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2	IN THE UNITED STATES DISTRICT COURT	2	APPEARANCES OF COUNSEL:
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4	EASTERN DIVISION	3	Mr. Robert E. Shields
5		4	Mr. Larry Wright
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7		6	KNOWLES & DEVINE
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10	vs. Civil Action No. CV-96-PT-0440-E	9	(404) 881-8900
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13		12	FOR THE DEFENDANT:
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22	Deposition of ROBERT G. KALEY II, PH.D.	21	Mr. Michael E. Kelly
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18	offices of Marriott St. Louis West, 660 Maryville	18	
19	Center Drive, in the County of St. Louis, State of	19	
20	Missouri, on the 23rd day of March, 2001, before	20	
21	Gretta G. Cairatti, RPR, CRR, IL-CSR #084-003418,	21	
22	and Notary Public.	22	
23		23	
24		24	
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5 1 ROBERT G. KALEY II, PH.D., 2 3 of lawful age, having been first duly sworn to 4 testify the truth, the whole truth, and nothing but 5 the truth in the case aforesaid, deposes and says 6 in reply to oral interrogatories propounded as 7 follows, to-wit: 8 9 EXAMINATION 10 QUESTIONS BY MR. SHIELDS: 11 Q Good morning. 12 A Good morning. 13 Q This will be the deposition of Robert G. 14 Kaley, taken for the purpose of discovery and all 15 other purposes allowed under the Federal Rules of 16 Civil Procedure, all formats covering the taking of 17 the deposition are waived, with the exception we 18 would like the witness to review and sign the 19 transcript, although that can be done in front of 20 any notary. All other matters will be governed by 21 the appropriate provisions of the Federal Rules of 22 Civil Procedure. Would you state your name please? 23 MR. KELLY: Bob, preliminarily, under your 24 30(b) notice, we would offer Dr. Kaley on 25 Paragraph 3, the efforts made by Monsanto-Solutia	7 1 got your Bachelor of Science Degree from Purdue? 2 A That's correct. 3 Q In what year? 4 A 1968. 5 Q And then you got your Ph.D. from the 6 University of Illinois? 7 A Correct. 8 Q What year? 9 A It was granted in 1974. 10 Q And in what area did you get your Ph.D.? 11 A Analytical chemistry. 12 Q Have you had any formal education beyond 13 your Ph.D.? 14 A No. 15 Q Have you taken any informal seminars, 16 course work, on other matters than analytical 17 chemistry in the years since? 18 A You know, one or two day courses, I've had 19 several of those. 20 Q On what subject matter? 21 A Toxicology, epidemiology, various branches 22 of chemistry. 23 Q None of which led to any certificate or 24 degree? 25 A That's correct.
6 1 from 1972 to 1995 to be aware of the scientific 2 literature and studies regarding health effects of 3 exposure to PCB's, as well as any funding of 4 research by Monsanto-Solutia, that's Paragraph 3. 5 MR. SHIELDS: Thank you. So this is also 6 the deposition of Monsanto under 30(b)(6) on that 7 subject matter. 8 QUESTIONS BY MR. SHIELDS: 9 Q Dr. Kaley, you've had your deposition taken 10 before, have you not? 11 A Yes. 12 Q On how many occasions? 13 A Ten to a dozen, probably. 14 Q And you've attended depositions of other 15 witnesses in this case, and in other cases, I 16 assume? 17 A Yes, that's correct. 18 Q So you're familiar with the process? 19 A Yes. 20 Q I will not bother you, then, by going 21 through my normal speech of what we're doing here 22 today. Let me begin with the specifics of the 23 deposition by covering a little bit of background 24 information regarding you, and then we'll move on 25 to more substantive matters. I understand that you	8 1 Q You don't regard yourself as a 2 toxicologist? 3 A I do not. 4 Q Or an epidemiologist? 5 A I do not. 6 Q And you're not a medical doctor? 7 A That's correct. 8 Q Do you belong to any of the professional 9 organizations dealing with toxicology? 10 A No, I do not. 11 Q Or epidemiology? 12 A No. 13 Q You wouldn't regard yourself as an expert 14 on toxicology? 15 A I -- I probably would not be qualified as 16 an expert in a courtroom. I believe I do have 17 expertise in reading and understanding toxicology 18 literature, yes. 19 Q You've read some literature? 20 A Yes. 21 Q But you would not think that you could 22 qualify as an expert in a courtroom setting? 23 A I'm not degreed in toxicology. 24 Q Or in epidemiology? 25 A Correct.

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9 1 Q When did you commence your employment at 2 Monsanto? 3 A December of 1973. 4 Q In what capacity? 5 A I was what was called a Senior Research 6 Chemist. 7 Q Trace for me your job titles, and with 8 each, give me the dates and a brief description of 9 your activity since you came to work at Monsanto. 10 A I'll do the best I can. 11 Q I'd work through them, but instead of 12 asking you ten questions, I'll just ask you the 13 open-ended one and -- 14 A You've studied it a lot more than I have. 15 I joined Monsanto, as I said, December 1973, as a 16 Senior Research Chemist. In about 1976, I changed 17 laboratory, I went from one laboratory to another 18 laboratories, but without a change in title. I 19 think around 1978 I became a Senior Research Group 20 Leader where I had responsibility for a group of 21 analytical chemists doing a variety of analyses. 22 In about 1981, I became a Senior Research 23 Specialist in our Corporate Research Laboratories. 24 The previous employment was all in what -- our 25 Industrial Chemicals Division, or company, or	11 1 Director of Environmental Affairs for Solutia. 2 A A variety of duties, primarily I have 3 corporate stewardship responsibility for what we 4 term legacy chemicals, chemicals that Monsanto 5 typically formerly made, and no longer makes, but 6 still maintains an interest in, and I also have 7 responsibilities for identifying, communicating, 8 and staying up-to-date on emergent science issues. 9 Q Any other roles? 10 A That's primarily it. I mean, I'm a 11 representative on some CMA committees and things, 12 those are consonant with my other responsibilities 13 at the company. 14 Q Was your role as Director of Environmental 15 Affairs at Monsanto essentially the same as it is 16 at Solutia? 17 A Yes, it was. 18 Q So your role there includes the stewardship 19 of legacy chemicals? 20 A Yes. 21 Q And keeping up on science issues? 22 A Yes. 23 Q Working in CMA? 24 A Yes. 25 Q What legacy chemicals were you having
10 1 whatever it was called at the time, and then in 2 1981, I moved to our Corporate Research 3 Laboratories. In about 1985, I moved to the 4 environmental policy staff, and I don't remember, I 5 was manager of something, Product Manager of some 6 kind or another. I basically remained in that area 7 since 1985, although there have been -- I've had 8 title changes leading up to I'm currently Director 9 of Environmental Affairs for Solutia. Of course in 10 1997, September of 1997, Monsanto spun off the 11 former chemical businesses into the company called 12 Solutia, and I went with Solutia at that point. So 13 I was formerly Director of Environmental Affairs 14 for Monsanto, and now I'm Director of Environmental 15 Affairs for Solutia. 16 Q When did you become Director of 17 Environmental Affairs for Monsanto? 18 A 1991 or 1992. 19 Q And then when Solutia was spun off in 19 -- 20 A September of 1997. 21 Q -- you assumed that title at Solutia? 22 A Yes. 23 Q That's your current title? 24 A That is right. 25 Q Describe for me what your duties are as	12 1 stewardship responsibility for? 2 A The primary one were PCB's, 3 pentachlorophenol. Obviously, dioxins were not a 4 product, but there were impurities in some former 5 products, primarily the phenoxy, P-H-E-N-O-X-Y, 6 herb science, so I do keep up on dioxin issues, 7 also. 8 Q You used the term stewardship, tell me what 9 you mean by that. 10 A Yes, well, basically it's a person in the 11 company who serves as a resource for both internal 12 and external inquiries about a particular product 13 line, being knowledgeable about that product, being 14 able to discuss it with whoever needs, you know, 15 information. 16 Q Is that a term of art in the chemical 17 industry? 18 A I think it's becoming one, yes. 19 Q Are you familiar with the Chemical 20 Manufacturing Association, Responsible Care 21 Guidelines? 22 A In general terms, yes. 23 Q And those Responsible Care Guidelines have 24 some stewardship responsibility for legacy 25 chemicals, do they not?

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13 1 A I don't know that it addresses legacy 2 chemicals specifically, as I sit here, I don't know 3 that. 4 Q Does it address sort of cradle to grave 5 responsibility for chemicals manufactured? 6 A I don't know that it addresses -- those 7 concepts are evolving today, I don't know that it 8 addresses that specifically in those terms. 9 Q Do you understand the Responsible Care 10 Guidelines of the Chemical Manufacturing 11 Association to say that a responsible chemical 12 company has stewardship and continuing 13 responsibility for chemicals it manufactured after 14 they're in the environment? 15 A I'm not sure exactly what the language is. 16 I understand that there is some -- some -- I think 17 there are some terminologies along those lines. I 18 don't know exactly what the language states at this 19 time. 20 Q Do you recognize that the Chemical 21 Manufacturing Association's statement of 22 Responsible Care Guidelines for its industry 23 includes the responsibility for chemicals and their 24 effects long after they've been sold, and in fact, 25 entered into the general environment?	15 1 Panel on polychlorinated biphenyls, and I also 2 chair a working group under the Chlorine Chemical 3 Council, which is the subgroup of the American 4 Chemistry Council, which is the new name for CMA, 5 on women and children's health issues. 6 Q It's American Chemistry Council? 7 A It's now the American Chemistry Council. 8 Q When did they change the name? 9 A About a year ago, I think, give or take a 10 few months. 11 Q Why did they change the name? 12 A I think they -- I mean, I don't even know 13 that I read the rhetoric, I think it has something 14 to do -- it more accurately reflects their view of 15 what their charter is now, to represent chemistry 16 more generally than just manufacturers. 17 Q You said you were the chairman of a 18 Chemstar Panel on PCB's? 19 A Yes. 20 Q What is a Chemstar -- 21 A Chemstar Panel is one of the subgroups of 22 what is now -- I'm going to say CMA and ACC 23 interchangeably -- of ACC. Basically, Chemstar 24 Panels are small working groups organized by a 25 group of member companies that have specific
14 1 A Well, I think that is one of the -- the 2 directions where responsible care is taken in the 3 chemical industry, yes, again, I don't know the 4 exact language. 5 Q Does Solutia comply with the Responsible 6 Care Guidelines of the Chemical Manufacturing 7 Association? 8 A Yes, we are an assignee. 9 Q Do you believe that the Responsible Care 10 Guidelines of the Chemical Manufacturing 11 Association sets forth standards of the industry? 12 A I think they set forth goals the industry 13 should be working towards, yes. 14 Q And the same would be true at Monsanto, 15 when you were at Monsanto, did Monsanto attempt to 16 comply with the Responsible Care Guidelines? 17 A As far as I know, yes. 18 Q Did Monsanto believe they set forth the 19 standards in the industry? 20 A I think they set forth goals to which the 21 industry is currently working. 22 Q Do you serve on any CMA committees? 23 A Yes, I do. 24 Q What committees? 25 A I am Chair of a -- what's called Chemstar	16 1 interests in a specific chemical, or a specific 2 issue. 3 Q How many members are on the panel? 4 A At this point, there are four. 5 Q Any representatives other than 6 manufacturers, or former manufacturers of PCB's? 7 A Yes. 8 Q Who are the other representatives? 9 A General Electric is a representative, well, 10 I don't -- Alcoa Reynold, Reynold Alcoa, or 11 whatever their new corporate heading is, is a 12 representative, and General Motors is a 13 representative. 14 Q No one outside the industry? 15 A No. 16 Q Does the Chemstar Panel have any 17 publications of its work? 18 A Not -- not in the sense I think you mean. 19 We have commissioned studies which are -- I mean, 20 they are publicly available, but they're generally 21 not published, and the panel itself does not 22 publish things. 23 Q Describe for me the role of the panel, 24 what's it supposed to be doing? 25 A Well, the role of the panel primarily has

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17 1 been, over the years, to be a -- an industry voice 2 under the regulatory process, to work with in both 3 environmental groups and the regulators, in the 4 design and implementation of regulations around 5 PCB's. That's been the primary focus. 6 Q And as chairman of the panel, do you have 7 contact with the regulatory agencies? 8 A Occasionally. 9 Q In general, what regulations and what 10 regulatory agencies are involved with PCB matters 11 currently? 12 A Primarily, not even currently, but typical 13 interactions have been with the EPA around the 14 constantly evolving PCB regulations. 15 Q Going back to your earlier employment at 16 Monsanto, would you describe for me what role, if 17 any, you've had over the years regarding PCB's? 18 We've talked a little about your current role, but 19 let's go back to the beginning. 20 A I walked into Monsanto and started doing 21 PCB analyses on day one, that was my primary 22 responsibility for about the first three years as 23 an analytical chemist, developing and utilizing 24 expertise in PCB's. 25 Q What kind of analyses were you doing during	19 1 A I don't have the specific recollection. I 2 would -- I would assume that some of them were at 3 the time, yes. 4 Q But you do have a specific recollection 5 that none of them were from Anniston? 6 A I don't recall any being from Anniston, I 7 mean, I couldn't guarantee there was not one 8 sample, but I don't have a recollection of them 9 being from Anniston. The plant had been shut down 10 two years by the time I came to Monsanto. 11 Q So for about three years, you did that 12 analytical work? 13 A Yes. 14 Q Let's pick up at that point, approximately 15 1976, and move forward as to what you did with 16 PCB's. 17 A Well, in 1976, I basically, as I said, 18 changed laboratories, I became a -- an expert on an 19 instrument called a gas chromatograph/mass, 20 C-H-R-O-M-A-T-O-G-R-A-P-H, slash mass, M-A-S-S, 21 spectrometer. At that point, I -- my research 22 experience had broadened into a wider group of 23 chemicals but I still did continue to do PCB 24 samples that required -- from now on I'll call it 25 GC/MS -- so I did have some responsibilities there.
18 1 that three year period? 2 A By kinds, do you mean what samples was I 3 looking at, what instruments -- 4 Q Generally, what were you doing -- 5 A Primarily, I was doing gas chromatography 6 on a variety of sample types coming into our 7 laboratory. 8 Q For what purpose? 9 A There were numerous purposes. We were 10 looking at environmental samples; we were looking 11 at samples that were being generated in our 12 branches of our laboratories, investigating a 13 variety of samples from environmental and 14 toxicological studies that were being done in our 15 laboratory; working with product chemists on 16 product quality; or we were also, at that time, 17 looking for substitute products for PCB's, so 18 working with those kinds of things. So really, a 19 variety of things. 20 Q Were any of the environmental samples from 21 the Anniston, Alabama, plant? 22 A I don't believe so, at that time. 23 Q Were any of the environmental samples 24 related to your other facility that had 25 manufactured PCB's, I believe that was Krummrich?	20 1 Q What were you doing with GC/MS regarding 2 PCB's during that time period? 3 A Again, I think there were a variety of 4 things going on. I think we continued to look at 5 some environmental samples; we continued to look at 6 samples being generated by our research 7 laboratories, primarily focused on substitute 8 products at some point in that time. We began, in 9 response to regulation, looking at our other 10 product lines to see if there were PCB's present as 11 impurities in other product lines. 12 Q Did your role subsequently change regarding 13 PCB's? 14 A Well, at some point, then, in I think about 15 '78, I became Research Group Leader, and at that 16 point, a new division was formed -- well, it wasn't 17 a division, I don't know what it was -- a new 18 analytical group with more of a focus on 19 environmental sciences, and I became the Analytical 20 Group Leader in that group. And at that point, 21 then, I guess my -- again, PCB analyses were a part 22 of that, and I had responsibility for a group of 23 people doing those kinds of analyses, and was doing 24 some myself, also. 25 Q What kinds of analyses were you doing

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21 1 during that -- 2 A Most of those, I think, were -- well, there 3 were some environmental analyses for a variety of 4 reasons, and then, again, looking at product lines 5 for potential for PCB impurities to be present. 6 Q During the earlier time period, from '76 to 7 '78, you indicated that you did some environmental 8 samples with GC/MS, were any of those samples from 9 Anniston? 10 A I don't recall any of them being from 11 Anniston. 12 Q And during the time period when you became 13 Research Group Leader and supervised some analysis 14 of environmental samples, were any of those from 15 Anniston? 16 A I don't recall any being from Anniston. 17 Q Did your role subsequently change regarding 18 PCB's? 19 A Yes, and what I've -- 1981, when I moved to 20 the Corporate Research Laboratories, at that point, 21 I had essentially -- well, I had essentially no 22 responsibilities in the analytical lab for PCB 23 analyses. I don't recall doing any in that 24 particular time frame, although it's possible there 25 were a few, but I did have a continuing role as	23 1 large part of my role has focused on PCB issues. 2 Q And who was that? 3 A A man named John Craddock. 4 Q As his assistant, what was your role 5 relating to PCB's? 6 A A variety of things, reading and 7 understanding and staying up on the current 8 literature, working with the CMA panel, working 9 with our plants to be sure that they were in 10 compliance with PCB regulations, working with our 11 plant, if they did have specific PCB issues around, 12 you know, disposal, or whatever it might be. 13 Q During that time period, did you do 14 anything regarding the Anniston plant -- 15 A Yes, I did. 16 Q -- relating to PCB's? 17 A Yes. 18 Q What did you do in connection with the 19 Anniston plant PCB's? 20 A In about 1985, there was a situation 21 involving PCB's in Snow Creek, in Anniston, and I 22 was involved, to some extent, in the plant 23 activities around that. 24 Q I'll come back -- cover that more, right 25 now I'm trying to get an overview, and then we'll
22 1 basically one of the corporate people with 2 corporate expertise on the analysis of PCB's, so I 3 was consulted from time to time to take part in a 4 variety of corporate activities. 5 Q What kinds of corporate activities? 6 A Well, primarily, at that time, the CMA 7 panel was beginning to be formed, and they -- they 8 had some ongoing activities around the analytical 9 chemistry of PCB's, working with the EPA to develop 10 analytical technologies and stuff, and I 11 represented Monsanto on that effort. 12 Q Any of your work during that time period 13 relate to environmental samples from Anniston? 14 A No, I believe not. 15 Q Subsequently, did your role expand or 16 change regarding PCB's? 17 A Subsequent to the corporate research role? 18 Q Yes. 19 A Yeah, in 1985, when I came -- went into the 20 environmental policy, corporate environmental 21 policy staff, basically I was an assistant to a 22 gentleman who had basically the role as corporate 23 steward, basically the role I have now, that's 24 corporate steward for PCB issues, and I was his 25 assistant at that time. Since that time, my -- a	24 1 decide what we want to go back and talk more about. 2 A That's fine. 3 MR. LIGHTFOOT: If any. 4 QUESTIONS BY MR. SHIELDS: 5 Q If any. We may go through an overview and 6 quit in a half hour. 7 A That would be great. I would appreciate 8 that. 9 Q Okay. Subsequently, you went from being an 10 assistant to being the Director of Environmental 11 Affairs? 12 A That's correct. 13 Q How has your role regarding PCB's changed 14 with that change in position? 15 A It didn't, really, change much 16 significantly. People retired and I -- that was 17 subsequent with those positions, so it really 18 hasn't been any major change in my 19 responsibilities. 20 Q So your role, then, would have continued to 21 keep up with the literature regarding PCB's? 22 A Yes. 23 Q Working with the Chemical Manufacturing 24 Association regarding PCB's? 25 A Yes.

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25 1 Q Deal with regulations -- 2 A Yes. 3 Q -- relating to PCB's? Deal with disposal 4 issues relating to PCB's? 5 A That's correct. 6 Q Then you previously indicated -- 7 A I might add, just so we're clear, the other 8 role I have is to any PCB calls that come into 9 either Monsanto or Solutia, depending upon who it 10 was at the time, it's both now, are referred to me, 11 so I'm a source of information for outside 12 inquiries into the company. 13 Q After you became Director of Environmental 14 Affairs, and setting aside the 1985 Snow Creek 15 issue, to the extent it extended over to that, did 16 you have anything else to do regarding Anniston and 17 PCB's before, let's move up to 1992? 18 A No, not -- I mean, other than the fact, to 19 be sure that on a yearly basis they were filing the 20 appropriate reports to be in compliance with PCB 21 regulation, I had that responsibility for all the 22 plant, but there was no -- other than that, I don't 23 recall any specific connection with Anniston. 24 Q After the 1985 Snow Creek matter, when did 25 you first have any involvement in PCB issues at	27 1 portions of the -- of the sheets as they have been 2 updated. 3 Q When did you first draft a portion of a 4 MSDS related to PCB's? 5 A I don't remember specifically, sometime in 6 the late '80s, probably, I don't really remember. 7 Q Is your name listed on any of the MSDS's? 8 A Yes. 9 Q Which ones? 10 A I think the most recent -- well, certainly 11 the most recent, which I think was 1998 or 1999, 12 possibly the one before that, but I don't think so. 13 Q Okay. Your recollection is the most recent 14 is 1998, 1999? 15 A Yes, I believe 1999. 16 Q Of course, you don't manufacture PCB's 17 anymore? 18 A That's correct. 19 Q Why is it that you continue to have an MSDS 20 on a product that you no longer manufacture? 21 A Well, primarily at the time it was done, 22 and the reason it's still done, is basically a 23 courtesy to former customers, because people still 24 do have PCB's in electrical equipment, and because 25 people still do have wastes that contain PCB's in
26 1 Anniston? 2 A About 1993. 3 Q And what happened at that point in time 4 that got you involved again? 5 A The Alabama Power Company had found some 6 materials on a former landfill that they had 7 acquired from us in a land swap. 8 Q The West End Landfill. 9 A Yes. 10 Q And have you been involved in various 11 issues relating to PCB's at Anniston since 1993? 12 A Yes, I have. 13 Q We'll work our way through those at some 14 point in time. In terms of your role regarding 15 PCB's, what role, if any, have you had in 16 connection with any Material Safety Data Sheets 17 relating to PCB's? 18 A I've been involved in -- in basically 19 updating those data sheets since 1985, when I came 20 over to the environmental policy staff. There have 21 been two or three updates of the MSDS since that 22 time that I was involved in those updates. 23 Q Did you draft the MSDS? 24 A Well, I draft -- I mean, I did not draft 25 the original MSDS, but I certainly have drafted	28 1 some instances, they're required either by 2 regulation, or the disposal companies, to have an 3 MSDS for those materials, and we basically do that 4 as a courtesy. We understand that it is not common 5 policy. 6 Q Sure. Who else has been involved in 7 updating the MSDS? 8 A There have been a couple of people. I 9 think there are a couple other names on the MSDS's, 10 obviously John Craddock was, and there have been a 11 couple other people either worked for John or me. 12 Q Who were the other people? 13 A Let's see, I think Paul Michael had some 14 responsibility at one point. 15 Q What was his role? 16 A He was -- he was basically, when I moved 17 on, assumed one of my positions, he became an 18 assistant to John Craddock for a period of time, so 19 basically took my position. 20 Q Who else? 21 A Gary Mappes, M-A-P-P-E-S, and again, when 22 Paul moved on, Gary took his place, basically 23 helping John Craddock, and then helping me after 24 John retired. 25 Q Anybody else had any role in drafting or

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29 1 revising the MSDS? 2 A Not in drafting directly. I'm sure other 3 people within Monsanto or Solutia were consulted 4 possibly with specific issues, around 5 transportation or things like that, but those were 6 the main people. 7 Q Okay. Is Paul Michael an M.D.? 8 A No, he's a Ph.D. Analytical Chemist. 9 Q Toxicologist? 10 A No, Ph.D. Analytical Chemist. 11 Q Gary Mappes? 12 A No, also Ph.D. Analytical Chemist. 13 Q Not a toxicologist? 14 A No. 15 Q Not an epidemiologist? 16 A No. 17 Q Did you have any medical doctor work with 18 you in connection with any revision of the MSDS? 19 A Certainly the medical people have reviewed 20 those, always. 21 Q Who? 22 A Well, the most recent was reviewed, I 23 believe, by -- well, Dr. Shepperly, who's our 24 current Medical Director. I don't remember 25 specifically who the others were, I'd just have to	31 1 of the PCB product with dibenzofurans, did you not? 2 MR. LIGHTFOOT: Objection, leading, you can 3 answer. 4 MR. SHIELDS: I damn well hope I'm leading. 5 MR. LIGHTFOOT: Just reminding him. 6 THE WITNESS: At some point, that 7 information was confirmed in our laboratory, yes. 8 It had been reported in the literature before we 9 were able to confirm it. 10 QUESTIONS BY MR. SHIELDS: 11 Q Did you make any determination of whether 12 the PCB's were contaminated with dioxins? 13 A We made efforts to see if that was the 14 case, yes. 15 Q When? 16 A Right about that same time frame, in '75 to 17 '76, '77 time frame. 18 Q And what did you find? 19 A We were unable to ever find dioxins present 20 in PCB's as manufactured, that's also consistent 21 with the literature. 22 Q All right. So it's your testimony, under 23 oath, that Monsanto, in 1975 to 1977, did some 24 analytical work to determine whether dioxins were 25 present in PCB's?
30 1 check the date and see who the Medical Director was 2 at that time. Clearly they were involved in review 3 of the materials. 4 Q Is Dr. Shepperly a toxicologist? 5 A No, he is a medical doctor, occupational 6 physician. 7 Q Okay. You understand a medical doctor can 8 also be a clinical toxicologist? 9 A He is an occupational physician. 10 Q All right. Can you identify any 11 toxicologist, epidemiologist, who had any role in 12 connection with the draft or revision of the MSDS? 13 A Not specifically, I don't -- 14 Q All right. So you've had some role 15 regarding MSDS; we'll come back to that and discuss 16 that in greater detail. I just want to get sort of 17 a check list at this point in time. Among your 18 roles early on, did you have a role in determining 19 what contaminants were in PCB's? 20 A Yes. 21 Q And specifically, did you do the analytical 22 work to determine whether dibenzofurans were 23 contaminating PCB products? 24 A I did some of that work. 25 Q And you found that there was contamination	32 1 A Yes. 2 Q And that it did not find any? 3 A That's correct. 4 Q Okay. Now, you indicated that you had 5 given some prior testimony on a number of 6 occasions? 7 A Yes. 8 Q And any of those related to PCB's? 9 A Yes. 10 Q Tell me which ones were related to PCB's. 11 A I've been deposed in probably a half dozen 12 cases involving PCB litigation, maybe more, six to 13 eight, I would say. And certainly, the most of 14 them -- most of the ones involved PCB's. 15 Q When most recently were you deposed 16 regarding PCB's? 17 A Probably about a year, or year and a half 18 ago. 19 Q What case? 20 A It was called -- it was Maertin, 21 M-A-E-R-T-I-N, v. Monsanto. It was actually 22 Maertin v. Armstrong Industries, and we were a 23 third party defendant. 24 Q Where was that case pending? 25 A New Jersey.

