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EDWARD METCALF
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UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK
MDL No. 381

In re : Deposition of:
"AGENT ORANGE" : DR. VAN MURRAY SIM
Product Liability Litigation :

TRANSCRIPT of testimony as taken by and before
HEYWOOD WAGA, a Certified Shorthand Reporter and
Notary Public of the State of New Jersey, at the
offices of MESSRS. CADWALADER, WICKERSHAM & TAFT,
1333 New Hampshire Avenue NW, Washington, D.C.,
on Wednesday, June 30, 1982, commencing at 11:15
in the forenoon.

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West Orange, New Jersey 07052
(201) 731-9666

1 A P P E A R A N C E S:

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3 MESSRS. WILLIAM B. LEVINE and
4 MICHAEL B. GROSSMAN
5 BY: WILLIAM B. LEVINE, ESQ.
6 For the Plaintiffs

7

8 MESSRS. ASHCRAFT & GEREL
9 BY: ROBERT A. TAYLOR, ESQ.
10 For the Plaintiffs

11

12 MESSRS. RIVKIN, LEFF, SHERMAN & RADLER
13 BY: LEONARD RIVKIN, ESQ.
14 MARJORIE H. FELDHEIM, ESQ.
15 STANLEY PIERCE, ESQ.
16 For Dow Chemical

17

18 MESSRS. CADWALADER, WICKERSHAM & TAFT
19 BY: MICHAEL M. GORDON, ESQ.
20 For Diamond Shamrock

21

22 MESSRS. KELLEY, DRYE & WARREN
23 BY: WILLIAM A. KROHLEY, ESQ.
24 CHARLES M. MATTINGLY, ESQ.
25 For Hercules, Inc.

26

27 MESSRS. TOWNLEY & UPDIKE
28 BY: JAMES E. TYRRELL, JR., ESQ.
29 For Monsanto Company

30

31 MESSRS. CLARK, GAGLIARDI & MILLER
32 BY: MORTON SILBERMAN, ESQ.
33 For Thompson Hayward, North American Phillips

34

35 MESSRS. BUDD, LARNER, KENT, GROSS,
36 PICILLO & ROSENBAUM
37 BY: EDWARD R. MATHHEWS, ESQ.
38 ALAN G. WHITE, ESQ.
39 For Thompson Chemicals

40

41 MESSRS. ARTHUR, DRY & KALISH
42 BY: MARILYN NEIMAN, ESQ.
43 For Uniroyal, Inc.

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1 A P P E A R A N C E S: (Continued)

2 MESSRS. DILWORTH, PAXON, KALISH & KAUFFMAN
3 BY: JOHN M. FITZPATRICK, ESQ.
4 For Hooker Chemical

5 JOAN BERNOTT, ESQ.
6 Department of Justice
7 For the United States of America

8 ALSO PRESENT:

9 Honorable Sol Schreiber
10 Special Master

11 MARTHA A. LUTHER, Paralegal
12 Messrs. Ashcraft & Gerel

13 CHARLES CAREY, ESQ.
14 Dow Chemical

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I N D E XWITNESSDIRECT

DR. VAN MURRAY SIM

Mr. Gordon

11

E X H I B I T SNUMBERDESCRIPTIONIDENTIFICATION

Sim-1 Undated Letter with Curriculum 14
 Vitae from Dr. Sim

Sim-2 Extract of cwl Special 92
 Publication 1-12

Sim-3 Edgewood Arsenal Technical 99
 Report EATR 4210 dated 11/69

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1 June 30, 1982.

2 MS. BERNOTT: I think we are ready to
3 start; is that right?

4 MR. GORDON: Yes.

5 MS. BERNOTT: The document that I have
6 just passed out is a one page document entitled "extra
7 of CWL special publication 1-12 report on trip to
8 Europe dated 5 October 1959."

9 This document is a newly-typed excerpt
10 from the Hoffman report. I am advised by the
11 Department of the Army that it contains all the
12 references to dioxin that are contained in the
13 classified Hoffman report. This material the
14 Department of the Army was able to declassify.

15 As a result I am authorized both to
16 release it to you today, and also to permit the
17 witness to testify as to its contents. However, you
18 should be aware of two things. Number one, the note
19 at the bottom of the page is my handwritten note
20 that I took down to make sure that I remembered to
21 tell you this is a re-type from the original. The
22 original was poorly legible. This is for your
23 convenience.

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24 The three dots at the beginning of the
25 third paragraph signify a deletion. It appears to

1 be a deletion of a source. That material alone
2 cannot be declassified of the material on this page.
3 Although I will permit the witness to answer
4 questions directed to the content of the report, it
5 is always going to be with the caveat that if the
6 witness knows what went in those little dots, he
7 cannot tell you what went there.

8 As I say, this is the only material, and
9 I am advised this is the only material in the
10 Hoffman report that relates in any way to dioxin.

11 Mike, did you have additional questions?

12 MR. GORDON: I have a few comments.
13 First, although there may be legibility problems,
14 defendants would request the original of this
15 information with the same information redacted for
16 purposes of completion or completeness of the record.

17 Also, could you tell me who prepared the
18 retyped version?

19 MS. BERNOTT: I will do what I can.

20 MR. GORDON: Were there any
21 recommendations or comments in any other part of the
22 trip report concerning the information that's on
23 this page?

24 MS. BERNOTT: I will attempt to get
25 answers to those by the end of the day, or by

1 tomorrow.

2 MR. GORDON: Do you have any present
3 information?

4 MS. BERNOTT: No. I can't give you any
5 guidance on either of those, although -- I can't,
6 for sure.

7 MR. SILBERMAN: I have a question. Do I
8 gather from what you have said that you have not
9 seen the remainder of the report?

10 MS. BERNOTT: That's correct.

11 MR. SILBERMAN: This is something that
12 you have been advised?

13 MS. BERNOTT: That's correct.

14 MR. SILBERMAN: What is the CWL special
15 publication 1-12 that appears at the top of the
16 sheet?

17 MS. BERNOTT: I do not know.

18 MR. PIERCE: I have a question. When you
19 say you have been advised this this is the only
20 reference to dioxin, did you ask if there were
21 references to Rufans, R U F A N S? 14237

22 MS. BERNOTT: The production of this
23 material was the phraseology used in your subpoena.
24 This material is the only material in the Hoffman
25 report that is responsive to your subpoena. So I

1 would refer to you that subpoena to whatever you
2 said.

3 MR. SILBERMAN: Going back to that CWL
4 reference, could you find that out for me?

5 MS. BERNOTT: Yes, I made a note of it.

6 MR. GORDON: Would the record also
7 reflect that the witness who is to be deposed today,
8 Dr. Sim, is currently outside of this room.

9 MS. BERNOTT: I guess we can invite him
10 back.

11 MR. MATTHEWS: One question. The U that
12 refers to report on trip to Europe, does that U
13 appear on the document itself.

14 MS. BERNOTT: You asked for the original.
15 If I can produce it for you, that will be the answer
16 to the question. One way or another, I will try to
17 find out. It may not be. That U, as you know,
18 sometimes is classified as unclassified. We will
19 see.

20 MS. FELDHEIM: Am I to understand that
21 beginning with, "Report on trip to Europe" to the
22 bottom of the page, that this is a direct copy of
23 the Hoffman report just with a dedaction where the
24 dots are?

25 MS. BERNOTT: I don't know if it was the

1 first page or not. I know it was that material in
2 the Hoffman report.

3 MS. FELDHEIM: A reproduction of the
4 Hoffman report and the only things that is
5 left out --

6 MS. BERNOTT: Those dots.

7 MR.RIVKIN: I don't want you to be
8 cornered into something. I didn't understand it
9 that way. Is this a contiguous reading of the
10 document that you took it from, or are these
11 extracts of paragraphs and subjects?

12 MS. BERNOTT: My understanding is that it
13 is a contiguous reading. Assuming I can produce the
14 original, that would be verified that way.

15 MR.RIVKIN: Thank you.

16 MR. GORDON: Along with the original of
17 this information, can we also have the cover sheet
18 for the trip report with the distribution?

19 MS. BERNOTT: Probably not, but I will
20 see. I think it is classified.

21 MR.RIVKIN: Are you in a position to tell
22 us how long, how many pages the report was?

23 MS. BERNOTT: I cannot.

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24 MR.RIVKIN: Could you find out for us,
25 please, when it was unclassified or declassified?

1 MS. BERNOTT: Well, I am authorized to
2 give it to you now.

3 MR. RIVKIN: I'd like to know when it was
4 declassified, if you could help me. I would
5 appreciate that.

6 MS. FELDHEIM: I guess I have another
7 question. The "provided me", does the "mean" refer
8 to Hoffman? Is this a report by Hoffman in the
9 first person?

10 MS. BERNOTT: I will see if I can get the
11 answer. Where is that word?

12 MS. FELDHEIM: Right above -- right after
13 the dots.

14 MS. BERNOTT: Okay.

15 MR. GORDON: And the "me" right in front
16 of the references.

17 MS. BERNOTT: Why don't we go ahead.
18 Maybe Sim can help you with some of these. If not,
19 and if you have other questions later, let me know.
20 Somebody can call him back in, perhaps.

21 MR. GORDON: Where is he?

22 MS. BERNOTT: He stepped out of the room.
23 I assume he is sitting outside waiting for somebody
24 to call him.

1 DR. V A N M U R R A Y S I M, 1615 Tollgate Road,
2 Bel Air, Maryland, sworn, testified as follows:

3 DIRECT EXAMINATION BY MR. GORDON:

4 Q. Good morning, Dr. Sim. Are you
5 represented here today by legal counsel?

6 MS. BERNOTT: I am going to direct him
7 not to answer the question. Must I go through this
8 again?

9 MR. GORDON: My understanding is that
10 you can direct him not to answer questions
11 concerning state secrets, but this is not a question
12 concerning state secrets.

13 MS. BERNOTT: Then we disagree.

14 Q. Dr. Sim --

15 MS. BERNOTT: I directed you not to
16 answer.

17 Q. Dr. Sim, do you understand the question?

18 MS. BERNOTT: You can answer the question.

19 A. Repeat the question.

20 Q. Are you represented here today by legal
21 counsel?

22 MS. BERNOTT: The question is, do you
23 understand the question.

24 A. I don't know whether I am or not.

25 Q. What information would you need to

1 determine whether you are represented by legal
2 counsel?

3 MS. BERNOTT: This is ridiculous. I am
4 directing him not to answer and ask you to stop
5 questioning. He is here as a fact witness. His
6 relationship with me and his legal counsel is
7 extraneous to this deposition and irrelevant to this
8 lawsuit. I am directing him not to answer for lots
9 of different reasons. Why not get on with it.

10 Q. At the direction of Miss Bernott, do you
11 choose to answer my question?

12 MS. BERNOTT: No. I will not allow him
13 to answer that question. Go on.

14 Q. Dr. Sim, were you served with a subpoena
15 requesting your attendance at this deposition?

16 A. I was.

17 Q. Did you bring with you today any of the
18 documents requested in the schedule attached to that
19 subpoena?

20 A. None.

21 Q. Do you have any documents in your
22 possession that are responsive to that schedule?

23 A. None.

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24 Q. Please understand that you should let me
25 know that at any time you should need to have a

1 question clarified today or expand upon an answer
2 already given during the course of this deposition.
3 Is that clear?

4 A. That's clear.

5 Q. Did you meet with Miss Bernott or anyone
6 else in preparation for your examination here today?

7 MS. BERNOTT: I will direct him not to
8 answer that question.

9 MR. GORDON: On what ground?

10 MS. BERNOTT: Because it is a ridiculous
11 question.

12 MR. GORDON: I don't think you can direct
13 him not to answer because it is ridiculous.

14 MS. BERNOTT: Ask me that question at the
15 hearing this afternoon.

16 MR. GORDON: Note that with a paper clip.

17 Q. Were you shown any documents in
18 preparation for your deposition here today?

19 MS. BERNOTT: You can answer.

20 A. No.

21 Q. Did you review any materials in
22 preparation for your deposition here today?

23 A. No.

24 Q. Did you bring with you today a copy of a
25 curriculum vitae or a job resume'?

1 A. No.

2 MR. GORDON: Please mark as Sim Exhibit 1,
3 Mr. Reporter, a cover letter undated from Van M. Sim
4 with an attached curriculum vitae consisting of five
5 pages.

6 (Exhibit Sim-1, marked for identification)

7 Q. Have you seen Sim Exhibit 1 before?

8 A. I gave it to you.

9 Q. Did you prepare it?

10 A. I did.

11 Q. Does it accurately describe your
12 educational background and work experience?

13 A. Correct.

14 Q. Dr. Sim, could you speak up a little more
15 so the people in the back of the room can hear you.

16 A. Correct.

17 Q. Thank you.

18 Are you currently employed?

19 A. I am not.

20 Q. Have you ever been employed at Edgewood
21 Arsenal, in Maryland?

22 A. I have.

23 Q. When did you first begin working at
24 Edgewood?

25 A. 1954 initially, and in 1956 I returned from the

1 United Kingdom.

2 Q. On your return from the United Kingdom in
3 1956, did you again begin working at Edgewood?

4 A. Correct.

5 Q. What was your position at that time?

6 A. Chief of Clinical Research Division.

7 MR. KROHLEY: Keep your voice up, please.

8 Q. What was the Clinical Research Division?

9 A. The Clinical Research Division was set up to
10 study the effects of prophylactic and therapeutic
11 compounds for treatment of chemical materials.

12 Q. What activities were performed in the
13 Clinical Research Division to fulfill that purpose?

14 A. All necessary activities to ascertain whether
15 any compound was safe to give to man and with
16 appropriate procedures to administer the compound to
17 volunteers.

18 Q. Briefly what did those necessary
19 activities consist of?

20 A. Everything, everything that would be found in
21 any drug company of any major size, any
22 pharmaceutical company of any major size that is
23 required to put the compound on the market as a Food
24 and Drug-approved material. 14245

25 Q. So is it accurate to state that the

1 Clinical Research Division would engage in the same
2 types of testing as any major pharmaceutical concern
3 that wanted to put a drug on the market?

4 A. Correct.

5 Q. Was the Clinical Research Division part
6 of any other organization at Edgewood?

7 A. No. It was part of the Chemical Research and
8 Development Laboratories.

9 Q. Who was in charge of the Chemical
10 Research and Development Laboratories in 1956?

11 A. Seymour D. Silver.

12 Q. What was Dr. Silver's formal title?

13 A. Scientific Director.

14 Q. Who did Dr. Silver report to?

15 A. Commanding General.

16 Q. Is that the Commanding General at
17 Edgewood?

18 A. The Commanding General at Edgewood.

19 Q. In 1956, who was the --

20 A. I can't tell you.

21 Q. Do you recall any of the Commanding
22 Generals at Edgewood?

23 A. General Creasey.

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24 Q. Spell that for the reporter, please.

25 A. C R E A S E Y.

1 Q. Do you know when General Creasey served
2 as Commanding General?

3 A. I don't remember the dates.

4 Q. Did he serve as Commanding General in the
5 1960s at all?

6 A. Not at Edgewood.

7 Q. Do you know who served as Commanding
8 General at Edgewood in the 1960s?

9 A. No. I would not tell you because I would be
10 wrong with the dates associated with that. You can
11 find it in the record.

12 Q. Which record would you suggest that I
13 look at?

14 A. Chief chemical officers record.

15 Q. Who was the Chief Chemical Officer at the
16 time you became Chief of the Clinical Research
17 Division?

18 A. Creasey was shortly thereafter.

19 Q. Where was the Chief Chemical Officer's
20 station?

21 A. Washington.

22 Q. Do you recall where in Washington his
23 offices were located?

24 A. Graveley Point.

25 Q. Is Graveley Point the name of a suburb or

1 office building?

2 A. Right in back of Washington National Airport
3 before it was flat.

4 Q. So it was an office complex?

5 A. Yes.

6 Q. Who reported to you when you were Chief
7 of the Clinical Research Division?

8 A. My chiefs of branches.

9 Q. Are those the people that reported to you?

10 A. Yes.

11 Q. Who were the chiefs of the various
12 branches?

13 A. They varied.

14 Q. Why don't you tell us, first, what the
15 various branches were.

16 A. Well, we had Clinical Investigation Branch,
17 Laboratory Branch, Psychology Branch and Neurology
18 and Neuropharmacology.

19 Q. Were there any other branches at that
20 time?

21 A. Not at that time.

22 MR. LEVINE: When are we talking about?

23 MR. GORDON: 1956 when Dr. Sim became
24 Chief of Clinical Research.

25 Q. Was there a Toxicology Division at that

1 time?

2 A. Yes.

3 Q. Was there a Physiology Branch at that
4 time?

5 A. Physiology Division.

6 Q. Within the Clinical Research Division, if
7 I understand you, there was a Clinical
8 Investigations Branch, a Laboratory Branch, an
9 Psychology Branch and a Neurology Branch, an
10 Neuropharmacology Branch and a Toxicology Branch?

11 A. No.

12 Q. Toxicology was a division, also?

13 A. Toxicology was a separate division. Neurology
14 and neuropharmacology were together.

15 Q. As one branch?

16 A. Yes.

17 Q. How long did you serve as Chief of the
18 Clinical Research Division?

19 A. From 1956 to 1961.

20 Q. Were you associated with the Clinical
21 Research Division at any time after that?

22 A. I was Deputy Director and Scientific Director
23 and Chief Research Physician at the laboratory.

24 Q. Of which laboratory?

25 A. Biomedical Laboratory.

1 MR. LEVINE: Spell that.

2 A. Biomedical.

3 Q. Was the Clinical Research Division part
4 of the Biomedical Laboratory?

5 A. Correct.

6 Q. Who was in charge of the Biomedical
7 Laboratory?

8 A. The Commanding Officer was always a Colonel of
9 the Surgeon General, Medical Corps.

10 Q. Did you report to the Chief of the
11 Biomedical Laboratory?

12 A. Yes.

13 Q. On what sorts of matters did you report
14 to the Chief of the Biomedical Laboratory?

15 A. I don't understand your question.

16 Q. I believe you testified earlier that you
17 reported to Seymour Silver who was Scientific
18 Director.

19 A. Yes, but of Chemical Research and Development
20 Laboratory, of which Biomedical was a part.

21 Q. Did the Chief of the Biomedical
22 Laboratory also report to Seymour Silver?

23 A. Correct.

24 Q. On some occasions did you report to
25 Seymour Silver and on other occasions did you report

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1 to the Chief of the Biomedical Laboratory?

2 A. I reported to both of them.

3 Q. On what types of matters would you report
4 to one as opposed to the other?

5 A. I wouldn't.

6 Q. What determined whether you reported to
7 Dr. Silver rather than the Chief of the Biomedical
8 Laboratory?

9 A. Well, they usually had a meeting together.

10 Q. What was the subject of your meetings
11 with Dr. Silver and chief of the Biomedical
12 Laboratory?

13 A. I don't understand your question when you say that.

14 Q. You stated that you usually reported to
15 Dr. Silver and the Chief of the Biomedical
16 Laboratory together. What matters did you report on?

17 A. Anything that had to do with the Clinical
18 Research Division, any protocol, any problems,
19 anything else.

20 Q. What were the other divisions within the
21 Biomedical Laboratory?

22 A. Toxicology, biophysics, physiology, veterinary
23 medicine.

24 Q. Any others?

25 A. No.

1 Q. Was there an environmental testing
2 division?

3 A. That was under physiology. Not a division. It
4 was a branch.

5 Q. Was there an Entomology Division?

6 A. There used to be but it phased out. There was
7 an entomology branch for a short period of time, and
8 that was phased out.

9 Q. What was the entomology branch a part of?

10 A. The entomology branch originally was a part of
11 Physiology Division. It wound up as a biochemical
12 operation.

13 Q. Who was in charge of the Toxicology
14 Division during the time period 1956 to 1961?

15 A. Eugene Krackow, K R A C K O W.

16 Q. Do you know who Dr. Krackow's successor
17 was?

18 A. Bernard P. McNamara.

19 Q. When did Dr. McNamara succeed Dr. Krackow?

20 A. I'm not certain. I think it was 1961 or 1962.

21 Q. For how long did Dr. McNamara remain head
22 of Toxicology?

23 A. Until he died.

24 Q. When was that?

25 A. 1981.

1 Q. What were the various branches within the
2 Toxicology Division?

3 A. Well, they varied. Overall I'd say there were
4 three branches: An Animal Testing Branch, an
5 Aerosol Branch and what they later called a
6 Physiological Toxicology Branch.

7 Q. Physiological Toxicology Branch?

8 A. Yes.

9 Q. What was the function of the Animal
10 Testing Branch?

11 A. Due to the primary testing of compounds on
12 several species of animals.

13 Q. Which species were used in animal testing?

14 A. At least seven.

15 Q. Could you identify the species?

16 A. At least two species of rodents, or three
17 species of rodents. It was rats, mice, rabbits,
18 guinea pigs. That's four of that. There were dogs
19 and finally monkey.

20 Q. What type of monkey?

21 A. Rhesus, Macaque, Cebus, C E B U S.

22 Q. What did primary testing consist of?

23 A. Initial LD50s, lethal dose fifties.

24 Q. Were any other primary --

25 A. Skin, oral, intravenous, intramuscular.

1 Q. How was it determined which type of
2 primary testing to use?

3 A. Usually they were all intravenous. They
4 started with intravenous, but it was done by at
5 least four routes: Percutaneous, orally,
6 intravenously and intramuscularly.

7 Q. Who was in charge of the Animal Testing
8 Branch from 1956 to 1961?

9 A. Fred Oberst.

10 Q. O B E R S T?

11 A. Right.

12 Q. Who succeeded Dr. Oberst?

13 A. The function of that branch was changed. Mr.
14 Owens assumed it. It was Edmond Owens.

15 Q. At what time did Edmond Owens take over
16 from Dr. Oberst?

17 A. I don't remember. I think it was about 1970 or
18 1969.

19 Q. Was Dr. Oberst in charge up until about
20 1969 or 1970?

21 A. Something like that.

22 Q. Where did Dr. Oberst go at that time?

23 A. He retired.

24 Q. Do you know where Dr. Oberst now lives?

25 A. I think he lives in Florida.

1 Q. Do you have any idea which town?

2 A. I have no idea.

3 Q. Do you know about how many employees were
4 working in the Animal Testing Branch during the
5 1960s?

6 A. The only figure I can give you is an
7 approximate one for Toxicology as a whole, and it
8 was about 60.

9 Q. About 60?

10 A. Yes.

11 Q. Until he succeeded Dr. Oberst, did Dr.
12 Owens work under Dr. Oberst?

13 A. No. He worked in Aerosol.

14 Q. Do you recall the names of any employees
15 that worked under Dr. Oberst during the 1960s?

16 A. I don't, but some of them are still there.

17 Q. But you don't recall any names?

18 A. I don't recall any names.

19 Q. Did the person in charge of animal
20 testing report to Dr. Krackow or Dr. McNamara?

21 A. Yes.

22 Q. What did the Aerosol Branch do?

23 A. Aerosol work.

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24 Q. What did aerosol work consist of?

25 A. Putting up the material as a particulate or as

1 a vapor, and exposing animal.

2 Q. Was there work performed in connection
3 with investigation of possible dissemination
4 techniques?

5 A. Possible.

6 Q. What would be the other purposes for the
7 aerosol work?

8 A. Toxicity.

9 Q. In other words, dispersion in the air
10 would be tested as a possible means of exposing
11 populations to a particular agent?

12 A. Yes.

13 Q. During the 1960s who was in charge of the
14 Aerosol Branch?

15 A. Edmond Owens most of the time.

16 Q. Do you recall during what time period he
17 was in charge?

18 A. I would guess from -- I'm not guessing. I
19 don't know. It was 1965, I think. It was 1965 on
20 until his death.

21 Q. When did Dr. Owens die?

22 A. 1981.

23 Q. Was he still working at Edgewood at the
24 time of his death?

25 A. Yes.

1 Q. Do you know who Dr. Owens' predecessor
2 had been in Aerosol?

3 A. There actually hadn't been one because it had
4 been Oberst. It had been a combined branch.

5 Q. In 1965, had animal testing and aerosol
6 been split apart?

7 A. Yes.

8 Q. Do you know the reason for making that
9 reorganization?

10 A. No.

11 Q. What did the Physiological Toxicology
12 Branch do?

13 A. It studied mechanisms of toxicity.

14 Q. How were those mechanisms of toxicity
15 studied?

16 A. In animals, in tissue culture, in organ culture,
17 and in bacterial culture.

18 Q. Were there any particular names for the
19 tests that were performed?

20 A. There were, yes, but they were all the standard
21 ones of that moment that were standard in that
22 material.

23 Q. Standard histology tests?

24 A. Yes, all the standard things that were common
25 up to that date.

1 Q. During the 1960s who was in charge of
2 physiological toxicology?

3 A. Frank Vocci, V O C C I.

4 Q. Is Frank Vocci still at Edgewood?

5 A. No.

6 Q. Did he retire?

7 A. He is at the Food and Drug.

8 Q. When did Mr. Vocci go to the Food and
9 Drug Administration?

10 A. I'm not certain. I think 1975.

11 Q. Do you recall who Mr. Vocci's predecessor
12 had been in physiological toxicology?

13 A. There hadn't been one.

14 Q. When was the Physiological Toxicology
15 Branch formed?

16 A. Somewhere between 1958 and around that time.

17 Q. What did the Biophysics Division do?

18 A. They were responsible for blast and trauma
19 studies.

20 Q. What did the Physiology Division do?

21 A. They were responsible for physiology,
22 environmental physiology and pharmacology and
23 neuropharmacology.

24 Q. What was environmental --

25 A. And biochemical, biochemistry.

1 Q. What was environmental physiology?

2 A. Heat and cold.

3 Q. What did the veterinary medicine do?

4 A. Supplied animals and took care of them.

5 Q. Was it basically an animal husbandry?

6 A. Basically a service.

7 Q. Returning to the Clinical Research

8 Division.

9 A. Yes.

10 Q. What did the Clinical Investigations Branch
11 do?

12 A. They were responsible for all studies in man.

13 Q. During the 1960s who was in charge of the
14 Clinical Investigations Branch?

15 A. There were several. Dr. Kimura, K I M U R A.

16 Q. How long did Dr. Kimura serve as Chief of
17 Clinical Investigation?

18 A. Five years.

19 Q. Do you recall when he left?

20 A. Approximately 1965.

21 MR. KROHLEY: Speak up, please.

22 A. Approximately 1965.

23 Q. Who was Dr. Kimura's successor?

24 A. Lieutenant Colonel James Ketchum.

25 Q. How long did Lieutenant Colonel Ketchum

1 serve as Chief of Clinical Investigations?

2 A. Five years.

3 Q. Until 1970?

4 A. About.

5 Q. Who succeeded Ketchum?

6 A. Dr. Fred Siddell.

7 Q. S E I D E L?

8 A. S I D D E L L.

9 Q. What did the Laboratory Branch of
10 Clinical Research do?

11 A. All the necessary human testing, blood work,
12 urine, blood chemistry.

13 Q. Who was in charge of the laboratory in
14 the 1960s?

15 A. It wasn't formed until 1962.

16 Q. At that time who became the head?

17 A. Kimura was acting head of it.

18 Q. At the same time as he was serving as --

19 A. Yes.

20 Q. -- as Chief of Clinical Investigations?

21 A. Yes.

22 Q. Did the various divisions and branches in
23 the Biomedical Laboratory work with any of the other
24 divisions or laboratories located at Edgewood?

25 A. Yes.

1 Q. Which divisions or laboratories did the
2 Biomedical Laboratory work with?

3 A. The Chemical Research Division primarily.

4 Q. What work was performed in the Chemical
5 Research Division?

6 A. Toxicology.

7 Q. At the request of the Chemical Research
8 Division --

9 A. Correct.

10 Q. Let me finish my question. At the
11 request of the Chemical Research Division, the
12 Toxicology Division would perform various toxicity
13 tests?

14 A. No, on joint agreement.

15 Q. On joint agreement?

16 A. Yes.

17 Q. What were the procedures that were
18 followed to have a request for toxicity testing
19 agreed to?

20 A. It had to appear before a board.

21 Q. Was there a name for that board?

22 A. Review Point I.

23 Q. Is Review Point I still in existence?

24 A. I don't know.

25 Q. Was Review Point I still in existence at

1 the time of your retirement?

