

STATEMENT OF:  
DR. T. O. MUNSON  
August 13, 1988

APPEARANCES

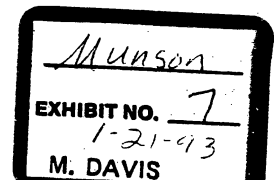
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The statement of Dr. T. O. Munson, Chemistry Professor at St. Cloud State University in St. Cloud, Minnesota was taken by Mrs. Terri K. Knudson, Notary Public, on Saturday, August 13, 1988, in the law office of McCrea and McCrea, located at 119 South Walnut Street, Bloomington, Monroe County, Indiana, commencing at 11:00 a.m. and ending on that same date at 12:30 p.m.



1 QUESTIONING BY MR. DAVID S. MCCREA:

2 Q. Dr. Munson, could you explain to me what  
3 P.C.B. is, in terminology that I could use to  
4 explain, say, to my son who is in the fifth  
5 grade?

6 A. P.C.B., of course, is an acronym -- letters we  
7 use to describe a longer name. The name is  
8 polychlorinated bi-phenyls. That name is a  
9 description of the chemical. The chemical  
10 essentially is the chemical bi-phenyls. It's  
11 two -- essentially two -- phenyl rings or two  
12 benzene rings hooked together with one or more  
13 chlorines. Poly meaning many -- one or more  
14 chlorines attached to the ring.

15 Q. If I wanted to look at a P.C.B. molecule,  
16 could I see it, using the microscope?

17 A. No. Molecules are much too small to see with  
18 a microscope.

19 Q. Would it be possible to see it with an elec-  
20 tron microscope?

21 A. No, I don't think so. I'm pretty sure you  
22 can't see...You can see D.N.A. molecules, for  
23 instance, I believe with a micron microscope,  
24 but they're quite large. A polychlorinated  
25 bi-phenyl molecule is not large. It's a few

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hundreds in molecular weight.

Q. I have seen on a number of occasions a diagram of a P.C.B. molecule, and I have seen a model of a P.C.B. molecule, where there are atoms of hydrogen chlorine and carbon with connecting sticks. Again, on a level which I would explain to a student in the fifth grade, how does science determine what these molecules look like and how they're arranged?

BRIEFLY "OFF THE RECORD"

Q. Is that answerable?

A. Not in a few words. Basically, you sort of begin with the fact that the compound is chlorinated bi-phenyl and you know that a phenyl molecule is two benzene rings attached together. There was actually a rather large breakthrough in organic chemistry in the 1800's when someone postulated the structure of the benzene ring. He had a dream of a snake biting its tail -- so the story goes. The molecule has six atoms...The benzene molecule has six atoms of carbon. Using the techniques of the day to determine how much carbon and how much hydrogen, the ratio of carbon to hydrogen didn't make sense in any

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1 that's taken up where a carbon on one ring is  
2 bonded to a carbon on the other. That leaves  
3 five hydrogens around. Now, if you put the  
4 chlorine in, what you essentially do is you  
5 would envision taking one hydrogen away and  
6 replacing it with a chlorine. We have ten  
7 positions where it might go. Now, some of the  
8 positions are equivalent, so like if it went  
9 to this position on this one ring, you could  
10 flip that around in space and make that be the  
11 same molecule as if it went on to the other  
12 position on the other ring. And so there's a  
13 limit to the number of different compounds  
14 that you can imagine by putting one chlorine  
15 in. And you can kind of work it out yourself  
16 if you had a model. Just stick it in dif-  
17 ferent places. Because each position, if you  
18 have nine hydrogens in the other positions  
19 and one chlorine there, that changes the  
20 properties and you get a new substance. Bi-  
21 phenyl itself, I think, is a liquid at room  
22 temperature and, if you stick the chlorine on,  
23 you'll still have a liquid -- slightly dif-  
24 ferent properties, however. You stick more  
25 chlorines; the molecules get heavier -- they

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1           become less liquid. If you replace every  
2           single position with a chlorine, you'll have  
3           something that looks almost like a solid  
4           glass, at room temperature.

5       Q.     Dr. Munson, how does the size of a P.C.B.  
6           molecule compare to the size of a cell in the  
7           human body?

8       A.     Oh, much, much smaller -- much smaller. Cells  
9           are made up of different compounds like pro-  
10          teins and fats and things of that nature, and  
11          each of these compounds is made up of discrete  
12          atoms. So you figure chlorinated bi-phenyl  
13          really only has -- it's got twelve carbon  
14          atoms, and as many as a total of, say, ten  
15          chlorine atoms. We're talking twenty-two  
16          atoms. A piece of D.N.A., for instance, may  
17          have thousands of atoms in it -- one stand of  
18          D.N.A.

19       Q.     Can a P.C.B. molecule get inside a cell in the  
20           body?

21       A.     Sure...Sure. P.C.B. is quite soluble in fat.  
22           It's only slightly in pure water, but your  
23           blood, for instance, is not pure water. Your  
24           blood is a fluid that has salt in it. It also  
25           has fat in it. It has red blood cells in it.

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1 that have a lot of fat, and it can certainly  
2 be mobilized into the fat layers in your body  
3 with no trouble.

4 Q. When we talk about solubility in fat, is that  
5 a mechanism by which the P.C.B. enters into  
6 fat cells?

7 A. Yeah...Yeah. It would be inside the fat cell.  
8 And it probably...All cells have a little bit  
9 of fat in them. Lipid material, we call it,  
10 as opposed to the aqueous material. The  
11 P.C.B.s associate with lipid material.

12 Q. If a chemical is soluble in water, does that  
13 chemical invade the H<sub>2</sub>O molecule, or does it  
14 get into the H<sub>2</sub>O molecule?

15 A. It doesn't get into the H<sub>2</sub>O molecule. When  
16 you talk of a chemical as being soluble --  
17 like, say, table salt, for instance, is very  
18 soluble in water -- it's an ionic material.  
19 When you dissolve it in the water, it's made  
20 up of sodium and chloride ions. When it  
21 dissolves in water, essentially the way you  
22 would view it is, the sodium atom would then  
23 become surrounded by water molecules. A  
24 sodium atom is fairly large, compared to a  
25 water molecule.

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1 Q. What ties those atoms together? What holds  
2 them together?

3 A. Essentially ionic forces. If you consider a  
4 water molecule as being an oxygen with two  
5 hydrogens attached to it, the oxygen is some-  
6 what negative, the hydrogens are somewhat  
7 positive, and there's a little separation of  
8 charge. So, if you imagined yourself being  
9 that size, if the oxygen part of the water  
10 molecule were facing toward you, you would be  
11 experiencing a negative charge. If instead it  
12 rotated around and the two hydrogens were kind  
13 of pointed toward you, you would be feeling a  
14 positive charge. So, it just orients itself,  
15 like, to the sodium ion in salt -- is positive  
16 -- so the water molecules would have the  
17 negative side associated to the positive.  
18 Positive and negative attract each other. The  
19 chloride molecule, on the other hand, is  
20 negative so the water molecules would rotate  
21 around and in that case you would see it  
22 surrounded by a group of water molecules with  
23 the hydrogens associated.

24 Q. When we talk about the positive charge, does  
25 that have anything to do with an electrical

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1 charge?

2 A. Yeah. It is an electrical charge. It can be  
3 viewed the same way.

4 Q. Dr. Munson, when you were in Bloomington, did  
5 you go to an area known as Twin Lakes with a  
6 representative of Westinghouse? (We drove by  
7 Twin Lakes this morning.) Were comments made  
8 by the representative with respect to the  
9 killing of weeds in one of the lakes? And, if  
10 so, can you tell us what you recall?

11 A. Yes. I recall driving down a hard surfaced  
12 road. We were chatting about one thing and  
13 another. I don't remember who this person  
14 was. I don't believe it was Lou Shove, but I  
15 can't remember which one of the other people  
16 it would have been. He was telling me about  
17 some years earlier they had done an experi-  
18 ment. They apparently had a continual weed  
19 problem in these lakes, and they did an ex-  
20 periment to see if P.C.B.s could be used to  
21 control the weeds in the lake. My understand-  
22 ing was that they put many gallons -- I would  
23 think hundreds of gallons -- of P.C.B.s in the  
24 lake. I'm not sure whether they sprayed it or  
25 how they did it. But, I hadn't recalled the

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1 name of the lake, but I had a very vivid  
2 memory, in my mind. As we drove down the  
3 road, in talking about it and looking to the  
4 right and seeing this long, oblong of water  
5 that we could see and then gesturing back to  
6 the left to the other lake, as we turned  
7 around and looked there, that...There are more  
8 bushes and trees in front along the edge of  
9 the road, but that's exactly the shape I had  
10 in my mind, and it seems quite likely that  
11 that was the location.

12 Q. You mentioned earlier that P.C.B.s are not  
13 soluble in water, as is sodium chloride. And  
14 you explained how solubility comes about.  
15 Can you explain to us how P.C.B.s move through  
16 water?

17 A. The one thing we have to be careful about when  
18 we talk about whether something is soluble or  
19 insoluble...It depends upon what criteria  
20 you're using. Generally the way you say that  
21 is that, if you take an amount, like a few  
22 grams of it, and try to dissolve it in a few  
23 liters of water, or -- put it another way -- a  
24 quarter teaspoon and you try to put it in a  
25 quart of water, and you shake it and shake it

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1 and shake it, and when you finish it looks  
2 like everything you started with is still  
3 there, that's sort of a functional definition  
4 of solubility, you see. This substance is  
5 not soluble in the water. Now, in actual  
6 fact, if you were to test the water you might  
7 find some tiny amount went into the water.  
8 Maybe a millionth of your quarter of teaspoon  
9 actually went in. Functionally you would  
10 still say it's insoluble. But, as a matter  
11 of fact, a little bit, perhaps, did go in.  
12 Now, in terms of F.C.B., you functionally  
13 would say it's insoluble. Now, as a matter  
14 of fact, if you took a fifty gallon drum of  
15 water and you added a quarter teaspoon of  
16 F.C.B.s and you stirred and you stirred and  
17 you stirred, and then you carefully took some  
18 very clean water out, so there were no drop-  
19 lets or anything in it, and you measured with  
20 a most sensitive technique, you would measure  
21 a little tiny bit. I forget the exact number.  
22 I think it's down around a part per trillion,  
23 or something like that, in the water. But,  
24 the material basically is not soluble in  
25 water. It's not solubilized by the water

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1 molecules that we talked about. So, even if  
2 you had that solution, if you did something  
3 like took a little bit of clay and put it in  
4 there, to make the water slightly turbid --  
5 slightly cloudy -- stirred it up and filtered  
6 the clay out, what you would find now is all  
7 of the P.C.B.s which you had measured as being  
8 dissolved in the water would now be attached  
9 to the surfaces of the clay. I'm not exactly  
10 sure what form...I believe it's an ionic  
11 attraction, but many people have demonstrated  
12 that P.C.B.s in water behave this way. So in  
13 an aquatic echo system, like the Chesapeake  
14 Bay, or a moving river, or something of that  
15 nature, there's almost always a little bit of  
16 suspended material in the water. It may be  
17 very fine-grain clay. If you filter the water  
18 and catch the clay, you'll find that the  
19 P.C.B.s are absorbed to the surfaces of the  
20 clay, and that's where you'll find it -- not  
21 in the water. Now, if you take just a grab  
22 sample -- a jug of the water -- don't separate  
23 it, leave the sediment in there and do an  
24 extraction, you'll extract the P.C.B.s out of  
25 the whole sample. But it's really absorbed on

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1 the sediments in the water.

2 Q. What effect does the size of the particulate  
3 matter in the water have on the concentration  
4 of the F.C.B.s?

5 A. Basically -- I'm not sure I'm going to answer  
6 your question directly -- the finer the size  
7 of the suspended material, the more surface  
8 area it will have for a given weight. The  
9 F.C.B. is attracted to the surface, therefore,  
10 finer material -- if you filtered out F.C.B.  
11 containing suspended sediment or looked at a  
12 sample that you scooped up off the bottom of  
13 the stream -- if you had one sample which was  
14 very fine and other one which was coarser,  
15 like sand, what you would find is that, if you  
16 match the same weight of the sand and the same  
17 weight of this fine mud after you dried them  
18 out, the fine mud would contain more F.C.B.s  
19 than the sand. The fine mud might have a  
20 thousand times more surface area -- total --  
21 in the same weight as the sand does.

22 Q. Can you discuss with us testing that you have  
23 done with regard to Oroclor 10-16 and its bio-  
24 accumulation in clams at the South Boston  
25 plant in Virginia?

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**THE DEPO DEPOT**

**(812) 331-2466**

*Terri Knudson - Notary Public - P.O. Box 1454 - Bloomington, Indiana 47402*

1 A. That particular incident and set of samples  
2 stick in my mind because at the time Oroclor  
3 M.C.S. 10-16 went into use replacing Oroclor  
4 12-42, it was said that this material was bio-  
5 degradable -- which it probably is -- and  
6 therefore would not bio-accumulate in the  
7 environment. As you're aware, one of the big  
8 concerns about P.C.B.s and letting them leak  
9 in the environment, is accumulation through  
10 the food chain to high enough concentrations  
11 to harm fish eating birds, for instance --  
12 interfere with their reproduction. So, it was  
13 of particular interest to me to find, when I  
14 sampled around the South Boston plant, which  
15 was using Oroclor M.C.S. 10-16, that in an  
16 area I had located where material was leaking  
17 from the plant and getting into Lawson's  
18 Creek, we dug up fresh-water muscles there in  
19 the creek, and when I analyzed the fresh-water  
20 muscles, what I found was the pattern of peaks  
21 that I saw from the gastromatograph exactly  
22 duplicated the pattern of peaks in the Oroclor  
23 M.C.S. 10-16 -- essentially, exactly the same  
24 as the material that was being used at the  
25 plant. So, in the case...And the levels as I

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1 recall them were rather high. They were  
2 certainly part per million levels in the  
3 clams...I'm sorry they were muscles -- fresh-  
4 water muscles. So, this was clear evidence  
5 that, in fact, Oroclor M.C.S. 10-16 does bio-  
6 accumulate if an organism is exposed to enough  
7 of it.

8 Q. Did you recommend that that report be dis-  
9 tributed or published? Do you recall?

10 A. I suggested that it would be good to do so,  
11 because this was new scientific information  
12 that was not available.

13 Q. Do you know what the decision-making process  
14 was with respect to your suggestion?

15 A. I don't even remember who the discussion was  
16 with. I'm sure I mentioned this to Dr. Kelly,  
17 but whether he went any higher to ask about  
18 it...He probably just gave me the answer I  
19 knew I would get, which was I was not allowed  
20 to publish any of the information that was  
21 generated from my internal surveys of Westing-  
22 house plants.

23 Q. Was that survey done in approximately 1971, by  
24 memory?

25 A. Yes, it was in that period. I believe I

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1 visited all of the sites during the first  
2 twelve months of that survey.

3 Q. You discussed a sampling of sediment in a  
4 river next to the plant in Sharon, Pennsyl-  
5 vania, as a result of a leak from a tank  
6 containing P.C.B.s, in which, which I under-  
7 stand it, a tank was being removed from the  
8 Sharon Pennsylvania plant. A gasket, or some  
9 such closing device, detached and approxi-  
10 mately 2,000 gallons of P.C.B. leaked directly  
11 into the river. Testing was done of aquatic  
12 organisms -- fish -- and sediment. Can you  
13 just describe to us the testing that you did,  
14 as a result of that leak, the information you  
15 had about the leak, and the results of the  
16 tests?

17 A. I have not seen the report which I wrote since  
18 the time that I did it -- so, that's been 15  
19 years or so ago. But it sticks in my mind  
20 because this was a rather unique situation  
21 where I had been told about the spill. The  
22 spill apparently had occurred several years  
23 earlier. I'm not sure whether it was three  
24 years or five years. They were removing the  
25 tank that they had previously stored their 12-

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1 42 in -- Oroclor 12-42. They all believed the  
2 tank to be empty. The tank was going to  
3 scrap. As they lifted it up, the plug fell  
4 out. The material which someone estimated to  
5 me had to be several thousand gallons --  
6 because this was a huge tank -- fell out and  
7 ran into a storm drain which went right  
8 straight into the river. I was surprised in  
9 my subsequent sampling, that I did in the  
10 river, to find that I didn't find a trace of  
11 it. In other words, the biological samples  
12 that we analyzed -- the sediment samples that  
13 we analyzed -- did not indicate unusually high  
14 levels of P.C.B.s. Now, there probably were  
15 certainly P.C.B.s there and I can't remember  
16 the numbers, but the only thing I could im-  
17 agine -- and we sampled this river downstream  
18 for several hundred miles -- is that this  
19 river is controlled by a dam so it doesn't go  
20 through high fluctuations in flow, and also  
21 has a series of weirs where the water is held  
22 into pools, and then overflows and goes on  
23 down into another pool. My guess is that  
24 P.C.B. material probably was trapped under the  
25 sediments that had been laid down over the

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1 years. When we sampled, we used a surface  
2 sampler. We just drop it in. It's like a  
3 little clam shell sampler. It snaps up a  
4 bottom sample. It probably doesn't pene-  
5 trate...that one probably didn't penetrate  
6 more than six inches. I supposed that if we  
7 had done some cores we would have found the  
8 P.C.B. materials. But, the exciting thing to  
9 me was that this indicated in the case where  
10 P.C.B. material was input to an aquatic sys-  
11 tem, if you shut off the source and gave the  
12 system time to recover, that the P.C.B.s could  
13 be trapped in the river sediments below the  
14 area of biological activity and the stream  
15 would recover. I felt this was exciting  
16 information. It could be very useful to  
17 agencies who were involved in such situations  
18 --- like G.E. up in the Hudson River for in-  
19 stance -- and perhaps we were going to do more  
20 trouble by dredging up sediments -- re-sus-  
21 pending all of this stuff. We should first  
22 consider, if we cut off all of the inputs to  
23 the system, the system may recover, and the  
24 best place for the P.C.B.s might be trapped  
25 down in those sediments.

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1 Q. Again, Dr. Munson, did you make the suggestion  
2 that this information should be communicated  
3 to appropriate agencies, and what was the  
4 reaction?

5 A. Yes, I suggested it. Once again, it was the  
6 same. At that time, you could understand that  
7 no one even wanted the world to know that such  
8 sampling was being done. No one wanted to  
9 focus any attention on the fact that Westing-  
10 house, in fact, had sites that were leaking  
11 P.C.B.s.

12 Q. There was an incident you described to me,  
13 wherein a worker was filling capacitors or  
14 possibly another electrical device with  
15 P.C.B.s from a hose, and can you tell us what  
16 you observed about the worker -- the con-  
17 tamination of P.C.B.s -- and any conversation  
18 that you had with the worker?

19 A. I remember clearly standing with this fellow  
20 and chatting with him. The thing I'm a little  
21 fuzzy on is which Westinghouse plant it was.  
22 I think it was Bloomington because I think  
23 what he was doing was filling capacitor cans.  
24 The devices he was filling were not very  
25 large. I mean, they were smaller than he was

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1           profitable. And I know we all knew inside  
2           Westinghouse, the big problem was the return  
3           on the dollar was very small -- I think it was  
4           like three and one half cents. GE was doing  
5           like 13 cents on the dollar. Big push on to  
6           increase profitability. They were pushing...  
7           Don Burnham was trying to get up to five  
8           cents, I think, that year. And Mr. Brittain  
9           was very concerned that his plant was going to  
10          be closed, putting himself and all the people  
11          out of work. And he felt that, if he insisted  
12          on a capital investment that he guessed would  
13          be around \$10,000 to accomplish this, it might  
14          be the straw that broke the camel's back. And  
15          they might close the plant that year. And so  
16          he said there was no way they could do it. An  
17          additional recommendation I made to John Kelly  
18          was that that report be made public because  
19          there was data in it indicating that there  
20          were fish in the area that exceeded the E.P.A.  
21          limit -- or the F.D.A. limit, I think it is --  
22          for human consumption of five parts per mil-  
23          lion. And I was concerned that there could be  
24          people eating enough of those fish to have  
25          adverse health effects. And I felt we had a

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1 moral responsibility to release that report.

2 And I was told absolutely not -- under no  
3 circumstances could that data be released.

4 Q. When you worked for Westinghouse, did you have  
5 meetings with Mr. Papageorge of Monsanto?

6 A. I met Mr. Papageorge on a number of occasions.  
7 I can't remember specifically whether I was  
8 present at a Westinghouse/Monsanto meeting per  
9 se.

10 BRIEF RECESS

11 Q. Dr. Munson, the document titled: Meeting with  
12 Monsanto on Inertine, dated December 16, 1971  
13 has been reviewed by you. Would you offer any  
14 comments with respect to the document, the  
15 personal recollections of the events and the  
16 meeting.

17 A. Well, I don't remember very much about this  
18 meeting. I remember going to St. Louis and  
19 the Scott Tucker here is Dr. E. S. Tucker, who  
20 was essentially the fellow at Monsanto doing  
21 analytical work with samples. Well, I was  
22 using his methods, essentially. One of the  
23 things I did that day, I'm pretty sure, is  
24 have a short meeting with Dr. Tucker in his  
25 laboratory, where we talked about methods.

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1 I recognize many of the names -- Ed Boquist  
2 was the headquarters guy who essentially got  
3 all of my reports; John Kelly, of course, --  
4 it says Jack Kelly here and his name is mis-  
5 spelled, it's K-E-L-L-Y, -- was my boss at  
6 Westinghouse Ocean Research Lab -- that's Dr.  
7 J. C. R. Kelly, Jr. Lyon Mandelkorn was the  
8 chemist at the R & D Center. Tom Dakin also  
9 was a chemist at the R & D Center. Those two  
10 I don't believe were management-types. Gordon  
11 Gainer, I don't remember him. Don Sauter was,  
12 I believe, the boss of the manager of the  
13 plant at Bloomington. I think that's the way  
14 the structure worked. Of course, Don McClain  
15 was from Bloomington. T.K. Sloat...I'm trying  
16 to remember...I don't think he was the man-  
17 ager...I think he was one of the engineering  
18 manager people at Sharon. And I think I had  
19 met him at Sharon. Of course, Papageorge I  
20 had met at some scientific meetings. And I  
21 don't think I knew any of the other people up  
22 there -- the Monsanto people. That 's about  
23 all.

24 Q. Dr. Munson, you made reference to Ed Boquist.  
25 Could you approximate how many memorandums

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1 in any event, and they were on sort of a  
2 rolling assembly thing in front of him. What  
3 he was doing was he was putting the Inertine  
4 material into this device -- capacitor, I  
5 think -- with an arrangement that looked like  
6 the nozzle you would use to put gasoline in  
7 your car. He was wearing what looked like a  
8 rubber apron that covered him...It didn't have  
9 sleeves on it. It was sort of like a grocers  
10 apron. It went down to about mid-calf. The  
11 apron appeared to be mostly wet with the  
12 material. His hands...I don't remember if he  
13 was wearing gloves or not, but his hands were  
14 wet with material, and I particularly was  
15 caught by the fact that his pants -- from the  
16 bottom of the apron to the cuff -- were soak-  
17 ed. His socks were soaked. His shoes were  
18 soaked. I was coming from an environment  
19 where I used this material in milligram quan-  
20 tities, measured out very carefully and a  
21 fume-hood and that sort of thing, and I was a  
22 bit taken aback to see this. I asked him if  
23 he changed clothes before he went home. He  
24 said, "no." I said: "Then, you put your  
25 clothes right into the family wash?" He said,

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1 "yes."

2 Q. Was there an occasion where you collected  
3 samples using a Westinghouse truck, with the  
4 Westinghouse name on the truck, and in one  
5 instance rented a truck without the Westing-  
6 house name because of potential sensitivity to  
7 the testing, or whatever, and can you describe  
8 that?

9 A. Yes. Basically we had a regular pick-up truck  
10 with a little camper shell on the back, which  
11 was painted Westinghouse blue, with a circle  
12 bar W on the door. It said Westinghouse Ocean  
13 Research Laboratory. We used it to...We had a  
14 boat that we towed when we used a larger boat  
15 or we had a Ted Williams game fisher boat when  
16 we used a smaller boat that we had in back.  
17 We'd keep our supplies and everything in this.  
18 This is the arrangement...When we were doing  
19 sampling, we would drive this to the site and  
20 stay four or five days and sample around with  
21 it. At one site -- I can't remember which one  
22 it was -- the plant personnel were very con-  
23 cerned that we would be observed in our West-  
24 ingtonhouse truck out there doing the sampling.  
25 They were afraid that somebody would come

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1 along, would want to know what kind of sam-  
2 pling we were doing, and somehow this might  
3 lead to more investigation. And so we had to  
4 rent a -- I believe we wound up with a Hertz  
5 truck. It was somewhat absurd because the  
6 smallest one we could get was about five  
7 times bigger than we needed and our gear just  
8 rattled around inside the back of it. And so  
9 we motored around the countryside in this  
10 absurd arrangement, doing our sampling.

11 Q. You don't know which plant that was?

12 A. No. I really can't remember.

13 Q. After you tested the samples which you col-  
14 lected in the Bloomington area, did you make a  
15 recommendation to the personnel at the West-  
16 inghouse Plant in Bloomington with regard to  
17 control of P.C.B effluent from the plant? If  
18 so, will you tell us what your recommendation  
19 was and what was done?

20 A. The one area we sampled -- we sampled a number  
21 of areas, but one of the areas at the Bloom-  
22 ington plant -- clearly...P.C.B material from  
23 the plant was going to the sewage treatment  
24 plant. We assumed that going in; therefore,  
25 we sampled the effluent from the sewage treat-

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1           ment plant and, very clearly, it contained  
2           P.C.B's. We tracked that particular stream  
3           downstream quite a ways, and it was obvious  
4           how much P.C.B's were there. And I told them  
5           that anyone who looked -- sampling for P.C.B's  
6           or if they were sampling for just pesticides  
7           -- would find the P.C.B's. It was that ob-  
8           vious. And what they needed to do was,  
9           before the final effluent went into the drain  
10          to go to the sewage treatment plant, was to  
11          put some sort of a stripping system in there,  
12          whether they had some kind of a solvent strip-  
13          per or something to strip the P.C.B's back out  
14          of that effluent so that they would get down  
15          to a low enough level that the sewage treat-  
16          ment plant would assimilate it all and it  
17          would be captured in the sludge, and there  
18          would be no more effluent into the aquatic  
19          echo system. I was told by Mr. Brittain, the  
20          Plant Manager -- I clearly remember having  
21          either lunch or dinner with him -- as we sat  
22          across the table and discussed the report, my  
23          recommendation was that they do this. He  
24          seemed like a very nice man -- very concerned,  
25          but the plant, he told me, was only marginally

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1           were sent to Mr. Boquist on the subject of  
2           testing for P.C.B.s that leaked from capacitor  
3           or transformer manufacturing plant operations?

4       A.     Well, I know that I put together at least  
5           three reports. There was one for the Sharon  
6           people -- Sharon, Pennsylvania -- there was  
7           one for the South Boston people, and there was  
8           one for the Bloomington people. I believe  
9           there was also a brief report about some  
10          sampling that I did at East Pittsburgh, where  
11          they used to make transformers. Now, I had  
12          instructions that I was to deal with Ed  
13          Boquist and Bud Kerns, who was also in head-  
14          quarters work manufacturing. These two basi-  
15          cally had as their jobs to...My understanding  
16          is they were the headquarters people who were  
17          overseeing environmental concerns for the  
18          Westinghouse Electric Corporation. I believe  
19          one of them may have been headquartered in New  
20          York City -- in the office in New York City --  
21          and the other one in the headquarters office  
22          in Pittsburgh. So, I sent at least those  
23          three -- possibly four -- reports to each of  
24          those fellows, and I think I may have also  
25          sent them some of the manuscripts that I'd

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1 published on P.C.B.s from programs that were  
2 not company proprietary. I'm almost certain  
3 that both Ed Boquist and Bud Kerns were at the  
4 1975 P.C.B. meeting in Chicago.

5 Q. In the preparation of the report for Bloomington,  
6 Indiana, which we have, did you make a  
7 recommendation that measures to control leaks  
8 of P.C.B.s into the environment be included in  
9 the report?

10 A. Let's see....I don't know if I specifically did  
11 that. Initially....In fact, I can't remember  
12 which report was prepared first. There was, I  
13 think, to put it mildly, a considerable amount  
14 of uneasiness amongst the people who managed  
15 the sites that I sampled. Just in what fashion  
16 the reports were going to come out and how  
17 the data was going to be handled, I was given  
18 instructions by Dr. Kelly about how to structure  
19 the report and the first report, which  
20 ever one it was, sort of set the tone and we  
21 followed it in the others. And that was, I  
22 was to clearly lay out where the samples were  
23 taken, what the results of the samples were in  
24 terms of the P.C.B.s that were found, and  
25 summarize what this meant in terms of where

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1 leakages were coming from, where they were  
2 going, and that sort of thing. But, I was not  
3 to get involved with discussing environmental  
4 effects or recommended changes and that sort  
5 of thing. Those sorts of things were to be  
6 dealt with verbally at the meetings where we  
7 sat down and discussed the material.

