

1 IN THE COMMONWEALTH COURT OF PENNSYLVANIA

2 PENNSYLVANIA DEPARTMENT OF GENERAL: NO. 284
 SERVICES, PENNSYLVANIA : M.D. 1990
 3 DEPARTMENT OF TRANSPORTATION, :
 PENNSYLVANIA PUBLIC UTILITY :
 4 COMMISSION, PENNSYLVANIA EMERGENCY:
 MANAGEMENT AGENCY, and :
 5 PENNSYLVANIA DEPARTMENT OF STATE :
 Plaintiffs :
 6 Vs. :
 UNITED STATES MINERAL PRODUCTS :
 7 COMPANY, CERTAINTIED CORPORATION, :
 COURTAULDS AEROSPACE, INC., :
 8 CHEMREX, INC., PHILIPS ELECTRONICS:
 NORTH AMERICA CORPORATION, :
 9 ADVANCE TRANSFORMER COMPANY and :
 MONSANTO COMPANY :
 10 Defendants :

11 BEFORE THE HONORABLE CHARLES P. MIRARCHI, JR.

12 March 3, 2000

13 Trial testimony in the above-captioned
 14 matter, held at the Commonwealth Court of
 15 Pennsylvania, City Hall, Courtroom 453,
 16 Philadelphia, Pennsylvania, on Friday, March
 17 28, 2000, at 9:45 a.m., before
 18 John W. Begley, a Registered
 19 Professional Reporter - Notary Public there
 20 being present.

21 ESQUIRE DEPOSITION SERVICES

22 1880 JFK BOULEVARD - 15TH FLOOR

23 PHILADELPHIA, PENNSYLVANIA

24 215 - 988-9191

2 1 APPEARANCES: 2 HUMPHREY, FARRINGTON & MC CLAIN, P.C. 3 BY: KENNETH B. MC CLAIN, ESQUIRE 4 RALPH K. PHALEN, ESQUIRE 5 221 West Lexington - Suite 400 6 Independence, Missouri 64051 7 Phone: 816 - 836-5050 8 Representing the Plaintiffs 9 10 LAW OFFICES OF THOMAS W. HENDERSON 11 BY: THOMAS W. HENDERSON, ESQUIRE 12 One Oxford Center 13 Pittsburgh, PA 15219 14 Phone: 412 - 261-6474 15 Representing the Plaintiffs 16 17 MONTGOMERY, MC CRACKEN, 18 WALKER & RHOADS, LLP 19 BY: JOYCE S. MEYERS, ESQUIRE 20 123 South Broad Street 21 Philadelphia, PA 19109 22 Phone: 215 - 772-7452 23 Representing the Defendant Courtaulds 24 Aerospace, Inc.	4 1 HOYLE, MORRIS & KERR 2 BY: SUSAN K. HERSCHEL, ESQUIRE 3 One Liberty Place - Suite 4900 4 1650 Market Street 5 Philadelphia, PA 19103-7397 6 Phone: 215 - 981-5770 7 Representing the Defendant CertainTeed 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
3 1 WHITE & WILLIAMS 2 BY: THOMAS M. GOUTMAN, ESQUIRE 3 KATHY A. O'NEILL, ESQUIRE 4 WILLIAM YOUNGBLOOD, ESQUIRE 5 One Liberty Place - 18th Floor 6 1650 Market Street 7 Philadelphia, PA 19102 8 Phone: 215 - 864-7000 9 Representing the Defendant Monsanto 10 Corporation 11 12 DANAHER, TEDFORD, LAGNESE & NEAL, PC 13 BY: KENNETH R. NEAL, ESQUIRE 14 Capitol Place 15 21 Oak Street 16 Hartford, Connecticut 06106 17 Phone: 860-247-3666 18 Representing the Defendant U.S. 19 Mineral Company 20 21 22 23 24	5 1 INDEX 2 Testimony of: John P. Woodyard PAGE 3 By Mr. McClain 10 4 By Mr. Neal 137 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

6

1 THE COURT: I received one
2 other bit of information which I think
3 should be important and passed on. Frank
4 was down at the jury selection board and
5 brought back a copy of the notice, the
6 summons to a prospective juror, which
7 contains a qualifying questionnaire, and
8 the first question of the qualifying
9 questionnaire, on the qualifying
10 questionnaire is, "Have you ever been
11 convicted of a crime punishable by
12 imprisonment by more than one year? Yes
13 or no." Now, of course there are other
14 questions that are more innocuous, but we
15 were wondering how the jury selection
16 group handled that issue, and they did,
17 and here's the summons, and, of course,
18 that is signed and sent back, so that
19 question was asked of her when she was
20 summoned for jury duty.
21 MS. MEYERS: How is a person
22 supposed to know whether the crime is
23 punishable by imprisonment for more than
24 one year when she only got probation?

7

1 THE COURT: I'm not disputing;
2 we were concerned about whether she knew
3 to answer that question.
4 By the way, she didn't
5 realize, I think, that having gotten
6 probation she was per se guilty in a
7 criminal sense. She got money; she had to
8 pay it back. She had to make restitution.
9 She was doing that. But I'm not
10 representing her; merely supposing.
11 MS. HERSCHEL: So the
12 assumption is, Your Honor, that she
13 answered that question no when she filled
14 it out and sent it back?
15 THE COURT: Right. We didn't
16 pull her file to see if she answered no,
17 although that might be interesting, to see
18 how she answered it.
19 MR. EDGE: I could find out,
20 Judge.
21 THE COURT: I think that would
22 be a good thing to look into, Frank.
23 Because she if answered it yes, it raises
24 all kinds of interesting magillas.

8

1 MR. NEAL: We can call her up
2 and have her come back.
3 THE COURT: She called here
4 this morning.
5 MR. NEAL: Is that right?
6 THE COURT: She wanted a
7 letter about returning to work. So I just
8 wanted to introduce you to this additional
9 document that we did not have yesterday.
10 MR. GOUTMAN: I appreciate it,
11 Your Honor.
12 MR. EDGE: And that's the main
13 one. That goes to the house. Everybody's
14 house.
15 THE COURT: Which gives them
16 the date that they are supposed to report
17 for jury duty.
18 Who do we --
19 MR. MC CLAIN: Woodyard.
20 THE COURT: Any questions?
21 MR. GOUTMAN: No. We have a
22 different witness today. Mr. Hirsh had to
23 return to Harrisburg, so Mr. Woodyard is
24 back from Chicago.

9

1 THE COURT: As soon as we know
2 that all of the jurors are in we will
3 start.
4 MR. MC CLAIN: Are they here,
5 Frank?
6 MR. EDGE: No, we need two
7 more.
8 In the name of the
9 Commonwealth of Pennsylvania this
10 Commonwealth Court is now declared open,
11 the Honorable Charles P. Mirarchi, Jr.,
12 presiding. Please be seated.
13 Good morning, Your Honor.
14 THE COURT: Good morning.
15 (Jury responds good morning).
16 THE COURT: Mr. Goutman.
17 MR. MC CLAIN: I'm in the
18 middle of my Cross with Mr. Woodyard, I
19 believe.
20 MR. GOUTMAN: With agreement
21 of counsel, Your Honor, I'm going to
22 explain to the jury that Mr. Hirsh had to
23 return to Harrisburg, so Mr. Woodyard is
24 back on the witness stand. He was in the

10 1 middle of Cross some time ago, so 2 Mr. Woodyard is back. 3 MR. EDGE: Just state your 4 full name for the record, sir. 5 THE WITNESS: John P. 6 Woodyard. 7 MR. EDGE: I remind you that 8 you are still under oath. 9 --- 10 JOHN P. WOODYARD, recalled. 11 --- 12 BY MR. MC CLAIN: 13 Q. Just in case you didn't hear 14 that, somebody said, Mr. Woodyard, who's on 15 first and I said Woodyard. That was the 16 joke. 17 Good morning, ladies and 18 gentlemen. 19 (Jury responds good morning) 20 Good morning, Mr. Woodyard. 21 A. Good morning. 22 Q. Welcome back. 23 There was something that I 24 looked into while you were away. You had	12 1 MS. HERSCHEL: Mr. McClain, 2 can you tell us what -- 3 MR. MC CLAIN: Page five. 4 MS. HERSCHEL: -- page? 5 MR. MC CLAIN: Five. 6 BY MR. MC CLAIN: 7 Q. Do you remember this language, 8 Mr. Woodyard? The abrupt U.S. PCB ban. 9 A. You are pointing where? I'm 10 sorry. 11 Q. Five. 12 A. Yes, sir. 13 Q. And do you remember telling me, 14 sir, in your testimony that the term abrupt 15 U.S. ban is not something I think I would 16 have written? 17 A. That's right. 18 Q. And you told me that the way 19 that I could check on that, you said at page 20 125 again you said, "I would not have used a 21 term like abrupt U.S. PCB ban because there 22 wasn't an abrupt U.S. PCB ban." Do you see 23 that? 24 A. Yes, sir.
11 1 said in your testimony, when I was examining 2 this book with you, that it had been changed 3 to a black edition, and so I got from my 4 local library on inter-library loan, I'm 5 sorry, I didn't buy another copy, a copy of 6 your black edition of this book. Do you 7 remember the discussion you and I had last 8 time you were here about the blue edition and 9 black edition? 10 A. Yes, sir, I do. 11 Q. And you told me at that time 12 that an editor had snuck some words in this 13 book. Do you remember that discussion? 14 A. Yes. I believe I said that the 15 books weren't the same. I couldn't recall 16 exactly where the changes were, but there 17 were some odd things that some editors had 18 done. 19 Q. Well, particularly what you told 20 me was that a phrase that I had pointed out 21 to you in this book, "The abrupt U.S. PCB ban 22 in 1976 was partly motivated by the discovery 23 of widespread low level PCB contamination 24 world wide."	13 1 Q. And so I went and looked in your 2 black book that you told me was the correct 3 edition of the book. Confirm for me, if you 4 would, that in the black book as well you 5 say, "The abrupt U.S. PCB ban in '76 was 6 partly motivated by the discovery of 7 widespread, low level, PCB contamination 8 world wide." 9 A. That's correct. 10 THE COURT: What page was 11 that? 12 MR. MC CLAIN: That's page 13 five of his black edition, Your Honor. 14 THE COURT: The same 15 numerical -- 16 MR. MC CLAIN: The same page. 17 BY MR. MC CLAIN: 18 Q. And so when you told the jury 19 when you were here on February second that 20 you would not have used that word that was 21 not correct; am I right? 22 A. That's right. I was mistaken. 23 Q. You did, in fact, use it in both 24 editions.

14 1 A. Yes, sir. 2 Q. Now, the subject, of course, was 3 that PCBs were banned because of discovery of 4 widespread low level PCB contamination world 5 wide; am I right? 6 We should have pulled out the 7 big boards. 8 A. No, I should have worn my 9 bifocals today. 10 Yes, that's correct. 11 Q. And that is true today, isn't 12 it? We have a world wide low level PCB 13 contamination problem world wide. That's 14 true? 15 A. No, that's not correct. 16 Q. That's what you wrote. 17 A. There is evidence of PCB, 18 extremely low level PCB contamination in the 19 environment. 20 Q. World wide. 21 A. Throughout the world, yes. 22 Characterizing it as a problem is incorrect. 23 It is well below any levels that people 24 consider harmful to human health.	16 1 recommendation based upon NIOSH's 2 recommendation that the one clean-up standard 3 be used. The one microgram clean-up 4 standard. Do you remember that discussion? 5 MR. GOUTMAN: Objection, Your 6 Honor. That was not the record. I would 7 like to go to side bar so as not to make a 8 speaking objection. 9 (Side bar discussion) . 10 THE COURT: Let's try here. 11 MR. GOUTMAN: Your Honor, the 12 sequence, and I reviewed this last night, 13 the sequence of the testimony of 14 Mr. Woodyard the last time he was here, it 15 seems a while ago, but I did review the 16 testimony, and that was that he was shown 17 a document from NIOSH dating from 1995 18 recommending that the Department of Health 19 decide whether they wanted to follow the 20 NIOSH level or the EPA level, and then he 21 was shown a document from one year earlier 22 from DGS to the Department of Health 23 saying will you give us a recommendation. 24 That was one year earlier. Plaintiff's
15 1 Q. And it is a manufactured 2 problem, isn't it? In other words, it didn't 3 occur naturally. It was manufactured by a 4 company; am I right? 5 A. No, again, it is not a problem. 6 The PCBs, in fact, were manufactured by a 7 company. The fact that they are widespread 8 is due to releases, to mismanagement, to a 9 number of other things that we don't quite 10 understand. 11 Q. And it's not a natural process, 12 is it? 13 A. The process of a material like 14 that moving into the environment is certainly 15 a natural process. 16 Q. The manufacture of this material 17 was not a natural process, was it? 18 A. No, it is a synthetic product. 19 Q. All right. When we broke we had 20 looked, we had been looking at a series of 21 documents. We were talking about the 22 Commonwealth's use of the NIOSH clean-up 23 standard, and I think that when we broke we 24 were dealing with the Department of Health's	17 1 counsel's question now says that the 2 Department of Health was making a 3 recommendation as suggested by NIOSH. 4 He's got the years backwards. 5 MR. MC CLAIN: I'm sorry, but 6 you are not correct. Here's the letter 7 that, the Department of Health letter, and 8 it says, "After consultation with NIOSH we 9 have reviewed available PCB information 10 from numerous sources and are able to 11 recommend, NIOSH recommends that 12 occupational exposures can be used", so it 13 is all here to -- 14 MR. GOUTMAN: No, in reference 15 to that that is accurate. 16 MR. MC CLAIN: That's where 17 I'm going. 18 MR. GOUTMAN: I didn't 19 understand that to be the reference in 20 your question. 21 MR. MC CLAIN: Thank you. 22 MR. GOUTMAN: I withdraw my 23 objection. 24 BY MR. MC CLAIN:

1 Q. Mr. Woodyard, we were talking
2 about a letter that I will hand you again.
3 Counsel, it is Exhibit 3524. I'm sorry that
4 I didn't -- I gave you a copy last time and
5 I hope you still have it.

6 MR. GOUTMAN: Yes, I do,
7 Mr. McClain.

8 MR. MC CLAIN: Because I'm
9 going to put it up on the screen. You can
10 see it that way, too.

11 THE COURT: Is that a Monsanto
12 or, 3524 or was that --

13 MR. MC CLAIN: Penn. Penn,
14 Your Honor.

15 Your Honor, I will hand you
16 the other copy and I will maybe ask
17 Mr. Woodyard to step down.

18 BY MR. MC CLAIN:

19 Q. I'm sorry, Mr. Woodyard. That
20 may be inconvenient, but did I give you a
21 copy?

22 A. Yes.

23 Q. If you can back that up,
24 Mr. Henderson, so I can read it and then

1 able to recommend that the Commonwealth
2 follow the same recommendation issued by
3 NIOSH relating to potential PCB exposure to
4 workers and the public in air and on work
5 place surfaces."

6 Isn't that right?

7 A. Yes, sir.

8 Q. Go down, Mr. Henderson, would
9 you, to the NIOSH recommendation?

10 MR. HENDERSON: You can still
11 call me Tom.

12 BY MR. MC CLAIN:

13 Q. "NIOSH recommends that
14 occupational exposure to PCBs be reduced to
15 the lowest feasible level results of several
16 investigations of PCB surface contamination
17 in office buildings indicate that there's a
18 background level of surface contamination in
19 the range of .5 to one micrograms per 100
20 square centimeters; therefore, for surfaces
21 in the occupational environment that may be
22 routinely contacted by unprotected skin,
23 NIOSH investigators have recommended that PCB
24 contamination not exceed one microgram per

1 because I have given all of my copies away.
2 If you can focus it for us, bring it up
3 larger and focus it.

4 Your Honor, can we get some
5 courses on running this thing for
6 Mr. Henderson? Is that something The
7 Court's budget would allow?

8 THE COURT: I think it would
9 fit into the budget. I thought he was
10 doing well.

11 MR. MC CLAIN: It is
12 illegible. I have to do everything.

13 BY MR. MC CLAIN:

14 Q. This is the letter from Dr.
15 Noonan, the medical doctor, MPH, that was the
16 head of the Pennsylvania Department of Health
17 back in 1994; am I right?

18 A. Yes, sir.

19 Q. And he says, in response to the
20 question from the Department of General
21 Services and Department of Transportation,
22 "After consultation with NIOSH, we have
23 reviewed available PCB information from a
24 number of sources, NIOSH, OSHA, EPA, and are

1 100 square centimeters, the lowest feasible
2 level considering background contamination."

3 That was the recommendation that
4 the Department of Health made in 1994; isn't
5 that true?

6 A. Yes, sir.

7 Q. And it is true, isn't it, that
8 they copied the other persons in the
9 Department of Health: Dr. Noonan, Mr. Hersh,
10 Dr. Logue, and the legislative offices, etc.;
11 am I right?

12 A. Yes, sir.

13 Q. This appears to be Dr. Hersh's
14 copy of the document because it is checked;
15 right?

16 A. Yes. That's correct.

17 Q. And from that time on, 1994, as
18 far as you know, that was the standard that
19 was put in place in the Transportation &
20 Safety Building; am I right?

21 A. No, actually that's incorrect.

22 That's the recommendation that was provided
23 in 1994.

24 Q. Yes.

1 A. Internally.
 2 Q. Yes.
 3 A. It wasn't until 1995 that NIOSH
 4 even provided a formal recommendation or
 5 feedback to the state. During that
 6 two-and-a-half year period, up until the
 7 clean-up, even though the Department of
 8 Health had adopted this in a memo, they never
 9 actually adhered to that standard. They
 10 continued to operate, occupy the building at
 11 levels as high as ten micrograms.
 12 Q. There were a number of things
 13 that were done, but from 1994 on the
 14 recommendation of the Department of Health
 15 was a one microgram standard; am I right?
 16 That was the Department of Health's
 17 recommendation from that time on; am I right?
 18 A. That was the recommendation they
 19 wrote. That wasn't the standard that they
 20 followed.
 21 Q. Did the Department of Health
 22 ever vary from the one microgram standard, as
 23 far as you know?
 24 A. Absolutely. The building, as we

1 have seen from the data, had levels on
 2 average between one and ten micrograms on
 3 every floor. The Department of Health
 4 continued to occupy the building.
 5 Q. Show me any place where the
 6 Department of Health ever made a different
 7 recommendation besides this, Mr. Woodyard.
 8 Do you have a document?
 9 A. No, I'm not claiming that at
 10 all; I'm just saying that they wrote this
 11 down and they didn't abide by it.
 12 Q. Well, I don't want to argue with
 13 you. My question is very specific. This was
 14 the recommendation of the Department of
 15 Health in 1994; am I right?
 16 A. Yes, sir.
 17 Q. And that continued to be the
 18 recommendation until the building was
 19 evacuated; am I right?
 20 A. Yes, it was, in writing, but not
 21 in practice.
 22 Q. Now, you mentioned your belief
 23 that the NIOSH standard should only be
 24 applied to transformer fires; am I right?

1 A. I don't recall my exact
 2 language, but I characterized it as being
 3 something that I had only experienced in my
 4 many years of work in transformer fire
 5 situations. Never in a PCB release of any
 6 kind.
 7 Q. Have you read doctor -- you know
 8 who Dr. Melius is, don't you?
 9 A. Yes, I'm familiar with him.
 10 Q. And you know that he is a
 11 recognized PCB health expert in the field?
 12 MR. GOUTMAN: Objection, Your
 13 Honor. He's trying to requalify one of
 14 his own witnesses. I don't think that's
 15 appropriate through this witness.
 16 MR. MC CLAIN: No, I'm not.
 17 I'm just asking him whether he knows about
 18 Dr. Melius.
 19 MR. GOUTMAN: I don't think it
 20 is an appropriate question.
 21 THE COURT: The question is is
 22 he, not that he knows that he is, so you
 23 may, the objection is sustained, and you
 24 may rephrase the question.

1 BY MR. MC CLAIN:
 2 Q. You know Dr. Melius.
 3 A. Yes, I'm familiar with him.
 4 Q. Are you familiar with his
 5 qualifications?
 6 A. I am familiar with him having
 7 encountered him on some transformer fires.
 8 Q. He has been involved in some
 9 expert panels on some of these buildings?
 10 A. At least one that I know of.
 11 Q. And you know that he's well
 12 known throughout the regulated community that
 13 deals with PCBs; am I right?
 14 MR. GOUTMAN: Objection. This
 15 is counsel testifying on behalf of his own
 16 expert.
 17 THE COURT: Sustained.
 18 BY MR. MC CLAIN:
 19 Q. And has he been active in the
 20 issue of PCB contamination in buildings?
 21 A. His participation on projects
 22 that I'm familiar with has always been
 23 related to dioxins and furans, these
 24 combustion by-products that we talked about

1 before that are caused when transformer fires
2 occur. PCBs are also involved in these
3 projects, but the standard is typically set
4 for the dioxins and furans, so whether or not
5 he has any knowledge of PCBs is almost
6 irrelevant in these cases.

7 Q. Have you reviewed his testimony
8 in this case?

9 A. I may have. It has been a
10 while.

11 Q. Let me see if this refreshes
12 your recollection whether you have seen this
13 before.

14 MR. GOUTMAN: Can we approach,
15 Your Honor?

16 THE COURT: Yes.

17 (Side bar discussion).

18 MR. GOUTMAN: Your Honor, it
19 is improper to attempt to impeach one
20 side's expert witness by reading the
21 testimony of another side's expert. It's
22 not an authoritative treatise. It is not
23 appropriate impeachment. He can't take
24 out and regurgitate his case in chief and

1 you can't just read your case in chief and
2 say do you agree or disagree with this.
3 That is improper.

4 MR. MC CLAIN: This is Cross
5 examination.

6 MR. GOUTMAN: It is improper
7 Cross examination.

8 MR. MC CLAIN: This is already
9 in the record.

10 MR. GOUTMAN: It doesn't
11 matter.

12 MR. MC CLAIN: This is already
13 in the record, Your Honor. The jury has
14 already heard it. The question I have
15 asked is not improper.

16 THE COURT: No, but it is. I
17 think what I'm hearing is that the
18 repetition of that testimony is giving
19 more substance to that testimony than what
20 the jury may give to it when they have an
21 opportunity to deliberate, whereas that is
22 not a factual situation that is adopted
23 completely, but it is a position that the
24 jury may find to exist, and therefore The

1 say do you agree with it or disagree with
2 it.

3 MR. MC CLAIN: He states that
4 the NIOSH standard only should be applied
5 in transformer fires. Dr. Melius offered
6 testimony contrary to that. I want to
7 know why he is the only one that thinks
8 that this only applies to transformer
9 fires.

10 MR. GOUTMAN: You can't do it
11 that way.

12 MR. MC CLAIN: You can do it
13 that way.

14 MR. GOUTMAN: You can't put on
15 your case again by reading your case in
16 chief to my witnesses and say, Do you
17 disagree or agree with that? This witness
18 already said that he views Dr. Melius's
19 qualifications in a very limited area. If
20 you want to show him one of Dr. Melius's
21 treatises or articles that he has written,
22 he hasn't written many, but if you want to
23 show him one and ask if this witness
24 believes it is authoritative, fine, but

1 Court sustains the objection.

2 BY MR. MC CLAIN:

3 Q. Do you know that both Dr. Melius
4 and Dr. Lemen --

5 MR. GOUTMAN: Objection, Your
6 Honor. He is about to repeat -- I think this
7 Court has ruled on that. I object.

8 THE COURT: I don't know what
9 the question is yet.

10 MR. GOUTMAN: Well, I think
11 the question is the problem.

12 MR. MC CLAIN: No, it is not
13 and I object to being interrupted on every
14 single question.

15 MR. GOUTMAN: Your Honor, if
16 counsel --

17 MR. MC CLAIN: It is not
18 appropriate. I didn't even ask a question
19 yet.

20 MR. GOUTMAN: Your Honor, that
21 kind of comment should be made at side bar
22 and counsel knows it.

23 MR. MC CLAIN: Your Honor, I'm
24 frustrated.

1 THE COURT: We are going to
2 take a brief recess, Frank.

3 MR. EDGE: This Court will
4 take a recess to the call of the crier.

5 MR. HENDERSON: Off the
6 record.

7 (Off the record discussion)

8 MR. MC CLAIN: Judge, it has a
9 horrible disruptive effect on my ability
10 to ask questions before I can even get the
11 question out to be interrupted with an
12 objection. I understood your ruling at
13 the bench and I wasn't going to ask the
14 question you told me not to ask. He's had
15 to withdraw one objection so far that has
16 disrupted it and I don't want to come to
17 the bench before I ever ask a question
18 each time.

19 THE COURT: First of all, we
20 called a recess because it was getting a
21 little bit personal, and Mr. McClain had
22 not asked an improper question at that
23 point. It was a supposition on
24 Mr. Goutman's part that he might ask an

1 improper question. The Court can't assume
2 that it is an improper question.

3 MR. HENDERSON: Of course not.

4 THE COURT: That's what we are
5 getting to.

6 MR. HENDERSON: The broader
7 question is that this is disruptive and,
8 frankly, based on what I have seen the
9 last few days, including this morning, I
10 think it is a strategy not to permit
11 Mr. McClain to finish his questions, not
12 to permit him to continue to effectively
13 Cross examine the witness. It happened
14 yesterday and it has already happened
15 three times this morning.

16 MR. GOUTMAN: Your Honor, I'll
17 leave aside that personal attack that I'm
18 strategically and improperly trying to
19 disrupt any Cross examination. I make
20 objections when I believe that a question
21 has evidentiary problems with it. The
22 Court, indeed, has sustained my
23 objections. I think I have made three
24 objections. I withdrew one because I was

1 uncertain, asked to approach side bar
2 because I wasn't certain as where
3 Plaintiff's counsel was going and I didn't
4 want to make a speaking objection. The
5 second objection was sustained and I
6 thought that counsel was going to ask a
7 question in derogation of The Court's
8 earlier ruling. If that is a false
9 supposition I certainly apologize, but I
10 believe that the record will be clear that
11 counsel has asked, on any number of
12 occasions, questions that were
13 objectionable and The Court sustained the
14 objection. It is certainly my obligation
15 to my client to raise those objections
16 when I deem appropriate. What I object to
17 is when counsel, in open Court, makes a
18 speech in which he accuses me of
19 attempting to disrupt, in open Court
20 before the jury, attempting to disrupt his
21 Cross examination. If he feels that it
22 should be made to The Court; not to the
23 jury, and I object to that. And there's
24 no excuse for it, Your Honor.

1 MR. MC CLAIN: Yes, there is
2 an excuse for it and let me tell you how
3 it develops, Mr. Goutman, just so you can
4 understand. What happened was that you
5 stood up and started to object in the
6 middle of my question and The Court said
7 he hasn't even got his question out to you
8 and you began making a further explanation
9 of your objection. You didn't ask to come
10 to side bar, and that then required me to
11 respond where I was standing, so these
12 improper statements that you make, you
13 accuse me of, are invited by the way that
14 you are approaching this thing and making
15 objections, and the problem is that it
16 is disruptive of my examination. Whether
17 you mean to do it or not it is and it
18 continues to be. It is on every witness.
19 And so it leaves me a bit frustrated in
20 representing my client, on a witness that
21 I believe is very vulnerable to Cross
22 examination. It concerns me and it
23 concerns me that every question I have
24 asked this morning you asked to approach

1 side bar on.

2 MR. GOUTMAN: That's
3 inaccurate and The Court knows that that
4 statement is inaccurate. In any event, I
5 mean, counsel has perhaps asked 70
6 questions and I have made three
7 objections. In any event, Your Honor, I
8 anticipated, perhaps wrongly, the question
9 and The Court was correct in noting that.
10 We shall now hear the question. My fear
11 was that we were going to get isn't it
12 true that Dr. Melius and Dr. Lemen said
13 that and that was the gist of The Court's
14 ruling, but perhaps I was too quick at the
15 trigger, and that would be the only
16 problem.

17 MS. HERSCHEL: And in that
18 instance, Your Honor, one of the problems
19 is with the jury hearing that question,
20 especially after the colloquy that we just
21 had at side bar.

22 THE COURT: The Court doesn't
23 presume that counsel is going to ask an
24 improper question. The Court can't assume

1 that. And The Court does regret when
2 counsel, both counsel, this isn't
3 earmarked to any one person, makes
4 improper personal charges against another
5 attorney. There's no place for it. And
6 each of you are, I think, among the top
7 attorneys and consequently it would not
8 behoove you to reduce yourselves to
9 personal attacks. Doing so in front of
10 the jury is certainly improper.

11 The length of this trial
12 undoubtedly has caused some testiness to
13 develop from time to time, and that's not
14 inconceivable, but by the same token, we
15 have to be more on guard. Ergo, we will
16 not have argument in front of the jury on
17 any issue. That's why The Court calls the
18 side bar, to give each an opportunity to
19 explain their position out of the presence
20 of the jury so that we don't infuse the
21 jury with information that they should not
22 be privy to or consider when they do
23 deliberate.

24 Unless there is a real serious

1 objection, it would be best to permit the
2 Cross examination to proceed without
3 interruption, although if there's a vital
4 reason for objection The Court is
5 certainly not curtailing the rights of
6 counsel to protect the interests of their
7 client.

8 MR. GOUTMAN: Well, Your
9 Honor --

10 THE COURT: That works both
11 sides.

12 MR. GOUTMAN: Well, Your
13 Honor, I believe that many of Plaintiff's
14 counsel's questions and Cross examination
15 of our witnesses has been improper and I
16 will, as I think I must, in obligation to
17 my client, continue to object rightly and
18 appropriately, and I certainly don't view
19 anything that The Court has said
20 suggesting otherwise, and I certainly have
21 no intent and do not want to simply make
22 an objection for the purpose of
23 disruption. Thank you.

24 THE COURT: Anything further?

1 MR. MC CLAIN: No, Your Honor.

2 THE COURT: Okay. Let's bring
3 the jury back.

4 MR. EDGE: You may be seated.
5 This Court is back in session.

6 THE COURT: Mr. McClain.

7 MR. MC CLAIN: Your Honor,
8 Mr. Edge moved this TV up and my mother
9 would never let me watch TV this close.

10 MR. EDGE: It is bad for your
11 eyes.

12 MR. MC CLAIN: It is bad for
13 your eyes, so we will move it back with
14 his assistance. Now he has unplugged it.

15 BY MR. MC CLAIN:

16 Q. Mr. Woodyard, just one last
17 question on this area. Do you know whether
18 or not Dr. Melius was ever employed by NIOSH?

19 A. Yes, he was.

20 Q. And do you know whether Dr.
21 Lemen was employed by NIOSH?

22 A. I don't know.

23 Q. And just to remind us, were you
24 ever employed by NIOSH?

1 A. No, sir.
 2 Q. Now, let's go to the next area,
 3 an area that you talked about, and that was
 4 loosely defined an analysis of fireproofing
 5 bulk samples. That's contained in your
 6 report.
 7 A. Yes, sir.
 8 Q. Table five. Do you have your
 9 report with you?
 10 A. Yes, I do. Just a second.
 11 A. What page is that on? I'm
 12 sorry.
 13 Q. The table is at page 32, but I
 14 want to first discuss the narrative that you
 15 supplied in your report, if we might.
 16 A. Okay.
 17 Q. You state here in the narrative
 18 finally, samples of asbestos debris --
 19 THE COURT: Mr. McClain, what
 20 page? Excuse me.
 21 MR. MC CLAIN: I'm sorry, Your
 22 Honor. It is page 31, I believe. Do I
 23 have the correct page?
 24 MS. HERSCHEL: Yes.

1 BY MR. MC CLAIN:
 2 Q. Page 31. It says -- have you
 3 found it, Your Honor?
 4 THE COURT: Yes.
 5 MR. MC CLAIN: It is the
 6 paragraph beginning "finally".
 7 BY MR. MC CLAIN:
 8 Q. "Finally, samples of asbestos
 9 debris were collected before the fire by
 10 Ewing and analyzed recently for this report."
 11 You now know that statement to
 12 be in error, do you not, Mr. Woodyard?
 13 A. Yes, sir, Mr. Goutman indicated
 14 to me at the time that Mr. Ewing, or at least
 15 he thought Mr. Ewing was employed by Law
 16 Engineering, the people that actually took
 17 the samples.
 18 Q. So this information in your
 19 report came from Mr. Goutman; is that right?
 20 A. No, what came from Mr. Goutman
 21 was the identification of Mr. Ewing as the
 22 sampler.
 23 Q. Right. You got that information
 24 that the samples of asbestos debris were

1 collected before the fire by Ewing from Mr.
 2 Goutman; is that right? Mr. Goutman gave you
 3 that information.
 4 A. Yes, that's correct.
 5 Q. And you relied upon the
 6 information that he gave you; am I right?
 7 A. The information as to who took
 8 the samples of my analysis of the data.
 9 Q. You put it in your report,
 10 didn't you?
 11 A. Yes, but I didn't use it as a
 12 basis for looking at the data and deciding
 13 what it meant.
 14 Q. And it was incorrect, wasn't it?
 15 A. Yes, that's true, it was not
 16 Mr. Ewing; it was Law Engineering.
 17 Q. And that information came from
 18 Mr. Goutman is my only point.
 19 A. That's correct.
 20 Q. And what you now know is that
 21 Mr. Ewing did not take however many samples
 22 that you have in this report. What is it; 24
 23 samples before the fire; am I right?
 24 A. I believe it is 28.

1 Q. He only took six before the
 2 fire; am I right? Ewing, that is.
 3 A. That's correct. The samples
 4 that are on the table aren't Mr. Ewing's
 5 samples.
 6 Q. So when you say, "These samples
 7 presumably represent 'outer' fireproofing
 8 that fell on the top of the ceiling tiles
 9 over a period of years", that, too, may be
 10 incorrect.
 11 A. It is possible. That's correct.
 12 Q. You have no real idea whether or
 13 not these are outer fireproofing samples that
 14 fell on top of ceiling tiles over the years
 15 either, are you?
 16 A. No, I am certain they are not
 17 samples that fell on to ceiling tiles. What
 18 is possible is that they still are outer
 19 samples. I don't know that.
 20 Q. You have don't know one way or
 21 the other.
 22 A. That's correct.
 23 Q. But at the time that's what you
 24 reported because you had received some

1 information from Mr. Goutman that they were
2 debris samples collected by Ewing; am I
3 right?

4 A. No, Mr. Goutman simply
5 identified Mr. Ewing as the sampler and
6 Mr. Ewing's report or testimony, somewhere he
7 described where he had collected his samples
8 and I was the one who made that connection
9 and included that information in my report.

10 Q. But the samples that actually
11 were -- actually, you don't even know whether
12 they were asbestos debris samples, do you?

13 A. The samples that were
14 collected --

15 Q. The samples that were analyzed
16 here, you don't know that they were debris
17 samples.

18 A. No, I know they were asbestos
19 samples.

20 Q. And you don't know whether they
21 are outer or inner samples, do you?

22 A. As I said, they are asbestos
23 samples. They could well be outer. I'm sure
24 they are not inner samples.

1 Q. Do you know?

2 A. Absolutely.

3 Q. How?

4 A. Because they were collected by
5 Law Engineering as part of an asbestos
6 survey. I have never seen anyone do an
7 asbestos survey where they scraped away the
8 outer fireproofing to sample inner
9 fireproofing except in this case where you
10 are looking for something other than
11 asbestos.

12 Q. Isn't it true that the way you
13 take samples, bulk samples of material,
14 Mr. Woodyard, I'm sorry, I was going to say
15 Hirsh but you are not him, isn't the way that
16 you take fireproofing samples that you take a
17 container, at least one of the ways you do
18 it, you take a container and press it into
19 the fireproofing and turn it?

20 A. That's one way

21 Q. That's one way that can include
22 both the surface layer of fireproofing and
23 material interior; am I right?

24 A. That's true.

1 Q. And so you don't know in this
2 case how the samples were taken, how deep
3 they took the samples, or anything else
4 because you never interviewed anyone from Law
5 Engineering about what they did; isn't that
6 right?

7 MR. GOUTMAN: Objection.

8 That's a compound question, Your Honor.

9 THE COURT: Overruled.

10 THE WITNESS: It is true that
11 I didn't interview anybody from Law to
12 find out exactly how they took the
13 samples. That's correct.

14 BY MR. MC CLAIN:

15 Q. And you had assumed that,
16 because you had reviewed Ewing's testimony
17 and what he collected was debris samples,
18 that this would be outer samples of
19 fireproofing; am I right?

20 A. That's what I stated in my
21 report, that's correct.

22 Q. It may not be true. You just
23 don't know.

24 A. That's correct.

1 Q. And you now know that these are
2 samples that were collected by Law and they
3 then went through a laboratory called Gannett
4 Fleming; isn't that true?

5 A. I went through a lab called
6 Gannett Fleming? I'm sorry.

7 Q. Didn't the samples, didn't the
8 samples go from Law Engineering, who
9 collected them, to a company called Gannett
10 Fleming, a laboratory that you are aware
11 exists?

12 A. Yes, I believe you are right.

13 Q. And from that laboratory then
14 they were sent to Mr. Goutman and then to
15 you; am I right?

16 MR. GOUTMAN: Objection, Your
17 Honor.

18 MR. MC CLAIN: Let me clarify.
19 The samples were sent from my office, from
20 Gannett Fleming -- wait. From Gannett
21 Fleming to my office to Mr. Goutman to
22 you; am I right?

23 THE WITNESS: Almost.

24 MR. MC CLAIN: Is that the

1 clarification you wanted, Mr. Goutman?

2 MR. GOUTMAN: Thank you.

3 MR. MC CLAIN: You are
4 welcome.

5 THE WITNESS: Yes, they were
6 sent to you, to Mr. Goutman, who in turn
7 sent them directly to the laboratory that
8 he was using. He didn't send them to me.

9 BY MR. MC CLAIN:

10 Q. So you have no ownership in that
11 laboratory; am I right?

12 A. That's correct.

13 Q. And you didn't receive the
14 samples at the laboratory, did you?

15 A. No, I did not.

16 Q. Did the samples arrive with a
17 cover letter or any instruction to the
18 laboratory about how they were to be
19 analyzed?

