N0. 90-3696

NORMAN W. ELLIS, * 14TH JUDICIAL DISTRICT COURT
ET AL
VS. * PARISH OF CALCASIEU
INSURANCE COMPANY OF
NORTH AMERICA, ET AL * STATE OF LOUISIANA

CONTINUED DEPOSITION OF

OTTO WONG, ScD., F.A.C.E.

VOLUME II OF II
December 20, 1991
901 Lakeshore Drive, Suite 836
Lake Charles, Louisiana

Reported by:
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APPEARANCES:
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For the Defendant Lloyd's of London:
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Continued Deposition via telephone of
OTTO WONG, ScD., F.A.C.E., called by Plaintiffs on
December 20, 1991, at 901 Lakeshore Drive,
Suite 836, Lake Charles, Louisiana, at 10:00 a.m.,
before JAMES G. ELLIS, CSR, Texas No. 3004, in and
for the State of Texas, pursuant to notice and the
following stipulations:
THE REPORTER: Are we going to
have all the same agreements?
MR. McCALL: Yes. .
MR. HYDE: Right.
(THIS DEPOSITION IS BEING TAKEN
PURSUANT TO NOTICE AND THE LOUISIANA
RULES OF CIVIL PROCEDURE, AND IS TO BE
READ AND SIGNED BY THE WITNESS)

OTTO WONG, ScD., F.A.C.E.,
having been previously duly sworn, testified as
follows, to-wit:
EXAMINATION BY MR. HYDE:
Q. Dr. Wong,, have you done any more
research since the last time you and I talked in
the deposition relative to this case?
A. No.
Q. Have you looked at any other documents
at all concerning benzene and epidemioJogy or
toxicology relative to this case since the last
time we talked?
A. No.
Q. Where are you presently located right
now?
A. Right now? In my office.
Q. Is there anybody else in your office?
A. No.
Q. When we last talked, we were discussing
Mr. Lilly. And we were talking about his level of
benzene exposure, whatever those levels were. Do
you recall that discussion?
A. No.
Q. Okay. I think I had asked you -- and
we'll pick it up right here -- for purposes of

your opinions in this case, what levels of benzene exposure did you assume Mr. Lilly to have relative to his work at the Cities Service refinery located in Calcasieu Parish during the time when he was either a boilermaker or a lab technician or a laborer. And can you tell me what those benzene levels were?
A. I do not have specific information on his exposure. At least I cannot quantify that. The information I have at this point i.s his general job titles. And I -- what I have done is, I tried to equate that with what's out in the literature in terms of job tasks and job functions.
Q. What levels did you then assume as it concerns his benzene exposure based on the literature that you reviewed?
A. I would think his exposure would be similar to maintenance people in industry.
Q. What was that exposure level? Do you have any quantification at all?
A. I do not have any quantification at this point, no.
Q. Now, have you reviewed any of the industrial hygiene monitoring information for boilermakers who worked at the Cities Service

refinery at any point in time?
A. I don't recall off the top of my head. I did review Nancy Culver's report. I don't remember whether there was any specific exposure information for boilermakers.
Q. So, as it stands here today, assuming that Nancy Culver's report does not contain industrial hygiene monitoring results for boilermakers, then you have not seen any of the benzene monitoring results for boilerm.akers at the Cities Service refinery?
A. That would be correct.
Q. Now, what was your estimation of Mr. Lilly's level of exposure to butadiene relative to his work at the Cities Service refinery?
A. I would give you a similar answer.
Q. And what would that answer be?
A. And that is, I do not have specific information on his exposure.
MR. McCALL: Are you talking about quantification, Counsel?
THE WITNESS: Right. I cannot quantify that.

BY MR. HYDE:
Q. Are you able to quantify boilermakers',
in general, exposure to butadiene at a refinery?
A. No.
Q. Have you ever seen any literature
indicating boilermakers' exposure to butadiene at
a refinery?
A. I haven't done that yet, no.
Q. Have you ever seen any literature or
reviewed any documents that would indi.cate what a
boilermaker's or a laborer's exposure to butadiene
would be in a butadiene manufacturing plant?
A. I don't recall that.
Q. Do you know how long of a period of time
Mr. Lilly was exposed to butadiene?
A. I have some information on the duration
of employment, but I do not have any specific
information on exactly how long he was or was not
exposed to butadiene.
Q. Is that information you need before you
can completely render an opinion in this case?
A. I would like to have that information;
but there is an overriding issue there, yes. And
that is, is there any relationship at all between
exposure to butadiene and non-Hodgkin's lymphoma.

Q. What is your opinion as it concerns the exposure of an individual to butadiene and the disease non-Hodgkin's lymphoma in that same person?
MR. McCALL: Counsel, let me enter an objection as to the form of the question because I'm not sure. Are you talking about a causal relationship between butadiene and NHL? You used the term "exposure." Are you talking about levels of exposure, or are you talking about relationship between the chemical butadiene and the disease?
BY MR. HYDE:
Q. Can you answer my question, Dr. Wong?
A. Can you explain the question in more detail? Can you rephrase the question maybe?
Q. Let me start off generally. As an epidemiologist, do you consider that there is an association between individuals exposed to butadiene and the disease non-Hodgkin's lymphoma?
A. I would say no, there is no association at this point, not based on criteria that epidemiologists use to determine an association or relationship.

Q. What is that criteria that an epidemiologist would utilize relative to opining that there is an association between a chemical and a disease?
A. Well, the data has to satisfy a number of requirements. And that would include significant -- you know, statistical significance of the association. The association has to be strong in terms of, you know, the measure of risk, whether it's standardized mortality ratio or relative risk.
Another criteria is, he need to have a positive dose response relationship. In other words, the higher the exposure, the higher the risk of the disease.
And we also need to be specific in terms of exposure, make sure that there is no confounding or bias in the data.
The relationship also needs to be consistent in terms of you should find similar results from different studies insofar as different locations.
THE REPORTER: A little louder, Doctor.
A. I just said that the relationship had to

be consistent in terms of studies performed in different locations. And you also have to satisfy certain latency requirements.
Those are the things that we need to consider in determining whether there is a causal relationship or not.
BY MR. HYDE:
Q. As it concerns the chemical butadiene, what is your understanding relative to the latency period from exposure to the onset of malignant disease as reported by researchers such as Genevieve Matanoski?
A. Well, it doesn't really apply, because I do not think there is a relationship between exposure and the disease. And that being the case, you know, it's not proper to label a latency. Latency is when you have determined that there is a relationship between exposure and a disease. But in this case I do not think that part has been established.
MS. ARRAS: I'd like to just clarify something for the record here. Keith, are we talking -- I thought your last question was about malignancy in general as opposed to specifically

non-Hodgkin's lymphoma. Is that -
MR. HYDE: Malignancy in general.
MS. ARRAS: Okay. I just wanted to clarify that in my own mind.
BY MR. HYDE:
Q. Assume, Doctor, that butadiene does cause non-Hodgkin's lymphoma. Would there be anything about the latency period between any of the four Plaintiffs' exposure in this case and the ultimate diagnosis of disease that you would find incorrect as an epidemiologist?
A. Even assuming that, I would not be able to give you an answer today for a number of reasons. I do not know at this point exactly when the first exposure to butadiene occurred in each of the Plaintiffs. And I need that information. It may be in the materials that the attorneys have provided to me. But I did not look for that information when I formed my opinion.
Number two, I need to go back to some of the butadiene studies and look at what kind of latencies those studies would have, assuming that there is a relationship.
So, I haven't done neither one of those things. So, I cannot give you an answer today.