8 Q. Did you, on one occasion, go to San Francisco  
9 to meet Dr. Riesboro, and will you describe  
10 the circumstances?

11 A. Yes, I did. That was when I was first getting  
12 started in measuring P.C.B.s. I'd read some  
13 articles. I was in San Diego at the Ocean  
14 Research Lab. This probably would have been  
15 the summer of 1969, I guess -- maybe into  
16 1970. I had been measuring D.D.T. levels in  
17 aquatic organisms. I had been learning how to  
18 do so, and I'd read about P.C.B.s. At that  
19 time, he was the -- essentially the -- guru in  
20 the United States of sampling methodology --  
21 that sort of thing. So I called him up. He  
22 was at Berkeley -- a professor at Berkeley --  
23 and asked if I could come up and talk to him.  
24 I told him who I was, and I'd like to talk to  
25 him about methods. He said, "fine." We set

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1 up a date. I flew to San Francisco -- no I  
2 flew to Oakland, I'm sorry. I flew to the  
3 Oakland Airport and took rapid transit up to  
4 the campus. I was familiar with the campus  
5 because I went to school there. I found his  
6 lab, at the appointed hour, and he wasn't  
7 there. I waited, and finally talked to a  
8 graduate student, and they said, "we don't  
9 know where he is or when he'll be back." I  
10 waited several more hours and finally gave it  
11 up and went back home again. I ran into Dr.  
12 Riesborn later on at a scientific meeting and,  
13 even at that point, he would hardly speak to  
14 me. I realized that, to him, I was one of the  
15 "black hats" of the industry, and he would not  
16 talk to me.

17 Q. Do you have the other reports?

18 A. Other than Bloomington? No, I don't.

19 Q. Dr. Munson, could you describe for us your  
20 impressions and thoughts, as a result of the  
21 tour which we made yesterday, including our  
22 visit with Dale and Connie Conard?

23 A. Well, I guess the one feeling I was really  
24 struck with when I was talking with Dale and  
25 Connie Conard is that I felt really guilty for

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1 not having pressed the release of this infor-  
2 mation in 1972. Bloomington was the one case  
3 that stood out in my mind. I felt like the  
4 information definitely should have been made  
5 public. I was told of one of his neighboring  
6 farmers having, some years before, complained  
7 of the state of problems with the reproduction  
8 of his pigs and that sort of thing, and we  
9 sampled to ascertain whether or not effluent  
10 was running -- or Inertine P.C.B. was moving  
11 -- from the landfill into the area through his  
12 farm that would be a water source for his  
13 animals. I found that it was. It was my  
14 opinion that that most definitely would be  
15 what his problem was. Whether it was Inertine  
16 or one of the other chemicals in the landfill,  
17 that was his trouble. I really felt like the  
18 information should have been made public. I  
19 agonized over it at some length in the early  
20 70's, and finally, as I'm sure many others  
21 did, I decided that I could not stand the risk  
22 of losing my career at Westinghouse by bring-  
23 ing that information forth, and I didn't do  
24 so. Later on, perhaps, when I was working  
25 with E.P.A., I could have done it, but once

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again, it was my understand it was company proprietary and I could still be legally prosecuted for releasing that information -- possibly go to jail. And I just never had enough courage to do it. I felt pretty bad yesterday.

Q. Can you describe to us the contributions of Dr. Ein -- E-I-N -- Nesbitt -- N-E-S-B-I-T-T -- is that correct?

A. It's B-E-T-T, I think.

Q. ...with respect to P.C.B. data?

A. Okay. I met Ein Nesbitt in 1976 when...It was just at the very end of my career at Westinghouse. In fact, it was within a month or two of the time I left Westinghouse. I was allowed by Westinghouse to go to Washington and take a leave of absence from Westinghouse and be employed as a consultant by E.P.A. to give testimony in the P.C.B. hearings that were going on. I believe they were called Registry Hearings. What E.P.A. wanted to do was build a strong enough case to essentially remove the permitted use of P.C.B.s for electrical transformers and capacitors, based upon the environmental effects and the threat to

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1 human health. So, I went in to testify and  
2 they asked me to continue as a consultant to  
3 work with the lawyer who was prosecuting the  
4 case. I believe I served about two weeks.  
5 During that time was when I met Ein Nesbett.  
6 He, at that time, was working for the  
7 Massachusetts Audubon Society. I believe the  
8 Audubon Society and the Environmental Defense  
9 Fund and others like that were providing  
10 voluntary services -- at least I thought it  
11 was voluntary -- to the E.P.A., because many  
12 of these people had spent many years gathering  
13 data and generating ground root support  
14 against the use of persistent chlorinated  
15 materials. I came to realize that Dr. Nesbett  
16 was one of the crusaders in this. He was very  
17 militant -- very dedicated -- and extremely  
18 knowledgeable. He personally was working  
19 there everyday getting together the scientific  
20 information to support the criteria document  
21 that is assembled in these sorts of hearings.  
22 A big thick criteria document is assembled  
23 dealing with -- in a step by step fashion --  
24 the points that are to be made in court. In  
25 fact, I was under the impression that he --

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1 himself, personally -- was assembling that  
2 document. He was handling cart loads of  
3 information and I was quite impressed with his  
4 background and experience in P.C.B.s -- and I  
5 should say, with his commitment to the cause.  
6 He seemed just really, really committed.

7 Q. Dr. Munson, I sent to you a document dated  
8 September 16, 1975, which was the Westinghouse  
9 response to inquiries of the United States  
10 Environmental Protection Agency. The document  
11 was written by Roger E. Wills, Attorney. Have  
12 you had an opportunity to review that docu-  
13 ment?

14 A. Yes...Yes, I looked at that document.

15 Q. Did that document contain any reference to the  
16 report which you prepared for the Bloomington  
17 Distribution Apparatus Plant, titled "Prelimi-  
18 nary Report of Inertine Environmental Survey  
19 at Bloomington Distributions Apparatus Plant?"

20 A. As near as I could figure out from this docu-  
21 ment, no where in this document does it men-  
22 tion that any such survey was ever performed.  
23 It's possible -- it's hard to tell from what's  
24 here -- that some of the data that is sub-  
25 mitted in a few of the tables here may be some

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1 of the sediment samples that I analyzed. But,  
2 certainly there's no suggestion here that  
3 anyone did any environmental surveys around  
4 the plants.

5 Q. Question number 7 -- on page 7, I believe --  
6 reads: "The results of any and all sampling  
7 and analysis performed by your company, its  
8 agents or contractors, since January 1, 1971,  
9 concerning the following:" And then it has  
10 "A, B, C." Did the work which you did at the  
11 Westinghouse plant come after the date of  
12 January 1, 1971?

13 A. Yes.

14 Q. Did it concern under sub-category a, "con-  
15 centrations of P.C.B. compounds or mixtures in  
16 the effluent of any discharges by the company  
17 (into waters of the United States or publicly  
18 owned treatment works?)"

19 A. It certainly was concerned with that. We did  
20 not actually analyze...I did not actually  
21 analyze effluents or discharges, but I cer-  
22 tainly analyzed sediments taken from the  
23 waters.

24 Q. Did it concern the flow and/or composition of  
25 any discharges or emissions by the company

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1 which contain P.C.B. compounds or mixtures?

2 A. Yes, it certainly did. The whole thrust of  
3 the survey was to determine whether there were  
4 emissions from the plants -- whether in the  
5 form of effluents or run off from a roof, or  
6 whatever. That was the thrust of the survey.  
7 We sampled emissions from vacuum ovens, for  
8 instance, that were vented in such a way as to  
9 blow down the down spouts of a building and  
10 collect in a drainage ditch, and perhaps then  
11 to flow away from the plant. We followed  
12 those at great length from several of the  
13 plants.

14 Q. Did it concern concentrations of P.C.B. com-  
15 pounds or mixtures in receiving waters, both  
16 upstream and downstream, of any discharges by  
17 the company, which contained P.C.B. compounds  
18 or mixtures, and concentrations of P.C.B.  
19 compounds or mixtures, in the air in the area  
20 of the company?

21 A. I would answer that, yes, also in the context  
22 that the sense of this -- when they say  
23 "receiving waters," they're talking about the  
24 fish, swimming in the receiving waters, they  
25 are talking about the sediments in the receiv-

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1 ing waters -- crayfish, whatever. We cer-  
2 tainly did those sorts of samples. We did not  
3 do, to my recollection, any grab samples of  
4 receiving waters themselves.

5 Q. On page 13, paragraph 9, the paragraph states:  
6 "All occasions (including spills) of which you  
7 are aware, on which P.C.B. compounds or mix-  
8 tures have or may have been introduced into  
9 the environment..." and then it has a further  
10 description. You described a leak of some  
11 2,000 or thousands of gallons, whatever, from  
12 a tank at Sharon, Pennsylvania. My reading of  
13 this report makes no reference to that par-  
14 ticular spill. Would you agree that it's not  
15 referenced?

16 A. I don't see any indication of it. I was told  
17 there was such a spill. I certainly wasn't  
18 there at the time. In addition, I was also  
19 told there were a number of occasions when the  
20 railway car supplying P.C.B.s to the Bloomington  
21 plant, as it sat on the siding adjacent  
22 to the plant, was in fact observed to be  
23 leaking. I did some sampling in the ditch and  
24 certainly found P.C.B.s and traced movement of  
25 P.C.B.s for a considerable distance away from

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1           that site.

2           Q.       Paragraph 10, on page 13, asks the question:  
3           "A description of any adverse health or en-  
4           vironmental effects, which you know or believe  
5           to have resulted from the introduction of the  
6           P.C.B. compounds or mixtures into the environ-  
7           ment, indicate any specific occasions includ-  
8           ing dates, times, locations, amounts, and  
9           parties involved, for which such effects are  
10          known?" And the answer is: "We do not have  
11          any direct knowledge of any adverse health or  
12          environmental effects resulting from these  
13          compounds being introduced into the environ-  
14          ment." Would that be contrary, Dr. Munson, to  
15          the information which you obtained with regard  
16          to P.C.B. levels in fish in Richland Creek?

17          A.       I would assume that one would assume a high  
18          level of P.C.B. in a fish to be an adverse  
19          environmental effect. Now, whether or not  
20          these P.C.B.s were causing the farmers' pigs  
21          to have poor reproduction is a speculation on  
22          my part. I think the overwhelming scientific  
23          evidence would suggest that that's the case.  
24          I would assume in court you would have to say  
25          that's not proven, but we certainly knew of

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1 high levels of P.C.B.s in fish -- in sediments  
2 -- and to the best of our belief, the source  
3 of those P.C.B.s was the Westinghouse plant.

4 Q. There was also a measurement in your report of  
5 levels on the Westinghouse property itself,  
6 and I believe one level was quite elevated --  
7 6,300 parts per million...

8 A. Yeah.

9 Q. ...Would you consider that to be an adverse  
10 environmental effect?

11 A. I would think so. If you go out and sample a  
12 field somewhere where nothing but atmospheric  
13 fall out of P.C.B.s has taken place, you're  
14 looking at levels down around .01 p.p.m. Now,  
15 one could argue whether or not that 6,000  
16 p.p.m. there, at greater than 6,000 was hurt-  
17 ing anything. It certainly has the potential,  
18 depending upon what becomes of that soil.

19 Q. And the same would be applicable to test BL-  
20 16, 1,470, which was at a ditch, I believe,  
21 fairly close to the railroad.

22 A. Yes. Any of these would concern me, because  
23 they are in the flow patterns where surface  
24 water is going to leave the area on heavy  
25 rains -- carried off into streams -- and

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1 ultimately get into the biological food chain.  
2 Q. Dr. Munson, Mr. Westlake wrote a letter to  
3 Dale and Connie Conard which is dated October  
4 29, 1982, and it was in response to a letter  
5 written to Westinghouse by Dale Conard, dated  
6 October 18, 1982. In the letter from Mr.  
7 Westlake, he states: "We have not previously  
8 been informed of any evidence of elevated  
9 concentrations of P.C.B.s in Richland Creek,  
10 either adjacent to Valley View Farms or  
11 elsewhere." Based upon the testing which you  
12 did, as reported in your report, would that  
13 statement be inconsistent with your data?  
14 A. Certainly. I think if the -- by "we," he  
15 means he had not been informed, that could  
16 well be true. Perhaps he wasn't informed --  
17 some years had gone by. If by "we," he means  
18 Westinghouse Electric Corporation, that's  
19 totally untrue. They were certainly informed.  
20 They had the data from my sampling. In fact,  
21 they were informed clear up to the top level  
22 of the corporation, evidenced by the reports  
23 that were sent by headquarters.

24 BRIEFLY "OFF THE RECORD"

25 Q. Did you keep record books when you worked for

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1 Westinghouse, and will you tell us what a  
2 record book is?

3 A. Yes. Our laboratory was part of the Westing-  
4 house Research and Development Laboratories in  
5 Pittsburgh, Pennsylvania. I'm not sure how  
6 many years the R and D Lab had been in exis-  
7 tence, but long enough to get very systema-  
8 tized. One of the things they did, because of  
9 the potential of developing patentable mate-  
10 rial, is every engineer -- we were all con-  
11 sidered engineers -- who was at the R and D  
12 Lab was issued a record book that had its own  
13 serial number. This was a cloth bound book,  
14 larger than 8 1/2 x 11 -- in fact, larger than  
15 a legal pad size, by being a little bit wider  
16 -- black bound. They were published -- I'm  
17 not sure who made them. They were made speci-  
18 fically for Westinghouse. They had the West-  
19 ingshouse logo on the outside and talked about  
20 Westinghouse R and D and their goals, and  
21 history, and that sort of thing on the inside  
22 cover. They were, I believe, 190 pages long.  
23 They were really dandy research notebooks.  
24 I've been trying to find something like them  
25 for years and have not been able to. But,

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1 each one had its own serial number. They  
2 were checked out to you by serial number, and  
3 you were supposed to keep your daily record of  
4 activities -- for all of us who were essen-  
5 tially scientists working at the lab bench --  
6 in these books, sign every page, date every  
7 page. If there was something that seemed  
8 potentially useful, from the point of view of  
9 patent, there were signature areas for wit-  
10 nesses. I used them a few times when I was  
11 doing something of that nature. I'm not sure  
12 exactly how many of them I filled out over the  
13 years. I know I used several of them, speci-  
14 fically, for recording the samples as I col-  
15 lected them. When I went to the field to  
16 collect, I took a record book with me. The  
17 samples were given a code number in the field,  
18 that number entered into the record book. I  
19 had other record books that I used as a daily  
20 journal. My practice as a scientist is that I  
21 keep a daily journal where each day I enter  
22 what I'm doing in the laboratory, try to write  
23 it in such a manner that someone else could  
24 come along years later and read it and under-  
25 stand what I was doing. When I left Westing-

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1 house -- I had worked there seven years -- I  
2 had worked on many projects. Probably, most  
3 of the time was doing material that was open  
4 to the public -- publishable -- and much of it  
5 had been published. But they would not let me  
6 take any of those record books with me. They  
7 said: "These are Westinghouse property. You  
8 must leave them behind." I was most unhappy  
9 to do that, because to a scientist, his per-  
10 sonal notes in the laboratory are a record of  
11 his life. But I had to leave those behind and  
12 all of the paperwork that had to do with the  
13 P.C.B. work. I left it in file cabinets in  
14 the building at the Bay Bridge site that was  
15 being used at the time by the Westinghouse  
16 Ocean Research Laboratory.

17 Q. Did the attorneys in New York, when they  
18 talked with you in late 1987, I believe, make  
19 reference to those books?

20 A. Actually, they didn't. What actually happened  
21 was before I went to New York, when we were  
22 talking about it over the telephone, they  
23 asked me if I had any of the reports concern-  
24 ing the P.C.B. survey, and I said: "Of course  
25 not. Those were all company proprietary. I

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1 was not allowed -- even by law, I guess -- to  
2 have them in my hands when I left the com-  
3 pany." And they said: "Do you have anything  
4 pertaining to the survey?" And I said: "As a  
5 matter of fact, I do." I had one record book  
6 that had been used as a sample record book to  
7 record the collection of samples. I still had  
8 it with me, because at the time I left to go  
9 to E.P.A., I was writing a report and some of  
10 the sample numbers were still in there. I  
11 simply forgot to return it. So, all these  
12 years I had had it on my shelf. So, they  
13 asked that I bring it to New York, and so I  
14 brought it with me. In New York, they were  
15 unaware of the presence of original record  
16 books. I think, being lawyers and not scien-  
17 tists, it just didn't occur to them that there  
18 were such things. So, I told them about the  
19 record books. I told them where they might  
20 be, and I suggested that they contact...Well,  
21 first...I left the record book with them, so  
22 now I have nothing that belonged to Westing-  
23 house. I suggested that he contact Mr. Dick  
24 Usury, who I believe is still working --  
25 that's U-S-U-R-Y -- at the Westinghouse Ocea-

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1 nic Division in Annapolis, Maryland, at the  
2 Bay Bridge site, because at the time I finally  
3 left -- the management structure had been re-  
4 structured quite a few times -- I believe Dick  
5 Usury may have actually been my boss at the  
6 time I left, and I thought he might know where  
7 those record books were.

8 Q. When you reviewed the report relating to  
9 Bloomington, Indiana, with the attorneys in  
10 New York, was there any information -- type  
11 written -- relative to P.C.B. levels in fish?

12 A. I don't think so. It had been a long time  
13 since I had seen the report, and in reflecting  
14 on it later and in looking at the report you  
15 sent me, I don't think I'm prepared to swear  
16 to that in court, but I have the definite  
17 feeling that they didn't show me the entire  
18 report. That I was actually, in fact, looking  
19 at sections that were stapled together, be-  
20 cause I was looking for the fish data because  
21 in the morning when they asked me questions, I  
22 told them: "We had sampled fish from the  
23 White River that we had gotten commercially."  
24 I had always been concerned because we found  
25 levels that exceeded the F.D.A. consumption

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1 limit and we had not reported that infor-  
2 mation. I didn't see it in the report they  
3 gave me and I thought my memory was playing  
4 tricks on me.

5 Q. In doing our work, we came across a document  
6 dated January 15, 1972. This document is  
7 generally called an "Indemnity Agreement." An  
8 Indemnity Agreement is an undertaking in  
9 which one party agrees to pay the claims of  
10 another party in the event of a law suit.  
11 This particular document, by agreement, es-  
12 tablishes that Westinghouse undertook to  
13 indemnify Monsanto for any and all losses or  
14 damage to the environment or human health,  
15 after the date of the agreement. I have never  
16 met an individual in depositions who has known  
17 about this document. I have deposed Lou  
18 Shove. I've deposed Bob Anderson -- a number  
19 of Westinghouse people. And I would be quite  
20 confident that this is the first time you've  
21 seen it. I would ask if you have ever heard  
22 of any conversation about such an agreement?  
23 A. It certainly doesn't ring a bell with me, at  
24 all. I can't imagine why Westinghouse would  
25 want to do that. I don't remember anything at

1 all about such an agreement.

2 BRIEFLY "OFF THE RECORD"

3 Q. Dr. Munson, this is another document of the  
4 many hundreds that we have indexed, which is a  
5 memorandum dated August 29, 1975. It's from  
6 Floyd Biehn to Sauter, Brittain and McClain.

7 A. Yes. Well, basically, I had exactly those  
8 same orders, by the way. In other words, I  
9 certainly could not answer any question by  
10 anybody from outside the corporation. In  
11 fact, even inside the corporation. Unless  
12 that person had a need to know about the  
13 survey, I was to tell them nothing.

14 Q. Was that a standing...

15 A. Absolutely. As I mentioned to you in writing,  
16 the distribution of the reports was very  
17 closely held. I had a list of who was to  
18 receive them. I prepared the reports, per-  
19 sonally. I stamped them "Proprietary Class  
20 1," personally -- all the copies. So, each  
21 copy that was distributed by me had the big  
22 red ink stamp on it. Anything that ever  
23 appeared after that, that didn't have that red  
24 stamp, was a copy that somebody made.

25 Q. Lastly, Dr. Munson, there is a document which

904566

1 is titled "N.E.M.A." -- N-E-M-A -- "Official  
2 Standards Proposal." On page three, under the  
3 caption "Water Effluent -- Sampling Concentra-  
4 tion Limits and Analytical Procedures"  
5 -- it states, "The industry goal is to elimi-  
6 nate askarels, which is P.C.Bs in plant water  
7 effluent streams. However, it is recognized  
8 that existing drain systems from manufacturing  
9 plants, repair shops, and installation sites,  
10 may be contaminated as a result of past prac-  
11 tices. Other sections of this guide provide  
12 that no askarels waste, of any kind, be dis-  
13 posed of in any water effluent streams, and  
14 that accident spills be prevented from getting  
15 into such streams." Then it states that:  
16 "The E.P.A., in 1972, proposed to keep P.C.B.  
17 levels in rivers and lakes below 0.01 parts  
18 per billion." It states: "Plant effluent  
19 streams should be managed and controlled in a  
20 manner consistent with this goal." My ques-  
21 tion would be this: At the Conard farm, there  
22 is drainage of water from Neal's Landfill,  
23 through what I call, wet weather springs. The  
24 proposed level for P.C.B. effluent from those  
25 streams is one part per billion. There are no

904567

1 other sources of water into that stream, other  
2 than natural drainage. Would the one part per  
3 billion, that is established for the effluent,  
4 appear to be inconsistent with this level,  
5 recognizing that what comes out of a pipe  
6 merges with the stream and therefore, as I  
7 understand it, calculations would have to be  
8 made as to the relative contribution, but,  
9 distinguishing that particular phenomenon, or  
10 merging of water, in the Conard situation  
11 where wet weather springs are the sole source?

12 A. Yeah. It looks to me like, the way this  
13 reads, that if a plant is discharging a P.C.B.  
14 containing effluent into a stream, they're  
15 allowed to calculate the amount of flow they  
16 are putting in, the amount of flow in the  
17 stream, and a dilution factor, and then dis-  
18 charge more than .01 part per billion, as long  
19 as the combined effluent plus river is below  
20 .01. Now, in the Conard case, this appears  
21 totally inconsistent to what's happening over  
22 there. It appears as though the total flow of  
23 the water -- what's now called Conard's Branch  
24 -- actually is water that has come from the  
25 land fill area and that that flow -- if they

904568

1 are talking about that flow from the land fill  
2 -- being at 1 part per billion, clearly then  
3 they're talking about a level 100 times higher  
4 than this level proposed by N.E.M.A. for  
5 rivers and lakes.

6 Q. And that level was at 72, compared to the 1  
7 part per billion, which was reached in 1985.  
8 So there would be a 13 year differential...

9 A. Oh, yes.

10 Q. One other question. With regard to the water  
11 flow and P.C.B. concentrations, per cubic foot  
12 of water...Assuming that the flow of water  
13 from the wet weather springs -- that essen-  
14 tially drain Neal's Land Fill -- is one cubic  
15 foot or less per second without rainfall, but  
16 that during times of heavy rain, that flow can  
17 increase to 30 feet per second and even one  
18 measurement of 72 cubic feet of water per  
19 second. Would you expect the concentration of  
20 P.C.B.s to be less or greater per cubic foot  
21 of water with the increased flow per second?

22 A. I as I see that situation, there are several  
23 things that might take place. In talking with  
24 Mr. Conard, he has told us of periods of very  
25 high flow, when in fact oily material is

904569

1 deposited out on his land. Now, we might  
2 expect that that land fill has pools of oil  
3 underneath it. Now, whether that oil -- some  
4 of it perhaps -- might be motor oil or mineral  
5 oil, some of it surely would be Inertine. In  
6 any event, there probably is oily material  
7 under the land fill that is highly contami-  
8 nated with P.C.B.s, in fact, if it isn't  
9 P.C.B. fluid itself. On the one hand we could  
10 imagine high flow conditions which would in  
11 fact bring this oil out across this land,  
12 which would be devastating from the point of  
13 view of contamination of P.C.B.s. I mean,  
14 those levels would just be astronomically  
15 high. But, if we put that case aside and  
16 supposed that no such oily material were to  
17 come out, and just consider transport in the  
18 water itself and the suspended particulate in  
19 the water, if during the low flow condition  
20 the water is clearer -- in other words, has  
21 less sediment in it -- than it does during the  
22 high flow condition -- and I'm guessing this  
23 would be the case. I've seen some high flow  
24 photographs and the water looks very brown,  
25 very turbid -- the sediments inside the land

904570

1 fill, you would expect them to be contaminated  
2 with P.C.B.s. And I would expect that it's  
3 those sediments being carried out by the water  
4 stream that will result in -- aside from oily  
5 material, which is a totally different case --  
6 the transport. So, any condition that results  
7 in bringing more sediments out of the land  
8 fill onto the Conard's property, is going to  
9 result in bringing more P.C.B. out.

10 Q. As a scientist with your experience in testing  
11 for P.C.B.s and performing gas chromatography,  
12 and all other facets of your education, train-  
13 ing and experience, what would you foresee  
14 with respect to problems of P.C.B. contamina-  
15 tion of Conard's Branch, resulting from the  
16 excavation of the 220,000 cubic yards of  
17 contaminated soil, from Neal's Land Fill?

18 A. My experience, of course, is based upon work  
19 that I've done looking at movement of sedi-  
20 ments that contain P.C.B.s in a echo system  
21 like Chesapeake. Also, when I worked with  
22 E.P.A., I've been involved in some operations  
23 where contractors are removing land fill  
24 material and that sort of thing. I think that  
25 even under the best -- the most well designed

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1           -- program that you can imagine, considering  
2           the close proximity of the land fill property  
3           to the Conard's and the topography -- the fact  
4           that it's higher up on the hill -- and the  
5           fact that it's going to have to be totally  
6           excavated to take out the capacitors, even  
7           under the best conditions it seems very un-  
8           likely to me the material is not going to  
9           escape that site and be carried across the  
10          Conard's property. Now, the thing that's  
11          really distressing is, we know what to expect.  
12          We know that a contractor will be hired . The  
13          contractor himself will be given the respon-  
14          sibility for monitoring his activities. And  
15          he'll be a businessman with schedules to meet,  
16          salaries to pay, and he will do the least that  
17          he has to do -- that he feels he can do. And  
18          even though he may be the most well-meaning  
19          human being, he's going to have some doubt in  
20          his mind about how toxic this stuff really is  
21          and he's not going to worry about it too much.  
22          If nobody's looking, and a little flows over,  
23          he's not going to worry about it. I would bet  
24          a lot of money that the Conard's property is  
25          going to be heavily impacted.

904572

- 1 Q. Dr. Munson, when we met we did not have a  
2 photograph and today it has been given to us,  
3 of the Conard property, which we visited.  
4 This is the house where you met Dale and  
5 Connie. This is Conard's Branch which is  
6 reflected in the sunlight to some extent.  
7 This is the clay cap on the land fill. This  
8 road is where we stopped at the gate. Over  
9 here is Johnny Cougar's little pink house.  
10 Then, you have Highway 48 at the top, and  
11 here's the hog farm where the pigs and cattle  
12 reported the problems with the livestock.  
13 Would that be correct?  
14 A. Yes. That's the place.  
15 Q. Now, this shows that the area is 18 acres.  
16 It's carse-fractured limestone. There was  
17 surface soil contamination of 219,000 parts  
18 per million, ground water 9.6 parts per bil-  
19 lion, surface water 9.77, stream sediment  
20 1,700...  
21 A. Where was that taken?  
22 Q. Right...  
23 A. Okay. Just down the slope.  
24 Q. From here to here.  
25 A. Okay.

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...and the fish with 279 parts per million, which I believe Don Stefik discussed with you yesterday.

Uh-huh.

The estimate of total volume to be excavated -- and I was off by a 100,000 cubic yards -- is 320,000 cubic yards. Would those physical statistics reinforce your earlier statement as to the potential problems?

Sure. Now, as I look at the photograph, you can see it coming. What will happen is the site will be designed with suitable catchment basins so that the leach egg that is running out of the thing naturally will be caught and the sediment will be captured, hopefully, and the effluent that gets into the creek maybe will be low in P.C.B.s. Although, if they rupture a capacitor or if there's a barrel of P.C.B.s that rupture, and that gets into the system of the water flow, what are they going to do? But, even assuming that doesn't happen -- best possible case, nothing ruptures -- they're going to be working there one day and there's going to be a thunder storm with a three inch rainfall -- an act of God. And we

904574

1 will just have to look the other way -- as a  
2 contractor -- because we surely can't be  
3 expected to control that. And that's just  
4 going to devastate this area down here on the  
5 Conard's farm. It will just wash the whole  
6 shootin' match off the hillside down onto  
7 their farm. We'll all be very sorry, and  
8 we'll clean up the best we can and start over  
9 again.