20 A. No, I believe the samples were
21 simply transmitted with a one or two line
22 transmittal letter, I suspect.

23 Q. Did you ever see it? Did you
24 ever that transmittal letter?

1 A. No, I don't think so.

2 Q. So you don't know whether there
3 was a transmittal letter or not.

4 A. No, what happens is that when
5 the laboratory received the samples they
6 called me, as they should, not knowing where
7 they came from, and asked what should be done
8 with those samples.

9 Q. Meaning that they knew that if
10 they came from Mr. Goutman they should call
11 you?

12 A. Yes. There had been other
13 sample transmittals. Somehow the samples
14 were probably identified as being from White
15 & Williams.

16 Q. So the laboratory, seeing that
17 they are from White and Williams, would
18 naturally know to call you; is that what you
19 are saying?

20 A. Yes, sir.

21 Q. And do you recall that they did
22 call you?

23 A. Yes, sir.

24 Q. Let me show you a copy of the

1 sample results that were supplied to us,
2 4009.

3 Now, this is the chart that is
4 in your report, Table 5.

5 This is at page 32, Your Honor.
6 I'm going to show this chart first.

7 THE COURT: Fine.

8 BY MR. MC CLAIN:

9 Q. And this chart comes from, at
10 least in part, from this document; am I
11 right? Exhibit 4009.

12 A. The analytical -- I didn't look
13 through the whole document. The analytical
14 results do, that's correct.

15 Q. And the descriptions that are
16 contained on these also come from Exhibit
17 4009, don't they?

18 A. The sample numbers?

19 Q. Sample numbers and the
20 descriptions about the locations of the
21 samples or did you have another source of
22 information for them?

23 A. The sample numbers, yes, are on
24 these documents. The sample description of

1 where it came from I believe I would have
2 taken off of the actual labels that came with
3 the bags of asbestos to the laboratory.

4 Q. And they are in the back there
5 as well, are they not?

6 A. Okay. I'm sorry. Yes, they
7 are.

8 MR. MC CLAIN: Now, Your Honor,
9 I move into evidence exhibit 4009.

10 THE COURT: Admitted.

11 BY MR. MC CLAIN:

12 Q. Now, let's show the jury those,
13 if we can. We have blown those labels up
14 that are part of 4009. Let's get those out.

15 Now, here's the sample log.

16 Your Honor, this is this page
17 from the exhibit. (Indicating).

18 THE WITNESS: Okay.

19 BY MR. MC CLAIN:

20 Q. This is the form that relates to
21 the samples that are here on top; am I right?
22 (Indicating).

23 A. I'm sorry. Show me again.

24 Q. This document. (Indicating).

1 A. Yes, sir, the three digit
2 numbers that are, what I will call the 400
3 series --
4 Q. 400 series.
5 A. That's correct.
6 Q. And on those there is no
7 description about where they came from at
8 all; am I right?
9 A. That's correct.
10 Q. And so not only on those samples
11 do we not know whether they are inner or
12 outer samples, you don't even know what
13 floors they came from; am I right?
14 A. That's correct.
15 Q. In fact, this document in the
16 corner, the one that we were just looking at,
17 we blew that up and it says labels 001
18 through 014 used oldest date of 6/6/92. No
19 date available on label; am I right?
20 A. That's correct.
21 Q. So there was no date available
22 on those labels either; right? On the
23 samples that we just looked at.
24 A. Right.

1 Q. They were not dated.
2 A. That's correct.
3 Q. Now, the samples that are at the
4 top may have all been from one floor; am I
5 right?
6 A. I don't know where they came
7 from.
8 Q. So it is possible --
9 A. Except that they came from the
10 Transportation & Safety Building before the
11 fire.
12 Q. It could have been all from one
13 location; am I right?
14 MR. GOUTMAN: Objection. Calls
15 for speculation. The witness said he
16 didn't know where they came from except
17 before the fire in the Transportation &
18 Safety Building.
19 THE COURT: Sustained.
20 BY MR. MC CLAIN:
21 Q. What are the possibilities,
22 Mr. Woodyard? You describe them for us.
23 Although you don't know which one is
24 possible -- describe the possibilities for

1 us, please.
2 MR. GOUTMAN: Your Honor,
3 again he is inviting the witness to
4 speculate. I object.
5 THE COURT: Sustained.
6 BY MR. MC CLAIN:
7 Q. Mr. Woodyard, do you know
8 anything about these samples other than that
9 they came from the Transportation & Safety
10 Building?
11 A. I also know that they came from
12 the Transportation & Safety Building before
13 the fire.
14 Q. And that's all?
15 A. That's correct.
16 Q. And because you couldn't
17 correlate them with any floor you didn't
18 correlate them with any of Mr. Kominsky's
19 samples either, did you?
20 A. That's correct. When I first
21 created this table on a piece of paper I was
22 trying to find a way to compare the results
23 with Mr. Kominsky's results, and for those
24 samples there was no location noted I

1 couldn't do that, so that's why they are
2 separated on top.
3 MR. MC CLAIN: Now, Your
4 Honor, just so we are clear, Exhibit 4007
5 C is the label blow-up of the part where
6 it says that there are no dates available,
7 and then 4007 B.
8 THE COURT: 4000 C is the
9 labeled.
10 MR. MC CLAIN: It actually
11 reads, "Labels 001 through 014 used oldest
12 date of 6/6/92. No date available on
13 label."
14 MR. GOUTMAN: Mr. McClain, can
15 I just see where you are referring?
16 MR. MC CLAIN: It says 4007 C.
17 And the other one is 4007 B, and that is
18 the full page for those same samples.
19 MR. MC CLAIN: And the chart,
20 Your Honor, from Mr. Woodyard's table is
21 4007 A, and I move all of those into
22 evidence at this time.
23 BY MR. MC CLAIN:
24 Q. Now, in regard to these other

1 samples, there was some information on these
2 labels which had descriptions; am I right?

3 A. Yes. Let me turn to that page.

4 It is a little easier to read it.

5 Yes, sir, it included sample
6 identification number, a location, a project
7 number, I assume Law Engineering's project
8 number, and a sample date for each of the
9 samples.

10 Q. Now, in regard to these samples
11 that had some description, the last four
12 digits are the same, are they not, as the
13 samples found on the top part of the chart,
14 450, 450.

15 A. Yes, the last three digits.

16 Q. Did I say four?

17 A. I believe so.

18 Q. The last three. 451 is the same
19 as 451 here.

20 A. That's correct.

21 Q. And this is 452 here; am I
22 right? (Indicating).

23 A. Yes, that's true for all of the
24 samples.

1 Q. They correlate in terms of the
2 last three digits precisely with the other
3 group of samples; am I right?

4 A. Yes, sir.

5 Q. And so do you know whether or
6 not these are split samples?

7 A. Split samples from what? I'm
8 sorry.

9 Q. What are split samples?

10 A. Split samples are where you
11 collect a sample and divide it into two parts
12 to be analyzed separately.

13 Q. Do you know whether or not these
14 samples at the top are split samples of these
15 at the bottom?

16 A. I would certainly hope not. The
17 analytical results are very, very different.

18 Q. Yes, they are, aren't they?

19 A. Yes, I would assume they are not
20 splits.

21 Q. But you don't know?

22 A. No.

23 Q. In fact, the numbers are so,
24 they are almost in order of magnitude

1 different, aren't they, from the top to the
2 bottom?

3 A. Order of magnitude being a
4 factor of ten.

5 Q. Yes.

6 A. Yes, typically they are.

7 Q. And so we just don't know about
8 these top samples.

9 MR. GOUTMAN: Objection.

10 Vague. I don't know what that question
11 means, we just don't know.

12 BY MR. MC CLAIN:

13 Q. We don't know very much about
14 them.

15 How is that?

16 THE COURT: Overruled.

17 THE WITNESS: We know enough
18 about them to be able to put them on this
19 chart, which means that they were
20 collected in the Transportation & Safety
21 Building and they were collected before
22 the fire.

23 BY MR. MC CLAIN:

24 Q. Let me ask you a hypothetical.

1 Okay? If these are split samples, the top
2 samples are splits of the bottom, what impact
3 might that have on your conclusions?

4 MS. HERSCHEL: Objection. No
5 foundation.

6 MR. GOUTMAN: Your Honor, he
7 already testified he doesn't believe that
8 they are split samples. He's asking him
9 to assume an opinion he doesn't hold and I
10 object.

11 BY MR. MC CLAIN:

12 Q. Mr. Woodyard, did you consider
13 that possibility?

14 A. No.

15 Q. Let me ask you this in regard to
16 these samples: Did you make any further
17 inquiry about whether someone could determine
18 where these samples had come from?

19 A. Well, if I understand your
20 question correctly, I'm asking Mr. Goutman if
21 there was any other information associated
22 with those samples and he said no.

23 Q. Did Mr. Goutman show you the
24 Gannett Fleming report on these same samples,

1 Mr. Woodyard? 3542.
 2 MS. HERSCHEL: Objection, Your
 3 Honor. I think we are going to need to
 4 come to side bar on this one.
 5 MR. MC CLAIN: As to whether
 6 or not Mr. Goutman showed them to him?
 7 THE COURT: I don't know for
 8 what reason, but we will take the hike.
 9 Off the record.
 10 (Side bar discussion).
 11 MS. HERSCHEL: Your Honor, if
 12 I was premature, especially in view of our
 13 discussion a little while ago I apologize,
 14 but not only did Mr. McClain ask the
 15 question, he began distributing the
 16 document as though it was a document that
 17 he was about to use, and this is a
 18 document that Your Honor has made a clear
 19 ruling is inadmissible in this case.
 20 MR. GOUTMAN: For the record,
 21 it is September 2, 1999. This is The
 22 Court's ruling. Page 49. September 2,
 23 page 49. Do you want a copy of that?
 24 MR. MC CLAIN: I asked him

1 whether Mr. Goutman had showed him this
 2 document. I have not yet asked him any
 3 questions beyond that. The foundation
 4 that I will lay with him will be for The
 5 Court to find whether it is significant or
 6 sufficient. This is, these are the
 7 results.
 8 THE COURT: While this
 9 document was ruled out, if this document
 10 was shown to Mr. Woodyard, and if he used
 11 it or reviewed it, then it may have
 12 relevancy in his testimony.
 13 MR. GOUTMAN: If he relied
 14 upon it and views the test results as
 15 reliable.
 16 MR. MC CLAIN: We will hear
 17 the question and answer.
 18 THE COURT: The question is
 19 did he rely upon it. We are not at that
 20 stage yet.
 21 MS. HERSCHEL: If I was
 22 premature, I apologize.
 23 THE COURT: It was not
 24 premature to raise the objection.

1 BY MR. MC CLAIN:
 2 Q. Didn't you tell us that you had
 3 reviewed Mr. Cocciardi's tests in this case,
 4 his reports?
 5 A. Yes, sir.
 6 Q. And you commented on those to
 7 us, didn't you, when you were here when you
 8 were testifying on Direct about Mr. Cocciardi
 9 and his work in the building?
 10 A. In some form, I'm sure.
 11 Q. Before we get to this Gannett
 12 Fleming report, I just wanted to ask you if
 13 you had reviewed Mr. Cocciardi's reports
 14 found in Penn 901 and Penn 885. Don't answer
 15 until I have given them to counsel because I
 16 have copies for them.
 17 THE COURT: I assume copies
 18 will be given to me?
 19 MR. MC CLAIN: I'm sorry, Your
 20 Honor. These are in evidence. They are
 21 901 and 885.
 22 BY MR. MC CLAIN;;
 23 Q. Did you review these,
 24 Mr. Woodyard?

1 A. I don't recall.
 2 Q. You don't recall whether you
 3 reviewed these?
 4 A. Not specifically, no.
 5 Q. Look them over. Let me see if I
 6 can refresh your recollection. Look over at
 7 Mr. Cocciardi's report on Exhibit 885.
 8 MR. GOUTMAN: Mr. McClain, can
 9 you show me where you are referring to? I
 10 don't know what report you are on now.
 11 MR. MC CLAIN: I'm at 885 and
 12 I want him to review conclusion two.
 13 MR. GOUTMAN: Can you hold on
 14 for just a second while we review it
 15 before the question is asked?
 16 MR. MC CLAIN: Sure.
 17 THE COURT: When you say the
 18 conclusion, may I see where you are --
 19 MR. MC CLAIN: Two, Your
 20 Honor.
 21 BY MR. MC CLAIN:
 22 Q. Do you recall reviewing that,
 23 Mr. Woodyard?
 24 A. Not specifically, no.

1 Q. Were you aware that samples were
2 taken from the building and analyzed of
3 pre-fire collected asbestos bulk samples?

4 A. No, I think I at first became
5 aware of this when we were provided the
6 samples to analyze.

7 Q. Were you provided a copy of the
8 Gannett Fleming report?

9 A. No, I was not.

10 Q. You were never provided that
11 report?

12 A. No.

13 Q. And so were you aware that the
14 very samples that you did an analysis on had
15 been sampled and tested and results reported
16 back on before you reported results?

17 A. I forget when I became aware of
18 it. It was within the last year or two that
19 there had been other analyses done on the
20 same samples.

21 Q. And did you review those prior
22 to coming to Court today?

23 A. No, I did not.

24 Q. Why not?

1 A. When I first became aware of it
2 I asked for the report, the documentation
3 associated with it. The attorneys with White
4 & Williams tried to find back-up material for
5 this report. In other words, an analytical
6 report that we could use to evaluate, and
7 they could find none. Apparently there was
8 none available.

9 Q. So you did review Exhibit 3542
10 or not? I'm unclear of your answer.

11 A. No, I did not.

12 Q. How did you even know to ask for
13 back-up material if you didn't review it,
14 Mr. Woodyard?

15 A. No, because I was made aware
16 that Gannett Fleming had done analysis of
17 these same samples, but there was nothing but
18 a summary of their analytical results. There
19 was no quality assurance back-up from the
20 lab, there was nothing except this report
21 which doesn't tell me anything except the
22 final results. (Indicating).

23 Q. Mr. Woodyard, you looked at
24 thousands of samples with the only

1 information you had were the final results;
2 am I right?

3 A. No, there was a lot of samples
4 that were done, collected by the state,
5 analyzed that included the quality assurance
6 data, they had a quality assurance program.
7 A lot of their work had been audited by other
8 people.

9 Q. The Skelly and Loy results as an
10 example.

11 A. That's correct.

12 Q. You looked at the results,
13 didn't you?

14 A. I looked at a lot of results,
15 but I also looked at a lot of their back-up,
16 including their blanks, etc. The typical
17 type of things that you would look at in a
18 quality assurance review.

19 Q. Did you have back-up on every
20 sample that you looked at, sir?

21 A. I believe so. Well, I looked at
22 thousands of samples. Some of them I took
23 and I looked at because of the reports
24 available and I had more back-up. I didn't

1 request back-up on every sample.

2 Q. You didn't request back-up on
3 every sample.

4 A. Yes.

5 Q. But these that you had results
6 on you didn't even look at the results?

7 A. No.

8 Q. Were you --

9 A. Because I couldn't critique the
10 results.

11 Q. Were you told not to look at the
12 results?

13 A. No, I couldn't critique the
14 results.

15 Q. You just didn't want to know
16 what was --

17 THE COURT: Wait a minute. I
18 don't know if we heard the end of his
19 answer.

20 MR. MC CLAIN: Right.

21 THE COURT: You may finish.
22 You were saying why you didn't --

23 THE WITNESS: Right, I was
24 told that there was analytical results

1 available for these samples from Gannett
 2 Fleming from back in 1994, I guess it is,
 3 but when I asked for documentation
 4 associated with that there was none and
 5 they could find none. Now, assuming that
 6 they are different from my results, which
 7 I guess this is what this is all about,
 8 that would be a logical thing to want to
 9 do, is to be prepared to start comparing
 10 the results and figuring out why there is
 11 a difference. There is no way I could
 12 figure out why there would be a
 13 difference.

14 BY MR. MC CLAIN:

15 Q. I want to ask you whether you
 16 know, as you sit there, that there is a
 17 difference between their results and your
 18 results. Do you know that?

19 MR. GOUTMAN: Objection, Your
 20 Honor. It goes to the substance of the
 21 report and the foundation hasn't been
 22 laid.

23 THE COURT: Sustained.

24 BY MR. MC CLAIN:

1 MR. MC CLAIN: How do we know
 2 until he answers?

3 THE COURT: Overruled.

4 BY MR. MC CLAIN:

5 Q. You just accepted their word
 6 without even looking at the report?

7 A. Yes.

8 Q. Is that what a careful scientist
 9 does, Mr. Woodyard; he just accepts what the
 10 lawyer tells him and doesn't look at the
 11 paper?

12 A. A careful scientist wants to
 13 have enough information to do the kind of
 14 analysis that would be required. Why confuse
 15 the issue with information that is
 16 incomplete, probably inadequate from a
 17 laboratory that as far as I could tell has
 18 never done a PCB analysis in its entire
 19 business critique.

20 Q. How do you know that?

21 A. The testimony from Gannett
 22 Fleming people that this Court has heard
 23 indicated that they had no experience in
 24 doing this kind of work. That's not the kind

1 Q. Mr. Woodyard, does not a careful
 2 scientist try to look at all of the
 3 information that is available before
 4 rendering an opinion?

5 A. Yes, provided the information is
 6 complete enough for him to evaluate.

7 Q. If you didn't even look at the
 8 results how do you know whether it was
 9 complete enough or not to evaluate? I mean,
 10 if you didn't even read the report how do you
 11 know what it contained?

12 A. Because I asked what information
 13 was available and I was told there was
 14 nothing but the final numbers.

15 Q. Again, the lawyers told you
 16 this?

17 A. Yes.

18 Q. Was it the lawyers that told you
 19 this?

20 A. Yes.

21 Q. And you just accepted their word
 22 without looking at the paper?

23 MR. GOUTMAN: Objection, Your
 24 Honor. That is a misleading question.

1 of laboratory that I, personally, or other
 2 scientists would send PCBs tests to.

3 Q. Tell the jury who from Gannett
 4 Fleming they heard from. Who from Gannett
 5 Fleming have we ever heard from in this
 6 courtroom?

7 A. I'm talking about deposition
 8 testimony from Mr. Brown.

9 Q. Did the jury hear anything about
 10 that?

11 A. No, I don't think so. I'm
 12 sorry. I stand corrected.

13 Q. And so all we have is, I guess,
 14 what the lawyers told you not to look at.

15 MR. GOUTMAN: Objection, Your
 16 Honor. That wasn't his testimony.

17 THE COURT: Sustained.

18 MR. MC CLAIN: Let me withdraw
 19 it.

20 BY MR. MC CLAIN:

21 Q. You didn't look at it because of
 22 what the lawyers told you; am I right?

23 A. I didn't look at it because
 24 there was no additional back-up associated

1 with it. They went looking for back-up. I
2 was aware of that process. They came back
3 with nothing. Gannett Fleming had no files
4 on this except this report, which is
5 incomplete. (Indicating).

6 Q. Which you didn't even read.

7 A. No.

8 Q. Didn't even read their report?

9 A. No. What would I do if I did?

10 All I would do is find out that there might
11 be a difference and I wouldn't be able to
12 explain it.

13 Q. Mr. Woodyard, I can't testify
14 about what you should have done; I'm just
15 trying to ask you what you did do.

16 A. I understand and I told you.

17 Q. So I'm trying to get to the
18 bottom of it.

19 MR. GOUTMAN: Objection, Your
20 Honor. I move to strike counsel's speech.

21 THE COURT: Sustained.

22 MR. MC CLAIN: It was a
23 speech. I apologize. Sometimes you get
24 carried away.

1 MR. MC CLAIN: The question
2 is --

3 THE COURT: Accepted and
4 stricken.

5 BY MR. MC CLAIN:

6 Q. The point is, Mr. Woodyard, is
7 you knew the report that I just handed to you
8 existed and you did not review it; am I
9 right?

10 A. That's correct.

11 Q. You knew or suspected that it
12 reported results on the same samples that you
13 had analyzed; am I right?

14 A. Yes, I believe -- I don't really
15 know specifically, but I knew they were some
16 of the same samples.

17 Q. Now, let's look at your results,
18 Mr. Woodyard.

19 Now, first of all, I didn't see
20 in your report any statistical analysis of
21 these samples, did I?

22 A. Which samples are you referring
23 to?

24 Q. All of these. Any of these.

1 Did you do any kind of statistical analysis
2 to determine whether or not the results you
3 found in these samples were statistically
4 significant we have heard that term used in
5 this Court by Dr. James and others.

6 A. Well, I would have and I have a
7 statistical background and I could have;
8 however, in all of the cases you see under
9 the pre-fire PCB concentration results
10 there's only one sample, and you can't do
11 much statistical analysis when you have only
12 got one data point per floor, for example. I
13 couldn't statistically compare Mr. Kominsky's
14 results except on the surface here.

15 Q. So you couldn't do a statistical
16 analysis.

17 A. The only one that could have
18 been done that was not done was comparing the
19 totals for the building, if you will.

20 Q. I didn't mean to interrupt you.
21 Were you done?

22 A. And as a statistician, the
23 results are so different between his and the
24 ones that are on the left side, that I was

1 sure without doing the analysis that they
2 would have been significantly different.

3 Q. You didn't do it.

4 A. No, I didn't.

5 Q. And without doing a test, a
6 statistical significance test -- the reason
7 you do a statistical significance test is to
8 determine whether or not your results can be
9 explained by chance or whether there is
10 something else going on there other than that
11 can be explained by chance; am I right?

12 A. Yes, but as I said before, just
13 so you are clear on this whole statistical
14 analysis issue, in most of Mr. Kominsky's
15 cases, and it may have been all of them, we
16 typically were talking about two samples. In
17 my case, on the same floors, we are looking
18 at this bottom section of the table, we
19 typically had one sample. You can't do a
20 statistical comparison with two samples
21 versus one sample. It is a waste of time.
22 It doesn't work statistically. You need more
23 samples. (Indicating)

24 Q. Right. That's exactly the

1 point.

2 MR. GOUTMAN: Objection, Your
3 Honor to, counsel's comment about the
4 evidence. That's exactly the point. I
5 move to strike.

6 MR. MC CLAIN: It was a
7 transition, Your Honor.

8 THE COURT: Sustained. That's
9 exactly the point, is that it is not
10 needed.

11 BY MR. MC CLAIN:

12 Q. I want to follow-up on what you
13 said, then, Mr. Woodyard.

14 Without more samples you can't
15 do a statistical analysis; am I right?

16 A. That's correct. In this case
17 you are right.

18 Q. And just so that we are clear,
19 you don't know where on the 11th floor any of
20 these samples were taken. As an example, the
21 first sample came from the 11th floor. You
22 don't know where it was, whether it is the
23 north, east, south, west of the floor; am I
24 right?

1 A. No, I don't, just that it was
2 taken on the 11th floor.

3 Q. And you don't know where Mr.
4 Kominsky's sample was taken in comparison to
5 it, do you?

6 A. No, if I don't know where the
7 first sample is taken I don't know what to
8 compare it with.

9 Q. So just to make the point clear,
10 this sample could have been taken in the
11 northwest and this sample could have been
12 taken in the southeast? (Indicating).

13 MR. GOUTMAN: Objection.
14 Calls for speculation. The witness said
15 he didn't know where they were taken from.

16 MR. MC CLAIN: I'm just trying
17 to gave the range of where they might have
18 been taken from, Your Honor.

19 MR. GOUTMAN: He is inviting
20 speculation, Your Honor. I object.

21 THE COURT: Sustained.

22 BY MR. MC CLAIN:

23 Q. They could have been taken at
24 the same point or opposite points of the

1 building; am I right?

2 A. That's true. We don't know.

3 Q. And in this building, as I
4 recall -- how many square feet are on a
5 floor?

6 A. Typically it was what; about
7 60,000? 50 to 60 thousand.

8 Q. 60,000 square feet of floor. I
9 won't hold you to it. I can't remember off
10 the top of my head either.

11 But that's a lot of fireproofing
12 on a floor, isn't it? There was a lot of
13 fireproofing on every floor.

14 A. Yes, 50,000 square feet or
15 60,000 square feet.

16 Q. And one sample of that
17 fireproofing, what would you say, in a
18 typical sample, would you take two or three
19 inches of that fireproofing? Something like
20 that?

21 A. Fair enough.

22 Q. Okay. Now, even with that,
23 let's look at the samples. On the sixth
24 floor the pre-fire concentration of PCBs is

1 higher than the post-fire concentration of
2 PCBs; isn't that true? Looking at your
3 chart.

4 A. Yes, that was true for the
5 fire -- well, the fire floor, which is six,
6 and the floor immediately above it is five.

7 Q. Five. In fact, on five it was
8 15, which is higher than a number of
9 post-fire floors, like the ground floor and
10 the fourth floor, and almost the same as the
11 tenth floor; right?

12 A. Yes.

13 Your Honor, may I step over here
14 to the side so I can see? I'm kinking my
15 head.

16 THE COURT: Certainly.

17 BY MR. MC CLAIN:

18 Q. You could look at page five, Mr.
19 Woodyard --

20 A. Since you are pointing at this
21 one let's work with this one. (IN)

22 Yes, the 15 result is higher
23 than some of the results Mr. Kominsky came up
24 with. That's true.

1 Q. And if it existed before the
2 fire somehow after the fire it disappeared;
3 is that right? On the fifth floor. It was
4 zero in Mr. Kominsky's samples on that same
5 floor; right?

6 A. Is that a question? Yes, that's
7 correct. That's why we use averages when we
8 do analysis with these kinds of data and
9 that's why there is an average line down at
10 the bottom because it normalizes all of the
11 results so that you can actually compare the
12 before and after difference rather than doing
13 what you are trying to do here and go point
14 by point and see if there are a few that
15 serve your purposes.

16 MR. MC CLAIN: Well, I ask that
17 that comment be stricken, Your Honor.

18 THE COURT: Sustained.

19 BY MR. MC CLAIN:

20 Q. The results on the ninth floor
21 are higher than the results on the sixth
22 floor after the fire. The results on the
23 ninth floor before are higher than the
24 results after the fire on the sixth, fifth,

1 the fourth, aren't they? That's true?

2 A. Yes, but it doesn't mean
3 anything to me. What is important to me is
4 the average, what is important to me is that
5 on almost every one of those data points for
6 the same floor the level before the fire was
7 lower than the level after the fire, on
8 average a factor of five.

9 Q. That certainly wasn't true on
10 the fifth floor, was it? The data point on
11 the fifth floor shows that it was 15 to zero
12 before the fire as opposed to after the fire;
13 am I right?

14 A. Yes, that's on the fifth floor.
15 That's correct.

16 Q. And you found or Mr. Kominsky
17 found a higher level even on the ground floor
18 and basement, isn't that true, after the
19 fire?

20 A. I missed the question.

21 Q. The results of your analysis
22 show that there was even an increase in the
23 PCBs on the ground floor and basement in this
24 building; am I right?

1 A. Yes, that's true.

2 Q. Now, you talked about the
3 average, and what we are looking at here is
4 an average of all of these samples at the top
5 and all of the samples at the bottom to get
6 this comparison of three and 17.7; am I
7 right?

8 A. Yes, that's correct.

9 Q. And it is true, isn't it,
10 Mr. Woodyard, that as we pointed out, that
11 even though there's more data available for
12 the bottom samples, these results could not
13 be statistically verified based on the data
14 that you had available; am I right? No
15 statistical test was done.

16 A. No statistical test was done,
17 that's correct. Simply the computation of an
18 average, which is what we would normally do
19 to this kind of comparison.

20 Q. Have you done this kind of a
21 comparison before and after a fire?

22 A. No, but I mean just in terms of
23 averaging numbers in a statistical fashion.

24 Q. You mean you have never done

1 this analysis, this specific analysis, before
2 in a case, have you?

3 A. Not that I can recall.

4 Q. So this is the first time you
5 ever did this; right?

6 A. No, comparing numbers line by
7 line, floor by floor, is not complicated and
8 statistics associated with this are not a
9 complicated statistical analysis.

10 Q. It may not be complicated, but
11 this is the first you have ever compared
12 results, PCB results, before a fire and after
13 in this fashion; am I right?

14 A. Yes, I believe so.

15 Q. Let's look at another issue that
16 you discussed with the jury, and that was the
17 samples that were taken from the Milton
18 Hershey School. Do you remember that
19 discussion you had with the jury?

20 A. Yes, sir.

21 MR. GOUTMAN: Could the
22 witness resume the witness stand, please?

23 MR. MC CLAIN: Sure, Your
24 Honor.

1 THE COURT: Are you going to
2 be using this chart again?
3 MR. MC CLAIN: No, Your Honor,
4 and I will take that. 1068.

5 Is Penn Exhibit 1068, Your
6 Honor, in evidence. I will hand it up to
7 The Court.

8 BY MR. MC CLAIN:

9 Q. Now, these samples were analyzed
10 by a different laboratory; am I right? By
11 Skelly and Loy.

12 A. Yes, I believe they were done by
13 Skelly and Loy.

14 Q. And in regard to the Milton
15 Hershey School samples, what Skelly and Loy
16 reported was that the samples of fireproofing
17 taken from the Milton Hershey School had both
18 1254 and 1260 PCBs; am I right?

19 A. I'm sorry. Was your question
20 specific to fireproofing?

21 Q. Yes.

22 A. 1260 is cited as being in the
23 fireproofing and 1254 in wipe samples.

24 Q. And it says 1254 is in wipe

1 reading?

2 MR. MC CLAIN: Ms. Herschel
3 says that their records show that we
4 didn't put this in evidence. If we did
5 not, I move it at this time. No objection
6 they said.

7 THE COURT: Admitted. What
8 page are you reading from?

9 MR. MC CLAIN: Mr. Henderson
10 thought it was the third page and it says
11 "results".

12 THE COURT: Results.

13 BY MR. MC CLAIN:

14 Q. It says, "Additionally, PCB 1254
15 that was detected in the field blank
16 indicating wipe samples were likely
17 contaminated with PCB 1254 during laboratory
18 extraction and analysis. Since similar and
19 very low quantities of PCB 1254 only were
20 detected in both samples in the blank and no
21 PCB 1260 was detected in the samples, it is
22 likely that the only source of PCB in wipe
23 samples was the laboratory. In other words,
24 no PCBs were collected from the I beams or

1 samples and it also was detected in the
2 field, isn't that true, from these samples?

3 A. Yes, according to the narrative
4 that's true.

5 Q. It says, additionally, PCB, this
6 is, Your Honor, on, I don't know,
7 Mr. Henderson, what page is that? Is it
8 numbered?

9 MR. HENDERSON: Page four.

10 MR. MC CLAIN: Page four, but
11 I don't believe it is numbered, Your
12 Honor. It is under "Results".

13 MS. HERSCHEL: Mr. McClain,
14 I'm sorry to interrupt you, but for the
15 record we have no, you said it was entered
16 into evidence, the document, and just for
17 the record, we have no record of that.

18 MR. MC CLAIN: Do you object
19 to it?

20 MS. HERSCHEL: No.

21 MR. MC CLAIN: I will offer it
22 into evidence at this time. I thought it
23 was in.

24 THE COURT: What page are we

1 ceilings from the wipe samples." Right?

2 A. That's what it says, that's
3 correct.

4 Q. And typically when there are
5 problems with the field blanks for a
6 scientist, such as yourself, that raises red
7 flags; am I right?

8 A. Yes, as it did here for the wipe
9 samples. That's correct.

10 Q. By the way, have you ever been
11 in the Milton Hershey School?

12 A. No, I have not.

13 Q. Do you know what kind of
14 ductwork they have in the Milton Hershey
15 School?

16 A. No, I do not.

17 Q. Okay. Let's go from schools to
18 air samples.

19 Your Honor, this is Exhibit
20 Penn 521 A. I don't know whether it is in
21 evidence or not, Your Honor, but if it's
22 not I move it into evidence.

23 THE COURT: Admitted.

24 BY MR. MC CLAIN:

1 Q. Now, Mr. Woodyard, you talked to
2 the jury about the air sampling results in
3 this case, did you not?

4 A. Yes, I did.

5 Q. And just so that we are clear
6 about air sampling, what happens is that
7 an air sampling pump is set up and air is
8 sucked through it on to a filter or a
9 charcoal device or whatever the device is to
10 collect the contaminant that you are looking
11 for in the air and then it is analyzed in a
12 laboratory; am I right?

13 A. Yes, that's correct.

14 Q. And in regard to air sampling,
15 you mentioned something when you were talking
16 to Mr. Goutman. You said it's not like a
17 snap shot; it is like a movie in this case.
18 Do you remember that statement that you made?

19 A. Yes, I do.

20 Q. And the reason you said that was
21 because air samples have been criticized as
22 being snap shots in time; is that right?

23 A. The reason I said it is because
24 an air sample takes a few hours to collect,

1 because air is moving through the
2 Transportation & Safety Building all the
3 time; am I right?

4 A. The reason for what? I'm sorry.

5 Q. To analogize it to a snap shot;
6 am I right?

7 A. Because it is a dynamic
8 situation. The one sample isn't necessarily
9 going to tell you everything that you want to
10 know.

11 Q. So if you take a picture of the
12 jury today, it may change tomorrow in terms
13 of what they are wearing, even where they are
14 seated; am I right?

15 A. Yes, that's a snap shot.

16 THE COURT: Not where they are
17 seated.

18 MR. MC CLAIN: Well, Your
19 Honor, I don't know. It just depends on
20 the day.

21 THE COURT: Possibly.

22 MR. MC CLAIN: Hopefully no
23 more changes.

24 BY MR. MC CLAIN:

1 and in this case they were collecting a
2 number of samples at the same time, so there
3 is always some air sampling going on.

4 Q. But my question was different
5 than your answer. My question was it is
6 true, isn't it, that air samples have been
7 criticized by people in the industrial
8 hygiene field as being snap shots in time; am
9 I right?

10 A. I don't know that.

11 Q. You have never heard that
12 before?

13 A. No.

14 Q. Why did you mention that it was
15 not a snap shot in time; it was a movie in
16 this case if you have never heard that?

17 A. I was thinking more in terms of
18 the, in my case, the wipe sampling results,
19 which are fixed time, one shot, take a sample
20 today. Air samples, I guess, could be argued
21 as snap shots if you only took, for example,
22 one sample in the Transportation & Safety
23 Building.

24 Q. And the reason for that is

1 Q. So the issue always in air
2 sampling, Mr. Woodyard, is how representative
3 the sampling is; am I right?

4 A. I'm sorry. What do you mean by
5 representative?

6 Q. Meaning that you don't, you want
7 to be sure that you have a sufficient sample
8 size to be sure you are characterizing the
9 air in the building correctly as opposed to
10 just taking a snap shot; am I right?

11 A. Yes, that's correct.

12 Q. Now, one thing you told us about
13 was limits of detection; right?

14 A. Yes, we also talked about that.

15 Q. Now, let me see if we use the
16 snap shot idea, let me see if I can use
17 another home spun example of the limits of
18 detection and see if you can agree with this,
19 with a little bit of leeway, Your Honor, and
20 Mr. Goutman. I have got six children. If I
21 send them to their room to clean things up
22 and go up and look in the room and it looks
23 clean and never look under their beds I might
24 be misled. Has that ever happened to you,

1 Mr. Woodyard, with your daughters?
 2 A. Yes, I suspect it has.
 3 Q. Is that an example of a limit of
 4 detection? That's the type of idea? It
 5 depends on where you look or how closely you
 6 look determines on what results you get?
 7 A. Well, it is not a great example.
 8 A better example might be eye sight. For
 9 those of you who wear contacts or eye
 10 glasses, as you put on different strengths of
 11 glasses you can see clearer and clearer at a
 12 distance. A person out of the courtroom, for
 13 example, and at some point you can identify
 14 somebody in the courtroom by name and that's
 15 essentially your limit of detection with eye
 16 glasses.
 17 Q. Good example. It brings it
 18 home.
 19 You told the jury that in regard
 20 to these samples that the limit of detection
 21 for most of them was .5 or below. Do you
 22 remember that testimony?
 23 MR. GOUTMAN: Objection. If
 24 he has a specific page cite --

1 MR. MC CLAIN: I do. I have
 2 the pages actually if you want me to find
 3 that testimony.
 4 MS. HERSHEL: It is a cite.
 5 MR. MC CLAIN: I have the
 6 excerpts.
 7 Your Honor, while I'm looking
 8 for this, if the jury wants to take a
 9 stretch maybe to get us through lunch. I
 10 can find those here in a minute and
 11 maybe --
 12 THE COURT: We are getting
 13 close to lunch. This might be an
 14 appropriate time to take the luncheon
 15 recess.
 16 MR. MC CLAIN: All right.
 17 MR. EDGE: This Court will
 18 take a luncheon recess until 1:30 p.m.
 19 Everyone remained seated until the jury
 20 leaves the room.
 21 (Court recessed for lunch)
 22 MR. EDGE: In the name of the
 23 Commonwealth of Pennsylvania this
 24 Commonwealth Court is reconvened. Please

1 be seated.
 2 Good afternoon, Your Honor.
 3 THE COURT: Good afternoon.
 4 (Jury responds good afternoon)
 5 Mr. Woodyard.
 6 Mr. McClain.
 7 MR. MC CLAIN: Thank you, Your
 8 Honor. I will improve my limit of
 9 detection. I'm putting my glasses on.
 10 Good afternoon, ladies and
 11 gentlemen.
 12 (Jury responds good
 13 afternoon).
 14 BY MR. MC CLAIN:
 15 Q. When we broke we were talking
 16 about the limit of detection and Mr. Goutman
 17 asked me to find the reference to your
 18 testimony. I have an except of it. It is
 19 from January 28, 2000. Mr. Woodyard, at page
 20 96 on that day you were talking about the air
 21 samples, these samples that are taken through
 22 pumps of the air. At that time you said,
 23 that is if Mr. Begley took it down correctly,
 24 "How sensitive are these tests?"