Q. Okay. Now, as it concerns -- you indicated first exposure. Is it also important that that last exposure be considered relative to latency period and the onset of malignant disease?
A. In general, I would say no, because "latency" in epidemiology is defined as the time between first exposure and appearance of a disease, the first symptom of a disease or subsequent death of -- due to that disease.
MS. ARRAS: Dr. Wong, we missed a part there. You said it was the time between first exposure and -
THE WITNESS: The appearance or symptoms or a disease -
MS. ARRAS: Okay.
MS. ARRAS: -- or subsequent death due to that disease.
BY MR. HYDE:
Q. What do you typically find as it concerns a latency period as it relates to exposure to benzene and ultimate causation of malignant disease such as AML? What do you consider the appropriate latency period?
MR. McCALL: Benzene and AML?
MR. HYDE: Yes.

A. There is another thing we need to consider. And that is how high the exposure was. In general, there is an inverse relationship between the level of exposure and the duration or the length of latency. In other words, the higher the exposure, the shorter the latency. And the reverse is also true. Given very low exposure of a carcinogen, the latency would be very, very long. In this country, among chemical workers, latency between AML and exposure to benzene, I would say, would be around 20-some years.
BY MR. HYDE:
Q. Have you seen any epidemiological studies that would indicate an increased incidence of non-Hodgkin's lymphoma in a work force that was was exposed to butadiene?
MR. McCALL: Let me object to the form of the question without further elaboration of "increased incidence" -
BY MR. HYDE:
Q. You may answer -
MR. McCALL: -- as being vague.
A. Did you say "incidence"?
BY MR. HYDE:
Q Yes.

A. I'm not aware of any study that would actually look at incidence of non-Hodgkin's lymphoma at all.
Q. Are you aware of any epidemiologic study that would indicate an increased risk of non-Hodgkin's lymphoma from workers exposed to 1,3-butadiene?
MS. ARRAS: I'm going to object to the form.
A. When you say "increased risk-," how do you measure that? In terms of mortality, in terms of morbidity, in terms of incidence, or what?
BY MR. HYDE:
Q. Any one of those, mortality, morbidity, or incidence.
A. Okay. There are couple of mortality studies on workers exposed to butadiene. And some of those studies have found isolated increases of mortality due to certain components of non-Hodgkin's lymphoma.
Q. What are the names of those studies?
A. Give me a minute and let me look at my file.
I am looking at a paper written by Jerry Ott. It should be-in the folder labeled

"Butadienen in the exhibit.
Q. Other than Dr. Ott's study, are there any other studies that would indicate an increased mortality from workers exposed to 1,3-butadiene?
A. Let me clarify that -
MS. ARRAS: Just a moment. I'd like to object. You mean mortality in terms of all deaths? That's what you're saying, from all causes in workers exposed to butadiene? .
BY MR. HYDE:
Q. And let me limit that question -- and let me start over.
Are there any other studies, other than Dr. Ott's, that indicate an increased mortality in workers from non-Hodgkin's lymphoma who were exposed to the chemical 1,3-butadiene?
A. Well, let me clarify that first. The paper that I just referred you to by Dr. Ott is not a study done by Dr. Ott. Dr. Ott wrote a review article, a very in-depth analysis of the data out in the literature. So, it's not a study, per se. I just want to clarify that point.
Q. Okay. Can you now answer my question, though? Are there any studies that you kn-ow of

that indicate an increased mortality as a result of individuals acquiring the disease non-Hodgkin's lymphoma wherein those workers were exposed to the chemical 1,3-butadiene?
A. Given that the article by Ott is not a study itself, but rather a summary of all the studies out there, I don't think your question is appropriate, and I cannot answer your question, because that paper by Ott includes all the studies already.
Q. Well -- and I'm asking you, which of the studies that were reviewed by Dr. Ott found an increased incidence of non-Hodgkin's lymphoma in workers exposed to the chemical 1,3-butadiene?
MS. ARRAS: Keith, are you asking him to review the article and tell you right now, or else testify from his own recollection as to the individual references in the Ott paper?
MR. HYDE: Whatever he's capable of doing.
A. There are three studies included in Dr. Ott's article. And out of the three, the study done by Dr. Divine indicates that lymphosarcoma -- there was an increase of

lymphosarcoma. That is part of the non-Hodgkin's lymphoma.
On the other hand, the second component of non-Hodgkin's lymphoma, and that is under the category of other lymphatic tissue cancer. There was no increase.
So, all I can answer at this point is, Dr. Divine found an increase in part of the non-Hodgkin's lymphoma in her study.
BY MR. HYDE:
Q. Did Dr. Matanoski, in any of the studies that she coordinated or conducted, find an increased incidence of workers with non-Hodgkin's lymphoma for those workers exposed to 1,3-butadiene?
MS. ARRAS: We object to the form in the sense that there's no foundation laid as to who Dr. Matanoski is. I don't know that we've established that Dr. Wong, on the record, knows Dr. Matanoski or of her work.
BY MR. HYDE:
Q. You may answer, Doctor.
A. Well, I am looking at Dr. Ott's article. I have it in front of me. And I am

looking at a table summarizing all the results of different studies, including Dr. Matanoski's. And based on that table, I don't see any increase of lymphosarcoma. There was a very small, non-significant increase of other lymphatic tissue cancer. But that is not of any significance at all.
Q. Do you know Dr. Ott?
A. Do I know him?
Q. Yes.
A. Yes.
Q. How do you know him?
A. He is an epidemiologist. I am an epidemiologist. And we run into each other quite often at meetings. He used to work for Dow Chemical, as well as Union Carbide. And I'm sure did some studies that I have done for the Chemical Manufacturers Association that either Dow or Union Carbide might have been participants in those studies. And I might have run into him at some of those meetings.
Q. As we sit here today, as an epidemiologist, do you consider 1,3-butadiene to be a carcinogen?
MS. ARRAS: I'm going to object to

the form. Do you mean in humans?
BY MR. HYDE:
Q. You may answer.
MR. McCALL: Object to the form as
vague.
A. You mean humans?
BY MR. HYDE:
Q. Okay. As an epidemiologist, do you
consider 1,3-butadiene to be a human carcinogen?
A. Not based on the data we have at hand.
Q. Then I take it you disagree with IARC
relative to their classification of butadiene as a
probable human carcinogen?
A. I haven't looked at IARC's conclusion;
so I cannot answer your question.
Q. Are you familiar with the Collegium
Ramazzini?
A. I've heard about that. I have heard
about that.
Q. Of course, you know who Dr. Selikoff is?
A. Yes.
Q. Are you aware that the Collegium
Ramazzini has indicated that butadiene is a strong
carcinogen in humans?
A. I don't.