2 A. In theory, not in fact.

3 Q. When did Review Point I cease to exist in
4 fact?

5 A. I don't know. I can't answer.

6 Q. Would it have been some time prior to
7 your retirement?

8 A. It did, in fact.

9 Q. When did you retire from Edgewood?

10 A. 1980.

11 Q. How did Review Point I operate?

12 A. I don't quite know what you mean by that
13 because it is a large order.

14 Q. What did Review Point I do? What were
15 its functions and activities?

16 A. Its function was to pass on the methods and the
17 results of chemical investigation in new compounds,
18 and testing in the primary screens.

19 Q. What was the source of the new compounds
20 that were reviewed by Review Point I?

21 A. Chemical Laboratories.

22 Q. Was the Chemical Laboratories the same as
23 the Chemical Research Division?

24 A. Yes.

25 Q. Do you recall during what time period one

1 of the other names was applicable?

2 A. I don't.

3 Q. Do you recall which name came first?

4 A. Chemical Research and Development Laboratory
5 contained other things besides Chemical Research
6 Division, like mass protective clothing.

7 MR. LEVINE: May I have the last answer
8 read back. I was diverted.

9 (read by the reporter).

10 MR. LEVINE: Thank you.

11 Q. Is it correct to state that at some point
12 the Chemical Research and Development Lab became
13 known as the Chemical Laboratories?

14 A. No, not to my knowledge.

15 Q. What was the unit within the Chemical
16 Research and Development Lab that was the equivalent
17 of Chemical Laboratories?

18 A. I don't understand. Give me that question
19 again.

20 Q. I am asking for some help here. We have
21 talked about Chemical Laboratories and the Chemical
22 Research Division. I asked you which had come first,
23 and you believed that the Chemical Research Division
24 was referred to as the Chemical Research and
25 Development Lab at one time.

1 A. That's right.

2 Q. Is that correct?

3 A. Under Silver.

4 Q. Under Silver?

5 A. Yes.

6 Q. What I want to know now is whether you
7 know when what was referred to as the Chemical
8 Research and Development Lab became known as the
9 Chemical Laboratories?

10 A. I can't answer that because there isn't such a
11 thing as Chemical Laboratories.

12 Q. When you referred to Chemical
13 Laboratories during your testimony, are you in fact
14 referring to the chemical research --

15 A. Research and development part of it.

16 Q. Thank you.

17 You testified that the source of the
18 chemical agents passed on by Review Point I was the
19 Chemical Laboratories. How did the Chemical
20 Laboratories obtain the new chemical agents?

21 A. From companies such as are represented.

22 Q. Were there other sources for the chemical
23 agents?

24 A. The ones they made themselves.

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25 Q. Who would have made those agents?

1 A. The Organic Chemistry Branch.

2 Q. Aside from manufacturers in Chemistry and
3 the Organic Chemistry Branch, were there other
4 sources of chemical agents?

5 A. Other countries.

6 Q. What would those countries be? What were
7 those countries?

8 A. U. K., Canada, Australia.

9 Q. Was Germany one of those countries? Try
10 to answer yes or no rather than shaking your head
11 head because it creates problems for the court
12 reporter.

13 A. No.

14 Q. Did Germany at some point become a source
15 of chemical agents?

16 A. Of chemical agents?

17 Q. Yes.

18 A. You better define chemical agents for me.

19 Q. Any compound that would be considered for
20 possible use as a chemical warfare agent.

21 A. Not since 1946.

22 Q. In 1960, who were the representatives of
23 Review Point I?

24 A. I don't remember.

25 Q. Do you recall the names of any of the

1 representatives?

2 A. I'm sure Krackow was on it, probably McNamara.

3 Q. What was Dr. McNamara's position at that
4 time?

5 A. He was head of pharmacology at that time.

6 Q. That was pharmacology in the Biomedical
7 Laboratory?

8 A. Yes.

9 Q. Was Dr. Fritz Hoffman a member of Review
10 Point I at that time?

11 A. I don't know. Van Witten was, Dr. Van Witten
12 was.

13 Q. Was Jake Miller?

14 A. I think he was on the committee. I'm not
15 certain.

16 Q. Was Dr. Milton Christensen on the
17 committee of Review Point I?

18 A. Not at that time.

19 Q. Did he later become a member of Review
20 Point I?

21 A. Yes. It is not doctor. It is Milton
22 Christensen.

23 Q. When did Milton Christensen become a
24 member of Review Point I?

25 A. 1969, 1970.

1 Q. What was Mr. Christensen's position in
2 the 1960s?

3 A. He worked in Toxicology.

4 Q. He worked under Dr. McNamara?

5 A. Yes.

6 Q. And before that Dr. Krackow?

7 A. Yes.

8 Q. Was Dr. Owens on Review Point I in 1960?

9 A. It is not Dr. Owens. It was Mister Owens.

10 Q. Was he on Review Point I in 1960?

11 A. No.

12 Q. Was Tom Simmons on Review Point I in 1960?

13 A. No.

14 Q. Did you ever serve on Review Point I?

15 A. No.

16 Q. Did you ever serve on any review point?

17 A. Review Point II.

18 Q. Review Point II?

19 A. Yes.

20 Q. What did Review Point II do?

21 A. Reviewed the medical implications of all the
22 tests.

23 Q. What would those tests be? What were the
24 tests that Review Point II reviewed? What types of
25 tests?

1 A. All toxicology, all biochemical, all tissue
2 culture, all organ culture, all histochemistry,
3 everything that went into the screen of a
4 pharmaceutical house.

5 Q. During what time period did you serve on
6 Review Point II?

7 A. I would say 1958 to 1966, something like that.

8 Q. Was there a group referred to as Review
9 Point I.5?

10 A. It was not official.

11 Q. Was there something called that?

12 A. It was unofficial.

13 Q. But there was something called I.5?

14 A. Not for the record.

15 Q. What was I.5?

16 A. It was reviewing Review Point I and Review
17 Point II. There was an intermediate group which was
18 composed of some of the same people from group one
19 and group two that would complete to discuss further
20 requirements.

21 MR. LEVINE: Let us take five minutes.

22 (A short recess is taken)

23 Q. Dr. Jandorf -- sorry.

24 A. You are in the wrong country.

25 Q. Dr. Sim, did you know a Colonel McClure?

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1 A. Sure.

2 Q. Who was Colonel McClure?

3 A. A Colonel, Medical Corps.

4 Q. Did he ever work at Edgewood?

5 A. Yes, twice.

6 Q. What was his position at Edgewood?

7 A. Well, he was one of the chiefs of Clinical
8 Research at one time when it was a division. He was
9 also Director of Biomedical at one time.

10 Q. Was he a chief of the Clinical Research
11 Division before you became Chief?

12 A. Oh, no.

13 Q. When did he serve as Chief of Clinical
14 Research?

15 A. I'm not certain of the date.

16 Q. Was there anyone who served as Chief of
17 Clinical Research between you and Colonel McClure?

18 A. Yes, Botaleri. You spell it.

19 Q. Did Colonel McClure hold any other
20 positions at Edgewood?

21 A. No. He was Director of Biomedical Lab in 1974.

22 Q. Do you know Herbert Christensen?

23 A. Herbert Christensen?

24 Q. Yes.

25 A. No.

1 Q. I believe you testified that in 1961 you
2 became Deputy Director and Chief research physician
3 of the Biomedical Laboratories.

4 A. Correct.

5 Q. Is that correct?

6 A. Yes.

7 Q. What were the responsibilities of Deputy
8 Director and Chief Research Physician?

9 A. Well, it was the Scientific Director of the
10 laboratories, Biomedical Laboratories. Also the
11 responsible physician for all human testing.

12 Q. As Deputy Director and Chief Research
13 Physician, who did you report to?

14 A. To the Chief of Biomedical Laboratory and the
15 Chief of CRDL.

16 Q. And those were Dr. Silver and the
17 Commanding General?

18 A. No. That was six Colonels. It lasted about
19 two years.

20 Q. Which two years?

21 A. Bayliss was the first one. Dreisbach was the
22 second one. Bauer was the third one. Botaleri,
23 Bauer and Blair.

24 Q. What were the titles?

25 A. Colonels of the Medical Corps, directors of the

1 Biomedical Laboratory.

2 Q. Who was the commander of the Chemical
3 Research and Development Laboratories?

4 A. There was no commander. It was a scientist.

5 Q. Who was the scientist?

6 A. That was Silver. He had a deputy military, but
7 I couldn't tell you who it was.

8 Q. Who reported to you as Deputy Director
9 and Chief Research Physician?

10 A. All the divisions.

11 Q. Within the Biomedical Laboratories?

12 A. Yes.

13 Q. Dr. Sim, are you familiar with the term
14 dioxin?

15 A. I know the name, yes.

16 Q. What is your understanding of what that
17 term refers to?

18 A. Dioxin doesn't mean anything to me. It is a
19 toxic substance.

20 Q. Do you know what a dioxin compound is?

21 A. Yes.

22 Q. For purposes of this deposition, will you
23 understand that when I refer to dioxin, I am
24 referring to any of the halogenated dioxin compounds?

25 A. Of which there are several.

1 Q. Yes. Will you understand that?

2 A. Yes.

3 Q. Yes?

4 A. Yes.

5 Q. When did you first hear of dioxin?

6 A. I don't recall.

7 Q. Do you recall meeting with me in March of
8 this year?

9 A. Correct.

10 Q. Do you recall telling me that you first
11 heard of dioxin from Dr. Hoffman in the early 1960s?

12 MR. LEVINE: Note my objection.

13 A. I may have. I'm not sure. I recall talking to
14 you, as you say, but I don't know whether I heard it
15 first from Hoffman or not.

16 Q. Do you recall ever hearing about dioxin
17 from Dr. Hoffman?

18 A. Not that I remember specifically.

19 Q. Do you have a general recollection of
20 having discussed dioxin with Dr. Hoffman?

21 A. I have a general recollection of having heard
22 it.

23 MR. TAYLOR: Objection.

24 A. I have a general recollection.

25 Q. When did you hear about dioxin?

1 A. I don't know. I don't remember.

2 Q. Was it before 1960?

3 A. I couldn't answer that, when it happened.

4 Q. What position did you have at the time
5 you heard about it?

6 A. Clinical Research Division.

7 Q. And you were Chief of the Clinical
8 Research Division until 1961, weren't you?

9 A. Yes.

10 Q. So it would have been before 1961?

11 MR. TAYLOR: Objection.

12 MR. LEVINE: It could have been 1961.

13 Q. Or 1961.

14 A. It could have been 1961. I don't know.

15 Q. What were the circumstances under which
16 you heard about dioxin from Dr. Hoffman?

17 MR. LEVINE: Note my objection. If he
18 can't recall when it was -- well, note my objection.

19 MR. TAYLOR: Objection.

20 Q. You can answer the question.

21 A. I don't remember whether it was a meeting or
22 not. It probably was. I have no recollection of a
23 meeting specifically.

24 Q. Did Dr. Hoffman -- strike that. Who was
25 Dr. Hoffman?

1 A. He was head of Organic Chemistry Branch of the
2 Chemical Research and Development Lab.

3 Q. During what time period?

4 A. From about -- I'm not certain.

5 Q. When did Dr. Hoffman --

6 A. Hoffman was the head of chemical research, and
7 he was head of Organic Chemistry.

8 Q. At what time period?

9 A. 1956 to 1967.

10 Q. Is Dr. Hoffman still alive?

11 A. No. He died in 1967.

12 Q. Was he Chief of Organic Chemistry at the
13 time of his death?

14 A. I think so. I'm not certain.

15 Q. As Chief of Organic Chemistry, what were
16 Dr. Hoffman's duties?

17 A. I have no specific information except he was to
18 furnish compound. Whether he synthesized them
19 within the laboratory or got them elsewhere, that is.

20 Q. Do you recall telling me in March of this
21 year that one of Dr. Hoffman's duties was to search
22 for potential new chemical agents?

23 MR. LEVINE: Note my objection.

24 A. I don't understand your question.

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25 MR. GORDON: Will the reporter please

1 read it back.

2 (read by the reporter)

3 A. The answer to that question is anyone in
4 Organic Chemistry had that responsibility.

5 Q. Do you recall telling me that one of Dr.
6 Hoffman's functions was to search for new chemical
7 agents?

8 MR. LEVINE: Note my objection.

9 A. I don't recall telling you that specifically.

10 Q. As part of his responsibilities, did Dr.
11 Hoffman travel to Germany?

12 A. Among other places.

13 Q. How often did he travel to Germany?

14 A. I have no idea.

15 Q. Did he make an annual trip to Germany?

16 A. Probably.

17 Q. What was the purpose of these trips to
18 Germany?

19 MR. LEVINE: Note my objection.

20 A. No answer.

21 Q. What was the purpose of his trips to
22 Germany?

23 A. No answer.

24 Q. What do you mean by no answer?

25 A. Because I don't have an answer.

1 Q. Does that mean that you don't know?

2 A. I don't know.

3 Q. Please say you don't know rather than "no
4 answer"

5 A. Don't tell me what to say.

6 Q. Dr. Sim, I am going to remind you that
7 you are under subpoena.

8 A. I understand perfectly well.

9 Q. Good.

10 MR. LEVINE: Come on.

11 MR. GORDON: We are going to adjourn this
12 until Special Master Schreiber arrives at two
13 o'clock.

14 MS. BERNOTT: Then I will oppose any
15 reconvening of this deposition for any purpose.
16 Does anyone else present want to ask the witness
17 questions?

18 MR. GORDON: All we are doing is
19 adjourning this deposition until two o'clock.

20 MS. BERNOTT: No, we are not. You are
21 terminating the deposition.

22 MR. RIVKIN: You are talking about a half
23 hour, Joan.

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24 MS. BERNOTT: We are talking about a
25 termination, Leonard. We discussed this with Mike.

1 It was our intention and hope to get at least three
2 hours of testimony from this gentleman today. Mr.
3 Gordon is voluntarily terminating the deposition
4 early and the Government will take the position that
5 it is a termination, not an adjournment, and it will
6 not be reconvened for the purpose of anyone in this
7 room unless they are ready to proceed now.

8 MR.RIVKIN: You started at 11:15 so you
9 could prepare him. We had two dozen people sitting
10 around twiddling thumbs.

11 MS. BERNOTT: Is anyone here prepared to
12 proceed?

13 MR. GORDON: Is Dr. Sim going to be here
14 at two o'clock?

15 MS. BERNOTT: No, he is not.

16 MR.RIVKIN: I object on the record on
17 behalf of Dow and I would apply to the Special
18 Master for a ruling on Miss Bernott's request.

19 MR. GORDON: We will go until two o'clock
20 right now.

21 MR.RIVKIN: You don't have to go to two
22 o'clock. What's the matter with you?

23 MR. SILBERMAN: What are we doing,
24 skipping lunch?

25 MR. GORDON: We agreed before to break

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1 for lunch at one o'clock.

2 Q. Dr. Sim, what were the various divisions
3 of the Chemical Laboratories?

4 A. I don't remember.

5 Q. Do you recall any of them?

6 A. I gave you the Chemical Division.

7 Q. You gave me the Biomedical Laboratories
8 Division.

9 A. No. I gave you the Chemical Division.

10 Q. Refresh my recollection.

11 A. Development division. There is two of them.

12 Q. What were those two divisions of the
13 Chemical Laboratory?

14 A. Chemical Research and Development Laboratory we
15 are talking about.

16 Q. What are the two divisions of the
17 Research and Development Laboratory?

18 A. The two divisions that I told you about are
19 Development Laboratories and the Chemical Laboratory.

20 MR. GORDON: Read the answer.

21 (read by the reporter)

22 A. Chemical Research Laboratory.

23 Q. Who was in charge of the Chemical
24 Laboratory in 1960?

25 A. Ben Witten.

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1 Q. How long did Ben Witten serve as Chief of
2 the Chemical Laboratory?

3 A. Until he died.

4 Q. When was that?

5 A. End of seventies. The end of 1975 or something.

6 Q. What were the divisions within the
7 Chemical Laboratory?

8 A. I can't answer.

9 Q. Was there an Organic Chemistry Division
10 in the Chemical Laboratory?

11 A. There is an Organic Chemistry Branch or a
12 division. I don't know which it was.

13 Q. Was that the Organic Chemistry Division
14 that you referred to previously in testifying to Dr.
15 Hoffman's job?

16 A. Yes.

17 Q. What were the various branches within the
18 Organic Chemistry Division?

19 A. If you didn't get the answer from Dr. Jandorf
20 or if you didn't get the answer from the previous
21 gentleman that you interviewed, you can't get it
22 from me because I don't know. I was not --

23 Q. Is your answer that you do not know?

24 A. I do not know.

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25 MR. GORDON: At the appropriate time I

1 will move to strike the balance of that answer which
2 was totally unresponsive.

3 Q. Was there a Physical Research Division in
4 the Chemical Laboratory?

5 A. I don't know.

6 Q. Who is Mr. Zeffert?

7 A. Bernie Zeffert. He was one of the branch
8 chiefs but I can't tell you whether he was a
9 division Chief or not.

10 Q. Did you ever speak with Mr. Zeffert?

11 A. Oh, yes.

12 Q. What was the subject of your discussions
13 with Mr. Zeffert?

14 MR. LEVINE: Note my objection to that.

15 A. I have no idea.

16 Q. You have no idea what you discussed with
17 Mr. Zeffert?

18 A. No.

19 Q. Do you have any recollection of what Mr.
20 Zeffert did?

21 A. Except that he worked in the Chemical
22 Laboratories in physical research. He moved all
23 over the place.

24 Q. Where did he move?

25 A. From one job to another.

1 Q. What were the various jobs that he had?

2 A. I don't know, but he had several.

3 Q. Is Mr. Zeffert still at Edgewood?

4 A. No.

5 Q. When did he leave Edgewood?

6 A. I don't know. It was in the seventies.

7 Q. Do you know whether he is still alive?

8 A. I think so.

9 Q. Do you know who Mr. Predecessor was?

10 MS. FELDHEIM: Can the witness answer,
11 please.

12 A. No.

13 Q. Have you ever heard of a Physical
14 Properties Branch of the Chemical Laboratories?

15 A. No.

16 Q. Have you ever heard of a Dissemination
17 Branch of the Chemical Laboratories?

18 A. No.

19 Q. Was there an Analytical Chemistry
20 Division in the Chemical Laboratories?

21 A. Yes.

22 Q. Who was in charge of the Analytical
23 Chemistry?

24 A. I don't know.

25 Q. Do you know Mr. Samuel Sass?

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1 A. Yes.

2 Q. Do you know what Mr. Sass' position was?

3 A. Head of Analytical.

4 Q. During what time period did Mr. Sass
5 serve as the head of Analytical?

6 A. I don't remember the dates.

7 Q. Was he head of Analytical in 1960?

8 MR. TAYLOR: Object to the repetetive
9 nature of this questioning. It is the same type of
10 questioning that has occurred before with the prior
11 witness.

12 A. I don't know.

13 Q. Is Mr. Sass still at Edgewood?

14 A. As far as I know, not.

15 Q. Do you know when Mr. Sass left Edgewood?

16 A. He retired.

17 Q. What were the functions of the Analytical
18 Chemistry Division?

19 A. I don't know.

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20 MS. BERNOTT: I will interpose an
21 objection to this whole line of questioning because
22 it is repetetive, cumulative and irrelevant.

23 MR. RIVKIN: Let the record show the
24 Master ruled that Miss Bernott's position in the
25 Justice Department has no right to object other than

1 on national security grounds. I don't understand
2 how she cannot abide by the ruling of the Court.

3 MR. GORDON: Off the record. Read back
4 the last question.

5 (read by the reporter)

6 Q. What was the Weapons Research Laboratory?

7 A. I don't know. It was part of the Edgewood
8 complex.

9 Q. Did you ever have any dealings with the
10 Weapons Research Laboratory?

11 A. No.

12 Q. You didn't know Mr. Milton Cutler?

13 A. I know who he is.

14 Q. Who is he?

15 A. Milton Cutler.

16 Q. Was he ever stationed at Edgewood?

17 A. Yes.

18 Q. What was his position?

19 A. I don't know.

20 Q. When was he stationed at Edgewood?

21 A. In the sixties.

22 MR. LEVINE: Off the record.

23 (Discussion held off the record)

24 Q. Did you know Major Peter Hexner?

25 A. I remember the name.

1 Q. Do you know when he was stationed at
2 Edgewood?

3 A. Yes.

4 Q. When was he stationed at Edgewood?

5 A. I don't know.

6 Q. Do you know what his position was at
7 Edgewood?

8 A. No.

9 Q. Did you ever have discussions with major
10 Hexner?

11 A. No.

12 Q. What was the historical unit at Edgewood?
13 Are you familiar with the term "Historical Unit at
14 Edgewood" or "Edgewood Historical Unit"?

15 A. No.

16 Q. Have you ever heard of that term?

17 A. Not in that --

18 Q. Excuse me.

19 A. Not like that.

20 Q. How have you heard the term?

21 A. I haven't heard the term the way you are saying
22 it.

23 Q. Have you heard it in any other way?

24 A. No.

25 Q. What unit of the military had

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1 responsibility for the Biomedical Laboratories in
2 1960?

3 A. The Chemical, Chief Chemical Officer in
4 association with the Surgeon General.

5 Q. What unit was the Chief chemical officer
6 in?

7 A. It was a separate service.

8 Q. What was the name of that service?

9 A. The Chemical Corps.

10 Q. Where were the offices of the Chemical
11 Corps located?

12 A. Graveley Point.

13 Q. Is the Chemical Corps still in existence?

14 A. No.

15 Q. When did it cease to exist?

16 A. 1963, on or about that date.

17 Q. Prior to its dissolution, what were the
18 responsibilities of the Army Chemical Corps?

19 A. I can't give you a --

20 Q. Which facilities were under its
21 jurisdiction?

22 A. Rocky Mountain Arsenal, Toelle.

23 Q. Spell that for the reporter.

24 A. T O E L L E; Dugway Proving Ground, Pine Bluff
25 Arsenal, Newport Chemical Plant, Fort Detrick and

1 Edgewood, a school at Anniston, Alabama, chemical
2 school.

3 Q. Where was Fort Detrick located?

4 A. Frederick, Maryland.

5 Q. Have you ever been to Fort Detrick?

6 A. Yes.

7 Q. When was the first time you went to Fort
8 Detrick?

9 A. I have no idea.

10 Q. Was it before 1960?

11 A. Yes.

12 Q. In the 1960s what activities were carried
13 on at Fort Detrick?

14 A. I don't know.

15 Q. Was there a Crops Division at Fort
16 Detrick in the 1960s?

17 A. Yes, I think there was.

18 Q. Do you know who was in charge of the
19 Crops Division?

20 A. The only one I know is Dr. Minarik.

21 Q. What was Dr. Minarik's full name?

22 A. Charles.

23 Q. Have you ever met Dr. Minarik?

24 A. Yes.

25 Q. When was the first time you met him?

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1 A. I have no idea.

2 Q. How many times do you believe you met Dr.
3 Minarik?

4 A. I have no idea.

5 Q. What was the subject of your discussions
6 with Dr. Minarik?

7 MR. LEVINE: Note my objection, please.

8 A. Social.

9 Q. Did you have any business dealings with
10 Dr. Minarik at any time?

11 A. No.

12 Q. Did you ever perform any work for Dr.
13 Minarik?

14 A. No.

15 Q. Do you know Dr. James Brown?

16 A. No.

17 Q. Do you know Dr. Robert Darrow?

18 A. I know the name.

19 Q. Do you know who Dr. Darrow was?

20 A. I think he was at Detrick. I'm not certain.

21 Q. Is Fort Detrick still in existence?

22 A. The Army Infectious Disease Laboratory is still
23 at Fort Detrick, and there is a Cancer Institute
24 laboratory there. But Fort Detrick, per se, is
25 still Fort Detrick, but it is not under the Chemical

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1 Corps since there is none. It is a separate entity
2 now.

3 Q. When did Fort Detrick cease to be under
4 the Chemical Corps?

5 A. Well, actually when the Chemical Corps ceased.

6 Q. What happened to Fort Detrick after --

7 A. It continued.

8 Q. Who had jurisdiction over Fort Detrick
9 after --

10 A. DARCOM and ARADCOM.

11 Q. What does DARCOM stand for?

12 A. I don't know. It has changed since that time.
13 Army Research and Development Command.

14 Q. What were the other initials?

15 A. DARCOM was the -- that's Picatinny Arsenal.
16 That's the old -- but it was part of ARADCOM.
17 ARADCOM was the largest one and DARCOM was the next
18 echelon down that held directly with both Detrick
19 and Edgewood.

20 MR. LEVINE: Department of the Army?

21 THE WITNESS: Yes.

22 Q. Did you ever travel to Fort Detrick?

23 A. Yes.

24 Q. In the 1960s?

25 A. Yes.

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1 Q. Was that for social purposes?

2 A. For reviews.

3 Q. What type of reviews?

4 A. Program reviews.

5 Q. Who did you have those program reviews
6 with?

7 A. We didn't have it. We were guests.

8 Q. Who conducted the program reviews?

9 A. Detrick.

10 Q. Was Dr. Minarik at any of these program
11 reviews?

12 A. Not that I remember.

13 Q. Who was at these program reviews?

14 A. The chiefs of the laboratories that were
15 reviewing their semi-annual program.

16 Q. Which laboratories were located at Fort
17 Detrick?

18 A. The biological laboratory under Dr. Housewright.

19 Q. What other laboratories were located in
20 Fort Detrick?

21 A. I don't know of any.

22 Q. What information was presented at these
23 reviews?

24 A. I don't remember.

25 Q. Why were you invited to these reviews?

14289

1 A. We invited them to our reviews. So they
2 invited us to their reviews.

3 Q. What reviews did you have at Edgewood?

4 A. Every six months there was a semi-annual review

5 Q. Where did these reviews take place?

6 A. The headquarters.

7 Q. Where was the headquarters?

8 A. At Edgewood.

9 Q. Who participated in these semi-annual
10 reviews?

11 A. The chiefs of the divisions. Sometimes the
12 branch chiefs.

13 Q. That would be the Chief of the Biological
14 Laboratory?

15 A. Yes.

16 Q. Chief of the Clinical Research Division
17 within the biological laboratory?

18 A. Wait a minute. It is the Medical Laboratory or
19 the Medical Biological Laboratory. But when you say
20 biological laboratories, they are at Detrick.

21 Q. I meant Biomedical Laboratory.

22 A. All right.

23 Q. So at this semi-annual review the Chief
24 of the Biomedical Laboratory was in attendance?

25 A. Correct.

1 Q. And the chiefs of each of the divisions
2 within the Biomedical Laboratory?

3 A. Correct.

4 Q. Was the Chief of the Chemical Laboratory
5 at this review?

6 A. Correct.

7 Q. Were the chiefs of the divisions at these
8 reviews?

9 A. Correct.

10 Q. Were certain branch chiefs from --

11 A. Some sometimes.

12 Q. Let me finish. Were certain branch
13 chiefs from the Biomedical Laboratories and Chemical
14 Laboratories in attendance at these semi-annual
15 reviews?

16 A. Sometimes.

17 Q. Were representatives of Fort Detrick in
18 attendance at these semi-annual reviews?

19 A. Yes.

20 Q. Which representatives from Fort Detrick
21 attended these semi-annual reviews?

22 A. Whoever they sent.

23 Q. Do you recall anyone who was ever sent to
24 these semi-annual reviews?

25 A. There usually might be a half a dozen of them

1 there.

2 Q. Did Dr. Minarik ever attend any of these
3 semi-annual reviews?

4 A. I don't remember, but he was.

5 Q. Were any minutes taken of these semi-annu-
6 reviews?

7 A. Yes, I think there were.

8 Q. Did you receive copies of those minutes?

9 A. No.

10 Q. Who received copies of the minutes?

11 A. The Chief chemical officer would receive a copy.

12 Q. The only person who received the minutes
13 of the semi-annual reviews was the Chief Chemical
14 Officer?

15 A. The echelons above our level.

16 Q. What were the echelons above your level?

17 A. The head of Edgewood, whoever it was, and the
18 Chief chemical officers, various branches at
19 Graveley Point.

20 Q. Was there a formal title for the head of
21 Edgewood?

22 A. Well, it was usually the Commanding General.
23 It might be a Commanding Colonel but it usually was
24 a Commanding General.