1 "Extremely. The typical
 2 detection limit was less than half a
 3 microgram per cubic meter."
 4 Do you see that?
 5 A. Yes.
 6 Q. Then you said, "In some cases it
 7 was as low as one tenth a microgram per 100,
 8 so it could have been as much as a ten times
 9 below what anyone would consider a guideline
 10 or action mark". Right?
 11 A. Yes, that's what it says.
 12 Q. And the samples you were talking
 13 about were those Skelly and Loy samples that
 14 I handed you; am I right?
 15 A. Yes, that was the basis for my
 16 analysis.
 17 Q. You told us that there were
 18 nearly 4000 in the Skelly and Loy set. There
 19 are, by my count, 3,634. Do you think that's
 20 about right? Roughly.
 21 A. Roughly. I think my figures or
 22 perhaps the information in my expert report
 23 was about 3600 or 37.
 24 Q. When I counted them I got 3634.

1 Will you accept that?
 2 A. Yes, sir.
 3 Q. And this sample set, as I look
 4 through them, if you look at the first page,
 5 maybe we can put this up to the jury, the
 6 detection limit is listed under PQL, is it?
 7 A. That's correct.
 8 Q. Okay. As I look down this list
 9 I see detection limits of, just so we are
 10 clear about your testimony, you said that the
 11 detection limit was less than half a
 12 microgram per cubic meter; am I right?
 13 A. I said the typical detection
 14 limit was less than a half microgram per
 15 cubic meter.
 16 Q. But just so we are clear on what
 17 that quantification would be, on this kind of
 18 a scale, referring to the exhibit, we would
 19 be talking about .5; am I right?
 20 A. Yes, sir.
 21 Q. Just to put it in context. And
 22 in looking through these samples there are
 23 less than 2.5, less than 5.6, less than 6.4,
 24 less than 6.2, 5.5, 4.5, 3.9, 3.1, 6.1, 5.3,

1 10.2, 3.4, 4.3, etc., down the list; am I
 2 right?
 3 A. Yes, sir.
 4 Q. And just so the jury understands
 5 what that means, Mr. Woodyard, that means
 6 that if you are taking an air sample that has
 7 a detection limit, let's say, of 8.3 as we
 8 see up there on the screen, if you had 8.2
 9 micrograms of PCBs in the air that test
 10 wouldn't detect it; am I correct?
 11 A. More or less, yes.
 12 Q. Roughly. So that in regard to
 13 any samples that we have in this data set
 14 where the detection limit is 6.2, 5.9, 4.3,
 15 3.4, any of those detection limits we don't
 16 know whether or not there was a lower amount
 17 of PCBs than that in the air; am I right?
 18 A. That's correct.
 19 Q. If you look through this
 20 document, for the first 18 pages out of 100,
 21 you find detection limits in these ranges
 22 6.0, 5.5, 6.4, 5.9, 5.6, 6.3, 5.8, 5.3, 5.4,
 23 6.3, 4.2, 4.6, etc., all the way back to the
 24 18th page of these tests; am I right about

1 that?
 2 A. Thereabouts. According to mine,
 3 it is 14 or 15. There are still a number of
 4 them after that. It starts --
 5 Q. To go down a little bit?
 6 A. Pretty dramatically.
 7 Q. And let me just ask you, it is
 8 approximately 20 percent of the samples are
 9 in these high detection range; isn't that
 10 about right? Based on the numbers that we
 11 are dealing with. Pages that is. We are
 12 dealing with 100 pages.
 13 A. That's true. It is about the --
 14 chronologically, by the way, is how these are
 15 organized, so it is about the first ten or 20
 16 percent of the air samples taken.
 17 Q. We are in these high detection
 18 settings; am I correct?
 19 A. Yes, that's correct.
 20 Q. And did you look at this issue?
 21 As I counted it, there are 1890 of the
 22 samples throughout the set --
 23 MR. GOUTMAN: Objection, Your
 24 Honor. We can't have testimony from

1 counsel as he counts it.
 2 THE COURT: Sustained.
 3 BY MR. MC CLAIN:
 4 Q. How many samples of these came
 5 from the sixth floor, Mr. Woodyard, out of
 6 these 3600 samples?
 7 A. I don't recall. I believe there
 8 was a number in my expert report.
 9 Q. Can you look for it?
 10 A. No, I'm mistaken. I didn't
 11 break it out that way, so I don't know.
 12 Q. If you will look at it, look at
 13 it and get a sense of it, aren't more than
 14 half of them in the sixth floor? Look
 15 through the list.
 16 A. For the entire database?
 17 Q. More than half of them are from
 18 the sixth floor, aren't they?
 19 A. I looked at the first 20 pages
 20 that you were citing and that's definitely
 21 the case. In excess of half of them are
 22 sixth floor samples.
 23 It looks like it is a third to a
 24 half. Something in that neighborhood.

1 Q. And the half, just so we are
2 clear, is about 1800 of those samples,
3 roughly, come from the sixth floor; right?
4 A. Roughly, yes. That's fine.
5 Q. And on the sixth floor there was
6 no ventilation that was occurring with the
7 rest of the building; right? It was sealed
8 off.
9 A. Yes, it was being ventilated to
10 the outside.
11 Q. Following the fire.
12 A. Correct.
13 Q. Now, there's another thing that
14 I wanted to ask you about. In regard to
15 these samples that were at the lower
16 detection limit, how many of them were taken
17 on days when the building was being purged?
18 Can you tell us?
19 A. What do you mean by purged? I'm
20 sorry.
21 Q. Do you know, in this building,
22 that they were purging it from time to time?
23 MR. GOUTMAN: Objection, Your
24 Honor. Counsel is testifying.

1 MR. MC CLAIN: He asked me
2 what I meant by purge, Your Honor, and I
3 was just explaining it to the witness.
4 MR. GOUTMAN: And he's about
5 to give testimony, Your Honor. That's
6 inappropriate. If he has documents and so
7 forth, fine, but counsel can't give
8 testimony as to what he thinks he knows.
9 THE COURT: Overruled. That
10 was not offering testimony.
11 BY MR. MC CLAIN:
12 Q. Mr. Woodyard, do you know that
13 this building was being operated with greater
14 than 50 percent supplied air from outside
15 following the fire?
16 A. Yes, immediately after the fire,
17 I believe, it was 100 percent and then at
18 some point a couple months after it was
19 changed to about 50.
20 Q. And outside air is brought in in
21 a situation like this to be sure that
22 contaminants are not being spread around; we
23 are getting more outside air than inside air;
24 am I right? Isn't that the purpose of

1 purging in your business?
2 A. I'm sorry. You are talking
3 about contaminants? No, it is simply to
4 bring in fresh air and mix it with the air
5 that has already been heated to control the
6 temperature, control air quality.
7 Q. Are you aware of whether or not
8 there was an attempt made to bring in more
9 outside air in this building to be sure that
10 the PCB levels did not increase?
11 A. Well, it is actually quite the
12 opposite, if I recall correctly. It started
13 with 100 percent outside air, which they
14 would have to heat in order to keep the
15 building warm in the winter and so close to
16 winter they began to mix recycled air with
17 outside air to save, presumably, on energy
18 costs, and they monitored the air levels
19 during that time to make sure they did not
20 increase, and they did not.
21 Q. How many of these samples were
22 taken when the building was in a 100 percent
23 mode of operation, outside air as opposed to
24 inside? Do you know?

1 A. No, I don't know.
2 Q. Or how many of them were taken
3 with a 50 percent purge mode? Do you know?
4 A. No, not offhand.
5 Q. Let's talk about Mr. Ewing's
6 test for a minute. You are familiar with
7 that; is that right?
8 A. Yes, sir.
9 Q. And it is true, isn't it, or let
10 me ask you did you perform any tests in this
11 case to determine whether the ductboard could
12 release PCBs, a small chamber test or any
13 type of test like that?
14 A. Well, in a sense I considered
15 the building a test in my analysis. We went
16 through and looked at the air results we were
17 just looking at here, looked at the air
18 mixing results when they changed the
19 ventilation system, so in a sense it was a
20 giant chamber and we were looking to see if
21 there was an increase of PCB from the
22 results, and there was not, so in my view
23 that is as good an experiment, certainly
24 better experiment than some use.

1 Q. Did you run a small chamber
2 test, Mr. Woodyard?
3 A. No, I did not.
4 Q. You are capable of doing that,
5 are you not?
6 A. Yes, I think so.
7 Q. You are a scientist who has
8 access to laboratories; am I right?
9 A. Yes.
10 Q. You know these people that have
11 laboratories that have small chambers in them
12 , don't you?
13 A. I'm familiar with it, yes.
14 Q. And a real easy way -- let me
15 back off on that. Let me start again.
16 One way to have proven that
17 Mr. Ewing was wrong was to design your own
18 test and to have done it in a small chamber;
19 am I correct?
20 A. That would have been difficult.
21 The tests that he did were using equipment
22 that was not designed to do that type of test
23 and so he had some difficulty, obviously,
24 making that happen. There is no standard way

1 to run a test like that. I have done tests
2 similar to that with PCBs and other materials
3 in laboratories where it's not so much an off
4 gassing issue, but a measurement of a vapor
5 pressure, for example, so that's where a test
6 can be done because there are no standard
7 ways to do it.
8 Q. And did you do that here?
9 A. No, I did not.
10 Q. Did you ask Mr. Goutman for an
11 opportunity to do that?
12 A. No.
13 Q. Did he ask you?
14 A. No.
15 Q. Did you ever say to Ms.
16 Herschel, I'm going to offer some opinions
17 about your ductboard. I would really like to
18 do a test to be sure about that? You didn't
19 ever have a conversation with her about that
20 subject, either?
21 A. No. As I said before, I was
22 convinced, based on the data, based on the
23 information about this building and what had
24 been done for two-and-a-half years, that I

1 didn't need to do a test.
2 Q. I understand that answer, but
3 the question is you never said to them, I
4 want to do a test and they never asked you to
5 do one; am I right?
6 A. That's correct, because I
7 assured them that the information that I had
8 was satisfactory to me.
9 Q. And that included those 14
10 samples that you didn't know where they came
11 from; am I right?
12 A. We are talking about off gassing
13 and ductboard and chamber tests and things
14 like that?
15 Q. You are basing all of your
16 opinions on all of the information in your
17 report, aren't you, including the samples
18 that you told us about that you reported on
19 in terms of before and after, samples of the
20 fireproofing?
21 A. Absolutely.
22 Q. So you were absolutely
23 comfortable with your data from samples 450
24 through 463; am I right?

1 A. Yes, they are pre-fire
2 fireproofing samples from the Transportation
3 & Safety Building.
4 Q. Samples that you didn't know for
5 sure where they came from; am I right?
6 A. Yes, I did. They came from the
7 Transportation & Safety Building before the
8 fire.
9 Q. What floor did they come from?
10 A. It didn't matter to me. I
11 didn't look through Mr. Cocciardi's data to
12 see what samples were from what floor from
13 the Milton Hershey School or the South Office
14 Building.
15 Q. Or the number of samples that
16 had come from the sixth floor as opposed to
17 elsewhere; am I right?
18 A. That's correct. It didn't make
19 a difference to my analysis.
20 Q. Or whether there was purging
21 going on. All of those things. You were
22 comfortable with the data; right?
23 A. Yes, as I told you I knew all
24 about the purging. This doesn't change my

1 opinion.

2 Q. And that included the tests from
3 Gannett Fleming on those same samples which
4 you didn't review; am I right?

5 A. Right. I knew that they had
6 done tests and I just dismissed them because
7 there was no supporting information.

8 Q. You just told us, in regard to
9 Mr. Cocciardi, you didn't have any supporting
10 information on his. You didn't know where
11 his tests were taken either; right?

12 MS. HERSCHEL: Objection to
13 the form of the question.

14 MR. MC CLAIN: Didn't you say
15 that?

16 THE COURT: Overruled.

17 BY MR. MC CLAIN:

18 Q. Didn't you say that?

19 A. I said I didn't know what floor
20 he took the samples from, which for the
21 purpose of my analysis didn't matter.

22 Q. All right. Let's leave
23 Mr. Ewing's tests aside then and talk about
24 your opinions regarding Mr. Kominsky's

1 testimony about the heat sealing tape.

2 Do you remember that testimony
3 that you gave the jury?

4 A. Yes.

5 Q. Now, in regard to this heat
6 sealing tape it sealed the ductboard at a
7 joint along one side; am I right? It would
8 be sealed here at this area as the duct was
9 folded. Is that how it worked?
10 (Indicating).

11 A. Yes, there would be a flap that
12 would go over the adjoining flap and then
13 they would be sealed with a piece of tape
14 over the top.

15 Q. Let me use a red pen so that we
16 can see. It would be sealed at this edge
17 here or outside? (Indicating).

18 A. Outside.

19 Q. At this edge. Throughout this
20 building; right?

21 A. Yes, sir.

22 Q. And how many miles of this
23 ductwork were in the building?

24 A. I haven't measured it.

1 According to the testimony, I think it was on
2 the order of 16 miles.

3 Q. 16 miles. And so you would be,
4 this two inches you told us about of tape
5 times 16 miles; is that right?

6 A. Yes, every inch of that
7 rectangular ductboard would have been sealed
8 with that tape.

9 Q. And it would have been heated to
10 between 250 degrees and 300 degrees
11 Fahrenheit; am I right?

12 A. I think Mr. Kominsky's testimony
13 was that the adhesive would get up to about
14 250. There is no data to support that, but
15 for the moment let's assume that is true.

16 Q. And you don't believe that
17 heating ductboard at 250 degrees would drive
18 off PCBs; is that correct?

19 A. That's correct. The PCBs would
20 be locked into the glue matrix.

21 Q. Now, did you ever say to Ms.
22 Herschel or anyone else, you know, there's a
23 real easy way to test this out. Let's put
24 this ductwork in a chamber and heat it to 250

1 degrees and see whether PCBs are driven off?
2 Did you ever say there to her?

3 A. No. No, I did not.

4 Q. You could have done that.

5 A. I didn't see a point to it.

6 Q. Did you do it?

7 A. No, sir.

8 Q. Could you have done it?

9 A. Could I have done a ductwork
10 heating test?

11 Q. Yes.

12 A. Oh, absolutely. Absolutely.

13 Q. Now, there are a few more things
14 I want to take you through from the article
15 that you wrote called "State-of-the-art
16 Technology for PCB Decontamination of
17 Concrete". Do you have a copy of that with
18 you?

19 A. No, I do not.

20 MR. MC CLAIN: Your Honor,
21 this is Penn Exhibit 4006.

22 BY MR. MC CLAIN:

23 Q. Mr. Woodyard, is this paper, the
24 paper that you wrote, am I right,

1 "State-of-the-art Technology for PCB
2 Decontamination of Concrete"?

3 A. Yes, that's correct.

4 Q. I have taken some statements and
5 there's page references that you can look at
6 them. We have already shown these to
7 counsel, but you can follow along there, if
8 you want, or you can look on the board,
9 whichever is more convenient.

10 In this paper you wrote, "In
11 situations where health risk concerns are of
12 greatest importance, surface and air
13 contamination standards will often
14 predominant. This is particularly true in
15 commercial office buildings where PCB
16 contamination is present in paint or
17 concrete, on walls, furniture and equipment.
18 These are considered high contact areas for
19 employees and, along with air, represent the
20 most Direct route of human exposure."

21 Is that a true statement,
22 Mr. Woodyard?

23 A. Yes, it is. We have been
24 talking about risk assessment for some time

1 now and surface and air contamination is
2 fundamental to computing people's exposure
3 and how risk assessments actually develop
4 standards.

5 MR. MC CLAIN: Your Honor, I'm
6 sorry. That last quote, Your Honor, was
7 at page 120 from the paper. Now I'm going
8 to go to page 117.

9 BY MR. MC CLAIN:

10 Q. In this paper you wrote
11 "Decontamination of building structures and
12 equipment containing polychlorinated
13 biphenyls is rapidly becoming a major concern
14 to environmental managers in industry and
15 government."

16 Is that still a true statement,
17 Mr. Woodyard?

18 A. No, in the sense that in the mid
19 1980's, when this paper was being written,
20 there wasn't as much experience in doing the
21 kinds of things we were talking about here in
22 the courtroom. Here, 15 years later, of
23 course, things have changed and people have
24 learned a lot and do a much better, more

1 efficient job, so the term "rapidly becoming
2 a major concern", at the time it was a
3 concern to environmental managers, and I
4 emphasized that, because they weren't always
5 sure of how to go about doing the clean-up,
6 what methods to use, what techniques, what
7 equipment, and that's what the purpose of
8 this paper, in fact, was about, was trying to
9 give them at least some information on the --

10 Q. Let's look at some of that
11 advice you gave at the time.

12 MR. GOUTMAN: Page, please.

13 MR. MC CLAIN: 119.

14 BY MR. MC CLAIN:

15 Q. You state, "Short and long term
16 liability from human exposure to PCB
17 contamination of concrete is a manifestation
18 of a perceived health risk. The mere
19 presence of PCB in the work environment or a
20 building structural member is considered a
21 long term financial risk to the ultimate
22 owner. Initial investigations reveal the
23 presence of PCB will often precipitate both
24 ECRA clean-up and employee concerns over

1 exposure. Property owners will then effect
2 rapid and thorough decontamination, rather
3 than risk the liability associated with
4 employee exposure."

5 Right? Is that what you wrote?

6 A. That's correct.

7 Q. And that's what you believe
8 today?

9 A. Certainly the part about rapid
10 and thorough decontamination, which is
11 typical. It wasn't typical at the
12 Transportation & Safety Building. But also a
13 big concern has always been once you find
14 PCBs in an old manufacturing plant, what do
15 you do about it? This ECRA abbreviation here
16 is a new one in The Court here. It is a New
17 Jersey Law back in 1983 or so that required
18 companies selling industrial property to do
19 sampling for a number of different things,
20 and one of them was PCB, and when some of
21 those old factories from back in the forties
22 and fifties were sampled they would find low
23 levels of PCB and they would do something
24 about it, and that's, in fact, that was

1 probably the biggest audience for this
2 particular article.

3 Q. In the concrete?

4 A. That's correct.

5 Q. Now, this is from page 119, Your
6 Honor.

7 "Indoor decontamination is more
8 commonly driven by concern for short or long
9 term human health than for environmental
10 protection. This concern for human health is
11 often prompted by the discovery of former PCB
12 spills and the presence of incidental
13 contamination in older facilities."

14 What is incidental
15 contamination? Can you tell us?

16 A. Incidental contamination in this
17 context typically would refer to tracking or
18 other means by which PCBs might show up on
19 the floor in a particular room. It's not a
20 necessarily identified spill where you had a
21 release, you had a puddle of liquid, you
22 clean it up, but some, maybe some remnants of
23 that that have been tracked around by
24 forklifts or shoes or what have you.

1 Q. It says, "Human health exposure
2 is usually associated with surface or
3 airborne contamination. Nonetheless, routine
4 tracking or spillage on PCBs of concrete will
5 result in the need for concrete removal in
6 older plants where employees still could be
7 exposed."

8 That's what you were
9 recommending at the time?

10 A. Yes, because as I pointed out
11 before, when I was referring to this ECRA
12 standard, as before human health exposure --

13 MR. GOUTMAN: Your Honor, I
14 have an objection. Part of this quote was
15 left out. I think it should be read.

16 MR. MC CLAIN: That's fine.

17 We went over all of these
18 before, Your Honor, and counsel didn't
19 raise that objection and I don't object.
20 We have a dot, dot, dot where we left out
21 a fragment of a sentence. If the witness
22 would like to read it, that's fine, but
23 counsel didn't raise this objection when
24 we went over each one of these with The

1 Court.

2 MR. GOUTMAN: Frankly, we went
3 over about 30 such things and I missed one
4 dot, dot, dot, Your Honor, and I apologize
5 to The Court and jury.

6 MR. MC CLAIN: It is at page
7 119. I will letter you slide on that one.
8 119.

9 MR. MC CLAIN: Mr. Goutman,
10 you read it. Go ahead.

11 MR. GOUTMAN: "Human health
12 exposure is usually associated with
13 surface or airborne contamination", and
14 this is what is missing, "neither of which
15 is typically associated with concrete
16 contamination."

17 MR. MC CLAIN: Okay. And the
18 rest of it is exactly as we have it up
19 there; right?

20 MR. GOUTMAN: Yes.

21 BY MR. MC CLAIN:

22 Q. Okay. Page 122, 122 in the
23 article, Your Honor. The paragraph beginning
24 "The type".

1 THE COURT: I see it.

2 BY MR. MC CLAIN:

3 Q. "The type of PCB contamination
4 of concrete that is most frequently
5 encountered he and most difficult to treat is
6 just below the surface resulting either from
7 short-term spill contact or grinding of dry
8 deposits through tracking. PCB has been
9 shown, however, to penetrate concrete to much
10 greater depths than common sense would
11 indicate, through capillary action or other
12 physical mechanisms. Decontamination of
13 floors in particular sometimes shows PCB
14 penetration of .5 to two inches for even
15 small spills of limited contact time."

16 Is that what you found,
17 Mr. Woodyard, in your research?

18 A. Again, the focus of this article
19 is largely on industrial facilities. This
20 is, has been, and still is true in those
21 situations. This has really nothing to do
22 with the Transportation & Safety Building.

23 Q. Well, I understand that's your
24 position; I just have a question about what

1 you wrote.
 2 MR. GOUTMAN: I object to
 3 counsel's comment about what he
 4 understands or doesn't understand. I move
 5 to strike it.
 6 MR. MC CLAIN: I don't want to
 7 get into a fight, Your Honor, about
 8 whether the witness was responsive or not.
 9 I just want to ask him questions about
 10 this article which The Court has
 11 previously ruled on.
 12 THE COURT: The objection is
 13 overruled.
 14 BY MR. MC CLAIN:
 15 Q. This capillary action is
 16 something that you have investigated in
 17 regard to concrete; am I right?
 18 A. Well, more generally in the
 19 course of concrete clean-up work I have
 20 investigated the depth to which PCBs will go
 21 in concrete.
 22 Q. Here at page 118 of that article
 23 you say, "Structural and ornamental concrete
 24 has several attributes which combine to make

1 this substance unique from a decontamination
 2 standpoint. First, all concrete is porous to
 3 some degree, thereby allowing penetration by
 4 either liquid or vapor contaminants. Second,
 5 concrete continuously ages and dries over its
 6 life span, changing its porosity and its
 7 ability to absorb contaminants. Third, and
 8 perhaps more important, concrete is often an
 9 integral structural component of the
 10 building, so decontamination must be
 11 performed; demolition and disposal is not
 12 always an option." Right? That's what you
 13 wrote?
 14 A. Yes, that's what I wrote.
 15 Again, this doesn't really apply to the
 16 Transportation & Safety Building, but it is
 17 certainly for a lot of buildings --
 18 Q. "Structural and ornamental
 19 concrete has several attributes which combine
 20 to make this substance unique from a
 21 decontamination point. First, all concrete
 22 is porous to some degree."
 23 What does that mean? What does it
 24 mean that concrete is porous?

1 A. Meaning that it has microscopic
 2 holes. It is like a microscopic sponge in
 3 some respects where there's a void space.
 4 It's not as solid as it looks, basically.
 5 Q. "And thereby allowing
 6 penetration by either liquor or vapor
 7 contaminants."
 8 You mean to tell me that
 9 concrete can absorb PCBs in a vapor form?
 10 A. No, what this says is that
 11 concrete can absorb vapors. It doesn't say
 12 anything about PCBs.
 13 Q. If PCBs are in a vapor can
 14 concrete absorb them?
 15 A. PCBs aren't typically in a
 16 vapor. I have not seen actual evidence of
 17 where vapor PCBs have penetrated concrete.
 18 Q. Well, I'm asking can it. If
 19 PCBs are in a vapor can it penetrate
 20 concrete?
 21 A. I don't know under what
 22 situations it would be a vapor that it could
 23 penetrate the concrete.
 24 Q. Is this paper about PCB

1 contamination of concrete or not?
 2 A. Yes, it is.
 3 Q. And so when you put vapor
 4 contamination in your paper about PCB and
 5 concrete, it didn't have anything to do with
 6 PCBs; am I right?
 7 A. No, it had everything to do with
 8 contaminants in general, which the people who
 9 do this kind of work don't always work with
 10 PCBs; they work on solvents and other
 11 contaminants, which are commonly in vapor
 12 form and you need to do more elaborate
 13 concrete work to remove it.
 14 Q. So when you put in this phase
 15 about vapor contaminants and contamination of
 16 concrete it didn't have anything to do with
 17 PCBs. That's what you are telling the jury?
 18 A. Yes, that's exactly what I'm
 19 telling the jury. This doesn't say PCB
 20 vapors.
 21 Q. "Second, concrete continuously
 22 ages and dries over its life span, changing
 23 its porosity and its ability to absorb
 24 contaminants."

1 Now, what does that mean?
 2 A. Well, the porosity that I
 3 mentioned before, that sponge type of look
 4 that concrete would have if you looked at it
 5 under a microscope, some of those void spaces
 6 are full of water and over time, as the
 7 concrete dries out, that water leaves the
 8 concrete, so it increases the porosity in
 9 some cases or it can just part the concrete.
 10 It really depends on the concrete.

11 Q. All right. Now, finally --

12 MR. GOUTMAN: Page, please.

13 MR. MC CLAIN: Page 128.

14 Page 128, Your Honor.

15 BY MR. MC CLAIN:

16 Q. It says, "In practice, because
 17 many ongoing decontamination projects involve
 18 industrial property transfer or long term
 19 liability issues, leaving PCBs in place even
 20 under a protective surface coating is not
 21 always acceptable to the buyer."

22 Did I read that accurately?

23 A. That's true. In the context we
 24 are talking about here is what I have been

1 saying that the EPA safe level or some state
 2 level that gives a buyer a comfort that it is
 3 safe.

4 Q. And so you are saying that
 5 leaving PCBs in place, even if it is cleaned
 6 up to the EPA level, is not always acceptable
 7 to the buyer; is that right?

8 A. No, not at all. Quite the
 9 contrary, of all of the projects I have
 10 worked on or even heard of, nobody has ever
 11 removed every last molecule of PCB, so there
 12 is always a clean-up standard. It is
 13 typically the EPA safe standard and this goes
 14 specifically to the question of whether or
 15 not you are leaving levels above that
 16 standard in place.

17 Q. It says, "Leaving PCB in place
 18 even under a protective surface coating is
 19 not always acceptable to the buyer"; isn't
 20 that what you said?

21 A. Yes. Exact.

22 Q. So even if you coat the PCBs
 23 with another material, like resin or an
 24 epoxy, to keep it away from people, in your

1 experience leaving PCBs in place is not
 2 always acceptable to the buyer; am I right?
 3 That's what you wrote?

4 A. Yes, there may be situations
 5 where buyers object to that for some reason,
 6 and typically it was in those days, and this
 7 is like 15 years ago, there were no clean-up
 8 standards per se and buyers were confused
 9 about what the clean-up level should be, so
 10 they didn't want people just painting over
 11 it; they wanted somebody to set a clean up
 12 standard and that's what this kind of work is
 13 all about. These days things are changed.
 14 The Mega rule is in place. There are
 15 concrete clean-up standards. It is a lot
 16 easier than it was in 1985.

17 Q. And then there's a sentence we
 18 left out of this blow-up, Mr. Goutman. Do
 19 you want me to read that?

20 MR. GOUTMAN: I don't know which
 21 one you are looking at.

22 MR. MC CLAIN: Furthermore.
 23 We can pick up, "Like capping a landfill",
 24 but we left out, "Furthermore. Do you

1 want that one?

2 MR. GOUTMAN: Why don't we
 3 read the whole thing?

4 MR. MC CLAIN: I don't care.
 5 I showed you these before. I was being
 6 sure about what I show to the witness.

7 MR. GOUTMAN: I apologize.

8 BY MR. MC CLAIN:

9 Q. "Furthermore, coatings have",
 10 the sentence that is left out of here,
 11 Mr. Woodyard, "Furthermore, coatings have
 12 found little acceptance with state agencies
 13 and the EPA as a permanent fix", and that's
 14 true, isn't it?

15 A. That was true in 1985. Today
 16 things are very, very different. It is
 17 actually cited in the regulations as an
 18 option if you want to use it at any level, by
 19 the way. Above any safe level.

20 Q. It says, "Like capping a
 21 landfill, coating PCB contamination in
 22 concrete requires long term maintenance and
 23 long term responsibility for the user."

24 That's what you wrote?

1 A. Yes, if you are going to seal
2 high levels of PCBs in concrete you need to
3 make sure that stays good and doesn't get
4 worn out.

5 Q. "Like capping a landfill." What
6 does that mean? What does it mean to cap a
7 landfill?

8 A. Well, understand the audience
9 for this paper was other people in the
10 environmental field. When you close a land
11 disposal site, a sanitary landfill like your
12 solid waste disposal sites or hazardous waste
13 sites, when you close it you have to put
14 something on top. It is called a cap, and
15 basically it is an encapsulation tool. It
16 blocks moisture from going in, it blocks
17 vapors from going out. It is designed to
18 just entomb, if you will, the waste and
19 essentially that's the same sort of thing you
20 are doing if you are coating concrete, you
21 are sealing the PCBs in this case into the
22 concrete so that they can't go anywhere. It
23 is a pretty basic concept.

24 Q. Well, I understand, but we don't

1 all have the same experience that you do. Is
2 that a common thing that is done in the
3 environmental field, capping a hazardous
4 material?

5 A. Oh, absolutely. In fact, it is
6 a requirement under most hazardous waste
7 regulations to cover either a landfill when
8 it's closed or even an outdoor spill. One of
9 the options that you have with EPA, under
10 their standards is to put ten inches of soil
11 over top of it and just compact the soil and
12 leave it there.

13 Q. Is that why you wrote, "Leaving
14 PCBs in place, even under a protective
15 surface coating, is not always acceptable to
16 the buyer"?

17 A. No, that's why I wrote that
18 coating requires long term maintenance and
19 responsibilities. You can't just paint it
20 and leave it; you have to paint it and make
21 sure that the paint stays where it is.

22 Q. And that's an excellent question
23 that I wanted to ask you about. If you leave
24 PCBs in place then under one of these

1 coatings what you are saying is that the
2 people responsible for the building or the
3 plant or whatever the facility is would have
4 to continually monitor that coating to be
5 sure that it didn't break up; am I right?

6 A. If you leave PCBs underneath
7 that coating above what EPA would consider a
8 safe level, then there is always going to be
9 concern about release. If it is below that
10 level you don't have to seal it. You may
11 want to seal it for your own purposes, but it
12 is certainly no requirement under
13 environmental health regulations.

14 Q. It says, "For these reasons,
15 surface coatings are not considered a
16 decontamination technique per se but serve as
17 a finishing technique following
18 decontamination by other methods."

19 Am I right?

20 A. That was pretty much the case in
21 1985.

22 Q. And the name of this paper was
23 "State-of-the-art Technology for PCB
24 Decontamination of Concrete"; right?

1 A. Yes, but the entire focus of
2 this paper was cleaning concrete.

3 Q. Mr. Woodyard, just one last
4 thing I want to ask you about and then I will
5 sit down.

6 Mr. Woodyard, you understand
7 that it is the Plaintiff's theory in this
8 case that the PCBs were spread through the
9 ductwork when they were heated during the
10 heating season, don't you?

11 A. Yes, or somehow came out of
12 ductboard adhesive and entered the building.

13 Q. And I understand your theory of
14 the case that it was spread through the fire.
15 That is your theory.

16 A. Absolutely. All of it.

17 Q. It is true, isn't it, that if
18 there had been no PCBs in that ductwork,
19 regardless of whether they were spread
20 through the heating season or through the
21 fire, they couldn't have been spread in the
22 Transportation & Safety Building, could they?

23 A. I'm not sure I understand the
24 question.

1 Q. If there were no PCBs in the
2 ductwork there would have been no PCBs
3 spread, whether it was by the heating season
4 or by the fire from that ductwork; am I
5 right?

6 MR. GOUTMAN: Objection, Your
7 Honor. Can we go to side bar?

8 THE COURT: Yes.
9 (Side bar discussion).

10 MR. GOUTMAN: Your Honor, I
11 object to the hypothetical nature of this
12 question, assuming a fact that is not of
13 record and will never be of record which
14 is there was no PCBs there. I don't
15 understand where that hypothetical is
16 coming from. Additionally, it is in the
17 nature of an argument. He is not asking
18 for an opinion or anything; he is trying
19 to make a point that even if the fire
20 caused the PCB spread, we are nonetheless
21 responsible, so he is not seeking an
22 opinion or a fact or anything like that;
23 it is merely argument and I object to it.

24 MR. MC CLAIN: I'm asking him

1 for his opinion. I'm asking him for his
2 opinion regardless --

3 THE COURT: If I understood
4 the question, it was if there were no
5 PCBs.

6 MR. MC CLAIN: In the
7 ductwork.

8 THE COURT: That seems to be
9 argument rather than a question of
10 probative value because there are PCBs,
11 and consequently we are assuming a fact
12 that is not in evidence.

13 MR. MC CLAIN: I'm asking him
14 a different question and then maybe I can
15 follow-up with it.

16 THE COURT: We will see.

17 MR. GOUTMAN: Do you want to
18 ask the question here?

19 THE COURT: Give me the
20 question first.

21 MR. MC CLAIN: The question is
22 can ductboard be manufactured without
23 PCBs.

24 MR. GOUTMAN: There's no

1 foundation for this witness --

2 MR. MC CLAIN: He's a chemist.
3 He's been qualified as a chemical expert.

4 THE COURT: Mr. Goutman.

5 MR. GOUTMAN: If I could just
6 respond, Your Honor, he has not been
7 qualified as a man who has ever
8 manufactured ductboard in his life.

9 THE COURT: What I understood
10 him to be is certified as an expert in PCB
11 clean-up; not in ductboard manufacturing.

12 MR. MC CLAIN: No, he reviewed
13 all of the ductboard tests from Ms.
14 Herschel manufacturing plant and rendered
15 the opinions about them based on her data,
16 and you allowed it over my objection, so
17 he was qualified as an expert in the
18 manufacture of this ductboard as it
19 relates to this case.

20 MS. HERSCHEL: No, Your Honor,
21 he was simply given technical information
22 that told him that they had submitted the
23 ductboard to various quality tests that
24 involved heat. It did not make him into

1 an expert on the manufacture of ductboard
2 or whether it could be manufactured with
3 or without PCBs.

4 MR. GOUTMAN: Your Honor, I
5 think this is in the nature of argument
6 again. He wants to make a point that you
7 can make ductboard without PCBs. Again,
8 the ductboard in this case did have PCBs
9 and asking this expert, who is a PCB
10 clean-up expert, about whether in 1965
11 ductboard could be manufactured without
12 PCBs is pretty far afield from anything
13 this witness has testified about or his
14 expertise.

15 MR. MC CLAIN: I'm just going
16 on what you qualified him to talk about.
17 He has talked extensively about the
18 manufacture of this ductboard from your
19 plants and how it was heated to 300
20 degrees, it never lost any of its
21 stability, that it all remained intact.
22 He reviewed the graph for the jury about
23 your ductboard. You are the one that
24 qualified him as an expert in this area.

1 MS. HERSCHEL: But he offered
2 no opinions on what plasticizers could be
3 used or not used in glues. That's not his
4 area. It is just a big finish, Your
5 Honor. It is an argument. It is
6 improper.

7 MR. MC CLAIN: They went into
8 this extensively in their examination and
9 gave him all of the manufacturing
10 documents and reviewed them and said he
11 was familiar with them and knew how this
12 was all put together. They went to great
13 lengths to qualify him as an expert on
14 this ductboard.

15 MR. GOUTMAN: To the contrary,
16 Your Honor, we made a point that he was
17 not being offered as an expert in the
18 manufacture of ductboard. He was using
19 facts from the testing of the ductboard to
20 support his opinion concerning the
21 chemical behavior of PCBs in glue, which
22 he can do as somebody who knows something
23 about PCBs, but whether it could be
24 ductboard without PCBs, he's not been

1 qualified as that.

2 THE COURT: The question that
3 you really want to ask is whether or not
4 ductboard back in 1965 or that era could
5 have been manufactured without PCBs, if I
6 understand you correctly.

7 MR. MC CLAIN: I was not going
8 to ask that question, but I will.

9 THE COURT: No, I'm just
10 trying --

11 MR. MC CLAIN: I could ask him
12 does he know and if he doesn't know he
13 doesn't know and we will move off it.

14 MS. HERSCHEL: But it is not
15 his area of expertise, Your Honor.

16 THE COURT: But the point is
17 it was made, it was in place, and the
18 objection is sustained because it is a
19 fact. It is a non factor in this case.

20 BY MR. MC CLAIN:

21 Q. Mr. Woodyard, you did inspect
22 this building; am I right?

23 A. Yes, sir.

24 Q. Did you inspect the ductboard?

1 A. Yes, I did.

2 Q. Did you ever see any warning on
3 that ductboard that it contained PCBs?

4 MS. HERSCHEL: Objection, Your
5 Honor. This is an expert. This is
6 outside the scope of what he's being
7 offered for Direct, Cross, or anything
8 else.

9 THE COURT: Overruled.

10 BY MR. MC CLAIN:

11 Q. Did you, sir?

12 A. No, I looked at the duct in
13 several different locations and didn't see
14 any labels.

15 MR. MC CLAIN: Thank you. No
16 further questions.

17 THE COURT: Mr. Neal.

18 MR. NEAL: Yes, sir.

19 MR. MC CLAIN: Your Honor,
20 just so the record is clear, what we would
21 like to offer into evidence are Exhibits
22 4006 F, 4006 G, and 4006 I. They were the
23 concrete paper excerpts that I just read
24 from and I would like to move those into

1 evidence.

2 MR. GOUTMAN: Your Honor, we
3 have an objection. We can state it at
4 some other time if The Court could reserve
5 ruling so that we could move along.

6 THE COURT: I will reserve the
7 ruling on it.

8 MR. MC CLAIN: And likewise,
9 Your Honor, 4006 B, 4006 E, 4006 D, and
10 4006 C are the other quotations that I
11 made from the concrete paper and I would
12 move them into evidence at this time.

13 THE COURT: We will reserve
14 ruling on them.

15 MR. NEAL: May I proceed, Your
16 Honor?

17 THE COURT: You may proceed.

18 MR. NEAL: Good afternoon,
19 ladies and gentlemen.

20 (Jury responds good afternoon)

21 ---

22 BY MR. NEAL:

23 Q. Good afternoon, Mr. Woodyard.

24 A. Good afternoon.

1 Q. Mr. Woodyard, you have testified
2 on Direct about certain opinions and in it
3 you have talked about opinions offered by Mr.
4 Kominsky and there are some areas, am I
5 correct, that you agree with Mr. Kominsky and
6 some areas, did you not?

