SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF LOS ANGELES, CENTRAL CIVIL WEST

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FRANK SUNDQUIST and AMY SUNDQUIST Plaintiffs, v. BP WEST COAST PRODUCTS LLC, a Delaware corporation; PETRO DIAMOND INC., a Delaware corporation; PETRO DIAMOND TERMINAL COMPANY, a California corporation; UNITED OIL COMPANY, a Nevada corporation; CROSBY OIL COMPANY, INC., a corporation; PILOT TRAVEL CENTERS LLC, a corporation; SC FUELS, a California corporation; MANSFIELD OIL COMPANY, a corporation; SOUTHERN COUNTIES OIL COMPANY, a California corporation; and DOES 1 through 200, inclusive, Defendants.	))))))No. BC362023))))))))))))

DEPOSITION OF
DAVID PYATT, Ph.D.
DENVER, COLORADO
September 2, 2009

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SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF LOS ANGELES, CENTRAL CIVIL WEST

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FRANK SUNDQUIST and AMY SUNDQUIST

Plaintiffs,

v.)No. BC362023

BP WEST COAST PRODUCTS LLC, a Delaware corporation; PETRO DIAMOND INC., a Delaware corporation; PETRO DIAMOND TERMINAL COMPANY, a California corporation; UNITED OIL COMPANY, a Nevada corporation; CROSBY OIL COMPANY, INC., a corporation; PILOT TRAVEL CENTERS LLC, a corporation; SC FUELS, a California corporation; MANSFIELD OIL COMPANY, a corporation; SOUTHERN COUNTIES OIL COMPANY, a California corporation; and DOES 1 through 200, inclusive,

Defendants.

Deposition of DAVID PYATT, Ph.D., taken on behalf of PLAINTIFFS at Embassy Suites, 7001 Yampa Street, Denver, Colorado, commencing at 11:10 a.m., on September 2, 2009, before Pam D. Buckner, Certified Shorthand Reporter and Notary Public in and for the State of Colorado.

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I N D E X

WITNESS: DAVID PYATT, Ph.D.

P R O C E E D I N G S

DAVID PYATT, Ph.D.,

having first been duly sworn, was

examined and testified as follows:

EXAMINATION

BY MR. METZGER:

Q Good morning, Dr. Pyatt. Would you introduce yourself for the record, please.

A Good morning. My name is David Pyatt.

Q Dr. Pyatt, we're doing your deposition today in the Sundquist case. It's a limited purpose deposition regarding your declaration filed in support of the summary judgment motion.

Where are you right now?

A I am sitting in a hotel room outside of the Denver airport at the Embassy Suites.

Q Okay. And who is with you in the room?

A The court reporter and Tom Hurrell and Jim Miller.

MR. BOOTH: Raphael, forgive me. This is Jason Booth. I'm having a great deal of trouble hearing the witness.

MR. METZGER: I don't know what to do about that. I can hear him.

MR. BOOTH: Okay. I'm just asking.

Maybe the witness can move the phone closer.

THE DEPONENT: Boy, I'm really close to it. And now everyone's kind of fading in and out. I wonder if something's wrong with this phone, if we should try it again with a new phone.

MR. BOOTH: Now, that I heard pretty well.

THE DEPONENT: Okay. Well, whatever you guys want to do.

MR. BOOTH: Keep going. If I'm having real trouble, I'll holler out again. I apologize.

MR. METZGER: All right. Let's try it.

MR. BOOTH: Thank you.

Q (BY MR. METZGER) All right. Now, Dr. Pyatt, I'm not there in the room with you, and I can't see what's going on, so I'm going to ask that both Mr. Hurrell and Mr. Miller not communicate with you while a question is pending.

MR. METZGER: Is that agreeable to everyone?

MR. HURRELL: What did he say?

THE DEPONENT: He said -- he's asking that you do not communicate with me while a question is pending.

MR. HURRELL: Well, I think that's fine,

Raphael. Obviously, we might interpose an objection, but we'll probably not be communicating with the witness. Okay?

MR. METZGER: That's what I'm saying. Mr. Miller, do you agree to do that?

MR. MILLER: I do.

MR. METZGER: And, Madam Reporter, if there's any violation of that, I'm going to ask you to announce that. Okay?

THE REPORTER: Yes.

Q (BY MR. METZGER) Okay. Dr. Pyatt, you do understand you're under oath, correct?

A Yes, sir.

Q All right. Now, do you have with you a copy of your curriculum vitae?

A I'm sorry, Mr. Metzger. I didn't hear all that. You're kind of cutting in and out again like you were at the very beginning. You asked me about my C.V.?

Q Yes, your C.V.

A Yes, sir. I do have that.

Q Give that to the court reporter so she can mark that as Exhibit 1.

A Okay.

Q Tell me when you have it back.

(Exhibit 1 marked for identification.)
Q (BY MR. METZGER) Dr. Pyatt?
A She's working on it. Okay. I now have it back.
THE REPORTER: Exhibit 1 has been marked, the curriculum vitae.
Q (BY MR. METZGER) Dr. Pyatt, is Exhibit 1 a true and correct copy of your curriculum vitae?
A Yes.
Q When was this version of your curriculum vitae prepared?
A Well, I update it pretty routinely when things change. If by "prepared" you mean printed out, I think I did that Sunday or Monday in preparation for this deposition. When I make changes, I couldn't tell you. It's just really when anything has been added or changed that I remember to get back to it.
But I'm looking at it now, and it's -- it looks quite up to date.
MR. HURRELL: Okay. Raphael, this is Tom Hurrell. I think we'd better switch out the phone. You're coming and going. We can't hear most of what you're saying. Okay?
MR. METZGER: Then let's switch it out.

Sure. I'll wait for you guys to phone in again.

MR. HURRELL: Yeah. Give us a couple minutes. Okay?

(Recess.)

MR. METZGER: Sorry. There will be a lot of questions about that. (Inaudible.)

THE DEPONENT: Mr. Metzger, you're still kind of cutting in and out. But, yes, we were talking about my C.V.

Q (BY MR. METZGER) Are there any publications that you would need to add to your appendix to make it current?

A No.

(Discussion off the record. Dialing in on a cell phone.)

Q (BY MR. METZGER) Is there anything else that you need to add to your curriculum vitae to render it complete and current?

A This is much better. Thank you.

No. It looks like it's pretty up to date.

Q All right. I'm glad that we're now able to hear each other, and we're able to do this deposition.

A Yes.

Q All right. Dr. Pyatt, do you have a copy of your declaration which you have prepared for this case?

A Yes.

