

Page 1 1 IN THE CIRCUIT COURT OF THE CITY OF ST. LOUIS 2 STATE OF MISSOURI 3 4 GLENN BROWN, et al, 5 Plaintiffs, 6 vs. Cause No. 862-00694 7 MONSANTO COMPANY, 8 Defendant. 9 10 11 12 Volume IV 13 Deposition of R. EMMET KELLY, M.D. 14 On behalf of Defendant 15 June 13, 1990 16 17 18 QUESTION FOR CERTIFICATION 19 Pg. 46, Ln.1 20 Q I would ask you to bring it with you Friday 21 so that you may fully amplify all the -- 22 23 24 WALLER REPORTING, INC. 25 515 Olive Street, Suite 1506 26 St. Louis, Missouri 63101 27 (314) 621-2571 28 29 30	Page 3 1 IT IS HEREBY STIPULATED AND AGREED by and 2 between Counsel for the Plaintiff and Counsel for the 3 Defendant, that this continued deposition may be taken in 4 shorthand by TOD MINNIGERODE, a Certified Shorthand 5 Reporter and Notary Public, and afterwards transcribed 6 into typewriting, and signed by the witness. 7 8 9 o-O-o 10 11 R. EMMET KELLY, M.D., 12 of lawful age, being produced, sworn and examined on the 13 part of the Plaintiffs, deposes and says: 14 EXAMINATION 15 QUESTIONS BY MR. MC CREA: 16 Q Good morning Dr. Kelly. 17 A Good morning, sir. 18 Q Dr. Kelly, could you describe for me 19 conditions which you would consider unsafe in a industrial 20 setting with respect to the use of PCB's and worker 21 exposure? 22 A I think wherever a worker's exposed to 23 repeated or continuous skin contact or breathing the fumes 24 at elevated temperature or possibly in confined spaces for 25 prolonged periods of time that would be unsafe.
Page 2 1 IN THE CIRCUIT COURT OF THE CITY OF ST. LOUIS 2 STATE OF MISSOURI 3 4 GLENN BROWN, et al, 5 Plaintiffs, 6 vs. Cause No. 862-00694 7 MONSANTO COMPANY, 8 Defendant. 9 10 11 DEPOSITION OF R. EMMET KELLY, M.D., produced, 12 sworn and examined on behalf of the Defendant, June 13, 13 1990, between the hours of eight o'clock in the forenoon 14 and five o'clock in the afternoon of that day, at the 15 offices of Communitrionics, 1907 S. Kingshighway, St. 16 Louis, Missouri, before TOD MINNIGERODE, a Certified 17 Shorthand Reporter and a Notary Public within and for the 18 State of Missouri. 19 20 21 A P P E A R A N C E S 22 The Plaintiff was represented by Mr. Thomas M. 23 Carney of the law firm of Husch, Eppenberger, Donahue, 24 Cornfeld & Jenkins, 100 N. Broadway, St. Louis, MO 63101. 25 26 The Defendant was represented by Mr. David 27 McCrea, of the lawfirm McCrea & McCrea, 119 South 28 Walnut Street, Bloomington, Indiana 47402. 29 30 31	Page 4 1 Q Doctor, could you give us your definition of 2 a significant exposure to PCB's? 3 A No, sir. It varies all over the place. I 4 couldn't quantify that. 5 Q After Paul Wright was indicted do you know if 6 there was any review of the long term PCB studies which 7 Monsanto contracted with I.B.T. to perform, was there any 8 review by Monsanto? 9 A Yes. Dr. Levinskas reviewed it. 10 Q Did he review it as a result of the 11 indictment, i.e., to look for particular shortcomings? 12 A I don't know. I was gone from the company at 13 that time. 14 Q You don't have any independent knowledge of a 15 review by Monsanto of the data as a result of the 16 indictments? 17 A Well, I don't know what you mean by 18 independent knowledge. I have talked to Dr. Levinskas and 19 he said I checked it all over, I checked figures and it 20 looks fine to me. He said, I'm sure the government has 21 reviewed it; they are as interested as we are. They have 22 copies of the results, we have never heard anything pro or 23 con from the government. 24 Q Do you know which agency of the government 25 was involved in reviewing it?

Page 5 1 A It would be the FDA. Remember the PCB work 2 was not to the best of my knowledge a subject of this 3 trial. 4 Q I agree and that's stipulated. 5 A Yes. 6 Q Did Monsanto ever construct any chemical 7 analyses to determine if dioxins were a contaminant of 8 PCB's? 9 A I'm sure not only Monsanto did but the EPA 10 did and at no time were dioxins found. In fact 11 scientifically they could not occur from PCB. 12 Q Did Monsanto conduct any studies to determine 13 if dioxins were a byproduct of the heating of PCB's? 14 A I can't be sure, but it certainly has been 15 conducted by other people and the same answer is the 16 government has stated -- the government meaning the EPA 17 has tested PCB's as far as the presence or occurrence of 18 dioxins under any kind of conditions and they do not occur 19 for PCB. 20 Q Do you know if there have been any studies in 21 which trichlorobenzene and PCB as a transformer fluid have 22 been tested to determine if heat produces dioxins? 23 A I don't know if they have been tested 24 together. Trichlorobenzene will produce dioxins under 25 certain conditions.	Page 7 1 the Bloomington workers, I said the Bloomington population 2 who were exposed to the sludge of the Bloomington outflow 3 of the city. 4 Q All right, sir. Do you know of any other 5 epidemiological studies other than that one particular 6 study in Bloomington either of the citizens or the workers 7 at the Westinghouse capacitor plant? 8 A Well, I don't know if this was the 9 Westinghouse people or not. I do not know if Brown and 10 Jones' work in 1981 was related to the Bloomington study 11 or not, Bloomington workers or not. 12 Q Do you have a list of epidemiological studies 13 on cards that you are referring to? 14 A Yes, I do. 15 Q Can you identify for us those studies and 16 tell us what information was produced by each of those 17 studies? 18 A Yes. You realize this is pretty vast -- a 19 small abstract of the studies but I'll give it to you. 20 Baker Bureau of Epidemiology of the Center for Disease 21 Control of NIOSH, Metabolic Exposure to PCB's in Sewage 22 Sludge, American Journal of Epidemiology, 1980. 148 23 people, PCB levels 17 to 37 parts per billion, all 24 negative findings. 25 SAFE, S-a-f-e, IEEE, technical bulletin No. 86
Page 6 1 Q Would it be your opinion that there would be 2 certain conditions in which dioxins could be produced as a 3 result of heating the combined fluid of PCB and 4 trichlorobenzene? 5 A Yes. 6 Q Do you know of any studies in which mineral 7 oil contaminated with PCB's has been heated to test for 8 the byproduct of dioxin? 9 A I don't recall any. 10 Q Do you know if the heating of mineral oil 11 contaminated with PCB's can produce dioxin? 12 A I don't know that. I would doubt it. 13 Q Yesterday you mentioned that you called Paul 14 Wright preliminary to the trial in Texas and chatted with 15 him about the trial. Who asked you to call Paul Wright? 16 A One of the counsels in Texas. I forget his 17 name. 18 Q What reason did he give you? 19 A Well, he said he'd like Paul to testify but 20 he doesn't want to testify. You know Paul, you want to 21 call him and see if he's changed his mind. 22 Q Dr. Kelly, yesterday you made reference to 23 epidemiological studies of the Bloomington workers; can 24 you tell us us -- 25 A I said the Bloomington people. I didn't say	Page 8 1 health effects of PCB, and this is a direct quote, 2 "relatively few adverse health effects." Gostasfawn, 3 G-o-s-t-a-s-f-a-w-n, 1986, American Journal of Industrial 4 Medicine; no increase in cancer. 5 Brown and Jones, 1981, United States Public Health 6 Service, Archives of Environmental Health. He found an 7 increase in liver cancer but the increase was inversely 8 related to exposure. In other words, he found fewer 9 cancers in people who worked longer than people who worked 10 shorter intervals. 11 Smith, Communicable Disease, Center for Disease 12 Control, 1982, British Journal of Industrial Medicine. I 13 quote again, page 387 -- he worked with capacitor 14 manufacturing -- quote: "None of the published 15 occupational or epidemiological studies," paren, 16 "including ours," close paren, "have shown that 17 occupational exposure to PCB's is associated with any 18 adverse health outcome except some clinical biochemical 19 alterations." 20 That means some will have, some may have some liver 21 enzyme changes. Kimbrough, Health and -- she's, I think 22 we discussed her qualifications yesterday. Health and 23 Environmental Digest, August, 1988, two quotes. "Several 24 occupational studies have presented no conclusive 25 scientific evidence that PCB's have caused cancer in

Page 9 1 humans." 2 Another quote: "Thus despite positive laboratory 3 animal data and except for chloracne exposure to PCB's -- 4 except for chloracne, comma, exposure to PCB's has led to 5 no convincing demonstrable health effects in humans." 6 That's it. 7 Q Thank you. 8 (Whereupon, Plaintiff's Deposition Exhibit No. 5 9 was marked for identification.) 10 Q Dr. Kelly, have there been any 11 epidemiological studies of Monsanto's workers? 12 A There have been two. One by Zack and Musch, 13 which was a mortality study and sometime after 1954, which 14 was published, and the other by Gaffey of all Monsanto 15 workers at the Krummrich or East St. Louis plant. That 16 included the PCB workers but they were a small fraction of 17 the total. Not a small, maybe ten percent of the total. 18 Q I'm going to hand you what is marked as 19 Plaintiff's Exhibit No. 5 and ask you if you can identify 20 the exhibit? 21 A Yes, sir. 22 Q Is that the mortality study which you 23 referenced? 24 A Yes, that is true. 25 Q Was this study conducted on workers at the	Page 11 1 Q And by publishing you would mean that it was 2 approved by the individuals who publish periodical and 3 distributed in the public domain? 4 A Well, you mean the editor of the magazine, 5 sure. 6 Q Right, so this information would be in the 7 public domain -- 8 A Yes. 9 Q -- as a result of being published? 10 A Yes. 11 Q But you do not know in which publication it 12 was printed? 13 A Well, it's easy to find out. 14 Q Did you know Judith Zack when you were 15 employed at Monsanto? 16 A No, she was not employed when I was there and 17 I never met her. I never talked to her. 18 Q Did you know David Musch? 19 A No. 20 Q On the second page it was Monsanto Company 21 Department of Medicine and Environmental Health. Do you 22 see that? 23 A Yes. 24 Q Did Monsanto have a department of 25 Environmental Health when you were there?
Page 10 1 Sauget plant who were exposed to PCB's? 2 A This study was devoted to death certificates. 3 Q Of workers who had worked with PCB's? 4 A That's correct. 5 MR. CARNEY: It might be simpler, I think we 6 referenced to that as the East St. Louis plant and since 7 people in St. Louis know where that is more than Sauget it 8 might be helpful. 9 THE WITNESS: Or Krummrich. 10 MR. CARNEY: Yeah, Krummrich doesn't mean much 11 either. 12 MR. McCREA: All right. We'll refer to it 13 as the East St. Louis manufacturing plant of Monsanto. 14 Q (By Mr. McCrea) Dr. Kelly, when was this 15 report first made available to you? 16 A It appeared in a medical journal sometime in 17 '95 or '96 I think. She certainly didn't do it when I was 18 there and I left at the end of ninety -- '74, so I can't 19 tell you when I think it was published, but I don't know 20 where, whether I saw it before it was published or not, I 21 can't remember, but -- 22 Q Do you know where it was published? 23 A It's easily found. I think it was in the 24 Journal of Industrial Occupational Medicine or something 25 like that. I don't know.	Page 12 1 A I think we changed our name from Medical 2 Department to Department of Medicine and Environmental 3 Health sometime, one or two years before I left. 4 Q And the address 1751 Legend Lane, St. Louis, 5 Missouri, is the address of the Monsanto Department of 6 Medicine and Environmental Health? 7 A No, I don't know whose it is. My guess is 8 it's Judith Zack. 9 Q Yes, you're right. It's footnoted above, 10 that would be her address. 11 Q Can you turn to Page 5 of the study? 12 A Yes, sir. 13 Q Can you go down to the fourth line from the 14 bottom on that page which reads, "While no industrial 15 hygiene monitoring data were available to quantify the PCB 16 exposure levels during the study time, interviews with 17 plant personnel established the fact that PCB exposure 18 levels did not vary considerably within the PCB 19 department." Is that an accurate statement as far as you 20 know? 21 A Yes. I am really a little confused by what 22 she means by the study time. Does that mean the study 23 time means when this -- this is a mortality study, if you 24 remember. She goes back to the death certificates of 25 people who worked there from a period of 1945 to 1965, if

Page 13 1 that's what she means, the study time. 2 Q '35 -- 3 A '45 to '65. 4 Q Is that statement accurate that Monsanto had 5 no monitoring data? 6 A No, that doesn't mean that at all. It says 7 it wasn't available to her. I don't know where those 8 records were, from 1965. She did this study ten years 9 later? 10 MR. CARNEY: I'm going to object also that the 11 question calling for speculation as to what the time 12 period was. I don't think she indicates what it was and 13 it might call for Dr. Kelly to speculate as to what she 14 meant by that. 15 Q (By Mr. McCrea) I think in the beginning of 16 that paragraph, Dr. Kelly, the authors state under 17 materials and methods, during the period from 1936 to 1977 18 PCB's were manufactured at Monsanto Company, Sauget, 19 Illinois plant, which we understand is the same as East 20 St. Louis? 21 A Yes, sir. 22 Q Then the sentence to which we're referring 23 states, "While no industrial hygiene monitoring data were 24 available to quantify the PCB exposure levels during the 25 study time, interviews with plant personnel established	Page 15 1 Q (By Mr. McCrea) This is a study to determine 2 the number of deaths and the cause of deaths of workers 3 exposed to PCB's, is that correct? 4 A Yes. 5 Q And can you determine from this report, Dr. 6 Kelly, the time period that those workers were exposed to 7 PCB's? 8 A No, because she studied workers who were 9 exposed for twenty years, from '45 to '65. 10 Q Right. 11 A That doesn't mean that all the people stopped 12 working in 1965. 13 Q Correct. 14 A Some may have worked up to 1972 and died, but 15 she had a cut-off period of anybody who worked for six 16 months during that period of '45 to '65 -- 17 Q Correct? 18 A -- were included. 19 Q Correct. 20 A That was where the eighty-nine workers she 21 studied. 22 Q Correct. 23 A So my -- now what she's saying if that's the 24 study period then this PCB exposure levels during this 25 study time refers to 1945 to 1965.
Page 14 1 the fact that PCB exposure levels did not vary 2 considerably within the PCB department." What -- to what 3 is she -- to what are the authors referring when they 4 state monitoring data? 5 A Well, that's -- 6 MR. CARNEY: Again, let me just object that 7 it may call for the witness to speculate inside the mind 8 of somebody else. It may be that Dr. Kelly will know but 9 I caution him not to speculate. 10 A If you look, Mr. McCrea, on page two in the 11 abstract she says a total of eighty-nine workers exposed 12 to PCB's for a minimum of six months during a period of 13 1945 to 1965. Now, I don't know if that's the study time 14 '45 to '65 or '36 to '77 or '45 to '77. 15 Q (By Mr. McCrea) Wouldn't that indicate that 16 she was looking at workers who were employed at the East 17 St. Louis plant from 1945 to 1965 and she looked for 18 death -- she looked for death certificates through 1977? 19 MR. CARNEY: Well, I'm going to object again. 20 It also could mean the time that she did her study, which 21 would be different than any of those dates. So I think 22 we're in the realm of trying to speculate inside the mind 23 of Judith Zack, and it might be more appropriate to ask 24 her what she meant unless she says what she meant in the 25 report, then you wouldn't have to speculate.	Page 16 1 Q Right, and she states there was no industrial 2 hygiene monitoring data available to quantify the PCB 3 exposure levels. Is that consistent with your 4 recollection of what was done at the East St. Louis plant 5 that there was no monitoring date? 6 A No, that isn't what she says at all. She 7 says it wasn't available to her. We did have some 8 monitoring there, we did not have regular monitoring in 9 1945. I'm not sure how good our PCB analysis of air was. 10 But we did have, not routine analysis but we had 11 monitoring analysis at the PCB department. Whether those 12 records were available to Zack in 1977, I don't -- they 13 obviously weren't. Whether she asked for them and they 14 weren't there or whether I don't know, but that does not 15 by any matter of means state that we didn't monitor at 16 that time. 17 Q When did you begin to monitor for PCB levels? 18 A Well, we didn't monitor it on a routine basis 19 until sometime after I left. During my time we did not -- 20 we did random analysis at times and I don't recall the 21 date. 22 Q Describe how you would perform a random 23 analysis at the East St. Louis plant before your departure 24 from Monsanto in 1974? 25 A You would go in with an industrial hygiene