10 Q. Here's another photograph, Dr. Munson. This  
11 shows where we parked the car, and this is the  
12 clay cap which Mr. Foster supervised the...

13 A. One problem here is that there really isn't  
14 enough land here to make catchment basins that  
15 are going to handle the kind of run off you'll  
16 have when the rain comes -- dikes will break,  
17 systems will overflow. It's a common story.  
18 The contractor gets off the hook because he  
19 says it's an act of God -- he had no control  
20 over it.

21 MR. MCCREA:

22 That's it.  
23  
24  
25

---

Dr. Thomas O. Munson

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STATE OF INDIANA )

**SS:**

COUNTY OF MONROE )

I, TERRI K. KNUDSON, a Notary Public in and for the State of Indiana, do hereby certify that the foregoing is a true and accurate, computer-aided transcript of any and all testimony, as taken electronically and supported by written notes by and before me of the statement of Dr. T. O. Munson, Chemistry Professor, St. Cloud State University, St. Cloud, Minnesota, in the law offices of McCrea and McCrea, located at 119 South Walnut Street, Bloomington, Monroe County, Indiana, on Saturday, August 13, 1988, in the presence of the parties hereinbefore stated.

I further certify that I am not related to nor employed by any of the parties or attorneys involved, nor do I have any personal interest whatsoever in the outcome of any litigation involving this statement.

TERRI K. KNUDSON  
TERRI K. KNUDSON, Notary Public  
Residing in Monroe County, Ind.

Dated: March 17 1988

My Commission expires 5-17-1991

1 UNITED STATES DISTRICT COURT  
2 SOUTHERN DISTRICT OF INDIANA  
3 INDIANAPOLIS DIVISION

**COPY**

4 DALE CONARD and CONNIE CONARD )

5 Plaintiffs, )

6 -vs-

) CASE NO. IP84-1667-C

7 WESTINGHOUSE ELECTRIC )  
8 CORPORATION, )

9 Defendant. )

10  
11  
12  
13 The deposition upon oral examination of THOMAS OREN  
14 MUNSON, a witness produced and sworn before me, Beverly S.  
15 Evans, a Notary Public in and for the County of Marion,  
16 State of Indiana, taken on behalf of the Defendant at the  
17 law offices of Baker & Daniels, Indiana National Bank  
18 Tower, 15th Floor, Indianapolis, Marion County, Indiana, on  
19 the 30th of November, 1988, commencing at the hour of 9:30  
20 a.m., pursuant to the Federal Rules of Civil Procedure with  
21 written Notice as to time and place.

22 -----  
23 JOHN E. CONNOR & ASSOCIATES, INC.  
1860 ONE AMERICAN SQUARE  
INDIANAPOLIS, IN 46282  
(317) 632-5533

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A P P E A R A N C E S

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ALSO PRESENT:

Stuart A. Curry

I N D E X   O F   E X A M I N A T I O N

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1 T H O M A S O R E N M U N S O N, having been first duly  
2 sworn to tell the truth, the whole truth and  
3 nothing but the truth, relating to said matter,  
4 was examined and testified as follows:

5  
6 DIRECT EXAMINATION,

7 QUESTIONS BY MR. JAN FELDMAN:

8 (Defendant's Deposition Exhibit 1 was marked for  
9 identification.)

10 Q Sir, would you state your full name for the record and  
11 spell your last name.

12 A Thomas Oren Munson. M-u-n-s-o-n.

13 Q And it's Dr. Munson: is that right?

14 A Yes.

15 Q Let the record reflect that this is a deposition  
16 pursuant to subpoena and notice of Dr. Thomas Munson.

17 Dr. Munson, you received a copy of what I'm showing you  
18 is your Deposition Exhibit No. 1; isn't that right?

19 A Yes. That's right.

20 Q And did you have a chance to look over the rider to the  
21 subpoena which is Exhibit 1 before you came to your  
22 deposition today?

23 A Yes, I did.

1 Q You're represented by your attorney, Mr. McCrea, here;  
2 is that correct?

3 A I don't know.

4 THE WITNESS: Are you representing me?

5 A (Continuing) I don't know the answer to that question.

6 Q In any event, either you or Mr. McCrea has brought with  
7 you today some documents; is that correct?

8 A Yes.

9 Q You have in front of you, I notice, a three-ring binder  
10 which doesn't look like one of mine.

11 A It's the same. I believe this is all of the  
12 information that has been passed to you.

13 Q Now, what I have before me is about five inches of  
14 material. And I just want to go through it to make  
15 sure that this is what you intended to bring and that  
16 it's everything.

17 A Okay.

18 Q First I have a -- Later we may mark these as  
19 exhibits -- I have a stapled document which begins with  
20 the letter from Mr. McCrea to you dated May 20, 1988.

21 A Mine may not be in exactly the same order as yours.

22 That was May --

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23 MR. MCCREA: Could you show us the letter.

1 Q Let me ask you a question while you're looking through  
2 this. Did you compile these materials with the  
3 assistance of Mr. Curry who is standing behind you now?

4 A These materials?

5 Q Yes.

6 A Mr. Curry I think probably compiled them.

7 Q Did he present you with a full pile of documents which  
8 you were going to bring with you today in response to  
9 the subpoena?

10 A Yes. In other words. I asked David what I should  
11 bring. David said. "I have everything that has passed  
12 between us. Let me put it together." See, I was  
13 traveling. I've been away. And I'm just coming back  
14 through town to be here today. So, rather than for me  
15 to bring it all from my end, he supplied it from his  
16 end.

17 Q Is it fair to say you have not done any independent  
18 gathering of documents in response to the subpoena?

19 A I think that's fair to say yes.

20 MR. FELDMAN: Well, why don't we mark this  
21 Exhibit 2.

22 (Defendant's Deposition Exhibit 2 was marked for  
23 identification.)

1 Q I'm showing you what we have just marked as Exhibit 2  
2 which is a six-page document beginning with the letter  
3 I mentioned a minute ago dated May 20, 1988 from Mr.  
4 McCrea to yourself.

5 A There it is. Yes, I knew it was in there. This is  
6 that same stapled document there.

7 Q Have you looked through the materials that were copied  
8 and passed along to me to determine whether they were  
9 complete and complied with the request for documents?

10 A Yes, I did.

11 Q And did you determine that in fact they were complete?

12 A They seemed to be, yes. The one thing I didn't have in  
13 my stack when I went through it last night was this  
14 letter here that has a couple of memos. I believe this  
15 is in --

16 Q Is that Exhibit 2?

17 A No. It's a later one you've got. But yes, I believe  
18 that this stack of material does contain all of the  
19 items.

20 Q And do you believe that because you looked at the rider  
21 to the subpoena that you were served with which we have  
22 marked as Exhibit 1 and determined that everything  
23 mentioned in this rider exists in this pile of

1 materials you have given me today?

2 A Yes, I believe so. I believe so.

3 Q When did you do that?

4 A I did that last evening. In other words, I got this  
5 information yesterday afternoon when I got into town,  
6 and I went through it last evening.

7 Q Was that in Mr. McCrea's office?

8 A No. It was in my motel.

9 Q Here in Indianapolis?

10 A In Bloomington.

11 MR. McCrea: Jan. I will represent to you  
12 that everything in this book is in your stack.

13 MR. FELDMAN: I am assuming that's the  
14 case.

15 Q This book meaning the three-ring binder that is in  
16 front of Dr. Munson?

17 A Yes, and other pieces.

18 Q All right. Going through this again, you have given me  
19 something we've marked as Exhibit 2 which is a six-page  
20 document containing two letters to you from Mr. McCrea:  
21 is that right?

22 A Yes.

23 Q And a series of invoices which you sent to Mr. McCrea

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1 for your services in this case?

2 A Yes.

3 Q I know you've been through this before, but let me just  
4 give you a little instruction. You have to wait till I  
5 finish my question so she can take it down and isn't  
6 taking us both down at the same time.

7 A Okay.

8 Q Now, I find invoices in Exhibit 2 dated August 11, 24,  
9 November 6 and November 7. Is that all the invoices  
10 that there are?

11 A I believe that's true, yes.

12 Q And you've also provided us with a copy of something  
13 entitled Statement of Dr. T. O. Munson, August 13 of  
14 1988. I take it that Mr. McCrea had you in his office  
15 on that date: is that right?

16 A Yes.

17 Q And there was a court reporter present?

18 A I guess she was a court reporter, yes.

19 Q And he asked you questions and you provided answers,  
20 and the court reporter took them down; is that right?

21 A Let's see. We had it recorded, I think, yes.

22 Q And that's a 55-page I don't want to call it a  
23 deposition but for lack of a better term: is that

1 right?

2 A Well, I didn't count the pages. Yes, 55 plus the last  
3 page.

4 Q And you've also provided us with a copy of a report  
5 entitled Preliminary Report of Inerteen Environmental  
6 Survey of Bloomington Distribution Apparatus Plant: is  
7 that right?

8 A Yes.

9 Q And the next document that I have is an affidavit of  
10 Thomas O. Munson, Ph.D. executed on August 18, 1976  
11 with a cover letter from a Mr. Hall of the EPA to  
12 yourself: is that right?

13 A Yes.

14 Q That includes and it looks like a curriculum vitae of  
15 yourself marked Exhibit A: is that right?

16 A Yes.

17 Q And then there is a document entitled Final Report PCB  
18 Sampling and Analysis at Selected Sanitary Landfill  
19 Sites dated May 25, 1976?

20 A Yes.

21 Q Including an appendix A with cover page which has some  
22 handwriting on it?

23 A Yes.

1 Q Is that your handwriting?

2 A Yes.

3 Q When did you put that on there?

4 A I don't remember. It's been a long time ago. It

5 wasn't this year, certainly. I don't think so.

6 Q Okay. That's fine. Now, Exhibit A is entitled

7 Analytical Methods for Determining PCBs in Landfill

8 Leachate Samples and includes a number of pages of PCB

9 analysis: is that right?

10 A Yes.

11 Q There's an Exhibit B which includes some more PCB

12 analysis?

13 A Yes.

14 O Then there is something called Method for

15 Polychlorinated Biphenyls in Industrial Effluents. Is

16 that a separate document or is that the one we have

17 been discussing?

18 A I believe that is.

19 Q Doctor, take a look at my document.

20 A Okay. That page is different than my page. Okay.

21 That may have been included as in that original -- This

22 whole document was a document that I supplied to Ric

23 Hall of EPA.

1 Q Called PCB Analytical Methodology?

2 A The document starts back here with that cover page and  
3 then my affidavit and then the report. And I believe  
4 it looks like these two pages of information here  
5 actually belong in appendix A.

6 Q Can you identify the two pages?

7 A Oh, these were the --

8 Q PCB analysis?

9 A Yes. As you mentioned, there were some data sheets  
10 there and there was appendix -- Okay. Appendix A had  
11 those data sheets. I believe appendix B probably was  
12 the PCB analytical methodology.

13 Q All right. So, we'll put the PCB analysis back in with  
14 appendix A?

15 A Yes. I believe those two pages belong to appendix A.  
16 And appendix B starts with -- I have two pages in front  
17 of the page you held up. Okay.

18 MR. FELDMAN: Let's go off the record for  
19 a second.

20 (A discussion was held off the record.)

21 Q Doctor, we've been trying off the record to determine  
22 which pages were part of the affidavit which was  
23 attached to the letter from Mr. Hall to you. It

1 doesn't have a date on it. And correct me if I am  
2 wrong. You indicated that appendix B would have been  
3 the two-page document PCB analytical methodology?

4 A I think so.

5 Q And then there was another attachment to the affidavit  
6 rather than to the appendix entitled Method For  
7 Polychlorinated Biphenyls in Industrial Effluents. It  
8 goes on for many pages: is that right?

9 A I believe that's true.

10 Q Including the tables.

11 A Yes. I believe all of this is part of the affidavit  
12 that I supplied to Ridgway Hall.

13 Q Where was this document when you supplied it to Mr.  
14 McCrea?

15 A It was in my files.

16 Q Is the copy that you have in front of you the original  
17 that you have in your files or is that a copy as well?

18 A I believe this is a copy of the original that I had in  
19 my files.

20 Q There is also an appendix I at the back. Is it your  
21 understanding that's part of the NPDx?

22 A Yes. that would be their appendix.

23 Q So, is it correct to say there were two appendices to

1 your affidavit A and B which contained other documents?

2 A You mean different from the ones here?

3 Q No.

4 A Other than the affidavit itself, yes. I believe that's  
5 the way it was organized, yes.

6 (Defendant's Deposition Exhibit 3 was marked for  
7 identification.)

8 Q You've also provided us with another group of  
9 documents. And I'm marking the cover page which is  
10 labeled Exhibits as your deposition Exhibit 3. Do you  
11 see that?

12 A Yes.

13 Q And that is a list of exhibits A through V. although,  
14 exhibit R seems to be crossed out and the initials DSM  
15 written in; is that right?

16 A Yes.

17 Q And then are the documents that are behind Exhibit 3  
18 the single page all of the listed documents?

19 A I think so, yes.

20 Q What is your understanding of what these documents are?

21 A These are documents which were -- I believe all of  
22 these were supplied to me by David McCrea.

23 Q What happened to exhibit R which is not in my pile?

1 A I don't know. Let's see. I think that was a  
2 duplicate. Okay. Yes, I did not compile this page.  
3 This page was compiled for me of this list of  
4 documents.

5 Q Look at exhibit F.

6 A Okay. Exhibit F. Okay.

7 Q Does it appear to you that exhibit F was a duplicate of  
8 exhibit R. November 4, 1968 memorandum?

9 A Yes, that looks like that was what it was.

10 Q When were these documents provided to you, exhibits to  
11 Exhibit 3 of your deposition?

12 A I'm not sure I can tell you when each individual one  
13 was.

14 Q Let me ask you a background question. Were the  
15 documents attached to Exhibit 3 of your deposition  
16 provided to you in the form that we've been given them:  
17 namely, as a list of exhibits with the exhibits behind  
18 them?

19 A They were today. Now, I can't remember if they were  
20 organized this way when I first saw them. I've had  
21 several bits of information given to me. I just don't  
22 remember the answer to that question.

23 Q Well, have you seen the list of exhibits before today?

1 A It looks familiar. yes. Yes, my guess is that it was,  
2 and probably back in my office at home there may be  
3 such a stack just like this.

4 Q I've also been provided with what appears to be a  
5 letter dated November 7 of three pages from you to Mr.  
6 McCrea.

7 A Okay.

8 Q You've provided me with a letter dated November 7, 1988  
9 of three pages from you to Mr. McCrea?

10 A Yes, that would be this one.

11 Q And a letter dated November 6, from you to Mr. McCrea  
12 of two pages?

13 A Yes.

14 Q And a two-page letter from you to Mr. McCrea dated  
15 August 11, 1988?

16 A Yes.

17 Q Now, the next document I have is something called  
18 History of the Westinghouse Electric Corporation PCB  
19 Survey by T. O. Munson, Ph.D., (8-6,1988); is that  
20 right?

21 A Yes.

22 Q Was that part of either of the two letters we just  
23 identified?

1 A Yes. I believe I reference that letter and subsequent  
2 material as attached items.

3 Q Where is that referred to?

4 A Let me find it here. I believe that references in the  
5 August 11 letter. Yes, part A reasons for testing it  
6 says the attached document History of the Westinghouse  
7 Electric Corporation PCB Survey describes et cetera, et  
8 cetera.

9 Q And is the next document which is entitled Date of  
10 Meeting with Westinghouse Electric Corporation CEO by  
11 T. O. Munson, Ph.D., 8-9-88 also referenced in that  
12 letter of August 11?

13 A Yes.

14 Q Where?

15 A It's in the same section A.

16 Q And that Date of Meeting document is a three-page  
17 document; is that right?

18 A Yes.

19 Q The next one I have is something called Method Used for  
20 Measuring PCBs in the Samples from the Westinghouse  
21 Electric Corporation PCB Survey by T. O. Munson, Ph.D.,  
22 8-10-88. and that goes for three pages; is that right?

23 A Yes.

1 Q And that's referred to in paragraph B of your August  
2 11. '88 letter?

3 A That's correct.

4 Q The next document is who called who about the PCB data.  
5 et cetera, et cetera, and that goes on for five pages  
6 and is referred to in paragraph C of the August 11. '88  
7 letter; is that right?

8 A Yes.

9 Q Westinghouse Electric Corporation next document is  
10 called My Contacts with the Law Firm Representing  
11 Westinghouse Electric Corporation. And that goes on  
12 for five pages and is referred to where? Is that  
13 paragraph D?

14 A Yes. Just a moment. Yes. That is paragraphs D and E.

15 Q I take it that the dates underneath the titles of the  
16 various attachments to the August 11. '88 letter were  
17 prepared on the day that's inside the parens and the  
18 headings?

19 A That's the date that material was prepared, yes.

20 Q Do we have in our materials an August 3, 1988 letter  
21 from Mr. McCrea?

22 MR. FELDMAN: Can you help, David? Do you  
23 know where that is?

1 A Which letter are you referring to?

2 MR. MCCREA: August 3.

3 THE WITNESS: Oh, okay.

4 Q I don't think I've got that. Doctor, you've just  
5 handed me a two-page document which appears to be a  
6 letter from Mr. McCrea to you dated August 3, 1988; is  
7 that correct?

8 A Yes.

9 MR. FELDMAN: Let's mark that No. 4.

10 (Defendant's Deposition Exhibit 4 was marked for  
11 identification.)

12 Q I did not have this document in the materials given to  
13 me. is that right. Doctor, before you handed it to me?

14 A I don't know. If you didn't find it -- It should have  
15 been in there.

16 MR. FELDMAN: Can you explain that, David?  
17 I don't seem to have it.

18 MR. MCCREA: I believe that letter was not  
19 in this compilation which Dr. Munson reviewed last  
20 night. My recollection is that was added this morning.  
21 So, I'm not sure if he has the letter in this  
22 compilation in his binder. But I'd have to look at the  
23 letter section.

1 Q My understanding from what you told us earlier is that  
2 you looked at the three-ring binder that you have in  
3 front of you to determine whether it contained all of  
4 the materials requested in the subpoena; is that  
5 correct, Doctor?

6 A Yes, I said that.

7 Q Did you just now realize that the August 3, '88 letter  
8 was not in there?

9 MR. McCREA: Just to correct the record. I  
10 represented to Dr. Munson that in this binder was every  
11 document. So, if there was an error, it was my error.  
12 But this letter, that is the letter reference.

13 A It should have been in there.

14 MR. McCREA: It should have been in there.

15 A (Continuing) Because that's the letter that I think I  
16 was referring to in one of my other letters.

17 Q That's fine. Let's go on.

18 MR. McCREA: We were asked to provide you  
19 the documents this morning. It's my understanding that  
20 you have every single document. If there is a document  
21 that is not included, we'll locate it.

22 Q All right. I believe the next document -- I don't know  
23 if you've got them in the same order I do. I have a

1 November 3, '88 letter from McCrea to Munson with some  
2 an attachments.

3 A Okay. I have that one here.

4 Q And I have eight pages of attachments to that two-page  
5 letter; is that right?

6 A I find eight.

7 Q You find eight?

8 A Yes.

9 MR. MCCREA: I would also note for the  
10 record that absent the attachments is reference A. I  
11 do not find that in the attachments to the November 3,  
12 1988 letter.

13 Q Have you reviewed that attachment A you refer to in the  
14 November 3 letter?

15 MR. MCCREA: I don't believe that appears.

16 A Yes. I believe so. Yes. I believe I have seen that  
17 because I think I commented on it.

18 Q Is it fair to say that the materials here were compiled  
19 by Mr. Curry from materials in Mr. McCrea's office  
20 rather than going to your home or office in Minnesota  
21 to pull these materials together?

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22 A I'm not a hundred percent sure Mr. Curry did the  
23 compiling, but yes, that's how this material was put

1 together.

2 MR. MCCREA: For the record, the materials  
3 put together in my office by Stu Curry, John Foster and  
4 myself after I informed Dr. Munson that we would  
5 provide all the requested materials, that he need not  
6 assemble them from his end and bring them with him.

7 Q Right. And consequently, Doctor, you did not take the  
8 rider to the subpoena and look through the materials  
9 that you have at your office or your home in Minnesota  
10 to determine whether there were any materials that  
11 comply with that subpoena that were there; is that  
12 right?

13 A What I did was I read the subpoena. I read the  
14 attachments to try to figure out how broad the scope  
15 was and what I might have to bring, talked with David  
16 about it. David said, "We have everything here. I  
17 will put it together and when you get here it will be  
18 here." Now, I have been through all my files and I'm  
19 pretty familiar with what's there. I believe that this  
20 is the material that is responsive to your subpoena.

21 Q Before you received the subpoena you had provided  
22 various materials to Mr. McCrea; is that right?

23 A Yes.

1 Q And he then informed you that in those materials were  
2 the documents that corresponded to the rider on the  
3 subpoena; is that right?

4 A Yes.

5 Q You didn't go back to your own documents and files to  
6 determine if there were additional materials that had  
7 not been previously provided to Mr. McCrea but which  
8 might nevertheless comply with the rider to the  
9 subpoena?

10 A Oh, there aren't any additional materials.

11 Q Is the answer to my question yes or no, that you did  
12 not go back to your files to determine whether there  
13 were materials that complied with the rider that had  
14 not been previously provided to Mr. McCrea?

15 MR. MCCREA: Jan. I would object to the  
16 question for the simple reason that all materials  
17 relied upon by Dr. Munson were sent to us.

18 MR. FELDMAN: You assume you have asked  
19 him for the same materials that I have asked him for,  
20 David.

21 MR. MCCREA: But I've read the subpoena.

22 MR. YOUNG: The witness says that's all  
23 there is. His answer is that he knows of his own

1 knowledge that's it.

2 A The answer to your question after receiving your  
3 subpoena did I go through all of my files looking for  
4 information, the answer is no, I didn't. Because I  
5 believe that all of the information has already been  
6 pulled out of my files in providing the information  
7 which, No. 1 -- well, No. 1, Eric Ordway asked for. He  
8 asked me the same question.

9 Q Did Mr. Ordway provide you with the same rider to the  
10 subpoena?

11 A No. No. But he asked me for any Westinghouse data,  
12 reports, et cetera I may have in my possession. And  
13 basically at that point I looked at what I had. I  
14 provided him with what I had.

15 Q Okay. Let's continue through the documents. The next  
16 set that I have is there are two letters dated November  
17 6 and November 7 of 1988 from you to, I guess, David  
18 McCrea: is that right?

19 There is no formal address on there.

20 A Okay.

21 Q With five pages behind that, is that right, followed by  
22 some more letters?

23 A Yes.

1 Q And the additional letters are an August 24, 1988  
2 letter to McCrea from Munson and a May 16. '88 letter  
3 from Munson to McCrea of two pages; is that right?

4 A Yes.

5 Q And the next document is a curriculum vitae. It goes  
6 on for seven pages; is that right?

7 A I think that got rearranged. Yes, I have found the  
8 curriculum vitae. Yes.

9 Q When did you prepare that?

10 A This particular one I believe has been prepared within  
11 the last month. I believe I did that November 10th or  
12 something like that. November 8th.

13 MR. FELDMAN: Let's mark the curriculum  
14 vitae as Exhibit 5.

15 (Defendant's Deposition Exhibit 5 was marked for  
16 identification.)

17 Q Doctor, I have had the court reporter mark as your  
18 Deposition Exhibit No. 5 a copy of your curriculum  
19 vitae that I was provided this morning; is that right?

20 A Yes. And I believe that was prepared and included in  
21 the November 7th letter. That would be my  
22 recollection.

23 Q Is this current?

1 A Yes.

2 Q The next document I have is three affidavits from  
3 Foster Lee Mayer, Harold Humphrey, John Lech, L-e-c-h;  
4 is that right, Doctor?

5 A Yes, I find those in my information.

6 MR. McCREA: Jan. in addition there are  
7 three additional affidavits which have not been copied  
8 which we will give to you that you can copy. But we do  
9 not have my copies of those at this deposition.

10 MR. FELDMAN: I've got LaMoreaux.

11 MR. McCREA: My understanding is these  
12 three were not in your stack. So, if they are, fine.  
13 If they aren't, they need to be copied.

14 Q In addition to the affidavits that I have just  
15 described, Mr. McCrea has just handed me a letter from  
16 William Westlake to Sandra Gardebring of the U. S. EPA  
17 dated September 10, 1981?

18 A Yes.

19 Q As well as an affidavit from a James Hunt dated  
20 September 17, 1984 -- excuse me -- apparently signed on  
21 December 22, 1982 -- oh, I see -- signed December 22,  
22 1982; is that right?

23 A Yes, I think so.

- 1 Q And that contains a two-page attachment from the  
2 Indiana State Board of Health Division of Sanitary  
3 Engineering?
- 4 A Yes.
- 5 Q Now, can you just briefly explain how these documents  
6 came to be in your possession this morning?
- 7 A Oh, those documents were given to me yesterday by David  
8 McCrea.
- 9 Q Did you review them before your deposition today?
- 10 A Yes, I read them last evening.
- 11 Q That's all I have. Are there any other documents that  
12 you intended to provide today but may not have pursuant  
13 to the subpoena?
- 14 A I don't think so.
- 15 Q And to your knowledge, are there any other documents  
16 other than the ones we have just gone through that  
17 comply with the rider to the subpoena that you  
18 received?
- 19 A To the best of my knowledge, there are not.
- 20 Q Okay. Before we go off the record, can you tell me  
21 which of the documents we've reviewed or any others  
22 that you may have reviewed or looked at in preparation  
23 for this deposition today?

1 A Well, I had all of these in my possession last evening  
2 and all of those except for the letter that we noted a  
3 few moments ago that was not in my material.

4 Q We can't use "these" and "those" because we wouldn't  
5 know what they mean. The documents you had in your  
6 possession are all the documents we have just described  
7 on the record; is that correct?

8 A I believe so. yes.

9 Q Did you review them all last night?

10 A I paged through them for several hours.

11 Q The entire stack?

12 A Yes, I believe so.

13 Q Any other documents that you reviewed prior to this  
14 deposition today other than the ones that we have  
15 before us and that we have put into the record?

16 A You mean at any time or in preparation for today's  
17 meeting?

18 Q In preparation for today's deposition.

19 A No, there were no other ones.

20 Q Other than the review of the materials that you've  
21 provided us today, did you do anything else in  
22 preparation for your deposition today?

23 A No.

1 Q Did you have any meetings with anybody?

2 A David McCrea and I have talked.

3 Q When was the last time you had a meeting with Mr.  
4 McCrea?

5 A Let's see. That would have been when I was in  
6 Bloomington when the recorded conversation was made, I  
7 believe. Whatever date that was. August 13 it says on  
8 there. So, I came to Bloomington at that point in  
9 August, and up until yesterday I had not seen David  
10 other than that time.

11 Q All right. You did meet with Mr. McCrea yesterday?

12 A Yes, last evening.

13 Q Did you prepare for your deposition with Mr. McCrea  
14 yesterday?

15 A Nothing other than he handed me this material.

16 Q How long was the meeting with Mr. McCrea yesterday?

17 A Maybe 15 minutes.

18 Q And then the other contacts following the August 13  
19 meeting up until yesterday were by letter; is that  
20 right

21 A Yes.

22 Q Do you keep notes of telephone conversations?

23 A Not usually.

1 Q Have you kept notes of any telephone conversations you  
2 may have had with Mr. McCrea?

3 A I don't have a file of notes. I think we probably had  
4 a couple of conversations where I made a few notes on a  
5 note pad of things to act on which were then after I  
6 acted on them the notes were destroyed, discarded.

7 Q We've looked through a number of letters and statements  
8 that you have done in response to requests from Mr.  
9 McCrea in the last few months; is that right?

10 A Yes.

11 Q Those were done on your computer at your office?

12 A Almost all of them were done on my computer in my  
13 office at home.

14 Q Okay. Were there any drafts made of those statements  
15 or letters?

16 A Drafts?

17 Q Yes.

18 A I'm not sure I understand what you mean.

19 Q We seem to have the final version that was sent to Mr.  
20 McCrea of all those letters and documents. Were there  
21 any drafts that led up to the final version that you  
22 sent off?

23 A No. They were composed using a word processor on a

1 computer and just composed, reread and recomposed.  
2 structured on the computer.

3 Q If we were to look at the computer disk today it would  
4 match up with what was sent to Mr. McCrea?

5 A Yes, I think so.

6 MR. FELDMAN: Okay. In view of the fact  
7 that this is a rather substantial amount of material,  
8 we would like to take a break so that we have a chance  
9 to review it before we go further in this deposition.  
10 We'll also make copies of the materials that were  
11 provided this morning. And I would suggest meeting  
12 back here at 1:00 o'clock.