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33 1 Q What is the status of the case? 2 A It's been settled. 3 Q When was it settled? 4 A A few months ago, six months ago, I don't 5 know specifically, within the last year. 6 Q What was the nature of the case? 7 A It was a case arising out of a claim 8 that -- involving PCB's and a coating on ceiling 9 tiles. 10 Q Who represented the plaintiff? I always 11 like to ask this because I'm amazed at how -- 12 A First name is Gary. 13 Q -- the defense witness can never remember 14 the name of plaintiff lawyers. 15 MR. LIGHTFOOT: We don't remember you, Bob, 16 really. 17 THE WITNESS: I -- I'm embarrassed to say I 18 don't remember. I should know. 19 QUESTIONS BY MR. SHIELDS: 20 Q What law firm? 21 A If I knew the law firm -- he was a small, 22 like one person law firm, so if I knew the law 23 firm, I'd know his name. 24 MR. LIGHTFOOT: Gary, somewhere in New 25 Jersey.	35 1 THE WITNESS: I may or may not. 2 QUESTIONS BY MR. SHIELDS: 3 Q Who took your deposition? 4 A I'm not sure I know. Actually, Cunningham 5 was -- Cunningham was there, who took my 6 deposition? 7 MR. LIGHTFOOT: Might have been Donald 8 Stewart. 9 THE WITNESS: I can't remember if it was 10 Donald or not, I don't think it was, was it? 11 QUESTIONS BY MR. SHIELDS: 12 Q I think you'd remember if it was Donald. 13 Prior to that, when were you deposed regarding 14 PCB's? 15 A Probably a year or so before that. 16 Q What case? 17 A Dyer, D-Y-E-R. 18 Q Prior to that? 19 A I -- I don't have a specific recollection 20 prior to that. 21 Q Let's not get caught up in the chronology. 22 What other cases do you recall being deposed, or 23 testifying about PCB's? 24 A I've been deposed in a case that was 25 pending here in St. Louis with regard -- again, I
34 1 QUESTIONS BY MR. SHIELDS: 2 Q Okay. What was the nature of your 3 testimony? 4 A I was a 30(b)(6) designee. 5 Q On what subjects? 6 A I guess -- I'm not even sure what the 7 subjects were, frankly, I don't remember what the 8 notice said. Basically I was examined by -- about 9 Monsanto's analytical capabilities and testing 10 knowledge and documents. 11 Q Did it have anything to do with the health 12 effects of PCB's? 13 A Oh, yes. 14 Q And you were examined about the health 15 effects of PCB's? 16 A I was examined about various Monsanto 17 documents about the health effects of PCB's. 18 Q All right. Prior to that, when were you 19 deposed or testified at trial? 20 A The one prior to that was probably two to 21 two and a half years ago. 22 Q What case was that? 23 A Abernathy v. Monsanto. 24 MR. SHIELDS: He's going to remember the 25 plaintiff's lawyer name, I think.	36 1 don't remember the plaintiff's name, it was 2 basically a brain cancer claim, went to trial here 3 in St. Louis. 4 Q Do you recall the name of the plaintiff's 5 attorney? 6 A No. Some guy in New Orleans, I don't -- 7 Dave McCrae, David McCrae, he was involved in it at 8 one point, in Bloomington, Indiana, he was active 9 toward the end. 10 MR. LIGHTFOOT: You're going to ask him 11 about the verdict, I hope? 12 MR. SHIELDS: No. 13 THE WITNESS: I've been deposed at least 14 once, if not twice, in the Paoli rail yard 15 litigation. 16 QUESTIONS BY MR. SHIELDS: 17 Q Other depositions? 18 A I think I was deposed in -- it was 19 litigation that eventually ended up being an 20 arbitration on One Market Plaza in San Francisco. 21 Q Who represented the plaintiff in that case? 22 A Don't know. 23 Q Other depositions? We're up to six. 24 A And I was deposed in the Scott v. Monsanto 25 litigation in Texas.

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37 1 Q When was that? 2 A Early '90s, late '80s. 3 Q What did you testify about there? 4 A I think it was primarily -- a lot of my 5 testimony there was focused on dibenzofuran issues, 6 and then just general things. 7 Q Did you recall any other testimony? 8 A Not specifically at this point, no. 9 Q Do you have copies of the transcripts of 10 all those depositions? 11 A No, I don't. 12 Q Does Monsanto or Solutia? 13 A I assume somebody does. I don't -- I mean, 14 I don't know. 15 Q Have you published any articles on PCB's? 16 A Yes. 17 Q How many? 18 A Four -- four or five. Probably four. 19 Q Are they listed on a CV? 20 A Well, they probably were at some time, I 21 don't -- 22 Q Do you have a current CV? 23 A No, not current. I've got one from several 24 years ago, probably, that's there, but they are -- 25 whatever that is, I'm sure it would list it. I	39 1 an MSDS is to be drafted, what's to be included? 2 A Yes, there are. 3 Q Tell me what they are. 4 A I -- frankly, I don't know them 5 specifically. They're under the Occupational 6 Safety and Health Administration. There's a 7 specific format that has to be -- be met, and 8 there's specific information that has to be 9 included. 10 Q And are there specific regulations about 11 what can be said and what can't be said, 12 substantively? 13 A I -- I honestly don't know the answer to 14 that. 15 Q When you made the change in the MSDS in 16 1998 or 1999, what changes were made? 17 A Well, as I said, I -- the one I 18 specifically recall was changing the wording around 19 on the description of the toxicological information 20 to contain the findings of the General Electric. 21 Q The animal feeding study? 22 A Yes. 23 Q What changes were made that reflected the 24 analytical -- 25 A The former MSDS had said that it was
38 1 don't know whether I can find it. 2 Q Did all of those four or five articles each 3 deal with analytical chemistry issues? 4 A In the most general terms, yes. 5 Q Did they deal in anyway with health effects 6 of PCB's? 7 A Not specific health effects, that I recall. 8 Q In your role as Director of Environmental 9 Affairs, do you serve on any other professional 10 group, trade associations, other than the ACC? 11 A I don't serve on any of them, I mean, I 12 belong to the American Chemical Society, but I'm 13 not active in a particular role. 14 Q Let me return to the MSDS issue. You 15 indicated you thought the latest revision was 1998 16 or 1999? 17 A That's correct. 18 Q Why was a revision made at that point? 19 A I believe -- my recollection is that the 20 revision was made to reflect the -- the findings of 21 the -- of an animal feeding study that had been 22 conducted under the aegis of General Electric. 23 Q Any other reason? 24 A As I sit here, that's the one I recall. 25 Q Are there regulations or guidelines for how	40 1 primarily, if not only, the hydrochlorinated 2 Aroclor, A-R-O-C-L-O-R, 1260, which had been 3 reported to be carcinogenic in rats, and the 4 General Electric study extended that finding to 5 other Arocloric mixtures. 6 Q So the MSDS says that PCB's are 7 carcinogenic in rodents? 8 A Yes, something to that effect. 9 Q Any other changes made in the 1998 or '99 10 revision? 11 A I'm sure there were. Nothing -- there were 12 no other major changes, and I don't really recall 13 specifically what they were. 14 Q What does the MSDS say the acute effects of 15 PCB's are? 16 A I believe it's -- I haven't reviewed it 17 lately. I believe it says something that they are 18 associated with skin rashes and possibly chloracne 19 in humans, C-H-L-O-R-A-C-N-E. I assume you're 20 talking about humans. I don't know whether it 21 mentions liver enzymes or not, it may. It also, as 22 is required to by OSHA, carries notification that 23 PCB's are listed by EPA as a possible human 24 carcinogen. That is one of the requirements if a 25 chemical is listed by any regulatory body, and is

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41 1 known as a possible human carcinogen, that 2 information has to be carried on the MSDS. 3 Q So the MSDS specifically says it's rated as 4 a probable human carcinogen? 5 A Well, it either gives that, or it gives the 6 classification rating as a high R2A and an EPA B2. 7 Q Does it say that PCB's cause enzyme 8 induction? 9 A In humans, I don't -- I don't believe -- I 10 don't think it does, I don't know. As I said, it 11 may -- it may say that it causes transient 12 elevations in some liver enzymes, I don't know 13 whether it says that or not. Without looking at 14 it, I wouldn't know for sure. 15 Q Well, you have seen Monsanto documents 16 which have indicated that PCB's cause elevation in 17 liver enzymes, have you not? 18 A Have I seen Monsanto documents that say 19 that? Not -- I don't have a specific recollection 20 of whether I have or not. 21 Q You are aware of publications in the 22 scientific literature that say PCB's cause liver 23 induction -- liver enzyme induction? 24 MR. LIGHTFOOT: In humans? 25 MR. SHIELDS: Yeah.	43 1 a liver abnormality? 2 A They can be -- they are some indication of 3 a potential liver abnormality. 4 Q And are some indication of enzyme induction 5 of cytochrome P450's, although they are not a 6 direct measure of that? 7 A I don't know. 8 Q In any event, you don't know whether the 9 MSDS even says there are transient elevations in 10 liver enzymes? 11 A As I sit here today, I don't recall whether 12 it says that or not. 13 Q Does the MSDS indicate there are any 14 endocrine effects of PCB exposure? 15 A In humans, I believe not. 16 Q Does it indicate that there is literature 17 that asserts that there are endocrine effects in 18 humans? 19 A No. 20 Q Does the MSDS indicate that there are 21 neurodevelopmental neurobehavioral problems in 22 infants associated with PCB exposure? 23 A It -- 24 MR. LIGHTFOOT: Hang on just one second, 25 Bob. Bob, if you have a copy of a current MSDS,
42 1 THE WITNESS: Well, we may be talking about 2 two different things. The -- the liver enzymes 3 that are -- that are elevated as reported in some 4 of the publications, are not really the same kind 5 of enzymes that are reported in the animal 6 literature as being induced by PCB's, so I want to 7 be sure we're talking about the same groups of 8 enzymes. 9 QUESTIONS BY MR. SHIELDS: 10 Q I understand. 11 A There are reports in the literature of some 12 PCB's causing transient elevations in some liver 13 enzymes. 14 Q Okay. The liver enzymes that are routinely 15 reported in a chemical profile -- 16 A Yes. 17 Q -- are not the same as the enzymes that are 18 induced, or thought to be induced, from the animal 19 studies, the cytochrome P450's? 20 A That is correct. 21 Q So liver enzymes that are studied in humans 22 are SGOT, so forth? 23 A Right, exactly, that is correct. 24 Q But are not those liver enzymes studied, 25 examined, because they are some rough indication of	44 1 I'd ask you to show it to him rather than give him 2 a memory test. 3 MR. SHIELDS: I don't. If I had it, I 4 would be happy to show him. Will you all produce 5 one for me? 6 MR. LIGHTFOOT: Here at the Marriott, we 7 don't have one. 8 QUESTIONS BY MR. SHIELDS: 9 Q Can you get me a copy of the current one, 10 not here at the Marriott, but -- 11 A Oh, certainly. 12 Q Okay. 13 A We'll give one to anybody in the country 14 that wants one. My recollection is that -- that 15 that may have been one of the additions in the 1999 16 version, that those have been reported in the 17 literature. 18 Q All right. 19 A I don't recall specifically but that may 20 have -- that may, in fact, have been added in 1999. 21 Q Okay. Prior to the 1998, '99 revision, 22 have there been any references in your MSDS to 23 neurodevelopmental or neurobehavioral problems in 24 children? 25 A I believe not.

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45 1 Q Does the 19 -- I'm just going to call it 2 the 1999 revision, understanding it's -- 3 A Whatever it is, it is. 4 Q -- 1998, 1999, somewhere in that time 5 period? 6 MR. LIGHTFOOT: He said 1998, but maybe you 7 have better information. 8 THE WITNESS: I mean, that -- no, it -- 9 it's '98, '99, it could even be 2000 if you want to 10 know the truth. '99 would be a good average. I 11 will understand that we're talking about the 12 current version, or if you want to just call it the 13 current MSDS, that's fine, too. We're talking 14 about the same thing. 15 QUESTIONS BY MR. SHIELDS: 16 Q That's a good idea. And so all this stuff 17 doesn't sort of get lost in the thousands of other 18 things we have to do, what I want to do, I have 19 marked a blank sheet of paper, Current MSDS. I'd 20 like to have the court reporter put Exhibit 1 on 21 that, and thus, when you get the transcript, it'll 22 serve as a reminder that you need to get that MSDS 23 and attach it as Exhibit 1 to your deposition. 24 A Good idea. 25 MR. LIGHTFOOT: Highly unorthodox, but	47 1 MR. LIGHTFOOT: I didn't, but I know now. 2 QUESTIONS BY MR. SHIELDS: 3 Q I thought it related to Reese's pieces. 4 A It's R-H, that's why it's -- 5 Q Sorry. Does the current MSDS have any 6 information regarding cardiovascular effects in 7 humans, and I include within that generic category, 8 hypertension, elevated cholesterol, triglycerides, 9 lipids? 10 A I don't believe so. 11 Q Does it have any reference at all to such 12 effects? 13 A I don't -- as I sit here today, I don't 14 recall any. 15 Q Does the current MSDS have any information 16 regarding immune suppression? 17 A I don't believe so. 18 Q What sources of information did you use in 19 making your revisions to the MSDS? 20 A I -- I'm not sure how to answer that, I 21 mean, I basically -- you know, we basically used 22 all of the information we had available to us. 23 Q Well, did you use the toxicological 24 profiles from ATSDR? 25 A Well, I don't know that I took the
46 1 we'll do it. 2 THE WITNESS: I wish Harlan would have 3 thought of it. 4 MR. LIGHTFOOT: Are you going to be pulling 5 those kinds of things all day? 6 MR. SHIELDS: I learned that from Harlan. 7 (Plaintiff's Exhibit Kaley No. 1 marked for 8 identification.) 9 QUESTIONS BY MR. SHIELDS: 10 Q I can't remember if I just asked this, 11 pardon me if I repeat the very last question. Does 12 the current MSDS have any information regarding 13 reproductive effects? 14 A In humans? 15 Q Yes. 16 A I don't -- I do not believe so. 17 Q Okay. Does it have any in animals? 18 A I believe it does, yes. 19 Q Do you recall what it says about 20 reproductive effects in animals? 21 A You're not going to hold me to this, right? 22 I believe it says that reproductive effects have 23 been seen in Rhesus monkeys. Rhesus, R-H-E-S-U-S, 24 monkeys, from which comes the term RH factor in 25 blood. Didn't know that, did you, Warren?	48 1 toxicological profile and said, Here's what it 2 says, here's what the MSDS says, I certainly am 3 aware of what was in the toxicological profile at 4 the time, and that was part of the information base 5 on which I would rely. Obviously we used EPA and 6 IR classification, we used the developing 7 literature and reviews of that literature, but I 8 mean, there wasn't any specific documents that I 9 took and said, Okay, I'm going to use this document 10 to make this revision, other than the General 11 Electric rat feeding study, which led to the 12 revision on the animal carcinogenicity reports. 13 Q Did you or anyone else under your 14 direction, supervision, create any documents 15 discussing what changes ought to be made in your 16 MSDS, any memos, notes, comments, review of the 17 literature? 18 A I -- I don't believe so. 19 Q Who undertook the sort of first line 20 responsibility for making revisions in the MSDS -- 21 in the current MSDS? 22 A I did. 23 Q Who else worked on it? 24 A As far as doing actual work, and writing, 25 no one.

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49 1 Q Did you make the revisions prior to the 2 most recent ATSDR toxicological profile of PCB's? 3 A If you mean the one that just came out last 4 month, obviously. 5 Q It has a November 2000 date on it, but it 6 just came out within the last month? 7 A Yes. 8 Q Have you reviewed it? 9 A The November 2000 ATSDR tox profile? 10 Q Yes. 11 A Yes. 12 Q Have you compared it to MSDS? 13 A Not specifically. 14 Q Do you plan to make any revisions to MSDS 15 based upon the profile? 16 A No, I don't believe there's anything in 17 there that makes the MSDS inconsistent. 18 Q You told me earlier that you hadn't had any 19 formal education and training in toxicology, and 20 epidemiology, or medicine, is that correct? 21 A That's correct. 22 Q Have you had any training at all since May 23 1987? 24 A In those areas? 25 Q Yes.	51 1 QUESTIONS BY MR. SHIELDS: 2 Q That was true at the time? 3 A Well, that was true in the context 4 providing an expert opinion in litigation, yes. I 5 believe I am very knowledgeable about the human 6 health effects of PCB's. I do not believe I could 7 be qualified in a court of law as an expert and 8 render an expert opinion under those terms on the 9 health effects of PCB's. 10 Q It's also correct that in May of 1987, you 11 testified that you were not prepared, nor 12 qualified, to render an opinion about whether any 13 particular health effect could or could not be 14 caused by PCB's? 15 A In the term -- I don't know -- does it say 16 an opinion, or an expert opinion? 17 Q It says an opinion. 18 A I would say in the context of that 19 deposition, I am not qualified to render an expert 20 opinion. I believe I am qualified to speak 21 knowledgeably about the human health effects of 22 PCB's. 23 Q You testified at that time that the only 24 thing you were qualified to do is to describe 25 specifically what you know about furan
50 1 A Not that I recall. 2 Q You have -- 3 A Certainly nothing leading to any kind of 4 degree or anything like that. 5 Q Have you had any informal training or 6 education in those areas since May 1987? 7 A Again, I don't know what you mean by 8 informal. I -- I continue to read literature, and 9 continue to become more knowledgeable on a lot of 10 issues, including those kinds of issues, so, I 11 mean, nobody sat me down and said, Bob, learn this, 12 but I -- I consider part of my job is to become 13 more knowledgeable. If that is included in your 14 definition of informal training, then I continually 15 do that. 16 Q Do you recall that in the deposition you 17 gave in the Scott versus Monsanto case on May 13, 18 1987 -- 19 A There you go, it was the late 1980's. 20 Q You testified that you were not an expert 21 on the health effects of exposure to PCB's. 22 A If that's what it says. 23 MR. LIGHTFOOT: Could he see that, Bob? I 24 know it's a little cumbersome. 25 THE WITNESS: That's what it says.	52 1 contamination of PCB's, and about combustion of the 2 product -- 3 A Well, again, I don't -- 4 Q -- is that correct? 5 A If you're quoting that, and that's what I 6 said, that was what my understanding was of the 7 purposes of that deposition as expert testimony, 8 yes. 9 Q And you haven't had any training, degree, 10 certification, since 1987, which would somehow make 11 you qualified to render an opinion about whether 12 any particular health effect could or could not be 13 caused by PCB's? 14 A I could not render an expert opinion in a 15 court of law about those issues. 16 Q Is part of your role in connection with 17 PCB's, providing advice to people about what safety 18 equipment ought to be used in connection with the 19 handling and disposal of PCB's? 20 A I have done that, yes. 21 Q And is it not correct that historically, 22 you and Monsanto have recommended that anyone 23 handling or disposing of PCB's wear protective 24 equipment? 25 A Certainly if people are dealing with pure

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53 1 PCB's in an occupational situation, there are 2 certain conditions where personal protective 3 equipment is appropriate. For instance, if there 4 are heated fumes and things like that. 5 Q Well, isn't it -- 6 A I mean, it depends on what the situation 7 is. 8 MR. LIGHTFOOT: He's getting ready to read 9 your question and answer, and it doesn't quite 10 sound like it's heated or in an occupational or 11 pure PCB's, but that's a guess. 12 THE WITNESS: That's fine. 13 MR. SHIELDS: The transcript doesn't have 14 the page numbers at the top, so that it's hard to 15 find. 16 MR. LIGHTFOOT: That's a major problem. 17 I'll note for the record, he has circled everything 18 he likes, or possibly some things he dislikes. 19 QUESTIONS BY MR. SHIELDS: 20 Q Is it correct that when asked over the 21 years about the need of workmen to wear protective 22 gear, if they were coming in contact with PCB's, 23 you have indicated that you would generally say, 24 Our position -- assume that's Monsanto's 25 position -- was that people should wear disposable	55 1 So it depends on the particular situation. It 2 depends on the concentrations, depends on, you 3 know, what the status of the PCB's is, the physical 4 state of the PCB's, depends on duration, depends on 5 a lot of things. 6 Q The MSDS specifically sets out some 7 recommendations, guidelines, regarding protective 8 equipment? 9 A For certain conditions, I believe it does, 10 yes. 11 Q Yeah. To your knowledge, has Monsanto, or 12 Solutia, ever given any warning to the residents of 13 the community in and close to your plant in 14 Anniston about wearing protective equipment if they 15 are to come in contact with PCB contaminated 16 sediments, soils, water? 17 A Are you done? I'm not aware of any. 18 Q You indicated earlier that you had done 19 some analytical work on contamination of PCB's with 20 dibenzofurans? 21 A That's correct. 22 Q And you found contamination of PCB's with 23 dibenzofurans, is that correct? 24 A Eventually, yes. 25 Q Well, eventually was 1975, '76, wasn't it?
54 1 gloves, disposable outer wear, and if in a poorly 2 vented area, respiratory protection? 3 A That is correct, that the MSDS says that if 4 people are working with pure PCB's. Those are 5 basically a repetition of the TSCA regulations for 6 working with pure PCB's in an occupational 7 position. 8 Q And do you agree that historically, 9 Monsanto's position has been because of risks with 10 PCB's, they should be handled conservatively, that 11 is, make every effort for overprotection? 12 A Well, I think Monsanto's position is that 13 PCB's, like any industrial chemical, should be 14 handled in the manner appropriate to minimize 15 exposure to the extent possible. 16 Q And that's what you tell companies that 17 call in and say, You know, we have PCB's, and how 18 should we deal with it? 19 A Well, it depends on each individual -- you 20 can't answer that question with that much 21 generality. You have to listen to the description 22 of the situation, and in some situations, I might 23 recommend that they have personal protective 24 equipment. In some situations, I don't believe 25 that it's necessary, and I would tell them that.	56 1 A Well, actually, the first report, in the 2 literature of PCB's, in American PCB -- I'm sorry, 3 the first literature report of detection of 4 dibenzofurans in American manufactured PCB's was in 5 1976. We had, before that time, made efforts to 6 look for PCB -- look for dibenzofurans in our 7 products and had been unsuccessful. In about 1977 8 or so, I think other techniques were finally 9 refined enough that enabled us to do that. Our 10 detections internally were not until after the 11 reports were made in the literature. My time frame 12 of our actual detection of dibenzofurans in our 13 products would have been in the 1977 time frame. 14 Q All right. Is it your testimony that prior 15 to when you did your analytical work to determine 16 whether there were dibenzofuran contaminants, and 17 I'll see in a moment about refreshing your 18 recollection as to when that occurred, that 19 Monsanto, had, in fact, looked for those 20 contaminants? 21 A Oh, most definitely. 22 Q And you've not testified to the contrary in 23 other cases? 24 MR. LIGHTFOOT: Objection in that form, 25 Bob. That's --

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57 1 MR. SHIELDS: Well, we're about to show him 2 he has. 3 THE WITNESS: If I have, then show me, and 4 we'll talk about it, but most definitely, Monsanto 5 had made attempts before that. 6 QUESTIONS BY MR. SHIELDS: 7 Q I can't even read my scribbling, so at a 8 break, I'll have to find it for you. 9 MR. LIGHTFOOT: While you're looking, would 10 you like a break? Are you okay? 11 THE WITNESS: I mean, we can take -- I'm 12 fine, we can -- you know, we can take a break. 13 MR. LIGHTFOOT: That's fine. 14 QUESTIONS BY MR. SHIELDS: 15 Q Since I have found something that's 16 related, I'll ask you about that. 17 A All right. 18 Q Has Monsanto attempted to determine whether 19 there was dibenzofuran contamination of PCB's since 20 the analytical work you did in the mid '70s? 21 A I would say some work continued through the 22 late '70s probably, probably not extensive. 23 Q Let me see if I can refresh your 24 recollection, and maybe it's because of the wording 25 of this particular question. but --	59 1 Q And I take it you don't have any 2 recollection of any work being done after the late 3 '70s, relating to whether PCB's were contaminated 4 with dibenzofurans? 5 A You know, we were out of the business, we 6 went out of the business in 1977, there continued 7 to be literature reports by fine analytical 8 chemists reporting either the presence or absence 9 in a variety of samples, we had no reason to doubt 10 the veracity of those findings. 11 Q Similarly, you haven't done anything since 12 the mid to late '70s to determine whether PCB 13 products were ever contaminated with dioxins? 14 A Again, the same answer, I think there are 15 fine analytical chemists out there that have looked 16 at that question, their uniform findings I believe 17 are correct. 18 Q Have you, at any time, done any 19 determination of whether the PCB's manufactured in 20 Anniston, Alabama, were contaminated with 21 dibenzofurans? 22 A My recollection is that -- that one or two, 23 I have seen results from one or two samples that 24 Anniston manufactured. My recollection would be 25 that those samples were consistent with what we,
58 1 A I hope so. 2 Q But you were asked in the Scott case, in 3 May of 1987, whether Monsanto had undertaken using 4 any new methodologies to ascertain the level of 5 furan or dioxin contamination in PCB's since the 6 ones you did in 1975, '76, and your answer was, Not 7 to my knowledge. 8 A Okay. 9 Q Now, this was in 1987. 10 A Like I -- I mean, you know, we're what, 13 11 years further down the road. I'm 13 years older, 12 I -- I think there is -- it's possible that there 13 were some other, you know, not extensive efforts to 14 look at that question in the late 1970's, after my 15 work, but I don't -- as I said before, I don't 16 think there was anything extensive, I mean, that 17 answer may very well be correct. I don't have a 18 specific recollection of anything. That answer may 19 very well be correct, but today I'm not willing to 20 sit here and say nobody else in the company ever 21 looked at it. 22 Q Sure; I understand. You don't recall 23 anything else? 24 A I don't have a specific recollection of any 25 other work being done.	60 1 and the other literature was finding, that they 2 were present in those samples at a part per million 3 or so. 4 Q When you were doing the work in the mid 5 '70, were you working with current samples? 6 A My recollection is that they were -- that 7 they were both current and past, but I don't have a 8 specific recollection. 9 Q Well, specifically -- 10 A I mean, obviously, if it was -- if I was 11 correct, that there may have been an Anniston 12 sample, that would have been a past sample because 13 Anniston had been out of business for six years or 14 so. As I sit here today, I really don't know 15 specifically. 16 Q Would it be generally true that the 17 technology from manufacturing PCB's, and avoiding 18 contamination, had improved over the years? 19 A Well, since we've been talking about 20 dibenzofuran, I'm going to answer with respect to 21 dibenzofurans, and my answer would be that the 22 detection -- the published literature report of 23 dibenzofuran was not made until 1976. Our 24 confirmation was sometime after that, '76 or '77. 25 We were out of the business by the middle of 1977.

