ESTIMATE OF ONE YEAR DOUBLING
3 TIME, AND THAT WOULD PLACE HIS INITIAL TUMOR
4 DEVELOPMENT AT, AS I SAID BEFORE, THE MID
5 THIRTIES. I THINK THE DATE WAS ABOUT 1936.
6 AND SO I WOULD SAY THAT IN ALL LIKELIHOOD
7 HIS TUMOR ORIGINATED BETWEEN, DEPENDING UPON WHICH
8 SET OF DATA YOU CHOOSE TO USE, EITHER HIS ACTUAL
9 DOUBLING TIME OR THE LITERATURE VALUE THAT IS
10 ASSOCIATED WITH A FAVORABLE PROGNOSIS, AT ONE
11 YEAR, THAT IT WAS EITHER -- IT MOST LIKELY
12 ORIGINATED EITHER IN UTERO OR BEFORE 1936.
13 Q. YOU USED DATA FROM THE 1968 REPORT; IS
14 THAT CORRECT?
15 A. YES.
16 Q. CAN YOU FIND THAT FOR US, PLEASE.
17 A. YES, THAT'S ON TESTIMONY
18 Q. THAT'S A LABORATORY REPORT FROM BEVERLY
19 HOSPITAL, 7/24/68; IS THAT CORRECT? OH, NO. CAN
20 YOU FIND THE DATE, DOCTOR?
21 A. BY ASSOCIATION, YES. I CAN'T READ THAT
22 EXACTLY BUT THE ONE RIGHT UNDERNEATH IT SAYS
23 7/24/68.
24 Q. AND WHAT INFORMATION DID YOU TAKE OFF
25 THAT REPORT?
95

1 A. EXACTLY THE SAME DATA THAT I TOOK FROM
2 THE OTHERS.
3 Q. AND SPECIFICALLY WHAT ARE THE NUMBERS?
4 A. THE WHITE COUNT IS 11,100, AND THE
5 LYMPHOCYTE DIFFERENTIAL IS 29 PERCENT.
6 Q. ALL RIGHT.
7 A. I ALSO TOOK HIS WEIGHT FROM THAT
8 ADMISSION WHICH WAS 163 POUNDS.
9 Q. AND WHAT'S THE STAMP, THE NUMBER STAMP ON
10 THAT DOCUMENT THAT IDENTIFIES IT FOR YOU? PAGE
11 WHAT?
12 A. 18.
13 Q. ALL RIGHT. ANY OTHER DATA THAT YOU USED
14 IN DOING THIS ANALYSIS?
15 A. AS I MENTIONED BEFORE, THE OTHER
16 ASSUMPTION THAT I MADE -- I DID TWO ANALYSES: ONE
17 USED A ONE-YEAR DOUBLING TIME WHICH IS THE CUTOFF
18 POINT WITH RESPECT TO DETERMINING OR PREDICTING
19 THE SURVIVABILITY OR THE SURVIVAL OF THE PATIENT
20 AFTER DIAGNOSIS WITH CLL, AND THAT'S REFERRED TO
21 IN SEVERAL OF THE ARTICLES THAT ARE HERE.
22 Q. THE ONE-YEAR DOUBLING TIME?
23 A. YES. MONTSERRAT IN PARTICULAR.
24 Q. AND WHAT WAS THE OTHER ANALYSIS?
25 A. A CALCULATION OF HIS ACTUAL LYMPHOCYTE
96

1 DOUBLING TIME.
2 Q. AND THAT WAS BASED ON THE DATA WE JUST
3 DISCUSSED?
4 A. YES.
5 Q. ANY OTHER DATA?
6 A. NO.
7 Q. ALL RIGHT. I'D LIKE YOU TO GO THROUGH IF
8 YOU WILL ONE LAST TIME THE PROCESS YOU WENT
9 THROUGH IN DETERMINING HIS ACTUAL DOUBLING TIME,
10 USING THE DATA THAT WE'VE NOW DISCUSSED.
11 A. OKAY. BETWEEN HAVING CALCULATED HIS BODY
12 BURDEN USING THE FIGURE IN STRYCKMANS FOR 1975 AND
13 1968, I DETERMINED THE DIFFERENCE IN THE TOTAL
14 ESTIMATED BODY BURDEN OF TUMOR CELLS, LYMPHOCYTES,
15 THAT WERE PRESENT AT THOSE TWO TIMES.
16 FROM THAT DIFFERENCE AND THE AMOUNT OF
17 TIME THAT TRANSPIRED BETWEEN '68 AND '75, I
18 CALCULATED THE TOTAL NUMBER OF DOUBLINGS THAT
19 WOULD HAVE TO HAVE TAKEN PLACE IN THE TUMOR MASS
20 FOR HIM TO ARRIVE IN 1975 WITH THE NUMBER THAT I
21 CALCULATED FROM HIS HEMATOLOGY REPORTS.
22 Q. HOW DID YOU CALCULATE IT FROM HIS
23 HEMATOLOGY REPORTS? WHAT YOU SAW ON THE LAB
24 REPORTS?
25 A. I TOOK -- YES, IT'S -- I TOOK THE DATA
97

