In The Matter Of:

Nevada Power Company v.
Monsanto Company, et al.

George Roush, Jr.
March 17, 1993

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Page 2

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEVADA
NEVADA POWER COMPANY,)
Plaintiff,)
-vs-) # CV-89-555-LDG (LRL)
MONSANTO COMPANY, GENERAL)
ELECTRIC CORPORATION, et al.,)
Defendants.)

INDEX

WITNESS: Page:
GEORGE ROUSH, JR.
Direct Examination by Mr. Bradley 4
EXHIBITS
Roush Deposition Exhibit Number 1 ... 20
Roush Deposition Exhibit Number 2 ... 22
Deposition Exhibit Number 979 71
Deposition Exhibit Number 1251 103
Deposition Exhibit Number 1421 106
Deposition Exhibit Number 367 107
Deposition Exhibit Number 350 108
Deposition Exhibit Number 424 110
Deposition Exhibit Number 1154 111
Deposition Exhibit Number 1425 & 428 . 112
Deposition Exhibit Number 517, 422 & 709 . 113
Deposition Exhibit Number 359 & 340 .. 114

Page 3

IN THE UNITED STATES DISTRICT COURT
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NEVADA POWER COMPANY,)
Plaintiff,)
-vs-) # CV-89-555-LDG (LRL)
MONSANTO COMPANY, GENERAL)
ELECTRIC CORPORATION, et al.,)
Defendants.)

DISCOVERY DEPOSITION OF WITNESS, to be used in an action pending in the District Court of the United States, for the District of Nevada, wherein NEVADA POWER COMPANY is Plaintiff, and MONSANTO COMPANY, et al. are Defendants, pursuant to Notice, under the provisions of Rule 26 of the Rules of Civil Procedure, taken on March 17, 1993, at the law offices of Messrs. Husch & Eppenberger, 100 North Broadway, St. Louis, Missouri, before John T. Concannon, a Notary Public within and for the State of Missouri.

APPEARANCES

The Plaintiff was represented by Mr. Ralph A. Bradley, of the law firm of Bradley & Merrell, c/o Jones, Jones, Close & Brown, 300 South Fourth Street, Ste. 700, Las Vegas, Nevada, 89101.

The Defendant, Monsanto Company, was represented by Mr. Bruce A. Featherstone, of the law firm of Kirkland & Ellis, 1999 Broadway, Ste. 4000, Denver Colorado, 80202.

The Defendant, Westinghouse Corporation, was represented by Ms. Laurie Basch, of the law firm of Weil, Gotshal & Manges, 767 Fifth Avenue, New York, New York, 10153.

Page 4

Page 4

GEORGE ROUSH, JR., of lawful age, being first duly sworn to tell the truth, the whole truth, and nothing but the truth, deposes and says on behalf of the Plaintiff, as follows:

DIRECT EXAMINATION

QUESTIONS BY MR. BRADLEY:

Q: Dr. Roush, my name the Ralph Bradley, and you and I were introduced to one another just a few moments ago. Is that true?

A: Yes, sir.

Q: I represent Nevada Power Company in this lawsuit that they have brought against Monsanto, Westinghouse and General Electric; you understand that, don't you?

A: Yes.

Q: Are you here, today, represented by an attorney?

A: Yes.

Q: If, during the course of the deposition, I ask a question that's not clear, will you tell me?

A: Yes.

Q: And if you give an answer to a question, I'm going to assume that you understood the question. Fair enough?

A: Yes.

Page 5

Q: All right. And if, at any time during this afternoon, you want to take a break, you just let us know and we'll accomodate you, all right?

A: Yes.

Q: What is your residential address?

A: 10 Babler Lane, B-a-b-l-e-r, St. Louis, 63124.

Q: Are you presently employed?

A: Retired.

Q: When did you retire?

A: 1988.

Q: Let's start this deposition by having you describe your educational background, beginning with college. Where did you attend college?

A: University of Wisconsin.

Q: Did you receive a Bachelor's Degree from the University of Wisconsin?

A: My education was interrupted by the war.

Q: All right. So you began college at the University of Wisconsin and then went into the military?

A: Yes.

Q: What branch of the military?

A: Signal Corp.

Q: And what was your rank when you got out of the military?

A: First Lieutenant.

Page 6

Q: Did you return to college when you got out of the military?

A: Yes. 1946.

Q: Where did you go to college in 1946?

A: Wisconsin.

Q: Did you receive a degree from the University of Wisconsin?

A: I didn't take the degree right away.

Q: Okay. Did you ultimately get a degree?

A: Yes.

Q: What degree did you get?

A: Washington University Medical School.

Q: And you got that degree when?

A: 1951.

Q: And I take it, your degree was as a medical doctor?

A: Yes. In that interim, I went back and got my degree from Wisconsin. Just had to write and get it.

Q: All right. So you received a Bachelors Degree from Wisconsin?

A: Yes.

Q: Did you intern?

A: Yes.

Q: Where did you intern?

A: In Milwaukee. Milwaukee County Hospital.

Page 7

That's a teaching hospital of Marquette.

Q: Did you obtain a specialty when you went through your medical training?

THE WITNESS: Will you ask the question again?

Q: (By Mr. Bradley) Yes. Do you have a specialty in any area of medicine?

A: Yes.

Q: What is your specialty?

A: Occupational Medicine.

Q: Describe for me the training you have had in occupational medicine?

A: In 1951, went to the University of Pittsburgh and have a degree from the School of Public Health. It's called a Masters in Public Health in Occupational Medicine.

Q: Was the Masters through any medical school?

A: It was at the University of Pittsburgh School of Public Health.

Q: All right. But the School of Public Health wasn't part of the School of Medicine?

A: No. It's — They're both part of the University of Pittsburgh.

Q: All right. And do you have any other degrees from any other institutions?

A: No.

Q: I take it, you became licensed as a medical

Page 8

doctor at some point?

A: In 1957.

Q: How long did you attend the University of Pittsburgh in their School of Public Health?

A: Two years.

Q: You graduated in 1953 from the University of Pittsburgh?

A: In 1952.

Q: All right.

A: That was a post-graduate fellowship I had.

[11] **Q:** Upon graduation from the University of [12] Pittsburgh, did you obtain employment?

[13] **A:** I went to the National Cancer Institute at [14] Bethesda.

[15] **Q:** And that was in 1952?

[16] **A:** Yes.

[17] **Q:** What did you do at the National Cancer [18] Institute in 1952?

[19] **A:** I had a clinical fellowship in cancer therapy.

[20] **Q:** Did the fellowship relate to your Masters [21] Degree in Public Health and Occupational Medicine?

[22] **A:** Not directly, but it was my purpose.

[23] **Q:** All right.

[24] **A:** It was understanding chemotherapy.

[25] **Q:** How long was the fellowship at the National

Page 9

[1] Cancer Institute?

[2] **A:** One year.

[3] **Q:** What did you do when the fellowship ended?

[4] **A:** Went to the Stanton Island Marine Hospital, [5] residency in medicine.

[6] **Q:** How long were you at Stanton Island Marine [7] Hospital?

[8] **A:** One year.

[9] **Q:** What kind of medicine did you practice in your [10] residency?

[11] **A:** Internal medicine.

[12] **Q:** What did you do at the end of your residency?

[13] **A:** I'm not finished yet.

[14] **Q:** All right. Go ahead.

[15] **A:** I went back to the University of Pittsburgh.

[16] **Q:** And why did you do that?

[17] **A:** I finished my residency in internal medicine.

[18] **Q:** When did you finish your residency in internal [19] medicine?

[20] **A:** That year. One year.

[21] **Q:** In —

[22] **A:** '57.

[23] **Q:** Help me for a moment. I have you at the [24] National Cancer Institute for one year beginning in 1952; [25] is that correct?

Page 10

[1] **A:** Yes, sir.

[2] **Q:** In 1953, you went to Stanton Island Marine [3] Hospital for one year?

[4] **A:** Yes.

[5] **Q:** So that's 1954, 1954, went back to the [6] University of Pittsburgh to finish your residency?

[7] **A:** Yes.

[8] **Q:** And you finished that in 1957?

[9] **A:** Yes.

[10] **Q:** When you obtained your residency, was it [11] common to have a four year residency?

[12] **A:** No.

[13] **Q:** Why did you have a four year residency?

[14] **A:** Because mine was mixed up by spending the time [15] at NIH.

[16] **Q:** What did you do when you finished your [17] residency in 1957?

[18] **A:** Became part of the faculty at the School of [19] Public Health, University of Pittsburgh.

[20] **Q:** What is the field of public health?

[21] **A:** Mine was not in public health, my was [22] occupational medicine.

[23] **Q:** What did you teach, then, as part of the [24] faculty of the School of Public Health at the University of [25] Pittsburgh in 1957?

Page 11

[1] **A:** I taught students coming there for a degree in [2] occupational medicine.

[3] **Q:** What did you teach?

[4] **A:** Occupational medicine.

[5] **Q:** What is occupational medicine?

[6] **A:** Understanding of the needs of industry in [7] occupational medicine. That included understanding of a [8] man's ability to work, the hazards associated with work, [9] responsibilities of occupational medicine to the company [10] with whom we are working.

[11] **Q:** What responsibilities are there of someone [12] practicing occupational medicine to the company with whom [13] they are working?

[14] **A:** Helping them to understand what the workers in [15] that plant have in the way of problems associated with [16] their work. If the man has any injury or disability [17] associated with his work, that has to be communicated to [18] the management of the company.

[19] **Q:** How long were you at the faculty of the School [20] of Public Health at the University of Pittsburgh?

[21] **A:** During that time I was there, I was Assistant [22] Professor of Occupational Medicine.

[23] **Q:** How long were you there?

[24] **A:** Two years.

[25] **Q:** And during the two-year time, was the subject

Page 12

[1] that you taught only occupational medicine?

[2] **A:** No.

[3] **Q:** What else did you teach?

[4] **A:** I also taught internal medicine. I was [5] Instructor of Medicine.

[6] **Q:** And then in 1957, you obtained a license to be [7] a medical doctor?

[8] **A:** No.

[9] **Q:** No. When were you licensed as a medical [10] doctor?

[11] **A:** I'm not there yet.

[12] **Q:** All right.

[13] **MR. FEATHERSTONE:** You mean in terms of your [14] history; is that what you're saying?

[15] **A:** Yes. I'm not there yet.

[16] **Q:** (By Mr. Bradley) Okay. What did you do [17] following —

[18] **A:** I was still essentially in training.

[19] **Q:** All right.

[20] **A:** I went to University of Louisville.

[21] **Q:** Was this in 1959?

[22] **A:** '57/58. I may be off a year. I can't tell.

[23] **Q:** And what did you do at the University of [24] Louisville?

[25] **A:** Had a fellowship in cardiology, one year.

Page 13

[1] **Q:** What did you do in your fellowship in [2] cardiology at the University of Louisville?

[3] **A:** Became a cardiac consultant.

[4] **Q:** How did you become a cardiac —

[5] **Q:** I became a cardiac consultant. I did cardiac [6] catheterizations.

[7] **Q:** You received training to do that?

[8] **A:** Yes.

[9] **Q:** While at the University of Louisville?

[10] **A:** Yes. That's what I did. I did cardiac [11] catheterization.

[12] **Q:** What is a cardiac catheterization?

[13] **A:** Got a heart, and the question whether there is [14] something wrong with one of the valves. Whether the heart, [15] the two sides of the heart are functioning; and you put a [16] catheter in one of the major veins in the forearm and go up [17] and you put it into the heart and then you measure the [18] pressure inside the - outside the heart between the valves; [19] put another catheter in the major artery in the leg that [20] goes up on the other side of the heart and you study those [21] two parts of the heart's function.

[22] **Q:** What did you do when you left the University [23] of Louisville?

[24] **A:** Went to University of Cincinnati.

[25] **Q:** What did you do at the University of

Page 14

[1] Cincinnati?

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A: I was Associate Professor of Occupational Medicine.

Q: How long were you at the University of Cincinnati?

A: Until '72.

Q: What did you do as Associate Professor of Occupational Medicine?

A: Taught occupational medicine to physicians.

Q: Did you teach any courses, other than occupational medicine while at the University of Cincinnati?

A: No.

Q: When did you become licensed as a medical doctor?

A: Didn't get licensed yet.

Q: All right. What did you do in 19 - following — What did you do after the University of Cincinnati?

A: Went to Tulane Medical School in New Orleans.

Q: Why did you go the Tulane Medical School?

A: They built me a toxicology laboratory.

Q: What was your job title when you went to Tuland Medical School?

A: Professor of Medicine.

Q: What did you do while you were at Tulane

Page 15

Medical School?

A: Ran that toxicology laboratory.

Q: How long did you run the toxicology lab?

A: I've forgotten where I am in years.

MR. FEATHERSTONE: 1972.

MR. BRADLEY: I have that you went to Tulane Medical School in 1972.

A: I was there for two years.

Q: (By Mr. Bradley) All right. What did you do when you left Tulane Medical School?

A: I went to Monsanto Company.

Q: What —

A: And got my license in medicine here.

Q: Does your license entitle you to practice in a specialty?

A: Just medicine.

Q: What work were you doing at the toxicology lab at Tulane Medical School?

A: We did toxicology.

Q: Well, on what kind of chemicals or products?

A: Whatever would be coming to us.

Q: All right. While at Tulane Medical School, did you do toxicology on products manufactured by Monsanto?

A: No. That was before I knew Monsanto.

Q: During the two years you were at Tulane

Page 16

Medical School, did you do toxicology workups on any products containing PCBs?

A: No.

Q: While at the Tulane Medical School, did you do any toxicological workups on chemicals?

A: Yes.

Q: Which chemicals, do you recall?

A: On a number of chemicals.

Q: Any of the chlorinated aromatic hydrocarbons?

A: I don't think so. We did a number of them. The toxicologists did this short-term. Do it in a couple of days so you could turn them over. We did no chronic studies but we would have if I had stayed there.

Q: Doing all acute studies?

A: Yes.

Q: Were you working with animals?

A: Yes.

Q: Rats?

A: Yes.

Q: Mice?

A: Yes.

Q: Any other animals?

A: Not on any continuing basis.

Q: Why was it that you left the lab to go to work for Monsanto?

Page 17

A: They were going to built me a toxicology laboratory that would be more to my needs than the one I had at Tulane.

Q: Who, at Monsanto, indicated to you that they would build you a toxicology lab more suited to your needs?

A: Man who became my boss.

Q: Dr. Kelly?

A: No.

Q: Who?

A: Mr. Throtall, vice-president.

Q: When you — You went to Monsanto, then, in 1974?

A: 1973.

Q: '3. When you went to Monsanto in 1973, had Monsanto, in fact, built a toxicology lab?

A: No.

Q: For your use?

A: No, they had not.

Q: Did you say "No. They have now?"

A: They had not.

Q: All right. Did they eventually build a toxicology lab for you?

A: Yes.

Q: When was that built?

A: I can't be sure. 1975 about.

Page 18

Q: What was your job title when you began work at Monsanto?

A: Associate Medical Director.

Q: Who was the medical director when you began your work at Monsanto?

A: Dr. Kelly.

Q: Was Dr. Kelly your boss when you began your work at Monsanto?

A: Yes.

Q: Do you have an office in the medical area of Monsanto?

A: Yes.

Q: Describe for me the physical layout of the medical department at Monsanto when you went to work there in 1973.

A: We had a clinical section, and we had one physician, one physician working in that clinical section and Dr. Kelly and I substituted and supplemented in the clinical practice at Monsanto. That's one section.

Q: What other sections were there?

A: We had an industrial hygiene section, headed by Mr. Wheeler, and he had one or two industrial hygienists working with him. I can't tell you when they came.

Q: What other sections were there?

A: Then there was a section on toxicology.

Page 19

A: Who ran that?

A: George Levinskas.

Q: What other sections were there?

A: That's it. We had — What I was thinking about is, we had a library and I'm not sure where that fit into this.

Q: Were all of the sections housed in the same building?

A: Yes.

Q: Were there other departments than the medical department in this one, in this building?

A: Yes.

Q: What other departments were in the building that housed the medical department when you began work there in '73?

A: An overseas operation.

Q: Did the medical department have one floor of a building?

A: It had half of that first floor.

[20] **Q:** I'm going to hand you a piece of paper and ask [21] you, if you would, to diagram for me the first floor of the [22] building that the medical department was in in 1973 and [23] indicate which part of the first floor was the medical [24] department.

[25] **A:** I'm not sure how accurate. It was a long time

Page 20

[1] ago and it was changed many times subsequent to this.

[2] **MR. BRADLEY:** Let's have this marked as, I [3] guess, Roush Deposition Exhibit One.

[4] (Whereupon, the reporter marked Roush Deposition Exhibit [5] Number One, for identification.)

[6] **Q:** (By Mr. Bradley) All right. You've drawn [7] here your best estimate of the physical layout of the [8] medical department when you began work with Monsanto in [9] 1973.

[10] **A:** When I started.

[11] **Q:** And you've made some drawings that appear to [12] be rooms and you have some names, or other identifying -

[13] **A:** Yes.

[14] **Q:** Explain to me, then, what you've done with [15] Exhibit One?

[16] **A:** The entry hall into the building.

[17] **Q:** What building is this?

[18] **A:** A building.

[19] **Q:** A building. All right. It's on what's called [20] the Monsanto Campus?

[21] **A:** Yes.

[22] **Q:** Go ahead.

[23] **A:** And so as you come in, there's a receptionist [24] there.

[25] **Q:** All right. And you've written "receptionist?"

Page 21

[1] **A:** Yes. And next to her was a secretary.

[2] **Q:** All right. Secretary had his or her own room?

[3] **A:** No. It was open.

[4] **Q:** Okay.

[5] **A:** And next to her was Dr. Kelly.

[6] **Q:** All right. Dr. Kelly was where? Would you [7] point?

[8] **A:** Right here.

[9] **Q:** All right. And you wrote "Dr. Kelly" there?

[10] **A:** Yes.

[11] **Q:** All right.

[12] **A:** Then I was next to him.

[13] **Q:** All right.

[14] **A:** And we had an opening for another doctor that [15] was not there.

[16] **Q:** All right.

[17] **A:** And on the other side, we had examination [18] rooms and we had a section on toxicology and there were [19] three people. I'm not sure how they were situated.

[20] **Q:** All right.

[21] **A:** Then we had the industrial hygiene section.

[22] **Q:** All right. And when you went to work for [23] Monsanto in 1973, was there a medical department library?

[24] **A:** I'm not sure how formal it was.

[25] **Q:** Was there an area that was referred to as the

Page 22

[1] library?

[2] **A:** Yes.

[3] **Q:** Would you draw that?

[4] **A:** I can't tell you where it is.

[5] **Q:** Why is it that you can't tell me where it is?

[6] **A:** Because we left there quite soon and went to [7] another building.

[8] **Q:** I see. All right. And you don't recall where [9] the library was when you began your work there?

[10] **A:** Right.

[11] **Q:** All right. Would you draw for me now the [12] physical layout of the medical department when you moved [13] from what's referenced by Exhibit One?

[14] (Whereupon, the reporter marked Plaintiff's Roush [15] Deposition Exhibit Number Two, for identification.)

[16] **Q:** (By Mr. Bradley) We've now marked your [17] diagram that you have just prepared as Plaintiff's Roush [18] Deposition Exhibit Two. Can you tell me what that is?

[19] **A:** We moved to another building. This is moving [20] over to G Building.

[21] **Q:** All right.

[22] **A:** And we were down in the basement area there. [23] We had windows around the side but we were below ground.

[24] **Q:** And what year did you move to G Building?

[25] **A:** '78.

Page 23

[1] **Q:** And you have some markings on this Exhibit, as [2] well. Would you explain those to me?

[3] **A:** This is the entry.

[4] **Q:** All right.

[5] **A:** Because we were a basement, we came directly, [6] right into my door, and my office was right adjacent to [7] there. So I was one of the few people who had windows on [8] both sides. My secretary was there.

[9] **Q:** Uh-huh.

[10] **A:** And we had the toxicology group right next to [11] that, and we had industrial hygiene next, with Jack Garrett [12] as the head of it.

[13] **Q:** All right.

[14] **A:** And we had a library, and I'm not sure just [15] how it was located with respect to this, and Dr. Degarmo, [16] D-e-g-a-r-m-o, was our administrator. And on our other [17] side we had the physicians and industrial hygiene.

[18] **Q:** Did you have any examining rooms?

[19] **A:** No. The examining rooms were still back in A [20] Building and we had to hire an extra physician to take the [21] place of what we had been doing.

[22] **Q:** So when you moved to G Building from A [23] Building in '78, the medical department still maintained [24] examining rooms in A Building?

[25] **A:** Yes. The clinical facility remained there.

Page 24

[1] **Q:** What were your job responsibilities as [2] Associate Medical Director in 1973?

[3] **A:** To do the clinical examinations that this, the [4] full-time man was unable to do.

[5] **Q:** Did you have other job responsibilities as [6] Associate Medical Director in '73?

[7] **A:** Yes.

[8] **Q:** What else?

[9] **A:** Visited plants to understand what kind of [10] operations, what they were doing.

[11] **Q:** What other job responsibilities, if any?

[12] **THE WITNESS:** Besides that?

[13] **MR. BRADLEY:** Yes. I want you to tell me all [14] your job responsibilities in '73.

[15] **THE WITNESS:** This was before, while —

[16] **MR. BRADLEY:** This is when you first began [17] working there in 1973.

[18] **A:** As I said, we had visited plants and worked [19] with the toxicologists, talked about their organization, [20] how they functioned and their responsibilities.

[21] **Q:** (By Mr. Bradley) All right. And when you [22] began work in 1973, who were the toxicologists with [23] Monsanto?

[24] **A:** George Levinskas was in charge.

[25] **Q:** Was the toxicology section under your

Page 25

[1] authority as Associate Medical Director?

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A: It was under Levinskas'.

Q: Who did Levinskas report to?

A: He reported to Kelly.

Q: As the Associate Director, or Associate Medical Director, was your primary responsibility working with the clinical section?

A: They were both major functions.

Q: All right. What kind of work did you do with the toxicologists in 1973?

A: Participated with them with the definition of what studies needed to be done and understand and interpret the findings of their studies that were completed.

Q: When you began work in 1973, did Monsanto have its own toxicology lab?

A: No.

Q: And when did it have a toxicology lab? Is that the lab you indicated earlier was built for you around 1975?

A: Yes.

Q: In 1973, did Dr. Levinskas report at all to you?

A: It was more functional than administratively so.

Q: What do you mean by that?

A: Well, if he had a question about what he should do next or whether we should do something, he came to me directly. He didn't have to go through anyone else.

Q: Would he — Do you know whether he would normally go to you with questions about toxicology as opposed to going to Dr. Kelly?

A: No. Levinskas is a nationally recognized toxicologist, and so what he did toxicologically was his determination, but we would discuss what he was going to do.

Q: Was there a point in time when your title changed at Monsanto?

A: The day Dr. Kelly retired.

Q: When was that?

A: December of '74.

Q: And you then became Director of the Medical Department at Monsanto?

A: Yes.

Q: When you became Medical Department Director was Dr. Levinskas still in charge of the toxicology section?

A: Yes.

Q: As Director of the Medical Department, did Dr. Levinskas report to you?

A: Yes.

MR. FEATHERSTONE: Would you read that question back, please?

(Whereupon, the reporter propounded the previous question.)

Q: (By Mr. Bradley) Who did you report to as Medical Department Director in 1974?

A: I reported to Mr. Bible for a very short period of time.

Q: What was his job title when you reported to him?

A: He was vice-president, and some administrative title.

Q: After you no longer reported to Dr. Bible, who did you report to?

A: Mr. Throtall.

MR. FEATHERSTONE: Is it Dr. Bible?

A: No.

Q: (By Mr. Bradley) And when you — Do you recall the date that you began reporting to Mr. Throtall?

A: No, sir. No, sir.

Q: Do you —

A: But it was very short.

Q: Do you recall his job title when you began reporting to him?