7 MS. HERSCHEL: Mr. Neal, I'm
8 sorry. I can't hear you.

9 THE COURT: Mr. Neal, could
10 you use the microphone.

11 BY MR. NEAL:

12 Q. Let me start over again.

13 On your Direct testimony you
14 discussed not only your opinions, but you
15 discussed opinions and testimony from Mr.
16 Kominsky; is that correct?

17 A. Yes, sir.

18 Q. And there are some areas, am I
19 correct, that you agree with Mr. Kominsky and
20 some areas you disagree; is that correct?

21 A. That's true.

22 Q. And for the purposes of here
23 today I'm going to try to eliminate certain
24 areas so that we don't have to go over those,

1 so if you could bear with me. I can do it
2 from here. It is your testimony, is it not,
3 Mr. Woodyard, that the source or the PCB
4 contamination that was in the Transportation
5 & Safety Building came from Aroclor 1262 and
6 Aroclor 1242; is that correct?

7 A. Yes, sir.

8 Q. Okay. So that we have, and you
9 read Mr. Kominsky's testimony, have you not,
10 and you were present when he testified?

11 A. Yes.

12 Clarification on the last point.
13 You said the contamination in the
14 Transportation & Safety Building --

15 Q. Correct.

16 A. -- came from 1262 and 1242.
17 Those were the types of Aroclors released
18 from the burnt light fixtures and ductboard.

19 Q. And as you have testified, the
20 contamination was from the 1262 and the 1242;
21 is that correct?

22 A. The contamination that we are
23 concerned with here in the clean-up sense, as
24 Mr. Kominsky pointed out in his report, there

1 was also another type of Aroclor there for
2 which there was no source.

3 Q. And which you indicated was
4 background level?

5 A. Correct.

6 Q. So all we are concerned about is
7 known sources in the contamination aspect of
8 the Transportation & Safety Building and one
9 was 1262 and one was 1242; is that correct?

10 A. That's correct.

11 Q. That is what Mr. Kominsky
12 indicated also. Forget 1254; is that
13 correct?

14 A. Yes.

15 Q. So that you have the PCB
16 contamination in the Transportation & Safety
17 Building from Aroclor 1262 and 1242; is that
18 correct?

19 A. Yes.

20 Q. And in that you are in agreement
21 with Mr. Kominsky; is that correct?

22 A. Yes.

23 Q. And, secondly, you have
24 testified that the source of that, forget for

1 the moment how it got there, the source of
2 the 1262 in the Transportation & Safety
3 Building was the adhesive/mastic from the
4 ductwork; is that correct?

5 A. Well, I believe my testimony was
6 that the difference between the pre-fire and
7 post-fire 1262 concentrations was the result
8 of the fire.

9 Q. But you also indicated that the
10 contamination in that building came from the
11 burning up of the ductwork which produced
12 Aroclor 1262 and from the light ballasts,
13 which produced 1242; is that correct?

14 A. Yes, maybe I'm just quibbling on
15 a fine point, but my point was that our data
16 showed that there was 1262 present from the
17 pre-fire samples.

18 Q. We will get to that in a moment.

19 A. But you understand my point.
20 There is a difference between what you said
21 and what I said.

22 Q. We are going to get to that, but
23 for the moment the 1262 that was the source
24 of the contamination was one of the Aroclors

1 found as a contaminant in the Transportation
2 & Safety Building; is that correct?

3 A. That's correct.

4 Q. And the source of that 1262 was
5 the adhesive in the ductwork; is that
6 correct.

7 A. The source of the 1262 deposited
8 by the fire was the ductwork.

9 Q. So the source of the 1262,
10 Aroclor 1262, and I'm correct, it is the
11 adhesive. We can call it adhesive or mastic
12 from the ductwork; is that correct?
13 Regardless of, we are talking about
14 regardless of whether it was deposited by the
15 fire or, as Mr. Kominsky said, volatilized;
16 is that correct?

17 A. Well, just for clarification, I
18 want to make sure that everybody understands.
19 We have found in our testing that 1262 was
20 present in the pre-fire fireproofing samples.
21 I have not testified that that particular
22 part of the 1262 came from the ductwork. We
23 have identified that as background for which
24 we have not identified a source.

1 Q. Mr. Woodyard, in your January
2 28, 2000 testimony on page 61 you were asked,
3 "Sir", this is page 14, "based upon your
4 experience of 20 odd years all over the world
5 in PCB work could you tell the jury where the
6 PCBs came from in the T & S Building", and
7 the answer was, "The PCBs came from PCB
8 containing building products that were burned
9 up in the fire", and then you were asked
10 again --

11 MR. GOUTMAN: What page were
12 you on? I can't keep up with you. What
13 page are you on?

14 MR. NEAL: Page 61.

15 THE COURT: I'm sorry. What
16 page?

17 MR. NEAL: 61, Your Honor.

18 THE COURT: May I have the
19 date again?

20 MR. NEAL: That's January 28,
21 2000.

22 MR. GOUTMAN: Where on 61?
23 What line?

24 MR. NEAL: Line 14.

1 BY MR. NEAL:

2 Q. Let me see if I can narrow again
3 the areas. You are saying, and forget for
4 the moment, we will get to this, you are
5 saying that there was some 1262 found
6 pre-fire; correct?

7 A. That's correct.

8 Q. The contamination we are talking
9 about, forget for the moment, I know that's
10 part of your opinion, but forget for the
11 moment whether there was pre-fire, that the
12 1262, as a result of the fire in your opinion
13 came from the ductwork, the adhesive in the
14 ductwork; correct?

15 A. The 1262 that was deposited
16 during the fire came from the ductwork.

17 Q. And that's the only known source
18 in the Transportation & Safety Building of
19 1262, as far as your review is concerned;
20 correct?

21 A. That's correct.

22 Q. And the source of the Aroclor
23 1242 was the light ballast; is that correct?

24 A. Yes, that's correct.

1 Q. Because, as far as you know,
2 that's the only known source in that building
3 of Aroclor 1242.

4 A. Correct, and there is evidence
5 that light ballasts burned in the fire.

6 Q. And it is your opinion also that
7 the 1262 and the 1242 from the fire was
8 deposited on the fireproofing; is that
9 correct?

10 A. Yes, sir.

11 Q. And so that the fireproofing was
12 the recipient of the 1262 and the 1242.

13 A. Yes, that's correct.

14 Q. And it is your opinion, is it
15 not, Mr. Woodyard, that it's not the source
16 we are concerned with, it is how it got --
17 you are saying that the fire spread the PCBs
18 rather than volatilization spreading the
19 PCBs; is that correct?

20 A. That's correct.

21 Q. And that's all in agreement with
22 what Mr. Kominsky testified to, correct, that
23 1262 came from the ductwork, the adhesive in
24 the ductwork; the 1242 came from the light

1 ballasts and the fireproofing was the
 2 recipient.
 3 A. Yes.
 4 Q. Now, when did you visit the
 5 site, the Transportation & Safety Building?
 6 A. I believe both times was 1997.
 7 I don't recall the exact dates.
 8 Q. And prior to going out to the
 9 site did you receive any information from
 10 CertainTeed or Monsanto with regards to PCBs
 11 in any of the products?
 12 A. I may have. I really don't
 13 recall.
 14 Q. When you went there what was
 15 your objective in going there?
 16 A. Well, the first time it was more
 17 or less a tour. It was on the non fire
 18 floors, the floors that had recently been
 19 occupied and it was to walk around and get
 20 familiar with the building, look above the
 21 ceiling. The ductwork, for example. But not
 22 with any particular focus in mind.
 23 Q. And what floors were you not
 24 able to get on?

1 A. Floors four through seven.
 2 Q. So floors one through three and
 3 eight through the penthouse you were able to
 4 get on; is that correct?
 5 A. Yes, that's correct.
 6 Q. And when you went there you took
 7 the tour and you said that you went above the
 8 ceiling on a couple of occasions?
 9 A. Yes, that's correct.
 10 Q. What floors?
 11 A. I don't recall.
 12 Q. Were they the higher floors?
 13 The lower floors?
 14 A. I think it was both.
 15 Q. You think maybe one of the lower
 16 floors and one of the higher floors?
 17 A. At least. I think that's a fair
 18 statement.
 19 Q. And were you, when you went
 20 there and you went above the ceiling, did you
 21 have to use any kind of protection?
 22 A. No, we were escorted and all we
 23 did, in looking above the ceiling, was to
 24 push up the ceiling tiles and look in or in a

1 couple of cases open light fixtures and look
 2 in. It was nothing terribly complicated and
 3 no one directed us otherwise.
 4 Q. How long were you there at that
 5 site, at the Transportation & Safety
 6 Building?
 7 A. Between, the first visit,
 8 between half a day and a day; the second
 9 visit again at least a half day.
 10 Q. And in the second visit, when
 11 you went there, was not for the purposes of
 12 looking above the ceiling or anything else;
 13 it was to look through the refuse; is that
 14 correct?
 15 A. Yes, the primary purpose of our
 16 visit was to go on to the sixth floor and
 17 look at the refuse and the general condition
 18 of the floor.
 19 Q. When you went there and you
 20 looked above the ceiling did you have to push
 21 the tile away, was it already open --
 22 A. I think in a couple of cases the
 23 ceiling tiles move up and down very easily.
 24 You push on them. We pushed them up enough

1 to look and see what the condition was. I
 2 think in at least one case they had installed
 3 a, if I'm not mistaken, a plexiglas shield
 4 where you could actually look into the
 5 ceiling without pushing one of the ceiling
 6 tiles out of the way, so it made it easier to
 7 do.
 8 Q. And when you went above the
 9 ceiling, I shouldn't say how long did you
 10 remain above the ceiling, but how long did
 11 you look? Did you look around to see where
 12 everything was and where it was located?
 13 A. In general. I would say maybe
 14 less than a minute per look, if you will.
 15 Q. And on that occasion you saw the
 16 ductwork; is that correct?
 17 A. Yes, I think in every case we
 18 saw the ductwork, fireproofing.
 19 Q. And when you looked at the
 20 ductwork did you actually touch the ductwork?
 21 A. No.
 22 Q. Did you take any kind of sample
 23 from the ductwork?
 24 A. No, we did not.

1 Q. Were you told before you went
2 there that there was an allegation that the
3 PCBs came from the ductwork?

4 A. I don't recall the sequence,
5 quite honestly.

6 Q. When you found out that the
7 allegation was that the 1262 came from the
8 ductwork did you ask to go back and look
9 again at the ductwork?

10 A. No.

11 Q. So you didn't touch it; is that
12 correct?

13 A. Right.

14 Q. And I think you testified that
15 from your observation it looked in good
16 condition.

17 A. Yes, based on that, based on
18 other photographs I have seen. There was a
19 number of things that I relied on to have
20 that opinion.

21 Q. What photographs did you look
22 at?

23 A. There were photographs from a
24 couple different items I received. The

1 sampling work that was done pre-fire by Law
2 Engineering was an example. I think Mr.
3 Kominsky's photographs and his expert report
4 is another example.

5 Q. And your testimony was that if
6 the PCBs were not in the adhesive it would
7 have been brittle, is that correct, and the
8 ductwork would have fallen apart?

9 A. Yes, I don't believe I testified
10 it would have been brittle; I think I
11 testified that the ductwork would have lost
12 its integrity and just started to collapse as
13 its adhesive went away.

14 Q. Do you recall testifying that in
15 the manufacturing process that it would have
16 become brittle, that is, the adhesive, if it
17 had lost the PCBs?

18 A. I don't remember testifying to
19 that effect.

20 Q. Mr. Woodyard, PCBs are added as
21 a plasticizer, is that correct, into certain
22 products?

23 A. Yes, that's correct.

24 Q. And in this particular case it

1 is adhesive; is that correct?

2 A. Yes.

3 Q. And they can be added to other
4 things such as paint; correct?

5 A. Yes.

6 Q. And other mastics; is that
7 correct?

8 A. Yes, that's my understanding.

9 Q. And we are talking about mastics
10 such as floor tile; is that correct?
11 Underneath.

12 A. I don't have experience and I
13 have not seen evidence that that's the case.
14 I have seen evidence that there is PCB
15 contamination in some of this glue or mastic
16 material like there was in the Transportation
17 & Safety Building, but it is at extremely low
18 levels. It has no functional value in the
19 mastic. It is an accident. Could be from
20 waste oil. It could be from other sources of
21 contamination.

22 Q. And let me ask you the question
23 outright: If PCBs are lost from an adhesive
24 would it become brittle?

1 A. I suspect if all of the PCBs
2 were lost, let's start from that, if all of
3 the PCBs went out of it there would be no
4 plasticizers, so it certainly would be less
5 flexible.

6 Q. So if you testified on the same
7 day, January 28, 2000, on page 136, line
8 seven, where it says, "If the PCBs had left
9 the glue what would happen to the glue back
10 at the plant?

11 "Well, the glue is the
12 plasticizer so it would become rigid,
13 brittle."

14 A. Fair enough. The term left the
15 glue is kind of vague, but I'm assuming we
16 are talking about all of the PCBs left the
17 glue.

18 Q. Well, have you ever done tests
19 on an adhesive to see at what point it
20 becomes brittle?

21 A. No, I have not.

22 Q. Is there any article that you
23 can cite us to or textbook that indicates
24 that all of the PCBs have to be lost before

1 it becomes brittle?

2 A. No, I have not seen any such
3 article.

4 Q. Now, you also indicated that it
5 would fall apart; is that correct?

6 A. I don't know what exact terms I
7 used. I seem to recall saying it would have
8 collapsed if there was no glue holding this
9 rigid duct together.

10 Q. What do you mean by collapse?

11 A. Under its own weight. Part of
12 the structure of the ductwork is the glue,
13 and if the glue goes away or becomes brittle
14 or loses its integrity you would expect the
15 ductwork to have nothing holding it up at
16 that point.

17 Q. Well, we are talking about, if
18 we are talking about the ductboard, the
19 purpose of the adhesive was not to give it
20 rigidity, was it?

21 A. No, the primary purpose was to
22 attach the fiberglass to the foil.

23 Q. So that whatever -- do you know
24 how much adhesive is added when they adhere

1 the ductwork to the foil?

2 A. Yes, I believe it is on the
3 order of five to eight grams per square foot,
4 I think is the number I recall.

5 Q. And so we are talking about a
6 situation where the ductboard, itself,
7 doesn't fall apart; correct, but you are
8 talking about the fact that the aluminum foil
9 would separate from the adhesive.

10 A. Yes, at least, and that would be
11 evident looking at the ductboard.

12 Q. Well, that ductboard, and you
13 have documents which were given to you by
14 CertainTeed which indicated how it was
15 fabricated; is that correct?

16 A. Actually the documents I
17 think -- well, I'm sorry. Maybe I jumped
18 ahead. When you say fabricated you are
19 referring to how it is made into a
20 rectangular piece of duct or a flat piece of
21 duct?

22 Q. Correct.

23 A. Yes, that's correct. I had
24 instructions about that.

1 Q. Other than that you haven't
2 spoken, other than having these documents,
3 which you have referred to during the course
4 of your testimony, you haven't spoken to
5 anybody from CertainTeed as to how they
6 manufacture it; correct?

7 A. In general, no. Like I said, I
8 did get some additional background on how
9 much was used to make it and things of that
10 nature.

11 Q. Where did you get that from?

12 A. From CertainTeed.

13 Q. Directly from CertainTeed.

14 A. Well, through counsel.

15 Q. You were never present to see
16 how it was manufactured; is that correct?

17 A. That's correct.

18 Q. You have never been present to
19 see how it is fabricated at the site; is that
20 correct?

21 A. No, that's correct.

22 Q. The only information you have
23 with how that ductboard, with its adhesive
24 and aluminum jacket, is fabricated is from

1 the documents which you referred to in your
2 Direct testimony; is that correct?

3 A. Yes, and as I mentioned at my
4 deposition testimony, I had some experience
5 making ductboard of other type, so I had a
6 pretty good idea how it is made.

7 Q. You never fabricated, itself,
8 I'm talking about the ductboard, itself, did
9 you?

10 A. No, I don't recall fabricating
11 using their ductboard.

12 Q. And you never saw them put it
13 together; correct?

14 A. No, that's correct.

15 Q. You never saw them do the
16 heating test, did you?

17 A. Heating?

18 Q. Cure it.

19 A. Oh, no, I didn't see that. You
20 are talking about the quality assurance
21 testing back at Gustin-Bacon?

22 Q. Right.

23 A. No, I never saw that.

24 Q. What did you do during that

1 summer that you were there?
 2 A. The summer that I was --
 3 Q. Saw fabrication of ductwork or
 4 manufacturing of ductwork.
 5 A. I'm confused.
 6 Q. You said you had a summer job.
 7 A. Oh, yes. I'm sorry. The work I
 8 did, the summers when I was in college to
 9 work my way through school, was in a sheet
 10 metal shop or what is called a sheet metal
 11 shop. It is basically a duct fabrication
 12 facility in North Jersey and we spent all day
 13 making different shapes and sizes of ductwork
 14 for ventilation contractors to install.
 15 Q. That's cutting the pieces to the
 16 requisite size; is that correct?
 17 A. Yes. Right, using different
 18 sizes, using different types of materials of
 19 construction, using different types of
 20 bending equipment or forming equipment or
 21 sealing equipment. Duct tape, of course.
 22 Q. Now, when that is fabricated,
 23 that being the ductwork is fabricated on
 24 site, it comes in sheets; is that correct?

1 A. Yes, sir.
 2 Q. And these sheets have joint
 3 areas where it can be followed; is that
 4 correct?
 5 A. Yes. Actually, I think you have
 6 to make the cut to make the fold. The sheet
 7 just comes plain and you have to cut the
 8 grooves.
 9 Q. And you also have to, so that
 10 you can join once you have cut it and you put
 11 it into a rectangle, you also have to cut
 12 away some of that insulation so that you have
 13 an overlapping piece of aluminum; is that
 14 correct?
 15 A. Yes, sir.
 16 Q. And in the documents which you
 17 gave us, which you said you relied upon, they
 18 indicate, do they not, that when they cut
 19 away that insulation to give you the over
 20 hanging piece of aluminum foil, and we are
 21 talking about four by 10's?
 22 A. That's correct.
 23 Q. So we are talking about the ten
 24 foot length and they cut along there a

1 certain, I don't know how wide it would be,
 2 let's say an inch, they would cut a groove
 3 along there and then they would take off that
 4 insulation so that the aluminum was there so
 5 that they could wrap it around, fit the
 6 joints together, and put the aluminum over
 7 it; is that correct?
 8 A. Yes, that's correct.
 9 Q. And when they do that on site,
 10 and this is on site now, they have to scrape
 11 away the adhesive on the aluminum foil, do
 12 they not?
 13 A. I believe so. To the extent
 14 that they can.
 15 Q. Well, doesn't it say in the
 16 documents which you were referring to, in the
 17 instructions as how to do it, that you cut
 18 away and take away the insulation and then
 19 you scrape all of the adhesive from the
 20 overlapping aluminum foil?
 21 A. Right.
 22 Q. And then they take that aluminum
 23 foil and they pull it tight and they staple
 24 it; isn't that correct?

1 A. Yes, sir.
 2 Q. And on top of the stapling they
 3 then put the heat sealing tape; is that
 4 correct?
 5 A. That's correct.
 6 Q. So that if the ductwork and the
 7 adhesive became brittle how would you be able
 8 to see, how would the ductwork just fail, how
 9 would it just drop? You have stapling of the
 10 aluminum foil and you have heat sealing tape
 11 over the top.
 12 A. Well, you are talking, I'm
 13 sorry, we have shifted subjects a little bit,
 14 at least in my mind. Originally we were
 15 talking about the ductwork. Now we are
 16 talking about the area where the tape is
 17 applied to the ductwork.
 18 Q. No, what we are talking about is
 19 you said that if the adhesive became brittle
 20 while it was up there the ductwork would just
 21 collapse. That was your testimony, was it
 22 not?
 23 A. Yes. I understand.
 24 Q. And that would mean that the

1 aluminum foil would become apart from the
 2 adhesive; is that correct?
 3 A. Yes, that's true.
 4 Q. But that it wouldn't collapse
 5 because it is stapled on and has this heat
 6 sealing tape on it so you wouldn't just have
 7 a collapse of the aluminum; is that correct?
 8 A. No, but it would be disfigured
 9 in some way so that you would be able to look
 10 at the outside and see that it is bubbled or
 11 misshapened or something. Much like you saw
 12 in the fire. For example, where there was
 13 heat contact but not destruction. There was
 14 some distortion of the ductwork that made it
 15 look very different than what it does in the
 16 rest of the building.
 17 Q. But the only way you could tell
 18 whether the adhesive was not adhering the way
 19 it should or whether the adhesive had gotten
 20 brittle would be actually cutting it and
 21 taking a look at it, touching it as far as
 22 the texture is concerned; correct?
 23 A. If you -- like I said -- I
 24 thought I was clear. If the adhesive starts

1 to fail, the foil and the fiberglass are
 2 going to separate. You are going to see some
 3 evidence of that in looking at the outside of
 4 the foil on the ductwork.
 5 Q. Now, you had this aluminum foil
 6 which is wrapped tightly around the
 7 ductboard; is that correct?
 8 A. Yes, sir.
 9 Q. And it is stapled; correct?
 10 A. Yes, sir.
 11 Q. And there's a heat sealing tape;
 12 correct?
 13 A. Yes.
 14 Q. So how much would you see of the
 15 aluminum foil buckling, dropping, or whatever
 16 if it became brittle underneath?
 17 A. I really don't know. I didn't
 18 test it.
 19 Q. You didn't test it.
 20 A. I didn't test to see what would
 21 happen exactly if you did what you are
 22 describing.
 23 Q. And you didn't test to see if,
 24 in fact, the adhesive, itself, was brittle,

1 did you?
 2 A. No, from what I saw there and in
 3 photographs it was doing its job. It was
 4 still intact. The ductwork was still rigid
 5 and it was still working.
 6 Q. And it would have been easy,
 7 would it not, for you just to take a sample
 8 of the aluminum foil and adhesive while you
 9 were there on your site visit, would it not?
 10 A. Certainly. If I had wanted to.
 11 Q. And that would have proven
 12 conclusively to you whether it was brittle or
 13 not brittle; correct?
 14 A. Yes, but, again, I have seen no
 15 evidence that it was brittle in other
 16 people's samples.
 17 Q. How many miles of ductwork are
 18 there in the Transportation & Safety
 19 Building?
 20 A. Again, I think the number was 16
 21 miles.
 22 Q. And so on the basis of going
 23 above the ceiling for half a minute and
 24 looking at the ductwork on two occasions you

1 determined that the adhesive was not brittle;
 2 is that correct?
 3 A. No, the basis for my opinions
 4 and my testimony certainly isn't as simple a
 5 thing as inspecting the ductwork. I mean, in
 6 order for that PCB, and we are talking about
 7 five to eight grams per square foot, we are
 8 talking about an adhesive that is 20 percent
 9 or 18 percent PCB, that's a lot of adhesive
 10 in that building. In order for that ductwork
 11 to get that brittle, an incredible amount of
 12 PCBs would have had to come out of the
 13 ductwork, and it just wouldn't -- it is just
 14 totally inconsistent with the data in this
 15 case.
 16 Q. But the easy way to tell if it
 17 was brittle would be to take a sample of it.
 18 To actually remove the aluminum foil and take
 19 a sample; correct?
 20 A. It is simple. If I had wanted
 21 to do that. Certainly.
 22 Q. If you had wanted to do that,
 23 but instead you looked at it on two occasions
 24 for about a half minute above the ceiling,

1 looked at some photographs and made a
2 determination that it wasn't brittle, that
3 none of the PCBs had escaped; is that
4 correct.

5 A. Two questions. As far as being
6 brittle, I looked at it and looked at the
7 information provided by other people and
8 their analysis. I didn't see evidence of it
9 being brittle.

10 As far as the PCBs still being
11 there, sure, every sample that has ever been
12 taken show that PCBs are still in the
13 adhesive in the ductwork. It is still doing
14 its job.

15 Q. But you are saying that all of
16 the PCBs would have to leave in order for it
17 to become brittle. How do you know that?

18 A. I testified that I have seen
19 articles that show at what point some PCB
20 loss percentage, let's say, that duct
21 actually would start to delaminate or fall
22 apart or collapse or whatever. I don't know
23 the answer to that question.

24 Q. So that there could be PCB loss

1 without the adhesive becoming brittle to
2 cause the aluminum foil in the ductwork to be
3 damaged; is that correct? It is possible.

4 A. Certainly it is possible, but as
5 we talked about during my deposition, the
6 testing protocols that are used or were used
7 by Gustin-Bacon in making this material
8 heated the PCBs to relatively high
9 temperatures, certainly a lot higher than
10 they would have experienced in the building,
11 and in that process there might have been
12 some material lost and it was designed to
13 show that there wouldn't be any structural
14 change.

15 Q. As a matter of fact, the
16 documents that you received to review in
17 connection with this indicated that after
18 doing that process of heating it, in fact,
19 the bonding failed between the aluminum foil
20 and the adhesive; isn't that correct?

21 A. Could you say that again?

22 MR. GOUTMAN: Objection, Your
23 Honor if there's a document --

24 MR. NEAL: Yes, I have one.

1 Tom, did you have these
2 marked? I only have the deposition
3 number.

4 MR. GOUTMAN: The mark should
5 be on your copy. DCT. You are right.

6 BY MR. NEAL:

7 Q. Do you have yours with you?

8 A. Yes, I do. This is the one that
9 I had with me at the deposition.

10 MR. NEAL: Your Honor, do you
11 have your copy?

12 THE COURT: Tell me what you
13 are referring to.

14 MR. NEAL: I will hand it up
15 to you.

16 MR. GOUTMAN: What exhibit
17 number?

18 THE WITNESS: Mr. Neal, which
19 specific one are you talking about?

20 BY MR. NEAL:

21 Q. Would you look at, please, DCT
22 20? It is a memo dated July 15, 1964.

23 A. DCT 20.

24 THE COURT: Is that in the

1 exhibit that you have given to The Court?

2 MR. NEAL: Yes, there are a
3 whole bunch of exhibits together that you
4 can see. Those are the documents to which
5 Mr. Woodyard referred to.

6 THE COURT: We are going to
7 take a short recess.

8 (Court recessed)

9 MR. EDGE: You may be seated.
10 This Court is in session.

11 MR. NEAL: May I proceed, Your
12 Honor?

13 THE COURT: Yes, you may.

14 BY MR. NEAL:

15 Q. Mr. Woodyard, did you have a
16 chance took at what I guess is marked as DCT
17 20?

18 A. Yes, DCT 20 is what I think you
19 originally called it.

20 Q. And that's one of the documents
21 that was given to you; is that correct?

22 A. Yes.

23 Q. And I am correct that other than
24 these documents and a brief conversation you

1 had or information related to you about the
2 amount of adhesive, you didn't discuss any of
3 this with any employees of CertainTeed; is
4 that correct?

5 A. That's correct.

6 Q. And you never asked to go out
7 there and talk to anyone; is that correct?

8 A. No, that's correct.

9 Q. And with regard to the documents
10 you were provided, the talk about the one I'm
11 referring to, which is DCT 20, which is a
12 July 13, 1964 memo, was a document in which
13 they were going through what is called the
14 curing process; is that correct?

15 A. Yes, specifically they were
16 looking at different adhesive blends and how
17 they affected the curing process.

18 Q. And how many PCBs, how much PCBs
19 was in there?

20 A. I was told it was 18 percent
21 roughly by weight, and there were about five
22 to eight grams of adhesive per square foot.

23 Q. And, again, it was used, the
24 PCBs were used as a plasticizer so that it

1 would remain pliable and soft; is that
2 correct?

3 A. Yes.

4 Q. And it would allow the bond to
5 keep its integrity; is that correct?

6 A. The bond between the fiberglass
7 and the foil, that's correct.

8 Q. And in this particular instance
9 they were testing a certain adhesive, putting
10 it through what is called the curing or
11 drying phase, and to determine whether the
12 adhesive was, in fact, acting as an adhesive
13 to bond the foil to the ductwork; is that
14 correct?

15 A. Yes, I believe so.

16 Q. And the first adhesive they
17 tried they heated it up in an oven and then
18 said after several weeks, after doing this,
19 and putting it in a carton, after several
20 weeks in the carton the facing would peel
21 way from the board under its own weight; is
22 that correct?

23 A. Which paragraph are you looking
24 at?

1 Q. I'm looking at the second
2 paragraph where it starts, "The first
3 adhesive used was Morningstar Paisley 2581."

4 A. Right. That's not the adhesive
5 we are talking about in this case.

6 Q. Do you know what adhesive was
7 used?

8 A. Adhesive aef-6 rewrite I think
9 is the one that's referred to down here
10 toward the bottom as the one that contains
11 Aroclor 1262.

12 Q. This is in July 15, 1964; is
13 that correct?

14 A. I believe so.

15 Q. Do you know what Aroclor
16 Morningstar Paisley 2521 contained?

17 A. Not offhand. I don't know if it
18 is contained in these other documents I
19 provided you.

20 Q. But it is none of the documents
21 that you can recall reviewing; is that
22 correct?

23 A. Perhaps not. I provided you
24 copies with what I reviewed.

1 Q. So whatever we have is what you
2 have in front of you; is that correct?

3 A. I believe so.

4 Q. So they tried this first
5 adhesive and found out that after the curing
6 process, when they put the ductboard with the
7 aluminum foil in cartons after a couple of
8 weeks the bond failed. Is that correct?

9 A. Yes, that's true.

10 Q. And then they tried another
11 adhesive; is that correct?

12 A. Yes, that's correct.

13 Q. And if you will take a look at
14 where it starts, "The second adhesive", it
15 says in the last sentence, "The expansion and
16 the drying of the adhesive, while the facing
17 and board were out of contact with each other
18 did not provide the well adhered product that
19 was required"; is that correct? So, again,
20 they were having a problem with the aluminum
21 film adhering to the ductwork; correct?

22 A. Yes, they were experimenting
23 with different types of adhesive to see which
24 ones worked best.

1 Q. Then they tried to do it with
2 the adhesive being wet and it still failed;
3 is that correct?

4 A. I think it refers to corrosion
5 in that case. It didn't refer to the
6 adhesive failing, but being packed wet, with
7 the aluminum corroded after several weeks in
8 the carton.

9 Q. Which would then cause the
10 aluminum to separate from the adhesive and
11 ductboard; is that correct?

12 A. That I don't know. It certainly
13 was a defective product if it was
14 manufactured that way because there are
15 corrosion related tests as part of the
16 standard specifications.

17 Q. Then in the next one, DCT 137,
18 do you have that in front of you?

19 THE COURT: That's the next
20 page; is that correct?

21 MR. NEAL: Next page. That's
22 correct.

23 THE WITNESS: Okay. I'm
24 looking at it.

1 necessarily what would cause air pockets to
2 form between the foil and --

3 Q. You just indicated earlier in
4 your testimony that air pockets would form,
5 bubbles. Bubbles are air pockets, are they
6 not?

7 A. Well, yes, earlier in my
8 testimony I was talking about how if the glue
9 lost its integrity somehow and we were
10 focusing on the plasticizer that it might
11 delaminate essentially. The foil comes apart
12 from the fiberglass. There are probably a
13 number of ways that could occur, one of which
14 is would be a PCB loss.

15 Q. And an example of that is the
16 drying out process; is that not correct?

17 A. Drying outside process --

18 Q. The curing process. The heating
19 it up to a certain temperature to see if the
20 adhesive will fail.

21 A. Yes. That's the purpose of the
22 experiment, is to make sure that they are
23 making a good product.

24 Q. And one, as you just indicated,

1 MS. HERSCHEL: Mr. Neal, can
2 you wait just a second while I shuffle
3 away?

4 Sorry.

5 BY MR. NEAL:

6 Q. Then, again, that was a test
7 involving trying to adhere the ductwork to
8 the aluminum; is that correct?

9 A. Yes, sir.

10 Q. And they indicate, in the second
11 to last sentence in that first paragraph,
12 "The biggest problem appears to be air
13 pockets when the adhesive dries out of
14 contact with the ductboard"; is that correct?

15 A. Yes, that's what it says.

16 Q. So that we have the adhesive
17 which is drying. It is not as pliable, it is
18 not as flexible, and the bonding fails in
19 this particular test.

20 A. Yes.

21 Q. And the PCBs were supposedly in
22 that adhesive at the time they performed
23 these tests; correct?

24 A. Yes, but the adhesive isn't

1 one of the reasons for failure could be that
2 the PCBs have volatilized or left the
3 product; is that correct?

4 A. I don't know that based on what
5 I have seen here.

6 Q. No, because you weren't there
7 and you have done no tests in that regard; is
8 that correct?

9 A. That's true.

10 Q. And you could have done a test
11 where you take ductboard with the adhesive
12 with aluminum foil, heated it up to see
13 whether, in fact, there was any loss of PCBs;
14 correct? You could measure that.

15 A. I could have done that, yes.

16 Q. And one of the explanations, if
17 it leaves, then the bond fails between the
18 adhesive and the aluminum foil; correct?

19 A. That's one possible explanation.

20 Q. And in the memo you have and in
21 the memo you read previously the bond failed
22 between the aluminum foil and the adhesive;
23 is that correct?

24 A. Right, but the reason why it

1 failed is not clear. They didn't conclude it
2 was loss of PCB or anything in particular.
3 They are more concerned about whether the
4 bond holds.

5 Q. When you saw this and when you
6 read this did you call up CertainTeed and say
7 Hey, wait a minute. I'm a little concerned.
8 It says here it failed. Why did it fail? Do
9 you know? Did you ever ask them that?

10 A. No, I didn't see a need to given
11 the information that I already had.

12 Q. When you knew that one of the
13 reasons that it could fail is the loss of
14 PCBs did you ever ask them, Hey, did you ever
15 do a test to find out whether PCBs are lost
16 and that's one of the reasons why the
17 adhesive is failing?

18 A. Perhaps it's not clear. The
19 production process that was used is similar
20 to what we are talking about here with some
21 modifications, I assume. That process worked
22 fine. The ductwork that was produced, mass
23 produced, worked fine. The samples that I
24 saw in my laboratory that were received from

1 the Transportation & Safety Building were
2 just fine. They were flexible. Why would I
3 assume that we have lost massive amounts of
4 PCB?

5 Q. Did you ever ask them have you
6 had problems with the aluminum foil coming
7 unglued from the adhesive? Did you ever ask
8 them whether they had had that problem in
9 '65, '66, and '67?

10 A. No.

11 Q. Now, when you talked about heat
12 sealing you talked about getting certain
13 documents to help explain to you what heat
14 sealing process was, as far as Gustin-Bacon
15 was concerned; correct?

16 A. By heat sealing you are
17 referring to the use of the iron or the tape?

18 Q. Correct.

19 A. Yes, we had duct cartoons and
20 other literature that were available to
21 explain to people how to use it.

22 Q. Well, which one did you use to
23 come to your opinion about how heat sealing
24 was done? Why don't you take a look at DCT

1 49.

2 A. Okay. I am.

3 Q. And that simply says, does it
4 not, that for heat sealing just run the heat
5 sealing tool over the entire taped surface,
6 making sure that the heat seal application is
7 uniform and thorough. This will activate the
8 tape to vulcanize the aluminum jacket; is
9 that correct?

10 A. Yes, we have talked about that
11 before.

12 Q. Did you ever see a demonstration
13 of that?

14 A. No, I did not.

15 Q. Did you ever see the heat
16 sealing tool that they used in 1965, 1966,
17 and 1967?

18 A. No, sir.

19 Q. Do you know if the heat sealing
20 tool has changed from 1965 through '67 to
21 present day?

22 A. No, I don't.

23 Q. Do you know or did you ask
24 Gustin-Bacon how hot does that iron get, that

1 heat sealing iron?

2 A. No, I didn't. There was
3 information, I believe, in Mr. Kominsky's
4 report that said it was up to 350 degrees or
5 thereabouts. I forget the exact number.

6 Q. And so other than what Mr.
7 Kominsky has testified to, you didn't have
8 any independent knowledge of how hot it got.

9 A. No, I don't think so.

10 Q. Did you ever ask them how long
11 you run that heat sealing iron over this
12 tape?

13 A. I did and it was described much
14 as I described it to you, that it was run
15 across like you were ironing a shirt or
16 something. They did not identify a time
17 period or how long according to some
18 specification you had to hold it there.

19 Q. You testified in your testimony
20 here today that other than this, I'm saying
21 this, these documents, and a conversation
22 about the adhesive, you didn't speak to
23 anybody from CertainTeed?

24 A. No, sir. No. What I meant, I'm

1 sorry if I misspoke, but I asked the question
2 of Ms. Herschel, who passed that question on
3 to her people who had some historical
4 knowledge. Recognize that this is 35 years
5 ago. They had to find somebody with
6 experience on this particular product and
7 that's the feedback that I got, that it is
8 run pretty much like an iron would be run
9 evenly down a piece of tape.

10 Q. Do you know for how long they
11 run that iron over a section of the tape?

12 A. No, I would have to speculate if
13 I was going to use it for any computation.

14 Q. Do you know how much pressure
15 had to be used in which, by pressure I mean
16 they put the heat sealing iron and they hold
17 it there for a while and then push and hold
18 it there for a while. Do you know how much
19 pressure was used?

20 A. No, apparently pressure isn't
21 important. If pressure were important -- if
22 the amount of time were important, I mean as
23 an engineer that's what specifications are.
24 You tell somebody hold the iron for five

1 seconds with ten pounds of pressure or
2 something very specific. The fact that they
3 made it so easy indicates that it's not that
4 critical and it is probably faster. If it
5 doesn't require you to sit on the iron or
6 stand on it; simply hold it there and make
7 sure that the tape is applied uniformly and
8 that the adhesive melts.

9 Q. That's speculation on your part
10 because you didn't talk to anybody; correct?

11 A. Well, it is speculation but it
12 is also coupled with my 20 or 30 years of
13 experience as an engineer. This is a
14 specification. In the world that I work in
15 if it is that general it typically means that
16 it is that easy.