Q. Do you know whether or not OSHA considers 1,3-butadiene to be a human carcinogen?
MR. McCALL: Counsel, we're talking about today?
MR. HYDE: Today.
A. I don't know what OSHA thinks about the chemical.
BY MR. HYDE:
Q. Did Mr. Lilly have a family history of cancer? _
A. Not that I'm aware of.
Q. Do you consider Mr. Lilly's family history, if he had one, of any significance relative to his non-Hodgkin's lymphoma -- family history cancer, that is, if he had one?
A. Yes. There have been studies indicating a relationship between family history of cancer and an increased risk of non-Hodgkin's lymphoma.
Q. What are the names of those studies?
A. The study done by Cartwright in 1988. And also a project done by Dr. McDonald in 1987.
Q. Were there any other risk factors that you identified relative to Mr. Lilly and his non-Hodgkin's lymphoma?
MS. ARRAS: I'm going to object to

that form as being vague.
MR. McCALL: Right.
A. Could you repeat a question one more time?
BY MR. HYDE:
Q. Sure. Have you identified any other other risk factors for Mr. Lilly relative to the causation of his non-Hodgkin's lymphoma, other than what you have already spoken about?
A. I'm confused, because I said that as of now, I'm not aware of any family history of cancer in his case. And your question is, "Is there any other risk factors?" Are you implying -- are you telling me that he has a family history of cancer -
Q. No.
A. -- because -
Q. Let me rephrase that. Do you know of any risk factors that Mr. Lilly has that may have caused his non-Hodgkin's lymphoma?
A. Two come into my mind right now. One is smoking, cigarette smoking. And the other one is his exposure to a farm or working on a farm.
Q. How long did little Mr. Lilly work on a farm?

A. I don't recall at this minute.
According to the notes that I have, he grew up on
a farm; and he also worked on a farm, as well.
But I don't know exactly how long at this point.
I may have to go back and retrieve that
information to answer your question.
Q. What type of products were raised on the
farm or farms where Mr. Lilly worked?
MR. McCALL: You mean crops?
BY MR. HYDE:
Q. Crops.
A. I don't recall the details at this
point.
Q. Do you know whether or not Mr. Lilly
ever. used any pesticides or herbicides relative to
any of the farm work he may have performed?
A. I don't know at this point.
Q. Can you say here today that more
probably than not Mr. Lilly's farm work was a
cause or a contributing cause of his non-Hodgkin's
lymphoma?
A. Certainly it's a risk factor. I cannot
quantify, you know, the probability of causation
at this point.
Q. Are you saying that his farm work

contributed more probably than not to the causation of his non-Hodgkin's lymphoma?
A. I guess I have to ask you what you mean by "more likely than not.' What does that mean?
Q. Over 50 percent sure. Are you over 50 percent sure that Mr. Lilly's farming work caused or contributed to causing his non-Hodgkin's lymphoma?
A. I haven't -
MR. McCALL: At the present time?
A. I haven't done any detailed calculation in terms of his probability of causation due to farming. So, I cannot answer your question. All I can tell you today is, farming would be a risk factor in his case.
BY MR. HYDE:
Q. Can you say more probably than not -
A. I already told you, I cannot do that today.
Q. Well, I'm talking on a different subject now.
Can you say more probably than not that Mr. Lilly's cigarette smoking caused or contributed to causing his non-Hodgkin's lymphoma?
A. I would say yes, given that there is a

very strong risk associated with cigarette smoking and non-Hodgkin's lymphoma. I would say yes. And given his very heavy smoking history.
Q. What is your understanding of his smoking history? Can you give me a pack-year?
A. I cannot give you a pack-year. I can give a range. Based on the information I have, his history was anywhere between 79 to 106 pack-years. He started smoking when he was age 14 and continued to 67 year old. _
Q. The fact that Mr. Lilly is a black man, would you consider that to be a risk factor relative to his development of non-Hodgkin's lymphoma?
A. I'm not so sure I understand your question.
Q. Does race play any role as a risk factor in Mr. Lilly's development of non-Hodgkin's lymphoma?
MR. McCALL: Again, Keith, you're asking his opinion as an epidemiologist?
MR. HYDE: Yes.
A. I guess I still don't quite understand your question. Just being alive, you know, is a risk factor for developing different kinds of

diseases. But if you ask me whether -- based on vital status of this country, whether blacks have a higher risk of non-Hodgkin's lymphoma or not, the answer is no, because both black and white have more or less the same risks.
Have I answered your question?
BY MR. HYDE:
Q. Yes.
And what is your understanding of Mr. Lilly's diagnosis? What is the disease he has?
MS. ARRAS: I'm going to object to the form. You mean, what disease does Dr. Wong believe that Mr. Lilly has?
BY MR. HYDE:
Q. Okay. Let me rephrase it. What disease do you believe that Mr. Lilly has?
A. Based on the information provided to me, my understanding is that he has T-cell non-Hodgkin's lymphoma.
Q. What is your understanding of Mr. Talbott's disease? What's the diagnosis?
A. Non-Hodgkin's lymphoma, well-differentiated diffuse lymphoma.
Q. What is your understanding as to the

diagnosis of Mr. LeBlanc?
A. Poorly differentiated diffuse lymphoma.
Q. What is your understanding as to Mr. Ellis' diagnosis?
A. Well-differentiated diffuse lymphoma.
Q. And certainly as an epidemiologist, you have no reason to question any of these diagnoses; am I right?
A. I said no. Well, you asked a double negative question, I think. Maybe you. can ask me -
Q. Okay. I'm going to ask the question again because, evidently, we didn't hear you say you say "no." And then I said, "Is that correct?" And that would make it a double negative. So, let's start it over one more time.
As an epidemiologist, do you have any reason to disagree with any of the diagnoses associated with the four Plaintiffs?
A. No, I do not.
Q. What is your understanding of Mr. Talbott's occupation?
A. He worked as a pipe fitter, as well as a welder.
Q. Do you know what a pipe fitter does in a