Page 17 1 gadget called an impinger that had a solution that would 2 dissolve a PCB and you would pump air in at a certain rate 3 until you get a certain level of air whether that was a 4 certain quantity of air, whether it was six cubic meters 5 or ten cubic meters, then you would analyze it and see 6 what you had with it, what you had there. 7 Q With what frequency was that done before 8 1974? 9 A Pretty irregular. I don't know the 10 frequency. 11 Q Was that data recorded? 12 A Well, sure, it was recorded someplace. 13 Q Was it reported to the plant manager? 14 A Whether it was reported to the plant manager 15 or the doctor or the safety department I don't know. 16 Q Do you recall any of that data, any of the 17 numbers? 18 A No, but remember at that particular time we 19 had a level that was decided on, if it were 1254 it was 20 under one cubic -- one milligram per cubic meter, .5 21 rather, and if it were 1242 it could be under the 22 allowable concentration at that time. 23 Q Which was what for 1242? 24 A One milligram per cubic meter. 25 Q Was this data recorded and filed in the	Page 19 1 A No, but I have talked to people about it, but 2 I don't recall seeing it. 3 Q In the East St. Louis plant where PCB's were 4 manufactured what chemicals did they monitor on a routine 5 basis of '74? 6 A I don't know. 7 Q Do you know if they checked for chemicals 8 other than PCB's in the PCB manufacturing section? 9 A Well, first of all I'm not -- I can't place 10 in my own mind exactly where the PCB department was as to 11 other departments, but sometime after 1975 the OSHA and 12 put out standards of workplace levels and so whenever 13 there was a standard it is my impression that the company 14 took monitoring levels on that, but again I cannot answer 15 your question as to how many other chemicals they 16 monitored for, they did not monitor. I'm sure they did 17 not monitor the PCB for any particular hazard it presented 18 but there was a standard for it and they wanted to follow 19 the standard. 20 Q Who conducted the random testing before 1974? 21 A Either Wheeler I believe would be the one. 22 Q Is he still with Monsanto? 23 A No, he retired ten years ago. 24 Q Did you ever discuss those results with him? 25 A He probably told me about them. I mean, I
Page 18 1 medical department? 2 A Yes. We did have it, yes. 3 Q Was it ever expunged from the records? 4 A Well, I don't think expunged, that has a 5 connotation that I believe, removed. 6 Q Well, was it ever discarded, or -- 7 A We had at Monsanto what we called a record 8 retention system. It really is a record destruction 9 system. Every five years you go through relevant data, I 10 mean files and discard material that isn't relevant. So 11 back in the days of the seventies some things were 12 discarded because we'd be up to our neck in paperwork. 13 So if it isn't available now I'm sure it was 14 discarded sometime either during my tenure or in the 15 fifteen years since I've been there. I've never seen it 16 since I've been back. I mean back as a -- on these cases, 17 not back working for Monsanto. 18 Q I understand. After your departure in '72, 19 '74, monitoring became more routine? 20 A Yes. 21 Q Can you explain the difference between the 22 random monitoring and the routine monitoring? 23 A Yes. The routine monitoring was at a 24 definite time, they did more of them. 25 Q Did you ever see any of those results?	Page 20 1 don't know what you mean by discussing. 2 Q Did you ever discuss the results as to 3 whether they were at a level that exceeded what you 4 thought was appropriate or safe? 5 A Well, again, when you say appropriate or safe 6 it depends, a standard is for an eight hour day for your 7 life time so if you exceed a standard for one or two days 8 or a week, that's still safe. You have to take the figure 9 in relationship to what a standard is, and standard is a 10 lifetime of forty hours a week and if it's twice that 11 standard for a week it doesn't make a bit of difference. 12 Q Are there standards which apply to a single 13 day which are considered -- 14 MR. CARNEY: Talking about today or -- 15 Q (By Mr. McCrea) -- safe or unsafe? 16 MR. McCREA: No. 17 Q (By Mr. McCrea) Before 1974 did you have in 18 addition to the standard for exposure over a lifetime did 19 you have maximum allowable contamination standards? 20 A Concentrations? 21 Q Concentrations. 22 A Well, that's the same as the threshold limit 23 value. I mean, it's just a little different. Some 24 standards had been proposed that allow a set, a limit on 25 fifteen minute exaggerated exposure, I do not know when

Page 21 1 those came in. They were not very current before 1974. 2 Q Doctor, the authors of this study of the 3 workers at the East St. Louis plant describe a number of 4 studies that were conducted throughout the world in the 5 first several pages and I will draw your attention to page 6 eleven which is the reference page for the cited studies, 7 and with regard to references one through twenty-five, 8 with which of those references are you familiar? Which 9 have you read, of which do you have a working knowledge? 10 A You mean without -- off-the-cuff without 11 looking at the reports? 12 Q Right. Are you able to discuss any of those 13 studied based upon your having read them in the past, and 14 tell us about them? 15 A Well, let's start off with number one; I know 16 that one. That was chloracne from the use of PCB's as a 17 heat transfer agent that leaked or not -- Yes, leaked and 18 these people had four or five cases of chloracne, some 19 didn't even know they had chloracne till they saw the 20 doctor. 21 Q Where was that incident? 22 A New England some place. The man was at Yale 23 that wrote it. So I think it was in -- 24 Q When you say some of them didn't even know 25 they had chloracne until they saw the doctor, can you	Page 23 1 people. 2 Q All right. What is your opinion of that 3 finding? 4 A Well, maybe they did, maybe they didn't. 5 Whatever it was was pretty minor. 6 Q If I called you in 1958 from the Bloomington 7 Westinghouse plant and asked you if workers could have 8 chloracne and not know and if chloracne could consist of a 9 few blackheads what would your answer be? 10 A I would have to see the worker. I don't 11 believe I could make a telephone diagnosis. 12 Q If I asked you in 1958 if a worker could have 13 chloracne and not know it what would your -- just a 14 second -- What would your answer be? 15 MR. CARNEY: I'm going to object to it. 16 A That would be very unusual. That would be 17 very unusual, I would say. 18 Q (By Mr. McCrea) The next article, Doctor? 19 A This next article is an epidemiological study 20 of Yusho, poisoning caused by the ingestion that's taken 21 by mouth of rice oil contaminated with a commercial brand 22 of polychlorinated biphenyls, the Japanese Kanechlor and 23 the PCB that was contaminated with benzofuran and 24 chlorinated quaterphenyls. 25 Q And the third article?
Page 22 1 explain that? 2 A Yes, they had a few blackheads and they 3 didn't pay any attention to them and they went to the 4 doctor because the doctor wanted to see everybody who was 5 exposed and the doctor had seen people with demonstrable 6 chloracne and he looked at these people with a few 7 blackheads and said I think you got chloracne. 8 Q So did that establish that a few blackheads 9 was chloracne? 10 A Not in my mind, but it did in his. 11 Q So you disagree with that? 12 A Well, no, I don't disagree with him, but 13 here's a man that's got people working in the same 14 environment with people with frank chloracne but if a man 15 walks in the street with a few blackheads and had never 16 even heard of PCB's that doesn't mean he's got chloracne. 17 Q Did this article establish that there were 18 workers who didn't know they had chloracne until they went 19 to the doctor, the doctor looked at them, found a few 20 blackheads and determined it was chloracne? 21 A In his mind he thought it was chloracne. 22 Whether he determined it, I do not believe he took 23 biopsies of these people. 24 Q Do you dispute that finding? 25 A I can't dispute it because I haven't seen the	Page 24 1 A That's also by the Japanese -- That's a 2 Chinese episode of Yucheng, I presume, Formosa. That's 3 China. 4 MR. CARNEY: Taiwan. 5 THE WITNESS: Taiwan. 6 Q (By Mr. McCrea) Doctor, would you go to page 7 three where those articles are referenced, specifically 8 paragraph three on page three? 9 A Yes, sir. 10 Q And let me read that into the record. The 11 first two sentences, "Accidental ingestion of rice oil 12 contaminated with PCB's has resulted in several outbreaks 13 of common symptomatology, reported from Japan," 14 parentheses, quote, "Yusho," quote, "disease and Taiwan," 15 parenthesis, "Yucheng," quote, "disease," Parentheses. 16 The most common acute symptoms observed were 17 hyperpigmentation and acne-like lesions, discharge from 18 the eyes, neuroendocrine disturbances, emesis and 19 diarrhea. Doctor, did all of those individuals who had 20 neuroendocrine disturbances have chloracne? 21 A In the first place, I don't know what she 22 means by neuroendocrine disturbances. I really don't know 23 what she means by that, and I cannot say from those two 24 pages you gave, two para -- sentences whether they did 25 have chloracne but it is my impression that the vast

Page 25 1 majority of the people had chloracne, the vast majority. 2 Q That's your impression? 3 A Well, I could get the article and look it up, 4 but that's my opinion that he did, yes. 5 Q Do you know any author who has made the 6 statement that all individuals who suffered in Yusho and 7 Taiwan had chloracne? 8 A I can't answer that without a pretty 9 extensive search through the literature but chloracne has 10 been recognized by many authors and in many papers 11 chloracne has been recognized as a hallmark of PCB -- of 12 PCB effects, it's the hallmark of it. 13 Q Doctor, what is the term emesis? 14 A Vomiting. 15 Q Vomiting? 16 A Vomiting. 17 Q And the next sentence, "There was a 18 dose-response relationship between the amount of oil 19 ingested and the proportion of persons reporting 20 symptoms," is that self-explanatory? 21 A I would think so. It just means that the 22 more oil you ate the more people had symptoms. 23 Q "After six years many of the patients still 24 reported such symptoms as headache, stomach pain, numbness 25 of the extremities, arthralgia and respiratory symptoms."	Page 27 1 determination; whether I read this particular one I don't 2 recall. 3 Q No. 6; do you recall having read that? 4 A I don't recall the individual ones, Mr. 5 McCrea. There were about fifty or sixty articles on Yusho 6 and Yucheng in the years from 1972 to 19 -- up to now, and 7 so I can't -- I may very well have seen it. I'm not 8 certain I read it. 9 Q Could you go to page four? 10 A Yes, sir. 11 Q Can you read the last sentence in paragraph 1 12 which states, "Chloracne, dermatitis, mild liver function 13 abnormality" -- 14 A Wait a minute. We're on page four? 15 Q Page four, paragraph one? 16 A Last sentence in paragraph one? 17 Q The first full paragraph? 18 A Oh, the first one. 19 Q Begins, "The Yusho incident" -- 20 A Oh, the first sentence in paragraph two. 21 Q Fair enough. The last sentence in paragraph 22 two, "Chloracne, dermatitis, mild liver function 23 abnormalities and increased triglycerides levels were 24 reported with some consistency from these studies." What 25 is dermatitis?
Page 26 1 Did you read that? 2 A Yes. 3 MR. CARNEY: Let me object here. You're 4 reading from a summery of some literature and then you're 5 just reading pieces of this summery of the literature in 6 the record and I don't see any purpose to your just 7 reading isolated sections of a summary of literature when 8 we ought to have the literature itself so the witness can 9 look at this literature that you are referring to in 10 context rather than pull out, not only pulling out a 11 sentence from the literature but pulling out a sentence 12 from the summary of the literature which I don't think is 13 appropriate and I object to it. 14 Q (By Mr. McCrea) Doctor, what is arthralgia? 15 A Pain in the joint, joints. 16 Q All right, Doctor, the next two articles back 17 on page eleven, number -- I would believe we went through 18 3, No. 4, have you read that one? 19 A At some time in the past I have. 20 Q No. 5? 21 A That was a determination that of the 22 chlorinated dibenzofurans in Kanaclor which is a Japanese 23 PCB's. 24 Q Do you recall having read that article? 25 A I've read articles that showed the	Page 28 1 MR. CARNEY: Let me object to your -- again 2 you are now reading a summery from an article that is I 3 assume available and then asking and I think in this 4 particular case the doctor hasn't even indicated that he's 5 sure that he's read the article. You're not showing him 6 the article, you're just reading him a one sentence 7 summery out of an article and I think without showing the 8 doctor what the article that the summery comes from so he 9 can -- 10 THE WITNESS: This is the article, this 11 particular one is the article in question. This is from 12 Zack's article. 13 MR. CARNEY: Oh, this is from Zack's, I'm 14 not -- 15 MR. McCREA: The article is "A Retrospective 16 Mortality Study of Polychlorinated Biphenyls Manufacturing 17 Workers, by Zack and Musch, Monsanto Company Department of 18 Medicine and Environmental Health." This is your study. 19 MR. CARNEY: It's not my study. 20 MR. McCREA: Well, Monsanto's study. 21 MR. CARNEY: All I'm saying is I'm trying to 22 look over your shoulder because you don't have an extra 23 copy for me. I thought you were reading from the summary 24 but if that's the original article then I withdraw the 25 objection.