17 Q. This cartoon that you referred
18 to is a specification?

19 A. I mean, it is an instruction
20 manual like you get with your VCR or
21 something like that which oftentimes is going
22 to be more complicated than using an iron on
23 a piece of tape.

24 Q. This is a brochure of some sort;

1 isn't that correct? It's not an instruction
2 manual?

3 A. It is in a sense because if the
4 manufacturer says it is this easy to do, then
5 that's the instruction manual they are going
6 to create rather than give you a phone book
7 size document to read just to put tape on a
8 piece of ductwork.

9 Q. So it is not important in your
10 opinion for the person doing the fabrication
11 to know anything more than running an iron
12 over a tape, run it along, and then keep
13 going on?

14 A. Thoroughly and uniformly. It is
15 a common sense type of direction and
16 instruction. I believe that as we discussed
17 when we talked about ironing patches and
18 lettering on my daughter's Indian princess
19 vest, it is that easy. It is not
20 complicated. And there's no need to make it
21 anymore complicated than this.

22 Q. So what you are saying is that
23 this doesn't require any skilled labor; it is
24 anybody who irons patches on to an Indian

1 princess uniform or anything else can do it?

2 A. In so many words. If it were
3 that complicated there would be certified
4 tape applicators and people of that nature.
5 I think this is way over blown. It is that
6 simple.

7 Q. Isn't it important to make sure
8 that that heat sealing tape does adhere well
9 in order to keep the integrity of that duct
10 together? Isn't that important?

11 A. The staples are doing the heavy
12 lifting as we would say. That's the
13 structural connection and the tape is simply
14 a seal.

15 Q. So as far as you're concerned,
16 from what you can tell from this, these
17 cartoons, the only thing, the only purpose of
18 that tape is just to seal, and it doesn't
19 make any difference whether someone is
20 instructed properly in how to do it or not;
21 it should be just common sense.

22 A. You, yourself, were pointing out
23 before how it is important the staple was to
24 hold this duct together. That is what is

1 doing the structural work. The tape is a
 2 ceiling tape. It is designed to seal the
 3 ductwork and make sure that it is essentially
 4 air tight.
 5 Q. So anybody off the street could
 6 come and do that?
 7 A. Absolutely. You are right. It
 8 is common sense. My daughter could do that.
 9 Q. How difficult would it have been
 10 for you to ask for a demonstration on
 11 fabricating ductwork including the heat
 12 sealing process?
 13 A. I suspect it would have been
 14 pretty easy.
 15 Q. So that if you wanted to you
 16 could say, Hey. Look. I looked at the
 17 cartoons and I think I can do it, but I would
 18 like to see exactly how it is done. You
 19 could have done that?
 20 A. I could have done that,
 21 certainly.
 22 Q. But instead you just got maybe
 23 ten or 12 documents and said on the basis of
 24 that I know how it is done. I know how it is

1 fabricated.
 2 A. Within certain reasonable
 3 boundaries as an engineer. I was trained, if
 4 you recall, as an industrial engineer and
 5 what I used to be trained to do was to figure
 6 out more efficient ways to make things.
 7 Basically design, manufacturing and
 8 installation processes like this. If it was
 9 going to take somebody a minute of holding
 10 that iron still, this iron that is so big or
 11 thereabouts, on that tape until it is heat
 12 sealed, then somebody at Gustin-Bacon is
 13 going to probably lose their job because
 14 nobody is going to buy that process. They
 15 would have to have a bigger iron or do
 16 something to make it faster. It makes
 17 absolutely no sense that it takes more than a
 18 few seconds.
 19 Q. How big is the iron?
 20 A. I don't recall. It is a couple
 21 inches maybe. I have had it described to me.
 22 I have not seen it, as I just said.
 23 Q. So, again, it was just something
 24 that was described to you; is that correct?

1 A. Yes.
 2 Q. Who was it described to you by?
 3 A. I can't recall. I can't recall.
 4 Q. And how simple would it have
 5 been for you to perform some kind of test in
 6 which while this heat sealing process is
 7 going on to measure whether there is any PCB
 8 loss?
 9 A. It would have been a pretty
 10 complicated test as evidenced by the fact
 11 that Mr. Ewing had trouble doing it.
 12 Q. Well --
 13 A. And there's no standard approach
 14 to doing this, so you would have to develop a
 15 special protocol and make sure that
 16 scientists had reviewed it and made sure that
 17 it was acceptable.
 18 Q. You, as a scientist, you would
 19 like the best information possible; is that
 20 correct?
 21 A. Yes, that's true.
 22 Q. And the best information
 23 possible would have been to have a test, no
 24 matter how complicated it was, performed;

1 correct? That would be the best evidence of
 2 whether there's a loss during the heat
 3 sealing process.
 4 A. If I thought it was justified I
 5 certainly would have asked for it. You make
 6 a good point. The fact is that if you take
 7 the science that has already been done, if
 8 you take vaporization rates, which have
 9 already been developed in the laboratory,
 10 published in the journals, and books and so
 11 forth we have been alluding to here, you take
 12 a worst case situation where you assume that
 13 that adhesive is all PCB and you apply what
 14 you have been talking about here and the
 15 amount of ductwork, the amount of tape we are
 16 talking about, you end up vaporizing in this
 17 extreme worst case maybe 100th of an ounce of
 18 PCB, which is no where -- it is no where near
 19 accounting for the amount of PCB that
 20 actually showed up in this building after the
 21 fire. It makes absolutely no sense to do a
 22 test if your worst case scenario as
 23 calculated doesn't get you anywhere near
 24 where the facts are telling us we need to go.

1 Q. Did you do that calculation to
2 find out how much PCBs would have been lost?

3 A. Oh, yes. Absolutely.

4 Q. And you determined that -- what
5 did you say; 100th of an ounce?

6 A. Yes, I think that's the way the
7 calculation worked out. The number gets big
8 as we talked about. 16 miles is --

9 Q. After heating it up?

10 A. Yes.

11 Q. You heated it up? Did you heat
12 the ductboard up?

13 A. No, let me back-up just so you
14 are clear on this. I assumed a certain very
15 large length of ductwork in this building.
16 16 miles or whatever. Two inch piece of tape
17 and worked out the amount of surface area
18 that would have been contacted by that iron.
19 I assumed a five second contact time with the
20 iron at 250 degrees as Mr. Kominsky posited
21 in his report. Then I went and computed how
22 much, based on pure PCB, not locked in the
23 glue but pure PCB how much would actually be
24 vaporized in that time period and it came out

1 to some -- it was a 100th of an ounce. We
2 are talking about the equivalent of about a
3 drop of PCB for that whole building.

4 You were re asking me before,
5 this is coming back around, you asked me
6 before why I, perhaps, I'm being a little
7 cavalier about the amount of contact time.
8 The answer is for that entire building if I
9 held that iron in place for 30 seconds, we
10 are multiplying this one drop by six, so now
11 we have six drops of PCB being emitted in
12 this entire building. This isn't in glue;
13 this is pure PCB, assuming that there's no
14 glue there. Why would I want to do a test?
15 Because I have already computed, based on
16 good science, the worst case scenario.

17 Q. Well, the worst case scenario,
18 you saw Mr. Ewing's test, did you not?

19 A. I saw the results of that, yes.

20 Q. And you saw when Mr. Ewing put
21 it in a small chamber test and heated up the
22 ductwork that PCBs volatilized, did you not?

23 A. Yes, but Mr. Ewing, among other
24 things, used ductwork that had been taken out

1 of the building after the fire. It already
2 had smoke and soot deposits on it who knows
3 what else that might have already been ready
4 to be mobilized in his test.

5 Q. You could have just as easily
6 done a test like that to verify Mr. Ewing's
7 results, could you not? You could have done
8 it?

9 A. I could have, but as I just
10 pointed out, given the math and given the
11 science that is behind what I just did as a
12 calculation there's no point. It makes no
13 sense to spend the money and time to do a
14 test to try and show something that is
15 inconsequential. The amount of PCBs coming
16 off this heat sealing process is almost zero.

17 Q. Mr. Woodyard, as a scientist the
18 best evidence of that, not sitting down and
19 calculating numbers and saying so many miles
20 and this and that, the best evidence would be
21 to perform a test to verify any results you
22 got, isn't that correct, as a scientist?

23 A. No, only if you are talking
24 basic science. If somebody spent the time

1 and money to compute vaporization rates and
2 we have been talking about this, that's great
3 data. Let's use that data to the extent that
4 we can. Creating or fabricating a chamber or
5 some other type of test to do this sort of
6 thing makes no sense at all for the reasons I
7 just said. We got much better data from much
8 more reputable organizations. National
9 Institute for Standards and Technology.
10 People like that at the federal government
11 and universities who have done these tests
12 already. They have given you all the data
13 you need.

14 Q. Have they done tests, you keep
15 saying that, have they done tests on the
16 release of PCBs from adhesives?

17 A. No, they have done tests on PCBs
18 all by themselves, which are more likely to
19 release than they would from an adhesive.

20 Q. And they find out that PCBs do
21 volatilize, do they not?

22 A. At extremely, extremely low
23 levels.

24 Q. Let's get into that. We have

1 PCBs in the environment, do we not?
 2 A. That's correct. Again, at
 3 extremely low levels.
 4 Q. And we have PCBs that volatilize
 5 from soil and sediment; isn't that correct?
 6 A. There is evidence of that.
 7 Again, extremely low levels.
 8 Q. The fact of the matter is that
 9 they volatilize, do they not?
 10 A. Some PCBs do. Not the material
 11 that we are talking about in this case.
 12 Q. You have PCBs in sediment, in
 13 bodies of water, do you not?
 14 A. Yes, but that's apples and
 15 oranges. We are talking about --
 16 Q. We have --
 17 A. Let me finish my answer first.
 18 Q. Okay.
 19 A. We are talking about apples and
 20 oranges here. PCBs that might have been
 21 released decades ago into the environment
 22 have nothing to do with PCBs that are locked
 23 into a glue.
 24 Q. We have, do we not, PCBs in

1 sediment, in bodies of water, do we not?
 2 A. Yes, but it didn't necessarily
 3 get there by vaporization, as you
 4 characterized it. There are a lot of ways it
 5 could.
 6 Q. But to get out of that sediment
 7 and to be deposited on foliage, tree foliage,
 8 that occurs through a process of
 9 volatilization, does it not?
 10 A. It typically, based on the
 11 literature that I have seen, would occur
 12 because particles of aerosols or PCB would
 13 attach to dust, would attach to other
 14 particles that are already flying through the
 15 area and that would carry it. PCBs,
 16 regardless of the Aroclor, would much rather
 17 be in a liquid or solid form.
 18 Q. You are familiar, are you not,
 19 with Mr. Erickson's book?
 20 A. Yes, I am, sir.
 21 Q. It is the "Analytical Chemistry
 22 of PCBs"?
 23 A. Yes.
 24 Q. And you, as a scientist, would

1 refer to reference books or literature in
 2 order to learn more about a subject; is that
 3 correct?
 4 A. Yes, sir.
 5 Q. And let me show you, in
 6 Mr. Erickson's book he has a diagram, does he
 7 not? Dr. Erickson has a diagram in his book,
 8 does he not?
 9 A. Yes, sir.
 10 THE COURT: Is there one more?
 11 MR. NEAL: I'm sorry, Your
 12 Honor. I'm going to let Mr. McClain do it.
 13 BY MR. NEAL:
 14 Q. Dr. Erickson, in his book, has a
 15 diagram, does he not, on pathways for the
 16 cycling and transport of PCBs in the
 17 environment?
 18 A. Yes.
 19 Q. And he indicates, does he not,
 20 with PCBs being down in the sediment; is that
 21 correct?
 22 A. Yes.
 23 Q. And then he gets up where he
 24 follows its path from the sediment up to the

1 surface; is that correct?
 2 A. Yes.
 3 Q. And he talks about when it gets
 4 to the surface evaporation taking place, does
 5 he not?
 6 A. Yes, he does use the word
 7 evaporation. That's true.
 8 Q. And as a matter of fact, that's
 9 the principal form of transport and
 10 deposition from either soil or from sediment
 11 on to the foliage; is that correct?
 12 Evaporation.
 13 A. To put this in context, we will
 14 call this a cartoon for a movement. It is
 15 just an attempt to show you how this process
 16 works. The vaporization rate of PCBs is
 17 millions of times slower than it is for
 18 water. That's not what is on this diagram.
 19 I realize it is difficult to show this on
 20 this diagram, but if it took me a day to let
 21 this cup of water evaporate, it would take a
 22 million days for the same cup full of PCBs to
 23 evaporate. That's accurate to the extent
 24 that it shows what those few molecules are

1 going to do when they evaporate and where
2 they are going to go; it does not give you
3 any sense at all for how slowly the process
4 is really working. Some of the information
5 that is underneath that diagram talks about
6 incredibly low units of emission. The number
7 is well below the numbers that we are talking
8 about in this case.

9 Q. This process taking place has a
10 lot of PCBs all over the place; correct? In
11 the environment.

12 A. True, but I certainly wouldn't
13 attribute them to volatilization as I think
14 you have attempted to do.

15 Q. Well, do you agree that the PCB
16 levels found on foliage result from vapor
17 phase transport from the polluted, for
18 instance, soil? Do you agree with that?

19 A. I would -- no, not as you have
20 characterized it. What I would say is that
21 PCBs can vaporize from a water body like that
22 at extremely low levels, attach themselves to
23 particles, the particles get on the leaves
24 and, sure, PCBs could end up on the trees in

1 that fashion.

2 Q. Let's switch for a moment to
3 soil. Do you agree that the PCB levels found
4 on foliage result from vapor phase transport
5 from the polluted soil and not contamination
6 from soil parts?

7 MR. GOUTMAN: Page, please.

8 THE COURT: May I ask where
9 you are reading?

10 MR. NEAL: Page 47, Your
11 Honor. If you look at page 47.

12 THE COURT: Of this exhibit?

13 THE WITNESS: I have no basis
14 to agree or disagree. I would need to
15 look at the article because it will talk
16 about what levels we are talking about.
17 It just talks about the PCB levels which
18 could be infinitesimal. It could be a
19 million times lower than what we
20 experienced in the Transportation & Safety
21 Building.

22 BY MR. NEAL:

23 Q. Have you looked at the articles?

24 A. I have looked at some. Not that

1 particular one.

2 Q. Which article have you looked
3 at?

4 A. Which article?

5 Q. Which articles?

6 A. I don't recall all of them. I
7 have seen a number of these in the course of
8 my work.

9 Q. Why don't you just give us one.

10 MR. GOUTMAN: Could you ask a
11 question, Mr. Neal?

12 BY MR. NEAL:

13 Q. Which articles are you referring
14 to about the vapor phase transport from soil
15 to foliage?

16 A. I can't remember the article
17 offhand. I think it may have been a citation
18 that I saw in a different book.

19 Q. Which book?

20 A. Probably would have been the
21 World Health Organization book on PCBs.

22 Q. Do you have that here?

23 A. No, I don't.

24 Q. When you came here did you do

1 any kind of or in making your report did you
2 do any kind of research into the literature
3 on the volatilization of PCBs, whether it be
4 from soil, spills, adhesive; anything?

5 A. Yes, I looked at what the
6 evaporation rates and vapor pressures were
7 for different types of PCB.

8 Q. You looked at the evaporation
9 rates. Did you look at any kind of article
10 that dealt with research on the ability of
11 PCBs to volatilize, whether it be from
12 solids, liquids or whatever?

13 A. No, I wouldn't need to. We are
14 talking basic physics and chemistry.

15 Q. What basic physics are we
16 talking about?

17 First of all, what book would
18 you refer to for basic physics?

19 A. A basic physics book. A
20 textbook from college or high school even.

21 Q. When was the last time you
22 looked at that?

23 A. It has been a while.

24 Q. When was the last time you

1 looked at a textbook in regard to any
2 research on PCBs?

3 A. It has been a long time. I
4 don't look at high school and college
5 textbooks to do PCB research.

6 Q. And when you rendered your
7 opinion and report in this matter, did you
8 look at any literature, textbooks, anything,
9 or did you just sit down and write your
10 report?

11 A. No, of course I looked at
12 Mr. Erickson's book I looked at a number of
13 other papers. Just looking for information
14 on what is available in the way of PCB vapor
15 pressures, evaporation rates, and things like
16 that because it was important to this case.

17 Q. You were talking about PCB
18 evaporation rates. Vapor pressure. Anything
19 else? I'm talking about research where they
20 have done actual research and taken, say, a
21 building material to see whether it off
22 gasses. Did you ever look at any articles
23 dealing with that?

24 A. I looked for some articles

1 during the course of my work on that subject
2 and found very few that I considered to be
3 authoritative, if any.

4 Q. Did you consider any of them?

5 A. Certainly. I reviewed them and
6 looked at the information to see whether I
7 think it is relevant.

8 Q. Which article do you consider
9 authoritative on the volatilization of PCBs
10 from a building product?

11 A. I can't think of one offhand.

12 MR. NEAL: Your Honor, this
13 would be a perfect time for the break.

14 THE COURT: I think it is more
15 than a break. I think we are going to
16 adjourn.

17 MR. NEAL: Break for a number
18 of days, Your Honor.

19 THE COURT: We are going to
20 adjourn until Tuesday at one o'clock.

21 MR. GOUTMAN: Your Honor,
22 could we see The Court at side bar.

23 THE COURT: Fine.

24 (Side bar discussion)

1 MR. GOUTMAN: Your Honor, the
2 reason I just, for scheduling purposes, it
3 is our present intention now to file a
4 motion with the Court by mid day Monday
5 concerning the jury issue that we
6 mentioned. We would anticipate the
7 opportunity to argue on Tuesday.

8 THE COURT: Was that a motion
9 for mistrial?

10 MR. GOUTMAN: Yes, and we
11 would anticipate the opportunity to, if
12 The Court would entertain it, for argument
13 if The Court thinks it is necessary. A
14 good time for that, just looking forward,
15 might be Tuesday afternoon. If that's the
16 case, we can tell the jury not to come
17 back until Wednesday morning instead.

18 MR. MC CLAIN: Did I hear the
19 schedule right? You are going to file it
20 on Monday?

21 MR. GOUTMAN: Yes.

22 MR. MC CLAIN: We won't be
23 able to respond to it if we are going to
24 respond and argue in that fashion, so

1 there's no reason to put the trial on
2 hold. Our preliminary research shows it
3 is discretionary with the Court. I would
4 prefer that we just keep rolling.

5 THE COURT: Offhand, my
6 information is that it is discretionary,
7 but I'm not ruling at this point. I don't
8 want to preclude anyone, as I have not
9 precluded counsel from briefing or to have
10 other counsel respond by their brief, but
11 I don't know how you would have a brief by
12 Tuesday.

13 MR. GOUTMAN: Okay. Then we
14 will be prepared to proceed Tuesday.

15 THE COURT: I don't think we
16 can argue it on Tuesday based upon the
17 needs of counsel to do independent
18 research and prepare a brief.

19 MR. GOUTMAN: Fine.

20 THE COURT: Later in the week
21 we would do it.

22 MR. MC CLAIN: We will have
23 time.

24 MR. GOUTMAN: Okay. Fine. I

206 1 just wanted to bring the matter up so we 2 could get our signals straight. 3 MR. HENDERSON: Can we make it 4 1:30 on Tuesday? 5 THE COURT: 1:30 it is. 6 (Witness excused.) 7 (Court concluded 8 at 4:15 p.m.) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	208 1 LAWYER'S NOTES 2 PAGE LINE 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
207 1 --- 2 CERTIFICATE 3 --- 4 I hereby certify that the witness 5 was duly sworn by me and that the deposition 6 is a true record of the testimony given by 7 the witness. 8 9 10 11 12 13 John W. Begley, RPR 14 Dated: March 6, 2000 15 16 17 (The foregoing certification of this 18 transcript does not apply to any reproduction 19 of the same by any means, unless under the 20 Direct control and/or supervision of the 21 certifying shorthand report.) 22 23 24	

A	189:16 190:8	155:16 159:5	78:2,12,22,24	120:5	55:17 63:5,18
abbreviation	191:2,2,7	162:20 165:18	79:7,12,18	alluding 189:11	65:24 195:21
113:15	193:2 194:11	166:21 189:20	80:21 81:12	alluminum	analyze 62:6
abide 23:11	194:15,19	190:23	96:4 99:16,18	159:13	analyzed 39:10
ability 30:9	196:2 197:3	added 151:20	104:19 167:17	almost 26:5	42:15 46:19
119:7 121:23	198:5,8	152:3 154:24	171:18,18,19	45:23 55:24	55:12 62:2
201:10	199:16,16,17	additional 8:8	173:5,7 174:7	77:10 79:5	64:5 71:13
able 17:10 20:1	200:14 201:16	69:24 156:8	189:20 190:9	192:16	82:9 86:11
56:18 70:11	202:17,19	additionally	192:1	along 107:7	and/or 207:20
146:24 147:3	above 77:6	83:5 84:14	afternoon 92:2	110:7,19	another 11:5
161:7 162:9	123:15 125:19	130:16	92:3,4,10,13	137:5 159:24	26:21 35:4
204:23	128:7 146:20	adhere 154:24	137:18,20,23	160:3 184:12	48:21 81:15
about 7:2 8:7	147:7,20,23	175:7 185:8	137:24 204:15	already 27:18	89:17 98:13
11:8 15:21	148:12,20	adhered 22:9	again 12:20	28:8,12,14	123:23 140:1
18:2 24:17	149:8,10	173:18	15:5 18:2	31:14 57:7	151:4 173:10
25:24 29:6	164:23 165:24	adhering	27:15 49:23	100:5 110:6	answer 7:3
38:3 44:5	above-captioned	162:18 173:21	52:3 67:15	148:21 178:11	59:17 60:14
46:18 48:20	1:13	adhesive	82:2 102:15	189:7,9	63:10 65:19
50:7 52:8 56:7	abrupt 11:21	108:13 129:12	117:18 119:15	191:15 192:1	87:5 104:2
56:13,18	12:8,14,21,22	142:5,11,11	133:6,7	192:3 193:12	143:7 166:23
57:17 58:17	13:5	144:13 145:23	138:12 143:10	195:14	191:8 194:17
60:8 66:7 69:7	absolutely	151:6,13,16	143:19 144:2	although 7:17	answered 7:13
69:9 70:14	22:24 43:2	152:1,23	148:9 150:9	36:3 51:23	7:16,18,23
73:16 74:3	104:21,22	153:19 154:19	164:14,20	aluminum	answers 68:2
76:6 80:2 86:2	109:12,12	154:24 155:9	167:21 170:23	155:8 156:24	anticipate
86:6 89:12,14	127:5 129:16	156:23 160:11	173:19 175:6	159:20 160:4	204:6,11
92:16,20	186:7 187:17	160:19 161:7	187:23 194:2	160:6,11,20	anticipated
93:13,20,23	189:21 190:3	161:19 162:2	194:7	160:22 161:10	34:8
94:10,19	absorb 119:7	162:18,19,24	against 35:4	162:1,7 163:5	anybody 44:11
95:24 96:10	120:9,11,14	163:24 164:8	agencies 125:12	163:15 164:8	156:5 181:23
96:13,15 98:2	121:23	165:1,8,9	AGENCY 1:4	165:18 167:2	183:10 184:24
98:14 99:4,19	accept 94:1	166:13 167:1	ages 119:5	167:19 173:7	186:5
100:3 101:5	acceptable	167:20 170:2	121:22	173:20 174:7	anymore
103:17,18,19	122:21 123:6	170:16,22	ago 10:1 16:15	174:10 175:8	184:21
103:23 104:12	123:19 124:2	171:9,12,12	58:13 124:7	177:12,18,22	anyone 43:6
104:18 105:24	127:15 188:17	171:16 172:3	182:5 194:21	179:6 180:8	44:4 93:9
106:23 107:1	acceptance	172:4,6,8	agree 27:1,17	always 25:22	108:22 170:7
108:4,13	125:12	173:5,11,14	28:2 89:18	87:3 89:1	205:8
110:24 111:21	accepted 67:21	173:16,23	138:5,19	112:4 113:13	anything 36:19
112:5,8 113:9	68:5 71:3	174:2,6,10	198:15,18	119:12 121:9	36:24 44:3
113:15,24	accepts 68:9	175:13,16,22	199:3,14	122:21 123:6	52:8 63:21
116:3 117:24	access 102:8	175:24 176:20	agreement 9:20	123:12,19	69:9 79:3
118:3,7,9	accident 152:19	177:11,18,22	140:20 145:21	124:2 127:15	120:12 121:5
120:12,24	according 83:3	178:17 179:7	ahead 116:10	128:8	121:16 130:18
121:4,15	96:2 108:1	181:22 183:8	155:18	AMERICA 1:8	130:22 133:12
122:24 124:9	181:17	189:13 193:19	air 20:4 85:18	among 35:6	136:7 148:12
124:13 125:6	accounting	201:4	86:2,6,7,7,11	191:23	178:2 184:11
127:23 128:9	189:19	adhesives	86:14,21,24	amount 95:16	185:1 201:4
129:4 132:15	accurate 17:15	193:16	87:3,6,20 88:1	165:11 170:2	202:8,18
133:10,13,16	197:23	adhesive/mastic	89:1,9 92:20	182:22 189:15	anywhere
133:17,22	accurately	141:3	92:22 95:6,9	189:15,19	126:22 189:23
134:23 138:2	122:22	adjoining	95:17 96:16	190:17 191:7	apart 151:8
138:3 140:6	accuse 33:13	107:12	99:14,20,23	192:15	154:5 155:7
142:13 144:9	accuses 32:18	adjourn 203:16	99:23 100:4,4	amounts 179:3	162:1 166:22
152:9 153:16	across 181:15	203:20	100:6,9,13,16	analogize 88:5	176:11
154:17,18	acting 171:12	Admitted 49:10	100:17,18,23	analyses 62:19	apologize 32:9
155:5,8,24	action 93:10	84:7 85:23	101:16,17	analysis 38:4	58:13 59:22
157:8,20	117:11 118:15	adopted 22:8	110:12,19	40:8 62:14	70:23 116:4
159:21,23	activate 180:7	28:22	111:1 175:12	63:16 68:14	125:7
161:15,16,18	active 25:19	ADVANCE 1:9	176:1,4,5	68:18 71:20	apparently
165:6,8,24	actual 49:2	advice 112:11	186:4	72:1,11,16	63:7 182:20
167:5 168:19	120:16 202:20	aef-6 172:8	airborne 115:3	73:1,14 74:15	APPEARANC...
170:1,10,21	actually 21:21	aerosols 195:12	116:13	78:8 79:21	2:1
172:5 176:8	22:9 39:16	aerospace 1:7	allegation	81:1,1,9 84:18	appears 21:13
178:3,20	42:10,11	2:24	150:2,7	93:16 101:15	175:12
179:11,12,23	53:10 78:11	affected 170:17	allow 19:7	105:19 106:21	apples 194:14
180:10 181:22	91:2 100:11	afield 133:12	171:4	166:8	194:19
184:17 189:14	111:3 125:17	after 17:8	allowed 132:16	analytical	application
	149:4,20	19:22 34:20	allowing 119:3	48:12,13	180:6

applicators 185:4	asbestos 38:18 39:8,24 42:12 42:18,22 43:5 43:7,11 49:3 62:3	attribute 198:13	ban 11:21 12:8 12:15,21,22 13:5	Begley 1:18 92:23 207:13	33:19 89:19 96:5 161:13
applied 23:24 27:4 161:17 183:7	aside 31:17 106:23	attributes 118:24 119:19	banned 14:3	behalf 25:15	black 11:3,6,9 13:2,4,13
applies 27:8	asked 6:19 28:15 30:22 32:1,11 33:24 33:24 34:5 47:7 58:24 59:2 61:15 63:2 66:3 67:12 92:17 99:1 104:4 143:2,9 170:6 182:1 189:5 191:5	audience 114:1 126:8	bar 16:7,9 26:17 29:21 32:1 33:10 34:1,21 35:18 58:4,10 130:7 130:9 203:22 203:24	behavior 134:21	blank 84:15,20
apply 119:15 189:13 207:18	assessments 111:3	audited 64:7	based 16:1 31:8 80:13 96:10 103:22,22 132:15 143:3 150:17,17 177:4 190:22 191:15 195:10 205:16	behind 192:11	blanks 64:16 85:5
appreciate 8:10	assessments 111:3	authoritative 26:22 27:24 203:3,9	basement 79:18 79:23	behoove 35:8	blends 170:16
approach 26:14 32:1 33:24 188:13	assistance 37:14	available 17:9 19:23 50:19 50:21 53:6,12 63:8 64:24 66:1 67:3,13 80:11,14 179:20 202:14	basic 126:23 192:24 201:14 201:15,18,19	being 1:20 24:2 29:13 47:14 56:3 82:22 86:22 87:8 98:9,17 99:13 99:22 111:19 125:5 134:17 136:6 158:23 166:5,9,10 174:2,6 191:6 191:11 196:20	blew 50:17
approaching 33:14	aspect 140:7	average 23:2 78:9 79:4,8 80:3,4,18	basically 120:4 126:15 158:11 187:7	belief 23:22	blocks 126:16 126:16
appropriate 24:15,20 26:23 29:18 32:16 91:14	assessments 111:3	averages 78:7	basing 104:15	believe 9:19 11:14 31:20 32:10 33:21 36:13 38:22 40:24 45:12 46:20 49:1 54:17 57:7 64:21 71:14 81:14 82:12 83:11 97:7 99:17 108:16 113:7 141:5 146:6 151:9 155:2 160:13 171:15 172:14 173:3 181:3 184:16	blown 49:13 185:5
appropriately 36:18	associated 57:21 63:3 66:4 69:24 81:8 113:3 115:2 116:12 116:15	away 10:24 19:1 43:7 70:24 123:24 148:21 151:13 154:13 159:12 159:19 160:11 160:18,18 175:3	basis 40:12 93:15 164:22 165:3 186:23 199:13	belief 23:22	boards 14:7
approximately 96:8	assume 31:1 34:24 54:7 55:19 57:9 60:17 108:15 178:21 179:3 189:12	aware 45:10 62:1,5,13,17 63:1,15 70:2 100:7	became 62:4,17 63:1 161:7,19 163:16	believe 9:19 11:14 31:20 32:10 33:21 36:13 38:22 40:24 45:12 46:20 49:1 54:17 57:7 64:21 71:14 81:14 82:12 83:11 97:7 99:17 108:16 113:7 141:5 146:6 151:9 155:2 160:13 171:15 172:14 173:3 181:3 184:16	bodies 194:13 195:1
area 27:19 37:17 38:2,3 107:8 133:24 134:4 135:15 161:16 190:17 195:15	assumed 44:15 190:14,19	am 1:17	become 151:16 152:24 153:12 162:1 166:17	believes 27:24	body 198:21
areas 110:18 138:4,6,18,20 138:24 144:3 159:3	assuming 66:5 130:12 131:11 153:15 191:13	B B 2:3 53:7,17 137:9	becomes 153:20 154:1 154:13	below 14:23 90:21 93:9 117:6 128:9 198:7	bond 171:4,6 171:13 173:8 177:17,21 178:4
aren't 41:4 55:18 56:1 79:1 97:13,18 104:17 120:15	assurance 63:19 64:5,6 64:18 157:20	back 6:5,18 7:8 7:14 8:2,24 9:24 10:2,22 18:23 19:17 37:3,5,13 49:4 62:16 66:2 70:2 95:23 102:15 113:17 113:21 135:4 150:8 153:9 157:21 191:5 204:17	beams 84:24	bench 30:13,17	bonding 167:19 175:18
argue 23:12 204:7,24 205:16	attach 154:22 195:13,13 198:22	background 20:18 21:2 72:7 140:4 142:23 156:8	bear 139:1	bending 158:20	book 11:2,6,13 11:21 13:2,3,4 184:6 195:19 196:6,7,14 200:18,19,21 201:17,19 202:12
argued 87:20	attacked 31:17	backwards 17:4	became 62:4,17 63:1 161:7,19 163:16	besides 23:7	books 11:15 189:10 196:1
argument 35:16 130:17 130:23 131:9 133:5 134:5 204:12	attacks 35:9	back-up 63:4 63:13,19 64:15,19,24 65:1,2 69:24 70:1 190:13 bad 37:10,12	becomes 153:20 154:1 154:13	best 36:1 173:24 188:19 188:22 189:1 192:18,20	both 13:23 29:3 35:2 36:10 43:22 82:17 84:20 112:23 146:6 147:14
Aroclor 139:5,6 140:1,17 141:12 142:10 144:22 145:3 172:11,15 195:16	attempt 26:19 100:8 197:15	ballast 144:23	becoming 111:13 112:1 167:1	better 90:8 101:24 111:24 193:7	bottom 55:15 56:2 57:2 70:18 73:18 78:10 80:5,12 172:10
around 99:22 114:23 146:19 149:11 160:5 163:6 191:5	attorneys 35:7 63:3	ballasts 141:12 145:5 146:1	beds 89:23	between 23:2 66:17 72:23 108:10 141:6 141:20 148:7 148:8 167:19 171:6 176:2 177:17,22	BOULEVARD 1:22
arrive 46:16			before 1:11,17 26:1,13 30:10 30:17 32:20 39:9 40:1,23 41:1 51:10,17 52:12 56:21 60:11 61:15 62:16 67:3 73:12 78:1,12 78:23 79:6,12 80:21 81:1,12 87:12 103:21 104:19 105:7 115:11,12,18 122:3 125:5 150:1 153:24 180:11 185:23 191:4,6	between 23:2 66:17 72:23 108:10 141:6 141:20 148:7 148:8 167:19 171:6 176:2 177:17,22	boundaries 187:3
article 109:14 114:2 116:23 117:18 118:10 118:22 153:22 154:3 199:15 200:2,4,16 201:9 203:8			beginning 39:6 116:23	big 14:7 113:13 134:4 187:10 187:19 190:7 177:17,22	break 97:11 128:5 203:13 203:15,17
articles 27:21 166:19 199:23 200:5,13 202:22,24				bigger 187:15 175:12	brief 30:2 169:24 205:10 205:11,18

165:1,11,17 166:2,6,9,17 167:1 Broad 2:20 broader 31:6 brochure 183:24 broke 15:19,23 92:15 brought 6:5 99:20 Brown 69:8 bubbled 162:10 bubbles 176:5,5 buckling 163:15 budget 19:7,9 building 21:20 22:10,24 23:4 23:18 51:10 51:18 52:10 52:12 56:21 60:9 62:2 72:19 76:1,3 79:24 87:23 88:2 89:9 98:7 98:17,21 99:13 100:9 100:15,22 101:15 103:23 105:3,7,14 107:20,23 111:11 112:20 113:12 117:22 119:10,16 128:2 129:12 129:22 135:22 139:5,14 140:8,17 141:3,10 142:2 143:6,8 144:18 145:2 146:5,20 148:6 152:17 162:16 164:19 165:10 167:10 179:1 189:20 190:15 191:3 191:8,12 192:1 199:21 202:21 203:10 buildings 20:17 25:9,20 110:15 119:17 bulk 38:5 43:13 62:3 bunch 169:3 burned 143:8 145:5 burning 141:11 burnt 139:18 business 68:19 100:1 buy 11:5 187:14 buyer 122:21 123:2,7,19 124:2 127:16 buyers 124:5,8	by-products 25:24 C C 53:5,8,16 137:10 207:2 207:2 calculated 189:23 calculating 192:19 calculation 190:1,7 192:12 call 8:1 20:11 30:4 47:10,18 47:22 50:2 142:11 178:6 197:14 called 8:3 30:20 45:3,5,9 47:6 109:15 126:14 158:10 169:19 170:13 171:10 calls 35:17 51:14 75:14 came 39:19,20 40:17 47:7,10 49:1,2 50:7,13 51:6,9,16 52:9 52:11 70:2 74:21 77:23 97:4 104:10 105:5,6 129:11 139:5 139:16 141:10 142:22 143:6 143:7 144:13 144:16 145:23 145:24 150:3 150:7 190:24 200:24 cap 126:6,14 capable 102:4 capillary 117:11 118:15 Capitol 3:14 capping 124:23 125:20 126:5 127:3 care 125:4 careful 67:1 68:8,12 carried 70:24 carry 195:15 carton 171:19 174:8 cartons 173:7 cartoon 171:20 183:17 197:14 cartoons 179:19 185:17 186:17 case 10:13 26:8 26:24 27:15 27:15 28:1 43:9 44:2 58:19 60:3	73:17 74:16 81:2 86:3,17 87:1,16,18 97:21 101:11 126:21 128:20 129:8,14 132:19 133:8 135:19 149:2 149:17 151:24 152:13 165:15 172:5 174:5 189:12,17,22 191:16,17 194:11 198:8 202:16 204:16 cases 26:6 72:8 73:15 93:6 122:9 148:1 148:22 cause 167:2 174:9 176:1 caused 26:1 35:12 130:20 cavalier 191:7 ceiling 41:8,14 41:17 146:21 147:8,20,23 147:24 148:12 148:20,23 149:5,5,9,10 164:23 165:24 186:2 ceilings 85:1 Center 2:12 centimeters 20:20 21:1 certain 32:2 41:16 138:2 138:23 151:21 160:1 171:9 176:19 179:12 187:2 190:14 certainly 15:14 32:9,14 35:10 36:5,18,20 55:16 77:16 79:9 101:23 113:9 119:17 128:12 153:4 164:10 165:4 165:21 167:4 167:9 174:12 186:21 189:5 198:12 203:5 certainly 1:7 4:7 146:10 155:14 156:5 156:12,13 170:3 178:6 181:23 certification 207:17 certified 132:10 185:3 certify 207:4 certifying 207:21 chamber 101:12,20	102:1,18 104:13 108:24 191:21 193:4 chambers 102:11 chance 73:9,11 169:16 change 88:12 105:24 167:14 changed 11:2 99:19 101:18 111:23 124:13 180:20 changes 11:16 88:23 changing 119:6 121:22 characterized 24:2 195:4 198:20 characterizing 14:22 89:8 charcoal 86:9 charges 35:4 charles 1:11 9:11 chart 48:3,6,9 53:19 54:13 56:19 77:3 82:2 check 12:19 checked 21:14 chemical 132:3 134:21 chemist 132:2 chemistry 195:21 201:14 CHEMREX 1:8 Chicago 8:24 chief 26:24 27:16 28:1 children 89:20 chronologically 96:14 citation 200:17 cite 90:24 91:4 153:23 cited 82:22 125:17 citing 97:20 City 1:15 claiming 23:9 CLAIN 2:2,3 8:19 9:4,17 10:12 12:3,5,6 13:12,16,17 17:5,16,21,24 18:8,13,18 19:11,13 20:12 24:16 25:1,18 27:3 27:12 28:4,8 28:12 29:2,12 29:17,23 30:8 33:1 37:1,7,12 37:15 38:21 39:1,5,7 44:14 45:18,24 46:3	46:9 48:8 49:8 49:11,19 51:20 52:6 53:3,10,16,19 53:23 56:12 56:23 57:11 58:5,24 59:16 60:1,19,22 61:11,16,19 61:21 65:20 66:14,24 68:1 68:4 69:18,20 70:22 71:1,5 74:6,11 75:16 75:22 77:17 78:16,19 81:23 82:3,8 83:10,18,21 84:2,9,13 85:24 88:18 88:22,24 91:1 91:5,16 92:7 92:14 97:3 99:1,11 106:14,17 109:20,22 111:5,9 112:13,14 115:16 116:6 116:9,17,21 117:2 118:6 118:14 122:13 122:15 124:22 125:4,8 130:24 131:6 131:13,21 132:2,12 133:15 134:7 135:7,11,20 136:10,15,19 137:8 204:18 204:22 205:22 clarification 46:1 139:12 142:17 clarify 45:18 clean 89:21,23 114:22 124:11 cleaned 123:5 cleaning 129:2 clean-up 15:22 16:2,3 22:7 112:5,24 118:19 123:12 124:7,9,15 132:11 133:10 139:23 clear 32:10 53:4 58:18 73:13 74:18 75:9 86:5 94:10,16 98:2 136:20 162:24 178:1,18 190:14 clearer 90:11 90:11 client 32:15 33:20 36:7,17	close 37:9 91:13 100:15 126:10 126:13 closed 127:8 closely 90:5 coat 123:22 coating 122:20 123:18 125:21 126:20 127:15 127:18 128:4 128:7 coatings 125:9 125:11 128:1 128:15 Cocciardi 60:8 106:9 Cocciardi's 60:3,13 61:7 105:11 collapse 151:12 154:10 161:21 162:4,7 166:22 collapsed 154:8 collect 55:11 86:10,24 collected 39:9 40:1 42:2,7,14 43:4 44:17 45:2,9 56:20 56:21 62:3 64:4 84:24 collecting 87:1 college 158:8 201:20 202:4 colloquy 34:20 combine 118:24 119:19 combustion 25:24 come 8:2 30:16 33:9 48:16 57:18 58:4 98:3 105:9,16 165:12 179:23 186:6 204:16 comes 48:9 158:24 159:7 176:11 comfort 123:2 comfortable 104:23 105:22 coming 62:22 130:16 179:6 191:5 192:15 comment 29:21 74:3 78:17 118:3 commented 60:6 commercial 110:15 COMMISSION 1:4 common 117:10 127:2 184:15 185:21 186:8 commonly
---	--	---	---	--	--