Q Okay. And how many did you prepare for this case?

A I prepared two.

Q Okay. I'd like you to give the court reporter the one in support of Sherwin-Williams and have that be marked as Exhibit 2.

A Okay.

Q Tell me when she's given it back to you.

(Exhibit 2 marked for identification.)

A Okay. I have it back.

Q (BY MR. METZGER) And do you have the declaration in support of PPG's summary judgment motion?

A Yes.

Q Please give that to the court reporter. We'll have that marked as Exhibit 3.

A Okay.

Q Tell me when you're ready.

(Exhibit 3 marked for identification.)

A Okay. I've got it.

Q (BY MR. METZGER) Okay. Now, let's work

off -- would it be an accurate statement that with respect to the issue of general causation, that the declarations are the same?

A They are the same. The only difference would be the name of the defendant that, you know, is on the cover and footer and things. But, yes, they are the same.

Q They're substantively the same?

A Yes.

Q Good. Very well. Then let's use Exhibit 2, the Sherwin-Williams one, and we'll go through that one, if you would.

A Okay.

Q First I'd like to ask you about some of your qualifications, Dr. Pyatt. You hold a doctorate of philosophy in toxicology, correct?

A That's correct.

Q Do you hold any degrees in epidemiology?

A No.

Q Are you a practicing epidemiologist?

A No.

Q Have you ever conducted an epidemiologic study?

A No.

Q I'd like you to turn to paragraph 10 of

your declaration.

A Okay.

Q In paragraph 10, beginning at line 9 on page 5, you state -- you describe that there are two critical steps in conducting a causative analysis, and you state, "The first is to establish whether or not the chemical in question has been meaningfully linked in the epidemiology literature with the specific disease." You then state "This constitutes a general causation analysis."

Did I read that correctly?

A Yes. Yes. I mean, the second sentence kept going, but it was accurate up to that point.

Q Right. Is that your best definition of "general causation"?

A Whether it's been meaningfully linked in the epidemiology literature with the specific disease -- yes, I think that's a good definition.

Q Can you provide me any textbook or published peer-reviewed article that defines "general causation" in that matter?

A I think they all do. I think that's just an established way of looking at that issue. I can't point specifically to an epidemiology text

right now, but I've never seen anything that would lead me to believe that it was substantially different from that.

Q Okay. Well, I'm going to tell you that I have searched the medical and scientific literature and textbooks, and I have been unable to find "general causation" defined in the manner that you have. So if you have a particular reference upon which you are relying for that definition of "general causation," I'd ask you to provide it to me.

MR. HURRELL: Objection. It's argumentative.

A I can't point to one sitting right here now.

Q (BY MR. METZGER) All right. Now, are you familiar with the "Reference Manual on Scientific Evidence" published by the Federal Judicial Center?

A I've heard of it but, no, I'm not familiar with it.

Q Okay. Are you aware that in that reference manual there is a chapter which is called a "Reference Guide on Epidemiology"?

A No. I said I wasn't familiar with it.

Q Okay. I will represent to you that that publication states that general causation addresses the question, "Is the chemical/agent capable of causing the disease that the plaintiff had?" Would you disagree with that definition of "general causation"?

A I think that's the same as what I have in my report.

Q Well, that's not what I'm asking you. I'm not asking you to compare them. I'm asking you: Do you disagree with that definition?

A I do not disagree with that definition with the caveat that it needs some explanation as to how that word "cause" is defined.

Q Okay. So you accept that general causation addresses the question whether a particular chemical is capable of causing a particular disease, correct?

A Yes. And the evidence that would be used to establish that link would be the quantitative epidemiology literature.

Q I'm not asking about the evidence now. I'm just asking: Do you agree with that definition? Yes or no?

MR. HURRELL: Well, he's answered the

question, Raphael.

Q (BY MR. METZGER) I think you actually have, so I will move on.

Can you identify for me any published peer-reviewed article or textbooks that says that quantitative epidemiology is determinative of the issue of general causation?

A Well, again, I guess it's a matter of your interpretation. But my interpretation is that's what they all say.

Q Well, I'm not asking for your interpretation or mine. I'm asking if you can actually direct me to any published peer-reviewed article or textbook which states explicitly that quantitative epidemiology is determinative of general causation.

A I'll have to think about that. My understanding is that that's what they all say, that that is the most important aspect. And the Surgeon General, EPA, ATSDR, every epidemiology book that I have, Monson's, Livingfield's, there's three or four, they all have sections on establishing causation, and it is always an evaluation of the epidemiology data. And if it's not quantitative, then I don't know what it is.

Then it wouldn't even be considered epi.

MR. METZGER: I'll move to strike as nonresponsive.

Q (BY MR. METZGER) I'm simply asking you to identify for me, if you are able, a published peer-reviewed article or textbook that states that quantitative epidemiology is determinative of the issue of general causation.

A Based on a word that you just used, no, I cannot tell you that sitting here right now.

Q All right. Thank you.

When you write in your declaration that general causation is whether or not the chemical in question has been meaningfully linked in the epidemiology literature with a specific disease, I'd like you to direct me to a published peer-reviewed article or textbook that provides an algorithm or criteria for meaningful linkage.

A I can't think of one that's used those words. That's my way of defining the way several different textbooks and scientific agencies and bodies evaluate epidemiological data. But I can't think of one that has said "meaningful" in the text.

Q Okay. Well, let me then ask you, so I

have an understanding of what you're intending to convey here, what you mean by "meaningful linkage."

A I mean, by meaningful -- "meaningfully linked," that it is consistently seen across different studies and different investigators that it is strong enough to have achieved statistical significance, that they've accounted for confounders, that it's reproducible, that it fulfills the Bradford Hill or some other analytical process for evaluating scientific and epidemiologic data. That's what I mean by "meaningfully linked," that you have more than a single case report. The two big ones, in my view, are consistency and reproducibility. And I think that's true not only for epidemiological data, but for all scientific data.

Q Okay. When you say that the results have to be consistent across studies, across how many studies?

A I didn't say that it had to be consistent like every single one because you will always find studies that -- I mean, if you ask the questions enough times, there's going to be some variability in the answer just based on random

chance. There's no set number on how many studies you have to have. I think most people would agree that a single finding, while it may be suggestive, is not sufficient to reach a conclusion on causation. So there's not a set number, but depending on how many you have, you need to be seeing the same results across different studies in order to define that as positive or causation.

Q Is there -- in your -- are you saying that there needs to be a certain percentage of studies that have the same result, or not? I'm not quite understanding.