25 Q. So the persons who would have received

1 copies of the minutes of the semi-annual reviews
2 would be the Chief Chemical Officer, the head of
3 Edgewood?

4 A. And staff.

5 Q. And staff?

6 A. Yes, and his staff.

7 Q. Did the head of Fort Detrick also receive
8 copies of the minutes?

9 A. I don't know.

10 Q. Did the heads of any of the laboratories
11 receive copies of the minutes?

12 A. I would imagine that they did. We did not.

13 Q. What was the subject of these semi-annual
14 reviews?

15 A. The program.

16 Q. Which program?

17 A. The current program that we are working at.

18 Q. Were presentations made at these reviews?

19 A. Yes.

20 Q. Who made these presentations?

21 A. The responsible investigators.

22 Q. Did you ever make a presentation at one
23 of these semi- --

24 A. I'm certain that I did.

25 Q. Did each of the division chiefs make a

14293

1 presentation at these semi-annual reviews?

2 A. Not always.

3 Q. When you made a presentation at one of
4 these semi-annual reviews, what was the subject of
5 your presentation?

6 A. I don't remember.

7 Q. Did you discuss the activities being
8 carried on in the Clinical Research Division during
9 that semi-annual period?

10 A. Certainly.

11 Q. Were there usually reports from division
12 chiefs in the Chemical Laboratories?

13 A. Usually.

14 Q. Do you recall whether Dr. Witten ever
15 reported at one of these semi-annual reviews?

16 A. I'm certain he did.

17 Q. Did Dr. Jandorf ever report?

18 A. I'm certain he must have.

19 Q. Did Dr. McNamara ever report at any of
20 these semi-annual reviews?

21 A. I'm certain he did.

22 Q. Did Dr. Hoffman ever give a presentation
23 at any of these semi-annual reviews?

24 A. Rarely.

25 Q. Did he give presentations on occasion?

14294

1 A. I don't remember but it was rare if he did.

2 Q. Do you recall whether Dr. Horton ever
3 gave a presentation at any after these semi-annual
4 reviews?

5 A. Yes, I think so.

6 Q. Who was Dr. Horton?

7 A. He was head of the initial testing group of the
8 chemical branch of Organic Chemistry.

9 Q. During what time did he serve as head of
10 that branch?

11 A. I don't remember the time.

12 Q. Did you know Dr. Horton?

13 A. Sure.

14 Q. Did you have discussions with Dr. Horton?

15 A. Yes.

16 Q. What was the subject of those discussions?

17 MR. LEVINE: Note my objection, please.

18 A. I don't remember.

19 Q. Did your discussions concern chemical
20 compounds?

21 A. Mine didn't, no. His might have.

22 Q. What would your discussions have
23 concerned?

14295

24 MR. LEVINE: Note my objection, please.

25 A. No answer.

1 Q. Could I have an answer, please.

2 A. I don't remember.

3 Q. Thank you.

4 MR. SILBERMAN: It is after one o'clock.

5 MR. GORDON: Exactly one o'clock.

6 MR. SILBERMAN: I would like to suggest

7 we adjourn with this examination until two o'clock.

8 MS. BERNOTT: Fine. Off the record.

9 (Discussion held off the record).

10 (The luncheon recess is taken)

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AFTERNOON SESSION

1
2 MS. BERNOTT: I will go on the record now.
3 I'd like the record to reflect that Mr. Gordon is
4 deliberately leaving the room in order to prevent
5 the commencement of this deposition. As we arranged
6 before this deposition was convened today, we would
7 break for lunch at one o'clock and reconvene at two
8 o'clock in the hopes of proceeding until at least
9 three in the hopes that Mr. Schreiber, if present,
10 would allow us to do so, and if not present, we
11 could simply proceed. Mr. Gordon's actions are a
12 termination in the Government's view of this
13 deposition. He is unprepared to proceed and he is
14 unwilling to proceed even though the Government is
15 here and ready and so is the witness in response to
16 the subpoena.

17 Is there anyone else in the room who
18 wants to ask the witness questions? 14297

19 MR. KROHLEY: You are being silly. The
20 parties aren't here yet. As soon as they arrive we
21 could begin. It is four minutes after two right now.

22 MR. LEVINE: May I make a suggestion,
23 Miss Bernott? Why not wait some short period of
24 time and then, if you want to do that we will do it.
25 We have accommodated people in the past. So that

1 kind of --

2 MS. BERNOTT: What do you suggest, Mr.
3 Levine, is a reasonable length of time? Mr. Gordon
4 has joined us again.

5 MR. LEVINE: Who is not here?

6 MR. SILBERMAN: Mr. Rivkin.

7 MR. MATTHEWS: Mr. Tyrrell, Mr. Taylor.

8 MR. LEVINE: Mr. Taylor represents
9 plaintiffs. We are not worried about him. Mr.
10 Rivkin is here. Who else?

11 MR. SILBERMAN: Tyrrell.

12 MR. MATTHEWS: He represents Monsanto.

13 MR. LEVINE: Why not wait a few minutes
14 for Mr. Tyrrell.

15 MS. BERNOTT: We will wait a few minutes
16 for Mr. Tyrrell.

17 MR. RIVKIN: Mark this portion. I'd like
18 to hear it later. I haven't heard it.

19 MR. LEVINE: Everyone is here.

20 MR. SILBERMAN: Miss Neiman for Uniroyal.

21 MR. RIVKIN: I am stepping out of the room.
22 Please feel free to start without me. I will be
23 back in a minute.

24 MS. BERNOTT: Mr. Gordon, could we get
25 started now.

14298

1 MR. GORDON: On what?

2 MS. BERNOTT: The deposition.

3 MR. GORDON: We are waiting for Special
4 Master Schreiber.

5 MS. BERNOTT: Is it your position that
6 this deposition is not going to proceed?

7 MR. GORDON: It is that we had a
8 deposition session this morning and that pursuant to
9 the direction of Special Master Schreiber we were to
10 adjourn from one o'clock to two when he would be
11 arriving for a pre-trial conference.

12 MS. BERNOTT: I'm curious to know when
13 this direction by the Special Master was given to
14 you.

15 MR. GORDON: At the conclusion of the
16 last pre-trial conference. Mr. Maskin was there
17 along with the defendant and plaintiffs.

18 MS. BERNOTT: Yesterday we had agreed we
19 would keep this witness here to keep this witness --

20 MR. GORDON: We agreed that when the
21 Special Master arrived we would proceed until 3
22 o'clock to make more headway.

23 MS. BERNOTT: And now you are changing
24 your mind and not making more headway.

25 MR. GORDON: Not until Special Master

1 Schreiber is here. That's clear from this morning.
2 Pursuant to the order appointing Special Master
3 Schreiber, requesting that Special Master Schreiber
4 be here at least for the next session of Dr. Sim's
5 deposition. That would be this afternoon.
6 Depending on the results this afternoon, my request
7 is that he be present for the remainder of Dr. Sim's
8 deposition.

9 MS. BERNOTT: It is my interpretation of
10 what you are saying that you refuse to proceed with
11 this deposition although the witness is ready and
12 willing to give testimony.

13 MR. GORDON: That's not what I said.

14 MR. TAYLOR: I was in attendance at this
15 meeting. It was my understanding that we were to
16 conduct this deposition up until the time the
17 Special Master arrived at which point we would
18 determine whether to continue this deposition at
19 some further time.

14300

20 MR. GORDON: Mr. Taylor, I will repeat to
21 you what Special Master Schreiber told me at the
22 conclusion of the last pre-trial conference, and
23 that was that we were to break for lunch at one
24 o'clock and at two o'clock reconvene for a pre-trial
25 conference lasting for perhaps an hour and a half,

1 at the conclusion of that hour and a half we would
2 reconvene the deposition of Dr. Sim.

3 MR. TAYLOR: Are you speaking about the
4 June 22, 1982 hearing?

5 MS. BERNOTT: Oh, we have it right here.

6 MR. TAYLOR: You might refer us to the
7 pertinent sections.

8 MR. GORDON: When Special Master
9 Schreiber arrives, you can ask him.

10 MR. TAYLOR: I hand you my copy.

11 MR. GORDON: Why not spend ten minutes
12 looking for the spot.

13 MR. LEVINE: If you are going to take the
14 position, Miss Bernott, that you are not going to
15 produce this witness again, unless ordered to do so
16 by The Master or the Judge, then I would like to ask
17 him some questions.

18 MS. BERNOTT: I would be happy to have
19 the witness answer questions for you as long as no
20 other defendant has questions. I think the routine
21 would be that they go first. It is my understanding
22 that they do. Why not just proceed, Mr. Levine.

23 MR. GORDON: I object to any examination
24 at this time.

25 MR. LEVINE: You may be right in your

14301

1 contention that you need not go ahead at this time
2 and Miss Bernott is wrong in her interpretation.
3 But if it so happens that there is a ruling later
4 that the lady is right and you are wrong, then my
5 rights to examine will have been prejudiced by my
6 going along with your game plan, so to speak. I am
7 going to go ahead and ask just very few questions at
8 this time.

9 MR. GORDON: Hang on.

10 MR. RIVKIN: As long as I don't lose any
11 rights, I have no objection.

12 MR. LEVINE: If anything, it means I am
13 going out of turn.

14 MS. BERNOTT: Introduce yourself to the
15 witness, please.

16 MR. MATTHEWS: Are we waiting for Miss
17 Neiman or not?

18 MS. BERNOTT: It is a quarter after.

19 CROSS EXAMINATION BY MR. LEVINE:

20 Q. I am one of the attorneys for the
21 Plaintiffs in the Agent Orange litigation. Good
22 afternoon.

23 A. Good afternoon.

24 Q. You talked about there being semi-annual
25 reviews between Fort Detrick and Edgewood personnel

14302

1 to review matter that was done in the preceding half
2 year and --

3 MR. SILBERMAN: Here comes the Special
4 Master.

5 MR. LEVINE: I am asking the question.
6 Let me finish the question.

7 MR. RIVKIN: And then break.

8 Q. Did any of those meetings that you
9 attended, sir, deal with the question of dioxin?

10 A. No.

11 Q. Did any meetings that you had in your
12 years of service that you described earlier with
13 your fellows at the Edgewood Arsenal ever concern an
14 evaluation by your department or related departments
15 at Edgewood into dioxin?

16 A. No.

17 MR. LEVINE: I am not going to ask
18 further questions at this time since we are favored
19 by a visit by The Master --

20 MS. BERNOTT: He just left.

21 MR. LEVINE: I will suspend any further
22 questioning until his Honor decides what we are to
23 do here. Of course, I give up no rights to further
24 examination.

25 MS. BERNOTT: I understand.

14303

1 MR. LEVINE: Since we are waiting, I can
2 ask another question.

3 Q. In your years at Edgewood in the capacity
4 as you described earlier, did it come to your
5 attention that any analytical or other type of work
6 referable to dioxin was undertaken at Edgewood?

7 A. Not to my knowledge.

8 Q. So if it was, you don't know it, right?

9 A. If it was.

10 Q. Did you ever have a conversation with any
11 of the people you mentioned today or any other
12 people not mentioned today who were employed at
13 Edgewood referable to the question of dioxin?

14 A. I don't know. I'm not certain.

15 Q. If you did, you don't recall, is that
16 correct?

17 A. I don't recall.

18 Q. Did you ever have any conversation with
19 any personnel that worked for Fort Detrick to the
20 effect that Fort Detrick people had done some
21 investigation of dioxin?

22 A. No.

23 MR. RIVKIN: The Master is here.

24 MR. LEVINE: I conclude at this time
25 because of The Master's appearance without giving up

14304

1 any rights to further questioning at a future time.

2 MS. BERNOTT: Thank you, Mr. Levine.

3 MR. GORDON: We are starting with the
4 conference now.

5 MS. BERNOTT: Could we have an off the
6 record little quickie here?

7 MR. RIVKIN: I'd rather not have anything
8 off the record.

9 MS. BERNOTT: Then perhaps the court
10 reporter can just resume. I'd like to keep Dr. Sim
11 here if I may, for a few minutes.

12 MS. BERNOTT: Why not sit down, Mr.
13 Schreiber.

14 SPECIAL MASTER SCHREIBER: Let me
15 introduce myself. My name is Sol Schreiber. I am a
16 Special Master. I am here to keep peace, if that be
17 possible. So I will referee the proceedings. Mr.
18 Gordon, do you wish to continue?

19 MR. GORDON: Thank you, your Honor.

20 BY MR. GORDON:

21 Q. I would like to begin with one of the
22 first questions we asked this morning to which I
23 didn't receive an answer to, I don't think. You
24 will correct me if I am wrong.

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25 Are you represented here today by legal

1 any rights to further questioning at a future time.

2 MS. BERNOTT: Thank you, Mr. Levine.

3 MR. GORDON: We are starting with the
4 conference now.

5 MS. BERNOTT: Could we have an off the
6 record little quickie here?

7 MR. RIVKIN: I'd rather not have anything
8 off the record.

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10 reporter can just resume. I'd like to keep Dr. Sim
11 here if I may, for a few minutes.

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13 Schreiber.

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15 introduce myself. My name is Sol Schreiber. I am a
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17 possible. So I will referee the proceedings. Mr.
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19 MR. GORDON: Thank you, your Honor.

20 BY MR. GORDON:

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22 first questions we asked this morning to which I
23 didn't receive an answer to, I don't think. You
24 will correct me if I am wrong.

25 Are you represented here today by legal

14306

1 counsel?

2 MS. BERNOTT: Direction not to answer.

3 MR. GORDON: On what ground?

4 MS. BERNOTT: On the ground of
5 attorney-client privilege and other privileges.

6 SPECIAL MASTER SCHREIBER: I think I sort
7 of made it clear that unless the witness
8 specifically advises that Government counsel is
9 appearing as his counsel, the witness may consult
10 with Government counsel but I don't see any reason
11 why we have to at this stage get into a technical
12 definition.

13 What is the purpose of the question, Mr.
14 Gordon?

15 MR. GORDON: To determine whether there
16 is any applicability of attorney-client privilege in
17 her discussions with Dr. Sim.

18 MR. RIVKIN: The same ground as -- 14307

19 MS. BERNOTT: It also seeks a legal
20 conclusion. The witness is entitled to legal advice
21 on how to answer a legal question. I would be happy
22 to answer the legal question if the Court is
23 interested in knowing what it is, what my answer is.

24 MR. GORDON: We asked the same question
25 of Dr. Jandorf yesterday and he answered "no." 14308

1 counsel?

2 MS. BERNOTT: Direction not to answer.

3 MR. GORDON: On what ground?

4 MS. BERNOTT: On the ground of
5 attorney-client privilege and other privileges.

6 SPECIAL MASTER SCHREIBER: I think I sort
7 of made it clear that unless the witness
8 specifically advises that Government counsel is
9 appearing as his counsel, the witness may consult
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21 on how to answer a legal question. I would be happy
22 to answer the legal question if the Court is
23 interested in knowing what it is, what my answer is.

24 MR. GORDON: We asked the same question
25 of Dr. Jandorf yesterday and he answered "no."

1 any rights to further questioning at a future time.

2 MS. BERNOTT: Thank you, Mr. Levine.

3 MR. GORDON: We are starting with the
4 conference now.

5 MS. BERNOTT: Could we have an off the
6 record little quickie here?

7 MR. RLYKIN: I'd rather not have anything
8 off the record.

9 MS. BERNOTT: Then perhaps the court
10 reporter can just resume. I'd like to keep Dr. Sim
11 here if I may, for a few minutes.

12 MS. BERNOTT: Why not sit down, Mr.
13 Schreiber.

14 SPECIAL MASTER SCHREIBER: Let me
15 introduce myself. My name is Sol Schreiber. I am a
16 Special Master. I am here to keep peace, if that be
17 possible. So I will referee the proceedings. Mr.
18 Gordon, do you wish to continue?

19 MR. GORDON: Thank you, your Honor.

20 BY MR. GORDON:

21 Q. I would like to begin with one of the
22 first questions we asked this morning to which I
23 didn't receive an answer to, I don't think. You
24 will correct me if I am wrong.

14310

25 Are you represented here today by legal

1 counsel?

2 MS. BERNOTT: Direction not to answer.

3 MR. GORDON: On what ground?

4 MS. BERNOTT: On the ground of
5 attorney-client privilege and other privileges.

6 SPECIAL MASTER SCHREIBER: I think I sort
7 of made it clear that unless the witness
8 specifically advises that Government counsel is
9 appearing as his counsel, the witness may consult
10 with Government counsel but I don't see any reason
11 why we have to at this stage get into a technical
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16 is any applicability of attorney-client privilege in
17 her discussions with Dr. Sim.

18 MR. RIVKIN: The same ground as --

19 MS. BERNOTT: It also seeks a legal
20 conclusion. The witness is entitled to legal advice
21 on how to answer a legal question. I would be happy
22 to answer the legal question if the Court is
23 interested in knowing what it is, what my answer is.

24 MR. GORDON: We asked the same question
25 of Dr. Jandorf yesterday and he answered "no."

1 When I asked Miss Bernott about that, she
2 simply referred us to her appearance on the record.
3 Her appearances is listed for the United States and
4 not for Dr. Jandorf. She stood on that appearance.

5 SPECIAL MASTER SCHREIBER: I am assuming
6 that Miss Bernott represents the United States
7 Government in this proceeding and I am assuming that
8 because of some of the sensitive nature of the
9 issues that may be involved, the Government may have
10 an objection where the witness doesn't have an
11 objection.

12 Rather than try to answer the unanswerable
13 at this stage, why don't we proceed and I will rule
14 on specific objections on attorney-client as they go
15 along. Although it is worthy of briefing and I will
16 accept any briefs submitted by the parties on the
17 matter.

18 MR. GORDON: We will submit a brief.

19 Q. Dr. Sim, did you meet with Miss Bernott
20 or anyone else in preparation for your examination
21 here today?

22 MS. BERNOTT: You could answer the
23 question.

14312

24 A. Yes.

25 Q. When did you meet with Miss Bernott?

1 A. This morning.

2 Q. For how long?

3 A. 40 minutes.

4 Q. Did she show you any documents this
5 morning?

6 A. No.

7 Q. What did you talk about this morning?

8 MS. BERNOTT: Direction not to answer.

9 MR. LEVINE: That's objected to, your
10 Honor.

11 MR. RIVKIN: May I be heard on the
12 argument, sir?

13 SPECIAL MASTER SCHREIBER: No. I think
14 the witness can give a general answer, a general
15 description of all this talk but no need to go into
16 specifics as such at this stage.

17 A. In essence, what I said is stated the facts as
18 you know them. That's it.

19 Q. Did she mention Dr. Hoffman during your
20 meeting this morning?

21 A. No.

22 MS. BERNOTT: Direction not to answer. I
23 will direct not to answer all these questions, your
24 Honor. I take exception to the ruling. 14313

25 SPECIAL MASTER SCHREIBER: Your objection

1 is noted. I think we have laid down the ground rule
2 that the witness may be asked if he saw any papers
3 or he spoke to it, but it is a general question, and
4 further specificity is not required unless there be
5 some basis for continuing the impeachment of the
6 witness.

7 MS. BERNOTT: Thank you.

8 SPECIAL MASTER SCHREIBER: Are you going
9 to thank me when I disagree with you?

10 MS. BERNOTT: I think that's an
11 acceptable disagreement.

12 Q. Did Miss Bernott mention any
13 considerations of state secrecy that would be
14 applicable today during your deposition?

15 A. No.

16 Q. Did she talk about your work at Edgewood?

17 A. About my work?

18 Q. Yes.

19 A. No.

20 Q. Did she talk about the work of anyone
21 else at Edgewood?

22 A. No.

23 SPECIAL MASTER SCHREIBER: I think we
24 have gone far enough, Mr. Gordon.

25 MS. BERNOTT: Thank you, your Honor.

14314

1 SPECIAL MASTER SCHREIBER: Miss Bernott,
2 I wish to advise you and all counsel in following
3 the tradition of Judge Weinfeld of the Southern
4 District Court, that the Master should not be
5 thanked either way. Let's just dispense with thanks.
6 It looks funny on the record.

7 MS. BERNOTT: No comment.

8 SPECIAL MASTER SCHREIBER: I prefer that.
9 Next question.

10 Q. Dr. Sim, I'd like to return to the
11 subject of dioxin, which is where we left off this
12 morning.

13 When did you first hear of dioxin?

14 MR. LEVINE: Asked and answered.

15 SPECIAL MASTER SCHREIBER: That's going
16 to be hard, counsel. I realize that unless we have
17 to get the transcript, there is going to be some
18 repetition in order to move it along.

19 MR. LEVINE: I will withdraw that.

20 SPECIAL MASTER SCHREIBER: It shouldn't
21 be blow by blow account of the morning proceeding.

22 A. I couldn't tell you the date precisely.

23 Q. What would be your best estimate of the
24 date?

25 A. Some time in the sixties, but I don't know.

14315

1 Q. Were you still serving as Chief of the
2 Clinical Research Division at the time that you
3 first heard about dioxin?

4 A. I'm not certain whether I was Deputy Director
5 or just Chief of the Clinical Research Division. It
6 doesn't really make much difference since I was both.

7 Q. How did you come to hear about dioxin?

8 A. I don't remember specifically. However, there
9 were -- you are talking about prior to 1970?

10 Q. Yes. Let me ask you, have you heard of
11 dioxin prior to 1970?

12 A. Yes, I have. I had no interest in it
13 whatsoever. As far as we were concerned in Medical,
14 all I had heard is that the material was toxic.

15 Q. Who did you hear that the material was
16 toxic from?

17 A. Probably several people.

18 Q. Who were those persons?

19 A. It might have been Fritz Hoffman --

20 MR. LEVINE: Objection to that. It might
21 have been, your Honor.

22 SPECIAL MASTER SCHREIBER: It is a
23 probability on the part of the doctor.

24 A. It might have been Dr. Jandorf.

14316

25 Q. Who else?

1 A. It might have been Dr. Witten.

2 Q. Do you recall ever having any discussion
3 with Dr. Hoffman concerning dioxin?

4 A. Not directly as an individual, no.

5 Q. Do you recall ever seeing any documents
6 prepared by Dr. Hoffman concerning dioxin?

7 A. If I did, I don't remember them. They may
8 exist.

9 Q. What is the basis for your belief that
10 you may have had discussions with Dr. Hoffman
11 concerning dioxin?

12 A. I didn't say that.

13 MR. LEVINE: May I interrupt for a moment.
14 Will someone review for me as to who he spoke to --

15 SPECIAL MASTER SCHREIBER: Let the
16 reporter read it back.

17 MR. KROHLEY: Hoffman, Jandorf and --

18 MR. RIVKIN: Thank you.

19 MR. LEVINE: I don't appreciate that.

20 (Read by the reporter)

21 MR. GORDON: Repeat the last question.

22 SPECIAL MASTER SCHREIBER: We don't need
23 the horseplay.

24 Q. What did you just testify to concerning
25 dioxin and Dr. Hoffman?

14317

1 A. I testified that I may have talked to Dr.
2 Hoffman, or he may have talked to me about it. It
3 also might have been Dr. Witten. It might have been
4 Dr. Jandorf. I couldn't tell you who it was out of
5 the three. It could have been all three of them.
6 Since they are all three friends of mine, since I
7 saw them often.

8 Q. Are you aware of any involvement that Dr.
9 Hoffman had with dioxin?

10 A. I don't know that he had any involvement.
11 Please define the word "involvement". I don't know
12 what you mean by "involvement".

13 Q. Are you aware whether Dr. Hoffman had any
14 knowledge concerning dioxin?

15 A. I'm aware that he probably did, yes.

16 MR. LEVINE: Note my objection, please.

17 Q. Do you recall meeting with me in March of
18 this year?

19 A. Yes.

20 Q. Do you recall telling me that Hoffman
21 mentioned dioxin on a trip --

14318

22 MR. LEVINE: Objection.

23 SPECIAL MASTER SCHREIBER: Counsel, he
24 must be permitted to ask the question. Then I will
25 hear your objection. The doctor will not answer

1 until I rule on the objection. Go ahead.

2 Q. Do you recall telling me during that
3 meeting that Dr. Hoffman had mentioned dioxin in a
4 trip report that he had prepared after a visit to
5 Germany?

6 MR. LEVINE: Objected to.

7 SPECIAL MASTER SCHREIBER: You may answer
8 that, if you can.

9 A. I remember that I told you that I thought
10 Hoffman had mentioned this, and that he had written
11 a trip report, but I didn't know where it was unless
12 it was in his files. I don't remember its contents.

13 Q. Do you recall telling me that in this
14 trip report Dr. Hoffman recounted a story of a
15 German plant in which occupational exposure to
16 dioxin had caused chloracne and a few fatalities?

17 MR. LEVINE: Objected to.

18 SPECIAL MASTER SCHREIBER: Objection
19 overruled.

20 A. Yes, and also other compounds.

21 Q. What were those other compounds.

22 A. Multiple compounds that he ran across in
23 Germany.

14319

24 Q. When did you first become aware of this
25 trip report that you referred to?

1 A. I cannot tell you the date.

2 Q. Did you ever see this trip report?

3 A. I don't know. If I did, my signature would be
4 on it someplace. But I don't remember.

5 SPECIAL MASTER SCHREIBER: Certain
6 reports require readers to sign them, is that
7 correct?

8 THE WITNESS: Yes.

9 Q. Did you ever hear of a trip report
10 prepared by Dr. Hoffman concerning dioxin?

11 A. Except you reminded me of it. I can't say that
12 I could have told you that he wrote it or whether
13 Dr. Witten wrote it or whether Dr. Jandorf. From
14 the conversation of the two men, I don't know who
15 had written the thing. I can't tell you who wrote
16 it.

17 Q. I believe you did just testify --

18 SPECIAL MASTER SCHREIBER: That's
19 argumentative, counsel. Rephrase the question.

20 Q. Did you tell me at our meeting in March
21 that Dr. Hoffman had prepared a trip report after a
22 visit to Germany?

23 A. I said --

14230

24 SPECIAL MASTER SCHREIBER: I think the
25 witness answered that as much as he can based upon

1 his recollection. I think there is enough in the
2 record at this stage. Off the record.

3 (Discussion held off the record)

4 SPECIAL MASTER SCHREIBER: Let's go on
5 the record and ask the question.

6 MS. BERNOTT: The trip report in its
7 entirety consists of more than one page. It is
8 classified and it remains classified as secret. The
9 material that relates to dioxin I have been advised
10 has been extracted in its entirety, contiguous
11 entirety from the report, and it has been released.
12 It has been approved for declassification and my
13 production of it to the parties -- I promptly
14 produced it to the parties and you are holding a
15 copy of it. As I understand it, and the parties
16 have asked a number of questions regarding this
17 document which I hope to have answers to very soon --
18 this is a retyped contiguous excerpt, retyped
19 because the original was difficult to read. The
20 title has been inserted for guidance. The three
21 dots data deletion which appears to be a source of
22 information which remains classified, and cannot be
23 addressed by the witness if he knows.

24 The notes in the lower right hand corner
25 are mine.

1 SPECIAL MASTER SCHREIBER: Classification
2 is a State Secret classification?

3 MS. BERNOTT: At present this is not
4 classified. It is unclassified.

5 SPECIAL MASTER SCHREIBER: What is the
6 basis for withholding the remainder of the document?

7 MS. BERNOTT: It is a State Secret
8 classification.

9 SPECIAL MASTER SCHREIBER: And who is the
10 party who has undertaken to advise the Court that
11 what has been extracted from the document, which is
12 a State Secret document, is all the information
13 dealing with dioxin?

14 MS. BERNOTT: The question has been posed
15 to me whether I have first hand knowledge of that or
16 second hand knowledge. I have advised the parties
17 that I am relying on information given me by the
18 Army. If for evidentiary purposes something more
19 than that is required, I'm sure it can be arranged.
20 But my understanding is that the people who have
21 done this work are the declassification officials of
22 the Department of the Army at the Pentagon.