refinery, those kinds of tasks that he would perform?
A. I would say think to replace all kinds of pipes, you know, rip out insulation material, go over the old pipes or fix it, and put the insulation back on again.
Q. And what assumptions did you make relative to Mr. Talbott's benzene exposure during the time period when Mr. Talbott was a pipe fitter or a welder?
A. Well, again, my assumption is that his exposure would be similar to maintenance people in the industry.
Q. So, it's going to be your assumption that Mr. Talbott would have the same level of benzene exposure as a pipe fitter at Exxon or Shell; is that correct?
MS. ARRAS: I'm going to object to the form in the sense that he didn't say "same," he said it would be similar -
MR. McCALL: To the industry.
MS. ARRAS: -- to the industry.
A. I cannot -- I don't think it's appropriate to identify two specific companies. What I have done is -- you know, I assume that his

exposure would be similar to maintenance people in the entire industry.
BY MR. HYDE:
Q. But you have no information that would indicate that the Cities Service refinery and the respective exposures to pipe fitters at that facility would in any way be the same as pipe fitters throughout the refining industry?
MS. ARRAS: I'm going to object to the form because you haven't quantified or stated what the exposure would be to.
BY MR. HYDE:
Q. To benzene.
A. I do not have specific information to indicate whether you would be similar or you would not be similar. But based on my experience in the industry -- you know, I have done quite a few studies at different refineries -- I would say that overall, there may be some small differences. But in general, the order of magnitude of exposure would be the same across the industry.
Q. If Mr. Talbott used benzene to clean his work tools at the Cities Service refinery -- or rather, I want you to assume this with me. And let me start over.

Assume that Mr. Talbott used benzene to wash his tools at the Cities Service refinery, could that have led to a different level of benzene exposure as compared to a pipe fitter at Exxon wherein those pipe fitters would not have been allowed to use benzene to clean their tools? Do you see any difference in the, the exposure levels.
MR. McCALL: Dr. Wong, let me object to the form of the question insofar as the hypothetical. The foundation for the assumption in the hypothetical has not been established into evidence, and we object to it.
MS. ARRAS: I object -
MR. McCALL: I further add, what the level of benzene was, whether it was -- what amount or quantification of benzene was in your assumption, Counsel, was being used to wash tools, I think that's vague and objectionable also as to form.
BY MR. HYDE:
Q. You may answer the question, Dr. Wong.
A. Did they object to it?

Q. Yeah, they objected. But you can't.
A. Again, I think your question is more specific than what I have told you. I did not say that -- I did not use Exxon in my assumption. I said that his exposure would be similar to maintenance people in the industry, overall.
` If you can rephrase the question without making a reference to a specific company, then maybe I can answer your question.
Q. Assume that other refineries. did not let their employees wash their tools with benzene. And assume that Mr. Talbott washed his tools with benzene at the Cities Service refinery. Do you see any difference in the level of exposure to benzene based on the information I just gave you?
MR. McCALL: Same objection.
A. You want me to assume that at other refineries, people do not -- employees do not wash their tools with benzene?
BY MR. HYDE:
Q. Yes.
A. You want me to assume that?
Q. Yes.
A. Well, number one, I want to tell you, that is a very unrealistic assumption. But if it

does, then, in general, if you compare someone who washed tools with benzene to someone who does not do that, I would assume that there would be some additional exposure in the first case through the dermal route.
Q. Wouldn't there also be an increased exposure through inhalation as it pertains to benzene exposure?
A. Everything being equal, there may be some, yes.
Q. Did you participate in any API epidemiological study wherein Sloan-Kettering participated in that same study?
MS. ARRAS: I'm going to object. You haven't established who Sloan-Kettering is.
A. I'm not sure I understand your question.
BY MR. HYDE:
Q. Have you ever participated in any API study wherein in the Sloan-Kettering Laboratory also participated?
A. I still don't understand your question. You mean, I worked with Sloan-Kettering in a study sponsored by API?
Q. Yes.

A. No, I have never worked with Sloan-Kettering.
Q. Are you familiar with any API epidemiological study conducted by Sloan-Kettering?
A. I'm aware of one -- I don't know whether you would call it a study or not -- but one program sponsored by API, run by the Memorial Sloan-Kettering Cancer Center.
Q. Do you know whether the Cities Service facility in Calcasieu Parish participated in that study?
A. There was a large number of participants in that program. And I don't know whether Cities Service was in there or not. I cannot answer that question.
Q. Would you recommend as an epidemiologist that a company such as Cities Service participate in epidemiological studies where possible?
MR. McCALL: Let me object to the form of the question, Keith, insofar as -- I think you're going beyond the scope of this man's testimony that is going to be produced at trial.

BY MR. HYDE:
Q. You may answer.
A. I think it's too general a question to give you any meaningful answer. We've got to know what kind of concern, you know, Cities Service may or may not have and whether they have any suggestion or indication based on the literature out there, that whether the chemicals, you know, that Cities Service has would or would not pose any hazards. I mean, I just cannot answer your general question.
BY MR. HYDE:
Q. Well, obviously, you know that benzene was present at the Cities Service refinery in some concentrations ever since that refinery was built. You will agree with that, won't you?
A. There would be some -- I assume, you know, there would be some benzene there, yes.
Q. And if there was benzene at the Cities Service refinery since the 1940's and fifties and people were possibly exposed to that benzene, wouldn't you agree with me that it's a prudent practice for that company to participate in epidemiological studies whenever it's possible?
MR. McCALL: Let me object to the

form of the question. Again, you're calling for -- I think it gets into the medical area and occupational medicine beyond the expertise of this witness, and it's objectionable as to form.
MS. ARRAS: I'm also objecting as to the time period in that you're suggesting that in the forties and fifties is the time that the benzene was first used, under your hypothetical, at that facility, that they should have participated in epidemiological studies.
BY MR. HYDE:
Q. You can answer the question.
A. Well, I'm not so sure that in the forties or fifties that we knew benzene would cause AML.
Q. Well, my question was, if they knew that -- if Cities Service knew that in the forties and fifties benzene was present and they had the capability of participating in an epidemiological study in the late seventies, shouldn't Cities Service have participated in that study?
MR. McCALL: Objection, again, as