13 MR. MCCREA: Fine.

14

15 (A recess was taken at 11:15 a.m. and resumed at  
16 1:15 p.m.)

17

18 A F T E R N O O N S E S S I O N

19

20 DIRECT EXAMINATION (Resumed).

21 QUESTIONS BY MR. FELDMAN:

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22 Q Dr. Munson, would you pull that copy of your curriculum  
23 vitae. It's a document we marked as Exhibit 5. By the

1 way, I didn't do this before, and maybe it would just  
2 make sense for the record to do it now. This is a  
3 subpoena deposition in the case of Conard versus  
4 Westinghouse. And I'm going to be asking you a number  
5 of questions relating to the materials you brought here  
6 today and some others. And if you don't understand my  
7 question, will you ask me to rephrase it for you?

8 A Yes.

9 Q Which leads me to my second instruction, that you have  
10 to give all your answers out loud to the court reporter  
11 because she can only take down words rather than nods  
12 of the head or grunts or something else.

13 A Okay.

14 Q And the last point is let me finish my question  
15 completely before you start to answer yours so that  
16 she's taking down one person at a time. Is that clear,  
17 too?

18 A Yes.

19 Q What is your current occupation, Doctor?

20 A I am an associate professor of chemistry at St. Cloud  
21 State University, St. Cloud, Minnesota.

22 Q Have you held that position since September, '87?

23 A Yes.

- 1 Q Were you an assistant professor before being an  
2 associate professor?
- 3 A No. I was not.
- 4 Q You came in at the associate level?
- 5 A Yes.
- 6 Q Do you teach graduate level courses at St. Cloud?
- 7 A No, I don't.
- 8 Q Why is that?
- 9 A There isn't any graduate chemistry program.
- 10 Q I see. And you teach freshman chemistry and  
11 introduction to forensic science; is that right?
- 12 A Yes.
- 13 Q What is the content of the course in forensic science?
- 14 A This course is designed for nonscience majors to  
15 familiarize them with scientific techniques that are  
16 used in crime laboratories.
- 17 Q Is that course taught as part of some forensic degree?
- 18 A The course has become a requirement for criminal  
19 justice majors. It's basically a general education  
20 science course.
- 21 Q Was the course in existence before you came to St.  
22 Cloud?
- 23 A Yes.

1 Q Is the advanced forensic science laboratory also part  
2 of the criminal justice degree?

3 A Yes.

4 Q And what does that involve?

5 A Really more of the same. The course, both courses, are  
6 heavily based in laboratory techniques, such things as  
7 fingerprinting and paper chromatography, things of that  
8 nature.

9 Q What is paper chromatography?

10 A It's a method for separating mixtures of organic  
11 chemicals by putting the mixture on paper and then  
12 developing the paper with a solvent mixture which  
13 causes the mixture of compounds to separate into  
14 individual bands on the paper.

15 Q Is the purpose of that test to identify the substance?

16 A It's used mostly as a comparison method. For instance,  
17 for comparing one ball point pen ink to another ball  
18 point pen ink to see if the pattern of dyes will match.

19 Q Why would one do that in a forensic science situation?

20 A Well, if the claim was, for instance, that there was an  
21 entry in a will that someone claimed was made at a  
22 later date, if in fact it was made at a later date  
23 quite likely a different pen was used. And you would

- 1 find that the pattern of dyes in the inks didn't match.  
2 Therefore, you would have proof that a different pen  
3 was used. That sort of thing.
- 4 Q What is the Phi Kappa Phi that you list under your  
5 honors and awards at St. Cloud?
- 6 A It's a honorary science fraternity.
- 7 Q And what is Crime Laboratory Digest?
- 8 A That is a scientific journal published by the FBI  
9 research group.
- 10 Q Is that a journal distributed nationally?
- 11 A Yes.
- 12 Q Who are the likely recipients of that journal?
- 13 A Most of the copies go to criminalists, forensic  
14 scientists working in the state and local laboratories.
- 15 Q What is your address in St. Cloud?
- 16 A My home address?
- 17 Q Yes.
- 18 A 1001 8th Avenue S.E., St. Cloud, Minnesota 56304.
- 19 Q Are you married, sir?
- 20 A Yes.
- 21 Q Who are you married to?
- 22 A Leslie Jean Munson.
- 23 Q Is that the only marriage you've had?

1 A No. No.

2 Q Who were you previously married to?

3 A I was previously married to Judith Cox Munson.

4 Q Were you divorced?

5 A Yes.

6 Q Were there any previous marriages?

7 A Yes.

8 Q Who were the other marriages to?

9 A I was married to Carol Gunn, with two Ns. Munson.

10 Q Any others?

11 A No.

12 Q Where is Judith Cox Munson today?

13 A New Orleans, Louisiana.

14 Q Did you have any children?

15 A Yes.

16 Q Where do they reside?

17 A My oldest daughter lives in Madison, Wisconsin. Her  
18 name is Nell.

19 Q Is this a daughter by Judith Cox?

20 A Yes. And my two younger daughters, they're twins, also  
21 from the same marriage. Sara lives in Los Angeles and  
22 Emily lives in Portland, Oregon.

23 Q Are any of your daughters married?

37

1 A Not yet.

2 Q What's the oldest daughter's age?

3 A She'll be 21 in November.

4 Q Does she go by the name of Munson or Cox?

5 A She goes by the name of Munson.

6 Q Any other children that you have?

7 A No.

8 Q How old are you?

9 A 47.

10 Q Have you ever been convicted of a felony?

11 A No.

12 Q Is your bachelor from -- It doesn't appear on your CV.

13 Where is your BS from?

14 A Berkeley. It's right above. University of California.

15 Berkeley.

16 Q And that was 1963?

17 A Yes.

18 Q In zoology; is that right?

19 A That's correct.

20 Q And then you did a master of science in biochemistry at

21 the University of Wisconsin; is that correct?

22 A Yes.

23 Q And graduated with your master in 1965?

1 A Yes.

2 Q Can you define biochemistry, please?

3 A Biochemistry basically is the chemistry of biological  
4 systems.

5 Q Did you have a particular subject matter area that you  
6 emphasized in your master degree program?

7 A Yes. I was working on nitrogen fixation by a  
8 particular soil bacteria.

9 Q What does that mean?

10 A That means the biochemical process by which this  
11 bacteria was able to take nitrogen gas out of the air  
12 and make it into ammonia.

13 Q Is there some application for that research?

14 A Sure. We spend millions of dollars every year in this  
15 country making ammonia to be used as fertilizer. It's  
16 a very expensive process. high pressure, high  
17 temperature. And this bacteria does it in this  
18 solution at room temperature.

19 Q Has the process that you worked on been utilized in  
20 commercial applications?

21 A To my knowledge at the moment I don't think so.  
22 Although, Dow Chemical has patented the biological  
23 process.

1 Q Did you receive any compensation for Dow Chemical's  
2 patent?

3 A No. No.

4 Q Was it your idea that they patented?

5 A No. No.

6 Q What's the relationship between your work and Dow's  
7 patent?

8 A Well, basically only in the sense that I along with  
9 oh, 10 or 15 other graduate students working in this  
10 laboratory worked on various aspects of biological  
11 nitrogen fixation using cell-free systems. And Dow  
12 Chemical was able to gain a patent on that particular  
13 process.

14 Q Did you ever work for Dow Chemical?

15 A No.

16 Q Does Dr. Risebrough work for Dow Chemical or did he?

17 A No.

18 Q Looking at the description of your Ph.D., it was in  
19 biochemistry; is that right?

20 A Yes.

21 Q You did another nitrogen fixation study in connection  
22 with your Ph.D. dissertation; is that right?

23 A Yes.

1 Q What's the difference between the master and the Ph.D.  
2 dissertations?

3 A The bacteria that I used was a purple lake bacteria for  
4 the Ph.D. work as opposed to the soil bacteria.

5 Q Which was the bacteria that was used in the patent?  
6 Either one of those?

7 A Probably the cell-free system that they used for  
8 demonstrating their patent probably came from the soil  
9 bacteria. Although, I've never read their patent. I'm  
10 not sure specifically how it was worded.

11 Q Is the associate professor position that you have a  
12 tenured track?

13 A Yes.

14 Q Before you came to St. Cloud State University you were  
15 at the FBI Forensic Science Research Unit at Quantico,  
16 correct?

17 A Yes.

18 Q That was April of '82 to September, '87?

19 A Yes.

20 Q What was your job at the Forensic Science Research Unit  
21 at the FBI?

22 A My job had primarily two aspects to it. One was to  
23 develop new methods which could be used -- new methods

1 for examining evidence which could be used in the FBI  
2 laboratory and in other crime laboratories.

3 The second aspect of my job was to serve as an  
4 instructor in certain specialized courses which we  
5 offered at the FBI academy for training forensic  
6 scientists from state and local laboratories.

7 Q What background did you have in forensic science before  
8 you went to the FBI?

9 A None, really.

10 Q You have a number of entries relating to processes  
11 involving GC/MS. Does that mean gas chromatography/  
12 gas spectrometry?

13 A Yes. That's true.

14 Q Is that what you were referring to when you said that  
15 you developed new methods for examining evidence?

16 A Yes. Most of the methods were based on GC/MS.

17 Q Can you briefly describe what GC/MS is?

18 A I think so. Gas chromatography is a method used to  
19 separate mixtures of organic chemicals. For instance,  
20 PCBs and pesticides. GC/MS is what we call today a  
21 hyphenated technique. That means the GC, gas  
22 chromatography, is connected to another instrument, a  
23 mass spectrometer. And the chemicals that are

1 separated by the GC can then be analyzed by the mass  
2 spectrometer.

3 So, the mass spectrometer is an instrument that in  
4 this application is used to analyze, usually identify,  
5 organic chemicals by looking at their molecular  
6 structure.

7 Q If you just perform a GC test do you not obtain an  
8 identification of the substances that are separated?

9 A Well, yes and no. Depends upon the substance. If you  
10 have a single compound, for instance, DDT, when that  
11 substance comes out of the gas chromatograph separated  
12 out from whatever matrix it was in it occurs as a peak  
13 on a record that really is only a measure of how long  
14 it took it, how long it took that chemical substance,  
15 to get to the detector on the gas chromatograph from  
16 the time you injected it into the gas chromatograph.

17 So, the only record you get is that at that  
18 particular time a substance came out which can be  
19 measured by the detector. The DDT one has a problem.  
20 then. Is it DDT or is it not DDT. Because there are  
21 just as a rough guess, maybe 150 or 200,000 organic  
22 chemicals that would be processed by the gas  
23 chromatograph under those same conditions. And some of

1        those are bound to come out at exactly the same place  
2        the DDT came out.

3                By coupling a mass spectrometer to the gas  
4        chromatograph you then not only get that specific time,  
5        you also get to look at the molecular structure of the  
6        DDT molecule and confirm that in fact it really was  
7        DDT. The time that you do get a fairly good  
8        identification is when you're using something like a  
9        polychlorinated biphenyl, a PCB, where you're not  
10       dealing with a simple compound with one molecular  
11       structure. You're dealing with a class of compounds.

12               So that the gas chromatograph instead of giving  
13       you one peak at a specific point gives you a whole  
14       related family of peaks, each peak occurring at a  
15       specific time with a specific relationship one peak to  
16       the next. So, you get a signature -- Most chemists  
17       like to call that a fingerprint -- for PCB. With a  
18       single component compound you don't get a fingerprint  
19       and really you don't get an identification.

20               And that's why GC/MS has become a very popular  
21       technique for environmental analysis.

22       So, the answer is no, you can't give me a brief answer  
23       to that question.

1 A No. Well, that was pretty brief. You can have several  
2 hours on the subject if you like.

3 Q Is the work that you just described in GC/MS different  
4 from the entry on your curriculum vitae for research  
5 chemist with the FBI?

6 A I'm sorry.

7 Q Look at the first page at the bottom.

8 A Yes. Research chemist. Okay.

9 Q Is that different from the next group of descriptions  
10 of the work that you did there?

11 A No. Basically those are intended to convey to you what  
12 work I performed as a research chemist. Research  
13 chemist was my title.

14 Q Why did you leave the FBI in 1987?

15 A I decided that I would like to try being a university  
16 professor.

17 Q You were with the Forensic Science Research Unit with  
18 the FBI. Was there a title for your position?

19 A Basically the title simply was research chemist.

20 Q Was that your title throughout the entire time you  
21 worked at the FBI?

22 A Yes.

23 Q Did you have any promotions while you were with the

1 FBI?

2 A Not other than the standard movement from step 6 to  
3 step 7 of a GS scale.

4 Q Did you apply for any promotions while you were with  
5 the FBI?

6 A No. There really weren't any.

7 Q Can you explain why there weren't any?

8 A Yes. The FBI is a hierarchy like many systems. In the  
9 research group the research group was staffed at the  
10 senior level with Ph.D. scientists whose titles were  
11 research chemists. The next level was a management  
12 position which was given only to FBI agents. So, there  
13 was no promotion available to any of the research  
14 scientists.

15 Q Who was your immediate supervisor while you were with  
16 the FBI?

17 A At the time I left my immediate supervisor was special  
18 agent Mike Noblett.

19 Q How do you spell his name?

20 A I think that's N-o-b-l-e-t-t, I think, but I'm not  
21 entirely sure.

22 Q Do you know where he is today?

23 A I believe he is still the -- I think they changed the

1 structure about five times while I was there. He is  
2 the chief of the research unit at the FBI academy.

3 Q In Quantico?

4 A In Quantico.

5 Q Now, before you went to the FBI you were with the EPA  
6 Region 3 in Annapolis; is that right?

7 A That's correct.

8 Q Is that the main headquarters for Region 3?

9 A No.

10 Q Where is that?

11 A That's in Philadelphia.

12 Q Is the regional laboratory in Annapolis the only  
13 laboratory that Region 3 has?

14 A At the time I was there they had another laboratory in  
15 Wheeling, West Virginia.

16 Q And you were there from November of '76 until April of  
17 '82; is that right?

18 A Yes.

19 Q Did you begin in November of 1976 with the position of  
20 chemist?

21 A Yes.

22 Q Is that where you ended up as well?

23 A Yes. I believe so.

47

1 Q Did you apply for any promotions to different or higher  
2 positions at the regional laboratory, Region 3, in  
3 Annapolis?

4 A No.

5 Q Who was your immediate supervisor at Annapolis?

6 A When I left my immediate supervisor was Dan Donnelley.  
7 I think that's two Ns, two Ls.

8 Q To your knowledge is he still in Annapolis?

9 A I believe so.

10 Q You were there for about six years. What were the  
11 general kinds of work you did when you first started  
12 out?

13 A I was hired to be the chief of the organics analysis  
14 unit to manage or direct the efforts of -- I can't  
15 remember exactly -- it was either two or three  
16 chemists, three chemists and three technicians. I  
17 believe. And in addition to that I was hired to be the  
18 GC/MS analyst. We had one instrument, and it was my  
19 duty to perform those analyses.

20 Q Were the analyses that were performed in that office  
21 under your supervision or by you analyses of samples  
22 taken to detect what kind of materials?

23 A Basically every organic compound that EPA was concerned

1 with. So, that included pesticides, PCBs, a whole  
2 shopping list of organic toxicants that eventually was  
3 systematized under the system called the priority  
4 pollutant list.

5 Q What is a priority pollutant list?

6 A Basically it was a list of compounds that was agreed to  
7 by a group of lawyers to form a consensus decree. And  
8 after that consensus agreement was reached the analysts  
9 in the laboratory then had to go about trying to  
10 analyze samples from the environment for this list of  
11 chemicals.

12 Q Why would a substance appear on a priority pollutant  
13 list, if you know?

14 A Basically because groups such as the Environmental  
15 Defense Fund, the Audubon Society, the list of groups  
16 who were suing EPA for not doing its job because they  
17 felt it should be there because of potential  
18 environmental harm.

19 Q Are the substances on this list, to your knowledge,  
20 regulated?

21 A I believe so.

22 Q You just told me about the first job that you were in  
23 when you were with the EPA. Did that change over time?

1 A No. There's one aspect I didn't mention was the aspect  
2 of serving as a -- I was designated a regional expert  
3 in toxic substances. And as part of that job I was  
4 involved in court cases with EPA.

5 Q How many court cases were you involved in during that  
6 period?

7 A I can't remember exactly. I think I only actually  
8 testified four or five times. Many of them were  
9 settled out of court. There must have been at least a  
10 dozen, maybe a dozen and a half.

11 Q What was the nature of your testimony, if you can  
12 summarize it?

13 A Basically to testify to the levels of the various  
14 chemicals that were found and how the analysis was  
15 performed.

16 Q Is it fair to say that during the period from 1976 to  
17 April of 1982 when you were with the EPA that your work  
18 was limited to the detection and identification of  
19 various chemicals in substances?

20 A I think that's a fair statement.

21 Q You did not do any work during that period on the human  
22 health effects of any of those substances, did you?

23 A No.

1 Q Did you do any work during that period on the health  
2 effects to animal life of those substances on the  
3 priority pollutant list?

4 A No.

5 Q Did you do any work during that period on the  
6 phenomenon of bio accumulation or bio magnification in  
7 animal organisms of substances on the priority  
8 pollutant list?

9 A No.

10 Q I saw a reference somewhere in the file to a case  
11 involving your expert testimony in a criminal  
12 proceeding; is that correct?

13 A Yes.

14 Q What was that case?

15 A I'm not sure which one you're referring to. Most of  
16 them were criminal proceedings.

17 Q How do you define criminal proceedings?

18 A Well, we were prosecuting people for breaking the law.

19 Q With a potential prison sentence or fines; is that  
20 correct?

21 A Yes.

22 Q And when you say that you were involved in 12 to 18  
23 cases are we talking about cases filed in a court or

1 before an administrative agency?

2 A I believe most of these were filed in court.

3 Q How many of the four to five cases that you actually  
4 testified in can you recall the defendants in those  
5 cases?

6 A Well, one of them was the Environmental Chemical  
7 Control Company. I don't remember the man's name.

8 Q And briefly what was the allegation in that case?

9 A Well, the allegation was that he had violated the  
10 Federal Clean Water Act or his company had.

11 Q What was the nature of your testimony in that case?

12 A I testified to the finding of certain chemicals on his  
13 site that linked his site to some unique chemicals in  
14 the waste discharge from, I believe it was, Ciba Geigy  
15 in Connecticut.

16 Q Can you remember any of the defendants in the other  
17 cases you testified in?

18 A Well, let's see. There was one with an interesting  
19 name. Yakavazi. I think was one. And that case had to  
20 do with dumping into a landfill. I believe.

21 Q Can you remember any others?

22 Again, I'm looking for cases in which you actually  
23 testified in a proceeding.

1 A Yes. Yes. I believe one was Meyer's Landfill. I  
2 believe it was Meyer's. It was a landfill in  
3 Pennsylvania. And that basically was a case of just a  
4 massive landfill that had been created and was then  
5 leaking materials. And I testified to the materials  
6 that we found in the waste stream coming from the  
7 landfill. That was a jury trial, as I recall.

8 There was another one before a Grand Jury, but I  
9 can't remember. And that was in Scranton,  
10 Pennsylvania. I don't remember the name of it. But  
11 that was presenting testimony before a Grand Jury. And  
12 I don't remember which landfill it had to do with.

13 Q Have you kept copies of the transcripts of the  
14 proceedings of any of those cases?

15 A I may have a few of them. I don't remember any  
16 particular reason to keep them, but it seems to me I  
17 have a file drawer I haven't purged yet.

18 Q Don't purge it before you talk to me.

19 A Yes. Okay. Whatever.

20 Q Were any of the substances that you were identifying in  
21 the cases you testified in PCBs?

22 A The PCB analysis would have been done by one of the  
23 other chemists in the laboratory. Now, each time we

1 would analyze a landfill leachate. for instance, the  
2 list of things that would be looked for would include  
3 PCBs, but that would not be done by GC/MS.

4 Now, I might wind up being asked about the  
5 particular number that was produced because it would  
6 have been done by a chemist under my supervision. I'm  
7 not sure whether that's a yes or a no.

8 O I'm not sure I understand your answer. Do you recall  
9 actually testifying in any of the cases either that you  
10 have mentioned or others that you haven't mentioned to  
11 the presence of PCBs in any of the materials that form  
12 the allegations against the defendant?

13 A I don't remember testifying to the amounts of PCBs that  
14 were found, no.

15 O What led to your telling me about being a regional  
16 expert was my question to you as to whether your job  
17 had changed over the time you were with the EPA at  
18 Region 3. And then you told me about being a regional  
19 expert.

20 Were there any changes in your job description  
21 from the time you started until you left in '82?

22 A I'm trying to think. I'm not sure if you're including  
23 in your question the entire period I worked for EPA.

1 Q No. I'm just including the --

2 A At the central regional unit --

3 Q In Annapolis.

4 A Okay. I'm trying to think to get it straight. There  
5 were some management changes. I continued performing  
6 GC/MS analysis the entire time I was there. I served  
7 as a regional expert the entire time I was there. And  
8 I can't remember whether for some management reason  
9 during the last year we changed the structure so it  
10 didn't include a chief of the organics analysis unit.  
11 I can't remember.

12 I'm vaguely thinking that during the last year  
13 they may have restructured it so more of the people  
14 reported directly to the laboratory chief rather than  
15 having the structure of a chief of the organics  
16 analysis unit, chief of an inorganics analysis unit and  
17 then both of these people reporting directly to the lab  
18 chief.

19 There was another fellow, a Ph.D. fellow,  
20 geochemist, who was head of the inorganics analysis  
21 unit. It was a symmetrical structure. And he left,  
22 took another position. And they may have rearranged it  
23 just a little in the last year. That's the only

1 possible change I could think of in duties that might  
2 have taken place.

3 Q Why did you leave the Region 3 to go to work for the  
4 FBI?

5 A I was interested in spending more of my time doing  
6 research. The types of samples that we analyzed when I  
7 first joined EPA a considerable amount of the work fell  
8 into developing new methods, doing research type  
9 procedures.

10 Q Was this when you were in the Chesapeake Bay program or  
11 Region 3?

12 A No. No. This was at Region 3. During that period of  
13 November, '76 to April, '82 EPA the regional offices of  
14 EPA became -- I'm sorry -- regional laboratories of EPA  
15 became much more dedicated to analyzing a steady stream  
16 of samples for particular compounds using set  
17 methodology. More of a process lab with very little  
18 research. And I got tired of doing that.

19 Q I take it, then, it was a voluntary departure?

20 A Oh, yes.

21 Q And before you were at Region 3 you were at the  
22 Chesapeake Bay program also in Annapolis; is that  
23 correct?

1 A Yes.

2 Q Is that part of Region 3 or is that the central office?

3 A Oh, you mean the Chesapeake Bay program?

4 Q That's correct.

5 A That was really not an office. It was a program that  
6 was designed to do certain things. Part of the staff  
7 was located in Annapolis at the EPA space there. The  
8 upper management of the program was located in the  
9 Region 3 office space in Philadelphia.

10 Q You describe your position there as an  
11 environmentalist. What does that mean?

12 Is that a technical name for your --

13 A That was the title that was on my job description.

14 Q I thought they were all environmentalists at the EPA.

15 A No. Some are chemists. Some are research chemists.

16 Q What is the job description of an environmentalist at  
17 that time?

18 A I'm not sure I can tell you. I can tell you what I was  
19 doing. I was in the slot labeled environmentalist  
20 because that was the slot that was open at the time I  
21 was hired.

22 Q What were you doing during that?

23 A I was involved in designing the Chesapeake Bay program

1 that was at that point just in the paper stage, was  
2 planned for a five-year program involving state of  
3 Maryland, state of Virginia EPA personnel.

4 Q What's the general nature of that program?

5 A Well, the whole thrust of it was to try to figure out  
6 what was happening to the Chesapeake Bay, why certain  
7 species were disappearing, to document which ones were  
8 disappearing and which weren't, what the causes might  
9 be, what possible remedies might be.

10 Q And was that a program that was started by the EPA?

11 A This program actually got started through efforts I  
12 guess at the grass roots level. It appeared as a  
13 funding allocation, a line item in EPA's budget put  
14 there by certain Congressmen. I think it was like \$25  
15 million. So, in that sense EPA did not start it.  
16 Congress started it. They said to EPA you will do this  
17 program.

18 Q That funding occurred when?

19 A I believe it was in 1976.

20 Q Had you done any work on the Chesapeake Bay area prior  
21 to May of '76?

22 A Yes.

23 Q Was that with Westinghouse?

1 A Yes.

2 Q Was Westinghouse involved at all in the EPA's program  
3 that began sometime in '76?

4 A No.

5 Q You say that you designed the initial phases of the  
6 toxics program. What does that mean?

7 A Well, that means that for the six months I was there I  
8 was working on sort of sketching out the tasks which I  
9 felt needed to be done in the area of looking for toxic  
10 pollutants. I guess if you want that word, that might  
11 be impacting the Chesapeake Bay system.

12 Q Did your work eventually result in a written proposal  
13 or a description of a program?

14 A It was part of a description of a program. But I don't  
15 think anything ever appeared that was Munson's portion  
16 of this program.

17 Q So, if I were to look at the ultimate description of  
18 the Chesapeake Bay program, you wouldn't find anything  
19 that had been specifically written by you, whether or  
20 not it says it was written by you?

21 A No, I don't think so.

22 Q Is it fair to say that you sketched out some  
23 recommendations and passed those along to someone else

1 who may have modified or incorporated them into the  
2 final program?

3 A Yes, I think that's fair.

4 Q Who was the person you would have passed that along to?

5 A I'm not exactly sure. I was not actually specifically  
6 replaced with a particular person because when I became  
7 part of the central regional laboratory as one of my  
8 duties as a regional expert in toxic substances I was  
9 available to them as a consultant. And so I sat in on  
10 some meetings. And they did not replace me with a  
11 Ph.D. chemist, biochemist type person.

12 Q Is the description that you designed the initial phases  
13 of the toxics program, does that cover everything you  
14 did for the EPA during that period?

15 A I think so. That's pretty much what I was involved in  
16 in those six months was the beginnings of the  
17 Chesapeake Bay program.

18 Q What sorts of research, if any, did you do that led to  
19 whatever it was that you produced during that period?

20 A Well, much of what took place at that time was kind of  
21 political in nature. There were many meetings held  
22 with community groups, with university groups gathering  
23 input from all sides because it was anticipated this

1 was going to be a very emotional political business,  
2 the whole Chesapeake Bay program.

3 And so aside from the information I already had at  
4 my fingertips from having worked on the Chesapeake Bay,  
5 Westinghouse, myself together with several other people,  
6 we participated in meetings with university and  
7 citizens groups.

8 Q For what purpose?

9 A To gather their inputs about what they thought needed  
10 to be done. It's probably difficult for you to imagine  
11 how such a program is put together. But when a program  
12 like this is instigated by several U. S. senators it's  
13 very different from a typical scientific study. First  
14 you attend to politics. Then you attend to science.

15 Q Okay. And just so I'm clear, in your CV the term  
16 toxics program refers to the investigative program that  
17 was done exclusively in connection with the Chesapeake  
18 Bay project; is that correct?

19 A Yes. Yes. If you can imagine a program started as  
20 boxes on a blackboard. There was a box called the  
21 toxics program. And that then evolved into many, many  
22 different sorts of tasks.

23 Q But all the boxes were related to the Chesapeake Bay

1 project?

2 A Yes.

3 Q Why did you leave that job and go into Region 3 at the  
4 laboratory?

5 A Because that job was going to be primarily a paper  
6 pushing job. And I wanted to be in the laboratory.

7 Q Can you describe what the job was going to be that  
8 leads you to characterize it as paper pushing?

9 A Well, it was more and more meetings with people. Other  
10 people would have been doing the research with their  
11 own hands, working with the equipment, playing with the  
12 equipment. To me it's play in the laboratory working  
13 with the electronic instruments that one uses today as  
14 an analytical chemist. And there was going to be lots  
15 of meetings, lots of report writing, that sort of  
16 thing, which is not what I enjoy doing.

17 Q Did you apply for any of the research projects in  
18 connection with that project?

19 A There really weren't going to be any. EPA's role in  
20 this project was to be sort of an umbrella agency  
21 managing it. The research was done by university  
22 groups who were given funding from the EPA program.  
23 Well, I'm sorry. Certain parts of it were done in the

1 central regional laboratory itself. And in fact, I did  
2 some samples related to the Chesapeake Bay program in  
3 my position as chemist.

4 Q Did you apply for any of the university-related jobs  
5 that were handling some of the research in connection  
6 with the Chesapeake Bay project?

7 A No, I did not.

8 (Defendant's Deposition Exhibit 6 was marked for  
9 identification.)