1 FROM -- I DETERMINED HIS ABSOLUTE LYMPHOCYTE COUNT
2 FROM THE. DIFFERENTIAL AND THE WHITE BLOOD CELL
3 COUNT ON THE LAB REPORT.
4 I THEN USED THE STRYCKMANS FIGURE CHART
5 TO ESTIMATE HIS TOTAL BODY BURDEN, USED THOSE
6 FIGURES TO DETERMINE THE DIFFERENCE IN BODY BURDEN
7 OVER THAT TIME, AND FROM THAT I CALCULATED HIS
8 ACTUAL DOUBLING TIME. FOLLOWING -- IN WHICH I
9 DETERMINED TO BE 2.76 YEARS.
10 I THEN EXTRAPOLATED THAT IN TERMS OF THE
11 NUMBER OF DOUBLING TIMES NECESSARY TO ARRIVE AT A
12 SINGLE CELL, AND SINCE CLL IS A MONOCLONAL
13 DISEASE, IT IS DERIVED FROM A SINGLE CELL, AND
14 WHEN I USE HIS ACTUAL DOUBLING TIME, THAT DATE IS
15 1936.
16 Q. HOW DID YOU EXTRAPOLATE SPECIFIC -
17 A. BY CALCULATING THE NUMBER OF DOUBLING
18 TIMES BACKWARDS TO GET TO ONE.
19 Q. OKAY. DID YOU DO ANYTHING FURTHER IN
20 THIS ANALYSIS?
21 A. NO. AS I SAID, I ALSO INTRODUCED AN
22 ASSUMPTION BEING THAT THE OUTSIDE DOUBLING TIME
23 WOULD BE ONE ON THE BASIS OF THE LITERATURE FOR
24 ONE YEAR, AND I USED THAT AS WELL.
25 AND -- EXCUSE ME. CAN WE READ BACK WHAT
98

1 I --
2 MS. EISENSTEIN: SURE.
3 (THE RECORD WAS READ BY THE REPORTER.)
4 THE WITNESS: THAT'S IN ERROR.
5 BY MS. EISENSTEIN:
6 Q. WHAT'S IN ERROR?
7 A. WHEN I USE HIS ACTUAL DOUBLING TIME THE
8 PROJECTED DATE IS 1876, WHICH OF COURSE IS NOT
9 CONSISTENT WITH REALITY AND SUGGESTS THAT IT
10 OCCURRED IN UTERO.
11 WHEN I USE A STATISTICALLY DERIVED
12 DOUBLING TIME THAT'S CONSISTENT WITH A FAVORABLE
13 PROGNOSIS WITH CLL OF ONE YEAR, THE DATE OF
14 ORIGINATION IS 1936.
15 Q. WHAT IS IT THAT SUGGESTS TO YOU THAT BY
16 USING THE ACTUAL DOUBLING TIME OF 2.76 YEARS, HOW
17 DO YOU ARRIVE AT THE CONCLUSION THAT IT MUST HAVE
18 BEEN IN UTERO?
19 A. BECAUSE HE WAS NOT BORN IN 1876, HE WAS
20 BORN I BELIEVE IN 1923.
21 Q. OKAY.
22 A. WHICH WOULD MEAN THAT IN FACT THE ACTUAL
23 INITIATION EVENT PROBABLY OCCURRED IN UTERO OR
24 VERY CLOSE TO IT.
25 Q. ASSUMING THE DATA THAT YOU USED WAS
99