114:8 121:11 commonwealth 1:1,14 9:9,10 20:1 91:23,24 Commonwealt... 15:22 community 25:12 compact 127:11 companies 113:18 company 1:7,9 1:9 3:19 15:4 15:7 45:9 compare 52:22 72:13 75:8 78:11 compared 81:11 comparing 66:9 72:18 81:6 comparison 73:20 75:4 80:6,19,21 complete 67:6,9 completely 28:23 complicated 81:7,9,10 148:2 183:22 184:20,21 185:3 188:10 188:24 component 119:9 compound 44:8 computation 80:17 182:13 compute 193:1 computed 190:21 191:15 computing 111:2 concentration 72:9 76:24 77:1 concentrations 141:7 concept 126:23 concern 111:13 112:2,3 113:13 114:8 114:10 128:9 concerned 7:2 139:23 140:6 144:19 145:16 162:22 178:3 178:7 179:15 185:15 concerning 134:20 204:5 concerns 33:22 33:23 110:11 112:24 conclude 178:1 concluded 206:7	conclusion 61:12,18 conclusions 57:3 conclusively 164:12 concrete 109:17 110:2 110:17 112:17 114:3 115:4,5 116:15 117:4 117:9 118:17 118:19,21,23 119:2,5,8,19 119:21,24 120:9,11,14 120:17,20,23 121:1,5,13,16 121:21 122:4 122:7,8,9,10 124:15 125:22 126:2,20,22 128:24 129:2 136:23 137:11 condition 148:17 149:1 150:16 Confirm 13:3 confuse 68:14 confused 124:8 158:5 Connecticut 3:16 connection 42:8 167:17 185:13 consequently 35:7 131:11 consider 14:24 35:22 57:12 93:9 128:7 203:4,8 considered 101:14 110:18 112:20 128:15 203:2 considering 21:2 construction 158:19 consultation 17:8 19:22 contact 110:18 117:7,15 162:13 173:17 175:14 190:19 191:7 contacted 20:22 190:18 contacts 90:9 contained 38:5 48:16 67:11 136:3 172:16 172:18 container 43:17 43:18 containing 111:12 143:8 contains 6:7	172:10 contaminant 86:10 142:1 contaminants 99:22 100:3 119:4,7 120:7 121:8,11,15 121:24 contaminated 84:17 contamination 11:23 13:7 14:4,13,18 20:16,18,24 21:2 25:20 110:13,16 111:1 112:17 114:13,15,16 115:3 116:13 116:16 117:3 121:1,4,15 125:21 139:4 139:13,20,22 140:7,16 141:10,24 144:8 152:15 152:21 199:5 context 94:21 114:17 122:23 197:13 continually 128:4 continue 31:12 36:17 continued 22:10 23:4,17 continues 33:18 continuously 119:5 121:21 contractors 158:14 contrary 27:6 123:9 134:15 control 100:5,6 207:20 convenient 110:9 conversation 103:19 169:24 181:21 convicted 6:11 convinced 103:22 copied 21:8 copies 19:1 60:16,17 172:24 copy 6:5 11:5,5 18:4,16,21 21:14 47:24 58:23 62:7 109:17 168:5 168:11 corner 50:16 corporation 1:7 1:8 3:10 correct 13:2,9 13:21 14:10 14:15 17:6	21:16 34:9 38:23 40:4,19 41:3,11,22 44:13,21,24 46:12 48:14 50:5,9,14,20 51:2 52:15,20 54:20 64:11 71:10 74:16 78:7 79:15 80:8,17 85:3,9 86:13 89:11 94:7 95:10,18 96:18,19 98:12 102:19 104:6 105:18 108:18,19 110:3 113:6 114:4 138:5 138:16,19,20 139:6,15,21 140:5,9,10,13 140:18,21 141:4,13 142:2,3,6,10 142:12,16 144:6,7,14,20 144:21,23,24 145:4,9,13,19 145:20,22 147:4,5,9 148:14 149:16 150:12 151:7 151:21,23 152:1,4,7,10 154:5 155:7 155:15,22,23 156:6,16,17 156:20,21 157:2,13,14 158:16,24 159:4,14,22 160:7,8,24 161:4,5 162:2 162:7,22 163:7,9,12 164:13 165:2 165:19 166:4 167:3,20 169:21,23 170:4,5,7,8,14 171:2,5,7,14 171:22 172:13 172:22 173:2 173:8,11,12 173:19,21 174:3,11,20 174:22 175:8 175:14,23 176:16 177:3 177:8,14,18 177:23 179:15 179:18 180:9 183:10 184:1 187:24 188:20 189:1 192:22 194:2,5 196:3 196:21 197:1 197:11 198:10	corrected 69:12 correctly 57:20 89:9 92:23 100:12 135:6 correlate 52:17 52:18 55:1 corroded 174:7 corrosion 174:4 174:15 costs 100:18 counsel 9:21 18:3 25:15 29:16,22 32:3 32:6,11,17 34:5,23 35:2,2 36:6 60:15 97:1 98:24 99:7 110:7 115:18,23 156:14 205:9 205:10,17 counsel's 17:1 36:14 70:20 74:3 118:3 count 93:19 counted 93:24 96:21 counts 97:1 couple 99:18 147:8 148:1 148:22 150:24 173:7 187:20 coupled 183:12 course 6:13,17 14:2 31:3 111:23 118:19 156:3 158:21 200:7 202:11 203:1 courses 19:5 court 1:1,14 6:1 7:1,15,21 8:3 8:6,15,20 9:1 9:10,14,16 13:10,14 16:10 18:11 19:8 24:21 25:17 26:16 28:16 29:1,7,8 30:1,3,19 31:1 31:4,22 32:13 32:17,19,22 33:6 34:3,9,22 34:22,24 35:1 35:17 36:4,10 36:19,24 37:2 37:5,6 38:19 39:4 44:9 48:7 49:10 51:19 52:5 53:8 56:16 58:7 59:5,8,18,23 60:17 61:17 62:22 65:17 65:21 66:23 68:3,22 69:17 70:21 71:3 72:5 74:8 75:21 77:16	78:18 82:1,7 83:24 84:7,12 85:23 88:16 88:21 91:12 91:17,21,24 92:3 97:2 99:9 106:16 113:16 116:1,5 117:1 118:10,12 130:8 131:3,8 131:16,19 132:4,9 135:2 135:9,16 136:9,17 137:4,6,13,17 138:9 143:15 143:18 168:12 168:24 169:1 169:6,8,10,13 174:19 196:10 199:8,12 203:14,19,22 203:23 204:4 204:8,12,13 205:3,5,15,20 206:5,7 courtaulds 1:7 2:23 courtroom 1:15 69:6 90:12,14 111:22 Court's 19:7 32:7 34:13 58:22 cover 46:17 127:7 CRACKEN 2:17 create 184:6 created 52:21 Creating 193:4 crier 30:4 crime 6:11,22 criminal 7:7 critical 183:4 criticized 86:21 87:7 critique 65:9,13 68:19 Cross 9:18 10:1 28:4,7 31:13 31:19 32:21 33:21 36:2,14 136:7 cubic 93:3 94:12,15 cup 197:21,22 Cure 157:18 curing 170:14 170:17 171:10 173:5 176:18 curtailing 36:5 cut 159:6,7,10 159:11,18,24 160:2,17 cutting 158:15 162:20 cycling 196:16
--	--	---	---	--	---

D	Defendants	determination	discussed	80:24 82:12	157:8,11
D 5:1 137:9	1:10	166:2	138:14,15	102:18 103:1	163:7 173:6
damaged 167:3	defined 38:4	determine	184:16	103:6,24	174:11 175:14
DANAHER	definitely 97:20	57:17 72:2	discussion 11:7	106:6 109:4,8	177:11 190:12
3:12	degree 119:3,22	73:8 101:11	11:13 16:4,9	109:9 127:2	ductwork
data 23:1 40:8	degrees 108:10	171:11	26:17 30:7	151:1 153:18	85:14 107:23
40:12 64:6	108:10,17	determined	58:10,13	177:7,10,15	108:24 109:9
72:12 78:8	109:1 133:20	165:1 190:4	81:19 130:9	179:24 186:18	129:9,18
79:5,10 80:11	181:4 190:20	determines	203:24	186:19,20,24	130:2,4 131:7
80:13 95:13	delaminate	90:6	disfigured	189:7 192:6,7	141:4,11
103:22 104:23	166:21 176:11	develop 35:13	162:8	193:11,14,15	142:5,8,12,22
105:11,22	deliberate	111:3 188:14	dismissed 106:6	193:17 202:20	144:13,14,16
108:14 132:15	28:21 35:23	developed	disposal 119:11	dot 115:20,20	145:23,24
141:15 165:14	demolition	189:9	126:11,12	115:20 116:4	146:21 149:16
193:3,3,7,12	119:11	develops 33:3	disputing 7:1	116:4,4	149:18,20,20
database 97:16	demonstration	device 86:9,9	disrupt 31:19	down 6:4 18:17	149:23 150:3
date 8:16 50:18	180:12 186:10	DGS 16:22	32:19,20	20:8 23:11	150:8,9 151:8
50:19,21	department 1:2	diagram 196:6	disrupted 30:16	78:9 92:23	151:11 154:12
53:12,12 54:8	1:3,5 15:24	196:7,15	disruption	94:8 95:1 96:5	154:15 155:1
143:19	16:18,22 17:2	197:18,20	36:23	129:5 148:23	158:3,4,13,23
dated 51:1	17:7 19:16,20	198:5	disruptive 30:9	172:9 182:9	161:6,8,15,17
168:22 207:14	19:21 21:4,9	difference	31:7 33:16	192:18 196:20	161:20 162:14
dates 53:6	22:7,14,16,21	66:11,13,17	distance 90:12	202:9	163:4 164:4
146:7	23:3,6,14	70:11 78:12	distortion	Dr 19:14 21:9	164:17,24
dating 16:17	depends 88:19	105:19 141:6	162:14	21:10,13 24:8	165:5,10,13
daughter 186:8	90:5 122:10	141:20 185:19	distributing	24:18 25:2	166:13 167:2
daughters 90:1	deposited 142:7	different 8:22	58:15	27:5,18,20	171:13 173:21
daughter's	142:14 144:15	23:6 55:17	divide 55:11	29:3,4 34:12	175:7 178:22
184:18	145:8 195:7	56:1 66:6	doctor 19:15	34:12 37:18	184:8 186:3
day 88:20	deposition 1:21	72:23 73:2	24:7	37:20 72:5	186:11 189:15
92:20 148:8,8	69:7 157:4	82:10 87:4	document 8:9	196:7,14	190:15 191:22
148:9 153:7	167:5 168:2,9	90:10 113:19	16:17,21	dramatically	191:24
158:12 180:21	197:10 207:5	125:16 131:14	21:14 23:8	96:6	due 15:8
197:20 204:4	deposits 117:8	136:13 150:24	48:10,13	dries 119:5	duly 207:5
days 31:9 98:17	192:2	158:13,17,18	49:24 50:15	121:22 122:7	during 22:5
124:6,13	depth 118:20	158:19 162:15	58:16,16,18	175:13	84:17 100:19
197:22 203:18	depths 117:10	170:16 173:23	59:2,9,9 83:16	drive 108:17	129:9 144:16
DCT 168:5,21	derogation	200:18 201:7	95:20 167:23	driven 109:1	156:3 157:24
168:23 169:16	32:7	difficult 102:20	170:12 184:7	114:8	167:5 189:2
169:18 170:11	describe 51:22	117:5 186:9	documentation	drop 161:9	203:1
174:17 179:24	51:24	197:19	63:2 66:3	191:3,10	dust 195:13
dealing 15:24	described 42:7	difficulty	documents	dropping	duty 6:20 8:17
96:11,12	181:13,14	102:23	15:21 48:24	163:15	dynamic 88:7
202:23	187:21,24	digit 50:1	99:6 134:10	drops 191:11	
deals 25:13	188:2	digits 54:12,15	155:13,16	dry 117:7	E
dealt 201:10	describing	55:2	156:2 157:1	drying 171:11	E 5:1 137:9
debris 38:18	163:22	dioxins 25:23	159:16 160:16	173:16 175:17	207:2,2
39:9,24 42:2	description	26:4	167:16 169:4	176:16,17	each 30:18 35:6
42:12,16	48:24 50:7	Direct 60:8	169:20,24	duct 107:8	35:18 54:8
44:17	54:11	110:20 136:7	170:9 172:18	136:12 154:9	115:24 173:17
decades 194:21	descriptions	138:2,13	172:20 179:13	155:20,21	earlier 16:21,24
decide 16:19	48:15,20 54:2	157:2 207:20	181:21 186:23	158:11,21	32:8 176:3,7
deciding 40:12	design 102:17	directed 148:3	doing 7:9 19:10	166:20 179:19	earmarked
declared 9:10	187:7	direction	35:9 68:24	185:9,24	35:3
decontamination	designed	184:15	73:1,5 78:12	ductboard	easier 54:4
109:16 110:2	102:22 126:17	directly 46:7	102:4 111:20	101:11 103:17	124:16 149:6
111:11 113:2	167:12 186:2	156:13	112:5 126:20	104:13 107:6	easily 148:23
113:10 114:7	destruction	disagree 27:1	164:3 166:13	108:7,17	192:5
117:12 119:1	162:13	27:17 28:2	167:18 171:18	129:12 131:22	east 74:23
119:10,21	detect 95:10	138:20 199:14	184:10 185:11	132:8,11,13	easy 102:14
122:17 128:16	detected 83:1	disappeared	186:1 188:11	132:18,23	108:23 164:6
128:18,24	84:15,20,21	78:2	188:14	133:1,7,8,11	165:16 183:3
deem 32:16	detection 89:13	discovery 11:22	done 11:18	133:18,23	183:16 184:4
deep 44:2	89:18 90:4,15	13:6 14:3	22:13 47:7	134:14,18,19	184:19 186:14
defective	90:20 92:9,16	114:11	62:19 63:16	134:24 135:4	ECRA 112:24
174:13	93:2 94:6,9,11	discretionary	64:4 68:18	135:24 136:3	113:15 115:11
Defendant 2:23	94:13 95:7,14	205:3,6	70:14 72:18	139:18 154:18	edge 7:19 8:12
3:9,18 4:7	95:15,21 96:9	discuss 38:14	72:18,21	155:6,11,12	9:6 10:3,7
	96:17 98:16	170:2	80:15,16,20	156:23 157:5	

30:3 37:4,8,10 91:17,22 107:16,19 169:9 edition 11:3,6,8 11:9 13:3,13 editions 13:24 editor 11:12 editors 11:17 effect 30:9 113:1 151:19 effectively 31:12 efficient 112:1 187:6 eight 147:3 155:3 165:7 170:22 either 41:15 50:22 52:19 76:10 103:20 106:11 117:6 119:4 120:6 127:7 197:10 elaborate 191:2 ELECTRONICS 1:8 eliminate 138:23 elsewhere 105:17 EMERGENCY 1:4 emission 198:6 emitted 191:11 emphasized 112:4 employed 37:18,21,24 39:15 employee 112:24 113:4 employees 110:19 115:6 170:3 encapsulation 126:15 encountered 25:7 117:5 end 65:18 189:16 198:24 energy 100:17 engineer 182:23 183:13 187:3,4 Engineering 39:16 40:16 43:5 44:5 45:8 151:2 Engineering's 54:7 enough 56:17 67:6,9 68:13 76:21 148:24 153:14 entered 83:15 129:12 entertain	204:12 entire 68:18 97:16 129:1 180:5 191:8 191:12 entomb 126:18 environment 14:19 15:14 20:21 112:19 194:1,21 196:17 198:11 environmental 111:14 112:3 114:9 126:10 127:3 128:13 EPA 16:20 19:24 123:1,6 123:13 125:13 127:9 128:7 epoxy 123:24 equipment 102:21 110:17 111:12 112:7 158:20,20,21 equivalent 191:2 era 135:4 Ergo 35:15 Erickson 196:7 196:14 Erickson's 195:19 196:6 202:12 error 39:12 escaped 166:3 escorted 147:22 especially 34:20 58:12 ESQUIRE 1:21 2:3,4,11,19 3:2,3,4,13 4:2 essentially 90:15 126:19 176:11 186:3 etc 21:10 64:16 95:1,23 evacuated 23:19 evaluate 63:6 67:6,9 evaporate 197:21,23 198:1 evaporation 197:4,7,12 201:6,8 202:15,18 even 22:4,7 29:18 30:10 33:7 42:11 50:12 63:12 65:6 67:7,10 68:6 70:6,8 76:22 79:17 79:22 80:11 88:13 117:14 122:19 123:5 123:10,18,22 127:8,14	130:19 201:20 evenly 182:9 event 34:4,7 ever 6:10 22:22 23:6 30:17 37:18,24 46:23,24 69:5 81:5,11 85:10 89:24 103:15 103:19 108:21 109:2 123:10 132:7 136:2 153:18 166:11 178:9,14,14 179:5,7 180:12,15 181:10 202:22 every 23:3 29:13 33:18 33:23 64:19 65:1,3 76:13 79:5 108:6 123:11 149:17 166:11 everybody 142:18 Everybody's 8:13 Everyone 91:19 everything 19:12 88:9 121:7 149:12 evidence 14:17 49:9 53:22 60:20 74:4 82:6 83:16,22 84:4 85:21,22 120:16 131:12 136:21 137:1 137:12 145:4 152:13,14 163:3 164:15 166:8 189:1 192:18,20 194:6 evidenced 188:10 evident 155:11 evidentiary 31:21 Ewing 39:10,14 39:15,21 40:1 40:16,21 41:2 42:2,5 102:17 188:11 191:20 191:23 Ewing's 41:4 42:6 44:16 101:5 106:23 191:18 192:6 exact 24:1 123:21 146:7 154:6 181:5 exactly 11:16 44:12 73:24 74:4,9 116:18 121:18 163:21 186:18 examination	28:5,7 31:19 32:21 33:16 33:22 36:2,14 134:8 examine 31:13 examining 11:1 example 64:10 72:12 74:20 87:21 89:17 90:3,7,8,13,17 103:5 146:21 151:2,4 162:12 176:15 exceed 20:24 excellent 127:22 except 43:9 51:9,16 63:20 63:21 70:4 72:14 92:18 excerpts 91:6 136:23 excess 97:21 excuse 32:24 33:2 38:20 excused 206:6 exhibit 18:3 48:11,16 49:9 49:17 53:4 61:7 63:9 82:5 85:19 94:18 109:21 168:16 169:1 199:12 exhibits 136:21 169:3 exist 28:24 existed 71:8 78:1 exists 45:11 expansion 173:15 expect 154:14 experience 68:23 111:20 124:1 127:1 143:4 152:12 157:4 182:6 183:13 experienced 24:3 167:10 199:20 experiment 101:23,24 176:22 experimenting 173:22 expert 24:11 25:9,16 26:20 26:21 93:22 97:8 132:3,10 132:17 133:1 133:9,10,24 134:13,17 136:5 151:3 expertise 133:14 135:15 explain 9:22 35:19 70:12 179:13,21	explained 73:9 73:11 explaining 99:3 explanation 33:8 177:19 explanations 177:16 exposed 115:7 exposure 20:3 20:14 110:20 111:2 112:16 113:1,4 115:1 115:12 116:12 exposures 17:12 extensively 133:17 134:8 extent 160:13 193:3 197:23 extraction 84:18 extreme 189:17 extremely 14:18 93:1 152:17 193:22 193:22 194:3 194:7 198:22 eye 90:8,9,15 eyes 37:11,13 F F 136:22 207:2 fabricated 155:15,18 156:19,24 157:7 158:22 158:23 187:1 fabricating 157:10 186:11 193:4 fabrication 158:3,11 184:10 facilities 114:13 117:19 facility 128:3 158:12 facing 171:20 173:16 fact 13:23 15:6 15:7 50:15 55:23 77:7 112:8 113:24 127:5 130:12 130:22 131:11 135:19 155:8 163:24 167:15 167:18 171:12 177:13 183:2 188:10 189:6 194:8 197:8 factor 56:4 79:8 135:19 factories 113:21 facts 134:19 189:24 factual 28:22	Fahrenheit 108:11 fail 161:8 163:1 176:20 178:8 178:13 failed 167:19 173:8 174:2 177:21 178:1 178:8 failing 174:6 178:17 fails 175:18 177:17 failure 177:1 fair 76:21 147:17 153:14 fall 154:5 155:7 166:21 fallen 151:8 false 32:8 familiar 24:9 25:3,4,6,22 101:6 102:13 134:11 146:20 195:18 far 21:18 22:23 30:15 68:17 133:12 144:19 145:1 162:21 166:5,10 179:14 185:15 FARRINGTON 2:2 fashion 80:23 81:13 199:1 204:24 faster 183:4 187:16 fear 34:10 feasible 20:15 21:1 February 13:19 federal 193:10 feedback 22:5 182:7 feels 32:21 feet 76:4,8,14 76:15 fell 41:8,14,17 few 31:9 78:14 86:24 109:13 187:18 197:24 203:2 fiberglass 154:22 163:1 171:6 176:12 field 24:11 83:2 84:15 85:5 87:8 126:10 127:3 fifth 78:3,24 79:10,11,14 fifties 113:22 fight 118:7 figure 66:12 187:5 figures 93:21 figuring 66:10 file 7:16 204:3
--	--	---	---	--	--

204:19	94:4 95:20	176:11 177:12	21:17 22:13	frustrated	glasses 90:10
files 70:3	96:15 97:19	177:18,22	22:17,22 23:1	29:24 33:19	90:11,16 92:9
filled 7:13	119:2,21	179:6	35:13 39:19	full 10:4 53:18	glue 108:20
film 173:21	131:20 146:16	fold 159:6	39:20 40:1,17	122:6 197:22	134:21 152:15
filter 86:8	148:7 171:16	folded 107:9	42:1 44:4,11	functional	153:9,9,11,15
final 63:22 64:1	172:2 173:4	foliage 195:7,7	45:8,13,19,19	152:18	153:17 154:8
67:14	175:11 194:17	197:11 198:16	45:20 47:7,10	fundamental	154:12,13
finally 38:18	201:17	199:4 200:15	47:14,17 48:9	111:2	176:8 190:23
39:6,8 122:11	fit 19:9 160:5	follow 16:19	48:10,16 49:1	furans 25:23	191:12,14
financial	five 12:3,5,11	20:2 110:7	49:17 50:7,13	26:4	194:23
112:21	13:13 38:8	followed 22:20	51:4,7,9,12,16	furniture	glues 134:3
find 7:19 28:24	77:6,7,7,18	159:3	52:9,11 53:20	110:17	go 16:7 20:8
44:12 52:22	79:8 155:3	following 98:11	55:7 56:1	further 33:8	38:2 45:8
59:5 63:4,7	165:7 170:21	99:15 128:17	57:18 62:2	36:24 57:16	78:13 85:17
66:5 70:10	182:24 190:19	follows 196:24	63:19 66:1,2,6	136:16	89:22 96:5
91:2,10 92:17	fix 125:13	follow-up 74:12	68:16,21 69:3	Furthermore	107:12 111:8
95:21 113:13	fixed 87:19	131:15	69:4,4,5,8	124:22,24	112:5 116:10
113:22 178:15	fixtures 139:18	foot 155:3	74:21 75:15	125:9,11	118:20 126:22
182:5 190:2	148:1	159:24 165:7	75:18 81:17		130:7 138:24
193:20	flags 85:7	170:22	82:17 83:2	G	148:16 150:8
fine 27:24 48:7	flap 107:11,12	foregoing	84:8,24 85:1	G 136:22	170:6 189:24
98:4 99:7	flat 155:20	207:17	85:17 92:19	Gannett 45:3,6	198:2
115:16,22	Fleming 45:4,6	forget 62:17	96:24 97:5,17	45:9,20,20	goes 8:13 66:20
141:15 178:22	45:10,20,21	140:12,24	98:3,22 99:14	57:24 60:11	123:13 154:13
178:23 179:2	57:24 60:12	144:3,9,10	101:21 104:11	62:8 63:16	going 9:21
203:23 205:19	62:8 63:16	181:5	104:23 105:2	66:1 68:21	17:17 18:9
205:24	66:2 68:22	forklifts 114:24	105:5,6,9,12	69:3,4 70:3	30:1,13 32:3,6
finish 31:11	69:4,5 70:3	form 49:20	105:12,16	106:3	34:11,23
65:21 134:4	106:3	60:10 106:13	106:2,20	gasses 202:22	43:14 48:6
194:17	flexible 153:5	120:9 121:12	109:14 111:7	gassing 103:4	58:3 73:10
finishing	175:18 179:2	176:2,4	112:16 113:21	104:12	82:1 87:3 88:9
128:17	floor 1:22 3:5	195:17 197:9	114:5 117:6	gave 18:4 40:2	103:16 105:21
fire 24:4 39:9	23:3 51:4	formal 22:4	119:1,20	40:6 75:17	111:7 126:1
40:1,23 41:2	52:17 72:12	former 114:11	123:24 126:16	107:3 112:11	126:16,17
51:11,17	74:19,21,23	forming 158:20	126:17 130:4	134:9 159:17	128:8 133:15
52:13 56:22	75:2 76:5,8,12	forth 99:7	130:16 132:13	general 1:2	135:7 138:23
77:5,5 78:2,2	76:13,24 77:5	189:11	133:12,18	19:20 121:8	141:22 146:8
78:22,24 79:6	77:6,9,10,11	forties 113:21	134:19 136:24	148:17 149:13	146:15 163:2
79:7,12,12,19	78:3,5,20,22	forward 204:14	137:11 138:15	156:7 183:15	163:2 164:22
80:21 81:12	78:23 79:6,10	found 39:3	139:2,5,16,18	generally	169:6 170:13
98:11 99:15	79:11,14,17	54:13 60:14	139:20 140:17	118:18	182:13 183:21
99:16 105:8	79:23 81:7,7	72:3 79:16,17	141:3,10,12	gentlemen	184:5,13
129:14,21	97:5,14,18,22	117:16 125:12	141:16 142:12	10:18 92:11	187:9,13,14
130:4,19	98:3,5 105:9	142:1,19	142:22 143:6	137:19	188:7 196:12
141:8 142:8	105:12,16	144:5 150:6	143:7 144:13	gets 190:7	198:1,2
142:15 143:9	106:19 114:19	173:5 198:16	144:16 145:7	196:23 197:3	203:15,19
144:12,16	148:16,18	199:3 203:2	145:23,24	getting 30:20	204:19,23
145:5,7,17	152:10	foundation	146:9 149:23	31:5 91:12	good 7:22 9:13
146:17 162:12	floors 50:13	57:5 59:3	150:3,7,15,23	99:23 179:12	9:14,15 10:17
189:21 192:1	73:17 77:9	66:21 132:1	152:19,20,23	giant 101:20	10:19,20,21
fireproofing	117:13 146:18	four 54:11,16	153:2 155:9	gist 34:13	90:17 92:2,3,4
38:4 41:7,13	146:18,23	83:9,10 147:1	156:5,11,12	give 16:23	92:10,12
43:8,9,16,19	147:1,2,10,12	159:21	156:13,24	18:20 28:20	101:23 126:3
43:22 44:19	147:13,16,16	fourth 77:10	160:19 162:1	35:18 99:5,7	137:18,20,23
76:11,13,17	flying 195:14	79:1	164:2 171:21	112:9 131:19	137:24 150:15
76:19 82:16	focus 19:2,3	fragment	174:10 176:12	154:19 159:19	157:6 176:23
82:20,23	117:18 129:1	115:21	178:24 179:7	184:6 198:2	189:6 191:16
104:20 105:2	146:22	Frank 6:3 7:22	180:20 181:23	200:9	204:14
142:20 145:8	focusing 176:10	9:5 30:2	185:16,16	given 19:1	gotten 7:5
145:11 146:1	foil 154:22	frankly 31:8	193:7,16,19	60:15,18	162:19
149:18	155:1,8	116:2	194:5 196:24	132:21 155:13	goutman 3:2
fires 23:24 25:7	159:20 160:11	frequently	197:10,10	169:1,21	8:10,21 9:16
26:1 27:5,9	160:20,23	117:4	198:16,17,21	178:10 192:10	9:20 16:5,11
first 6:8 10:15	161:10 162:1	fresh 100:4	199:4,5,6	192:10 193:12	17:14,18,22
30:19 38:14	163:1,4,5,15	Friday 1:16	200:14 201:4	207:6	18:6 24:12,19
48:6 52:20	164:8 165:18	from 8:24 11:3	201:11,20	gives 8:15	25:14 26:14
62:4 63:1	167:2,19	16:17,17,21	203:10 205:9	123:2	26:18 27:10
71:19 74:21	171:7,13	16:22 17:10	front 35:9,16	giving 28:18	27:14 28:6,10
75:7 81:4,11	173:7 176:2	19:14,20,23	173:2 174:18		29:5,10,15,20

31:16 33:3 34:2 36:8,12 39:13,19,20 40:2,2,18 42:1 42:4 44:7 45:14,16,21 46:1,2,6 47:10 51:14 52:2 53:14 56:9 57:6,20,23 58:6,20 59:1 59:13 61:8,13 66:19 67:23 69:15 70:19 74:2 75:13,19 81:21 86:16 89:20 90:23 92:16 96:23 98:23 99:4 103:10 112:12 115:13 116:2 116:9,11,20 118:2 122:12 124:18,20 125:2,7 130:6 130:10 131:17 131:24 132:4 132:5 133:4 134:15 137:2 143:11,22 167:22 168:4 168:16 199:7 200:10 203:21 204:1,10,21 205:13,19,24 Goutman's 30:24 government 111:15 193:10 grams 155:3 165:7 170:22 graph 133:22 great 90:7 134:12 193:2 greater 99:13 117:10 greatest 110:12 grinding 117:7 groove 160:2 grooves 159:8 ground 77:9 79:17,23 group 6:16 55:3 guard 35:15 guess 66:2,7 69:13 87:20 169:16 guideline 93:9 guilty 7:6 Gustin-Bacon 157:21 167:7 179:14 180:24 187:12	98:1 148:8,9 164:23 165:24 Hall 1:15 hand 18:2,15 82:6 168:14 handed 71:7 93:14 handled 6:16 hanging 159:20 happen 102:24 153:9 163:21 happened 31:13,14 33:4 89:24 happens 47:4 86:6 harmful 14:24 Harrisburg 8:23 9:23 Hartford 3:16 having 7:5 25:6 156:2 173:20 hazardous 126:12 127:3 127:6 head 19:16 76:10 77:15 health 14:24 16:18,22 17:2 17:7 19:16 21:4,9 22:8,14 22:21 23:3,6 23:15 24:11 110:11 112:18 114:9,10 115:1,12 116:11 128:13 200:21 Health's 15:24 22:16 hear 10:13 34:10 59:16 69:9 138:8 204:18 heard 28:14 65:18 68:22 69:4,5 72:4 87:11,16 123:10 hearing 28:17 34:19 heat 100:14 107:1,5 108:24 132:24 161:3,10 162:5,13 163:11 179:11 179:13,16,23 180:4,4,6,15 180:19 181:1 181:11 182:16 185:8 186:11 187:11 188:6 189:2 190:11 192:16 heated 100:5 108:9 129:9 133:19 167:8 171:17 177:12	190:11 191:21 heating 108:17 109:10 129:10 129:20 130:3 157:16,17 167:18 176:18 190:9 heavy 185:11 held 1:14 191:9 help 179:13 henderson 2:10 2:11 18:24 19:6 20:8,10 30:5 31:3,6 83:7,9 84:9 206:3 her 6:19 7:10 7:16 8:1,2 103:19 109:2 132:15 182:3 herschel 4:2 7:11 12:1,4 34:17 38:24 57:4 58:2,11 59:21 83:13 83:20 84:2 91:4 103:16 106:12 108:22 132:14,20 134:1 135:14 136:4 138:7 175:1 182:2 Hersh 21:9 Hershey 81:18 82:15,17 85:11,14 105:13 Hersh's 21:13 Hey 178:7,14 186:16 high 22:11 96:9 96:17 110:18 126:2 167:8 201:20 202:4 higher 77:1,8 77:22 78:21 78:23 79:17 147:12,16 167:9 hike 58:8 him 24:9,17 25:3,6,7 27:20 27:23 31:12 43:15 57:8 58:6,24 59:1,2 59:4 61:12 67:6 68:10 118:9 130:24 131:1,13 132:10,22,24 133:16,24 134:9,13 135:11 Hirsh 8:22 9:22 43:15 historical 182:3 hold 57:9 61:13 76:9 181:18 182:16,17,24	183:6 185:24 205:2 holding 154:8 154:15 187:9 holds 178:4 holes 120:2 home 89:17 90:18 honestly 150:5 Honor 7:12 8:11 9:13,21 13:13 16:6,11 18:14,15 19:4 24:13 26:15 26:18 28:13 29:6,15,20,23 31:16 32:24 34:7,18 36:9 36:13 37:1,7 38:22 39:3 44:8 45:17 48:5 49:8,16 52:2 53:4,20 57:6 58:3,11 58:18 60:20 61:20 66:20 67:24 69:16 70:20 74:3,7 75:18,20 77:13 78:17 81:24 82:3,6 83:6,12 85:19 85:21 88:19 89:19 91:7 92:2,8 96:24 98:24 99:2,5 109:20 111:5 111:6 114:6 115:13,18 116:4,23 118:7 122:14 130:7,10 132:6,20 133:4 134:5 134:16 135:15 136:5,19 137:2,9,16 143:17 167:23 168:10 169:12 196:12 199:11 203:12,18,21 204:1 honorable 1:11 9:11 hope 18:5 55:16 Hopefully 88:22 horrible 30:9 hot 180:24 181:8 hours 86:24 house 8:13,14 HOYLE 4:1 human 14:24 110:20 112:16 114:9,10 115:1,12 116:11 HUMPHREY	2:2 hygiene 87:8 hypothetical 56:24 130:11 130:15 I idea 41:12 89:16 90:4 157:6 identification 39:21 54:6 identified 42:5 47:14 114:20 142:23,24 identify 90:13 181:16 illegible 19:12 immediately 77:6 99:16 impact 57:2 impeach 26:19 impeachment 26:23 importance 110:12 important 6:3 79:3,4 119:8 182:21,21,22 184:9 185:7 185:10,23 202:16 imprisonment 6:12,23 improper 26:19 28:3,6,15 30:22 31:1,2 33:12 34:24 35:4,10 36:15 134:6 improperly 31:18 improve 92:8 inaccurate 34:3 34:4 inadequate 68:16 inadmissible 58:19 inappropriate 99:6 inc 1:7,8 2:24 inch 108:6 160:2 190:16 inches 76:19 108:4 117:14 127:10 187:21 incidental 114:12,14,16 include 43:21 included 42:9 54:5 64:5 104:9 106:2 including 31:9 64:16 104:17 186:11 incomplete 68:16 70:5	inconceivable 35:14 inconsequential 192:15 inconsistent 165:14 inconvenient 18:20 incorrect 14:22 21:21 40:14 41:10 increase 79:22 100:10,20 101:21 increases 122:8 incredible 165:11 incredibly 198:6 indeed 31:22 Independence 2:6 independent 181:8 205:17 Indian 184:18 184:24 indicate 20:17 117:11 159:18 175:10 indicated 39:13 68:23 140:3 140:12 141:9 154:4 155:14 167:17 176:3 176:24 indicates 153:23 183:3 196:19 indicating 49:17,22,24 54:22 63:22 70:5 73:23 75:12 84:16 107:10,17 Indoor 114:7 industrial 87:7 113:18 117:19 122:18 187:4 industry 111:14 infinitesimal 199:18 information 6:2 17:9 19:23 35:21 39:18 39:23 40:3,6,7 40:17 42:1,9 48:22 54:1 57:21 64:1 67:3,5,12 68:13,15 93:22 103:23 104:7,16 106:7,10 112:9 132:21 146:9 156:22 166:7 170:1 178:11 181:3 188:19,22
--	--	--	---	---	---