A No. I mean, that would be the same thing as if there has to be a set number, and I don't believe there has to be -- there could be a set number because every question that you ask and go to the epidemiological literature to find an answer for is going to be different.

With regard to benzene and multiple myeloma, there are many, many studies that have asked that question and have relevant data that bear on that issue, and the vast majority of those studies are negative. So that I consider to be consistent and supports that benzene does not cause this disease, multiple myeloma.

Q I understand that's your opinion, but let me --

MR. METZGER: I'm actually going to move to strike the part about benzene and multiple myeloma because I'm not there yet.

Q (BY MR. METZGER) I'm asking you now only generally about principles. We will get to benzene and multiple myeloma. But I think you indicated that the studies had to have a certain strength. Did I understand that correctly?

A Yes. That's one of Bradford Hill's views. That's one of all of the criteria that I've ever seen to evaluate epidemiological evidence.

Q What must the strength be?

A Well, the way I view it, the study needs to at least be powerful or different enough to have achieved statistical significance. So there is a statistically significant difference, whether it's positive or negative. If you don't have that, then you can't even say that it's different from the null hypothesis where just chance played some role in the results. So that, I think, is a minimum.

Q Okay. And can you identify for me any

published article, peer-reviewed literature, or any textbook which defines the strength of association by statistical significance?

A I think Monson's textbook on Occupational Epidemiology has a nice section on that. I think the Surgeon General's section on evaluating scientific and epidemiological data has language to that effect. But I haven't memorized these, so no, I can't specifically point to one.

Q Okay. And you mentioned confounders. What does this study have to do regarding controlling for confounders -- strike that.

What else could be done regarding confounders according to your own personal view of this matter of general causation?

A Well, I just used that as an example of what studies should do. And that's really the purview of the epidemiologist. And most studies -- most studies that are peer-reviewed have made some effort to account for potential confounders. In a case control study things like recall bias and things like that, you can't always control for them. So they're there, and we all know that they're potentially there, and there's nothing, really, that anyone can do to fix it. So

you just have to take that into consideration when you're interpreting the data. But there's not going to be a set, fixed answer to your question. It's going to depend on the study type, the design, and what the issues are, what the potential confounders could be.

Q Okay. And how is reproducibility, as you're using the term, determined?

A That in any evaluation of scientific data -- and I guess it would be hand in hand with consistency -- that people that ask the same question are getting the same answer. And in the biological sciences you want that to be, to the extent possible, different investigators, different labs, different parts of the country. You definitely start having more confidence in the answer when you see different people asking the same question, getting the same answer from different types of studies. So that's -- that's what I mean by reproducibility. And I think that's absolutely critical in any scientific endeavor.

Q Can you identify any published peer-reviewed article or textbook which states that reproducibility is a factor in general

causation?

A I would say that that is a fundamental tenet underpinning of all of science. So whether I can point to a specific paper that would satisfy your question, I don't know. But I would, on the record, state that that is absolutely essential to all areas of science.

Q I understand your answer, but I'm asking you specifically about general causation. Are you able to identify any textbook or peer-reviewed article which states that reproducibility is a factor in a general causation analysis?

A Sure. I think the Bradford Hill does. I think the Henle-Koch, K-O-C-H, postulates do. I think the EPA's guidelines on evaluating carcinogenic data -- they may not use the word "reproducibility," but they certainly have the notion of consistency across studies and seeing the same results from more than one study. They all do.

Q Well, I understand what you've just said, Dr. Pyatt, but I think we're now -- you've now defined "reproducibility" as consistency across studies, which we've discussed as the first factor that you mentioned. I'm trying to

understand if there is something more or different about reproducibility than consistency across studies.

A No. I would say those go hand in hand.

Q So they're the same thing?

A Sure.

Q All right. Now, you mentioned Bradford Hill criteria. Are you referring to discerning viewpoints or factors which Sir Austin Bradford Hill identified in making causal determinations?

A Right, the benign factors that he described in his '65 paper that have been reproduced for the last 30 years in one form or another. Some people do call them criteria; others don't. But, yes, that's what I'm referring to.

Q And you, in fact, cite that article in your declaration, do you not?

A I do.

Q And you have that article with you, do you not?

A I can probably dig it out, yes.

Q Please do so and give it to the court reporter to mark as Exhibit 4.

(Exhibit 4 marked for identification.)

A Okay. It's marked as Exhibit 4.

Q (BY MR. METZGER) All right. And is that Exhibit 4 the article by Bradford Hill entitled "The Environment and Disease: Association or Causation?" from 1965 Proceedings of the Royal Society of Medicine?

A Yes.

Q Okay. Now, I'd like you to take a look at your declaration at paragraph 10, page 5, lines 3 to 5.

A Before I -- I'm sorry. Go ahead.

Q There you state, "To establish causation, the accepted methodology in the scientific and medical communities for rendering an opinion on a chemical cause of disease consists of faithful application of the Bradford Hill criteria (or some other comparable analytical process)."

Did I read that correctly?

A I'm sorry. I was reading -- okay. Say it again. I'm sorry, Mr. Metzger. I was reading something else. I'm with you now.

Q Okay. I'm on paragraph 10 of your declaration --

A Yes.

Q -- page 5, lines 3 to 5.
A Correct.
Q Okay. And what you write there is, "To establish causation, the accepted methodology in the scientific and medical communities for rendering an opinion on the chemical cause of disease consists of faithful application of the Bradford Hill criteria (or some other comparable analytical process)."
Did I read that correctly?
A Yes, sir.
Q And immediately following that, you cite the Hill 1965 article, which is Exhibit 4, correct?
A And the Evans' 1976 article.
Q Is the Evans what you're referring to as "some other analytical process"?
A Well, there's lots of descriptions of this. But, yes, there is something in the Evans paper that is exactly what we're talking about. And that's one of the things that I was reading a few minutes ago, and they talk about establishing objective criteria for causation. And they have a table "Elements of Causation in Chronic Disease," and there they have five --

Q Dr. Pyatt, you are getting ahead of me. I think you've answered my question when you said "Yes."

A All right. Sorry.

Q So I'd like to ask another question, if I could.

A Yeah. Yeah. I'm with you.

Q All right. First, is that your testimony?

A Is what my testimony?

Q The quotation from paragraph 10 of your declaration that I read.

A That you need to have faithful application of Bradford Hill or some analytical process to establish general causation. Yes, that is my testimony.

Q Okay. Now, I'd like you to take a look at Exhibit 4, the Bradford Hill article, and I'd like you to show me where in the article he establishes criteria for causation.

A He calls them viewpoints.

Q He does not call them criteria, correct?