1 ACCURATE; CORRECT?
2 A. THAT'S CORRECT.
3 Q. IF ANY ONE OF THOSE LAB REPORTS WAS
4 INCORRECT, YOUR ACTUAL FIGURES WOULD BE INCORRECT
5 AS WELL.
6 A. THEY WOULD BE INCORRECT BUT THEY WOULD
7 NOT BE -- MY OPINION WOULD NOT BE SUBSTANTIALLY
8 ALTERED UNLESS THERE WERE GROSS ERRORS BECAUSE
9 MINOR VARIATIONS IN THE NUMBER ARE NOT GOING TO
10 AFFECT THE ANALYSIS THAT GREATLY.
11 Q. WHAT'S A MINOR VARIATION IN THE NUMBER?
12 A. WELL, FOR INSTANCE, I COULD HAVE USED THE
13 1972 DATA. IT WOULD HAVE GIVEN US A MORE
14 CONSERVATIVE ESTIMATE OF DOUBLING TIME, BUT IT
15 WOULD NOT HAVE ALTERED THE FINAL CONCLUSIONS.
16 Q. DID YOU ACTUALLY CALCULATE OUT THE 1972
17 DATA?
18 A. ONLY ON A DESK TOP CALCULATOR.
19 Q. WHAT WAS THE YEAR THAT, THAT CAME OUT TO
20 BE?
21 A. I DON'T RECALL.
22 Q. ALL RIGHT.
23 A. IT'S EASILY DONE.
24 Q. YOU SAID IN REFERENCE TO USING THE ONE
25 YEAR FOR THE FIGURE FOR DOUBLING TIME, THAT, THAT
100

1 WAS IN REGARDS TO A FAVORABLE DIAGNOSIS OF CLL?

2 A. WITH RESPECT TO THE PROJECTED LIFE SPAN,
3 YES.

4 Q. WHAT DO YOU MEAN BY THAT?

5 A. CLL -- THE DOUBLING -- LYMPHOCYTE

6 DOUBLING TIME HAS BEEN SHOWN TO PREDICT VERY
7 ACCURATELY THE PROGNOSIS OF THE PATIENT WITH
8 RESPECT TO SURVIVAL TIME.

9 THE MEDIAN SURVIVAL FOR CLL IN GENERAL IS

10 ABOUT FIVE YEARS. PATIENTS WITH EXTENDED LIFE

11 SPANS BEYOND FIVE YEARS WITH THE DISEASE TEND TO

12 BE ASSOCIATED WITH DOUBLING TIMES OF 12 MONTHS OR
13 GREATER.

14 MR. BUCHAJ SURVIVED APPROXIMATELY 13

15 YEARS WITH HIS DISEASE FROM THE TIME OF DIAGNOSIS,

16 AND THEREFORE CLEARLY FALLS INTO THAT GROUP OF

17 INDIVIDUALS FOR WHICH LYMPHOCYTE DOUBLING TIME HAS
18 BEEN FOUND TO BE GREATER THAN ONE YEAR.

19 Q. WHAT DATA DID YOU NEED WHEN YOU MADE THE

20 CALCULATION USING THE ONE-YEAR DOUBLING TIME?

21 A. THE ANALYSIS -- WELL, THE CALCULATION I

22 USED WAS THE 1975 BODY BURDEN.

23 Q. AND THAT'S ALL YOU NEEDED TO DO THAT ONE;

24 CORRECT?

25 A. THAT'S CORRECT.

101

1 Q. BECAUSE YOU DIDN'T NEED THE ACTUAL
2 DOUBLING TIME.
3 A. THAT'S RIGHT.
4 Q. SO ALL YOU NEEDED WAS THE DATA FROM THAT
5 ONE ENTRY IN 1975.
6 A. YES.
7 Q. TO DO THE CALCULATION.
8 A. YES.
9 Q. OKAY. DID YOU DO THE ACTUAL DOUBLING
10 TIME CALCULATION PRIOR TO USING THE ONE YEAR?
11 A. YOU MEAN WHICH DID I DO FIRST?
12 Q. RIGHT.
13 A. I DID THEM AT THE SAME TIME. AS YOU CAN
14 SEE THIS IS A COMPUTER PRINTOUT, AND IT GIVES US
15 BOTH ANSWERS SIMULTANEOUSLY.
16 MS. EISENSTEIN: ALL RIGHT. LET'S MARK
17 THAT -- DID WE MARK THAT ALREADY?
18 THE REPORTER: YES.
19 MS. EISENSTEIN: WHAT IS THAT, PLAINTIFF'S 3?
20 THE REPORTER: YES.
21 BY MS. EISENSTEIN:
22 Q. I FIND IT DIFFICULT, AND IT'S PROBABLY MY
23 OWN IGNORANCE, TO BELIEVE THAT TWO CALCULATIONS
24 WERE DONE SIMULTANEOUSLY BY YOU. DIDN'T YOU HAVE
25 TO DO ONE AND ENTER THAT FIRST?
102