to form of the question. It's assuming facts that's not in evidence, your facts for your hypothetical, Keith, until they're established. You say that they knew. And I object to that.
BY MR. HYDE:
Q. You can answer the question.
A. I don't have enough information to answer your question. You know, even if you want to do a study, you know, anywhere, you've got to look at what kind of records you have to see whether you have sufficient data to participate in the study. It's not something that someone can say, "Yes, I want to participate in the study" and, therefore, you are in the study. You have to go through some kind of a data quality assessment, or what we call feasibility analysis, just to look at what kind of data you have, see whether it's meaningful to participate in the study or not. So, I think you are somewhat over-simplifying the issue.
Q. So, what you're telling me is that they need to do a study to determine if they need to participate in a study; is that right
A. I don't-know whether you need to do a

study or not. Sometimes you -- it's very simple to go look at your records and say, say, "We just have no data to contribute to such a study." In other cases, you may have to hire an epidemiologist to come in and look at your data. So, the situation is, you know, very different from case to case.
Q. Have you seen any indication that Cities Service ever employed an epidemiologist, either as an employee or as a consultant contractor?
MR. McCALL: Are we talking about Cities Service Lake Charles operations, Keith, or Cities Service Company in general?
MR. HYDE: Either one.
A. I don't have any information to answer your question.
BY MR. HYDE:
Q. Have you reviewed any of the mortality or morbidity statistics associated with the Cities Service refinery located in Calcasieu Parish?
MS. ARRAS: I'm going to object to an assumption that that data exists for him to review.
A. Not that I know of.

BY MR. HYDE:
Q. If that data, being morbidity and mortality information, does exist, is that information the type of information that you would like to have relative to the formations of your opinions in this matter?
'A. If there is such information, of course, I would like to take a look.
Q. Have you asked the attorneys whether or not any morbidity or mortality statistics exist?
A. I have not asked that.
Q. Why didn't you ask them?
A. Well, the petroleum industry -- you know, the health community of the petroleum industry is rather small. If Cities Service had sponsored a study, I would think that I would know about it.
Q. But if they have morbidity and mortality statistics that have not ever before been analyzed by an epidemiologist, wouldn't you like to see that information before rendering an opinion in this case?
A. I don't see how they can collect meaningful morbidity or mortality statistics without any help from the epidemiologists. I just cannot envision that.

Q. I want to try to group this next question such that I don't have to ask 50 more questions.
A. Okay.
Q. Would it be fair to say that as it concerns Misters Talbott, LeBlanc, and Ellis, that as to their respective benzene, butadiene, and ethylene oxide exposures out at Calcasieu Parish, you have no numerical data that you have relied upon specifically for their exposures .to those chemicals; is that correct?
MR. McCALL: Counsel, data out of Calcasieu Parish is what you're saying?
MR. HYDE: Yes.
A. Your question is so are long that by the time you get to the end of it, I lost track of the first part. Would you please repeat it one more time?
BY MR. HYDE:
Q. Okay. As it concerns Mr. Talbott, Mr. LeBlanc, and Mr. Ellis, do you have any specific exposure data indicating their exposure levels to benzene, butadiene, or ethylene oxide?
A. No, I do not have specific information on quantitative exposure of this -- of these

Plaintiffs.
Q. What are you relying upon relative to characterizing Misters Talbott's LeBlanc's, and Ellis' exposure levels to benzene, butadiene, and ethylene oxide?
A. Based on their job functions, based on their job titles in their employment history.
Q. As we sit here today, can you give me any of those exposure levels that you have assumed?
A. As I said, I cannot give you a quantitative exposure level for any of these Plaintiffs.
Q. What document can I look at or which document can you refer me to that would represent these individuals' exposures to benzene, butadiene, and ethylene oxide?
MS. ARRAS: I'm going to object to the form of the question as being vague.
A. I'm not so sure I understand your question.
BY MR. HYDE:
Q. Okay. What document can you refer me to, or documents can you refer me to, that you believe would reflect representative exposure levels for the Plaintiffs relative to benzene,

butadiene, or ethylene oxide?
MS. ARRAS: That's as clear as a bell.
MS. ARRAS: What?
MR. McCALL: That question. It was.
MS. ARRAS: It was a bell?
MR. HYDE: Clear as a bell.
MS. ARRAS: No, it wasn't clear as a bell. I'm going to object because when you say "represent their exposure levels," you mean is that where you would go to find information about their exposure? I mean, what Dr. Wong relied on -
MR. HYDE: I want to know -
MS. ARRAS: -- I don't know -
MR. HYDE: -- what documents he has used to assume their exposure levels.
MS. ARRAS: That was not the question.
MR. HYDE: That was the question.
MS. ARRAS: No.
A. I told you, I could not determine exposure level, per se, of these individuals. All

I can say is, their exposure would be similar to maintenance people in the industry.
BY MR. HYDE:
Q. What risk factors have you identified relative to causing Mr. Talbott's non-Hodgkin's lymphoma?
MS. ARRAS: That hasn't been asked and answered?
MR. HYDE: No.
A. For Talbott?
BY MR. HYDE:
Q. For Talbott.
A. He has some exposure to a farm or farming because he grew up on a farm. He also worked on farm, as well. So, I would say that's one of the possibilities.
Q. Okay. Can you say more likely than not that Mr. Talbott's work on a farm caused or contributed to causing his non-Hodgkin's lymphoma?
A. I don't have detailed information on how long he was exposed to a farm or farming. So, at this point I cannot answer your question.
Q. What .other risk factors have you identified for Mr. Talbott relative to his

non-Hodgkin's lymphoma?
A. Well, smoking is another possibility.
Q. Okay. What is your understanding of Mr. Talbott's smoking history?
A. He started smoking when he was 12 and quit when he was 42.
Q. Do you have a pack-year history for him?
A. According to my notes, he had a history of 15 pack-years.
Q. What is your opinion relative to Mr. Talbott's smoking history, whether or not that smoking history caused or contributed to causing his non-Hodgkin's lymphoma?
A. Certainly it's a risk factor. I have not determined, you know, how much weight I would give to that smoking history.
Q. Can you say more probably than not that his smoking caused his non-Hodgkin's lymphoma? We're talking about Mr. Talbott.
MR. McCALL: At the present time?
A. I cannot give you an answer today.
BY MR. HYDE:
Q. Were there any other risk factors for Mr. Talbott relative to his non-Hodgkin's lymphoma?