A He didn't in 1965, no. There have been several people who have called them criteria since then in other publications. But, no, Dr. Hill

didn't.

Q Okay. When you say he did not -- when you say that Dr. Hill did not call them criteria in 1965, are you suggesting that anytime during his life he called them criteria?

A Oh, I don't know whether that's true or not.

Q Okay. Now, there's a paragraph -- well, actually, what Dr. Hill refers to is -- he refers to them as viewpoints, correct?

A I think that's right, yes.

Q And he identifies nine viewpoints in this article, correct?

A That's -- that's right, yes. Nine.

Q And then after he's identified those nine viewpoints, he writes something further. I'd like you to turn to that. I think it's a few pages into the article, which I don't have before me. I'm referring to where he states, "Here, then, are nine different viewpoints." Can you find that?

A Yes.

Q All right. And what he writes is, "Here, then, are nine different viewpoints from all of which we should study association before we

cry causation. What I do not believe, and this has been suggested, is that we can usefully lay down some hard-and-fast rules of evidence that must be obeyed before we accept cause and effect. None of my nine viewpoints can bring indisputable evidence for or against the cause-and-effect hypothesis, and none can be required as a sene qua non."

Did I read that correctly?

A Yes.

Q All right. Okay. Now, would you show me where in your declaration you identify the Bradford Hill nine viewpoints.

A I didn't list them out like that. I referenced the article and referenced the Evans article, and that's all that I did.

Q Okay. Would you show me where in your declaration you provided a discussion of your faithful application of the Bradford Hill viewpoints or, as you call them, criteria.

MR. HURRELL: Objection. It's argumentative.

A I didn't spend a lot of time discussing each one of the viewpoints or criteria, but it was part and parcel of how I reached my conclusions on

this matter.

Q (BY MR. METZGER) Well, can you show me where in your declaration you actually provide a discussion or analysis of any of the Bradford Hill viewpoints or, as you call them, criteria?

MR. HURRELL: Same objection.

A (Reviewed document.) Well, it doesn't appear to be in this declaration that I'm seeing.

Q (BY MR. METZGER) All right. All right. Changing topics. Do you agree that for a credible scientist to make a valid determination of the issue of general causation, it is critical that the scientist consider all available relevant studies to the issue?

A Well, I think the scientist in question should do the best that they can. I mean, there's always going to be, under some little rock somewhere, a study that they may have missed. So I don't think you can hold them to absolutely finding every single thing that's ever been published. But I think that they should do the very best that they can.

Q And when you say that "they should do the very best that they can," are you saying that it's critical that a scientist making a causal

determination of general causation should attempt to ascertain, identify, obtain, study all of the available studies that are relevant to the issue?

A I didn't get that question. Are you asking if that's what they should do?

Q Yes.

A Like I said, I think they should do the best that they can in trying to identify and collect all of the relevant scientific data on that issue.

Q And do you agree that a failure to do that can result in erroneous conclusions?

A Well, it depends on how big of a failure it is. I mean, if you've read 50 papers and they are all pointing in one direction, and then somebody points out one paper from 1984 from Romania that you didn't collect and didn't see, that probably will not mean that your conclusions are erroneous. So it just depends on how big of a problem it is that you didn't collect all the data.

Q All right. Do you agree that it's critical that at a minimum the scientist do a comprehensive literature search to identify the available data and relevant studies?

A Well, I think for -- well, I can only speak for myself. The comprehensive literature search is forever ongoing. There are programs from my library and PubMed and Ovid and others that with key words they continually pull up new studies, things that have been published. So I think this literature searching, for me anyway, is an ongoing process.

Q Okay. Before your involvement in this case, when is the last time when you did a literature search relevant to benzene or solvents causing multiple myeloma?

A For me it's always. I'm always doing a literature search on that because I'm always getting papers on multiple myeloma. I'm always getting papers on benzene. I'm always getting papers on organic solvents. So it is a continual process.

Q Well, I'm not sure I understand what you mean because -- are you telling me that you do a literature search for benzene and multiple myeloma every day?

A Yes, every day.

Q Every day? Okay.

A I don't do that, but --

Q I'm sorry?
A I don't do that, but PubMed does that and Ovid does that and Dennison Library at the School of Public Health does that. And that is every time a paper is published, they screen the literature, and on a weekly basis, they send me the results of those searches.
Q Okay. Where are those search results? I haven't seen them amongst the materials that you produced.
A Why should I give those to you?
Q You should give those to me to show that you actually did a literature search, because I don't believe you actually did it. Where are they?
MR. HURRELL: Raphael, you're arguing with the witness. And we gave you everything contained in Dr. Pyatt's file for this particular case. That's it.
Q (BY MR. METZGER) Dr. Pyatt, where are these literature searches that you've done for benzene and multiple myeloma?
A They come in on my computer every Sunday, and I read through the lists that come up every Sunday and track down the papers. I print

out the abstracts, and then I track down the papers that are relevant to that issue.

When you do an ongoing search of benzene, you get lots of studies on the chemical composition and how it reacts under various conditions that aren't really relevant to its health effects. But I track down and print out every relevant toxicological paper on benzene.

And I have a search criteria for multiple myeloma. And every time a study comes up that has to do with its etiology, I print it out and track the paper down. So I do it every Sunday.

Q Okay. And on all these downloads which you receive on your computer every -- are they still on your computer?

A No. They come in on my e-mail, and once I go through them -- I mean, I have about 25 that come in either Saturday night or Sunday morning. Once I search through those and pull out the papers that I'm interested in, then I delete them.

Q So you don't have them on your computer is what you're telling me; is that correct?

A They probably would be in my deleted e-mail file for three months or so, however long

that I've kept the deleted files.

Q Okay. Isn't it true that for purposes of this case you did not do a comprehensive literature search to identify the studies, but that you, rather, focused primarily on the epidemiology literature related to the relationships between benzene exposure and multiple myeloma?

MR. HURRELL: Objection. Vague and ambiguous.

A I don't understand that question.

Q (BY MR. METZGER) Isn't it true that for your analysis in this case you've focused primarily on the epidemiology literature related to the alleged relationship between benzene exposure and multiple myeloma?

A Focused primarily, sure, that's true.

Q And you did not do a comprehensive literature search for this case, true?

A I did not do a comprehensive literature search for this case because my comprehensive literature searching is an ongoing process. There was no need for me to do one specifically for this case.

Q Okay. Well, what's the most recent

article regarding the etiology of multiple myeloma that came from your most recent Sunday morning search?

A I don't -- I don't know. There was one that came out last month. The author was Kyle. But I don't have it because it wasn't specific to occupational or environmental exposures. It was more some of the genetics that people are thinking about why people get multiple myeloma.