1 MR. JANSSEN: I OBJECT TO THE FORM OF THE
2 QUESTION.
3 THE WITNESS: NO.
4 MR. MORI: OBJECTION, ARGUMENTATIVE.
5 THE WITNESS: THE DATA FOR CALCULATING EACH
6 WAS ENTERED INTO THE PROGRAM AND IT WAS PRINTED
7 OUT. IT GAVE US BOTH SIMULTANEOUSLY.
8 YOU MEAN DID I ENTER ONE SET OF NUMBERS
9 FIRST? DEFINITELY. BUT I DIDN'T GET AN ANSWER
10 UNTIL I RAN THE PROGRAM.
11 BY MS. EISENSTEIN:
12 Q. AND WHICH DID YOU ENTER FIRST?
13 A. I DON'T REMEMBER. PROBABLY -- PROBABLY
14 THE ONE YEAR.
15 Q. DO YOU HAVE ANY OTHER DOCUMENTS REGARDING
16 THIS CASE THAT YOU DIDN'T PRODUCE HERE TODAY?
17 A. NO.
18 Q. OKAY. HAVE YOU EVER DONE THIS TYPE OF
19 CALCULATION OF DOUBLING TIME PRIOR TO THIS CASE?
20 A. I'VE DONE DOUBLING TIME IN CELL KINETICS
21 AND CELL CYCLE KINETIC ANALYSES IN A NUMBER OF
22 RESEARCH PROJECTS AND EXPERIMENTS.
23 Q. OKAY. AND IN THIS PARTICULAR CASE, CAN
24 YOU STATE FOR US, PLEASE, WHAT YOUR PURPOSE WAS IN
25 DOING THESE TWO DIFFERENT TYPES OF CALCULATIONS?

103

1 A. TO BRACKET THE PERIOD OF TIME DURING
2 WHICH MOST LIKELY MR. BUCHAJ'S CLL ORIGINATED.
3 Q. SO AS YOU SIT HERE TODAY, CAN YOU STATE
4 THAT IT WAS MORE LIKELY THAN NOT 1936 WHEN HE
5 FIRST DEVELOPED THE FIRST CLL CELL?
6 A. PRIOR TO 1936, YES.
7 Q. AND IT'S BASED ON THAT ONE-YEAR
8 CALCULATION; RIGHT?
9 A. WELL, IT'S BASED ON BOTH OF THEM,
10 BASICALLY. I'M SAYING IT MORE LIKELY THAN NOT
11 OCCURRED PRIOR TO 1936.
12 Q. AND YOU'RE BASING THAT UPON BOTH
13 CALCULATIONS?
14 A. YES.
15 Q. OKAY. WHEN YOU DID THESE STUDIES IN THE
16 PAST, WHAT WAS YOUR STATED PURPOSE?
17 A. TO -- WHEN I'VE DONE -- USED KINETICS
18 BEFORE IT'S BEEN TO ANALYZE THE TYPE OF EFFECTS OF
19 COMPOUNDS, DRUGS OR CHEMICALS ON REPLICATION
20 KINETICS AND IN BONE MARROW AND TO DETERMINE WHAT
21 PLACE IN THE CELL CYCLE, THE REPLICATION CYCLE, IS
22 MOST LIKELY THE TARGET FOR TOXICITY.
23 Q. SO IT WAS FOR A DIFFERENT STATED PURPOSE
24 THAN IN THIS CASE.
25 A. YES.

1 Q. HAVE YOU EVER MADE THESE CALCULATIONS FOR
2 THE EXACT SAME PURPOSE THAT YOU'VE MADE THEM IN
3 THIS CASE BEFORE?

4 A. NO.

5 Q. AND WHY DID YOU DO IT IN THIS CASE?

6 A. BECAUSE THERE IS A WELL DEVELOPED
7 LITERATURE THAT DESCRIBES THE APPROACH TO
8 CALCULATING LYMPHOCYTE DOUBLING TIME IN CLL AND
9 THAT DEMONSTRATES IT'S ONE OF THE MOST RELIABLE
10 PROGNOSTIC INDICATORS FOR THE PATHOGENESIS AND THE
11 PROGRESSION OF THE DISEASE.

12 Q. WELL, WHEN YOU TALK ABOUT A PROGNOSTIC
13 INDICATOR, AND PLEASE FORGIVE MY IGNORANCE, I
14 INTERPRET THAT TO MEAN THAT THIS APPROACH HAS BEEN
15 USED TO DETERMINE THE LIFE EXPECTANCY OF THE
16 PATIENT. IS THAT CORRECT?

17 A. YES, MA'AM.

18 Q. HAS THE LITERATURE EVER USED THIS
19 APPROACH AS YOU DID, RETROSPECTIVELY, TAKING IT
20 BACK INTO THE PAST TO FIND OUT WHEN THE FIRST CELL
21 DEVELOPED?

