FIRST JUDICIAL DISTRICT COURT
COUNTY OF SANTA FE
STATE OF NEW MEXICO
ARTHUR FIRSTENBURG,
Plaintiff,
vs. Case No. D-0101-CV-2010-00029
RAPHAELA MONRIBOT
and ROBIN LEITH,

Defendant.

DEPOSITION OF RAYMOND SINGER
May 18, 2012
9:15 a.m.
Bean & Associates, Inc.
119 E. Marcy Street, Suite 110
Santa Fe, New Mexico 87501

PURSUANT TO THE NEW MEXICO RULES OF CIVIL PROCEDURE, this deposition was:
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Also present:

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EXHIBITS MARKED OR FORMALLY IDENTIFIED

RAYMOND SINGER,
after having been first duly sworn under oath,
was questioned and testified as follows:

EXAMINATION

BY MR. ROMERO:

Q. Can you please state your name for the record.

A. Raymond Singer.

Q. And do you go by Dr. Singer?

A. Yes.

Q. Okay. My name is Joseph Romero, I'm an attorney, and I represent Raphaela Monribot, one of the defendants in this case.

I'll mark this as an exhibit, and I'll call it Singer No. 2. And this is a copy of the check draft that I just gave you for your deposition fee.

(Singer Exhibit No. 2 marked.)

BY MR. ROMERO:

Q. I only have one copy so I'll just show it to opposing counsel. Is that a copy of the draft?

A. Yeah.

Q. Okay.

MR. LOVEJOY: What was Exhibit 1?

MR. ROMERO: Exhibit 1 was the Amended Notice of Deposition that we entered as an exhibit yesterday.

BY MR. ROMERO:

Q. Dr. Singer, can you tell us something about your education.

A. Sure.

(Singer Exhibit No. 3 marked.)

BY MR. ROMERO:

Q. And I'll go ahead and give you a copy of your CV and you can just go ahead and refer to that.

A. I have a Bachelor of Arts degree from the University of Rochester which was awarded in 1972, a Master's of Science degree awarded from Washington State University in 1975, a Doctor of Philosophy degree awarded from Washington State University in 1978.

Following that I went to New York City, where I served as a postdoctoral fellow in biological psychiatry, awarded from the National Institutes of Health. This took place at New York University Medical Center in New York City in 1978.

In 1979 I moved to the Mount Sinai School of Medicine, where I was a fellow under the National Institutes of Health Environmental Health Sciences, a postdoctoral fellow in environment epidemiology.

This is where I gained my experience in epidemiology, toxicology, and also continued my

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studies of neuropsychology. Following that I was a fellow at Mount Sinai School of Medicine for one additional year on similar topics.

Q. Okay. Dr. Singer, do you have any board certifications?

A. Yes. I'm board certified in professional neuropsychology with added forensic specialization.

Q. Are you a member of any professional associations?

A. Yes. I am a member of the Society of Toxicology, I'm a full member. I've been a member for about 25 years. And I am a member of the Roundtable of Toxicology Consultants. I've been an officer in both of those organizations. I'm currently an officer in the Society of Toxicology for two specialty sections.

I am a member of the National Academy of Neuropsychology, the International Neurotoxicology Association, the American Psychological Association, and the American Academy of Clinical Toxicology.

Q. What states are you licensed to practice in?

A. New Mexico and New York.

Q. Okay. And is the New York license current?

A. Yes.

Q. And I'm assuming the New Mexico one as well?

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A. Yes.

Q. Okay. Are you a medical doctor?

A. No.

Q. Will you be giving any medical opinions in this case?

A. I will be giving opinions that overlap some aspects of medicine; for example, in toxicology and neuropsychology.

Q. How long have you been a practicing psychologist?

A. I believe I was licensed in New York in the early eighties. And I've been practicing since then.

Q. Okay. Are you a neuropsychologist?

A. Yes.

Q. What type of specialty training do you need to become a neuropsychologist?

A. The specialty training would include studies of neuropsychological assessment approaches, statistics, psychology. I was supervised by a neuropsychologist in my training at Mount Sinai School of Medicine.

Q. How does a neuropsychologist differ from a neurologist?

A. A neuropsychologist and a neurologist often study the same subject matter or maybe treat the same

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patients and do diagnoses. The neuropsychologist is emphasizing the behavioral or psychological aspects of neurological processes.

Q. Okay. And how does that differ from a neurologist?

A. A neurologist is a medical doctor that specializes in treating neurological conditions with drugs and surgery.

Q. So there's some overlap between a neurologist and a neuropsychologist?

A. Yes.

Q. And there are some areas in the practice where they differ?

A. Yes.

Q. Okay. I know you said you're not a neurologist. Are you a board certified neurologist?

A. No.

Q. I just have to go down the script, sir.

A. Sure. No, I'm not.

Q. How long have you been a neurotoxicologist?

A. I've been studying neurotoxicology since 1978.

Q. Okay. And what specialty training is required to become a neurotoxicologist?

A. The specialty training required would be

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study of the field of neurotoxicology.

Q. Okay. How does a neurotoxicologist differ from a toxicologist?

A. The neurotoxicologist specializes in studying the effects of toxic chemicals on the nervous system.

Q. Okay. And a toxicologist studies other human systems in the body?

A. Yes. Well, toxicologists can also have some studies of neurotoxicology. But they don't specialize in that and they will work with all body systems.

Q. Is toxicology a separate field?

A. From?

MR. LOVEJOY: From what?

BY MR. ROMERO:

Q. From neurotoxicology. Are they different disciplines?

A. I think that the disciplines are overlapping.

Q. But in some respects there is no overlap and they are separate?

A. They can be seen as separate.

Q. Okay. Do you consider yourself to be a toxicologist?

A. Yes.

Q. Okay. And what education and training does a toxicologist need?

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A. Education and training in toxicology and then also the way that they apply toxicology. So some study epidemiology, some study, you know, in my case neuropsychology. There are so many different branches of toxicology, it could be chemical toxicology, physical. So it gets very -- it's a very broad field.

Q. Okay. Do you have a degree in toxicology?

A. No.

Q. Okay. Do you have a degree that says on the piece of paper that you're conferred a degree in neurotoxicology?

A. No.

Q. Do you have a degree that says a diploma is awarded for a degree in the field of neuropsychology?

A. I have a diploma from the American College of Professional Neuropsychology. And that says neuropsychology.

Q. Was that a medical school?

A. No. That's a professional organization of neuropsychologists.

Q. Did you have to take any courses to get this degree?

A. Well, yes. Not with them, but I had to take many courses to get that degree.

Q. Okay. But you said this degree comes from a

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professional organization?

A. Correct.

Q. And not from an educational institution, like a university?

A. It's not a university.

Q. Okay. What is electromagnetic intolerance?

A. That describes a person who has symptoms when they're exposed to an excessive amount of electromagnetic radiation, an excessive amount for them.

Q. Just for simplicity we'll call this EMI, electromagnetic intolerance. Is EMI the same thing as electromagnetic sensitivity?