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61 1 I would say no, there were no particular efforts 2 made in that process to change that process to 3 lower the levels of dibenzofurans because we didn't 4 even know they were there. 5 Q All right. And perhaps I'm not entirely 6 clear, but did the process of manufacturing PCB's 7 improve from, say, 1935, when you bought that 8 plant, up through 1960? 9 MR. LIGHTFOOT: With respect to furans or 10 contamination? 11 QUESTIONS BY MR. SHIELDS: 12 Q With respect to the process of 13 manufacturing PCB's. 14 A I'm -- I'm -- I'll say two things, number 15 one, I'm probably not qualified to answer that. I 16 will also say there were process changes at various 17 times that I am aware of. I don't know what the 18 purpose of those was, so whether they could be 19 qualified as improvements as to product quality or 20 whatever, I really don't know. But, again, with 21 respect to dibenzofurans, I don't think that 22 question is answerable. 23 Q Since you don't know necessarily what 24 changes were made in the process, then I take it 25 you don't know whether those, even in hindsight,	63 1 A Yes, they have. 2 Q Did they find dioxins? 3 A They found low levels consistent with the 4 background levels across the United States. 5 Q Did they find dibenzofurans? 6 A Yes, again, they found low levels 7 consistent with background levels across the United 8 States. 9 Q I assume you're familiar with the 10 Binghamton fire? 11 A Yes, I am. 12 Q In which they found, in the residues of 13 that fire, dibenzofurans and dioxin contamination 14 associated with PCB's? 15 A I would say -- I would -- if I may rephrase 16 your question in answering it, they found 17 dibenzodioxin and dibenzofuran contamination 18 associated with combustion of the transformer fluid 19 which also contained tri and tetrachlorobenzene and 20 it is widely accepted that the dioxins that were 21 present in those residues were a result of the 22 incomplete combustion of the trichlorobenzenes, not 23 the PCB's. 24 Q Let me make sure I understand this. We 25 keep talking about PCB's, you actually manufacture
62 1 would have had any effect on dibenzofuran 2 contamination? 3 A That is a correct statement. 4 Q So you don't know whether the levels you 5 were finding in '75 and '76 would have been 6 reflective of the dibenzofuran contamination, if 7 any, 20 years earlier? 8 A That's correct. 9 Q Or 30 years earlier? 10 A Unless, you know, one of those samples 11 happened to be that old, and I don't have any 12 recollection one way or the other on that. 13 Q To your knowledge, has Monsanto-Solutia 14 analyzed any environmental samples from Anniston to 15 determine whether there is contamination with 16 dibenzofurans? 17 A I'm unaware of Monsanto doing those 18 analyses, or Solutia, I mean, the EPA has, as I'm 19 sure you know. 20 Q Has Monsanto-Solutia done any analysis to 21 determine whether there's dioxin present in 22 apparent association with PCB contamination in 23 Anniston? 24 A Oh, I'm sure they have not. 25 Q EPA?	64 1 products that have more than just PCB's in them at 2 the time that you were manufacturing PCB's? 3 A Well, there were impurities in those 4 products, yes. 5 Q Now, one of the things you manufactured was 6 fluid for the electrical industry for transformers? 7 A I -- well, I guess it depends on your 8 definition of manufacture. We manufactured PCB's 9 which went into those fluids, and in some cases, we 10 blended those fluids for the electrical industry, 11 but we did not -- I mean, we manufactured the PCB's 12 that went into the fluids. 13 Q Well, where I'm leading is, in connection 14 with the tri and tetrachlorobenzene? 15 A Yes. 16 Q Did you include that in the product, or did 17 someone else? 18 A It depends on the particular product. I 19 mean, we did -- my understanding is that we did do 20 some blending. We did not make the tri and 21 tetrachlorobenzenes, they were purchased, and we 22 blended them to the specifications of the 23 electrical equipment manufacturers. In some 24 case -- in some cases, those electrical equipment 25 manufacturers blended the materials themselves.

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65 1 Q When you did the blending, where was that 2 done? 3 A My understanding would have been -- well, I 4 don't know. My understanding would have -- I would 5 say at the Krummrich plant in Illinois. I don't 6 know whether we blended at Anniston or not. 7 Q That's where I was leading, do you know 8 whether or not -- 9 A As I sit here today, I don't know. 10 Q So it's possible it was done there? 11 A It's possible, I guess, yes. 12 Q Have you ever evaluated whether or not 13 there was tri and tetrachlorobenzene effluent from 14 the Anniston plant? 15 A Not to my knowledge, I mean, I -- I say 16 that, there is a possibility -- the chlorobenzenes 17 are among the materials that are called priority 18 pollutants, and there have been priority pollutant 19 analyses run on the Anniston effluent, so to the 20 extent the tri and tetrachlorobenzenes are on that 21 list, they would have been analyzed for. I don't 22 recall the results, if any. 23 Q At some point in time in the past, was 24 there an attempt to burn PCB product waste? 25 A By whom?	67 1 A Well, or at the levels -- what I really 2 meant was they didn't have the capability to 3 measure dibenzodioxins or furans in the product, as 4 products of combustion, in the effluent from an 5 incinerator, with that kind of sensitivity, whether 6 it's ours or anybody else's. You want a break now? 7 I wouldn't mind taking a break, is this a good 8 time? 9 MR. SHIELDS: Yeah, as good as any. 10 THE WITNESS: Thank you. 11 (Short recess taken.) 12 QUESTIONS BY MR. SHIELDS: 13 Q Okay. We were talking about Monsanto's 14 testing for dibenzofurans contamination over the 15 years. I assume you are aware of the Yusho and 16 Yu-Cheng contaminated rice oil incident? 17 A Yes. 18 Q In which there was contaminated rice oil 19 with PCB's and dibenzofurans, is that correct? 20 A Yes. It was thermal integrated heat 21 transfer fluid, whatever was in it was in it, yes. 22 Q I assume you're also aware of the 23 literature in which there are a whole hosts of 24 acute health effects seen in that -- in both 25 populations that consumed the contaminated rice
66 1 Q At the Anniston plant? 2 A At Anniston? 3 Q Yes. 4 A No, not to my knowledge. 5 Q I seen some references to a TP incinerator? 6 A My understanding is that was used primarily 7 for plant trash, it was not used for incineration 8 of PCB waste at all. 9 Q Anyone ever do any analysis of whether the 10 plant trash either contained PCB's, or tri or 11 tetrachlorobenzene? 12 A Not to my knowledge. 13 Q Anyone ever do any analysis of the products 14 of combustion to see if there were dibenzofurans or 15 dioxins? 16 A The product combustion of the TP 17 incinerator at Anniston? 18 Q Yes. 19 A Not to my knowledge. Frankly, at the time 20 that that incinerator was operating, to my 21 knowledge, no one had the capability to do that. 22 Q Well, you say they didn't have capability, 23 I assume what you mean by that, they didn't have 24 the capability to analyze at the level in which 25 you've found dibenzofurans in your studies?	68 1 oil? 2 A That's correct. 3 Q And there have been a series of studies 4 since then in which the authors have attributed 5 various long-term chronic health effects to the 6 consumption of the contaminated rice oil? 7 A Some long-term health effects, right. 8 Q Well, for example, have there not been at 9 least two studies dealing with neurodevelopmental 10 problems in children whose mothers were exposed to 11 the contaminated rice oil? 12 A There may have been two, there was 13 certainly at least one. 14 Q One in which ascribes a reduction in IQ to 15 the contaminated rice oil? 16 A That's what the claim in the paper is, yes. 17 Q And the contamination there was 18 dibenzofurans in the PCB's? 19 A Well, the -- yes, but the dibenzofuran 20 levels in those -- in that particular rice oil had 21 been elevated to levels hundreds of times higher 22 than would normally be found in non-biodegradable 23 PCB. 24 Q Now, Monsanto, to your knowledge, was aware 25 of those incidents very shortly after they

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69 1 occurred? 2 A Within a reasonable amount -- I don't know 3 what the timing was exactly, but certainly they 4 were aware of those incidents within -- within a 5 short -- relatively short time, I believe. 6 Q Didn't Monsanto have some sort of joint 7 venture or similar arrangement with a Japanese 8 company for the production of PCB's? 9 A We did manufacture PCB's in Japan for some 10 period of time, yes. 11 Q Was that with Mitsubishi? 12 A That's my recollection, yes. 13 Q And wasn't the contaminated rice oil from 14 Mitsubishi? 15 A Oh, no, most certainly not. 16 Q Who was it from? 17 A Well, it wasn't from Monsanto Mitsubishi, 18 it was -- you know, as I sit here, I don't -- it 19 was not our rice, it was certainly not our 20 manufacturer, nobody related to us. 21 Q I misspoke. The PCB's that contaminated 22 the rice oil would have originated with your joint 23 venture in Japan? 24 A No, that is not correct. 25 Q That's not correct?	71 1 providing you're moving briskly along. 2 QUESTIONS BY MR. SHIELDS: 3 Q I'm moving briskly along, and the more you 4 come up with things -- 5 MR. LIGHTFOOT: Yeah, it'll slow it down. 6 QUESTIONS BY MR. SHIELDS: 7 Q -- it will move things along even faster. 8 Let me talk briefly with you about the kinds of 9 Aroclor products that Monsanto manufactured. 10 A Okay. 11 Q Tell me what Aroclor products were 12 manufactured at the Anniston plant. 13 A Well, my understanding was that the -- the 14 whole range of -- well, with a minor exception, a 15 whole range of Aroclor products were manufactured 16 there. I believe Aroclor 1221, Aroclor 1242, 17 Aroclor 1254, Aroclor 1260, Aroclor 1262, Aroclor 18 1268, and possibly Aroclor 1271 or 72, depending on 19 who's talking, were manufactured there. I do not 20 believe that Aroclor 12 -- or 1016 was -- or in 21 fact, I know Aroclor 1016 was not manufactured 22 there, and there was also an Aroclor 1232, which 23 was a blend of 1221 and 1242, and I don't -- I 24 don't know whether it was blended there or not now. 25 There were, of course, other Aroclor products
70 1 A No. 2 Q And if Dr. Pappageorge back at the time 3 discussed that with people and said that, he was 4 just wrong? 5 A That would be my understanding, yes. 6 Q You -- who was Dr. Pappageorge? 7 A He was -- I think it's Mr. Pappageorge, but 8 he was a -- he was Plant Manager in Anniston for a 9 while. He managed our PCB issues during the 10 early -- or 1970's, until Monsanto retirement. 11 Now, the manufacture -- I'm sorry, it has come back 12 to me, the manufacturer of the rice -- of the PCB'S 13 involved in the rice oil incident, was a company 14 called Kanegafuchi, K-A-N-E-G-A-F-U-C-H-I, I 15 believe. Their product was Kanechlor, 16 K-A-N-E-C-H-L-O-R. It's all there, it just takes a 17 while to get it back. 18 Q Well, if you remember anything during the 19 course of the deposition that I've asked you 20 earlier, that you think might change your 21 testimony, or add to it, please volunteer it. 22 A I will. I will do that. So far that's the 23 only one I thought I should have known but couldn't 24 think of. 25 MR. LIGHTFOOT: You're doing good, Bob,	72 1 manufactured there that were non-PCB product, or 2 blends of PCB's, but those are the, quote, pure PCB 3 Aroclor products that were manufactured there. 4 Q You know that Aroclor 1016 wasn't 5 manufactured there because it was first 6 manufactured after the Monsanto plant quit 7 manufacturing PCB's? 8 A That's correct, yes, it was manufactured in 9 -- at the Krummrich plant after the Anniston plant 10 was closed. 11 Q And wasn't Aroclor 1016 specifically 12 designed to reduce the chlorine atom so as to deal 13 with environmental concerns? 14 A Well, it was intended to be a more 15 environmentally compatible PCB fluid, that is 16 correct. 17 Q Do you have production records that would 18 show to what extent each of the Aroclors was 19 manufactured at Anniston? 20 A Well, not that I'm aware of. 21 Q Do you have any records, documents, or 22 other information that allows you to determine 23 generally which of those products were 24 manufactured, and then what approximate percentage 25 of the total?

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73 1 A The only information I'm aware of does not, 2 to my knowledge, separate out Anniston from 3 Krummrich. The only information I'm aware of is 4 total PCB manufacture for, I think, the decades of 5 the '50s and '60s. I'm not aware of anything that 6 splits out Anniston from Krummrich. 7 Q Well, then, how are you able to determine 8 if each of those that you mentioned were 9 manufactured at Anniston as opposed to some being 10 manufactured at Anniston and some at Krummrich? 11 A It's just my understanding that that whole 12 product line was manufactured at Anniston. 13 Q And what's the basis for that 14 understanding? 15 A I don't have any specific basis, just I 16 guess, at this point, it's just my knowledge 17 that -- my understanding is I don't know that any 18 specific document that tells me that or not. 19 Q So for example, on 1268, you don't have any 20 document that shows 1268 was actually manufactured 21 at Anniston? 22 A I certainly don't, no. 23 Q Do you know of any witness or other basis 24 of information that would say 1268 was manufactured 25 at Anniston?	75 1 PCB's, that are determined or estimated by the 2 analyst to be characteristic of particular Aroclor 3 fluid, but they're certainly not unique to those 4 fluids, and once the sample has been out in the 5 environment, the -- not only do you have confusion 6 about what was in one fluid when they were 7 manufactured versus another, but the PCB's, in the 8 environment, the various congeners are changed in 9 different ways by environmental factors so that the 10 residues change. I mean, I'm trying to full -- you 11 know, fill your explanation, but you're absolutely 12 correct, the identification of Aroclor 1254 in an 13 environmental sample does not mean that that 14 particular product was -- is in that particular 15 sample as such. 16 Q Yeah, because one of the concepts is the 17 weathering of the products in the environment? 18 A Yes, that's one of the difficulties, as 19 well as the overlap of congeners among the 20 products. 21 Q And some congeners are known to have a much 22 longer half life in the environment than other 23 congeners? 24 A Either are known to or are thought to. 25 There has been a congener by congener study of that
74 1 A The only thing I would say is that, and I 2 haven't done this, but if one were to go back to 3 the -- the standard operating procedure, the 4 standard manufacturing procedure, one could 5 probably tell from there if those operating 6 conditions were in there, whether those particular 7 products were there, and, you know, that would -- 8 to the extent I have that knowledge, that must have 9 been where it came from at some point or another. 10 Q Now, we've seen various reports of 11 recent -- by recent, I mean the last decade -- 12 analysis of environmental levels that frequently 13 refer to finding Aroclor 1252, or 1260, or 14 whatever. Is it correct to say that really isn't 15 accurate? 16 A That is absolutely correct. 17 Q That what is being found are a certain 18 number of samples with a certain number of 19 chlorine, but it does not necessarily mean that 20 that was the Aroclor that is being found? 21 A Yes, that -- that's generally correct. 22 It's basically, there are -- it's basically a 23 function of the way the analytical chemistry is 24 being done on those particular materials, and there 25 are certain -- the congeners, C-O-N-G-E-N-E-R-S, of	76 1 but that's the general understanding, yes. 2 Q For example, finding what is described in 3 an environmental sample of Aroclor 1268 doesn't 4 mean it, in fact, was Aroclor 1268 as opposed to a 5 weathered sampled with congeners that would be 6 similar to 1268? 7 A I would disagree with you on 1268 8 specifically, and the reason I say that is because 9 1268 was not a very widely used product, and it 10 is -- it has a fairly unique congener make-up, in 11 that, as you know, it's octanona, and chloral -- 12 octanona, N-O-N-A, and deca, D-E-C-A, chloral 13 congeners, that's 8, 9, and 10's, and it wasn't a 14 very widely used product. 15 So as one looks at the universe of 16 environmental samples that have been taken, not 17 even Anniston, anywhere in the country or in the 18 world, it is really unusual to see reports of 19 Aroclor 1268. So that in that particular -- in the 20 other materials, the 1254 and the 1260 don't have 21 very high levels of those congeners at all, so for 22 those particular fluids to weather to look like 23 Aroclor 1268 I think would be very unusual, if not 24 impossible. 25 So I -- I believe that the reports of

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77 1 Aroclor 1268, whether at Anniston or other places 2 where it has been detected, is not a result of 3 weathering. I believe it says something about the 4 products that were -- were used at or near that 5 site, or have something specific to do with those 6 particular sites. 7 MR. LIGHTFOOT: If you pick another one, he 8 might agree with you. 9 QUESTIONS BY MR. SHIELDS: 10 Q Okay. But I'm sure Warren understood the 11 8, 9, and 10 atoms situation, but -- 12 MR. LIGHTFOOT: I did. 13 QUESTIONS BY MR. SHIELDS: 14 Q -- I don't necessarily, so let me explore a 15 little more with you. Is it correct that PCB 16 residues would aerate in the local landfill, the 17 West End Landfill, and the South Landfill? 18 A I -- I -- assuming that we had the same 19 understanding what we mean by PCB residues, it is 20 my understanding that, for example, still bottoms, 21 to the extent they were disposed of at Anniston, 22 were disposed of in those landfills, that's 23 correct. 24 Q Okay. Now, would still bottoms have had 8, 25 9, and 10?	79 1 analyzed storm water from the landfill? 2 A And clearly, those materials do not have 3 the Aroclor 1268 like materials associated with, 4 nor do the soil samples that, you know, those on 5 the landfill that did have PCB residues detected in 6 them. 7 Q But whether or not they have those 8 chlorines, it is correct that there was -- you have 9 found PCB's in the storm water coming off the 10 landfills? 11 A In the past, that -- yes, there were low 12 levels of PCB's detected in that storm water. I -- 13 well, that's fine. 14 Q Let me ask it now about the 1016. When did 15 Monsanto first start working on developing a 16 product that would be more environment friendly? 17 A I would say it would be in the 1970 to 1971 18 time frame. I don't know specifically. 19 Q Why? 20 A Why? Why did they start doing it then? 21 Q Yes. 22 A Okay. By that time, based on research that 23 was being done in our laboratories and others, and 24 based on the kinds of PCB's that were being 25 reported from environmental samples, it was
78 1 A I haven't seen analyses of those, they very 2 well might. 3 Q Okay. So that it is possible that another 4 explanation is that you have 8, 9, and 10 as a 5 result of the discharge of still bottoms from the 6 landfill? 7 A Well, except that it -- the -- I -- and I 8 don't know whether it's discharges from the 9 landfills or not, but to the extent that PCB's were 10 found in the waterways, which is, as you know, our 11 explanation of the distribution of PCB's in the 12 area at or near our plant, the 1268 residues aren't 13 found in those -- in those waterways, so to the 14 extent, do we believe that storm water transporter 15 contaminated sediments or soils is the mechanism by 16 which PCB's did leave the plant, to the extent they 17 did, I don't believe that that -- your explanation 18 is consistent with those findings. 19 Q All right. And you indicated you weren't 20 sure as to whether there were discharges from the 21 landfill? 22 A Well, yeah, I would say that that's -- I 23 mean, certainly there are low levels of PCB's that 24 were detected in storm water. 25 Q That was going to be my question, you have	80 1 becoming clearer that the more highly chlorinated 2 species, those PCB molecules with 5, 6, 7 chlorines 3 on them, those were the ones being reported in the 4 environment. The PCB molecules with 1, 2, 3 5 molecules typically weren't being reported in 6 environmental samples. And we were also beginning 7 to get results from biodegradation studies, 8 internally, which showed that PCB's with 1, 2, 3 9 chlorines were typically biodegradable, to one 10 extent or not, and certainly with the 1, 2, and 3's 11 were quite biodegradable, so the thought was if you 12 could take and have a PCB product that only 13 contained PCB's with 1, 2, 3, 4 chlorines on them, 14 that material would be more environmental 15 compatible. If there were a release, obviously we 16 were trying to minimize releases, but if there were 17 a release, those materials would be biodegradable 18 and wouldn't persist in the environment. 19 We also need a product, though, that had 20 the appropriate -- Aroclor 1221, for example, would 21 have met those criteria, but it was really not 22 highly enough chlorinated to be a good electrical 23 fluid. It was used as an electrical fluid to some 24 extent. So the thought was if we could take 25 Aroclor 1242, which was primarily the lower

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81 1 chlorinated materials, but had some residues of 4, 2 5, and 6 chlorine materials and distill that 3 material, and collect the lower chlorinated and 4 make that Aroclor 1016, and, you know, discard the 5 other materials, actually was -- it was actually 6 further chlorinated in that Aroclor 1254, but -- 7 and not use that material, then we would have this 8 more environmentally compatible product. 9 Q And by being more environmentally friendly, 10 it would biodegrade more rapidly? 11 A That's correct, that was the thought. 12 Q And if it would biodegrade more rapidly, 13 then it wouldn't persist in the environment? 14 A That's correct. 15 Q And this process of research was started 16 late '60s, early '70s? 17 A That's correct. 18 Q And so, at least by that point in time, you 19 understood that the other PCB products did persist 20 in the environment? 21 A To some extent or another, certainly those 22 were the materials being reported, were materials 23 that looked more like Aroclor 1254 and Aroclor 24 1260, those are, you know, 4, 5, 6, 7 chlorines on 25 the --	83 1 Q What role did you play in connection with 2 that? 3 A I'm sorry? I wrote the comments. I -- was 4 that your question? 5 Q Yeah, that's exactly -- I mean, I have a 6 cover letter from you, but that didn't necessarily 7 mean that you actually wrote the comments. But you 8 actually wrote the comments? 9 A Oh, okay, there's other comments that are 10 specifically not from me, it's possible, but in 11 general, I wrote those comments, yes. I mean, I 12 may have had input from various people on specific 13 points or not, but -- 14 Q All right. Do you recall who you got input 15 from on the various health consultations? 16 A No, I was just raising the possibility that 17 that was there. By far, most of the thoughts in 18 those are my thoughts. 19 Q So to your recollection, then, no one else 20 at Monsanto had any major role in drafting comments 21 to those health consultations? 22 A That would be my recollection, yes. 23 Q You may have sought input from other 24 people? 25 A Right.
82 1 MR. LIGHTFOOT: How many chlorines does 2 1016 have? 3 THE WITNESS: Well, it's a mixture. It has 4 materials with 1, 2, 3, and a little bit of 4 5 chlorines on the rings. It's a mixture like all of 6 the other products. 7 MR. LIGHTFOOT: Okay. 8 QUESTIONS BY MR. SHIELDS: 9 Q Your role as an Environmental Affairs 10 Manager has included having contacts with EPA? 11 A Yes. 12 Q ADEM? 13 A Yes. 14 Q ATSDR? 15 A Yes. 16 Q Let me ask you about some specific 17 contacts. You have reviewed and made comments on 18 the health consultations developed by the Alabama 19 Department of Public Health, and later ATSDR, in 20 Anniston, is that right? 21 A That's correct. 22 Q And you have provided your comments in 23 writing to the relevant agency at various points in 24 time? 25 A That's correct.	84 1 Q But I take it if you did, at this point in 2 time, you can't remember who it was, or what you 3 sought? 4 A Well, I mean, I'm sure other people looked 5 at them before they got sent, I mean, as far as the 6 major thrust of the -- of those comments, that's 7 particularly mine. 8 Q Do you recall the 1996 Health Consultation 9 from the Alabama Department of Public Health? 10 A There have been several. I don't know 11 specifically which one you're talking about. 12 Q I think that was the first, but -- 13 A Okay. I mean, there were two right at 14 about the same time, so -- 15 Q Yeah. 16 A And I noticed -- I mean, the other thing we 17 need to be clear, I noticed you have an IEHR 18 document behind that, and obviously Dr. Kimbrough 19 provided some comments that I further -- to the 20 agency, those comments were actually to a Draft 21 Risk Assessment I believe that ADPH had done, and I 22 don't know whether that was specifically a Health 23 Consultation titled as such or not. So I -- that's 24 what made me hesitant about answering. I'm aware 25 of at least two health consultations from ADPH, as