22 A. I'M NOT AWARE OF SUCH AN ANALYSIS.

23 Q. ALL RIGHT. SO THE ANALYSIS THAT YOU DID
24 WAS BASED ON ANALYSES THAT WERE DONE OR REPORTED
25 IN THE LITERATURE FOR THE PURPOSE OF SHOWING LIFE

1 EXPECTANCY AFTER DIAGNOSIS OF CLL; CORRECT?
2 A. YES.
3 Q. ALL RIGHT. NOT FOR THE PURPOSE OF
4 DETERMINING WHEN THE FIRST CLL CELL DEVELOPED.
5 A. THAT'S CORRECT.
6 Q. ALL RIGHT. NOW, WHAT LITERATURE DID YOU
7 RELY UPON IN DOING THIS ANALYSIS? YOU'VE
8 MENTIONED TWO PAPERS SO FAR IF I UNDERSTAND YOU
9 CORRECTLY. THE STRYCKMANS?
10 A. YES.
11 Q. AND THE MONTSEERRAT?
12 A. YEAH.
13 Q. ANY OTHERS?
14 A. YES, THERE'S SEVERAL THAT OUTLINE AND
15 ILLUSTRATE THE UTILITY OF THE METHOD AND ITS
16 RELIABILITY.
17 MONTSEERRAT, SOME OF THE STUDIES ON THE -
18 ON LYMPHOCYTE KINETICS AND CLL, ZIMMERMAN, ET AL.,
19 THEML, ET AL. I DON'T WANT TO LEAVE ANY OUT
20 HERE. SWEET, ET AL., ZIPPIN, ET AL., ON
21 SURVIVAL.
22 THERE ARE A COUPLE OF REFERENCES THAT
23 I'VE INCLUDED THAT REFER TO THE RELIABILITY OF
24 LYMPHOCYTE DOUBLING TIME AS OPPOSED TO OTHER
25 STAGING ANALYSES FOR PREDICTING THE BIOLOGY OF THE

106

1 DISEASE.
2 ONE IS FOON, ET AL., AND I'VE INCLUDED A
3 BOOK CHAPTER FROM 1990 EDITION OF LEUKEMIA WHICH
4 INDICATES THE SAME THING, AND THAT'S BY HAN AND
5 RAI, R-A-I.
6 Q. ANYTHING ELSE?
7 A. NO, I BELIEVE THAT WITH RESPECT TO THE
8 ANALYSIS THAT'S IT.
9 Q. YOU MENTIONED FOON A MOMENT AGO?
10 A. YES.
11 Q. WHAT WAS THE SIGNIFICANCE OF THAT
12 ARTICLE?
13 A. BASICALLY IT INDICATES QUITE CLEARLY THAT
14 OF ALL THE POTENTIAL PROGNOSTIC INDICATORS OR
15 STAGING ANALYSES THAT ARE DONE TO PREDICT THE LIFE
16 EXPECTANCY AND THE PROGRESS OF CLL, THAT
17 LYMPHOCYTE DOUBLING TIME IS ONE OF THE MOST
18 RELIABLE AND CERTAINLY ONE OF THE MOST PROMISING.
19 THEY TALK ABOUT UNFAVORABLE PROGNOSTIC
20 FACTORS, AND ONE OF THOSE IS A DOUBLING TIME OF
21 LESS THAN 12 MONTHS.
22 Q. ALL RIGHT. DID SOMEONE IN THIS CASE ASK
23 YOU TO DO THESE CALCULATIONS?
24 A. BASED ON MY KNOWLEDGE OF CLL AND CELL
25 KINETICS, I INDICATED TO MR. JANSSEN THAT SUCH AN

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1 ANALYSIS COULD BE PERFORMED AND I WAS PREPARED TO
2 DO IT AND HE ASKED ME TO DO SO.

3 Q. DID HE ASK YOU INITIALLY, "DO YOU KNOW
4 WHEN THE FIRST CELL DEVELOPED?" DO YOU HAVE A -
5 WELL -

6 A. I THINK THAT WAS PROBABLY THE GIST OF OUR
7 DISCUSSION WAS COULD ONE IN FACT USE KINETICS TO
8 DETERMINE THAT, AND I INDICATED THAT FOR CLL
9 SPECIFICALLY THERE WAS SUBSTANTIAL LITERATURE TO
10 SUPPORT THAT KIND OF ANALYSIS.

11 Q. OKAY. I WANT TO MAKE SURE AT THIS TIME
12 THAT WE'VE GONE THROUGH ALL THE CALCULATIONS
13 YOU'VE DONE FOR THIS PARTICULAR CASE. HAVE WE?

