- Q. What's the column in this case, Doctor—Mr. Coon?
- Q. Now what's the column used in this particular analysis?

A. To the best of my knowledge, it's DC-200.

- Q. Is that a polar or nonpolar column?
 - A. That's a fairly nonpolar column.
- Q. There are other columns, are there not?

A. There are a lot of other columns.

Q. And the retention times for particular compounds on different columns are usually different, are they not?

A. They can be.

- Q. Doctor, how many gas chromatograph units do you have in operation at WARP? Available—let me expand the question and make it a little bit easier—available for DDT residue analyses?
 - A. We have four that are in constant use, two which can be used as backup.
- Q. So you have four available for DDT residue analyses, right?

A. Yes.

Q. What are the columns on each of the four?

A. Three of them are DC-200.

Q. What's the other?

A. The other one is—

Q. QF-1 maybe?

A. No, it's OB-17.

- Q. Well, do you consider the OB-17 a polar column?
 - A. Myself, I wouldn't be prepared to answer. In other words, the fellows chose this column as the best column they would want to use for rapid confirmation of a peak on the column
- Q. What fellows?
 - A. My people that are doing the work, Don Hughes and his group.

Q. And you concurred?

A. I felt that I should if this was their decision.

Q. But you are responsible; isn't it your decision?

A. Yes, it's my decision.

- Q. Well, let's get back to the matter of qualifications for a moment. I didn't mean to get into this. Mr. Coon, are you testifying here today and yesterday as an expert on the subject matter of the identification of DDT and its metabolites as residues in samples submitted to your laboratory by the analytical process we have described and are referring to as gas liquid chromatography?
 - A. I would say yes under the position that I am in as head of the chemistry department.

Q. And you don't know about this OB-17 column, you don't know its characteristics?

A. I have never used it personally.

Q. How many gas liquid chromatographic analyses have you ever done personally?

A. Perhaps 100.

Q. One hundred?

- MR. STAFFORD: He said that. I object to the question. I don't know whether it is a question. He answered.
- MR. YANNACONE: It came as kind of a shock. I'm sorry. I thought— Excuse me just a moment. Do you want to take five now? I have to look up something.
- Q. Now, Mr. Coon, when did you become head of the chemistry department of this WARF laboratory?
- MR. STAFFORD: Object to that as repetitious, been asked many times and answered many times.
- EXAMINER VAN SUSTEREN: It's in the record. He stated on direct 12 years ago approximately.

Q. You became director 12 years ago?

WITNESS: I became head of the chemical department.

- Q. Head of the chemical department. Twelve years ago is before the advent of gas liquid chromatography as an analytical teal in the measurement of pesticide residues, is it not?
 - A. Quite a bit beforehand.
- Q. Then all of your direct firsthand knowledge—withdrawn. Since you became head of this chemistry department, you don't do your own analyses any more, do you?
 - A. I don't do very many. That's because of the size of the department.
- Q. And so since the gas liquid chromatographic system became common in use for pesticide residue analyses, you have only done 100? Your knowledge then, comes from reading the literature, does it not?
 - **A.** I'd say my knowledge comes from reading the literature, **but** certainly day to day discussions with the people doing the work
- Q. The chief of whom is Mr. Hughes, right?
 - A. Of this particular group.
- Q. Yes, that's all we are talking about. Mr. Hughes is the chief, isn't he?
 - A. Of the ones doing the chlorinated insecticides.
- Q. Right. Okay. So your knowledge comes from Mr. Hughes' practical day by day experience; and he is the one who actually did the majority of the 15,000 analyses, didn't he?
 - A. Not personally. They were done under his direction again.
- Q. Do you know how many he did personally?
 - A. I would have no idea.

- Q. How many of those chromatograms, those 15,000 chromatograms that were the output of the DDT analyses of your department did you actually review, approximately?
 - A. It would be almost impossible to set a figure on going back over and looking and relooking and relooking at chromatograms.

Q. Different ones, Mr. Coon?

A. I'm talking about different ones. We have gone back over so many together that I have no idea.





Q. It wasn't the whole 15,000?

A. No, it would not be the whole 15,000.

Q. Can you tell us whether it would be more or less than 1,000?

MR. STAFFORD: Oh, I object.

EXAMINER VAN SUSTEREN: Well, he said he didn't know.

MR. STAFFORD: He said he didn't know.

MR. YANNACONE: All right

Q. Well, Mr. Coon, are you familiar with the instruments in the department, the gas chromatographic analytical instruments?

MR. STAFFORD: Object to this as repetitious.

- EXAMINER VAN SUSTEREN: He has already stated about two or three times that he is the head of the chemistry department. And as the head of the chemistry department, if I know bureaucracy, he would have to approve their purchase and he would have to insure that the equipment was maintained in proper fashion.
- MR. YANNACONE: Well, Mr. Examiner, I submit that I should be permitted now to ask him: Did you approve the purchase of those instruments?
- MR. STAFFORD: Oh, I object to this as irrelevant, immaterial.
- MR. YANNACONE: It goes to his competence and his credibility.
- Q. Do you know, Mr. Coon, the specifications for the instruments in use in your laboratory?
- Q. Do you know the name of the instrument, the make and the model number even?
 - A. Yes, this—the four that we use for chlorinated insecticide residues are the Barber-Colman pesticide analyzer.

Q. Do you know their model number?

MR. STAFFORD: Model number?

MR. YANNACONE: Yes.

MR. STAFFORD: Objection.

MR. YANNACONE: I'm going to point out once and for all for the record that during the cross-examination of every one of the petitioners' witnesses by Mr. McLean there was great emphasis made on whether it was an Aerograph 4000 or 6000 C Model Chromatograph. All I want to know is: Does he know the model number?

MR. STAFFORD: Object to the question.

EXAMINER VAN SUSTEREN: All right, ask him.

Q. Do you know the model number, Mr. Coon?

A. I wouldn't say that I could give you right off hand the exact number, no.

Q. Have you read the instruction manual and specifications for the instrument?

A. I have been over them with the particular department, the section head, Mr. Hughes.

Q. And have you actually used the instruments yourself?

A. These particular one I have actually used myself.

Q. And these are the ones that you did your 100 analyses on?

A. These are the ones.

Q. Now when did you do your most recent analysis?

MR. STAFFORD: Oh, I object to this. Of what relevancy is that?

MR. YANNACONE: Goes to his qualifications and his competence.

MR. STAFFORD: I have an objection.

- EXAMINER VAN SUSEREN: The objection is overruled. Would you have any idea when you ran your last chromatogram?
- WITNESS: Yes, it would have been about a year and a half ago.
- Q. Have you kept up personally with the literature on the different techniques for evaluating and confirming findings made with gas liquid chromatography?
 - A. I have read every one that I can get my hands on and have also written for and gotten others that were difficult to come by; I have read them; I have gone over them with Mr. Hughes; I have left the complete use of and interpretation of how we can use this to him.
- Q. And have you in the course of your work had occasion to become aware that there are more than one kind of column for gas liquid chromatographic analysis other than the DC-200?
 - A. Yes, there are several.
- Q. And have you become aware in the course of your studies that the retention time of DDT and its metabolites and the polychlorinated biphenyls are different on different columns?
 - A. Oh, I think I answered that same question just a while ago. But they certainly can be.
- Q. All right. But you don't know whether they are or not, Doctor —Mr. Coon?
 - A. The column we have used, we have some columns which have shown DDT to give different retention times, we have had other columns of different materials which would certainly indicate that some of the compounds come out as close as one can measure to where they had on another column.