23 MR. MATTHEWS: Can we have the names of
24 the people who made the representations to Miss
25 Bernott?

14322

1 SPECIAL MASTER SCHREIBER: No. I think,
2 counsel, before we get to that, what we need, at
3 least at this stage, before we get to the other
4 issue, is an affidavit from the party who made the
5 extraction or who performed the extraction who can
6 verify that this is so; that the one page contains
7 all the information dealing with dioxin, and that it
8 is a national security State Secret document. Then
9 we are slowly or fast, depending upon how you look
10 at it, approaching the area on how we are going to
11 deal with all these issues.

12 MR.RIVKIN: Sir, may I have a word? I
13 will come around. We are being blocked by
14 vegetation.

15 MR. KROHLEY: Thanks, Lenny.

16 SPECIAL MASTER SCHREIBER: I was doing
17 that intentionally. All right, Mr. Rivkin.

18 MR.RIVKIN: I take exception to the
19 affidavit coming from somebody in the Army or
20 somebody on the Declassification Board and
21 respectfully submit it comes from the Secretary of
22 the Army or maybe his immediate Deputy. 14323

23 SPECIAL MASTER SCHREIBER: Counsel, I
24 have not ruled on the issue of national security.
25 What I have ruled upon is, first, I want to take up

1 the issue of whether we have an accurate
2 representation under oath that the material before
3 us now is the sole material dealing with dioxin. I
4 have not forgotten about the issue of national
5 security.

6 MR.RIVKIN: The only reason I bring that
7 up by way of that, is that that might be an
8 appropriate thing, respectfully, later, if we know
9 in fact that there is a privilege being claimed. As
10 of this date, we don't know that a privilege is
11 being claimed.

12 SPECIAL MASTER SCHREIBER: Counsel, I
13 think we have to take up the question on how we are
14 going to deal with dozens, if not hundreds or
15 thousands of documents which the Government may well
16 raise the issue. Everything points to that fact.
17 That doesn't seem like an extraordinary number when
18 you are dealing with millions of documents, but it
19 is still a number of major proportion. 14224

20 Unless we want the Defense Department and
21 the Secretary of the Air Force and the Army to do
22 nothing else but spend the next six months reviewing
23 documents, we really have to examine the issue and
24 come up with what might be an equitable solution. I
25 am not going to rule on it at this moment. I assure

1 you I am not walking away from the issue of State
2 Secret.

3 What I am suggesting, however, in order
4 to move forward on this one aspect, I would ask at
5 this stage for an affidavit of the person who
6 extracted it, advising the Court that the remainder
7 of the document that has been said to be of national
8 security nature, and this is a true and accurate
9 extract of the issue on dioxin within that report.
10 Then we go back and take up the entire report.

11 MR.RIVKIN: Okay.

12 MR. SILBERMAN: In connection with that
13 affidavit, could we ask that the original page be
14 submitted? The only reason it hasn't been submitted,
15 as I understand it, is that Miss Bernott says it is
16 difficult to read. If she wants to redact the
17 source which is now represented by the three dots, I
18 suppose we would accept that. But we would like to
19 see the original page of which this purports to be
20 of typewritten nature.

21 SPECIAL MASTER SCHREIBER: Why can't the
22 original page be photostated with the information
23 that is said to be of national security nature
24 blocked out?

14325

25 MS. BERNOTT: I know of no reason, your

1 Honor. It was strictly for convenience. As I said
2 this morning, that could be easily arranged.

3 SPECIAL MASTER SCHREIBER: At the caution
4 of counsel.

5 MR. RIVKIN: Then we still will have time
6 later to discuss the procedure?

7 SPECIAL MASTER SCHREIBER: Yes. That's
8 one of the major reasons for coming down.

9 MR. RIVKIN: The only other point I would
10 raise with regard to the particular document is that
11 it apparently was presented at a conference of
12 industrial hygienists and toxicologists. I have to
13 assume from the service. One of our burdens is to
14 prove notice. Yet the names of those people that
15 were there apparently has also been noted as State
16 Secret. I wonder if that could be mentioned in the
17 affidavit, that they are intentionally left out as
18 also being claimed to be State Secret, the names of
19 those present at the conference.

20 MR. SILBERMAN: Or give us the names.

21 MS. BERNOTT: I don't know what you are
22 referring to, Mr. Rivkin. Can you help me?

23 MR. RIVKIN: The paper starts, "At a
24 recent conference of industrial hygienists and
25 toxicologists, one of the speakers presented some

1 startling information regarding the toxicity of a
2 compound of the formula.

3 MS. BERNOTT: And you are interested to
4 know whether the identity of those people has begin
5 deleted.

6 MR. RIVKIN: I think the formula is TCDD.
7 Maybe they just overlooked names. If not, could
8 they mention in the affidavit that that also is
9 being claimed?

10 SPECIAL MASTER SCHREIBER: If there were
11 any names, then names should be presented or the
12 names should fall within a privilege.

13 MR. RIVKIN: Protected area. Thank
14 you, sir.

15 MR. GORDON: For your information, your
16 Honor, defendants have requested the cover page from
17 the memo that would disclose who received copies of
18 it. In other words, the distribution list.

19 SPECIAL MASTER SCHREIBER: All right.

20 MR. GORDON: Please mark as Sim Exhibit 2,
21 a one page excerpt produced by the Government this
22 morning which purports to be a re-type of a section
23 of the Hoffman trip report.

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24 (Exhibit Sim-2, marked for identification)

25 Q. Dr. Sim, have you reviewed Sim Exhibit 2?

1 A. Yes.

2 Q. Have you ever seen the information set
3 forth on that exhibit before?

4 A. I don't -- I'm not sure. The only thing that
5 would make me think that I might have is that
6 anything that was written in such a manner was not
7 very accurate, and mostly hearsay evidence, as far
8 as this was concerned.

9 MR. GORDON: I will move to strike the
10 answer to the extent it is not responsive.

11 MR. RIVKIN: He may have a law degree, Mr.
12 Gordon.

13 SPECIAL MASTER SCHREIBER: Please.

14 MS. BERNOTT: I would like to interpose a
15 comment on the record. I don't object to your
16 questions relating to the document that's just been
17 identified as Exhibit 2. However, I caution the
18 witness that he is directed not to answer your
19 questions in so far as they may include the
20 identification of the deleted apparent source of
21 information from the beginning of paragraph three.

22 Thank you.

23 Q. Dr. Sim, is it your testimony that you
24 may have seen this information before?

25 SPECIAL MASTER SCHREIBER: He already

14328

1 said that, counsel.

2 A. I said that.

3 Q. What is the basis for your belief that
4 you may have seen this information before?

5 A. The only basis that I have is that to read the
6 things as it is, it would stick out in anyone's mind.
7 Passing it on in a scarf, somebody chewing a rope, a
8 cow, binding a wheat sheaf sounds far fetched. That
9 would be the thing that strikes in my mind that I
10 might have seen the thing before. It is not medical
11 reporting as we understand it.

12 Q. Dr. Sim, do you recall any discussion at
13 Edgewood concerning a scarf that had been used by a
14 worker and passed on to a relative after his death?

15 A. No.

16 Q. Do you have any recollection of
17 discussions concerning what was often referred to as
18 the scarf incident?

19 A. No.

20 Q. Referring you to the title at the top of
21 this page, "report on trip to Europe."

22 A. Yes.

23 Q. In connection with Dr. Hoffman's duties
24 at Edgewood, did Dr. Hoffman make visits to Germany
25 periodically?

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1 A. And other places, I think.

2 Q. He did visit Germany periodically?

3 A. I don't know how many times he visited Germany.
4 You must remember, Dr. Hoffman was a Professor of
5 Chemistry at Wurzburg.

6 Q. When was he a Professor at University of
7 Wurzburg?

8 A. Until 1946.

9 Q. What did he do after 1946?

10 A. He came to the United States.

11 Q. When did Dr. Hoffman come to Edgewood?

12 A. I don't remember. I am not sure because I
13 wasn't there.

14 Q. What was the purpose of Dr. Hoffman's
15 visits to Germany and elsewhere?

16 A. I don't know.

17 MR. LEVINE: Objection.

18 SPECIAL MASTER SCHREIBER: Objection
19 sustained.

20 Q. Do you have a specific recollection of
21 any visit to Germany by Dr. Hoffman?

22 SPECIAL MASTER SCHREIBER: Come on,
23 counsel. You covered it pretty well. He already
24 admitted that Dr. Hoffman was in Germany. 14330

25 MR. GORDON: With all due respect, we are

1 going back over twenty years.

2 SPECIAL MASTER SCHREIBER: I know that.

3 MR. GORDON: I am doing my best to
4 refresh his recollection.

5 SPECIAL MASTER SCHREIBER: Unless the
6 witness was in supervisory control of Dr. Hoffman,
7 everything he knows is basically hearsay.

8 THE WITNESS: Which I was not in.

9 SPECIAL MASTER SCHREIBER: I assume not.
10 That's why I mentioned it.

11 MR. MATTHEWS: It is still probative at
12 a deposition. It is discovery.

13 SPECIAL MASTER SCHREIBER: There is a
14 limit as to how much inadmissible evidence is
15 admissible. I think the point is well made that the
16 witness, to the best of his recollection, believes
17 that Dr. Hoffman had been in Germany for a number --
18 had made a number of visits to Germany. He bases
19 his belief on the fact that Dr. Hoffman came from
20 Germany, was a professor in Germany, and as a
21 chemist, more than likely, would be going to
22 meetings in Germany after the war. Were there a
23 series of meetings in Germany after the war in which
24 chemists would normally go to.

25 THE WITNESS: Usually once a year, at

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1 least.

2 Q. Dr. Sim, referring you to the references
3 near the bottom of the page, there is a reference to
4 Kinnig and Schulz, Naturwissensch at Page 337.

5 Have you ever seen a reference to work by
6 Kimmig and Schulz before? I believe it is Kimmig
7 with two M's?

8 A. If I have, I don't really remember it.

9 MS. BERNOTT: Mark the record for me.

10 Q. Do you recall telling me at a meeting in
11 March that you were familiar with the work of Kimmig
12 and Schulz and believe you were first told about it
13 in the early 1960s by either Dr. Simmons or Dr.
14 Hoffman?

15 MR. LEVINE: Objected to

16 SPECIAL MASTER SCHREIBER: He is trying
17 to refresh the witness' recollection.

18 A. I remember talking to you about that but I am
19 still not sure at all that I was aware of it. I
20 certainly was not aware of the Naturwissensch
21 because I don't recall Germany very well, and it is
22 not a very accurate magazine for scientific reasons.

23 Q. Dr. Sim, when we discussed the work by
24 Kimmig and Schulz in March, was that the first time
25 you had ever heard of work by Kimmig and Schulz?

1 A. I probably heard of it before but I probably
2 wasn't aware of it.

3 Q. Do you recall when you may have heard of
4 it before?

5 A. No.

6 Q. Let me refer you to the article in front
7 of the Kimmig and Schulz article by Sandermann and
8 Stockmann and Carsten. Do you have any recollection
9 of having reviewed or heard of that article before?

10 A. No.

11 MR. GORDON: Please mark as Jandorf --
12 Sim Exhibit 3 -- Jandorf exhibit? I'm sorry.

13 SPECIAL MASTER SCHREIBER: You go right
14 ahead and your colleagues will correct you.

15 MR. GORDON: Entitled "Edgewood Arsenal
16 technical report, EATR 4210", entitled "The Search
17 For Toxic Chemical Agents, by Benjamin Witten",
18 dated November 1969.

19 MR. LEVINE: Didn't this go in yesterday?

20 MS. BERNOTT: Do you recall what number
21 it was?

22 SPECIAL MASTER SCHREIBER: I assume I
23 will be given the document and asked some questions.
24 At a future time we will sit down and renumber all
25 the exhibits, probably.

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1 MR. LEVINE: It was Jandorf 3.

2 SPECIAL MASTER SCHREIBER: There is a new
3 theory around that you can start a case off and have
4 exhibits running and never trip yourself. I never
5 saw it work. Let's not spend that much time on it.

6 (Exhibit Sim-3, marked for identification)

7 SPECIAL MASTER SCHREIBER: The witness
8 should be given a few minutes to review the document.
9 Are you going to ask him questions on it?

10 MR. GORDON: Yes, and I was going to give
11 him several minutes. To help you let me refer you
12 specifically to pages 205 and 308 of those excerpts,
13 the last two pages.

14 SPECIAL MASTER SCHREIBER: It is a
15 document which has a number of extracted pages.
16 They don't run consecutively, is that correct?

17 MR. GORDON: That's correct.

18 SPECIAL MASTER SCHREIBER: What happened
19 to pages 206 and 207?

20 MR. GORDON: It was still classified, is
21 that correct.

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22 MS. BERNOTT: What you have here are only
23 the pages from the Witten report that relate to the
24 subject matter of the subpoena. I think it may be
25 true that the remainder is also classified. I think

1 that's correct. Now I recollect that.

2 Q. Let me know when you have finished
3 reviewing it, Dr. Sim.

4 SPECIAL MASTER SCHREIBER: Mr. Gordon,
5 proceed.

6 Q. Dr. Sim, have you previously seen the
7 book by Dr. Witten entitled "The Search for Toxic
8 Chemical Agents", or portions of it?

9 A. This is part of a book?

10 Q. That is my understanding, part of a book
11 by Dr. Witten entitled "Search for Chemical
12 Agents."

13 A. I have seen part of it.

14 Q. Do you know which parts of the book you
15 saw?

16 A. No. I may even have a copy of it someplace.
17 It may be in the files.

18 Q. Do you know when you first saw a copy of
19 that book?

20 A. I couldn't tell you.

21 Q. Directing your attention to page 205. Do
22 you recall having seen that description of
23 tetrachlorodibenzodioxane?

24 A. Which page?

25 Q. Page 205.

1 A. I probably have seen it before, yes.

2 Q. Do you have any specific --

3 A. It looks exactly like this one.

4 SPECIAL MASTER SCHREIBER: Indicating
5 what?

6 MS. BERNOTT: Sim Exhibit 2.

7 A. Exactly like this one. In fact, it has
8 probably been taken out of it.

9 Q. Thank you.

10 Do you recall ever having seen page 205
11 before?

12 A. I don't remember.

13 Q. Referring you to page 308 of Sim Exhibit
14 3, and the references 468 through 474. Do you
15 recall having reviewed or heard about any of the
16 references listed there?

17 A. Well, I see Kimmig and Schulz on
18 Naturwissenschaften in there. Most of these were
19 written in German, as far as I know. People that
20 would have read these directly, if they read them,
21 were Dr. Witten, Dr. Jandorf or Dr. Hoffman. Since
22 two of them, at least, were originally German.

23 SPECIAL MASTER SCHREIBER: Which of the
24 two other than Hoffman?

25 THE WITNESS: Jandorf and Hoffman.

1 Q. Did Dr. Witten read German, also?

2 A. He read German, yes.

3 Q. I believe you testified earlier that you
4 may have heard about dioxin from Dr. Jandorf.

5 A. I may have.

6 Q. Did you have discussions with Dr. Jandorf
7 during the 1960s from time to time?

8 A. Yes, often.

9 Q. What was the subject of those discussions?

10 A. Always on agents or problems that we had.

11 Q. Were those informal discussions or did
12 you meet with him at various formal meetings?

13 A. Formal and informal.

14 Q. Where would the formal meetings take
15 place?

16 A. Either in my office or his office or in the
17 conference room with staff.

18 Q. Who from the staff were present?

19 A. Our associated staff mostly.

20 Q. Who was among your associated staff that
21 might have been in attendance at these meetings?

22 A. Kimura, McNamara, McClure, if he happened to be
23 there at that time.

24 Q. Who?

25 A. McClure, Owens might have been there,

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1 Christensen, Owens, a number of his chemists. I
2 couldn't tell you what their names are.

3 Q. Do you recall the names of anyone who is
4 among Witten's staff who might have been present at
5 one of these meetings?

6 A. Probably Tom Simmons. That would be the most
7 likely.

8 Q. Anyone else?

9 A. Sam Sass might have been there.

10 Q. Who was Joseph Wiles?

11 A. Joseph Wiles was a toxicologist who worked for
12 McNamara.

13 Q. Do you recall attending an oral lecture
14 or presentation given by Dr. Hoffman concerning
15 dioxin?

16 A. I don't, really.

17 Q. Upon returning from his various visits
18 abroad, did Dr. Hoffman deliver presentations
19 concerning the results of his trips?

20 A. I don't remember. I would say he probably did
21 once or twice, but I don't remember specifically.

22 MR. LEVINE: I move it be stricken, your
23 Honor.

24 SPECIAL MASTER SCHREIBER: It has no
25 evidentiary value one way or the other.

1 THE WITNESS: No.

2 Q. Have you heard of the term chloracne?

3 A. I'm a doctor. Of course I have heard of it.

4 Q. Briefly state your understanding of
5 chloracne.

6 A. I don't pretend to have an understanding. I
7 think you ought to ask that question of a
8 dermatologist or an allergist.

9 Q. What is chloracne?

10 A. My understanding is that it is an inflammation
11 my understanding is that it is an inflammation that
12 may be due to a halogenated compound on the skin of
13 an individual. It could happen in animals.

14 But I think you should ask an allergist
15 or a dermatologist.

16 SPECIAL MASTER SCHREIBER: Dr. Sim, I
17 think you just answer the question to the best of
18 your ability. Don't try to guess. We will get you
19 out of here as quickly as possible.

20 THE WITNESS: Good.

21 Q. Dr. Sim, when did you first hear of
22 chloracne?

23 A. I have no idea.

24 Q. Do you recall whether you ever heard of
25 chloracne in connection with dioxin?

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1 A. No.

2 Q. Are you aware of any health effects that
3 have been linked with dioxin?

4 A. Not from first hand experience.

5 Q. Have you heard from any source whatever
6 that there are certain health effects linked with
7 dioxin?

8 A. Purported to be as a result of the accident in
9 the plant in Italy, purported to be. That's
10 purported to be.

11 Q. Is that the Servesco incident that you
12 are referring to?

13 A. Yes.

14 Q. Prior to the Servesco incident were you
15 aware of any purported health effects arising from
16 dioxin?

17 A. Not unless I had read this and signed it.

18 MR. KROHLEY: Could the record indicate
19 what the witness was referring to?

20 MS. BERNOTT: Sim number 2.

21 MR. KROHLEY: Thank you.

22 SPECIAL MASTER SCHREIBER: If you had
23 read it, would you have signed it?

24 THE WITNESS: Usually some of these
25 documents of that nature we would sign. As division

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1 chiefs we would sign them.

2 SPECIAL MASTER SCHREIBER: Where would
3 the signature be?

4 THE WITNESS: Down at the bottom. There
5 would be a cover sheet or it would be on this sheet.
6 I just happen to make a habit most of the time of
7 signing anything or initialing anything that I had
8 read. This wasn't always true. Sometimes it was
9 required.

10 Q. Dr. Sim, are you familiar with the terms
11 2,4-D and 2,4,5-T?

12 A. Yes.

13 Q. What do you understand those terms to
14 refer to?

15 A. Materials that are used as herbicides.

16 Q. At any time were you aware that dioxin
17 may have been present in 2,4,5-T in small quantities?

18 MR. TAYLOR: Objection. Leading.

19 MR. LEVINE: He answered it.

20 A. My answer is no, I was not.

21 Q. Do you recall at any time being aware
22 that dioxin might have been present in
23 trichlorophenol?

24 MR. TAYLOR: Same objection.

25 A. No.

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1 SPECIAL MASTER SCHREIBER: Counsel, is
2 this your witness, by the way? Are you bound by
3 these answers?

4 MR. GORDON: I am doing my best, your
5 Honor.

6 SPECIAL MASTER SCHREIBER: I am not being
7 critical. I am just asking a question.

8 Q. Dr. Sim, do you recall telling me at our
9 meeting in March that in the early 1960s Edgewood
10 personnel were well aware of the presence of dioxin
11 in 2,4,5-T in minute quantities?

12 A. No.

13 MR. LEVINE: Note my objection.

14 SPECIAL MASTER SCHREIBER: Objection is
15 noted. All these issues are held in abeyance. Let
16 him ask the questions.

17 Q. Do you recall telling me that the
18 personnel at Edgewood were not concerned with this
19 contamination because the dioxin was present in such
20 small quantities?

21 MR. LEVINE: Note my objection, sir.

22 A. No.

23 Q. You don't recall stating that at all?

24 A. I may have stated it, but you are saying it in
25 the wrong way.

1 Q. How would you state it so that it would
2 be accurate?

3 A. Let me make it perfectly clear. A, we were not
4 aware that dioxin was in anything. That was number
5 one from a medical standpoint.

6 Two --

7 SPECIAL MASTER SCHREIBER: When you say
8 you were not aware it was in anything, what do you
9 mean by anything?

10 THE WITNESS: In any of the herbicides or
11 in anything else. We were not aware that it was as
12 a contaminant or whatever it was; that it was in
13 these compounds. It was only after the fact that we
14 learned that there was dioxin as contaminants.

15 Q. When did that after the fact --

16 A. After 1970.

17 Q. Do you recall telling me that at the time
18 Edgewood personnel were aware of 2,4,5-T you were
19 not concerned because that was a problem for Fort
20 Detrick?

21 MR. LEVINE: Note my objection.

22 SPECIAL MASTER SCHREIBER: I would
23 suggest to counsel that if he wants the question and
24 the answer to be admissible, it has to be rephrased
25 in a different way and not put your credibility or

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1 the witness' credibility at odds, so to speak, or at
2 each other's throat. The question could be
3 rephrased, do you recall having said in March, and
4 without putting yourself into it, Mr. Gordon.
5 Otherwise the questions will be objectionable as a
6 matter of course.

7 MR. GORDON: Thank for you your advice.

8 Q. Dr. Sim, do you recall stating in March
9 that --

10 SPECIAL MASTER SCHREIBER: March of what
11 year?

12 MR. GORDON: March of this year.

13 Q. -- that Edgewood personnel were aware,
14 in the early 1960s of the presence of dioxin in
15 2,4,5-T?

16 A. You know, this is getting very disturbing
17 because you are not phrasing your questions
18 correctly to me.

19 SPECIAL MASTER SCHREIBER: Doctor, if you
20 do not --

21 THE WITNESS: I would say I do not know. 14344

22 SPECIAL MASTER SCHREIBER: You can say
23 "no" and give an explanation. If you choose to give
24 an explanation, you may or may not.

25 Q. How would you rephrase the question so it

1 doesn't bother you?

2 SPECIAL MASTER SCHREIBER: No. I'm sure
3 the doctor is very happy being a doctor. We don't
4 want to make him a lawyer.

5 MS. BERNOTT: There is no question.

6 SPECIAL MASTER SCHREIBER: No question at
7 this moment.

8 Q. Dr. Sim, what do you recall stating about
9 knowledge of dioxin in 2,4,5-T in March of this year?

10 MR. LEVINE: May I have that read back.
11 I apologize.

12 SPECIAL MASTER SCHREIBER: The reporter
13 will read it back. The question is properly phrased
14 for an answer.

15 (read by the reporter)

16 A. The only thing I remember is that you asked me
17 have I ever heard of dioxin. I said yes. When you
18 got to be specific about when and where, then I got
19 rather vague because I didn't really remember an
20 exact date or who had told me about this. What you
21 effectively said is that dioxin was important. It
22 was never important in my mind because I was on the
23 medical side. I didn't see or hear of it. 14345

24 If it was talked about in chemical or
25 talked about in other things, that may have been

1 true. But I was not privy to the fact that this was
2 important, an important subject as far as Edgewood
3 was concerned.

4 Q. Dr. Sim, during the 1960s were you aware
5 that there was a herbicide program in operation in
6 Fort Detrick?

7 A. I was.

8 Q. Did you know who was in charge of that
9 program?

10 A. Yes, and I stated it.

11 Q. Who was that person?

12 A. Dr. Minarik.

13 Q. Dr. Sim, have you ever heard of a company
14 in Germany named Boehringer?

15 A. Yes. I know nothing about them, but I have
16 heard of them, probably mostly reenforced by you.

17 MR.RIVKIN: Do you have that, Mr.
18 Reporter? Could you read the answer.

19 SPECIAL MASTER SCHREIBER: He said,
20 "mostly referred to by you", meaning Mr. Gordon.

21 Q. Do you recall stating in May, Dr. Sim,
22 that you had known something of Boehringer in the
23 1960s but because you did not speak German on your
24 own trips to Germany, you did not visit --

25 SPECIAL MASTER SCHREIBER: Counsel,

1 what's the relevance? The witness has either a
2 failure of memory or doesn't know much about
3 Boehringer.

4 THE WITNESS: I don't.

5 MR. GORDON: I am trying to refresh his
6 recollection. Boehringer is a key company in the
7 investigation of dioxin. In fact, in the Kimmig and
8 Schulz literature prepared in investigation of a
9 chloracne outbreak in the --

10 SPECIAL MASTER SCHREIBER: In view of the
11 fact that the witness knows very little, you
12 certainly are entitled to ask him if he knows about
13 that specific involvement. But I don't think it
14 makes any sense to ask all the preliminary questions
15 unless there is a contradiction between what you say
16 he is going to testify today and what he may have
17 testified or he may have spoken of in March.

18 Q. Do you recall whether Dr. Hoffman or Dr.
19 Witten visited Boehringer in the 1960s?

20 A. I'm not sure, but they may have.

21 Q. Do you recall any mention of Boehringer
22 by either Dr. Witten or Dr. Hoffman at any time?

23 A. Since I never visited the German chemical
24 companies, those names are very familiar.

25 I.G. Farben or something like that, yes.

1 Q. Did you finish your answer?

2 A. Yes.

3 Q. Do you recall whether there was ever any
4 discussion at Edgewood concerning consideration of
5 dioxin as a potential chemical warfare agent?

6 A. I don't ever remember it being discussed. If
7 it ever made the program, it made it through
8 chemistry, and I'm not aware of whether it did or
9 not.

10 Q. Are you aware of any toxicological tests
11 on dioxin that were performed at Edgewood?

12 A. I thought I did but I don't know whether I did
13 or not.

14 Q. What did you believe?

15 A. I thought it might have been in the preliminary
16 screen of the initial screening search for all
17 compounds, and it may have been, but I don't
18 remember ever hearing of it because there were
19 thousands of compounds that went through that screen.
20 It certainly didn't go to a secondary screen or a
21 tertiary screen because by the time it got to the
22 medical screen I would have seen it.

23 Q. What is the basis for your belief that
24 dioxin may have been investigated at a preliminary
25 level for toxicity?

1 A. Every compound was. Every compound that
2 potentially had any known lethal or incapacitating
3 effect for a period of time was investigated on a
4 preliminary screen. Just like everything in the
5 pharmaceutical area.

6 MR. GORDON: Could we take a five minute
7 break?

8 SPECIAL MASTER SCHREIBER: No. How many
9 more minutes do you have? Do you want to consult
10 with your colleague?

11 MR. GORDON: We will not finish with this
12 witness.

13 SPECIAL MASTER SCHREIBER: I can't
14 imagine why. He has such a paucity of knowledge at
15 this point.

16 MR. GORDON: There are other things at
17 Edgewood I would like to examine him on.

18 SPECIAL MASTER SCHREIBER: Then continue,
19 counsel. Where the witness has a failure of memory
20 or never knew it, he certainly is not someone who at
21 this stage exhibits clear knowledge. There appear
22 to be a lot of other people, if they are living. I
23 am not sure.

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24 MR. GORDON: They are not. The witness
25 stated Dr. Hoffman is dead and Dr. Owens is dead and

1 Dr. Hoffman is dead.

2 SPECIAL MASTER SCHREIBER: Proceed.

3 MR. LEVINE: Perhaps we might have an
4 offer of proof by Mr. Gordon.

5 SPECIAL MASTER SCHREIBER: Why don't we
6 give the witness a few minutes to rest and we can
7 take up some other matters at this stage.

8 MR. LEVINE: May I be heard on that
9 briefly?

10 SPECIAL MASTER SCHREIBER: Off the record.

11 (Deposition recessed)

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C E R T I F I C A T E

I, HEYWOOD WAGA, a Certified Shorthand Reporter and Notary Public of the State of New Jersey, do hereby certify that prior to the commencement of the examination the witness and/or witnesses were sworn by me to testify the truth, the whole truth and nothing but the truth.

I do further certify that the foregoing is a true and accurate computer-aided transcript of the testimony as taken stenographically by and before me at the time, place and on the date hereinbefore set forth.