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85 1 well as a Draft Risk Assessment on which I made 2 comments. 3 Q Well, I would attach this as an exhibit, 4 and I may work out something on that, but I was 5 under the erroneous impression that I had two 6 copies, and so I wrote notes all over one copy, and 7 then discovered that the second copy, although it 8 looks similar, had a different date on it. 9 A Okay. 10 Q So maybe what we can do is identify the 11 cover page as an exhibit, and the Bates stamp 12 numbers, and then I can substitute a clean copy 13 without my notes all over it, if that's acceptable? 14 MR. LIGHTFOOT: That's fine, although I 15 would love to see your notes. 16 MR. SHIELDS: You probably couldn't read 17 them anyway. Mark that as the next exhibit. 18 (Plaintiffs Exhibit Kaley No. 2 marked for 19 identification.) 20 QUESTIONS BY MR. SHIELDS: 21 Q All right. Let me show you what we have 22 marked as Kaley Exhibit 2, the first page of which 23 is an April 24, 1997, letter from you to Brian 24 Hughes at the Alabama Department of Public Health, 25 in which you say, Enclosed please find Monsanto	87 1 like it probably is because there's conclusions and 2 then recommendations. 3 Q All right. 4 A Then you want me to go through the rest of 5 this stack? 6 Q Yeah, keep going. 7 A Okay. DSW 045129 through -- well, let me 8 say this, DSW -- those numbers I gave, 129 through 9 132, appear to be my comments on a Draft Risk 10 Assessment that was issued prior to either one of 11 these Health Consultations discussed in the cover 12 letter. 13 Q Okay. 14 A All right. Attached to that is an Appendix 15 A, which is DSW 045133 through DSW 045139 -- well, 16 that's Appendix A and Appendix B, I'm sorry, 17 Appendix -- and those were appendices to my 18 comments on the Draft Risk Assessment, not the 19 Health Consultations. Appendix A, our comments 20 that we solicited from Dr. Renate Kimbrough at the 21 Institute for Evaluation -- Evaluating Health 22 Risks, and Appendix B is a brief disruption of some 23 analytical methodology from Savannah Laboratories. 24 So that set of documents is a separate submission 25 to ADPH not included in that cover letter.
86 1 Company's comments on two documents, one is the 2 Health Consultation dated January 1996, the second 3 is the Health Consultation dated June 1996, is that 4 correct? 5 A Okay. You read that correctly, yes. 6 Q All right. And I'm going to go ahead and 7 show you this, and then we can substitute it with a 8 clean copy of it later, but attached to that would 9 be documents that start with a Bates stamp number 10 M20920, and the comments dealing with the January 11 1996 Health Consultation run through M20936. If 12 you will look at that and ignore my scribbling, 13 tell me if that's basically correct? 14 A I'm sorry -- okay, there are -- there are 15 at least two documents here. 16 Q Okay. 17 A And the -- 18 Q Tell me by Bates stamp number -- 19 A Okay, DSW 045123 through DSW 045128 seem to 20 be the comments on the January 17, 1996, ADPH 21 Health Consultation. 22 Q All right. 23 A I can't tell whether this -- this may very 24 well be the entire document, I can't tell that for 25 sure, but -- because of the format, but it looks	88 1 Q Okay. That's what I'm trying -- looking at 2 the cover letter, it does not include the second 3 set of documents. 4 A That is correct. These were submitted 5 separately. I -- presumably with a separate cover 6 letter, but I don't frankly recall as I sit here. 7 Q All right. My confusion arises out of the 8 fact they're consecutive Bates stamp numbers, but 9 what you're saying is from the cover letter, you 10 can determine that they were not submitted at the 11 same time? 12 A The cover letter is 120, and then two pages 13 are missing, 122 and -- 121 and 122 are missing. 14 Q I'm sorry? 15 A Okay, you've got those, never mind. All 16 right. Even though these are consecutively 17 numbered, they -- it is a -- it is an incomplete 18 document. I would think there should be another 19 set of comments -- 20 Q Yeah, that's what I was going to show you 21 next? 22 A -- based on this cover letter. 23 Q Let me show you next what has the Bates 24 stamp DSW 045140 through 045155. 25 A Yes, those -- with --

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89 1 Q What is that? 2 A Okay. Those are my comments on the June 3 Health Consultation for the Cobbtown/Sweet Valley 4 Community, and again, attached to that are the same 5 comments on the Draft Risk Assessment that we 6 described before. Now, without reading either/or 7 both of these comments on the Health Consultation, 8 I may very well have attached my previous comments 9 as an attachment to my comments here. Because of 10 the fact that these are attached to both of these, 11 I suspect that's what happened, that in my comments 12 on the Health Consultation, I made reference to my 13 previous comments and attached those. Is that 14 clear as mud? 15 Q Whether or not it's all included in the 16 letter, is it correct to say that all of this 17 material, your comments on the Risk Assessment, 18 your comments on the Health Consultation, were, at 19 some point in time, sent to the Alabama Department 20 of Public Health? 21 A That is absolutely correct. 22 Q Okay. 23 A Now, do you want those back? 24 Q Let's keep them all as one exhibit with 25 your explanation. And as I said, I will	91 1 A If we agree that the document speaks for 2 itself ultimately, then we're fine. 3 Q And your intention in providing these 4 comments to the Alabama Department of Public Health 5 was to provide your reasoning for why you disagreed 6 with the conclusion that there was a public health 7 hazard? 8 A I believe that's a fair characterization. 9 Q And you provided specific comments about 10 specific parts of the Health Consultation? 11 A As I recall, yes, and my brief review of 12 that, it would appear it was divided that way, yes. 13 Q One of your first comments on site 14 background and history relates to the South 15 Landfill, and you state that, The description of 16 the South Landfill may be misleading because that 17 term is used in the Health Consultation to denote 18 the former landfill area's move during the 19 construction of Highway 202, as well as the 20 existing closed landfill area and solid waste 21 management unit, which are located south of Highway 22 202. Do you recall those comments? 23 A Not specifically, but I'll take your word 24 for it that they're in there. 25 Q Okay. When was the landfill moved during
90 1 substitute -- I'm leaving with the court reporter 2 the first page, and then I'll substitute a clean 3 copy without my notes on it. 4 A That's fine. 5 Q Is it correct that the Department of Public 6 Health, in its January 17, 1996, Health 7 Consultation, concluded that the area constituted a 8 public health hazard? 9 A I don't know whether it was a conclusion or 10 a statement. It very well could be. Yes, I mean, 11 that's -- that's an appropriate characterization of 12 my writing, yes. 13 Q And you start your comments by saying that, 14 It's Monsanto's position that the Department's 15 conclusion that the area constitutes a public 16 health hazard is erroneous? 17 A I'll take your word for it that you're 18 reading that correctly. 19 Q I apologize, I would normally -- 20 A That's fine. 21 Q I normally like to come to the deposition 22 with plenty of copies for everybody, and better 23 organized, but we are sort of running from point to 24 point, and this notebook was just delivered to me 25 last night.	92 1 the construction of Highway 202? 2 A My understanding -- I believe that was 3 sometime in the early 1980's, I mean, it wasn't 4 really moved, the areas where the land -- where the 5 road was cut through were excavated and moved to 6 the landfill. I believe that was in the early 7 1980's. 8 Q Who moved the landfill? 9 A I believe Monsanto arranged for that to be 10 done. I don't know specifically, but I believe it 11 was Monsanto arranged for that, that it was not the 12 Highway Department. 13 Q Do you recall what contractor actually did 14 the work? 15 A I don't. 16 Q What role did Monsanto play in supervising 17 the work to make sure that the movement of the 18 landfill didn't result in the release and discharge 19 of PCB's? 20 A I don't know specifically. 21 Q Your report then references the 1985 22 sampling of Snow Creek and drainage ditches, and 23 you had told me earlier that was your first 24 involvement with Anniston specifically? 25 A Yes.

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93 1 Q All right. And your recollection is that 2 in 1985, the sampling was of Snow Creek and 3 drainage ditches? 4 A Portions of drainage ditches, yes. 5 Q What portions were sampled? 6 A I don't recall specifically without 7 reviewing. 8 Q What sampling was done of Snow Creek? 9 A My recollection is that the -- a small area 10 of Snow Creek downstream of its confluence, which 11 is what is now lovingly called the 11th Street 12 ditch, was that area of Snow Creek, it was a small 13 area downstream of that confluence by Monsanto. 14 Now, there have been other samplings of Snow Creek 15 by ADEM and the Alabama Attorney General's office 16 in that same rough time frame. 17 Q And the sampling reviewed the presence of 18 PCB's? 19 A In some samples, yes. 20 Q In both the drainage ditches and Snow 21 Creek? 22 A That's my recollection. 23 Q As a result of which Monsanto submitted a 24 remediation plan to the state? 25 A Yes.	95 1 of the transfer, in that particular case. 2 Q Let me see if I can follow-up on that. You 3 might have some contractual arrangement between you 4 and Alabama Power that would deal with, between the 5 two of you, who had the responsibility, but beyond 6 that, does not Monsanto recognize that it has the 7 responsibility, ultimately, if Alabama Power 8 doesn't follow those contractual arrangements, to 9 remediate that landfill, because it's your product 10 that got placed in the landfill, is that correct? 11 A I'm not sure I'm totally following you. 12 I'm not going to agree with that under -- because 13 I'm -- 14 Q I -- let me just cut through all of this 15 and be as clear as I can. You're not taking the 16 position that if PCB's got out of the West 17 Landfill, that it's not your responsibility because 18 Alabama Power Company owns it? 19 A I don't think we've taken that position, 20 that's correct. 21 Q Part of your responsibilities at Monsanto, 22 and subsequently Solutia, relate to dealing with 23 the regulations regarding PCB disposal? 24 A That's correct. 25 Q Relate to the statutes and regulations
94 1 Q All right. Now, obviously that's not on 2 Monsanto's property, is that correct? 3 A That's correct. 4 Q All right. 5 A I mean, yes, for portions -- certainly, the 6 ditch along the railroad track and Snow Creek are 7 not on Monsanto's property. 8 Q And you recognized your responsibility to 9 remediate or clean that up even though it wasn't on 10 your property? 11 A I believe we, yes, accepted that 12 responsibility to clean it up, yes. 13 Q It is not Monsanto's position that if they 14 don't own the property, they don't have any 15 responsibility to remediate it? 16 A I don't believe that's our present 17 position, no. 18 Q Has it ever been your position? 19 A Not to my recollection. 20 Q All right. So it would make no difference 21 to you, for example, in terms of Monsanto's 22 responsibility for remediation, that the West 23 Landfill was transferred to the Alabama Power 24 Company? 25 A I -- I guess that would depend on the terms	96 1 dealing with RCRA, facilities? 2 A I'm much more familiar with TSCA rather 3 than RCRA. I certainly have been involved in 4 activities around the Anniston plant, around that 5 RCRA permit. I don't consider myself an expert on 6 RCRA regulations whatsoever. 7 Q I was going to work my way through each of 8 the statutes. Did your role as Manager of 9 Environmental Affairs mean that you had the 10 responsibility for dealing with the regulatory 11 agencies, regardless of the statute, dealing with 12 the discharge into the environment of PCB's? 13 A I would say that's a fair characterization, 14 yes. 15 Q Whether it's Superfund, or TSCA, or RCRA 16 or -- 17 A Yes, that's a fair characterization. 18 Q Clean Water, or whatever. 19 A Yes. 20 Q And under one or more of those statutes, 21 you agree that Monsanto had continuing 22 responsibility for discharges, both off site and on 23 property which they no longer owned? 24 A My understanding of RCRA is that that's -- 25 that is a fair characterization of that

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97 1 responsibility, yes, that we certainly have some 2 ongoing responsibility for discharges under RCRA. 3 Q And in terms of remediation, under 4 Superfund, that would be true as well, that -- the 5 fact that you didn't no longer own -- that you no 6 longer owned the property would not relieve you of 7 any potential responsibility as a PRP for 8 remediation? 9 A If that responsibility were ultimately 10 determined under the statute, that is correct. 11 Q Now, let me see if I've got this right. In 12 the Snow Creek situation, you proposed a plan for 13 remediation to the State, but never heard back from 14 the State? 15 A Well, I mean, eventually we -- as a first 16 response, we did not -- my understanding is we did 17 not hear back from the State. We eventually rang 18 their chimes, so to speak, and did get an oral 19 response. 20 Q And so eventually you did remove the PCB 21 contaminated sediments from the drainage ditches, 22 is that right? 23 A We -- we did do some removal, yes, I mean, 24 I'm -- I'm a little uncomfortable with the drainage 25 ditch, but there was sediment removal done from	99 1 Q Okay. I know you said earlier that you try 2 to review and keep up with literature? 3 A Yes. 4 Q Is your role to keep up not only with the 5 scientific literature on health effects but the 6 scientific literature relating to remediation of 7 PCB's? 8 A Yes. 9 Q Environmental fate and transport, and just 10 everything out there on PCB's? 11 A I try. 12 Q Okay. Have you read or reviewed the 13 literature dealing with what's called the wicking 14 effect of allowing wet sediments to dry? 15 A I'm aware of that literature. 16 Q All right. And basically what that 17 literature indicates is that if you take sediments, 18 and -- that are wet, and allow them to dewater and 19 dry, that it will volatilize PCB's into the 20 atmosphere? 21 A That's what some researchers are reporting. 22 MR. LIGHTFOOT: Did you supply the dates of 23 that literature, Bob, or do you have it at hand? 24 Is it after '85? 25 THE WITNESS: It's very recent.
98 1 some drainage ditch, that's correct. 2 Q And a small section of Snow Creek as well? 3 A I believe that's correct. 4 Q And you did that by dewatering the 5 sediments on the banks? 6 A That was one of the stages, yes. 7 Q Did you have a contractor advise you on how 8 to do this dredging, dewatering, process? 9 A I don't recall. 10 Q Did you do it yourself, or did you have 11 somebody else do it? 12 A I assume you're talking about the corporate 13 me? 14 Q I didn't think you were out there with a 15 shovel. 16 A And the answer is, I believe we had a 17 contractor do it. I'm not 100 percent sure of that 18 but I believe that's true, the case. 19 Q Now, would it be correct that even if you 20 had a contractor do it, you recognize it was 21 Monsanto's responsibility to see that that 22 remediation activity was done in a way which 23 wouldn't make the problem worse? 24 A We accepted the responsibility for doing 25 that removal.	100 1 MR. SHIELDS: I pretty much know all the 2 literature by date, but -- 3 THE WITNESS: It's very recent, it's within 4 the last three to five years. It's done -- yes, 5 done by some researchers in the State of New York. 6 QUESTIONS BY MR. SHIELDS: 7 Q Well, are you familiar with the reports out 8 of New Bedford Harbor? 9 A I'm familiar with some reports out of the 10 New Bedford Harbor, I don't know specifically what 11 you're talking about. 12 Q Some of those reports deal with the wicking 13 phenomena, and how wet sediments drying can 14 volatilize the PCB's? 15 A And I think in New Bedford that's more 16 speculation than actual study. 17 Q In any event, you are aware, currently, of 18 scientific literature that deals with that 19 phenomena? 20 A That talks about that phenomena, yes. 21 Q All right. Are you saying that back in 22 1989, when you did this, you -- that is, Monsanto, 23 did not have any reason to suspect that allowing 24 PCB contaminated wet sediments to dry in the open 25 air could result in volatilizing the PCB's into the

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101 1 air? 2 A Yeah, I think I am basically saying that 3 was not an issue that was on the radar screen at 4 that time, not something that was taken into 5 consideration. It's basically kind of 6 counter-intuitive, frankly, I think that's why 7 there's still discussions about what literature is 8 even valid at this point. 9 Q If that phenomena occurred, that could have 10 added to air levels in the environment near the 11 dewatering? 12 A Well, to some extent or another, I have no 13 idea whether it would have had a noticeable effect, 14 you know, with regard to background levels, or 15 something, I mean, certainly, if that effect were 16 to occur, molecules of PCB's were being let into 17 the air, so I don't know whether it would have made 18 a measurable difference in the background levels or 19 not. 20 Q Is one of the purpose -- one of the 21 pathways of potential exposure to PCB's from 22 inhalation of air? 23 A Well, it's certainly a potential pathway, I 24 think in environmental situations, I think it's 25 basically a negligible pathway.	103 1 washed there by storm water run-off? 2 A Clearly true. 3 Q In order to be washed there by storm water 4 run-off, would that indicate to you that they would 5 have been farther up the drainage ditch? 6 A Or further up Snow Creek, you can't tell. 7 I mean, it -- the toys was one rubber ball, 8 inflatable, very filthy, so, you know, it could 9 have come from anywhere, and been there for any 10 period of time. 11 MR. LIGHTFOOT: Did it float? 12 THE WITNESS: Yes, it floated. 13 QUESTIONS BY MR. SHIELDS: 14 Q Did Monsanto undertake any investigation of 15 local residents about whether their children played 16 in the drainage ditch, or in Snow Creek? 17 A I'm not aware of any. 18 Q I mean, the Health Consultation's analysis 19 was based in part on the presence of the toy, 20 indicated that children might be in the ditch, or 21 Snow Creek, is that right? 22 A That was their speculation, yes. 23 Q All right. But you -- you made no attempt 24 to investigate whether there was any truth to that 25 statement?
102 1 MR. LIGHTFOOT: It may be more chlorinated. 2 THE WITNESS: Very good, Warren, very good. 3 QUESTIONS BY MR. SHIELDS: 4 Q Did -- did you do any air monitoring when 5 you dewatered the sediments on the banks? 6 A I'm not aware of any. 7 Q Did the workers use any protective 8 equipment or clothing in connection with dewatering 9 PCB's on the banks? 10 A I don't know the answer to that. 11 Q Who would know the answer to that? 12 A I -- I guess if anybody would, Jerry Brown 13 would. 14 Q You make some comments about the 15 description in the Health Consultation of 16 children's toys being in Snow Creek? 17 A Yes. 18 Q At the confluence of the drainage ditch? 19 A Yes. 20 Q And you indicate that you think Snow Creek 21 is inaccessible at that point? 22 A Yes, I don't know whether I say 23 inaccessible, or relatively inaccessible, but 24 it's -- it's pretty inaccessible. 25 Q It seems more likely that the toys were	104 1 A That whether there were children playing 2 down in there? 3 Q Yes. 4 A I didn't make any specific investigation. 5 I've been by there any number of times, I've never 6 seen a child anywhere near there, but obviously I'm 7 not there 24 hours a day. 8 Q Have you seen children in other parts of 9 the drainage ditch? 10 A No. 11 Q Do you have -- well, your comments also 12 indicate that Monsanto has already begun a project 13 to upgrade the cap on the West End Landfill under a 14 plan approved by the Alabama Department of 15 Environmental Management? 16 A Okay. 17 Q All right. And that's the property that by 18 that point in time was owned by the Alabama Power 19 Company? 20 A Well, by that time, we had re-acquired it. 21 We re-acquired that property at the end of 1993. 22 Q Okay. Why did you reacquire it? 23 A Well, I think we -- Monsanto and Alabama 24 Power agreed that the best way to get the situation 25 taken care of was for Monsanto to reacquire that

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105 1 property. They didn't really have any use for it, 2 something needed to be done. 3 Q Did Alabama Power at the time take the 4 position that regardless of whether you re-acquired 5 it or not, Monsanto had the obligation to remediate 6 and deal with that landfill? 7 A I have no idea what position Alabama Power 8 took. 9 Q Were any representations and warranties 10 made in the Sales Agreement of the property to 11 Alabama Power about the presence or absence of 12 PCB's, or other contamination on the property? 13 A My understanding is that the transfer 14 agreements did indicate that that material -- or 15 that that area was a former landfill. I don't know 16 whether specific chemicals were mentioned or not. 17 MR. LIGHTFOOT: I'm lost a little bit, Bob, 18 are you talking about the original transfer of 19 Alabama Power Company? 20 MR. SHIELDS: Yes, yes. 21 MR. LIGHTFOOT: Okay. 22 QUESTIONS BY MR. SHIELDS: 23 Q As part of the transfer -- original 24 transferred documents, did Monsanto undertake any 25 continuing responsibility for any problems that	107 1 Q In Anniston. 2 A Well, we've certainly done analyses of 3 ground water on our plant site. 4 Q Other than on your plant site, off site, 5 have you done any analysis of ground water? 6 A I don't believe so. I'm not aware of it, 7 as I sit here. I don't believe so. 8 Q When have you done analysis of ground water 9 on the plant site? 10 A We've been doing analysis of ground water 11 on the plant site continually since the mid 1980's. 12 Q Have you found PCB's in the ground water on 13 your plant site? 14 A There have been occasional reports in muddy 15 waters which indicate that the -- there is some 16 leakage into those wells. There's one or two wells 17 that have had occasional reports. In general, the 18 answer is no. 19 Q But you have not looked off site to see if 20 any PCB's found in those wells have migrated 21 through the ground water to off site locations? 22 A Well, we are monitoring at the edge of our 23 plant, and know that PCB's are not in the -- in the 24 ground water at the edges of our plant, so to that 25 extent, we have no reason to believe it is. Now,
106 1 might arise out of the fact that it was a -- had 2 been used as a landfill? 3 A I don't know. 4 Q Under quality assurance, quality control, 5 your comments include the following: Quote, 6 Aroclor product designations merely indicate the 7 presence of certain peaks in the gas chromatogram 8 of the particular sample used to calculate the 9 results. Do you still agree with that statement? 10 A Yeah, same thing we talked about a few 11 minutes ago. 12 Q Quote, Therefore, the designation of a 13 particular Aroclor product and reported result does 14 not necessarily indicate that the product was 15 identified in the sample, end quote. Do you still 16 agree with that? 17 A I do. 18 Q As of the time you were drafting these 19 comments, had Monsanto done any air monitoring in 20 the area? 21 A I believe not. 22 Q As of the time you were drafting these 23 comments, had Monsanto done any analysis of ground 24 water? 25 A Where?	108 1 as part of our ongoing investigation with ADEM, we 2 do have a ground water monitoring plan for approval 3 with ADEM to deal with some of those questions that 4 ADEM has, yes. 5 Q As of the time you wrote to these comments 6 regarding the Health Consultation, had you been 7 monitoring ground water at the edge of the plant? 8 A Oh, yes, as I said, we've been monitoring 9 ground water at the plant since the mid 1980's. 10 Q As of the time you wrote these comments, 11 had Monsanto done any soil or sediment analysis or 12 dust analysis outside of the drainage ditches and 13 Snow Creek? 14 A Could I see -- what's the date on the cover 15 letter again? 16 Q April 1997. 17 A Yes, by then we had done extensive soil 18 analysis. 19 Q And had you found PCB in soil sediment and 20 dust at locations outside of the drainage ditches, 21 Snow Creek? 22 A Well, I guess we're going to -- we probably 23 need to define what you mean by outside of the 24 drainage ditches. Not outside of the flood plane 25 of those drainage ditches in general, but --

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109 1 Q That was going to be my next question, but 2 my question at this point in time -- 3 A Outside the ditches themselves, yes, some 4 were detected in soils outside the drainage ditches 5 themselves. 6 Q They were detected in a flood plane? 7 A Yeah -- yes, generally, I mean, I'm -- 8 whatever that term means, yes. 9 Q Well, what does -- 10 A Well, just areas -- I mean, areas subject 11 to flooding from those ditches, yes. 12 Q And were some of those areas residential 13 areas? 14 A Yes, they were. 15 Q You state in your comments under 16 recommendations -- 17 A Well, hold it, that's where it stops, 18 that's where you're going from one document to 19 another. 20 Q Oh, okay. 21 A That's the end of one document, start of 22 next document. 23 Q This is where the Risk Assessment starts? 24 A Those are the comments on the early Draft 25 Risk Assessment. I don't know whether it specifies	111 1 liver enzymes, are associated even with high level 2 occupational exposure to PCB's; is that correct? 3 A I'll assume you read that correctly. 4 Q Would you then acknowledge that you would 5 agree that PCB's, at some level, will cause 6 elevations -- transient elevations in liver 7 enzymes? 8 A I would say may, can, may, yeah, that has 9 been reported a number of times in the literature. 10 Q And adrenal effects? 11 A Yes. 12 Q By 1996, 1997, when you were writing this, 13 there had been one or more ATSDR profiles on PCB's, 14 is that correct? 15 A That's correct. 16 Q In which there was an extensive discussion 17 of scientific literature relating to chronic human 18 health effects? 19 A That's correct. 20 Q By that point in time, EPA had categorized 21 PCB's as a probable human carcinogen, is that 22 correct? 23 A That's correct. that's based on animal 24 testing, yes. 25 Q And the International Agency for Research
110 1 in there when that was done or what, but that's -- 2 Q Okay. 3 A -- end of document. 4 Q So to be clear, the beginning of the 5 comments on the Risk Assessment have the Bates 6 stamp number DSW 045129, and another one, M20936? 7 A That's correct. 8 Q All right. And what you're saying at this 9 point, is without reviewing your comments, you 10 don't know whether you referenced the Risk 11 Assessment comments in it or not, so you're not 12 sure whether it was provided with that same letter? 13 A That's correct. 14 Q But you are sure that at some point in time 15 you provided both of these documents to ADPH? 16 A Most assuredly. 17 Q In your comments on the Risk Assessment, 18 you reference the preliminary draft assessment -- 19 Draft Risk Assessment, and your comments about 20 human health affects, and let me quote you, you 21 say, In addition, this preliminary Draft Risk 22 Assessment ignores a large body of scientific 23 literature which demonstrates that no chronic human 24 health effects, with the possible exception of 25 dermal effects and transient elevation in some	112 1 on Cancer had designated PCB's as a probable human 2 carcinogen? 3 A Right, again, based on animal tests. 4 Q Well, you say based on animal testing, 5 isn't the correct determination from both that 6 there is conclusive evidence from animal studies, 7 and some evidence, but not conclusive evidence, 8 from the human studies? 9 A I would have to look specifically. There 10 are various terms used, but the fact is that if 11 there's conclusive evidence from animal studies, 12 and even insufficient evidence from human studies, 13 it will still be classified as a probable human 14 carcinogen. There are other subclassifications, 15 using suggestive or limited for some of those 16 various classifications, but you don't -- I mean, 17 you don't have to have some, if you have animal, 18 you have probable. 19 Q I understand, but you said in terms of 20 PCB's, it was based on the animal studies, it is 21 more accurate to say it is based upon the 22 conclusive evidence in animal studies, and some 23 evidence in human studies? 24 A I think the term they use, at least the 25 EPA, is suggestive, yes.