14 A. YES.

15 Q. ALL RIGHT. I ALSO WANT TO MAKE SURE THAT
16 WE HAVE YOUR FILE MARKED. MAY I SEE ALL OF THE
17 PAGES THAT WERE IN THE MANILA FOLDER WHICH HAVE
18 BEEN IDENTIFIED AS YOUR FILE?

19 A. I BELIEVE MY C.V. WAS IN AND THAT'S IT.

20 Q. OTHER THAN THAT IT'S COMPLETE?

21 A. YES.

22 Q. YOU'VE ALSO BROUGHT WITH YOU TODAY A BOOK
23 ENTITLED CHRONIC LYMPHOCYTIC LEUKEMIA EDITED BY
24 POLLIACK AND CATOVSKY?

25 A. YES.

1 Q. WAS THERE A SPECIFIC CHAPTER IN THERE
2 THAT YOU RELIED UPON?
3 A. SEVERAL. IN PARTICULAR I WOULD CALL
4 ATTENTION TO THE CHAPTER ON BONE MARROW BIOPSY
5 AND -- WELL, THERE'S SEVERAL. THE BIOLOGY OF
6 CHRONIC LYMPHOCYTIC LEUKEMIA BY ROBERT GALE AND
7 FOON -- THERE ARE SEVERAL ON BONE MARROW BIOPSY
8 WHICH -
9 Q. ALL RIGHT. WHICH YOU RELIED UPON?
10 A. YES.
11 Q. OKAY.
12 ARE YOU REFERRED TO AS MR. IRONS OR
13 DR. IRONS?
14 A. DR. IRONS.
15 Q. OKAY. THEY SCREWED UP ON THIS.
16 I AM LOOKING AT THE EXPERT DESIGNATION IN
17 THIS CASE, DOCTOR, AND I'M GOING TO READ TO YOU
18 FROM IT AND ASK YOU WHETHER YOU'RE PREPARED TO
19 TESTIFY FROM THIS AREA AT THE TIME OF TRIAL.
20 ARE YOU PREPARED TO TESTIFY AS TO THE
21 CURRENT MEDICAL AND SCIENTIFIC UNDERSTANDING OF
22 THE RELATIONSHIP IF ANY BETWEEN EXPOSURE TO
23 ORGANIC SOLVENTS AND CHRONIC LYMPHOCYTIC
24 LEUKEMIA?
25 A. YES.

1 Q. AND WHAT IS THE-OPINION IN THAT REGARD?
2 A. I THINK WE'VE BEEN THROUGH IT. I DON'T
3 BELIEVE THERE'S CONSISTENT EVIDENCE THAT ANY
4 ORGANIC SOLVENTS ARE ASSOCIATED WITH CLL.
5 Q. AND WHAT DO YOU -- I'M SORRY.
6 A. AND SPECIFICALLY THAT BENZENE IS -
7 THERE'S EVIDENCE THAT BENZENE IS NOT.
8 Q. AND BY "CONSISTENT EVIDENCE" WHAT DO YOU
9 MEAN?
10 A. WELL, I'VE REFERRED TO THE ONE STUDY IN
11 WHICH THERE WAS A SUGGESTION THAT A RELATIONSHIP
12 FOR CARBON TETRACHLORIDE AND CARBON DISULFIDE WERE
13 ACTUALLY MUCH GREATER THAN THE POTENTIAL FOR
14 BENZENE.
15 I'M NOT CONVINCED THAT THAT'S -- THAT
16 THOSE TWO OTHER SOLVENTS ARE ASSOCIATED WITH CLL
17 EITHER, BUT THERE IS THAT ONE SUGGESTION.
18 Q. ARE THOSE TWO OTHER SOLVENTS TO YOUR
19 KNOWLEDGE PRESENT IN STODDARD SOLVENT?
20 A. NO.
21 Q. WHAT DO YOU BASE THAT UPON?
22 A. MY GENERAL KNOWLEDGE OF THE COMPOSITION
23 OF STODDARD SOLVENT.
24 Q. IT STATES IN HERE, QUOTE:
25 "HE WILL ADDRESS THE CELL
110

