

IN THE COMMONWEALTH COURT OF
PENNSYLVANIA

PENNSYLVANIA DEPARTMENT : NO. 284 M.D.
GENERAL SERVICES, : 1990
PENNSYLVANIA DEPARTMENT :
OF TRANSPORTATION, :
PENNSYLVANIA PUBLIC :
UTILITY COMMISSION, :
PENNSYLVANIA EMERGENCY :
MANAGEMENT AGENCY, and :
PENNSYLVANIA DEPARTMENT :
OF STATE, :
Plaintiffs, :
-vs- :
UNITED STATES MINERAL :
PRODUCTS COMPANY, :
CERTAINTIED CORPORATION, :
COURTAULDS AEROSPACE, :
INC., CHEMREX, INC. :
PHILIPS ELECTRONICS :
NORTH AMERICA :
CORPORATION, ADVANCE :
TRANSFORMER COMPANY :
and MONSANTO COMPANY, :
Defendants. :

BEFORE THE HONORABLE
CHARLES P. MIRARCHI, JR.

Tuesday, March 21, 2000

Trial testimony in the
above-captioned matter, held at City
Hall, Courtroom 453, Philadelphia,
Pennsylvania 19103, on Tuesday, March 21,
2000, beginning at approximately 12:15
p.m., before Megan McKay, a Registered
Professional Reporter and Notary Public.

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2 1 APPEARANCES: 2 3 HUMPHREY, FARRINGTON & MCCLAIN, P.C. 4 BY: KENNETH B. MCCLAIN, ESQUIRE 5 221 West Lexington, Suite 400 6 Independence, MI 64051 7 (816) 836-5050 8 Counsel for Plaintiffs 9 10 THOMAS W. HENDERSON, ESQUIRE 11 Suite 3975, One Oxford Circle 12 301 Grant Avenue 13 Pittsburgh PA 15219 14 (412) 261-6474 15 Counsel for Plaintiffs 16 17 WHITE & WILLIAMS 18 BY: THOMAS M. GOUTMAN, ESQUIRE 19 One Liberty Place, 18th Floor 20 Philadelphia, PA 19102 21 (215) 864-7000 22 Counsel for Defendant Monsanto 23 Corporation 24 25 MONTGOMERY, MCCracken, WALKER & 26 RHOADS, LLP 27 BY: JOYCE S. MEYERS, ESQUIRE 28 123 South Broad Street 29 Philadelphia, PA 19109 30 (215) 772-7452 31 Counsel for Defendant Courtaulds 32 Aerospace, Inc. 33 34 DANAHER, TEDFORD, LAGNESE & NEAL 35 BY: KEN NEAL, ESQUIRE 36 700 Capitol Place 37 21 Oak Street 38 Hartford, CT 06106 39 (860) 247-3666 40 Counsel for Defendant U.S. Mineral	4 1 INDEX 2 JOHN WOODYARD PAGE 3 By Mr. Goutman 11 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
3 1 HOYLE, MORRIS & KERR 2 BY: SUSAN HERSCHEL, ESQUIRE 3 1640 Market Street, Suite 4900 4 Philadelphia, PA 19103 5 (215) 981-5700 6 Counsel for Defendant CertainTeed 7 Corporation 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	5 1 THE COURT: When we met 2 Friday I indicated that we were 3 going to be off two weeks because 4 of my assignments in Harrisburg, 5 and I did. I have assignments on 6 argument court during the first 7 week, and the second week I was on 8 duty week. When I got to chambers 9 and then left to go on my merry 10 way to Malvern, a fax came in from 11 the President Judge, and Joyce had 12 got in touch with me while I was 13 en route and indicated that I was 14 detached from the duty week, which 15 means -- it doesn't -- you cannot 16 come in to court the week of the 17 17th. 18 MR. NEAL: 10th. 19 THE COURT: You can't come 20 in. We're not going to be here. 21 I still have argument week, and I 22 have 12 cases to prepare for. But 23 the week of the 24th -- 24 MR. GOUTMAN: The week of

6 1 the 17th. 2 THE COURT: The week of the 3 17th, rather, we will meet. 4 MR. MCCLAIN: Okay. 5 MR. HENDERSON: So we're off 6 now only the week of the 10th. 7 THE COURT: Only the 10th. 8 I wanted you to know first. I 9 haven't told anybody in the jury 10 room yet. I want to make sure 11 that none of you went out and 12 booked the Himalaya's or whatever. 13 MR. MCCLAIN: Right. 14 THE COURT: Because I don't 15 want to lose two weeks in a row. 16 MR. MCCLAIN: No. 17 THE COURT: If I could avoid 18 it. I'll let the jury know as 19 soon as we reassemble out there. 20 Now, anything from your end 21 that has transpired? 22 MR. GOUTMAN: No, I can't 23 think of anything, your Honor. 24 THE COURT: I'm delighted.	8 1 time that Passover takes place? 2 MR. GOUTMAN: Are we sitting 3 Good Friday? 4 THE COURT: Well, I was 5 going to suggest that we don't. I 6 was going to try to -- I was going 7 to debate whether to have a 8 three-day week or cancel Monday as 9 a day off and have Monday to 10 Thursday. But I was going to put 11 that in your laps. I don't need 12 an answer this minute. 13 MR. GOUTMAN: Okay. 14 MS. HERSCHEL: I guess I 15 would rather put it in the jury's 16 laps. I have a feeling there are 17 some people there who probably go 18 to church on Good Friday. It 19 would be my guess. 20 THE COURT: I always think 21 it's important to pass things 22 through the attorneys first and 23 then bring them to the jury. 24 MR. GOUTMAN: Yes.
7 1 MR. MCCLAIN: We're ready to 2 roll. 3 THE COURT: We are waiting 4 for one juror. As soon as that 5 one juror shows we'll start. 6 MR. GOUTMAN: We are going 7 to break at 2:30. 8 THE COURT: We're going to 9 break at 2:30. The rest of the 10 week is a normal week, if my 11 understanding is correct. 12 MR. MCCLAIN: That's right. 13 Dr. Herzstein is coming as soon as 14 we're done with Dr. Woodyard. 15 MR. GOUTMAN: Not as soon 16 as. She's flying in tomorrow 17 evening. 18 THE COURT: The week of the 19 17th is Easter week, I believe. 20 MS. HERSCHEL: The week 21 before Easter, isn't it, your 22 Honor? 23 THE COURT: The week before 24 Easter, and isn't that the same	9 1 THE COURT: That way the 2 attorneys shouldn't get surprised. 3 (Discussion in chambers ends 4 at this time.) 5 THE COURT CRIER: In the 6 name of the Commonwealth of 7 Pennsylvania this Commonwealth 8 Court is now declared open. The 9 Honorable Charles P. Mirarchi, 10 Junior is presiding. Please be 11 seated. Good afternoon, your 12 Honor. 13 THE COURT: Good afternoon. 14 MR. MCCLAIN: Good 15 afternoon, your Honor. 16 THE COURT: Members of the 17 Jury, when we broke on Friday I 18 had mentioned that we were going 19 to have two weeks in April off, 20 the week of April the 10th and the 21 week of April the 17th because I 22 was otherwise assigned for duty in 23 the Commonwealth Court. On Friday 24 afternoon late I received word

10 1 that I was detached from the 2 assignment of the week of April 3 the 17th. So we can have court 4 that week and we will only be off 5 the one week of April the 10th. 6 And I'm glad. I had written 7 letters requesting this, but the 8 confirmation didn't come until 9 Friday, as I say, late evening. I 10 didn't have a chance to 11 communicate with you before that, 12 and I think it's important that we 13 keep this momentum going so that 14 we can bring this case eventually 15 to a conclusion. So I am 16 delighted. As much as I enjoy the 17 duty weeks and the other parts of 18 our duties in court, I want to 19 make sure that we get this case 20 fully underway and completed, and 21 I know counsel joins with me in 22 that sentiment. So with that we 23 will now begin and continue. Mr. 24 Goutman.	12 1 BY MR. GOUTMAN: 2 Q. Just to pick up on some 3 loose ends from last Friday, this 4 \$868,000 figure, PCB, what does that 5 represent again? 6 A. That's the amount of money 7 that the state paid to have PCBs removed 8 from the building before demolition. 9 Q. And did you reach a 10 conclusion, sir, as to what caused this 11 expenditure? 12 A. Yes. It was all related to 13 PCBs burned in the fire. 14 Q. Now, sir, we were mentioning 15 -- we were discussing the NIOSH 16 recommendations. In what circumstances 17 is the NIOSH recommendation followed from 18 your 20 plus years of PCB work? 19 A. I have only seen the NIOSH 20 recommendation followed in what I have 21 called PCB transformer fires. 22 Q. Now, sir, could you remind 23 us what a transformer is? 24 A. A transformer is a piece of
11 1 MR. GOUTMAN: Thank you, 2 your Honor. Mr. John Woodyard, 3 please. 4 THE COURT CRIER: State your 5 full name and spell your last name 6 for the record. 7 THE WITNESS: John Woodyard, 8 W-O-O-D-Y-A-R-D. 9 THE COURT CRIER: I remind 10 you that you are still under oath. 11 THE WITNESS: Thank you. 12 MR. GOUTMAN: Good 13 afternoon. 14 THE JURY: (Indicating.) 15 * * * 16 E X A M I N A T I O N 17 * * * 18 BY MR. GOUTMAN: 19 Q. Good afternoon, Mr. 20 Woodyard. 21 A. Good afternoon. 22 MR. GOUTMAN: Your Honor, 23 may I proceed? 24 THE COURT: You may proceed.	13 1 electrical equipment that's used to 2 change voltage, electrical voltage. 3 Q. And what kind of liquid is 4 contained in transformers that contain 5 PCBs? 6 A. PCB transformers contain a 7 mixture of PCBs and trichlorobenzene. 8 Q. And, sir, what is the 9 significance of the presence of 10 trichlorobenzene in PCB transformers? 11 A. From a PCB fire perspective 12 the trichlorobenzene is the chemical from 13 which dioxins can be formed if there is a 14 fire and the right conditions are met. 15 Q. Can dioxins be formed from 16 PCBs? 17 A. No, they cannot. 18 Q. How do you know that? 19 A. The science is clear on it. 20 That issue has been studied for years and 21 everybody has reached agreement that 22 that's true. 23 Q. What is there about 24 transformer fires and dioxin that leads