I do further certify that I am neither of counsel nor attorney for any party in this action and that I am not interested in the event nor outcome of this litigation.

Notary Public of the State of New York

My commission expires August 12, 1985.

Dated: _____

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DR VAN MURRAY SIM
MOYER V DOW

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N

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK
MDL No. 381

In re : Deposition of:
"AGENT ORANGE" : EDWARD A. METCALF
Product Liability Litigation :

TRANSCRIPT of testimony as taken by and before
HELEN DOHOGNE, a Certified Shorthand Reporter and
Notary Public of the State of New Jersey, at the
offices of ASHCRAFT & GEREL, 2000 L Street,
Washington, D.C., on Tuesday, October 5, 1982
commencing at 10:30 in the forenoon.

405 Northfield Avenue
West Orange, New Jersey 07052
(201) 731-9665

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A P P E A R A N C E S:

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For the Plaintiffs

ASHCRAFT & GEREL
BY: ROBERT A. TAYLOR, ESQ.
For the Plaintiffs

RIVKIN, LEFF, SHERMAN & RADLER
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CADWALADER, WICKERSHAM & TAFT
BY: MICHAEL M. GORDON, ESQ.
For Diamond Shamrock

KELLEY, DRYE & WARREN
BY: PATRICIA C. TUOHY, ESQ.
For Hercules, Inc.

TOWNLEY & UPDIKE
BY: JAMES E. TYRRELL, JR., ESQ.
For Monsanto Company

CLARK, GAGLIARDI & MILLER
BY: JOHN BURKE, ESQ.
For T.H. Agriculture & Nutrition Co., Inc.

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PICILLO & ROSENBAUM
BY: ALAN G. WHITE, ESQ.
For Thompson Chemicals

ARTHUR, DRY & KALISH
BY: MARILYN NEIMAN, ESQ.
For Uniroyal, Inc.

ARVIN MASKIN, ESQ.
GRETCHEN WITT, ESQ.
Department of Justice
For the United States of America

ALSO PRESENT:

Honorable Sol Schreiber
Special Master

MARTHA A. LUTHER, Paralegal
Ashcraft & Gerel

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I N D E X

<u>WITNESS</u>	<u>DIRECT</u>	<u>CROSS</u>	<u>RECROSS</u>
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EDWARD A. METCALF

Mr. Gordon

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Mr. White

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Mr. Tyrrell

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Mr. Burke

92

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E X H I B I T S

<u>NUMBER</u>	<u>DESCRIPTION</u>	<u>IDENTIFICATION</u>
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Metcalf-1	Biographic Sketch of Dr. Edward A. Metcalf	7
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Metcalf-2	Memorandum from Dr. Jandorf dated 6/5/60	10
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Metcalf-3	Document dated 8/13/63	30
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Metcalf-4	Three page document entitled "Unlisted Drugs List	36
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Metcalf-5	One page document entitled "Commercial Source Sample Record Log	47
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Metcalf-6	Two pages of Dioxin Compound Diagram	56
-----------	---	----

Metcalf-7A	Letter dated 5/19/64	63
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Metcalf-7B	Letter dated 5/28/64	63
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Metcalf-7C	Letter dated 7/18/64	63
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Metcalf-7D	Letter dated 7/21/64	63
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E X H I B I T S
(Continued)

<u>NUMBER</u>	<u>DESCRIPTION</u>	<u>IDENTIFICATION</u>
Metcalf-8	Redated version of trip report to Europe	65
Metcalf-9	Letter dated 9/17/79 and memo dated 8/28/68	78
Metcalf-10	Commercial Source Sample Record Log	102

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1 E D W A R D A. M E T C A L F, 906 Wellington
2 Road, Baltimore, Maryland, sworn:

3 DIRECT EXAMINATION BY MR. GORDON:

4 Q. Would you please state your full name and
5 address for the reporter?

6 A. Edward A. Metcalf, 906 Wellington Road,
7 Baltimore, Maryland, 21212.

8 Q. Dr. Metcalf, are you represented at this
9 deposition by legal counsel?

10 A. No.

11 Q. Dr. Metcalf, would you please let me know
12 if at any time you need to have a question clarified
13 or if you'd like to expand upon an answer already
14 given during the course of this deposition; is that
15 understood?

16 A. Understood.

17 Q. In addition, just before the deposition,
18 you advised me that because of your medical
19 condition, it may be necessary for you to take a
20 break, and as I stated to you, please feel free to
21 let us know if at any time you would like to take a
22 recess for whatever reason.

23 A. That I understand.

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24 Q. Thank you.

25 Dr. Metcalf, did you meet with any

1 government lawyer in preparation for your
2 examination today?

3 A. Yes, Ms. Gretchen Witt.

4 Q. When did you meet with Ms. Witt?

5 A. This morning at nine o'clock.

6 Q. Were you shown or did you receive any
7 documents from Ms. Witt this morning?

8 A. No.

9 MS. WITT: We didn't receive any
10 documents from Dr. Metcalf.

11 MR. GORDON: Okay. Off the record.

12 (There is a discussion off the record)

13 Q. Did you review any written materials in
14 preparation for your deposition here today?

15 A. No.

16 Q. Aside from Ms. Witt, did you meet or
17 speak with anyone else in connection with your
18 deposition?

19 A. No, only as far as making arrangements and
20 whether I would be willing to or not and that was
21 Barbara, I think --

22 Q. Rivkin?

23 A. Rivkin, yes.

24 Q. Thank you.

25 Did you bring a copy of a curriculum

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1 vitae or biographical sketch with you today?

2 A. I brought a resume that is not completely up to
3 date.

4 MR. GORDON: Miss Reporter, would you
5 please mark as Metcalf Exhibit 1 a document dated
6 October 1971 entitled biographic sketch, Dr. Edward
7 A. Metcalf.

8 (Metcalf-1 is marked for Identification)

9 Q. Dr. Metcalf, showing you what has been
10 marked as Metcalf Exhibit 1, is this a copy of the
11 resume that you brought with you today?

12 A. As nearly as I can tell.

13 Q. I can tell you that it is, in fact, the
14 resume you brought with you this morning and there
15 have been no changes made.

16 Dr. Metcalf, does Exhibit 1 accurately
17 set forth your educational and employment background?

18 A. On the basis of a quick review, it looks to be
19 accurate.

20 Q. What is your -- strike that.

21 Are you currently employed?

22 A. No, I'm retired.

23 Q. And did you retire in 1971?

24 A. No.

25 Q. When did you retire?

1 A. 1974, about mid year.

2 Q. What was your job title at the time of
3 your retirement?

4 A. Assistant to the director of research for
5 chemical research -- for Edgewood Arsenal. That was
6 assistant to the director of research, Edgewood
7 Arsenal.

8 Q. How long did you hold that position?

9 A. From 1971 until I retired.

10 Q. Which was in 1974?

11 A. Yes, I retired in 1974.

12 Q. Who was the director of research for
13 Edgewood during 1971 to 1974?

14 A. Dr. B.L. Harris. I think those initials are
15 correct.

16 Q. What were your duties and
17 responsibilities as assistant to Dr. Harris?

18 A. I was in charge of Blue Sky and basic research.
19 This had to do with awarding funds to various
20 research groups in the Edgewood complex, watching
21 for the funding, making sure the reports were in on
22 time, selecting those which seem to be worthwhile in
23 terms of the funding available. This, of course,
24 all with the approval of the director.

25 Q. You've referred to Blue Sky. What is

1 Blue Sky?

2 A. Blue Sky is an idea that should be looked at
3 that has no immediate currency or usefulness, but if
4 the idea is worked out, it may have some use to the
5 Chemical Corps some time down the road.

6 Q. Dr. Metcalf, during your tenure as
7 assistant to Dr. Harris, do you have any
8 recollection of any discussions that occurred
9 concerning either 2,3,7,8
10 tetrachlorodibenzo-p-dioxin or various herbicides
11 containing 2,4,5-T such as Agent Orange?

12 MR. KAVENAGH: Object. There's no
13 foundation for that.

14 Q. You may answer the question. For
15 clarification, when Mr. Kavenagh makes an objection,
16 that is for purposes of the record and you can
17 essentially ignore it in making your answer. Would
18 you like to have the question repeated?

19 A. To the best of my recollection, these compounds,
20 I have no recollection of them.

21 MR. GORDON: Miss Reporter, would you
22 please mark as Metcalf Exhibit 2 a memorandum from
23 Dr. Jandorf to the director of Research Laboratories
24 dated June 5, 1970 and an attached routing slips 1436
25 from Dr. Jandorf to Dr. McNamara dated June 10, 1970.

1 (Exhibit Metcalf-2 is marked for
2 Identification)

3 Q. Dr. Metcalf, would you please review
4 Exhibit 2 and tell me whether you've ever seen that
5 document before?

6 A. Not to the best of my knowledge have I seen
7 this document.

8 Q. Does this document refresh your
9 recollection in any way as to any discussions that
10 you may have had concerning either 2,3,7,8
11 tetrachlorodibenzo-p-dioxin or 2,4,5-T?

12 A. No.

13 Q. How long did Dr. Harris serve as director
14 of Research Laboratories?

15 A. A fair number of years, but I can't give you
16 any dates. It was before, naturally, I became an
17 assistant to him and he retired, I understand, I
18 don't know this for a fact, but I understand that he
19 retired here a year or two ago, but --

20 Q. Was Dr. Harris director of Research
21 Laboratories at the time of his retirement?

22 A. I don't know from my own knowledge, but I
23 understood that he was.

24 Q. Following your work as assistant to Dr.
25 Harris, have you had any other employment?

1 A. No.

2 Q. According to Exhibit 1, you began your
3 employment at Edgewood in 1950; is that correct?

4 A. Yes.

5 Q. And that was as a research chemist?

6 A. Yes.

7 Q. Could you describe for me the work that
8 you were involved in in a general sort of way as a
9 research chemist at Edgewood during 1950 to 1956?

10 A. I can't do much better than the sentences
11 describing that position on the biographic sketch.

12 Q. Did your duties include synthesizing
13 organic compounds?

14 A. Yes.

15 Q. Was there a name for the branch or
16 division that synthesized organic compounds at
17 Edgewood in the early 1950's?

18 A. Would you repeat that for me please.

19 Q. Certainly. Was there a name for the
20 branch or division which was engaged in synthesizing
21 organic compounds at Edgewood in the early 1950's?

22 A. Yes, there was a name but I couldn't tell you
23 what it was. 14363

24 Q. Do you recall who you reported to when
25 you were a research chemist?

1 A. The chief of that particular group -- at one
2 time it was a Dr. Faber. It seems to me that at
3 another time it was Dr. Witten.

4 Q. Was it Dr. Witten after Dr. Faber?

5 A. Yes, it must have been.

6 Q. Do you recall what either Dr. Faber's or
7 Dr. Witten's title was at that time?

8 A. They were chief of the name of the group that I
9 didn't recall.

10 Q. Do you recall the names of any of the
11 people that you worked with when you were a research
12 chemist?

13 A. There were a considerable number, both military
14 and civilian, but as far as names go, I have no
15 recollection.

16 Q. According to Exhibit 1, you were also
17 acting chief of the New Agents Branch from 1956 to
18 1957; is that correct?

19 A. As far as this resume goes, I couldn't have
20 given you the years without reference to the resume.

21 Q. But you do recall --

22 A. Yes, I was chief of that branch some period in
23 there for a short time.

24 Q. What was the function of the new agents
25 branch?

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1 A. To the best of my recollection, it had only one
2 responsibility and that was to synthesize compounds
3 that may have some potential as new agents.

4 Q. How did the new agents branch determine
5 which agents to synthesize?

6 A. To the best of my recollection, there were two
7 procedures, one, ideas generated farther up the line
8 that someone felt were worthwhile or ideas that were
9 generated in the branch.

10 Q. When you say ideas generated further up
11 the line, where was up the line?

12 A. On up to the director of the laboratories at
13 that time. There were various and sundry groups
14 that had responsibilities along these particular
15 lines and they would flow down through channels.
16 That's what I meant up the line.

17 Q. As to ideas that were generated in the
18 new agents branch, how did the new agents branch
19 come up with these ideas?

20 A. As I recall, it would be general perusal of the
21 literature and then checking with people who had
22 been -- that were farther up the line
23 organizationally to see whether anything like that
24 had been looked at before and a library search if
25 the idea seemed to warrant merit, a library search

1 to determine if anyone else had looked at them in
2 any way, shape or form.

3 Q. What types of literature were reviewed in
4 the new agents branch?

5 A. General scientific periodicals.

6 Q. Was there a library at Edgewood for these
7 periodicals?

8 A. Yes.

9 Q. Was there a name for that library?

10 A. It probably had a number of names but we just
11 referred to it as a library and was designated as
12 the Chemical Research Laboratory or something
13 approximating that at the time.

14 Q. The Chemical Research Laboratory Library?

15 A. Yes.

16 Q. You also mentioned that a library search
17 would be conducted. What did a library search
18 entail?

19 A. Well, just going on general background
20 knowledge, it would be a check through the
21 literature to see what was known about these
22 particular ideas or compounds to determine their
23 physiological properties if known; in other words,
24 just like any library research would be carried out
25 to find out what is known, what was the state of the

1 art, so to speak.

2 Q. Were these library searches carried out
3 by members of the New Agents Branch?

4 A. Yes.

5 Q. As acting chief of the New Agents Branch,
6 who did you report to?

7 A. I've already answered that question.

8 Q. My previous --

9 A. I mentioned the name of Faber and Witten as
10 being the chiefs of that branch.

11 Q. My previous question had addressed who
12 you had report to in the context of being research
13 chemist in 1950 to 1956. Now, as acting chief of
14 the New Agents Branch, did you also report to either
15 Dr. Faber or Dr. Witten?

16 A. To the best of my recollection.

17 Q. In 1956, you became chief of the Industry
18 Liaison Office; is that correct?

19 A. That's correct.

20 Q. When was the Industry Liaison Office
21 established?

22 A. I would say 1956.

23 Q. Were you the first chairman of the
24 Industry Liaison Office?

25 A. Yes.

1 Q. At the time the Industry Liaison Office
2 started in 1956, who else worked in the Industry
3 Liaison Office?

4 A. When it started, I had a secretary period.

5 Q. Incidentally, Dr. Metcalf, if I refer to
6 the Industry Liaison Office as the ILO, will you
7 understand that I'm referring to the Industry
8 Liaison Office?

9 A. Yes.

10 Q. Between 1956 and 1966, were additional
11 employees added to the ILO?

12 A. Yes.

13 Q. Could you tell me who those employees
14 were?

15 A. Only two or three names come to mind, Captain
16 William Nelson, Alan Greenberg -- no, I'm sorry, not
17 Greenberg, scratch that. Alan Gelberg, Charles
18 Granito. There were several other military and
19 numerous clerical people. Those are the only names
20 that I come up with.

21 Q. Did you know a Mr. David Renard?

22 A. Yes. That was another one, David Renard and
23 that triggers another one, he had a close friend, I
24 do remember, Charles, with a question mark, Holly.

25 Q. Did you know a Richard A. Kreiger?

1 A. Richard A. Kreiger?

2 I don't recall that name.

3 Q. During what time period did Captain
4 Nelson work in the ILO?

5 A. Early in the game. He was the first one that
6 came with me to help out in the program but how long
7 he was with it, I don't recall.

8 Q. How about Alan Gelberg?

9 A. I can't give you any dates. All I remember, he
10 was the first scientific civilian or civilian
11 scientist that came to work with me.

12 Q. Was Mr. Granito a civilian scientist also?

13 A. Yes.

14 Q. When did Mr. Granito come to the ILO?

15 A. Sometime later.

16 Q. How about David Renard?

17 A. I believe in the scheme of things he appeared
18 later than the last one that I mentioned.

19 Q. Later than Mr. Granito?

20 A. Yes.

21 Q. How about Charles Holly?

22 A. He was still later yet.

23 Q. At the time you left the ILO in 1966, do
24 you recall whether any of those gentlemen were still
25 at the ILO?

1 A. I think that Holly, Renard and possibly Granito
2 were there when I left.

3 Q. Did you have a successor as chief of the
4 ILO?

5 A. Yes.

6 Q. Who was your successor?

7 A. Ed Schwanke. I don't recall whether he had a
8 PhD or not.

9 Q. Is the ILO still in existence, do you
10 know?

11 A. Not from my own knowledge.

12 Q. Have you heard that the ILO is still in
13 existence?

14 A. I have heard that it went downhill rather
15 rapidly.

16 Q. Have you heard whether the office itself
17 was ever closed down at any time?

18 A. I don't know --

19 MR. KAVENAGH: He already answered that,
20 by the way, twice now.

21 MR. GORDON: I didn't hear that answer.

22 MR. KAVENAGH: "No, I don't remember."

23 MR. GORDON: The question is whether he
24 had heard whether the office had been closed down.

25 A. I believe that sometime during the period when

1 I was in -- when I served as assistant to the
2 director of research. I understood at that time
3 that they were downplaying this idea which would
4 lead me to believe that eventually it was either
5 given a very low category or the office was closed,
6 but I don't know positively.

7 Q. Dr. Metcalf, what were the functions and
8 responsibilities of the ILO during the period 1955
9 to 1966?

10 A. Well, the idea there was to contact industrial
11 and academic laboratories throughout the U.S. to see
12 what kinds of proprietary research was being carried
13 on that would be of assistance to the chemical world
14 and to establish -- well, understanding that the
15 kind of research that we were talking about was
16 probably proprietary. It was to establish a program,
17 in-house program to insure the safe keeping of that
18 information and to let these various contacts know
19 about any information that the Chemical Corps
20 developed on the ideas that the companies or
21 universities had presented. This also included
22 obtaining samples from time to time and sharing the
23 in-house testing of those samples with the donor.

24 Q. What types of compounds was the ILO
25 interested from in receiving from industry?

1 A. They were -- we were interested in receiving
2 not all compounds that industry was willing to
3 furnish, but only selected compounds that would,
4 perhaps, provide a lead toward a new agent, provide
5 a new idea, say, for an analytical technique or to
6 provide assistance with any ongoing research program.

7 Q. When you refer to a new agent, are you
8 referring to a lethal chemical warfare agent?

9 MR. TAYLOR: Object to the form.

10 Q. I'll rephrase it.

11 When you refer to new agent, what type of
12 agent are you referring to?

13 A. I think by the definition that -- at least the
14 way I would interpret it, would be any compound that
15 would have some use to the Chemical Corps.

16 Q. What types of compounds would be of use
17 to the Chemical Corps in the early to mid 1960's?

18 MR. KAVENAGH: That's a very, very vague
19 question. Would you rephrase that and be more
20 specific.

21 Q. Dr. Metcalf, can you answer the question
22 the way it's been asked?

23 A. I would prefer a more specific type question.

24 Q. Okay, fine.

25 Did you have discussions with industry

1 concerning the activities of the ILO?

2 A. Yes.

3 Q. And during those discussions, did you
4 describe the function of the ILO?

5 A. Yes.

6 Q. During those discussions, did you
7 describe the types of compounds that the ILO was
8 interested in?

9 A. Only in very general terms.

10 Q. Fine. Would you tell me the general
11 terms in which you described those compounds that
12 you were interested in to industry?

13 A. In 1956 to 1966, I could have spent the next
14 hour telling you about this, but right now, anything
15 I would say would be a sheer guess and I don't think
16 I should guess.

17 Q. What did Edgewood plan to do with the
18 agents that it was looking for from industry?

19 MR. TAYLOR: Objection to a lack of
20 foundation. The doctor here wouldn't know what
21 Edgewood Arsenal did with those agents.

22 Q. You may answer the question.

23 A. Beg your pardon?

24 Q. You can answer the question.

25 A. Would you repeat the question?

1 MR. GORDON: Sure. Would you read the
2 question back please.

3 (The record is read)

4 A. In the first place, trying to recall the setup
5 as it was then, the Chemical Corps did not expect to
6 get any chemical agents directly from industry. It
7 was a matter of providing ideas and suggestions
8 through the Industrial Liaison Program. I'm sorry,
9 the Industrial Liaison Program is the program
10 conducted by the Industrial Liaison Office.

11 Q. Did the ILO receive chemical compounds
12 from industry?

13 A. Yes.

14 Q. When the ILO received a chemical compound
15 from industry, what did the ILO do with that
16 compound?

17 A. The compound was logged in and hand carried to
18 the group that had the major interest in the
19 evaluation of that compound.

20 Q. Which group was that?

21 A. It could have been any one of a number of
22 groups, depending on the type of compound. It may
23 have been several groups.

24 Q. What were the groups that might have had
25 an interest in a particular compound?

1 A. It could have been analytical, toxicology. I'm
2 sure there were other groups that we sent them to,
3 but that's as far as I can go.

4 Q. What types of compounds was analytical
5 interested in?

6 A. I have no recollection now.

7 Q. Who was in charge of the analytical group
8 in the early 1960's?

9 A. No name comes to mind.

10 Q. What types of compounds was toxicology
11 interested in?

12 A. Oh, they may have been studying a series of
13 compounds and here was one more of the same series
14 that had shown possibly some degree of interest and
15 so they wanted to add one more piece of data to a
16 study of a series.

17 Q. Who was in charge of the toxicology group?

18 A. It seems to me there was -- and I don't
19 remember the years here, but along in there
20 someplace a Dr. Bernard McNamara was chief of
21 toxicology.

22 Q. Did the ILO have contacts with Dr.
23 McNamara or the toxicology group?

24 A. Yes.

25 Q. And what sorts of contacts did the ILO

1 have with Dr. McNamara and his group?

2 A. Well, it seems to me there might have been
3 three types, one, the samples that we received,
4 secondly, receiving the reports of his work so that
5 we could inform the donor and, thirdly, he was a
6 member of a group that reviewed practically all the
7 information that came into the ILO to determine
8 whether there would be interest or not.

9 Q. Was there a name for that group?

10 A. There was a name something like the Industrial
11 Liaison Program Advisory Committee or something of
12 that sort.

13 Q. Do you recall a Toxicity Screening Branch
14 at Edgewood?

15 A. Yes.

16 Q. Do you recall who was in charge of the
17 Toxicity Screening Branch?

18 A. I don't know when that came into being. That
19 was a result of some reorganization or other.

20 I believe that it was a Dr. Dick Hornton.

21 Q. What did the Toxicity Screening Branch do?

22 A. They were compounds for -- compounds for some
23 of these ideas were synthesized in-house and to the
24 best of my recollection, their responsibility was to
25 screen these compounds that were synthesized

1 in-house for applicability to the programs that the
2 corps was interested in.

3 Q. Where were the compounds that were tested
4 by Dr. Horton's group synthesized at Edgewood?

5 A. In-house.

6 Q. Was there a name for the in-house group
7 that synthesized those compounds?

8 A. Well, like we have mentioned before, I don't
9 know whether it was existing simultaneously but it
10 would be something like the New Agents Branch or the
11 just a straight organic synthesis group. That's the
12 best I can do for you and try and allocate that.

13 Q. Do you recall who was in charge of that
14 branch in the early 1960's?

15 A. No. Oh, now, wait a minute. One of those was
16 headed by Dr. Witten. He had a lot to do with
17 synthesis, so I'm just assuming that was one of his
18 responsibilities.

19 Q. Now, you've stated that when a sample of
20 a compound was received from industry, it was logged
21 in by the ILO. What does logging in mean?

22 A. Merely recording the receipt of a sample in a
23 log with the name of the recipient.

24 Q. Was a number assigned to the sample?

25 A. Yes, and was thereafter known only by that

1 number.

2 Q. What was then done with the sample?

3 A. It was delivered to the group that would be
4 interested in checking the sample out in some way or
5 other. It may have been toxicity, it may have been
6 analytical.

7 Q. When a sample was received, was any
8 review of the literature undertaken concerning that
9 sample?

10 A. Not by the ILO.

11 Q. No other literature review was undertaken
12 by any other group at Edgewood?

13 A. Not by my own knowledge.

14 Q. In addition to samples that were received
15 from industry, were the names of compounds also
16 received from industry?

17 A. Yes.

18 Q. And what were the procedures -- what
19 procedures were followed with respect to the names
20 rather than samples that were received?

21 A. These lists were reviewed by the advisory
22 committee that I referenced previously and it was up
23 to the members of this group and the group as a
24 whole to determine whether there was any further
25 interest in that particular type structure.

1 Q. If there were an interest in that type of
2 structure, what was the next step?

3 A. The next step was to go back to the donor to
4 see if there was additional information along the
5 lines of whatever the interest was that was
6 indicated in the advisory committee and/or to
7 request a sample.

8 Q. When a sample was requested and then
9 received, what was done with that sample?

10 A. After the sample was numbered, it was delivered
11 by hand to the group that was interested in checking
12 it out.

13 Q. On Exhibit 1, there is a statement that
14 in addition to industry, academic labs were involved
15 in the ILO program. Do you recall the names of any
16 of the academic labs that were involved?

17 A. No.

18 Q. Aside from industry and academic labs, do
19 you recall any other entities that participated in
20 the ILO program?

21 A. It seems to me at one time that we were -- and
22 I don't recall whether it was ever consummated or
23 not, of possible or actual cooperation with groups
24 like the Cancer Screening Group.

25 Q. What was the Cancer Screening Group?

1 A. At that time, they were looking for compounds
2 the same way as we were and it was felt that the
3 more types of structures that we looked at, the more
4 likely somebody would come up with a good idea and --

5 Q. Excuse me. I didn't mean to interrupt
6 you.

7 A. That's okay.

8 Q. Where was the Cancer Screening Group
9 located?

10 A. Someplace down here. I don't know.

11 Q. Was it --

12 A. Someplace town in the Washington area.

13 Q. Was it a government group?

14 A. It was government funded, yes.

15 Q. Do you recall whether it was connected
16 with the National Cancer Institute?

17 A. Probably. This was in the early days of the
18 research for carcinogenic type compounds and
19 possible cures.

20 Q. Did the ILO ever receive results of
21 cancer screening studies that were done by this
22 group?

23 A. I don't recall.

24 Q. Do you recall whether the Cancer
25 Screening Group ever -- strike that. Read my

1 preceding question.

2 (The record is read)

3 Q. Do you recall whether the Cancer
4 Screening Group ever used independent laboratories
5 to perform any of their work?

6 A. I believe they did.

7 Q. Do you recall the names of any of those
8 laboratories?

9 A. No.

10 Q. Do you recall whether Edgewood ever used
11 any independent laboratories to perform work for it?

12 A. What kind of work?

13 Q. Screening studies on compounds that had
14 been received by the ILO.

15 A. Not compounds screened by the ILO or not
16 compounds received by the ILO. That was one of the
17 things in the general organization, that all work on
18 the compounds were done in-house.

19 Q. What type of work then was done by the
20 independent laboratories for Edgewood?

21 A. I believe they had contracts for screening
22 similar to the type that toxicology or toxicity
23 screening group had.

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24 Q. Do you recall the names of any of the
25 independent laboratories that were used by Edgewood

1 to perform that screening work?

2 A. That was not my bailiwick, but it seems to me I
3 remember the name Hazelton Laboratories cropping up.

4 Q. Do you recall whether Bionetics Research
5 Laboratories also performed work for Edgewood?

6 MR. TAYLOR: Objection to form.

7 A. I'm not sure.

8 MR. GORDON: Miss Reporter, would you
9 please mark as Metcalf Exhibit 3 a document dated
10 August 13, 1963 concerning a test on Compound Number
11 CS-40849 by Bionetics Research Laboratories Inc.

12 (Exhibit Metcalf-3 is marked for
13 Identification)

14 Q. Dr. Metcalf, have you seen documents like
15 Exhibit 3 before?

16 MR. TAYLOR: Objection to form.

17 Q. I'll withdraw that.

18 Dr. Metcalf, do you know what Exhibit 3
19 is?

20 A. It looks like a screen report on rabbits.

21 Q. Dr. Metcalf, I refer you to the name
22 Bionetics Research Laboratories in the upper left
23 hand corner and ask you whether that refreshes your
24 recollection as to whether Bionetics performed
25 screening tests for Edgewood.

1 A. I still can't be sure from my recollection that
2 Bionetics was a screening laboratory for Edgewood.

3 Q. Do you have any recollection as to
4 whether Bionetics performed any screening work for
5 the Cancer Screening Group that you previously
6 referred to?