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113 1 Q They did consider human evidence? 2 A Oh, sure, they considered it. 3 Q And there was some human evidence of cancer 4 causation? 5 A Well, as I said, I think they used the term 6 suggestive. 7 Q There was some evidence of cancer causation 8 from human studies? 9 A There was suggestive evidence, according to 10 ATSDR, and EPA. 11 Q You reference Monsanto having asked 12 Dr. Renate Kimbrough to provide a preliminary 13 review of the Draft Risk Assessment, and you 14 attached it to this document. Let me talk for a 15 moment with you about your relationship with Renate 16 Kimbrough. 17 A Okay. 18 Q When did Monsanto first employ Dr. Renate 19 Kimbrough in any capacity, or her Institute for 20 Evaluating Health Risks? 21 A Well, I don't know that I know the answer 22 to that because I don't know if there was any 23 relationship before my contacts with Dr. Kimbrough 24 with regard to the Anniston situation. My first 25 knowledge is sometime in 1995, possibly, probably,	115 1 General Electric looking at various issues 2 regarding PCB's, yes. 3 Q And you didn't indirectly provide any 4 support to GE for that work? 5 A No. 6 MR. LIGHTFOOT: Bob, let me know when you 7 get to a good stopping place for lunch. Some of us 8 over here are very hungry. 9 MR. SHIELDS: It's not even noon yet. 10 QUESTIONS BY MR. SHIELDS: 11 Q Now, let me ask a couple more questions 12 about Renate Kimbrough. You not only had her do 13 this -- these comments on the Risk Assessment, but 14 at some point you brought her to Anniston, did you 15 not? 16 A That's correct. 17 Q Did you have her make comments at a public 18 meeting? 19 A No. 20 MR. SHIELDS: This is a good time as any if 21 you truly need to. 22 MR. LIGHTFOOT: Okay, fine. 23 (Lunch recess taken.) 24 QUESTIONS BY MR. SHIELDS: 25 Q I think we were talking before we broke for
114 1 we asked Dr. Kimbrough to consult with us on what 2 was going on in Anniston at the time. I don't know 3 that we had any -- that Monsanto had any specific 4 dealings with her or the Institute before that 5 time. 6 Q Did Monsanto provide any funding for the 7 Institute for Evaluating Health Risks? 8 A Aside from the consulting fees we paid 9 Renate? 10 Q Yes. 11 A I do not believe so, no. I am not aware of 12 any. It was basically that that Institute was 13 funded on a project by project basis, as far as I 14 know. 15 Q Did Monsanto provide any of the funding 16 that GE provided to the Institute for Evaluation 17 Health Risks? 18 A Not that I'm aware of, no. 19 Q I assume you were aware, from 20 Dr. Kimbrough's testimony, that a sizable 21 percentage of her funding at the Institute for 22 Evaluating Health Risks came from General Electric? 23 A Well, I'm not aware of her funding, but I 24 certainly know the Institute has done at least two 25 major projects, largely, if not totally funded by	116 1 lunch about your dealings with various governmental 2 agencies at Anniston? 3 MR. LIGHTFOOT: Actually, you said, Did you 4 bring Renate Kimbrough to Anniston, and he said 5 yes, and you said, Did you take her to a public 6 meeting, you said no -- 7 MR. SHIELDS: Okay. 8 MR. LIGHTFOOT: -- or he said no. 9 QUESTIONS BY MR. SHIELDS: 10 Q I think you've testified earlier that one 11 of your responsibilities is dealing with the 12 controlling statutes and regulations relating to 13 PCB's and their disposal? 14 A Yes, generally. 15 Q Is it correct, Dr. Kaley, that Monsanto 16 acknowledges that under various governmental 17 regulations and statutes, that it has an 18 affirmative obligation to report findings of PCB 19 contamination in the environment, even off site of 20 its facility? 21 A I'm -- I'm not aware of any specific 22 regulation that would require that. I'm not sure 23 what you mean by that. 24 Q Well, if Monsanto -- 25 A I mean, for instance, at the Anniston

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117 1 plant, we're involved in our RCRA off site 2 investigation, and we were required under the terms 3 of that investigation to report the findings of 4 that. 5 Q But above and beyond the RCRA 6 investigation, is it your understanding that under 7 the controlling statutes and regulations, is that 8 if Monsanto conducted testing and found PCB 9 contamination off property, it was required to 10 notify the relevant governmental regulatory 11 agencies of those findings? 12 A I'm not aware of that. There is, if it's a 13 new spill, if there's a spill of PCB's, what's 14 called a new spill, then there is a report of 15 requirement under various, you know, statutes to do 16 that, but if we were to go, you know, sample a soil 17 somewhere and find this, that, or another, I know 18 no statute that requires us to report that to any 19 agency. May I supplement my last answer? 20 Q Sure. 21 A I would also say that if any of our plant 22 sites generate a waste that has to be disposed of 23 under toxic regulations, they're required to keep 24 records of that waste disposal at the plant, and 25 that is subject to EPA looking at it at any time.	119 1 A My understanding is that in general, our 2 results were being reported to the state agencies 3 at the time. 4 Q Did it fail to report any results to the 5 state agency at the time? 6 A I can't -- I don't know. 7 Q From 1970 to 1985, did it report any 8 findings of contamination off site to the state and 9 federal agencies involved? 10 A I really -- to the -- if there were any, I 11 don't really know the answer to that specifically. 12 Q Your involvement in environmental affairs 13 was 1985, '86? 14 A Yeah, about that, 1985. 15 Q And so are you saying you don't know what 16 was or was not reported prior to -- 17 A I don't know what was or was not analyzed 18 in that time frame, or if things were analyzed, 19 whether they were reported to agencies or not. 20 Q Okay. So you don't know either? 21 A No, I mean, I do know there was some 22 analyses done along Choccolocco Creek in the '81, 23 '82 time frame, I know that information was given 24 to some agency, I don't know which particular one, 25 but it was done in conjunction with state agencies,
118 1 There's not a reporting requirement where we do 2 have to keep records of disposal of PCB 3 contaminated waste. 4 Q The follow-up to the question is, have you 5 reported to EPA, or ADEM, all of the results of any 6 testing you've done on PCB contamination off site? 7 A As far as I know, the answer to that is 8 yes. I mean, there may be something recent in 9 progress that hasn't been validated that we haven't 10 reported, but as far as I know, every -- every 11 piece of validated data has been reported to the 12 agency. 13 Q Historically, have you reported it? 14 A I'm not sure how to answer that. I 15 don't -- specifically reported what? Every time 16 we've ever done a PCB analysis, have we reported 17 that to the government? I doubt it. I mean, at 18 what time frame are you talking about, from 1970 to 19 the present day, I mean, be more specific. 20 Q Prior to 1970, if Monsanto found PCB 21 contamination off site, did it report it to any 22 federal or state agency? 23 A My understanding is that in general -- are 24 you talking about Anniston? 25 Q Yes.	120 1 so that would be the only one that would fall under 2 that category that I am aware of. 3 Q Let's talk about your property purchase 4 program. Monsanto has purchased various 5 residential properties in the area, is that 6 correct? 7 A That's correct. 8 Q Has it done testing on each of the 9 properties it has purchased? 10 A I don't know specifically. I think the 11 answer to that is no. 12 Q Is it your understanding that the -- I'll 13 call it the action level by which PCB requires some 14 remediation of residential property is ten parts 15 per million? 16 A The action level at which EPA is currently 17 requiring us to offer re -- soil removal is ten 18 parts per million, that's correct, on properties 19 which we do not own. 20 Q How many properties have you purchased at 21 this point in time? 22 A I don't know that number, something looking 23 like a hundred. 24 Q Are you required to do soil removal only on 25 properties you don't own?

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121 1 A I guess I'm getting a little confused about 2 where this is going. 3 Q I'm just following up on your last answer. 4 A I understand that, I just -- there are 5 two -- well, there is the Property Purchase 6 Program, which is where we started, all right, and 7 we started talking about that, then you started 8 talking about the ten part per million EPA removal 9 action, and those two are separate issues. I just 10 want to be sure we know those are separate issues. 11 Q You responded to my -- to one of my prior 12 questions by saying that you were required to do 13 soil removal on property you didn't own if there 14 was a testing at ten parts per million involved, is 15 that right? 16 A Under the current administrative order and 17 consent under which we are operating, that is 18 correct. 19 Q And my question to you then, is if you own 20 the property, are you required to do soil removal 21 if the levels are at or above ten parts per 22 million? 23 A No, not under the AOC. No, we are not. 24 Q So for the properties you have purchased, 25 you are not required to remove soil?	123 1 instituted in 1995, and this ten part per million 2 removal action by the EPA was not promulgated, or, 3 you know, the consent order wasn't signed until the 4 fall of 2000, so again, those are two separate 5 issues. I believe that, in fact, we felt the best 6 way to manage and control the PCB's was to 7 institute a cap and cover program, and that was 8 facilitated by us owning the properties. I don't 9 think we really addressed the issue of what was 10 going to happen if we didn't own a particular piece 11 of property. 12 Q Is it your testimony that you -- that the 13 fact that you might have to remove soil if you 14 didn't own it, didn't play any role in your 15 decision to purchase the properties? 16 A No, I can't say it didn't play any role, I 17 don't recall it playing a specific role, but I'm 18 not going to say it didn't play any role. 19 Certainly, as we went into that program, and 20 considered various remedial options, one of the 21 options is to remove soils, and, you know, our 22 overall program was facilitated by owning those 23 properties, but I'm not going to tell you it didn't 24 play any role. 25 Q Is it less expensive to Monsanto to cap and
122 1 A That's true. Almost all of those 2 properties have been placed under a cap and cover 3 remediation program. Soil has been removed from -- 4 I don't know if the soil's been removed from any of 5 those properties. 6 Q That was going to be my next question, 7 whether you had remediated any of those properties 8 by removing the soil. 9 A I want to say in Area 1, but in general, 10 the properties purchased under the Property 11 Purchase Program were properties which were 12 incorporated in the remediation of either the east 13 side or the north side remediation efforts. 14 Q Why did you purchase the property? 15 A For that very reason, we -- the -- our 16 feeling was is that the best way to manage and 17 control the PCB's in those -- those areas on the 18 east and north side of the plant was to own that 19 property so we could institute a -- you know, 20 institute controls of those -- of those areas. 21 Q Was the fact that if you owned the 22 property, you didn't have to do soil remediation, a 23 factor in deciding to purchase property? 24 A Well, not specifically, certainly because, 25 you know, the Property Purchase Program was	124 1 cover than it is to remove soil? 2 A That would depend on the property involved. 3 Q In general -- in general, is it less 4 expensive to do cap and cover? 5 A I'm not the right person to answer that 6 question. My impression would be, I don't think I 7 can answer without saying, it depends on the 8 property, it depends on the level, it depends on 9 the extent of the property. I just really -- I'm 10 not comfortable answering that one way or the 11 other. 12 Q So you don't know whether it's less or more 13 expensive? 14 A I would say that's fair, that's a fair 15 answer, other than the fact that I know it does 16 depend on, you know, the levels, because the level 17 determines what disposal options are available to 18 you, and some are more expensive than others. 19 Q Was one of your criticisms of the Risk 20 Assessment that it attempted to determine potential 21 risk to people when you had already purchased their 22 property? 23 A I believe that would -- I don't recall that 24 specifically. That sounds like a paraphrase of a 25 point I may have been trying to make, that they

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125 1 were characterizing an area as a public health 2 hazard when there was no public in that area to -- 3 to be exposed to anything, so I don't remember 4 specifically what you're talking about, but -- 5 Q Was one of the factors in deciding to 6 purchase property the potential risk to occupants 7 if you didn't -- if they remained on the property? 8 A No. 9 Q So it's your testimony that the risk to the 10 people occupying those properties played no role in 11 your decision to buy the property? 12 A I think that's a fair characterization, 13 yes. 14 Q How much have you spent to buy the property 15 to date? 16 A I don't know those numbers. My 17 recollection is one or \$2 million, but I don't 18 really know, and again, I will clarify that those 19 are residential properties in the Property Purchase 20 Program. 21 MR. SHIELDS: Let's mark this as the next 22 exhibit. 23 (Plaintiffs Exhibit Kaley No. 3 marked for 24 identification.) 25	127 1 Monsanto has publicly taken the position -- and 2 when I say Monsanto, I mean Monsanto-Solutia. 3 A I understand. 4 Q Has publicly taken the position in Anniston 5 that PCB's have not been shown to cause any adverse 6 human health effects? 7 A With the exceptions we've noted before with 8 regard to skin rashes and potential transient liver 9 enzyme elevations, I think that's -- and I don't 10 know whether those exceptions are noted in there or 11 not, but I'll say in general. 12 Q But you have made those statements 13 publicly, have you not, Monsanto? 14 A I believe I have, yes, or the Company has, 15 yeah, something to that effect. 16 Q And when you made those statements, were 17 you intending that the public would rely on them? 18 A I -- certainly, I mean, I believe they are 19 a true characterization of the situation as we 20 understand it, and that that would be a correct 21 statement of Monsanto's position. 22 Q And in making those representations that 23 you intended the public to rely upon, did you ever 24 advise them that there were a number of scientific 25 studies that said that there were adverse human
126 1 QUESTIONS BY MR. SHIELDS: 2 Q Let me show you what we have marked as 3 Kaley Exhibit 3, which is a document dated 4 September 4, 1998 titled Anniston Site Issues. Can 5 you tell me what that is, please? 6 A My impression is that this was a -- a sheet 7 prepared for Solutia management. 8 Q Was that statement -- it seems to me it's 9 sort of a position statement, is that a fair 10 characterization of it? 11 A Well, that sounds -- position statement to 12 me sounds kind of argumentative. I would say it's 13 an informational statement. 14 Q All right; informational statement. Was 15 that informational statement provided to anyone 16 outside of Solutia management? 17 A I -- I don't know what the distribution of 18 that document was. 19 Q Do you have any knowledge as to whether all 20 or part of that document was provided publicly in 21 Anniston? 22 A I -- again, I really don't know what the 23 distribution of this document was. 24 Q Okay. Whether or not this document was 25 distributed publicly, is it correct to state that	128 1 health effects? 2 A I believe the various things I've said or 3 written, I acknowledge that there are papers which 4 stand for -- you know, make suggestions that there 5 are health effects, and that, you know, in the 6 evaluation of those papers, in that perspective, 7 that we are still maintaining the position we have. 8 Q Can you reference me to any document which 9 you made publicly available in Anniston which 10 discusses, recognizes, references those kinds of 11 studies that are contrary to your position? 12 A Well, I think certain of my comments to 13 ATSDR discuss the fact that there are a variety of 14 studies out there that make one claim or another, 15 and that they have to be, you know, put into 16 perspective. I -- you know, I just -- because I 17 just mailed it last week, you probably don't have 18 it, but I've written a letter to the editor of the 19 Anniston Star in response to a recent news article 20 that addresses those kinds of issues where I 21 acknowledge that there are various studies that 22 take one position or another, and recommend that 23 they -- the Anniston Star, and the people in the 24 community, look at other papers which take a 25 contrary position.

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129 1 Q You did that last week? 2 A Yes. 3 Q We were looking earlier at your response to 4 the Public Health Consultation and the Risk 5 Assessment in which you took the position that 6 there was -- that it was erroneous to say there was 7 a public health hazard in Anniston? 8 A I don't know if that was the term I used, 9 inappropriate, I don't know, did I say erroneous? 10 Q You said erroneous. 11 A Okay. 12 Q Can you show me where, in these documents, 13 you even acknowledge that there is any literature 14 to the contrary of your position? 15 MR. LIGHTFOOT: Can you let him look at it? 16 QUESTIONS BY MR. SHIELDS: 17 Q Sure, and let me specifically refer you to 18 DSW 045129, where you take the position that 19 there's a large body of scientific literature which 20 demonstrates that there are no chronic human health 21 effects, with the possible exception of dermal 22 effects and transient elevations in some liver 23 enzymes, associated even with higher occupational 24 levels of exposure; now, can you show me in that 25 whole set of documents where you ever acknowledged	131 1 various positions. 2 QUESTIONS BY MR. SHIELDS: 3 Q Other than your letter last week, can you 4 reference any document in which you publicly, as 5 opposed to some agency like ATSDR, acknowledge that 6 there was scientific literature indicating the 7 possibility of chronic health problems in PCB's? 8 A I don't have a specific recollection. 9 There may or may not be any, I just don't 10 specifically recall as I sit here. 11 Q Well, this position statement that -- this 12 informational statement that you say you thought 13 was for Solutia management, takes the position that 14 PCB's have not been shown to cause adverse human 15 health effects. Would you be taking the position 16 with your management different than what you would 17 be doing publicly? 18 A Absolutely not. 19 Q So you would have been saying that publicly 20 as well? 21 A I have said that publicly. 22 Q It goes on, Workers exposed to high levels 23 of PCB's on the job have been studied extensively, 24 they showed no adverse health effects other than 25 occasional dermal effects, which cleared up when
130 1 anything in the literature to the contrary? 2 A Well, let me -- let me say two things, and 3 then we'll decide whether I need to go through that 4 exercise. First of all, in my response to your 5 question, I said comments to ATSDR are Health 6 Consultations, these are ADPH Health Consultations, 7 if that's what prompted the question, I wasn't 8 talking about these particular documents. I -- I 9 don't know whether I did in here or not. So if you 10 want me to look and see whether I did or not, I 11 would be happy to do that. Is that what you want 12 me to do? 13 Q I couldn't find it in there. 14 A It may not be in there in those particular 15 documents. 16 MR. SHIELDS: Warren's happy to look 17 through and see if he can find it. 18 THE WITNESS: I don't know whether -- these 19 were briefer comments -- 20 MR. SHIELDS: That'll give him something to 21 do. 22 THE WITNESS: These were briefer comments 23 than some I made to ATSDR, and certainly in the 24 ATSDR comments, I did acknowledge that there were 25 other -- there were papers out there that took	132 1 exposure stopped. Is that the position you've 2 taken publicly? 3 A I believe that's a fair characterization of 4 the overall literature, yes. 5 Q Scientific studies do not support the 6 claims that PCB's cause reproductive problems or 7 disruption of endocrine systems in humans; you've 8 taken that position publicly as well? 9 A Well, I address, certainly, the -- well, I 10 don't know whether I do or not. I don't know that 11 I've said that specifically, publicly, I would take 12 that position publicly if I was asked. I have 13 taken that specific position publicly, I mean, it's 14 certainly included in the overall weight of the 15 evidence on what -- you know, what I have said 16 publicly about human health effects. 17 Q When you said that they showed no adverse 18 health effects other than occasional dermal 19 effects, I assume you've included in adverse health 20 effects, cancer? 21 A Certainly. 22 Q All right. There have been various worker 23 studies that have found statistically significant 24 elevations of cancer among workers exposed to 25 PCB's, is that not correct?

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133 1 A Yes, there are individual studies that have 2 made reports of those, yes. 3 Q For example, the earliest studies of Brown 4 in 1987, of the two capacitor plants in New York 5 and Massachusetts reported on a statistically 6 significant elevation of liver cancer, biliary 7 tract, gallbladder cancer? 8 A Yes, but the authors then went on to say 9 that they were unable to determine a dose response, 10 and in fact, the dose response in those workers 11 seemed to be inverse, which would lead more to 12 suggest that those liver cancers were not 13 associated with PCB exposure. 14 Q Well, I understand you have some arguments 15 about the studies, but it is correct that there 16 have been studies from Brown, from Brown and Jones, 17 from Nicholson and Langren, and from other authors 18 that have found statistically significant 19 elevations in cancers among PCB workers, not just 20 of liver, biliary, gallbladder, lymphoma, brain, is 21 that right? 22 A I would -- I don't remember what -- how you 23 started that sentence, but you were asking me 24 whether it was my view, I believe that if -- those 25 studies, we talked early on about the need to	135 1 When I make the kinds of statements that 2 you've been reading, they're based on those overall 3 evaluations of the whole literature, not any single 4 individual study which may or may not have found 5 one, you know, statistically significant finding in 6 a study where they looked for hundreds of possible 7 findings. 8 Q I understand your position, but my question 9 to you was, were there not a number of studies that 10 reported on statistically significant elevations of 11 various cancer sites among the PCB capacitor 12 workers? 13 A Yes, I think I agreed with that. 14 Q Did you ever disclose in any of your public 15 statements in which you said that there was -- that 16 PCB's did not cause any adverse health effects, the 17 body of literature that had found statistically 18 significant elevations of various cancer sites 19 among workers who were exposed to PCB's? 20 A I have referred to review articles which 21 have done exactly that. 22 Q Can you cite me to -- 23 MR. LIGHTFOOT: I found one for you. 24 QUESTIONS BY MR. SHIELDS: 25 Q Can you cite me to any document in which
134 1 review the studies, both individually and as a 2 group, and I think if you review each of those 3 studies individually, the authors are very careful 4 to talk about the cautions you need to take in 5 reporting their data. 6 We talked about the Brown and Jones, or the 7 early Brown, they talk about that there doesn't 8 appear to be a dose response, this is a 9 precautionary finding. None of them say PCB caused 10 those cancers. They found isolated statistically 11 significant occurrences in some of those studies 12 for some cancers, but it's important to look, 13 number one, at each study, and understand the 14 author's view of that study and what it means, and 15 number two, it's then important to look at all of 16 those studies together. 17 And, you know, as I'm sure you know, there 18 are criteria which epidemiologists use to look at 19 studies en masse, as a group, to see, is there 20 consistency among those studies, you know, what's 21 the strength of the association, all of those 22 things epidemiologists and others talk about. You 23 can't take a single study in isolation and talk 24 about causation, you have to look at the whole 25 group of studies.	136 1 you have publicly referenced that cancer 2 literature, the carcinogenicity literature? 3 A Sure, again, unfortunately, we don't have 4 it, but the letter to the editor talked about that. 5 Q Yeah, we talked about that. Other than the 6 letter to the editor? 7 A I'm sure there are others. I don't have a 8 specific recollection right now, but it would be 9 something -- I'm sure the ATSDR comments talk about 10 the carcinogenicity literature. 11 MR. LIGHTFOOT: Bob, he references the 12 ATSDR toxicological profile, and that took some or 13 all of the literature. 14 QUESTIONS BY MR. SHIELDS: 15 Q Well, the reference I've been provided by 16 your Counsel, NT 0940, which is part of Exhibit 2 17 to your deposition, is, in fact, a reference to the 18 Health Consultation references ATSDR. Other than 19 the fact you acknowledge that the Health 20 Consultation references ATSDR -- 21 A I don't even know what we're talking about 22 anymore. May I see that? Well, I mean, I'd 23 like -- if I can, I think this paragraph pretty 24 much summarizes my view, and this is -- this is my 25 writing, not ATSDR's tox profile.