1 to the NIOSH -- the following of the
 2 NIOSH recommendation?
 3 A. Well, when there is a
 4 transformer fire of some type, and
 5 dioxins are formed, the scientists
 6 involved will typically focus on the
 7 dioxin as being the chemical of concern
 8 from a health risk point of view. So
 9 they will establish a clean up standard
 10 for dioxin, and then try to match that up
 11 with the corresponding amount of PCBs
 12 just as what I think I called a
 13 surrogate, or a means of less expensively
 14 tracking dioxin contamination.
 15 Q. And what do you mean by
 16 surrogate?
 17 A. Surrogate in this context is
 18 just a cheaper way of tracking the
 19 contamination level. It's very expensive
 20 to test for dioxin. And it takes -- the
 21 sample or analytical times are longer so
 22 when a clean up --
 23 Q. What do you mean by
 24 analytical times are longer?

1 A. It takes a lab more time to
 2 do the lab work. Maybe a couple days
 3 sometimes.
 4 Q. So what do they do?
 5 A. So they will try to --
 6 because in a transformer fire you can
 7 develop a relationship, a ratio between
 8 the dioxin and the PCB, they will just
 9 analyze for PCB just as an indicator
 10 compound, as a chemical that they can use
 11 to track whether or not the dioxins are
 12 at a certain level and whether they're
 13 being cleaned up.
 14 Q. So how do we get the one
 15 microgram level, the NIOSH recommended
 16 level?
 17 A. On the transformer fires I
 18 have been aware of that the one microgram
 19 PCB level is the surrogate. It's not a
 20 risk-based level. It just happens to be
 21 the level that corresponds with the
 22 dioxin level that's of concern.
 23 Q. Now, sir, in the
 24 Transportation & Safety Building, were

1 there any PCB transformers?
 2 A. No, there were not.
 3 Q. Was there a PCB transformer
 4 fire?
 5 A. No, there was not.
 6 Q. Were there any
 7 trichlorobenzenes?
 8 A. No.
 9 Q. Does the NIOSH
 10 recommendation apply?
 11 A. No, it would not.
 12 Q. Now, sir, you were asked by
 13 Mr. Neal, I believe, about one of your
 14 visits to the Transportation & Safety
 15 Building. You went on the sixth floor;
 16 is that correct?
 17 A. Yes, sir.
 18 Q. And you were looking through
 19 bags?
 20 A. Yes, I was.
 21 Q. And what is it that you --
 22 bags of what?
 23 A. The bags on the sixth floor
 24 were in a large pile or two, and they

1 were burned building contents that had
 2 been collected and were waiting to be
 3 taken out and disposed of.
 4 Q. Stuff that had been burned
 5 in the fire?
 6 A. Yes. Just about anything
 7 you can imagine from the office. Pieces
 8 of desks, electronic equipment, phones,
 9 light fixtures, things like that.
 10 Q. Why is it that you were
 11 looking through bags? Were you looking
 12 for a souvenir of the T&S Building?
 13 A. Well, when you have a fire
 14 in an office situation like this a lot of
 15 things burn. They can produce a lot of
 16 different burned products, or combustion
 17 products. I was looking for, of course,
 18 any sources of PCB like the light
 19 fixtures, but also looking to see what
 20 other kinds of materials might have
 21 burned up in the fire, since most of this
 22 material was visibly damaged by heat. So
 23 things like phones and electronic
 24 equipment. Things that are made out of

1 plastic, for example, can produce or are
2 known to produce dioxin. So that was one
3 of the things we were looking at is the
4 types of things that may have burned.

5 Q. Did you find anything in
6 those bags that would produce dioxin?

7 A. Yes. There were a number of
8 plastic items, desk items, electronic
9 gear, things like that.

10 Q. And was dioxin detected in
11 the building?

12 A. Yes, it was.

13 Q. And what was the source of
14 that dioxin?

15 A. It would have to be the
16 burning of the plastics and other
17 materials that are known -- what we call
18 precursors, or materials that are known
19 to produce dioxin if they're burned
20 properly.

21 Q. Are dioxins the same
22 chemical as PCBs, or is it a different
23 chemical?

24 A. It's a different chemical.

1 Q. Did you find anything else
2 in those bags which had burned that would
3 create potential toxins?

4 A. In terms of -- you mean
5 other dioxin?

6 Q. Yes.

7 A. Sure. There was treated
8 wood products. There were different
9 types of metal and coated products that
10 could release toxic metals.

11 MR. MCCLAIN: Your Honor,
12 this is not in his report. It's
13 not rebuttal to any questions that
14 I asked.

15 MR. GOUTMAN: He was asked
16 about looking through bags. I'm
17 asking him why he was looking
18 through bags.

19 MR. MCCLAIN: It's not in
20 his report, your Honor. This is
21 not an opinion we were advised of
22 previously. I don't have --

23 MR. GOUTMAN: It's within
24 the scope of cross examination.

1 THE COURT: The following of
2 the report is mandatory in the
3 direct examination. There are
4 matters that sometimes come up in
5 cross examination that require
6 responses beyond the report, which
7 are admissible, and the objection
8 is overruled.

9 BY MR. GOUTMAN:

10 Q. Where were we?

11 (The reporter read back from
12 the last record.)

13 BY MR. GOUTMAN:

14 Q. Were you done with your
15 answer?

16 A. Essentially, yes.

17 Q. Can you tell us whether
18 there are many things in an office
19 building that will not emit potentially
20 toxic chemicals when burned in a fire?

21 A. If you had like -- I can't
22 think of anything offhand. If you had
23 bear steel maybe, materials of that
24 nature. But just about anything can emit

1 some type of potentially toxic product if
2 it's burned.

3 Q. Now, you were asked
4 questions about the NIOSH 1985 -- August
5 1995, excuse me, letter from a Mr. Echt
6 of NIOSH to DGS. Do you recall that?

7 A. Yes, sir.

8 MR. GOUTMAN: And could I
9 approach the witness, your Honor?

10 THE COURT: Yes.

11 BY MR. GOUTMAN:

12 Q. I'd like to hand you a copy
13 of that letter.

14 MR. GOUTMAN: Your Honor, do
15 you need a copy?

16 THE COURT: Yep.

17 BY MR. GOUTMAN:

18 Q. What are we looking at here?
19 Can the members of the jury see this?
20 Why don't you focus in on the top there.

21 What are we looking at, Mr.
22 Woodyard?

23 A. This is a letter sent by Mr.
24 Echt at NIOSH back to the state in August

1 of 1995, and it's in response to data and
2 information that was sent to NIOSH
3 earlier in the year.

4 Q. Now, sir, is there any
5 reference by NIOSH to the EPA in this
6 document and its standard?

7 A. Yes. There are a number of
8 references in this document to EPA and
9 their standards.

10 Q. Why don't we just go through
11 this and you tell us where they refer DGS
12 to the EPA or the EPA standards.

13 A. The first place I see is on
14 Page 3 at the bottom. There is a
15 paragraph there in which they cite the
16 EPA standards set on what we have been
17 calling the PCB spill clean up policy,
18 including some of the information that
19 they used as the basis for the risk
20 assessment.

21 Q. Now, it says here, "EPA also
22 believes that surface standards of 10,000
23 micrograms per" -- is that legible? How
24 about that? Any better? "EPA also

1 paragraph.

2 Q. Does it say there, "These
3 results should also be compared with the
4 EPA clean up criteria of 1,000 micrograms
5 per meters squared for high contact
6 indoor surfaces and 10,000 micrograms for
7 indoor low contact surfaces." Does it
8 say that there?

9 A. Yes, that's correct.

10 Q. And you are going to have to
11 translate the numbers now. One thousand
12 micrograms per meter squared is what?

13 A. That's the same as ten
14 micrograms per hundred squared
15 centimeters, the EPA safe standard we
16 have been talking about for high contact
17 areas.