7 A. I have no idea.

8 Q. Dr. Metcalf, referring you again to
9 Exhibit 1, on that exhibit in the description of the
10 functions of the ILO is a reference to Fort Detrick.

11 A. That's correct.

12 Q. What is Fort Detrick?

13 A. Well, Fort Detrick had been a number of things
14 but at that particular time, I assume you're
15 referring to the 1956, 1966 period.

16 Q. That's correct.

17 A. They were called the Biological Laboratories, I
18 think, at that time, which would indicate that they
19 were interested in the biological aspects of using
20 substances other than chemical compounds as agents.
21 I'm speaking in the -- what has become to be known
22 in the press as germ warfare.

23 Q. Did the ILO have any offices at Fort
24 Detrick?

25 A. For a period of time, and I don't know what

1 that period was, they weren't in on the program in
2 the early stages of it. We had a military man that
3 served as a go-between and as a representative of
4 the Detrick laboratories on our committee at
5 Edgewood.

6 Q. Do you know the name of that person from
7 Detrick who served as the go-between?

8 A. There were a number with the changes in
9 military. There was only one. It had a very
10 peculiar name that I recall. There were others.

11 Q. Was Braspeninckx perhaps one of them?

12 A. Very good. Braspeninckx. Somebody else will
13 have to spell it for you. I always misspelled it.

14 Q. You referred to an advisory committee for
15 the ILO. Do you recall whether there was a formal
16 name for that committee?

17 A. I don't recall the name. In the answer to a
18 previous question of similar nature, I gave a name
19 like that but what it was actually called at the
20 time, I don't know.

21 Q. Who served on that committee?

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22 A. The chiefs of various branches and divisions
23 that had the responsibility of evaluating or
24 requesting information or samples from these groups,
25 so that would mean the various chiefs that had the

1 responsibility for carrying on the chemical research
2 laboratory program in all aspects.

3 Q. Are you familiar with the term Review
4 Point One Committee?

5 A. I remember the name but I don't remember its
6 responsibilities.

7 Q. Is the advisory committee that you are
8 referring to different from Review Point One?

9 A. I just don't recall.

10 Q. Could you tell me as precisely as you can
11 what this advisory committee to the ILO did?

12 A. As I recall, the Industrial Liaison Scientists
13 did not feel that they were sufficiently
14 knowledgeable to keep up with all the intimate
15 details of the various research programs going on in
16 the laboratory; therefore, this group was to add
17 expertise to the evaluation and the selection of
18 compounds that might be of interest to the Chemical
19 Corps in carrying out its responsibilities.

20 Q. Do you recall how often this committee
21 met?

22 A. No.

23 Q. Do you recall whether any minutes were
24 kept of these meetings?

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25 MR. KAVENAGH: Has it been established

1 that he was intimately enough connected with that
2 committee to know that? It seems he has but a vague
3 knowledge of its existence.

4 Q. Dr. Metcalf, did you attend meetings of
5 this advisory committee Key tea?

6 A. As chief of the program, yes.

7 Q. Do you recall whether any minutes were
8 kept of these meetings?

9 A. Not specifically.

10 Q. Where did this advisory committee conduct
11 its meetings?

12 A. I have no recollection. Someplace on the post
13 that was convenient to all the members concerned,
14 but beyond that, I'm sure they didn't meet in the
15 same place all the time.

16 Q. Dr. Metcalf, did you ever visit Fort
17 Detrick?

18 A. A time or two.

19 Q. Do you recall who you met with?

20 A. No recollection.

21 Q. Did you know Dr. Charles Minarik?

22 A. I remember the name now that you have mentioned
23 it and he was at Fort Detrick. That's as far as I
24 can tell you anything about Minarik.

25 Q. Do you recall what work Dr. Minarik was

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1 engaged in at Fort Detrick?

2 A. No.

3 Q. Dr. Metcalf, do you recall whether the
4 ILO ever performed any work in connection with a
5 compound known as dioxin?

6 MR. KAVENAGH: Would you repeat that
7 please.

8 (The record is read)

9 A. No, I don't recall.

10 Q. Have you ever heard of the Saunders
11 Renney Library?

12 A. Not to my recollection.

13 Q. Was there a person or department at
14 Edgewood that periodically prepared a document
15 referred to as New Drugs and Chemical Entities
16 reported in the literature?

17 A. May I have that title again please.

18 Q. Sure. New Drugs and Chemical Entities
19 reported in the literature.

20 A. Not that I know of.

21 Q. Have you ever heard of such a document?

22 A. No.

23 MR. GORDON: Miss Reporter, would you
24 please mark as Metcalf Exhibit 4 a three-page
25 document entitled "Unlisted Drugs List."

1 (Exhibit Metcalf-4 is marked for
2 Identification)

3 Q. Dr. Metcalf, I refer you to Page 23 of
4 that list which is the third page of the exhibit.

5 Have you ever seen that page before?

6 MR. KAVENAGH: I object. He's already
7 said that he's never heard of this. How could he
8 have seen it if he never heard of it?

9 A. If I've ever seen it, I certainly don't recall
10 it.

11 Q. Having reviewed Exhibit 5 -- Exhibit 4,
12 Dr. Metcalf, do you know what this document is?

13 A. All I know is what it has in the title. I've
14 never seen it before.

15 Q. Have you ever seen this --

16 A. To the best of my recollection.

17 Q. Have you ever seen this type of document
18 before?

19 A. If it existed at Edgewood Arsenal, it would be
20 logical that I would have seen it in my job in the
21 ILO, but I do not recall seeing this list of
22 compounds.

23 Q. Well, this list appears to consist of a
24 series of computer punch cards with information for
25 certain chemical compound typed and written on the

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1 back of each card. Do you know what those
2 individual cards that make up the list might be?

3 A. At one time, in the Industrial Liaison Office,
4 we kept track of compounds by this procedure. I
5 don't recall the format of the cards, but I know
6 that we kept cards.

7 Q. Who prepared those cards --

8 A. The cards were prepared by the -- let me back
9 up. The information for the cards was usually
10 drafted by one of the scientific personnel and the
11 cards were typed in by the clerical.

12 Q. Now, when you say the information for the
13 cards was prepared by one of the scientific persons,
14 are you referring to the individuals you previously
15 mentioned which were Captain Nelson, Alan Gelberg,
16 Charles Granito, David Renard and Charles Holly?

17 A. Yes.

18 Q. What was the source of the information
19 that was placed on those cards?

20 A. It could have been literature. It could have
21 been something furnished by the donor.

22 MR. KAVENAGH: I'm going to object to
23 this again; if he's not seen this, doesn't know
24 anything about it. Now you're asking him how it
25 fits together logically, it doesn't fit logically.

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1 MR. GORDON: He said he doesn't recall
2 whether or not he's seen it.

3 Q. Dr. Metcalf, referring you to page 23 to
4 the compound diagram in the middle and labeled as
5 2,3,7,8 tetrachlorodibenzo-p-dioxin.

6 A. Oh, all right.

7 Q. Do you see that?

8 A. Yes.

9 Q. Underneath that name, there are two
10 literature references, one to the Journal of
11 Investigative Dermatology and the other to
12 Dermatologica. Do you know where those references --
13 excuse me, do you know where knowledge of those
14 references came from?

15 A. I don't know anything about this particular
16 sheet or the information thereon. All I can do is
17 try to recall for you where information like that
18 would come from when we made up cards in the
19 Industrial Liaison Office.

20 Q. Well, that's fine, if you would tell me
21 where information like that came from when you made
22 up the cards.

23 A. Yes. When we made up the cards, as I said
24 earlier, that the information would come either from
25 the literature that somebody had checked out and we

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1 had knowledge of, reported to us either by reprint,
2 perhaps, or some other way, or it could have been
3 furnished by the donor.

4 Q. When the name of a literature reference
5 was supplied either by the donor or by someone at
6 Edgewood, was that literature reviewed in connection
7 with the preparation of the cards?

8 A. No.

9 Q. Referring you, again, to page 23, above
10 the diagram for what appears to be 2,3,7,8
11 tetrachlorodibenzo-p-dioxin is a reference to "U of
12 Chicago." Do you know what that reference refers to

13 A. Not offhand, unless one would just put the
14 normal interpretation on it.

15 Q. What is your normal interpretation?

16 A. Well, you see all the other U offices. Is
17 there a University of Chicago?

18 Q. I believe there is.

19 A. I don't know. But that's the way if I had seen
20 that cold I would interpret it in the newspaper.

21 Q. Do you know whether Edgewood had any
22 screening contracts or other arrangements with the
23 University of Chicago concerning chemical compounds?

24 A. I don't recall.

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25 Q. Dr. Metcalf, referring you again to page

1 23, next to the diagram for what appears to be
2 2,3,7,8 tetrachlorodibenzo-p-dioxin, there is a
3 notation CS 39321. Do you know what that notation
4 refers to?

5 A. It's just a number that would identify in the
6 records what this structure was. In other words,
7 this card served as a record, so you would know that
8 this number referred to this structure just like any
9 number in the system in an organic laboratory.

10 MR. GORDON: Could I have that read back.

11 (The record is read)

12 Q. Do you know what CS stands for in that
13 notation?

14 A. CS was the number -- there were several
15 different numbering systems at Edgewood Arsenal, one
16 primary one and a CS number. This was merely a
17 prefix to all numbers that referenced the Industrial
18 Liaison Office.

19 Q. What was the significance of a CS
20 designation next to a number?

21 A. As I mentioned, it was the normal prefix.
22 There were other prefixes used at Edgewood Arsenal
23 to designate compounds that originated from other
24 sources or to identify other structures. 14392

25 Q. Dr. Metcalf, was the designation "CS" an

1 abbreviation for "Commercial Source"?

2 A. That could have been how it -- I don't remember
3 the origin of it. Commercial source could very well
4 have been the origin of that prefix. Sounds logical.

5 Q. You also referred to a primary numbering
6 system at Edgewood. What was the primary numbering
7 system?

8 A. I don't know what the situation is on that
9 right now, classification wise.

10 Let me say this, that it was a number
11 with a prefix of two letters.

12 Q. Do you recall chemical compounds at
13 Edgewood that were designated EA plus a number?

14 A. Yes, I've heard of that, I remember that, yes.

15 Q. Do you recall what the EA stood for?

16 A. I wasn't around when the numbering system was
17 originated so I'm not sure, but --

18 Q. Dr. Metcalf, referring you to the second
19 page of Exhibit 4, you'll note at the top of the
20 page a reference to Saunders Renney Library. Does
21 that reference serve in any way to refresh your
22 recollection as to what that library is?

23 A. Those names have no meaning to me.

24 Q. Who is Lester Miller?

25 A. Lester Miller was a GI that came to work in the

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1 Industrial Liaison Office one time and after he
2 finished the service he went to work at Edgewood
3 Arsenal, and I believe that after he left the
4 Industrial Liaison Office, I think he was involved
5 in one of the toxicology groups or toxicity
6 screening groups or something like that. It's very
7 vague.

8 Q. Do you recall during what time period he
9 worked in the ILO?

10 A. No recollection.

11 (Recess)

12 Q. Dr. Metcalf, as chairman of the ILO, who
13 did you report to?

14 A. As I recall now, during the early part of the
15 program, I reported to a -- I guess it would be a
16 division chief that was in charge of all the
17 chemical work that was going on. During the latter
18 part, I reported to the director of the Chemical
19 Research Laboratories.

20 Q. Do you recall during the early period of
21 your chairmanship of the ILO who the division chief
22 was that you reported to?

23 A. Yes, Dr. William H. Summerson.

24 Q. Do you recall what Dr. Summerson's title
25 was at that time?

1 A. Well, as nearly as I can recall, he was chief
2 of this chemical division or some such title as that.

3 Q. During the period of time that you were
4 reporting to Dr. Summerson, was there any particular
5 part of Edgewood that the ILO was a part of?

6 MR. KAVENAGH: What are you trying to get
7 at? Could you rephrase that?

8 Q. Okay. Let me rephrase that.

9 Where did the ILO fit into the
10 organizational structure at Edgewood?

11 A. As I recall, in those very beginning days, we
12 were just like a branch or other small unit under
13 Summerson.

14 Q. And later?

15 A. And later I reported about, I don't know, it
16 was either one echelon or two echelons up the line
17 to the director of the laboratory directly rather
18 than being, say, a branch reporting to a division
19 chief, I was a separate unit reporting directly to
20 the laboratory director.

21 Q. Am I correct in stating that during both
22 the early and the later period that you referred to,
23 the ILO was part of the Chemical Research
24 Laboratories?

25 A. Yes. I think that was the title at that time.

1 Q. During the later period of your
2 chairmanship of the ILO, do you recall who the
3 director of the Chemical Research Laboratories was
4 that you reported to?

5 A. Yes, a Dr. Silver.

6 Q. Do you recall reporting to Dr. Bernard
7 Jandorf at any time?

8 A. Not from the ILO, not from the Industrial
9 Liaison Office.

10 Q. When did you report to Dr. Jandorf?

11 A. That was, let's see, that was in the period
12 from 1966 to 1971. Yes, when I was chief of the
13 Physical Chemistry Department.

14 Q. Was the Physical Chemistry Department a
15 branch or a division within the Chemical Research
16 Laboratories?

17 A. Looking at the title here, they call it a
18 department -- the Physical Chemistry Department
19 reported to the chief of Chemical Research
20 Laboratories whom I believe was Jandorf at that time
21 and among -- there were a number of Research
22 Laboratories, chemical research being one of them,
23 that reported to the director of the Research
24 Laboratories.

25 Q. On Exhibit 1 in the description of the

1 Physical Chemistry Department, there is a reference
2 to three branch chiefs in the Physical Chemistry
3 Department. Do you recall the names of those chiefs?

4 A. Yes, I think I can give you their names. John
5 Callahan.

6 Q. Is that John F. Callahan?

7 A. I don't know what his middle initial is.

8 Q. Do you recall whether there were two John
9 Callahans at Edgewood?

10 A. That I do. That I do.

11 Q. Does that help refresh your recollection
12 as to whether --

13 A. No, I still don't know what his middle initial
14 is.

15 Q. Okay. Who were the other two?

16 A. Jerry Goldenson and Lawrence Buckles.

17 Q. Could you spell it for the reporter?

18 A. I believe it is B-u-c-k-l-e-s.

19 Q. Dr. Metcalf, when a name of a new
20 compound was submitted to the ILO, a CS number was
21 assigned to that compound; is that correct?

22 A. Would you repeat that for me please.

23 (The record is read)

24 MR. KAVENAGH: That was asked and
25 answered sometime ago.

1 A. Yes and no.

2 MR. GORDON: What was the previous answer?

3 THE WITNESS: Well, that was --

4 MR. KAVENAGH: His description of the
5 input originally described exactly what you're
6 asking for.

7 Q. Dr. Metcalf, what do you mean by yes and
8 no?

9 A. Well, the point is that when we received these
10 lists of compounds, if we just added a new number,
11 every time we got a compound, the file would have
12 been tremendous, so we tried to assign one number to
13 one structure, so if a list came in and we had
14 already seen the structures, we would try not to
15 assign another number to the same structure we
16 already had on file.

17 Q. When a CS number was assigned to a
18 particular chemical structure, were persons outside
19 the ILO notified at Edgewood.

20 A. Outside of Edgewood?

21 Q. No, at Edgewood?

22 A. At Edgewood.

23 Q. Were persons at ILO Edgewood notified
24 when a new chemical structure was submitted and
25 received a CS number at Edgewood?

1 A. Well, as I recall the procedure, the CS number
2 was assigned to the structure. It was checked to
3 make sure that it hadn't been assigned to another
4 structure and then that CS number along with the
5 structure and the information was submitted to the
6 advisory committee that I have already mentioned, so
7 naturally, the number and the structure were
8 associated at that time.

9 Q. In what form was the structuring and the
10 numbering submitted to the advisory committee?

11 A. In lists. If I recall correctly, we put them
12 in order of CS number.

13 Q. Was there a name for those lists?

14 A. Probably there was, but I have no recollection
15 now.

16 MR. GORDON: Would the reporter please
17 mark as Metcalf Exhibit 5 a one-page document
18 entitled Commercial Source Sample Record Log
19 containing CS numbers for 39321 through 339330.

20 (Metcalf-5 is marked for Identification)

21 Q. Dr. Metcalf, is Exhibit 5 an excerpt from
22 the list that you just referred to?

23 A. Would you please clarify as to what list you're
24 talking about? We've talked about several different
25 kinds of lists.

1 Q. Sure. You have just stated that when a
2 new compound name was received from industry and a
3 compound number assigned to that structure that a
4 list of the new compounds was circulated to the
5 advisory committee for the ILO. The question is
6 whether Exhibit 5 was part of the list that was
7 circulated to this advisory committee.

8 A. To the best of my recollection and from the
9 kind of information it contains, I wouldn't have
10 thought so.

11 Q. What is the information on Exhibit 5 that
12 makes you think Exhibit 5 was not part of the list
13 that was circulated to the advisory committee?

14 A. The column is indicated as name of source and
15 source code number.

16 Q. Do you know what was the purpose of the
17 commercial source sample record log?

18 A. Yes, it was to record the CS number and the
19 source and the classification, date requested and
20 who requested it. This was for the use of the
21 Industrial Liaison Office, as I recall it.

22 Q. Do you know whether anyone other than the
23 ILO received copies of the commercial source sample
24 record log?

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25 MR. KAVENAGH: Counsel, may I interrupt

1 for a minute;; I'm sorry, I missed the dates, thank
2 you. 1963, I just saw it.

3 A. Would you repeat the question please.

4 Q. Certainly.

5 Do you recall whether anyone outside of
6 the ILO received copies of the commercial source
7 sample record log?

8 A. As I recall the setup, there was no reason for
9 anyone else outside of the ILO to receive a copy or
10 to even look at this sheet in the office.

11 Q. Did Dr. Bernard McNamara serve on the
12 advisory committee for the ILO?

13 A. I think so.

14 Q. Did Walter Sultan serve on that advisory
15 committee?

16 A. I believe. The composition of the committee
17 varied from the very beginning to the last part that
18 I was familiar with, and when they were on, they
19 were on, yes, the committee, but just when they were
20 on it, I don't know.

21 Q. But to the best of your recollection, Dr.
22 Sultan did serve at some time on the advisory
23 committee?

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24 A. I think so or it could have been the person he
25 reported to. I know he was involved in certain

1 toxicity screening and it would have been a natural
2 thing for him to have been on that committee.

3 Q. Do you recall whether Dr. Richard Horton
4 served on the advisory committee?

5 A. Yes. He was on the committee.

6 Q. Did Dr. Jandorf serve on the advisory
7 committee?

8 A. Yes.

9 Q. Did Dr. Witten serve on the advisory
10 committee?

11 A. Yes. I'm pretty sure all those people did.

12 Q. Do you recall anyone else who served on
13 the advisory committee other than doctors McNamara,
14 Sultan, Horton, Witten and Jandorf?

15 A. There's only one that strikes my mind and
16 that's Dr. VanSimm. He was on it, but for how long,
17 I just can't give you any dates.

18 Q. Did you know Dr. Fritz Hoffman?

19 A. Yes.

20 Q. Do you recall whether Dr. Hoffman served
21 on the advisory committee?

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22 A. It would have been logical on the basis of his
23 position to have served on it, but I just can't
24 recall whether he was actually a member or not.

25 Q. During the late 1950's to mid 1960's,

1 what was Dr. Hoffman's position?

2 A. Dr. Hoffman was a synthetic organic chemist.
3 Whether he was heading a formalized group at that
4 time or not, I don't know. He always had a few
5 people, anyway, working with him.

6 Q. Do you recall whether any records at all,
7 whether minutes or other documents, were ever
8 prepared concerning this advisory committee for the
9 ILO?

10 A. I don't believe to the best of my recollection
11 minutes were prepared of these advisory committee
12 meetings and any other reports would be only in
13 terms of numbers of compounds or numbers of
14 structures or something like that.

15 Q. When a decision was made by the advisory
16 committee as to whether or not to request a sample
17 of a particular compound, how is that decision
18 transmitted to the ILO?

19 A. Well, as I recall the procedure, a member of
20 the Industrial Liaison Office was always there and
21 they naturally would note which CS numbers were
22 requested by a sample or somebody wanting more
23 information, something of that sort.

24 Q. Were these requests from the advisory
25 committee in writing or were they oral?

1 A. Oral.

2 Q. What sorts of information concerning a
3 particular chemical compound might be requested by
4 the advisory committee prior to requesting the
5 sample itself?

6 A. It all depended, as I remember, on the types of
7 problems that the individual or his group happened
8 to be concerned with at the present time and it may
9 vary all over the place. Maybe somebody would want
10 a solubility. Somebody else might want had it ever
11 been checked as a color former or as -- well, the
12 sky is the limit on what they might want to know.

13 Q. When a request for more information was
14 received from the advisory committee by the ILO,
15 where did the ILO go to attempt to obtain that
16 information?

17 A. They had only one source. It was not the
18 responsibility of the office to do literature
19 searches or things of that nature. They went back
20 to the donor of the information -- to the donor of
21 the information.

22 Q. Now, when the advisory committee
23 requested a sample of a particular chemical compound
24 rather than simply more information, what steps were
25 taken by the ILO?

1 A. The same kind of steps as information
2 requesting the donor to see if he could spare a
3 sample of the compound of interest.

4 Q. Did it happen that a supplier -- strike
5 that.

6 Did it happen that the ILO was from time
7 to time unable to obtain a sample of a compound?

8 A. Frequently, as I remember, frequently.

9 Q. What happened when the ILO was
10 unsuccessful in an attempt to obtain a sample of the
11 compound?

12 A. We didn't get it.

13 Q. Well, were attempts then made to
14 synthesize the compound in-house?

15 MR. TAYLOR: Objection to form.

16 A. Not that I recall. I don't believe -- I don't
17 believe they attempted the synthesis.

18 Q. Were attempts made to obtain the sample
19 from another possible supplier?

20 A. If there were two suppliers of the same
21 structure, naturally, you would try both sources.

22 MR. TAYLOR: Mr. Gordon, I object to the
23 vagueness of your question. There's been no
24 compound identified at this point and all of your
25 questions and all of the answers could or could not

1 be applicable to the compound of interest in this
2 litigation. To that extent, none of the questions
3 have been prohibitive and I'm going to request that
4 you identify a specific compound and direct your
5 questions toward that compound.

6 Q. Dr. Metcalf, referring you to Exhibit 5,
7 there is a reference to CS number 39321 and under
8 the date requested column, the date 2/19/64 and
9 under the requester column the name Horton. Does
10 that information indicate that Dr. Horton made a
11 request for CS No. 39321 on February 19, 1964?

12 MR. TAYLOR: Objection to form.

13 Q. You may answer.

14 A. What does that mean?

15 MR. GORDON: It means nothing.

16 MR. TAYLOR: That just means that I am
17 objecting to the form of his question in that
18 instead of asking you a what, when, how, where or
19 why, question he is suggesting an answer by his
20 question. He may not lead you and should not lead
21 you.

22 Q. Dr. Metcalf, just so we're clear, when he
23 makes an objection as to form, that is an objection
24 to be ruled on at trial and it should not affect
25 your answer to the question in any way if you

1 All I can say is that normally if you have a CS
2 number, if you go back to the proper records, you
3 can determine what structure that refers to.

4 Q. Do you have any recollection of a request
5 made by Dr. Horton or the Toxicity Screening Branch
6 in about February of 1963 for a sample of 2,3,7,8
7 tetrachlorodibenzo-p-dioxin?

8 A. Not the slightest.

9 MR. GORDON: Miss Reporter, would you
10 please mark as Metcalf Exhibit 6 a document
11 consisting of two pages, on each page a card for a
12 dioxin compound.

13 (Exhibit Metcalf-6 is marked for
14 Identification)

15 Q. Dr. Metcalf, have you ever seen either of
16 these cards before?

17 A. I don't know.

18 Q. Are you familiar with cards like these --

19 MR. KAVENAGH: Counselor, may I ask
20 what's the origin of this and the date?

21 MR. GORDON: Mr. Kavenagh, I do not have
22 a date for these documents, but both pages of
23 Exhibit 6 were included in the government's
24 production of documents from Edgewood Arsenal
25 responsive to the Cadwalader subpoena.

1 understand the question. Okay?

2 A. Clear.

3 Q. Thank you. Would the reporter read back
4 the question.

5 (The record is read)

6 A. To my best recollection, the way this or a
7 similar form was used, yes.

8 Q. Dr. Metcalf, by referring back to the
9 third page of Exhibit 4 and the notation there for
10 CS 39321, is it possible to determine whether the CS
11 number compound 39321 referred to on Exhibit 5 is
12 2,3,7,8 tetrachlorodibenzo-p-dioxin?

13 A. From the CS number alone, you could not tell
14 what kind of compound it referred to.

15 Q. Well, looking at Exhibit 4, next to the
16 diagram for 2,3,7,8 tetrachlorodibenzo-p-dioxin
17 there is a notation to CS 39321. Does that notation
18 indicate that that structure was assigned CS number
19 39321

20 MR. TAYLOR: Objection to form and the
21 document speaks for itself to the extent that it
22 does.

23 A. I have no idea of the accuracy of this sheet.

24 The second number is correct. These
25 numbers were added in pencil after it was typed.

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1 MR. KAVENAGH: I would move that these be
2 stricken. There's no date, identification, no
3 source. I could have typed it myself on my own
4 typewriter at home.

5 MR. BURKE: But did you?

6 MR. KAVENAGH: Come by tomorrow and I'll
7 show you the copy.

8 Q. Let me start over here.

9 Dr. Metcalf, are you familiar with cards
10 like these that were prepared at Edgewood for
11 various chemical compounds?

12 A. Well, I don't know that this is a reproduction
13 of a card. All I can say is that similar
14 information would have been included on the kinds of
15 records that were kept by a card system in the
16 Industrial Liaison Office. I notice no CS number
17 and that makes me wonder whether or not that this
18 was a CS -- an Industrial Liaison Office card.

19 Q. Are you familiar with compound structures
20 that were designated as Compound A or Compound B?

21 MR. TAYLOR: Objection to vagueness.

22 A. Compound A and Compound B is a normal method of
23 an organic chemist in itemizing in his own records
24 when compounds of similar structure were synthesized
25 rather than trying to give it a new number or a new

1 identification, so, in general, I'm familiar with
2 that kind of nomenclature.

3 Q. Were chemical compound cards, three by
4 five cards, prepared by the ILO?

5 A. Yes.

6 Q. Who prepared those cards?

7 A. The clerical staff of the ILO.

8 Q. What was done with those cards after they
9 had been prepared?

10 A. They formed the basis of our retrieval system
11 and stayed in the office.

12 Q. What was your --

13 A. Under security procedures.

14 Q. What was your retrieval system?

15 A. That is a long drawn out story, but very
16 briefly, first of all, it was based on the molecular
17 structure which on this latest exhibit is the
18 structure in the upper right-hand corner, and if I
19 recall correctly, that was based on -- the order of
20 elements in that structure were based on the
21 probability of that atom occurring in organic
22 structures so that the first number was the least
23 usually found in an organic compound and the last
24 was the most prevalent among organic compounds.

25 That became too bulky and we went to another type of

1 system. We started that, I guess, let's see, we
2 went into a punch card -- to a punch card system
3 based on this. Then that became too bulky for the
4 numbers on hand. We went to what is known as a
5 Wisswesser line notation system which I will not
6 attempt to describe. I don't remember it any more,
7 and that also went into a punch card system so that
8 we could sort for particular type structures.

9 Q. On the first page of Exhibit 6, Dr.
10 Metcalf, there are references to the two articles
11 that were also referenced on Exhibit 4. Do you know
12 how those references came to be entered on the card
13 which is on the first page of Exhibit 6?

14 A. I can only --

15 MR. KAVENAGH: I would like to enter a
16 continuing objection for reference to this exhibit
17 for any number of reasons including those expressed
18 that, in fact, it is not a duplicate of a three by
19 five card, you can tell by the line. Secondly, you
20 don't know whether it's an amorphous document
21 floating in space with no identification.

22 MR. GORDON: Why don't you read the
23 question back to the witness.

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24 MR. TAYLOR: If I might add one further --

25 MR. KAVENAGH: That's not legal talk but

1 I express myself that way.

2 MR. TAYLOR: Dr. Metcalf says he did not
3 know anything about these cards and did not prepare
4 them, does not have firsthand knowledge about them.