A: He was Vice-President in Charge of Research.

Q: Was Mr. Throtall involved at all in the

decisions to undertake various toxicological studies regarding Monsanto products?

A: No.

Q: Those decisions, while you were medical department director, were made by the head of the toxicology department with your consultation?

A: Yes. And possibly informing Throtall. Not participating but more informing.

Q: Have you had your deposition taken before?

A: Yes.

Q: How many times have you had your deposition taken?

A: Ten to twenty.

Q: During the times you had your deposition taken on previous occasions, did you give information regarding polychlorinated biphenyls?

A: Yes.

Q: Out of the ten to twenty times you had your deposition taken, what's your estimate of how many times you addressed the topic of polychlorinated biphenyls?

A: Five.

Q: Tell me what you remember about those five depositions. When did they occur, who was there?

A: I can't.

Q: Can you tell me the last time you had your

deposition taken where the subject matter was, at least in part, polychlorinated biphenyls?

Q: I don't know the name of it. This one was in Houston.

Q: Do you recall roughly the year that you had your deposition taken?

A: Five years ago.

Q: Do you know what the reason was why you had your deposition taken in that case?

A: There was concern for contamination.

Q: Of -

A: By Monsanto. Three or four different companies were involved.

Q: And the contamination was of PCBs?

A: All chemicals.

Q: All right. Including PCBs?

A: I can't answer that.

Q: Well, at least PCBs came up as a subject matter in your deposition?

A: I can't even answer that.

Q: Do you maintain copies of the transcripts of any depositions where you've given testimony?

A: No.

Q: Do you know if those are kept anywhere?

A: No.

Q: Did you review any of your deposition testimony prior to appearing here, today?

A: No.

Q: Do you recall which attorney represented — Were you represented by an attorney when you had your deposition taken in Houston?

A: I'm sure I was, but I shouldn't be that sure. I think I was.

Q: Do you remember the names of any of the attorneys?

A: No.

Q: Do you remember the names of the Plaintiffs?

A: No.

Q: Do you remember the names of the other three or four different companies?

A: No.

Q: And other than the deposition in Houston, do you recall anything at all

HARTOLDMON0010007

about the other roughly four [19] times you gave depositions covering the topic of PCBs?

[20] **A:** There was a deposition out in San Francisco.

[21] **Q:** Is that in the early 1980s?

[22] **A:** Late '80s, I would think.

[23] **Q:** Was that in a case called One Market Place?

[24] **A:** Yes.

[25] **Q:** Do you recall whether your deposition was

Page 31

[1] transcribed, the one that you gave in the One Market Place [2] case?

[3] **A:** No, I don't know.

[4] **Q:** Do you recall whether you read the words - the [5] questions you were asked during that deposition and answers [6] that you gave?

[7] **A:** I usually corrected all of those.

[8] **Q:** All right. Did you correct the deposition [9] that you gave in Houston, as well? You reviewed it and [10] made whatever corrections you needed?

[11] **A:** I'm sure I did.

[12] **Q:** All right. Do you recall the subject matter [13] of the testimony of your deposition in the One Market Place [14] case?

[15] **MR. FEATHERSTONE:** Well, Mr. Bradley, I think [16] that's the case that's governed by the confidentiality [17] order that I referenced several weeks ago in another [18] deposition. So you can answer that question generally.

[19] **A:** That's about all I know, my participation. [20] They would say, "You're going to give a deposition," and [21] that's all the direction I would be given.

[22] **Q:** (By Mr. Bradley) All right. Do you recall, [23] though, giving testimony about PCBs?

[24] **THE WITNESS:** Where?

[25] **MR. BRADLEY:** In San Francisco.

Page 32

[1] **A:** Yes.

[2] **Q:** (By Mr. Bradley) Do you recall any other [3] occasions where you gave depositions regarding PCBs?

[4] **A:** No, I do not.

[5] **Q:** Okay. What materials, if any, did you review [6] to prepare for today's deposition?

[7] **THE WITNESS:** What?

[8] **Q:** (By Mr. Bradley) What materials, if any, did [9] you review to prepare for today's deposition?

[10] **A:** PCBs.

[11] **Q:** What materials did you review? Did you review [12] letters, studies?

[13] **A:** No. I have a toxicology book at home.

[14] **Q:** Did you review the toxicology book to prepare [15] for today's deposition?

[16] **A:** Yes.

[17] **Q:** What's the name of the toxicology book?

[18] **A:** It's called Pattey, P-a-t-t-e-y.

[19] **Q:** Pattey?

[20] **A:** P-a-t-t-e-y, Pattey.

[21] **Q:** Is Pattey the author of it?

[22] **A:** Yes.

[23] **Q:** What's the title of the volume?

[24] **A:** Toxicology. It's a standard reference book.

[25] **Q:** What else did you review in preperation for

Page 33

[1] today's deposition?

[2] **A:** Nothing particularly.

[3] **Q:** Well, did you review any of the documents that [4] you generated while you were medical director at Monsanto?

[5] **A:** We talked about the subject yesterday with [6] counsel.

[7] **Q:** I don't want to know what you talked about but [8] I'm interested, though, in knowing what documents you [9] reviewed.

[10] **A:** I can't recall them. I can't do that because [11] we just took things out.

[12] **Q:** You don't remember anything at all, whether [13] they were studies or —

[14] **A:** Well, we talked about the IBT study.

[15] **Q:** Did you review some documents relating to the [16] IBT studies?

[17] **A:** No. Well, there was some correspondence.

[18] **Q:** All right. Other than the correspondence [19] regarding IBT, what do you recall about the documents that [20] you reviewed?

[21] **MR. FEATHERSTONE:** Dr. Roush, just so you [22] know, Mr. Bradley already told you he doesn't want to know [23] what you talked about with counsel but you can, if you [24] recall it, identify for him the documents you were shown [25] yesterday for this deposition.

Page 34

[1] **A:** I can't recall them.

[2] **Q:** (By Mr. Bradley) Do you recall whether you [3] reviewed any studies?

[4] **A:** The IBT study was the one that —

[5] **Q:** All right.

[6] **A:** - that really is the crux.

[7] **Q:** All right.

[8] **MR. FEATHERSTONE:** When you get to an [9] appropriate point, Mr. Bradley, I need to find out about [10] Mr. McNicholas.

[11] **MR. BRADLEY:** This is an appropriate point. [12] (Whereupon, a fifteen minute recess was taken.)

[13] **Q:** (By Mr. Bradley) Dr. Roush, I assume that [14] you've heard the term polychlorinated biphenyls?

[15] **A:** Yes.

[16] **Q:** Also known as PCBs?

[17] **A:** Yes.

[18] **Q:** Also known as chlorinated biphenyls?

[19] **A:** Yes.

[20] **Q:** Also known as chlorinated diphenyls?

[21] **A:** Yes. Not the same.

[22] **Q:** Chlorinated biphenyls are not the same as [23] chlorinated diphenyls?

[24] **A:** Yes, they are.

[25] **Q:** What's not the same?

Page 35

[1] **A:** What you had said. I thought there was a [2] difference in that last one. You say it again.

[3] **Q:** Are PCBs also known as chlorinated diphenyls?

[4] **A:** Yes.

[5] **Q:** And are PCBs also known as chlorinated [6] biphenyls?

[7] **A:** Yes.

[8] **Q:** Are chlorinated biphenyls and chlorinated [9] diphenyls the same?

[10] **A:** Yes.

[11] **Q:** When did you first hear the term PCBs?

[12] **A:** When I came to Monsanto.

[13] **Q:** Who, at Monsanto, first told you about PCBs?

[14] **A:** First?

[15] **MR. BRADLEY:** Yes.

[16] **A:** I don't remember.

[17] **Q:** (By Mr. Bradley) All right. Did you have a [18] discussion when you first went to Monsanto regarding PCBs?

[19] **THE WITNESS:** Will you say that again?

[20] **MR. BRADLEY:** Yes.

[21] **Q:** (By Mr. Bradley) When you first went to [22] Monsanto, did you meet with anyone to discuss [23] polychlorinated biphenyls?

[24] **A:** No.

[25] **Q:** Tell me, then, how it was that you came to

Page 36

[1] first hear about the term PCBs, in what context?

HARTOLDMON0010008

A: Mr. Wheeler took me over to his office and said, "I want to tell you what I'm working on."

Q: And what was he working on?

A: On PCBs.

Q: What work was he doing on PCBs when you met with him?

A: Environmental contamination.

Q: What environmental contamination work was he doing on PCBs?

A: It was related to the finding in Sweden, I think it was, that PCBs were present in the environment.

Q: What specifically was Mr. Wheeler doing regarding environmental contamination of PCBs when you met with him?

A: Keeping up-to-date to what contamination there was, or whatever he found in the literature, but he was keeping up-to-date.

Q: Did he tell you how he was keeping up-to-date?

A: Literature primarily but also from other companies.

Q: Did he tell you what he was doing to keep up-to-date in the literature?

A: No.

Q: Did he show you any library acquisitions that

he had that addressed the topic of environmental contamination by PCBs?

A: No.

Q: Did you discuss with him at all what he was doing to keep up-to-date with the literature on PCBs?

A: No.

Q: Was there ever a point in time where you discussed with Mr. Wheeler what he was doing, if anything, to keep up-to-date on the literature in the field of PCBs?

THE WITNESS: Ask that again.

Q: (By Mr. Bradley) Yes. Was there ever a time that you spoke with Mr. Wheeler regarding what he was doing to keep up-to-date on the subject of PCBs in the literature?

A: To a degree, yes.

Q: When did that occur?

A: I can't answer that.

Q: What did he indicate to you he was doing to keep up-to-date regarding PCBs in the literature?

A: I think you just asked that question.

Q: Well, and do you have any more information, other than what you've given me?

A: No. He had a file and he would take it out and we would talk from his accumulated file.

Q: When you met — Was it Mr. Wheeler or Dr.

Wheeler?

A: Mr. Wheeler.

Q: What was his title when you first met with him to discuss PCBs?

A: I don't recall.

Q: Was he within the medical department?

A: Yes.

Q: Was he within the toxicology section?

A: No.

Q: What section was he in?

A: He was head of the industrial hygiene.

Q: You indicated that he had a file cabinet in which he kept materials relating to PCBs?

A: Yes.

Q: And was that a two or four drawer file cabinet?

A: I don't recall.

Q: Do you recall whether it was more than one file cabinet?

A: About where I was when you asked me the other time.

Q: So you don't know?

A: No.

Q: All right.

A: He had taken that seriously.

Q: Well, what does that mean about the number of file cabinets that he had?

A: I can't answer. That's unrelated.

Q: All right. And over what period of time did you have discussions with Mr. Wheeler regarding his work on environmental contamination of PCBs?

A: I can't answer that.

Q: Do you recall whether your conversations with him began in 1973?

A: Yes. No, sir, I can't answer that. I think so.

Q: All right. Do you know whether you stopped having discussions with Mr. Wheeler about environmental contamination of PCBs before you retired?

THE WITNESS: Before he retired?

MR. FEATHERSTONE: Before you retired.

A: He was retired long before me.

Q: (By Mr. Bradley) All right. When did he retire?

A: '74 or '75.

Q: Did you have those discussions with him about environmental contamination of PCBs up to the time he retired?

A: Yes.

Q: What responsibilities, if any, did Mr. Wheeler

have regarding environmental contamination of PCBs between the time you began working at Monsanto and the time that he retired?

THE WITNESS: Can you read that, give me that question again?

(Whereupon, the reporter propounded the previous question.)

A: I don't know.

Q: (By Mr. Bradley) At the time you became medical director in December of 1974, who, if anyone within the medical department, had any responsibility relating to the subject matter of PCBs?

A: Mr. Wheeler.

Q: And what responsibilities did he have when you became medical director regarding PCBs?

A: He continued on that same assignment.

Q: All right. What responsibilities did he have regarding PCBs? You said he was head of the industrial hygiene section.

A: Yes.

Q: He worked on environmental contamination of PCBs?

A: Yes.

Q: I'm trying to figure out what that means. What did he do as head of the industrial hygiene section relating to PCBs?

A: Nothing. He didn't do anything. He kept up-to-date.

Q: And he was the only one who had responsibilities in the medical department relating to PCBs?

A: Yes.

Q: At least up until his retirement?

A: Yes.

MR. FEATHERSTONE: Off the record. (Whereupon, a discussion was held between Counsel, off the record.)

Q: (By Mr. Bradley) During the time that you were medical director, did you ever prepare a summary of data on the toxicity of Aroclor?

A: No.

Q: During the time that you were in the medical department as associate director and director, up to the time of your retirement, did the medical

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department ever [19] prepare a summary of data on the toxicity of Aroclor?

[20] **A:** Yes.

[21] **Q:** Who prepared that?

[22] **A:** Levinskas.

[23] **Q:** Did you review it?

[24] **A:** Yes.

[25] **Q:** What did you do, if anything, prior to

Page 42

[1] reviewing that summary?

[2] **A:** It was after I retired.

[3] **Q:** You prepared the summary after you retired?

[4] **A:** Yes.

[5] **Q:** Why is it, then, that you reviewed it if you [6] were retired?

[7] **A:** I do work for Monsanto.

[8] **Q:** You still do consulting work for Monsanto?

[9] **A:** Yes.

[10] **Q:** Do you recall the year that you reviewed the [11] summary prepared by Dr. Levinskas?

[12] **A:** No.

[13] **Q:** Help me again. What year did you retire?

[14] **A:** '88.

[15] **Q:** Do you know whether, between 1973, the month [16] that you began your employment in the medical department, [17] and the time of your retirement, whether the medical [18] department prepared a document or a summary on the data of [19] the toxicity of Aroclor?

[20] **A:** No.

[21] **Q:** No, you don't know or —

[22] **A:** We did not.

[23] **Q:** You did not. When you did review the summary [24] that was prepared after your retirement, what, if anything, [25] did you do prior to the review?

Page 43

[1] **A:** I don't know what you mean by the question.

[2] **Q:** Well, did you review any toxicology standard [3] textbooks or any studies? Did you do anything at all to [4] prepare you to review a document which was a summary of [5] data on the toxicity of Aroclor?

[6] **A:** No.

[7] **Q:** Did you write a — Excuse me. Did you [8] provide something written as part of your review of the [9] summary of data on the toxicity of Aroclor?

[10] **A:** No.

[11] **Q:** Okay. Did you orally give someone your [12] impressions of the summary?

[13] **A:** Levinskas.

[14] **Q:** All right. So after he gave you the summary, [15] you met with him or you spoke with him and told him what [16] you thought of the summary? Yes?

[17] **A:** Yes.

[18] **Q:** And do you recall what you told him regarding [19] the summary?

[20] **A:** I thought he did a good job.

[21] **Q:** Did you indicate to him whether there were any [22] areas that he had omitted from the summary that perhaps he [23] shouldn't - perhaps should be included?

[24] **MR. FEATHERSTONE:** Let me hear that question [25] back now, please.

Page 44

[1] (Whereupon, the reporter propounded the previous question.)

[2] **A:** No.

[3] **MR. FEATHERSTONE:** Object to the form.

[4] **Q:** (By Mr. Bradley) My question is, did you [5] indicate to Dr. Levinskas any areas that you thought he [6] should include in the summary that he hadn't included?

[7] **A:** No.

[8] **Q:** In your estimation, it was a thorough review [9] of the summary of the toxicity of Aroclor?

[10] **MR. FEATHERSTONE:** Object to the form.

[11] **Q:** (By Mr. Bradley) In your opinion, it was a [12] thorough review on the data on the toxicity of Aroclor?

[13] **A:** I can't answer the question.

[14] **Q:** Did you view it as a comprehensive review of [15] the data on the toxicity of Aroclor?

[16] **A:** I can't answer that question.

[17] **Q:** All right. Is my question not clear?

[18] **A:** Yes. The question you asked me, I can't [19] answer.

[20] **Q:** Why can't you answer it?

[21] **A:** Because you're asking more out of me than I [22] have to give.

[23] **Q:** All right. You didn't know whether it was a [24] comprehensive review?

[25] **A:** When you do a comprehensive review, do you

Page 45

[1] look at just this, or do you go back and read other things [2] to make sure it's complete? Is that what you do? The [3] answer is no.

[4] **Q:** All right. I take it, you didn't do anything [5] to determine whether it was a comprehensive —

[6] **A:** I didn't do anymore than read what he had [7] done.

[8] **Q:** All right. Describe for me, if you will, what [9] documents you reviewed between 1973 and the time you [10] reviewed the summary prepared by Dr. Levinskas on the [11] subject of PCBs. Can you do that?

[12] **THE WITNESS:** What did you say I would do? [13] Say it again.

[14] **Q:** (By Mr. Bradley) I'm interested in knowing [15] what documents, if any, you reviewed over the fifteen or [16] sixteen years you were employed at Monsanto regarding the [17] subject matter of PCBs.

[18] **A:** That's a tough — I can give some but don't [19] ask me to say what I did.

[20] **MR. BRADLEY:** All right. Go ahead and give me [21] what you can.

[22] **A:** Patty's got a good section on that.

[23] **Q:** All right.

[24] **A:** Kimbrell has written on the subject, on [25] dioxins and furans and things like that.

Page 46

[1] **MR. FEATHERSTONE:** He's talking about PCBs, Dr. [2] Roush.

[3] **A:** I'm talking about the book. That's the title [4] of the book.

[5] **MR. FEATHERSTONE:** All right.

[6] **MR. BRADLEY:** Okay.

[7] **A:** There's a National Research Council article on [8] PCBs, good one.

[9] **Q:** (By Mr. Bradley) All right. Did you review [10] any of the articles that were in Mr. Wheeler's file [11] regarding PCBs?

[12] **A:** No.

[13] **Q:** Did you review any articles, if there were [14] any, in the library of Monsanto's medical department on [15] PCBs?

[16] **A:** Yes.

[17] **Q:** What do you recall about the articles that you [18] reviewed?

[19] **MR. FEATHERSTONE:** Object to the form.

[20] **Q:** (By Mr. Bradley) Do you recall why you [21] reviewed articles on PCBs in Monsanto's medical department [22] library?

[23] **A:** An internal discussion.

[24] **Q:** Do you recall which studies you reviewed?

[25] **A:** No.

Page 47

[1] **Q:** Do you recall how many studies you reviewed?

[2] **A:** No.

[3] **Q:** Do you recall whether there were more than [4] five?

[5] **A:** Oh, yes.

[6] **Q:** Do you recall whether there were more than [7] ten?

[8] **A:** No.

[9] **THE WITNESS:** You mean in all that time, from [10] the beginning to the end?

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MR. BRADLEY: Yes.

MR. FEATHERSTONE: Fifteen years, Dr. Roush.

MR. BRADLEY: From the time you began your employment to the time you retired from Monsanto.

A: I don't know.

Q: (By Mr. Bradley) Did you ever attempt to comprehensively review all the literature that had been written on the subject matter of PCBs during the period of time you worked at Monsanto?

MR. FEATHERSTONE: Object to the form.

A: No.

Q: (By Mr. Bradley) When you began your work at Monsanto, did you have any discussions with Dr. Kelly regarding the subject matter of PCBs?

A: No.

Page 48

Q: When you began your work at Monsanto, did the medical department have any responsibility for preparing any materials regarding the subject matter of PCBs?

A: They participated in the safety data sheets.

Q: Anything else?

A: No.

Q: Do you know whether, by reviewing documents or by talking with other people within the medical department during the time you were employed with Monsanto, do you know whether the medical department participated in the preparation of any materials on PCBs prior to the time you were a Monsanto employee?

A: No.

Q: I take it, you heard of the term furan?

A: Yes.

Q: Do you recall when you first — Well, let me ask it this way. Do you recall whether you heard that term for the first time before or after you began your employment with Monsanto?

A: After.

Q: Okay. Do you recall how it was that you heard the term for the first time?

A: First episode of chloracne.

Q: When was the first episode of chloracne?

A: Long before I joined Monsanto.

Page 49

Q: How did you learn about that first episode?

THE WITNESS: Talking about chloracne?

Q: (By Mr. Bradley) Was the first episode of chloracne a Monsanto employee; is that what you meant?

A: Yes.

Q: And do you recall who told you about the Monsanto employee who had the first episode of chloracne?

A: No.

Q: And what were you told, if anything, about the relationship of that first episode and furans?

MR. FEATHERSTONE: Object to the form of the questioning.

A: We had an episode of chloracne and we didn't know what caused it.

Q: (By Mr. Bradley) Did somebody indicate to you that it might have been caused by furans?

A: Didn't know there was such a term as furans.

Q: You indicated that you heard the term furan in regards to this first episode of chloracne. What did you hear?

MR. FEATHERSTONE: Object to the form of the questioning.

Q: (By Mr. Bradley) Did you hear anything at all regarding furans in relationship to this first episode of chloracne while you were employed at Monsanto?

Page 50

A: Yes.

Q: What did you hear?

MR. FEATHERSTONE: Same objection to the form of the question.

A: This requires — We had an episode of chloracne and we always said we had one case, one instance.

Q: And did somebody —

A: Then as time went on, then we learned how to do furans and then they said that was a furan that did it.

Q: Do you recall what date it was, or — Let me ask it this way. Was it in the 1970s that Monsanto had its first episode of chloracne?

A: I don't know when it was. It was before me.

Q: You wouldn't know, then, whether it was the '60s, '50s, '40s?

A: No, sir.

Q: When did you first hear that the first episode of chloracne might have been caused by furans?

A: Recently.

Q: And who told you that?

A: I don't remember.

Q: Was it someone with Monsanto?

A: Yes.

Q: Someone within the medical department?

A: Yes.

Page 51

Q: Had you heard about furans before this medical department employee suggested to you that Monsanto's first episode of chloracne might have been caused by furans?

THE WITNESS: Can you ask that question again?

MR. BRADLEY: Yes.

Q: (By Mr. Bradley) I'm interested in knowing whether you heard about furans before you had this conversation relating furans to the first episode of chloracne.

A: Came in before I knew that there were furans in our PCBs, and that means trace levels.

Q: When did you know that your PCBs had trace levels of furans?

A: I don't know. It's recent though, and I can't tell you what "recent" means.

Q: Can you tell me whether it was before you retired?

A: Yes. Well, about the time I retired. "Recently," that means after that. I don't know.

Q: When did you first hear about the Yusho episode?

A: At the time of the Chicago symposium.

Q: Was that in 1975?

A: '74, '75.

Q: The Chicago symposium was - or do you recall

Page 52

who sponsored the Chicago symposium?

A: I think it was EPA.

Q: Did you speak at that symposium?

A: No.

Q: You must — I take it, you attended it?

A: Yes.

Q: Do you recall what sessions of the symposium you attended that addressed the subject matter of PCBs?

A: The whole meeting was PCBs.

Q: All right. Do you recall which sessions you attended that addressed the subject matter of furans?

A: I think it was part of the general program.

Q: Why was it that you attended that symposium?

A: The IBT results were published, were given out at that time.

Q: And what was it about the IBT results that led you to attend the Chicago symposium?

A: Monsanto paid for the IBT study.

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Q: Okay. Why did completion of the study mean that you attended the Chicago symposium?

A: Why did that mean I attended? We had an Investment in it.

Q: Did you attend the Chicago symposium, at least in part, then, to help protect your investment?

MR. FEATHERSTONE: Object to the form.

Page 53

A: Primarily to learn all I could learn about PCBs.

Q: (By Mr. Bradley) Well, did you attend the Chicago symposium, in part, to help protect Monsanto's investment in PCBs?

MR. FEATHERSTONE: Object to the form.

A: I can't answer it in that form.

Q: (By Mr. Bradley) Have you heard the term polychlorinated dibenzylfuran?

A: Yes.

Q: What is a polychlorinated dibenzylfuran?

A: It's a diphenyl in which the two rings are joined by an oxygen, one of the two.

Q: Do you recall when the first time was that you heard the term polychlorinated dibenzylfuran?

A: No.

Q: Do you know whether it's ever been claimed that polychlorinated dibenzylfurans are chemical contaminants of PCBs?