198:4 202:13 203:6 205:6 infuse 35:20 Initial 112:22 inner 42:21,24 43:8 50:11 innocuous 6:14 inquiry 57:17 inside 99:23 100:24 inspect 135:21 135:24 inspecting 165:5 install 158:14 installation 187:8 installed 149:2 instance 34:18 171:8 198:18 instead 165:23 186:22 204:17 Institute 193:9 instructed 185:20 instruction 46:17 183:19 184:1,5,16 instructions 155:24 160:17 insulation 159:12,19 160:4,18 intact 133:21 164:4 integral 119:9 integrity 151:12 154:14 171:5 176:9 185:9 intent 36:21 intention 204:3 interesting 7:17 7:24 interests 36:6 interior 43:23 Internally 22:1 interrupt 72:20 83:14 interrupted 29:13 30:11 interruption 36:3 interview 44:11 interviewed 44:4 inter-library 11:4 introduce 8:8 investigated 118:16,20 investigations 20:16 112:22 investigators 20:23 invited 33:13 inviting 52:3 75:19 involve 122:17	involved 25:8 26:2 132:24 involving 175:7 iron 179:17 180:24 181:1 181:11 182:8 182:11,16,24 183:5,22 184:11 187:10 187:10,15,19 190:18,20 191:9 ironing 181:15 184:17 irons 184:24 irrelevant 26:6 issue 6:16 25:20 35:17 68:15 73:14 81:15 89:1 96:20 103:4 204:5 issued 20:2 issues 122:19 items 150:24 J jacket 156:24 180:8 James 72:5 January 92:19 143:1,20 153:7 Jersey 113:17 158:12 JFK 1:22 job 112:1 158:6 164:3 166:14 187:13 john 1:18 5:2 10:5,10 207:13 join 159:10 joint 107:7 159:2 joints 160:6 joke 10:16 journals 189:10 JOYCE 2:19 jr 1:11 9:11 Judge 7:20 30:8 July 168:22 170:12 172:12 jumped 155:17 juror 6:6 jurors 9:2 jury 6:4,15,20 8:17 9:15,22 10:19 13:18 28:13,20,24 32:20,23 34:19 35:10 35:16,20,21 37:3 49:12 69:3,9 81:16 81:19 86:2 88:12 90:19 91:8,19 92:4 92:12 94:5	95:4 107:3 116:5 121:17 121:19 133:22 137:20 143:5 204:5,16 just 8:7 10:3,13 23:10 24:17 28:1 33:3 34:20 37:16 37:23 38:10 44:22 50:16 50:23 53:4,15 56:7,11 60:12 61:14 65:15 67:21 68:5,9 70:14 71:7 73:12 74:18 75:1,9,16 80:22 83:16 86:5 88:19 89:10 94:9,16 94:21 95:4 96:7 98:1 99:3 101:17 106:6 106:8 117:6 117:24 118:9 122:9 124:10 126:18 127:11 127:19 129:3 132:5 133:15 134:4 135:9 136:20,23 141:14 142:17 151:12 159:7 161:8,9,20 162:6 164:7 165:13,13 175:2 176:3 176:24 179:2 180:4 184:7 185:18,21 186:22 187:22 187:23 190:13 192:5,9,11 193:7 197:15 199:17 200:9 202:9,13 204:2,14 205:4 206:1 justified 189:4 K K 2:4 4:2 KATHY 3:3 keep 100:14 123:24 143:12 171:5 184:12 185:9 193:14 205:4 KENNETH 2:3 3:13 KERR 4:1 kind 24:6 29:21 68:13,24,24 72:1 80:19,20 85:13 94:17 121:9 124:12 147:21 149:22	153:15 188:5 201:1,2,9 kinds 7:24 78:8 111:21 kinking 77:14 knew 7:2 47:9 71:7,11,15 105:23 106:5 134:11 178:12 know 6:22 9:1 21:18 22:23 24:7,10 25:2 25:10,11 27:7 29:3,8 37:17 37:20,22 39:11 40:20 41:19,20 42:11,16,18 42:20 43:1 44:1,23 45:1 47:2,18 50:11 50:12 51:6,16 51:23 52:7,11 55:5,13,21 56:7,10,11,13 56:17 58:7 61:10 63:12 65:15,18 66:16,18 67:8 67:11 68:1,20 71:15 74:19 74:22 75:3,6,7 75:15 76:2 83:6 85:13,20 87:10 88:10 88:19 95:16 97:11 98:21 99:12 100:24 101:1,3 102:10 104:10 105:4 106:10 106:19 108:22 120:21 124:20 135:12,12,13 144:9 145:1 154:6,23 160:1 163:17 166:17,22 172:6,15,17 174:12 177:4 178:9 180:19 180:23 182:10 182:14,18 184:11 186:24 186:24 205:11 knowing 47:6 knowledge 26:5 181:8 182:4 known 25:12 140:7 144:17 145:2 knows 24:17,22 29:22 34:3 99:8 134:22 192:2 Kominsky 77:23 79:16 138:4,5,16,19 139:24 140:11	140:21 142:15 145:22 181:7 190:20 Kominsky's 52:18,23 72:13 73:14 75:4 78:4 106:24 108:12 139:9 151:3 181:3 L lab 45:5 63:20 label 50:19 53:5 53:13 labeled 53:9 labels 49:2,13 50:17,22 53:11 54:2 136:14 labor 184:23 laboratories 102:8,11 103:3 laboratory 45:3 45:10,13 46:7 46:11,14,18 47:5,16 49:3 68:17 69:1 82:10 84:17 84:23 86:12 178:24 189:9 ladies 10:17 92:10 137:19 LAGNESE 3:12 laid 66:22 land 126:10 landfill 124:23 125:21 126:5 126:7,11 127:7 language 12:7 24:2 large 190:15 largely 117:19 larger 19:3 last 11:7 16:12 16:14 18:4 31:9 37:16 54:11,15,18 55:2 62:18 111:6 123:11 129:3 139:12 173:15 175:11 201:21,24 later 111:22 205:20 law 2:10 39:15 40:16 43:5 44:4,11 45:2,8 54:7 113:17 151:1 lawyer 68:10 lawyers 67:15 67:18 69:14 69:22 LAWYER'S	208:1 lay 59:4 layer 43:22 learn 196:2 learned 111:24 least 25:10 39:14 43:17 48:10 112:9 147:17 148:9 149:2 155:10 161:14 leave 31:17 106:22 127:12 127:20,23 128:6 166:16 leaves 33:19 91:20 122:7 177:17 198:23 leaving 122:19 123:5,15,17 124:1 127:13 leeway 89:19 left 72:24 115:15,20 124:18,24 125:10 153:8 153:14,16 177:2 legislative 21:10 Lemen 29:4 34:12 37:21 length 35:11 159:24 190:15 lengths 134:13 less 93:2 94:11 94:14,23,23 94:23,24 95:11 146:17 149:14 153:4 let 26:11 33:2 37:9 45:18 47:24 54:3 56:24 57:15 61:5 69:18 89:15,16 96:7 101:9 102:14 102:15 107:15 138:12 144:2 152:22 190:13 194:17 196:5 196:12 197:20 letter 8:7 17:6,7 18:2 19:14 46:17,22,24 47:3 116:7 lettering 184:18 let's 16:10 37:2 38:2 49:12,14 71:17 76:23 77:21 81:15 85:17 95:7 101:5 106:22 108:15,23 112:10 153:2 160:2 166:20 193:3,24 199:2
--	---	--	--	---	--

level 11:23 13:7 14:4,12,18 16:20,20 20:15,18 21:2 79:6,7,17 123:1,2,6 124:9 125:18 125:19 128:8 128:10 140:4	levels 14:23 22:11 23:1 100:10,18 113:23 123:15 126:2 152:18 193:23 194:3 194:7 198:16 198:22 199:3 199:16,17	Lexington 2:5 liability 112:16 113:3 122:19 Liberty 3:5 4:3 library 11:4 life 119:6 121:22 132:8 lifting 185:12 light 139:18 141:12 144:23 145:5,24 148:1	like 12:21 15:13 16:7 76:19 77:9 86:16,17 79:23 99:21 101:13 103:1 103:17 104:14 115:22 120:2 123:23 124:7 124:23 125:20 126:5,11 130:22 136:21 136:24 152:16 156:7 162:11 162:23 181:15 182:8 183:20 183:21 186:18 187:8 188:19 192:6 193:10 198:21 202:15	likely 84:16,22 193:18 likewise 137:8 limit 90:3,15,20 92:8,16 93:2 94:6,11,14 95:7,14 98:16 limited 27:19 117:15 limits 89:13,17 94:9 95:15,21 line 46:21 78:9 81:6,7 143:23 143:24 153:7 208:2 liquid 114:21 119:4 195:17 liquids 201:12 liquor 120:6 list 94:8 95:1	97:15 listed 94:6 literature 179:20 195:11 196:1 201:2 202:8 little 30:21 54:4 58:13 89:19 96:5 125:12 161:13 178:7 191:6 LLP 2:18 loan 11:4 local 11:4 located 149:12 location 51:13 52:24 54:6 locations 48:20 136:13 locked 108:20 190:22 194:22 log 49:15 logical 66:8 Logue 21:10 long 112:15,21 114:8 122:18 125:22,23 127:18 148:4 149:9,10 181:10,17 182:10 202:3 look 7:22 48:12 61:5,6 64:17 65:6,11 67:2,7 68:10 69:14 69:21,23 71:17 76:23 77:18 81:15 89:22,23 90:5 90:6 94:3,4,8 95:19 96:20 97:9,12,12,14 105:11 110:5 110:8 112:10 122:3 146:20 147:24 148:1 148:13,17 149:1,4,11,11 149:14 150:8 150:21 162:9 162:15,21 168:21 173:13 179:24 186:16 199:11,15 201:9 202:4,8 202:22	looked 10:24 13:1 15:20 50:23 63:23 64:12,14,15 64:20,21,23 97:19 101:16 101:17 122:4 136:12 148:20 149:19 150:15 165:23 166:1 166:6,6 186:16 199:23 199:24 200:2	201:5,8,22 202:1,11,12 202:24 203:6 looking 15:20 40:12 43:10 50:16 67:22 68:6 70:1 73:17 77:2 80:3 86:10 91:7 94:22 101:17,20 124:21 147:23 148:12 155:11 163:3 164:24 170:16 171:23 172:1 174:24 202:13 204:14 looks 89:22 97:23 120:4 loosely 38:4 lose 187:13 loses 154:14 loss 166:20,24 176:14 177:13 178:2,13 188:8 189:2 lost 133:20 151:11,17 152:23 153:2 153:24 167:12 176:9 178:15 179:3 190:2 lot 64:3,7,14,15 76:11,12 111:24 119:17 124:15 165:9 167:9 195:4 198:10 low 11:23 13:7 14:4,12,18 84:19 93:7 113:22 152:17 193:22 194:3 194:7 198:6 198:22 lower 79:7 95:16 98:15 147:13,15 199:19 lowest 20:15 21:1 Loy 64:9 82:11 82:13,15 93:13,18 lunch 91:9,13 91:21 luncheon 91:14 91:18	M M 3:2 made 21:4 23:6 29:21 31:23 32:22 34:6 42:8 58:18 63:15 86:18 100:8 134:16 135:17 137:11	149:6 155:19 157:6 162:14 166:1 183:3 188:16 magillas 7:24 magnitude 55:24 56:3 main 8:12 maintenance 125:22 127:18 major 111:13 112:2 make 7:8 16:7 31:19 32:4 33:12 36:21 57:16 75:9 100:19 105:18 118:24 119:20 126:3 127:20 130:19 132:24 133:6,7 142:18 156:9 159:6,6 176:22 183:6 184:20 185:7 185:19 186:3 187:6,16 188:15 189:5 206:3 makes 32:17 35:3 187:16 189:21 192:12 193:6 making 17:2 33:8,14 102:24 157:5 158:13 167:7 176:23 180:6 201:1 man 132:7 MANAGEMENT... 1:4 managers 111:14 112:3 manifestation 112:17 manual 183:20 184:2,5 manufacture 15:16 132:18 133:1,18 134:18 156:6 manufactured 15:1,3,6 131:22 132:8 133:2,11 135:5 156:16 174:14 manufacturer 184:4 manufacturing 113:14 132:11 132:14 134:9 151:15 158:4 187:7 many 24:4 27:22 36:13 40:21 76:4 97:4 98:16	100:21 101:2 107:22 122:17 164:17 170:18 185:2 192:19 March 1:12,16 207:14 mark 93:10 168:4 marked 168:2 169:16 Market 3:6 4:4 mass 178:22 massive 179:3 mastic 142:11 152:15,19 mastics 152:6,9 material 15:13 15:16 43:13 43:23 63:4,13 123:23 127:4 152:16 167:7 167:12 194:10 202:21 materials 103:2 158:18 math 192:10 matrix 108:20 matter 1:14 28:11 105:10 106:21 167:15 188:24 194:8 197:8 202:7 206:1 may 18:20 20:21 24:23 24:24 26:9 28:20,24 37:4 41:9 44:22 51:4 59:11 61:18 65:21 73:15 77:13 81:10 88:12 124:4 128:10 137:15,17 143:18 146:12 169:9,11,13 199:8 200:17 maybe 18:16 91:9,11 94:5 114:22 131:14 141:14 147:15 149:13 155:17 186:22 187:21 189:17 MC 2:2,3,17 8:19 9:4,17 10:12 12:3,5,6 13:12,16,17 17:5,16,21,24 18:8,13,18 19:11,13 20:12 24:16 25:1,18 27:3 27:12 28:4,8 28:12 29:2,12 29:17,23 30:8 33:1 37:1,7,12 37:15 38:21 39:1,5,7 44:14	45:18,24 46:3 46:9 48:8 49:8 49:11,19 51:20 52:6 53:3,10,16,19 53:23 56:12 56:23 57:11 58:5,24 59:16 60:1,19,22 61:11,16,19 61:21 65:20 66:14,24 68:1 68:4 69:18,20 70:22 71:1,5 74:6,11 75:16 75:22 77:17 78:16,19 81:23 82:3,8 83:10,18,21 84:2,9,13 85:24 88:18 88:22,24 91:1 91:5,16 92:7 92:14 97:3 99:1,11 106:14,17 109:20,22 111:5,9 112:13,14 115:16 116:6 116:9,17,21 117:2 118:6 118:14 122:13 122:15 124:22 125:4,8 130:24 131:6 131:13,21 132:2,12 133:15 134:7 135:7,11,20 136:10,15,19 137:8 204:18 204:22 205:22 McClain 5:3 12:1 18:7 30:21 31:11 37:6 38:19 53:14 58:14 61:8 83:13 92:6 196:12 mean 33:17 34:5 67:9 72:20 79:2 80:22,24 89:4 98:19 119:23 119:24 120:8 122:1 126:6,6 154:10 161:24 165:5 182:15 182:22 183:19 Meaning 47:9 89:6 120:1 means 56:11,19 95:5,5 114:18 183:15 207:19 meant 40:13 99:2 181:24 measure 177:14 188:7
--	--	---	--	---	---	--	--	--	---	---	---

measured 107:24	85:11,14 105:13	111:24 114:7 118:18 119:8	47:18	172:20	70:19 74:2
measurement 103:4	mind 146:22 161:14	121:12 146:16 178:3 183:22	nature 130:11 130:17 133:5	nonetheless 115:3 130:20	75:13 84:5
mechanisms 117:12	mine 96:2	184:11 187:6 187:17 193:8	156:10 185:4	Noonan 19:15 21:9	90:23 96:23
medical 19:15	mineral 1:6 3:19	193:18 196:2 196:10 203:14	neal 3:12,13 5:4 8:1,5 136:17	normalizes 78:10	98:23 106:12
Mega 124:14	minute 65:17 91:10 101:6	morning 8:4 9:13,14,15	136:18 137:15 137:18,22	normally 80:18	115:14,19,23
Melius 24:8,18 25:2 27:5 29:3	149:14 164:23 165:24 178:7	10:17,19,20 10:21 31:9,15	138:7,9,11 143:14,17,20	north 1:8 74:23 158:12	118:12 130:6
34:12 37:18	187:9	33:24 204:17	143:24 144:1 167:24 168:6	northwest 75:11	132:16 135:18
Melius's 27:18 27:20	mirarchi 1:11 9:11	Morningstar 172:3,16	168:10,14,18 168:20 169:2	Notary 1:19 noted 52:24	136:4 137:3
melts 183:8	misleading 67:24	MORRIS 4:1	169:11,14 174:21 175:1	NOTES 208:1	167:22
member 112:20	misled 89:24	most 73:14 90:21 110:20	175:5 196:11 196:13 199:10	nothing 63:17 63:20 67:14	objectionable 32:13
memo 22:8 168:22 170:12	mismanagement 15:8	117:4,5 127:6	199:22 200:11 200:12 203:12	70:3 117:21 148:2 154:15	objections 31:20,23,24
177:20,21	missed 79:20 116:3	mother 37:8	203:17	194:22	32:15 33:15
mention 87:14	misshapened 162:11	motion 204:4,8	near 189:18,23	notice 6:5	34:7
mentioned 23:22 86:15	missing 116:14	motivated 11:22 13:6	nearly 93:18	noting 34:9	objective 146:15
122:3 157:3	Missouri 2:6	move 37:13 49:9 53:21	necessarily 88:8 114:20	number 15:9 19:24 22:12	obligation 32:14 36:16
204:6	misspoke 182:1	70:20 74:5 84:5 85:22	176:1 195:2	32:11 54:6,7,8 77:8 87:2 96:3	observation 150:15
mere 112:18	mistaken 13:22 97:10 149:3	118:4 135:13 136:24 137:5	necessary 204:13	97:8 105:15 113:19 150:19	obviously 102:23
merely 7:10 130:23	mistrial 204:9	137:12 148:23	need 9:6 58:3 73:22 104:1	155:4 164:20 168:3,17	occasion 149:15
metal 158:10 158:10	mix 100:4,16	moved 37:8	115:5 121:12 126:2 178:10	176:13 181:5 190:7 198:6	occasions 32:12 147:8 164:24
meter 93:3 94:12,15	mixing 101:18	movement 197:14	184:20 189:24 193:13 199:14	200:7 202:12 203:17	165:23
methods 112:6 128:18	mobilized 192:4	movie 86:17 87:15	201:13	203:17	occupational 17:12 20:14
MEYERS 2:19 6:21	mode 100:23 101:3	moving 15:14 88:1	needed 74:10 needs 205:17	numbered 83:8 83:11	20:21
microgram 16:3 20:24	modifications 178:21	MPH 19:15	neighborhood 97:24	numbers 48:18 48:19,23 50:2	occupied 146:19
22:15,22 93:3	moisture 126:16	much 56:13 72:11 93:8	neither 116:14 never 22:8 24:5	55:23 67:14 80:23 81:6	occupy 22:10 23:4
93:7 94:12,14	molecule 123:11	103:3 111:20 111:24 117:9	37:9 43:6 44:4 62:10 68:18	96:10 192:19 198:7	occur 15:3 26:2 176:13 195:11
micrograms 20:19 22:11	molecules 197:24	128:20 154:24 156:9 162:11	80:24 87:11 87:16 89:23	numerical 13:15	occurring 98:6
23:2 95:9	moment 108:15 141:1,18,23	163:14 170:18 181:13 182:8	104:3,4 130:13 133:20	numerous 17:10	occurs 195:8
microphone 138:10	144:4,9,11 199:2	182:14,18 190:2,22,23	156:15,18 157:7,12,15	O	odd 11:17 143:4
microscope 122:5	Monday 204:4 204:20	193:7,7 195:16	157:23 170:6	Oak 3:15	off 30:5,7 49:2 58:9 76:9 98:8
microscopic 120:1,2	money 7:7 192:13 193:1	multiplying 191:10	new 113:16,16 next 38:2	oath 10:8	102:15 103:3
mid 111:18 204:4	monitor 128:4 100:18	must 36:16 119:10	174:17,19,21 night 16:12	object 29:7,13 32:16,23 33:5	104:12 108:18
middle 9:18 10:1 33:6	monsanto 1:9 3:9 18:11	M.D. 1:2	ninth 78:20,23 NIOSH 15:22	36:17 52:4 57:10 75:20	109:1 135:13
might 7:17 30:24 38:15	146:10		16:17,20 17:3 17:8,11 19:22	83:18 115:19 118:2 124:5	160:3 186:5
57:3 70:10	MONTGOME... 2:17	N	19:24 20:3,9 20:13,23 22:3	130:11,23	192:16 202:21
75:17 89:23	months 99:18	n 5:1 199:20	23:23 27:4 37:18,21,24	objection 16:5 16:8 17:23	offer 83:21 103:16 136:21
90:8 91:13	more 6:12,14 6:23 9:7 28:19	name 9:8 10:4 90:14 91:22	NIOSH's 16:1 nobody 123:10	24:12,23 25:14 29:1,5	offered 27:5 134:1,17
114:18 167:11	35:15 64:24 73:22 74:14	128:22	187:14 non 135:19	30:12,15 32:4 32:5,14 33:9	136:7 138:3
176:10 192:3	80:11 87:17 88:23 95:11	narrow 144:2 National 193:8	none 135:19 146:17	36:1,4,22 44:7 45:16 51:14	offering 99:10
194:20 204:15	97:13,17 99:23 100:8	natural 15:11 15:15,17	66:4,5 166:3	56:9 57:4 58:2 59:24 66:19	offhand 101:4 172:17 200:17
miles 107:22 108:2,3,5	109:13 110:9	naturally 15:3		67:23 69:15	203:11 205:5
164:17,21					office 20:17 45:19,21
190:8,16					105:13 110:15
192:19					offices 2:10 21:10
million 197:22 199:19					often 110:13 112:23 114:11
millions 197:17					119:8
Milton 81:17 82:14,17					oftentimes 183:21
					Oh 109:12 127:5 157:19

158:7 190:3	84:19,22	117:11 121:10	182:11 184:12	136:23 137:11	190:22,23
oil 152:20	87:21 138:14	126:9 128:18	185:5 198:10	papers 202:13	191:3,11,13
Okay 37:2	144:17 145:2	137:4,10	overlapping	paragraph 39:6	195:12 198:15
38:16 49:6,18	156:22 162:17	150:18 152:3	159:13 160:20	116:23 171:23	199:3,17
57:1 76:22	168:2 185:17	152:6,20	overruled 44:9	172:2 175:11	201:7 202:5
85:17 94:8	185:17 192:23	156:1,2 157:5	56:16 68:3	part 30:24 43:5	202:14,17
116:17,22	open 9:10 32:17	164:15 166:7	99:9 106:16	48:10 49:14	PCBs 14:3 15:6
139:8 174:23	32:19 148:1	169:23 172:18	118:13 136:9	53:5 54:13	20:14 25:13
180:2 194:18	148:21	173:17 179:20	own 24:14	113:9 115:14	26:2,5 69:2
205:13,24	operate 22:10	181:6,20	25:15 102:17	122:9 142:22	76:24 77:2
old 113:14,21	operated 99:13	191:23 193:5	128:11 154:11	144:10 154:11	79:23 82:18
older 114:13	operation	195:13 202:13	171:21	174:15 183:9	84:24 95:9,17
115:6	100:23	205:10	owner 112:22	participation	101:12 103:2
oldest 50:18	opinion 57:9	others 72:5	owners 113:1	25:21	108:18,19
53:11	67:4 106:1	otherwise	ownership	particles	109:1 113:14
once 113:13	130:18,22	36:20 148:3	46:10	195:12,14	114:18 115:4
159:10	131:1,2	ounce 189:17	Oxford 2:12	198:23,23	118:20 120:9
one 2:12 3:5 4:3	134:20 144:10	190:5 191:1	o'clock 203:20	particular	120:12,13,15
6:1,12,24 8:13	144:12 145:6	out 7:14,19	O'NEILL 3:3	114:2,19	120:17,19
16:2,3,21,24	145:14 150:20	11:20 14:6		117:13 142:21	121:6,10,17
20:19,24	179:23 184:10	26:24 30:11	P	146:22 151:24	122:19 123:5
22:15,22 23:2	202:7	33:7 35:19	P 1:11 5:2 9:11	171:8 175:19	123:22 124:1
24:13 25:10	opinions	44:12 49:14	10:5,10	178:2 182:6	126:2,21
26:19 27:7,20	103:16 104:16	59:9 66:10,12	PA 2:13,21 3:7	200:1	127:14,24
27:23 30:15	106:24 132:15	70:10 80:10	4:5	particularly	128:6 129:8
31:24 34:18	134:2 138:2,3	90:12 95:20	packed 174:6	11:19 110:14	129:18 130:1
35:3 37:16	138:14,15	97:5,11	page 5:2 12:3,4	partly 11:22	130:2,14
41:20 42:8	165:3	108:23 115:10	12:19 13:10	13:6	131:5,10,23
43:17,20,21	opportunity	115:15,20	13:12,16	parts 55:11	133:3,7,8,12
46:21 50:16	28:21 35:18	122:7 124:18	38:11,13,20	199:6	134:21,23,24
51:4,12,23	103:11 204:7	124:24 125:10	38:22,23 39:2	passed 6:3	135:5 136:3
53:17 58:4	204:11	126:4,17	48:5 49:16	182:2	143:6,7
72:10,12,17	opposed 79:12	129:11 139:24	53:18 54:3	patches 184:17	145:17,19
73:19,21	89:9 100:23	146:8 149:6	58:22,23	184:24	146:10 150:3
76:16 77:21	105:16	150:6 153:3	77:18 83:7,9	path 196:24	151:6,17,20
77:21 79:5	opposite 75:24	165:12 170:6	83:10,24 84:8	pathways	152:23 153:1
87:19,22 88:8	100:12	173:5,17	84:10 90:24	196:15	153:3,8,16,24
89:12 93:7	option 119:12	175:13 176:16	92:19 94:4	pay 7:8	165:12 166:3
102:16 104:5	125:18	178:15 185:22	95:24 110:5	PC 3:12	166:10,12,16
107:7 113:16	options 127:9	187:6 190:2,7	111:7,8	PCB 11:21,23	167:8 170:18
113:20 115:24	oranges 194:15	190:17,24	112:12 114:5	12:8,21,22	170:18,24
116:3,7	194:20	191:24 192:10	116:6,22	13:5,7 14:4,12	175:21 177:2
124:21 125:1	order 55:24	193:20 195:6	118:22 122:12	14:17,18 17:9	177:13 178:14
127:8,24	56:3 100:14	outdoor 127:8	122:13,14	19:23 20:3,16	178:15 190:2
129:3 133:23	108:2 155:3	outer 41:7,13	143:2,3,11,13	20:23 24:5,11	191:22 192:15
140:8,9	165:6,10	41:18 42:21	143:14,16	25:20 68:18	193:16,17,20
141:24 147:2	166:16 185:9	42:23 43:8	153:7 174:20	72:9 81:12	194:1,4,10,12
147:15,16	196:2	44:18 50:12	174:21 199:7	83:5 84:14,17	194:20,22,24
148:3 149:2,5	Organization	outright 152:23	199:10,11	84:19,21,22	195:15,22
167:24 168:8	200:21	outside 98:10	208:2	100:10 101:21	196:16,20
168:19 169:20	organizations	99:14,20,23	pages 91:2	109:16 110:1	197:16,22
170:10 172:9	193:8	100:9,13,17	95:20 96:11	110:15 112:16	198:10,21,24
172:10 174:17	organized	100:23 107:17	96:12 97:19	112:19,23	200:21 201:3
176:13,24	96:15	107:18 136:6	paint 110:16	113:20,23	201:11 202:2
177:1,16,19	originally	162:10 163:3	127:19,20,21	114:11 117:3	203:9
178:12,16	161:14 169:19	176:17	152:4	117:8,13	peal 171:20
179:22 191:10	ornamental	oven 171:17	painting 124:10	120:24 121:4	pen 107:15
196:10 200:1	118:23 119:18	over 41:9,14	Paisley 172:3	121:19 123:11	penetrate 117:9
200:9 203:11	OSHA 19:24	61:5,6 77:13	172:16	123:17 125:21	120:19,23
203:20	other 6:2,13	107:12,14	panels 25:9	128:23 130:20	penetrated
ones 72:24	15:2,9 18:16	112:24 115:17	paper 52:21	132:10 133:9	120:17
173:24	21:8 41:21	115:24 116:3	67:22 68:11	139:3 140:15	penetration
ongoing 122:17	43:10 47:12	119:5 121:22	109:23,24	143:5,7	117:14 119:3
only 6:24 23:23	52:8 53:17,24	122:6 124:10	110:10 111:7	152:14 165:6	120:6
24:3 27:4,7,8	55:2 57:21	127:11 132:16	111:10,19	165:9 166:19	Penn 18:13,13
34:15 40:18	62:19 63:5	138:12,24	112:8 120:24	166:24 176:14	60:14,14 82:5
41:1 50:10	64:7 69:1	143:4 159:19	121:4 126:9	178:2 179:4	85:20 109:21
58:14 63:24	73:10 84:23	160:6 161:11	128:22 129:2	188:7 189:13	pennsylvania
72:10,11,17	103:2 114:18	180:5 181:11		189:18,19	1:1,2,2,3,4,5

1:15,16,23 9:9 19:16 91:23 penthouse 147:3 people 14:23 39:16 64:8 68:22 87:7 102:10 111:23 121:8 123:24 124:10 126:9 128:2 166:7 179:21 182:3 185:4 193:10 people's 111:2 164:16 per 7:6 20:19 20:24 72:12 93:3,7 94:12 94:14 124:8 128:16 149:14 155:3 165:7 170:22 perceived 112:18 percent 96:8,16 99:14,17 100:13,22 101:3 165:8,9 170:20 percentage 166:20 perfect 203:13 perform 101:10 188:5 192:21 performed 119:11 175:22 188:24 perhaps 34:5,8 34:14 93:22 119:8 172:23 178:18 191:6 period 22:6 41:9 181:17 190:24 permanent 125:13 permit 31:10 31:12 36:1 person 6:21 35:3 90:12 184:10 personal 30:21 31:17 35:4,9 personally 69:1 persons 21:8 PHALEN 2:4 phase 121:14 171:11 198:17 199:4 200:14 philadelphia 1:16,23 2:21 3:7 4:5 PHILIPS 1:8 phone 2:7,14 2:22 3:8,17 4:6 184:6 photographs 150:18,21,23 151:3 164:3	166:1 phrase 11:20 physical 117:12 physics 201:14 201:15,18,19 pick 124:23 picture 88:11 piece 52:21 107:13 155:20 155:20 159:13 159:20 182:9 183:23 184:8 190:16 pieces 158:15 Pittsburgh 2:13 place 3:5,14 4:3 20:5 21:19 23:5 35:5 122:19 123:5 123:16,17 124:1,14 127:14,24 135:17 191:9 197:4 198:9 198:10 plain 159:7 Plaintiffs 1:5 2:8,15 Plaintiff's 16:24 32:3 36:13 129:7 plant 113:14 128:3 132:14 153:10 plants 115:6 133:19 plasticizer 151:21 153:12 170:24 176:10 plasticizers 134:2 153:4 please 9:12 52:1 81:22 91:24 112:12 122:12 168:21 199:7 plexiglas 149:3 pliable 171:1 175:17 pockets 175:13 176:1,4,5 point 30:23 40:18 71:6 72:12 74:1,4,9 75:9,24 78:13 78:14 79:10 90:13 99:18 109:5 119:21 130:19 133:6 134:16 135:16 139:12 141:15 141:15,19 153:19 154:16 166:19 189:6 192:12 205:7 pointed 11:20 80:10 115:10 139:24 192:10 pointing 12:9	77:20 185:22 points 75:24 79:5 polluted 198:17 199:5 polychlorinated 111:12 porosity 119:6 121:23 122:2 122:8 porous 119:2 119:22,24 posited 190:20 position 28:23 35:19 117:24 possibilities 51:21,24 possibility 57:13 possible 41:11 41:18 51:8,24 167:3,4 177:19 188:19 188:23 Possibly 88:21 post-fire 77:1,9 141:7 potential 20:3 pounds 183:1 PQL 94:6 practice 23:21 122:16 precipitate 112:23 precisely 55:2 preclude 205:8 precluded 205:9 predominant 110:14 prefer 205:4 preliminary 205:2 premature 58:12 59:22 59:24 prepare 205:18 prepared 66:9 205:14 presence 35:19 112:19,23 114:12 present 1:20 110:16 139:10 141:16 142:20 156:15,18 180:21 204:3 presiding 9:12 press 43:18 pressure 103:5 182:14,15,19 182:20,21 183:1 202:18 pressures 201:6 202:15 presumably 41:7 100:17 presume 34:23 pretty 96:6	126:23 128:20 133:12 157:6 182:8 186:14 188:9 previously 118:11 177:21 pre-fire 62:3 72:9 76:24 105:1 141:6 141:17 142:20 144:6,11 151:1 primary 148:15 154:21 princess 184:18 185:1 principal 197:9 prior 62:21 146:8 privy 35:22 probably 47:14 68:16 114:1 176:12 183:4 187:13 200:20 probation 6:24 7:6 probative 131:10 problem 14:13 14:22 15:2,5 29:11 33:15 34:16 173:20 175:12 179:8 problems 31:21 34:18 85:5 179:6 proceed 36:2 137:15,17 169:11 205:14 process 15:11 15:13,15,17 70:2 151:15 167:11,18 170:14,17 173:6 176:16 176:17,18 178:19,21 179:14 186:12 187:14 188:6 189:3 192:16 195:8 197:15 198:3,9 processes 187:8 produced 141:11,13 178:22,23 product 15:18 173:18 174:13 176:23 177:3 182:6 203:10 production 178:19 products 1:6 143:8 146:11 151:22 Professional 1:19 program 64:6 project 54:6,7	projects 25:21 26:3 122:17 123:9 prompted 114:11 properly 185:20 property 113:1 113:18 122:18 prospective 6:6 protect 36:6 protection 114:10 147:21 protective 122:20 123:18 127:14 protocol 188:15 protocols 167:6 proven 102:16 164:11 provide 173:18 provided 21:22 22:4 62:5,7,10 67:5 166:7 170:10 172:19 172:23 public 1:3,19 20:4 published 189:10 puddle 114:21 pull 7:16 160:23 pulled 14:6 pump 86:7 pumps 92:22 punishable 6:11,23 pure 190:22,23 191:13 purge 99:2 101:3 purged 98:17 98:19 purging 98:22 100:1 105:20 105:24 purpose 36:22 99:24 106:21 112:7 148:15 154:19,21 176:21 185:17 purposes 78:15 128:11 138:22 148:11 204:2 push 147:24 148:20,24 182:17 pushed 148:24 pushing 149:5 put 18:9 21:19 27:14 40:9 56:18 84:4 90:10 94:5,21 108:23 121:3 121:14 126:13 127:10 134:12 157:12 159:10 160:6 161:3	173:6 182:16 184:7 191:20 197:13 205:1 putting 92:9 171:9,19 P.C 2:2 p.m 91:18 206:8 Q qualifications 25:5 27:19 qualified 132:3 132:7,17 133:16,24 135:1 qualify 134:13 qualifying 6:7,8 6:9 quality 63:19 64:5,6,18 100:6 132:23 157:20 quantification 94:17 quantities 84:19 question 6:8,19 7:3,13 17:1,20 19:20 23:13 24:20,21,24 28:14 29:9,11 29:14,18 30:11,14,17 30:22 31:1,2,7 31:20 32:7 33:6,7,23 34:8 34:10,19,24 37:17 44:8 56:10 57:20 58:15 59:17 59:18 61:15 67:24 71:1 78:6 79:20 82:19 87:4,5 104:3 106:13 117:24 123:14 127:22 129:24 130:12 131:4 131:9,14,18 131:20,21 135:2,8 152:22 166:23 182:1,2 200:11 questionnaire 6:7,9,10 questions 6:14 8:20 30:10 31:11 32:12 34:6 36:14 59:3 118:9 136:16 166:5 quibbling 141:14 quick 34:14 quite 15:9 100:11 123:8
---	--	---	--	---	---