A. Just being alive, just being part of the general population. Everyone would have background risks of non-Hodgkin's lymphoma. And, also, age is a risk factor. I mean, that applies to everybody.
Q. What risk factors have you identified for Mr. LeBlanc relative to causing his non-Hodgkin's lymphoma?
A. Again, he had some exposure to a farm, although the information that I have at this point is very sketchy. I don't even know whether he grew up on a farm or not. But certainly he had some exposure to a farm or farming. So, that would be one of the risk factors.
The other one is his substantial smoking history. He had a history of more than 43 pack-years. And, also, he started when he was very young, age 16. Started smoking at age 16. So, I would say those two would definitely be risk factors for him.
Q. Any others, any other risk factors for Mr. LeBlanc relative to his non-Hodgkin's lymphoma?
A. There was some information on his employment between 1951 and 1957 that he .did some

sulphur pumping. And it depends on whether that would have any ionizing radiation or not. That may be another risk factor.
Q. What kind of pumping was that?
A. Sulphur.
Q. Do you consider radiation to be a risk factor relative to non-Hodgkin's lymphoma?
A. Oh, yes. There are quite a few studies linking ionizing radiation to an increased risk of non-Hodgkin's lymphoma. -
Q. Do you know the mechanism in the body of how radiation affects the bone marrow or lymphatic system which ultimately leads to non-Hodgkin's lymphoma? Do you know that mechanism?
A. No, I don't.
Q. As we sit here today, can you say more probably than not that Mr. LeBlanc's work pumping sulphur was a cause or a contributing cause of his non-Hodgkin's lymphoma?
A. I have not formed an opinion on that issue yet simply because I do not know enough about the exposure there.
Q. As we sit here today, can you say more probably than not that Mr. LeBlanc's work on the farm was a cause or contributing cause to his

non-Hodgkin's lymphoma?
A. Well, definitely it's a risk factor.
But I cannot quantify that answer because at this point I do not have sufficient information on his exposure to a farm or farming.
Q. As we sit here today, can you say more probably than not that Mr. LeBlanc's history of smoking was a cause or a contributing cause to his non-Hodgkin's lymphoma?
A. Well, given his very substantial smoking history, I would definitely say that, at the minimum, it would be a contributing factor.
Q. But as to farming and radiation, you cannot say more probably than not that those two activities contributed or caused his non-Hodgkin's lymphoma?
A. I just do not have sufficient information on exposures to those two at this point to form a quantitative opinion.
Q. What information do you need?
A. I would like to know how high the radiation was, if possible, to determine whether there's a substantial exposure or not. And at this point I do not even know how long he was exposed to a farm or farming.

Q. Without that information, you won't be able to render an opinion relative to those two risk factors and the causation of Mr. LeBlanc's non-Hodgkin's lymphoma?
A. No, that's not exactly what I said. I said I cannot give you a quantitative opinion that without any doubt those two would be risk factors. I cannot quantify. I cannot give you a probability of causation.
Q. What risk factors have you identified relative to Mr. Ellis and his non-Hodgkin's lymphoma?
A. Smoking, for sure.
(PAUSE)
THE WITNESS: Are you guys waiting for me, or am I waiting -
MS. ARRAS: Yeah, we're waiting for you -
MR. HYDE: Yeah, we're waiting for you.
MS. ARRAS: -- to finish with the question.
THE WITNESS: I was waiting for you.
A. I said smoking would be one of the risk

factors.
BY MR. HYDE:
Q. Are there any others?
A. I was waiting for that question.
Family history would be another.
Q. Excuse me?
A. Family history.
Q. What is your understanding of Mr. Ellis' family's history of cancer?
A. His mother had cancer.
Q. What kind of cancer?
A. I do not know whether I have that information, or I did not put down in my notes. I may not have that information.
Q. Well, if Mr. Ellis' mother had breast cancer, how would that affect your opinion relative to Mr. Ellis' non-Hodgkin's lymphoma?
A. It would, because based on epidemiological study, it really doesn't matter what kind of cancer. As long as there is a family history of cancer, there is an increased risk.
Q. Okay. Now, what study document or reference book would I find that would support the statement you just gave relative to family history of cancer and non-Hodgkin's lymphoma?

A. I think you asked this question early this morning. But I'm happy to repeat it one more time. And that would be the study done by Cartwright in 1988. And the second one was done by McDonald in 1987.
Q. Are there any other studies?
A. Those are the two that I rely on.
Q. Other than his mother possibly having cancer, or had cancer, were there any other family members of Mr. Ellis who had cancer? .
A. Not that I'm aware of.
Q. So, is it your opinion that just because his mother may have had cancer, then that would have been a cause or a contributing cause to his acquisition of non-Hodgkin's lymphoma?
A. It would be at least a contributing factor, yes.
Q. Can you say more probably than not that Mr. Ellis' family history of cancer was a cause or a contributing cause to his non-Hodgkin's lymphoma?
MR. McCALL: As we sit here today?
MR. HYDE: (Nodding)
A. I would say it's -- at a minimum, it would be a contributing cause.

BY MR. HYDE:
Q. And you can say that more probably than not?
A. Oh, yeah.
Q. And that's based on knowledge that possibly his mother may have had cancer?
A. Yes.
Q. Are there any other facts that support your opinion relative to Mr. Ellis' family history of cancer?
A. Could you repeat the last question?
Q. Do you have any other facts that support your opinion as to Mr. Ellis' family history of cancer, other than his mother may have had cancer?
A. The two studies that I rely on? I mean, that's -- I'm not so sure I understand your question.
Q. Well, if it is shown that his mother didn't have cancer, how would that affect your opinion?
A. Family history would not play any role in his case.
Q. Well, I guess, how do you know that his mother had cancer?
A. That was based than information provided

to me, documents provided to me.
Q. What is your understanding of his smoking history?
A. He smoked between 60 to 90 pack-years, and he started at age 18. So, that's a very, very heavy history of smoking.
Q. Can you say more probably than not that Mr. Ellis' smoking was a cause or a contributing cause of his non-Hodgkin's lymphoma?
A. Given his heavy history of smoking, I would say yes.
Q. Have you identified any other risk factors associated with Mr. Ellis and his non-Hodgkin's lymphoma, other than smoking and family history of cancer?
A. There was some information that he was in Hiroshima in 1946 for just one day. And I don't know what he was exposed to. I guess -- you know, we are talking about radiation as a result of the atomic bomb. I do not know the exact timing, and I don't know what kind of -- what level of ionizing radiation he was exposed to as a result of his one day being there. But certainly that would be a possibility.
Q. A possibility?