5 A. In this specific case, no.

6 Q. As a general matter, how did references
7 come to be entered on the cards that were kept in
8 the ILO for various compounds?

9 A. To the best of my recollection, the information
10 in terms of references to the literature was
11 furnished by the donor of the structure.

12 Q. Do you have any idea at all as to who was
13 the donor of the structure for 2,3,7,8 tetrachlorodiben-

14 A. From my own personal knowledge, no.

15 Q. Is there any source that would tell you
16 where the -- strike that.

17 Is there information kept in the ILO or
18 in other files at Edgewood that would indicate the
19 source of the information concerning 2,3,7,8-TCCD
20 that was supplied?

21 A. In the Industrial Liaison Office, yes, you
22 could find out the source of whatever that number
23 was.

24 Q. What files would you look at to determine
25 the source of the 2,3,7,8

1 tetrachlorodibenzo-p-dioxin compound?

2 A. That's all the information you have, just the
3 structure?

4 Q. Referring you back to Exhibit 5 where
5 there's a CS number 39321 compound which, according
6 to Exhibit 4 is 2,3,7,8 tetrachlorodibenzo-p-dioxin --

7 MR. TAYLOR: Objection to form.

8 Q. -- how would you determine the source of
9 the information that Edgewood received concerning
10 that compound?

11 MR. TAYLOR: Same objection.

12 A. If the dioxin has that CS number that you have
13 indicated that it has on these exhibits of 39321,
14 then the name of the source is given opposite the
15 number and so that would indicate, as the tabular
16 form shows, that it is the source of 39321.

17 Q. Dr. Metcalf, would you please review
18 Exhibit 5 and tell me if that document indicates to
19 you the source of the CS number 39321?

20 A. I've lost track of which one are you referring
21 to now?

22 Q. This one right here.

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23 MR. TAYLOR: Objection. The document
24 speaks for itself. We'll accept that it does.

25 A. The -- I think I've just stated that if the

1 number of the compound of interest is 39321, then
2 according to the documents shown here, it is the
3 University of Chicago. I have no means of knowing
4 whether this is correct or not. I'm merely
5 interpreting the document as shown.

6 Q. Thank you.

7 Dr. Metcalf, when a sample of a chemical
8 compound was requested from industry or an academic
9 lab by the ILO, what was the amount of the sample
10 that was requested?

11 MR. KAVENAGH: Object. That's so vague
12 that you could get either a carload or a teaspoonful
13 depending on the compound itself.

14 Q. Let me rephrase the question.

15 Dr. Metcalf, was there a standard amount
16 of a compound that was requested when a request was
17 made to industry or an academic source for a
18 chemical compound sample?

19 A. I was trying to recall whether or not we ever
20 indicated how much we would like to have and the
21 answer to that, to the best of my recollection, if
22 you just wanted it for, say, a simple screen, then
23 we would ask for any amount maybe up to one or two
24 grams. 14414

25 If you wanted it for something else,

1 maybe you could say, well, any amount you could
2 spare up to half a gram, but generally the samples I
3 can say, as I recall the bottles coming in, they
4 were small vials with half an inch or so. Sometimes
5 you could barely see it.

6 MR. GORDON: Miss Reporter, would you
7 please mark for identification as Metcalf exhibit 7A
8 through D-4 letters dated May 19, May 28, July 18
9 and July 21, 1954 either to or from Charles E.
10 Granito.

11 (Exhibit Metcalf-7A through Metcalf-7D
12 are marked for Identification)

13 Q. Dr. Metcalf, would you please review
14 these four items of correspondence and tell me
15 whether you have ever seen a copy of any of these
16 letters previously.

17 MR. KAVENAGH: What's the foundation for
18 these particular letters? They were neither
19 addressed to him nor from him and it's questionable
20 whether he would see this type of correspondence in
21 the first instance.

22 A. Your question again please.

23 Q. Well, I'll repeat it in just a minute,
24 Dr. Metcalf. Just briefly to answer your inquiry,
25 Mr. Kavenagh, the first letter is from Charles E.

1 Granito who is listed as being in the Industrial
2 Liaison Office and Dr. Metcalf was chairman of that
3 office.

4 The question, Dr. Metcalf, was whether
5 you have ever seen a copy of any of these letters
6 before.

7 A. I haven't the slightest idea.

8 Q. Do you recall any efforts by the ILO to
9 obtain a sample of 2,3,7,8
10 tetrachlorodibenzo-p-dioxin?

11 A. No.

12 Q. Referring you to Metcalf Exhibit 7A,
13 under Mr. Granito's name, there is a reference to
14 the office of the technical director? What was the
15 office of the technical director?

16 A. It's the same as the director of the Chemical
17 Research Laboratories. There was a name change and
18 this referred to the same person, Sy Silver, that I
19 referred to previously. Poor memory on my part.

20 Q. Have you ever heard of Kenneth D. Couple
21 whose name is referred to on Exhibit 7B?

22 A. I didn't recognize any of the names that were
23 referenced in these particular letters.

24 Q. Have you ever heard of Gerhardt L. Klaus?

25 A. No.

1 MR. KAVENAGH: I believe he just answered
2 that.

3 Q. Does Exhibit 7C refresh your recollection
4 that there is, in fact, a University of Chicago?

5 A. Yes.

6 Q. Thank you. This would be a good time to
7 break for lunch.

8 (Luncheon recess)

9 AFTERNOON SESSION

10 MR. GORDON: Miss Reporter, would you
11 please mark as Metcalf Exhibit 8 a redacted version
12 of a report on trip to Europe by Frederick W.
13 Hoffman dated 5 October, 1959.

14 (Exhibit Metcalf-8 is marked for
15 Identification)

16 Q. Dr. Metcalf, have you ever seen a copy of
17 Exhibit 8 before?

18 A. I wouldn't know.

19 Q. Do you recall having ever reviewed any
20 trip reports that were prepared by Dr. Hoffman?

21 A. Well, it was --

22 MR. KAVENAGH: Counselor, have you laid
23 any foundation for this document being introduced in
24 this deposition, what relevance does this report
25 have? If any.

1 MR. GORDON: I intend, Mr. Kavenagh, to
2 ask a few questions concerning the document which I
3 think will show the relevance.

4 MR. KAVENAGH: I'll make it subject to --

5 MR. GORDON: Would you repeat the last
6 question.

7 (The record is read)

8 A. Not specifically.

9 Q. Dr. Metcalf, referring you to the second
10 page of Exhibit 8, there was a statement or there's
11 a notation that the trip report was prepared by U.S.
12 Army CCIA. What is the U.S. Army CCIA?

13 MR. TAYLOR: Mr. Gordon, I'd like a
14 standing objection to any question concerning this
15 document since Dr. Metcalf has testify he did not
16 prepare it nor does he know anything about it nor
17 has he seen it; therefore, there's a lack of
18 foundation if he were to testify as to this report.

19 Q. Do you know what the Army CCIA is?

20 A. If I ever knew, I don't know now.

21 Q. Did you ever have any dealings with an
22 organization named the U.S. Army Chemical Corps
23 Intelligence Agency?

24 A. I just don't recall.

25 Q. Did you know a Dr. Nathan Gordon?

1 A. I think I did meet him once.

2 Q. Do you recall when --

3 A. Or twice.

4 Q. Do you recall when you met him?

5 A. No.

6 Q. Do you recall the subject of your meeting
7 with Dr. Gordon?

8 A. Oh, I don't know whether it was a meeting or
9 not, but the name is -- strikes a familiar bell.
10 That's why I say that I think I probably did meet
11 him, but I don't recall any specifics.

12 Q. Do you have any recollection of what his
13 affiliation was?

14 A. No.

15 Q. Did you know Alexander Batlin?

16 A. It seems to me there was a military man by that
17 name sometime back there but in what connection, I
18 don't know.

19 Q. How about Art Feister, did you know him?

20 A. Again please?

21 Q. Art Feister.

22 A. That doesn't ring a bell, no.

23 Q. Did you know L. Allen Mounter?

24 A. It doesn't ring a bell.

25 Q. Dr. Metcalf, referring you to the pen

1 ultimate page of Exhibit 8, there's a distribution
2 list there with a variety of positions designated.

3 As of October of 1959, do you recall who
4 the Commanding General for the U.S. Army Chemical
5 Corps Research and Development Command was?

6 A. No.

7 Q. Do you recall who was the Commanding
8 Officer of the Materiel Command as of October 1959?

9 A. Materiel Command, no.

10 Q. How about the Engineering Command?

11 A. No.

12 Q. Do you know who was the Deputy commander
13 for Scientific Activities in the Chemical Warfare
14 Laboratories in October of 1959?

15 A. Deputy commander, no.

16 Q. Do you know who was the Director of
17 Research in the Chemical Warfare Laboratories in
18 October of 1959?

19 A. No.

20 Q. Do you know who the Director of
21 Development was?

22 A. No.

23 Q. How about the Director of Medical
24 Research?

25 A. No.

1 Q. There is a title given on the
2 distribution sheet for Exhibit 8 for Colonel Batlin
3 of Army Element Joint Support Group 8745th DU, the
4 Pentagon. Does that help to refresh your
5 recollection in any way as to Colonel Batlin's
6 position?

7 A. No.

8 Q. Dr. Metcalf, are you familiar with the
9 terms 2,4-D and 2,4,5-T?

10 MR. KAVENAGH: Excuse me, may I interrupt?
11 Are you through with Exhibit 8 or are you going to
12 refer back to it?

13 MR. GORDON: I believe I'm through with
14 it.

15 MR. KAVENAGH: I move to strike it. One,
16 no relevance; two, absolutely no relationship to the
17 discussion. You've not in any way made it a part of
18 his knowledge and, obviously, it's an extraneous
19 document in terms of this entire deposition. It has
20 no meaning.

21 MR. GORDON: Read back the last question.

22 (The record is read)

23 A. I wouldn't say familiar. I've read the terms
24 in the paper.

25 Q. When did you read those terms in the

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1 paper?

2 A. It seems to me it's been within the last year.

3 Q. What do you understand the terms 2,4-D
4 and 2,4,5-T to refer to?

5 A. Well, from what I recall of the piece that I
6 read in the -- I guess it was the Wall Street
7 Journal or some such paper, I believe they said it
8 was -- they were components of Agent Orange or
9 something like that.

10 Q. When did you first hear of Agent Orange?

11 A. Really it would be hard to say. I don't know.

12 Q. Had you heard of -- excuse me?

13 A. I was just going to volunteer the fact that it
14 seems to me that sometime while I was still employed
15 at Edgewood Arsenal I heard the term.

16 Q. Do you recall whether you heard of Agent
17 Orange while you were still chairman of the ILO?

18 MR. TAYLOR: Objection to the form.

19 A. That I couldn't say.

20 Q. Are you aware of any work concerning
21 compounds containing 2,4-D or 2,4,5-T that was
22 undertaken at Edgewood at any time?

23 A. Not that I know of.

24 Q. Are you aware of any work concerning
25 Agent Orange that was undertaken at Edgewood at any

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1 time?

2 A. Not that I am aware of or remember right now.

3 Q. Are you aware of any work concerning
4 2,4-D or 2,4,5-T compounds that was undertaken at
5 Fort Detrick at any time?

6 A. Not of my own personal knowledge, no.

7 Q. Were you aware of any work or are you
8 aware of any work concerning Agent Orange that was
9 undertaken at Fort Detrick at any time?

10 A. Would you rephrase that question or repeat it
11 for me please.

12 Q. While you were at Edgewood, were you at
13 any time aware that work concerning Agent Orange was
14 being conducted at Fort Detrick?

15 MR. KAVENAGH: Have you established there
16 was sufficient communication between the two so that
17 he would normally know?

18 MR. GORDON: Yes.

19 MR. KAVENAGH: When?

20 A. The best I can answer that is that in the
21 course of my work, I should have heard about it, but
22 whether I did or not, I couldn't tell you now.

23 Q. Did you know Dr. H. MacFarland of
24 Hazelton Laboratories?

25 A. I don't recognize that name, no.

1 Q. Did you ever visit Hazelton Laboratories
2 in connection with any of your activities at
3 Edgewood?

4 A. It was a possibility but I don't recall any
5 specific visit.

6 Q. Do you recall whether the United States
7 Public Health Service had any offices or personnel
8 located at Edgewood in the 1960's?

9 MR. TAYLOR: Objection to form.

10 A. It seems to me I remember a Public Health
11 officer visiting the laboratories from time to time.
12 What the time frame was, I don't know.

13 Q. Do you recall that Public Health officer's
14 name?

15 A. It was a Russian name. I don't think it was
16 anything continuous or set up on a continual basis,
17 because I just remember this one officer showing up
18 from time to time and talking.

19 Q. Could the officer's name have been Boris
20 Osheroff?

21 MR. TAYLOR: Objection.

22 A. Right.

23 Q. Did you ever have any discussions with
24 Dr. Osheroff?

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25 A. If I remember his name, I must have, yes, yes.

1 Q. Do you recall what the subject of those
2 discussions was?

3 A. No.

4 Q. Dr. Metcalf, do you still have any
5 documents in your possession relating to your work
6 at Edgewood?

7 A. No.

8 MR. GORDON: Could we take a two minute
9 recess.

10 (Recess)

11 Q. Dr. Metcalf, referring you again back to
12 Exhibit 8 which is Dr. Hoffman's report on his trip
13 to Europe, in that report, there is mention of
14 several different chemical compounds as well as a
15 diagram at Page 16 of 2,3,7,8
16 tetrachlorodibenzo-p-dioxin.

17 Were any procedures followed for
18 incorporating information in trip reports or other
19 investigations --

20 MR. TAYLOR: Objection to form.

21 MR. GORDON: Please let me finish the
22 question, Mr. Taylor.

23 MR. TAYLOR: That's why it's vague. My
24 apologies.

25 MR. GORDON: I'll start over.

1 Q. Strike that.-

2 Were there any procedures for
3 incorporating information from trip reports and
4 other investigations by Edgewood personnel into the
5 files of the Industrial Liaison Office?

6 MR. TAYLOR: Objection.

7 A. The only way that, as I remember, that it could
8 happen is that if one of our people, one of the
9 people in the Industrial Liaison Office, took a trip,
10 then the information that they obtained would be
11 incorporated, but for the other members of the
12 laboratory, if they were, I don't recall.

13 Q. In 1959, if the information concerning
14 2,3,7,8 tetrachlorodibenzo-p-dioxin which is
15 contained in Dr. Hoffman's report had been
16 transmitted to the ILO --

17 MR. KAVENAGH: Object. That's about as
18 speculative as you can get.

19 MR. GORDON: I wish you'd let me finish
20 the question.

21 MR. KAVENAGH: The "if" marks it clearly.

22 MR. GORDON: I understand what you're
23 objecting to but I still appreciate if you let me
24 finish the question.

25 Q. -- had been transmitted to the ILO, would

1 a number have been given to the dioxin compound?

2 MR. TAYLOR: Objection on the grounds of
3 speculation.

4 A. If it had been transmitted, any structure that
5 came into the office was given a number. That was
6 the basis of our recording system.

7 MR. KAVENAGH: That's not responsive to
8 the question.

9 MR. GORDON: I have no problem with the
10 answer

11 MR. TAYLOR: And define it for future
12 objections, I move to strike at this time although I
13 recognize it's preserved until later.

14 MR. GORDON: Let me know when you guys
15 are done.

16 MR. KAVENAGH: Are you categorizing
17 structures with reports and information?

18 MR. GORDON: Mr. Kavenagh, I'm almost
19 done and if you have any questions concerning Dr.
20 Metcalf's testimony, you'll be able to take it up in
21 a few minutes.

22 MR. KAVENAGH: Not with his testimony,
23 more about your questions.

24 MR. GORDON: Well, you can move at the
25 appropriate time to do whatever you want.

1 MR. KAVENAGH: I think we just might.

2 MR. GORDON: Fine.

3 Q. If a number had been given to a dioxin
4 compound transmitted by Dr. Hoffman, would there be
5 a prefix for that number?

6 MR. TAYLOR: Objection on the grounds of
7 speculation.

8 A. It would have been assigned an ordinary number
9 which normally had a prefix.

10 Q. What type of prefix would the number have
11 had?

12 A. We used --

13 MR. TAYLOR: Objection on the grounds of
14 speculation.

15 A. We used only one series of numbers in the
16 Industrial Liaison Office and that was a CS number.

17 Q. Were there any EA numbers assigned to
18 compounds in the ILO?

19 MR. TAYLOR: Objection to form.

20 MR. KAVENAGH: Asked and answered some
21 time ago also.

22 A. Not as far as I know.

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23 Q. Was there a repository for compounds that
24 had been given EA prefixes rather than CS prefixes?

25 MR. TAYLOR: Objection to form. It

1 assumes that there were compounds given EA prefixes.
2 He's already testified he doesn't know that there
3 were.

4 A. If I understand you to mean that was there a
5 suppository, in other words, a place of storing
6 compounds that had an EA number, there was at one
7 time. Now, what that period of time was or what
8 time that was I'm talking about, I have no
9 recollection.

10 Q. Where was that repository?

11 A. On the post at Edgewood Arsenal.

12 Q. Was there a name for that repository?

13 A. It was -- if there was a specific name applied
14 to it, I don't recall what it is.

15 Q. Do you recall what branch or division at
16 Edgewood was in charge of maintaining that
17 repository?

18 A. It was the group, I believe, that was charged
19 with organic synthesis.

20 Q. Who was in charge of that group?

21 A. Well, it varied depending on the time. At one
22 time, Dr. Witten was in charge. I think at another
23 time, I believe, Dr. Hoffman was in charge. Those
24 are the only two names that seem to click in that
25 frame of question.

1 MR. GORDON: Miss Reporter, would you
2 please mark as Metcalf Exhibit 9 the letter from
3 Richard Kreiger to David Renard dated September 17,
4 1979 and a memo from David Renard to Richard Kreiger
5 dated August 28, 1968.

6 (Exhibit Metcalf-9 is marked for
7 Identification)

8 Q. Dr. Metcalf, I believe I asked you
9 previously if you knew a Mr. Richard Kreiger and I
10 believe your answer was that you did not recall; is
11 that correct?

12 A. That is correct.

13 Q. Does Exhibit 9 help to refresh your
14 recollection as to who Mr. Kreiger was?

15 A. No, it doesn't.

16 Q. Referring you to the upper left-hand
17 corner of page 2 of Exhibit 9, does that refresh
18 your recollection whether Mr. Kreiger was in charge
19 of the Industrial Liaison Office at Fort Detrick

20 MR. TAYLOR: Objection to form.

21 MR. KAVENAGH: Not only to that. I
22 believe he has retired sometime prior to that date.
23 Unless you can establish he's maintained direct
24 contact, he would have no knowledge of this or
25 Kreiger or even the existence of the arsenal.

1 Q. Do you recall the question?

2 A. I recall the question.

3 From the title shown here, it appears
4 that he was a member of an Industrial Liaison Office
5 of the Crops Division, but as far as recalling Mr.
6 Kreiger, I have no recollection of him.

7 Q. Dr. Metcalf, referring you to the list of
8 compound numbers on Page 2 of Exhibit 9, there are
9 certain prefixes FDM. Do you know what the FDM was
10 an abbreviation for?

11 MR. TAYLOR: I'll have to object to any
12 testimony concerning this document since he's
13 neither the author and he's testifying he has not
14 seen this document before.

15 A. No, I am not acquainted with the initials or
16 the prefix FDM.

17 Q. Referring you to the first page of
18 Exhibit 9 in which there is a statement, "Enclosed
19 please find the screening data on compounds supplied
20 by your group for our program." What kind of
21 grounds were supplied by the Edgewood ILO to Fort
22 Detrick?

23 A. As I mentioned earlier, there was a
24 representative most of the time on the advisory
25 committee from Fort Detrick and when they saw

1 structures that they would like to test, we would
2 request them the same way as we would from someone
3 from Edgewood Arsenal.

4 Q. Do you recall the name of the Fort
5 Detrick representative on the advisory committee for
6 the ILO?

7 A. The only name I recall in connection with their
8 operation is the one we mentioned this morning,
9 Braspeninickx.

10 Q. Do you recall whether Dr. Minarik ever
11 served on the advisory committee for the ILO?

12 A. Dr. Minarik's name, I had a rather good
13 position over there. He could have, but I don't
14 recall whether he actually served on the committee
15 or not. It wouldn't have been unlikely from what I
16 remember of his position.

17 Q. Dr. Metcalf, thank you very much. I have
18 no further questions at this time.

19 MR. CAVANAUGH: I have no questions.

20 CROSS-EXAMINATION BY MR. WHITE:

21 Q. Good afternoon, Doctor. My name is Alan
22 White. I have a few questions I'd like to ask you.
23 Are you familiar with the term phenoxy herbicide?

24 A. Phenoxy --

25 Q. Phenoxy herbicide.

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1 A. No.

2 Q. Are you familiar with the fact that the
3 military was conducting a defoliation operation in
4 South Vietnam during what's been known as the war in
5 South Vietnam?

6 MR. KAVENAGH: Will you repeat that
7 question please.

8 Q. Were you familiar with the fact that the
9 military was conducting a defoliation campaign in
10 South Vietnam or Southeast Asia during the war in
11 Vietnam.

12 MR. KAVENAGH: Are you talking about his
13 recollection or the time in which they were doing it?

14 Q. Do you understand the question?

15 A. I think so. The only way I knew about it was
16 what I read in the newspapers.

17 Q. Do you recall when you became aware of
18 that?

19 A. Heaven only knows, no.

20 Q. Do you know if you were aware of it at
21 the time that the Vietnam was was going on -

22 MR. TAYLOR: Objection, vagueness.

23 Q. -- to the United States military
24 involvement in Vietnam?

25 MR. TAYLOR: Same objection.

1 MR. KAVENAGH: Which began when?

2 A. I just don't recall in terms of those general
3 statements.

4 Q. Do you recall if anyone at Fort Detrick
5 or any group at Fort Detrick was involved in
6 experimentation on herbicides?

7 MR. TAYLOR: Objection to form.

8 A. Yes, I knew that they had a herbicide program
9 going on.

10 Q. Would that have been the Crops Division?

11 MR. TAYLOR: Objection to form.

12 A. I don't remember the name, but I think they had
13 some group over there involved in that.

14 Q. When you were aware of the fact that they
15 had a group at Fort Detrick that was involved in
16 herbicide experimentation, was that while you were
17 in the Industrial Liaison Office?

18 A. Yes.

19 Q. Do you recall what they were doing in
20 terms of herbicide experimentation?

21 A. No.

22 Q. Do you recall if the group at Fort
23 Detrick requested you or anyone in your unit to
24 obtain certain samples of herbicides for
25 experimentation?

1 A. All I remember is that Detrick requested
2 samples from time to time. I don't recall
3 specifically whether they were for herbicide
4 experimentation or not.

5 Q. Based on your knowledge of the operations
6 of the ILO and the operations of Fort Detrick and
7 Edgewood Arsenal, if the people at Fort Detrick who
8 were conducting experimentation on herbicides wanted
9 to obtain certain herbicides, how would they go
10 about doing that?

11 MR. TAYLOR: Objection to form.

12 MR. KAVENAGH: Yes. The presumption is
13 he's thoroughly familiar with the operations
14 organization at Fort Detrick and that has not been
15 established.

16 Q. Let me rephrase the question.

17 If the people at Fort Detrick wanted
18 samples of herbicides, do you know how they would go
19 about obtaining it?

20 A. Well, if they had seen the structure on one of
21 our CS lists by their representative at one of the
22 advisory committee meetings, then he would have
23 requested us to see if we could get a sample for him.

24 Q. If they had requested it, if the people
25 at Fort Detrick that were conducting experiments on

1 herbicides had seen some chemical and had requested
2 it from you, would ILO have kept a record of that
3 request?

4 A. Just like we would every other compound and so
5 forth, yes.

6 Q. If you, in fact, obtained that chemical
7 compound in response to that request from industry,
8 would there have been a record of having obtained
9 that chemical and sending it to Fort Detrick?

10 A. In the normal course of operations, yes.

11 Q. If the people that were conducting
12 herbicide experimentations at Fort Detrick wanted a
13 continuous supply, say, for instance, they had used
14 it up and wanted more, do you know how they would
15 have gone about obtaining more?

16 A. I can't answer your specific question because I
17 don't remember, but all I can remember is
18 generalities here. The normal course is that we
19 would have written back to see if we could obtain
20 from the donor the larger quantity that our
21 evaluator would want to look at.

22 We would have tried to help, but you
23 don't know what the answer would be.

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24 Q. I guess what I'm asking is in the normal
25 course of business between you and the people at

1 Fort Detrick that would have been conducting
2 experiments, would they have gone through your
3 office, ILO, to get the samples or would they have
4 gone directly themselves, if you know the answer?

5 A. They couldn't have gone directly because they
6 wouldn't have known the source.

7 Q. I'd like to turn for a minute to your
8 office's relations with industry. What type of
9 contacts did you maintain with industry in order to
10 obtain these new chemical samples or new samples?

11 A. Well, as good as we could. It was a
12 relationship that had to be started slowly and build
13 up to the point where the companies would trust the
14 laboratories with their proprietary information and
15 so it was a slowly developing trust between the two
16 cooperating laboratories, and so we did everything
17 we could to try to keep this relationship on a very
18 good and congenial basis. This would mean trips
19 from time to time and letters and making sure that
20 evaluations got back to the company of the compounds
21 they -- samples of which they had submitted. This
22 sort of thing.

23 Q. When you said proprietary information,
24 what are you referring to?

25 A. That which a company deems to be not for

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1 general dispensation.

2 Q. Company secrets then?

3 A. Company secrets would be another name for it,
4 yes.

5 Q. Did you deal with industry that
6 manufactured products other than chemicals?

7 A. It seems to me I recall a few times where
8 somebody had been trying to find a material with
9 certain characteristics, what area, what use, I
10 wouldn't recall now that we wrote a few letters to
11 this company or that.

12 Q. Would it be fair to say that the majority
13 of your dealings with industry were with the
14 chemical industry?

15 A. With the chemical and pharmaceutical industry,
16 yes.

17 Q. Did you yourself have personal contacts
18 with the various chemical industries?

19 A. With some, yes.

20 Q. Do you recall with which ones?

21 A. Oh, no, no. If you have anybody in particular
22 in mind, I might have visited, but the chances of me
23 remembering a specific instance is very slight.

24 Q. Would you yourself have been personally
25 aware of every request that came from either Fort

1 Detrick or Edgewood Arsenal for obtaining a certain
2 chemical compound?

3 A. No.

4 Q. When you became director of ILO, would
5 you say that the good majority of your
6 responsibilities were administrative?

7 A. Yes.

8 Q. And would the people responsible for the
9 nuts and bolts of obtaining certain chemical
10 compounds, would that have been done by the people
11 under you?

12 A. Well, as I indicated earlier, the program grew
13 from me and one secretary to a fairly reasonable
14 organization for this kind of work, so at the
15 beginning naturally I was doing everything. At the
16 end, it was primarily administrative, writing
17 letters, talking to people, et cetera.

18 Q. What time frame would you characterize as
19 the end, as you just used that word?

20 A. As --

21 Q. As the end, what time frame would you
22 characterize as the end where you moved from the
23 point of being involved in the daily operations to
24 becoming more of the administrator individual that
25 wrote the letters or dealt with industry in that

1 fashion?

2 A. I would have to know how the personnel came
3 into the office and I don't recall just how often
4 they were -- I would say just to pick a figure out
5 of a hat, maybe five years from the beginning.

6 Q. The period 1961 to 1966?

7 A. Was more administrative than that prior to 19 --
8 well, halfway back, whatever the years were.

9 Q. Does the term 2,4-D, if I told you that
10 term meant 2,4-dichlorophenoxyacetic acid, would
11 that term be more familiar to you than 2,4-D?

12 A. Well, if you had asked me what 2,4-D stood for,
13 I couldn't have told you.

14 Q. And 2,4,5-trichlorophenoxyacetic acid,
15 would that term be more familiar to you?

16 A. Yes.

17 Q. In what respect?

18 A. Yes, in that as an organic chemist I would
19 write the structure from the name, so it would give
20 me a picture, but being any more familiar otherwise,
21 no.