Q Well, let's talk about some of the different studies. First of all, is it correct that there are case reports regarding benzene and multiple myeloma?

A Is it correct that there are case reports? Yes.

Q Yes. Yes. That's what I'm asking you.

A Yes, there are case reports. I can think of at least two.

Q And you don't mention those in your declaration, correct?

A I don't know. I'll have to look. I usually do. I usually talk about Torres because Torres was what kind of got the whole thing going. But maybe I didn't have it in this declaration. I'm looking for the first pages of it.

I cited it. Torres is cited in there, so I would assume that it's in here somewhere.

No. So you're wrong. It's in here, and axoids are in here. So both of the two that I knew about were cited in this.

Q Okay. And those are the only two case reports that you're aware of?

A The only two that I can point to right now, but it does seem like there's been another -- I'm not sure if those were case reports. Yeah. I think those are the only two that I can point to.

Q Okay. Let's talk about med analyses. What med analyses regarding benzene and multiple myeloma have been published in the last three years?

A Published in the last three years? The only one that I can think of was Peter Infante in 2006. I might be blanking on -- there may be a more recent one, but the ones that I can think of sitting here, they were for 2006.

Q Okay. Well, since you mention the -- you have, in fact, read the Infante med analysis, correct?

A I've read it, yes.

Q And in that med analysis, Dr. Infante

pulled data from seven cohort studies yielding a statistically significant, weighted, relative risk estimate of 2.13 with a 95 percent confidence interval from 1.31 to 3.46; isn't that correct?

A I don't know whether that's correct or not.

Q Okay.

(Discussion off the record.)

Q (BY MR. METZGER) Okay. And I gather that you're not familiar with the med analysis from 2007 reporting a medi-relative risk for benzene and multiple myeloma of 2.29, which was statistically significant; is that correct?

A I don't -- what's the -- what's the author?

Q It's actually the German Ministry for Labor.

A No, I haven't seen their med analysis. I've seen what they said about benzene and non-Hodgkins lymphoma and benzene and AML, but I haven't seen their background analysis, and I don't believe that that's actually been published.

Q Oh. Well, it has. And --

MR. HURRELL: Well, I'm going to object to the statement of counsel.

Q (BY MR. METZGER) Okay. In your literature search did you identify a large med analysis for multiple myeloma of chemical workers?

A Not -- I didn't -- I don't have it all memorized. If you give me the author's first name or last name -- the first author's last name, then I may have seen it.

Q Greenberg.

A Yeah, I've seen it.

Q What study is that?

A I think I have. Hold on. Let's see if I have it.

(Pause.)

No, I don't have it with me. So that was chemical workers?

Q Yes.

A Hum. It sounds familiar, but I don't have it with me.

Q What can you tell me about that study?

A I can't tell you anything about it because I don't have it in front of me.

Q Okay. What animal studies have you considered for your evaluation?

A Animal studies?

Q Yes.

A Well, I'm familiar with all of the published animal studies on benzene. I don't know that experimental animals make a very appropriate experimental model for humans. They don't get the diseases we get, and they get diseases that we don't.

But I'm sure that none of those animal studies report an increase in multiple myeloma in those animals. They do get a T-cell lymphoma, which is completely different than multiple myeloma. So I don't think it's 100 percent germane and relevant, and I certainly didn't discuss it in my report. But I'm very familiar with that data.

Q All right. First of all, what hematologic malignancy do animals get that is the closest analog to human multiple myeloma?

A Animals get multiple myeloma. There's an experimental model where you can induce myeloma in rats, so they have the ability to get multiple myeloma. I don't know -- sorry. Go ahead.

Q Go ahead. When you say that there is this model which is used to induce multiple myeloma in rats, what chemical agents have been shown to induce multiple myeloma in rats?

A I don't -- I don't know. I'd have to pull that study out and look. It starts with a P, but I --

Q What's the author of the study you're referring to?

A I can't remember. It was not in my declaration, and that's what I thought we were going to be discussing today.

Q Okay. What -- well, let me ask you this: Are there any reviews in textbooks which conclude that there is a causal relationship -- or a probable causal relationship between benzene and multiple myeloma?

A Are there any reviews or textbooks? That wouldn't surprise me.

Q Well, which are they?

A I don't -- I don't have them all memorized. I don't know. You just mentioned one with Dr. Infante.

Q Well, that's another analysis, not a review, correct?

A No. It was also a review.

Q All right. Are there any chapters in textbooks that you're aware of which conclude that there is a probable causal relationship between

benzene and multiple myeloma?

A I am not aware of any chapter in any textbook sitting here now, no.

Q Are you aware of any chapters in any textbooks which conclude that there is a causal relationship between painting and multiple myeloma?

A Not sitting here now, no.

Q Are you familiar with a study by Delzell -- Elizabeth Delzell and others, which is a method case control study of the Union Oil cohort?

A The unpublished paper? Yes, I've read that.

Q And you don't mention that in your declaration, do you?

A It's unpublished. And I didn't mention lots of things in my declaration. This was not intended to be an all-inclusive encyclopedia of every study that anyone has ever discussed benzene and/or multiple myeloma or any occupational exposure. I mean, there's lots of things that I didn't list in a 20-page declaration.

Q Well, that study reported an eight-fold significant excess of multiple myeloma in refinery

workers which the authors concluded was related to their exposure, true?

A I don't remember. I think it was -- well, I don't remember. It was something with 32 years of employment in production workers out in the field. I don't actually remember. Did not -- did not have anything to do with benzene that -- that I recall.

Q Oh. Are you telling me that refinery workers and oilfield workers are not exposed to benzene?

A I don't think I said that.

Q That would be incorrect, wouldn't it?

A What you said is incorrect, yes.

Q Well, just so we have a clear record, refinery workers and oilfield production workers are occupationally exposed to benzene, true?

A Among lots of other chemicals, yes.

Q Okay. Now, you mentioned that that study was not published. You said that twice, as a matter of fact. Of what significance is that to you?

A It's pretty important.

Q Okay. Tell me why.

A Why is it important?

Q Yes.
A Because the peer review process is another fundamental tenet of science. That is how something goes from being preliminary to actually being considered scientific data through the peer review process. That is a very important step.
Q And you would agree, then, that the authors of that study and Unical should have submitted that study for publication so it could be peer-reviewed, correct?
MR. HURRELL: Objection. Calls for speculation. No foundation.
A I wouldn't agree to that. I don't know anything about that study other than the report that I read.
Q (BY MR. METZGER) Well, if the petroleum industry has consistently, over the years, withheld from publication the positive studies, when you review the published literature, your review would be based upon a nonpublication bias, would it not?
MR. HURRELL: You know, Raphael, I'm going to object because you're going beyond the scope of the purpose of this deposition. We're giving you some latitude, but if you could confine

it to the summary judgment motion, that would be great.