Page 29 1 MR. McCREA: All right. 2 Q (By Mr. McCrea) Doctor, what is dermatitis? 3 A Dermatitis is an inflammatory or a condition 4 of the skin. 5 Q Is it your testimony that all individuals who 6 would have dermatitis associated with PCB's would also 7 have chloracne? 8 A No. I never said that. 9 Q Can you have dermatitis associated with PCB's 10 and not have chloracne? 11 A Sure. PCB acts as a paint remover, you put 12 it on, your skin will get red. 13 Q Can you have mild liver function 14 abnormalities would chloracne? 15 A It depends on what you mean by mild liver 16 function abnormalities. If by that you mean a transient 17 or very minor alteration in one or two of the enzymes you 18 may have it, but then you have to decide where these 19 enzyme changes came from. Here we're talking about people 20 who ate Japanese PCB oil, it was contaminated. If you are 21 talking about a mild liver abnormality without chloracne 22 you have to check where did this person get this mild 23 liver abnormality. Did he ever have hepatitis from eating 24 shellfish in his life. Did he take three drinks alcohol 25 in the last two days? You have to differentiate where he	Page 31 1 in fat. 2 So if you have exposure to PCB you will get -- if 3 you have triglycerides for any reason you will get a 4 higher level of PCB's in your blood because a PCB is fat 5 soluble in triglycerides. So you could get increased 6 triglycerides from any number of causes without chloracne. 7 Q What is the consequence to the human body of 8 inused triglycerides? 9 A Depends how much. None, but some it's like 10 too much cholesterol. If you're obese it may have adverse 11 effects down the road. 12 Q Doctor, I'd like to go back to page 3? 13 A Three? 14 Q Yeah, and the symptom of arthralgia, 15 a-r-t-h-r-a-l-g-i-a. Did the Yusho and Taiwan poisoning 16 result in reports of pain in joints? 17 A I don't know. I mean, I'm not taking Zack's 18 word for this. I'd have to read the results and see how 19 many -- you have a thousand people in Yusho itself and I 20 don't know how many in Yucheng. Certainly some of them 21 may have pains in their joints, but the significance of 22 it, I'd have to read the articles. 23 Q Can you explain the mechanism by which the 24 ingestion of the PCB oil in Yusho and Taiwan could cause 25 arthralgia?
Page 30 1 got it from. 2 Q Are these symptoms related to industrial 3 exposures? 4 A And I might also add, extend my last 5 question, amplify my last answer, I mean. If a person has 6 an acute episode of adverse effects from PCB's he can get 7 mild liver abnormalities because he would -- these would 8 occur long -- It takes some time for chloracne to show up. 9 If a person were exposed to a leaking trans -- heat 10 transfer unit, hot stuff came out and he breathed it for 11 eight hours, he could develop liver abnormalities. 12 He would not development chloracne within 13 twenty-four or forty-eight hours, but he would develop 14 liver abnormalities. But I have to repeat chloracne is I 15 think accepted by all the workers, the majority of the 16 workers in the field as the hallmark of PCB adverse 17 effects. 18 Q Could a worker have increased triglycerides 19 as a result of exposure to PCB's and not have chloracne, 20 is your answer the same? 21 A No. He could have it because he's too fat 22 and also I think it's been disproved since 1977 when she 23 wrote this, '77 or '78 because she's carried this study up 24 until the deaths in 1977, followed through '77 so it's 25 after probably '78; triglyceride is a fat. PCB is soluble	Page 32 1 A No, sir, I couldn't. 2 Q Have you ever conducted any investigation as 3 to the mechanism by which those substances cause 4 arthralgia? 5 MR. CARNEY: Well, let me object. I think 6 you're assuming facts that aren't in evidence and that's 7 that there is a cause and effect relationship in your 8 question. 9 Q (By Mr. McCrea) Have you ever done any 10 investigation as to that particular complaint in Yusho in 11 Japan and the relationship to PCB's and how that was 12 discussed? 13 MR. CARNEY: Are you talking about now an 14 investigation about the Japanese PCB's that were 15 contaminated with the furans? 16 MR. McCREA: Right. 17 A I have never had any Japanese PCB's that were 18 contaminated with furans and only way you would test 19 arthralgia, see the if the person has arthralgia is give 20 people it; because you can't tell whether a dog or rat has 21 pain in his joints. 22 Q (By Mr. McCrea) Did you ever ask a single 23 worker in the East St. Louis plant if he had pain in his 24 joints? 25 A I might very well have, I don't recall it. I

Page 33 1 can't tell you positively; but let me tell you when you do 2 an examination of workers in an industrial setting they 3 are far from reticent about giving voice to a symptom. If 4 they have symptoms they tell you. 5 Q Dr. Kelly, are you familiar with the study at 6 the Bloomington, Indiana capacitor plant where thirty-nine 7 percent of the workers exposed to PCB's complained of 8 joint pain? 9 A What is the study? 10 Q Are you familiar with the study? 11 A Well, show it to me. I don't know it. 12 MR. CARNEY: I'm going to object. There's 13 thousands of studies or at least hundreds, let me put it 14 that way. 15 Q (By Mr. McCrea) The study in which Dr. 16 Raymond Suskind oversaw the morbidity epidemiological 17 survey of the Bloomington workers using the Yusho symptoms 18 as a guideline in which Dr. Alexander Blair Smith found 19 that thirty-nine percent of the active workers in if 20 Bloomington Westinghouse plant complained of joint pain. 21 MR. CARNEY: Would you -- Do you have that 22 study? I'm going to object to claiming that you have a 23 study that Dr. Suskind -- Is it a Dr. Suskind study? 24 MR. McCREA: Dr. Suskind oversaw the project 25 which was carried out by Dr. Alexander Blair Smith.	Page 35 1 L. Heet, Monsanto, 800 North Lindbergh Boulevard, St. 2 Louis, Missouri to David P. Brown, NIOSH, Robert A. Taft 3 Laboratories, 4676 Columbia Parkway, Cincinnati, Ohio. 4 "Dear David: Enclosed is a photocopy of the report 5 on mortality of PCB workers at the Monsanto plant in 6 Sauget, Illinois by Judith Zack and David Musch. As far 7 as I know this is final report, although the report was 8 never published in the scientific literature." 9 A What date is that? 10 Q February 27, 1985? 11 A Well, I would be very, very surprised if I am 12 wrong in my statement, I was certainly -- My impression is 13 the report has been. 14 Q And I will represent to you that this report 15 has not been published in the scientific literature and 16 that we did not get it from Monsanto, that we got it by 17 freedom of information request to the Center of Disease 18 Control in Atlanta, Georgia. 19 MR. CARNEY: Well, I'm going to object, Mr. 20 McCrea, you're testifying and making speeches. You can 21 ask questions but you're not under oath. You're not a 22 witness in this case, Mr. McCrea, and now you're trying to 23 make these speeches. If you have a question you can ask a 24 question but to make a speech where you're reading from 25 documents or claiming that you got documents from a
Page 34 1 MR. CARNEY: Wait a minute, I don't know -- 2 MR. McCREA: Just a second. 3 Q (By Mr. McCrea) Have you ever heard of that 4 study? 5 A Wait, just a minute, has it been published? 6 Q No? 7 A Well, how would I know about it? 8 Q Well, this report wasn't published and I got 9 it. 10 A Yes, it was published. 11 Q Where? 12 MR. CARNEY: Let me object. You -- number 13 one apparently it was published according to Dr. Kelly and 14 number two, you've asked for hundreds and thousands of 15 documents from Monsanto and we've produced documents; so 16 you have had of the advantage through this lawsuit of 17 getting these Monsanto documents. Here you're asking 18 about an unpublished study that you don't have and are not 19 willing to show the doctor if you do have. I'm going to 20 object to it. 21 Q (By Mr. McCrea) All right, number one, let 22 me read you a letter dated February 27, 1985? 23 A Wait, what did you say? Let me read you 24 what? 25 Q A letter dated February 27, 1985 from Terry	Page 36 1 certain place, I don't have the opportunity of 2 cross-examining you as to where you got the documents. 3 I'm not saying you're misleading anybody, but I think it's 4 inappropriate for you to make these speeches not under 5 oath about where you got certain documents. 6 Q (By Mr. McCrea) Would you turn to the -- 7 A Well, can I finish my -- 8 MR. CARNEY: Yes. 9 A I said I would be extremely surprised if I am 10 wrong but I'm going to see you again on Friday and I will 11 check to see if I can find -- it would be easy enough to 12 find tomorrow whether the Zack report was published. If 13 it was published I'll give you the citation; if it wasn't 14 I'll admit that I was confused. 15 Q (By Mr. McCrea) All right. We know at least 16 as the February 27, 1985, if you can find that? 17 A Well, no, we don't know that. We know that 18 fellow didn't find it. 19 Q No, it says as far as I know. 20 A As far as he knows, well -- 21 Q Just a second. "As far as I know this is the 22 final report," comma, "although the report was never 23 published in the scientific literature." 24 A May I see that. 25 Q It's right in your stack.

Page 37 1 A In what stack? 2 Q In what I gave you. 3 A In the Zack report? 4 Q Right, it's part of it. 5 A What page? 6 Q Well, it comes right after -- It's right 7 before the final report. 8 A Oh, I see. Oh, I see. Well, I'll be 9 extremely surprised but I'll look it up. 10 Q Now, Doctor, you asked me about unpublished 11 reports. I would be the first to agree that it's very 12 difficult to get ahold of an unpublished report, but you 13 do not, do you have -- Have you ever tried to get 14 unpublished reports? 15 MR. CARNEY: In what area, what type of 16 reports? 17 MR. McCREA: On PCB health effects. 18 MR. CARNEY: From who? 19 MR. McCREA: From Centers for Disease 20 Control. 21 MR. CARNEY: What particular time? 22 A I don't think I have. 23 Q (By Mr. McCrea) All right. But at any rate 24 you are not familiar by any means available to you with 25 the data that thirty-nine percent of the active workers at	Page 39 1 MR. McCREA: I'll be happy to show him the 2 report, and but I'm also stating that there are a number 3 of unpublished reports. 4 MR. CARNEY: And he may have seen it or he 5 may not have. I think if you're going to want to find out 6 if he's seen it -- 7 A I can simplify this by saying I've never seen 8 it. 9 Q (By Mr. McCrea) Or heard of it? 10 A Or heard of it. 11 MR. McCREA: Break. 12 (Whereupon, a short break was taken.) 13 Q Dr. Kelly, would you please turn to page 14 eight of the Zack Musch study? 15 A Yes, sir. 16 Q And the first full paragraph states, "This 17 investigation dealt with the mortality experienced in the 18 cohort of eighty-nine male workers involved for at least 19 six months in the production of PCB's between January 31, 20 1945 and December 31, 1965. The only cause of mortality 21 which showed a statistically significant excess in 22 observed deaths was circulatory diseases exclusive of 23 arteriosclerotic heart disease." Can you interpret that 24 for us? 25 A Interpret the whole sentence?
Page 38 1 the Bloomington Westinghouse plant complained of joint 2 pain or arthralgia? 3 MR. CARNEY: I'm going to object to that 4 question. Here you're asking him about a report that you 5 haven't identified as to date, as to the -- where it was 6 published, if it was published. 7 MR. McCREA: Didn't we already state it 8 wasn't published? 9 MR. CARNEY: You haven't said who put it out, 10 what organization. 11 MR. McCREA: Alexander Blair Smith, NIOSH, 12 Centers for Disease Control under the guidance and 13 auspices of Raymond Suskind. 14 MR. CARNEY: When was it published? 15 MR. McCREA: It was never brought out. 16 MR. CARNEY: When was it prepared? 17 MR. McCREA: It was prepared about 1979, 18 1980. 19 MR. CARNEY: Do you have a copy of it you 20 could show? 21 MR. McCREA: Yes, I do. 22 MR. CARNEY: Well, it would seem to me that 23 you are asking somebody if they have ever seen a report 24 and if you have a copy I think it would be very simple for 25 the jury to see if he knows by showing him the documents.	Page 40 1 Q Yes, sir. 2 A She's stated she found more deaths in this 3 group of circulatory diseases exclusive of high blood 4 pressure disease. Arteriosclerotic disease is known as 5 hardening of the arteries. 6 Q What does the phrase statistically 7 significant mean? 8 A Well, this will take a little explanation. 9 If you have time, I'll be happy to do it. 10 Q Explain it to the jury if you could. 11 A Fine. Whenever one's study carries out an 12 epidemiological study there are four main rules that have 13 to be observed. One, the condition has to be -- the study 14 has to be reproducible, repeat -- you have to be able to 15 repeat it the same way. In other words, if you find high 16 blood pressure in one case, diabetes in another case but 17 no high blood pressure, tumors of the stomach in a third 18 but no high blood pressure, or no diabetes they aren't 19 reproducible. So the condition has to be reproducible. 20 Secondly, there must be a dose response. In other 21 words, if you're studying a worker group of people who 22 work ten years should have more of a condition than the 23 people who work two years. If you find an excess of brain 24 tumors in people who work two years and don't find it in 25 people who work ten years that is a big flaw in an

Page 41 1 epidemiological study. 2 The third, there has to be a dose response -- or 3 no, the third would be there would be no confounders in 4 it. Now confounders is a term that really means obscures 5 the results. If you were studying deaths from heart 6 disease and don't pay any attention to obesity, that's a 7 confounder that will throw out your study and a fourth is 8 it has to be a significant excess. 9 Now this is to answer your question; there are 10 statistical methods for showing whether there's a 11 statistical significant excess, statistically significant. 12 That means if you had a group of twenty people and three 13 people had the condition and you had the control group of 14 twenty people and one person had the condition on the 15 surface it might look like you've got three times as much 16 illness here as you do here but that also could occur by 17 chance and there are statistical ways of evaluating these 18 figures. 19 I'm not a statistician so I won't bore you with 20 that but there are ways, and they generally have what they 21 call a P factor which means the probability that this 22 might be due to chance is a certain percent, five percent, 23 twelve percent or something of that sort. Now to put a 24 figure on it I would have to say it has to be run by a 25 statistician to see if these eight cases or whatever he	Page 43 1 A Well, I think I'll have to turn that question 2 around; I've never seen anybody in any scientific 3 literature say that rheumatic fever or phlebitis was 4 caused by PCB's. 5 Q With respect to this study do you know if 6 anyone has suggested that those deaths of the workers in 7 the East St. Louis plant resulting from circulatory 8 disease were not caused or contributed to by their 9 exposure to PCB's? 10 A Well, I'm sure there are an awful lot -- I 11 mean, I can't give you the names, but she supposes one 12 would postulate that there may be a relationship, she's 13 got an awful lot of factors if there. She doesn't say 14 that it's caused by PCB's. She goes on to say a great 15 deal of things about the lipids, about the triglycerides 16 associated with the heart disease; but it's been proven 17 that -- accepted by the scientific community that high 18 triglycerides are not caused by PCB. That's an 19 association with high PCB's in the blood. 20 So I don't take this as gospel at all. I mean, if 21 she has an excess of -- How many did she have? Eight I 22 believe. Let me look. She had nine other diseases of the 23 circulatory system, expected four, 3.98. Two of these 24 were rheumatic fever, one was phlebitis. That would bring 25 it down to seven, and that's not statistically
Page 42 1 had, she had, was statistically significant. Well she 2 says they were, so I'll take her word for it. Does that 3 answer your question? 4 Q And how do you interpret that for the jury 5 with respect to these workers dying of circulatory 6 diseases who were exposed to PCB's, what's the 7 significance of that for the jury? 8 A Well, that's the question; because we were 9 having workers who died from these illnesses but two of 10 them had rheumatic fever and rheumatic fever by no stretch 11 of the imagination can be connected with PCB exposure. 12 The other one was cerebrovascular disease, to the best of 13 my knowledge was an infected veins in the leg. She had 14 phlebitis like Nixon had, I mean the employee had 15 phlebitis in the lower legs, like Nixon had. That is no 16 relationship. 17 What she is saying is the statistically significant 18 excess, but you have to look at the cases and see what 19 other causes there are for the excess. Just because 20 there's an excess of deaths doesn't mean it's caused by 21 PCB's and occurred to PCB workers and that's what she 22 says. 23 Q Do you know if anyone in the scientific or 24 medical community has ruled out any of the deaths caused 25 by the circulatory disease as not being related to PCB?	Page 44 1 significant. 2 Q Where do you see the two with rheumatic 3 fever? 4 A Well, I checked with her, I checked the raw 5 data. I know it was two had rheumatic fever. 6 Q And that was one of the questions which the 7 Monsanto attorneys asked our plaintiffs, correct? 8 MR. CARNEY: I'm going to object. I don't 9 think Dr. Kelly was at the depositions of the plaintiffs 10 and he already testified he never saw the depositions, so 11 I don't know how -- 12 A I don't know what you mean by that sentence, 13 by that question, Mr. McCrea? 14 Q (By Mr. McCrea) Yesterday, when I read you a 15 list of signs and symptoms which I took from the 16 depositions in which the Monsanto attorneys questioned our 17 plaintiffs, one of the health conditions was rheumatic 18 fever, which they asked our plaintiffs? 19 A I don't know if they asked them. I think 20 there were a hundred and twenty questions or something 21 that allegedly were asked. 22 MR. CARNEY: Yeah. Dr. Kelly doesn't know 23 what questions were asked, and you are claiming that 24 rheumatic fever was caused by PCB exposure. 25 MR. McCREA: Am I claiming?