150:5	146:13 147:11	172:9 183:17	114:22	resin 123:23	rewrite 172:8
quotations	150:4 151:14	referring 53:15	removal 115:5	respects 120:3	RHOADS 2:18
137:10	154:7 155:4	61:9 71:22	remove 121:13	respond 33:11	right 7:15 8:5
quote 111:6	157:10 172:21	94:18 115:11	165:18	132:6 204:23	12:17 13:21
115:14	187:4,20	155:19 160:16	removed	204:24 205:10	13:22 14:5
	188:3,3 200:6	168:13 170:11	123:11	responds 9:15	15:4,19 19:17
R	recalled 10:10	179:17 200:13	rendered	10:19 92:4,12	20:6 21:11,15
R 3:13 207:2	receive 46:13	refers 174:4	132:14 202:6	137:20	21:20 22:15
raise 32:15	146:9	refresh 61:6	rendering 67:4	response 19:19	22:17 23:15
59:24 115:19	received 6:1	refreshes 26:11	repeat 29:6	responsibilities	23:19,24
115:23	41:24 47:5	refuse 148:13	repetition	127:19	25:13 39:19
raises 7:23 85:6	150:24 167:16	148:17	28:18	responsibility	39:23 40:2,6
RALPH 2:4	178:24	regard 53:24	rephrase 24:24	125:23	40:23 41:2
range 20:19	recently 39:10	54:10 57:15	report 8:16	responsible	42:3 43:23
75:17 96:9	146:18	82:14 86:14	38:6,9,15	128:2 130:21	44:6,19 45:12
ranges 95:21	recess 30:2,4,20	90:19 95:12	39:10,19 40:9	responsive	45:15,22
rapid 113:2,9	91:15,18	98:14 106:8	40:22 42:6,9	118:8	46:11 48:11
rapidly 111:13	169:7	107:5 118:17	44:21 48:4	rest 98:7	49:21 50:8,13
112:1	recessed 91:21	170:9 177:7	57:24 60:12	116:18 162:16	50:19,22,24
rate 197:16	169:8	202:1	61:7,10 62:8	restitution 7:8	51:5,13 54:2
rates 189:8	recipient	regarding	62:11 63:2,5,6	result 77:22	54:22 55:3
193:1 201:6,9	145:12 146:2	106:24	63:20 66:21	115:5 141:7	64:2 65:20,23
202:15,18	Recognize	regardless	67:10 68:6	144:12 198:16	69:22 71:9,13
rather 78:12	182:4	129:19 131:2	70:4,8 71:7,20	199:4	73:11,24
113:2 131:9	recognized	142:13,14	93:22 97:8	resulting 117:6	74:15,17,24
145:18 184:6	24:11	195:16	104:17 139:24	results 20:15	76:1 77:11
195:16	recollection	regards 146:10	151:3 181:4	48:1,14 52:22	78:3,5 79:13
re 191:4	26:12 61:6	Registered 1:18	190:21 201:1	52:23 55:17	79:24 80:7,14
read 18:24 24:7	recommend	regret 35:1	202:7,10	59:7,14 62:15	81:5,13 82:10
28:1 54:4	17:11 20:1	regulated 25:12	207:21	62:16 63:18	82:18 85:1,7
67:10 70:6,8	recommendation	regulations	reported 41:24	63:22 64:1,9	86:12,22 87:9
115:15,22	16:1,2,23 17:3	125:17 127:7	62:15,16	64:12,14 65:5	88:3,6,14 89:3
116:10 122:22	20:2,9 21:3,22	128:13	71:12 82:16	65:6,10,12,14	89:10,13
124:19 125:3	22:4,14,17,18	regurgitate	104:18	65:24 66:6,10	91:16 93:10
136:23 139:9	23:7,14,18	26:24	Reporter 1:19	66:17,18 67:8	93:14,20
177:21 178:6	recommended	related 25:23	reports 60:4,13	71:12,17 72:2	94:12,19 95:2
184:7	20:23	170:1 174:15	64:23	72:9,14,23	95:17,24
reading 26:20	recommending	relates 49:20	represent 41:7	73:8 77:23	96:10 98:3,7
27:15 84:1,8	16:18 115:9	132:19	110:19	78:11,20,21	99:24 101:7
199:9	recommends	relating 20:3	representative	78:22,24	102:8 104:5
reads 53:11	17:11 20:13	relatively 167:8	89:2,5	79:21 80:12	104:11,24
ready 192:3	reconvened	release 24:5	representing	81:12,12	105:5,17,22
real 35:24	91:24	101:12 114:21	2:8,15,23 3:9	83:12 84:11	106:4,5,11,22
41:12 102:14	record 10:4	128:9 193:16	3:18 4:7 7:10	84:12 86:2	107:7,20
108:23	16:6 28:9,13	193:19	33:20	87:18 90:6	108:5,11
realize 7:5	30:6,7 32:10	released 139:17	reproduction	101:16,18,22	109:24 113:5
197:19	58:9,20 83:15	194:21	207:18	191:19 192:7	116:19 118:17
really 71:14	83:17,17	releases 15:8	reputable	192:21	119:12 121:6
103:17 117:21	130:13,13	relevancy	193:8	resume 81:22	122:11 123:7
119:15 122:10	136:20 207:6	59:12	requally 24:13	return 8:23	124:2 128:5
135:3 146:12	records 84:3	relevant 203:7	request 65:1,2	9:23	128:19,24
163:17 198:4	rectangle	reliable 59:15	require 183:5	returning 8:7	130:5 135:22
reason 36:4	159:11	relied 40:5	184:23	reveal 112:22	150:13 157:22
58:8 73:6	rectangular	59:13 150:19	required 33:10	review 16:15	158:17 160:21
86:20,23	108:7 155:20	159:17	68:14 113:17	60:23 61:12	168:5 172:4
87:24 88:4	recycled 100:16	rely 59:19	173:19	61:14 62:21	177:24 186:7
124:5 177:24	red 85:6 107:15	remain 149:10	requirement	63:9,13 64:18	204:19
204:2 205:1	reduce 35:8	171:1	127:6 128:12	71:8 106:4	rightly 36:17
reasonable	reduced 20:14	remained 91:19	requires 125:22	144:19 167:16	rights 36:5
187:2	refer 114:17	133:21	127:18	reviewed 16:12	rigid 153:12
reasons 128:14	174:5 196:1	remember 11:7	requisite	17:9 19:23	154:9 164:4
177:1 178:13	201:18	11:13 12:7,13	158:16	26:7 44:16	rigidity 154:20
178:16 193:6	reference 17:14	16:4 76:9	research	59:11 60:3,13	risk 110:11,24
recall 11:15	17:19 92:17	81:18 86:18	117:17 201:2	61:3 132:12	111:3 112:18
24:1 47:21	196:1	90:22 107:2	201:10 202:2	133:22 134:10	112:21 113:3
61:1,2,22 76:4	references	151:18 200:16	202:5,19,20	172:24 188:16	rolling 205:4
81:3 97:7	110:5	remind 10:7	205:2,18	203:5	room 89:21,22
100:12 146:7	referred 156:3	37:23	reserve 137:4,6	reviewing	91:20 114:19
	157:1 169:5	remnants	137:13	61:22 172:21	roughly 93:20

93:21 95:12	sampler 39:22	200:18	189:3 192:16	111:18 117:10	57:23 61:9
98:3,4 170:21	113:22	saying 16:23	season 129:10	139:23 184:3	79:22 84:3
route 110:20	42:5	23:10 47:19	129:20 130:3	184:15 185:21	114:18 125:6
routine 115:3	samples 38:5	65:22 123:1,4	seated 9:12	186:8 187:17	166:12,19
routinely 20:22	38:18 39:8,17	128:1 144:3,5	37:4 88:14,17	189:21 192:13	167:13 192:14
RPR 207:13	39:24 40:8,21	145:17 154:7	91:19 92:1	193:6 198:3	196:5 197:15
rule 124:14	40:23 41:3,5,6	166:15 181:20	169:9	sensitive 92:24	197:19
ruled 29:7 59:9	41:13,17,19	184:22 192:19	second 13:19	sent 6:18 7:14	showed 58:6
118:11	42:2,7,10,12	193:15	32:5 38:10	45:14,19 46:6	59:1 125:5
ruling 30:12	42:13,15,17	says 17:1,8	61:14 119:4	46:7	141:16 189:20
32:8 34:14	42:19,21,23	19:19 39:2	121:21 148:8	sentence	shown 16:16,21
58:19,22	42:24 43:13	50:17 53:6,16	148:10 172:1	115:21 124:17	59:10 110:6
137:5,7,14	43:13,16 44:2	82:24 83:5	173:14 175:2	125:10 173:15	117:9
205:7	44:3,13,17,18	84:3,10,14	175:10 190:19	175:11	shows 79:11
run 102:1 103:1	45:2,7,8,19	85:2 93:11	secondly	separate 155:9	117:13 197:24
180:4 181:11	46:14,16,20	115:1 120:10	140:23	163:2 174:10	205:2
181:14 182:8	47:5,8,13	122:16 123:17	seconds 183:1	separated 53:2	shuffle 175:2
182:8,11	48:21 49:21	125:20 128:14	187:18 191:9	separately	side 16:7,9
184:12	50:10,12,23	153:8 173:15	section 73:18	55:12	26:17 29:21
running 19:5	51:3 52:8,19	175:15 178:8	182:11	September	32:1 33:10
184:11	52:24 53:18	180:3 184:4	sediment 194:5	58:21,22	34:1,21 35:18
S	54:1,9,10,13	scale 94:18	194:12 195:1	sequence 16:12	58:4,10 72:24
S 2:19 143:6	54:24 55:3,6,7	scenario 189:22	195:6 196:20	16:13 150:4	77:14 107:7
safe 123:1,3,13	55:9,10,14,14	191:16,17	196:24 197:10	series 15:20	130:7,9
125:19 128:8	56:8 57:1,2,8	schedule	see 7:16,17	50:3,4	203:22,24
Safety 21:20	57:16,18,22	204:19	12:22 18:10	serious 35:24	sides 36:11
51:10,18 52:9	57:24 62:1,3,6	scheduling	26:11 46:23	serve 78:15	side's 26:20,21
52:12 56:20	62:14,20	204:2	53:15 61:5,18	128:16	sight 90:8
87:22 88:2	63:17,24 64:3	school 81:18	71:19 72:8	services 1:2,21	signals 206:2
105:3,7	64:22 66:1	82:15,17	77:14 78:14	19:21	signed 6:18
113:12 117:22	71:12,16,21	85:11,15	89:15,16,18	session 37:5	significance
119:16 129:22	71:22 72:3	105:13 158:9	90:11 93:4	169:10	73:6,7
139:5,14	73:16,20,23	201:20 202:4	94:9 95:8	set 26:3 86:7	significant 59:5
140:8,16	74:14,20	schools 85:17	101:20 105:12	93:18 94:3	72:4
141:2 142:2	76:23 78:4	science 189:7	107:16 109:1	95:13 96:22	significantly
144:18 146:5	80:4,5,12	191:16 192:11	109:5 117:1	124:11	73:2
148:5 152:17	81:17 82:9,15	192:24	131:16 136:2	settings 96:18	similar 84:18
164:18 179:1	82:16,23 83:1	scientist 67:2	136:13 144:2	seven 147:1	103:2 178:19
199:20	83:2 84:16,20	68:8,12 85:6	149:1,11	153:8	simple 165:4,20
same 11:15	84:21,23 85:1	102:7 188:18	153:19 156:15	several 20:15	185:6 188:4
13:14,16 20:2	85:9,18 86:21	192:17,22	156:19 157:19	118:24 119:19	simply 36:21
35:14 53:18	87:2,6,20	195:24	161:8 162:10	136:13 171:18	42:4 46:21
54:12,18	90:20 92:21	scientists 69:2	163:2,14,20	171:19 174:7	80:17 100:3
57:24 62:20	92:21 93:12	188:16	163:23 166:8	shapes 158:13	132:21 180:3
63:17 71:12	93:13 94:22	scope 136:6	169:4 173:23	sheet 158:9,10	183:6 185:13
71:16 73:17	95:13 96:8,16	scrape 160:10	176:19 177:12	159:6	Since 77:20
75:24 77:10	96:22 97:4,6	160:19	178:10 180:12	sheets 158:24	84:18
78:4 79:6 87:2	97:22 98:2,15	scraped 43:7	180:15 186:18	159:2	single 29:14
106:3 126:19	100:21 104:10	screen 18:9	202:21 203:6	shield 149:3	sir 10:4 11:10
127:1 153:6	104:17,19,23	95:8	203:22	shifted 161:13	12:12,14,24
197:22 207:19	105:2,4,12,15	se 7:6 124:8	seeing 47:16	shirt 181:15	14:1 19:18
sample 43:8	106:3,20	128:16	seeking 130:21	shoes 114:24	20:7 21:6,12
47:13 48:1,18	141:17 142:20	seal 126:1	seem 154:7	shop 158:10,11	23:16 38:1,7
48:19,23,24	164:16 178:23	128:10,11	seems 16:15	short 112:15	39:13 47:20
49:15 54:5,8	sampling 86:2	180:6 185:14	131:8	114:8 169:7	47:23 50:1
55:11 64:20	86:6,7,14 87:3	185:18 186:2	seen 23:1 26:12	shorthand	54:5 55:4 60:5
65:1,3 72:10	87:18 89:2,3	sealed 98:7	31:8 43:6	207:21	64:20 81:20
73:19,21	113:19 151:1	107:6,8,13,16	120:16 150:18	short-term	94:2,20 95:3
74:21 75:4,7	sanitary 126:11	108:7 187:12	152:13,14	117:7	101:8 107:21
75:10,11	satisfactory	sealing 107:1,6	154:2 164:14	shot 86:17	109:7 135:23
76:16,18	104:8	126:21 158:21	166:18 177:5	87:15,19 88:5	136:11,18
86:24 87:19	save 100:17	161:3,10	187:22 195:11	88:15 89:10	138:17 139:7
87:22 88:8	saw 149:15,18	162:6 163:11	200:7	89:16	143:3 145:10
89:7 94:3 95:6	157:12,15,23	179:12,14,16	selection 6:4,15	shots 86:22	159:1,15
149:22 164:7	158:3 162:11	179:23 180:4	selling 113:18	87:8,21	161:1 163:8
165:17,19	164:2 178:5	180:5,16,19	send 46:8 69:2	show 23:5	163:10 175:9
166:11	178:24 191:18	181:1,11	89:21	27:20,23	180:18 181:24
	191:19,20	182:16 185:8	sense 7:7 97:13	47:24 48:6	195:20 196:4
		186:12 188:6	101:14,19	49:12,23	196:9

sit 66:16 129:5 183:5 202:9	124:5 137:4 138:4,6,18,20 144:5 152:15 156:8 157:4 159:12 162:9 162:14 163:2 166:1,19 167:12 178:20 181:17 182:3 183:24 188:5 191:1 193:5 194:10 198:4 199:24 202:24	southeast 75:12 space 120:3 spaces 122:5 span 119:6 121:22 speak 181:22 speaking 16:8 32:4 special 188:15 specific 23:13 81:1 82:20 90:24 168:19 183:2 specifically 61:4,24 71:15 123:14 170:15 specification 181:18 183:14 183:18 specifications 174:16 182:23 speculate 52:4 182:12 speculation 51:15 75:14 75:20 183:9 183:11 speech 32:18 70:20,23 spend 192:13 spent 158:12 192:24 spill 114:20 117:7 127:8 spillage 115:4 spills 114:12 117:15 201:4 split 55:6,7,9,10 55:14 57:1,8 splits 55:20 57:2 spoken 156:2,4 sponge 120:2 122:3 spread 99:22 129:8,14,19 129:21 130:3 130:20 145:17 spreading 145:18 spun 89:17 square 20:20 21:1 76:4,8,14 76:15 155:3 165:7 170:22 stability 133:21 stage 59:20 stand 9:24 69:12 81:22 183:6 standard 15:23 16:2,4 21:18 22:9,15,19,22 23:23 26:3 27:4 102:24 103:6 115:12 123:12,13,16 124:12 174:16 188:13	standards 110:13 111:4 124:8,15 127:10 193:9 standing 33:11 standpoint 119:2 staple 160:23 185:23 stapled 162:5 163:9 staples 185:11 stapling 161:2 161:9 start 9:3 66:9 102:15 138:12 153:2 166:21 started 33:5 100:12 151:12 starts 96:4 162:24 172:2 173:14 state 1:5 10:3 22:5 38:17 64:4 112:15 123:1 125:12 137:3 stated 44:20 statement 34:4 39:11 86:18 110:21 111:16 147:18 statements 33:12 110:4 states 1:6 27:3 State-of-the-art 109:15 110:1 128:23 statistical 71:20 72:1,7,11,15 73:6,7,13,20 74:15 80:15 80:16,23 81:9 statistically 72:3,13 73:22 80:13 statistician 72:22 statistics 81:8 stays 126:3 127:21 step 18:17 77:13 still 10:8 18:5 20:10 41:18 96:3 111:16 115:6 117:20 164:4,4,5 166:10,12,13 174:2 187:10 stood 33:5 straight 206:2 strategically 31:18 strategy 31:10 street 2:20 3:6 3:15 4:4 186:5 strengths 90:10 stretch 91:9	stricken 71:4 78:17 strike 70:20 74:5 118:5 structural 112:20 118:23 119:9,18 167:13 185:13 186:1 structure 154:12 structures 111:11 subject 14:2 103:20 196:2 203:1 subjects 161:13 submitted 132:22 substance 28:19 66:20 119:1,20 sucked 86:8 sufficient 59:6 89:7 suggested 17:3 suggesting 36:20 Suite 2:5 4:3 summary 63:18 summer 158:1 158:2,6 summers 158:8 summoned 6:20 summons 6:6 6:17 supervision 207:20 supplied 38:15 48:1 99:14 support 108:14 134:20 supporting 106:7,9 supposed 6:22 8:16 supposedly 175:21 supposing 7:10 supposition 30:23 32:9 sure 42:23 60:10 61:16 73:1 81:23 89:7,8 99:21 100:9,19 103:18 105:5 112:5 125:6 126:3 127:21 128:5 129:23 142:18 166:11 176:22 180:6 183:7 185:7 186:3 188:15 188:16 198:24 surface 20:16 20:18 43:22 72:14 110:12	111:1 115:2 116:13 117:6 122:20 123:18 127:15 128:15 180:5 190:17 197:1,4 surfaces 20:5 20:20 survey 43:6,7 SUSAN 4:2 suspect 46:22 90:2 153:1 186:13 suspected 71:11 sustained 24:23 25:17 31:22 32:5,13 51:19 52:5 66:23 69:17 70:21 74:8 75:21 78:18 97:2 135:18 sustains 29:1 switch 199:2 sworn 207:5 synthetic 15:18 system 101:19
					T
					T 143:6 207:2,2
					table 38:8,13 41:4 48:4 52:21 53:20 73:18 take 26:23 30:2 30:4 40:21 43:13,16,16 43:18 58:8 76:18 82:4 87:19 88:11 91:8,14,18 109:14 149:22 160:3,18,22 164:7 165:17 165:18 169:7 173:13 177:11 179:24 187:9 189:6,8,11 197:21 taken 44:2 49:2 62:2 74:20 75:2,4,7,10,12 75:15,18,23 81:17 82:17 92:21 96:16 98:16 100:22 101:2 106:11 110:4 166:12 191:24 202:20 takes 86:24 187:17 taking 89:10 95:6 162:21 197:4 198:9 talk 101:5 106:23 133:16 170:7,10 183:10 199:15

talked 25:24 38:3 80:2 86:1 89:14 133:17 138:3 167:5 179:11,12 180:10 184:17 190:8	telling 12:13 121:17,19 189:24 tells 68:10 temperature 100:6 176:19 temperatures 167:9 ten 22:11 23:2 56:4 93:8 96:15 127:10 159:23 183:1 186:23 tenth 77:11 93:7 term 12:14,21 72:4 112:1,15 112:21 114:9 122:18 125:22 125:23 127:18 153:14 terms 55:1 80:22 87:17 88:12 104:19 154:6 terribly 148:2 test 59:14 73:5 73:6,7 80:15 80:16 95:9 101:6,12,13 101:15 102:2 102:18,22 103:1,5,18 104:1,4 108:23 109:10 157:16 163:18 163:19,20,23 175:6,19 177:10 178:15 188:5,10,23 189:22 191:14 191:18,21 192:4,6,14,21 193:5 tested 62:15 testified 57:7 133:13 138:1 139:10,19 140:24 142:21 145:22 150:14 151:9,11 153:6 166:18 181:7,19 testify 70:13 testifying 25:15 60:8 98:24 151:14,18 testimony 1:13 5:2 11:1 12:14 16:13,16 26:7 26:21 27:6 28:18,19 42:6 44:16 59:12 68:21 69:8,16 90:22 91:3 92:18 94:10 96:24 99:5,8 99:10 107:1,2 108:1,12	138:13,15 139:2,9 141:5 143:2 151:5 156:4 157:2,4 161:21 165:4 176:4,8 181:19 207:6 testiness 35:12 testing 134:19 142:19 157:21 167:6 171:9 tests 60:3 69:2 92:24 95:24 101:10 102:21 103:1 104:13 106:2,6,11,23 132:13,23 153:18 174:15 175:23 177:7 193:11,14,15 193:17 textbook 153:23 201:20 202:1 textbooks 202:5,8 texture 162:22 Thank 17:21 36:23 46:2 92:7 136:15 their 35:19 36:6 63:18 64:7,15 64:16 66:17 67:21 68:5 70:8 84:3 89:21,23 127:10 134:8 157:11 166:8 187:13 205:10 themselves 193:18 198:22 theory 129:7,13 129:15 thereabouts 96:2 181:5 187:11 thing 7:22 19:5 33:14 66:8 89:12 98:13 125:3 126:19 127:2 129:4 165:5 185:17 193:6 things 11:17 15:9 22:12 64:17 89:21 104:13 105:21 109:13 111:21 111:23 113:19 116:3 124:13 125:16 150:19 152:4 156:9 187:6 191:24 202:15 think 6:2 7:5,21 12:15 15:23 19:8 24:14,19 28:17 29:6,10 31:10,23 35:6	36:16 47:1 58:3 62:4 69:11 93:19 93:21 102:6 108:1,12 115:15 133:5 147:14,15,17 148:22 149:2 149:17 150:14 151:2,10 155:4,17 159:5 164:20 169:18 172:8 174:4 181:9 185:5 186:17 190:6 198:13 200:17 203:7 203:11,14,15 205:15 thinking 87:17 thinks 27:7 99:8 204:13 third 84:10 97:23 119:7 THOMAS 2:10 2:11 3:2 thorough 113:2 113:10 180:7 Thoroughly 184:14 though 22:7 58:16 80:11 thought 19:9 32:6 39:15 83:22 84:10 162:24 189:4 thousand 76:7 thousands 63:24 64:22 three 31:15,23 34:6 50:1 54:15,18 55:2 76:18 80:6 147:2 through 24:15 45:3,5 48:13 50:18 53:11 86:8 88:1 91:9 92:21 94:4,22 95:19 97:15 101:16 104:24 105:11 109:14 117:8,11 129:8,14,20 129:20 147:1 147:2,3 148:13 156:14 158:9 170:13 171:10 180:20 195:8,14 throughout 14:21 25:12 96:22 107:19 tight 160:23 186:4 tightly 163:6 tile 148:21 152:10 tiles 41:8,14,17	147:24 148:23 149:6 time 10:1 11:8 11:11 16:14 18:4 21:17 22:17 30:18 35:13,13 39:14 41:23 53:22 73:21 81:4 83:22 84:5 86:22 87:2,8,15,19 88:3 91:14 92:22 98:22 98:22 100:19 110:24 112:2 112:11 115:9 117:15 122:6 137:4,12 146:16 175:22 181:16 182:22 190:19,24 191:7 192:13 192:24 201:21 201:24 202:3 203:13 204:14 205:23 times 31:15 93:8 108:5 146:6 197:17 199:19 today 8:22 14:9 14:11 62:22 87:20 88:12 113:8 125:15 138:23 181:20 together 134:12 154:9 157:13 160:6 169:3 185:10,24 token 35:14 told 11:11,19 12:18 13:2,18 30:14 65:11 65:24 67:13 67:15,18 69:14,22 70:16 89:12 90:19 93:17 104:18 105:23 106:8 108:4 132:22 150:1 170:20 Tom 20:11 168:1 tomorrow 88:12 tool 126:15 180:5,16,20 top 35:6 41:8 41:14 49:21 51:4 53:2 54:13 55:14 56:1,8 57:1 76:10 80:4 107:14 126:14 127:11 161:2 161:11 totally 165:14	totals 72:19 touch 149:20 150:11 touching 162:21 tour 146:17 147:7 toward 172:10 tracked 114:23 tracking 114:17 115:4 117:8 trained 187:3,5 transcript 207:18 transfer 122:18 transformer 1:9 23:24 24:4 25:7 26:1 27:5 27:8 transition 74:7 transmittal 46:22,24 47:3 transmittals 47:13 transmitted 46:21 transport 196:16 197:9 198:17 199:4 200:14 transportation 1:3 19:21 21:19 51:10 51:17 52:9,12 56:20 87:22 88:2 105:2,7 113:12 117:22 119:16 129:22 139:4,14 140:8,16 141:2 142:1 144:18 146:5 148:5 152:16 164:18 179:1 199:20 treat 117:5 treatise 26:22 treatises 27:21 tree 195:7 trees 198:24 trial 1:13 35:11 205:1 tried 63:4 171:17 173:4 173:10 174:1 trigger 34:15 trouble 188:11 true 14:11,14 21:5,7 34:12 40:15 43:12 43:24 44:10 44:22 45:4 54:23 76:2 77:2,4,24 79:1 79:9,18 80:1,9 83:2,4 87:6 96:13 101:9 108:15 110:14
---	---	---	--	---	--

110:21 111:16 117:20 122:23 125:14,15 129:17 138:21 162:3 173:9 177:9 188:21 197:7 198:12 207:6 try 16:10 67:2 138:23 192:14 trying 24:13 31:18 52:22 70:15,17 75:16 78:13 112:8 130:18 135:10 175:7 Tuesday 203:20 204:7 204:15 205:12 205:14,16 206:4 turn 43:19 46:6 54:3 TV 37:8,9 two 9:6 46:21 55:11 61:12 61:19 62:18 73:16,20 76:18 108:4 117:14 164:24 165:23 166:5 190:16 two-and-a-half 22:6 103:24 type 64:17 90:4 101:13 102:22 116:24 117:3 122:3 140:1 157:5 184:15 193:5 types 139:17 158:18,19 173:23 201:7 typical 64:16 76:18 93:1 94:13 113:11 113:11 typically 26:3 56:6 73:16,19 76:6 85:4 114:17 116:15 120:15 123:13 124:6 183:15 195:10	128:6 152:11 163:16 198:5 understand 15:10 17:19 33:4 57:19 70:16 104:2 117:23 118:4 126:8,24 129:6,13,23 130:15 135:6 141:19 161:23 understanding 152:8 understands 95:4 118:4 142:18 understood 30:12 131:3 132:9 undoubtedly 35:12 unglued 179:7 uniform 180:7 185:1 uniformly 183:7 184:14 unique 119:1 119:20 UNITED 1:6 units 198:6 universities 193:11 unless 35:24 207:19 unplugged 37:14 unprotected 20:22 until 22:3,6 23:18 60:15 68:2 91:18,19 187:11 203:20 204:17 use 13:23 15:22 40:11 58:17 63:6 78:7 89:15,16 101:24 107:15 112:6 125:18 138:10 147:21 179:17,21,22 182:13 193:3 197:6 used 12:20 13:20 16:3 17:12 50:18 53:11 59:10 72:4 134:3,3 154:7 156:9 167:6,6 170:23,24 172:3,7 178:19 180:16 182:15,19 187:5 191:24 user 125:23 using 46:8 82:2 102:21 134:18 157:11 158:17	158:18,19 183:22 usually 115:2 116:12 UTILITY 1:3 U.S. 3:18 11:21 12:8,15,21,22 13:5 V vague 56:10 153:15 value 131:10 152:18 vapor 103:4 119:4 120:6,9 120:13,16,17 120:19,22 121:3,11,15 198:16 199:4 200:14 201:6 202:14,18 vaporization 189:8 193:1 195:3 197:16 vaporize 198:21 vaporized 190:24 vaporizing 189:16 vapors 120:11 121:20 126:17 various 132:23 vary 22:22 VCR 183:20 ventilated 98:9 ventilation 98:6 101:19 158:14 verified 80:13 verify 192:6,21 versus 73:21 very 23:13 27:19 33:21 55:17,17 56:13 62:14 84:19 125:16 125:16 148:23 162:15 183:2 190:14 203:2 vest 184:19 view 36:18 58:12 101:22 views 27:18 59:14 visit 146:4 148:7,9,10,16 164:9 vital 36:3 void 120:3 122:5 volatilization 145:18 195:9 198:13 201:3 203:9 volatilize 193:21 194:4 194:9 201:11	volatilized 142:15 177:2 191:22 Vs 1:6 vulcanize 180:8 vulnerable 33:21 W W 1:18 2:10,11 207:13 wait 45:20 65:17 175:2 178:7 walk 146:19 WALKER 2:18 walls 110:17 want 23:12 27:6,20,22 30:16 32:4 36:21 38:14 58:23 61:12 65:15 66:8,15 74:12 88:9 89:6 91:2 104:4 109:14 110:8 118:6,9 124:10,19 125:1,18 128:11 129:4 131:17 135:3 142:18 191:14 205:8 wanted 8:6,8 16:19 46:1 60:12 98:14 124:11 127:23 164:10 165:20 165:22 186:15 206:1 wants 68:12 91:8 133:6 warm 100:15 warning 136:2 wasn't 12:22 22:3,19 30:13 32:2 40:14 69:16 79:9 111:20 113:11 166:2 waste 73:21 126:12,12,18 127:6 152:20 watch 37:9 water 122:6,7 194:13 195:1 197:18,21 198:21 way 7:4 12:18 18:10 27:11 27:13 33:13 41:20 43:12 43:15,20,21 52:22 66:11 85:10 95:23 96:14 97:11 102:14,16,24 108:23 125:19	149:6 158:9 162:9,17,18 165:16 171:21 174:14 185:5 190:6 202:14 ways 43:17 103:7 176:13 187:6 195:4 wear 90:9 wearing 88:13 Wednesday 204:17 week 205:20 weeks 171:18 171:20 173:8 174:7 weight 154:11 170:21 171:21 welcome 10:22 46:4 well 11:19 13:4 14:23 19:10 23:12 25:11 29:10 36:8,12 42:23 49:5 57:19 64:21 72:6 77:5 78:16 88:18 90:7 100:11 101:14 117:23 118:18 120:18 122:2 126:8 126:24 141:5 142:17 146:16 153:11,18 154:17 155:12 155:17 156:14 160:15 161:12 173:18 176:7 179:22 183:11 185:8 188:12 191:17 198:7 198:15 went 13:1 45:3 45:5 70:1 101:15 115:17 115:24 116:2 134:7,12 146:14 147:6 147:7,19,20 148:11,19 149:8 150:1 151:13 153:3 190:21 were 6:15 7:2 10:24 11:8,16 11:17 13:19 14:3 15:6,21 15:24 18:1 22:12,13 32:12 34:11 37:23 39:9,24 42:1,11,12,13 42:15,16,18 43:4 44:2 45:2 45:14,19 46:5 46:18,20 47:14 48:1 50:16 51:1	56:19,21 60:7 60:8 62:1,1,5 62:7,10,13 64:1,4 65:8,11 65:22 71:15 72:3,21 73:16 74:20 75:15 81:17 82:9,12 84:16,19,24 86:15 87:1 92:15,20 93:12,13,17 97:20 98:15 98:16,22 100:21 101:2 101:16,20 102:21 104:22 105:12,21 106:11 107:23 111:21 113:22 115:8 124:7,8 129:8,9,19 130:1 131:4 136:22 139:10 139:17 143:2 143:8,9,11 146:23 147:3 147:12,19,22 148:4 150:1 150:23 151:6 153:2 155:13 156:15 158:1 160:16 161:14 164:9 167:6 170:10,13,15 170:21,24 171:9 173:17 173:20,22 175:21 176:9 178:24 179:1 179:2,20 181:15 182:21 182:22 185:2 185:22 191:4 201:6 202:17 weren't 11:15 112:4 177:6 west 2:5 74:23 wet 174:2,6 whichever 110:9 while 10:24 16:15 26:10 58:13 59:8 61:14 91:7 161:20 164:8 173:16 175:2 182:17,18 188:6 201:23 white 3:1 47:14 47:17 63:3 whole 48:13 73:13 125:3 169:3 191:3 wide 11:24 13:8 14:5,12,13,20 160:1 widespread 11:23 13:7
--	---	---	---	---	---

14:4 15:7	24:4 60:9 64:7	zero 78:4 79:11	1650 3:6 4:4	191:9	143:22
WILLIAM 3:4	68:24 73:22	192:16	17.7 80:6	300 108:10	64051 2:6
williams 3:1	77:21 112:19		18 95:20 165:9	133:19	65 179:9
47:15,17 63:4	118:19 121:9	0	170:20	31 38:22 39:2	66 179:9
winter 100:15	121:9,10,13	001 50:17 53:11	18th 3:5 95:24	32 38:13 48:5	67 179:9 180:20
100:16	124:12 143:5	014 50:18 53:11	1800 98:2	35 182:4	
wipe 82:23,24	151:1 158:7,9	06106 3:16	1880 1:22	350 181:4	7
84:16,22 85:1	183:14 186:1		1890 96:21	3524 18:3,12	70 34:5
85:8 87:18	200:8 203:1	1	19102 3:7	3542 58:1 63:9	76 13:5
withdraw	worked 107:9	1:30 91:18	19103-7397 4:5	3600 93:23 97:6	772-7452 2:22
17:22 30:15	123:10 173:24	206:4,5	19109 2:21	3634 93:24	
69:18	178:21,23	10 5:3	1964 168:22	37 93:23	8
withdrew 31:24	190:7,17	10's 159:21	170:12 172:12		8.2 95:8
witness 8:22	workers 20:4	10.2 95:1	1965 133:10	4	8.3 95:7
9:24 10:5	working 164:5	100 20:19 21:1	135:4 180:16	4.2 95:23	816 2:7
24:15 26:20	198:4	93:7 95:20	180:20	4.3 95:1,14	836-5050 2:7
27:17,23	works 36:10	96:12 99:17	1966 180:16	4.5 94:24	860-247-3666
31:13 33:18	197:16	100:13,22	1967 180:17	4.6 95:23	3:17
33:20 44:10	world 11:24	100th 189:17	1976 11:22	4:15 206:8	864-7000 3:8
45:23 46:5	13:8 14:4,12	190:5 191:1	1980's 111:19	400 2:5 50:2,4	885 60:14,21
49:18 51:15	14:13,20,21	1068 82:4,5	1983 113:17	4000 53:8 93:18	61:7,11
52:3 56:17	143:4 183:14	11th 74:19,21	1985 124:16	4006 109:21	
65:23 75:14	200:21	75:2	125:15 128:21	136:22,22,22	9
81:22,22 99:3	worn 14:8	117 111:8	1990 1:2	137:9,9,10	9:45 1:17
115:21 118:8	126:4	118 118:22	1994 19:17 21:4	4007 53:4,7,16	901 60:14,21
125:6 132:1	worst 189:12	119 112:13	21:17,23	53:17,21	96 92:20
133:13 168:18	189:17,22	114:5 116:7,8	22:13 23:15	4009 48:2,11,17	981-5770 4:6
174:23 199:13	191:16,17	12 186:23	66:2	49:9,14	988-9191 1:24
206:6 207:4,7	wouldn't 70:11	120 111:7	1995 16:17 22:3	412 2:14	
witnesses 24:14	95:10 162:4,6	122 116:22,22	1997 146:6	450 54:14,14	
27:16 36:15	165:13 167:13	123 2:20	1999 58:21	104:23	
wondering 6:15	198:12 201:13	1242 139:6,16		451 54:18,19	
woodyard 5:2	wrap 160:5	139:20 140:9	2	452 54:21	
8:19,23 9:18	wrapped 163:6	140:17 141:13	2 58:21,22	453 1:15	
9:23 10:2,6,10	write 202:9	144:23 145:3	2.5 94:23	463 104:24	
10:14,15,20	writing 23:20	145:7,12,24	20 96:8,15	47 199:10,11	
12:8 16:14	written 12:16	125 12:20	97:19 143:4	49 58:22,23	
18:1,17,19	27:21,22	1254 82:18,23	165:8 168:22	180:1	
23:7 37:16	111:19	82:24 84:14	168:23 169:17	4900 4:3	
39:12 43:14	wrong 102:17	84:17,19	169:18 170:11		
51:22 52:7	wrongly 34:8	140:12	183:12	5	
57:12 58:1	wrote 14:16	1260 82:18,22	2000 1:12,17	5 20:19 48:4	
59:10 60:24	22:19 23:10	84:21	92:19 143:2	90:21 94:19	
61:23 63:14	109:15,24	1262 139:5,16	143:21 153:7	117:14	
63:23 67:1	110:10 111:10	139:20 140:9	207:14	5.3 94:24 95:22	
68:9 70:13	113:5 118:1	140:17 141:2	21 3:15	5.4 95:22	
71:6,18 74:13	119:13,14	141:7,12,16	215 1:24 2:22	5.5 94:24 95:22	
77:19 80:10	124:3 125:24	141:23 142:4	3:8 4:6	5.6 94:23 95:22	
86:1 89:2 90:1	127:13,17	142:7,9,10,19	221 2:5	5.8 95:22	
92:5,19 95:5		142:22 144:5	24 40:22	5.9 95:14,22	
97:5 99:12	X	144:12,15,19	250 108:10,14	50 76:7 99:14	
102:2 109:23	X 5:1	145:7,12,23	108:17,24	99:19 101:3	
110:22 111:17		150:7 172:11	190:20	50,000 76:14	
117:17 125:11	Y	128 122:13,14	2521 172:16	521 85:20	
129:3,6	year 6:12,24	13 170:12	2581 172:3		
135:21 137:23	16:21,24 22:6	136 153:7	261-6474 2:14	6	
138:1 139:3	62:18	137 5:4 174:17	28 1:17 40:24	6 207:14	
143:1 145:15	years 17:4 24:4	14 96:3 104:9	92:19 143:2	6.0 95:22	
151:20 169:5	41:9,14	143:3,24	143:20 153:7	6.1 94:24	
169:15 192:17	103:24 111:22	15 77:8,22	284 1:2	6.2 94:24 95:14	
Woodyard's	124:7 143:4	79:11 96:3		6.3 95:22,23	
53:20	182:4 183:12	111:22 124:7	3	6.4 94:23 95:22	
word 13:20	yesterday 8:9	168:22 172:12	3 1:12	6/6/92 50:18	
67:21 68:5	31:14	15TH 1:22	3,634 93:19	53:12	
197:6	YOUNGBLOOD	15219 2:13	3.1 94:24	60 76:7	
words 11:12	3:4	16 108:2,3,5	3.4 95:1,15	60,000 76:7,8	
15:2 63:5		164:20 190:8	3.9 94:24	76:15	
84:23 185:2	Z	190:16	30 116:3 183:12	61 143:2,14,17	
work 8:7 20:4					