10 Q Showing you what we have just marked as your deposition  
11 Exhibit No. 6, can you identify that document for me?

12 A Yes. That looks like an 171 statement that I put  
13 together at one point. Okay.

14 Q For all those at this table who don't know what a 171  
15 statement is --

16 A That's what one fills out when one is applying for a  
17 government job.

18 Q Which job were you applying for when you filled out  
19 this statement?

20 A Actually I think I may have applied for both of them.  
21 But I needed to leave Westinghouse. And I had been  
22 talking to the people at Chesapeake Bay or at the  
23 Environmental Protection Agency's lab. I was told they

1 would have two positions open. One would be the  
2 chemist position, the other one the environmentalist's  
3 position. And I essentially had applied for both of  
4 them.

5 Q I'm confused. I did not find a date that this was  
6 prepared. Can you tell me what the date is of Exhibit  
7 6?

8 A Let's see. Oh, wait a minute. I'm sorry. I may be in  
9 error here. This may be the one that I used when I  
10 applied to the FBI. Oh, it must be, of course. I  
11 already have the position. Pardon me. I'm in error.  
12 We were talking about this EPA thing.

13 Q Okay. So, Exhibit 6 was a form you filled out in  
14 connection with your application for job with the FBI?

15 A Yes. That's for sure.

16 Q So, the date would be sometime in 1982; is that right?

17 A Let's see. That should have been. Yes, I think so.

18 Or possibly -- I'm not sure when this job opening  
19 appeared. It would be late '81 or -- In fact, I think  
20 it's most likely late 1981.

21 Q This is not an EPA document?

22 A This?

23 Q Yes.

1 A No. Essentially what I did is I took the --

2 Q Let me go through this step by step. The form itself.  
3 is this an EPA form or is it a federal government form?

4 A It's a federal government form.

5 Q And what was your purpose in filling this out, again?

6 A I used this essentially as a CV to submit to the FBI.  
7 The FBI being a government agency asks you to apply by  
8 filling out a 171. But for a person in the position I  
9 was in at that time with my experience a 171 is not  
10 really an appropriate form to lay out the information.  
11 So, what I did was I took a pair of scissors and some  
12 glue and essentially I made my own. This is the front  
13 part, one section of the 171, and then the printed  
14 portion on the bottom is what I added to this section.  
15 Then this page 3 is another section of the 171 and then  
16 what I added to it. That's what this document is.

17 Q Okay. Now, on the second page of Exhibit 6 there is a  
18 reference to expert testimony that you provided for the  
19 EPA in 1976. I don't recall your telling me about that  
20 in connection with your job with either of your EPA  
21 jobs. Is that something you did for the EPA in 1976?

22 A I believe that at the time I did that I was actually a  
23 Westinghouse employee. It was just shortly before I

1 left Westinghouse. In fact, I believe it was that item  
2 that generated that affidavit to Ridgway Hall. So,  
3 whatever the date of that affidavit that would pin it  
4 down a little bit.

5 But I was still working for Westinghouse at the  
6 time. I was essentially granted a leave of absence by  
7 Westinghouse for a period of a week. They used me as a  
8 witness and then used me as a consultant for the  
9 remainder of that week, possibly two-week period. I  
10 forget.

11 Q Were you still on Westinghouse's payroll at the time  
12 you were serving as an expert witness for the EPA in  
13 '76?

14 A However they do those things. I was granted a leave  
15 without pay. And during that period EPA paid me.

16 Q And then you went back to Westinghouse?

17 A Yes.

18 Q I see. Which effluents standards for PCBs were being  
19 considered in the hearings you testified at?

20 A I don't really remember.

21 Q What was the nature of your testimony?

22 A Basically my testimony had to do with transport of PCBs  
23 in the environment based on my studies in the

1 Chesapeake Bay.

2 Q What kind of medium were you testifying about  
3 transporting PCBs?

4 A Let's see. We had some data, aerial fallout data.  
5 Most of it had to do with the aqueous system of the  
6 medium in the water.

7 Q How do you define aqueous medium?

8 A Well, essentially the water and suspended sediments and  
9 whatever is in the water.

10 Q Was your testimony concerning the Chesapeake Bay area?

11 A Yes. The only other work I did that wasn't  
12 Westinghouse proprietary work was in the near-shore  
13 environment in San Diego.

14 Q What was the purpose of the affidavit that you provided  
15 us earlier?

16 What was the relationship between that and your  
17 testimony with the EPA in '76?

18 A I believe the main thrust of it had to do with --

19 Q I don't mean its content. Why did you draft an  
20 affidavit in connection with testimony you were  
21 providing?

22 A Because Ridgway Hall asked me to.

23 Q Who read the affidavit? Do you know?

1 A I'm not sure.

2 Q Was the affidavit essentially your written summary of  
3 the testimony you gave at the EPA hearings?

4 A No. I don't think so. It had to do with detection  
5 limits.

6 Q And that was testimony that consumed eight hours: is  
7 that correct?

8 A Yes. at the hearing.

9 Q Is there a transcript that you know of of those  
10 hearings?

11 A Yes.

12 Q Do you have a copy?

13 A I do not have a copy of it.

14 Q You don't have one here with you today or you don't  
15 have one at all?

16 A I don't have one at all. This was generated as the --  
17 They were building the record that was going to be  
18 reviewed by a panel of judges who were then going to  
19 make some sort of a ruling. And so various people were  
20 brought in to testify. The testimony was being  
21 recorded.

22 Q Was Westinghouse one of the objectors?

23 A I don't know the answer to that question.

1 Q Can you recall any of the objectors?

2 A I really don't. I think maybe that in this case, if I  
3 am remembering right, I think it was being handled  
4 through the National Electrical Manufacturers Union or  
5 Association. I think, as a body rather than specific  
6 companies. But I mean there was no one there when I  
7 was there from Westinghouse none of the Westinghouse  
8 lawyers that I knew.

9 Q Did you know Roger Wills at that time?

10 A I have been racking my brain about Roger Wills. I'm  
11 absolutely sure I've met him. And I think I can call  
12 up a face and that sort of thing, but I can't remember  
13 what the connections was. So, I'm not sure where and  
14 when I have met Roger Wills. I don't know.

15 Q How long after you had the week or so off to be an  
16 expert witness for the EPA did you leave Westinghouse?

17 A I don't think it was more than a few months.

18 Q Had you already decided to leave Westinghouse at that  
19 time?

20 A Westinghouse had decided I would leave Westinghouse.

21 Q I see. Who did you discuss the possibility of your  
22 being an expert witness in these hearings with from  
23 Westinghouse?

- 1 A I believe that discussion was with the -- I haven't  
2 thought of his name in a long while. In fact, I don't  
3 know. With the man that managed the Westinghouse  
4 Oceanic Division at the Bay Bridge site.
- 5 Q That's not Mr. Kelly?
- 6 A No. Mr. Kelly was the director of the Westinghouse  
7 Ocean Research Laboratory, later on called something  
8 else. That was after the Ocean Research Laboratory  
9 didn't exist anymore.
- 10 Q Was it common for Westinghouse to give leaves of  
11 absence to employees to serve as experts in standards  
12 hearings like this?
- 13 A I really don't know.
- 14 Q Did EPA contact you to provide this testimony or --
- 15 A Yes, they contacted me.
- 16 Q And then you asked, Westinghouse said yes; is that  
17 correct?
- 18 A Yes.
- 19 Q Are there any written letters that you know of or memos  
20 relating to that discussion?
- 21 A I don't think so.
- 22 Q When you began with the EPA in May, '76 your salary was  
23 \$22,000 and change; is that correct?

1 Look at page 3.

2 A Yes, that looks like it.

3 Q And when you left in 1982 it was \$32,312 a year?

4 A Yes.

5 Q What was your salary at the FBI?

6 A I think when I left I was up to about 46. I think. GS  
7 13 step 7.

8 Q What is your salary with St. Cloud University?

9 A I think it's 39,000 for nine months or 38,000 and  
10 chance, something like that.

11 Q Since leaving Westinghouse have you done any consulting  
12 work other than this case?

13 A I don't remember that I've done any.

14 Q In the testimony you gave with the EPA in '76 were you  
15 providing information about work that you had done at  
16 Westinghouse?

17 A Yes.

18 Q Did Westinghouse specifically authorize you to testify  
19 before the EPA about that work?

20 A Yes.

21 Q Was there any work that you had done with Westinghouse  
22 that you were specifically directed not to discuss in  
23 your testimony before the EPA?

71

1 A Yes, I think so. There was definitely a body of  
2 information which I knew I could not discuss.

3 Q That's not what I'm asking.

4 A You asked specifically, and I'm trying to remember  
5 that. Because you asked about who I met with. And his  
6 name hasn't popped into my head yet. But he was the  
7 top manager on site of the oceanic division. And at  
8 that meeting I think we discussed I don't remember  
9 specifically, but I'm sure I must have said to him  
10 about, you know, that none of the Westinghouse  
11 proprietary material relating to the plants would be  
12 involved in this testimony.

13 Q This meeting that you just described, did that take  
14 place after you had some contact with the EPA  
15 concerning their desire to have you testify for them?

16 A Yes.

17 Q And had you indicated to the EPA that there may be  
18 proprietary information which you received at  
19 Westinghouse which might be relevant but which  
20 Westinghouse would not want you to disclose?

21 A I'm trying to think how that went. I'm pretty sure  
22 there was. I know that Ridgway Hall and I had that  
23 discussion. Now, as to exactly when because it was

1 already a matter of record that we had done those  
2 studies. So, I mean the fact that I had done those  
3 studies was not a secret.

4 Q A matter of record where?

5 A There were some earlier hearings when EPA proposed some  
6 kind of discharge limits. It was in the early '70s  
7 sometime. And at that point General Electric and  
8 Westinghouse and several others were present as  
9 objectors. And I testified at those hearings as did a  
10 person, my counterpart, essentially, from General  
11 Electric. And so part of my testimony at that point  
12 was that we had done some surveys around our plants.

13 Q Were those hearings in 1974? Do you remember?

14 A Maybe. I can't remember the date. I don't have any of  
15 the information relating to them, I don't believe. And  
16 so I'm a little fuzzy whether it was '72 or '74 or just  
17 when that took place.

18 Q Okay. I'm still unclear on what you discussed with Mr.  
19 Ridgway Hall. Did you tell him there had been work  
20 done to determine whether there had been any PCBs  
21 around the plants in the early '70s?

22 Did you discuss that with him before you met with  
23 the oceanic division manager to discuss your testimony?

1 A I really don't know if that -- First of all, in talking  
2 with Ridgway Hall basically I just told him that I  
3 could not discuss on the witness stand or anywhere else  
4 any sampling that specifically had to do with  
5 Westinghouse plants. And that was fine because he  
6 didn't want that information.

7 Now, as to whether that took place before I asked  
8 Westinghouse for permission or after I actually got to  
9 Ridgway Hall's office, I don't remember.

10 Q All right. Is it at least true -- And maybe I'm just  
11 repeating what you have already said -- that no one at  
12 Westinghouse specifically told you you could not  
13 disclose the contents of the work that you had done  
14 sampling around the plants earlier in the 1970s at  
15 these EPA hearings in '76?

16 A I don't have anything in writing as to our  
17 conversation. But as to whether they told me or I told  
18 them, I don't know. But my understanding at that time  
19 was this information was still company proprietary.  
20 But it's not written marching orders from them.

21 Q Or verbal marching orders?

22 A Verbal I'm not sure. See, I was in the position of  
23 well, I wasn't real high up in the corporation. I was

1 expected to know what to do and what not to do in terms  
2 of this information. And I'm sure in the discussion  
3 with -- His name still alludes me. There were several  
4 other people in the room. I would have said to him we  
5 will not discuss any of this information.

6 Q But you don't recall those words being spoken, do you?

7 A I certainly don't recall him telling me I can't talk  
8 about that. That is true.

9 Q And you also don't recall your saying that to him, do  
10 you, as you sit here today?

11 A No. No. I'm sure it must have been said.

12 (A recess was taken.)

13 Q Dr. Munson, you said that you had previously testified  
14 about the landfill sampling you had done earlier in the  
15 '70s before the '76 hearings: is that correct?

16 A I think I said I testified that we had done such  
17 sampling. I don't think we really said much in the way  
18 of data. If I remember correctly, General Electric  
19 mentioned that they had been sampling around their  
20 plants or something like that, and we also said that we  
21 had been sampling around our plants.

22 Q What is Environmental Systems at Monroeville Mall?

23 A I don't know if it still exists, but that was a group

1           that was put together to service the Westinghouse power  
2           plant customers insofar as environmental problems.

3   Q   Were you working at that location in 1974?

4   A   No. We saw ourselves actually as being in competition  
5           with that group.

6   Q   You were working for Oceanic at that time?

7   A   I was working for the Ocean Research Division or  
8           Laboratory. we called it.

9           (Defendant's Deposition Exhibit 7 was marked for  
10          identification.)

11   Q   Showing you a two-page document that we just marked as  
12          your deposition Exhibit No. 7. have you seen that  
13          document before today?

14   A   I don't remember. I may have.

15   Q   I notice at the bottom it's got your name on it. the  
16          bottom of the second page. Does that refresh your  
17          recollection as to whether you wrote this?

18   A   I would guess it came to me. I did not write this  
19          document, if that's what you're wondering.

20   Q   Do you remember the circumstances in which you first  
21          saw it or you don't remember?

22   A   I don't specifically remember this document.

23   Q   Looking at that document, does that refresh your

1 recollection as to the hearings that you testified to  
2 earlier than 1976 in which there was mention of the  
3 sampling?

4 A Well, this is the type of material that would have been  
5 put together and presented at that hearing.

6 Q When you say the type of material do you mean that this  
7 was the subject matter of the testimony that you gave  
8 at those hearings?

9 A No. I didn't testify to this. If anybody testified to  
10 this, it would have been probably Jim, Dr. Jim Wright,  
11 who was the head of environmental systems division.

12 Q Well, did you provide any testimony at hearings around  
13 March of 1974 in which the rest of Exhibit 7 was  
14 testified to by someone else, perhaps Mr. Wright?

15 A I did testify at a hearing. I don't remember exactly  
16 if it was at this date, but it seems logical that it  
17 was. My testimony I don't remember except that I was  
18 put on the witness stand to say a couple of words about  
19 sampling around the plant. Now, if there was a  
20 recording of that hearing, I don't have it. In fact,  
21 I'm not sure I ever had it. And so my recollection is  
22 not real clear about this particular hearing except  
23 that at that time GE talked about they had done some

1       sampling. We mentioned that we had done some sampling.  
2   Q   And you were put on specifically to testify about the  
3       sampling. and that's all?  
4   A   That's my recollection. And I don't think I was asked  
5       more than about three questions. I don't think my  
6       testimony took more than five minutes. It was quite  
7       brief.  
8   Q   On your Exhibit 6 on I guess about the fifth page under  
9       your work at Ocean Research there's a reference to  
10      hearings in 1972 as an industry objector less than one  
11      hour. Do you see that?  
12   A   Oh, yes.  
13   Q   In 1972 testimony?  
14   A   Yes.  
15   Q   Is that the testimony that you are referring to in  
16      which you testified as to the sampling?  
17   A   Yes. I have that here as 1972. Now, let's see. As I  
18      said, I don't remember that well. It's possible that I  
19      was in error, that it really was '74. I really don't  
20      know.  
21   Q   Does the description of less than one hour of testimony  
22      refresh your recollection as to how long the testimony  
23      took place?

1 A It was brief. It was brief.

2 Q When you say less than one hour, was it less than 10  
3 minutes?

4 A It could have been. They didn't ask me much, and I  
5 recall being very, very nervous. That was the first  
6 time I ever gave any testimony. And I think one or two  
7 questions asked and answered was about the substance of  
8 it.

9 Q Did Westinghouse know prior to the time you went in to  
10 testify about the sampling that its employee was going  
11 to identify the sampling that had been done earlier in  
12 the '70s?

13 A Who do you mean by Westinghouse?

14 Q Well, did anyone at Westinghouse know what the subject  
15 matter of your testimony was going to be?

16 A Yes. I was there as part of the environmental systems  
17 group. Dr. Wright at that time was quite senior to me.  
18 He was more on John Kelly's level. And he was in  
19 charge of this operation. So, he essentially told me  
20 that I was going to go up there and what my purpose  
21 was. So, I am assuming he knew what I was there to  
22 testify to.

23 Q And your testimony was part of Westinghouse's

1 presentation at these hearings?

2 A Yes, to object to EPA's proposal.

3 Q As near as you can recall it, what was the nature of  
4 your testimony about the sampling done around the  
5 landfills?

6 A I don't know if it was really -- I'm not even sure a  
7 specific landfill was stated. I have a vague  
8 recollection that we -- My purpose really was to say  
9 that we had a group that was doing some sampling. And  
10 other than that I don't recall. At the time I was  
11 rather surprised that there were few questions asked.  
12 I was on and I was off in just a few minutes.

13 Q You were surprised about what?

14 A That there were not more questions asked.

15 Q Who asked you the questions? Someone from EPA or  
16 someone from Westinghouse?

17 A I think it was somebody from EPA.

18 Q Did you produce any documents in connection with your  
19 testimony?

20 A Not that I remember.

21 Q Is it possible you produced a copy of one of the  
22 sampling reports?

23 A I frankly doubt it.

1 Q You don't recall that?

2 A I don't recall that. I think that would have been very  
3 unlikely.

4 Q The next point on Exhibit 6 is a reference to some more  
5 hearings, registration hearings, for chlordane in 1975.  
6 And is it your testimony that at that time you were  
7 providing that testimony for the EPA?

8 A Yes.

9 Q Is this another situation where you were on leave from  
10 Westinhouse to provide testimony for the EPA?

11 A I don't think I was on leave at that point. I believe  
12 that Westinhouse supplied me as a courtesy to EPA  
13 feeling -- I don't know. They have no vested interest  
14 in chlordane.

15 Q Did someone tell you we have no interest in this, in  
16 chlordane?

17 A Probably not.

18 Q That's your own speculation?

19 A That's my own speculation.

20 Q Still can't remember the name of the person that you  
21 went to to get the leave?

22 A No.

23 Q If it comes to you, please let me know.

- 1 A Yes. He was the top manager.
- 2 Q Now, in 1976 -- I'm sorry -- 1969. May. you went to
- 3 work for Westinghouse. right?
- 4 A Yes.
- 5 Q Before your work for Westinghouse you were with a
- 6 family-owned business?
- 7 A Yes.
- 8 Q Called Enchanter. Inc.?
- 9 A Yes.
- 10 Q Were you born in California?
- 11 A Yes.
- 12 Q What was the business of Enchanter. Inc.?
- 13 A Oceanographic research.
- 14 Q What did that entail?
- 15 A Primary customer was Orange County Sanitation District
- 16 sampling the ocean for water samples. bottom samples.
- 17 that sort of thing. in relation to discharge of sewage
- 18 into the ocean.
- 19 Q What were you sampling for?
- 20 A Basically we were collecting samples that were
- 21 delivered to Orange County for analysis for things like
- 22 oil and grease and coliform. the items they were
- 23 required to analyze to maintain their discharge permit.

- 1 Q Did you do gas chromatography in connection with that  
2 work?
- 3 A No.
- 4 Q How did you analyze the samples?
- 5 A I didn't.
- 6 Q Did you send them to some lab to be analyzed?
- 7 A They were analyzed by the Orange County Sanitation  
8 District laboratory.
- 9 Q So, is it fair to say that you simply collected the  
10 samples for someone else's analysis?
- 11 A That's correct.
- 12 Q And why did you leave that position to go to work for  
13 Westinghouse?
- 14 A I was starving.
- 15 Q Is that company still in business?
- 16 A Yes.
- 17 Q Is it still owned by your family?
- 18 A No.
- 19 Q Who is it owned by?
- 20 A It's owned by a person named Tom Pessich,  
21 P-e-s-s-i-c-h.
- 22 Q Did you have any full-time employment before Enchanter,  
23 Inc.?

1 A No.

2 Q Do you currently belong to any societies, academy  
3 societies, learned societies?

4 A I belong to the American Chemical Society and Phi Kappa  
5 Phi.

6 Q Do either of these groups require any certification or  
7 testing for membership?

8 A Well, Phi Kappa Phi is a honorary where you don't  
9 apply, you're selected for membership. American  
10 Chemical Society I don't think there is any.

11 Q You began work for Westinghouse in 1969 in San Diego,  
12 California: is that right?

13 A Yes.

14 Q And your immediate supervisor was Dr. W. D. Clark?

15 A Yes.

16 Q And then moved to Annapolis when the Ocean Research  
17 Laboratory moved to Annapolis: is that right?

18 A Yes.

19 Q Was there an Annapolis office when the San Diego office  
20 was open or did they move the whole operation there?

21 A They moved the whole operation.

22 Q What was the nature of your work from '69 to '70 in San  
23 Diego?

1 A I was doing measurements of pesticides and PCBs in  
2 animals and sediments in the near-shore marine  
3 environment of San Diego.

4 Q What did you do to test for those substances?

5 A I collected the samples and analyzed them by gas  
6 chromatography.

7 Q Were you operating a gas chromatograph out in San Diego  
8 at that time?

9 A A gas chromatograph, yes, I was.

10 Q I take it that the gas chromatography procedure has  
11 developed over time to be more precise; is that right?

12 A In relation to what?

13 Q In other words, it developed to be able to detect  
14 smaller and smaller quantities of the substances that  
15 it was looking for; is that right?

16 A Yes. I think, yes, that's a fair statement.

17 Q Is it possible to characterize the detection limit for  
18 the gas chromatography device at a particular point in  
19 time?

20 A Yes.

21 Q What was the detection limit of the gas chromatograph  
22 that you were using in San Diego for PCBs in '69 to the  
23 '70s?

1 A I don't remember exactly. The detection limit has more  
2 to do with what size sample you're using, or let's say  
3 the variation in detection limit has more to do with  
4 what size sample you're using rather than the gas  
5 chromatograph itself. A particular instrument --

6 Q Let's me interrupt you and short-circuit it.

7 A Right. You don't want a seminar. You want an answer.

8 Q What was the detection limit for sediments in the gas  
9 chromatograph you were using at that time?

10 Can you answer that question?

11 A I think we were somewhere around --

12 Q I don't want you to speculate, Doctor. If you can't  
13 remember --

14 A Oh, no, I don't remember exactly. I don't remember.

15 Q What about for animals?

16 A I don't remember what they were.

17 Q What kinds of animals would you test for PCB content in  
18 San Diego?

19 A Well, we tested abalone. I think we tested some  
20 lobsters. I believe we tested scallops. I believe  
21 some sea urchins, some snails.

22 Q Was the work that was done for Westinghouse a part of a  
23 contract with a third party?

1 A No.

2 Q Do you know why Westinghouse was sampling that area?

3 A Because it was conveniently located to the location of  
4 our laboratory.

5 Q Is it fair to say that work was pure research in the  
6 sense that it was intended to increase the capabilities  
7 of the measuring device?

8 A That's not why it was being done.

9 Q Why was it being done?

10 A It was being done to provide a research background for  
11 the Westinghouse Ocean Research Laboratory to enhance  
12 our capability to get contract research.

13 Q I'm trying to figure out how that's different from what  
14 I said. You were trying to increase your capability to  
15 detect small quantities of these substances: is that  
16 right?

17 A No. No. The program that I took the samples for was  
18 an ecological study of the near-shore marine  
19 environment. And when they hired me they said fit into  
20 this program somewhere. And so no one was looking at  
21 the levels of these chemicals that were at that time  
22 considered important or of concern by others.

23 So, that's where I fit in. So, I took existing

1 equipment which I purchased, pretty much existing  
2 methodology, and I analyzed those animals.

3 Q Okay. Do you remember if you found any levels of PCBs  
4 in any of those samples?

5 A Sure. Yes, I did.

6 Q Do you remember the levels?

7 A They were low. But as specifically, I don't remember  
8 them.

9 Q Were you measuring in the parts per million, parts per  
10 thousand, parts per trillion?

11 A Oh, they were low parts per million, I think, for the  
12 animal tissues.

13 Q How about the sediments?

14 A I don't remember. I don't remember how many sediments  
15 there were and just what levels there were.

16 Q Was any of the work that you did out in San Diego  
17 reduced to a written report?

18 A Yes.

19 Q Do you have that report?

20 A I don't have it with me. It's a published document  
21 that is listed in my CV.

22 Q Where was that published?

23 A I think the Bulletin of Environmental Contamination and

1 Toxicology.

2 Q Do you know why you were looking for PCBs in those  
3 samples?

4 A Yes. Because other people who were doing DDT residue  
5 analysis reported finding PCBs when they did that  
6 analysis.

7 Q Why was that a matter of interest to the Ocean Research  
8 Laboratory in San Diego at that time?

9 A Because those scientists considered PCBs to have  
10 potential harm to these organisms.

11 Q Which scientists were those?

12 A I believe most of the reports at that time were coming  
13 out of Sweden. Although, there was one fellow, Dr.  
14 Risebrough at U. C. Berkely, who was also reporting  
15 PCBs.

16 Q Do you know who the researcher was in the Swedish  
17 report?

18 A I don't remember the -- Jensen, maybe. I don't  
19 remember the specific reports.

20 Q Had you read those reports before you began the work in  
21 San Diego or were you simply instructed to carry out  
22 this project by someone else?

23 A Oh, no. I invented this project. Yes, I read these

1 reports.

2 Q In what context had you read these reports?

3 A In my searching of the literature about DDT and  
4 specifically DDT methodology.

5 Q I'm confused. I understood that you were hired into a  
6 job that already existed, into a job function that  
7 already existed: namely, looking for these various  
8 substances and these materials.

9 A No. No. That was an ecological study that was being  
10 done. The Westinghouse Ocean Research Laboratory was  
11 new. They had no track record at all. They had hired  
12 several scientists. And Dr. Clark instituted this  
13 program to study this near-shore area from the point of  
14 view of biological populations and the various things  
15 that biologists look for. As I said, I needed a job.  
16 I was hungry. And a friend of mine knew the people at  
17 Westinghouse and said could you use a Ph.D. biochemist  
18 on your staff.

19 Q The ongoing project that Dr. Clark was doing was to  
20 analyze the kinds of organisms that were in this  
21 particular near-shore area: is that right?

22 A Yes.

23 Q Was that work published somewhere?

1 A I suspect some of it has been. I don't know where that  
2 would be, though.

3 Q What was the purpose of Dr. Clark's work?

4 A Well, he was interested primarily in the populations of  
5 the giant kelp. I don't know if you know what that is.  
6 But it's the giant seaweed that's attached to the ocean  
7 floor and comes up and floats to the surface. And the  
8 population of this seaweed was decreasing in the  
9 southern California area. Various theories as to why  
10 that was happening. So, he set up this study area and  
11 measured it off with grids and very carefully counted  
12 all the organisms. There were several other people  
13 involved.

14 Q And Westinghouse was funding that research?

15 A Westinghouse was funding it.

16 Q Was that related to any Westinghouse facility?

17 A No. Well, it was somewhat related. You probably don't  
18 remember at that date and time that the U. S. was  
19 making a lot of noise about the space race to the sea  
20 with underwater habitats and deep diving submersibles  
21 and all that kind of stuff. Westinghouse was involved  
22 in those things. Westinghouse had two deep diving  
23 submersibles. And they wanted Westinghouse to have an

1 ocean research laboratory to be ready to go forward  
2 when the government started pouring the multi-million  
3 dollar research projects into the ocean. But that time  
4 never came. It was all talk.

5 Q Your work was not really part of Dr. Clark's work; is  
6 that right?

7 A Well, it was in the sense that I began a part of the  
8 program that had not been addressed to that point. And  
9 that was to what extent are residues of chlorinated  
10 pesticides impacting this near-shore region.

11 Q By impacting you mean to what extent are they present  
12 in organisms in that near-shore region?

13 A First you look for presence. If you find very high  
14 levels, then you assume impact.

15 Q What do you mean by impact other than high levels?

16 A Well, as it turned out, a little later on, for  
17 instance, the pelicans in the southern California area  
18 were failing to reproduce. They were laying soft-  
19 shelled eggs. When they got around to doing  
20 measurements they discovered very, very high levels of  
21 DDT in the pelican eggs. In the fish the pelicans were  
22 eating. And they were able to fit all those pieces  
23 together and find out who was discharging it.

1           So, we were kind of going that direction with this  
2           research.

3   Q   Can you describe the results of the work you did in San  
4       Diego?

5   A   Basically I analyzed some organisms. The DDT results  
6       were not very interesting. The PCB results were not  
7       terribly interesting; although, some of the data  
8       suggested to me there was a local source of DDT. And I  
9       proposed to EPA a project to look for that source, but  
10      it wasn't funded.

11                   MR. McCREA: You said DDT?

12                   THE WITNESS: DDT.

13   A   (Continuing) Now, from my point of view the most  
14       interesting thing that came out of that work was I  
15       learned what PCBs were, and I then I learned  
16       Westinghouse Electric was a primary user. And that  
17       led, then, to my work on surveying the Westinghouse  
18       plants that were using them.

19   Q   And you learned what PCBs were from the research into  
20       the Swedish studies and Dr. Risebrough's study?