A: Yes.

Q: Did you learn that during the time that you were employed at Monsanto?

A: Yes.

Q: Did you learn that at least by the time the Chicago symposium was completed?

Page 54

MR. FEATHERSTONE: That it was claimed?

MR. BRADLEY: Yes.

A: I joined Monsanto in '73. It was two years after that, that that symposium took place.

MR. BRADLEY: Right.

A: Now, everything I learned there was new to me because I was new on PCBs.

Q: (By Mr. Bradley) Well, my — I'm interested in knowing whether you ever learned that polychlorinated dibenzylfurans are, in fact, chemical contaminants of PCBs?

A: I'm not sure when, but the first thing we learned about furans was USHA, and USHA was presented there and I can't tell you whether it was then or shortly thereafter.

Q: But you do agree that polychlorinated dibenzylfurans are chemical contaminants of PCBs?

MR. FEATHERSTONE: Object to the lack of foundation.

A: My impression is, it is a little bit.

Q: (By Mr. Bradley) Okay. Can you compare the toxicity of PCBs to polychlorinated dibenzylfurans?

A: No. Nor can anyone else.

Q: Do you know wheather or not polychlorinated dibenzylfurans are considered more toxic than PCBs?

A: I don't know.

Page 55

Q: During the time that you worked at Monsanto, did you ever speak with anyone from Nevada Power Company?

A: No.

Q: During the time you were employed at Monsanto, did you ever speak with any electric utility company regarding PCBs?

A: Not to my knowledge.

Q: During the time you were employed at Monsanto, did you speak with anyone from General Electric regarding PCB?

A: Not that I recall.

Q: During the time you were employed at Monsanto, did you speak with anyone from Westinghouse regarding PCBs?

A: Same answer.

Q: During the period of time you were employed at Monsanto, do you know whether the head of the toxicology section in the medical department ever spoke with any electric utility regarding the subject matter of PCBs?

A: I don't think so.

Q: During —

THE WITNESS: You're talking about while I was medical director?

MR. BRADLEY: I'm talking about while you were employed at Monsanto.

A: Yes.

Page 56

MR. BRADLEY: Including the time you were associate director.

Q: (By Mr. Bradley) During the time you were at Monsanto, do you know whether the head of the toxicology section of the medical department at Monsanto ever spoke with anyone from General Electric regarding PCBs?

A: No.

Q: During that time you were employed at Monsanto, do you know whether the head of the toxicology section of the medical department of Monsanto ever spoke with anyone from Westinghouse regarding PCBs?

A: I don't know.

Q: You began your work at Monsanto in '73 and Dr. Kelly retired in '74; is that correct?

A: Yes.

Q: Do you recall roughly how many months you'd worked there before he retired?

A: About eighteen or nineteen months.

Q: And during that eighteen or nineteen month period, did Dr. Kelly explain to you what he knew about PCBs?

A: My teacher was Wheeler.

Q: So I take it, you and Kelly didn't have those kinds of discussions?

A: No. He left it up to him.

Page 57

Q: All right.

A: That was his responsibility.

Q: During those eighteen or nineteen months before Dr. Kelly retired, did Dr. Kelly show you any documents relating to PCBs?

A: No.

Q: Those were all shown to you by Dr. Wheeler, or Mr. Wheeler?

A: Yes.

Q: Do you know whether Mr. Wheeler is still living?

A: No, he is not.

Q: When did he pass away?

A: Couple of years ago.

Q: During the time that you were employed at Monsanto, was Mr. Wheeler always the head of the toxicology section of the medical department at Monsanto?

MR. FEATHERSTONE: That's not how he has been identified.

A: He was not.

MR. BRADLEY: Excuse me. Mr. Wheeler was head of the industrial hygiene section?

A: Yes.

Q: (By Mr. Bradley) And during that period, during the time you were employed at Monsanto, was Mr.

Page 58

Wheeler always the head of the industrial hygiene section of the medical department at Monsanto?

A: He quit within three or four years after I retired - I mean after I joined the company.

HARTOLDMON0010012

[5] **Q:** So he quit in 1976 or '7?

[6] **A:** Yes.

[7] **Q:** Who took his position when he quit?

[8] **A:** Jack Garrett.

[9] **Q:** When Jack Garrett became head of the [10] industrial hygiene section in the medical department, did [11] you then turn to Mr. Garrett regarding the subject matter [12] of PCBs?

[13] **A:** Both he and Levinskas.

[14] **Q:** What training did Mr. Garrett have in the [15] subject matter of PCBs prior to taking over the industrial [16] hygiene section?

[17] **MR. FEATHERSTONE:** Object to the absence of [18] foundation.

[19] **A:** He was the head of industrial hygiene section [20] and the subject of PCBs was part of his regular duties.

[21] **Q:** (By Mr. Bradley) Were you responsible for the [22] appointment of Mr. Garrett to the head of the industrial [23] hygiene section?

[24] **A:** Yes.

[25] **Q:** Did you meet with Mr. Garrett prior — Well,

Page 59

[1] you were the one who promoted Mr. Garrett to the head?

[2] **A:** Yes.

[3] **Q:** Did you meet with him and talk with him about [4] the appointment prior to making the appointment?

[5] **A:** Yes.

[6] **Q:** Okay. And when you met with him, did you [7] discuss with him his knowledge of PCBs?

[8] **A:** I knew he knew about PCBs by that time.

[9] **Q:** How did you know that he knew about PCBs prior [10] to meeting with him regarding his appointment to be [11] industrial hygiene section head?

[12] **A:** Just discussion.

[13] **Q:** Discussion with Mr. Garrett?

[14] **A:** Yes. And Levinskas.

[15] **Q:** And when you made the appointment, what did [16] you know about Mr. Garrett's background in PCBs?

[17] **A:** I knew it as it was applied to Monsanto.

[18] **Q:** When you made the appointment, did you know [19] whether Mr. Garrett was on toxicologist?

[20] **A:** No, he was not.

[21] **Q:** Did he have a graduate degree in industrial [22] hygiene?

[23] **A:** I don't know.

[24] **Q:** You knew, though, that he worked with the [25] industrial hygiene section in Monsanto?

Page 60

[1] **A:** Yes. For many years.

[2] **Q:** Are you familiar with the Monsanto product [3] known as 1016?

[4] **A:** Yes.

[5] **Q:** Did that product exist before you began your [6] employment with Monsanto?

[7] **A:** I don't know.

[8] **Q:** The PCBs manufactured by Monsanto were known [9] as Aroclors?

[10] **A:** Yes.

[11] **Q:** And the Aroclors all had different numbers, [12] correct?

[13] **A:** Well, there were PCBs with different chlorine [14] attachments.

[15] **Q:** There were, for example, Aroclors 1221, 1242, [16] 1254, 1260? Yes?

[17] **A:** Yes.

[18] **Q:** And the "12" denominated what?

[19] **A:** I don't know.

[20] **Q:** Do you know what the second two digits [21] denominated?

[22] **A:** That's the chlorine content.

[23] **Q:** And 1016 was a product that contained PCBs; is [24] that correct?

[25] **A:** We just said that before, and I don't know

Page 61

[1] anything about 1016.

[2] **Q:** You don't know whether 1016 had any PCBs in [3] it?

[4] **A:** No. It doesn't sound like it could.

[5] **Q:** All right. No, sir, it doesn't.

[6] **MR. FEATHERSTONE:** I move to strike that [7] comment.

[8] **Q:** (By Mr. Bradley) During the time you were [9] employed at Monsanto, did you ever hear that PCBs might [10] cause harm to human health?

[11] **THE WITNESS:** Might cause what?

[12] **MR. BRADLEY:** Harm to human health.

[13] **A:** Yes.

[14] **Q:** (By Mr. Bradley) When did you first hear [15] that?

[16] **A:** When I first heard of PCBs.

[17] **Q:** What kind of harm did you hear PCBs might [18] cause to human health?

[19] **MR. FEATHERSTONE:** Object to the form of the [20] questioning.

[21] **A:** It is an irritant.

[22] **Q:** (By Mr. Bradley) To the skin?

[23] **A:** And to the eyes.

[24] **Q:** What else did you hear about it?

[25] **A:** I'm not through with irritation.

Page 62

[1] **Q:** I'm sorry.

[2] **A:** It's a respiratory irritation too.

[3] **Q:** What's a respiratory irritant?

[4] **A:** One that causes cough.

[5] **Q:** All right.

[6] **A:** And there is — And so you can get irritation [7] of skin, eyes and respiratory track. It also, with some [8] question, produces liver effects, in terms of change in the [9] levels of enzymes and effects what we call liver function [10] studies. You have a change in alkaline phosphate, SGOT, [11] SGTP and GGTP. Those are all capitalized. There is a —

[12] **MR. FEATHERSTONE:** This is what you heard?

[13] **A:** No. This is what I know, what I've read.

[14] **MR. FEATHERSTONE:** He asked what you heard [15] when you joined, is the question.

[16] **MR. BRADLEY:** Actually, I don't believe that's [17] the question at all. Why don't you read the question back.

[18] (Whereupon, the reporter propounded the previous question.)

[19] **MR. FEATHERSTONE:** The question is, what did [20] you hear.

[21] **THE WITNESS:** As opposed to what I read?

[22] **MR. BRADLEY:** The question is, what did you [23] hear. Not when you first started, but what did you hear [24] when you first heard that PCBs might cause harm to human [25] health.

Page 63

[1] **MR. FEATHERSTONE:** Object to the form of the [2] questioning.

[3] **MR. BRADLEY:** Well, I'll re-ask it.

[4] **Q:** (By Mr. Bradley) Was there ever a point when [5] you learned that PCBs might cause harm to human health?

[6] **A:** Yes.

[7] **Q:** When did you first learn that?

[8] **A:** I don't know.

[9] **Q:** What kind of harm did you learn that PCBs [10] might cause to human health?

[11] **A:** Would cause irritation, as I've described. [12] That's common sense. It may cause change in the liver [13] function, it may have an effect on the nervous system. [14] Those are all of what we call acute effects.

[15] **Q:** Did you ever learn that PCBs might cause [16] chronic effects to human health?

[17] **A:** There is a question whether it does or not.

[18] **Q:** What did you learn about that?

[19] **MR. FEATHERSTONE:** Object to the form of the [20] questioning.

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Q: (By Mr. Bradley) What did you learn about whether PCBs cause chronic effects to human health?

MR. FEATHERSTONE: Object to the form of the questioning.

A: I didn't say that it caused chronic effects.

Page 64

Q: (By Mr. Bradley) What did you learn that indicated to you that PCBs may cause chronic harmful effects to human health?

MR. FEATHERSTONE: Object to the form of the questioning.

A: Learned that at the Chicago symposium as soon as I joined, shortly after I joined. A lot of my knowlege is related to what I learned there.

Q: (By Mr. Bradley) And what kind of chronic effects did you learn PCBs might cause to human health?

MR. FEATHERSTONE: Object to the form of the questioning.

A: PCBs in rodents causes liver damage, as we've described, and in a bigger dose, will produce a more lasting effect maybe, and maybe it will go away.

Q: (By Mr. Bradley) Did you ever learn whether PCBs causes a skin condition called chloracne?

A: Yes.

Q: Did you ever learn whether, if a worker has chloracne, it might indicate some kind of a more serious chronic systemic poisoning?

MR. FEATHERSTONE: Object to the form of the questioning.

A: No.

Q: In your discussions with Dr. Levinskas, did he

Page 65

ever indicate to you that if a worker has a skin rash following exposure to PCBs, that that could indicate a systemic poisoning?

A: No.

Q: Are you familiar with the phrase "systemic poisoning?"

A: Yes.

Q: What does that mean?

A: It means it's not superficial, in effect. So if it involves — If it's one of the organ systems, it's called a systemic effect.

Q: Like the heart or the lungs or the liver?

A: Or the GI tract or the kidneys or whatever.

Q: Have you ever heard the name Dr. Lewis Schwartz?

A: No.

Q: Did Dr. Kelly ever tell you that he participated in a round table discussion in 1937 regarding, in part, chlorinated biphenyls?

A: No.

Q: Did Dr. Levinskas, or anyone else, ever tell you that PCBs were alleged, or excuse me, it was alleged that PCBs caused harm to the liver, as early as the 1940s?

MR. FEATHERSTONE: Object to the form of the questioning.

Page 66

A: I've read that.

Q: (By Mr. Bradley) When did you read that?

A: I can't answer that question.

Q: Did you read any Monsanto document that warned purchasers of Monsanto products that it was known back in the '40s that PCBs might cause harm to the liver?

A: There was a pamphlet that was put out that said be careful of this and this and this.

Q: Did the pamphlet indicate that back in the '40s, it was alleged that exposure to PCBs might harm the liver?

A: This document doesn't say that. It says, "Do not get skin contact or inhalation exposure."

Q: Doesn't say it might cause liver problems?

A: But it talks about limiting air exposure.

Q: What's the name of the pamphlet?

A: Safety Data Sheet, I think, of some form.

Q: Have you ever heard of a Mr. F.R. Kaimer, K-a-i-m-e-r?

A: No.

Q: During the time you were employed at Monsanto, did you ever learn whether any General Electric employees were alleged to have severe cases of acne because of their exposure to materials that contained, in part, chlorinated biphenyl?

Page 67

A: No.

Q: During the time you worked at Monsanto, were you ever - did you ever learn about a product called Halowax?

A: Yes.

Q: What was Halowax?

A: I don't remember.

Q: Do you recall whether it contained parts of chlorinated biphenyl?

A: It was a question, of whether it did.

Q: It contained chlorinated Napthalene though, didn't it?

A: I think so.

Q: During the time you worked at Monsanto, were you - did you ever learn that workers exposed to Halowax developed chloracne?

A: I think so. That was a long time ago.

Q: During the time you worked at Monsanto, did you ever learn that it was alleged that at least one worker may have died because of exposure to Halowax?

A: I don't remember that.

Q: During the time that you were employed at Monsanto, did you ever learn whether Monsanto undertook any studies to determine whether Halowax contained PCBs?

A: I don't know.

Page 68

Q: Did you learn about Halowax from Dr. Levinskas or Mr. Wheeler?

A: Reading.

Q: What were you reading?

A: Just on the general subject on PCBs, and that may have come up then.

Q: Were you reading a study or were you reading a report prepared by a Monsanto employee?

A: No. No. It was written. It was published.

Q: During the time that you were employed at Monsanto, did Monsanto manufacture PCBs?

A: Yes.

Q: And during that time when Monsanto was manufacturing PCBs and you were employed there, did Monsanto give the workers fresh clothing before they began their work shift?

A: Fresh clothing was a part of this safety data sheet that I was telling you about. That was given to customers, too.

Q: Safety data sheet was given to customers?

A: Yes.

Q: Customers would be General Electric and Westinghouse?

A: Yes.

Q: And did the safety data sheet tell GE and

Page 69

Westinghouse that employees working with PCBs should change their clothing daily?

A: Yes.

Q: And during the time that you were employed at Monsanto, did the

HARTOLDMON0010014

workers working with PCBs change their shoes daily?

MR. FEATHERSTONE: Object to the form of the questioning, and also object to the lack of foundation.

A: That's a detail I can't answer. They were told not to have PCBs on their clothes, so that means changing things.

Q: (By Mr. Bradley) Well, did Monsanto wash the clothing for its employees?

MR. FEATHERSTONE: Objection. Lack of foundation. No showing this witness has personal knowledge.

A: I don't know.

Q: (By Mr. Bradley) And do you recall whether Monsanto did anything else to provide clean apparel for workers working with PCBs during the time that you were at Monsanto and Monsanto was manufacturing PCBs?

A: I just recall there was fresh gear.

Q: Well, did the gear include fresh gloves?

A: Yes.

Q: Did the gear include fresh pants?

Page 70

A: Yes.

Q: Fresh shirts?

A: Yes.

Q: Fresh shoes?

A: I don't remember.

Q: Fresh socks?

A: Yes. Fresh gloves.

MR. FEATHERSTONE: You already did gloves.

THE WITNESS: Huh?

MR. FEATHERSTONE: We already did gloves.

A: All right.

Q: (By Mr. Bradley) And the safety data sheet that you gave to GE and Westinghouse and other customers advised them to also have their workers have fresh clothing?

A: Yes.

Q: Fresh apparel?

A: Yes.

Q: All right.

MR. FEATHERSTONE: Including — "You," meaning the witness? The witness already said he didn't have any contact with them. You mean Monsanto?

MR. BRADLEY: Monsanto.

MR. FEATHESTONE: All right.

A: Monsanto.

Page 71

Q: (By Mr. Bradley) Did Monsanto do anything to insure — Well, let me back off. When you sold PCBs to General Electric during the time that you were employed at Monsanto, you knew that they were going to be used in transformers and capacitors, didn't you?

A: Yes.

Q: You knew that GE and Westinghouse would sell those transformers to electric utility companies?

A: Yes.

Q: And what, if anything, did Monsanto do to inform the electric utility companies about the safety data sheets that describe the need to have fresh apparel?

A: They gave this information. I don't know who they gave it to.

Q: I'm going so show you what's been mark for identification as Plaintiff's Exhibit 979 and ask you to review that.

MR. FEATHERSTONE: Mr. Bradley, do you want him to read the document?

MR. BRADLEY: I do want him to do that. Well, let me ask this question first.

Q: (By Mr. Bradley) Have you seen that document before?

A: I think so.

MR. BRADLEY: Then I do want him to review it.

Page 72

I'm happy taking a five or ten minute break while you review that.

THE WITNESS: I want to take a break with you.

MR. BRADLEY: All right.

(Whereupon, a twenty minute recess was taken.)

Q: (By Mr. Bradley) Dr. Roush, have you had an opportunity to at least skim Plaintiff's Exhibit 979?

A: Yes.

Q: And is that a document that you've seen before?

A: Yes.

Q: And was that a document that was maintained in a file within Monsanto's medical department?

A: I didn't see it there.

Q: Where did you see it?

A: In my review of looking at Napthalenes.

Q: All right. And where did you grab — Excuse me. Where did you go to review materials relating to Napthalenes?

A: I'm sure it was at Monsanto.

Q: All right. So this is a document that you would have reviewed at Monsanto?

A: I think so.

Q: All right. And would that have been in the medical department library?

Page 73

A: Yes.

Q: Did Monsanto, in 1973 when you began employment there, have a separate file on Napthalenes?

A: I don't know.

Q: After you began work with Monsanto in 1973, did Monsanto ever have a file exclusively on Napthalenes?

A: I don't know.

Q: Do you — Can PCBs get absorbed through the skin?

A: To a degree.

Q: Did Monsanto ever tell its customers that PCBs get absorbed through the skin?

A: Yes. We were told to wear leather gloves to prevent its absorbtion.

Q: So the safety data sheets say wear gloves because if you don't, PCBs get absorbed into the skin?

A: Right.

Q: Yes?

A: It says wear gloves to prevent absorbtion.

Q: Did Monsanto ever inform electric utility companies that PCBs get absorbed through the skin?

A: That wasn't my responsibility. My answer is, I think it was.

Q: And who do you think informed utility companies that PCBs get absorbed through the skin?

Page 74

A: I don't know.

Q: Would that have come through the industrial hygiene section of the medical department?

A: I don't think so.

Q: Would it have come through the medical department at all?

A: I don't think so.

Q: Which department would it have come through?

A: From the business group that was working with PCBs.

Q: Through the marketing and sales folks?

A: Well, there are those who had responsibility for safety, as well.

Q: And which ones — Which people had responsibility for safety, as well?

A: I'm talking about the business group. Within that business group, they did it.

Q: Within marketing and sales there were people

MR. FEATHERSTONE: He said business group.

Q: (By Mr. Bradley) Is the business group the same as marketing and sales?

A: But they also have the responsibilities on handling the product.

Q: But when you referenced the business group,

Page 75

were you referring to the marketing and sales people?

A: And other things that make — The business group does a business on PCBs, included in that was responsibility to tell the customers what they needed to know.

Q: And who then was responsible within Monsanto for telling the customers what it is that they needed to know?

A: The business group.

Q: And who headed the business group during the time that you were at Monsanto?

A: I don't know.

Q: What would that person's title be?

A: I don't know.

Q: Was there a department within Monsanto called the Business Group?

A: Well, each one of our businesses, those that worked with Ag products would have one business group, those working with PCBs would be another group.

Q: All right. Was there a department or division within Monsanto that was working with PCBs?

A: Yes.

Q: And what was that department or division called?

A: I don't know. That's what you asked me.

Page 76

Q: All right. How did the — Let me ask it this way. Did the medical department inform the business people about — Well, let me be more specific. Did Monsanto's medical department inform Monsanto's business group working with PCBs, that PCBs get absorbed through the skin?

A: Yes.

Q: And have you seen a document sent by the medical department to the business group working with PCBs that says PCBs get absorbed through the skin?

A: I think so.

Q: How, normally, would Monsanto's medical department give information to the business group working with the PCBs about potential health hazards of PCBs?

A: They would talk to them, explain what the action is, and then they would have an agreement how they would contact the customer.

Q: And were the discussions followed by confirming letters, or anything written?

A: It would be between that business group. Those who leave Monsanto and go, talk to that customer would be the one who would carry that document.

Q: But after the medical department had a discussion with the business group, would those be followed by confirming letters between the medical department and the business group regarding the subject matter of the

Page 77

discussion?

A: I don't know.

Q: Did you ever talk with the business group working with PCBs and let them know that PCBs get absorbed through the skin?

A: That was before I joined Monsanto. They already knew it.

Q: Did you talk with anyone within the business department of Monsanto working with PCBs where they indicated to you that they knew PCBs get absorbed through the skin?

A: Yes.

Q: Who did you speak with from the business department at Monsanto working with PCBs where they indicated they knew that PCBs get absorbed through the skin?

A: The safety data sheet said it.

Q: Did you talk —

MR. BRADLEY: I'm sorry. Would you read back the last two questions and answers?

(Whereupon, the reporter propounded the previous two questions and answers.)

Q: (By Mr. Bradley) So let me go back. Who did you speak with within the business department who indicated to you that the business department knew that PCBs get

Page 78

absorbed through skin?

MR. FEATHERSTONE: You used "business department." He said business group.

MR. BRADLEY: Business group, yes.

MR. FEATHERSTONE: All right.

A: That safety data sheet was already written and defined what the hazards were, as to what they should do to protect themselves from it, and included in that would be a discussion, a statement, concerning the safety.

Q: (By Mr. Bradley) My question, though, is — You indicated you'd spoken with someone within the business group of Monsanto working with PCBs where they indicated to you that they knew PCBs got absorbed through the skin. So my question to you is, who is it that you spoke with in the business group of Monsanto's PCBs, working with Monsanto's PCBs, that indicated to you that they knew PCBs get absorbed into the skin?

A: I had a copy of their safety data sheet that told me that.

Q: All right.

A: I don't need to have someone else to go ask them, "Is this yours?"

Q: So you didn't talk —

A: Directly to them, because I knew it was taking place because I had that safety data sheet.

Page 79

Q: All right. Did anyone from the business group of Monsanto working with PCBs indicate to you that they knew that there were some studies suggesting that PCBs might cause liver damage?

A: The studies that were done within Monsanto was the IBT studies that showed that PCBs will effect the liver.

Q: My question, though, is did anyone from the business group of Monsanto working with PCBs ever indicate to you that they knew that PCBs might damage the liver?

A: Not to me.

Q: Did anyone from the business group at Monsanto working with PCBs ever indicate to you that they knew anything about the alleged association between PCBs and harmful effects on human health?

MR. FEATHERSTONE: May I hear the question, please, Mr. Court Reporter?

(Whereupon, the reporter propounded the previous question.)

MR. BRADLEY: I'm going to rephrase the question.

Q: (By Mr. Bradley) Did anyone within the business group at Monsanto working with PCBs ever indicate to you that they knew that PCBs might cause harm to human health?

A: Not to to me, they didn't.

Page 80

Q: Did anyone within the business group of Monsanto working with

HARTOLDMON0010016

PCBs ever indicate to you that they [3] knew PCBs might cause harm to the environment?