MR. METZGER: Your objection is noted.

Q (BY MR. METZGER) Please answer the question, Dr. Pyatt.

A I didn't actually hear a question in there, so could you do it again.

MR. METZGER: Madam Reporter, will you read the question back, please.

(The last question was read back by the reporter.)

A Well, I don't agree that that's true, so I can't answer that question because that's based on an assumption that I disagree with.

Q (BY MR. METZGER) All right. I'd like you to give me your opinion number 1 in your declaration in paragraph 12. You refer there --

MR. METZGER: Someone on the phone is typing.

MR. BOOTH: That's me. I apologize.

Q (BY MR. METZGER) You referred, in paragraph 12, to an absence of reliable epidemiological evidence. Do you see that?

A Yes.

Q How are you defining "reliable"?

A Based on all the things that we've been discussing, that it's peer-reviewed, that it's statistically significant, that it's consistent across the studies, the Bradford Hill criteria or viewpoints or whatever you want to call them, all the things that we've been discussing.

Q So you're saying that in order for an epidemiologic study to be reliable for your consideration in a general causation analysis, it has to be consistent, it has to be statistically significant, it has to have a certain strength, and you're probably also going to tell me that it also has to exhibit a dose response relationship, correct, all those things?

A I wouldn't say that, no.

Q Okay. On page 6 of your declaration, line 10 and 11, the last two lines of paragraph 13, you write, "Consistently no national or international regulatory agency or scientific body classifies benzene as an established or even suspect (sic) cause of multiple myeloma."

Did I read that correctly?

A Perhaps. The last sentence is, "Classifies benzene as an established or even suspected cause of multiple myeloma." Maybe

that's what you said.

Q Okay. When you wrote that sentence, you were attempting to mislead the Court, weren't you?

MR. HURRELL: Objection. It's argumentative.

A That was not my intent, no.

Q (BY MR. METZGER) Okay. Well, will you identify for me, please, any regulatory agency or scientific body that specifically classifies chemicals by -- specifically classifies chemicals as being carcinogens for specific cancers.

A I don't understand that question.

Q Okay. Here's what I'm asking you. Can you identify for me any governmental body or regulatory agency that makes a pronouncement -- a formal pronouncement as to whether benzene or any other chemical causes multiple myeloma.

A They don't do that. That's my point.

Q Can you identify for me any regulatory body -- regulatory agency or governmental body that classifies chemicals as myelomagen.

A There are no chemical causes of myeloma, so how would that --

Q That's not what I was asking you.

A -- how would that be possible? If there

are no chemicals that cause myeloma, how can there be a scientific or regulatory agency that's going to classify a chemical as being a myelo -- whatever you called it -- a chemical that can cause multiple myeloma? There is not an established chemical cause.

Q Here's what I'm getting it: Are there any governmental agencies or regulatory bodies that actually make a formal evaluation as to whether any chemical causes any particular cancer?

A Of course they do.

Q Identify such one for me, please.

A Well, you read the IRIS value for benzene from U.S. EPA, or you read any of the supporting documentation for the carcinogenicity evaluation for benzene, and they talk about pliofilm, they talk about China, they talk about the epidemiology studies, and they identify AML as the disease that is pretty unequivocally linked with benzene exposure. Of course they do.

MR. METZGER: I'd move to strike as not responsive.

Q (BY MR. METZGER) Here's what I'm getting at, Dr. Pyatt: You said IARC, did you not?

A IARC's on this list, yes.

Q Right. And that's the International Agency for Research on Cancer, correct?

A That's correct.

Q And IARC classifies chemicals as being human carcinogens or probable human carcinogens or possibly human carcinogens or animal carcinogens, et cetera, correct?

A That's correct.

Q IARC does not classify chemicals either by -- strike that.

IARC does not classify chemicals as being carcinogens to a particular organ or for a specific cancer, true?

A I would disagree with that. I mean, if you just read the first page and it says, okay, benzene is a known carcinogen, it's a Group 1, and then you got up and left and didn't read anything else, fine, you maybe could make that argument.

But if you read their position on benzene, they talk about the studies. They identify the diseases that are known to be associated with benzene. So they support their decision that benzene is a known human carcinogen with epidemiological data, and that data identifies cancer. So, no, I don't agree that.

Q Well, I'm not asking you what the data is that's discussed. You write here that no national or international regulatory agency or scientific body classifies benzene as an established or even suspected cause of multiple myeloma.

But isn't it true that no national or international regulatory agency or scientific body classifies any chemical specifically by organ site or specific cancer?

A All right. This is the third time we've done this, so I'll say it again. If you look at IARC or you look at EPA or you look at any of these other agencies that go through the process of classifying chemicals, they say, yes, it's a Group 1, Group 2, 2A, 2B. If that's all you read, then you wouldn't know.

But if you read five more pages in any of these documents, you will see the discussion of the literature and you will see the synthesis of that literature to support their position on that particular chemical. And in that synthesis they absolutely talk about specific cancers.

Q But they don't classify, for example, benzene as a known human acute myelomonocytic

leukemogen, do they?

A Well, they don't have that -- that's not their classification system, but that is what that document says.

Q They don't classify any chemical by -- as a specific organ carcinogen or a specific neoplasm carcinogen, do they?

A I don't understand that question.

Q All right. I'll accept your answer.

Please turn to page 8 of your declaration, paragraph 16.

A Okay.

Q Here in this paragraph you discuss the association between painting and multiple myeloma, true?

A Yes. That's the topic of that paragraph.

Q Okay. In the last sentence in that paragraph you write, "These studies also fail to provide a consistent pattern of positive results or evidence of a relevant dose response relation between exposure and risk of multiple myeloma." Correct?

A That's what it says, yes. That's what I wrote.

Q Are you suggesting there that the weight of the evidence does not indicate a causal relationship between painting and multiple myeloma?

A That is what I'm suggesting, yes.

Q Are you suggesting there that the majority of epidemiologic studies that have assessed it do not provide evidence for a relation between a history of paint-related occupations and myeloma risk?

A I think the way I worded it in my declaration is appropriate, that they fail to provide a consistent pattern of positive studies. There are positive studies, and I listed a couple. There are a couple more probably that you could add. There's a whole lot more negative studies that I could add.