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137 1 MR. LIGHTFOOT: If you read it, read it 2 slowly. 3 THE WITNESS: I will. 4 MR. LIGHTFOOT: We're about to kill the 5 court reporter. 6 THE WITNESS: The final paragraph of this 7 section alludes to suggestions that PCB's are 8 associated with certain cancers in humans. 9 Although some individual epidemiology studies 10 report isolated excesses of various cancer types, 11 there are no consistent findings in the studies 12 which would provide convincing evidence that PCB's 13 are associated with cancer in humans. In fact, the 14 opposite is the case. If the PCB epidemiology 15 studies are evaluated in accordance with accepted 16 principals, there is evidence that PCB's are not 17 associated with cancers in humans at exposure 18 levels encountered in occupational settings, where 19 exposures were much higher than exposures 20 anticipated for environmental settings. I believe 21 that fairly sets out my view of that literature. 22 MR. LIGHTFOOT: And that is a public 23 statement, we think. You keep -- you keep asking 24 about public statements, that's -- that's a -- he 25 sends that to -- yeah.	139 1 some detailed explanation to the agency, but any 2 statement in which you have publicly followed a 3 comment in which you say that there are no adverse 4 health effects from PCB's with any acknowledgment 5 of a scientific literature to the contrary? 6 MR. LIGHTFOOT: Objection, to exclude that 7 is from public comments. 8 THE WITNESS: Well, I -- I don't have a 9 specific recollection. I would -- I would almost 10 be certain that there is one. If given enough 11 time, I could go find it. I certainly did in this 12 recent letter, and you don't have that, and I 13 understand that, it will -- copies have been 14 provided to Counsel, and it will be produced, but, 15 you know, I mean, if you're sitting here and saying 16 you've read everything I've ever written, and it's 17 not in there, but it's certainly the position that 18 I have spoken publicly in meetings in Anniston, I 19 have, you know, that reflects my view of that 20 literature. I am not denying that there are 21 individual reports where there are reported 22 associations, but I am saying if you look at the 23 literature as a whole, that evaluation of that 24 literature is consistent with our position. 25 QUESTIONS BY MR. SHIELDS:
138 1 THE WITNESS: I mean, it's clearly the 2 public position, I think I said something similar 3 to this in the letter to the editor, I may have, in 4 previous communications to the Anniston Star, or 5 someone else, I may have said something very 6 similar, I'd be surprised if I hadn't. 7 QUESTIONS BY MR. SHIELDS: 8 Q Well, let me just cut through all of this. 9 I have seen lots of your statements in the press, 10 and in documents, in which Monsanto takes the 11 position that there are no adverse health effects 12 from PCB's. Now, all I'm asking you is, can you 13 reference to me any document in which you make that 14 statement, and you qualify it by acknowledging that 15 there are hundreds of studies in which the authors 16 claim that it provides some evidence of health 17 effects of PCB's, including all of those set forth 18 in the recent ATSDR report, and all you have to 19 do -- 20 A I just read you something that I did 21 acknowledge there were other studies. Did I say 22 hundreds? No, because I was talking about cancer 23 epidemiology, in that case which there are maybe 24 asking like 12 studies. 25 Q Can you reference me any statement, not	140 1 Q I'm interested in your terminology of 2 individual report, there's the implication that 3 there's a handful, or one or two here and there. 4 Tell me how many individual reports you would 5 acknowledge where the authors have set forth that 6 their study provides some evidence, suggestive or 7 otherwise, of potential human health effects from 8 PCB exposure? 9 A You know, your characterization, 10 probably -- I would say somewhere in the dozens to, 11 you know, a hundred, or something like that. There 12 are a number, there's no question about it. That 13 isn't what I meant by individual studies, though. 14 What I meant by individual studies was, you take 15 these dozen, or dozens, whatever, of individual 16 studies, and you have to look at them as a whole. 17 You can't take an individual study and make a 18 determination of whether PCB's are causative, or 19 strongly associated, or anything, with that health 20 effect, based on one study, you have to look at the 21 entire body of literature. 22 Q I understand, and we started our discussion 23 today by reminding you of your testimony in the 24 Scott case where you said you weren't an expert on 25 health effects, and couldn't offer any opinion on

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141 1 health effects, do you acknowledge that there are 2 some people out there who are experts and can offer 3 expert opinions on the health effects? 4 A Number one, I'd like to go back to my 5 qualification and say that, what I was saying in 6 Scott, whether it's clear from the testimony or 7 not, was that I could not be qualified as an expert 8 in a Court of Law to render an opinion in a Court 9 of Law. I believe I am knowledgeable, and can have 10 opinions about the health effects of PCB's. I also 11 acknowledge that there are people out there who 12 have different views of the health effects of 13 PCB's. 14 Q All right. So you're not going to offer 15 any opinions in this case because you recognize you 16 can't be qualified as an expert in a Court of Law? 17 A I'm not going to offer an expert opinion, 18 and I'm not going to be offered by my attorneys as 19 an expert opinion. If I'm on the stand, and you 20 ask me the question you just asked me, I'll give 21 you the answer I just gave. 22 MR. LIGHTFOOT: He can certainly talk about 23 the literature, Bob, because he's totally familiar 24 with that. 25 MR. SHIELDS: Well, I am, too, but I'm	143 1 to deny that there are -- the agency itself, as you 2 well know, is not a thing, it is made up of people, 3 and there are people in there who have various 4 opinions about various things. Some of them are 5 qualified to have those opinions, and some of those 6 opinions are correct, and some of those people 7 aren't qualified -- I'm sorry, some of those people 8 are qualified to have those opinions, and some of 9 them are correct, and there are people there 10 qualified or not who have opinions that I do not 11 agree with. 12 Q And ATSDR regulations require that before 13 they publish anything, they go through a detailed 14 and rigorous peer review? 15 A I don't know whether the regulations 16 require that or not. I know that the tox profiles 17 do have a peer review process associated with them. 18 Q Part of the peer review process, in 19 connection with this most recent ATSDR profile, was 20 a scientific review group that held a meeting in 21 Atlanta last fall and went over the draft? 22 A Well, it was two falls ago, but yes, I'm 23 aware of that. 24 Q You, in fact, attended? 25 A I did.
142 1 hardly qualified to testify. 2 MR. LIGHTFOOT: You are. 3 MR. WRIGHT: That'll be a nice end of 4 trial, talk about that literature. 5 QUESTIONS BY MR. SHIELDS: 6 Q Do you acknowledge that the Agency for 7 Toxic Substance and Disease Registry is the 8 governmental agency that has the specific 9 responsibility of reviewing and evaluating the 10 scientific literature on the toxicity of various 11 chemicals? 12 A I will acknowledge that the ATSDR has the 13 charter to prepare toxicological profiles, which 14 are basically written by consultants to the ATSDR, 15 on compounds which they feel are present at various 16 Superfund sites throughout the country. 17 Q And I assume you would acknowledge that as 18 the agency with that responsibility, that they have 19 some expertise in evaluating toxic literature? 20 A Well, there are certainly individuals in 21 that agency which have expertise in looking at 22 toxicological literature. As I said, those are not 23 the people that are writing these tox profiles. 24 The people who are writing the tox profiles are 25 consultants hired by the agency, but I'm not going	144 1 Q As an observer? 2 A I did. 3 Q You were not an invited member of the 4 scientific review group? 5 A That's correct. 6 Q But you observed? 7 A I did. 8 Q And the scientific review group made 9 various comments and suggestions regarding the 10 draft of the revised profiles, is that correct? 11 A That's correct. 12 Q In addition to the peer review of the 13 scientific review group, there was a specific peer 14 review committee composed of four experts in the 15 field, is that correct? 16 A Three or four, I don't remember what the 17 number was exactly, but that -- yes. 18 Q And they reviewed the document and offered 19 their comments? 20 A Presumably. 21 Q And then the process has to go through the 22 approval process at the agency before it gets 23 released? 24 A I would assume so. 25 Q And having gone through all that, then, we

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145 1 had this revised ATSDR profile that came out a 2 couple of weeks ago? 3 A Yes. 4 Q Now, do you acknowledge that that profile 5 provides and concludes, in regard to 6 carcinogenicity, that the human settings provide 7 some evidence that PCB's are carcinogenic? 8 MR. LIGHTFOOT: Are you going to read him 9 that -- Bob, do you have it with you? 10 MR. SHIELDS: He can come around here and 11 look at it if he wants, but I'm giving you an exact 12 quote. 13 MR. LIGHTFOOT: Okay, if you would just 14 read it, what it says. 15 QUESTIONS BY MR. SHIELDS: 16 Q Overall -- quote, Overall, the human 17 studies provide some evidence that PCB's are 18 carcinogenic; do you agree with that? 19 A I agree that the document says that. 20 Q It goes on to say, There is conclusive 21 evidence that commercial PCB mixtures are 22 carcinogenic in animals? 23 A I agree both with that statement, and the 24 fact that the document says that, or -- 25 MR. LIGHTFOOT: Would you read the rest of	147 1 says that NTP says that PCB's are probable -- are 2 reasonably anticipated to be carcinogens in humans. 3 Q Yes, Sir. 4 A Which is, again, basically the same kind of 5 qualification that if something is an animal 6 carcinogen, then NTP classification scheme requires 7 it to be denoted as reasonably anticipated to be a 8 human carcinogen, or whatever the lingo is. 9 MR. LIGHTFOOT: Bob, I thought the word is, 10 in that paragraph, saying the human studies are 11 suggestive. 12 MR. SHIELDS: Nope, I read you the exact 13 quote. 14 THE WITNESS: Well, there are other quotes 15 addressing that literature in the tox profile which 16 use different language than what Mr. Shields just 17 quoted. 18 MR. LIGHTFOOT: You're not going to read 19 the ones that help us. 20 MR. SHIELDS: If -- if there are any that 21 help you, I'd be most interested in seeing them. 22 MR. LIGHTFOOT: I'll show them to you, on 23 April the 2nd. 24 THE WITNESS: There is one that says that 25 blood levels will not tell you whether you're going
146 1 that sentence? 2 MR. SHIELDS: Based on induction of tumors 3 in the liver and thyroid. 4 MR. LIGHTFOOT: Is that the end of that 5 sentence? 6 MR. SHIELDS: Yes. 7 MR. LIGHTFOOT: Okay, well, there's a next 8 sentence after that that says -- 9 MR. SHIELDS: The next sentence after that 10 is 3.2.8.2, Human Studies. 11 MR. LIGHTFOOT: Okay. 12 MR. WRIGHT: They didn't add your sentence, 13 Warren. 14 MR. SHIELDS: You forgot to get your 15 comments in on time. 16 QUESTIONS BY MR. SHIELDS: 17 Q And then you acknowledge, do you not, that 18 ATSDR, having drawn an overall conclusion, then 19 summarizes and reviews the reported literature on 20 carcinogenicity, both human and animal? 21 A Yes, they clearly do that. 22 Q And gives its overall conclusion as to 23 evaluating that evidence? 24 A I -- I don't know what it says. My 25 recollection of the overall evidence is that it	148 1 to get sick or not, and I believe that is 2 absolutely true. 3 MR. SHIELDS: I do, too. 4 MR. WRIGHT: I do, too. 5 (Short recess taken.) 6 QUESTIONS BY MR. SHIELDS: 7 Q Has Monsanto conducted any studies of its 8 workers to determine whether there was any excess 9 cancer among those exposed to PCB's? 10 A There was a small study done at the 11 Krummrich plant, yes. 12 Q Who conducted that study? 13 A Oh, two -- Judith Zack, Z-A-C-K, and David 14 Musch, M-U-S-C-H. 15 Q And when did they conduct the study? 16 A I -- the late 1970's sometime, is my 17 recollection. 18 Q I assume, based upon your reading of the 19 literature, you're familiar with the concept of 20 latency? 21 A Yes. 22 Q And it is generally accepted that there is 23 a latent period between exposure to a carcinogen 24 and the occurrence of manifest disease? 25 A For some diseases, that's correct.

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149 1 Cancer's generally the one that's most usually 2 spoken of, yes. 3 Q And for cancer, there are examples in which 4 the latency period is as late as 35 and 40 years 5 after first exposure? 6 A Well, I don't -- I mean, I'm sure there are 7 individuals for which that latency period may be 8 appropriate, I don't know that that number 9 specifically pops up anywhere, but that's certainly 10 a possibility. 11 Q It's certainly possible that it may take 20 12 or more years for cancer to show up because of the 13 latency period? 14 A Yeah, epidemiologists, in many cases, look 15 at 10 year or 20 year delays to see if there is an 16 effect after that. 17 Q Isn't it also true that generally cancer is 18 a disease of older age? 19 A I think that's a fair generalization. 20 Q Even for occupational carcinogens? 21 A I don't know that specifically. Just 22 because I don't know that specifically, I'm not 23 arguing with you, but I think that's a fair 24 generalization. 25 Q So if you're going to do a fair and	151 1 Q Was it ever offered for publication? 2 A I'm not sure of the answer to that. I know 3 it was revised with that view. I think -- I think 4 my understanding is that it was concluded that it 5 was -- that it probably was not a big enough study 6 to be published, and I don't -- I don't know 7 whether it was ever submitted or not. I don't 8 think it was but I could be wrong on that. 9 Q Was there a revision to that study that 10 also showed cardiovascular effects related to PCB 11 exposure? 12 A I don't know whether the revision did and 13 the other one didn't. I think the revision, I 14 think there were some -- there was report of excess 15 cardiovascular findings or something in that, yes. 16 Q Specifically, what cardiovascular findings? 17 A I don't know. 18 Q Was that ever published? 19 A Well, it's the same study, no. 20 Q Was that ever offered for publication? 21 A My answer's the same, it was the same 22 study. 23 Q Monsanto has not done any study of the 24 workers at Anniston for excess cancer? 25 A Monsanto has done a mortality surveillance
150 1 adequate study of carcinogenicity, you need to take 2 into account latency period, and you need to be 3 looking at workers who are in older age because 4 that's likely when cancers arise? 5 A Well, typically, if you're doing an 6 epidemiology study, you look at all workers that 7 meet the criteria of your study, whether they're 8 young or old, but then in some studies, some -- 9 some of the authors do look at, you know, age 10 distributions, or latency distributions to, you 11 know, further, you know, test their hypotheses. 12 Q In a study done in Krummrich workers on 13 Zack and Musch, did they not find an excess of lung 14 cancer? 15 A There was a -- I guess it wasn't 16 statistically, there was an excess of lung cancer 17 reported among, I believe it was black workers in 18 that study, black males in that study, yes. 19 Q And Monsanto has not done any -- has not 20 published any follow-up study? 21 A Not specific to PCB workers. There have 22 been other studies done at Krummrich, and some have 23 been published, but not specific to PCB's. 24 Q Was the Zack study published? 25 A No, it was never published.	152 1 study of the workers at Anniston that was not 2 specifically targeted at PCB workers, it was of the 3 whole plant. 4 Q And so there was no attempt to compare 5 exposure with PCB and any elevation in cancer? 6 A There was -- there was no attempt to -- to 7 evaluate exposure to any individual compounds in 8 those mortality surveillance studies. 9 Q And the mortality surveillance study was 10 done at what time? 11 A Sometime in the early to mid 1990's. 12 Q Starting with workers that were first 13 employed in 1980? 14 A That's correct. 15 Q Of course, by 1980, you weren't 16 manufacturing PCB at that plant? 17 A That's correct. 18 Q Is there any reason to believe that workers 19 from 1984 would have had exposure to PCB's at the 20 plant? 21 A There was certainly work, I assume -- I say 22 I'm sure, I assume there were workers working in 23 1980 who would have been among those exposed to 24 PCB's when we were manufacturing PCB's at the 25 plant, but again, I'm -- that study, nor do I, make

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153 1 any -- you know, other than the fact that it showed 2 basically no excess of cancers in that work force 3 that was studied, it makes, you know, no other 4 claims to address PCB's specifically, so -- 5 Q Well, and, of course, to the extent that it 6 includes people that may not have had exposure to 7 PCB's because they were employed after you quit 8 manufacturing PCB's, then that could dilute any 9 effect of excess cancers among the PCB workers, 10 couldn't it? 11 A I'm not going to debate the details of 12 that. It's a very small study to begin with, so 13 I -- you know, it's a relatively small plant. I 14 don't know about diluting effects, or anything like 15 that. It was not intended to look for findings 16 related to PCB exposure. 17 Q You're not going to assert that that study 18 shows that there weren't excess cancers among PCB 19 workers at your Anniston plant, are you? 20 A I'm not. I mean, it doesn't address those 21 questions. 22 Q All right. Monsanto isn't going to take 23 the position that that mortality study offers any 24 evidence one way or the other about whether PCB 25 exposure causes cancer?	155 1 to do a mortality study at Anniston designed to see 2 if you had excess cancer among those who were 3 exposed to PCB's? 4 A The answer, if you're talking about you 5 being me as a person -- 6 Q Monsanto. 7 A Monsanto, I don't know. Ever is a long 8 time. 9 Q Well, you know there have been various 10 studies of GE workers? 11 A Yes, those are very large populations. 12 Q Who, of course, were not manufacturing 13 PCB's, but were working with transformers? 14 A Well, they were manufacturing transformers 15 and capacitors, they were not manufacturing PCB's. 16 Working with transformers makes it sound like they 17 had a product there that they were doing something 18 with, they were making that product. 19 Q Other than the one study which did find an 20 excess of lung cancer, Monsanto has never 21 participated in a study, or conducted a study, to 22 determine whether its workers who actually worked 23 day in and day out with PCB's had an elevated level 24 of cancer? 25 A Well, the one study that has been done to
154 1 A I can't answer that, I don't know what our 2 attorneys have in mind with regard to that study at 3 all, I'm not -- 4 Q You wouldn't take that position? 5 A I'm not -- no, I think it addresses the 6 health of that work force, the work force that was 7 studied, people who are employed from 1980 on. 8 Q Because you understand that would be a 9 scientifically invalid statement to make based upon 10 what you did? 11 A Which? I mean, I don't know what statement 12 now you're referring to. I mean, I think our -- 13 our conversation is clear on what it stands or 14 doesn't stand for. 15 Q To assert that the study of the Anniston 16 workers offers evidence that PCB's do not cause 17 cancer would be a scientifically invalid statement 18 given the nature of the study, is that correct? 19 A I would generally agree with that, yes. 20 MR. LIGHTFOOT: Well done, Bob, that's -- 21 that's not easy. That's a good concession you got. 22 MR. SHIELDS: You want to put a star by 23 that? 24 QUESTIONS BY MR. SHIELDS: 25 Q Have you ever internally discussed whether	156 1 specifically look at the potential association 2 between PCB exposure and cancer in humans is the 3 Zack and Musch study. It did report an excess, it 4 was -- it's not statistically significant, the 5 numbers are very small, I mean, there are a number 6 of -- you know, it wasn't corrected for smoking, 7 any number of issues around that study, but the 8 fact is, that is the one study that Monsanto has 9 done of its PCB workers, that's correct. It's, you 10 know, looked at the surveillance studies, it's 11 looked at the Krummrich plant for other issues 12 around epidemiology, but it has not done, or 13 updated that study specifically. 14 Q But the answer to my question is, other 15 than the one study you did, which did find an 16 excess of lung cancer, you have never looked, 17 you've never allowed anybody else to look to see if 18 you had excess cancer among your PCB workers, that 19 is a true statement, is it not? 20 A Well, never allowed anybody else to look. 21 sounds like somebody has asked to come in and look. 22 We have never refused anybody access to our PCB 23 workers or any other workers to do a study, as far 24 as I know. So I don't -- we have not -- we have 25 not done any additional studies of our PCB workers

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157 1 in addition to that Zack and Musch study. 2 Q Is it your testimony that the various 3 investigators that have looked at GE workers have 4 never sought, from Monsanto, the possibility of 5 studying your workers who actually manufactured 6 PCB's? 7 A I'm -- if that offer or question has been 8 asked, I'm unaware of it. 9 Q Do you have any knowledge as to whether or 10 not, prior to your position in environmental 11 affairs starting in 1986, Monsanto had ever been 12 asked about allowing its PCB workers to be studied 13 for cancer? 14 A I'm unaware of any such request. 15 Q Just don't know one way or the other? 16 A That's correct. 17 Q You're not saying it didn't occur, you just 18 don't know? 19 A That's correct. 20 MR. LIGHTFOOT: Are you getting close to 21 the end? 22 MR. WRIGHT: End of that page. 23 MR. KELLY: Let's take a quick break here. 24 (Off the record discussion.) 25 QUESTIONS BY MR. SHIELDS:	159 1 know what testimony I'm going to be offering at the 2 Anniston -- or the trial, so I -- I just can't 3 answer that question. You're asking the wrong guy. 4 QUESTIONS BY MR. SHIELDS: 5 Q So you've had no discussions about what 6 potential testimony you'll offer at trial? 7 MR. LIGHTFOOT: Don't talk -- don't tell 8 about conversations you had with the lawyers. 9 THE WITNESS: I have not had conversations 10 about my areas of testimony, other than the fact 11 that I'm being offered as a 30(b)(6) on what he 12 talked about. I don't know whether I'm going to be 13 asked about it, so I don't know. 14 QUESTIONS BY MR. SHIELDS: 15 Q Have you attended depositions other than 16 Dr. Simons? 17 A In this case? 18 Q Yes. 19 A Yes. 20 Q What other deposition? 21 A Dr. Robertson. 22 MR. LIGHTFOOT: Hansen, H-A-N-S-E-N. 23 THE WITNESS: Yes, Sir, I believe those are 24 all. 25 QUESTIONS BY MR. SHIELDS:
158 1 Q Dr. Kaley, it is correct, is it not, that 2 the Law Department retrieved all of the PCB 3 documents in the mid '70s and has kept them since? 4 A My understanding is that the Law Department 5 did try to acquire PCB documents throughout the 6 company. I don't know about the date specifically. 7 Q You attended the deposition of Robert K. 8 Simon? 9 A Yes. 10 Q Analytical chemist? 11 A Yes. 12 Q And do you intend to offer any testimony at 13 trial disagreeing with him and his conclusions 14 regarding the analytical chemistry issues he 15 discussed in his deposition? 16 MR. LIGHTFOOT: Hang on -- 17 THE WITNESS: Thank you. 18 MR. LIGHTFOOT: -- that's an unfair 19 question, but you can take a stab at it. You were 20 there, but you can't remember everything he said? 21 Can you, or can you? 22 MR. SHIELDS: Sure he can. 23 MR. LIGHTFOOT: Anyway, you answer the 24 question best you can. I made my objection. 25 THE WITNESS: As I sit here today, I don't	160 1 Q Okay. Do you have any recollection -- 2 A Well, I'm sorry, I attended the deposition 3 of Dr. Carpenter, I'm 99.9 percent sure it was in 4 the Abernathy case. 5 Q Yeah, it was. Do you have any recollection 6 of disagreeing with Dr. Simon while you sat there 7 listening to his deposition on any matter? 8 A Yes. 9 Q What items did you disagree with him about? 10 A What did he testify about? I'm sorry, take 11 that off -- take that off the record. That was 12 cheap. I disagree with his testimony with regard 13 to whether the soil samples on Mims property could 14 or could not have been fill material. I disagreed 15 with his characterization of the development of the 16 analytical chemistry of PCB's, and his testimony 17 that General Electric was analyzing for PCB's in 18 environmental samples in the 1950's. 19 MR. LIGHTFOOT: I suppose you could 20 remember more if you could see the testimony, I 21 mean -- 22 THE WITNESS: Yeah, I'm just trying to 23 think, those are the ones -- I mean, those are the 24 ones that jump to mind 25 QUESTIONS BY MR. SHIELDS:

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161 1 Q Have you been given a transcript? 2 A I have a transcript, I have not reviewed 3 it. 4 Q So you could have seen the testimony? 5 MR. LIGHTFOOT: Bob, you're pretty good, 6 but this ought not be a memory test. 7 QUESTIONS BY MR. SHIELDS: 8 Q To be fair -- 9 A I think those are the two that really -- 10 his whole discussion on analytical chemistry of 11 PCB's was -- 12 Q Here -- let's just be candid and fair about 13 it. We have Dr. Simon as an analytical chemist 14 expert, you haven't identified anybody in that 15 capacity, probably because you're going to testify 16 about it, but because -- 17 A You're looking at the wrong guy. 18 Q But because it's you, we don't have any 19 written report to know anything about what would be 20 said. I'm just trying to figure out what it is you 21 might say so that I can -- 22 MR. WRIGHT: Fortunately for us, I think 23 they claimed Scott Tucker as an expert in that. 24 MR. SHIELDS: Not -- I don't think on -- 25 MR. WRIGHT: Maybe not on their	163 1 A No. 2 Q Have you -- you haven't seen the soil at 3 all? 4 A No. 5 Q All right. So you can't say, I've looked 6 at the soil and it contains fill or doesn't contain 7 fill? 8 A No. 9 Q Let's just talk about that issue for a 10 moment. I can show you some other documents in 11 which Monsanto has taken the position that if you 12 find levels other than adjacent to the drainage 13 ditches in the flood areas, then it's because of 14 fill, and so there is -- let me ask you generally, 15 tell me every basis on which you rely in asserting 16 that either on the Mims property, or other 17 property, that PCB levels are the result of fill? 18 A I think there's the question of -- well, 19 Alabama red clay is fairly identifiable, and it's 20 fairly -- fairly easy to distinguish native Alabama 21 red clay on properties versus materials that were 22 brought in, that have different characteristics, so 23 basically, number one, it's the characteristics of 24 the soils. 25 Number two, in some cases, we've been told
162 1 designation. 2 MR. SHIELDS: Not under these designations, 3 yeah. 4 THE WITNESS: I understand, I don't mind 5 you asking these questions, Warren does. I'm happy 6 to answer the questions. I -- but I'm -- I can't 7 think of everything I may or may not have disagreed 8 or agreed with Dr. Simon about. 9 MR. LIGHTFOOT: Bob knows that, he knows 10 you can't be called on about that. 11 (Off record discussion.) 12 MR. KELLY: We have designated Dr. Tucker. 13 On the other hand, if, and to the extent that Bob 14 Kaley will, or comment, or provide on the testimony 15 of Dr. Simon, we will provide you with, Bob, 16 comments, or the areas in which he would discuss, 17 prior to any testimony by Dr. Kaley. 18 MR. SHIELDS: Okay. 19 QUESTIONS BY MR. SHIELDS: 20 Q Let me ask a couple of questions about what 21 you mentioned. You mentioned you disagreed with 22 his conclusion about the soil samples and whether 23 or not they contained fill? 24 A Yes. 25 Q Did you review any of the soil samples?	164 1 that the material -- the areas have been filled, 2 some of that has not been substantiated, but we 3 have been told that some fill has been done. I 4 think we have some lines of evidence around the 5 area we talked about earlier, that some of the 6 profiles that are being reported show presence of 7 these very highly chlorinated 8, 9, and 10 8 chlorinated species, which are not consistent with 9 the kinds of residues we're seeing in the soils 10 associated with drainage pathways. 11 And the other thing would be just the 12 isolated distribution of some of those PCB 13 findings, I mean, when you find one property that 14 has some level of PCB's higher than everything else 15 around it, that doesn't -- that's not consistent 16 with any kind of pathway other than somebody put 17 something there that had PCB's in it. I think 18 those are generally the areas that we're using 19 to -- to make that hypothesis. 20 Q All right. So basically the evidence you 21 know of would be, one, the characteristics of 22 native soil versus fill; two, that you have some 23 indication people have told you that fill has been 24 used; three, the profiles of the 8, 9, and 10 25 chlorines; and four, the isolated distribution of

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165 1 some hot spots? 2 A Right. 3 Q Anything else that provides any basis for 4 the assertion that there's fill dirt? 5 A And I guess, in some characteristic -- in 6 some cases, I think there have been observations of 7 foreign material, specific foreign material in 8 those -- in some of those soils. That'll be the 9 only one -- it's kind of in the soil 10 characteristics area, but that's another specific 11 one. I don't know of any others as I sit here 12 today that come to mind. 13 Q All right. In terms of the characteristics 14 of the soil, since you haven't seen it, you can't 15 testify as to that, you have to rely on somebody 16 who's actually seen the soil? 17 A That's correct. 18 Q All right. 19 MR. KELLY: Bob, is that with a particular 20 property, was it Mims property, or in general? 21 QUESTIONS BY MR. SHIELDS: 22 Q Well, let's start with Miss Mims, you 23 haven't seen hers, we've covered that? 24 A I haven't seen the soil samples associated 25 with her property.	167 1 other than Mr. Price's analysis? 2 A I don't know. 3 Q What I'm trying to find out, is there any 4 witness that says, Fill was moved from here over to 5 Miss Mims' property? 6 A I don't know. 7 Q Okay. We've already discussed the profiles 8 of the 8, 9, and 10, I understand that issue. 9 A That's correct. 10 Q The fourth reason was the isolated 11 distribution. Of course, isolated distribution 12 doesn't necessarily mean it's fill, does it? 13 A Not necessarily. 14 Q Could be isolated for other reasons? 15 A Yes. 16 Q All right. PCB's could have been 17 transported there by other mechanisms than fill 18 dirt? 19 A Yes. 20 Q Questions keep getting asked in these 21 depositions about foundry sand. Do you have any 22 basis to believe that foundry sand was taken to 23 Miss Mims' property, and that is an explanation for 24 any PCB's on her property? 25 A I have no personal information to that
166 1 Q Have you seen soil samples on any other 2 property that would allow you to draw a conclusion 3 that was fill other than native? 4 A Not me personally, no. 5 Q Do you know of anyone who has, on her 6 property, other than Mr. Price and Dr. Simon? 7 A Mr. Price would be the one I would be 8 relying on for that information. 9 Q The second basis was that you were told 10 that fill was used? 11 A Mm-mm. 12 Q Who told you that fill was used? 13 A Well, that's -- I mean, there's various 14 cases, I mean, for instance, the Oxford ball fields 15 we've been told by the City guy, that was fill 16 material. My recollection is, there's been other 17 cases where we have been told, one time or another, 18 there may be fill. We did some spot clean-ups on 19 properties where they allowed us to do spot 20 clean-ups, in a couple cases, I don't even know the 21 name, but in a couple cases those people reported 22 that that's fill material, that was consistent with 23 our findings. 24 Q Has anyone advised Monsanto, or its 25 lawyers, that fill was used on Miss Mims' property,	168 1 effect, no. 2 Q Do you have any hearsay information to that 3 effect? 4 A Not that I'm aware of. 5 Q Do you know of any witness that will say 6 that? 7 A I'm not aware of any. 8 Q Can you identify any foundry that provided 9 sand to people in the area? 10 A I can't. 11 Q Can you tell me the basis for the assertion 12 that foundries used PCB's? 13 A Well, we have -- I have knowledge that some 14 foundries used PCB's, specifically in what's called 15 investment, or lost wax casting processes. 16 Q And what is the basis for that knowledge? 17 A Primarily -- well, I guess just reading and 18 understanding, you know, various reports that have 19 talked about the various uses of PCB's. 20 Q Do you know whether any foundry in the 21 Anniston area had the wax casting process? 22 A I do not know that specifically. 23 Q Or used PCB's in a wax casting process? 24 A I do not know that, no. 25 Q There's been a suggestion in questions that

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169 1 1268 was the Aroclor that would have been used by 2 foundries. Can you give me any basis for asserting 3 that Aroclor 1268 would have been used by 4 foundries? 5 A Again, that's -- basically goes back to my 6 question, just my general understanding of the kind 7 of processes that the Aroclor materials were being 8 used for in foundry operations, and I believe some 9 reports, and I can't point you to anything 10 specifically, but various use surveys that talk 11 about the fact that those kinds of materials were 12 being used. I don't have anything specific other 13 than that. 14 Q Are those use reports or surveys on which 15 you vaguely rely, part of the Monsanto documents 16 that have been produced? 17 A I have no idea, I mean, I'm talking about 18 government reports, primarily. 19 Q Can you identify them in any way -- 20 A Well, the one that I -- and I'm going to 21 identify one, but I don't know that it specifically 22 says that, and I hate to do that to you, but there 23 was a Versar report of 1976 -- Versar, capital 24 V-E-R-S-A-R, it's a consulting firm, report on uses 25 of PCB's in 1976. If I were to go start looking	171 1 development of specifically the analytical 2 chemistry of PCB's. And I just can't resist, 3 interestingly, one of the authors that Dr. Simon 4 cited as writing a specific book was my research 5 advisor, and I know he wrote no such book. 6 Q What book was that? 7 A I don't know, he talked about a book by a 8 guy named Malmstadt, capital M-A-L-M-S-T-A-D-T, it 9 was something to do with the history of analytical 10 chemistry or something, I -- that book doesn't 11 exist, and it had nothing to do with PCB's even if 12 it did exist. 13 MR. SHIELDS: Let's mark this as the next 14 exhibit. 15 (Plaintiff's Exhibit Kaley No. 4 marked for 16 identification.) 17 QUESTIONS BY MR. SHIELDS: 18 Q Okay. Now, Dr. Kaley, let me show you what 19 we have marked as Kaley Exhibit 4, which is a copy 20 of an affidavit in this case that appears to have 21 been signed by you in August of 1996. Can you 22 confirm that's what it is? 23 A '98 -- well, that's her commission, I'm 24 sorry, yeah, 14th day of August, 1996. 25 Q I've done that same thing in another
170 1 for documentation, that's where I would go first, 2 but it may not be there, you know, again, it's just 3 kind of one of those things I think I understand. 4 Q I'm just trying to find out -- 5 A I know. 6 Q -- whether all these lawyers on the other 7 side are blowing smoke when they ask these 8 questions, or whether you really have some evidence 9 of this. Do you know of any evidence of it? 10 A I -- I know of no hard evidence that any 11 foundries in Anniston were using Aroclor 1268 in 12 any of their processes. 13 Q The second thing you mentioned was 14 disagreement with Dr. Simon about testing for PCB's 15 at earlier time periods. You first went to work at 16 Monsanto in 1973? 17 A That's correct. 18 Q All right. You weren't working a decade 19 earlier to know what Monsanto, or GE, or anyone 20 else was doing? 21 A I'm not sure those follow, but I was not 22 working a decade earlier in the chemical industry, 23 that's correct, or the electrical industry, but I 24 certainly, you know, am familiar with the 25 development of analytical chemistry, and the	172 1 deposition. 2 A That appears to be -- your characterization 3 appears to be correct. 4 Q Okay. When did you last review the 5 contents of this? 6 A Well, actually, I reviewed the contents of 7 an update to that yesterday. That is -- that has 8 been updated several times. 9 Q Is -- are the contents of Plaintiff's 10 Exhibit Kaley 4 true and accurate? 11 A I believe they are, yes. 12 Q Let me ask you about some specific items in 13 it, and some of these things I know you've already 14 testified about. You state in Paragraph 2 of the 15 affidavit that, In my position with Monsanto, I am 16 charged with reviewing literature and reports on -- 17 regarding PCB's, including information regarding 18 the toxicity of PCB's and environmental 19 remediations involving PCB's; is that correct? 20 A Yes. 21 Q Did anyone else have any responsibility for 22 reviewing literature and reports involving the 23 toxicity of PCB's? 24 A In what time frame? 25 Q Let's say in the time frame since you

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173 1 assumed the position of Environmental Manager. 2 A Well, I mean, at the time I was reporting 3 to Dr. Craddock, he had that responsibility, as 4 well as I did, and I think we mentioned Dr. Michael 5 and Dr. Mappes earlier, and both of those would 6 have had some semblance of that same 7 responsibility. 8 Q Okay. So tracing it back, let me see if I 9 can get this right, would Dr. Pappageorge have been 10 the person with the responsibility of keeping up on 11 the scientific literature on the toxicology of 12 PCB's before Dr. Craddock? 13 A Not necessarily for the whole time frame 14 before Dr. Craddock, I mean, I don't know Bill's 15 exact times, but from the 1969, 1970 time frame, 16 whenever he was appointed to manage PCB issues, up 17 until he left that position, which I recall being 18 something like '76 or '77, he would have had some 19 responsibility. I mean, there were other people 20 doing it, I was doing it as an analytical chemist, 21 there were probably other people doing it in other 22 fields, but he had that responsibility. And then 23 Dr. Craddock was -- basically began that 24 responsibility in 1980. So -- 25 Q Would it be accurate to say, from 1969	175 1 A Probably with -- you know, with input from 2 other people that -- I mean, Dr. Craddock was not a 3 toxicologist by training, so, you know, he -- he 4 certainly would have been aware of that literature, 5 and had the primary responsibility for -- within 6 the company for maintaining that literature, but I 7 don't -- you know, he may very well have relied on 8 other toxicologists for specific input. 9 Q Can you identify any toxicologist at 10 Monsanto that provided any input to Dr. Craddock? 11 A I would suspect, until the time of his 12 retirement, which I don't really recollect, but 13 Dr. Levinkas was knowledgeable, L-E-V-I-N-S-K-A-S, 14 about some of those issues. 15 Q Do you recall generally when Dr. Levinkas 16 retired? 17 A You know, I don't. I -- I -- late '80s, 18 early '90s, I don't really remember. 19 Q Okay. And is it correct that when you 20 became Environmental Manager, it then became your 21 principal responsibility to keep up with the 22 scientific literature on toxicology? 23 A Well, along with, you know, the other 24 people we've mentioned at various time frames. 25 I've certainly, since 1985, I've considered that
174 1 until approximately 1970, Mr. Pappageorge would 2 have been the one with the principal responsibility 3 for keeping up with the scientific literature on 4 the toxicity of PCB's? 5 A From '69 to '70? 6 Q '77. 7 A I -- I would say probably the toxicology 8 aspects in that time frame, or some of that time 9 frame at least, probably were within the Medical 10 Department. Dr. Emmett Kelly was there until 1974. 11 There were other toxicologists and hygienists I 12 know that did deal with PCB issues in that time 13 frame. I think Bill's -- Dr. Pappageorge's 14 responsibilities were more over -- overseeing, I 15 mean, he needed to know about the toxicology, but 16 he relied on Dr. Kelly, and others, in the Medical 17 Department. 18 Q Okay. Let's move forward, then, from the 19 time period 1977 time frame. 20 A Okay. 21 Q Dr. Craddock. 22 A Right. 23 Q Did he have the principal responsibility 24 for keeping up with the scientific literature on 25 the toxicology of PCB's?	176 1 part of my responsibility. 2 Q Did you also consider it your 3 responsibility to keep up with the scientific 4 literature regarding environmental remediation? 5 A Yes, although I -- we had -- we had, and 6 have a remediation group that are, you know, more 7 specific. I -- with remediation, I'm certainly 8 aware of the technologies and things, but I'm not 9 out designing remediation projects and things like 10 that, but I'm aware of the regulations, what's 11 required, or was aware of what's required under the 12 regulations, and then the general approaches to 13 remediations of PCB's, PCB impacted materials. 14 Q Paragraph 3 of your affidavit gives some 15 history of Monsanto at the Anniston plant, and 16 although I don't think any of this is in dispute, 17 I'll just quickly run through and confirm it. Is 18 it your understanding that Monsanto operated the 19 facility from 1935 until it provided for the 20 creation of Solutia, and Solutia took over? 21 A The Anniston facility? 22 Q Yes. 23 A Yes. 24 Q And more specifically -- 25 A Again, obviously that's not -- PCB's were

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177 1 not manufactured that whole time frame. 2 Q That's where I was going next. The actual 3 manufacture of PCB's at that facility under 4 Monsanto's direction would have been from 1935 5 until 1971? 6 A That's correct. 7 Q The vast majority of PCB products 8 manufactured by PCB were sold to electric equipment 9 manufacturers? 10 A Yeah, it's actually manufactured by 11 Monsanto, you said manufactured by PCB, that's 12 fine, just to clarify the record. 13 Q Thank you. 14 A Yes, that's correct. 15 Q Okay. PCB's were banned in 1979? 16 A The manufacture of PCB's was banned in 17 1979. Certain uses were allowed, and are still 18 allowed today. 19 Q Was the basis for the ban by EPA that PCB's 20 posed an unreasonable risk to human health and the 21 environment? 22 A Well, I think certainly there was -- the 23 primary reason for the promulgation of the 24 regulations was the environmental presence. 25 Certainly there was some concern about the toxicity	179 1 mineral oil. 2 Q Is that the principal product that's used 3 today for transformers? 4 A I -- I'm not sure. I don't know the answer 5 to that. 6 Q Have there been any new products developed 7 to replace mineral oil or PCB's in transformers? 8 A There have been some efforts to do 9 specific -- you know, some other kinds of fluids 10 have been used. I know there's some hydrocarbon -- 11 high molecular weight hydrocarbon materials that 12 have been, you know, marketed for that purpose. I 13 think some -- some manufacturers have what they 14 call dry transformers now where basically air is 15 the dielectric. I know there are other substitutes 16 but I don't know specifically what the biggest 17 market share is. I think silicon oils are -- were 18 used large -- as one of the large substitutes for 19 PCB's. 20 Q Is it correct that mineral oil, silicon 21 oils, technologically could have been used instead 22 of PCB's long before PCB's were banned? 23 A Well, mineral oils were used long before 24 PCB's were banned, but mineral oils are not flame 25 retardant. PCB's were used in those transformers
178 1 of PCB's. 2 Q Isn't the magic language that EPA uses to 3 ban a product, that it is, quote, an unreasonable 4 risk to human health and the environment? 5 A I don't know the answer to that. I've 6 heard that language, and I know that that is used. 7 I don't know if that's the language in the 8 enabling -- you know, in the enabling regulations 9 for the PCB regulations, I just don't know whether 10 it says that specifically or not. 11 Q I take it that there have been alternative 12 products developed for use in electric 13 transformers? 14 A To some extent that's true. To a large 15 extent, they went back to things they had before. 16 Q Okay. 17 A And -- well, the other thing I would say, 18 again, I'm sure you know, that with regard to 19 transformers at least, my understanding is that 20 only about five percent of transformers ever had 21 PCB's in them anyway, it wasn't like it was every 22 transformer had to have a substitute in it. 23 Q What products did they go back to that they 24 had used before? 25 A Well, the going back to part was primarily	180 1 where fire resistance was an important, you know, 2 capability to have, and so I mean, to the extent 3 that, you know, the mineral oil works okay 4 electrically, but it's flammable, so if there were 5 an accident in a situation where, you know, there 6 were a lot of people around, for instance, an 7 office building or something, then yeah, the 8 electrical equipment would have worked fine, but in 9 a fire, it was a much larger risk of danger from 10 the fire. That's why PCB's were used to begin 11 with. 12 Q Have there been any increase in fires in 13 transformers since PCB's have been banned? 14 A I don't know. 15 Q There were a number of fires in 16 transformers that had PCB's in them? 17 A There were situations where PCB's were 18 involved in fire -- PCB contained transformers were 19 involved in fires, yes. 20 Q Okay. 21 A It wasn't the PCB's that were burning, 22 but -- 23 Q There's an extensive discussion in the 24 Scott deposition about whether they were or not, 25 and I don't know that it serves any purpose in our

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181 1 case to argue about it. 2 A Okay. 3 Q But it is correct, is it not, Dr. Kaley, 4 that there were a number of fires involving PCB 5 transformers, regardless of what was burning? 6 A Sure, yes. 7 Q The Binghamton, New York, fire is one 8 example? 9 A Yes. 10 Q And there were fires reported at various 11 other places around the country involving -- 12 A There have been several others, yes. 13 Q Do you recall any reports of transformers 14 with mineral oil or PCB substitutes? 15 MR. KELLY: For what kind of report, Bob? 16 QUESTIONS BY MR. SHIELDS: 17 Q We have these reports of PCB transformer 18 fires involving -- 19 A I'm sure there have been, they just don't 20 get the publicity because they don't have PCB's in 21 them, and the building burns down, and there's 22 nothing to investigate. 23 Q Do you have -- 24 A I don't have any specific incident I can 25 point you to where there's been a transformer fire.	183 1 A Yes. 2 Q Okay. What have you seen? 3 A Well, we actually sponsored a risk 4 assessment in the early 1980's that looked at the 5 question of risks of fire spreads from PCB versus a 6 mineral oil transformer. 7 Q What's the name of that document or 8 documents? 9 A I -- I don't -- it was -- basically it was 10 a transformer fire risk assessment evaluation or 11 something, I don't remember specifically, but 12 there's a -- it was actually published in the peer 13 review literature. 14 Q Do you recall the author? 15 A Not specifically. It was done by a firm 16 called Pickard, P-I-C-K-A-R-D, Lowe, L-O-W-E, and 17 like Garrett or Garick, or something like that, I 18 don't remember specifically. I don't remember the 19 specific author's name. 20 Q Your affidavit in Paragraph 4 references 21 the Toxic Substances Control Act, I was thinking 22 there was a reference to other environmental 23 statutes, but I don't see that at this point in 24 time. Is it correct that the environmental 25 statutes which gave the Federal Government any
182 1 Q Okay. Let's expand beyond transformers and 2 go to capacitors and other electric equipment. 3 What has replaced PCB's? 4 A In capacitors, there's a variety of things, 5 there are silicon oils, there are something called 6 phthalate esters, P-H-T-H-A-L-A-T-E, hydrocarbon 7 fluids, there are others, I mean, you want me to 8 sit here -- isopropyl biphenyl, I-S-O-P-R-O-P-Y-L, 9 B-I-P-H-E-N-Y-L. Various manufacturers have come 10 up with various fluids. 11 Q None of those would have been regarded as a 12 technological breakthrough that couldn't have been 13 done earlier? 14 A Well, but they're all flammable, most of 15 them are. 16 Q I understand, but the answer is, 17 technologically those could have been used years 18 before PCB's were phased out? 19 A I presume, if there had been a need 20 identified, yeah, they could have, some of them at 21 least. 22 Q Have you seen any sort of risk assessment 23 as to fire and safety matters with PCB electrical 24 equipment versus the replacement mineral oil, 25 silicon oil, all the other replacements?	184 1 regulatory authority by which they could have 2 issued any regulations relating to PCB's were all 3 passed basically in 1970 and thereafter? 4 A To the extent they were EPA regulations, 5 yes, because EPA wasn't created until about that 6 time frame. 7 Q EPA was created approximately 1970? 8 A That's correct. 9 Q The Toxic Substance Control Act was 1976? 10 A That's correct. 11 Q When was the Clean Water Act? 12 A I don't know. 13 Q Early '70s? 14 A Yes, along the first -- probably '72, '73, 15 I don't know specifically, though. 16 Q Clean Air Act, same time frame? 17 A I don't know. I'll take your word for it. 18 I believe so. 19 Q Resource Conservation Recovery Act, 1978? 20 A If you know, that's fine. I would have 21 said 1980 but we're close. 22 Q What was it originally called, the 23 Superfund, and later CRCLA (phonetic), 1980? 24 A Again, I'll take your word for it. I would 25 have guessed it later, mid '80s is what I would

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185 1 have said. 2 Q So basically there weren't statutes around 3 to regulate PCB's until about the time frame in 4 which you were ceasing to manufacture them at 5 Anniston? 6 A That's correct. Well, yeah, I mean, or 7 St. Louis, for that matter. 8 Q There were generic state statutes that 9 could have impacted PCB discharges from your 10 facilities? 11 A I'm not aware specifically. I'm not going 12 to argue with you, there may have been, I don't 13 know. 14 Q Well, do you understand, for example, that 15 trespass law, nuisance law, negligence law, 16 although it may not be specifically PCB, can be a 17 basis for dealing with discharges of PCB's? 18 A I'm not sure I understand that, no. 19 Q We've already talked about this, 20 Paragraph 7 of your affidavit references that the 21 Alabama Power Company bought the parcel where the 22 West End Landfill existed, or it may be more than 23 one parcel, but they bought that land? 24 A It was actually a land swap, is my 25 understanding. I don't know whether money changed	187 1 Q And had those samples shown the presence of 2 PCB's? 3 A I believe they had in some cases at least. 4 Q When did the samples in fish show the 5 presence of PCB's, what's the earliest that 6 happened? 7 A I don't really know the answer to that. 8 Sometime in the early 1970's would have been my -- 9 my understanding, as I sit here. It may have been 10 earlier than that, I don't know. 11 Q And is it your recollection that those 12 samples were, in fact, above what was then the FDA 13 limit of PCB's for fish? 14 A I believe some of them were above five 15 parts per million, yes. 16 Q And by the early '90s, that level was down 17 to two parts per million instead of five? 18 A The FDA level, yes. 19 Q So when you said in Paragraph 9 that in 20 November 1993 there was this finding, you weren't 21 intending to imply that that was something new that 22 hadn't been found years earlier? 23 A Well, what I specifically was communicating 24 in that paragraph was that that -- that finding in 25 1993 was what triggered the consumption advisory
186 1 hands or not. My understanding is it was an 2 even-steven land swap. 3 Q Paragraph 9 of your affidavit says in 4 November 1993, ADPH issued a notice advising people 5 to refrain from consuming fish in Choccolocco Creek 6 between the confluence of Choccolocco Creek and 7 Snow Creek. The advisory was based on fish tissue 8 testing which revealed PCB's above two parts per 9 million in fish collected in Choccolocco Creek. 10 Who collected the samples showing fish with 11 concentrations above two parts per million? 12 A My recollection is that they were 13 originally collected by some contractor that was -- 14 at least some fish, by some contractor that was 15 doing some work in the creek for some reason, and I 16 believe ADEM, A-D-E-M, followed up with additional 17 testing. 18 Q Was the contractor employed by Monsanto? 19 A No. 20 Q Had Monsanto -- 21 A Or not to my knowledge, let me say that. 22 Q Had Monsanto earlier employed consultants 23 or contractors who had done fish samples in Snow 24 Creek or Choccolocco Creek? 25 A I believe there were some.	188 1 from ADPH. 2 Q Okay. But that finding in 1993 was not 3 substantively different than the finding 20 years 4 earlier by Monsanto's consultant? 5 A Well, that implies continuity, I think, 6 between that the fish had never -- that they were 7 always at that level all those 20 years. I don't 8 think we have information to say that that's the 9 case. I mean, based on our finding in Lake Logan 10 Martin, I would infer that that is not the case. 11 Something happened in that early '90s time frame to 12 cause the levels in Lake Logan Martin to increase. 13 My inference would be that that also caused the 14 levels in Choccolocco Creek to increase. 15 Q Let me see if I get the chronology correct. 16 It's your recollection that sometime in the early 17 '70s, a contractor consultant for Monsanto found 18 PCB's in fish samples that were above what was then 19 the FDA limit of five parts per million? 20 A That's my recollection. 21 Q And then in 1993, a contractor not employed 22 by Monsanto found PCB levels in fish above what was 23 then the FDA limit of two parts per million, is 24 that right? 25 A Yes, let me -- the contractor -- by