Page 45 1 MR. CARNEY: Yes. 2 MR. McCREA: I would not think that PCB 3 exposure would be good for a person who had rheumatic 4 fever and it could contribute to morbidity and/or 5 mortality? 6 MR. CARNEY: So PCB's could cause rheumatic 7 fever? 8 MR. McCREA: Did I say that? 9 MR. CARNEY: No. I'm asking you, is that 10 what you're saying? 11 MR. McCREA: No, I'm not saying that, I'm 12 asking the doctor. Number one, I'm not a doctor, you're 13 not a doctor -- 14 THE WITNESS: Is there a question on the 15 board right now? 16 MR. McCREA: No, we're moving very slowly. 17 THE WITNESS: That's all right. 18 Q (By Mr. McCrea) Doctor, you interpreted data 19 supporting this report. You actually went to the files of 20 Monsanto and got data that doesn't appear on the exhibit? 21 A That's correct. 22 Q Do you have that data with you? 23 A No, I don't. 24 Q Could you bring it with you Friday? 25 A I doubt it, but --	Page 47 1 minutes ago. How can I ask something about which I have 2 no knowledge? 3 MR. CARNEY: You have the report you say for 4 at least a year and you know that there's data, backup 5 data for the report like there would be for any report. 6 MR. McCREA: I don't know that there's any 7 data other than what's in here. 8 MR. CARNEY: You think that was just a 9 made-up report? 10 MR. McCREA: I assume that when they have 11 these umpteen pages of data that that's it. I didn't know 12 that they had broken these categories down and that that 13 information is on file at Monsanto. They might have lots 14 of other information there that we'd be interested in. 15 Q (By Mr. McCrea) Doctor, all I'm asking you 16 to do is give them a call and ask them if they can make 17 that data available to you and bring that with you Friday? 18 MR. CARNEY: Well, I'm going to instruct the 19 doctor not to respond to these requests that you are 20 making at the last minute. You have been asking questions 21 of Dr. Kelly over a period of a week and a half and I 22 think this is is third day you've indicated that you 23 aren't able to -- 24 MR. McCREA: Mr. Carney, what does that have 25 to do with the request?
Page 46 1 Q I would ask you to bring its with you Friday 2 so that you may fully amplify all the -- 3 A Well -- 4 Q Just a minute -- 5 MR. CARNEY: Just a minute. Let him finish 6 the question and I'm going to make an objection. 7 Q (By Mr. McCrea) So that you may show us the 8 data to which you're referring so that we may use that 9 data to develop further questions. If that courtesy would 10 be extended it would be appreciated. 11 MR. CARNEY: Well, you know, I'm going to 12 instruct the doctor just not to answer that at this point 13 and indicate that you have not -- you have had this case 14 pending for a number of years and you have not asked for 15 this data and you've had the right to ask for this data 16 and now to have Dr. Kelly who's retired from the company 17 and has been for fifteen years to go back in and try to 18 find some data, when you haven't given the courtesy of 19 asking for it in the last two or three years when you 20 could have I think is highly improper. 21 MR. McCREA: I asked the doctor a question, he 22 gave me an answer. His answer was based on data he 23 reviewed at Monsanto Company. I'm asking him to supply 24 the data which he reviewed to support his answer. I 25 didn't know he reviewed the data until he told me ten	Page 48 1 MR. CARNEY: Well, I think you are being a 2 little bit unreasonable here after three days of asking 3 Dr. Kelly questions, and I asked you to continue the 4 deposition this afternoon and you're not going to do that. 5 I asked you to continue the deposition last week when we 6 had the -- to get, to not impose on Dr. Kelly any further 7 and you're bringing him back now a third time so you can 8 go back and regroup and ask more questions, and now you're 9 asking for documents into the third day of your cross 10 examination. I think it's improper and I'd like to 11 conclude this deposition. We're in the third day of your 12 examination. 13 THE WITNESS: This is a little -- 14 MR. CARNEY: And I would think -- I'd like to 15 just say one other thing, that we're talking about death 16 certificates and those are public records that you have 17 access to as well as Dr. Kelly. Probably better access to 18 them. 19 MR. McCREA: Not if I don't -- 20 THE WITNESS: I know you instructed me not to 21 answer -- 22 MR. McCREA: Not if I don't know their 23 names. 24 THE WITNESS: You instructed me not to 25 answer, but this may simplify it, but at the break I went

Page 49 1 out to call the epidemiology department to find out 2 whether the Zack study was published or not. All of them 3 are out of the office at a convention. So I'm afraid I 4 won't be able to do it. 5 MR. McCREA: Well, I appreciate you're doing 6 it. 7 THE WITNESS: Well, how can I? They are all 8 gone. 9 MR. McCREA: Oh, you can't; but I appreciate 10 the fact that you made the call. 11 THE WITNESS: Yeah, okay. 12 MR. McCREA: I'd like to certify the request 13 made to Dr. Kelly that he bring the data to which he made 14 reference in order that we may examine that data to 15 cross-examine the doctor. 16 Q (By Mr. McCrea) Dr. Kelly, what other data 17 did you review other than the cause of death from 18 rheumatic fever for the two individuals? 19 A Well, that's all I say that I reviewed. This 20 was the one, I called Bill Gaffey, he was also an 21 epidemiologist who is no longer with the company, and I 22 said what were these eight cases that we had and he told 23 me one was a phlebitis, two were rheumatic fever and I 24 don't know what the other one was, I think one was a 25 stroke.	Page 51 1 that the document which I gave you includes the draft and 2 then it includes the final report, the first half of the 3 document, Dr. Kelly, is the draft? 4 A Uh-huh. 5 Q The second half is the final report, are you 6 with me on that? 7 A Yes, uh-huh. 8 Q Can you go to the final report; do you have 9 that? 10 A Yes. 11 Q There's a reference to page two, is there 12 not, to Monroe County, Indiana, second paragraph? 13 A Yes. 14 Q Can you interpret that for us? 15 A Well, it says that Monroe County Board of 16 Health conducted biochemical tests among Bloomington 17 Indiana, residents exposed to PCB's. Serum levels of GGT, 18 that's a liver enzyme, and plasma triglyceride levels were 19 found to show a direct relationship to serum PCB's. 20 Q Can you explain that to the jury in terms 21 they can understand? 22 A Well, they found that people who had higher 23 PCB levels have higher enzyme levels and higher 24 triglycerides. How much higher I can't explain, whether 25 they were abnormal values I can't explain because it
Page 50 1 Q Do you have the names of these eighty-nine 2 people who died? 3 A No, sir, I don't. 4 Q Your counsel suggested that I could go down 5 and get their death certificates. Do you know how anyone 6 could do that if you don't know their names? 7 A You'd have to ask Counsel. 8 Q How do I do that, Tom? 9 MR. CARNEY: Well, why don't you ask Dr. 10 Kelly. 11 MR. McCREA: He said to ask you. 12 MR. CARNEY: Well, as I understand it I'm not 13 under oath. As I understand it the deposition is Dr. 14 Kelly, if you would focus on that maybe you could finish 15 this deposition. 16 A Well, I would say maybe you could call 17 over -- 18 Q (By Mr. McCrea) Call over? 19 A Call Zack, wherever she is. 20 Q You don't know the names of those folks? 21 A Oh, no, I don't. 22 Q This study, the results of the study are in 23 tables attached to the narrative, is that correct? 24 A That's correct. 25 Q And there are two reports, do you understand	Page 52 1 doesn't say. 2 Q This report, they calculated the number of 3 deaths they would expect in an average group of workers, 4 is that a fair way to state it? 5 A Wait a minute, back -- Now we're away from 6 Indiana, we're back on Zack? 7 Q We're back on the mortality study. 8 MR. CARNEY: Which page? 9 MR. MCCREA: The tables at the end of the 10 final report. 11 Q (By Mr. McCrea) Statistically, Dr. Kelly, 12 the authors of this study made a prediction as to how many 13 deaths should occur in this group of eighty-nine workers, 14 is that a fair way to state it? 15 A No, it isn't. 16 Q Can you explain it? 17 A Well, yes. They used standard mortality 18 tables to say what, if they carried out this study in the 19 way usual epidemiological studies are carried out they 20 would have standard mortality which means that certain 21 people, people of a certain age, certain sex would be 22 expected to die of this illness, whether these things 23 were -- they used as a control on males of the United 24 States, males in Illinois, other males in the chemical 25 company, other males in St. Charles County -- St. Clair

Page 53 1 County, I don't know what you used as a control. 2 Q You have no reason to doubt the accuracy of 3 their format? 4 MR. CARNEY: Well, let me object, I don't 5 know what you mean by accuracy of their format. He just 6 testified that they're a control group. You could use 7 males of the United States, males of St. Clair County, 8 males of other chemical workers at Monsanto, and he 9 doesn't know what the control group is, so I don't 10 understand your question, it's vague. 11 Q (By Mr. McCrea) Do you have any reason to 12 believe that the protocol used by Zack and Musch was not 13 done pursuant to acceptable scientific standards? 14 A Well, I just don't know if it was, frankly, 15 because I do not know what she used for the controls. In 16 the Gaffey study of all the employees when they used the 17 controls for the United States they showed an excessive 18 lung cancer. When they idea a control the people in the 19 neighboring county, St. Clair County there was no 20 excessive lung cancer. So I think it depends on an 21 epidemiological study who your control group is. 22 Q Doctor, do you feel qualified to comment on 23 this mortality study? 24 A Yes, I do. 25 Q And do you find any flaws in the study from	Page 55 1 Q You're familiar with this study? 2 A Well, I am familiar with it, but I haven't 3 gone into detail. 4 Q You have been asked about it in other 5 depositions? 6 A Yes, but not in those particular terms. 7 It says here general mortality studies were made in 8 comparison to the general United States population. I 9 think that's a flaw. If you've got a bunch of industrial 10 workers and you're in an industrial community where 11 there's smog and God knows what else you have got a 12 different mortality rate than you do in the standard 13 United States population. 14 Q What effect does smog and everything else 15 have on the mortality rate? 16 A Well, I think it's obvious that city dwellers 17 seem to have a higher incidence of lung diseases and a 18 higher incidence of mortality than people in less 19 contaminated areas. 20 Q All right. Any other flaws? 21 A Well -- 22 MR. CARNEY: I'm going to object again to the 23 question because I think you're, you know, unless you give 24 the doctor a chance to read the report, you know, may or 25 may not contain information about confounding factors such
Page 54 1 an epidemiological standpoint based upon your education, 2 your training and your knowledge? 3 A Yes, I do. I find flaws in the fact she 4 stated that there was an increase in statistically 5 significant increase in non-arteriosclerotic heart disease 6 and she tried to make some assumptions that these may be 7 related to PCB exposure, when some of the things have 8 never, ever been considered to be associated with PCB 9 exposure, namely rheumatic heart disease and phlebitis or 10 inflammation of the veins in the lower legs, inflammation 11 of varicose veins, certainly those are flaws. 12 Q Any other flaws? 13 A Well, I'm not sure about what her control 14 group was. 15 Q Any other flaws? 16 MR. CARNEY: You want the doctor to read the 17 study? 18 MR. McCREA: No, only to tell us what flaws 19 there are in the report. 20 MR. CARNEY: Off the top of my head without 21 reading it? 22 MR. McCREA: He's familiar with it. 23 Q (By Mr. McCrea) Doctor, you're familiar with 24 this study? 25 A Beg your pardon?	Page 56 1 as smoking for example. We know that smokers have higher 2 death rates, and I think in order to answer that question 3 I don't mind you asking it to get his recollection. I 4 know he's read the article, but I don't think he's put it 5 to memory so that he has that kind of detail about a 6 multi-page -- you have got a quarter of an inch thick 7 report that he's looking at. 8 Q (By Mr. McCrea) Doctor, is it your opinion 9 based on medical probability that the smog from an 10 industrial area contributes to a higher incidence of lung 11 disease; is that what you're saying? 12 A Well, yes, but let me clarify something, that 13 you are picking small bits out of here, you neglected to 14 mention that on the last page of this report the author 15 stated, "The high S.M.R" --, that's standard mortality 16 rate for white males -- "is for the most part explained by 17 the excess of deaths from circulatory disease exclusive 18 of arteriosclerotic heart disease. This cause of death 19 category concludes deaths from rheumatic heart disease, 20 cerebrovascular disease and other forms of heart disease 21 all of which are unlikely to be related to exposure in the 22 workplace." And that's what the author says and that's 23 what I said before was that I did not believe that it was 24 related to the work. 25 Q Well, then you agree with the author?

Page 57 1 A I agree there, certainly yes. I didn't 2 realize that she had come to this conclusion until I read 3 this last bit. 4 MR. CARNEY: Again I think that just points 5 out you're asking the doctor to read a sentence out of a 6 thirty page report or however long it was without giving 7 him the opportunity to review it. When you ask in that 8 kind of detail I think it's inappropriate to just ask him 9 to read a sentence without having a chance to review the 10 article. Turns out what he said earlier his testimony the 11 author happens to agree with. 12 Q (By Mr. McCrea) What were the number of 13 expected deaths? 14 A Twenty-three. 15 Q 22.88? 16 A Yes, that's twenty-three. 17 Q How many people died? 18 A Zero. 19 Q How many more deaths were there than expected 20 than, 7.12. 21 A 7.12. Remember again we're saying this, we 22 are using all standard mortality rate for all males in the 23 United States. 24 Q Not the St. Louis area? 25 A Huh?	Page 59 1 the people in the plant than there were in the general 2 population of the United States? 3 A Well, you're asking for a flaw and I said you 4 have to rule out those confounders. So if she is talking 5 about diseases of the respiratory system where she has got 6 four as opposed to 1.53. If she hasn't ruled out smoking 7 and compared smoking in this group with an average amount 8 of people, of males in the United States, that's a big 9 flaw. 10 Q All right. Doctor, can you go to table 4? 11 A That's where I read this last one from. 12 Q And the S.M.R. for all causes of death was 13 one point, was 131, is that correct? 14 A That's correct. 15 Q So that would mean it was 131 percent 16 increase or a 31 percent increase of observed deaths 17 compared to what they thought they would find? 18 A Well, that's correct. Now again, if you 19 notice there's an asterisk on all other diseases of the 20 circulatory system, that means that scientifically 21 significant, the others are not. 22 Q Yeah, the others are not? 23 A Under 131, that could be explained by any 24 number of factors including chance, a 131 S.M.R. over 100 25 is not statistically significant.
Page 58 1 Q Not the St. Louis area? 2 A Or the St. Charles area, that's correct. 3 Q St. Charles? 4 MR. CARNEY: Well, St. Clair. 5 A St. Clair. 6 Q (By Mr. McCrea) St. Clair area? 7 A Right. 8 Q You have given us your explanation as to why 9 those rates are higher? 10 A Yes, and also she did not -- there may be 11 other confounders in this. What I said about the four 12 rules of epidemiology, I don't think she had corrected for 13 smoking in here at all, she's not corrected for 14 alcoholism, she's not corrected for obesity. 15 Q Are there smokers in the general population 16 of the United States? 17 A Yes. 18 Q Are there people that abuse alcohol in the 19 general population? 20 A Yes. 21 Q Are there people that are obese in the 22 general population in the United States? 23 A Yes. 24 Q Is there any indication that there were more 25 smokers or more abuse of alcohol or and more obesity in	Page 60 1 Q Is it suggestive? 2 A No, I don't think so. 3 Q What does suggestive mean in epidemiology? 4 A I don't know if they use that term, I don't 5 know. I'm not an epidemiologist. 6 Q Could it be probable? 7 A Huh? 8 Q Could it be probable? 9 A No, I don't think so. Could occur by chance, 10 could occur by a lot of reasons, but she only picks one 11 thing as scientifically or as statistically significant, 12 the others she didn't. 13 Q There were 4.46 expected malignant neoplasms 14 and eight people died of that. 15 Q What is malignant neoplasm? 16 A It's a cancer. 17 Q So in this study that number was almost 18 double? 19 A Yes, sir, but again, there are confounders. 20 She did not check if for smoking and she did not say that 21 this was statistically significant. That's the point I 22 made earlier. 23 Q If it was twenty-one points higher would it 24 be statistically significant? 25 A That I don't know, but if it were