18 Q. Okay. The high contact
19 level. How about the next one?
20 Translate that one for us. The 10,000,
21 that equals what?

22 A. That's 100 micrograms per
23 100 squared centimeters. The low contact
24 or low occupancy standard.

1 believes that surface standards of 10,000
2 micrograms per meter squared for indoor
3 low contact surfaces in bulk and high
4 contact surfaces restricted access
5 industrial facility would not present
6 significant risk to workers or to the
7 general population." Did I read that
8 correctly?

9 A. Yes, sir.

10 Q. Now, you are going to have
11 to -- these are different numbers than
12 what we've been talking about. Could you
13 translate the 10,000 micrograms per meter
14 squared into a unit of measure that we
15 have been using?

16 A. 10,000 micrograms per square
17 meter is the same as 100 micrograms per
18 100 square centimeters, which is the unit
19 we have been talking about all along.

20 Q. And, sir, it also says --
21 why don't we continue on with that
22 letter. And tell me, sir, where else it
23 refers DGS to the EPA?

24 A. On Page 8, first full

1 Q. I'm sorry. Why don't we
2 continue. Where else do they refer DGS
3 to the EPA standards?

4 A. There is -- on the tables
5 for wipe samples in the back I recall
6 there is a footnote, and this would be
7 starting with Table 8, I believe, on Page
8 22. That table and the ones following it
9 with wipe sample information contain a
10 footnote, and that footnote talks about
11 the EPA standard.

12 Q. You are going to have to
13 read that for the jury.

14 A. The --

15 Q. Read the portion that is
16 relevant to you.

17 A. The last sentence in that
18 footnote is relevant to what we are
19 talking about right now. The EPA clean
20 up criteria for high contact indoor
21 surfaces is, again, ten micrograms per
22 hundred square centimeters and 100
23 micrograms per hundred square centimeters
24 for indoor low contact surface and high

1 contact surface in a restricted access
 2 industrial facility.
 3 Q. And what's the sentence
 4 before that?
 5 A. The sentence before that
 6 says, "It must be emphasized that the
 7 recommendation" --
 8 Q. Referring to what
 9 recommendation?
 10 A. Referring to the NIOSH
 11 recommendation in the report. "It must be
 12 emphasized that this NIOSH recommendation
 13 does not represent NIOSH policy. It is
 14 merely a guideline used by NIOSH
 15 investigators in the conduct of health
 16 hazard evaluations."
 17 MR. MCCLAIN: In fairness,
 18 your Honor, I think he ought to
 19 read that entire highlighted
 20 section in the first paragraph --
 21 the first sentence for
 22 completeness.
 23 MR. GOUTMAN: I'm sorry.
 24 MR. MCCLAIN: Beginning with

1 NIOSH policy. It is merely a guideline
 2 used by NIOSH investigators in the
 3 conduct of health hazard evaluations.
 4 Q. Does that very language
 5 appear elsewhere?
 6 A. It appears as a footnote in
 7 the next table as well. That's Table 9.
 8 It also appeared at the bottom of Table
 9 10, and it also appears at the bottom of
 10 Table 13. So it's there in several
 11 places.
 12 Q. Could you turn to the
 13 references, sir. Is there any reference
 14 to the spill policy in the references at
 15 Page 13?
 16 A. Yes, there is. Reference
 17 number seven, the EPA, PCB or
 18 polychlorinated biphenyls spill clean up
 19 policy.
 20 Q. Now, sir, you were asked
 21 some questions about some tables
 22 regarding asbestos sampling. Do you
 23 recall that?
 24 A. Yes, sir.

1 the one sentence that you left
 2 out.
 3 MR. GOUTMAN: You want the
 4 sentence that we highlighted?
 5 MR. MCCLAIN: "NIOSH
 6 recommendations have recommended."
 7 BY MR. GOUTMAN:
 8 Q. Sure. Why don't you read
 9 that, Mr. Woodyard?
 10 A. What page are we on?
 11 MR. MCCLAIN: Same
 12 paragraph.
 13 BY MR. GOUTMAN:
 14 Q. The sentence before the one
 15 that you read is also highlighted here.
 16 It starts with, "NIOSH investigators."
 17 A. "NIOSH investigators have
 18 recommended that PCB contamination not
 19 exceed one microgram per hundred square
 20 centimeters (the lowest feasible level
 21 considering background contamination.)"
 22 Q. And then the next sentence?
 23 A. "It must be emphasized that
 24 this recommendation does not represent

1 Q. And why don't you turn to --
 2 I think you were shown Table 6. What are
 3 we looking at here?
 4 A. This table is an attempt to
 5 summarize the fireproofing sample results
 6 for PCB Aroclor 1260.
 7 Q. Now, whose testing results
 8 are these?
 9 A. These are the state's, the
 10 results of the samples collected by Mr.
 11 Cocciardi.
 12 Q. And through what date were
 13 these tests submitted?
 14 A. I have to look. It was
 15 April, according to the letter, April
 16 1995.
 17 Q. Okay. And what, if any,
 18 significant information do you get from
 19 this table that was shown to you, I
 20 believe, by Mr. Neal?
 21 A. Well, first, the point I
 22 made to Mr. Neal that there is a pretty
 23 dramatic difference between maximums and
 24 averages as well as, I'm sure, between

1 floors representing the kind of chaotic
2 PCB distribution you'd expect in a fire
3 where smoke is spread throughout the
4 building in some random pattern.

5 Q. Let me just stop you. These
6 numbers seem to be a lot higher than
7 other numbers. We have 20,000, 556,
8 60,000, 150, so forth. Can you explain
9 that?

10 A. Yeah. The units are a
11 little different than the ones we've been
12 talking about. These are micrograms per
13 kilogram. We have been typically, I
14 think, talking about parts per million,
15 and to get to parts per million you have
16 to divide all those numbers by a
17 thousand. So 20,000 by 56 micrograms per
18 kilogram is actually 20.5 parts per
19 million.

20 Q. Okay. So next to it would
21 be 16.1 parts per million, and next to
22 that 52.5 parts per million?

23 A. That's correct.

24 Q. Okay.

1 A. The other -- you asked what
2 was significant about this table. That
3 was one issue that I thought was
4 significant. The second, I think, as Mr.
5 Neal pointed out, the fire floor is the
6 only floor where the average PCB
7 concentration was much higher than the
8 others, and I say average. They used the
9 term mean, but it means the same thing.

10 Q. Let's take a look at table
11 seven, which is total PCBs. That was
12 just for Aroclor 1260; correct?

13 A. Correct.

14 Q. Why don't we flip back to
15 Table 5, which is the test for PCBs and
16 asbestos for Aroclor 1242; correct?

17 A. Yes, sir.

18 Q. Now, could you remind the
19 jury what building product, if any,
20 contained Aroclor 1242 PCB?

21 A. Aroclor 1242 is the type of
22 PCB that was contained in light fixture
23 and fluorescent light ballasts.

24 Q. Did they detect Aroclor 1242

1 in the asbestos away from the fire floor?

2 A. I guess they did, yes.

3 Q. Why don't we jump forward to
4 -- excuse me. Table 7, which is the
5 total of both 1242 and 1260. Okay?

6 A. Okay. Go ahead.

7 Q. Now, what if anything of
8 significance do you get out of this
9 table?

10 A. Again, it has some of the
11 same numbers and ranges that I was
12 talking about before that aren't terribly
13 even that would indicate fire spread, but
14 also again on the sixth floor the average
15 result and maximum are much, much higher
16 than that of the other floors, which is
17 what you would expect given the fire.
18 But it's also the only floor where the
19 average PCB level was over 50 parts per
20 million, which would make a difference in
21 terms of waste disposal and potentially
22 clean up.

23 Q. On any of these floors where
24 the average mean is less than 50, would

1 the presence of PCBs necessitate -- any
2 asbestos necessitate or require the
3 removal of asbestos?

4 A. No.

5 Q. Now, you were also shown a
6 chart from your report, which I'd like to
7 show you. Your Honor, if the witness
8 could come down.

9 THE COURT: You may step
10 down.

11 THE WITNESS: I will try as
12 best I can to fight this frog I'm
13 feeling today.

14 THE COURT: If you need
15 anything that we can supply here
16 all you have to do is ask. Would
17 water help you?

18 MR. GOUTMAN: I have a
19 lozenges if you come over here.

20 THE COURT: Now, the second
21 one you put up there is...

22 MR. GOUTMAN: I'm sorry,
23 your Honor. That has been marked
24 Plaintiff's Exhibit 4007-A, and

1 also it looks something like Table
 2 5 from his report. Why don't we
 3 put up Table 5 from the report.
 4 BY MR. GOUTMAN:
 5 Q. What do we see on the
 6 screen?
 7 A. This is Table 5 from my
 8 report.
 9 Q. Okay. The reason why I ask
 10 that is that there appears to be another
 11 row of columns that I don't see from your
 12 report on the blow-up.
 13 A. Right. Well, this is the
 14 one from my report.
 15 Q. Okay. All right. Why don't
 16 we use that one if -- actually, which can
 17 be seen? Is this better? Okay. We'll
 18 use this one.
 19 A. Fine.
 20 Q. Mr. Woodyard, what does this
 21 data show us?
 22 A. Again, this is the -- on the
 23 far left side shows the sample IDs. The
 24 next column is entitled "description" and

1 on the bottom half it shows the actual
 2 floor where the sample was known to be
 3 taken. The next column, prefire PCB
 4 concentration.
 5 Q. What are you -- what did you
 6 have analyzed?
 7 A. These are the 28 samples
 8 that were provided and represented as
 9 being prefire fireproofing samples. In
 10 other words, they were collected in 1992.
 11 Q. Before the fire?
 12 A. Before the fire.
 13 Q. And collected from what
 14 building?
 15 A. From the inside of the T&S
 16 Building.
 17 Q. Okay. And this column is
 18 what? The middle column is what?
 19 A. Those are the specific
 20 sample results from the samples
 21 identified over in the left-hand column.
 22 Q. Okay. And this says
 23 Kominsky average, 1260 outer. What does
 24 that mean?