A. I think so.

Q. Okay. We'll call electromagnetic sensitivity EMS. And I might use these acronyms interchangeably. But as far as you're concerned, both acronyms describe the same condition?

A. Yes.

Q. Okay. What training or experience do you have with EMI?

A. My training and experience would be the training and experience that I have received as a psychologist, which I've described -- at least I've outlined. And my training and experience and in

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biological psychiatry at NYU, although this topic was not specifically addressed.

And my training and experience in Mount Sinai School of Medicine, where I was trained and studied and conducted research in evaluating the effects of neurotoxic agents. Electromagnetic radiation can be a neurotoxic agent.

Q. Okay. When you were attending these academic programs, was the term EMI or the term EMS used?

A. Not in the programs up to my studies at Mount Sinai. And I don't -- I don't recall that term being used, although we did -- we did consider electrical radiation as well as other types of radiation and its effects on the nervous system.

Q. I have a feeling that EMI/EMS, this became a term of art after your education?

A. I believe so.

Q. Okay. And I'm getting the sense that your academic training had like set forth principles that are applicable to EMI/EMS; is that correct?

A. Yes.

Q. Although EMI/EMS was not specifically discussed when you were getting these degrees?

A. Let me just take a moment to do some recollection. I'm not recalling that we discussed

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that during my time at Mount Sinai School of Medicine. And prior to that I'm also probably not.

Q. But in answering my question, the training and experience, you are going back to your base education in neurotoxicology/neuropsychology?

A. Well, yes. Also continuing education over the years. Psychologists are required to take I think it's about 20 hours of continuing education every year. And I've done that, I've usually exceeded that, as well as continuing education in toxicology. So I've been continuing to study these things.

Q. In doing your continuing education, were there any programs you attended specific to the topic of EMI or EMS?

A. I'm not recalling that happening.

Q. Okay. To your knowledge is there any formal training for diagnosing individuals with EMI, is there a college program, is there a professional course, is there a correspondence course to your knowledge?

A. I'm not aware of a correspondence course or continuing education course for diagnosing this condition.

Q. Do you know of any medical schools or university schools or university graduate programs that have like seminars for diagnosing individuals

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with EMI?
A. I don't know.
Q. Have you published any professional articles?
A. Yes.
Q. Okay. And I take it these articles are mentioned in your resume?
A. Yes.
Q. For those articles you have published, were any of these articles related to the topic of EMI?
A. I can refer to publications of mine that pertain to the diagnosis of EMI. However, I don't recall that the term EMI or electrical sensitivity is mentioned in the publications, in my publications.
Q. Okay. It does not appear in the titles that describe your published articles?
A. Yes.
Q. Okay. Do you recall which articles you have published that make mention of EMI in the text?
A. I don't recall.
Q. Have you published any articles on the topic of electromagnetic sensitivity?
A. I don't think so.
Q. Now, you have prepared abstracts during your career; is that correct?
A. Yes.

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Q. What is an abstract?
A. An abstract is a summary of research and research findings.
Q. Okay. And how does an abstract differ from a professional article?
A. A professional article is more in depth.
Q. Have you prepared any abstracts on the topic of EMI or EMS?
A. I don't think so.
Q. Let's talk about your practice, Dr. Singer. What does your practice consist of now?
A. I practice as a neuropsychologist and a neurotoxicologist with a forensic specialization.
Q. I take it you see patients?
A. I see patients, yes.
Q. Okay. Do you see patients with multiple chemical sensitivity?
A. Yes.
Q. How much of your practice consists of these type of patients with multiple chemical sensitivity?
A. If what you're referring to is how many -- what part of my practice is devoted to let's say treating people with multiple chemical sensitivity, it's very small.
Q. Okay.

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A. But just to clarify, with most of the people that come to see me with neurotoxicity -- or I should say many of them have some degree of chemical sensitivity. Whether they are aware of it before they come to see me or after they come to see me is another question.
Q. Okay. You said that you're a neuropsychologist and a neurotoxicologist. I take it your clientele fit in one of these two categories?
A. Yes.
Q. How about what percentage of your patients do you see fall into the neurotoxicology class?
A. Most of the people that I work with or see are seeing me both for neuropsychology and neurotoxicology.
Q. Okay. Let me ask you now, what's the difference between neurotoxicology and neuropsychology?
A. Neuropsychology is the study of the brain behavior relationship or the nervous system behavior relationship. And neurotoxicology is the study of the effects of poisons on the nervous system. So someone can be seeing a neuropsychologist and not have a neurotoxicological issue.
Q. But someone with a neurotoxicological issue

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necessarily would have neuropsychological issues?
A. I think so, yes.
Q. But you can have a neuropsychological problem and not have any neurotoxicological issues?
A. Yes.
Q. Okay. Do you see any other patients with other types of problems, psychological problems?
A. Not other than what pertains to neuropsychology.
Q. Okay. What percentage of your practice consists of patients with EMI/EMS?
A. A very small number.
Q. Okay. Do you know how many patients you have seen that had the specific complaints of EMI/EMS?
A. I don't know that I could give an exact number for that.
Q. Okay. The plaintiff in this case is Arthur Firstenberg. Was he your first patient that you saw with EMI/EMS complaints?
A. No.
Q. Okay. So more than one?
A. Yes.
Q. More than ten?
A. As I sit here trying to recollect the number of patients that have reported complaints of EMI or

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EMS to me, I'm recalling fairly clearly two additional ones in addition to Mr. Firstenberg; plus a group that I don't think I actually saw them, I think I did some consultation with them.

Q. Okay. But this group had informed you of a possible EMI/EMS problem?

A. Yes.

Q. Of this small group, which of these patients -- when did you first see these patients, when was the very first patient that contacted you and said I have EMS, I have EMI, can you help me?

A. I don't think that that's how that first patient came about. They were -- I think it was like a Workers' Compensation situation. And he had excessive exposure to electromagnetic radiation as well as chemical exposure. And he just came to me for a diagnosis.

Q. And when did this occur, this Workers' Comp claimant?

A. Oh, approximately ten years ago.

Q. Ten years ago. Okay. Do you recall this individual's name?

A. No.

Q. Okay. You said there was others?

A. Yes.

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Q. The second patient, when was that?

A. The second was maybe five years ago.

Q. What was the issue with this particular patient? I don't want you going into confidentiality. But just talking generalities.

A. In generalities I believe she had multiple chemical sensitivity. And she was probably the first person to make a complaint to me, I have electrical sensitivity.

Q. Okay. How was that resolved?

A. I did some work for her. And every once in awhile I hear from her.

Q. Okay. Have her symptoms resolved?

A. I don't think so.

Q. She continues to make complaints, EMI/EMS complaints?

A. Yes.

Q. And this was five years ago?

A. Approximately.

Q. The next patient?

A. The next would be a series of people who had consulted with me, although I only recall speaking with one person from their group. And they had -- they had electrical sensitivity complaints.

Q. Okay. And this is the group you were

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referring to earlier?