21   A   Yes.

22   Q   In December, 1970 you moved to the Annapolis Ocean  
23       Research Laboratory: is that right?

1 A Maybe January of '71.

2 Q Well, that's close enough for government work, as we

3 say. And your position was senior biochemist at that

4 time?

5 A Let's see. Whatever title they hung on me. I did get

6 a promotion about that time, yes. I started as staff

7 biochemist and was promoted to senior biochemist.

8 Q You got a promotion with the move to Annapolis?

9 A Actually it was just before the move.

10 Q I show another title change beginning in '71 that

11 lasted through May of '76. Can you describe for me the

12 difference between your position from '70 to '71 in

13 Annapolis and then the period '71 to '76?

14 A Yes. Essentially as senior biochemist I was -- At that

15 point I had been given the responsibility of

16 supervising a couple of people, but the title of

17 manager of the group did not come until a little later.

18 Essentially Dr. Clark had been manager of a group

19 called aquatic biological sciences, something like

20 that. And with the move to San Diego he was -- I'm

21 sorry -- to Annapolis he was promoted I think to

22 something called chief scientist or something like

23 that. And I was elevated to the position manager of

1 aquatic biological sciences.

2 Q Was your work different in those two jobs?

3 A A little bit in that I think I wound up having a little  
4 bit more paperwork to do because I now had  
5 responsibility for some budgets and that sort of thing  
6 that I hadn't before.

7 Q There's a reference to a Chester River study that you  
8 did in 1970 and '71 that you participated in. Briefly  
9 what's the nature of that Chester River survey?

10 A That's a study we did. It was half funded by  
11 Westinghouse, half funded by the state of Maryland. It  
12 was sort of an ecological survey. We were studying the  
13 presence of and movement of primarily the pesticide  
14 chlordane in the Chester River.

15 Q Do you know what the source of the chlordane in the  
16 Chester River was?

17 Let me rephrase my question. Was a part of your  
18 study to determine the source of the chlordane in the  
19 Chester River?

20 A If possible. We didn't determine the source of  
21 chlordane. One of the big questions was was there  
22 really chlordane there and if so, how much.

23 Q On Exhibit 6 at the bottom of the description of your

1 work from '70 to '71 there's a reference to the growing  
2 awareness of environmental PCB contamination. Do you  
3 see that?

4 A Okay.

5 Q Is that a reference to your discussions with Mr.  
6 Burnham concerning Westinghouse's use of PCBs at its  
7 plants?

8 A Actually the reference would be to -- I don't know that  
9 I was specifically thinking of Mr. Burnham at that  
10 point but essentially to alerting upper management. At  
11 that point I was way down at the bottom of the totem  
12 pole

13 Q Whom did you alert in management at Westinghouse to the  
14 possibility of PCB contamination from the use by  
15 Westinghouse of PCBs?

16 A Dr. Kelly.

17 Q And he was part of Ocean Research at that time?

18 A I think so. Unless I get my chronology out of whack  
19 here, yes, he was the director of Ocean Research.

20 Q Was this a conversation that you had with Dr. Kelly?

21 Is that the reference?

22 A Yes. I had a conversation. I believe he wrote a memo  
23 and sent it up through channels.

1 Q How do you know he wrote a memo?

2 A I believe I saw the memo.

3 Q Who did he send the memo to?

4 A If I remember correctly, I believe he sent it to his  
5 boss. Dr. Shop.

6 Q And who is Dr. Shop?

7 A He was the head of the Westinghouse research and  
8 development laboratories in Pittsburgh.

9 Q After when you became manager of the aquatic biological  
10 sciences in '71 at about that time did you begin the  
11 work in searching for samples for PCBs around the  
12 various plants?

13 A Yes. I believe that's when we began with it was in '71.

14 Q Is it possible to put an end date for that project?

15 A I've given that a lot of thought. And I'm not really  
16 clear about the end date. It sort of faded off. There  
17 were some minor involvements. I don't know when the  
18 last sample was taken. With my research notebooks I  
19 could certainly work it out, but without them I can't.

20 Q Did it continue at least to sometime in 1976?

21 A Well, if I was doing any samples in 1976, it wasn't  
22 very many. Because if you remember, I left I believe  
23 in May of '76. And I don't remember any samples after

1 the ones sent to me by Lew Shoaff. sediment samples.  
2 There may have been one or two others that were sent to  
3 me.

4 Q Other than the project you did sampling for PCBs in  
5 connection with the plants. did you do anything else.  
6 any other projects with Ocean Research before you left  
7 in '76?

8 A Yes. we did the Chester River study that you mentioned.  
9 We followed that with a considerably larger program  
10 called the Chesapeake Bay survey or Upper Bay survey.  
11 I'm sorry. It's called the Upper Bay survey.

12 Q Is that at Chesapeake Bay?

13 A Well. that refers to the Maryland portion of the  
14 Chesapeake Bay. I did some analysis as part of the  
15 contract with the office of water resources research.  
16 Dr. Palmer had that contract.

17 Q Is that a Westinghouse office?

18 A What's that?

19 Q Office of water research.

20 A No. That's a government office. I don't remember  
21 under what division it is.

22 Q Is it a federal government office?

23 A Yes. That was a federal contract that Dr. Palmer got.

1 Q Was it the purpose of the Ocean Research Laboratory  
2 during the time that you were with them to contract to  
3 third parties to do research of this nature?

4 A Yes, as well as do internal research.

5 Q How much of your work with Ocean Research Laboratory  
6 would you say on a percentage basis was devoted to work  
7 Westinghouse did under contract with others?

8 A It differed from year to year. Probably the first year  
9 I worked with Westinghouse probably all of it was done  
10 with Westinghouse's money. As soon as I began working  
11 sampling around or the Inerteen survey. I think we  
12 called it. I think at one point about half the time of  
13 my group was supported by the Inerteen survey. But  
14 that didn't last long. And then the latter couple of  
15 years it was mostly external funding.

16 Q Were there occasions in which Westinghouse was funding  
17 work that was being done in connection with other  
18 parties?

19 In other words. I think you mentioned the Chester  
20 River study. I thought you said that was funded in  
21 part by Westinghouse?

22 A It was. Half by Westinghouse. half by the state of  
23 Maryland.

1 Q That was not a study, correct me if I am wrong.  
2 specifically connected with the Westinghouse facility.  
3 was it?

4 A No, it was not.

5 Q What was the Upper Bay survey? Was that connected with  
6 some specific Westinghouse facility?

7 A No.

8 Q Did Westinghouse fund any part of that work?

9 A I think so, but I don't remember the proportion. It  
10 was mostly externally funded.

11 Q What about the work for the office of water resources?

12 A I believe that was completely a government contract.

13 Q Can you think of any other projects other than the ones  
14 you just mentioned?

15 A I did a small one for EPA on landfill leachates. That  
16 was the report we were looking at earlier.

17 Q What was the paper you presented at the PCB conference  
18 in Chicago, 1975?

19 A That was from the Upper Bay survey. I left out a  
20 fairly large one we did while we were still in San  
21 Diego. That was the crown of thorns survey in  
22 Micronesia.

23 Q Can you briefly describe what that project was about?

1 A It had to do with the crown of thorns starfish.

2 Acanthaster planci is its name. But basically it eats  
3 coral reefs. And there appeared to be a population  
4 explosion of this starfish. And we on very short  
5 notice did a survey of the islands out in Micronesia to  
6 determine the population levels of this starfish. That  
7 was done over one summer. I think.

8 Q Any other projects you did with Ocean Research  
9 Laboratory that you can recall?

10 A I did a little bit of work on a project associated with  
11 the Westinghouse decilization project in Key West,  
12 Florida. That was an EPA project. I believe, or FWOA  
13 or whatever they called themselves at that time.

14 Q I think you said that the funding was reduced for your  
15 projects and that's why you went to the EPA; is that  
16 correct?

17 A No.

18 Q What was the reason for your leaving and going to the  
19 EPA?

20 A I went to the EPA because I was laid off by a person at  
21 Westinghouse. And I had to lay off my group the  
22 people in my group.

23 Q Who was it who laid you off?

- 1 A His name was Barakowskis.
- 2 Q How do you spell last name?
- 3 A I think it's B-a-r-a-k-o-w-s-k-i-s. I believe. I
- 4 think. I believe it's a Greek name.
- 5 Q What was his position in 1976?
- 6 A He was one or two down from the top at oceanic
- 7 division.
- 8 Q Did he give you a reason why you were being laid off?
- 9 A Yes.
- 10 Q Was that in writing?
- 11 A No. He said -- I won't forget it any time soon.
- 12 however. He said basically even though he admired us
- 13 greatly and we were doing very fine work the company no
- 14 longer wanted to be in that line of business.
- 15 Q What line of business?
- 16 A Environmental research. Our group had been transferred
- 17 into the oceanic division. And that's a department of
- 18 defense contracting agency. So, we were no longer a
- 19 part of the Westinghouse research and development
- 20 laboratories.
- 21 Q Ocean research was part of the defense group; is that
- 22 what you were saying?
- 23 A Only at the last. Only at the very end. That's why I

1 had to go to that management to ask permission to go to  
2 testify.

3 Q All right. And as part of the switch into the defense  
4 area Westinghouse decided according to Dr.  
5 Barakowskis --

6 A Mr. Barakowskis.

7 Q -- that it was no longer going to be doing  
8 environmental-related work: is that right?

9 A Yes. They decided they did not want our group in their  
10 organization, and therefore I was to lay off all of my  
11 people.

12 Q And do you know if anyone, any other group, in  
13 Westinghouse picked up that line of work after you  
14 left?

15 A I really don't know.

16 Q Have you had any contacts with anyone at Westinghouse  
17 since you left in 1976?

18 A Yes.

19 Q What were your most recent contacts?

20 A Probably the last person I talked to was Dick Usury.  
21 U-s-u-r-y, at the oceanic division.

22 Q When did you contact him?

23 A I'm not sure I can put a date on it exactly. Sometime

1 I think maybe -- Sometime this fall. I'm not sure of  
2 the exact date.

3 Q Did you reach him?

4 A Yes.

5 Q Did you reach him by telephone, I assume?

6 A Yes. I called him on the telephone.

7 Q What was the reason for the call?

8 A I was curious as to what became of my laboratory  
9 notebooks. And I asked him if he knew where they were.  
10 And, you know, if he didn't, where they might have  
11 gone. I was curious to know if they were somewhere  
12 that he knew about.

13 Q And what did he say?

14 A He speculated as to where they might be, said he didn't  
15 know one way or another and that he would check into it  
16 and get back to me.

17 Q Did he call you back?

18 A No.

19 Q Did you ever try to reach him again?

20 A No, I didn't.

21 Q Did you call anyone else in the last year at  
22 Westinghouse?

23 A I don't think so. I don't think so. I know another

1 person last summer I saw. He's retired from  
2 Westinghouse. but he worked in a totally different  
3 division and I knew him in a totally different context.  
4 I did try to call John Kelly when I was in Maryland  
5 last year, but I didn't reach him. I couldn't find his  
6 phone number.

7 Q Since leaving in 1976 have you made any attempt to  
8 determine what uses Westinghouse had put your work on  
9 the plants. sampling around the plants?

10 A No. I didn't.

11 Q When was your first contact with Mr. McCrea?

12 A Well, if you want a date, I think I have to refer to --  
13 He called me on the telephone. And I believe one of  
14 these pieces of paper says something about that. I see  
15 in this one letter the 16th I sent a letter to Mr.  
16 McCrea and I refer to our telephone conversation the  
17 other day.

18 THE WITNESS: Did you specifically mention  
19 the date in one of your letters? I don't remember. I  
20 thought maybe you had.

21 MR. MCCREA: I'm not sure. May 6.

22 THE WITNESS: May 6th? Okay.

23 MR. FELDMAN: I have that May 16 letter.

1 MR. McCREA: I'm referring to --

2 THE WITNESS: I think you do.

3 MR. McCREA: I'm referring to a May 13  
4 letter to you.

5 THE WITNESS: That's the one I was looking  
6 for. And in it you refer to that conversation, I  
7 think.

8 A (Continuing) Yes. I believe that the telephone  
9 conversation referred to in this May 13th letter to me  
10 from David where he says I very much appreciated the  
11 opportunity to talk to you by telephone on May 6th. I  
12 believe that that was my first contact with David.

13 Q Can I see the letter you're referring to?

14 A Oh, okay. I think we have that as --

15 Q You said May 6th. You meant May 16th?

16 A No. No. I'm sorry. It's in there. So, it should  
17 be --

18 Q You're referring to the second letter in the documents  
19 that we have identified as Exhibit 2?

20 A Yes.

21 Q Okay. Did Mr. McCrea call you on the phone. I take it,  
22 right?

23 A Yes.

1 Q How long did that conversation take place?

2 How long was that conversation?

3 A Oh, I expect it was considerable. Probably 45 minutes  
4 or so.

5 Q Did Mr. McCrea indicate that he was an attorney for  
6 individuals who had filed a lawsuit against  
7 Westinghouse?

8 A Yes, he did.

9 Q Did he indicate that he had filed more than one lawsuit  
10 against Westinghouse?

11 A I don't remember at that conversation. I believe he  
12 specifically was asking me relative to the matter we're  
13 discussing here, the Conard case.

14 Q Did he describe the Conard case to you?

15 A I believe he did at that time over the telephone.

16 Q The May 13 letter from Mr. McCrea to you refers to an  
17 agreement to consult with our office on PCB matters; is  
18 that right?

19 A The agreement with his office, yes.

20 Q Did you ever charge Mr. McCrea for the time you spent  
21 talking to him on the phone on May 6th?

22 A I'm not sure of the answer to that question. Maybe.

23 Q What would you have to refer to to determine the answer

1 to that question?

2 A Somewhere in here in one of these documents there's a  
3 list of invoices I sent him. I'm pretty sure in the 17  
4 hours for this bill, this August 11 bill, I believe  
5 there's one hour. It's not broken down as a line item.  
6 But as I remember the scratch sheet, I believe that one  
7 hour was charged for that telephone conversation.

8 Q Did you indicate to him in that conversation that you  
9 would bill him for that hour or 45 minutes, whatever it  
10 was?

11 A During that conversation, no, I don't think so.

12 Q You did agree to provide consultation for Mr. McCrea:  
13 is that right?

14 A Yes.

15 Q And that was in connection with his matters against  
16 Westinghouse; is that correct?

17 A Yes.

18 Q Just so I'm clear, you agreed to that in the May 6th  
19 telephone conversation; is that right?

20 A I am not 100 percent sure whether I agreed to it in  
21 that conversation or whether -- My recollection is that  
22 we had a long discussion. And at the opening I said I  
23 wasn't interested. And at the end after he had

1 explained to me what he wanted I was kind of  
2 interested. I asked him what he might pay. He told  
3 me. I said I'd think about it. And I believe I called  
4 him back within a day or so and told him I would do it.  
5 Q All right. You said initially you were not interested.  
6 What was it that Mr. McCrea asked you to do that you  
7 were not interested in doing initially?

8 A Well, initially I had in my mind that I was not going  
9 to get involved in this any further.

10 Q Okay. What did he ask you to do?

11 A He asked me to act as consultant to him in the Dale and  
12 Connie Conard case.

13 Q To provide what kind of consultation?

14 What was the subject matter?

15 A Basically reviewing documents, rendering opinions about  
16 analytical procedures, that sort of thing.

17 Q Okay. Were some of the documents he asked you to  
18 review the sampling reports that you had done in  
19 connection with the Westinghouse facilities in the  
20 early '70s?

21 A I'm pretty sure he told me he had the Bloomington  
22 report. I believe that's correct. And that he wanted  
23 me to look at it. Other than that I don't remember the

1 entire conversation. He had a lot to tell me about the  
2 nature of the difficulties the Conards were having and  
3 a number of other people in Bloomington relative to  
4 their association with PCBs.

5 Q Was it your understanding that the consultation that  
6 Mr. McCrea wanted you to provide was on the one hand to  
7 review sampling or analytical procedures as well as the  
8 history of the sampling reports that you had done in  
9 Bloomington in the early '70s?

10 A I don't know that we specifically talked about the  
11 history of all that except I understood that one of the  
12 things I would be doing would be to look at the  
13 documents that he was able to obtain, review them,  
14 comment on them.

15 Q Relating to the sampling done in the early '70s?

16 A That was certainly part of it.

17 Q Was there any dickering on the price per hour?

18 A No. Basically I asked him what he would expect to pay  
19 for such consultation. And he told me. And I said,  
20 well, that's very interesting. I'll think about it and  
21 get back to you.

22 Q As specifically as you can recall what he told you  
23 about the Conard case can you please relate that?

1 A Basically I believe what he told me at the time was  
2 that they were down slope from the landfill, they were  
3 not an area I had sampled before, that I had sampled  
4 the farm going the other direction down slope from the  
5 landfill and that they had had considerable problems  
6 with their animal breeding program and had attempted to  
7 get some sort of relief from the State and from  
8 Westinghouse or maybe just from Westinghouse -- I can't  
9 remember exactly -- had not been successful and that he  
10 was representing them in an effort to get some  
11 compensation from Westinghouse.

12 Q Did he describe to you the kind of relief the Conards  
13 had attempted to get from Westinghouse?

14 A I don't recall at that point whether at that point the  
15 letter that Mr. Conard had sent to the Westinghouse  
16 plant was specifically discussed.

17 Q Did he indicate to you that the problems the Conards  
18 were having with animal breeding was related to PCBs  
19 from the landfill?

20 A He said it was certainly his opinion that it was.

21 Q Did he indicate whether it was anyone else's opinion  
22 that there was that connection?

23 A I don't remember. We talked about a lot of things. I

1 don't specifically remember that.

2 Q From what he told you about the circumstances of the

3 Conards in relation to Neal's Landfill did you draw any

4 conclusions as to whether the breeding problems were

5 the result of PCBs from the landfill?

6 A Sure. I told them I thought it was. same thing I told

7 Westinhouse as a result of the survey of the farm down

8 slope from the landfill when I did it in the '70s.

9 Q What were the breeding problems that Mr. McCrea related

10 to you about the Conards' farm?

11 A Well. basically I think poor -- I'm trying to think of

12 the right term for it. Essentially low pregnancy rate.

13 I'm sure that's not how a farmer would say it. And

14 seemingly high number of aborted fetuses and malformed

15 fetuses and in addition to that generally poor health

16 of the livestock.

17 Q When you say a high number of aborted fetuses. did he

18 give you any numbers?

19 A I don't recall any.

20 Q And when he referred to malformed fetuses did he give

21 you any details about the specific deformities?

22 A I can't remember whether at that specific time he

23 mentioned a specific deformity or not.

1 Q What about the health problems?

2 Did he give you any details about that?

3 A I think he mentioned, you know, pigs that would just  
4 lay down in the field and not eat and lose weight or  
5 just never prosper like you would expect them to.

6 Q Did he mention any problems with the health of any of  
7 the humans living in this area around Neal's Landfill?

8 A I can't remember whether that was part of that specific  
9 conversation.

10 Q He told you that at some point: you just don't remember  
11 whether it was in that conversation?

12 A Yes. we have had that conversation at one point or  
13 another.

14 Q I want to be sure you're answering the question I ask.  
15 I'm asking whether he identified individuals living  
16 around that landfill who had experienced health  
17 problems as a result of being near that landfill. Is  
18 that the question you were answering?

19 A I think so, yes.

20 Q And the answer is that he did, but you just don't know  
21 if it was during that conversation?

22 A Yes. That's correct.

23 Q Were there any other effects that he described to you

1       that the Conards had experienced from living near  
2       Neal's Landfill?

3   A    I can't remember in that specific conversation.  I  
4       don't remember.  Nothing more specific jumps to my mind  
5       as I am remembering that conversation we had over the  
6       telephone.

7   Q    When you were in Bloomington in August of 1988 you had  
8       a lunch meeting with Mr. McCrea; is that right?

9   A    Yes.

10  Q    At a country club?

11  A    Yes.

12  Q    And John Foster and a Mr. Don Steffeck were in  
13       attendance at that luncheon; is that right?

14  A    Yes.

15  Q    Was there anyone else there at that lunch?

16  A    Yes, there were several people there.  I'm not sure  
17       that I could cite them.  David probably can.  But I  
18       believe --

19  Q    Mr. Curry?

20  A    I think Stuart was there.  I sat at the end of the  
21       table opposite Mr. Steffeck.  And I'm not real good  
22       with names.  There were some others there that I don't  
23       remember who they were.

1 Q How many people were at that luncheon? Can you  
2 remember?

3 A Maybe seven counting myself. Let's see. I don't think  
4 more than eight because the table wasn't any bigger  
5 than that. So, maybe seven.

6 Q Were either of the Conards at that luncheon?

7 A I don't think so.

8 Q Have you had conversations with Mr. Curry since Mr.  
9 McCrea first contacted you?

10 A I think I talked to him on the phone the other day, and  
11 we probably had several conversations when I was down  
12 here in Bloomington. Other than that I don't think so.

13 Q What was it that led you to change your mind or your  
14 initial decision on consulting for Mr. McCrea in this  
15 case?

16 A I don't know. Well, basically there was the  
17 opportunity to earn some money. There was also the  
18 opportunity perhaps to help the Conards a bit. I'm  
19 afraid I have a large bit of guilt over the fact that  
20 the data that I generated back in the '70s was not  
21 passed to the public. Many times I have felt I should  
22 have called it to the attention of the newspaper, the  
23 EPA, whoever. But I didn't. So, a combination of

1 things.

2 Q Was it just those two factors, the money and the desire  
3 to help the Conards?

4 MR. YOUNG: He said more than that.

5 A The possibility occurred to me that I might be involved  
6 in one fashion or another whether I wanted to or not.  
7 I was identified as a player, if you want to use that  
8 term, because of the reports. I could be subpoenaed  
9 and be yanked into it whether I wanted to be or not.  
10 That also was in the back of my mind. Well, why not go  
11 with the flow, and perhaps some of this can be worked  
12 out at my convenience so as to not interrupt my college  
13 teaching schedule.

14 Q Did you agree with him to consult for a certain number  
15 of hours or any type of schedule or just as events  
16 dictated?

17 A I guess as events dictated.

18 Q How soon after the May 6th conversation did you talk to  
19 Mr. McCrea and agree to provide consultation in these  
20 cases?

21 A Well, it was quite soon. I don't remember the exact  
22 date I told him I would do it. His May 13th letter to  
23 me indicates that at that point I had already agreed to

1 do it.

2 Q Do you have any independent recollection of that or are  
3 you just referring to the letter?

4 A There was a -- I wrote a letter to him which ought to  
5 be around here somewhere in one of these letters  
6 agreeing to do it. Somewhere in this stuff.

7 MR. FELDMAN: Let's mark this as Exhibit  
8 8. I think this is it, Doctor.

9 (Defendant's Deposition Exhibit 8 was marked for  
10 identification.)

11 Q You can look at your copy of what we have just marked  
12 as your Exhibit No. 8. Is that a copy of a letter you  
13 sent to Mr. McCrea on May 16, 1988, two pages?

14 A Yes.

15 Q Is it fair to say that the agreement with Mr. McCrea  
16 was for \$600 per day or \$75 an hour per day, whichever  
17 was less?

18 A Plus expenses.

19 Q Plus expenses. When you came to Bloomington did Mr.  
20 McCrea pay for your travel?

21 A Yes.

22 Q And you were not billing him for travel time; is that  
23 right?

- 1 A That's correct.
- 2 Q Have those terms remained the same up to the present?
- 3 A Yes.
- 4 Q Are you billing Mr. McCrea for \$75 an hour for  
5 attending this deposition?
- 6 A I don't know the answer to that question. We haven't  
7 discussed it yet.
- 8 Q Up until this deposition have you billed him for \$75 an  
9 hour for all the time you've devoted to this case?
- 10 A Not all of it.
- 11 Q I saw a reference somewhere to halving of one of the  
12 bills?
- 13 A Yes. I deferred some of it.
- 14 Q And you've deferred that pending a recovery in this  
15 matter: is that right?
- 16 A Yes.
- 17 Q Are there any other portions of the fees you have  
18 billed or fees that you have billed to Mr. McCrea that  
19 will be taken out of any recovery in this case other  
20 than what you have just mentioned?
- 21 A No.
- 22 Q Do you intend in the future to defer any further fees  
23 in anticipation of recovery in this case?

1 A I really haven't decided yet.

2 Q Has Mr. McCrea ever proposed that to you?

3 A No.

4 Q I saw the reference to the cutting of one of the bills  
5 in half out of consideration for the Conards. Apart  
6 from that consideration have you billed Mr. McCrea for  
7 all the time you have spent on this case according to  
8 the formula in Exhibit 8?

9 A Yes.

10 Q Doctor, referring to the invoice at the back of Exhibit  
11 No. 2, the last page of Exhibit 2 which is dated August  
12 11, 1988, was any of the time billed for that in that  
13 invoice actual face-to-face meetings with Mr. McCrea?

14 A I don't think so because I had not -- What was our date  
15 here for the meeting? Wasn't that the 13th or  
16 something that I came down here?

17 Q I have a statement dated August 13th.

18 A Yes. I had not met Mr. McCrea until I came to  
19 Bloomington. So that August 11th I believe I prepared  
20 like the day before I went down. So, there had been no  
21 face-to-face meetings.

22 Q The time spent, then, was in response to a letter Mr.  
23 McCrea sent to you on August 3 which we have previously

1 marked as your Deposition Exhibit No. 4; is that  
2 correct?

3 A Yes.

4 Q Had you had any other telephone conversations with Mr.  
5 McCrea prior to the August 11 bill?

6 A I'm not sure. I think he may have called me and told  
7 me this letter was on the way.

8 MR. FELDMAN: Can you repeat his answer to  
9 that last question.

10 (The Reporter complied with Counsel's request and  
11 read as directed.)

12 Q Apart from that do you recall any other conversations?

13 A Well, let's see. We had the initial conversation when  
14 he called and chatted with me. Then I called him back  
15 to tell him I would do it. I think there was a day  
16 lapse there while I talked to my wife and thought about  
17 it a bit. I don't remember if there was perhaps  
18 another telephone call. Oh, I went on vacation during  
19 that period. That's right. And he was busy testifying  
20 somewhere. So, there was quite a lapse in there when  
21 we didn't have any communication.

22 (Defendant's Deposition Exhibit 9 was marked for  
23 identification.)

1 Q We have just marked as your Deposition Exhibit No. 9 an  
2 August 11, 1988 letter from Mr. McCrea followed by a  
3 series of attachments that we've previously discussed.  
4 And I wonder if you could refer to your copy of that  
5 while I'm looking at the exhibit.

6 A Okay. There's the August 11 letter.

7 Q The attachments are, I guess, referred to in the first  
8 paragraph of the August 11 letter.

9 A Okay. Got it.

10 Q The August 11 letter has five attachments. Can you  
11 verify that for me?

12 A Yes. I count five.

13 Q Is it fair to say that the August 11 bill was sent for  
14 preparing the letter and the attachments that we just  
15 marked as your Deposition Exhibit No. 9?

16 A Yes.

17 Q And those attachments include the history of the  
18 Westinghouse PCB survey; is that right?

19 A Yes.

20 Q Is it fair to characterize that document as your  
21 summary that you prepared on August 6th, 1988  
22 discussing the background of the sampling program that  
23 you started in 1970 and 1971 for Westinghouse including

1 the Bloomington survey?

2 A Yes.

3 Q Approximately how many hours did you devote to drafting  
4 that history of the Westinghouse PCB survey attached to  
5 the letter of August 11, if you can give me an  
6 estimate?

7 A Well, I don't know. I had it written down on a scratch  
8 sheet. This whole effort from the cover letter to the  
9 end plus the original telephone call came to the 17  
10 hours. I really don't know. A portion of the 17  
11 hours.

12 Q Okay. And in the next attachment which is the date of  
13 the meeting with Westinghouse CEO, you prepared that on  
14 August 9, 1988 as a description of your meeting with  
15 Mr. Burnham sometime in approximately 1970, late 1970,  
16 early '71?

17 A Yes.

18 Q And that was also included in the August 11 bill: is  
19 that right?

20 A Yes.

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21 Q And the third attachment relating to the method used  
22 for measuring PCBs in the samples from the Westinghouse  
23 survey, is this a description of the method for

1 analyzing samples collected for the Bloomington plant  
2 survey back in 1971?

3 A Essentially for all of the surveys around the  
4 Westinghouse plants.

5 Q Including the Bloomington plant?

6 A Including the Bloomington plant, yes.

7 Q And the next insert discussing who knew about the PCB  
8 survey data, that was done on August 11, 1988 and was  
9 your understanding as to who at Westinghouse would have  
10 made decisions for releasing, among other things, the  
11 Bloomington survey; is that right?