[4] **A:** No.

[5] **Q:** Did you ever review any documents generated by [6] the business group at Monsanto working with PCBs that [7] indicated that that knew that PCBs might cause harm to [8] human health?

[9] **A:** Yes.

[10] **Q:** What documents did you review?

[11] **A:** There are a series of safety data sheets that [12] describe that.

[13] **Q:** Other than the safety data sheets, did you [14] review any documents that would indicate that the business [15] group at Monsanto working with PCBs knew that PCBs might [16] cause harm to human health?

[17] **A:** No.

[18] **Q:** Other than this safety data sheet, did you [19] review, have you ever reviewed any documents generated by [20] the business group at Monsanto working with PCBs that [21] indicates that PCBs might cause harm to the environment?

[22] **A:** No.

[23] **Q:** During the time that you worked at Monsanto, [24] did you ever review any document generated by the medical [25] department to the business group at Monsanto working with

Page 81

[1] PCBs that described how - Excuse me - that indicated PCBs [2] may cause harm to human health?

[3] **MR. FEATHERSTONE:** May I hear that one back, [4] please, Mr. Court Reporter?

[5] (Whereupon, the reporter propounded the previous question.)

[6] **A:** My safety data sheet is the only thing I've [7] got that talks about whether it will or will not produce [8] effects on human health.

[9] **Q:** (By Mr. Bradley) Who generated the safety [10] data sheets?

[11] **A:** The safety man from the business group working [12] with someone from the medical department.

[13] **Q:** All right. And during the time you were [14] employed at Monsanto, did you review any documents that [15] were generated by Monsanto's medical department to [16] Monsanto's business group working with PCBs that indicated [17] PCBs may cause harm to the environment?

[18] **A:** No. That wasn't our responsibility. It was [19] not the medical department's responsibility.

[20] **Q:** Whose responsibility was it?

[21] **A:** Business group.

[22] **Q:** Did the business group maintain its own [23] library?

[24] **A:** I don't know.

[25] **Q:** How did the business group learn about PCBs

Page 82

[1] causing harm to the environment?

[2] **MR. FEATHERSTONE:** Objection.

[3] **A:** I can't answer that.

[4] **MR. FEATHERSTONE:** No showing of personal [5] knowledge.

[6] **Q:** (By Mr. Bradley) Are you familiar with a [7] series of studies performed by a Professor Jensen in Sweden [8] regarding PCBs?

[9] **A:** No.

[10] **Q:** Are you aware of any studies at all that show [11] that PCBs may cause harm to the environment?

[12] **A:** I can't answer that question.

[13] **Q:** Why can't you answer the question?

[14] **A:** I don't know what you mean by "damage to the [15] environment."

[16] **Q:** Well, how about thinning of eggshells?

[17] **A:** I think that would be a reasonable one, but [18] that's so infrequent.

[19] **Q:** Well, did you, while you were employed at [20] Monsanto, did you review any studies that indicated PCBs [21] may cause eggshells to be thinner?

[22] **MR. FEATHERSTONE:** Object to the form, the [23] form of the question.

[24] **A:** Yes, I've heard of that.

[25] **Q:** (By Mr. Bradley) And did you relay that

Page 83

[1] information to the business group at Monsanto working on [2] PCBs?

[3] **A:** No.

[4] **Q:** And during the time you were at Monsanto, did [5] you learn that PCBs were being found in marine [6] environments?

[7] **A:** Yes.

[8] **Q:** And did you relate that information to the [9] business group?

[10] **A:** They already knew it.

[11] **Q:** How do you know they already knew it?

[12] **A:** They got that from Wheeler because Wheeler [13] knew that.

[14] **Q:** Did you hear Wheeler tell the business group [15] about —

[16] **A:** No.

[17] **Q:** You're guessing that Mr. Wheeler told them [18] that? Is that what you're doing?

[19] **A:** He worked closely with them.

[20] **Q:** If you were going to find out who Mr. Wheeler [21] worked with in the business group at Monsanto working with [22] PCBs, what would you do?

[23] **A:** Go and talk to one of the members of that [24] business group.

[25] **Q:** Which member of the business group would you

Page 84

[1] talk to?

[2] **THE WITNESS:** By name?

[3] **MR. BRADLEY:** Yes.

[4] **A:** Mr. Papageorge.

[5] **Q:** (By Mr. Bradley) Is there a business group at [6] Monsanto working with PCBs that's different from the [7] marketing and sales?

[8] **A:** They don't have a marketing or anything on [9] PCBs now.

[10] **Q:** Let's talk about the '70s. During the '70s, [11] was there a business group at Monsanto working with PCBs [12] that was separate from Monsanto marketing and sales [13] departments?

[14] **A:** I don't think so.

[15] **Q:** During the time that you worked at Monsanto, [16] did you review any documents that indicated that [17] Plaintiff's Exhibit 979 was given to the business group at [18] Monsanto working with PCBs?

[19] **A:** I don't know.

[20] **Q:** Do you know of any research indicating PCBs [21] may cause malignant melanomas?

[22] **A:** I know one paper in which it talked about it. [23] There were two cases.

[24] **Q:** And when did you review the paper?

[25] **A:** I knew about it before it was published.

Page 85

[1] **Q:** And when was it published?

[2] **A:** I don't recall.

[3] **Q:** When did you learn about it?

[4] **A:** I can't answer that.

[5] **Q:** You don't recall when you learned about the [6] malignant melanomas?

[7] **A:** Yes. I had a direct call to tell me about it.

[8] **Q:** Was that in the 1970s?

[9] **A:** Whenever it happened. I don't remember that.

[10] **Q:** Well, I know that you don't remember, but do [11] you remember whether it happened in the 1970s?

[12] **A:** It would be the late '70s or early '80s.

[13] **Q:** Do you know whether that information was given [14] to the business group at Monsanto working with PCBs?

A: I think it was.

Q: And was it given to them in the form of a letter or a report?

A: I don't remember.

Q: Do you recall talking with anyone within the business group at Monsanto working with PCBs about the malignant melanoma cases?

MR. FEATHERSTONE: Object to the form of the question.

A: I informed them that we did have it, I recall, that we did receive it, that document.

Page 86

Q: (By Mr. Bradley) You informed someone at the business group within Monsanto?

A: Yes.

Q: All right. And who was it that you informed?

A: I can't recall.

Q: Do you recall whether it was via phone?

A: We met with them.

Q: Did you meet with them in Monsanto's medical department?

A: I don't — Yes, I'm sure we did.

Q: And who was there?

A: I can't recall.

Q: Do you recall whether there was someone from the medical department at that meeting other than you?

A: I don't think so.

Q: Do you recall whether there was more than one person from the business department at that meeting, business group?

A: No.

Q: Two of you?

A: At least two.

Q: And you orally described what you learned about malignant melanomas?

A: Yes.

Q: And did the business group inform Monsanto's

Page 87

— At the time you learned about the malignant melanomas, did Monsanto still have customers for its PCB products?

A: I think so.

Q: And did Monsanto inform its customers about what you learned regarding malignant melanomas and PCBs?

MR. FEATHERSTONE: Well, I object to the form of the question and foundation. He already testified that was not his job, that was the job of the business group.

MR. BRADLEY: You still have to answer the question.

A: With what I know, I can't answer your question.

Q: (By Mr. Bradley) Okay.

A: But we did respond.

Q: You did respond?

A: Yes. We told everyone. Everyone knew about it.

Q: What do you mean that you responded?

A: That malignant melanoma has already disappeared as a subject. It's been published. The medical director of Mobile called me and thanked me for the fact that I helped them on it. And all of this that I've said was given to Monsanto's business group. They knew about my contacts and what had taken place.

Q: And did the — Do you know whether Monsanto's

Page 88

business group, or Monsanto's medical department or any department or group within Monsanto, ever told Monsanto's customers about what you learned of malignant melanoma and PCBs?

A: We haven't learned anything. We told them we hadn't learned anything yet.

Q: Do you know of any studies or research indicating PCBs may cause brain tumors?

A: No.

Q: Do you know of any research or study indicating PCBs may have caused injury to workers?

THE WITNESS: Injuries to workers?

MR. BRADLEY: Yes.

A: Yes.

Q: (By Mr. Bradley) And what kind of injury did those workers suffer?

A: Almost — The only thing they see is the result of irritation.

Q: Doctor, is there a difference between irritation and chloracne?

A: Yes.

Q: Do you know of any research study indicating PCBs may have caused chloracne to workers?

A: There is a lot of literature that talks about it causing acne but to say it causes chloracne is not

Page 89

clear.

Q: Did Monsanto ever inform its customers that PCBs — Excuse me, let me start all over again. Did Monsanto ever inform its customers that it's not clear whether PCBs may cause chloracne?

MR. FEATHERSTONE: Well, same objection. Absence of foundation for this witness to testify regarding those questions. He's already identified for you, Mr. Bradley, how it was Monsanto warned its customers. He said it came through the business group.

THE WITNESS: You're asking about the difference between chloracne and acne?

MR. BRADLEY: I'm asking you whether Monsanto, whether you ever saw any documents or you heard anybody ever say that Monsanto warned its customers that it's unclear whether PCB, or whether chloracne may be - may result from exposure from PCBs.

A: There are accidents in which there is, I was told there was chloracne. All this happened —

MR. FEATHERSTONE: No. He's asking you whether you have seen any document or heard any statement that Monsanto warned its customers that exposure to PCBs - it's unclear that exposure to PCBs could cause chloracne. I think I phrased that correctly.

MR. BRADLEY: Close enough.

Page 90

A: I don't know.

Q: (By Mr. Bradley) As a doctor, how would you explain the difference between chloracne and skin irritation?

A: Chloracne is a reaction that takes place in the pores, largely associated with sweat glands, and the material that causes the reaction gets into these pores and causes a reaction around it and you've seen acne, kids' acne. Its very similar, only it's got something that's in it now.

Q: Is chloracne, medically speaking, a more severe condition than skin irritation?

A: Yes. Because it's more — Last longer.

Q: Is there — Excuse me. Are there different degrees of severity of chloracne?

A: Yes.

Q: Medically speaking, how would you describe the condition of a severe chloracne?

MR. FEATHERSTONE: May I hear that question, please?

(Whereupon, the reporter propounded the previous question.)

A: A severe case is one in which the reaction between two pores, two nodules, become one, so there is a coalescence of a lesion.

Q: (By Mr. Bradley) Does a patient with severe

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Page 91

chloracne run a risk of having scars? Let me ask it this way. Will severe chloracne cause scarring?

A: It can.

Q: Do you know whether exposure to chlorinated biphenyl has ever caused severe chloracne to workers working with chlorinated biphenyl?

A: It's so infrequent that I can't answer the question.

Q: Well, when you say it's infrequent, does that mean it happens but it happens rarely?

MR. FEATHERSTONE: Object to the form.

Q: (By Mr. Bradley) What do you mean, it happens infrequently?

A: It rarely happens.

Q: (By Mr. Bradley) Do you know when the first case was of a worker experiencing severe chloracne from exposure to PCBs?

A: No.

Q: Did you ever review any documents from Monsanto to its customers indicating that rarely, PCBs could cause, have caused severe chloracne?

A: No. Not to my knowledge.

Q: You haven't reviewed anything?

A: I've reviewed it but it's not in our current literature.

Page 92

Q: Was it in any of the former literature that you reviewed?

THE WITNESS: Before my time?

MR. BRADLEY: That you may have reviewed.

A: I don't know.

Q: (By Mr. Bradley) Do you know whether the United States Environmental Protection Agency classifies PCBs as a probable human carcinogen?

A: I think it says "possible." It does say possibly, but that's only — It doesn't talk about the animal data. That's only talking about the human data.

Q: Do you know when the United States Environmental Protection Agency classified PCBs as a possible human carcinogen?

A: Yes.

Q: When was that?

A: After that problem we were talking about, the melanoma.

Q: So sometime in the late '70s?

A: Yes.

Q: Did you participate as a witness in any Government hearings regarding the Toxic Substances Control Act?

A: No.

Q: Did you ever review material that Monsanto

Page 93

sent to its customers prior to your employment at Monsanto describing the harm to human health that is caused by exposure to PCBs?

MR. FEATHERSTONE: That is caused?

MR. BRADLEY: That's what was —

MR. FEATHERSTONE: Object to the form.

A: We had published what we gave to our customers, that - the irritant potential of it. We don't think that there's much beyond that except for the question of liver effect.

Q: (By Mr. Bradley) Did you review material generated by Monsanto prior to your employment with them that advised their customers that exposure to PCBs caused liver problems?

MR. FEATHERSTONE: Object to the form.

A: Yes.

Q: (By Mr. Bradley) And what did you review that said that?

A: Some of those safety data sheets say that.

Q: Other than the safety data sheets, did you review anything that Monsanto gave to its customer -

A: No.

Q: - that indicated exposure to PCBs caused harm to the liver?

A: No.

Page 94

Q: All right. Are chlorinated Napthalenes trace constituents of a commercial PCB mixture manufactured by Monsanto?

A: I don't think so.

Q: Do you know whether nearly all Americans are reported to have over five hundred parts per billion PCBs in their adipose tissue?

A: I know we have PCBs in our fat, in our blood.

Q: Almost all of us?

A: The data is not there that will answer that, but it's very common.

Q: Do you know whether PCBs have ever been found in human mother's milk?

A: Yes.

Q: Do you know whether PCBs pass through the mother's placenta to the fetus?

A: Not as well as by milk.

Q: Do PCBs biodegrade?

A: Yes.

Q: Are you familiar with the term biomagnification?

A: Yes.

Q: What is it?

A: By virtue of passing from one animal to another, the material that we're taking goes with them and

Page 95

so over a life, over several generations, there can be an increase.

Q: Do you know whether PCBs biomagnify in the human food chain?

A: I've never heard, seen it described.

Q: Do you know whether PCBs can work synergistically with other compounds by impairing the immune system?

A: I've seen it described.

Q: Did Monsanto ever inform its customers that PCBs can work synergistically with other compounds by impairing the immune system?

A: No. Wouldn't know what to tell them.

Q: Have PCBs been shown to cause liver cancer in experimental animals?

A: In about three out of ten cases, it is said that there are some neoplastic lesions.

Q: And were those studies on those experimental animals conducted during a period of time when Monsanto had customers for its PCB products?

MR. FEATHERSTONE: Object to the form of the question.

A: I was — Monsanto was out of the business by that time.

Q: (By Mr. Bradley) All right. Do you know

Page 96

whether chronic poisoning may occur with repeated exposures to sufficient concentrations of PCB vapor?

THE WITNESS: What's the conclusion?

Q: Do you know whether chronic poisoning may occur with repeated exposure to sufficient concentrations of PCB vapors?

A: Never heard it described.

Q: As a doctor, do you know what chronic poisoning is?

A: Yes.

Q: What is chronic poisoning?

A: Chronic poisoning is where the material is given to the organism and instead of giving it to them so to produce acute effects, instead of that, it's given at a lower dose where it doesn't produce enough to make the

animal ill except over a period of some time. We usually [17] say over a month, that we see an effect in the animal.

[18] **Q:** Did Monsanto ever tell its customers that [19] chronic poisoning may occur with repeated exposures to [20] sufficient concentrations of PCB vapor?

[21] **A:** We don't think it happens.

[22] **Q:** Did Monsanto ever tell its customers that [23] repeated exposures to PCB vapor may produce internal bodily [24] injury which may be disabling or could be fatal?

[25] **MR. FEATHERSTONE:** I object, again, to the

Page 97

[1] foundation for the question because this witness testified [2] who had the responsibility for advising customers.

[3] **THE WITNESS:** I have difficulty with it. Can [4] you repeat that for me?

[5] (Whereupon, the reporter propounded the previous question.)

[6] **Q:** (By Mr. Bradley) Did Monsanto ever inform its [7] customers that repeated exposures to PCB vapor may produce [8] internal bodily injury which may be disabling or could be [9] fatal?

[10] **A:** No.

[11] **Q:** Did Monsanto ever inform its customers that [12] PCBs are highly toxic if taken internally?

[13] **MR. FEATHERSTONE:** Same objections.

[14] **A:** Yes.

[15] **Q:** Did Monsanto ever inform its customers that [16] PCBs are not very irritating to the skin but if absorbed [17] through the skin can produce toxic reactions internally?

[18] **A:** No.

[19] **Q:** Did Monsanto ever inform its customers that [20] periodic physical examinations should be conducted by [21] medical personnel for workers exposed to PCBs?

[22] **MR. FEATHERSTONE:** Object to the lack of [23] foundation for this witness to respond to a question about [24] Monsanto ever informing customers, when he joined the [25] company in 1973.

Page 98

[1] **THE WITNESS:** I'm sorry.

[2] **A:** No.

[3] **Q:** (By Mr. Bradley) That didn't happen, at least [4] while you were employed at Monsanto?

[5] **A:** That's right.

[6] **Q:** And you didn't review any documents indicating [7] that Monsanto had given that information to customers prior [8] to your employment at Monsanto?

[9] **A:** And even whether I believe it's necessary.

[10] **MR. FEATHERSTONE:** That's not the issue, Dr. [11] Roush. The issue is whether you know whether that was ever [12] communicated by Monsanto.

[13] **A:** And I said I don't know.

[14] **MR. FEATHERSTONE:** All right.

[15] **Q:** (By Mr. Bradley) Do you agree that a skin [16] disease called chloracne could be an indication of a more [17] serious systemic injury?

[18] **A:** No.

[19] **Q:** Do you know whether Monsanto ever informed its [20] customers that a skin disease called chloracne could be an [21] indication of a more serious systemic injury if exposure to [22] PCBs was allowed to continue?

[23] **MR. FEATHERSTONE:** Same objection. Lack of [24] personal knowledge for this witness to respond.

[25] **A:** I don't think so.

Page 99

[1] **Q:** (By Mr. Bradley) At least, that didn't happen [2] while you were employed there?

[3] **A:** That's right.

[4] **Q:** You didn't review any documents indicating it [5] had happened before you began your employment?

[6] **A:** That's right.

[7] **Q:** Do you know whether lower temperatures for [8] destroying Aroclors - and by "lower," I mean below eight [9] hundred degrees —

[10] **THE WITNESS:** Lower than what?

[11] **MR. BRADLEY:** Let me ask this question.

[12] **Q:** (By Mr. Bradley) Was there a period of time [13] when Monsanto incinerated Aroclors to destroy them?

[14] **A:** I don't know.

[15] **Q:** Was there a time when Monsanto knew that if it [16] incinerated PCBs at low temperatures that that could cause [17] the PCBs to vaporize and furans to form?

[18] **A:** I don't know.

[19] **Q:** Would you agree that furans are one of the [20] most extremely toxic of any compound since the beginning of [21] chemistry?

[22] **A:** No.

[23] **Q:** When you began work for Monsanto, were you [24] made aware that there might be Congressional action taken [25] to restrict the manufacture of PCBs?

Page 100

[1] **A:** Yes.

[2] **Q:** When you began your employment with Monsanto, [3] do you know whether Monsanto employed any of its — Excuse [4] me. Let me start all over again. When you began your [5] employment at Monsanto, do you know whether Monsanto [6] informed any of its customers that there might be [7] Congressional action that would restrict the manufacture of [8] PCBs?

[9] **A:** Yes.

[10] **Q:** And while you were at — When you first went [11] to Monsanto, do you know whether Monsanto informed any [12] electric utility companies that there was Congressional [13] action which might restrict the manufacture of PCBs?

[14] **MR. FEATHERSTONE:** Wait a minute. You started [15] off by saying "might be Congressional action." Now, are [16] you changing it to there was Congressional action? Object [17] to the form of the questioning.

[18] **MR. BRADLEY:** I'll re-ask it.

[19] **Q:** (By Mr. Bradley) When you began your work at [20] Monsanto, did Monsanto inform electric utility companies [21] that there might be Congressional action that would [22] restrict the manufacture of PCBs?

[23] **A:** Yes.

[24] **Q:** Okay. And which electric utility company — [25] Let me ask it this way. How did Monsanto inform electric

Page 101

[1] utility companies, when you began working with Monsanto, [2] that there might be Congressional action that would [3] restrict the manufacture of PCBs?

[4] **A:** I don't know.

[5] **Q:** How do you know that Monsanto gave that [6] information to electric utility companies?

[7] **A:** They knew it. I'm not sure how they got it. [8] Monsanto told them or else the Government told them, one or [9] the other.

[10] **Q:** So all the electric utility companies knew [11] that in 1973?

[12] **A:** Yes.

[13] **MR. FEATHERSTONE:** How is he going to answer [14] that, Ralph, all the electric utilities? This is the [15] associate medical director of Monsanto.

[16] **MR. BRADLEY:** All right.

[17] **Q:** (By Mr. Bradley) While you were employed at [18] Monsanto, did you observe any Monsanto employees working in [19] a lab on, or with PCBs?

[20] **A:** No.

[21] **Q:** Did you ever go to Industrial Biotest [22] Laboratories?

[23] **A:** Yes.

[24] **Q:** When you were there, who did you meet with?

HARTOLDMON0010020

A: Dr. Calandra.

Page 102

Q: Did you meet with anyone else?

A: There was another man, his name was Richter.

Q: What was the purpose of your meeting with Dr. Calandra?

A: Talk about the PCB study.

Q: Did the meeting occur at IBT headquarters?

A: Yes.

Q: While you were there, did you walk around the IBT headquarters?

A: No.

Q: While you were there, did you observe any of the rooms where the animals were kept?

A: No.

Q: Were there animals kept at the IBT headquarters?

A: Yes.

Q: Did you ever hear of a room called the Swamp Room?

A: No.

Q: Who, at Monsanto, if anyone, — Let me ask this. Do you know of anyone at Monsanto who also visited the IBT labs?

A: Anyone else from Monsanto that visits had IBT?

MR. BRADLEY: Yes.

A: No.

Page 103

Q: I'm going on show you Plaintiff's Exhibit 1251 and ask you what that document is? What is this Exhibit, Dr. Roush?

A: This is a discussion of the findings of the IBT cancer study, and upon completion of this study, we agreed to take this to Washington and present this data to the various agencies.

Q: And this is dated January 13, 1976?

A: Yes.

Q: Had you seen this document prior to today?

A: No.

Q: Does the document fairly and accurately report the results of the meeting that's reference in the document?

MR. FEATHERSTONE: Object to the form of the question.

A: No. This reflects the NIOSH interpretation of the results.

Q: (By Mr. Bradley) Is your interpretation any different than their's?

A: Well, the discussion is between the IBT studies, or the Calandra studies and the study that was done someplace — Didn't it say in here that — No. Just IBT and Kimbrough.

Q: Do you know a gentleman by the name of Paul

Page 104

Wright?

A: Yes.

Q: How did you first learn of Mr. Wright?

A: He was working for Monsanto when I joined.

Q: In 1973?

A: Yes.

Q: What department was he working in?

A: He was working for Levinskas, in toxicology.

Q: All right. Part of the medical department, toxicology section?

A: Yes.

Q: Did Mr. Wright then leave Monsanto?

MR. FEATHERSTONE: It's Dr. Wright.

A: No.

Q: (By Mr. Bradley) Dr. Wright never went to work for IBT?

A: He had worked for IBT before I joined.

Q: All right. When did Mr. - excuse me - Dr. Wright work for Monsanto?

A: I can't give you the dates.

Q: Okay. Did you hire Dr. Wright?

A: No.

Q: Who hired Dr. Wright?

A: Dr. Levinskas. He worked for him.

Q: Okay. When did Dr. Wright work for IBT?

Page 105

A: Prior to my joining Monsanto.

Q: And after you joined Monsanto, Dr. Wright continued as a Monsanto employee up to what date, do you know?

MR. FEATHERSTONE: You have to answer that.

A: Yes. Not by a shake of the head.

MR. FEATHERSTONE: Is the answer no? You shook your head no, because you don't know the date; is that correct?

A: That's correct.