1 A. Mr. Kominsky collected
 2 several samples, I believe, two outer
 3 samples per floor, different locations,
 4 and all I did was average those results
 5 on the far right-hand column and try as
 6 best I could from the labels on the
 7 samples to match up the floors. As you
 8 can see in some cases I could do that and
 9 some cases I could not.
 10 MR. MCCLAIN: Your Honor,
 11 this is cumulative. This was all
 12 handled in direct.
 13 MR. GOUTMAN: Your Honor, it
 14 was dealt with extensively on
 15 cross, and I believe we're on
 16 redirect.
 17 MR. MCCLAIN: Your Honor,
 18 it's not something to repeat what
 19 was said on direct.
 20 MR. GOUTMAN: With all due
 21 respect, your Honor, it was dealt
 22 with on cross and I believe --
 23 THE COURT: Overruled.
 24 BY MR. GOUTMAN:

1 Q. Okay. What was the last
 2 question?
 3 (The reporter read back from
 4 the last record.)
 5 THE WITNESS: My answer, in
 6 essence, is that those are the
 7 results of the outer or exposed
 8 fireproofing portions of Mr.
 9 Kominsky's samples on the floors
 10 listed down below. And in this
 11 case it's the average of several
 12 sample results.
 13 BY MR. GOUTMAN:
 14 Q. Now what statistical
 15 analysis --
 16 THE COURT: I don't know if
 17 all counsel can hear Mr. Woodyard
 18 from their respective seats, and
 19 if they want to gather here at the
 20 exhibit --
 21 THE WITNESS: Your Honor,
 22 I'll borrow this microphone.
 23 MR. MCCLAIN: Thank you,
 24 your Honor. I can hear him fine.

1 BY MR. GOUTMAN:
 2 Q. What statistical analysis
 3 did you make of this data?
 4 A. I calculated the average for
 5 the two groups of samples and the overall
 6 average for all of the samples.
 7 Q. Okay. This is prefire?
 8 A. Yes, sir.
 9 Q. And this is post fire?
 10 A. Yes.
 11 Q. Okay. And what was the
 12 overall average prefire?
 13 A. The overall average was
 14 three parts per million.
 15 Q. And what was the overall
 16 average post fire?
 17 A. 17.7 parts per million, more
 18 than five times higher.
 19 Q. What did that tell you?
 20 A. That most of the PCBs must
 21 have been deposited as a result of the
 22 fire.
 23 Q. What about the rest of the
 24 PCBs? Where did they come from?

1 A. The three parts per million
 2 that was measured before the fire must
 3 have been background levels.
 4 Q. And what is background?
 5 A. Background is levels that we
 6 would find in the Harrisburg area.
 7 Q. You also break out average
 8 63,000 or 6,300 to 5.7; is that correct?
 9 A. Yes. The 63,000 samples on
 10 the bottom half of the table average to
 11 5.7 parts per million.
 12 Q. Now, you were asked about
 13 whether there was any identification as
 14 to floor of these upper samples. Do you
 15 recall that?
 16 A. Yes, sir.
 17 Q. And was there any supplied?
 18 A. No, there was not.
 19 Q. Sir, even if you discarded
 20 all of the upper information, what would
 21 be the average of the information, the
 22 data on the lower half of this chart?
 23 A. The average of those samples
 24 is 5.7 parts per million.

1 Q. And what does that tell you?
 2 A. That's still within the
 3 range of the background samples that were
 4 collected from other buildings in the
 5 area. So it tells me that even with just
 6 that portion of the data it's still
 7 background.
 8 Q. And referring again to
 9 3157.
 10 MR. MCCLAIN: Same chart,
 11 right?
 12 MR. GOUTMAN: Yes.
 13 BY MR. GOUTMAN:
 14 Q. You were referring to
 15 background. What does this show?
 16 A. This chart again showed the
 17 17.7 average from post fire as well as
 18 three different what we're calling
 19 background sample results. The Hershey
 20 School and south office building bars are
 21 the average of the levels found in those
 22 other buildings away from the T&S
 23 Building, and the T&S Building prefire
 24 result three is what the all total is on

1 that other table you just saw. So if you
 2 forgot about those top samples and just
 3 used the bottom half, you are still at
 4 5.7, which is still right in here with
 5 these other two buildings. So it really
 6 doesn't make a difference to me.
 7 MR. MCCLAIN: Your Honor,
 8 could I just have a cumulative
 9 objection to this so I don't have
 10 to interrupt?
 11 THE COURT: To this phase.
 12 MR. MCCLAIN: To all these
 13 charts that were shown on direct
 14 so that we can identify them for
 15 the record.
 16 THE COURT: You have.
 17 BY MR. GOUTMAN:
 18 Q. Now, sir, you said you
 19 averaged these numbers; is that correct?
 20 A. Yes, sir.
 21 Q. Is that the first time you
 22 ever used averages for data?
 23 A. No. That's typically what
 24 you do first. If you can do nothing else

4 2 1 you can at least average the results and 2 try to make some sense of it that way. 3 Q. Sir, would it be appropriate 4 to take in isolation any single test 5 result prefire, any single test result 6 and compare it to a single test result 7 post fire? For example, comparing 15.0 8 on the fourth floor to zero on the fifth 9 floor post fire? 10 A. No. You can't do anything 11 statistically with it. All it is is one 12 piece of data versus another, and there's 13 so much variability there is no way to 14 make sense out of it. 15 Q. Or comparing 15.0 on the 16 fifth floor to 3.0 on the sixth floor? 17 A. Same problem. Same 18 problem. You have difficulty comparing 19 them statistically. 20 Q. If you compared prefire to 21 the post fire in aggregate, taking 22 averages, as you say you usually do, what 23 does that tell you? 24 A. It tells me again that the	4 4 1 as we pointed out, in the fireproofing 2 itself before the fire occurred. 3 Q. Now, sir, you were asked 4 some questions about your book, PCB 5 Management Handbook; is that correct? 6 A. Yes, sir. 7 Q. And this is the second 8 edition. 9 A. Yes. 10 Q. And there was some questions 11 about the blue book and the black book. 12 Can you just clarify that for us? 13 A. The book you are holding is 14 the real second edition. It was 15 submitted for publication and edited 16 without the author's approval, and some 17 copies of that edited version were 18 printed, which differed a little bit from 19 the version that you are holding. So the 20 corrections were made and it was 21 reprinted. 22 Q. You were shown a blow-up, 23 and I won't get it out, but it was a 24 quote from your book dealing with
4 3 1 post fire or PCB levels after the fire 2 are much, much higher than they were 3 before the fire, five times, six times 4 higher. 5 Q. Was this sampling sufficient 6 for your purposes as an engineer and 7 scientist to draw any conclusions? 8 A. Yes. The conclusion that I 9 just drew. That the levels definitely 10 increased as a result of the fire. 11 Q. You can take your seat. 12 Now, sir, you were asked some questions 13 about sources of PCBs in the building. 14 Prefire, what do we know in bulk? By in 15 bulk I mean as opposed to surface and 16 air. In bulk what do we know contained 17 1262 before the fire? 18 A. The 1262 before the fire was 19 contained in the ductboard that we've 20 been talking about and the adhesive in 21 the ductboard. It was contained in the 22 adhesive that was used to glue this duct 23 wrap around the metal duct in the 24 hallways. And also there was some 1262,	4 5 1 migration of PCBs. Do you by any chance 2 recall that? 3 A. There were several, I think. 4 Q. Let me put this up. Now, I 5 want to just focus in on what was blown 6 up for cross examination by 7 counsel. "PCBs can also migrate through 8 simple ventilation. Although the related 9 vapor pressure is low, so are the clean 10 up guidelines. The most commonly used 11 clean up criterion for airborne 12 contamination is one microgram per cubic 13 meter, the current NIOSH recommendation." 14 Sir, if you can just pan 15 back, in what chapter, I don't know if 16 you can read it. In what chapter does 17 this appear? 18 A. It's in the part of the book 19 that talks about cleaning up spills. 20 Q. And, in particular, what 21 section on spill clean up are you talking 22 about there? 23 A. That's under the subsection 24 called gross clean up.