A. Yes.

Q. And you said you just did some consultation work for them?

A. I did some consultation work, yes.

Q. But they weren't patients of yours?

A. Right.

Q. Okay. And if I may ask, what was this consultation, what did they ask you to do for them?

A. It's not really clear. But I remember having them complete the neurotoxicity screening survey, which is an instrument that I developed that assesses for symptoms of neurotoxicity. And they were in some type of legal action. And I wrote some document for them.

Q. Okay. Were you retained as an expert in that case, this litigation?

A. I'm not sure. My recollection is I wrote something for them. And that was my last involvement with the case.

Q. Okay. So it was like a consulting expert, the type of expert that's not to be disclosed to the other side?

A. I don't know.

Q. Okay. What was this neurotox -- this

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neurotox, how about that, this tool, what did you call it again?

A. Neurotoxicity screening survey. If you want, you can call it NSS. But yeah, that's what I referred to.

Q. Did you do this screening survey with Mr. Firstenberg?

A. I don't think so.

Q. Okay. And this screening survey was something you developed yourself?

A. Yes.

Q. Is this something used by other practitioners in your field or is it just you do it?

A. Just I do it, although other practitioners can rely on it if they choose to.

Q. Why didn't you use this screening survey on Mr. Firstenberg?

A. I didn't think it was necessary because I was going to be evaluating him in person. And I wasn't sure if those were the complaints that he was making since his complaints seemed to be specific to the specific circumstances of this case.

Q. This screening survey test, what do you look for when someone takes this survey?

A. I look for the presence of symptoms that are

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consistent with neurotoxicity.
Q. Okay. And is this like an intake survey or is this a full-blown diagnostic tool that you use to evaluate a patient?
A. It's closer to an intake survey.
Q. Okay. So something they fill in when they first see you and you get a good idea of what's going on?
A. It can be used for that.
Q. Okay. What other purposes can it be used for?
A. It can be used for educational purposes if people want to know if they have symptoms consistent with neurotoxicity.
Q. Okay. And tell me again why, when you used this for Mr. Firstenberg, he had something different?
A. I didn't really -- I didn't really think about it at the time. And looking backwards I still don't think it was necessary for him to take it because I evaluated him in person.
Q. So it was really a question of choice of means?
A. Yes.
Q. Okay. Let's talk about your retention as an expert witness. What were you asked to do in this

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case? And now you're referring to your report?
A. Yes.
Q. Okay. Let me get that to you. We'll call this Singer 4.
(Singer Exhibit No. 4 marked.)
BY MR. ROMERO:
Q. Okay.
A. Reading from my report on page 3, under Examination Question, "Arthur Firstenberg is in litigation regarding the possible effects of microwave radiation from his neighbor's home. He wanted to know the following: Are the reactions that he has in his home when his neighbor's radiation equipment is operating caused by radiation from his neighbor's home? Are his reactions caused by psychological illness, independent of radiation toxicity?"
Q. Okay. That was your original scope of retention?
A. Yes.
Q. Has this original scope of retention changed any since you became involved in the case? Have they asked you to do more?
A. I believe, yes, I've been asked to do more since then.
Q. And what were you asked to do that's more?

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A. A number of different things. And one was to attend Dr. Staudenmayer's examination of Mr. Firstenberg, attend the environmental testing of Mr. Firstenberg's home a few months back. I think the rest is within the scope of the questions.
Q. No other questions?
A. Let me think about that for a moment.
Q. Okay.
A. I think that those questions pretty much cover the scope of what I've been asked to address.
Q. Okay. Were you asked to do anything in terms of your retention that you could not do?
A. I don't think so.
Q. Has Mr. Firstenberg or his attorney imposed any limits on your retention as an expert witness in this case?
A. I don't think they have.
Q. Okay. Isn't it true that Mr. Firstenberg directed you not to contact the 706 expert in this case?
A. The 706 expert?
Q. Yes. Dr. -- who is the 706 -- yeah, Dr. Siegel. Did Mr. Firstenberg direct you not to contact Dr. Siegel?
A. He may have at one time. But then that --

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then he released that restriction.
Q. Okay. Were there any other restrictions in your capacity as an expert witness in this case voiced by Mr. Firstenberg or his attorney?
A. I'm not aware of any.
Q. Okay. Let me hand you what I'll mark as Singer No. 5.
(Singer Exhibit No. 5 marked.)
BY MR. ROMERO:
Q. Feel free to look at this document. I'm going to be asking about the studies.
A. I'd like to go back and amend one of my prior answers.
Q. Sure.
A. Mr. Firstenberg also asked me to look at Dr. Staudenmayer's report and review it and I guess be prepared for questions about it.
Q. Okay.
A. Okay.
Q. Going to the studies, you were provided studies, scientific studies, by Mr. Firstenberg or his attorney; is that correct?
A. Yes.
Q. Were you given studies by any other individual in relation to this case?

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A. I don't think so.
Q. Okay. Did you conduct your own research for any studies related to this case?
A. Yes.
Q. Okay. Tell me about this research. What studies were you able to uncover, what were you looking for?
A. I was looking for studies with reference to the effects of electromagnetic radiation on the nervous system.
Q. Okay. And were you able to uncover certain studies in that regard?
A. Yes.
Q. Are these studies mentioned in your affidavit that's been marked Singer No. 5?
A. Some of them are.
Q. Okay. And it's fair to say that some of these studies were uncovered in your own research?
A. So you're asking me to break out which studies in this exhibit came from my own research and which studies were given to me?
Q. Yes.
A. So let me look through this and see if I can determine that.
Q. Sure.

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A. It's not an easy question for me to answer, because in my review of the literature, I sometimes went into the files of articles that I received from the plaintiff or the plaintiff's attorney. And sometimes I just did my own research on the Internet using search terms. So I'll do the best I can to answer your question.
Q. Okay.
A. I'm not totally certain. But I think on page 4, No. 28, I believe that one came from my independent research. And No. 29A, B, and C, I think they came from my independent research, although it may overlap what the plaintiff or the plaintiff's attorney gave to me. Number 30A, I'm pretty sure that came from my independent research, as well as 30B.
Q. Okay. Any other studies contained in this affidavit you recognize as coming from your own research or were those it to the best of your recollection?
A. That's the best of my recollection.
Q. Okay. Can you tell us how many hours you spent doing your own research in this case searching for these studies?
A. Many. I can estimate -- I'm just not sure because I haven't been keeping -- I don't have that

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right in front of me. But I think 20 hours I've been on the Internet searching out articles and reviewing them and copying them out.
Q. Okay. Other than researching studies on the Internet, were you able to get other information on this topic, on EMI/EMS?
A. Yes.
Q. Like what?
A. I began compiling information on microwave radiation neurotoxicity in a document that I entitled Microwave Radiation Neurotoxicity: Report in Preparation. And it's not finished.
Q. Okay.
A. It's a 47-page document now. And it includes my review of research on various topics that pertain to electromagnetic frequency neurotoxicity.
Q. Let me stop you there. Going to your report, Exhibit 4, let's go to page 3. And under the heading Neurotoxicant Exposure, the last sentence of this paragraph reads, "See a separate report, in preparation, for my research on this topic."
Is this the report you're talking about, is this the separate report?
A. Yes.
Q. Okay. If you look at your Singer report,