Q: (By Mr. Bradley) Do you know whether Dr. Wright was a Monsanto employee in 1976?

A: Yes.

Q: Was he a Monsanto employee in 1975?

A: I don't know.

Q: '74?

A: I'm not sure of the dates.

Q: He was a Monsanto employee when you first became a Monsanto employee?

A: Yes.

Q: Was there a point in time when Dr. Wright — I'm going to start my question all over again. Did Dr. Wright not work for Monsanto for part of the 1970s, do you know?

A: I don't know.

Page 106

Q: Do you know whether — Off the record. (Whereupon, a discussion was held between Counsel, off the record.)

MR. BRADLEY: I'm now going to show you Plaintiff's Exhibit 1421 and ask you to review that.

Q: (By Mr. Bradley) Have you had a chance to review it?

A: Yes.

Q: All right. Is this an August 27th, 1976 internal memorandum sent to you by Frederick Johannsen?

A: Yes.

Q: Is this a fair and accurate copy of the interdepartmental memorandum sent to you on that date?

A: Yes.

Q: And is this the sort of document that you maintained in your files at Monsanto?

A: Yes.

Q: You did that as part of the regular practice of Monsanto?

A: I wanted to know whether there was any cancer related to that.

Q: Do you know whether the information contained in this exhibit was ever given to any Monsanto customers?

A: We gave this — We didn't have epidemiologists. This is a toxiologist doing this, and we

Page 107

gave it to a Dr. Mabube for review and he thought this was not significant.

Q: So is it fair to say, then, that you did never give this information to Monsanto customers?

A: No.

Q: That's not fair to say?

A: We did not.

Q: You did not. All right.

A: We then gave a paper on this subject.

Q: I'm now going to show you what's mark for identification as Plaintiff's Exhibit 367 and ask you to review that. Have you seen that document before?

A: Yes. Long ago.

[14] **Q:** Is that a report entitled, "Mortalities of PCB [15] workers at the Monsanto plant in Sauget, Illinois" by [16] Judith A. Zack, Z-a-c-k, and David C. Musch, M-u-s-c-h, [17] dated December 14, 1979?

[18] **A:** Yes.

[19] **Q:** Is this a fair and accurate report proposed by [20] them?

[21] **A:** Yes.

[22] **Q:** Is this the sort of document that you [23] maintained in your files at Monsanto?

[24] **A:** Yes.

[25] **Q:** Did you do that as part of your business work

Page 108

[1] at Monsanto?

[2] **A:** Yes.

[3] **Q:** I'm now going to show you what's marked for [4] identification as Plaintiff's Exhibit 350 and ask you to [5] tell me what that document is. Actually, I'm going to ask [6] you first to review it. Have you had a chance to review [7] it?

[8] **A:** Almost. Yes.

[9] **Q:** Is this a April 18th, 1975 letter to you from [10] J.C. Calandra, President, along with a review of a PCB [11] meeting?

[12] **A:** Yes. This is the result of a meeting, yes.

[13] **Q:** All right. Is this a document that you've [14] seen before?

[15] **A:** Yes.

[16] **Q:** And is this a fair and accurate copy of the [17] document?

[18] **A:** Yes.

[19] **Q:** And is this the sort of document that you [20] maintained in your files at Monsanto as part of your [21] regularly conducted business?

[22] **A:** If it was appropriate, it would be.

[23] **Q:** Do you see the first full paragraph there, [24] were it says, "Dear George, I fully appreciate that the [25] meeting on PCBs today was not completly satisfactory and

Page 109

[1] many nagging questions remain."

[2] **A:** Yes.

[3] **Q:** Would you agree that the meeting referenced [4] was not completely satisfactory?

[5] **A:** Yes.

[6] **Q:** Would you agree that many nagging questions [7] remained after that meeting?

[8] **A:** Yes.

[9] **Q:** What was there about the meeting that was not [10] completely satisfactory?

[11] **A:** The interpretation of whether these nodules [12] were hyperplastic nodules or whether they are [13] well-differentiated carcinomas, or what interpretation [14] should be put on these.

[15] **Q:** Was the question whether or not they were [16] malignant, cancerous?

[17] **A:** Yes.

[18] **Q:** All right. And was the nagging questions that [19] remained whether or not those lesions were malignant [20] cancers?

[21] **A:** No. The question is how we're going to [22] respond to EPA on — We were going to take this to [23] Washington and wanted to have it clear what it was that we [24] were taking to them.

[25] **Q:** All right. I'm now going to show you

Page 110

[1] Plaintiff's Exhibit 424 and ask you to review that [2] document. Have you had a chance to review that?

[3] **A:** I think so. At least, go over it lightly.

[4] **Q:** Is that a September 9, 1969 interdepartment [5] memo to E. Wheeler from W.R. Richard?

[6] **A:** Yes.

[7] **Q:** And those are both Monsanto employees?

[8] **A:** Yes.

[9] **Q:** And have you seen this document before?

[10] **A:** No.

[11] **Q:** Would you turn to page four, towards the [12] bottom on the left-hand side. Do you see the name [13] R-o-u-s-h down there?

[14] **A:** Yes.

[15] **Q:** Do you know what that is, if that's referring [16] to you?

[17] **A:** If it's 1969, it's not referring to me.

[18] **MR. FEATHERSTONE:** Let's go off the record for [19] a second.

[20] (Whereupon, a discussion was held between Counsel, off the [21] record.)

[22] **Q:** (By Mr. Bradley) Is this the sort of document [23] that Monsanto would maintain in its files as part of its [24] regularly conducted business activities?

[25] **MR. FEATHERSTONE:** Object to the form.

Page 111

[1] **A:** The question is what they do with things like [2] this, is the important thing. This is an assessment.

[3] **MR. FEATHERSTONE:** The question is whether its [4] kept in the files.

[5] **MR. BRADLEY:** Yes.

[6] **Q:** (By Mr. Bradley) They keep it in the files?

[7] **A:** I don't know.

[8] **Q:** Is this the sort of document that you would [9] expect them to keep in the files though?

[10] **A:** I don't know.

[11] **Q:** Did Monsanto have a policy for maintaining [12] records relating to PCBs during September of 1969, do you [13] know?

[14] **A:** I don't know.

[15] **Q:** All right. Dr. Roush, I — Apparently, there [16] is another Roush that worked at Monsanto whose name was Don [17] Roush. Had you ever — Do you know of a Don Roush who [18] worked at Monsanto?

[19] **A:** I did not.

[20] **Q:** I'm now going to show you Plaintiff's Exhibit [21] 1154 and I'm interested in knowing whether you've ever [22] reviewed that before?

[23] **A:** No, I haven't seen it.

[24] **Q:** All right. I'm now going so show you [25] Plaintiff's Exhibit 1425 and ask you to review that. Have

Page 112

[1] you had a chance to review that?

[2] **A:** Yes, sir.

[3] **Q:** Is that an August 29th, 1975 interdepartmental [4] from David Wood to you - or excuse me, to W.B. Papageorge?

[5] **A:** Yes.

[6] **Q:** Are you copied over on the right-hand, as [7] indicated by the -

[8] **A:** Yes.

[9] **Q:** - information on the right-hand side? Is this [10] a document you've seen before?

[11] **A:** I must have seen it, my name's on there, but I [12] don't recall it.

[13] **Q:** All right. I'm going to show you Plaintiff's [14] Exhibit 428 and ask you to review that. Doctor, I want to [15] know whether you've seen that document before?

[16] **THE WITNESS:** This was in 1969.

[17] **MR. BRADLEY:** Yes, I know that.

[18] **A:** Yes. But I don't recall it.

[19] **MR. BRADLEY:** All right.

[20] **A:** I haven't read it either.

[21] **MR. BRADLEY:** Take your time, then, to [22] determine, just to determine whether you've seen the [23] document before.

[24] **A:** No.

[25] **Q:** I'm now going to show you Plaintiff's Exhibit

Page 113

[1] 517 and ask you to review it for the purpose of telling me [2] whether you've ever seen the document before?

[3] **A:** I don't recall it.

HARTOLDMON0010022

[4] **Q:** I'm now going to show you Exhibit 422 and ask [5] you if you have ever seen that document before?

[6] **MR. FEATHERSTONE:** He wants you to look at it [7] to say whether you have seen it before.

[8] **A:** No, I haven't seen this. This is 1959?

[9] **MR. BRADLEY:** Hard to read it, but it's 1969. [10] THE WITNESS '69?

[11] **MR. BRADLEY:** Yes. Bruce, I need to put 422 [12] here, and I'll make a note to get you a copy, though you [13] already have it, but I'll make you a copy anyhow.

[14] **MR. FEATHERSTONE:** Did you use 422 in some [15] other deposition?

[16] **MR. BRADLEY:** No. But I used 422 in our [17] request to admit the authenticity. All of these exhibits, [18] up through 970, are exhibits that we provided to you.

[19] **Q:** (By Mr. Bradley) I'm now going to show you [20] Plaintiff's Exhibit 709 and ask you to review it for the [21] purpose of indicating whether you've seen the document [22] before. Have you had a chance to review that?

[23] **A:** Yes.

[24] **Q:** Have you seen that document before?

[25] **A:** No.

Page 114

[1] **Q:** All right. I'm now going to show you Exhibits [2] 359 and 340 together, and I'd ask you to review them [3] together for the purpose of telling me whether you have [4] seen these documents before. Have you seen that document [5] before?

[6] **A:** No.

[7] **Q:** Would you turn, on Plaintiff's Exhibit 359, to [8] page five, under — Let me give you a context. If you [9] look back at page four, you'll see the word "toxicity" [10] underlined at the bottom of the page, and at the top of [11] page five, it has "human" underlined.

[12] **A:** All right. What's the question?

[13] **Q:** My question is, do you agree, "The known toxic [14] effects of PCBs in humans include an acne-like skin [15] eruptions (chloracne), pigmentation of the skin and nails, [16] excessive eye discharge, swelling of eyelids and [17] distinctive hair follicles."

[18] **A:** Yes. The only question I have there was that [19] acne-like lesion. Whose definition are we going to use?

[20] **Q:** Do you agree, for a number of years, chloracne [21] of the face and neck has been reported among workers [22] exposed to chlorinated hydrocarbons?

[23] **A:** Yes.

[24] **Q:** Do you agree that workers exposed to PCBs in [25] the process of insulating cables in the production of

Page 115

[1] condensers and the manufacture of chlorobiphenyls have [2] reported these skin lesions along with systemic effects [3] such as digestive disturbances, edema of the face and [4] hands, burning of the eyes and impotence and hematuria?

[5] **A:** Yes.

[6] **Q:** What is hematuria?

[7] **A:** Blood in the urine. Uria is urine, and hema [8] is blood.

[9] **Q:** Did Monsanto inform its customers that the [10] known toxic effects of PCBs in humans include an acne-like [11] skin eruption (chloracne), pigmentation of the skin and [12] nails, excessive eye discharge, swelling of eyelids and [13] distinctive hair follicles?

[14] **MR. FEATHERSTONE:** Same objection previously [15] stated about the absence of personal knowledge for this [16] witness to answer the question.

[17] **A:** This is from Japan, that you're really citing, [18] Yusho, Y-u-s-h-o, and they got it because they were eating [19] the PCBs in the cooking oil. It hasn't been seen since.

[20] **Q:** (By Mr. Bradley) Did Monsanto tell its [21] customers that for a number of years, chloracnia of the [22] face and neck has been reported among workers exposed to [23] chlorinated hydrocarbons?

[24] **A:** They were told about the, about lesions on [25] their face, about the skin problems.

Page 116

[1] **Q:** But not chloracne? Or yes, they were told of [2] chloracne?

[3] **A:** I don't think they were.

[4] **Q:** All right. Were Monsanto customers told that [5] workers exposed to PCBs in the process of manufacture of [6] chlorobiphenyls have reported skin lesions along with [7] systemic effects such as digestive disturbances, edema of [8] the face and hands, burning of the eyes, impotence and [9] hematuria?

[10] **MR. FEATHERSTONE:** Same objection. Absence of [11] personal knowledge of this witness about what Monsanto told [12] its customers.

[13] **A:** I don't believe these things. I don't believe [14] this.

[15] **Q:** (By Mr. Bradley) Is the answer, then, that [16] you don't - Monsanto, as far as know, didn't report that to [17] its customers?

[18] **A:** I don't know whether it did or not.

[19] **Q:** Now, on page four, under the section that says [20] - or let me do it this way. Under the second full [21] paragraph under "Human," at the end of the last sentence, [22] it has the references for 16 and 22. Do you see that [23] there?

[24] **A:** Yes.

[25] **Q:** It's on page five.

Page 117

[1] **A:** Yes.

[2] **Q:** Now, there's a reference section, is there [3] not, at the end of this document?

[4] **A:** Yes.

[5] **Q:** And 16 and 22 refer to — Well, 16 refers to [6] an article by Dr. Kimbrough, dated 1974 and 22 refers to an [7] article by Dr. Schwartz in 1936; is that correct?

[8] **A:** Yes.

[9] **Q:** Turn now to page six.

[10] **A:** Yes.

[11] **Q:** Under the section that begins "Animal."

[12] **A:** Yes.

[13] **Q:** And goes through page eight?

[14] **A:** Yes.

[15] **Q:** While you were at Monsanto, do you know [16] whether Monsanto ever told its customers about the animal [17] toxicity effects that are referred to on pages six, seven [18] and eight of this exhibit?

[19] **A:** I don't know.

[20] **MR. FEATHERSTONE:** Let's go off the record. [21] (Whereupon, a dicussion was held between Counsel, off the [22] record.)

[23]

[24]

[25]

Page 118

3 GEORGE ROUSH, JR.

Subscribed and sworn to before me this _____ day of _____, A.D., 19____.

Notary Public

Notary Public within and for the State of Missouri.

MY COMMISSION EXPIRES THE _____ DAY OF _____, A.D., 19____.

Page 119

STATE OF MISSOURI)
) SS
COUNTY OF ST. LOUIS)

I, John T. Concannon, a Notary Public within and for the State of Missouri, duly commissioned, qualified and authorized to administer oaths and to take and certify to depositions, do hereby certify that pursuant to Notice in the civil cause now pending and undetermined in the District Court of the United States, within and for the District of Nevada, entitled NEVADA POWER COMPANY Plaintiff, -vs- MONSANTO COMPANY, et al., Defendants, to be used in the trial of said cause in said Court, I was attended at the law offices of Messrs. Husch & Eppenberger, 100 N. Broadway, Suite 1300, in the City of St. Louis, State of Missouri, by Ralph A. Bradley, attorney for the Plaintiff; by Bruce A. Featherstone, attorney for the Defendant, Monsanto Company; by Laurie Basch, attorney for the Defendant, Westinghouse; and by GEORGE ROUSH witness, in said office on March 17, 1993.

The said witness, GEORGE ROUSH, being of sound mind and being by me first carefully examined and duly cautioned and sworn to testify the truth, the whole truth and nothing but the truth in the case aforesaid, thereupon testified as is shown in the foregoing transcript, said testimony being by me reported in shorthand and caused to be transcribed

HARTOLDMON0010023

into typewriting, and that the foregoing pages correctly

Page 120

set out the testimony of the aforementioned witness, GEORGE
ROUSH, together with the questions propounded by counsel and the remarks and objections of counsel thereto, and is in all respects a full, true and complete transcript of the questions propounded to and the answers given by said witness; and that said testimony, so transcribed, was subscribed to by the witness on the _____ day of _____, A. D., 1993.

I FURTHER CERTIFY that I am not of counsel nor attorney for any of the parties to said suit, nor related, nor interested in any of the parties or their attorneys.

WITNESS MY HAND and Notarial Seal, given this __ day of __, A. D., 1993, at St. Louis, Missouri.

MY COMMISSION EXPIRES SEPTEMBER 12, 1994
JOHN T. CONCANNON,
Notary Public, within and
for the State of Missouri

Page 121

April 28, 1993

Bruce A. Featherstone, Esq.
Kirkland & Ellis
1999 Broadway - Ste. 4000
Denver, Colorado 80202

Re: Nevada Power Company -v-
Monsanto Company, et al.

Dear Mr. Featherstone:

This letter, incorporated as the last page of Mr. Roush's deposition, taken on March 17, 1993, will serve as notice to you that his testimony is now ready for reading and signing of same. You will recall you indicated a preference for him reading his deposition, rather than waiving signature.

Enclosed please find the original signature page of Mr. Roush's deposition, along with an eratta sheet. Please have Mr. Roush read and sign his deposition and return the original signature page to me. I will then return the signature page to the original transcript, and notify Mr. Bradley of any corrections the witness may have made.

Thank you for your cooperation in this regard.

Sincerely,
JOHN T. CONCANNON
Shorthand Reporter
Concannon & Jaeger
General Court Reporters
705 Olive Street - Ste. 604
St. Louis, Missouri 63101

JTC:md

HARTOLDMON0010024

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'

'3 17:14
'40s 50:15; 66:6, 10
'50s 50:15
'57 9:22
'57/58 12:22
'60s 50:15
'69 113:10
'7 58:5
'70s 84:10, 10; 85:12; 92:19
'72 14:6
'73 19:15; 24:6, 14; 54:3; 56:13
'74 26:15; 39:20; 51:24; 56:14; 105:16
'75 39:20; 51:24
'78 22:25; 23:23
'80s 30:22; 85:12
'88 42:14

1

10 5:6
1016 60:3, 23; 61:1, 2
1154 111:21
12 60:18
1221 60:15
1242 60:15
1251 103:1
1254 60:16
1260 60:16
13 103:8
14 107:17
1421 106:5
1425 111:25
16 116:22; 117:5, 5
18th 108:9
19 14:17
1936 117:7
1937 65:18
1940s 65:23
1946 6:3, 4
1951 6:14; 7:12
1952 8:8, 15, 18; 9:24
1953 8:6; 10:2
1954 10:5, 5
1957 8:2; 10:8, 17, 25; 12:6
1959 12:21; 113:8
1969 110:4, 17; 111:12; 112:16; 113:9
1970s 50:11; 85:8, 11; 105:23
1972 15:5, 7
1973 17:13, 14; 18:15; 19:22; 20:9; 21:23; 24:2, 17, 22; 25:10, 14, 21; 39:9; 42:15; 45:9; 73:2, 5; 97:25; 101:11; 104:5
1974 17:12; 27:5; 40:9; 117:6
1975 17:25; 25:19; 51:23; 105:14; 108:9; 112:3
1976 58:5; 103:8; 105:12; 106:9
1979 107:17
1980s 30:21
1988 5:10

2

22 116:22; 117:5, 6
27th 106:9
29th 112:3

3

340 114:2
350 108:4
359 114:2, 7
367 107:11

4

422 113:4, 11, 14, 16
424 110:1
428 112:14

5

517 113:1

6

63124 5:6

7

709 113:20

9

9 110:4
970 113:18
979 71:16; 72:7; 84:17

A

ability 11:8
absence 58:17; 89:7; 115:15; 116:10
absorbed 73:8, 12, 16, 21, 25; 76:5, 9; 77:4, 10, 15; 78:1, 13, 17; 97:16
absorbtion 73:14, 19
accidents 89:18
accomodate 5:3
accumulated 37:24
accurate 19:25; 106:12; 107:19; 108:16
accurately 103:12
acne 66:23; 88:25; 89:12; 90:8, 9
acne-like 114:14, 19; 115:10
acquisitions 36:25
Act 92:23
action 76:15; 99:24; 100:7, 13, 15, 16, 21; 101:2
activities 110:24
Actually 62:16; 108:5
acute 16:14; 63:14; 96:14
address 5:5
addressed 28:20; 37:1; 52:8, 11
adipose 94:7
adjacent 23:6
administrative 27:10
administratively 25:23
administrator 23:16
admit 113:17
advised 70:14; 93:13
advising 97:2
afternoon 5:2
Ag 75:18
again 7:4; 35:2, 19; 37:10; 40:5; 42:13; 45:13; 51:4; 89:3; 96:25; 100:4; 105:22
against 4:12
age 4:2
agencies 103:7
Agency 92:7, 13
ago 4:9; 20:1; 29:7; 31:17; 57:14; 67:17; 107:13
agree 54:15; 98:15; 99:19; 109:3, 6; 114:13, 20, 24
agreed 103:6
agreement 76:15
ahead 9:14; 20:22; 45:20
air 66:15
alkaline 62:10
alleged 65:22, 22; 66:10, 23; 67:19; 79:14
allowed 98:22
Almost 88:17; 94:9; 108:8
along 108:10; 115:2; 116:6
already 33:22; 70:8, 10, 21; 77:7; 78:6; 83:10, 11; 87:7, 19; 89:8; 113:13
always 50:6; 57:16; 58:1
Americans 94:5
among 114:21; 115:22
animal 92:11; 94:24; 96:16, 17; 117:11, 16
animals 16:16, 22; 95:15, 19; 102:12, 14
anybody 89:14
anyhow 113:13
anymore 45:6
anyone 26:3; 35:22; 40:9; 54:22; 55:2, 9, 13; 56:6, 11; 65:21; 77:8; 79:1, 8, 12, 21; 80:1; 85:19; 102:1, 20, 21, 23
anywhere 29:24
apparel 69:19; 70:17; 71:12
Apparently 111:15
appear 20:11
appearing 30:2
applied 59:17
appointment 58:22; 59:4, 4, 10, 15, 18
appreciate 108:24
appropriate 34:9, 11; 108:22
April 108:9
area 7:6; 18:10; 21:25; 22:22
areas 43:22; 44:5
Aroclor 41:14, 19; 42:19; 43:5, 9; 44:9, 12, 15
Aroclors 60:9, 11, 15; 99:8, 13
aromatic 16:9
around 22:23; 25:18; 90:8; 102:8
artery 13:19
article 46:7; 117:6, 7
articles 46:10, 13, 17, 21
assessment 111:2
assignment 40:15
Assistant 11:21
Associate 14:2, 7; 18:3; 24:2, 6; 25:1, 5, 5; 41:17; 56:2; 101:15
associated 11:8, 15, 17; 90:6
association 79:14
assume 4:23; 34:13
attachments 60:14
attempt 47:16
attend 5:13; 8:3; 52:17, 23; 53:3
attended 52:5, 8, 11, 13, 20, 21
attorney 4:17; 30:4, 5
attorneys 30:10
August 106:9; 112:3
authenticity 113:17
author 32:21
authority 25:1
aware 82:10; 99:24
away 6:8; 57:13; 64:15