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1 Q. And what do you mean as a
2 PCB clean up specialist by gross clean
3 up?
4 A. That's the first step in the
5 clean up process where you clean up. In
6 this case you would clean up any fire
7 debris, visible stains. If you had a
8 spill you would clean up the liquid that
9 might have pooled on the floor. It's
10 basically the first step of a clean up
11 process and the messiest, typically.
12 Q. I think we've seen
13 pictures. You have seen pictures of the
14 fire floor, the sixth floor?
15 A. Yes.
16 Q. Is that what you mean?
17 A. Yes, sir.
18 Q. Okay. And that can be a
19 pretty messy situation?
20 MR. MCCLAIN: Objection.
21 Leading.
22 THE COURT: Sustained.
23 BY MR. GOUTMAN:
24 Q. What is that like, cleaning

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1 up that stuff?
2 A. It's -- I think I used the
3 word myself messy a moment ago. There is
4 a lot of debris. It's hard to control
5 cross contamination, dust, things like
6 that, because you are simply trying to
7 get the material out of there before it
8 presents some additional contamination
9 problems to the rest of it. In this case
10 the rest of the building.
11 Q. Does the migration that you
12 refer to here, does that have anything to
13 do with PCBs on surfaces or PCBs in glue
14 in ductboard during the normal operation
15 of a building?
16 A. No. This is talking
17 specifically about doing the clean up.
18 Q. Other than on the fire
19 floor, does this quote have anything to
20 do with any situation applicable to the
21 T&S Building?
22 A. No, not really.
23 Q. Now, it also mentions the
24 NIOSH recommendation. Is this the same

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1 NIOSH one microgram per hundred
2 centimeters squared recommendation that
3 we've been talking about?
4 A. No, it's not. It's
5 referring specifically to the air, NIOSH
6 air guideline, which is one microgram per
7 cubic meter.
8 Q. Where's this?
9 A. That's the surface wipe
10 standard for solid surfaces.
11 Q. Anywhere in this book do you
12 state that the NIOSH one microgram
13 surface level is the one to use for a PCB
14 clean up?
15 A. No, I don't believe so.
16 Q. Is it the recommendation
17 that's used?
18 A. No, no.
19 Q. Now you were also asked
20 about an article -- you can take that
21 down. An article on concrete clean up.
22 Do you remember that?
23 A. Yes, sir.
24 Q. And there were some maybe

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1 four or five blow-ups from quotes from
2 your article on how to clean up
3 concrete. Do you remember that?
4 A. Yes, sir.
5 Q. Let's see if we can get them
6 out.
7 MR. MCCLAIN: They may be
8 back there too. What one do you
9 want?
10 MR. GOUTMAN: I think I have
11 them. Thank you. One, two,
12 three, four, five, six, seven.
13 BY MR. GOUTMAN:
14 Q. Does that look right?
15 A. Yes.
16 MR. MCCLAIN: Your Honor,
17 I'd like to congratulate Mr.
18 Goutman for being able to do that
19 without a calculator.
20 MR. GOUTMAN: My mommy
21 didn't raise a fool, your Honor.
22 BY MR. GOUTMAN:
23 Q. Sir, first of all, when was
24 that article written?

50 1 A. 1985. 2 Q. What does an article on the 3 decontamination of PCBs from concrete 4 have to do with the T&S Building? 5 A. Nothing. There was no PCB 6 concrete clean up required in the T&S 7 Building. 8 Q. Was there any evidence -- 9 let me just finish this one question. 10 Was there any evidence of any PCB 11 penetration into concrete at the T&S 12 Building? 13 A. No, sir. 14 MR. GOUTMAN: This might be 15 a good time to break, your Honor. 16 THE COURT: We'll take a 17 break. 18 THE COURT CRIER: This court 19 will take a short recess. 20 (Recess is taken at this 21 time from 1:10 p.m. until 1:30 22 p.m.) 23 THE COURT CRIER: You may be 24 seated. This court is in	52 1 was the building occupied? 2 A. Yes, it was, except for the 3 fire floors. 4 Q. Now, sir, you had indicated 5 earlier that the -- I believe it was 6 Friday -- that about 95 percent of the 7 building was below the EPA safe standard, 8 the ten microgram standard? 9 A. Yes. That's correct. 10 Q. What percentage of the 11 building was below the risk assessment 12 level performed by Dr. James? What 13 percentage? 14 A. Essentially all of it. 15 Q. Under the risk assessment, 16 was any clean up required? 17 A. No, I don't believe so. 18 Q. Now, sir, you were shown as 19 part of that concrete article a table, 20 and this is the blow-up that was used on 21 cross examination. Do you recall that, 22 sir? 23 A. Yes, I do. 24 Q. And I think it was
51 1 session. 2 MR. GOUTMAN: May I proceed, 3 your Honor? 4 THE COURT: You may proceed. 5 MR. GOUTMAN: Good 6 afternoon, again. 7 BY MR. GOUTMAN: 8 Q. Sir, in that concrete 9 article, part of the quote that was read 10 to you was, "Property owners will then 11 infect rapid and thorough decontamination 12 rather than risk the liability associated 13 with employee exposure." Rapid and 14 thorough decontamination. Is that what 15 happened at the T&S Building? 16 A. No, sir. 17 Q. How long did it take them to 18 perform clean up until -- how long was it 19 until they did start clean up at the T&S 20 Building from the time they detected 21 PCBs? 22 A. At least two and a half 23 years. 24 Q. And during that time frame	53 1 indicated -- 2 THE COURT: For 3 identification, what is the 4 exhibit? 5 MR. GOUTMAN: I'm sorry, 6 your Honor. That's 4006-A. It's 7 a portion of a table that appears 8 in the concrete article. 9 BY MR. GOUTMAN: 10 Q. Some commonly cited 11 standards for PCB decontamination. Mr. 12 Woodyard, can you see what is on the T.V. 13 screen? 14 A. Yes. May I step down, your 15 Honor? 16 MR. GOUTMAN: May the 17 witness step down? 18 THE COURT: You can step 19 down. 20 BY MR. GOUTMAN: 21 Q. Sir, what are we looking at 22 on the screen there? 23 A. The screen is focusing on 24 the top four or five entries above the

1 two that are on that blow-up you're
2 holding.

3 Q. Okay. On the actual table
4 itself, as appears in your paper, were
5 there any entries above these?

6 A. Yes. That's the actual
7 table and there were four entries above
8 the one you are holding.

9 Q. And when was that article
10 written?

11 A. In 1985.

12 Q. Now, is that before or after
13 the safe standards were published in the
14 spill policy?

15 A. It was about two years
16 before.

17 Q. Okay. This is titled, "Some
18 commonly cited standards for PCB
19 decontamination."

20 A. Yes, sir.

21 Q. What are the numbers above
22 those which plaintiff put -- plaintiff's
23 put in this blow-up?

24 A. There is several and they

1 are similar, if not identical, to the
2 standards that EPA published two years
3 later in the spill policy.

4 Q. And why don't you point to
5 them.

6 A. The first one on the top is
7 100 micrograms per 100 square centimeters
8 for what is termed restricted access
9 areas. There is also a standard below
10 that's the same for nonrestricted access
11 areas. I think that one was specific to
12 certain types of industrial facilities.
13 The third one, ten micrograms per 100
14 square centimeters, refers to high
15 contact areas, and that's essentially the
16 safe standard we have been talking about
17 all along. That deals with residential,
18 yards, sidewalks, playgrounds and so
19 forth.

20 Q. Now, when you say agency
21 consensus, what does that mean?

22 A. Well, the agency column is
23 meant to identify what the source of the
24 standard is. Back in 1984 or '85 that

1 was the time period when EPA was working
2 with industry and other people to develop
3 the spill policy standards. So for a
4 while, for about two years it was
5 referred to as the consensus standards
6 because the EPA hadn't actually done
7 anything with them yet, but they were
8 involved with the process to industry to
9 figure these numbers out. As you can see
10 those numbers are essentially the same as
11 what came out two years later in the
12 spill policy and the numbers we have been
13 talking about all along.

14 Q. Now, the part that was blown
15 up, and your attention was directed to,
16 was the NIOSH and it says if Department
17 of Health public health for City and
18 County of San Francisco. It refers to
19 One Market Plaza. Are you familiar with
20 that One Market Plaza?

21 A. Yes, I am.

22 Q. Have you published a paper
23 on it?

24 A. Actually a report for the

1 utility industry. It was one of the
2 transformer fire incidents that preceded
3 a lot of notoriety.

4 Q. It was a transformer fire?

5 A. That's correct.

6 Q. And what was the amount of
7 transformer fluid that was involved in
8 that One Market Plaza back in 1983?

9 A. It was a lot. It was on the
10 order of as much as 2,000 pounds, a ton
11 of PCBs being released in the building
12 and spread around.

13 Q. And was that building
14 cleaned up?

15 A. Yes, it was. Within about
16 nine months, if I recall.

17 Q. And was it reoccupied?

18 A. Yes, immediately.

19 Q. How would you compare the
20 amount of PCBs released at One Market
21 Plaza with the amount of PCBs released at
22 the T&S Building?