A. Right.
Q. Can you say more probably than not that Mr. Ellis' one day in 1946 in Hiroshima was a cause or a contributing cause to his non-Hodgkin's lymphoma?
A. I cannot give you an answer without knowing how much exposure there was when he was there.
Q. Any other risk factors associated with Mr. Ellis and his non-Hodgkin's lymphoma?
A. No, other than, again, you know, being part of a general population, you know, age and so on, he would experience certain background level risks.
Q. What is the incidence of non-Hodgkin's lymphoma in the general population?
A. Did you say "incidence"?
Q. Morbidity, mortality, incidence, whatever.
A. Okay. I don't have my hands on incidence data right away. But I do have information on mortality. Let me look.
MR. HYDE: Could you get me a fax of whatever he's looking at?
A. I'm looking at the exhibit that I had

prepared. How should I refer that here -- in Exhibit 3A. There's some tables as some graphs that I have. Do you want to look at that?
BY MR. HYDE:
Q. That's okay. I'll just -- I know that it's there and the court reporter has it. In the interest of time, I won't go thumbing through it. But go ahead and tell me what the number is.
A. I'll give you an answer. In his age group -- and that is, you know, around 60 years old -- in this country I would say is around 20 per 100,000 people per year. A little bit over 20 per 100,000 per year.
MR. HYDE: Why don't we take a five-minute break or a ten-minute break, and we'll call you -- I guess we can call him right back, in ten minutes?
MS. ARRAS: Okay. Is that all right, Dr. Wong?
THE WITNESS: Yeah. So, we'll hang up. And you guys will call again after about ten minutes?
MR. HYDE: Right.
THE WITNESS: Okay.
(BRIEF RECESS)

BY MR. HYDE:
Q. Dr. Wong, are you familiar with the Toxic Substances Control Act of 1976?
A. No.
Q. "No"?
A. "No."
Q. I take it you have never heard of Section 8(C) or 8(E) of that act, have you?
A. Section 8(E)?
Q. Or 8(C).
A. No.
Q. Now, do you have any opinion as to whether any of the Plaintiffs who were working in 1948 or 1949 or 1950 at the Cities Service complex in Calcasieu Parish, whether those individuals, I think particularly Mr. Talbott and Mr. Lilly - whether they were exposed to more benzene in 1948 as compared to the year 1949?
A. I don't have that specific information, no.
Q. Do you have an opinion as to whether butadiene can cause acute lymphocytic leukemia?
A. I have not looked into that for this case.
Q. Well, do you have an opinion generally,

as an epidemiologist?
A. Nobody else asked me that question before.
Q. Do you have an opinion as to whether benzene can cause chronic myelogenous leukemia?
MS. ARRAS: Benzene?
MR. HYDE: (Nodding)
A. What was the leukemia that you said?
BY MR. HYDE:
Q. CML, chronic myelogenous leukemia.
A. No, I have not looked at that, either.
Q. Do you have an opinion whether benzene can cause chronic lymphocytic leukemia?
A. I'm sorry. Did you say -- let's go back to the previous question. I think I misunderstood your question. Would you please repeat it so that I can give an answer on CML?
Q. Do you have an opinion as an epidemiologist whether benzene can cause chronic myelogenous leukemia?
A. Yes, I have an opinion. I'm sorry. I misunderstood your question.
Q. What is your opinion?
A My opinion is there is no relationship . between the two.

Q. Just so we are certain -- I don't want to miss one -- do you have an opinion as to whether benzene can cause chronic lymphocytic leukemia?
A. Yes, I have an opinion.
Q. What is your opinion?
A. There is no relationship.
Q. Do you have an opinion as to whether benzene can cause multiple myeloma?
A. That one I have not looked at.
Q. Do you have an opinion as to. whether benzene can cause Hodgkin's lymphoma, or Hodgkin's disease?
A. Hodgkin's disease? I have not looked at that, either.
Q. Do you have an opinion as to whether benzene can cause hairy-cell leukemia?
A. I'd have to go back and look at the ICD coding to see what -
Q. Do you have an opinion as to whether benzene can cause pancytopenia?
A. I haven't looked at that.
Q. Do you have an opinion as to whether benzene can cause polycythemia vera?
A. I have not looked at that, either.
Q. Do you have an opinion as to whether

benzene can cause thrombocytopenia purpura?
A. I have not looked at that.
Q. Do you have an opinion whether benzene can cause aplastic anemia?
A. I think there is some studies that indicate at high enough level there is an increased risk.
Q. Do you have an opinion whether benzene can cause causes acute myelogenous leukemia?
A. Acute myelogenous leukemia
Q. Yes.
A. At high enough exposure and long enough exposure, yes.
Q. Okay. What is high enough exposure?
A. I think we can combine the two, intensity of exposure and duration of exposure into something what we call cumulative exposure in terms of ppm years. My opinion is that if the exposure is higher than 60 ppm years, that would be an increased risk of AML.
Q. Now, what reference can you point me to that would support your opinion that an exposure level of 60 ppm years -- or exposure history of 60 ppm years would cause an increased risk of acquiring AML from benzene exposure?

A. Dr. Rensky's study.
Q. Okay. What diseases do you associate with exposure to ethylene oxide?
A. Can you be more specific than that?
Q. Okay. Well, do you have an opinion as to whether ethylene oxide causes any malignant diseases?
MS. ARRAS: I'm going to object -
A. In the sense that it would increase the risks -- _
BY MR. HYDE:
Q. Yes.
A. -- above and beyond the background risks?
Q. Yes.
MS. ARRAS: Let me object. This is in human or animals or what?
MR. HYDE: Humans.
A. Are you referring the question to humans?
BY MR. HYDE:
Q. Yes.
A. Okay. There is no increased risk in any malignancies that we can associate with ethylene oxide exposure.
Q. During our first part of this deposition, did you say that you had a study or a

paper, something such as that, that indicated that exposure to ethylene oxide resulted in an increased incidence or mortality of non-Hodgkin's lymphoma in your study population?
A. I know what you are referring to, but I cannot agree with your statement because it's not accurate. What I said was that in my study, I did find a statistical increase of non-Hodgkin's lymphoma in about half of the study, the male members of the study, but not in female.
But I did not say that that was associated with ethylene oxide, per se. Finding an increase in a population is only part of the overall risk identification or risk assessment process.
When you look at the dose response relationship, you don't find any. And, therefore, I do not associate the statistical increase in non-Hodgkin's lymphoma in the study with exposure to ethylene oxide.
Q. What kind of work was involved in -- you know, I'm talking about the work of the workers who were studied as it concerns your ethylene oxide, non-Hodgkin's lymphoma study. Was it sterilization workers, something such as that?

A. Yes.
Q. And what was the relative risk or SMR or whatever you used for that study? What was the numerical number?
A. For what?
Q. For an increased incidence of non-Hodgkin's lymphoma.
A. Well, I have calculated several SMR's for different groups within the study. Which one do you want?
Q. Give all of them to me that you can. I mean, I don't have the study in front of me. I mean, if you can summarize it, tell me how you've done it, that would be fine.
A. Okay. Overall, for the entire study, the SMR was one forty-one; and it was not statistically significant. Among the males, the SMR for non-Hodgkin's lymphoma in the study was two forty-seven. And that was statistically significant.
But on the other hand, for females in that study, which account for more than 50 percent of the population in the study, the non-Hodgkin's lymphoma SMR was only thirty-one. And that was very low.