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189 1 contractor, I mean, I don't think -- the guy in 2 1993 I don't think was out collecting fish samples 3 because they were fish samples, I think he was 4 doing some sort of work in the creek with regard to 5 flood control, or channelling, or something like 6 that. He had fish submitted to someone, maybe -- I 7 don't even know where they were, maybe to ADEM, for 8 testing. I don't want to make it sound like the 9 guy was out there testing fish, that's not what his 10 purpose out there was, but other than that, 11 basically your characterization is correct. 12 Q Were fish samples taken for PCB analysis 13 between the '70s, when Monsanto's contractor found 14 the levels, and 1993? 15 A I'm not aware of any in the creek itself. 16 Q Monsanto never did any study or analysis of 17 fish samples during that time period? 18 A Not of fish. We did of sediment but not of 19 fish. 20 Q You don't have any data that would allow 21 you to conclude that the levels in fish did not 22 continue to contain PCB's in the years from your 23 sampling in the early '70s up to 1993? 24 A I believe I said it was an inference. 25 Q Paragraph 10 of your affidavit,	191 1 Q Has ADEM followed up, and EPA followed up 2 and eliminated those other sources as likely 3 sources for any significant contribution of PCB's? 4 A I'm not aware of that if it's happened. 5 Q You haven't sought to have any other 6 industrial concern, or business in the area, 7 participate in any remediation expense in 8 connection with PCB's, have you? 9 A Not yet, not today. 10 Q Let me see if I can sort of pull all this 11 together in terms of generally where you have found 12 PCB's. You found PCB's in the storm water runoff 13 from the South Landfill? 14 A Correct. 15 Q You found PCB's in the drainage ditch from 16 your plant? 17 A Correct. 18 Q You found PCB's on residential property in 19 the flood plane adjacent to the drainage ditches? 20 A In some areas, yes, I mean, not on every 21 property, and not necessarily the whole flood 22 plane, but certainly there were residential 23 properties that had PCB impacted soils on it. 24 Q PCB's have been found on other residential 25 properties beyond the flood plane?
190 1 Exhibit Kaley 3, says that 11 other potential 2 sources of PCB's were identified in Snow Creek. 3 A Yes. 4 Q Okay. And it references an attached 5 Exhibit A, but the copy I have doesn't have an 6 Exhibit A. There may be one -- 7 A I'm sorry. 8 Q -- but it somehow didn't end up with me. 9 A Okay. 10 Q Can you generally tell me who those other 11 11 potential sources were? I mean, I won't ask for 12 exact names, but just tell me what -- 13 A Basically, they were other industrial 14 facilities along the Snow Creek channel way, I 15 mean, I think there's a couple foundries, or either 16 present or former foundries, I think there are a 17 couple junkyards, I think Alabama Power may have 18 been on the list. Other than that, I don't -- I 19 can't really be anymore specific. 20 Q No one outside of manufactured PCB's? 21 A In Anniston, that's correct. 22 Q Since the date of your affidavit in '96, 23 has there been an attempt to follow-up on these 24 other potential sources? 25 A Not by Monsanto-Solutia.	192 1 A That's correct. 2 Q PCB's have been found in fish, as we us 3 discussed? 4 A Yes, in Choccolocco Creek, and Lake Logan 5 Martin, yes. 6 Q You are aware that previously PCB's have 7 been found in domestic livestock? 8 A I believe I have recollection that one hog 9 was analyzed for PCB's, domestic livestock sounds 10 bigger than one hog, but I'll acknowledge that 11 one -- at least one sample of hog was analyzed and 12 PCB's were found in it, yes. 13 Q And thereafter, you bought all the hogs in 14 the neighborhood? 15 A I understand that there was a purchase of 16 some number of -- whether it was all or not, I 17 don't know, but some hogs from that area, yes. 18 Q And is it your testimony you didn't sample 19 any of those other hogs? 20 A I believe that's correct. 21 Q So when you say it was found only in one 22 hog, it was because you only sampled one hog? 23 A I believe that's correct. 24 Q PCB's have been found in wildlife? 25 MR. KELLY: In any --

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193 1 QUESTIONS BY MR. SHIELDS: 2 Q In Anniston. 3 A In Anniston? Other than fish, I'm -- I'm 4 not sure I'm aware of any. 5 Q Has Monsanto sampled any wildlife other 6 than fish? 7 A No. 8 Q We saw that the sampling of the fish went 9 back to the '70s, the hog sampling was even earlier 10 than that, was it not? 11 A I don't believe so. I -- I mean, it may -- 12 frankly, I don't know an exact date, it would have 13 been the late '60s, at the earliest, I mean, it was 14 sometime in that time -- I would have said it was 15 early '70s, but I don't know specifically what 16 year. 17 Q Would you agree that Monsanto knew there 18 were PCB's in the drainage ditch before the 1990's? 19 A Well, I guess, what are you defining as the 20 drainage ditch? I mean, obviously the part in 1985 21 that we sampled and did sediment removal from, we 22 were certainly aware PCB's were in those, yes. 23 Q Going back before 1985, I assume you're 24 aware of the testimony, and documents that you 25 could see -- actually with the naked eye, see PCB	195 1 the end of the process there. 2 Q And by that you mean late '60s, early '70s? 3 A Yes. 4 Q And were PCB's found in the air inside the 5 facility at that time? 6 A Well, the actual samples were taken like 7 right up next to pipes where there were what they 8 call fugitive emissions, so we had in some cases 9 PCB's were detected there. There was no general 10 area, air monitoring done. 11 Q And no off-site air monitoring done? 12 A That's correct. 13 Q And no air monitoring done outside the 14 building itself? 15 A Yeah, I believe that's correct. 16 Q Are you familiar with the data regarding 17 PCB contamination of tree bark? 18 A I'm aware it's there. I don't know that 19 I've made a huge study of it but I'm aware that 20 it's been done, yes. 21 Q Do you recognize that PCB's in tree bark 22 provides evidence of air contamination? 23 A I understand that Dr. Herman interprets it 24 that way, I just really haven't thought about it. 25 Obviously, if there really are -- I haven't looked
194 1 and effluent coming off your property into the 2 drainage ditch? 3 A I don't know exactly where that visual 4 sighting occurred, but I am aware -- I know there's 5 one document that talks about that, yes. 6 Q And when was that, '60s, '70s? 7 A Late '60s, at the earliest, could have been 8 early '70s. I would say late '60s. 9 Q And has Monsanto done air monitoring? 10 A Yes. 11 Q Have you found -- 12 A I mean -- 13 Q -- PCB levels in the air? 14 A Yes. 15 Q When did you first do any air monitoring? 16 MR. KELLY: Location, Bob? 17 QUESTIONS BY MR. SHIELDS: 18 Q In Anniston, and by that, I don't mean 19 inside the building but outside. 20 A I believe it was in 1998 was when we first 21 started taking air samples. 22 Q Now, prior to 1998, have you done any air 23 sampling inside the building? 24 A I believe there was some seminal air 25 samples attempted to be taken at some point near	196 1 at the analytical data, but if there really are 2 PCB's on the tree bark, above some background 3 level, they obviously got there somehow, you know, 4 air is a possibility, but again, we don't know the 5 time frame, there's nothing to compare it to. I 6 mean, that's -- I don't think that's a totally 7 unreasonable supposition. 8 Q The basis for it is that you couldn't get 9 PCB's on the tree bark from the tree absorbing it 10 out of the land and sending it into the bark? 11 A That's clearly true. 12 Q So if it's on the bark, it had to get there 13 externally to the tree? 14 A I certainly agree with that. 15 Q And if the bark is up off the ground, and 16 it's there, then it's kind of hard to figure out 17 how it got there other than the air? 18 A That's true. 19 Q PCB's are -- they bind to a particular 20 pattern? 21 A Typically, yes. 22 Q Dust, dirt? 23 A Certainly. 24 Q Mud? 25 A Certainly.

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197 1 MR. KELLY: Is this a good time for a two 2 minute break? 3 MR. SHIELDS: Good time. In fact, we're 4 getting close to being done. 5 (Short recess taken.) 6 QUESTIONS BY MR. SHIELDS: 7 Q Let's talk briefly about what kinds of 8 studies that Monsanto has done over the years 9 relating to PCB's. 10 A Okay. 11 Q And we talked earlier about human studies, 12 has -- has Monsanto done any other studies of human 13 populations other than the Zack and -- I've 14 forgotten the second author's name -- the study of 15 Krummrich workers? 16 MR. KELLY: Directed to PCB workers? 17 MR. SHIELDS: Yes. 18 THE WITNESS: Not that I'm aware of. 19 QUESTIONS BY MR. SHIELDS: 20 Q You, of course, did a lot of work on 21 analytical chemistry and published articles 22 relating to analytical chemistry of PCB's? 23 A Yes. 24 Q As did other people at Monsanto, fair? 25 A Yes.	199 1 extensively around those various species. 2 Q Anything else? 3 A There was actually a study sponsored, I 4 think it was in the late 1970's, looking at the 5 effects of PCB's in Rhesus monkeys. 6 Q Did that deal with reproductive effects? 7 A I believe that was one of the end points 8 that was looked at, yes. There were other end 9 points but that was certainly one of them. 10 Q Any other studies? 11 A Are we specifically talking toxicology, or 12 in general? 13 Q Yes. 14 A With regard to toxicology, those are the 15 ones that come to mind. 16 Q Did any of the studies Monsanto did deal 17 with carcinogenicity? 18 A I'm sorry, I'm -- the question is, did they 19 deal with carcinogenicity? 20 Q Yes. 21 A Yes, there were some of the Industrial 22 Biotests did look at the carcinogenicity of PCB's. 23 Q And did they find PCB's were carcinogenic 24 in test animals? 25 A No, they did not.
198 1 Q Did Monsanto, in addition, do animal 2 studies? 3 A We sponsored animal studies. We didn't do 4 them in-house, but we did sponsor animal studies, 5 yes. 6 Q Can you summarize for me the kinds of 7 animal studies that Monsanto sponsored over the 8 years? 9 A Okay, in the early years, in the '50s and 10 '60s time frame, lots of what -- acute toxicology 11 studies, looking for acute effects in test animals 12 from PCB's, and PCB containing products. And then 13 in the -- I don't know exactly the time frame, in 14 the late 1960's, early 1970's, Monsanto 15 commissioned a fairly extensive set of animal 16 toxicology studies with a laboratory called 17 Industrial Biotest, looking at, I don't know, the 18 chickens, and dogs, I don't know, there may have 19 been other test species, too, and then -- 20 Q Those weren't acute effect studies, but 21 were -- 22 A They were basic -- I think there were some 23 acute effects, and I think there was some chronic 24 effects, I think it was actually both. I think 25 they looked at a variety of end points fairly	200 1 Q Now, there was a -- some scandal involved 2 regarding IBT's testing, is that correct? 3 A Not with regard to PCB's, but their testing 4 practices in general, yes. 5 Q Which resulted in some indictments, as I 6 recall? 7 A I believe that's correct, yes. 8 Q And it's your recollection that didn't have 9 anything to do with PCB's? 10 A That's my understanding, yes, with the PCB 11 test specifically, yes. 12 Q Have you read Dr. Kimbrough's deposition in 13 this case? 14 A No, I have not. 15 Q In it she says that she reviewed Monsanto's 16 IBT carcinogenicity data and discovered that IBT 17 had substituted new animals for those that had 18 died? 19 A I do understand -- well, I understand there 20 are some discrepancy in the PCB study, but what 21 I'm -- and, you know, I don't know how those 22 necessarily were resolved. My earlier answer was 23 that the PCB studies had nothing to do with the 24 subsequent problems that IBT had, or those 25 indictments, or whatever happened there. That --

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201 1 that legal action was not based on anything that 2 had to do with PCB studies. I do understand that 3 there were certain discrepancies in the PCB studies 4 discovered after they were done. 5 Q Did you understand the legal action against 6 IBT is that they provided results to the Federal 7 Government -- 8 A Through the mail. 9 Q -- through the mail? 10 A Right, I mean, that's my understanding, a 11 mail fraud case. 12 Q They were false because they had 13 substituted animals in their studies and provided 14 information as if there had not been a 15 substitution? 16 A I don't know -- I don't know if that was 17 the exact basis of that, but again, it wasn't the 18 PCB studies that were the subject of that action. 19 Q I understand. 20 A Yeah, that would not surprise me if that 21 were the case. 22 Q But my point is -- 23 A Certainly it has something to do with 24 unreliable studies being submitted to the 25 government through the U.S. mails, yes.	203 1 Q Millions? 2 A I doubt it. I don't know. 3 Q I've always thought the typical cost of one 4 of these animal studies was seven figures? 5 A That may be true today. I -- I -- I 6 don't -- I'm better off just saying I don't know. 7 Q Okay. Who would know that? 8 A You know, Bill Pappageorge may know the 9 answer to that, at some point he may have been the 10 one authorizing those studies, that would be the 11 person I would ask. I don't know other than that. 12 Q I'm going to really call on your memory 13 now. 14 A Okay. 15 (Plaintiff's Exhibit Kaley No. 5 marked for 16 identification.) 17 QUESTIONS BY MR. SHIELDS: 18 Q Let me show you what we have marked as 19 Kaley Exhibit 5, which is a memorandum and a chart 20 from September 1974 -- 21 A God. 22 Q -- in which you were indicated as one of 23 the recipients. 24 A I didn't know they sent this stuff out to 25 high schools. Okay; I've seen it, I may need to
202 1 Q Isn't that exactly what IBT did in 2 connection with your PCB studies? 3 MR. KELLY: Object to form. 4 QUESTIONS BY MR. SHIELDS: 5 Q Although that maybe you didn't go ahead and 6 submit it to the government? 7 A There were discrepancies, I understand that 8 some of them had to do with substitution of 9 animals, but the answer is yes, if that's the 10 question. 11 Q Is Renate Kimbrough correct, that you gave 12 her -- that is Monsanto gave her the data and she 13 discovered those discrepancies? 14 A I have no reason to doubt her testimony on 15 that point. 16 Q You would not rely on those studies for 17 questioning whether PCB's are animal carcinogens? 18 A No, I think -- again, we go back -- we go 19 back to early this morning when I said, you know, 20 we rely -- I think we accept the findings of the GE 21 study as definitive, at this point, on the animal 22 carcinogenicity of PCB. 23 Q How much do you think Monsanto spent on 24 studies of toxicology? 25 A I have no idea. I -- I wouldn't --	204 1 refer back to it to answer your question, okay? 2 Q Well, it appears to be a document that 3 deals with liver enzyme abnormalities, and because 4 of the attachment referencing six blood samples, 5 one assumes that those enzyme abnormalities have 6 something to do with those blood samples. Does 7 that -- do you know what that was about, was that 8 an evaluation of workers or -- 9 A Yeah, I have -- I am -- I'm reminded of 10 the -- that some blood sampling was done in about 11 that time frame. I -- I really don't know about 12 the -- I mean, these are clearly -- SGOT is clearly 13 a liver enzyme. Now, you characterize them as 14 abnormalities, and I don't see anything in here 15 that talks about them being abnormalities. 16 Q Well, they are starred, which is a typical 17 nomenclature for being abnormal, and then you have 18 references in parens of ranges which would be how a 19 lab would say what was the normal range. 20 A I understand, okay. Okay, again, I -- I 21 think your characterization is probably fair, I 22 don't know that for sure, but certainly the ones 23 that are starred are the ones that are in excess of 24 those -- those ranges, that's correct. 25 Q Yeah, do you have any recollection of that

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205 1 particular -- 2 A No, I know about the blood sampling, I 3 don't know about the liver enzyme stuff. 4 Q Let me ask you generally about the blood 5 sampling. Did you do blood sampling of workers at 6 Anniston for PCB's? 7 A At what time frame? 8 Q In any time frame. 9 A Some Anniston workers have had their blood 10 analyzed in the past several years, yes. 11 Q Prior to the past several years? 12 A I'm not aware of any. Again, those 13 technologies really didn't develop until really, I 14 mean, in -- I would say that the technologies used 15 here were probably not appropriate for blood 16 sampling, but we were learning, like everybody else 17 was trying to learn, but clearly, this was, you 18 know, three years after Anniston had been closed. 19 While the plant was operating, we wouldn't have had 20 that capability. None were done in the interim 21 until recently. 22 Q When did you do them recently? 23 A There have been a couple sets off and on in 24 the past three to four years. 25 Q For what purpose?	207 1 Abernathy case giving the EPA, ATSDR, PCB blood 2 level data, which we believe may have been 3 mischaracterized in many senses, and Mr. Faust and 4 I did meet with EPA representatives to talk about 5 our findings, the things we were doing, and we did 6 talk about those blood samples to some extent. 7 Q Who did you meet with at EPA? 8 A Oh, my God, Hellmer Akin, A-K-I-N, was 9 there, there were about a half a dozen people, Dick 10 Green was not there, his associate, Jule, and I 11 can't think of her last name, was there. 12 Q Okay. 13 A Don Rigger, R-I-G-G-E-R, may have been 14 there, again, I can't guarantee that. I think 15 Annie Godfrey, G-O-D-F-R-E-Y, was there. There 16 were a half a dozen people there. 17 Q Was your purpose in meeting with them, or 18 at least one of your purposes, to express your 19 disagreement with the interpretation of the data 20 provided by Don Stewart? 21 A Yes, that was certainly among the issues 22 that was discussed. The main purpose, I believe, 23 was to present where we were in our process. I -- 24 I don't know -- I'm not sure of the timing of 25 various things, but basically presenting where we
206 1 A Because the employees and retirees asked to 2 have their blood tested. 3 Q Have you ever, in connection with the blood 4 test, done what appears to be done here, and that 5 is to do a CBC which would include looking at a 6 couple of liver enzymes for abnormalities? 7 A No. 8 Q To show you how we are, in fact, reaching 9 the end, I was instructed to ask you about these by 10 Larry. A meeting with EPA in April 1999, 11 apparently one or more other witnesses when asked 12 about it said you were the person that would know 13 about it. 14 MR. KELLY: Bob, do you have a location, 15 region? 16 QUESTIONS BY MR. SHIELDS: 17 Q All I was told was I need to ask you about 18 a meeting with the EPA in April 1999. 19 A I -- 20 Q Have you met with the EPA in various times 21 over the years? 22 A Yes, that time frame I believe -- Counsel 23 will not be happy with me -- I believe that that 24 was the time frame when Mr. Fauste and I met with 25 EPA subsequent to the Plaintiff's Counsel in the	208 1 are, what we're doing, what our findings have been, 2 and then a side purpose was to -- to discuss the 3 fact that we believe some of that data had been 4 mischaracterized when it was turned over to the 5 EPA. 6 Q Have you met with any Congressman regarding 7 PCB's? 8 A Yes. 9 Q Who have you met with? 10 A Bob Riley from Alabama. 11 Q Anyone else? 12 A No. 13 Q And of course you have met from time to 14 time with ATSDR? 15 A Yes. 16 Q Provided your input to their profiles? 17 A Extensively -- to their profile? 18 Q Yes. 19 A You know, I frankly can't remember if I did 20 or not. I may have, or I may have provided 21 comments to the -- to the CMA panel who probably 22 commented on the profile. That would have been my 23 guess. You know, I certainly have made comments on 24 their Health Consultations. 25 Q Is it your understanding that ATSDR has

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209 1 concluded that the exposures to residents adjacent 2 to your facility in Anniston are among the highest 3 ever studied? 4 A Well, I'm going to answer that strictly 5 first, and that is that all of the ATSDR documents 6 with regard to Anniston are still draft documents, 7 or for public comment documents, so that I don't 8 know that they could be said to have concluded 9 anything. I believe a statement similar to what 10 you said may occur -- appear in some of those 11 documents, but I don't know that that's a 12 conclusion that has reached finality. They have 13 not chosen to issue finals of any of those Health 14 Consultations. 15 Q Did you, or someone from Monsanto, attend 16 the PCB conference at the University of Kentucky 17 last April? 18 A No, I was not able to go, I was registered, 19 but at the last minute, was unable to go. 20 Q Have you been provided any report of what 21 the ATSDR poster presentation at that meeting said? 22 A Yes. 23 Q What were you told? 24 A What was I told? I asked ATSDR for a copy 25 of the slide. I have a copy of the slides.	211 1 me that has commented on that, frankly. 2 Q You have applied pressure to keep them from 3 making those documents final -- 4 MR. KELLY: Object to the form. 5 THE WITNESS: Absolutely not. I have filed 6 extensive comments on those documents, I -- they 7 are free to do whatever they wish with those 8 documents. I have applied no pressure whatsoever, 9 and if I did, I'm sure they would just rush to 10 judgment sooner, so that is absolutely incorrect. 11 QUESTIONS BY MR. SHIELDS: 12 Q Have you read any other papers from the PCB 13 conference? 14 A I don't know that they've been published at 15 this point. 16 Q My understanding is that all of them are 17 going to be published in the next few -- 18 A That's my understanding, also, and I don't 19 believe that issue has come out. 20 Q Including the ATSDR poster presentation. 21 A That would be unfortunate. 22 MR. SHIELDS: It depends on your 23 perspective. I think that's all I have. Thank you 24 for your time. 25 THE WITNESS: You're welcome.
210 1 Q And that poster presentation indicates 2 exceptional exposure to a residential community? 3 A I don't recall that that language was used. 4 Q Do you recall that they used language that 5 the exposure was comparable to an occupational 6 setting? 7 A I don't recall that. I mean, I'm not 8 arguing with you, I just don't recall that as I sit 9 here. 10 Q Do you recall that the poster presentation 11 indicated that as a result of it being comparable 12 to an occupational setting, that it could be 13 reasonably anticipated that it would include 14 similar effects, e.g., cancer, immune system 15 suppression, reproductive and neurodevelopmental 16 problems? 17 A I don't recall that it said that, but 18 again, I would caution that that presentation was 19 based on a draft document that has never been 20 finalized in the face of extensive comments from 21 outside parties, so I -- you know, it may very well 22 have said that, I don't know. 23 Q And by extensive comments, you mean you and 24 the Chemical Manufacturing Association -- 25 A I don't know -- I don't know of anybody but	212 1 WITNESS SIGNATURE PAGE 2 3 4 COMES NOW THE WITNESS, ROBERT G. KALEY, 5 II, Ph.D., and having read the foregoing transcript 6 of the deposition taken on the 23rd of March, 2001, 7 acknowledges by signature hereto that it is a true 8 and accurate transcript of the testimony given on 9 the date hereinabove mentioned. 10 11 ----- 12 ROBERT G. KALEY, II, Ph.D. 13 14 15 Subscribed and sworn to me before this ____ day 16 of _____, 2001. 17 My Commission expires: _____ 18 19 20 ----- 21 Notary Public 22 23 24 25

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213 1 STATE OF MISSOURI 2 SS. 3 CITY OF ST. LOUIS 4 I, Gretta G. Cairatti, a Notary Public in and 5 for the State of Missouri, duly commissioned, 6 qualified and authorized to administer oaths and to 7 certify to depositions, do hereby certify that 8 pursuant to Agreement in the civil cause now 9 pending and undetermined in the United States 10 District Court, Northern District of Alabama, 11 Eastern Division, to be used in the trial of said 12 cause in said court, I was attended at the offices 13 of Marriott St. Louis West, 660 Maryville Center 14 Drive, in the County of St. Louis, State of 15 Missouri, by the aforesaid witness; and by the 16 aforesaid attorneys; on the 23rd day of March, 17 2001. 18 That the said witness, being of sound mind 19 and being by me first carefully examined and duly 20 cautioned and sworn to testify the truth, the whole 21 truth, and nothing but the truth in the case 22 aforesaid, thereupon testified as is shown in the 23 foregoing transcript, said testimony being by me 24 reported in shorthand and caused to be transcribed 25 into typewriting, and that the foregoing pages	
214 1 correctly set forth the testimony of the 2 aforementioned witness, together with the questions 3 propounded by counsel and remarks and objections of 4 counsel thereto, and is in all respects a full, 5 true, correct and complete transcript of the 6 questions propounded to and the answers given by 7 said witness; that signature of the deponent was 8 not waived by agreement of counsel. 9 I further certify that I am not of counsel or 10 attorney for either of the parties to said suit, 11 not related to nor interested in any of the parties 12 or their attorneys. 13 Witness my hand and notarial seal at 14 St. Louis, Missouri, this 26th day of March, 2001. 15 My Commission expires October 29, 2004. 16 17 18 Notary Public in and for the 19 State of Missouri 20 21 22 23 24 25	

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