22 Q. Thank you very much, Doctor, I have no
23 further questions.

24 CROSS-EXAMINATION BY MR. TYRRELL:

25 Q. Dr. Metcalf, my name is James Tyrrell. I

1 represent the Monsanto Company and I have very few
2 questions for you this afternoon.

3 A. Good.

4 Q. Doctor, we've talked about two separate
5 numbering systems that were used at Edgewood Arsenal
6 during the period you were in the Industrial Liaison
7 Office, one was a numbering system with CS prefixes;
8 is that correct?

9 A. Yes.

10 Q. There was also a numbering system that
11 used EA prefixes.

12 Forgive me if I'm going over old ground,
13 was it your understanding that EA had a meaning to
14 it?

15 A. Well, yes, and I don't remember ever seeing in
16 writing what it stood for.

17 Q. What was your impression of what it stood
18 for?

19 A. I always thought it meant Edgewood Arsenal but
20 I couldn't guarantee that.

21 Q. Was that a series of prefixes then that
22 were assigned to compounds to the best of your
23 present recollection that were synthesized at
24 Edgewood Arsenal?

25 A. Yes.

1 MR. TAYLOR: Objection to form.

2 Q. Was there any other prefix used to
3 identify chemicals?

4 A. I really don't know but there were none that I
5 was familiar with or that I recall.

6 Q. Was there some index kept that would
7 allow you to cross index, if you will, EA numbers
8 and CS numbers?

9 A. Not to my knowledge was there any index kept.

10 Q. What type of check would be run before an
11 attempt would be made to synthesize a chemical at
12 Edgewood leading on the EA number to be sure you
13 didn't already have it in the CS file?

14 A. On occasion, the people who were involved in
15 the synthesis would come down to the office usually
16 because it was classified information and say would
17 you run a check and see if you've ever seen this
18 type of compound.

19 Q. And what would you do in response to that
20 request?

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21 A. I'd either run it or have run the check to see
22 and occasionally we would find something that would
23 approach the structure they were interested in.

24 Q. And when you say run the check, would
25 this be something run on a computer or run manually,

1 how would that be done?

2 A. Well, it all depends on your time frame again.
3 Sometimes it was a card by card search based on this
4 molecular formula based on occurrence of the atoms
5 or it would be run on a punch card system. The
6 computer system that we were developing was making
7 progress but never got really to the computer stage.

8 Q. Would it work in reverse, that is, would
9 people from your office ever go to the location
10 where EA numbers were indexed and searched to see if
11 there was anything in the EA numbers that you were
12 looking for?

13 A. I suppose, but I don't recall any specific
14 instances.

15 Q. Do you know if the EA numbers were
16 indexed in the same way that the CS numbers were?

17 A. Not that I recall that they were indexed at all.

18 Q. How would you retrieve anything then out
19 of the EA numbers?

20 A. If I recall correctly, it was very difficult,
21 almost by a line item search or depending on
22 somebody's memory.

23 Q. Was there any effort to log into either
24 the EA system or the CS system or any other system
25 at Edgewood of which you might be aware chemicals

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1 that would have appeared in trip reports?

2 MR. TAYLOR: Objection to form.

3 A. I don't recall of any steps along that line.

4 MR. TAYLOR: The question was asked and
5 answered.

6 Q. Have you completed your answer?

7 A. Yes.

8 MR. TYRRELL: Thank you very much. I
9 don't have any other questions.

10 CROSS-EXAMINATION BY MR. BURKE:

11 Q. Hello, Doctor. My name is Jack Burke.

12 I've got a couple of questions for you also. None
13 dealing with the Orioles or Earl Weaver.

14 A. Okay.

15 Q. When you were with the Industrial Liaison
16 Office, did you have a security clearance?

17 A. Yes.

18 Q. What security clearance did you have?

19 A. Either secret or top secret and I had both at
20 some time or other. It was at least secret and I
21 think it was top secret for most of that period.

22 Q. Was it originally secret and then were
23 you upgraded to top secret?

24 A. Yes.

25 Q. Back in 1956 or thereabouts, did you have

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1 a security clearance?

2 A. Yes.

3 Q. Was it secret at that time?

4 A. To the best of my knowledge, yes.

5 Q. Do you remember when your clearance was
6 upgraded to top secret?

7 A. I do not.

8 Q. Would it have been during the period of
9 time that you were at the Industrial Liaison Office?

10 MR. TAYLOR: Objection.

11 A. Yes, it could very well have been. In fact, I
12 think it was but I can't give you any dates. I
13 might even have had a top secret before I went into
14 the ILO but I just don't remember when.

15 Q. Back in the period 1956 to 1966, was
16 there any higher security clearance than top secret?

17 A. As far as the laboratory --

18 Q. As far as you knew.

19 A. It seems to me there was a higher one involving
20 atomic energy or something like that.

21 Q. Do you know if there was any higher
22 security clearance involved with, let's say,
23 research into toxic chemicals?

24 A. Not that I know of.

25 Q. Now, back in the 1956 to 1966 time period,

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1 the fact that you had a top secret clearance did not
2 mean that you were permitted to see all top secret
3 documents or materials; isn't that correct?

4 A. That is correct.

5 MR. KAVENAGH: Object. You're trying to
6 get him to delve into the devious mind of who
7 established the confidential circuit and I doubt if
8 anybody can do that let alone a person who's been
9 given the designation.

10 Q. In addition to top secret clearance in
11 order to see certain documents, you would have to
12 have the need to know, is that correct?

13 A. That was my understanding of top secret.

14 Q. In the event that experimentation was
15 being conducted at Edgewood Arsenal involving a
16 toxic substance, the identity of which you had no
17 need to know of, is it possible that that substance
18 would have been requested from certain sources
19 without going through your office?

20 MR. TAYLOR: Objection on the grounds of
21 speculation.

22 A. Sure, it's possible.

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23 MR. KAVENAGH: Anything is possible.

24 Q. You told us earlier, I believe, Doctor,
25 that certain compounds were actually synthesized at

1 Edgewood Arsenal; is that correct?

2 A. That's correct.

3 Q. Were you aware during the 1956 to 1956
4 time period of all of the compounds that were being
5 synthesized at Edgewood Arsenal?

6 A. I'm sure I wasn't.

7 Q. When you used the term to synthesize a
8 compound, what are you saying in layman's terms?
9 What does that mean to synthesize a compound?

10 A. Only by taking two or more simpler materials
11 and allowing them to react to give another compound
12 which, in turn, may react with something else to
13 give you a third or a fourth or a fifth. In other
14 words, you take A plus B and it gives you C. If C
15 isn't what you want, you let it react with D. That
16 reacts to give you E. If E isn't what you want, you
17 let it react with another material or combination of
18 circumstances to give you maybe the product you want.

19 Q. Let's follow your example a little
20 further, Doctor.

21 If you reacted A with B and C was formed,
22 you as an organic chemist, would you be able to draw
23 the structure for C? 14447

24 A. If the reaction proceeded according to theory,
25 then one could draw the structure but one would

1 never know the structure positively without checking
2 that structure out to make sure the theory didn't go
3 awry someplace.

4 Q. You've been shown documents today that
5 describe a structure known as 2,3,7,8
6 tetrachlorodibenzo-p-dioxin, is that correct?

7 A. I guess that was the name of it.

8 Q. Have you ever heard -- withdrawn. Had
9 you ever heard of 2,3,7,8
10 tetrachlorodibenzo-p-dioxin before today?

11 MR. KAVENAGH: That's been asked and
12 answered two or three times around by now.

13 A. Yes, yes.

14 Q. When did you hear of that structure for
15 the first time?

16 A. That I don't know.

17 MR. KAVENAGH: Is this repetition really
18 necessary?

19 Q. In response to a question that was posed
20 to you this afternoon regarding
21 2,4,5-trichlorophenoxyacetic acid, you responded by
22 saying that after hearing that term, you as an
23 organic chemist would be able to draw the structure,
24 is that correct?

25 A. If the name is good, an organic chemist should

1 be able to draw the structure.

2 Q. Assume that the term 2,3,7,8
3 tetrachlorodibenzo-p-dioxin is an accurate term,
4 would an organic chemist be able to draw the
5 structure of that compound?

6 A. Some. I wouldn't.

7 Q. But some would?

8 A. Some would. I wouldn't be able to.

9 MR. TAYLOR: Although a little late I have
10 to object in terms on the grounds of vagueness.
11 There's been no time frame for which an organic
12 chemist could have drawn such a structure from that
13 name.

14 Q. That's a good point, Doctor. Back in the
15 period 1960 through 1970 was it within the expertise
16 of the field of organic chemistry to be able to draw
17 the structure representing 2,3,7,8
18 tetrachlorodibenzo-p-dioxin?

19 A. Well, my answer is the same. To some chemists,
20 that would have -- they could visualize a structure
21 from it. Other chemists would not.

22 Q. Now, if the structure for 2,3,7,8
23 tetrachlorodibenzo-p-dioxin was known at Edgewood
24 Arsenal in the 1960's, would organic chemists at
25 that facility been able to synthesize that compound

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1 by relying on the structure?

2 MR. KAVENAGH: Objection on the grounds
3 of speculation?

4 A. I don't know.

5 Q. Within the field of organic chemistry
6 back in the sixties, was it possible to synthesize
7 compounds from a structure?

8 MR. TAYLOR: Objection. That question is
9 so vague.

10 A. The question is very, very general.

11 Q. I meant it to be general, Doctor.

12 A. In general, one should be able to make an
13 attempt to synthesize compounds from any structure
14 that can be drawn. Whether the chemical syntheses
15 for doing what you want to do have been designed or
16 not or whether you have to work in the dark to try
17 to find a method, you don't know which is approached
18 until you go into the literature, so just by looking
19 at a structure you can't say positively that
20 structure can be synthesized or not. You might have
21 ideas, but you might have to do a whale of a lot of
22 work to prove it.

23 Q. To your knowledge, did personnel at
24 Edgewood Arsenal ever engage in a great deal of work
25 in order to synthesize a certain compound?

1 MR. TAYLOR: Objection to vagueness. What
2 is a great deal of work and what compounds are we
3 talking about?

4 Q. Do you understand my question, Doctor?

5 A. I don't know which compounds you're referring
6 to.

7 Q. Let's assume that back in the sixties a
8 particular structure became known to scientists,
9 chemists at Edgewood Arsenal and that this structure
10 generated a great amount of interest in these
11 scientists and chemists, would they then embark on a
12 great deal of work in order to synthesize that
13 particular compound from the structure that was
14 known to them.

15 MR. TAYLOR: Objection in terms of
16 vagueness. What compound are we talking about?

17 A. There's just no way to answer the question.
18 There were too many things bearing on questions of
19 whether to synthesize or not to try to synthesize,
20 at least as I recall, because there's always
21 hundreds of ideas and you only have limited
22 personnel.

23 Q. Back in the sixties, did chemists at
24 Edgewood Arsenal ever synthesize compounds from
25 structures that had been provided to them?

1 MR. GORMAN: Object. You're asking for
2 the entire role history and function of not only
3 organic chemistry but what went on at Edgewood
4 Arsenal for every division in the laboratory. I
5 don't think his position required that kind of
6 knowledge.

7 Q. You can answer the question, Doctor.

8 A. Would you repeat that for me please.

9 (The record is read)

10 A. Realizing that structures were dreamed up and
11 presented from many, many different sources, I'm
12 sure the answer is that certain levels of effort
13 were used to try to synthesize some of these ideas
14 and some of the structures presented, but beyond
15 this generality, I have no recollection.

16 Q. Do you have any recollection if chemists
17 at Edgewood Arsenal during the 1950's were
18 attempting to synthesize 2,3,7,8
19 tetrachlorodibenzo-p-dioxin from the structure that
20 had been provided to them?

21 MR. TAYLOR: Objection. The question
22 incorporates evidence which has not been testified
23 to.

24 A. To answer your question, not that I know of.

25 Q. Would it be fair to say, Doctor, that

1 certain compounds and/or structures generated
2 varying degrees of interest among chemists at
3 Edgewood Arsenal?

4 MR. KAVENAGH: That's a platitudinous
5 observation. I don't see what relevant it has to
6 anything.

7 A. Yes.

8 Q. The answer is yes?

9 A. Yes.

10 Q. Assume, if you will, for a moment, Doctor,
11 that a certain structure generated a great deal of
12 interest at Edgewood Arsenal and the compound which
13 that structure represented was not available from a
14 commercial source, would it have been custom and
15 practice back in the 1960's for chemists at Edgewood
16 Arsenal to attempt to synthesize the compound?

17 MR. TAYLOR: Objection on the grounds of
18 speculation. Objection on the ground the question
19 is compound and complicated to understand.

20 MR. BURKE: And you might not like the
21 answer.

22 MR. KAVENAGH: It probably won't be much
23 of an answer but go ahead.

24 MR. BURKE: Let's have the question read
25 back to you, okay, Doctor?

1 A. Yes, please.

2 (The record is read)

3 A. As I recall the procedure in a situation like
4 that, if everybody was agreed that the compound was
5 of interest, it would depend a great deal on the
6 source of the information.

7 Now, if it were a CS source, they
8 wouldn't be trying to synthesize the compound. If
9 it were a local advisory committee or an Army
10 advisory committee or an idea that developed from
11 the literature, then it certainly would have been
12 tried.

13 MR. BURKE: Thank you, Doctor.

14 MS. NEIMANN: I don't have any questions.

15 MR. WHITE: I have one other question.

16 RECROSS-EXAMINATION BY MR. WHITE:

17 I'd like to have this marked for
18 Identification this is a commercial source sample
19 record log.

20 (Exhibit Metcalf-10 is marked for
21 Identification)

22 Q. Doctor, I show you what's been marked
23 Metcalf Exhibit-10 and ask you if you recognize that
24 exhibit. 14454

25 A. It looks similar to the log sheets that we used

1 in the Industrial Liaison Office... That's as far as
2 I could go.

3 MR. TAYLOR: Before you ask any questions --

4 MR. KAVENAGH: May we look?

5 MR. TAYLOR: Yes.

6 MR. WHITE: Yes.

7 MR. KAVENAGH: Is there a date for this
8 document.

9 MR. WHITE: No, not that I know of but
10 there are dates pertaining within.

11 MR. KAVENAGH: This could be historical,
12 it could be anticipatory. It could be again an
13 illusive document floating in a legal limbo. I
14 object to its introduction.

15 Q. Doctor, you indicated that that looks
16 like a --

17 MR. KAVENAGH: There's a continuing
18 objection to any questions relative to this document.

19 Q. That looks like a commercial source
20 sample log that you kept in your Industrial Liaison
21 Office; is that correct?

22 A. Yes.

23 Q. What would that log contain?

24 MR. KAVENAGH: The record, by the way
25 should point out that there's no similarity to the

1 prior exhibit which I believe is number five and
2 you're creating an illusion of similarity or
3 identical carbons I think is misleading to say the
4 least.

5 Q. Doctor, what would that log contain?

6 A. Well, if you look at the titles at the head of
7 the page, it's pretty well self-explanatory.

8 Q. Under the column source code, you have
9 varying four digit numbers. What would those four
10 digit numbers represent, if you know?

11 A. That is a CS number that was previously
12 identified and it would indicate that this
13 particular compound, whatever it was, was identified
14 by this number. I'm sorry -- I'm sorry, I beg your
15 pardon. I am incorrect on the statement I made.
16 This is the source code number. That was the number
17 that the source provided when the sample was sent in
18 for identification purposes.

19 Q. Under the --

20 A. This is the CS number as indicated in the
21 column.

14456

22 Q. On the second CS -- the second number
23 down on the CS column which reads 66422 has a source
24 code of 5755, would there be a way of determining
25 where that particular chemical compound came from by

1 cross-checking that source code number?

2 A. Well, if you go through all the information
3 from all of the companies that the ILO was
4 communicating with about that time, then you would
5 find in the file that listing.

6 Q. Do you recognize the handwriting or the
7 handwritings on that document at all?

8 A. No.

9 Q. The handwritten portion that is in there,
10 it does have dates next to it. Do you know who
11 would have been likely in your office to have put
12 that information in by hand?

13 A. These log books were kept by the scientific
14 personnel and they would be the only ones familiar
15 with these dates and when they should be put in and
16 when they should not.

17 Q. Would the handwritten information be put
18 in by a scientific personnel or a clerical?

19 A. Most of the time, I would think that it was the
20 scientific personnel, at least that's the best of my
21 recollection that it was.

22 Q. And would that commercial source sample
23 record log indicate where a certain chemical
24 compound was sent to from your office? 14457

25 A. Under the requester it gives a name and when it

1 was sent to them, as I recall it, it was sent on a
2 particular date.

3 MR. WHITE: Thank you very much, Doctor,
4 I have no further questions.

5 MR. BURKE: If I may, I've got just a
6 couple more questions just to keep the continuity
7 going.

8 RECROSS-EXAMINATION BY MR. BURKE.

9 Q. Doctor, you told us a little while ago in
10 response to one of my questions that you had heard
11 of the term 2,3,7,8 tetrachlorodibenzo-p-dioxin
12 prior to today; is that correct?

13 A. I think so, I think so.

14 Q. Do you remember approximately how long
15 ago it was that you first heard that term?

16 MR. TAYLOR: Asked and answered.

17 A. No recollection at all.

18 Q. Did you retire from the government in
19 1971?

20 A. 1974.

21 Q. 1974? Do you recall if you would have
22 heard the term 2,3,7,8 tetrachlorodibenzo-p-dioxin
23 while you were still employed by the government?

24 A. No, I don't recall.

25 Q. Do you recall the context in which you

1 heard that term? Let me withdraw the question.

2 Did you hear about that term from talking
3 to somebody or did you read it in the literature?

4 MR. TAYLOR: Objection to form.

5 A. I haven't the slightest idea.

6 Q. Do you know if you became aware of the
7 term 2,3,7,8 tetrachlorodibenzo-p-dioxin while you
8 were still in the Office of Industrial Liaison?

9 MR. KAVENAGH: He just answered that he
10 couldn't place the time.

11 A. I can't recall. But if it would help any, if
12 it were talked about at Edgewood, I probably would
13 have heard about it.

14 MR. KAVENAGH: You're pushing for an
15 answer that he can't answer.

16 Q. Do you recall it being talked about?

17 MR. YANNAZONE: Objection to any further
18 badgering of this particular witness under any
19 circumstances.

20 MR. GORDON: He has no standing in this
21 deposition.

22 To make objections you have to be here
23 from the beginning of the deposition. 14459

24 MR. YANNAZONE: Nonsense. Mr. Yannacone
25 is lead counsel for the plaintiffs. Mr. Yannacone

1 will make objections as he sees fit. Those
2 objections are on the record. You can save it until
3 5 o'clock and you can suspend the examination until
4 5 o'clock if you want to.

5 MR. BURKE: We were getting along pretty
6 well up until now.

7 MR. YANNACONE: You were putting words in
8 the doctor's mouth that I'm not going to permit any
9 further opportunity to occur.

10 MR. BURKE: Would you read the question
11 back to the witness please.

12 (The record is read)

13 Q. I guess I didn't finish my question,
14 Doctor.

15 Do you recall if the term 2,3,7,8
16 tetrachlorodibenzo-p-dioxin was being talked about
17 while you were at Edgewood Arsenal?

18 MR. YANNACONE: Objection. It's been
19 asked and answered.

20 MS. WITT: I'll join in that objection.

21 MR. YANNACONE: Direct him not to answer.

22 A. I don't recall.

23 MR. BURKE: Thank you, Doctor.

24 MR. GORDON: Anyone else?

25 MR. KAVENAGH: Thank you very much, sir.

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MR. GORDON: Dr. Metcalf, thank you.

(Whereupon the proceedings are concluded
at four o'clock p.m.)

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C E R T I F I C A T E

I, HELEN DOHOGNE, a Certified Shorthand Reporter and Notary Public of the State of New Jersey, do hereby certify that prior to the commencement of the examination the witness and/or witnesses were sworn to testify the truth, the whole truth and nothing but the truth.

I do further certify that the foregoing is a true and accurate computer-aided transcript of the testimony as taken stenographically by and before me at the time, place and on the date hereinbefore set forth.

I do further certify that I am neither of counsel nor attorney for any party in this action and that I am not interested in the event nor outcome of this litigation.

Helen Dohogne
Notary Public of the State of New Jersey

Dated: _____

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DR ROBERT A DARROW
MOYER V DOW

50

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK
MDL No. 381

In re : Deposition of:
"AGENT ORANGE" : DR. ROBERT A. DARROW
Product Liability Litigation :

TRANSCRIPT of testimony as taken by and before
HEYWOOD WAGA, a Certified Shorthand Reporter and
Notary Public of the State of New Jersey, at the
offices of MESSRS. CADWALADER, WICKERSHAM & TAFT,
1333 New Hampshire Avenue NW, Washington, D.C.,
on Tuesday, July 13, 1982, commencing at 10:35
in the forenoon.

405 Northfield Avenue
West Orange, New Jersey 07052
(201) 731-9666

14484

A P P E A R A N C E S:

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BY: MARILYN NEIMAN, ESQ.
For Uniroyal, Inc.

JOAN BERNOTT, ESQ.
Department of Justice
For the United States of America

14405

1 ALSO PRESENT:

2 MARTHA A. LUTHER, Paralegal
3 Messrs. Ashcraft & Gerel
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I N D E XWITNESSDIRECT

ROBERT A. DARROW

Mr. Krohley

6

Mr. Burke

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Mr. Gordon

187

Mr. Matthews

194

Mr. Cavanaugh

205

E X H I B I T SNUMBERDESCRIPTIONIDENTIFICATION

Darrow-1

"Herbicides Used
in Southeast Asia"

76

Darrow-2

Technical Report,
Miscellaneous Publication 33,
Information Manual for
Vegetation dated 12/69

76

Darrow-3

Historical, Logistical,
Political & Technical
Aspects of the
Herbicide/Defoliant
Program, 1961-1971

76

Darrow-4

Technical Report,
Miscellaneous Publication 33,
Information Manual for
Vegetation dated 12/69

91

Darrow-5

Minutes of a Meeting
Held to Discuss and Evaluate
Toxicity of 2,4-D and
2,4,5-T dated 4-26-63

109

Darrow-6

"Toxicity of Herbicides
in Use in RVN"

114

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E X H I B I T S (Continued)

<u>NUMBER</u>	<u>DESCRIPTION</u>	<u>IDENTIFICATION</u>
Darrow-7	Memorandum for Director of Research Laboratories dated 3-11-70	138
Darrow-8	Air Force Weapons Laboratory dated 1/68	195

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1 July 13, 1982.

2 R O B E R T A. D A R R O W,

3 7613 Baltimore-National Pike, Frederick, Maryland

4 21701, SWORN, testified as follows:

5 DIRECT EXAMINATION BY MR. KROHLEY:

6 Q. My name is William Krohley. I represent
7 one of the defendants in this litigation.

8 Could you briefly describe your
9 educational background.

10 A. I attended a forestry school at Syracuse
11 University. It was a state school of forestry. I
12 got a Bachelors degree there. I went for one year
13 to the University of Idaho in the Botany Department.
14 I went from there to the University of Arizona and
15 spent a year there on a Masters degree. From there
16 to a Doctors degree at the University of Chicago,
17 which I obtained in 1937.

18 Q. In what did you obtain a Doctors degree?

19 A. In botany and ecology. I was in the Department
20 of Botany with an emphasis on ecology.

21 Q. During that period of time while you were
22 in school, did you have any involvement in
23 herbicides of any type?

24 A. Not at that time, no.

25 Q. Following the degree you obtained from

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1 the University of Chicago -- in what year was that,
2 incidentally?

3 A. I left there in 1936. I got the degree in 1937
4 in absentia, right after completing my dissertation.

5 Q. Beginning in 1936 to the present time,
6 could you describe your employment history. What
7 I'd like you to do to best of your ability is to
8 identify the nature of the jobs that you had and
9 provide a brief description of your duties as well.

10 A. From 1936 until 1948 I was at the University of
11 Arizona in what was called the Department of Botany
12 and Range Ecology. I was on a half time teaching
13 assignment there. Part of the time I was in
14 research and the research was in range management,
15 range ecology, and taxonomy of plants. During that
16 time -- I was working at that time for part of the
17 time in Santa Rita Experimental Range. I was
18 involved in such things as re-vegetation and some
19 work on the use of 2,4-D. 2,4-D just came out
20 during the latter part of time that I was there.

21 Q. Approximately when was that? Do you
22 recall that?

23 A. Well, it was about 1947 or so, 1947.

24 Q. Go on.

25 A. I left there in the fall of 1948.

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1 Q. Let me stop you there for a moment. In
2 what connection did you first learn about 2,4-D?

3 A. In connection with the work on the control of a
4 noxious woody plant on the Santa Rita Experimental
5 Range, a plant called burroweed, all one word,
6 B U R R O weed. It is a composite, a member of the
7 composite family. It is unpalatable to live stock
8 and the attempt was to get rid of it and grow grass
9 in its place.

10 Q. Can you tell me who brought this
11 substance to your attention for the first time?

12 A. Kenneth W. Parker was doing the work. He was
13 with the Forest Service.

14 Q. What work was Mr. Parker engaged in?

15 A. He was in range management.

16 Q. Was Mr. Parker responsible for the
17 discovery of 2,4-D?

18 A. No.

19 MR. O'BRIEN: Objection to the form of
20 the question.

21 Q. Under what circumstances did Mr. Parker
22 bring 2,4-D to your attention during this period of
23 time?

24 A. He was concerned as a research worker with
25 grazing management, range management studies, and

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1 brush control or woody plant control which was one
2 aspect of that.

3 Q. Did you personally come into contact with
4 the substance 2,4-D during that period of time?

5 A. Did I come into contact with what?

6 Q. Did you personally come into contact with
7 the substance 2,4-D during that period of time in
8 the late 1940s?

9 A. Yes.

10 Q. In what way?

11 A. In spraying on individual plants of this woody
12 plant.

13 Q. Did you personally spray 2,4-D on woody
14 plants?

15 A. Yes.

16 Q. What type of spray apparatus did you use?

17 A. Just a two or three gallon knap-sack sprayer.

18 Q. Where did you obtain the 2,4-D for this
19 purpose?

20 A. I believe the term came from Oklahoma, at the
21 US Southern Great Plains Station, Oklahoma. As far
22 as the material that I received, it came from there.
23 They in turn got it from the chemical company. I'm
24 not sure who.

25 Q. Was anyone else working with you while

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1 you were working on 2,4-D at that time?

2 A. The Forest Service people were working on it as
3 well.

4 Q. Can you identify the individuals you have
5 in mind?

6 A. Well, Kenneth Parker is the only one.

7 Q. Do you know if Mr. Parker ever personally
8 came into contact with 2,4-D during that period of
9 time?

10 MR. O'BRIEN: Objection to the form of
11 the question.

12 MS. BERNOTT: You can answer.

13 A. There were several people there. I don't
14 recall who actually did the spraying. He was in
15 charge but other people, assistants, did the work,
16 in making application tests.

17 Q. Did you take any special precautions in
18 using 2,4-D at that time?

19 MR. O'BRIEN: Objection to the form of
20 the question.

21 A. It was a new material. I believe we followed
22 the directions that were given to us through the
23 people at the Southern Great Plains Station.

24 Q. Do you recall what those directions were?

25 A. Well --

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1 Q. If I am interrupting, I apologize. Stop
2 me if I do it.

3 A. To use the material in the open, and not near
4 desirable or crop plants, ornamental or cultivated
5 plants. It was to be used mainly on the range, open
6 range conditions.

7 Q. In using this material, 2,4-D, did you
8 get any of the substance on your person?

9 A. Not as I recall. I don't believe so, no.
10 Not in that period of time.

11 Q. During that period of time did you
12 observe any adverse health effects in connection
13 with the use of 2,4-D?

14 MR. O'BRIEN: Objection. You may answer.

15 A. No.

16 Q. Let's go back to your employment
17 commencing again in 1948 and moving onward. What
18 was your next occupation in 1948?

19 A. I went to Texas A & M University in the
20 Department of Range and Forestry there. My job also
21 was half time teaching in range management and half
22 time research in woody plant control.

23 Q. That was commencing in 1948 and ending
24 when?

25 A. Ending in 1962.

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