12 A Yes.

13 Q And that was also part of the bill that you sent to Mr.  
14 McCrea August 11, 1988?

15 A Yes.

16 Q And then there is an August 9, 1988 five-page document  
17 relating to your contacts with the law firm  
18 representing Westinghouse which discusses, as I read  
19 it, conversations you had with individuals from the  
20 Weil, Gotshal & Manges firm in New York; is that right.

21 A Yes.

904698

22 Q And your time preparing that document was also  
23 reimbursed through the August 11 bill; is that right?

1 A Yes.

2 Q Did you understand the nature of your relationship with  
3 Mr. McCrea to be such that you were working for him as  
4 an attorney or directly for the Conards?

5 A Well, I understand that the checks come from the  
6 Conards. Well, some of them have been personally  
7 signed by the Conards, some of them have come to me  
8 from Mr. McCrea. I wasn't sure there was a difference.  
9 If there is, I'm not sure what the difference is. I  
10 guess is what I'm saying.

11 Q Who signed the check for the retainer of a thousand  
12 dollars?

13 A I think it came from Valley View Farms, but I can't  
14 swear to that. That's my best recollection.

15 Q Valley View Farms being the name for the Conards' farm?

16 A Yes. That would have been signed by one of the  
17 Conards.

18 Q Is it your understanding that all of the work that  
19 you've done for Mr. McCrea that's reflected in the  
20 invoices attached to Exhibit 2 was done in connection  
21 with the Conard case?

22 A That's my understanding, yes.

904699

23 Q And that eventually you would provide testimony at

1 trial in the Conard case: is that right?

2 A If necessary, yes.

3 Q On all the matters reflected, among other things, in  
4 your August 11 letter to Mr. McCrea and its  
5 attachments: is that right?

6 A If necessary, yes.

7 (A recess was taken during which time Defendant's  
8 Deposition Exhibit 10 was marked for identification.)

9 Q Dr. Munson, off the record you indicated that you had  
10 remembered the name of the man you had talked to  
11 concerning your testimony for EPA while you were still  
12 with Oceanic: is that right?

13 A Yes.

14 Q What was his name?

15 A His first name I believe is William. His last name is  
16 Macovsky. That's M-a-c-o-v-s-k, I believe, y. but I'm  
17 not sure. Macovsky.

18 Q Again, where was he located?

19 A He was the -- I don't know whether his title was  
20 manager or director or what, but he was the top person  
21 at the oceanic division site in Annapolis, the  
22 Westinghouse oceanic division site. He would be Mr.  
23 Barakowski's boss, the fellow who laid me off.

1 Q You consider the testimony you are giving today to be  
2 part and parcel of the retention agreement you have  
3 with Mr. McCrea; is that right?

4 A Yes.

5 Q Is it your understanding as a part of that agreement  
6 you were not permitted to talk off the record with  
7 individuals from Westinghouse or representing  
8 Westinghouse concerning the matters you would testify  
9 to in this case?

10 MR. YOUNG: Pardon me. Your question is  
11 not a proper question. You should amend it so as to  
12 say whether or not he is instructed to talk -- Of  
13 course he's talking with you right now -- out of the  
14 presence of attorneys for the plaintiff.

15 MR. FELDMAN: Fair enough.

16 Q With that modification, can you answer my question?

17 A Yes. I understand that to be the case.

18 Q How do you understand that to be the case?

19 Who informed you of that?

20 MR. YOUNG: We'll object. Just a minute.  
21 We'll object to that. It is against the laws of ethics  
22 in Indiana for an attorney of an opposing party to  
23 contact a witness hired by or who has been noticed to

1 the other party and talk to them outside the presence  
2 of counsel for the parties.

3 O Is that your understanding, Dr. Munson?

4 MR. YOUNG: That is the fact. And I  
5 object to the question because it assumes that it is  
6 proper when you know it isn't.

7 MR. FELDMAN: Well, I don't think it  
8 assumes one way or the other.

9 MR. YOUNG: Well, you're supposed to know  
10 what the law is, Jan. You know that.

11 MR. FELDMAN: I think I am entitled to ask  
12 the question.

904702

13 Can you repeat the question?

14 MR. YOUNG: Well, it's an improper  
15 question because it asks whether he understands he is  
16 not to talk to you. Your question omits the fact it  
17 isn't proper for you to approach him and try to talk to  
18 him outside the presence of counsel for the other side.

19 MR. FELDMAN: A couple of points. First  
20 of all, I don't have to agree to your characterization  
21 of what the law is. You made your point. Let me make  
22 my point. And secondly, I'm asking him for what his  
23 understanding is. And as a witness in this case I'm

1 entitled to do into those things.

2 MR. YOUNG: I don't think so because I  
3 think you know since you do know the law that it's  
4 improper for any lawyer on the other side to approach a  
5 witness, an expert witness, hired by the opposite side  
6 and try to talk to him outside the presence of counsel.

7 MR. FELDMAN: Could you repeat my  
8 question, please.

9 MR. YOUNG: Note my objection to that.  
10 And ask your Indiana lawyer here, Joe, if that isn't  
11 the fact. He knows it is.

12 MR. FELDMAN: Could you now repeat my  
13 question.

14 MR. YOUNG: That's one of the things that  
15 irritates me about a question like that when you know  
16 it's improper.

17 MR. FELDMAN: Howard. I can't help your  
18 irritation. I'd like to get along with the deposition.

19 MR. YOUNG: My objection is --

20 MR. FELDMAN: It certainly is on the  
21 record. I've seen the court reporter take it down.

22 MR. YOUNG: Very well. Now, what's the  
23 question?

1 (The Reporter complied with Counsel's request and  
2 read as directed.)

3 MR. YOUNG: Is that a question or  
4 statement?

5 MR. FELDMAN: That's the question.

6 O What is your answer to that question, Doctor?

7 MR. YOUNG: I don't think it's a question.

8 MR. CARNEY: I think the next question is  
9 where did that understanding come from.

10 MR. YOUNG: Let's get it on the record.

11 O Let me ask another question. You indicated that you  
12 understood that you were not permitted to talk off the  
13 record with Westinghouse attorneys outside the presence  
14 of attorneys for the Conards; is that correct?

15 Is that your testimony?

16 A Yes. I would understand that, yes.

17 O And what I asked you was did you get that understanding  
18 from something that Mr. McCrea told you in one of your  
19 meetings with him?

20 MR. YOUNG: Now, that's a proper question.  
21 Don't raise your eyebrows like that. Your other  
22 question assumed that he should know what the law is  
23 when you're the one that should know what the law is.

1 MR. FELDMAN: I've asked the same question  
2 twice now.

3 MR. YOUNG: Well, it just kind of gets me  
4 going, wakes me up.

5 Q You can answer the question.

6 A Okay. I'm working on it. I believe that I had that  
7 understanding before I talked with Mr. McCrea. Okay.  
8 I've done this a few times before. So I'd say --  
9 Well, I don't know whether to say yes or no to your  
10 question. Mr. McCrea and I have discussed that  
11 subject.

12 Q And what did Mr. McCrea tell you about that subject?

13 A He said it's not proper for the Westinghouse attorneys  
14 to contact me to talk about this case or my involvement  
15 in this case when they know that I have agreed to work  
16 with him. That's my understanding.

17 Q Okay. Did he say it was improper for you to talk with  
18 Westinghouse attorneys concerning your work at  
19 Westinghouse in the '70s?

20 A I'm not sure it was split that fine. 904705

21 Q Was that your understanding of what he was telling you?

22 A I don't know. I think my understanding is this -- And  
23 maybe it's not correct -- is that when it is known to

1 the Westinghouse attorneys that I am working for Mr.  
2 McCrea and the Conards on this case it's not proper for  
3 them to contact me and talk to me about matters  
4 relating to this case.

5 MR. YOUNG: I will reaffirm that as being  
6 the true state of the law in Indiana.

7 O Including --

8 MR. YOUNG: Including history.

9 O Does that include a discussion with Westinghouse  
10 attorneys relating to your work with Westinghouse  
11 during the '70s?

12 A I don't know the answer to that.

13 MR. YOUNG: Well, we will instruct the  
14 witness.

15 A (Continuing) If you called me up and asked me about  
16 that, I'd say I can't talk to you. I'll have to talk to  
17 David about it. That's what I would do not knowing  
18 whether that's proper or not.

19 O If I were to ask you today to talk with me informally  
20 off the record outside the presence of Mr. McCrea  
21 relating to the work you did at Westinghouse, what  
22 would your response be?

904706

23 MR. YOUNG: His response would be that he

1 would follow our instructions.

2 A My response would be I don't know if it's proper for me  
3 to do that. I think you should talk to Mr. McCrea and  
4 ask him.

5 Q And would you go according to whatever Mr. McCrea  
6 indicated on that question?

7 A Probably.

8 MR. FELDMAN: What's the answer, Mr.  
9 McCrea?

10 MR. McCREA: You can talk to him any time  
11 you want as long as I'm there.

12 MR. FELDMAN: What about outside your  
13 presence?

14 MR. McCREA: Absolutely not.

15 MR. YOUNG: Highly improper. I'll say  
16 that again.

17 MR. McCREA: Any time you want to talk to  
18 Dr. Munson you're welcome to.

19 Q Mr. McCrea has indicated according to him you should  
20 not talk to us outside of his presence. Would you  
21 follow that instruction or would you talk to  
22 Westinghouse attorneys outside of his presence about  
23 your work at Westinghouse?

1 A I would follow his --

2 MR. YOUNG: Mr. McCrea has stated that's  
3 the law and you know it's the law. And it would be  
4 very improper for you to do that.

5 MR. FELDMAN: I don't know it's the law.

6 MR. YOUNG: We can show you very easily.  
7 We can report you, for instance, to the Disciplinary  
8 Commission. Not that we're going to, but we're just  
9 trying to get things straight around here.

10 MR. FELDMAN: I'm asking a hypothetical  
11 question.

12 A (Continuing) Where I sit here the answer to that  
13 question would be I would speak to you to the extent to  
14 say you need to talk to Mr. McCrea to set up a time  
15 when we can sit down together and talk with Mr. McCrea  
16 present. That's my understanding of what's proper.

17 MR. YOUNG: Now you fellows have learned a  
18 little law today.

19 (Defendant's Deposition Exhibit 11 was marked for  
20 identification.)

21 Q Do you have the letters that you sent to Mr. McCrea  
22 dated November 6th and 7th, 1988?

23 A Yes.

1 Q I have marked as Exhibit 10 copies of two letters. The  
2 first one is a two-page letter dated November 6, and  
3 the second one is a three-page letter dated November 7.  
4 Can you refer to the November 6 letter that's the first  
5 page of Exhibit 10.

6 A Okay.

7 (Defendant's Deposition Exhibit 12 was marked for  
8 identification.)

9 Q Is the November 3 letter that you referred to on the  
10 first part of your letter dated November 6 the letter  
11 we have just marked as Exhibit 12 for your deposition?

12 A Yes. I believe so.

13 Q Is your time devoted to the November 6 letter reflected  
14 in an invoice?

15 A It should be. I think I mentioned an invoice. Well,  
16 it's one of the invoices we have here somewhere. Maybe  
17 it's this one. Okay. That looks like this one dated  
18 November 6 in Exhibit 2. I believe that would be the  
19 time I spent preparing the November 6 document.

20 Q Referring now to the November 7, 1988 letter that's  
21 part of Exhibit 10, that letter, as I read it, concerns  
22 your opinion about the appropriate level of PCBs in  
23 Conards' branch and the extent to which one can monitor

1 or sample PCBs down to various levels; is that right?

2 A Yes.

3 Q To your knowledge is there anything prior to November 7  
4 of 1988 in which you provide Mr. McCrea with expert  
5 opinions about environmental matters such as those  
6 contained in the November 7 letter?

7 A I'm not sure what you mean by expert opinions. I would  
8 assume some of the earlier documents I wrote and sent  
9 to him were expert opinions on environmental matters.

10 Q Is the information you provided to Mr. McCrea in the  
11 November 7 letter attached to Exhibit 10 the first time  
12 you applied your expertise in monitoring and  
13 determining the appropriate level of PCBs in water to a  
14 current fact situation such as the Conards' branch  
15 issue?

16 A If I remember, we discussed that subject to a certain  
17 extent on August 13th in that other document.

18 Q I see. Let's identify that document for the record.

19 (Defendant's Deposition Exhibit 13, 14 and 15 were  
20 marked for identification.)

21 Q Doctor, I believe you referred to an August 13 meeting  
22 with Mr. McCrea. And I'm showing you a document we  
23 have just marked Exhibit 13. Can you identify that for

1 me. please?

2 A This is a transcript of a conversation I had with Mr.  
3 McCrea in his office on the 13th which was recorded by  
4 this notary public, I guess. Terri Knudson.

5 Q Did you meet with Mr. McCrea before the court reporter  
6 began taking down your testimony or your words?

7 A I don't remember the answer to that question. I mean  
8 certainly I had encountered him. This was the morning  
9 after we arrived in town. Okay. Commencing at 11:00  
10 a.m. Yes. I had had breakfast with him that morning.  
11 I'm sure.

12 Q Did he tell you why he was having a court reporter take  
13 down his questions and your answers in this form?

14 A If I remember what he said, basically he wanted to be  
15 free to ask questions and consider the answers without  
16 having to take notes.

17 Q I now want to show you two documents that we have  
18 marked Exhibits 14 and 15. 14 is a copy of the outline  
19 of testimony of plaintiffs' witnesses filed by the  
20 Conards in this case or served by the Conards in this  
21 case on the 29th of August of this year. And Exhibit  
22 15 is a copy of a document called Plaintiffs' Answers  
23 to Westinghouse Electric Corporation's Supplemental

1 Interrogatories Concerning Expert Testimony served on  
2 September 19, 1988 in this case.

3 And I'll ask you to refer to page 5 of Exhibit 14  
4 and page 2 of Exhibit 15 and tell me if you have  
5 reviewed those statements prior to this deposition  
6 today.

7 A You're asking have I seen this page before or have  
8 David and I talked about these matters?

9 Q Let's start with the first question. Have you seen  
10 Exhibit 14 before today?

11 A I don't believe so.

12 Q And did you ever see the specific section in Exhibit 14  
13 under your name T. O. Munson that appears on pages 5  
14 and 6 before today?

15 A I don't think so.

16 Q Had you ever seen Exhibit 15 before today?

17 A I don't think so.

18 Q Doctor, would you look at the section under your name  
19 in Exhibit 14 page 5 and 6. Have you had a chance to  
20 read through that?

21 A I've just glanced at it.

904712

22 Q Why don't you read it carefully, if you would. And I'm  
23 going to ask if there is anything in there that you

1 either disagree with or did not anticipate testifying  
2 to in this case.

3 A Okay.

4 Q My question to you is: Having reviewed the section  
5 describing your testimony in Exhibit 14, is there  
6 anything in that description that you either disagree  
7 with or did not anticipate testifying to in this case?

8 A There's nothing there that I disagree with. I have  
9 hopes not to testify at all in this case. But that may  
10 be ill founded.

11 Q Well, apart from your hopes not to testify in this  
12 case, if you do testify in this case did you anticipate  
13 testifying to each of the items listed under your name  
14 in Exhibit 14?

15 A I considered it a possibility.

16 Q Would you do the same for me, if you would, for Exhibit  
17 15 on pages 2 and 3.

18 (A recess was taken.)

904713

19 Q The question was: Have you reviewed the rendition of  
20 your testimony in Exhibit 15 on pages 2 and 3?

21 A Yes, I have.

22 Q And is there anything in there that you either disagree  
23 with or did not anticipate testifying to, assuming you

1 have to testify in this case?

2 A Well, there is nothing there that I disagree with.  
3 nothing there that I am unwilling to testify to.

4 MR. FELDMAN: That's my question. Okay.  
5 It's now a couple minutes before 5:00. We'll have to  
6 continue the deposition to an agreeable date.

7 (A discussion was held off the record.)

8 MR. FELDMAN: Why don't we save signature  
9 until the end.

10

11 (The deposition was adjourned at 5:00 o'clock p.m.  
12 to be resumed at a future time to be agreed upon by the  
13 parties.)

14

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1 STATE OF INDIANA )  
 ) SS:  
2 COUNTY OF MARION )

3 I, Beverly S. Evans, a Notary Public in and for  
4 the County of Marion, State of Indiana at large, do hereby  
5 certify that THOMAS OREN MUNSON, the deponent herein, was  
6 by me first duly sworn to tell the truth the whole truth  
7 and nothing but the truth in the aforementioned matter:

8 That the foregoing deposition was taken on behalf  
9 of the Defendant at the law offices of Baker & Daniels,  
10 Indiana National Bank Tower, 15th Floor, Indianapolis,  
11 Marion County, Indiana, on the 30th day of November, 1988,  
12 commencing at the hour of 9:30 o'clock a.m., pursuant to  
13 the Federal Rules of Civil Procedure;

14 That said deposition was taken down in Stenograph  
15 notes and afterwards reduced to typewriting under my  
16 direction, and that the typewritten transcript is a true  
17 record of the testimony given by the said deponent:

18 That the parties were represented by their counsel  
19 as aforementioned.

20 I do further certify that I am a disinterested  
21 person in this cause of action; that I am not a relative or  
22 attorney of any of the parties, or otherwise interested in  
23 the event of this cause of action, and am not in the employ

1 of the attorneys for any of the parties.

2 IN WITNESS WHEREOF, I have hereunto set my hand and  
3 affixed my notarial seal this 5th day of December, 1988.

4

5

6

BEVERLY S. EVANS, Notary Public

7

8 My commission expires:  
September 29, 1990.

9

10 County of Residence:  
Hancock.

11

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23

1 UNITED STATES DISTRICT COURT  
2 SOUTHERN DISTRICT OF INDIANA  
3 INDIANAPOLIS DIVISION

COPY

4 DALE CONARD and CONNIE CONARD )

5 Plaintiffs. )

6 -vs-

) CASE NO. IP84-1667-C

7 WESTINGHOUSE ELECTRIC )  
8 CORPORATION. )

9 Defendant. )

10  
11  
12  
13 The continued deposition upon oral examination of  
14 THOMAS OREN MUNSON, a witness produced and sworn before me  
15 Beverly S. Evans, a Notary Public in and for the County of  
16 Marion, State of Indiana, taken on behalf of the Defendant  
17 at the law offices of Baker & Daniels, Indiana National  
18 Bank Tower, 15th Floor, Indianapolis, Marion County,  
19 Indiana, on the 17th of December, 1983, commencing at the  
20 hour of 11:00 a.m., pursuant to the Federal Rules of Civil  
21 Procedure with written Notice as to time and place.

22 -----  
23 JOHN E. CONNOR & ASSOCIATES, INC.  
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(317) 632-5533

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1 THOMAS OREN MUNSON, having been first duly  
2 sworn to tell the truth, the whole truth and  
3 nothing but the truth, relating to said matter,  
4 was examined and testified as follows:

5  
6 DIRECT EXAMINATION (Continued),

7 QUESTIONS BY MR. JAN FELDMAN:

8 MR. FELDMAN: Let the record reflect this  
9 is the continued deposition of Thomas O. Munson.

10 Q Dr. Munson, since your last deposition have you done  
11 any additional work relating to this matter?

12 A I haven't done any billable work. I did look at a  
13 document on the way over here that David put under my  
14 nose having to do with deformed feet in cattle who ate  
15 polybrominated biphenyls.

16 MR. FELDMAN: Do you have that, David?

17 Q While he's looking for that, other than a brief look at  
18 that document that you just described, have you done  
19 any other work relating to this case?

20 A I haven't produced any documents or anything.

21 THE WITNESS: David, does that other thing  
22 fall under that question?

23 MR. MCCREA: It might.

1 A (Continuing) I did run across a couple of documents  
2 last night in a file which you may or may not be  
3 interested in. I gave them to David this morning.  
4 Although, those are my only copies of those documents.  
5 I was looking for something else in a file of EPA  
6 material and had this particular one -- I didn't even  
7 know it was in there. But you can see it's the last  
8 paragraph that relates to what we're talking about.

9 MR. MCCREA: Last paragraph on the first  
10 page, Jan.

11 THE WITNESS: Yes.

12 Q This is your only copy?

13 A Yes. We need a copy.

14 Q You've just handed me a letter dated June 11, 1978.

15 It's two pages to Christopher Seglem, S-e-g-l-e-m  
16 regional counsel. I take it, for the EPA?

17 A Yes.

18 Q And also an article by Renate Kimbrough called Skin  
19 Lesions in Animals and Humans: An overview, 1984 Cold  
20 Spring Harbor Laboratory. I don't know exactly where  
21 this is published.

22 Other than those two documents -- And we'll have  
23 them marked as exhibits -- have you found any

1 additional materials relating to this matter?

2 A Yes. In that same file folder there were these two  
3 documents that had to do with an invention disclosure  
4 form that I filled out at one point in 1972 describing  
5 a potential PCB effluent sampling system. I had  
6 totally forgotten about this. The thing that attracted  
7 my interest about these two is on one of them it  
8 mentions the serial number of the record book where  
9 that was written.

10 We were having some discussion at one point about  
11 record books. And I couldn't come up with any  
12 identifying things about the record books other than  
13 they were black and of a certain size. Well, that  
14 particular one that I was using in 1972 the serial  
15 number of it is called out on one of those lines  
16 somewhere.

17 Q And then there is another document. Looks slightly  
18 different, anyway?

19 A Yes. I haven't really studied the two of those to know  
20 why they're different. One of them I think has some  
21 pages having to do with the rules about invention  
22 disclosures.

23 MR. FELDMAN: Let's go off the record a

1 second.

2 (A discussion was held off the record.)

3 Q Anything else?

4 A No, not relating to this case. You did ask me at one  
5 point about some of the things I had done with EPA.  
6 There was another document, which I don't know why you  
7 would particularly want, but it had some specifics  
8 about one of the EPA cases in it. And I thought David  
9 would be interested in it. I don't know that it  
10 relates to this at all.

11 Q Let me ask you a little background information about  
12 the documents you have produced for us today. At some  
13 point after your last deposition did you go back and  
14 look through your materials at your office or at your  
15 home to determine whether you had other materials that  
16 might be relevant to this case or that were called for  
17 in the subpoena that's Exhibit No. 1?

18 A I'll tell you exactly what took place. At some point I  
19 think when we were having our deposition before I  
20 mentioned my counterpart at General Electric, the fact  
21 that I had met somebody over the years -- I'm not sure  
22 which year -- who was doing for General Electric what I  
23 had done for Westinghouse, sampling around sites.

1 David asked me if I remembered his name. Maybe  
2 you asked me. I don't remember. I didn't remember his  
3 name at all. David, for whatever reason he has, is  
4 interested in his name. I have no recollection of the  
5 person's name at all. I only met him once, I think.

6 Q How does that relate to these materials?

7 A Well, I'm about to get to that. You were going through  
8 my resume materials which I think are the materials  
9 perhaps that I gave Eric at one point. There was an  
10 item in there talking about consulting I did for the  
11 state of New York having to do with the PCBs in the  
12 Hudson. And in one of my files I have a letter from  
13 the people I worked with in New York. And my guess was  
14 that they might know the name of that GE person.

15 So, I was looking for that letter to give to  
16 David. And I didn't find it. I don't know where it  
17 is. But in so doing I went to a folder that was EPA  
18 material that really shouldn't have had anything in it  
19 that had anything to do with what we're doing here, and  
20 that's where those documents that we just spoke about  
21 were.

22 Q Other than the Skin Lesions in Animals and Humans which  
23 Mr. McCrea showed you this morning, has he shown you

1 any other materials at all since your last deposition?

2 A No.

3 Q Have you had any additional correspondence with him?

4 A I sent to him the bill for my services for the last  
5 deposition, for the first part of this deposition, and  
6 I think we spoke on the phone once, maybe twice.

7 Q What was the charge on the bill for your last  
8 deposition?

9 A I don't remember the bottom line. I think you have it  
10 right here, don't you? \$1,092.09.

11 Q You just handed me a December 12, 1988 letter with an  
12 invoice for a \$1,092.09; is that correct, Doctor?

13 A Yes.

14 Q At your last deposition you were here for the entire  
15 day. Did you lose any money from other employment  
16 because of your presence at that deposition?

17 A No.

18 Q Is the same thing true with respect to the other work  
19 you have devoted to this case, that it has not resulted  
20 in any lost income from other sources?

21 A Yes. That's true.

22 Q Then the fees that you charge in this case are not  
23 meant to compensate for any loss from other sources?

1 A No, they are not.

2 Q Doctor, just to save time since we're on a fairly short  
3 schedule today, I will mark these at our first  
4 opportunity and we can introduce them into evidence.  
5 But I won't discuss them right now, given that time  
6 constraint.

7 A Okay.

8 Q Are you currently being retained by Mr. McCrea in  
9 connection with other lawsuits?

10 A Yes.

11 Q What are those other lawsuits?

12 A I don't think I can recite the names of them. David  
13 can probably tell you.

14 Q Can you briefly describe the other work you have done  
15 in connection with those other lawsuits that isn't  
16 included in the work you have done in this case?

17 A I haven't done anything yet. I've just accepted a  
18 retainer.

19 Q When you say you've accepted a retainer, do you mean  
20 you have accepted a cash retainer?

21 A Yes.

22 Q For each of the other lawsuits?

23 A The retainer came to me as a stipulation that it was a

1       retainer to retain my services for the other lawsuits.

2   Q   How much was that retainer?

3   A   A thousand dollars, I think.

4   Q   And that thousand dollars is not the same thousand  
5       dollars that's reflected in a letter from Mr. McCrea to  
6       you that we've introduced as an exhibit in this case;  
7       is that correct?

8   A   That is correct.

9   Q   Have you done consulting work for anyone else in your  
10      career, excluding the EPA, Westinghouse and the FBI?

11  A   Yes.

12  Q   Who else did you work for?

13  A   When I was working for Westinghouse I did some  
14      consulting work for Enchanter Incorporated, my father's  
15      corporation. I did two small jobs after I went to work  
16      for EPA. I completed one job for the state of Maryland  
17      Department of Natural Resources, I think it was, and  
18      the other job I believe was through Westinghouse. But  
19      I did both of those as a consultant.

20  Q   Is that it?

21  A   I'm trying to think. That's a lot of years. Those are  
22      the ones that come to mind.

23  Q   Do you think there were others and you just can't

1 remember them or do you think there likely were not  
2 others?

3 A Likely there were not others.

4 Q I may have asked you this before, and if so, I  
5 apologize. Have you ever been in a deposition before?

6 A Yes.

7 Q Now, I'm distinguishing that from the testimony you  
8 gave with the EPA. Are you doing the same?

9 A Yes.

10 Q Describe the other depositions that you have  
11 participated in.

12 MR. MCCREA: Jan, I think that question  
13 was asked and answered. As I recall, it was the  
14 criminal charges brought against an individual.

15 A I'm not sure exactly. The depositions I gave were  
16 given while I was working for EPA.

17 Q Let's exclude that. Other than testifying in cases for  
18 the EPA have you been in any other depositions?

19 A Well, there was the deposition that I gave to EPA while  
20 I was employed at Westinghouse, the one that you have  
21 as a document. Ridgway Hall took my deposition. Other  
22 than that, I don't recall any.

23 Q In any of the prior testimony that you have given have

1       you been qualified as an expert in connection with that  
2       testimony?

3   A   Yes, I have.

4   Q   Is that in each instance in which you have given  
5       testimony?

6   A   Well, each time I testified for EPA I was testifying as  
7       an expert witness. Part of my job description was that  
8       I was a regional expert.

9   Q   What was the nature of the expertise as to what you  
10      were testifying for the EPA?

11   A   Basically analytical methods for the various chemical  
12      pollutants that EPA was analyzing for.

13   Q   Have you ever been qualified as an expert in anything  
14      other than what you have just described?

15   A   I don't think so.

16   Q   By the way, are you and Mr. McCrea jointly writing a  
17      book?

18   A   Not yet.

19   Q   Have you discussed with Mr. McCrea the possibility of  
20      writing a book together?

21   A   It started as a joke. It may become real one day. But  
22      as of yet the first line has not been written.

23   Q   What's the thought about writing a book?

1           What kind of book are you going to write together?

2   A   Well, possibly chronicling the experiences in  
3   Bloomington having to do with PCBs.

4           MR. MCCREA: It will be an eight or ten  
5   page book.

6   Q   That would be a book authored by both you and Mr.  
7   McCrea; is that right?

8   A   I don't know. We haven't discussed that aspect.

9   Q   You haven't contacted any publishers about it yet?

10   A   No. I have thought of a title, however. Silence on  
11   the Beanblossom.

12   Q   You referred at some point to the drama of the PCB  
13   situation in Bloomington. Are you going to write the  
14   book as a dramatic piece?

15   A   I was thinking more as a tragedy.

16   Q   Doctor, this is probably in your resume. I just want  
17   to be sure from your own mouth. Have you taken any  
18   courses in human medicine?

