this case in May 7, 1981, I believe, and attached to it are some Xerox copies of Spectrographic plates that were provided us. Can you just take a minute and examine each of the plates?
A. I have before me the plate you have out, evidently -- plate listed 78243?
Q. Yes.
A. What kind of examination do you want me to conduct of this?
Q. Well, just $I$ want you to take a brief look at it and tell me whether or not each of these plates -- from these plates here, whether or not a quantitative analysis could be made of the items that were. listed as tested.

MR. COLE: In every one of the plates that are shown in the attachments to these Interrogatories?

MR. LESAR: Yes.
A. Well, if these are reproductions of plates -of photographs of plates that were given you, a strict guantitative analysis could not be done on these plates.
Q. Why not?
A. Because the standard -- the standards that were used here were not calibrated standards.
Q. How would that be reflected on the plate? What would a plate that is calibrated show that these do not?
A. Well, the notes that were accompanying them would show what the concentration of the elements were and would measure -- you would have densitometer measurements for each of the lines.

Q. So, as I understand that what you're saying is that only the examiner who took these at the time would be able to determine the quantitative results of these?
A. No, that's not so at all.
Q. Even he would not be able to?
A. No, he would not be able to.
Q. Okay, and what is it that you have to have to enable you to do that?
A. For these plates?
Q. Yes.
A. Too late. You cannot do quantitative analysis on these plates - strict quantitative analysis.
Q. Okay. What do you mean by strict quantitative analysis?
A. You can do semi-quantitative analysis on these plates...
Q. Would you distinguish?
A. That is an intercomparison of one sample with another based on the density of the lines. You can say, for instance, one sample has more antimony in it than another sample. One sample has no bismuth. Another sample has bismuth. A third sample has copper; another sample has three (3) times as much copper. One sample has " X " amount of silver; the other sample has seven (7) " $X$ " amount of silver. It doesn't tell you how much is there but it's a relationship of one sample to another.
Q. Now, what do you have to do to be able to get numbers - to get the quantitative measurements?
A. Off these plates?
Q. When you test a sample.
A. What you would do is have a standard material, the analysis of which is certified, and you would burn that under the same conditions as you burn the other specimens here and you would measure the density of the various lines produced for certain elements in your elements you're interested in and compare those densities to the densities of lines in your question specimen.
Q. Allright. Now, would you look at the materials that were provided us in this case -- they should be in this Exhibit 2, I believe it is -- and see whether or not any such quantitative figures were provided in any of the tests made by the F.B.I.?
A. There is some quantitative figures produced by that, yes, in neutron activation analysis.
Q. On just the spectrographic we're talking about now. Would you locate this page and see...
A. Well, that page has nothing to do with activation -- or spectrographic analysis.
Q. This is neutron activation?
A. Yes.
Q. Okay.

MR. COLE: Jim, I think, maybe, since you have asked for him to take a look at a substantial amount of material, we should probably take a break at this time and I'd like to talk with the witness and see if we can come up with the material you're talking about in Exhibit 2.

MR. LESAR: Ukdy.
(A brief recess was taken.)
Q. Mr. Kilty, could you look at Exhibit 2 and see if there are any -- start from the first and leaf through it until you come to any quantitative spectrographic results?

MR. COLE: I think we'd maybe best clarify the question, Mr. Lesar. Are you saying that he's looking for quantitative results? Does that mean any page that deals with quantitative analysis?

MR. LESAR: Yes, that's correct.
A. The closest one -- the closest item would be a -- whatever -- it's 78243 on the bottom. It's got some numbers.
Q. Allright, could we have that marked " $2-A$ ", please? Now, why do you say that this is the closest thing?
A. Well, it has some numbers on it and there were some standards run but it's not -- it's still a semi-quantitative analysis.
Q. Okay. Why couldn't they have made a stricter quantitative analysis?
A. Well, probably was no need for it, simply because in my view, there'd be no need.
Q. There was no technical reason that would have prevented them from doing it, given the state of the art at the time?
A. I'm not sure of the quality of the densitometer that they had in 1963 when this was done as to whether or not they could have made a strict quantitative analysis.
Q. Could they have done so in 1964?
A. I don't know. I wasn't in the laboratory.
Q. I thought you were in the laboratory in 1964?
A. No.
Q. When did you join the laboratory?
A. In February of 1965.
Q. Okay. Could they have done so in February, 1965?
A. I don't think so. They were in the process of purchasing a different kind of a densitometer then. I don't think they had it.
Q. On the following page, there are some numbers on the lefthand margin. The one at the top says 72 C-Control and at the bottom...

MR. COLE: Mr. Lesar, if you're going to refer to this page, can we have this also marked as " $2-B$ " so that we'll be...

MR. LESAR: Certainly.
MR. COLE: Keeping it straight?
Q. Now, I note that the last number in the lefthand margin on that page is -- it says 42 and then dash nine (9) and then it says scrapings from inside windshield "Q15". What does the 42 signify?
A. Well, that's the rack number.
Q. What does the rack number indicate?
A. The place on the plate.
Q. And what does the 9 indicate?
A. That's the ninth sample from the top.
Q. Now, referring back to the previous page, 2-A, is there --. are there any figures there that pertain to the "Q15" sample?
A. I don't see a notation that " Q 15 " is associated with page " $2-A^{\prime}$ ".
Q. Allright. Is there any reason why there are not the sort of numbers for "Q15" as there are for any of the other items that were -- for which there are numbers on " $2-A$ "?
A. I don't know.
Q. Would it have been possible to have done the same type of -- .obtained the same type of quantitative measurements for "Q15" as for the other samples?

MR. COLE: I object. I don't think that you have established that there was a type of quantitative analysis done for the others besides "Q15". If you'd like to ask the witness that, maybe that could clarify that point.
Q. Mr. Kilty, as I understand your testimony, " $2-\mathrm{A}$ " -- the figures on " $2-\mathrm{A}$ " -- represent a type of quantitative analysis.
A. Yes, called semi-quantitative analysis, I would characterize it as.
Q. Now, is there any reason why that semi-quantitative analysis could not have been done for "Q15"?
A. I don't know.
Q. Can you think of any reason why it might not have been done?
A. No. It would be pure speculation which I am

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