And, also, when we look at the data, length of employment, we do not see any upward trend. In other words, the longer the exposure - let me start over again.
In other words, longer exposure was not associated with a higher risk. And based on that, as well as the consistency in the data between male and female, I conclude that the significant increase in male was not related to the occupational exposure to ethylene oxide.
(DISCUSSION OFF THE RECORD)
BY MR. HYDE:
Q. Dr. Wong, based on the SMR of two forty-seven for male workers exposed to ethylene oxide who developed non-Hodgkin's lymphoma, what conclusions did you draw as a result of those study results?
MS. ARRAS: With respect to what?
BY MR. HYDE:
Q. Let me start that over.
From the study where you found an SMR of two forty-seven relative to non-Hodgkin's lymphoma and workers in the sterilization industry that you studied, what conclusions did you draw relative to the causation of the non-Hodgkin's lymphoma?

MS. ARRAS: I am going to object to the question on two bases; one, it mischaracterizes or fails to state that the 2.47 applied to males only. And, secondly, it's vague, too general.
BY MR. HYDE:
Q. You can answer, Doctor.
A. As I said, when I looked at the entire study, not just on -- not just looking at the males, but both the males and the females, as well as, most importantly, the dose response analysis, I come to the conclusion that the statistical increase in the male cannot be attributed to the occupational exposure.
Q. What could it be contributed to, then?
A. I don't know at this point. In my paper 1 make a number of suggestions. And one of them is that perhaps some of those cases could have been related to AIDS. That's certainly a possibility, because we've only seen an increase in the male, but not in the female. We know that a lot of the AIDS patients will eventually die from non-Hodgkin's lymphoma.
Now, I do not have specific information, lifestyle information in my study. And,

therefore, that would be only a suggestion.
Q. Who funded your study, this ethylene oxide study?
A. The study was funded by the Health Industry Manufacturers Association.
Q. So, these were manufacturers who manufacture hospital equipment such as sterilizers and such; is that correct?
A. No. Most of the members of that association are health-care products companies.
Q. Such as --
A. Such as Johnson & Johnson, Upjohn -- you know, companies that manufacture medical care products.
Q. How much money did ENSR Health Sciences or Applied -- your company, Applied Health Services, how much did y'all receive for conducting this study?
A. Oh, the study was done when I was at ENSR Health Sciences. So personally, I did not, and my company, Applied Health Sciences, have not received any funding for that project because that was done, was completed.
Q. How much did ENSR Health Sciences receive?

A. I think the overall budget over five or six years would be around $400,000 or so, in that neighborhood.
Q. Do you know how IARC classifies ethylene oxide --
MS. ARRAS: I'm going to object to the form.
BY MR. HYDE:
Q. -- relative to its carcinogenicity?
A. No, I don't.
Q. Do you know whether or not OSHA considers ethylene oxide to be a carcinogen?
A. I don't -
MS. ARRAS: Object to the form.
A. No.
BY MR. HYDE:
Q. You don't know?
A. No, I don't know.
Q. Do you know whether the EPA, Environmental Protection Agency, considers ethylene oxide to be a carcinogen?
A. I don't know, either.
MS. ARRAS: Object to the form.
BY MR. HYDE:
Q. You indicated that you're continuing

work on the distribution workers study for the API relative to distribution or products containing, I guess, benzene or petroleum products. You're still doing work, aren't you, in that project?
A. Yes.
Q. And you presented your first draft of that study in October?
A. I presented the preliminary analysis at the International Symposium back in November, yes.
Q. And now, after presenting your preliminary analysis, you're going back to rewrite part of that paper; is that correct?
A. Well, at this point we do have a draft report. And based on some of the questions raised at the symposium, I'm doing some minor revision of the report, you know, making things a little bit clearer in places that it was not clear. And at the same time, we are also doing some additional analysis independent of the symposium, you know. That was something that we were prepared to do anyway, even before the symposium.
Q. Have you been told to change that report?
A. I'm not so sure I understand the

question. Told by whom?
Q. By anyone at the API.
A. No, sir.
Q. Have you been pressured to change the report at all by anyone from the API?
A. No, sir.
Q. Or any member of the API?
A. No, sir.
Q. Was that preliminary analysis and report available to the public? We're talking about the API study there.
A. I think the decision is API's and not mine, because at this point, as I said, I have submitted a draft report to API. And what kind of release API wants to have of the report is API's decision. Once when the report is finalized, then I would think I would be able to send copies out, you know, when people request that. But not at this point, because I'm still working on the revision of the report.
Q. How long ago did you complete this preliminary analysis of the distribution workers for the API?
A. Probably a few days before the symposium. It was either the end of October or

beginning of November.
Q. Obviously, you don't plan to testify as to what units out at Cities Service complex did or did not contain benzene, ethylene oxide, or butadiene; am I correct?
A. Not to my understanding.
Q. Well, are you planning to testify as to which units at the Cities Service complex contained benzene, butadiene, or ethylene oxide?
MR. McCALL: Counsel, my understanding, he's been given the Culver reports. Independent of that knowledge?
MR. HYDE: Yes.
MR. McCALL: I want to point that out -
MR. HYDE: I want to know, is he going to testify as to which units at the Cities Service complex had benzene, butadiene, or ethylene oxide?
MS. ARRAS: I'd also like to qualify. You mean independent of whether their names -- if it was a butadiene unit, obviously, it would contain butadiene. You mean something

beyond that?
MR. HYDE: Yes.
MR. McCALL: He's not a process engineer.
BY MR. HYDE:
Q. Are you there?
A. I don't believe I'm asked to do that.
(PAUSE)
A. Hello. Are you there?
MR. McCALL: Dr. Wong, he's reviewing his notes right now. We're still here. Bear with us for a second, please.
BY MR. HYDE:
Q. Dr. Wong, do you plan on doing any more work in this case prior to the trial that starts on January 13th?
A. I would think so.
Q. What do you think you're going to do?
A. I probably will go back and look at some of the materials, you know, some of things that you raised, and probably try to organize my thoughts, you know, how to, you know, present some of the scientific information to the jury. And also depends on whether the attorneys would send

me additional materials to review or pose additional questions for me to research.
MR. McCALL: Counsel, we'll certainly notify you if Dr. Wong's opinion as an epidemiologist on the lack of medical causation between the chemicals in this case and the NHL changes in any way. We'll certainly notify you of that and make it available. _
MR. HYDE: Pass the witness.
MR. McCALL: No questions at this, time, Dr. Wong.
THE WITNESS: That's it?
MS. ARRAS: That's it.
(DEPOSITION CONCLUDED AT 1:35 P.M.)