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page 17 --
A. At the top of the page?
Q. At the top of the page, first paragraph, "I am in process of assembling a separate report which will demonstrate that EMF can cause physiological changes in brain and nervous system tissue as well as animal behavior." This report you're referring to, that's the separate report?
A. Correct.
Q. You said you're still in the process of putting it together?
A. It's in process. I haven't totally completed it in that there is still further documents and studies that I would like to include in it. And some of the editing is -- hasn't been complete. And some of the topics have not been fleshed out.
Q. So right now this separate report is a working draft?
A. Yes.
Q. And how much time do you need to complete this draft?
A. To complete it to include a thorough review of the literature, I would probably -- I'm estimating I would need another 20 hours.
Q. Okay. Now, I'll just need to inform you that

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the discovery deadline has come and gone. And this document could very well be excluded from evidence. I'm just giving you fair warning on that.

But for purposes of this deposition, would you mind if we make a copy of this working draft and attach it as an exhibit to this deposition, would that be okay with you?

A. Yes.

Q. Okay. We'll do that during the first break. And we'll get back to this separate report shortly.

Going back to your affidavit, and this is Singer No. 5, I noticed the affidavit breaks down the studies by topic. One deals with DNA changes, one deals with the effect of electromagnetic fields in cells.

My question to you is is there a topic, a subtopic listed in the affidavit that is specific to neurotoxicity and its effects on EMI/EMS? Can you point out to me which of these subtopics relate to that specific topic, neurotoxicity, EMI/EMS.

MR. LOVEJOY: Do you understand the question, Dr. Singer?

THE WITNESS: I think I do. I'll do my best to answer it.

MR. LOVEJOY: Okay.

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THE WITNESS: Basically I believe that they all pertain to the topic of neurotoxicity and its effects on EMI/EMS. If your question to me is do those research papers that I cite explicitly state those words, that I would have to go through and make an evaluation.

BY MR. ROMERO:

Q. Okay. But in terms of neurotoxicological effects from EMI/EMS, with all these subcategories -- and I approach this as some subtopics are more important than others in relation to that issue. Can you identify which subtopic is more important than the others when addressing neurotoxicity and EMI/EMS?

A. The two articles that I -- if I had to pick two articles I think are the most important out of the articles that I cite -- it's always difficult to make that determination. But if I only had -- if I can only choose two articles --

Q. Your favorites.

A. My favorites. Okay. I would probably pick the article on page 5, 30A, the report published by the National Research Council/Research Press in that they give an overall review of the topic. And secondly I would pick the article referred to on page 7 under item 32, the TNO report.

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Q. This is subpoint A?

A. Subpoint A just gives a description of TNO. And subpoint B names the study. And then the rest, C through G, summarize the results.

Q. Okay. So you have two favorites. We'll call the first one the Canadian study. And the second one, there's a name, Zwamborn. Let's call this the Dutch study, because I don't speak Flemish.

Any other favorites you have?

A. Within this document?

Q. Within this document.

A. Yes. The document on page 6, under 30B, from the International Journal of Occupational and Environmental Health.

Q. So three favorites?

A. Yes.

Q. Later, once we get a copy of this separate report, I'll be asking questions of any favorites you might find in there. One of the problems in this case is there's lots of studies. And some of them are just general, some of them are just topical, some of them are introductory material. But I'm just trying to find the ones that you consider go right to the heart of the matter and things that you would use to base your opinion on.

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For this affidavit we have these three studies as favorites. I mean you had other ones. But these three in particular stand out; is that a fair statement?

A. Yes. And one of the problems is that it's a complex topic and there are many facets to it. So other studies contribute to my understanding of this topic.

Q. But these three studies are kind of like the pack leaders so to speak?

A. Well --

MR. LOVEJOY: You can answer if you understand what is meant here.

THE WITNESS: Yeah. When you say pack leaders --

BY MR. ROMERO:

Q. How about I rephrase it.

How about these three studies are prominent?

A. They're prominent in my mind in this moment in time.

Q. Okay. There has been at issue in this litigation a study called the McCarty study. Have you reviewed the McCarty study?

MR. LOVEJOY: McCarty?

BY MR. ROMERO

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Q. It's McCarty. It's also known as the Marino study?
A. Yes. I have reviewed that.
Q. Would you lump that study in the same category as the three you've mentioned?
A. I believe it's an important study. And I think it helps clarify what's found in these other research studies.
Q. Would you consider this study to be a favorite, would you add it to the category of favorites?
A. I don't know.
Q. Okay. But it doesn't stand out as prominently as the other three?
A. It's difficult to answer this question just because I find that the corpus, entire corpus of literature is important. And you're asking me to pick out individual studies.
And I think it's the study -- the Marino study, recalling it, I think that's an important study. Is it like a landmark study? I don't know. Maybe it is.
Q. Okay. But you haven't made a determination in your mind that this is a landmark study?
A. Yes. I have not. It may be a landmark

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study.
Q. But in your mind that's yet to be resolved?
A. I suppose so. I'm finding this line of questioning difficult to respond to.
Q. Yeah. It's a hard topic because we're dealing with a large body of literature. And I'm just trying to find out which studies stand out to you in this case.
A. I think that study stands out to me, yes.
Q. Okay. Along with the other three that you just testified to?
A. Yes.
Q. Okay. Now, which came first, your report that's Singer Exhibit No. 4 or the affidavit that's Singer Exhibit No. 5? I notice that Singer Exhibit No. 5 is not dated and Singer Exhibit No. 4 is dated May 6th, 2011.
A. Singer 5 shows an execution date of January 12, 2011. So that would precede the Singer 4.
Q. Okay. I'm sorry. I didn't see that. Now, in preparing the affidavit that's Singer 5, other than those studies mentioned in the affidavit, did you rely on other studies?
A. I'm not recollecting that.
Q. Is it fair to say that those studies that are

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listed in the affidavit were the studies you primarily -- you relied on in making the opinions contained in the affidavit?
A. I relied on those studies. And I probably relied on other studies also.
Q. Okay. But for those that weren't mentioned, why weren't they mentioned?
A. I don't know.
Q. Okay. Were they not important to you or did they not bear mentioning?
A. I'm not recollecting.
Q. Okay.
A. To try and answer your question the best I can, I think that I selected out the studies that I thought were most significant and covered the most areas. So for broadness as well as significance.
Q. Okay. Now, your report, Exhibit 4, that came out in May the same year; is that correct?
A. Yes.
Q. And did you rely on primarily the studies outlined in your affidavit, Singer 5?
MR. LOVEJOY: In doing what?
BY MR. ROMERO:
Q. In formulating the report.
A. In formulating the report, I made no

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reference to any research studies outside the report. However, if what you're asking me with regard to the development of my opinion I've expressed in the report, that I probably did rely on additional studies; because my study of this topic is ongoing.
Q. Okay. Do you have any notations of what additional studies separate and apart from those listed in the affidavit were used in formulating the May report?
A. I don't think so.
Q. And I take it it was your expectation that those additional studies would be mentioned in the separate report that's mentioned in Exhibit 4?
A. Yes.
Q. But as of now you have no recollection of what additional studies you had handy separate and apart from those listed in the affidavit when preparing the May report?
A. I don't have a recollection of that.
Q. Okay.
A. May I take a break.
Q. Let's take a break. Let's take a ten-minute break. And if you could, could you hand us that separate report. And we'll make four copies of that. Thank you.