B

B-a-b-l-e-r 5:6
Babler 5:6
Bachelor's 5:15
Bachelors 6:19
back 6:17; 9:15; 10:5; 23:19; 27:2; 43:25; 45:1; 62:17; 66:5, 9; 71:2; 77:20, 23; 81:3; 114:9
background 5:12; 59:16
basement 22:22; 23:5
basis 16:23
became 7:25; 10:18; 13:3, 5; 17:6; 26:16, 19; 40:8, 14; 58:9; 105:19
become 13:4; 14:14; 90:23
began 5:18; 18:1, 4, 7; 19:14; 20:8; 22:9; 24:16, 22; 25:14; 27:18, 22; 39:9; 40:2; 42:16; 47:13, 22; 48:1, 18; 56:13; 60:5; 68:15; 73:2, 5; 99:5, 23; 100:2, 4, 19; 101:1
beginning 5:12; 9:24; 47:10; 99:20
begins 117:11
behalf 4:4
believe 62:16; 98:9; 116:13, 13
below 22:23; 99:8
Besides 24:12
best 20:7
Bethesda 8:14
beyond 93:9
Bible 27:6, 12, 15
bigger 64:14
billion 94:6
biodegrade 94:18
biomagnification 94:21
biomagnify 95:3
Biotest 101:21
biphenyl 66:25; 67:9; 91:5, 6
biphenyls 28:16, 20; 29:2; 34:14, 18, 22; 35:6, 8, 23; 65:19
bit 54:19
blood 94:8; 115:7, 8
bodily 96:23; 97:8
book 32:13, 14, 17, 24; 46:3, 4
boss 17:6; 18:7
both 7:20; 23:8; 25:8; 58:13; 110:7
bottom 110:12; 114:10
BRADLEY 4:6, 7; 7:5; 12:16; 15:6, 9; 20:2, 6; 22:16; 24:13, 16, 21; 27:4, 17; 31:15, 22, 25; 32:2, 8; 33:22; 34:2, 9, 11, 13; 35:15, 17, 20, 21; 37:11; 39:18; 40:8; 41:12; 44:4, 11; 45:14, 20; 46:6, 9, 20; 47:11, 13, 16, 22; 49:3, 15, 23; 51:5, 6; 53:3, 8; 54:2, 5, 8, 20; 55:23; 56:1, 3; 57:21, 24; 58:21; 61:8, 12, 14, 22; 2:16, 22; 63:3, 4, 21; 64:1, 9, 16; 66:2; 69:12, 18; 70:12, 23; 71:1, 18, 20, 22, 25; 72:4, 6; 74:21; 77:19, 23; 78:4, 10; 79:19, 21; 81:9; 82:6, 25; 84:3, 5; 86:1; 87:9, 13; 88:13, 15; 89:9, 13, 25; 90:2, 25; 91:12, 15; 92:4, 6; 93:5, 11, 17; 95:25; 97:6; 98:3, 15; 99:1, 11, 12; 100:18, 19; 101:16, 17; 102:24; 03:19; 104:15; 105:11; 106:4, 6; 110:22; 111:5, 6; 112:17, 19, 21; 113:9, 11, 16, 19; 115:20; 116:15
brain 88:8
branch 5:21
break 5:2; 72:1, 3
brought 4:12
Bruce 113:11
build 17:5, 21
building 19:8, 11, 13, 18, 22; 20:16, 17, 18, 19; 22:7, 19, 20, 24; 23:20, 22, 23, 24
built 14:21; 17:1, 15, 24; 25:18
burning 115:4; 116:8
business 74:9, 16, 17, 20, 21, 25; 75:2, 3, 9, 10, 16, 18; 76:2,

HARTOLDMON0010027

4, 8, 12, 19, 23, 25; 77:3, 8, 13, 24, 25; 78:2, 3, 4, 11, 15; 79:1, 9, 12, 22; 80:1, 6, 14, 20, 25; 81:11, 16, 21, 22, 25; 83:1, 9, 14, 21, 24, 25; 84:5, 11, 17; 85:14, 20; 86:2, 17, 18, 25; 87:8, 23; 88:1; 89:10; 95:23; 107:25; 108:21; 110:24
businesses 75:17

C

C 107:16
cabinet 38:12, 16, 19
cabinets 39:2
cables 114:25
Calandra 101:25; 102:4; 103:22; 108:10
call 62:9; 63:14; 85:7
called 7:14; 20:19; 30:23; 32:18; 64:17; 65:11; 67:3; 75:15, 24; 87:21; 98:16, 20; 102:17
came 18:23; 23:5; 26:2; 29:18; 35:12, 25; 51:10; 89:10
Campus 20:20
Can 22:18; 28:25; 31:18; 33:23; 40:4; 45:11, 18, 21; 51:4, 16; 54:20, 22; 62:6; 73:8; 91:3; 95:1, 6, 11; 97:3, 17
Cancer 8:13, 17, 19; 9:1, 24; 95:14; 103:5; 106:20
cancerous 109:16
cancers 109:20
capacitors 71:5
capitalized 62:11
carcinogen 92:8, 14
carcinomas 109:13
cardiac 13:3, 4, 5, 5, 10, 12
cardiology 12:25; 13:2
careful 66:8
carry 76:21
case 29:9; 30:23; 31:2, 14, 16; 50:6; 90:22; 91:16
cases 66:23; 84:23; 85:21; 95:16
catheter 13:16, 19
catheterization 13:11, 12
catheterizations 13:6
cause 61:10, 11, 18; 62:24; 63:5, 10, 11, 12, 15, 22; 64:2, 10; 66:6, 14; 79:4, 23; 80:3, 7, 16, 21; 81:2, 17; 82:11, 21; 84:21; 88:8; 89:5, 23; 91:2, 21; 95:14; 99:16
caused 49:14, 16; 50:18; 51:3; 63:25; 65:23; 88:11, 23; 91:5, 21; 93:2, 4, 13, 23
causes 62:4; 64:13, 17; 88:25; 90:7, 8
causing 82:1; 88:25
chain 95:4
chance 106:6; 108:6; 110:2; 112:1; 113:22
change 62:8, 10; 63:12; 69:1, 5
changed 20:1; 26:12
changing 69:11; 100:16
charge 24:24; 26:20; 27:24
chemical 53:18; 54:10, 16
chemicals 15:20; 16:5, 7, 8; 29:15
chemistry 99:21
chemotherapy 8:24
Chicago 51:22, 25; 52:1, 17, 20, 23; 53:4, 25; 64:6
chloracne 48:23, 24; 49:2, 4, 7, 13, 19, 25; 50:6, 12, 18; 51:3, 9; 64:17, 20; 67:16; 88:20, 23, 25; 89:5, 12, 16, 19, 23; 90:3, 5, 11, 15, 18; 91:1, 2, 5, 16, 21; 98:16, 20; 114:15, 20; 115:11; 116:1, 2
chloracnia 115:21
chlorinated 16:9; 34:18, 20, 22, 23; 35:3, 5, 8, 8; 65:19; 66:24; 67:9, 11; 91:4, 6; 94:1; 114:22; 115:23
chlorine 60:13, 22
chlorobiphenyls 115:1; 116:6
chronic 16:12; 63:16, 22, 25; 64:2, 9, 21; 96:1, 4, 8, 11, 12, 19
Cincinnati 13:24; 14:1, 5, 12, 18
citing 115:17
claimed 53:17; 54:1
classified 92:13
classifies 92:7
clean 69:19
clear 4:20; 44:17; 89:1, 4; 109:23
clinical 8:19; 18:16, 17, 19; 23:25; 24:3; 25:7
Close 89:25
closely 83:19
clothes 69:10
clothing 68:15, 17; 69:2, 13; 70:15
coalescence 90:24
college 5:13, 13, 18; 6:1, 4
coming 11:1; 15:21
comment 61:7
commercial 94:2
common 10:11; 63:12; 94:11
communicated 11:17; 98:12
companies 29:13; 30:15; 36:21; 71:8, 11; 73:21, 25; 100:12, 20; 101:1, 6, 10
Company 4:11; 11:9, 12, 18; 15:11; 55:2, 5; 58:4; 97:25; 100:24
compare 54:20
complete 45:2
completed 25:13; 53:25
completely 109:4, 10
completion 52:19; 103:5
completly 108:25
compound 99:20
compounds 95:7, 11
comprehensive 44:14, 24, 25; 45:5
comprehensively 47:17
concentrations 96:2, 5, 20
concern 29:10
concerning 78:9
conclusion 96:3
condensers 115:1
condition 64:17; 90:12, 18
conducted 95:19; 97:20; 108:21; 110:24
confidentiality 31:16
confirming 76:18, 24
Congressional 99:24; 100:7, 12, 15, 16, 21; 101:2
considered 54:24
constituents 94:2
consultant 13:3, 5
consultation 28:6
consulting 42:8
contact 66:13; 70:22; 76:16
contacts 87:24
contained 60:23; 66:24; 67:8, 11, 24; 106:22
containing 16:2
contaminants 53:19; 54:10, 16
contamination 29:10, 14; 36:8, 9, 14, 16; 37:2; 39:6, 14, 22; 40:1, 20
content 60:22
context 36:1; 114:8
continue 98:22
continued 40:15; 105:3
continuing 16:23
Control 92:22
conversation 51:8
conversations 39:8
cooking 115:19
copied 112:6
copies 29:21
copy 78:18; 106:12; 108:16; 113:12, 13
Corp 5:22
corrected 31:7
corrections 31:10
correctly 89:24
correspondence 33:17, 18
cough 62:4
Council 46:7
counsel 33:6, 23; 41:10; 106:2; 110:20; 117:21
County 6:25
couple 16:11; 57:14
course 4:19
courses 14:10
Court 79:17; 81:4
covering 30:19
crux 34:6
current 91:24
customer 76:16, 20; 93:21
customers 68:19, 20, 22; 70:13; 73:11; 75:4, 7; 87:2, 4; 88:3; 89:2, 4, 9, 15, 22; 91:20; 93:1, 8, 13; 95:10, 20; 96:18, 22; 97:2, 7, 11, 15, 19, 24; 98:7, 20; 100:6; 106:23; 107:4; 115:9, 21; 116:4, 12, 17; 117:16

D

D-e-g-a-r-m-o 23:16
daily 69:2, 6
damage 64:13; 79:4, 10; 82:14
data 41:14, 19; 42:18; 43:5, 9; 44:12, 15; 48:4; 66:17; 68:17, 20, 25; 70:12; 71:11; 73:15; 77:17; 78:6, 18, 25; 80:11, 13, 18; 81:6, 10; 92:11, 11; 93:19, 20; 94:10; 103:6
date 27:18; 50:10; 105:3, 8; 106:13
dated 103:8; 107:17; 117:6
dates 104:20; 105:17
David 107:16; 112:4
day 26:13
days 16:12
Dear 108:24
December 26:15; 40:9; 107:17
decisions 28:1, 4
defined 78:7
definition 25:11; 114:19
Degarmo 23:15
Degree 5:15; 6:6, 8, 9, 11, 13, 15, 18, 19; 7:13; 8:21; 11:1; 37:15; 59:21; 73:10
degrees 7:22; 90:15; 99:9
denominated 60:18, 21
department 18:14; 19:11, 14, 17, 22, 24; 20:8; 21:23; 22:12; 23:23; 26:17, 19, 23; 27:5; 28:5, 6; 38:6; 40:10; 41:4, 17, 18; 42:16, 18; 46:14, 21; 48:2, 8, 10; 50:24; 51:2; 55:17; 56:5, 10; 57:17; 58:2, 10; 72:13, 25; 74:3, 6, 8; 75:15, 20, 23; 76:2, 4, 8, 12, 22, 24; 77:9, 14, 24, 25; 78:3; 80:25; 81:12, 15; 6:9, 14, 17; 88:1, 2; 104:7, 9
department's 81:19
departments 19:10, 13; 84:13
deposes 4:3
deposition 4:19; 5:11; 20:3, 4; 22:15, 18; 28:9, 11, 14, 19; 29:1, 6, 9, 19; 30:1, 6, 17, 20, 25; 31:5, 8, 13, 18, 20; 32:6, 9, 15; 33:1, 25; 113:15
depositions 28:23; 29:22; 30:19; 32:3
describe 5:12; 7:10; 18:13; 45:8; 71:12; 80:12; 90:17
described 63:11; 64:14; 81:1; 86:22; 95:5, 9; 96:7
describing 93:2
destroy 99:13
destroying 99:8
detail 69:9
determination 26:9
determine 45:5; 67:24; 112:22, 22
developed 67:16
diagram 19:21; 22:17
dibenzylfuran 53:9, 11, 15
dibenzylfurans 53:18; 54:10, 16, 21, 24
dicussion 117:21
died 67:20
difference 35:2; 88:19; 89:12; 90:3
different 29:12; 30:15; 60:11, 13; 84:6; 90:14; 103:20
difficulty 97:3
digestive 115:3; 116:7
digits 60:20
dioxins 45:25
diphenyl 53:12
diphenyls 34:20, 23; 35:3, 9
DIRECT 4:5; 85:7
direction 31:21
directly 8:22; 23:5; 26:3; 78:24
Director 18:3, 4; 24:2, 6; 25:1, 5, 6; 26:16, 19, 23; 27:5; 28:5; 33:4; 40:9, 14; 41:13, 17, 17; 55:22; 56:2; 87:21; 101:15
disability 11:16
disabling 96:24; 97:8
disappeared 87:20
discharge 114:16; 115:12
discuss 26:9; 35:22; 37:4; 38:4; 59:7
discussed 37:8
discussion 35:18; 41:10; 46:23; 59:12, 13; 65:18; 76:23; 77:1; 78:9; 103:4, 21; 106:2; 110:20
discussions 39:5, 13, 21; 47:23; 56:24; 64:25; 76:17
disease 98:16, 20

HARTOLDMON0010028

distinctive 114:17; 115:13
disturbances 115:3; 116:7
division 75:20, 23
doctor 6:16; 8:1; 12:7, 10; 14:15; 21:14; 88:19; 90:2; 96:8; 112:14
document 42:18; 43:4; 66:4, 12; 71:19, 22; 72:9, 12, 21; 76:7, 21; 80:24; 85:25; 89:21; 103:2, 10, 12, 14; 106:15; 107:12, 22; 108:5, 13, 17, 19; 110:2, 9, 22; 111:8; 112:10, 15, 23; 113:2, 5, 21, 24; 114:4; 117:3
documents 33:3, 8, 15, 19, 24; 45:9, 15; 48:7; 57:5; 80:5, 10, 14, 19; 81:14; 84:16; 89:14; 91:19; 98:6; 99:4; 114:4
Don 111:16, 17
done 20:14; 25:12; 45:7; 79:5; 103:23
door 23:6
dose 64:14; 96:15
down 22:22; 110:13
Dr 4:7; 17:7; 18:6, 7, 18; 21:5, 6, 9; 23:15; 25:21; 26:6, 13, 20, 23; 27:12, 15; 33:21; 34:13; 37:25; 42:11; 44:5; 45:10; 46:1; 47:12, 23; 56:13, 20; 57:4, 4, 7; 64:25; 65:14, 17, 21; 68:1; 72:6; 98:10; 101:25; 102:3; 103:3; 104:13, 15, 18, 21, 23, 24, 25; 105:2, 11, 21, 22; 107:1; 111:15; 117:6, 7
draw 22:3, 11
drawer 38:15
drawings 20:11
drawn 20:6
duly 4:2
during 4:19; 5:1; 11:21, 25; 15:25; 28:14; 31:5; 41:12, 16; 47:18; 48:9; 53:21; 55:1, 4, 8, 12, 15, 20; 56:3, 8, 19; 57:3, 15, 24, 25; 61:8; 66:21; 67:2, 14, 18, 22; 68:10, 13; 69:4, 20; 71:3; 75:10; 80:23; 81:13; 83:4; 84:10, 15; 95:19; 111:12
duties 58:20

E

E 110:5
each 75:17
earlier 25:18
early 30:21; 65:23; 85:12
eating 115:18
edema 115:3; 116:7
education 5:17
educational 5:12
effect 63:13; 64:15; 65:9, 11; 79:6; 93:10; 96:17
effects 62:8, 9; 63:14, 16, 22, 25; 64:3, 10; 79:15; 81:8; 96:14; 114:14; 115:2, 10; 116:7; 117:17
eggshells 82:16, 21
eight 99:8; 117:13, 18
eighteen 56:18, 19; 57:3
either 112:20
Electric 4:13; 55:5, 9, 18; 56:6; 66:22; 68:22; 71:3, 8, 11; 73:20; 100:12, 20, 24, 25; 101:6, 10, 14
else 12:3; 24:8; 26:3; 32:25; 48:5; 54:22; 61:24; 65:21; 69:19; 78:21; 101:8; 102:1, 23
employed 5:7; 45:16; 48:9; 49:25; 53:22; 55:4, 8, 12, 15, 24; 56:8; 57:15, 25; 61:9; 66:21; 67:22; 68:10, 14; 69:4; 71:3; 81:14; 82:19; 98:4; 99:2; 100:3; 101:17
employee 48:12; 49:4, 7; 51:2; 68:8; 105:3, 12, 14, 18, 19
employees 66:22; 69:1, 13; 101:18; 110:7
employment 8:12; 42:16; 47:14; 48:19; 60:6; 73:3; 93:1, 12; 98:8; 99:5; 100:2, 5
end 9:12; 47:10; 116:21; 117:3
ended 9:3
enough 4:24; 89:25; 96:15
entitle 15:14
entitled 107:14
entry 20:16; 23:3
environment 36:12; 80:3, 21; 81:17; 82:1, 11, 15
Environmental 36:8, 9, 14; 37:1; 39:6, 13, 22; 40:1, 20; 92:7, 13
environments 83:6
enzymes 62:9
EPA 52:2; 109:22
epidemiologists 106:25
episode 48:23, 24; 49:1, 3, 7, 10, 13, 19, 24; 50:5, 12, 17; 51:3, 8, 21
eruption 115:11
eruptions 114:15
essentially 12:18
estimate 20:7; 28:19
estimation 44:8
even 29:20; 98:9
eventually 17:21
everyone 87:16, 16
everything 54:6
EXAMINATION 4:5; 21:17
examinations 24:3; 97:20
examining 23:18, 19, 24
example 60:15
except 93:9; 96:16
excessive 114:16; 115:12
exclusively 73:6
Excuse 43:7; 57:21; 65:22; 72:17; 81:1; 89:3; 90:14; 100:3; 104:18; 112:4
Exhibit 20:3, 4, 15; 22:13, 15, 18; 23:1; 71:16; 72:7; 84:17; 103:1, 2; 106:5, 23; 107:11; 108:4; 110:1; 111:20, 25; 112:14, 25; 113:4, 20; 114:7; 117:18
exhibits 113:17, 18; 114:1
exist 60:5
expect 111:9
experiencing 91:16
experimental 95:15, 18
Explain 20:14; 23:2; 56:20; 76:14; 90:3
exposed 67:15; 97:21; 114:22, 24; 115:22; 116:5
exposure 65:2; 66:10, 13, 15, 24; 67:20; 89:17, 22, 23; 91:4, 17; 93:3, 13, 23; 96:5; 98:21
exposures 96:1, 19, 23; 97:7
extra 23:20
extremely 99:20
eye 114:16; 115:12
eyelids 114:16; 115:12
eyes 61:23; 62:7; 115:4; 116:8

F

F.R 66:18
face 114:21; 115:3, 22, 25; 116:8
facility 23:25
fact 17:15; 54:10; 87:22
faculty 10:18, 24; 11:19
Fair 4:23; 106:12; 107:3, 6, 19; 108:16
fairly 103:12
familiar 60:2; 65:5; 82:6; 94:20
far 116:16
fat 94:8
fatal 96:24; 97:9
FEATHERSTONE 12:13; 15:5; 27:1, 15; 31:15; 33:21; 34:8; 39:16; 41:9; 43:24; 44:3, 10; 46:1, 5, 19; 47:12, 20; 49:11, 21; 50:3; 52:25; 53:6; 54:1, 17; 57:18; 58:17; 61:6, 19; 62:12, 14, 19; 63:1, 19, 23; 64:4, 11, 22; 65:24; 69:7, 14; 70:8, 10, 20; 71:18; 74:20; 78:2, 5; 79:16; 81:3; 82:2, 4, 22; 85:22; 87:6; 9:6, 20; 90:19; 91:11; 93:4, 6, 15; 95:21; 96:25; 97:13, 22; 98:10, 14, 23; 100:14; 101:13; 103:15; 104:13; 105:5, 7; 110:18, 25; 111:3; 113:6, 14; 115:14; 116:10; 117:20
FEATHESTONE 70:24
fellowship 8:10, 19, 20, 25; 9:3; 12:25; 13:1
fetus 94:16
few 4:8; 23:7
field 10:20; 37:9
fifteen 34:12; 45:15; 47:12
figure 40:23
file 37:23, 24; 38:12, 15, 19; 39:2; 46:10; 72:13; 73:3, 6
files 106:16; 107:23; 108:20; 110:23; 111:4, 6, 9
find 34:9; 83:20
finding 36:11
findings 25:13; 103:4
finish 9:18; 10:6
finished 9:13, 17; 10:8, 16
first 4:2; 5:25; 19:19, 21, 23; 24:16; 35:11, 13, 14, 18, 21; 36:1; 38:3; 48:16, 18, 22, 23, 24; 49:1, 3, 7, 10, 19, 24; 50:12, 17, 17; 51:2, 8, 20; 53:14; 54:11; 61:14, 16; 62:23, 24; 63:7; 71:21; 91:15; 100:10; 104:3; 105:18; 108:6, 23
fit 19:5
Five 28:21, 22; 29:7; 47:4; 72:1; 94:6; 114:8, 11; 116:25
floor 19:17, 19, 21, 23
folks 74:11
follicles 114:17; 115:13
followed 76:17, 23
following 12:17; 14:17; 65:2
follows 4:4
food 95:4
forearm 13:16
forgotten 15:4
form 44:3, 10; 46:19; 47:20; 49:11, 21; 50:3; 52:25; 53:6, 7; 61:19; 63:1, 19, 23; 64:4, 11, 22; 65:24; 66:17; 69:7; 82:22, 23; 85:16, 22; 87:6; 91:11; 93:6, 15; 95:21; 99:17; 100:17; 103:15; 110:25
formal 21:24
former 92:1
found 36:17; 83:5; 94:12
foundation 54:18; 58:18; 69:8, 15; 87:7; 89:7; 97:1, 23
four 10:11, 13; 29:12; 30:15, 18; 38:15; 58:3; 110:11; 114:9; 116:19
Francisco 30:20; 31:25
Frederick 106:10
fresh 68:15, 17; 69:22, 23, 25; 70:2, 4, 6, 7, 14, 17; 71:12
full 108:23; 116:20
full-time 24:4
fully 108:24
function 13:21; 62:9; 63:13
functional 25:23
functioned 24:20
functioning 13:15
functions 25:8
furan 48:14; 49:18; 50:9
furans 45:25; 49:10, 16, 17, 24; 50:9, 18; 51:1, 3, 7, 8, 10, 13; 52:11; 54:12; 99:17, 19

G

G 22:20, 24; 23:22
Garrett 23:11; 58:8, 9, 11, 14, 22, 25; 59:1, 13, 19
Garrett's 59:16
gave 30:19; 31:1, 6, 9; 32:3; 43:14; 70:13; 71:13, 14; 93:7, 21; 101:5; 106:24; 107:1, 9
GE 68:25; 70:13; 71:7
gear 69:22, 23, 25
General 4:13; 52:12; 55:9; 56:6; 66:22; 68:5, 22; 71:3
generally 31:18
generated 33:4; 80:5, 19, 24; 81:9, 15; 93:12
generations 95:1
gentleman 103:25
GEORGE 4:1; 19:2; 24:24; 108:24
gets 90:7
GGTP 62:11
GI 65:13
given 29:22; 31:21; 37:22; 52:14; 68:18, 20; 84:17; 85:13, 16; 87:23; 96:13, 14; 98:7; 106:23
giving 31:23; 96:13
glands 90:6
gloves 69:23; 70:7, 8, 10; 73:13, 15, 19
goes 13:20; 94:25; 117:13
good 43:20; 45:22; 46:8
governed 31:16
Government 92:22; 101:8
grab 72:17
graduate 59:21
graduated 8:6
graduation 8:11

HARTOLDMON0010029

ground 22:23
group 23:10; 74:9, 16, 17, 20, 21, 25; 75:3, 9, 10, 16, 18, 19; 76:4, 8, 12, 19, 23, 25; 77:3; 78:3, 4, 12, 15; 79:1, 9, 12, 22; 80:1, 6, 15, 20, 25; 81:11, 16, 21, 22, 25; 83:1, 9, 14, 21, 24, 25; 84:5, 11, 17; 85:14, 20; 86:2, 18, 25; 87:8, 23; 88:1, 2; 89:10
guess 20:3
guessing 83:17