Page 61 1 statistically significant she would have put an asterisk 2 on there and said it was. But I can't say whether 3 twenty -- if we had instead of eight if she had twelve 4 would that be significant? I don't know, but according to 5 her, her figures shows that this is not statistically 6 significant and also she did not check her smoking and the 7 majority of these cancers were lung cancers. 8 Q Diseases of the circulatory system, expected 9 11.17 and observed 16, is that correct? 10 A Yes, sir. 11 Q Diseases of the respiratory system were about 12 the same, digestive system, slight increase, all other 13 diseases, about the same, external cause of death, what's 14 that mean, like somebody gets in a car wreck? 15 A Maybe you're shot or a car accident. 16 Q They expected 2.38 and there was only one. 17 Now that wouldn't have anything to do with PCB's, would 18 it? 19 A No of course not, but it shows that, I don't 20 know. I mean, external cause of death, if a man is killed 21 in a holdup or it's an auto accident on the way back from 22 work that has very little to do with PCB exposure. 23 Q On the S.M.R. the numbers that did exceed a 24 hundred are one, two, three, four, five, six, seven, 25 eight, nine, ten. The numbers that are less than a	Page 63 1 that subscribe to that, that PCB's are a health cure. 2 MR. CARNEY: I don't think that -- I tend to 3 agree with Dr. Kelly that having one death for more or 4 less or any amounts that are not statistically 5 significant, I wouldn't make any point one way or another 6 about those. I couldn't say that PCB's are a benefit or a 7 harm based on that study. So I would agree with Dr. 8 Kelly. 9 MR. McCREA: Well, we may have you testify. 10 MR. CARNEY: Well, if you want to take my 11 deposition, you're welcome. 12 Q (By Mr. McCrea) Dr. Kelly, did you report, 13 did Monsanto report this information to its workers? 14 A I don't know, this was finished in what, 15 19 -- 1977, so I don't know. 16 Q Now Dr. Zack and Mr.-- 17 A She isn't a doctor. 18 Q She's a what, master, has her master's 19 degree? 20 A Let's see what it says. Master of public 21 health. 22 Q And she was hired by Monsanto to do this work 23 so they felt she was -- 24 A Just a moment. She was hired by Monsanto 25 after I left. Doing this work was part of her duties.
Page 62 1 hundred are one, two, three, four, five, six, correct? 2 A Well, correct; but it doesn't mean a thing. 3 When I say correct, I mean you added them up correctly but 4 it doesn't mean a thing. 5 Q Now if this report -- 6 MR. CARNEY: Just a minute, you're 7 interrupting. 8 A It doesn't mean a thing because the only 9 thing that is statistically significant is the increase in 10 all other disease. The circulatory disease -- 11 Q (By Mr. McCrea) Dr. Kelly, if I -- Excuse 12 me. 13 MR. CARNEY: Just a minute. 14 Q (By Mr. McCrea) Were you finished? 15 A No, because if you have -- take this, we have 16 one case of a death from genitourinary it's kidney and 17 bladder, expected half a death, so we have got a figure of 18 196 but from epidemiological and scientific point of view 19 that proves nothing so the fact that you have added these 20 up over a hundred proves nothing. 21 MR. CARNEY: I assume you don't think, Mr. 22 McCrea, that the fact that there were six or seven 23 diseases where it was less than expected that that means 24 PCB was actually a benefit with regard to those diseases? 25 MR. McCREA: No, that's -- you're the people	Page 64 1 She was not hired by Monsanto to do this epidemiological 2 study. I don't know when she was hired, it was sometime 3 after 1974 and when she started this study I don't know, 4 but I do not believe she was hired to do this work. 5 Q Was she competent? 6 A I don't know her at all. 7 Q Has anybody at Monsanto suggested that she 8 was not competent? 9 MR. CARNEY: I'm going to object. There's no 10 foundation that Dr. Kelly knows about her since she was 11 hired after he retired. 12 Q (By Mr. McCrea) Have you heard anyone 13 suggest that she was not competent? 14 A But the same -- Well, I can't answer that. 15 I'm not sure that I ever heard anybody say that she was 16 the best epidemiologist west of the Mississippi. 17 Q Would you turn to page ten of the draft 18 report, the last sentence. The last sentence states and 19 this sentence, this was part of the report dated -- I 20 don't see a date -- I don't know when the draft report was 21 prepared, but the last sentence states, "A future study of 22 this cohort could evaluate the mortality of workers 23 involved from the initial through the final year of PCB 24 production and thus have more power to detect any possible 25 hazards of PCB exposure." Did Monsanto do another study?

Page 65 1 A Well, first of all to answer the question, I 2 don't know. 3 Q All right. Thank you. 4 A But relate me say that if you read any 5 epidemiological study that's almost standard boilerplate, 6 "Let's do a further study down the road and see if we find 7 out anything else." It's not unique to this study. 8 Q Doctor, your interpretation of the study for 9 the jury is what? 10 MR. CARNEY: I'm sorry, what? 11 Q (By Mr. McCrea) Your interpretation of this 12 mortality study for the jury is what? 13 A It's that -- 14 MR. CARNEY: I'm gong to object to the form. 15 THE WITNESS: Sorry. 16 MR. CARNEY: Go ahead. 17 A That it showed no scientific statistical 18 evidence of any illness associated with work with PCB. 19 Q (By Mr. McCrea) All right. Doctor, let's 20 move to the exhibits and if your counsel could hand you 21 the exhibits which are numbered pages 1 through 261 and 22 we'll have the court reporter mark that as a single 23 exhibit and then if Counsel and I can agree to reference 24 the various documents by exhibit number and page numbers. 25 MR. CARNEY: That's agreeable.	Page 67 1 the first document which was page one? 2 A Yes, sir. 3 Q Can you identify the document? 4 A It's a material safety data sheet form 5 submitted by the -- of the United States Department of 6 Labor, presumably filled by Monsanto Company on Inerteen 7 100 dash 2 -- dash 42. 8 Q Will you turn to page two at the bottom and 9 give us the date of the preparation of this document? 10 A 1/26/72. 11 Q Doctor, what is a material safety data sheet? 12 A It gives information about the safe handling 13 of various materials. 14 Q Did you ever suggest on any labels which you 15 used at Monsanto that the worker should read the material 16 safety data sheet before working with the particular 17 chemical? 18 A No, sir. I have never seen that type of 19 information on any label; no matter what company's product 20 it was. 21 Q If I called you in 1972 and asked you if I as 22 a worker at the Bloomington Westinghouse plant should read 23 and understand the material safety data sheet before 24 working with Inerteen 100 dash 42 in order to secure my 25 health, what would your answer be?
Page 66 1 (Whereupon, Defendant's Deposition Exhibit No. 6 2 was marked for identification.) 3 Q (By Mr. McCrea) Doctor, what is the exhibit 4 number on there? 5 A Six. 6 Q Doctor, the court reporter has marked a stack 7 of documents with Plaintiff's Exhibit No. 6; do you have 8 that in front of you? 9 A Yes. 10 Q And does that show pages numbered 1 through 11 261 on the bottom of the entire stack? 12 A Yes, sir. 13 Q Doctor, you have had those documents for a 14 couple of days. Are there -- Have you had a chance to 15 look through them or not? 16 A Well, I skimmed them, I really haven't gone 17 through word by word. 18 MR. CARNEY: Let me just mention that 19 yesterday was the first time that you gave these documents 20 to me. I did not give these to the doctor to have 21 overnight and I think he thumbed through them during a 22 break for maybe five minutes. So he hasn't had a chance 23 to read them more than a five minute just thumbing 24 through. 25 Q (By Mr. McCrea) Doctor, would you turn to	Page 68 1 A I would say, "You are working at the 2 Bloomington plant, of the Westinghouse Electric Company?" 3 Q Yes, sir? 4 A "And you have foremen there and you have 5 manufacturing people who have information of their own and 6 information they received from us concerning the safety of 7 working with PCB's." I would say ask your foreman about 8 it. 9 Q And if I told you my foreman doesn't know 10 anything what would you tell me? 11 A Go to the plant manager. 12 Q And if I told you he can't answer my 13 questions? 14 A I would say have the plant manager call me. 15 Q If I asked you to send me a material safety 16 data sheet, would you do it? 17 A Yes. 18 Q What does it mean form number OSHA dash 20 at 19 the upper righthand corner? 20 A Haven't the slightest idea. 21 Q Why is an emergency telephone number printed 22 on Section 1? 23 A In case there's a spill or some -- these 24 safety data sheets have been used primarily and were 25 originally designed for use during the transportation of

Page 69 1 materials and they were used in case there was a truck 2 extent or something like that and there's a whole bunch of 3 drums spilled and that's why they have all this other 4 data, not only health data but fire and explosion, what to 5 do about spills, leaks and precautions. 6 Q It's your testimony that material safety data 7 sheets were intended for the people who transport the 8 chemicals? 9 A Oh, I said primarily. 10 Q Primarily, and the number 314 694-1000, who 11 would answer that phone? 12 A Oh, the telephone you mean. 13 Q Correct. 14 A Well, that depends when it came in. I mean, 15 if it came in at nighttime, the night watchman would do 16 it. If you said we have got a fire here, he's got a list, 17 fires, explosions, here's the people you call. 18 Q And there were people? 19 A Yes, there were people -- if he said we've 20 got a person here who wanted to know about the toxicity of 21 this particular product, it would come to the group, in 22 the medical department. We had our own people, a list of 23 those with the night foreman and if it came in in the 24 daytime it would come to our, the medical department, 25 unless it was a fire.	Page 71 1 A Oh, yes. 2 Q What is Inerteen 100 dash 42? 3 A Inerteen is a Westinghouse product that 4 consists of PCB's and seventy percent and a certain amount 5 of trichlorobenzene. I don't know which PCB it is, 6 whether it's 1248, 1252 and I believe the trichlorobenzene 7 is around thirty percent. I don't know what 42 means, 8 whether that's 42 percent trichlorobenzene, but it is a 9 significant amount of trichlorobenzene in it. 10 Q It says chemical family, chlorinated 11 aromatic? What is chlorinated aromatic? 12 A Well, it's a -- an aromatic chemical is one 13 that has the benzene ring in it. Chlorinated means it has 14 the chlorine molecule on it, chlorine atom on it. 15 Q Do you list the hazardous ingredients of 16 Inerteen 100 dash 42? 17 A We list the thing as a whole. 18 Q That doesn't tell you what's in Inerteen 100 19 dash 42, does it? 20 A No, it did not. 21 Q Why not? 22 A I don't see why you need to tell the 23 ingredients. You tell them what to do and what the 24 hazards are. 25 Q Well, it's got a section, Section 2,
Page 70 1 Q Did you have people with specialized 2 knowledge to answer questions with regard to potential 3 problems from Inerteen 100 dash 42? 4 A Well, yes. We didn't have specialized 5 knowledge about fire and explosion, that was outside our 6 realm. We certainly didn't have specialized knowledge 7 about what you would do to get the stuff out of the 8 ground, whether you dig it up or put kitty litter on it or 9 God knows what, but we certainly had expertise as far as 10 what safety precautions should be used in cleaning it up. 11 Q Your testimony was you didn't have 12 specialized knowledge with respect to fire and what to do 13 if it got in the ground? 14 MR. CARNEY: Are you talking about Dr. Kelly 15 or Monsanto? 16 MR. McCREA: Monsanto. 17 A Oh, Monsanto did. I said the medical 18 department was responsible for the health and safe 19 handling. We had people in the manufacturing group that 20 would be available and the transportation group that would 21 be available to tell them how to clean it up. 22 Q (By Mr. McCREA) So there were various people 23 with specialized knowledge who could answer questions 24 regarding the use and/or emergencies involving Inerteen 25 100 dash 42?	Page 72 1 hazardous ingredients, were there hazardous ingredients in 2 Inerteen 100 dash 42? 3 A Yes. 4 Q And but you don't know what they are today? 5 A What do you mean I don't know what they are 6 today? Sure I know what they are today. 7 Q What were they? 8 A PCB's and trichlorobenzene. 9 Q What does it mean TLV, under hazardous 10 ingredients, it has a column TLV? 11 A Threshold limit value. 12 Q Explain to the jury. 13 A The threshold limit value is a figure that 14 shows the amount of the material that can be at the safe 15 level of a material that can be in the air in an eight 16 hour day over a worker's lifetime. 17 Q If you exceeded that level by four or five 18 times for one day would that be a problem? 19 A No. Are you assuming that here is a truck 20 spill on Interstate 70 -- 21 Q No, in a plant, in a plant. That doesn't 22 apply to a truck spill, does it? 23 A Yeah, sure it does. 24 Q TLV? 25 A The man isn't going to be taking a TLV when

Page 73 1 he's got a truck leak out on Highway 70. 2 Q That applies to the person using it? 3 A That's correct, but it also applies primarily 4 as I said to transportation, that was what this -- the 5 genesis of this. That's what these things started with, 6 the Department of Labor, not OSHA, not NIOSH. 7 Q And if you exceeded the TLV by three or four 8 times for one day for a week or a month would that be 9 problem? 10 A I don't think so. 11 Q And if Westinghouse called you on January 26, 12 1972 and asked you if you exceeded the TLV by three or 13 four or ten times for a one one day period your answer 14 would have been the same? 15 A Yes, I would say get it under control but I 16 don't think you're going to have any trouble; because 17 there are reports of people, places where they have 18 exceeded it for a considerable period of time with no ill 19 effects. 20 Q And if I called you from Westinghouse and 21 asked you that same question, Dr. Kelly, are there reports 22 of people who were exposed to excessive levels of PCB and 23 trichlorobenzene and would your answer be yes, there have 24 been and they suffered no ill effects? 25 MR. CARNEY: Well, let me object to the form	Page 75 1 A I would tell the caller -- he asked me, if -- 2 Let me get this very definite. You've told me that this 3 caller has said we're going ten times the maximum 4 allowable concentration for a month, what do you think is 5 liable to happen or is this all right? 6 Q Correct. 7 A I would say one, no, it isn't all right, you 8 should get back, you should police up the thing so that 9 you get back under the allowable concentration. If you 10 ask me then I would say as far as I know there are reports 11 in the literature that shows people who have worked in 12 exposures over the TLV for longer periods than a month and 13 have showed nothing with the exception of some foreign 14 places where they have showed chloracne, but we do not 15 recommend that you keep doing this. 16 Q If I called you in 1972 and I say, "Dr. 17 Kelly, we just tested our manufacturing area and we found 18 out that for the last six months the abient air levels 19 have exceeded the TLV by three or four times and we have 20 workers complaining, complaining of lassitude, or loss of 21 appetite and loss of libido, but they do not have any 22 chloracne, should we be concerned?" 23 A I would say yes, you should be concerned 24 because you have exceeded the TLV and you should examine 25 the workers to see if they have any demonstrable physical
Page 74 1 of the question. When you ask about excessive levels you 2 have not defined that. So it's a vague question. 3 A Yes, I'd say what levels? 4 Q (By Mr. McCrea) Four or five times the TLV? 5 A For how long? 6 Q A week. 7 A I'd say that wasn't going to bother anybody. 8 Q Ten times the TLV for a month? 9 A I would say you better -- there have been -- 10 I would say there have been no reports of any ill effects 11 in the electrical industry. In 1972 you're calling me I 12 will say there have been no reports of any illness in the 13 electric industry from using PCB or we're talking about 14 here Pyrenol. We certainly do not recommend that you 15 exceed the TLV ten times for a month but there have been 16 no reports of ill effects. You certainly should -- well 17 that's it. 18 Q By stating to the caller that there have been 19 been no reports of ill effects that indicates that in all 20 of the industry situations with all of the exposure there 21 were no problems? 22 A No, it doesn't at all. I said there have 23 been no reported ill effects. 24 Q And you would have communicated that in 1972 25 and intended the caller to rely on that statement?	Page 76 1 effects. 2 Q I have said Dr. Kelly these workers are 3 complaining of lassitude, loss of appetite and loss of 4 libido, but -- and we know they have had a heavy exposure 5 but -- or at least it's about two times the TLV but none 6 of them have chloracne. Dr. Kelly, in your opinion, based 7 on your experience with Monsanto do you feel there is a 8 causal relationship between their exposure and those 9 symptoms? 10 A No. 11 MR. CARNEY: I'm going to object. Are we 12 talking about what type of plant? I don't think he 13 mentioned PCB's but I'm assuming that you are talking 14 about a plant with PCB's where they are exceeding the 15 levels and I think he has said two times -- 16 A Well, I'd say these people do not have 17 chloracne. You have examined them I presume? 18 Q (By Mr. McCrea) Yes. 19 A And they have no other findings? 20 Q Yes. 21 A They have no other findings, physical 22 examination is negative, laboratory examination is 23 negative, I would say I would -- if these were negative 24 and they have no chloracne I do not believe that these 25 symptoms were a result of their exposure at work.