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(Recess.)
MR. ROMERO: Back on the record.
BY MR. ROMERO:
Q. Let's talk about those studies you identified in your affidavit that for lack of a better word are your favorites or stood out or are prominent. Let's just go through each one. I'm going to ask the same series of questions for each study.
Now, Dr. Singer, tell me, what is a peer-reviewed study in your mind?
A. That's a study that has been reviewed by scientists/researchers who are gatekeepers to scientific journals.
Q. Is the fact of something being published, is that the same thing as peer-reviewed in your mind?
A. No.
Q. And why is that?
A. Well, peer-reviewed denotes that it was reviewed by peers of the person that's writing the publication.
Q. Okay.
A. Something could be self-published without having been peer-reviewed.
Q. And what is the importance of replicated test results in a scientific study, is that something

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important to you?
A. It's good when studies can be replicated.
Q. Okay. Is it fair to say that if a study -- its test results have been replicated, it's more persuasive?
A. Yes.
Q. And if you see a study that has no indication of replicated test studies, it's less persuasive in your mind?
A. Yes.
Q. Let's go to the first study on page 4 of your affidavit, No. 28. It's the Malmgren study. Do you see that?
A. I see on 28, the first author is Markova.
Q. Markova. Okay. I'm sorry. Do you know if this study was ever peer-reviewed?
A. I believe that it is peer-reviewed.
Q. Okay. Do you know if this study had replicated test results?
A. I don't know.
MR. LOVEJOY: Can you clarify that question. Do you mean in the study itself.
MR. ROMERO: In the study itself.
MR. LOVEJOY: Replicated results were recorded or it was later replicated?

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BY MR. ROMERO:
Q. I guess in the study itself. Did the study contain replicated test results to your knowledge?
A. I can see from my abstract that I had cited that they replicated their findings with two carrier frequencies.
Q. Okay. What is double-blind placebo testing, can you tell us what that means?
A. Well, double-blind means that the examiner and the subject are not aware if a -- they're not aware of the test condition.
Q. Okay. What about placebo, what's placebo?
A. Placebo I believe comes from the Latin, I please. And it refers to drugs or procedures that improve people's health, but the actual improvement may not be due to the drug or the procedure.
Q. Okay. And if we put it all together, double-blind placebo testing, are you familiar with that term?
A. I've seen it in Dr. Staudenmayer's report.
Q. Do you know what that means?
A. I'm not sure what he means by placebo testing, no.
Q. Okay. What are other attributes of double-blind testing in the psychological field, what

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other attributes? You said that the test subject and the I guess test administrator who is in the same room as the test subject, they're not aware. What other aspects are there to double-blind testing?
A. I don't know.
Q. Okay. Now, for the Markova study, do you know if there was double-blind testing?
A. I don't know.
Q. Okay. Now, let's go to the next page, page 5, 29A. There is an article from the International Journal of Occupational Medicine and Environmental Health?
A. Yes.
Q. Do you see that study?
A. Yes.
Q. Was this study peer-reviewed?
A. Yes.
Q. Did this study contain replicated test results contained in the study itself?
A. I don't recall.
Q. Do you know if any double-blind testing was done on this particular study?
A. I don't know.
Q. Okay. Let's go to the same page on B. And what is this study called?

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A. Mobile Phone Emissions and Human Brain Excitability.
Q. Okay. To the best of your recollection, was this particular study peer-reviewed?
A. Yes.
Q. As opposed to just being published?
A. Yes.
Q. Okay. For this study were the test results replicated within the study itself?
A. I don't recall.
Q. Okay. And for this study, the Mobile Phone Emissions and Human Brain Excitability, did they use double-blind testing?
A. I don't recall.
Q. Okay. For C, the EHP study, we'll just call it that, do you know if this study was peer-reviewed?
A. Yes.
Q. Okay. As opposed to just mere publication?
A. Yes.
Q. And were the test results replicated in the study itself?
MR. LOVEJOY: I object to the form of the question. It's not clear to me that this is a report of experimental data.
BY MR. ROMERO:

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Q. If you can answer the question.
A. I don't think it was a report of experimental data, but it was a report of a summary of findings. And in that sense the author believed the findings were replicated.
Q. Okay. And for this report or summation or whatever you wish to call it, do you know that the test results were based on double-blind testing?
A. I don't know.
Q. Okay. Let's go to same page, No. 30A, that we have previously referred to as the Canadian study. Was this Canadian study peer-reviewed?
A. Yes.
Q. And were the test results replicated and those replicated test studies were contained in the report?
A. This report I believe did not produce let's say source material that they were basing their opinion on. But I believe that the authors would say that the results have been replicated and presented.
Q. Okay. And do you know if any double-blind testing was used in the making of this report?
A. I don't know.
Q. Let's go to page 6 of your affidavit, subpoint B. And again there's another study from the

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International Journal of Occupational and Environmental Health. Was this study peer-reviewed?
A. Yes.
Q. Were the test results replicated in this study and the replication is noted in the study itself?
A. Again this study does not present original source data I believe. However, I believe that the authors found that there was significant replication of results in their formulation of their opinions.
Q. So it's fair to say that this study is not really based on original experimentation, it was just a survey of other studies that did do that experimentation?
A. Yes.
Q. Okay. And do you know whether the authors reviewed material that was based on double-blind testing?
A. I don't know.
Q. Okay. Now, let's go to page 7 to subpoint B. And just for the record, we're still on Singer Exhibit No. 5, talking about the Dutch study. Was the Dutch study peer-reviewed?
A. Yes.
Q. Okay. And were the test results replicated

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in this study and the replication appears in the study itself?
A. I don't recall.
Q. Okay. And do you know whether any of the testing methods used involved double-blind testing?
A. I don't recall.
Q. Now, you also talked about the Marino study also called the McCarty study. I do know it has been published. But do you know if it has been peer-reviewed? I have the study here. I could just have you look at it if you want to.
A. That might help.
Q. Okay. Let me give you that. I'm probably not going to tender this as an exhibit. But I'll just let you look at it.
MR. LINDSAY: There have been a lot of Marino studies. So we should read the title of it or something like that.
BY MR. ROMERO:
Q. Okay. I'm not going to tender this as an exhibit. But I'm going to hand you a scientific article from the International Journal of Neuroscience. It's titled Electromagnetic Hypersensitivity: Evidence for a Novel Neurological Syndrome.