H

hadn't 44:6; 88:6
hair 114:17; 115:13
half 19:19
hall 20:16
Halowax 67:4, 6, 15, 20, 24; 68:1
hand 19:20
handling 74:24
hands 115:4; 116:8
happen 98:3; 99:1
happened 85:9, 11; 89:19; 99:5
happens 91:10, 10, 12, 14; 96:21
happy 72:1
Hard 113:9
harm 61:10, 12, 17; 62:24; 63:5, 9; 65:23; 66:6, 10; 79:23; 80:3, 7, 16, 21; 81:2, 17; 82:1, 11; 93:2, 23
harmful 64:2; 79:15
hasn't 115:19
haven't 88:5; 91:23; 111:23; 112:20; 113:8
hazards 11:8; 76:13; 78:7
head 23:12; 28:5; 38:11; 40:17, 24; 55:16; 56:4, 9; 57:16, 21; 58:1, 9, 19, 22; 59:1, 11; 105:6, 8
headed 18:21; 75:10
headquarters 102:6, 9, 15
Health 7:13, 14, 17, 18; 8:4, 21; 10:19, 20, 21, 24; 11:20; 61:10, 12, 18; 62:25; 63:5, 10, 16, 22; 64:3, 10; 76:13; 79:15, 24; 80:8, 16; 81:2, 8; 93:2
hear 35:11; 36:1; 43:24; 49:20, 23; 50:2, 17; 51:20; 61:9, 14, 17, 24; 62:20, 23, 23; 79:16; 81:3; 83:14; 90:19; 102:17
heard 34:14; 48:14, 17, 21; 49:18; 51:1, 7; 53:8, 15; 61:16; 62:12, 14, 24; 65:14; 66:18; 82:24; 89:14, 21; 95:5; 96:7
hearings 92:22
heart 13:13, 14, 15, 17, 18, 20; 65:12
heart's 13:21
held 41:10; 106:2; 110:20; 117:21
Help 9:23; 42:13; 52:24; 53:4
helped 87:22
Helping 11:14
hema 115:7
hematuria 115:4, 6; 116:9
highly 97:12
hire 23:20; 104:21
hired 104:23
history 12:14
home 32:13
Hospital 6:25; 7:1; 9:4, 7; 10:3
housed 19:7, 14
Houston 29:4; 30:6, 17; 31:9
Huh 70:9
human 61:10, 12, 18; 62:24; 63:5, 10, 16, 22; 64:3, 10; 79:15, 23; 80:8, 16; 81:2, 8; 92:8, 11, 14; 93:2; 94:13; 95:4; 114:11; 116:21
humans 114:14; 115:10
hundred 94:6; 99:9
hydrocarbons 16:9; 114:22; 115:23
hygiene 18:21; 21:21; 23:11, 17; 38:11; 40:18, 24; 57:22; 58:1, 10, 16, 19, 23; 59:11, 22, 25; 74:3
hygienists 18:22
hyperplastic 109:12

I

IBT 33:14, 16, 19; 34:4; 52:14, 16, 18; 79:6; 102:6, 9, 14, 22, 23; 103:5, 21, 24; 104:16, 17, 25
identification 20:5; 22:15; 71:16; 107:11; 108:4
identified 57:19; 89:8
identify 33:24
identifying 20:12
ill 96:16
Illinois 107:15
immune 95:8, 12
impairing 95:7, 12
important 111:2
impotence 115:4; 116:8
impression 54:19
impressions 43:12
incinerated 99:13, 16
include 44:6; 69:23, 25; 114:14; 115:10
included 11:7; 43:23; 44:6; 75:3; 78:8
Including 29:16; 56:1; 70:20
increase 95:2
indicate 19:23; 37:18; 43:21; 44:5; 49:15; 64:20; 65:1, 2; 66:9; 79:2, 9, 13, 22; 80:2, 14
indicated 17:4; 25:18; 38:12; 49:18; 64:2; 77:10, 15, 24; 78:11, 12, 16; 80:7; 81:1, 16; 82:20; 84:16; 93:23; 112:7
indicates 80:21
indicating 84:20; 88:8, 11, 22; 91:20; 98:6; 99:4; 113:21
indication 98:16, 21
industrial 18:21, 22; 21:21; 23:11, 17; 38:11; 40:17, 24; 57:22; 58:1, 10, 15, 19, 22; 59:11, 21, 25; 74:2; 101:21
industry 11:6
inform 71:11; 73:20; 76:2, 4; 86:25; 87:4; 89:2, 4; 95:10; 97:6, 11, 15, 19; 100:20, 25; 115:9
information 28:15; 37:21; 71:13; 76:12; 83:1, 8; 85:13; 98:7; 101:6; 106:22; 107:4; 112:9
informed 73:24; 85:24; 86:1, 4; 98:19; 100:6, 11
informing 28:7, 8; 97:24
infrequent 82:18; 91:7, 9
infrequently 91:13
inhalation 66:13
injuries 88:12
injury 11:16; 88:11, 15; 96:24; 97:8; 98:17, 21
inside 13:18
instance 50:6
instead 96:13, 14
Institute 8:13, 18; 9:1, 24
institutions 7:23
Instructor 12:5
insulating 114:25
insure 71:2
interdepartment 110:4
interdepartmental 106:13; 112:3
interested 33:8; 45:14; 51:6; 54:8; 111:21
interim 6:17
intern 6:22, 24
Internal 9:11, 17, 18; 12:4; 46:23; 96:23; 97:8; 106:10
internally 97:12, 17
interpret 25:12
interpretation 103:17, 19; 109:11, 13
interrupted 5:17
into 5:19; 13:17; 19:6; 20:16; 23:6; 73:16; 78:17; 90:7
introduced 4:8
Investment 52:22, 24; 53:5
involved 27:25; 29:13
involves 65:10
irritant 61:21; 62:3; 93:8
irritating 97:16
irritation 61:25; 62:2, 6; 63:11; 88:18, 20; 90:4, 12
Island 9:4, 6; 10:2
issue 98:10, 11

J

J.C 108:10
Jack 23:11; 58:8, 9
January 103:8
Japan 115:17
Jensen 82:7
job 14:22; 18:1; 24:1, 5, 11, 14; 27:8, 22; 43:20; 87:8, 8
Johannsen 106:10
joined 48:25; 53:13; 54:3; 58:4; 62:15; 64:7, 7; 77:6; 97:24; 104:4, 17; 105:2
joining 105:1
JR 4:1
Judith 107:16

K

K-a-i-m-e-r 66:19
Kaimer 66:18
keep 36:22; 37:5, 9, 13, 19; 111:6, 9
Keeping 36:16, 18, 19
Kelly 17:7; 18:6, 7, 18; 21:5, 6, 9; 25:4; 26:6, 13; 47:23; 56:14, 20, 23; 57:4, 4; 65:17
kept 29:24; 38:13; 41:1; 102:12, 14; 111:4
kidneys 65:13
kids 90:8
Kimbrell 45:24
Kimbrough 103:24; 117:6
kind 9:9; 15:20; 24:9; 25:9; 61:17; 63:9; 64:9, 20; 88:15
kinds 56:24
knew 15:24; 51:10; 56:20; 59:8, 8, 9, 17, 24; 71:4, 7; 77:7, 10, 15, 25; 78:13, 16, 24; 79:3, 10, 13, 23; 80:3, 7, 15; 83:10, 11, 13; 84:25; 87:16, 23; 99:15; 101:7, 10
knowing 33:8; 45:14; 51:6; 54:9; 111:21
knowledge 55:7; 59:7; 69:16; 82:5; 91:22; 98:24; 115:15; 116:11
knowlege 64:7
known 34:16, 18, 20; 35:3, 5; 60:3, 8; 66:5; 114:13; 115:10

L

lab 15:3, 17; 16:24; 17:5, 15, 22; 25:15, 17, 18; 101:19
Laboratories 101:22
laboratory 14:21; 15:2; 17:2
labs 102:22
lack 54:17; 69:8, 14; 97:22; 98:23
Lane 5:6
largely 90:6
last 28:25; 35:2; 77:20; 90:13; 116:21
lasting 64:15
Late 30:22; 85:12; 92:19
lawful 4:2
lawsuit 4:12
layout 18:13; 20:7; 22:12
learn 49:1; 53:1, 1, 21, 24; 63:7, 9, 15, 18, 21; 64:1, 10, 16, 19; 66:22; 67:3, 15, 19, 23; 68:1; 81:25; 83:5; 85:3; 104:3
learned 50:8; 54:6, 9, 12; 63:5; 64:6, 8; 85:5; 86:22; 87:1, 5; 88:3, 5, 6
least 29:1, 18; 41:7; 52:23; 53:24; 67:19; 72:7; 86:21; 98:3; 99:1; 110:3
leather 73:13
leave 76:20; 104:12
led 52:16
left 13:22; 15:10; 16:24; 22:6; 56:25
left-hand 110:12
leg 13:19
lesion 90:24; 114:19
lesions 95:17; 109:19; 115:2, 24; 116:6
letter 85:17; 108:9
letters 32:12; 76:18, 24
levels 51:11, 13; 62:9
Levinskas 19:2; 24:24; 25:2, 3, 21; 26:7, 20, 24; 41:22; 42:11; 43:13; 44:5; 45:10; 58:13; 59:14; 64:25; 65:21; 68:1; 104:8, 24
Lewis 65:14
library 19:5; 21:23; 22:1, 9; 23:14; 36:25; 46:14, 22; 72:25; 81:23
license 12:6; 15:13, 14
licensed 7:25; 12:9; 14:14, 16
Lieutenant 5:25
life 95:1
lightly 110:3
limiting 66:15
literature 36:17, 20, 23; 37:5, 9, 14, 19; 47:17; 88:24; 91:25; 92:1
little 54:19
liver 62:8, 9; 63:12; 64:13; 65:12, 23; 66:6, 11, 14; 79:4, 7, 10; 93:10, 14, 24; 95:14

HARTOLDMON0010030

living 57:11
located 23:15
long 8:3, 25; 9:6; 11:19, 23; 14:4; 15:3; 19:25; 39:17; 48:25; 67:17; 107:13
longer 27:12; 90:13
look 45:1; 113:6; 114:9
looking 72:16
lot 64:7; 88:24
Louis 5:6
Louisville 12:20, 24; 13:2, 9, 23
low 99:16
lower 96:15; 99:7, 8, 10
lungs 65:12

M

M-u-s-c-h 107:16
Mabube 107:1
maintain 29:21; 81:22; 110:23
maintained 23:23; 72:12; 106:16; 107:23; 108:20
maintaining 111:11
major 13:16, 19; 25:8
making 59:4
malignant 84:21; 85:6, 21; 86:23; 87:1, 5, 19; 88:3; 109:16, 19
man 11:16; 17:6; 24:4; 81:11; 102:2
man's 11:8
management 11:18
manufacture 68:11; 99:25; 100:7, 13, 22; 101:3; 115:1; 116:5
manufactured 15:23; 60:8; 94:2
manufacturing 68:14; 69:21
many 20:1; 28:11, 19; 47:1; 56:16; 60:1; 109:1, 6
Marine 9:4, 6; 10:2; 83:5
mark 71:15; 107:10
marked 20:2, 4; 22:14, 16; 108:3
Market 30:23; 31:1, 13
marketing 74:11, 18, 22; 75:1; 84:7, 8, 12
markings 23:1
Marquette 7:1
Masters 7:14, 15; 8:20
material 90:7; 92:25; 93:11; 94:25; 96:12
materials 32:5, 8, 11; 38:13; 48:3, 11; 66:24; 72:18
matter 29:1, 19; 31:12; 40:11; 45:17; 47:18, 24; 48:3; 52:8, 11; 55:18; 58:11, 15; 76:25
may 12:22; 63:12, 13; 64:2; 67:20; 68:6; 79:16; 81:2, 3, 17; 82:11, 21; 84:21; 88:8, 11, 23; 89:5, 16, 16; 90:19; 92:4; 96:1, 4, 19, 23, 24; 97:7, 8
maybe 64:15, 15
McNicholas 34:10
mean 12:13; 25:25; 39:1; 43:1; 47:9; 52:19, 21; 58:4; 65:8; 70:22; 82:14; 87:18; 91:10, 12; 99:8
meaning 70:21
means 40:23; 51:11, 15, 19; 65:9; 69:10
meant 49:4
measure 13:17
Medical 6:12, 15; 7:3, 15, 25; 12:7, 9; 14:14, 19, 20, 23; 15:1, 7, 10, 18, 22; 16:1, 4; 18:3, 4, 10, 14; 19:10, 14, 17, 22, 23; 20:8; 21:23; 22:12; 23:23; 24:2, 6; 25:1, 6; 26:16, 19, 23; 27:5; 28:4; 33:4; 38:6; 40:9, 10, 14; 41:4, 13, 16, 18; 42:16, 17; 46:14, 21; 48:2, 8, 10; 50:24; 51:1; 55:17, 22; 56:5, 10; 7:17; 58:2, 10; 72:13, 25; 74:3, 5; 76:2, 4, 8, 11, 22, 24; 80:24; 81:12, 15, 19; 86:8, 14; 87:21; 88:1; 97:21; 101:15; 104:9
medically 90:11, 17
medicine 7:6, 9, 11, 14, 19; 8:21; 9:5, 9, 11, 17, 19; 10:22; 11:2, 4, 5, 7, 9, 12, 22; 12:1, 4, 5; 14:3, 8, 9, 11, 24; 15:13, 16
meet 35:22; 58:25; 59:3; 86:8; 101:24; 102:1
meeting 52:9; 59:10; 86:14, 17; 102:3, 6; 103:13; 108:11, 12, 25; 109:3, 7, 9
melanoma 85:21; 87:19; 88:3; 92:18
melanomas 84:21; 85:6; 86:23; 87:1, 5
member 83:25
members 83:23
memo 110:5
memorandum 106:10, 13
met 36:6, 14; 37:25; 38:3; 43:15; 59:6; 86:7
Mice 16:20
might 49:16; 50:18; 51:3; 61:9, 11, 17; 62:24; 63:5, 10, 15; 64:10, 20; 66:6, 10, 14; 79:4, 10, 23; 80:3, 7, 15, 21; 99:24; 100:6, 13, 15, 21; 101:2
military 5:19, 21, 24; 6:2
milk 94:13, 17
Milwaukee 6:25, 25
mine 10:14, 21
minute 34:12; 72:1, 5; 100:14
mixed 10:14
mixture 94:2
Mobile 87:21
moment 9:23
moments 4:8
Monsanto 4:12; 15:11, 23, 24; 16:25; 17:4, 11, 14, 15; 18:2, 5, 8, 11, 14, 19; 20:8, 20; 21:23; 24:23; 25:14; 26:12, 17; 28:2; 29:12; 33:4; 35:12, 13, 18, 22; 40:2; 42:7, 8; 45:16; 47:14, 19, 23; 48:1, 9, 12, 19, 25; 49:4, 7, 25; 50:11, 22; 52:18; 53:22; 54:3; 55:1, 4, 8, 12, 16, 24; 56:4, 5, 9, 10, 13; 57:16, 17, 25; 8:2; 59:17, 25; 60:2, 6, 8; 61:9; 66:4, 5, 21; 67:2, 14, 18, 23, 23; 68:8, 11, 11, 13, 15; 69:5, 12, 19, 21, 21; 70:22, 23, 25; 71:1, 4, 10; 72:20, 22; 73:2, 5, 6, 11, 20; 75:6, 11, 15, 21; 76:20; 77:6, 9, 14; 78:12; 79:2, 5, 9, 12, 22; 80:2, 6, 15, 20, 23, 25; 81:14; 82:20; 83:1, 4, 21; 84:6, 11, 12, 15, 18; 85:14, 20; 86:2; 7:2, 4; 88:2; 89:2, 4, 9, 13, 15, 22; 91:20; 92:25; 93:1, 12, 21; 94:3; 95:10, 19, 23; 96:18, 22; 97:6, 11, 15, 19, 24; 98:4, 7, 8, 12, 19; 99:13, 15, 23; 100:2, 3, 5, 5, 11, 11, 20, 20, 25; 101:1, 5, 8, 15, 18, 18; 102:20, 21, 23; 104:4, 12, 19; 105:1, 2, 3, 12, 14, 18, 19, 23; 106:16, 19, 23; 107:4, 15, 23; 108:1, 20; 10:7, 23; 111:11, 16, 18; 115:9, 20; 116:4, 11, 16; 117:15, 16
Monsanto's 46:14, 21; 51:2; 53:4; 72:13; 76:3, 4, 11; 78:15, 15; 81:15, 16; 86:8, 25; 87:23, 25; 88:1, 2
month 42:15; 56:19; 96:17
months 56:16, 18; 57:3
more 17:2, 5; 25:23; 28:8; 37:21; 38:18; 44:21; 47:3, 6; 54:24; 64:14, 20; 76:3; 86:16; 90:11, 13; 98:16, 21
Mortalities 107:14
most 99:20
mother's 94:13, 16
move 22:24; 61:6
moved 22:12, 19; 23:22
moving 22:19
much 93:9
Musch 107:16
must 52:5; 112:11

N

nagging 109:1, 6, 18
nails 114:15; 115:12
name 4:7; 29:3; 32:17; 65:14; 66:16; 84:2; 102:2; 103:25; 110:12; 111:16
name's 112:11
names 20:12; 30:9, 12, 14
Napthalene 67:11
Napthalenes 72:16, 19; 73:3, 6; 94:1
National 8:13, 17, 25; 9:24; 46:7
nationally 26:7
nearly 94:5
necessary 98:9
neck 114:21; 115:22
need 34:9; 71:12; 78:21; 113:11
needed 25:12; 31:10; 75:4, 7
needs 11:6; 17:2, 5
neoplastic 95:17
nervous 63:13
Nevada 4:11; 55:2
New 14:19; 54:6, 7
next 21:1, 5, 12; 23:10, 11; 26:2
NIH 10:15
nineteen 56:18, 19; 57:3
NIOSH 103:17
nodules 90:23; 109:11, 12
Nor 54:22
normally 26:5; 76:11
note 113:12
nothing 4:3; 33:2; 41:1
number 16:8, 10; 20:5; 22:15; 39:1; 114:20; 115:21
numbers 60:11

O

Object 44:3, 10; 46:19; 47:20; 49:11, 21; 52:25; 53:6; 54:17; 58:17; 61:19; 63:1, 19, 23; 64:4, 11, 22; 65:24; 69:7, 8; 82:22; 85:22; 87:6; 91:11; 93:6, 15; 95:21; 96:25; 97:22; 100:16; 103:15; 110:25
objection 50:3; 69:14; 82:2; 89:6; 98:23; 115:14; 116:10
objections 97:13
observe 101:18; 102:11
obtain 7:2; 8:12
obtained 10:10; 12:6
occasions 28:15; 32:3
Occupational 7:9, 11, 14; 8:21; 10:22; 11:2, 4, 5, 7, 9, 12, 22; 12:1; 14:2, 8, 9, 11
occur 28:23; 37:16; 96:1, 5, 19; 102:6
off 12:22; 41:9, 10; 71:2; 100:15; 106:1, 2; 110:18, 20; 117:20, 21
office 18:10; 23:6; 36:2
oil 115:19
omitted 43:22
one 4:8; 9:2, 8, 20, 24; 10:3; 12:25; 13:14, 16; 17:2; 18:16, 17, 19, 22; 19:11, 17; 20:3, 5, 15; 22:13; 23:7; 29:3; 30:23; 31:1, 1, 13; 34:4; 35:2; 38:18; 41:3; 46:8; 50:6, 6; 53:13; 59:1; 62:4; 65:10; 67:19; 75:17, 18; 76:21; 81:3; 82:17; 83:23; 84:22; 86:16; 90:22, 23; 94:24; 99:19; 101:8
ones 74:14
only 12:1; 41:3; 81:6; 88:17; 90:9; 92:10, 11; 114:18
open 21:3
opening 21:14
operation 19:16
operations 24:10
opinion 44:11
opportunity 72:7
opposed 26:6; 62:21
orally 43:11; 86:22
order 31:17
organ 65:10
organism 96:13
organization 24:19
Orleans 14:19
out 5:23; 6:1; 28:18; 30:20; 33:11; 34:9; 37:23; 40:23; 44:21; 52:14; 66:7; 83:20; 95:16, 23
outside 13:18
over 16:12; 22:20; 36:2; 39:4; 45:15; 58:15; 89:3; 94:6; 95:1, 1; 96:16, 17; 100:4; 105:22; 110:3; 112:6
overseas 19:16
own 21:2; 25:15; 81:22
oxygen 53:13

P

P-a-t-t-e-y 32:18, 20
page 110:11; 114:8, 9, 10, 11; 116:19, 25; 117:9, 13
pages 117:17
paid 52:18
pamphlet 66:7, 9, 16
pants 69:25
Papageorge 84:4; 112:4
paper 19:20; 84:22, 24; 107:9
paragraph 108:23; 116:21
part 7:19, 20; 10:18, 23; 19:23; 29:2; 43:8; 52:12, 24; 53:4; 58:20; 65:19; 66:24; 68:17; 104:9; 105:23; 106:18; 107:25; 108:20; 110:23
participate 92:21

Participated 25:11; 48:4, 10; 65:18
participating 28:8
participation 31:19
particularly 33:2
parts 13:21; 67:8; 94:6
pass 57:13; 94:15
passing 94:24
patient 90:25
Pattey 32:18, 19, 20, 21
Patty's 45:22
Paul 103:25
PCB 55:10; 87:2; 89:16; 94:2; 95:20; 96:2, 6, 20, 23; 97:7; 102:5; 107:14; 108:10
PCBs 16:2; 29:14, 16, 18; 30:19; 31:23; 32:3, 10; 34:16; 35:3, 5, 11, 13, 18; 36:1, 5, 6, 10, 12, 14; 37:2, 5, 9, 13, 19; 38:4, 13; 39:6, 14, 22; 40:1, 11, 14, 17, 21, 25; 41:5; 45:11, 17; 46:1, 8, 11, 15, 21; 47:18, 24; 48:3, 11; 51:11, 12; 52:8, 9; 53:2, 5, 19; 54:7, 10, 16, 21, 24; 55:6, 13, 18; 56:6, 11, 21; 57:5; 8:12, 15, 20; 59:7, 8, 9, 16; 60:8, 13, 23; 61:2, 9, 16, 17; 62:24; 63:5, 9, 15, 22; 64:2, 10, 13, 17; 65:2, 22, 23; 66:6, 10; 67:24; 68:5, 11, 14; 69:1, 5, 10, 20, 21; 71:2; 73:8, 11, 16, 21, 25; 74:10; 75:3, 19, 21; 76:5, 5, 8, 9, 13, 13; 77:4, 4, 9, 10, 14, 15, 25; 78:12, 13, 15, 16, 16; 79:2, 3, 6, 9, 10, 13, 14, 22, 23; 0:2, 3, 6, 7, 15, 15, 20, 21; 81:1, 1, 16, 17, 25; 82:8, 11, 20; 83:2, 5, 22; 84:6, 9, 11, 18, 20; 85:14, 20; 87:5; 88:4, 8, 11, 23; 89:3, 5, 17, 22, 23; 91:17, 20; 92:8, 13; 93:3, 13, 23; 94:6, 8, 12, 15, 18; 95:3, 6, 11, 14; 97:12, 16, 21; 98:22; 99:16, 17, 25; 100:8, 13, 22; 101:3, 19; 108:25; 111:12; 114:14, 24; 115:10, 19; 16:5
people 21:19; 23:7; 48:8; 74:14, 18; 75:1; 76:2
per 94:6
performed 82:7
perhaps 43:22, 23
period 27:7; 39:4; 47:18; 55:15; 56:20; 57:24; 95:19; 96:16; 99:12
periodic 97:20
person 86:17
person's 75:13
personal 69:15; 82:4; 98:24; 115:15; 116:11
personnel 97:21
phone 86:6
phosphate 62:10
phrase 65:5
phrased 89:24
physical 18:13; 20:7; 22:12; 97:20
physician 18:17, 17; 23:20
physicians 14:9; 23:17
piece 19:20
pigmentation 114:15; 115:11
Pittsburgh 7:12, 16, 21; 8:4, 7, 12; 9:15; 10:6, 19, 25; 11:20
place 23:21; 30:23; 31:1, 13; 54:4; 78:25; 87:24; 90:5
placenta 94:16
Plaintiff 4:4
Plaintiff's 22:14, 17; 71:16; 72:7; 84:17; 103:1; 106:5; 107:11; 108:4; 110:1; 111:20, 25; 112:13, 25; 113:20; 114:7
Plaintiffs 30:12
plant 11:15; 107:15
plants 24:9, 18
please 27:2; 43:25; 79:17; 81:4; 90:20
point 8:1; 21:7; 26:11; 34:9, 11; 37:7; 63:4; 105:21
poisoning 64:21; 65:3, 6; 96:1, 4, 9, 11, 12, 19
policy 111:11
polychlorinated 28:16, 20; 29:2; 34:14; 35:23; 53:9, 11, 15, 18; 54:9, 15, 21, 23
pores 90:6, 7, 23
position 58:7
possible 92:9, 14
possibly 28:7; 92:10
post-graduate 8:10
potential 76:13; 93:8
Power 4:11; 55:2
practice 9:9; 15:14; 18:19; 106:18
practicing 11:12
preparation 48:11
prepare 32:6, 9, 14; 41:13, 19; 43:4
prepared 22:17; 41:21; 42:3, 11, 18, 24; 45:10; 68:8
preparing 48:2
preperation 32:25
present 36:12; 103:6
presented 54:12
presently 5:7
President 108:10
pressure 13:18
prevent 73:14, 19
previous 27:3; 28:15; 40:6; 44:1; 62:18; 77:21; 79:18; 81:5; 90:21; 97:5
previously 115:14
primarily 36:20; 53:1
primary 25:6
prior 30:2; 41:25; 42:25; 48:11; 58:15, 25; 59:4, 9; 93:1, 12; 98:7; 103:10; 105:1
probable 92:8
problem 92:17
problems 11:15; 66:14; 93:14; 115:25
process 114:25; 116:5
produce 64:14; 81:7; 96:14, 15, 23; 97:7, 17
produces 62:8
product 60:2, 5, 23; 67:3; 74:24
production 114:25
products 15:20, 23; 16:2; 28:2; 66:5; 75:18; 87:2; 95:20
Professor 11:22; 14:2, 7, 24; 82:7
program 52:12
promoted 59:1
proposed 107:19
propounded 27:3; 40:6; 44:1; 62:18; 77:21; 79:18; 81:5; 90:21; 97:5
protect 52:24; 53:4; 78:8
Protection 92:7, 13
provide 43:8; 69:19
provided 113:18
Public 7:13, 14, 17, 18; 8:4, 21; 10:19, 20, 21, 24; 11:20
published 52:14; 68:9; 84:25; 85:1; 87:20; 93:7
purchasers 66:5
purpose 8:22; 102:3; 113:1, 21; 114:3
put 13:15, 17, 19; 66:7; 109:14; 113:11