23 A. Substantially higher. There
24 wasn't much PCBs released in the T&S

1 Building as a result of the fire, but as
2 I said, there was maybe a ton of PCBs
3 released in the building there, and the
4 building was cleaned and reoccupied very
5 quickly.

6 Q. Was there any dioxin problem
7 in the One Market Plaza as a result of
8 this transformer fire?

9 A. Yes, there was. That was
10 really what drove the clean up. It was a
11 fire that produced dioxin by-products
12 that had to be cleaned up.

13 Q. And could you compare the
14 dioxin levels found at One Market Plaza
15 to the T&S Building dioxin levels?

16 A. They were much, much higher
17 than any standard I've seen.

18 Q. Where?

19 A. And they were --

20 Q. They were much higher, where
21 are you talking about?

22 A. Dioxin levels inside the
23 building.

24 Q. Which building?

1 A. The One Market Plaza
2 Building.

3 Q. Okay.

4 A. I'm sorry. In the One
5 Market Plaza Building dioxin levels were
6 way, way above anything we saw in the T&S
7 Building. So on the sixth floor were
8 only really elevated levels of dioxin
9 were found.

10 Q. And that building was
11 cleaned and reoccupied how quickly?

12 A. I think it was about nine
13 months.

14 Q. Now, sir, you were shown a
15 document, if I can approach the witness,
16 your Honor.

17 THE COURT: You may. May he
18 take his seat now?

19 MR. GOUTMAN: We are about
20 to put something up on the screen.

21 THE COURT: Okay.

22 BY MR. GOUTMAN:

23 Q. What did I just hand you?

24 A. It's a list of the air

1 sample results for the T&S Building from
2 1994.

3 Q. And was this a document that
4 was shown to you by counsel on cross
5 examination?

6 A. Yes, it was.

7 Q. And whose air tests were
8 these?

9 A. These were collected by Mr.
10 Cocciardi on behalf of the state.

11 Q. And that's how many pages?

12 A. 99, I believe.

13 Q. And just take us through
14 this.

15 THE COURT: For
16 identification this is...

17 MR. GOUTMAN: Penn 521 A,
18 capital A.

19 BY MR. GOUTMAN:

20 Q. What would each of these
21 entries indicate, each of these lines?

22 A. Each line is an individual
23 sample. It has a sample ID number from
24 the lab. It has a project identification

1 number under the second column Cocciardi
2 sample ID. And then there's -- the next
3 four columns are the laboratory results.
4 PQL is essentially the detection limit.
5 PCB 1242 is the result for Aroclor 1242.
6 PCB 1260 is the same result for 1260, and
7 then there's a total column.

8 Q. We'll have to do this again
9 because we didn't focus it properly.
10 Take us through this column again. Could
11 you focus on the laboratory results
12 column, please. Further in. And the top
13 of the page, that's what?

14 A. These four columns are the
15 lab result columns. First one is PQL, or
16 practical quantitating limit, which is
17 the same as detection limit essentially.
18 Aroclor 1242, 1260 results are underneath
19 those two columns. And then a total of
20 all PCBs and the actual units. In most
21 cases it's micrograms per cubic meter,
22 which is an area.

23 Q. And this tells you what
24 floor?

1 A. That's correct. The last
2 column over here on the right identifies
3 where, and then there's additional
4 information further out that describes
5 specifically location of the sample.

6 Q. And if you can move it over
7 to the left, this indicates the date?

8 A. Yes. The coding system he
9 used indicated the sample date.

10 Q. So this would be July 1st,
11 July 2nd?

12 A. Correct.

13 Q. So forth. July 3rd.

14 A. Exactly. So the way this is
15 table is set up it's chronological. So
16 the first table on the first page is the
17 first sample, and then it just goes
18 sequentially from there. So it's
19 relatively easy to follow the time
20 sequence.

21 Q. This is just for 1994?

22 A. Yes. That's correct.

23 Q. There is some 99 pages of
24 this; correct?

1 A. Yes, sir.

2 Q. And you were asked whether
3 it was a snapshot or a motion picture of
4 the air in the T&S Building. Which is
5 it?

6 MR. MCCLAIN: Your Honor, I
7 did not ask that. That is not
8 what I asked. I asked why he
9 referred to it as a snapshot. I
10 didn't say anything about was that
11 what they said on direct. I
12 didn't say anything about a motion
13 picture at all.

14 MR. GOUTMAN: Let's get the
15 record out.

16 MR. MCCLAIN: Please. Do
17 that.

18 MR. MCCLAIN: Your Honor, to
19 speed this up. Just go ahead and
20 ask him.

21 MR. GOUTMAN: Let's get the
22 record out.

23 MR. MCCLAIN: Let's not have
24 an argument. Let's ask the

1 question.

2 MR. GOUTMAN: I want to do
3 it right.

4 MR. MCCLAIN: Just ask the
5 question. I have withdrawn the
6 objection. Ask whatever you
7 want.

8 BY MR. GOUTMAN:

9 Q. You were asked about
10 snapshots and air tests on cross
11 examination, sir?

12 A. Yes.

13 Q. Is 99 pages of tests over
14 the course of six months a snapshot of
15 the air conditions in that building?

16 A. No. I characterized it as a
17 motion picture, or a movie, essentially,
18 because it seemed like there were air
19 sampling -- there is air sampling going
20 on all the time. At any one point in
21 time there was some air sampling being
22 done.

23 Q. Now, for example, one of
24 these tests, is that an air test that

1 takes that long, or how long does a
2 single air test take?

3 A. These air tests typically
4 take about three hours or so. So it's
5 running for a long time.

6 Q. One test takes three hours?

7 A. That's correct.

8 Q. Now, sir, you were asked
9 about detection limits, and once again,
10 what is a detection limit?

11 A. It's the lowest limit at
12 which you can accurately measure the
13 quality of PCBs.

14 Q. So if your detection limit
15 is too high, what's the problem, if any?

16 A. Well, the problem is that
17 the PCBs might be there and you wouldn't
18 see them, necessarily.

19 Q. You were asked about the
20 detection limits as seen in this
21 compilation of data from Cocciardi. Do
22 you recall that?

23 A. Yes, sir.

24 Q. And I believe you referred

1 to the detection limits that appear on
2 the early part of this data package; is
3 that correct?

4 A. Yes. That's correct.

5 Q. How would you characterize
6 the detection limits early on?

7 A. The detection limits at the
8 beginning of the testing program in July
9 were relatively high. Just flipping
10 through the pages, I forget how deep we
11 went into it, but the first, I would say,
12 14, 15 pages, which is into the middle of
13 August, if I read the code correctly, is
14 the level. The detection limits are --
15 they range from three to as high as eight
16 or thereabouts micrograms per cubic
17 meter.

18 Q. And what happens at Page 15
19 and then going forward for the rest of
20 the 99 pages?

21 A. Beginning on Page 15, or in
22 mid to late August, the detection limits
23 dropped pretty dramatically by almost a
24 factor of ten to where they are typically

1 from that point forward less than .5
2 micrograms per cubic meter. And that
3 goes on for pretty much the remainder of
4 1994.

5 Q. They went down to what?

6 A. Typically below .5
7 micrograms per cubic meter.

8 Q. Now, this is from what,
9 December, 12/12, 12/13, and so forth?

10 A. Yes. Which page is that?

11 Q. What page is it, Bill?

12 MR. YOUNGBLOOD: '92.
13 BY MR. GOUTMAN:

14 Q. The detection limits are
15 what?

16 A. Again, the detection limits
17 in this case, I believe, are all below .5
18 micrograms per cubic meter, sometimes as
19 low as .1.

20 Q. In your opinion, is that low
21 enough?

22 A. Yes, it is. The .5 is half
23 the NIOSH guideline we've been talking
24 about, so it's well below what you want

1 to see, and based on the literature I've
2 seen it's also right around background
3 levels found in air. So measuring --
4 being able to detect much lower than that
5 isn't going to help you because you are
6 studying background.

7 Q. Now, we see all of these NDs
8 here. Does that stand for Notre Dame?

9 A. No. That stands for not
10 detected, essentially meaning that it was
11 -- no PCBs were found above that level.
12 That's in the orange or yellow column.

13 Q. If you just take a look at
14 this Page 92. Why don't we go down to
15 the bottom. Are we seeing any 1260? You
16 see a 1242 on 12/13, but are there any --
17 that's the total. Are there any in this
18 column of 1260 any 1260 being detected?

19 A. No, sir.

20 Q. Now, what happened in '95
21 and '96 with respect to these detection
22 limits?

23 A. The detection limits got
24 even better.

1 Q. Which means what?

2 A. It means they were lower.
3 The lab was able to detect down to .2 or
4 .3 micrograms per cubic meter
5 consistently.

6 Q. What does that tell you if
7 anything -- let me back up a second. In
8 '95 and '96, did they detect any Aroclor
9 1260 or 1262, the kind of Aroclor found
10 in the ductboard, over .5 in the entire
11 building?

12 A. No, they did not.

13 Q. What does that tell you
14 about the state's theory about Aroclor
15 1262 flying out of the ductboard?

16 A. By 1995, '96 remember the
17 building had been reoccupied, the
18 ventilation system was operating. If
19 PCBs were coming out of the ductboard
20 into the work space, all the samples
21 during that time period would have seen
22 it, and they didn't.