Page 77 1 Q Thank you, Dr. Kelly. Section 3, physical 2 data; can you briefly explain that to the jury? 3 A Well, I don't know what there is to explain. 4 The physical data means is it a solid, is it a liquid, is 5 it a gas, what's the specific gravity, is it soluble in 6 water, what's its vapor pressure, does it have an odor? 7 Q So it's odorless oil? 8 A Colorless oil, it says. 9 Q Colorless? 10 A It says aromatic odor. 11 Q Aromatic odor, sorry, I couldn't read that on 12 my copy. So that just tells you those things? 13 A Yes. 14 Q Fire and explosion hazard data, section 4, 15 flash point COC 180 degrees C. What does that mean? 16 A Well, again, I'm not a fire and explosion 17 expert. Flash point means at what temperature does this 18 material explode, I believe. I can't answer that, that's 19 an fire question, it gets a little involved. I don't know 20 what C.O.C., that's a type of test that they do; but 180 21 degrees C is a pretty high temperature inasmuch as a 22 hundred degrees C is boiling water, so you've got to get 23 it up there before it ex-- before it catches on fire. I 24 can't -- I can't explain it any more than that. 25 Q Special fire fighting procedures. It says	Page 79 1 A Yes, sir. 2 Q The next page, section 5, "Health Hazard 3 Data," and it says, "Threshold limit value, not 4 available." You've already defined the threshold limit 5 value, why was it not available? 6 A The mixture. 7 Q Why was there no, why were there no numbers 8 for the threshold limit value? 9 A Because it hasn't been run on a mixture, it 10 hasn't been set by the government hygienist group on the 11 mixture. They had set it for trichlorobenzene. 12 Q What was it? 13 A And I presume they had set it for -- 14 Q PCB? 15 A The PCB. 16 Q But not the combination? 17 A Not the combination. 18 Q All right. It says effects of overexposure, 19 what is overexposure, what does that mean? 20 A If you get too much -- I don't know if I can 21 define exposure, you get either inhalation or absorption 22 through your skin, that's the exposure and you get too 23 much. 24 Q All right. Break time. 25 (Whereupon, a short break was taken.)
Page 78 1 where respiratory protection when fighting fires, where 2 exposure to vapors or gases is possible, why? Why is that 3 in there, Doctor? 4 A Why is it in it? Because we want them to 5 wear a respirator around a fire where this is burning. 6 Q And what are the concerns? 7 A Well, I don't think you want to inhale the 8 product of combustion of any fire. 9 Q But Doctor, this material safety data sheet 10 doesn't concern anything but Inerteen 100 dash 42? 11 A Well, I know that, but if Inerteen is burning 12 and you've got a lot of fumes coming off you want to wear 13 respiratory protection. If you got a bunch of clothes and 14 papers burning in the garage, I'd advice the same thing. 15 You don't want to be around a fire where you can inhale a 16 lot of fumes, that's not good for you. 17 Q All right, sir. Next it says and I can't 18 read the small print -- 19 A "Highly toxic gases, chloride" -- 20 Q Above that is what I am talking about. It 21 says something fire and explosion hazards? 22 A Oh, I can't read it, I -- 23 Q All right. At any rate, it says, "Highly 24 toxic gases, chloride and chlorine could be evolved in 25 fires of this product." Is that a correct statement?	Page 80 1 Q Dr. Kelly, back on the record after a short 2 break. 3 A Yes, sir. 4 Q Under section 5, Health Hazard Data, which is 5 page two, Exhibit 7? 6 A Yes, sir, what -- 7 Q What's the exhibit number? 8 A Six. 9 Q Of Exhibit 6, there is a box under section 5, 10 health hazard data and the first heading you explained 11 threshold limit value, the next one is effects of over 12 exposure. Can you as the medical director of Monsanto 13 Company give us a working definition of overexposure for 14 Inerteen 100 dash 42? 15 A No, sir. 16 Q If I called you up on January 26, 1972 and 17 informed you that I was a worker at the Bloomington 18 Westinghouse plant and I would like to you to define 19 overexposure for this product you could not do it? 20 A Well, I couldn't do it as a matter of 21 figures. I would tell him how to avoid overexposure which 22 I believe is what the man would want. 23 Q If I asked you for a definition of 24 overexposure could you do that? 25 A Well, I would say tell me what you're doing

Page 81 1 and I will tell you whether you're overexposed or not. 2 Remember this overexposure was not my definition, that's 3 government's definition, that's Department of Labor. 4 Maybe you should call them and ask what's overexposure. 5 Q But Monsanto is answering and supplying the 6 information in that box, correct? 7 A Yes, sir. 8 Q TLV has a definition, correct? 9 A Yes, sir. 10 Q But there is not a working definition for the 11 common man of overexposure, he says under what conditions 12 is there overexposure, you couldn't tell him? 13 A Well, I guess I could tell him. I would say 14 if you're breathing the material at elevated temperature 15 and if you're breathing material at amounts over the 16 accepted TLV for the ingredient of this material and if 17 you're getting your clothes repeatedly or continuously 18 soaked and contaminated with the clothing, that's 19 overexposure. 20 Q If he asked you for a definition of 21 overexposure on a long term basis could you give him the 22 same answer? 23 MR. CARNEY: Are you talking about safety 24 data sheet? 25 MR. McCREA: No.	Page 83 1 think that was overexposure, Doctor? 2 A Well, I'd have to ask him how much. How long 3 were you in there? How long did the eyes burn? How long 4 did your nose burn? How long did your skin itch? 5 Q Thirty minutes a day once a week for four or 6 five years. 7 A I would have to see it for myself. I would 8 not be able to answer whether exposure in a plant based on 9 a telephone description of somebody's job, I would not be 10 able to answer that. 11 Q If a worker called you and stated that he had 12 headaches twenty-five percent of the time that he was 13 working in the area with PCB's would you think that was 14 overexposure? 15 MR. CARNEY: I'm going to object, I don't 16 think you've given enough facts. Describe the conditions, 17 describe the other chemicals, describe the severity of the 18 headaches. I think there's a whole myriad of facts that 19 you'd have to give to be able to answer the question. 20 A I wouldn't answer them. I would say, "Look, 21 I don't know what the cause of your headaches are. What 22 you should do is go and see your plant physician and ask 23 him to find out what the cause of your exposure is" -- I 24 mean, "what the cause of your headaches is, and whether or 25 not exposure to PCB has caused these headaches." I would
Page 82 1 Q (By Mr. McCrea) If a worker called in 1972 2 and asked you to define over exposure to Inerteen 100 dash 3 42 over a period of ten years could you have given him a 4 definition? 5 A Well, I wouldn't be able to tell him what, 6 tell him what his working conditions were over ten years. 7 I mean, if he would explain his working conditions to me I 8 could tell him whether that was overexposure or not. 9 Q If he said he defected the odor of Inerteen 10 every day he was in the plant every day for ten years, 11 maybe not all day but during portions of the day and he 12 asked you, "Doctor, do you think that amounted to 13 overexposure and should I be medically monitored?" What 14 would you tell him? 15 MR. CARNEY: Objection to the form. 16 A No. This' not overexposure, the threshold 17 limit value is much higher than the odor threshold. 18 Q (By Mr. McCrea) The threshold limit value is 19 much higher -- 20 A You can smell it. You can smell it well 21 below the threshold limit value. 22 Q If he said that, "I worked in the plant for 23 six years and once a week we would open the vapor flume 24 and this is the Muncie transformer plant, my eyes would 25 burn, my nose would drain, my throat would burn," do you	Page 84 1 say, "We do not have headaches in our workers, but I don't 2 know what the situation you're working in is." 3 Q (By Mr. McCrea) It would be your response 4 then that you don't know if headaches can be a symptom of 5 exposure to PCB's? 6 A That isn't what I said. I said I do not know 7 if you're headaches are coming from your PCB exposure. 8 Q Well, if he said he works in PCB's and that's 9 all he works in and he experienced headaches, would you 10 consider that as a sign of overexposure? 11 A No. I would not, because there are a myriad 12 of causes of headaches, ranging from brain tumors to 13 constipation. 14 Q You understand we're talking about a 15 worker -- 16 A Yes, a worker -- 17 Q -- with PCB's? 18 A -- working with PCB and he says, "I have got 19 headaches, am I overexposed to PCB?" 20 Q The answer would be no? 21 A I would say, "You're not giving me enough 22 facts. I don't know whether there are other causes, other 23 conditions that may be giving your headaches. I do not 24 know what the conditions of your presumed overexposure is. 25 I don't know if you're overexposed."

Page 85 1 Q If he called you and said that he's 2 experienced nausea? 3 A I would certainly not make a diagnosis over 4 the phone on an interstate telephone call. 5 Q But he's just asking for your advice and he 6 wants to know could that be an indication of overexposure, 7 what would your answer be? 8 A I don't believe it would. 9 Q He said he's experienced vomiting, what would 10 your answer be? 11 MR. CARNEY: You're asking -- first of all, I 12 think the Doctor said he wouldn't make a diagnosis. He 13 told you how elaborate his examinations are, and now 14 you're asking him to say if somebody calls him up and says 15 they have had vomiting and he worked with PCB's -- 16 MR. McCREA: He just want his advice as to 17 whether or not that would be an overexposure to PCB. 18 A My advice would be get yourself examined and 19 find out. I can't tell him whether that's an indication 20 or not, barring everything else, no, I wouldn't dream of 21 doing that. 22 Q (By Mr. McCrea) If he said he's experiencing 23 loss of weight, and he wants to know if that could be a 24 sign of overexposure, what would you say? 25 A I would say find out what the cause of your	Page 87 1 overexposure at fire, you would get, you may get systemic 2 intoxication, which would lead to nausea, vomiting, loss 3 of weight, edema and abdominal pain. 4 Q Doctor, where does it say the effects of 5 overexposure from a fire in Section 5, Health Hazard Data? 6 Where does it say the that? 7 A It doesn't state that at all. You're trying 8 to cover all the bases in two lines. 9 Q I want to ask you where it states -- 10 A It doesn't state it. 11 Q Is it your -- 12 MR. CARNEY: On this page or on the prior 13 page? It talks about fire right in the section 14 immediately adjacent to it. 15 MR. McCREA: I understand that. I'm asking 16 the doctor where in Section 5 it suggests or implies that 17 the overexposure is the result of a fire as he just 18 testified. 19 A No, it does not. 20 Q (By Mr. McCrea) It says effects of 21 overexposure, period, correct? 22 A Is that right? 23 Q There's no -- 24 MR. CARNEY: I don't see any period. 25 MR. McCREA: Well, I didn't mean, Tom, a
Page 86 1 loss of weight was. 2 Q He said he experienced edema, what would your 3 answer be? 4 A Edema where? 5 Q I don't know? 6 A Well, I sure wouldn't know either. 7 Q He says he experienced abdominal pain and he 8 wants to know if that could be a sign of overexposure, 9 what would be that be? 10 A I would say you better get your abdominal 11 pain diagnosed. 12 Q Dr. Kelly, would you read the effects of 13 overexposure as published by Monsanto Company? 14 A Yes, sir. Skin irritation, in the form of 15 chloracne, systemic intoxication leads to nausea, 16 vomiting, loss of weight, edema and abdominal pain. 17 Q Emergency and first aid procedures? 18 A Yes, sir. May I add something to that 19 effects of overexposure? You realize we are talking here 20 about acute overexposures, we are talking here about the 21 individuals who inhaled the material at elevated 22 temperatures from the heat transfer units. We are talking 23 here also about a safety data sheet that's supposed to, 24 was originally designed to cover transportation accidents 25 where there's a fire and what we could expect if you had	Page 88 1 period like that, (indicating). What I meant was effects 2 of overexposure, period, no more information. 3 MR. CARNEY: Well, there's some words below 4 that. I thought I was trying to be accurate. 5 A What is your question, Mr. McCrea? 6 Q (By Mr. McCrea) My question is that nausea, 7 vomiting, loss of weight, edema and abdominal pain 8 according to you in your testimony would not be signs of 9 overexposure; yet on the material safety data sheet 10 published by the company for whom you worked during the 11 time period you worked they're all listed as effects of 12 overexposure; how do you explain that? 13 A Well, I'll explain it very easily. I wrote 14 and I put this dope because those symptoms did occur from 15 overexposure from inhaling the material at elevated 16 temperatures. 17 Q Where do you get the information that nausea 18 resulted from exposure to inhaling the materials at 19 elevated temperatures? 20 A In the article by Dr. Spoyer about the three 21 people that inhaled the material in a jury rigged heat 22 transfer unit where they were exposed for one to three 23 days of the material leaking at elevated temperatures 24 where they had nausea, vomiting, loss of weight, edema and 25 some abdominal pain due to an enlarged liver.

Page 89 1 Q Now you wrote this and you mentioned edema 2 but you don't explain where it is. Can you tell us now 3 where the edema occurred? 4 A No, I don't. 5 Q But you wrote it? 6 A I wrote it eighteen years ago and I don't 7 know where the edema was. 8 Q Do you appear down at the bottom under any of 9 the initials JAG, HOH, GTG, WWP? 10 A No, sir, I'm REK. I'm not on any of those. 11 Q But you did write this? 12 A Yes, I wrote that part, I wrote the health 13 hazard data certainly. 14 Q What is meant by edema? 15 A Swelling. 16 Q Where? 17 A Any place, you have edema under the eyelids, 18 you have an edema of the legs from heart disease, you get 19 edema a lot of places. 20 Q What areas of the body can be affected by 21 edema from overexposure to Inerteen 100 dash 42? 22 MR. CARNEY: Objection to the form of the 23 question. 24 A I don't know. It's never been reported to my 25 knowledge.	Page 91 1 which would give an edema, but that doesn't seem a very 2 prominent to me. I -- if I remember writing this in 1980, 3 1990 I probably wouldn't put edema in. I'd put the others 4 in. 5 Q Emergency and first aid procedures under 6 Section 5, Health Hazard Data again, page two, states 7 "Remove from exposure, remove contaminated clothing, wash 8 contacted area with large amounts of water and soap, refer 9 to physician." Define contaminated clothing. Did you 10 write this portion? 11 A Yes. 12 Q Define what you mean by that. 13 A Contaminated clothing is wearing apparel that 14 has something on it that you don't want. 15 Q It says refer to a physician. Do you -- did 16 Monsanto have a method in place wherein they educated 17 local doctors on the effects of overexposure to PCB's and 18 what the local doctor should do? 19 MR. CARNEY: Let me object to the form of the 20 question, it's compound. 21 A Well, to answer your question, no, we did 22 not. We did have numbers that any physician could call us 23 and ask for information about the first aid or further 24 treatment of workers and as I said in my thirty-eight 25 years with Monsanto I probably had less than five calls.
Page 90 1 Q (By Mr. McCrea) I thought you put this down 2 as a result of your report? 3 A Yes, but one of the ingredients of Inerteen 4 was a PCB which was used in the heat transfer unit. 5 Q You included edema as an effect of 6 overexposure based on a report which you read, where did 7 the edema occur in that report? 8 A I don't remember where it occurred; but I 9 really don't know what difference it makes. If they did 10 have swelling any place, it wouldn't make much difference 11 whether it was swelling under the eyes or in the legs. 12 Q How do you explain the abdominal pain as a 13 result of overexposure to PCB's or Inerteen 100 dash 42? 14 A Involvement with the liver. 15 Q And what involvement with the liver causes 16 the pain? 17 A Swelling of the capsule of the liver. 18 Q How do you explain loss of weight as a result 19 of overexposure to Inerteen 100 dash 42? 20 A If they are nauseated and they are vomiting 21 and their liver isn't working well, at subpar 22 functioning you could have loss of weight. 23 Q How do you explain edema? 24 A I can only explain it if the liver were so 25 swollen that it would press on the veins leading into it	Page 92 1 Q (By Mr. McCrea) A doctor calls you in 1972 2 and he says, "Dr. Kelly, I'm Dr. Smith in Bloomington, 3 Indiana. I have a worker from the Westinghouse plant who 4 has skin irritation in the form of chloracne, systemic 5 intoxication which led to nausea, vomiting, loss of 6 weight, edema and abdominal pain. What should I do for 7 him?" What's your answer? 8 A Remove him from any exposure to PCB. Here we 9 have a man who has exposure, sufficient to give him 10 chloracne, sufficient to give him deranged liver function. 11 Remove him from exposure, send him to a dermatologist for 12 the treatment of the chloracne, give him a high 13 carbohydrate diet for his liver, follow him closely and 14 call the plant and say, "I have this man who has what I 15 have diagnosed as a condition resulting from PCB. I think 16 you ought to look into this matter." And then I would 17 call the plant myself if I had gotten that call. 18 Q If he asked you if there were any other signs 19 or symptoms that he should check for what would you tell 20 him? What would you have told him in 1972? 21 A I wouldn't have told him anything. He told 22 me everything he needed, he had liver problems and he had 23 skin problems. And -- 24 Q If he asked you if he should check -- 25 MR. CARNEY: Just a minute.