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And this is what we've been referring to as the Marino study. And I'm going to hand it to Dr. Singer and ask that he review it to see if it's been peer-reviewed.

A. I'm reasonably certain that it's peer-reviewed.

Q. And why do you say that?

A. Because it's published by Informa Healthcare and entitled International Journal of Neuroscience. It's probably peer-reviewed.

Q. Okay. You testified earlier that a bunch of I guess like-minded scientists look over the article. Is there anything in what you're seeing before you that suggests that that was, in fact, done?

A. I don't believe that was what I testified.

Q. Okay. Explain to me again how something is peer-reviewed.

A. It was when you said like-minded. That part is not supposably part of peer review. It would be the peers of reviewing it.

Q. Peers. Okay. Is there something you could point to me in this Marino study that says peers have looked it over, peers have reviewed it?

A. Without looking through this study in detail, I wouldn't be able to say that. However, it would

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also not be customary to include that information in an article that's published in a peer-reviewed journal.

Q. Okay. So how does one tell the difference between an article that's just published versus one that is peer-reviewed?

A. Well, the articles that are published in these journals, they tend to be peer-reviewed. But something could be self-published and it wouldn't be in one of these journals.

Q. Okay. So for the most part, someone reading those journals sees this article. They have no way of telling whether it was just published or peer-reviewed?

A. In order to be absolutely sure, you would need to research the journal itself and look on their website or get information about it. But customarily speaking these are all peer-reviewed types of journals.

Q. Okay. It's your testimony that you believe this to be peer-reviewed?

A. Yes.

Q. Okay. And you have reviewed the Marino study; is that correct?

A. Yes.

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Q. At some point in this litigation?

A. Yes.

Q. Do you know if the test results were replicated and these replicated test results appear in this study?

A. I don't know.

Q. Do you know the testings used? And I believe there was one test subject. Did they ever use double-blind testing?

A. Yes.

Q. They did use double-blind testing?

A. Yes.

Q. In your view of the Marino study, did they use more than one test subject?

A. No.

Q. Okay. Is that unusual, doing a scientific study with only one test subject?

A. In some senses it's unusual. But it's an acceptable way to conduct research.

Q. Okay. Is it more commonplace to have multiple test subjects when preparing a scientific study?

A. Yes.

Q. And why is that, what's the difference in having many test subjects versus one test subject?

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A. With more test subjects, you might have a replication.

Q. And with just one test subject, you may not?

A. Yes.

Q. Okay. If you could hand me that study. I'll hand you what we'll mark as Singer 6. I'm going to hand you back your original.

(Singer Exhibit No. 6 marked.)

BY MR. ROMERO:

Q. And this is the separate report that you referred to in your May 2011 report; is that correct?

A. Yes.

Q. And what is this separate report, what does it consist of?

A. It consists of about 15 separate sections that cover microwave radiation neurotoxicity, report in progress. And at the end I added some other types of analysis and information; and at the very end, something just specific to this litigation, which will not be part of the report eventually. But it's there in case I need to refer to it today.

Q. Okay. Does this Singer Exhibit 6, the separate report, does it contain any opinions or conclusions not contained in the May 2011 report?

A. It contains some opinions. I'm not sure if

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it contains any -- I don't think it contains conclusions. But it contains something that could be called opinions.

Q. Okay. And can you point us to where these other opinions are.

A. Kind of roughly speaking I underlined sentences from documents reflecting an opinion about what I think is important, important statements from those documents.

Q. Okay. But in terms of your own original opinions as an expert in this case, are there any? I know you highlighted certain things you felt were important. And I guess that's an opinion. But in terms of your initial opinion in the May 2011 report, do you have additional opinions that supplement the initial report?

A. In this report there might be some opinions that pertain to studies of electromagnetic radiation neurotoxicity. But I'm not sure -- if I answer yes, I'm not sure if that's the correct answer to your question.

Q. Okay. Let's go back to your original report, Singer Exhibit 4. And I asked you what you were asked to do. And you said that the answer to that question can be found in the Examination Question heading?

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A. Yes.

Q. Okay. For Singer Exhibit 6, the separate report, did that examination question change any?

A. No.

Q. Okay. Now, in Singer Exhibit 6, the separate report, you refer to other studies?

A. Yes.

Q. And some of these studies were not identified in your affidavit that we've marked as Singer Exhibit 5?

A. Yes.

Q. Okay. We discussed on your affidavit studies that, for lack of a better word, were favorites or stood out or more equal than others. Let's go through the separate report. And I want you to identify which of those studies that you would lump in the same category as the favorites as the McCarty study and studies that are just more equal than others.

And I know we're dealing with a lot of information. But some that stand out for whatever reasons. Can you identify those.

MR. LOVEJOY: You want him to just go through the report and mention those that have that quality?

BY MR. ROMERO:

Q. Yes.

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A. On page 6, under 4.a.iii. -- did you want me to identify that study further?

Q. Let's just go through it. And I've circled that. And we'll just go on to the next one. And then we'll go back and I'll ask specific questions for each study. And if there's a study that was already discussed in the affidavit, we can skip over those. I'm just looking for new studies that stood out in your mind.

A. This study 5.a.iii. -- excuse me. That we've done. I think we did that one.

Q. Okay.

A. I'll just double-check. On page 9, 6.a.i., 6.a.iv., 6.b., 6.c., 6.e., 6.f., 6.h., 8.a.

Q. What page are you on?

A. Page 16. 8.b., 8.c., 8.d., 8.f., 8.g., 10.e.

Q. And what page is that?

A. Page 22. 10.g.

Q. And this is page 23?

A. Yes. 13.i. on page 26. No, excuse me. Yeah, 13.a.i., 13.e., 13.h., 15.a., 15.b., 15.d.

Q. This is on page 32?

A. Yes. Those are the highlights.

Q. Okay. And of these studies you referenced in Exhibit 6, you discovered or you uncovered these

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studies after your report of May 16, 2011?

MR. LOVEJOY: You're asking him about each of the ones that we've noted in this last response?

BY MR. ROMERO:

Q. Yes.

A. I don't know when I uncovered them.

Q. Okay. Do the reports you've highlighted in Singer Exhibit 6 change any opinions and conclusions you have made in your May 2011 report?

A. No.

Q. Okay.

A. I need to take a short break.

Q. We'll take a five-minute break.

A. Okay.

(Recess.)

MR. ROMERO: Let's go back on the record.

BY MR. ROMERO:

Q. For the reports you highlighted on Singer Exhibit 6, is it fair to say that these studies you identified reinforce your opinion in your May 2011 report?

A. Yes.

Q. Okay. Did Mr. Firstenberg or his attorney assist you in preparing for this separate report listed as Singer Exhibit 6?