1 KINETICS OF CHRONIC LYMPHOCYTIC
2 LEUKEMIA AND WILL RENDER AN OPINION
3 THAT MR. BUCHAJ'S CHRONIC
4 LYMPHOCYTIC LEUKEMIA WAS NOT CAUSED
5 BY ANY EXPOSURE TO SOLVENTS USED BY
6 MR. BUCHAJ DURING HIS EMPLOYMENT AT
7 EAST TEXAS MOTOR FREIGHT."
8 IS THAT THE ANALYSIS THAT WE JUST WENT
9 THROUGH?
10 A. YES, MA'AM.
11 Q. DOES IT INCLUDE ANYTHING FURTHER?
12 A. NO.
13 Q. I JUST WANT TO GET A COUPLE QUICK
14 QUESTIONS THAT I FAILED TO ASK YOU EARLIER. HAVE
15 YOU SPOKEN TO ANYONE ELSE REGARDING THIS CASE
16 OTHER THAN THE INDIVIDUALS YOU'VE MENTIONED
17 TODAY?
18 A. I THINK I PROBABLY TALKED TO MY WIFE
19 ABOUT SCHEDULING, BUT CERTAINLY NO SUBSTANCE.
20 Q. ALL RIGHT. ANYONE ELSE?
21 A. NO.
22 Q. CAN YOU DESCRIBE FOR ME BRIEFLY WHAT YOUR
23 PRESENT PROFESSIONAL ACTIVITIES ARE?
24 A. I'M DIRECTOR OF THE MOLECULAR TOXICOLOGY
25 AND ENVIRONMENTAL HEALTH SCIENCES PROGRAM AT THE
111

1 UNIVERSITY OF COLORADO HEALTH SCIENCE CENTER. I
2 AM PROFESSOR OF TOXICOLOGY IN THE SCHOOL OF
3 PHARMACY. I AM PROFESSOR OF PATHOLOGY IN THE
4 SCHOOL OF MEDICINE.
5 I AM RESPONSIBLE FOR PH.D. TRAINING IN
6 TOXICOLOGY AND FOR TEACHING A VARIETY OF SUBJECTS
7 INCLUDING TOXICOLOGY IN -- TO EPIDEMIOLOGY
8 STUDENTS, HEMATOPATHOLOGY, PARTICIPATE IN CANCER
9 CENTER ACTIVITIES, MEMBER OF THE BOARD OF
10 DIRECTORS OF THE UNIVERSITY OF COLORADO CANCER
11 CENTER, AND I AM CHAIRMAN OF THE HEALTH AND SAFETY
12 OVERSIGHT COMMITTEE FOR THE UNIVERSITY OF COLORADO
13 HEALTH SCIENCES CENTER.
14 Q. WHAT'S PROGRAM C-238?
15 A. PARDON ME?
16 Q. WHAT IS PROGRAM C-238? I'M REFERRING TO
17 UNDER YOUR DESIGNATION.
18 A. OH, MY ADDRESS USED TO BE C-238, IT'S NOW
19 C-235. I HAVE NO IDEA WHAT PROGRAM MEANS. I
20 THINK PROGRAM IS SUPPOSED TO BE WHAT IT IS -- YES,
21 OKAY. MOLECULAR TOXICOLOGY AND ENVIORNMENTAL
22 HEALTH SCIENCES PROGRAM, C-235, UNIVERSITY OF
23 COLORADO.
24 Q. I SEE. ALL RIGHT, THANK YOU.
25 WHAT PERCENTAGE OF YOUR TIME IS SPENT
112

1 TEACHING?

2 A. IF YOU INCLUDE CURRICULUM DEVELOPMENT IN
3 THAT, PROBABLY 20.

4 Q. AND APPROXIMATELY WHAT PERCENTAGE OF YOUR
5 TIME IS SPENT ON YOUR OTHER ACTIVITIES?

6 A. MAJORITY OF IT IS RESEARCH, ABOUT 20
7 PERCENT IS SPENT. ON ADMINISTERING IOUS ASPECTS
8 OF THE PROGRAM INCLUDING ADMINISTERING TEACHING
9 AND TRAINING.

10 APPROXIMATELY 10 TO 15 PERCENT IS SPENT
11 DOING SERVICE WORK, EITHER RELATED TO MY ADVISORY
12 ROLE WITH VARIOUS GOVERNMENT AGENCIES IN THE STATE
13 OR CONSULTING.

14 Q. DOES THAT INCLUDE MEDICAL-LEGAL?

15 A. YES.

16 Q. WHAT PERCENTAGE SPECIFICALLY IS
17 MEDICAL-LEGAL, BECAUSE I THOUGHT THAT WAS 10 TO 15
18 PERCENT.

19 A. NO, IT'S ABOUT -- WELL, LAST YEAR IT WAS
20 NINE, I DON'T KNOW WHAT IT IS THIS YEAR. IT MAY
21 COME OUT LESS, I'M NOT CERTAIN.