Page 93 1 A He had liver problems and he had skin 2 problems, they are treating the whole individual. He 3 doesn't care what other symptoms he has. He wants the man 4 to get well, so he's treating his liver and he's treating 5 his skin. 6 Q (By Mr. McCrea) If he asked you to be on the 7 lookout for any other consequences to his health what 8 would you tell him? 9 A I'd say check on any possible peripheral 10 neuritis. 11 Q Anything else? 12 A No. I'd probably also say you ought to 13 report this case because that would be the first in the 14 literature. 15 Q If he mentioned he had joint pain and he 16 wanted to know if that was a cause of the exposure ha 17 would your answer have been in 1972? 18 A Same as today. I don't believe it's related. 19 Q If he said he had loss of libido, what would 20 your answer be in '72? 21 A I would check out other causes. 22 Q If he said he had lassitude what would your 23 answer have been? 24 A Well, I'd say if you have got loss of weight 25 and you have liver problems you could very well have	Page 95 1 because of PCB exposure? 2 A I'd say not because of the PCB exposure; I'd 3 say you presumably have a liver problem. If you have a 4 liver problem you don't want to add any other problems to 5 it and alcohol is one of them. 6 Q And would that hold true for a person who has 7 a mild liver problem? 8 A What is meant by mild. 9 MR. CARNEY: Objection to the form. 10 Q (By Mr. McCrea) What is meant by mild is 11 what we discussed in the Zack article as reported in the 12 City of Bloomington, Indiana which stated in 1976 the 13 Monroe County Board of Health conducted biochemical tests 14 among Bloomington, Indiana residents exposed to PCB's 15 serum levels of gamma glutino -- 16 A GGT. 17 Q GGT, and plasma triglyceride levels were 18 found to show a direct relationship to serum PCB levels. 19 If that doctor called you and said, "Dr. Kelly," and said 20 "This individual has elevated GGT and plasma and 21 triglyceride should he drink alcohol?" What is your 22 answer? 23 A First of all you have made several earlier 24 comments about the Zack article in this question and when 25 I answered the question you said liver problems. Zack did
Page 94 1 lassitude. 2 Q Let said he was irritable, would you have 3 related that to the exposure? 4 A I don't know. I mean, it all depends, you'd 5 have to tell me more about the situation. Just irritable, 6 how long, when? But I think you're a little unrealistic 7 because the doctor would be call me about the man's 8 medical condition at the present time. He would not be 9 interested in the symptoms. He'd be interested in is 10 there anything else of a major condition that I could 11 expect and I would give him the only other one that I 12 would think would be important. 13 Q If he asked you if there were any medications 14 which he should got give to the person, what would you 15 tell him? 16 A I would say don't let him take any alcohol. 17 Q Why? 18 A Because alcohol has an effect on the liver. 19 If you drink alcohol you destroy some liver cells. 20 Q Is that particularly true if a person's been 21 exposed to PCB's? 22 A No. But it's true of everybody in the United 23 States. 24 Q If he said he wanted to go out and have 25 something to drink would you tell him no, you shouldn't	Page 96 1 not say these people has liver problems. She said they 2 had -- that the levels of GGT and the triglycerides were 3 proportional to the PCB levels. 4 Q Correct. 5 A She didn't say they were increased as I saw 6 them. 7 Q That's true. 8 A So if this man said this person has high 9 triglycerides and I said that doesn't bother me, 10 particularly alcohol bringing up high tri -- gives you 11 high triglycerides anyway. I'd say as far as the GGT is 12 concerned I'd say how high is it, and if it's elevated 13 twice as much I'd say he shouldn't take alcohol until it 14 comes down. 15 Q All right, sir. Any other medications that 16 you would advise the doctor not to administer to this 17 individual with these symptoms which Monsanto has listed 18 under its Health Hazard Data, January 26, 1972 for 19 Inerteen 100 dash 42? 20 A I'd have to remember what medications were 21 being used in 1972. I mean, there may have been some and 22 I am more familiar with them but I can't answer that right 23 now. 24 Q You stated that you had less than five calls 25 from doctors, can you recall any of them?

Page 97 1 MR. CARNEY: I don't think that was his 2 testimony. 3 MR. McCREA: He said during the time that he 4 was medical director at Monsanto he probably had less than 5 five calls from physicians. 6 MR. CARNEY: I don't know what he said -- I 7 think he had a total of five calls with regard to problems 8 with PCB's. I don't think they were all from doctors, as 9 I recall. 10 A No, one was a call that I initiated myself to 11 the Indiana one. 12 Q (By Mr. McCrea) To the whom? 13 A The Indiana one, where the heat transfer 14 outfit. 15 Q Indiana? 16 A It was Indiana, in Indiana, it was written up 17 by Dr. Spoyer, the Department of Industrial Hygiene or 18 Public Health of Indiana. Another one was this, a 19 thermometer company someplace in New England where the 20 people had some of the women had chloracne from dipping 21 their hands into the material, that was the first call I 22 had so I wanted to see it because I wanted to see what 23 they were doing and I said why don't you use some sort of 24 a gimmick that you don't have to put your hands in there 25 and it went away. That was number two.	Page 99 1 dioxin. 2 Q Anything else? 3 A No, sir. 4 Q Spill or leak procedures, do you know what is 5 meant by an improved chemical landfill? 6 A Sure. It's a landfill that's approved by 7 government authorities. 8 Q Did Monsanto dispose of its PCB's in an 9 approved chemical landfill in 1972? 10 A I think they burned it in the incinerator we 11 had over at the East St. Louis plant. 12 Q Did they ever use landfills? 13 A I don't know whether they did or not. They 14 may very well have, I don't know. 15 Q Do you know where your PCB's were disposed? 16 A No, I don't. 17 Q Were there PCB's that were disposed from 1936 18 to 1974? 19 A Is that a question? 20 Q Yes. 21 A What was the question? 22 Q Were there PCB's that were disposed by 23 Monsanto from 1936 to 1976? 24 A Yes, I am sure there were. 25 Q But you don't know when you started, you
Page 98 1 The third was from some company, I believe it was 2 the Crown Chemical Company in the East someplace where the 3 man said again we had an exposure but -- he didn't, again, 4 but he said, "We had an exposure of people inhaling hot 5 PCB's from a heat transfer unit. These people are -- have 6 some nausea. They do have" -- I don't know if he said 7 they had vomiting or not. "What do you think?" I said 8 "Well. Obviously, correct the situation, get them out of 9 there and watch for liver involvement," and I followed it 10 up in a week or so and he said, "Yes, they did show some 11 slight jaundice." Followed up in couple months and they 12 were all well. I conditions -- so I said less than five, 13 I don't recall any others. Those are the three. I never 14 got a call from anybody in Bloomington, Indiana. 15 Q Reactivity data, hazardous decomposition 16 products, it lists CO, can't read it. 17 A Yes, carbon monoxide, carbon dioxide, smoke, 18 soot, chloride and chlorine. 19 Q And that was the information known in '72? 20 A That's correct. 21 Q Would you now list furans? 22 A I think we would, yes, if we were making it 23 still. 24 Q Would you list anything else? 25 A Well, in this Inerteen we would probably list	Page 100 1 don't know anything about that? 2 A No, I don't know when landfills were first 3 approved. 4 Q Under special protection information, 5 respiratory protection, Bureau of Mines approved 6 respirator for organic vapors, if I called you in 1972 and 7 I said, "Dr. Kelly, when should I as a worker wear a 8 Bureau of Mines approved respirator for organic vapors for 9 Inerteen 100 dash 42? What would you tell me? 10 A I'd say you have to tell me what you're doing 11 and I'll tell you whether you need a respirator at that 12 time. 13 Q If I told you I was working an F-30 near the 14 capacitor impregnation tanks? 15 A I'd say I do not know what the levels would 16 be at that capacitor impregnator plant. I believe you 17 will have to ask your plant safety man about that. I said 18 we recommended against inhaling of fumes at elevated 19 temperatures. 20 Q And if I ask -- Go ahead, excuse me. 21 A And I don't know if there was a TLV located 22 at that particular time because remember now we're talking 23 about capacitors, we're not talking about Inerteen. 24 There's a transformer fluid, it's not used in capacitors. 25 Q If I asked you for the best guidelines

Page 101 1 available as to when I should wear a Bureau of Mines 2 approved respirator based on this information in your 3 material safety data safety sheet what would you tell me? 4 MR. CARNEY: Other than what he's already 5 said? 6 MR. McCREA: Correct. 7 A I don't know. I don't think I have anything 8 to add to it. 9 Q (By Mr. McCrea) What are the best 10 guidelines, what can you tell me? 11 A Well, if the material is used at elevated 12 temperatures for more than a short time and I couldn't 13 quantify a short time because I don't know how long he's 14 working and I'd say he ought to put a respirator on. If 15 you're in doubt put one on. 16 Q Did you ever issue a warning to that effect? 17 A We told them to avoid inhalation of the fumes 18 at elevated temperatures and when they are in confined 19 spaces and there are any number of ways that you can do 20 that. One is not go in there, No.2 is wear a respirator, 21 No. 3 is have changes of air and No. 4, would be a kind of 22 vacuum, a collection of the fluid, of the material. 23 Q Did you ever issue a warning that workers 24 should wear a Bureau of Mines approved respirator when 25 working with Inerteen 100 dash 42 at elevated	Page 103 1 Q Under Section 8, special protection 2 information, local exhaust for vapors. If a worker called 3 you and asked you under what conditions a local exhaust 4 should be used for vapors, what would you tell him in '72? 5 A I would say, "I can't give you a general 6 statement on this. I don't know in the first place 7 whether local exhaust could be available for your 8 particular application and other modalities must be used." 9 I would also say I don't know -- Well, I would say, "I 10 think you will have to ask the manufacturing people in 11 your group as to where this should be done." This says if 12 this local exhaust needed; yes, it's needed if there are 13 vapors around there, but I can't define how much vapors is 14 at somebody's plant. 15 Q If I asked to you define that, could you? 16 A How much is too much? 17 Q Yes, sir. 18 A No, sir. I can't define how much is too 19 much. Too much is what will give you harm. 20 MR. CARNEY: I didn't get a chance to object 21 but I'm going to object to the form of the question, 22 because it's vague. 23 Q (By Mr. McCrea) Special Precautions, Avoid 24 Skin and Eye Contact. If I asked you in 1972 to tell me 25 why I should avoid skin and eye contact and what is meant
Page 102 1 temperatures? 2 MR. CARNEY: Objection. He just answered 3 that question, you're getting awfully repetitive. 4 MR. McCREA: I did not get an answer. 5 MR. CARNEY: I think he did answer. You 6 didn't like his answer. He said he didn't did warn about 7 elevated temperature and there's a number of ways you can 8 do that. He didn't spell out all the ways. 9 MR. McCREA: I agree that was the answer. 10 I'm asking did he ever warn a worker that he should wear a 11 Bureau of Mines approved respirator when working with 12 Inerteen 100 dash 42 at elevated temperatures? 13 A I don't remember ever talking to a worker. 14 Q (By Mr. McCrea) Did you ever put it in 15 writing? 16 A I said avoid it. I left this to the users. 17 Q Did you ever put it in writing? 18 MR. CARNEY: Are you talking about -- 19 MR. McCREA: Just a second. Just a second 20 please. 21 Q (By Mr. McCrea) Did you ever put in writing 22 a warning that a worker should use a Bureau of Mines 23 approved respirator when working with Inerteen 100 dash 42 24 at elevated temperatures? 25 A I don't know if I did or not.	Page 104 1 by that, what would your answer have been? 2 A There is two questions now, lets' separate 3 them, will you? 4 Q If I asked you why to tell me why I should 5 avoid skin contact? 6 A Because the material may be harmful. If you 7 get enough of it on you and it gets absorbed. 8 Q Did you ever issue a warning that PCB's go 9 through the skin and can poison the body? 10 MR. CARNEY: Let me object to the form of the 11 question. It contains undefined terms. A warning to who? 12 MR. McCREA: To the workers. 13 A I said I gave the warning to avoid the skin 14 contact, on a gasoline truck; it says avoid smoking, it 15 doesn't say this is going to blow up if you smoke around 16 here. I mean, to answer your question, no, I did not, in 17 those words, but I said, avoid skin, repeated or 18 continuous skin contact, that's certainly -- 19 Q (By Mr. McCrea) That could mean everything 20 from irritation to poisoning of the body with PCB's? 21 A Was that a question? 22 Q Yeah. Did you tell them why to avoid skin 23 contact? 24 A No, but if you tell a person what to avoid, 25 you are avoiding any illness. You don't have to tell them