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A. Not for what we've discussed so far in that Singer 6.
Q. Okay. For Singer 6 there was some talk earlier of studies provided to you by Mr. Firstenberg and his counsel and studies that you uncovered in your own research. Did the same thing happen here with respect to Singer Exhibit 6, was it a little of both or was it just all you?
A. Most of it was my research in going from article to article.
Q. Okay. But there are some instances where there were studies given to you by Mr. Firstenberg and his attorney?
A. Probably, yes, there were. They gave me studies.
Q. You don't know which ones were given and which ones were from your own research?
A. Not offhand.
Q. Now, for all the studies you relied on, and this is not limited to the ones you highlight in the abstract or the ones you highlighted in Singer 6, was there any studies that you reviewed that discussed testing methods for EMI/EMS?
A. Yes.
Q. Okay. And of those studies did you adopt

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those testing methods in this case in your examination of Mr. Firstenberg?
A. Some of the tests I used overlapped some of the tests that were reported.
Q. Do you recall which studies in particular identified testing methods that you actually used in this case?
A. Is the question did I derive my testing methods from this research?
Q. Yes.
A. No. I didn't derive it from this research, no.
Q. So we're clear, I just want to make sure I understand you correctly. Of all the studies, scientific studies you have reviewed, the testing methods you employed on Mr. Firstenberg, you didn't borrow methods contained in any of these scientific studies?
A. Well, I might have used similar methods. But I didn't derive it from that.
Q. Okay. Were these testing methods something that you use regularly in your own practice?
A. Yes.
Q. Okay. But for any scientific study on EMI/EMS, you didn't find a testing methodology or

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methodology that you used on Mr. Firstenberg?
A. I didn't copy a methodology from an individual research article.
Q. Okay. And it's fair to say that the testing methods you used derived mostly from your practice?
A. Yes.
Q. Is EMI/EMS a medically recognized disease in any peer-reviewed journal?
MR. LOVEJOY: He can answer this question. But I think it would help if you could define what you mean by medically recognized with respect to a journal.
BY MR. ROMERO:
Q. I have no definition. If you can answer the question, is there more you need?
A. Well, perhaps you could expound upon your question to be sure that I'm on the right track.
Q. Okay. Is EMI/EMS a medically recognized disease by the AMA?
A. I don't know.
Q. Is EMI/EMS a medically recognized disease by the World Health Organization?
A. Well, I know that one of the officers of the World Health Organization had this condition and she wrote about it. But whether it's recognized by the

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whole organization I'm not sure.
Q. Okay. Is EMI/EMS a medically recognized diagnosis by the AMA?
A. I don't know.
Q. Is EMI/EMS a medically recognized diagnosis by the World Health Organization?
A. It's the same answer I gave before.
Q. Okay. Is EMI/EMS a medically recognized etiology by the AMA?
A. I don't know that specifically. But I will say that electrically-related illnesses are recognized illnesses. Now, you may be referring specifically to EMI/EMF as opposed to electrically related illnesses. And I would classify that as a subset of electrically related illnesses. But you're asking I think are those specific words used. And if you're referring to the AMA, I don't know.
Q. Okay. I'm just asking specific to EMI/EMS. Electrical-related diseases I think encompasses a lot of things. I'm just trying to narrow the search to just EMI/EMS. So I understand you correctly, you don't know if it's a medically recognized etiology by the AMA?
A. Yes.
Q. And when I say the AMA, I'm referring to the

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American Medical Association.
A. Right.
Q. Now, same question as the others. Is EMI/EMS a medically recognized etiology by the World Health Organization?
A. Yes. So it would be the similar answer that I gave before. One of their officials wrote about it that she suffered from it. And I've read some material about that. But whether they've made statements about EMI/EMF I don't recall.
Q. You don't recall if they have endorsed EMI/EMS organization-wide as a medically recognized etiology, you don't know?
A. I don't recall.
Q. Okay. Now, EMI/EMS, have you -- and you reviewed the articles, the scientific articles, and you've reviewed several of them. Is there any blurb, any mention saying that we conclude this and we're going to say EMI/EMS should be a medically recognized disease? Have you encountered any such language in your review of the literature?
A. In the paper that I cite under 5.a.i. --
Q. And this is Exhibit 6?
A. Yes. The authors state that "Non-ionizing electromagnetic fields are among the fastest growing

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forms of environmental pollution." And pollution causes illness. But I'm not recalling whether they are referring -- whether they specifically talk about EMI/EMS.
Q. Okay. And is it also fair to say from what you have quoted that they don't use the words medically recognized disease, medically recognized diagnosis, or medically recognized etiology?
A. I don't recall.
Q. Okay. Do you recall any study referring or characterizing EMI/EMS in those terms, whether it's disease, diagnosis, etiology, that we're going to medically recognize these aspects?
A. My first -- I'm going to give you kind of a longer answer. My first part of the answer, I think it refers to maybe one of your prior questions. And I just wanted to point out that on page 13, under 6.h.i --
Q. And this is Exhibit 6?
A. Yes. I report on a study published in the Journal of the American Medical Association. And I'm not recalling within that article whether they address the specific question that you just asked me. But that is from the American Medical Association.
Q. Okay. So we have an article from the

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American Medical Association. What does this study say in particular that relates to my series of questions?
A. It's some recognition of the American Medical Association of the problem of electromagnetic radiation from cell phones.
Q. In your summary that you have before you, does it cast EMI/EMS as a recognized medical disease?
A. I don't know.
Q. Do they cast it in terms of a medically recognized diagnosis, this AMA article?
A. I don't recall.
Q. And for this AMA article, did they cast EMI/EMS as a medically recognized etiology?
A. They recognized an etiology of electrical sensitivity.
Q. I know you're looking at a summary. Can you just read out that summary that you were looking at in support of that answer.
A. A 50-minute cell phone call increased metabolism in the regions closest to the phone antenna. And it gives certain regions, the orbitofrontal cortex and temporal pole, and describes that these are involved in "sensory integration, language, decision-making, and social and emotional

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processing."
Q. In what you've stated to us just now, do you use the words medically recognized etiology?
A. No.
MR. ROMERO: Okay. Let's go ahead and take our lunch break. Let's come back at one. I have a meeting at noon. And I just want to go somewhere, place an order, and take my conference call. So let's just take a break. We'll be back here at one. And hopefully I can get this done by 3:30, maybe four. And, Herman, I'll give you a call sometime during the lunch hour.
(Recess from 11:45 a.m. to 1:00 p.m.)
MR. ROMERO: Let's go back on the record.
BY MR. ROMERO:
Q. Dr. Singer, in looking at your affidavit, Singer Exhibit 5, you discussed certain articles that we styled as your favorites. And look at the affidavit and see those studies that you highlighted and have this question in mind.
Were the test results contained in these studies replicated in subsequent scientific studies to your knowledge? And you can just go from start to finish.
MR. LOVEJOY: It would help if you would just