22 Q. YOU'RE TALKING ABOUT TIME NOW?

23 A. YEAH.

24 Q. SO WE'VE GOT 20 PERCENT TEACHING, 20
25 PERCENT ADMINISTRATION, 10 TO 15 PERCENT SERVICE

113

1 INCLUDING CONSULTING FOR MEDICAL-LEGAL, AND IS THE
2 REMAINDER RESEARCH?

3 A. RESEARCH.

4 MS. EISENSTEIN: ALL RIGHT. OKAY. I'M JUST
5 GOING TO LOOK AT MY NOTES, I THINK I'M DONE.
6 (PAUSE IN THE PROCEEDINGS.)

7 BY MS. EISENSTEIN:

8 Q. DID YOU SEE ANY MATERIAL SAFETY DATA
9 SHEETS REGARDING THIS CASE?

10 A. I DON'T BELIEVE SO, NO.

11 Q. DID YOU ASK FOR ANY?

12 A. NO.

13 Q. DID YOU ASK FOR ANY INFORMATION THAT YOU
14 WERE NOT PROVIDED?

15 A. NO.

16 MS. EISENSTEIN: I DON'T HAVE ANY FURTHER
17 QUESTIONS.

18 MR. JANSSEN: THREE AND A QUARTER HOURS?

19 MS. EISENSTEIN: FINE.

20 MR. JANSSEN: AND, MR. MORI, DO YOU HAVE ANY
21 QUESTIONS?

22 MR. MORI: NO QUESTIONS. VERY NICE TO MEET
23 YOU, DOCTOR, THOUGH.

24 MR. JANSSEN: I HAVE NO QUESTIONS. LET'S USE
25 THE SAME STIPULATION WE USED YESTERDAY, HELEN.

14

1 MS. EISENSTEIN: FINE. NO PROBLEM.
2 MR. JANSSEN: LET'S GO OFF THE RECORD FOR A
3 MOMENT.
4 (THE STIPULATION AS ENTERED INTO BETWEEN
5 ALL COUNSEL IS RECITED HEREIN AS FOLLOWS:
6 "MS. EISENSTEIN: THE WITNESS
7 WILL HAVE ONE WEEK TO REVIEW THE
8 TRANSCRIPT; THE TRANSCRIPT WILL BE
9 SENT DIRECTLY TO MY OFFICE WHERE WE
10 WILL MAINTAIN CUSTODY OF THE
11 ORIGINAL; THE DOCTOR WILL NOTIFY
12 MR. JANSSEN'S OFFICE OF ANY
13 CHANGES; AND PLAINTIFF'S COUNSEL
14 WILL BE NOTIFIED WITHIN 48 HOURS OF
15 ANY CHANGES THAT WERE MADE; IF NO
16 CHANGES ARE MADE OR THE DOCTOR DOES
17 NOT SIGN THE TRANSCRIPT, THEN AN
18 UNSIGNED CERTIFIED COPY CAN BE USED
19 FOR ALL PURPOSES AT THE TIME OF
20 TRIAL I'M ACTUALLY WILLING TO
21 ALTER IT AND SAY PRIOR TO THE TIME
22 HE TAKES THE STAND.
23 MR. JANSSEN: OKAY.
24 MR. MORI: SO STIPULATED.")
25
115

1 (WHEREUPON PLAINTIFF'S EXHIBIT 4 WAS
2 MARKED FOR IDENTIFICATION BY THE REPORTER.)
3 **(WHEREUPON THE DEPOSITION PROCEEDINGS**
4 **WERE CONCLUDED AT 12:50 O'CLOCK P.M.)**

5
6
7
8

9 STATE OF CALIFORNIA

SS.

10 COUNTY OF LOS ANGELES

11
12

13 I, RICHARD D. IRONS, PH.D., SAY I HAVE READ
14 THE FOREGOING DEPOSITION AND DECLARE UNDER PENALTY
15 OF PERJURY THAT MY ANSWERS AS INDICATED ARE TRUE
16 AND CORRECT.

17
18

19 (DATE)

20

21 (SIGNATURE)

22
23

24
25

116

1 STATE OF CALIFORNIA

SS.

2 COUNTY OF LOS ANGELES

3

4

5 I, TAMARA D. WICKHAM, CERTIFIED

6 SHORTHAND REPORTER NO. 4117, HEREBY CERTIFY:

7

8 THAT THE ATTACHED DEPOSITION IS A

9 CORRECT COPY OF THE ORIGINAL TRANSCRIPT OF THE

10 DEPOSITION TAKEN BEFORE ME AS THEREON STATED.

11

12 I DECLARE UNDER PENALTY OF PERJURY THAT

13 THE FOREGOING IS TRUE AND CORRECT.

14

15 EXECUTED AT LOS ANGELES, CALIFORNIA,

16 THIS DAY OF 1990.

17

18

19

20 TAMARA D. WICKHAM, CSR NO. 4117

21

22

23

24

25