23 Q. You were also asked
24 concerning this air results about purging

1 of the air. Do you recall that?
 2 A. Yes, sir.
 3 Q. And I'd like to show you
 4 some documents about that, if I can just
 5 approach the witness. Your Honor, I will
 6 hand you your copy.
 7 THE COURT: Thank you.
 8 BY MR. GOUTMAN:
 9 Q. I have handed you D.M. 266,
 10 which is already in evidence. What is
 11 that?
 12 A. This is a memo from Mr.
 13 Cocciardi to Mr. Spoljaric at DGS. It
 14 describes the testing program that was
 15 done in October of 1994. It was during
 16 the time when the state was beginning to
 17 mix return air, basically recycle air,
 18 and mix it with outside air.
 19 Q. Right after the fire, what
 20 did they do with respect to the mix of
 21 fresh air being introduced into the HVAC
 22 system?
 23 A. Initially they used 100
 24 percent outside air. In other words, air

1 that was at the temperature of the air
 2 outside of the building.
 3 Q. And why would you do that
 4 after a fire?
 5 A. To help ventilate smoke and
 6 so forth and make sure the air is fresh
 7 enough for reoccupancy.
 8 Q. Now, at some time did they
 9 kick that down to a lower percentage?
 10 A. Yes. That's what this memo
 11 is all about is the process of confirming
 12 that that's okay. The concern was that
 13 if there were PCBs in the air that mixing
 14 return air and fresh air might increase
 15 the PCB concentration. It's a common
 16 type of concern in any indoor air quality
 17 testing.
 18 Q. So what did they do?
 19 A. So they essentially ran an
 20 experiment where they mixed 25 percent
 21 recycled air with 75 percent fresh air
 22 instead of 100 percent fresh air and then
 23 they ran samples during the time period
 24 to see if the PCB levels increased as a

1 result.
 2 Q. And based on the test
 3 results, did they find any PCB levels
 4 above the NIOSH air guideline?
 5 A. No, they didn't. In fact,
 6 Mr. Cocciardi concluded that the change
 7 didn't increase employee exposure and
 8 they recommended that they continue to
 9 try to increase the mixture.
 10 Q. Sir, I want you to read the
 11 sentence that precedes the graph of the
 12 data.
 13 A. "The sample numbers and
 14 levels of PCB detected (only Aroclor 1242
 15 was detected) are as follows."
 16 Q. Did they find when this did
 17 this test, after a number of months of
 18 100 percent fresh air down to 75 percent,
 19 did they find any of the type of Aroclor
 20 that was present in the glue in the
 21 ductboard?
 22 A. No, sir.
 23 Q. Now, at some point did they
 24 test it at 50 percent?

1 A. Yes, they did.
 2 Q. And let me hand you that
 3 document, sir. And so they've got it
 4 running at 75 percent and then they test
 5 it --
 6 THE COURT: This is
 7 document --
 8 MR. GOUTMAN: This is DM
 9 267, which is already in evidence,
 10 your Honor.
 11 BY MR. GOUTMAN:
 12 Q. And then they test it at 50
 13 percent; is that correct?
 14 A. Yes, sir.
 15 Q. And what did they find?
 16 A. Essentially the same thing.
 17 That at reducing the outside air level to
 18 50 percent still resulted in PCB levels
 19 that were either nondetect or they were
 20 well below the NIOSH guideline.
 21 Q. And, sir, looking at the
 22 results, did they find any of the type of
 23 PCB that was found in the glue in the
 24 ductwork?

1 A. No, they did not.
 2 Q. On either of these occasions
 3 when they measured it at 75 percent, or
 4 when they measured 50 percent, did they
 5 find either 1260 or 1262?
 6 A. No, sir.
 7 Q. What does that tell you
 8 about the state's theory about 1260 or
 9 1262 flying out of the ductwork?
 10 A. It just confirms what I was
 11 already saying from the data in general.
 12 If they were recycling more and more air,
 13 and PCBs were flying out of the ductboard
 14 during that time, you would expect to see
 15 the levels start to increase, and you
 16 certainly would be able to measure them.
 17 But they found none of the 1262 or 1260
 18 they were talking about from the
 19 ductboard in these tests either.
 20 Q. Now, you were questioned,
 21 sir, about Mr. Ewing's experiment. Do
 22 you recall that?
 23 A. Yes, sir.
 24 Q. And let me just check my

1 notes, your Honor, to make sure I'm where
 2 I'm supposed to be. My notes don't
 3 appear to be in any order.
 4 MR. MCCLAIN: I wouldn't
 5 have guessed that.
 6 BY MR. GOUTMAN:
 7 Q. Just to reacquaint ourself
 8 with Ewing's experiment, what did he do?
 9 A. Mr. Ewing took the samples
 10 of ductwork that he cut out of the
 11 ductboard in the building, put them in
 12 three -- put a sample in each three
 13 different small chambers, heated them up,
 14 cooked them, if you will, and collected
 15 the air from inside those chambers and he
 16 used that to try to determine what I
 17 think he termed off-gassing rates at the
 18 rate at which PCBs might come out of the
 19 ductboard at different temperature
 20 conditions.
 21 Q. What did he cook them with?
 22 A. With a sun lamp.
 23 Q. And for how many hours did
 24 he cook them?

1 A. A total of three in one
 2 hour, one hour steps, continuous steps.
 3 Q. At what intervals did he
 4 measure the air, the PCBs in the air?
 5 A. Every hour.
 6 Q. Now, this ductboard that he
 7 was testing, was it removed from the
 8 building before the fire or after the
 9 fire?
 10 A. After the fire.
 11 Q. And, sir, do you have an
 12 opinion, or have you reached a
 13 conclusion, as to whether Mr. Ewing's
 14 tests were scientifically valid?
 15 A. No. I don't believe they
 16 were.
 17 Q. Do you believe as an
 18 engineer and a scientist that the test
 19 results are reliable?
 20 A. No, I don't.
 21 Q. Why don't you believe that
 22 the test -- the experiments were
 23 scientifically valid?
 24 A. Well, it was -- there were

1 flaws in the experiment in general.
 2 First, it wasn't reproducible. He ran
 3 the same test three times and got two
 4 different results. And his results
 5 deviated from what good science would
 6 tell you was going to happen.
 7 Q. When you say it's
 8 reproducible, what significance, if any,
 9 does that concept play in science?
 10 A. Well, if you are going to
 11 conduct an experiment like this, and you
 12 establish a recipe, or a series of steps
 13 that somebody is supposed to follow, you
 14 would expect to be able to give that to
 15 somebody and make them run the test over
 16 and over and over again and get more or
 17 less the same results the same time.
 18 Reproducibility on tests like this is
 19 very important.
 20 Q. On the question on the test
 21 of -- on the criterion of
 22 reproducibility, does Ewing's experiment
 23 pass that?
 24 A. No, not in my opinion.

1 Q. You say it deviated from
2 what you know about science.

3 A. I forget my exact words, but
4 the results didn't match up with what
5 science would tell you should happen. In
6 particular, if you have -- if you heat
7 something up that has a vapor pressure
8 you would expect the vaporization rate to
9 increase as the temperature goes up.

10 In his experiments he found
11 all kinds of results, which didn't match
12 up with them. He found in some cases the
13 temperature would go up and the
14 vaporization would go down. Those kinds
15 of results cast a lot of doubt to people
16 like me as to whether his experiment was
17 really any good or not.

18 Q. As a scientist, sir, if I
19 said I just did an experiment and I can
20 prove that when I throw a ball up it
21 keeps on going up. Would you press that?

22 MR. MCCLAIN: Your Honor,
23 it's leading.

24 MR. GOUTMAN: Just giving a

1 hypothetical, your Honor.

2 MR. MCCLAIN: I withdraw,
3 your Honor.

4 BY MR. GOUTMAN:

5 Q. If I were to say, Mr.
6 Woodyard, I have a great new discovery.
7 I have just done a test and I throw a
8 ball up and it never comes down. It just
9 keeps on going up. What would you say?

10 A. That it defies basic laws of
11 science. So, of course, it doesn't make
12 any sense. You certainly want to see a
13 lot more background on your experiment.

14 Q. What flaws did you identify
15 in Mr. Ewing's experiment? Perhaps you
16 can resume your seat for now.

17 A. Thank you. First and
18 foremost, for me anyway, even though his
19 experiment was designed to try to
20 simulate conditions in the T&S Building,
21 which makes some sense, he didn't
22 actually simulate conditions from the T&S
23 Building. Most importantly, he never
24 actually ran a test that the temperatures

1 that were known to exist in the ductwork,
2 which is essentially room temperature.

3 Q. In what other ways did those
4 little chambers not reflect the
5 conditions in the T&S Building?

6 A. Well, you already mentioned
7 the sun lamp. There are no sun lamps in
8 the ductwork. A sun lamp is basically a
9 radiant heat device like the sun, which
10 is going to bake something. In this
11 particular instance, for the chamber to
12 get hot, the piece of ductwork has to get
13 hot first, and that's what heats up the
14 air inside the chamber. Probably the
15 best analogy is parking your car out in
16 the sun on a day that seems reasonably
17 nice, 70 or 80 degrees. If you go and
18 touch that car after a couple hours it's
19 hot. It's hotter than you would expect
20 it to be given the air temperature.
21 That's because it's being exposed to the
22 radiant heat.