Q

questioning 49:12, 22; 61:20; 63:2, 20, 24; 64:5, 12, 23; 65:25; 69:8; 100:17
quit 58:3, 5, 7
quite 22:6

R

R-o-u-s-h 110:13
Ralph 4:7; 101:14
Ran 15:2; 19:1
rank 5:23
rarely 91:10, 14, 20
rash 65:1
Rats 16:18
re-ask 63:3; 100:18
reaction 90:5, 7, 8, 22
reactions 97:17
read 27:1; 31:4; 40:4; 45:1, 6; 62:13, 17, 21; 66:1, 2, 4; 71:19; 77:19; 112:20; 113:9
Reading 68:3, 4, 7, 7
really 34:6; 115:17
reason 29:8
reasonable 82:17
recall 16:7; 22:8; 27:18, 22; 29:5; 30:4, 18, 25; 31:4, 12, 22; 32:2; 33:10, 19, 24; 34:1, 2; 38:5, 17, 18; 39:8; 42:10; 43:18; 46:17, 20, 24; 47:1, 3, 6; 48:16, 17, 21; 49:6; 50:10; 51:25; 52:7, 10; 53:14; 55:11; 56:16; 67:8; 69:18, 22; 85:2, 5, 19, 24; 86:5, 6, 12, 13, 16; 112:12, 18; 113:3
receive 5:15; 6:6; 85:25
received 6:19; 13:7
recent 51:14, 15
Recently 50:19; 51:19
receptionist 20:23, 25
recess 34:12; 72:5
recognized 26:7
record 41:9, 11; 106:1, 3; 110:18, 21; 117:20, 22
records 111:12
refer 117:5
reference 32:24; 103:13; 117:2
referenced 22:13; 31:17; 74:25; 109:3
references 116:22
referred 21:25; 117:17
referring 75:1; 110:15, 17
refers 117:5, 6
reflects 103:17
regarding 28:2, 15; 32:3; 33:19; 35:18; 36:14; 37:12, 19; 39:5; 40:1, 14, 17; 43:18; 45:16; 46:11; 47:24; 48:3; 49:24; 55:6, 9, 13, 18; 56:6, 11; 58:11; 59:10; 65:18; 76:25; 82:8; 87:5; 89:7; 92:22
regards 49:19
regular 58:20; 106:18
regularly 108:21; 110:24
relate 8:20; 83:8
related 36:11; 64:8; 106:21
relating 33:15; 38:13; 40:10, 25; 41:4; 51:8; 57:5; 72:18; 111:12
relationship 49:10, 24
relay 82:25
remain 109:1
remained 23:25; 109:7, 19
remember 28:22; 30:9, 12, 14; 33:12; 35:16; 50:21; 67:7, 21; 70:5; 85:9, 10, 11, 18
repeat 97:4
repeated 96:1, 5, 19, 23; 97:7
rephrase 79:19
report 25:3, 21; 26:24; 27:4, 13; 68:8; 85:17; 103:12; 107:14, 19; 116:16
reported 25:4; 27:6, 8, 12; 94:6; 114:21; 115:2, 22; 116:6
reporter 20:4; 22:14; 27:3; 40:6; 44:1; 62:18; 77:21; 79:17, 18; 81:4, 5; 90:21; 97:5
reporting 27:18, 23
represent 4:11
represented 4:16; 30:4, 5
request 113:17
requires 50:5
Research 27:24; 46:7; 84:20; 88:7, 10, 22
residency 9:5, 10, 12, 17, 18; 10:6, 10, 11, 13, 17
residential 5:5
respect 23:15
respiratory 62:2, 3, 7
respond 87:14, 15; 97:23; 98:24; 109:22
responded 87:18
responsibilities 11:9, 11; 24:1, 5, 11, 14, 20; 39:25; 40:13, 16; 41:4; 74:23
responsibility 25:6; 40:10; 48:2; 57:2; 73:22; 74:12, 15; 75:4; 81:18, 19, 20; 97:2
responsible 58:21; 75:6
restrict 99:25; 100:7, 13, 22; 101:3
result 88:18; 89:17; 108:12
results 52:14, 16; 103:13, 18
retire 5:9; 39:19; 42:13
Retired 5:8; 26:13; 39:14, 15, 16, 17, 23; 40:3; 42:2, 3, 6; 47:14; 51:17, 18; 56:14, 17; 57:4; 58:4
retirement 41:7, 18; 42:17, 24
return 6:1
review 30:1; 32:5, 9, 11, 11, 14, 25; 33:3, 15; 41:23; 42:23, 25; 43:2, 4, 8; 44:8, 12, 14, 24, 25; 46:9, 13; 47:17; 71:17, 25; 72:2, 16, 18; 80:5, 10, 14, 19, 24; 81:14; 82:20; 84:16, 24; 91:19; 92:25; 93:11, 17, 21; 98:6; 99:4; 106:5, 7; 107:1, 12; 108:6, 6, 10; 110:1, 2; 111:25; 112:1, 14; 113:1, 20, 22; 114:2
reviewed 31:9; 33:9, 20; 34:3; 42:5, 10; 45:9, 10, 15; 46:18, 21, 24; 47:1; 72:22; 80:19; 91:23, 24; 92:2, 4; 111:22
reviewing 42:1; 48:7

HARTOLDMON0010032

Richard 110:5
Richter 102:2
right 5:1, 3, 18; 6:8, 19; 7:18, 22; 8:9, 23; 9:14; 12:12, 19; 14:17; 15:9, 22; 17:21; 20:6, 19, 25; 21:2, 6, 8, 9, 11, 13, 16, 20, 22; 22:8, 10, 11, 21; 23:4, 6, 6, 10, 13; 24:21; 25:9; 29:16; 31:8, 12, 22; 33:18; 34:5, 7; 35:17; 38:24; 39:4, 12, 18; 40:16; 43:14; 44:17, 23; 45:4, 8, 20, 23; 46:5, 9; 52:10; 54:5; 7:1; 61:5; 62:5; 70:11, 19, 24; 72:4, 17, 21, 24; 73:17; 75:20; 76:1; 78:5, 20; 79:1; 81:13; 86:4; 94:1; 95:25; 98:5, 14; 99:3, 6; 101:16; 104:9, 18; 106:9; 107:8; 108:13; 109:18, 25; 111:15, 24; 112:13, 19; 114:1, 12; 116:4
right-hand 112:6, 9
rings 53:12
risk 91:1
rodents 64:13
room 21:2; 102:17, 18
rooms 20:12; 21:18; 23:18, 19, 24; 102:12
roughly 29:5; 30:18; 56:16
round 65:18
ROUSH 4:1, 7; 20:3, 4; 22:14, 17; 33:21; 34:13; 46:2; 47:12; 72:6; 98:11; 103:3; 111:15, 16, 17, 17
run 15:3; 91:1

S

safety 48:4; 66:17; 68:17, 20, 25; 70:12; 71:11; 73:15; 74:13, 15; 77:17; 78:6, 9, 18, 25; 80:11, 13, 18; 81:6, 9, 11; 93:19, 20
sales 74:11, 18, 22; 75:1; 84:7, 12
same 19:7; 34:21, 22, 25; 35:9; 40:15; 50:3; 55:14; 74:22; 89:6; 97:13; 98:23; 115:14; 116:10
San 30:20; 31:25
satisfactory 108:25; 109:4, 10
Sauget 107:15
saw 89:14
saying 12:14; 100:15
scarring 91:2
scars 91:1
School 6:12; 7:13, 15, 16, 18, 19; 8:4; 10:18, 24; 11:19; 14:19, 20, 23; 15:1, 7, 10, 18, 22; 16:1, 4
Schwartz 65:15; 117:7
second 60:20; 110:19; 116:20
secretary 21:1, 2; 23:8
section 18:16, 17, 19, 21, 25; 21:18, 21; 24:25; 25:7; 26:21; 38:8, 10; 40:18, 24; 45:22; 55:17; 56:5, 10; 57:17, 22; 58:1, 10, 16, 19, 23; 59:11, 25; 74:3; 104:10; 116:19; 117:2, 11
sections 18:20, 24; 19:3, 7
sell 71:7
sense 63:12
sent 76:7; 93:1; 106:10, 13
sentence 116:21
separate 73:3; 84:12
September 110:4; 111:12
series 80:11; 82:7
serious 64:20; 98:17, 21
seriously 38:25
sessions 52:7, 10
seven 117:17
several 31:17; 95:1
severe 66:23; 90:12, 18, 22, 25; 91:2, 5, 16, 21
severity 90:15
SGOT 62:10
SGTP 62:11
shake 105:6
Sheet 66:17; 68:18, 20, 25; 70:12; 77:17; 78:6, 18, 25; 80:18; 81:6
sheets 48:4; 71:12; 73:15; 80:11, 13; 81:10; 93:19, 20
shift 68:16
shirts 70:2
shoes 69:6; 70:4
shook 105:8
short 27:6, 21
short-term 16:11
shortly 54:13; 64:7
shouldn't 30:7; 43:23
show 36:25; 57:4; 71:15; 82:10; 103:1; 106:4; 107:10; 108:3; 109:25; 111:20, 24; 112:13, 25; 113:4, 19; 114:1
showed 79:6
showing 69:15; 82:4
shown 33:24; 57:7; 95:14
side 13:20; 21:17; 22:23; 23:17; 110:12; 112:9
sides 13:15; 23:8
Signal 5:22
significant 107:2
similar 90:9
situated 21:19
six 117:9, 17
sixteen 45:16
skim 72:7
skin 61:22; 62:7; 64:17; 65:1; 66:13; 73:9, 12, 16, 21, 25; 76:5, 9; 77:5, 11, 16; 78:1, 13, 17; 90:3, 12; 97:16, 17; 98:15, 20; 114:14, 15; 115:2, 11, 11, 25; 116:6
socks 70:6
sold 71:2
somebody 49:15; 50:7
someone 11:11; 43:11; 50:22, 24; 78:11, 21; 81:12; 86:1, 13
someplace 103:23
something 13:14; 26:2; 43:8; 90:9
sometime 92:19
soon 22:6; 64:6
sorry 62:1; 77:19; 98:1
sort 106:15; 107:22; 108:19; 110:22; 111:8
sound 61:4
speak 52:3; 55:2, 5, 9, 13; 77:13, 24
speaking 90:11, 17
specialty 7:2, 6, 8; 15:15
specific 76:3
specifically 36:13
spending 10:14
spoke 37:12; 43:15; 55:17; 56:5, 10; 78:14
spoken 78:11
sponsored 52:1
St 5:6
standard 32:24; 43:2
Stanton 9:4, 6; 10:2
start 5:11; 89:3; 100:4; 105:22
started 20:10; 62:23; 100:14
stated 115:15
statement 78:9; 89:21
States 92:7, 12
stayed 16:13
still 12:18; 23:19, 23; 26:20; 42:8; 57:10; 87:2, 9
stopped 39:12
strike 61:6
students 11:1
studies 16:13, 14; 25:12, 13; 28:1; 32:12; 33:13, 16; 34:3; 43:3; 46:24; 47:1; 62:10; 67:24; 79:3, 5, 6; 82:7, 10, 20; 88:7; 95:18; 103:22, 22
study 13:20; 33:14; 34:4; 52:18, 19; 68:7; 88:10, 22; 102:5; 103:5, 5, 22
subject 11:25; 29:1, 18; 31:12; 33:5; 37:13; 40:11; 45:11, 17, 24; 47:18, 24; 48:3; 52:8, 11; 55:18; 58:11, 15, 20; 68:5; 76:25; 87:20; 107:9
subsequent 20:1
Substances 92:22
substituted 18:18
suffer 88:16
sufficient 96:2, 5, 20
suggested 51:2
suggesting 79:3
suited 17:5
summary 41:13, 19; 42:1, 3, 11, 18, 23; 43:4, 9, 12, 14, 16, 19, 22; 44:6, 9; 45:10
superficial 65:9
supplemented 18:18
sure 17:25; 19:5, 25; 21:19, 24; 23:14; 30:7, 7; 31:11; 45:2; 54:11; 72:20; 86:10; 101:7; 105:17
Swamp 102:17
sweat 90:6
Sweden 36:11; 82:7
swelling 114:16; 115:12
sworn 4:2
symposium 51:22, 25; 52:1, 3, 7, 13, 17, 20, 23; 53:4, 25; 54:4; 64:6
synergistically 95:7, 11
system 63:13; 95:8, 12
systemic 64:21; 65:3, 5, 11; 98:17, 21; 115:2; 116:7
systems 65:10

T

table 65:18
talk 37:24; 59:3; 76:14, 20; 77:3, 8, 18; 78:23; 83:23; 84:1, 10; 92:10; 102:5
talked 24:19; 33:5, 7, 14, 23; 84:22
talking 46:1, 3; 48:8; 49:2; 55:21, 23; 74:16; 85:19; 92:11, 17
talks 66:15; 81:7; 88:24
taught 11:1; 12:1, 4; 14:9
teach 10:23; 11:3; 12:3; 14:10
teacher 56:22
teaching 7:1
telling 68:18; 75:7; 113:1; 114:3
temperatures 99:7, 16
Ten 28:13, 18; 47:7; 72:1; 95:16
term 34:14; 35:11; 36:1; 48:14, 17, 22; 49:17, 18; 53:8, 15; 94:20
terms 12:13; 62:8
testified 87:7; 97:1
testify 89:7
testimony 29:22; 30:2; 31:13, 23
textbooks 43:3
thanked 87:21
their's 103:20
themselves 78:8
therapy 8:19
thereafter 54:14
They're 7:20
thinking 19:4
thinner 82:21
thinning 82:16
thorough 44:8, 12
though 31:23; 33:8; 51:14; 59:24; 67:11; 78:10; 79:8; 111:9; 113:12
thought 35:1; 43:16, 20; 44:5; 107:1
three 21:19; 29:12; 30:14; 58:3; 95:16
Throtall 17:10; 27:14, 18, 25; 28:7
times 20:1; 28:11, 14, 18, 19; 30:19
tissue 94:7
title 14:22; 18:1; 26:11; 27:8, 11, 22; 32:23; 38:3; 46:3; 75:13
today 4:16; 30:2; 103:10; 108:25
today's 32:6, 9, 15; 33:1
together 114:2, 3
told 33:22; 35:13; 43:15, 18; 49:6, 9; 50:20; 69:10; 73:13; 78:19; 83:17; 87:16; 88:2, 5; 89:19; 101:8, 8; 115:24; 116:1, 4, 11; 117:16
took 33:11; 36:2; 54:4; 58:7
top 114:10
topic 28:20; 30:19; 37:1
tough 45:18
towards 110:11
toxic 54:24; 92:22; 97:12, 17; 99:20; 114:13; 115:10
toxicity 41:14, 19; 42:19; 43:5, 9; 44:9, 12, 15; 54:21; 114:9; 117:17
toxicological 16:5; 28:1
toxicologically 26:8
toxicologist 26:8; 59:19
toxicologists 16:11; 24:19, 22; 25:10
toxicology 14:21; 15:2, 3, 17, 19, 23; 16:1; 17:1, 5, 15, 22; 18:25; 21:18; 23:10; 24:25; 25:15, 17; 26:5, 20; 28:6; 32:13, 14, 17, 24; 38:8; 43:2; 55:16; 56:4, 9; 57:16; 104:8, 10
toxiologist 106:25
trace 51:11, 12; 94:1
track 62:7
tract 65:13
training 7:3, 10; 12:18; 13:7; 58:14
transcribed 31:1
transcripts 29:21
transformers 71:5, 8
true 4:9
truth 4:2, 3, 3
trying 40:23
Tuland 14:23
Tulane 14:19, 20, 25; 15:6, 10, 18, 22, 25; 16:4; 17:3

HARTOLDMON0010033

tumors 88:8
turn 16:12; 58:11; 110:11; 114:7; 117:9
twenty 28:13, 18; 72:5
Two 8:5; 11:24; 13:15, 21; 15:8, 25; 18:22; 22:15, 18; 38:15; 53:12, 13; 54:3; 60:20; 77:20, 21; 84:23; 86:20, 21; 90:23, 23
two-year 11:25

U

ultimately 6:9
unable 24:4
unclear 89:16, 23
under 24:25; 25:2; 114:8; 116:19, 20, 21; 117:11
underlined 114:10, 11
understood 4:23
undertake 28:1
undertook 67:23
United 92:7, 12
University 5:14, 16, 19; 6:6, 12; 7:12, 16, 21; 8:3, 6, 11; 9:15; 10:6, 19, 24; 11:20; 12:20, 23; 13:2, 9, 22, 24, 25; 14:4, 11, 18
unrelated 39:3
up 10:14; 13:16, 20; 29:18; 39:22; 41:7, 17; 56:25; 68:6; 105:3; 113:18
up-to-date 36:16, 18, 19, 23; 37:5, 9, 13, 19; 41:2
Upon 8:11; 103:5
Uria 115:7
urine 115:7, 7
use 17:17; 113:14; 114:19
used 71:4; 78:2; 113:16
USHA 54:12, 12
usually 31:7; 96:16
utilities 101:14
utility 55:5, 18; 71:8, 11; 73:20, 24; 100:12, 20, 24; 101:1, 6, 10

V

valves 13:14, 18
vapor 96:2, 20, 23; 97:7
vaporize 99:17
vapors 96:6
various 28:1; 103:7
veins 13:16
via 86:6
vice-president 17:10; 27:10, 24
view 44:14
virtue 94:24
Visited 24:9, 18; 102:21
visits 102:23
volume 32:23

W

W.B 112:4
W.R 110:5
Wait 100:14
walk 102:8
wants 113:6
war 5:17
warned 66:4; 89:9, 15, 22
wash 69:12
Washington 6:12; 103:6; 109:23
way 11:15; 48:17; 50:11; 76:2; 91:2; 100:25; 116:20
wear 73:13, 15, 19
weeks 31:17
well-differentiated 109:13
Westinghouse 4:13; 55:13; 56:11; 68:23; 69:1; 70:13; 71:7
what's 20:19; 22:13; 28:19; 32:17, 23; 34:25; 62:3; 66:16; 71:15; 96:3; 107:10; 108:3; 114:12
wheather 54:23
Wheeler 18:22; 36:2, 13; 37:8, 12, 25; 38:1, 2; 39:5, 13, 25; 40:12; 56:22; 57:7, 8, 10, 16, 21; 58:1; 68:2; 83:12, 12, 14, 17, 20; 110:5
Wheeler's 46:10
Whenever 85:9
Whereupon 20:4; 22:14; 27:3; 34:12; 40:6; 41:10; 44:1; 62:18; 72:5; 77:21; 79:18; 81:5; 90:21; 97:5; 106:2; 110:20; 117:21
whole 4:3; 52:9
Whose 81:20; 111:16; 114:19
windows 22:23; 23:7
Wisconsin 5:14, 16, 19; 6:5, 7, 18, 20
within 38:6, 8; 40:9; 48:8; 50:24; 58:3; 72:13; 74:16, 18; 75:6, 15, 21; 77:8, 24; 78:11; 79:5, 21; 80:1; 85:19; 86:2; 88:2
WITNESS 7:4; 24:12, 15; 31:24; 32:7; 35:19; 37:10; 39:15; 40:4; 45:12; 47:9; 49:2; 51:4; 55:21; 61:11; 62:21; 69:15; 70:9, 21, 21; 72:3; 84:2; 88:12; 89:7, 11; 92:3, 21; 96:3; 97:1, 3, 23; 98:1, 24; 99:10; 112:16; 113:10; 115:16; 116:11
Wood 112:4
word 114:9
words 31:4
work 11:8, 8, 16, 17; 15:17; 16:24; 18:1, 5, 8, 14; 19:14; 20:8; 21:22; 22:9; 24:22; 25:9, 14; 36:6, 9; 39:5; 42:7, 8; 47:22; 48:1; 56:13; 68:16; 73:5; 95:6, 11; 99:23; 100:19; 104:16, 19, 25; 105:23; 107:25
worked 24:18; 40:20; 47:19; 55:1; 56:17; 59:24; 67:2, 14, 18; 75:18; 80:23; 83:19, 21; 84:15; 104:17, 24; 111:16, 18
worker 64:19; 65:1; 67:19; 91:16
workers 11:14; 67:15; 68:15; 69:5, 20; 70:14; 88:11, 12, 16, 23; 91:5; 97:21; 107:15; 114:21, 24; 115:22; 116:5
working 11:10, 13; 16:16; 18:17, 23; 24:17; 25:6; 36:3, 4; 40:2; 69:1, 5, 20; 74:9; 75:19, 21; 76:4, 8, 12; 77:4, 9, 14; 78:12, 15; 79:2, 9, 13, 22; 80:2, 6, 15, 20, 25; 81:11, 16; 83:1, 21; 84:6, 11, 18; 85:14, 20; 91:6; 101:1, 18; 104:4, 7, 8
workups 16:1, 5
Wright 104:1, 3, 12, 13, 15, 19, 21, 23, 25; 105:2, 12, 21, 23
write 6:18; 43:7
written 20:25; 43:8; 45:24; 47:18; 68:9; 76:18; 78:6
wrong 13:14
wrote 21:9

Y

Y-u-s-h-o 115:18
year 9:2, 8, 20, 20, 24; 10:3, 11, 13; 12:22, 25; 22:24; 29:5; 42:10, 13
years 8:5; 11:24; 15:4, 8, 25; 29:7; 45:16; 47:12; 54:3; 57:14; 58:3; 60:1; 114:20; 115:21
yesterday 33:5, 25
yours 78:22
Yusho 51:20; 115:18

Z

Z-a-c-k 107:16
Zack 107:16

HARTOLDMON0010034

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