When you look at the really powerful studies, like Steenland, for example, from the NCI, they looked at 57,000 painters. There was no increase at all in multiple myeloma. That is pretty good evidence that they are unrelated.

Q Do you -- are you familiar with a textbook on cancer epidemiology by Schottenfeld and Fraumeni?

A I don't own that, but it seems like I've seen it.

MR. METZGER: It's Schottenfeld and Fraumeni, F-R-A-U-M-E-N-I.

Q (BY MR. METZGER) You recognize those authors, do you not?

A Vaguely with the textbook. I mean, I've certainly seen studies that Dr. Frau -- however you pronounce his name -- I've seen papers that he's written, so I recognize the name.

Q And you're familiar with the textbook entitled "Cancer Epidemiology and Prevention," are you not?

A I'd have to say probably not. It sounded familiar, but I -- I can't put my finger on where I saw it.

Q So are you telling me, as you sit here today, you are not familiar with a standard and leading textbook on cancer epidemiology?

MR. HURRELL: Objection. It's argumentative. It assumes facts not established.

A I don't have that book. Whether or not it's the leading textbook in cancer epidemiology, I don't know the answer to that.

Q (BY MR. METZGER) Okay. I'd like to read

you a statement from that textbook. The sentence is as follows: "The majority of epidemiologic studies that have assessed it provide evidence for a relation between a history of paint-related occupations and myeloma risk."

Do you disagree with that?

MR. HURRELL: Well, objection. No foundation for anything you're saying, Raphael.

A I don't have reason to disagree or agree. I don't -- I don't know the context. I don't know when it was written. I don't know what scientific literature they evaluated to make that statement. I don't have an opinion about that one way or the other.

Q (BY MR. METZGER) Okay. In paragraph 17 of your declaration, on line 19, you write, "There is indisputable evidence that multiple myeloma and acute myelogenous leukemia have different cellular origins."

Did I read that correctly?

A Yes.

Q That statement is flat wrong, isn't it?

MR. HURRELL: Objection. Argumentative.

A I disagree.

Q (BY MR. METZGER) You are familiar, are

you not, with the publication by the California Environmental Protection Agency titled "Public Health Goal for Benzene in Drinking Water"?

A Not very familiar, no. I've read it at one point. I don't have it here. It's not referenced in my declaration. I didn't bring it.

Q Okay. I'd like to read a sentence from that publication of the State of California, the Environmental Protection Agency. It says, "Recent cytogenetic studies in individuals with multiple myeloma have reported common genetic abnormalities in plasma cells, myeloid cells, and lymphoid cells, suggesting that multiple myeloma arises from an alteration of hematopoietic stem cells."

Do you disagree with that?

MR. HURRELL: Objection. No foundation.

A I -- I mean, there are certainly plenty of studies that would take a contrary position. But I will look up that reference and see what they're actually talking about. And if there's a legitimate scientific dispute over where the cell of origin is, then I would reword that sentence and take out the word "indisputable."

But the studies that I have read clearly indicate that myeloma and AML do not arise at the

same cellular level. In fact, myelomas have already committed to a lymphoid lineage. They've left the marrow. They've already been exposed to antigen. They've already rearranged their DNA and formed antibody, so they are very far along the B cell lineage before the transformation occurs. Totally completely different from AML. The cytogenetics are different. I mean, they are very, very different diseases.

But if there is one study out there that says we think they're the same, then the word "indisputable" would probably be a little strong.

Q (BY MR. METZGER) Okay. Are you familiar with a study by an author whose last name is spelled N-G. Ng. It's N-G. That's the last name. No vowels. The title of the study is "Confined Morphological and Interphase Fluorescence In Situ Hybridization Study in Multiple Myeloma of Chinese Patients." Have you read that study?

A I haven't read that study, at least not to where it stands out in my mind.

Q Okay. Isn't it true that there is an abundant literature regarding the simultaneous occurrence of acute myelogenous leukemia and

multiple myeloma in patients?

A I've seen some. I wouldn't call it an abundance.

Q How many studies would you need to say that there's an abundance?

A I don't -- I don't know. An abundant -- an abundant amount. I don't know. I don't know.

Q Approximately. I mean, are we talking one, five, ten, fifteen, twenty, thirty? How many?

A Ten.

Q Okay. I'd like you to take a look at paragraph 20 of your declaration on page 9, lines 21 through 28.

A Okay.

Q Here you assume that the concentration of benzene in the paint product which Mr. Sundquist used was no more than 0.1 percent, correct?

A No more than that. Yes, that's my assumption.

Q And you also assume that -- well, strike that.

Do you have any evidence, actual data, to establish that the benzene content of the paint

products that Mr. Sundquist used were less than 0.1 percent?

A I don't have the data, but I know that they've done testing on the raw ingredients, the materials that went into making the product, and they've done testing on the actual finished product. And it's not listed on the MSDS sheets, and there's a reporting requirement of 0.1 percent. But I don't have their testing data.

Q Did you ask them for it?

A No.

Q Have you ever seen it?

A Have I ever seen their testing data? No.

Q Are you assuming that because the paint manufacturers did not list benzene on their Material Safety Data Sheet, that the products necessarily contained less than 0.1 percent benzene?

A That is my assumption, yes.

Q Why do you make that assumption?

A Why would I not make that assumption?

Q Well, I'll answer you because I believe that that assumption is unwarranted. I can't see any reason whatsoever for making that assumption

based upon what appears on a Material Safety Data Sheet. Do you?

A I disagree.

Q Why do you think that the absence of benzene on a Material Safety Data Sheet gives rise to an assumption or an inference that the product contains less than 0.1 percent benzene?

A Because that's the federal reporting requirement. They've tested their product. It wasn't more than .1 percent. They didn't put it on the MSDS sheet. I trust that's what happened, and I believe the MSDS sheets in terms of that aspect, and that's my assumption.

Q Are you saying that federal OSHA does not require manufacturers -- paint manufacturers to list benzene on their Material Safety Data Sheets if the benzene concentration is less than 0.1 percent?

A I'm sorry. I didn't get that question. Am I assuming that that's -- what was the question?

Q No. Are you saying that there's some regulatory -- that there's some regulation that says that if the benzene concentration of a product is less than 0.1 percent, the manufacturer

of that product doesn't have to list benzene on the Material Safety Data Sheet for the product?

A That's my understanding of the federal hazard communication, that if it's more than .1 percent, it needs to be listed on the MSDS sheet. So if it's not listed on the MSDS sheet, then my assumption is that it is something less than .1 percent.

Q Have you ever read that regulation in its entirety?