23 Q. And what other reasons
24 didn't it accurately reflect the

1 conditions in the T&S Building?

2 A. The ductboard samples were
3 about a square foot and they were
4 situated in the -- on stands inside these
5 chambers and the air heated. Aside from
6 the sun lamp heating the fiberglass side,
7 the air in the chamber was also exposing
8 the adhesive along the cut edges of the
9 ductboard, which would not happen in the
10 building. It was a continuous piece of
11 ductboard inside the actual ductwork
12 itself.

13 Q. What would that do?

14 A. That would increase the
15 chance or the opportunity for PCBs to
16 come out of the adhesive. Otherwise,
17 they have to work their way through. If
18 they leave the adhesive at all they have
19 to work their way through the fiberglass,
20 which I think I discussed earlier isn't
21 going to happen.

22 Q. What role does fiberglass
23 usually play? What's its function?

24 A. It's an insulator. It's

1 designed to essentially delay heat.

2 Q. By exposing the cut edge on
3 all six sides to this increased heat,
4 what is that going to do?

5 A. It's going to heat the
6 adhesive up much faster and bring it up
7 to the temperature that the air inside
8 this chamber is at, which is not similar
9 to or consistent with what's going on in
10 the ductwork.

11 Q. What's going on in the
12 ductwork? How many of the six sides of a
13 piece of ductboard are going to be
14 exposed to heat?

15 A. Four sides of the ductwork.
16 You are talking about the cut sides.

17 Q. Let's say this is adhesive
18 ductboard, okay?

19 A. Okay. That looks similar to
20 the exhibit that I used earlier. Mine
21 was prettier.

22 Q. Why don't we get those out.
23 I don't like being insulted like that.
24 Let's get those out.

1 I think earlier, just to
2 shorten things up, you identified this as
3 a schematic, if you will, of a piece of
4 caulk -- a piece of ductboard.

5 A. Yes. That was, by the way,
6 my step one in the improbable state
7 period that PCBs actually left the glue,
8 which they didn't.

9 Q. And this gray would be the
10 aluminum background?

11 A. That depicts the aluminum
12 field on the back of the ductboard.

13 Q. And the red?

14 A. Is the adhesive.

15 Q. Glue?

16 A. Yes.

17 Q. And the yellow is what?

18 A. Is the fiberglass.

19 Q. Now, as this exists in the
20 T&S Building, would the front side, this
21 side side, the bottom where the aluminum
22 foil is, would this side that we can't
23 see and the backside that we can't see,
24 would those five sides be exposed to any

1 heat source?

2 A. No, not directly. Only the
3 top surface, which is the inside of the
4 ductwork.

5 Q. In Ewing's experiment, how
6 many sides were exposed to this increased
7 heat?

8 A. All of them. All six.

9 Q. What's that going to do to
10 your results?

11 A. It's certainly not -- it's
12 going to create a result that is not
13 representative of what's going on in the
14 T&S Building.

15 Q. What other, if any, flaws
16 did you find? Let's back up one second.

17 THE COURT: What is the
18 number of this exhibit?

19 MR. GOUTMAN: I'm sorry.
20 This is 3123 B. DM 3123 B, as in
21 boy.

22 BY MR. GOUTMAN:

23 Q. This aluminum back, did he
24 expose that to heat?

1 A. Yes, sir. That was raised up
2 off the bottom of the chamber.

3 Q. During the normal operation
4 of the HVAC system, would that be exposed
5 to heat?

6 A. No. That's the side that
7 would have actually been exposed to the
8 return air plenum. In other words, the
9 air coming out of the rooms and back into
10 the ventilation system.

11 Q. Now, what, if any, other
12 flaws did you find in this experiment you
13 ran?

14 A. Along the same line. There
15 was no temperature taken of the adhesive
16 or the foil and lost results from the
17 surface temperature of the fiberglass
18 itself. So all we really knew was what
19 the air temperature was inside the room.

20 Q. Was there any temperature
21 taken right here with the foil?

22 A. No, sir.

23 Q. Was there any temperature
24 taken right here with the exposed glue?

1 A. No.
 2 Q. Did he record any
 3 temperatures from the surface where the
 4 sun lamp was beating down on the duct?
 5 A. I think he recorded them and
 6 didn't document the results as part of
 7 the experiment.
 8 Q. He lost them?
 9 A. Correct.
 10 Q. What, if any, significance
 11 does that have that he didn't measure the
 12 temperature at the foil, the temperature
 13 at the glue, and he seems to have lost
 14 the temperatures at the surface?
 15 A. Well, those are temperatures
 16 we are concerned about. It makes the
 17 experimental result incomplete. It's
 18 difficult to draw conclusions that you
 19 can apply to the T&S Building.
 20 Q. What, if any, other flaws
 21 did you find in his experiment?
 22 A. Those were the big ones.
 23 Q. Did he have a protocol?
 24 A. Well, his experiment is used

1 as a foundation, a standard test that was
 2 developed by the American Society of
 3 Testing and Materials, ASDM. It's a test
 4 that's really designed for doing
 5 off-gassing tests at room temperature
 6 essentially. So since he wanted to heat
 7 the ductboard, there was no standard
 8 test, if you will, that he could use. So
 9 he started with that and made some
 10 changes and basically adapted that test
 11 to his purposes.
 12 Q. Was he following then an
 13 established test protocol?
 14 A. Not specifically, no.
 15 Q. And what is your conclusion
 16 about that?
 17 A. Well, since I was a member
 18 of ASDM for many, many years on
 19 committees and I know what the process
 20 involves, a pretty rigorous review by all
 21 the members of test protocols like this.
 22 If you deviate from the test protocol you
 23 essentially do it at your own risk.
 24 There is no peer review that will support

1 you if you decide to, for example, put a
 2 sun lamp inside of your chamber. That's
 3 not part of the ASDM procedure. So he
 4 deviated, and the results are, as I
 5 discussed before, hard to reproduce now.
 6 Q. What problems do you run
 7 into, if any, when you do not follow an
 8 established test protocol?
 9 A. First of all, it can be
 10 difficult to reproduce, as we said
 11 before, which kind of destroys the
 12 validity of it to other scientists.
 13 Q. Was there anything missing
 14 from his test plan or protocol?
 15 A. Well, the test plan that I
 16 saw was relatively general. Most of the
 17 details were missing. I talked about
 18 recipes before. If it were a cooking
 19 recipe, which I'm very familiar with, you
 20 couldn't give it to somebody else and say
 21 here, you know, use this to bake a cake.
 22 There isn't enough information in there
 23 to tell you exactly what to do. He
 24 adapted and changed the plan as he went

1 along rather than following a
 2 step-by-step recipe, as I said.
 3 Q. Did he follow even his own
 4 recipe, his own test plan?
 5 A. No, he didn't. The first,
 6 and as I said before, the most important
 7 deviation to me is that he chose not to,
 8 for whatever reason. Actually, he
 9 tested it at room temperature. Actually
 10 tested trying to mimic the conditions
 11 that existed in the T&S Building. He
 12 instead went immediately to a higher
 13 temperature and never actually went back
 14 and retested it at room temperature,
 15 which would have been the result that I
 16 think is most important to all of us.
 17 Q. Did he originally plan to
 18 test at room temperature?
 19 A. Yes, he did.
 20 Q. Did he?
 21 A. No.
 22 MR. GOUTMAN: Your Honor,
 23 I'm about to start a new subject.
 24 We got about ten minutes left. I

90	92
1 can't complete that subject so I	1 LAWYER'S NOTES
2 suggest we defer it until first	2 PAGE LINE
3 thing in the morning.	3 _____
4 THE COURT: You are	4 _____
5 available tomorrow morning, Mr.	5 _____
6 Woodyard?	6 _____
7 THE WITNESS: Yes, sir.	7 _____
8 THE COURT: We will now then	8 _____
9 adjourn until tomorrow morning at	9 _____
10 9:30.	10 _____
11 THE COURT CRIER: This court	11 _____
12 will stand adjourned until 9:30	12 _____
13 a.m. tomorrow morning. Everyone	13 _____
14 remain seated until the jury	14 _____
15 leaves the room.	15 _____
16 (Court was adjourned at	16 _____
17 approximately 2:20 p.m.)	17 _____
18	18 _____
19	19 _____
20	20 _____
21	21 _____
22	22 _____
23	23 _____
24	24 _____

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1 CERTIFICATE	
2	
3	
4	
5 I hereby certify that the	
6 witness was duly sworn by me and that the	
7 deposition is a true record of the	
8 testimony given by the witness.	
9	
10	
11	
12	
13 _____	
14 Megan McKay, RPR	
15 Dated: March 21, 2000	
16 (The foregoing certification of this	
17 transcript does not apply to any	
18 reproduction of the same by any means,	
19 unless under the direct control and/or	
20 supervision of the certifying shorthand	
21 reporter.)	
22	
23	
24	

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