Page 105 1 what illness is it he's avoiding. 2 Q But if the worker thinks it's going to result 3 in a little skin irritation it may not bother him. If he 4 knows it's going to poison his body it could. 5 A Well, I don't agree with that because we have 6 had these warnings for forty years and we've had no 7 trouble, no report of illnesses. 8 Q We'll debate that as another day, Doctor? 9 A I cannot hear that. 10 Q We'll debate that at another day. 11 A That's fine. 12 Q Special precautions, eye contact, why should 13 you avoid eye contacts, why should you avoid PCB's in the 14 eye? 15 A The same reason you'd avoid putting 16 turpentine in your eye, it's irritating to your eye. 17 Q Is that all? 18 A That's all. 19 Q Can it be absorbed through the eye into the 20 body? 21 A A drop of it, sure, it would be, but that 22 would be of no consequence. It's the local effect you're 23 worried about. 24 Q Avoid inhalation of vapors. What's the 25 reason for that?	Page 107 1 Inerteen 54201 KJ is? 2 A I would not know what the other thing outside 3 of it does contain PCB's. 4 Q Can you go to page 9? Can you tell us what 5 Aroclor 1242 is? 6 A That's a PCB chlorinated to 32 percent. 7 Q Anything else other than PCB? 8 A No, sir. 9 Q And can you go the health effects, excuse me, 10 can you go to Section 5, Health Hazard Data. Is that 11 precisely and identically the same as the health hazard 12 data for Inerteen 100 dash 42? 13 A Yes, sir. 14 Q And you prepared that information? 15 A Yes, sir. 16 Q And give it to Mr. Garrett? 17 A Uh-huh. 18 Q And he put it on the sheet? 19 A Yes, sir, or he gave it to the person that 20 made the final editing of it. 21 Q Please turn to Page eleven, what an Aroclor 22 1016, MCS if I am reading that correctly, 1016? 23 A That is an Aroclor, a PCB chlorinated to 24 fifteen percent, and I think MCS was a phrase used when it 25 was used for other than electrical uses.
Page 106 1 A Because you're getting absorption of the 2 material through your lungs. 3 Q All right. Doctor, turn to page three. Can 4 you identify for us what Capacitor 21 is under Section 1? 5 A No, I can't. 6 Q Did you prepare this? 7 A Yes, sir. 8 MR. CARNEY: Are you talking about the entire 9 document? 10 A No. The health hazard, the data. 11 Q (By Mr. McCrea) You prepared the data? 12 A Yes, I gave the data to J.T.G., who was Jack 13 T. Garret, who was in our department and he put this in, 14 he was also the environmentalist in our department. 15 Q Okay. 16 A At the time I prepared that I knew what 17 Capacitor 21 was. 18 Q Can you go to Page 5? Can you tell us under 19 Section 1 in the material safety data sheet what Inerteen 20 PPO is? 21 A It's a transformer fluid that contains some 22 PCB, I don't know which one and a certain amount of I 23 believe trichlorobenzene. I'm not a hundred percent 24 certain. 25 Q Can you go the page 7? Can you tell us what	Page 108 1 Q It's chlorinated to sixteen percent? 2 A That's correct. 3 Q And the same effects of overexposure appear 4 but the second line, Emergency and First Aid procedures is 5 blank; is that a fair statement? 6 A Yes. 7 Q As to what appears in Section 5, Health 8 Hazard Data, page 12? 9 A Yes, sir. 1016 as I recall was a more or 10 less an experimental product that was never used widely at 11 all, if at all, in the industry. 12 Q But it was on the market on the date of 13 January 25, '72? 14 A No, I can't say it was on the market. They 15 may have shipped out experimental quantities or they may 16 never have shipped any, I don't know. 17 Q All right. Next page, thirteen. Can you 18 identify this exhibit, Dr. Kelly, which is titled Monsanto 19 Product Specification, Monsanto Industrial Chemical 20 Company, date effective June 10, 1975 which would be after 21 your departure from Monsanto? 22 A Yes, sir. I can identify it not anymore than 23 what you just said, its a product specification of 1016. 24 Q All right. Sir. Page fourteen, can you 25 identify this Monsanto document which at the top has

Page 109 1 Monsanto, Monsanto Company Corporate Medical Department, 2 Toxicity Information, Toxicity Information on Aroclor with 3 looks like a trademark sign, 1016, capacitor dielectric? 4 A Well, it's just what you said. 5 Q Have you seen this document before? 6 A No, I haven't. This I believe also occurred 7 after I left. 8 Q Under the sixth paragraph it says, "Aroclor 9 1016 has a negligible vapor pressure at room temperature 10 around it is not expected to present a significant vapor 11 inhalation hazard under ambient conditions." Does that 12 mean it doesn't evaporate? 13 A That's right, ambient means the air in this 14 room. 15 Q It says, "However, precautions should be 16 observed to avoid inhalation of increased vapor 17 concentrations, which may occur if Aroclor 1016 is used at 18 elevated temperatures." Is that -- 19 A Is that a question. 20 Q No. It states that, correct? 21 A Yes. 22 Q Why is that stated? 23 A That reason if you heat it up, more comes off 24 and you shouldn't breath the fumes. 25 Q Under the last paragraph, environmental	Page 111 1 when they would try to nest on these eggs there would 2 obviously be no progeny, no chicks. It was also had 3 toxicological effects on lower marine organisms, shrimp 4 and species below the shrimp so that's what they meant by 5 adverse ecological, it's bad for the peregrine falcon, the 6 bald eagle and the toxicological effects on the bald eagle 7 and peregrine falcon. You had to read that in context 8 with environmental hazards what you're talking about. 9 They are not talking about people there. 10 Q Was there a risk to people as a result of the 11 environmental contamination by PCB's? 12 A No, sir. There was none. 13 Q Is it your opinion today based on all of the 14 knowledge which you have from Monsanto Company and your 15 sixteen years of experience since last working for them 16 that there is no risks to humans from environmental 17 contamination by PCB's? 18 A Yes, and you could add to that all the 19 government publications and all the government writers and 20 all the scientific community have stated there's no risk 21 to humans from the PCB's that are presently from the 22 environment. 23 Q Is it your opinion today that there is no 24 risk to humans from the presence of furans in the 25 environment?
Page 110 1 hazards, it states, "During the past several years 2 evidence has accumulated to indicate the polychlorinated 3 biphenyls are widely dispersed throughout the environment 4 and that they can have adverse ecological and 5 toxicological effects. Do you agree with that statement? 6 A Yes, but remember we have got to define what 7 is a meant by toxicological effects. Toxicological 8 effects on shrimp, toxicological effects on birds? 9 Q Does that -- Would you define that for us? 10 What is meant in that paragraph when Monsanto states 11 toxicological effects? 12 MR. CARNEY: Let me object to the question. 13 I think this document is dated 11/4/1975, at least that's 14 the date that appears at the bottom of the left-hand side 15 and I think there is no foundation that Dr. Kelly wrote 16 this or even saw this document. He may be able to answer 17 your question but if you're asking him to say what does 18 some words mean where he didn't author them might be 19 asking for speculation. 20 A I have an answer. This is under 21 environmental hazards? 22 Q (By Mr. McCREA) Yes, sir. 23 A At that particular time in 1975 the 24 environmental hazards were to avian species which were 25 birds because they will lay eggs with thin egg shells and	Page 112 1 A Yes. 2 Q Is it your opinion today that there's no risk 3 to humans from the presence of dioxins in the environment? 4 A Well, it depends on what you mean by 5 environment. If you spill a bunch of material that 6 contains dioxin in somebody's backyard that's one thing, 7 but if you take the general public throughout the United 8 States there's no risk but there may be isolated cases 9 where there's spillage of dioxins that could put people at 10 risk. 11 Q If I called you today and asked you if you 12 know of any particular environmental situation which 13 presents a risk to the health of humans from PCB's, furans 14 or dioxins what would your answer be? 15 MR. CARNEY: I'm going to object to the 16 question, it's compound, you have lumped three things 17 together that are totally -- that are dissimilar and so I 18 object to the form. 19 MR. McCREA: I agree but I did it to save 20 time. 21 MR. CARNEY: Well, I think that's a -- 22 Q (By Mr. McCREA) If I called you today, Dr. 23 Kelly, and I asked you if you know of any particular 24 situation involving PCB and contamination of the 25 environment which presents a risk to human health what

Page 113 1 would your answer be? 2 A My answer would be if you were asking me I do 3 not know of any. If you're asking people in the 4 government -- 5 Q I'm asking you -- 6 A Yes, but you're calling me and I have got to 7 give you my answer. I'm not going to answer yes or no to 8 the people calling me. I'm going to explain what the 9 situation is; and I'm going for explain that dioxin is not 10 only a toxicological problem, it's a medical problem. I 11 would also say that the government has paid three hundred 12 million dollars to buy out or clean out Times Beach 13 because of the problem there although there have been no 14 cases of any illnesses to individuals at Times Beach, so I 15 would have to explain to them that here is my opinion, 16 here is what your elected representative's opinion is. 17 Q All right, sir, fair enough. 18 MR. CARNEY: When we were talking about 19 dioxin, they are not PCB's. 20 A Yes, dioxin. 21 Q (By Mr. McCrea) We started with PCB's. If I 22 called you -- 23 A Yes, but wait, PCB's and dioxin are a hundred 24 percent different and there is no dioxin in PCB. 25 Q (By Mr. McCrea) Yes, I understand. Dr.	Page 115 1 But I haven't finished yet, have I? 2 Q No, I don't think so. 3 A No, I don't think so. So I would say you 4 have to qualify what you mean by risks. There are 5 certainly a financial risk and there is a possibility of a 6 medical risk. 7 Q And how long have you known that there's a 8 possibility of a medical risk to an individual as a result 9 of a transformer burning and contaminating a building? 10 A '81 or '82. 11 Q And how did that information come to you? 12 A It's in the newspapers, eventually it was 13 written up in some scientific articles. 14 Q If a worker from the Bloomington Westinghouse 15 plant called you and informed you that for fifteen years 16 he worked in the plant and the carousel which was used to 17 test capacitors after they had been manufactured would 18 have explosions on an almost daily basis, sometimes 19 several times day, sometimes maybe none for a few days and 20 that when these explosions would occur in the Bloomington 21 Westinghouse plant fumes would permeated the plant and 22 that he was exposed to these fumes for a period of fifteen 23 years, and he wanted to know if he should be medically 24 monitored for adverse -- for possible health problems, 25 what would you tell him?
Page 114 1 Kelly, if I called you today and I asked you if you know 2 of any use of an electrical equipment that presents a risk 3 of contamination of the environment that could cause 4 problems to human health and I'm talking about electrical 5 equipment containing PCB's or PCB's and trichlorobenzenes, 6 whatever, what would your answer be? 7 MR. CARNEY: I'm going to object to the form 8 of the question, it's vague. 9 A Is there any use? Do you use use or 10 misuse -- 11 Q (By Mr. McCrea) Use. 12 A Use? 13 Q Not misuse, use. 14 A I would say that the only risk would be in a 15 transformer that could be effected by a fire and there 16 were no precautions to prevent the spread of that material 17 throughout the buildings. There is a risk there, there's 18 a risk that would involve expensive cleanups. I would say 19 that the risk to human health in those particular building 20 occupants and in the fire department personnel has been 21 minimal, did not show any harm to those workers in the 22 building or in the people that take care of the fire. 23 Q Are you talking about specific instances like 24 Binghamton? 25 A Yes, Binghamton, yes or One Market Plaza.	Page 116 1 MR. CARNEY: I'm going to object again. I 2 don't think you've given enough facts in your question. 3 Dr. Kelly is not familiar with the Bloomington plant. You 4 don't indicate on what the exhaust facilities were, what 5 the area was, whether the explosions were caused any fumes 6 and burning of PCB's, to what extent, and a whole myriad 7 of things. So I'm not sure it's possible to answer 8 without all the facts. 9 You can try to answer it again? 10 A Well, I would tell him in the first place, 11 yes, I think you ought to be examined. I would say no 12 amount of exposure can give you a disease you don't have, 13 and so if he doesn't have anything the exposure was not 14 sufficient to cause it obviously because it wasn't there. 15 I would say also I am not in a position to evaluate the 16 extent of your exposure. This is something that you 17 should talk to your manufacturing people about, I don't 18 know these conditions and I can't give you an expert 19 advice on it. 20 Q (By Mr. McCrea) If he asked you to recommend 21 doctor who has expertise in the toxicological effects of 22 PCB's, who would you recommend? 23 A What year is he calling me. 24 Q He's calling you today. 25 A Today, and he's in Bloomington?

Page 117 1 Q Correct. 2 A I'd have to look it up. I'd have to look it 3 up in the journal -- I mean in the Directories of the 4 Industrial Medical, Occupational Medical Association, see 5 who's in Indiana. I'd have to look up people who were 6 certified in occupational medicine and see who's certified 7 around Bloomington. 8 Q He also informed you that he has made inquiry 9 of the Old Monroe Medical Society which includes all of 10 the physicians that were in Bloomington and there's not 11 one physician with expertise in the toxicological 12 properties and possible adverse effects of PCB's and he 13 wants your advice as to a doctor? 14 A Well, I would say then go to the best 15 internist in Bloomington and find out if something is 16 wrong with you. If he had to just call me. 17 Q If he asked you to recommended a medical 18 protocol, in other words, the tests and clinical 19 evaluation that should be performed, what would you 20 recommend? 21 A I would recommend -- 22 MR. CARNEY: I'm going to object. We're 23 talking about something so unrealistic, a Bloomington 24 worker or any non-medical person can go for a medical 25 protocol would be highly unlikely. We're getting off into	Page 119 1 reference to liver enzymes. 2 MR. CARNEY: Let me have just -- We've got 3 one minute left on the tape and before we cut out on this 4 tape I think we have to -- we have agreed to continue this 5 deposition on Friday, the day after tomorrow at 8:30 and 6 you agree that you will finish in one more day? 7 MR. McCREA: You're going to bring the lists 8 of all the cases until which he's testified which we have 9 requested, correct? 10 MR. CARNEY: I don't -- as I have indicated 11 to you I don't think there is any such list. 12 MR. McCREA: Have you made inquiry? 13 MR. CARNEY: I have not made inquiry, but all 14 I'm saying is you have never requested it in the three 15 years -- Are we going to go on Friday or not and are you 16 going to complete on Friday? 17 MR. McCREA: I don't, Tom -- 18 MR. CARNEY: You represented to me the last, 19 two days ago or last week that you would need one more 20 day. We have now gone a day and a half. Are you saying 21 now in two and a half days we can finish or not? 22 MR. McCREA: It might take more than one 23 day. Are you, can you do Kowan's in less than four? 24 MR. CARNEY: That would be my estimate, yes. 25 But I --
Page 118 1 never-neverland here. 2 A I would tell him to have the doctor you 3 select call me after you see me and I'll be happy to 4 discuss the case with you, and tell me if I have any 5 further suggestions on tests he wants to run I will tell 6 him. 7 Q (By Mr. McCrea) He wants to know what tests 8 should be run? 9 A Well, I'm not going to tell him. I'm not 10 treating him. I'm not going to tell him to go to a doctor 11 and say, "Look, this doctor three hundred miles away said 12 this is what you should do to me." The doctor would say 13 go to that fellow then. 14 Q If he asked you for treatment what would you 15 do? 16 A I'd say no, I don't treat you. I diagnosis 17 people, but I don't treat. 18 Q If he came to you and gave you the history 19 which we have recited, what medical protocol would you, 20 Dr. Kelly, institute for this individual? 21 A I would do a complete history and physical 22 examination, non-occupational as well as occupational 23 examination. I would do a complete examination including 24 neurological and dermatological examination. I would run 25 a battery of clinical tests, the S.M.A. 21 with special	Page 120 1 MR. McCREA: It might take more than one day 2 and I would like for you to bring with you the list of 3 cases in which Dr. Kelly has testified. I also would like 4 for Dr. Kelly to bring the raw data which he reviewed 5 relative to -- 6 THE WITNESS: I didn't review it. I said I 7 called Bill Gaffey and asked him. 8 MR. McCREA: Okay, that takes care of that. 9 Break. 10 (Whereupon, a short break was taken.) 11 MR. McCREA: But I'll represent that we'll 12 finish on Saturday. 13 MR. CARNEY: And you will finish on Saturday? 14 THE WITNESS: Well, I'm not representing that 15 I am going to be hanging around all next week. 16 MR. McCREA: But we'll go on Friday? 17 MR. CARNEY: Go on Friday and if necessary go 18 on Saturday. 19 MR. McCREA: Absolutely. 20 (Deposition continued.) 21 22 23 24 25

1 COURT MEMO
 2 IN THE CIRCUIT COURT OF THE CITY OF ST. LOUIS
 3 STATE OF MISSOURI
 4
 5 Glenn Brown, et al, vs. Monsanto Company
 6 862-00694
 7
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 9 STATEMENT OF DEPOSITION CHARGES
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 17 Husch & Eppenberger
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