A I don't know what its entirety is. I've read it.

Q Okay. If you've read it, isn't it true that what the regulation actually says is that a manufacturer must list benzene on its Material Safety Data Sheet for the product even if benzene is present at a concentration of less than 0.1 percent if, for the use of the product, a PEL or TLV could be exceeded or the use of the product could present a health hazard to the worker?

MR. HURRELL: Well, objection. I believe, you know, there's no foundation for what -- I believe you're misreading that, Raphael.

But go ahead and answer if you can, Doctor.

A I recall some language. I don't know if it's exactly the way you just described it. But I haven't seen any evidence that that's the case. I think that's how OSHA set the .1 percent, is that it was not likely to exceed the PEL under normal working conditions.

Q (BY MR. METZGER) Are you suggesting that even though paint is often sprayed, that paint containing 0.1 percent would not produce a respiratory exposure in excess of a TLV or PEL?

MR. HURRELL: Objection. No foundation.

A All I'm saying is that's my understanding of how the OSHA standard was set. I'm not an industrial hygienist.

MR. HURRELL: And, Raphael, can we take a two-minute restroom break?

MR. METZGER: Well, I'd actually like to wrap it up, so if we could go on for just another few minutes, I think I can wrap it up. I actually have to get on the road myself.

MR. HURRELL: Go right ahead, then.

MR. METZGER: Thank you.

Q (BY MR. METZGER) Dr. Pyatt, would you agree that a determination of general causation, in this instance whether benzene had caused

multiple myeloma, that there is no algorithm by which that is determined?

A What's your definition of an "algorithm"?

Q You've heard the word before, haven't you?

A You know, I think the only other time I've heard it was in a deposition, and it might have been with you.

Q Okay. Did you look it up after I mentioned it?

A Sorry. Sorry. I think I know. I mean, I'm pretty sure I know what you're asking. Is it like a set formula? No, there's not a set formula that anyone can use to establish general causation. It's an evaluation of the literature based on the criteria that we've been -- that we discussed somewhat and others -- you can use others if you like. They're all pretty similar.

Q And would you agree that therefore the determination of that issue is one which requires the exercise of professional judgment?

A Well, I think professional judgment is a part of the evaluation, yes, because there isn't a set blueprint that one could follow that would end

up with a box yes or a box no.

Q And would you therefore agree that two qualified scientists, each exercising their own best independent professional judgment, could reach different conclusions on the issue of general causation?

(Discussion off the record.)

Q (BY MR. METZGER) That two qualified scientific experts, each exercising their own best professional judgment, could reach different conclusions on the issue of general causation.

A That's pretty vague. I think it's possible. If you're referring to the benzene and multiple myeloma literature and that general causation, that literature seems pretty clear to me.

Q Incidentally, have you read the article by Beelte, B-E-E-L-T-E?

A That doesn't sound familiar.

Q I understand that you're soon going to be going to Munich for the International Benzene Conference, correct?

A That's true. I leave on Saturday.

Q And have you seen the abstracts for the conference?

A I've seen some of them. I haven't seen all of them. I've seen the names of the titles, but I haven't read all the abstracts.

Q Do you have them?

A I don't know if I have them or not. We -- I've seen the abstracts for the posters because I'm chairing one of the poster sessions, but I don't know if I have all of the abstracts for the individual presenters or not.

Q You are aware that Bernie Goldstein is presenting at the conference?

A I am aware that Dr. Goldstein has a presentation, yes.

Q Okay. And you consider him to be a credible expert, do you not?

A I -- I do.

Q And are you aware that Dr. Goldstein's abstract for his presentation states that the association between benzene and multiple myeloma is now conclusive?

A I don't recall that being in his abstract, and I would strongly disagree with that unless he means -- unless he means that it's conclusive that it's not an association.

Q No. That's not what he means at all.

A Then I would disagree with that.
Q Okay.
MR. BOOTH: I'll object to the characterization of Dr. Goldstein.
(Discussion off the record.)
MR. METZGER: Just give me a moment. I think I'm done.
Okay. I am, so I'll propose that the -- well, let's go off the record one second.
(Discussion off the record.)
MR. METZGER: I'll propose that the court reporter forward the original transcript of this deposition to Mr. Hurrell. Mr. Hurrell will make it available to Dr. Pyatt to read, review, and sign. I would ask the court reporter to have the signature page state that the -- that the witness is signing the declaration under penalty of perjury under the laws of the state of California and of the United States.
Dr. Pyatt, you may sign the transcript under penalty of perjury without having to have it notarized.
THE DEPONENT: Okay.
MR. METZGER: You may make any corrections that you wish. I would ask that you

make the corrections on the pages where the testimony occurs and then list them on the errata sheet at the end of the transcript so that everyone may know where those are.

THE DEPONENT: Sure. That's fine. I'll do that.

MR. METZGER: I would ask you to then forward the transcript to Mr. Hurrell. You can have 30 days from Mr. Hurrell's receipt to read, review, sign, and make the corrections.

When Mr. Hurrell receives the transcript back from you, he will forthwith notify all counsel of the changes, and then he will forward the original transcript to my office, and we will lodge it in advance of the hearing on summary judgment. Or if it's not available by then, we'll lodge it in advance of any hearing or trial on reasonable request. If the original's not signed or is lost, a certified copy may be used with full force and effect.

So stipulated?

MR. HURRELL: Sounds fine.

MR. BOOTH: So agreed.

MR. MILLER: So stipulated.

MR. METZGER: Very well. Thank you,

gentlemen.

(The deposition was concluded at the approximate hour of 1:13 p.m.)

* * * * *

I, DAVID PYATT, Ph.D., do hereby certify under penalty of perjury that I have read the foregoing deposition and that the same is a true and accurate transcript of my testimony, except for attached amendments, if any.

_____

DAVID PYATT, Ph.D.

REPORTER'S CERTIFICATE

I, PAM D. BUCKNER, Certified Shorthand Reporter and a Notary Public in the State of Colorado, appointed to take the deposition of DAVID PYATT, Ph.D., do hereby certify that the deponent was by me first duly sworn to testify to the truth under the penalty of perjury; that the deposition was taken by me at Embassy Suites, 7001 Yampa Street, Denver, Colorado, on September 2, 2009; that the proceedings were thereafter reduced to typewritten form by means of computer-aided transcription; that the foregoing is an accurate transcript of the proceedings at that time.

I further certify that I am not related to any party herein or their counsel and have no interest in the result of this litigation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal this 14th day of September, 2009.

_____

PAM D. BUCKNER, CSR

My Commission Expires 10/02/2010