19   A   No.

20   Q   Have you taken any course work in toxicology?

21   A   No.

22   Q   How about epidemiology?

23   A   No.

1 Q Any course work in veterinary medicine?

2 A Not specifically veterinary medicine, no.

3 Q You say not specifically veterinary medicine. Have you  
4 taken courses generally in veterinary medicine?

5 A No. I was thinking of developmental embryology and  
6 something of that nature. I do have a bachelor degree  
7 in zoology, as you may remember.

8 Q How would you define zoology?

9 A The study of animals. The animal kingdom, I should  
10 say.

11 Q Have you taken any postgraduate courses in zoology?

12 A No.

13 Q Have you published anything in any of the following  
14 areas, in human medicine, toxicology, epidemiology or  
15 veterinary medicine?

16 A No.

17 Q Have you taken any courses or done any other kind of  
18 study in the techniques of cleaning up landfills?

19 A No.

20 Q Have you taken any course work or had any other kind of  
21 training in the transport of chemicals in soils?

22 MR. YOUNG: What do you mean transport?

23 Q Do you understand what I mean by transport?

1 A I think so. I'm not entirely sure what you mean by  
2 transport in soils. A considerable amount of my  
3 research had to do with sampling soil and water for  
4 chemicals.

5 Q Okay. Let me redo the question. Have you taken any  
6 course work or done any other kind of study in the  
7 mechanisms of the transport of chemicals in soils?

8 A I'm sure I must have read whatever articles were  
9 available when I was actively doing this some 15 years  
10 ago.

11 Q Other than reviewing some literature have you taken any  
12 course work or any formal studies in that area?

13 A No.

14 Q Is it fair to say that you have not taken any course  
15 work or done any formal studies in geology?

16 A That's true.

17 Q Have you taken any formal course work or had any formal  
18 training of any kind in the health effects of the  
19 accumulation of various chemicals on animals?

20 A The question is course work or formal course work as in  
21 college classes?

22 Q College classes or postgraduate classes or seminars or  
23 anything of that nature.

1 A I'm sure I've listened to a seminar or two. There were  
2 certainly papers presented at that meeting in Chicago  
3 about toxic effects of various chemicals including  
4 PCBs.

5 Q All right. Have you published anything in that area  
6 yourself?

7 A On effects, yes.

8 Q And I'm not now referring to accumulation. I'm  
9 referring to health effects that may or may not result  
10 from the accumulation of chemicals in wildlife.

11 A There was one paper that I co-authored jointly with Joe  
12 Fornes, F-o-r-n-e-s, having to do with the effect of  
13 PCB dosages on shell formation in oysters.

14 Q Is that reflected in your CV?

15 A Yes.

16 Q I'm showing you your Exhibit No. 5 which is your CV.  
17 Can you point that out for me?

18 A No. 3 under research reports at scientific meetings.

19 Q The title is scanning microscopy observations of oyster  
20 shell growth during pesticide toxicity experimentation?

21 A Yes.

22 Q What was the nature of your contribution to that talk?

23 A I was managing the group at Westinghouse that Joe

1 Fornes worked in. As part of the study I believe that  
2 was during the Chester River study for the state of  
3 Maryland I along with several other people in my group  
4 had ran a series of experiments exposing clams and  
5 oysters to chlordane and to PCBs.

6 I analyzed the tissues. Joe got the -- We didn't  
7 own a scanning electron microscope. Joe arranged to  
8 get the SEM pictures taken of the shells.

9 Q Is it fair to say that your contribution to that study  
10 was to perform the microscopy, the actual analytical  
11 work in the laboratory?

12 A Not the microscopy. I performed the analytical work  
13 showing the uptake of the PCBs and pesticides by the  
14 soft tissues of the oysters and also with Joe reviewed  
15 the data on the shell thinning.

16 Q When you say reviewed the data you mean the data that  
17 you produced or the literature that existed before  
18 then?

19 A No. No. The pictures of the shells from the oysters  
20 from our experimental tanks.

21 Q What is the background of Dr. Fornes?

22 A It's Mr. Fornes. He has a master degree in marine  
23 biology, I believe.

1 Q Is it fair to say that he determined for purposes of  
2 that study whether there was any effect on the shells  
3 or soft tissues of the organisms that you had looked  
4 at?

5 A No. The effects you didn't need to be an expert to see  
6 them. The shells were thinner. Anyone looking at the  
7 pictures could see the shells were thinner and the  
8 crystal structure was slightly different.

9 Q Other than that study in 1973 have you done any other  
10 work on the effects on wildlife of the accumulation of  
11 chemicals?

12 A No.

13 Q Have you taken any course work at any time on the  
14 effects of cleanups of chemicals on the environment?

15 A No.

16 Q And is it fair to say you haven't published anything in  
17 that area either?

18 A Yes, that's fair to say.

19 Q I take it you don't hold yourself out as an expert in  
20 toxicology: is that correct?

21 A That is true.

22 Q And is the same true for epidemiology and veterinary  
23 medicine?

1 A That is true.

2 Q And also human medicine?

3 A True.

4 Q You don't hold yourself out as an expert in geological  
5 formations?

6 A True.

7 Q You don't hold yourself out as an expert in cleanup  
8 techniques in landfills; is that right?

9 A I would say I have some knowledge in that area. One  
10 could certainly find people more expert than myself.

11 Q Would you characterize your knowledge as that of an  
12 expert in that area?

13 A Well, I don't know. The scale of expert runs from  
14 slightly expert to most expert in the world. I'm in  
15 there somewhere. By the nature of the work that I  
16 spent 10 years doing I did gain some expertise in that  
17 area.

18 Q To your knowledge, are there any certifications for  
19 individuals who do cleanup work that qualifies them as  
20 experts in that area?

21 A I would guess there are. I have kind of been out of  
22 that field for about eight years now. My guess is by  
23 now either EPA or the states must be licensing people

1 to do this work.

2 Q You've never had any such certification, have you?

3 A No.

4 Q Is it fair to say that in the last eight years you have  
5 not kept up with advances in cleanup techniques for  
6 landfills?

7 A I certainly have not read the bulk of the literature if  
8 there is such literature.

9 Q Is it fair to say that you do not hold yourself out as  
10 an expert in the area of the health effects on wildlife  
11 of the accumulation of chemicals?

12 A I have some knowledge of that from my reading, but I  
13 don't hold myself out to be an expert.

14 Q Would it be fair to say that the area that you do hold  
15 yourself out as an expert in is analytical methods for  
16 chemical pollutants?

17 A That certainly is my area of strength, yes.

18 Q And are there any other areas in which you would  
19 characterize your knowledge as that of an expert?

20 A Well, I think that certainly at one point in 1975 I was  
21 not asked to go to the meeting in Chicago because of my  
22 analytical expertise. I was asked to present our  
23 research on the transport and fate of PCBs in the

1 estuarine and ecosystem. So, I would say at least at  
2 that point in time I was considered one of the national  
3 experts on movement of PCBs in the environment.

4 Now, whether that expertise has grown stale over  
5 the last few years, I don't know. It still seems like  
6 the same rules apply as to the transport and fate of  
7 PCBs in the environment.

8 Q When you say environment I understand you to mean water  
9 environment. Is that accurate?

10 A Well, some of the -- The bulk of that study was done in  
11 the water environment. But my research into the  
12 occurrence of PCBs in the environment wasn't just  
13 limited to water, no. No.

14 Q What about the subject matter of the paper you gave at  
15 the 1975 conference?

16 Was that limited to the fate of PCBs in water?

17 A Basically all we had were air samples collected on  
18 land. We had rainfall samples collected on land. We  
19 had then sediments samples suspended in the water and  
20 bottom samples on the bottom of the estuary. So, more  
21 than just water.

22 Q Doctor, I understood the nature of the work you did in  
23 that period to be one of attempting to locate where

1       there are deposits of PCBs in the environment as  
2       opposed to analyzing the mechanisms for transport of  
3       PCBs in any particular medium.

4               Is that a misunderstanding or is that a fair way  
5       to characterize your work at that time?

6   A   That's a slight misunderstanding.  If I remember the  
7       buzz words that we wrote in the report, we were  
8       attempting to identify the rates, routes, sources and  
9       sinks of chlorinated hydrocarbons in the Chesapeake  
10      Bay.

11   Q   All right.  How does what you just said differ from  
12       what I said?

13   A   Well, rates and routes has to do with transport.  And  
14       sinks has to do with fates.  So, I thought your  
15       question was mainly aimed toward sources.  We were  
16       doing more than source.

17   Q   Let me rephrase my question.  I understand the nature  
18       of your work taking samples and doing analytical tests  
19       of those samples to determine where PCBs occur in the  
20       environment not necessarily where they come from but  
21       where they end up and including in that where they  
22       occur over time which I guess would take account of the  
23       rates.

1 Is that an incorrect characterization of that  
2 work?

3 A There was much more to this study. It was a multi-  
4 disciplinary study involving marine geologists,  
5 biologists, hydrologists.

6 Q I'm just trying to get at what you did.

7 A Yes. But what I did was only a piece of the study.

8 And I was involved in the integration of the whole to  
9 come up with whatever conclusions we came up with. So,  
10 we were dealing with water flows into the system,  
11 aerial fallout into the system, movement of the water  
12 and suspended sediments within the system with tides  
13 and water flows and that sort of thing.

14 So, it's much more complex than just taking a set  
15 of samples and then looking at them and trying to  
16 decide which are the highest and which are the lowest.

17 Q You said that it was possible, anyway, that your  
18 expertise in that area in the last 13 years, I guess,  
19 or eight years since you left the EPA might have become  
20 stale. Have you kept up with the literature since 1982  
21 when you left the EPA in that area?

22 A Not extensively. I read Chemical and Engineering News  
23 each week. And when a significant development takes

1 place having to do with PCBs generally it appears in  
2 there. But I have not kept up with the scientific  
3 literature in that area.

4 Q What other journals do you routinely review say in the  
5 last three or four years?

6 A I haven't read nearly as much as I should. I've been  
7 too busy since I started teaching. But Journal of  
8 Chromatographic Science, Analytical Chemistry. I  
9 mentioned Chemical and Engineering News. That's  
10 probably -- There are several others that I see from  
11 time to time.

12 Q I take it you included in that list journals that you  
13 routinely review in connection with your course work at  
14 St. Cloud; is that correct?

15 A No. It has to do with analytical chemistry mostly.

16 Q So, there are other journals that you review that you  
17 didn't list a minute ago because they don't  
18 specifically relate to this case?

19 I wanted you to give me a list of everything you  
20 review.

21 A Well, I'm presently teaching freshman chemistry. One  
22 does not review journals to teach freshman chemistry.

23 Q So, the list you gave me is an exhaustive one?

1 A Well, probably the best statement I can give you is  
2 that the journals which I read when I get a chance to  
3 read them primarily have to do with analytical  
4 methodology. I should have added the Crime Laboratory  
5 Digest to the list and the Journal of Forensic  
6 Sciences.

7 (A recess was taken during which time Defendant's  
8 Deposition Exhibits 16 through 21 were marked for  
9 identification.)

10 Q Doctor, showing you what the court reporter has just  
11 marked as your Exhibit No. 16 which is a letter from  
12 you to Mr. McCrea dated December 12, 1988 with an  
13 invoice attached to it, is that the letter and invoice  
14 that you discussed earlier that you had forwarded to  
15 Mr. McCrea for payment by Phelan, Pope & John?

16 A Yes, it is.

17 Q And as I understand it, the idea of forwarding a bill  
18 for the hours reflected in the December 12 invoice was  
19 Mr. McCrea's, forwarding it to Phelan, Pope & John?

20 A Yes.

21 Q And I notice that you have included both preparation  
22 time and a full day's work for the actual deposition;  
23 is that right?

1 A Yes, I did.

2 Q Did Mr. McCrea request that you include the preparation  
3 time in your bill?

4 A I don't specifically recall that he did. I assumed  
5 that it was appropriate.

6 Q Where was the four hours of preparation time spent on  
7 November 29?

8 A That was spent in my hotel room reviewing the documents  
9 here in the binder.

10 Q The next exhibit is Exhibit 17 which is a copy of an  
11 article called Skin Lesions in Animals and Humans: A  
12 Brief Overview. Is that the article Mr. McCrea showed  
13 you this morning on the way from the airport. I guess?

14 A Yes, it is.

15 Q Did you have a chance to read this article?

16 A No.

17 Q Did he tell you why he was showing it to you before the  
18 deposition?

19 A Yes.

20 Q What was that?

21 A That was because recently Mr. Conard talked to a person  
22 who had a cow with deformed feet. And I believe he  
23 looked at the cow and the feet. And that jogged

1 David's memory. I believe, about something he had seen  
2 having to do with deformed hooves on cattle.

3 And that made the connection. And he was telling  
4 me that experience and showed me this this morning and  
5 a picture of a cow with the deformed feet in figure 6.

6 Q Have you discussed the condition of deformed feet with  
7 Mr. Conard?

8 A Yes, we did discuss it.

9 Q Did he have any cattle with this condition?

10 A I believe we were talking about his hogs. Well, now, I  
11 don't know whether he has had any cattle. I don't  
12 recall him saying that he has had a cow with deformed  
13 feet like this.

14 Q But he knew of a cow that had deformed feet like this;  
15 is that correct?

16 A He recently saw a cow with deformed feet like this.  
17 yes.

18 Q Do you know where that was?

19 A Somewhere near Bloomington a fellow who has a silo that  
20 was contaminated on the inside with a PCB-containing  
21 substance, presumably the cow ate large quantities of  
22 PCB. This is some years later. She has deformed feet  
23 and is giving birth to deformed offspring.

1 Q You don't know the name of the owner of that cow, do  
2 you?

3 A No, I don't.

4 Q And from the information that you have obtained  
5 relating to that cow do you believe that the deformed  
6 feet and the offspring problem was caused by  
7 consumption of feed that may have been contaminated  
8 with PCBs?

9 A I would think there is a strong likelihood that's the  
10 case, yes.

11 Q Is that based on your review of this article, Exhibit  
12 17?

13 A No. I haven't reviewed that article. I have only  
14 looked at the picture.

15 Q What scientific literature have you reviewed that would  
16 indicate to you that that condition would be caused by  
17 consumption of feed that was contaminated with PCBs  
18 from a silo?

19 A I can't cite particular papers. I am aware of the  
20 polybrominated biphenyl problem. And I had heard of  
21 this problem before. I just had not seen the picture.  
22 I'm also aware I believe it's generally accepted that  
23 PCBs interfere with calcium metabolism. That's why we

1 were essentially looking for thinning of oyster shells.  
2 It's well accepted that PCBs cause thinning of  
3 eggshells in birds.

4 Q Are there any studies that you are aware of that  
5 connect calcium problems in mammals with exposure to  
6 PCBs at any level?

7 A I don't know. But as I said, I really haven't kept up  
8 with that part of the literature.

9 Q That's not a subject on which you hold yourself out to  
10 be an expert, is it?

11 A No.

12 Q Exhibit 18 is the June 11, 1976 letter that you  
13 referred to before -- Is that correct, Doctor? --  
14 to regional counsel?

15 A Yes. And if I can interrupt for a moment, I would like  
16 to go on the record that I am embarrassed at finding  
17 myself in possession of these documents. Because I  
18 answered you truthfully to the best of my knowledge  
19 that I had located all of the documents that were  
20 relevant to your request. And I'm embarrassed to find  
21 that I had several more.

22 Q Referring to what we've marked as your deposition  
23 Exhibits 19 and 20, can you distinguish those two

1 documents for me?

2 Because they look pretty similar except for the  
3 order of the pages. Why don't you do it with the  
4 actual exhibits.

5 A Oh, okay. Your copy didn't copy very well here for No.  
6 19. On the upper line there it says To: patent  
7 committee chairman.

8 I'm guessing -- It's been a long time since I have  
9 produced these documents -- that 19 is the document  
10 that I put together to send to the Westinghouse patent  
11 committee for evaluation as to whether Westinghouse  
12 wanted to file a patent.

13 Document 20 I believe is where I filled out a  
14 Westinghouse document called an invention disclosure,  
15 as it says in the upper left. Obviously some of the  
16 material looks the same because it is the same  
17 material. I think it's just two different forms.

18 Q What's the purpose of Exhibit 20?

19 A If my memory serves me right, the procedure in the  
20 Westinghouse R and D laboratory at the time I worked  
21 there was to -- Our laboratory was a branch of  
22 Westinghouse R and D laboratory. If you came up with  
23 an idea that was potentially patentable, perhaps could

1       lead to production of a device that the corporation  
2       might want to sell, when you first came up with this  
3       idea you should put it in your record book, describe it  
4       in your record book as you had it and then get an  
5       invention disclosure form, which I believe this form to  
6       be, fill it out, get it witnessed by people who were  
7       qualified to understand the idea and signed and dated  
8       in case someone somewhere else should perhaps come up  
9       with the same idea so that eventually legally you could  
10      go back and fight over who had the first claim to the  
11      invention.

12   Q   All right. So, is it fair to say Exhibits 19 and 20  
13       were drafted by you in conformity with Westinghouse's  
14       patent policies for inventions by people in its R and D  
15       lab?

16   A   Yes, I think that's a fair statement.

17   Q   And Exhibit 21, I don't know that we ever identified  
18       what that is. For the record, it consists of five  
19       pages beginning with an October 17, 1979 letter to the  
20       editor of Chemical and Engineering News from you.

21   A   Yes.

22   Q   Can you define what that is?

23   A   Oh, yes. I had read in the C and E News September 24th

1 on pages 6 and 7, a news article talking about a toxic  
2 waste dumper who got a two-year fine. The statement  
3 was made that this was the first time federal criminal  
4 charges had been brought against someone for polluting  
5 a waterway.

6 I knew that to be not true because I had been  
7 involved in an earlier case where someone was convicted  
8 under the Federal Clean Water Act. And that is  
9 described on the second page, the news release that  
10 came from EPA Region 3. So, I wrote this letter to the  
11 editor of Chemical and Engineering News pointing out  
12 his error.

13 And the last page, then, is the editor's letter  
14 back to me thanking me for the letter and admitting  
15 that I was right, that our case was indeed the first,  
16 not the one they cited in the magazine.

17 Q Did they issue a retraction other than privately?

18 A They did not. But in the earlier deposition I believe  
19 we talked about this particular case. It was pollution  
20 of the Delaware River, if my memory is serving me  
21 correctly.

22 Q Have you reviewed any health studies on individuals  
23 living in Bloomington, Indiana, who might have been

1 exposed to PCBs?

2 A I don't think so, unless there is an article amongst  
3 our numbered exhibits that falls in that category. And  
4 I don't recall there being one.

5 Q I don't either. If you think there is one --

6 A I don't think so.

7 Q Are you aware that the Center for Disease Control and  
8 the Indiana State Board of Health conducted a study  
9 sometime prior to 1984 to determine whether people who  
10 live near the PCB landfills or who have eaten fish that  
11 were contaminated with PCBs accumulate higher than the  
12 normal levels of PCBs in their bodies?

13 A I believe David mentioned to me some study that was  
14 done by the Center for Disease Control, but I don't  
15 remember the substance of that study.

16 Q You've never asked him for a copy of that study to  
17 review it; is that correct?

18 A I have not.

19 Q If I were to tell you that one of the individuals who  
20 was involved in that study for the Indiana State Board  
21 of Health concluded that the testing clearly shows that  
22 living near an area or even eating contaminated fish  
23 does not result in elevated levels, would that be the

1 first time that you would have heard that conclusion?

2 MR. MCCREA: To which we will object for  
3 the reason the statement is completely out of context  
4 contrary to the information developed in Bloomington,  
5 Indiana, and does not provide an accurate assessment of  
6 the situation.

7 Q You can answer the question.

8 A I haven't read the study. I don't remember hearing  
9 such a conclusion.

10 Q Is it fair to say, then, you were unaware that the  
11 State epidemiologists had indicated that the study that  
12 they had conducted with the CDC can help to alleviate  
13 some of the anxieties apparent in the community as to  
14 the presumed adverse health effects of being exposed to  
15 some of these routes, namely routes of PCB exposure?

16 A I'm not sure I followed that question.

17 MR. FELDMAN: Can you repeat the question.

18 (The Reporter complied with Counsel's request and  
19 read as directed.)

20 Q It's a long question, but do you understand what I'm  
21 asking?

22 A I think so. I've never heard that the State  
23 epidemiologist has made that statement.

1 Q Okay. Are you aware of any data which contradicts the  
2 conclusion of the CDC and the Indiana State Board of  
3 Health that living near an area containing PCBs such as  
4 the landfills or eating contaminated fish caught in  
5 Bloomington results in elevated levels in humans?

6 MR. McCREA: Again, to which I would  
7 object.

8 MR. FELDMAN: It's a general question. I  
9 think I'm entitled to ask him that.

10 MR. McCREA: Could I make my objection?

11 MR. FELDMAN: Sure.

12 MR. McCREA: There are numerous studies in  
13 Bloomington, Indiana, many of which are --

14 MR. FELDMAN: I don't want you to answer  
15 the question for him, David. If you have an objection  
16 to the form or relevance of my questions, that's fine.  
17 But I don't want you to answer the question I have  
18 given to him. I don't think that's a fair objection.

19 MR. McCREA: I'm not answering the  
20 question for him. I'm protecting the record. There  
21 are numerous studies. The only way in which an  
22 individual could properly answer that question would be  
23 to be apprised of all of the studies, not isolated

1 sentences from studies which may or may not be relevant  
2 to a given situation.

3 MR. FELDMAN: I'm not sure I disagree with  
4 that. I'm asking the general question what's he aware  
5 of?

6 MR. McCREA: Would you identify the study  
7 and the quote and the page?

8 MR. FELDMAN: I'd be happy to, but I think  
9 I can still ask him the question.

10 Q Are you aware of any studies or data -- Actually I  
11 asked it right the first time. And I'll never get it  
12 right twice.

13 MR. FELDMAN: Maybe the reporter will read  
14 it back.

15 (The Reporter complied with Counsel's request and  
16 read as directed.)

17 A I'm not aware of any data. But I don't think I've seen  
18 all of the data.

19 Q Have you done a search for data of that nature?

20 A No. You've already asked me what I have. I have what  
21 I've supplied.

22 MR. FELDMAN: Mr. McCrea asked me to  
23 identify the study, and I'll be happy to do that. It's

1 in the Archives of Environmental Health Volume 41 No.

2 4. And the statement is by Dr. Steel of the Indiana

3 State Board of Health -- I'm sorry. It's Greg Steel.

4 I've never known whether he is a doctor or not. State

5 epidemiologist, June 22, 1984. Both documents have

6 been provided to Mr. McCrea.

7 Q When you said a moment ago that you had provided us

8 with all the articles you had reviewed, I take it,

9 then, that you haven't reviewed any articles on

10 occupational exposures to PCBs and the health affects

11 that might result from that; is that correct?

12 A That's correct.

13 Q Have you asked Mr. McCrea to provide you with studies

14 of that nature?

15 A No, I haven't.

16 Q And I take it since you haven't reviewed any that you

17 also haven't conducted any search for any such studies;

18 is that correct?

19 A That's true.

20 Q Are you aware of whether any of them exist?

21 A I believe that there were some samples taken from the

22 Westinghouse employees at some point. I thought they

23 had elevated levels. I don't know. I don't remember.

1 I haven't seen the report.

2 Q When did you become aware that there were such samples  
3 taken?

4 A After I started doing the consulting work for Mr.  
5 McCrea.

6 Q But you've not attempted to locate those studies in  
7 that period of time?

8 A No, I haven't.

9 Q Doctor, I'm quoting from a summary of a symposium  
10 conducted in 1982 sponsored by the Office of Toxic  
11 Substances of the U. S. EPA in which the writer  
12 concluded that it is evident that after 50 years of  
13 industrial production and use of PCBs no significant  
14 clinical disease or clear epidemiological correlations  
15 have been observed in occupationally-exposed persons.

16 Have you reviewed any materials that would lead  
17 you to dispute that finding?

18 A Seems to me I've heard that some of the data that is  
19 strongly cited having to do with the claim that PCBs  
20 don't induce cancer, some of that data has been shown  
21 to be false. In fact, I think somebody went to jail  
22 over it. I don't know if that answered your question.  
23 But I believe that there's been a considerable amount

1 of controversy over the subject. And it's my opinion  
2 that many of those statements are made for political  
3 reasons, not for epidemiology or human health reasons.

4 Q Okay. I guess I still have my initial question which  
5 is: Are you aware of and can you refer us to any  
6 studies that would lead you to dispute the truth of  
7 that statement?

8 A I can't lead you to any studies, no.

9 Q And I take it you haven't searched for any studies?

10 A I haven't searched for any, no.

11 Q And the same author of the same summary also concluded  
12 that considering the lower and declining exposure to  
13 PCBs via the environment it seems unlikely that  
14 significant injury will be observed from environmental  
15 exposure to PCBs.

16 And I would ask you the same question as to that  
17 conclusion. Have you reviewed any material which would  
18 lead you to dispute the accuracy of that statement?

19 A I don't have any published materials. I have my own  
20 opinion on the subject.

21 Q When you say you don't have any published materials, is  
22 your opinion based on a review of published materials?

23 A No. It's based upon my experience of the movement of

1 PCBs in the environment.

2 Q All right. Well, just so we're clear, the statement  
3 refers to significant injury from environmental  
4 exposures to PCBs. I just want to be sure you  
5 understood that.

6 A The statement was also talking about declining  
7 environmental levels which seemed to imply the risk to  
8 human beings is something we should not worry about now  
9 because the levels are declining. And my concern comes  
10 from the point of view of the people of Bloomington and  
11 what's going to happen when they begin incinerating  
12 PCBs and without an adequate monitoring program.

13 My prediction is the exposures are going to go up  
14 dramatically in the city of Bloomington.

15 Q Apart from your opinions as to the effects of the  
16 incinerator in Bloomington, do you disagree with the  
17 author's statement that it is unlikely that significant  
18 injury will be observed from environmental exposure to  
19 PCBs?

20 A Yes, I do disagree with that. I predict there are  
21 going to be significant injuries from the environmental  
22 exposures to PCBs, yes.

23 Q I take it by significant injury you mean illness or

1 disease; is that correct?

2 A Yes.

3 Q And is that based on a review of literature?

4 A No, it's not.

5 Q Is it based on personal experience?

6 A Yes, it is.

7 Q What is the personal experience that that conclusion of  
8 yours is based on?

9 A Well, basically my prediction is based upon my  
10 experience with landfill and disposal operations of  
11 toxic chemicals. And my prediction is that the  
12 proposed plan is going to result in spreading high  
13 levels of PCBs throughout the environment, and the  
14 people near or on the downwind side of the incinerator  
15 are going to be exposed to levels high enough to cause  
16 injury and disease.

17 Q Okay. So, you're referring to your views on the  
18 Bloomington situation; is that correct?

19 A Yes, I am.

20 Q Let's leave that out just for the moment.

21 A I thought we were talking about Bloomington.

22 Q I didn't understand that's what you were saying, but  
23 that's fine.

1 A Okay. Pardon me.

2 Q Apart from your conclusions about the effects of the  
3 remedies that are being conducted in Bloomington, do  
4 you agree with the author's statement that it unlikely  
5 significant injury will be observed from environmental  
6 exposure to PCBs?

7 A Well, once again, I've got a problem. I'm familiar  
8 with what's happening in Bloomington. But it's my  
9 understanding that there are high levels of PCB wastes  
10 in various locations across the country. It depends  
11 upon who you're talking about and where they live.

12 Q Okay. Are you aware of any individual, any human, who  
13 has sustained any personal injury as a result of  
14 environmental exposure to PCBs?

15 A I have spoken to at least one individual who worked at  
16 the Westinghouse plant. I've been told --

17 Q I'm going to define that as occupational exposure. I'm  
18 talking about environmental exposure.

19 A What about the people who ate all the contaminated rice  
20 oil? Is that environmental or is that occupational?

21 Q Do it this way: Are you aware of any individuals who  
22 have sustained injury or illness as a result of the  
23 generally lower levels of PCBs which may be present in

1 the environment as distinguished from I think the high  
2 levels that individuals were exposed to in the Yusho  
3 incident?

4 A Well, there were quite a number of women who were if  
5 not physically damaged were emotionally damaged because  
6 they couldn't breast-feed their infants because of the  
7 high level of PCBs that accumulated in their personal  
8 milk. Is that injury or illness? I don't know. It  
9 depends on how you define the quality of life. I would  
10 consider that injury. And that was true of quite a  
11 number of women in this country. Their breast milk was  
12 unfit for human consumption according to the FDA  
13 limits.

14 Q Other than the psychological injuries as you  
15 characterize it in that situation, are you aware of any  
16 other instances?

17 A No. I guess I can't think of any at the moment.

18 Q And I take it that you have not done a literature  
19 search to review the literature on environmental  
20 exposures and their possible health effects; is that  
21 correct?

22 A You're talking about to animals in general or to  
23 humans?