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identify the studies you're referring to.
BY MR. ROMERO:
Q. Okay. Let's go to page 4, No. 28, the Markova study.
A. And you're asking me was this replicated in another study?
Q. Yeah. The test results.
A. I believe that DNA changes have been replicated in other studies.
Q. Okay. Let's go to page 5, sub A. Same question, was the test results in this study replicated in subsequent studies?
A. I don't know.
Q. Same question for sub B on page 5?
A. Yes. The results have been replicated at least in general.
Q. Okay. Sub C?
A. Yes.
Q. And for 30A, what we've referenced as the Canadian study?
A. Yes, the results were replicated.
Q. Okay. And on page 6, sub B?
A. Yes.
Q. Okay. For page 7, 32B, the Dutch study, have these test results been replicated in subsequent

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studies?
A. I would have to check that.
Q. Okay. But you don't know right now at this deposition, you don't know if the Dutch study that appears on page 7, Exhibit 5, if those test results were replicated in other scientific studies?
A. I'll check.
Q. Okay.
A. In general I would say the results were replicated.
Q. Okay. For the Marino study, that was the study that you looked at but was not an exhibit for this deposition. Do you know if those test results were replicated in subsequent studies?
A. I don't know.
Q. Okay. Now, for those studies referenced in the affidavit and for those answers where you said the test results were replicated, do any studies come to mind that reflect this subsequent test replication?
A. Which study are you referring to?
Q. Well, we could just start from the top. For No. 28, on page 4, on Exhibit 5, you said that there was some replication of the test results done on this study. Do you recall the names of those studies?
A. No. I don't immediately recall them.

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Q. Okay. For the studies that you said on page 5 that the test results were replicated, in subsequent studies do you recall the names of those -- the names of those subsequent studies?
A. I don't immediately recall. I would have to do research on that.
Q. Okay. And the same for subpoint B on page 6?
A. In subpoint B they found eight of ten studies reported increased prevalence of adverse neurobehavioral symptoms in populations living at distances less than 500 meters from base stations. So that I consider a replication.
Q. Okay. But are you aware of any subsequent studies to this one in subpoint B that replicated or was able to replicate the test results observed in this study?
MR. LOVEJOY: Subsequent to this survey in 2010?
BY MR. ROMERO:
Q. Yes.
A. No.
Q. And let's talk about the Dutch study that's mentioned on page 7. Do you recall the names of those studies that subsequently replicated the test results?
MR. LINDSEY: He said in general the results

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were replicated.
BY MR. ROMERO:
Q. Yes. Do you recall the names of those studies that replicated the test results in general?
A. I don't immediately recall.
Q. Okay.
A. Except I would say the Marino study replicates that.
Q. Okay. And talking about the Marino study, are you aware of any -- the names of any subsequent studies in which the test results in Marino were replicated?
A. I don't know or don't recall.
Q. Okay. But from your answers today in terms of specific studies, it's your testimony at least to your recollection that it's the Marino study that replicates test results from previous studies?
A. Yes.
Q. Okay. On Singer Exhibit 5, the affidavit, if we go to the last page, under paragraph No. 40, let me just read aloud the entire paragraph. And it states, "My preliminary opinion is that it is reasonable for Arthur Firstenberg to feel anxiety concerning the potential of microwave radiation exposure.
"This anxiety can be experienced as changes

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in heart rhythm which Arthur Firstenberg experiences as an uncomfortable experience. There also may be direct effects of cell phone microwaves on his heart rhythm. I expect to research this matter further in preparation for trial."

My question to you, Dr. Singer, is has that research been done?

A. Some of it has.

Q. Okay. And can you point to where studies have been identified that supports the conclusion that microwave radiation exposure has an effect on heart rhythm.

A. In the Navarro, et al., study.

Q. Okay. What page are you looking on on Exhibit 6?

A. Page 9. The researchers report cardiovascular alterations correlated with exposure to microwave pollution with more symptoms among people the closer they live to the cell phone base transmitting station.

In Oberfeld, et al., an association was found with cardiovascular problems and exposure to RF radiation. On page 27, referencing the Altpeter, et al., study, there were abnormalities in cardiovascular function with regard to blood pressure.

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Q. Page 27, which paragraph?

A. Page 27, ii.

Q. Okay.

A. On page 28, item d., Vangelova found association with radiation and cardiovascular function with regard to blood pressure. The next study down by Bortkiewicz, et al., found heart abnormalities in workers exposed to electromagnetic fields.

On page 29, item f., it shows vascular changes and cardiac changes with regard to microwave radiation. In item h., page 29, under Frey, in animal studies they were able to induce changes in heart rate.

Under i., Levitina, heart rate could be changed with radiation. The same thing with item j. and l. and m. So those are some of the studies. And there are more.

Q. Okay. Let's get away from studies for awhile. Let's talk about Mr. Firstenberg's patient history. Did you take a patient history of Mr. Firstenberg?

A. I took a history, yes.

Q. Did you review Mr. Firstenberg's psychological records?

A. What psychological records?

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Q. Were there any psychological records given to you for you to review?

A. No.

Q. Okay. Are you aware that Mr. Firstenberg had any preexisting psychological conditions?

MR. LOVEJOY: You mean just before Dr. Singer saw him?

BY MR. ROMERO:

Q. Yes.

A. Please repeat the question.

Q. Are you aware of any preexisting psychological conditions suffered by Mr. Firstenberg?

A. No.

Q. Okay. So you're not aware if Mr. Firstenberg previously suffered from anxiety?

A. I did take a history. And I found no history of treatment for anxiety.

Q. Okay. In your review of Mr. Firstenberg's records, and this can include medical records, did you notice or note that he may have suffered from obsessive compulsive disorder?

A. Did you have a specific doctor you were referring to?

Q. No, I don't. There was a lot of medical records. And that word stood out.

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A. I am not aware that he ever got a diagnosis of obsessive compulsive disorder.

Q. Were you aware that Mr. Firstenberg may have been diagnosed with depression?

A. I am not aware that he got that diagnosis. However, I will say that people with sensitivity to chemicals or electromagnetic radiation can become depressed. That's possible. Or doctors may think that they're depressed.

And also if they're unaware of the widespread distribution of stimulation that could stimulate illness in someone who was chemically sensitive or electrically sensitive, they may view the behavior as obsessive compulsive. But again I'm not aware that he received those as diagnoses.

Q. And the same answer with respect to anxiety?

A. Yes, same answer. Yes, they can appear to be anxious or they very well can be anxious.

Q. Okay. And is the same true that they can very well be obsessive compulsive knowing that they have this EMF condition, is that something --

A. Well, I wouldn't call it that. But it could appear to be that way, which is to an observer who is not aware of the distribution of the stimulation that could cause symptoms.

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Q. Okay. In your intake interviews with Mr. Firstenberg, did he mention anything about having anxiety, obsessive compulsive disorder, or depression?
A. He told me that at times he can be depressed or be anxious, but it doesn't last that long.
Q. Okay. Did you take a family history?
A. Yes.
Q. And any indication of psychological conditions or mental illness?
A. His father's mother and two sisters had some psychiatric problems.
Q. Did he get into specifics of what those psychiatric conditions were?
A. No.
Q. And you were unable to determine what those illnesses were by reviewing any of his records?
A. Right.
Q. With what information you had regarding his family history, did you find that information pertinent in formulating your opinions?
A. Mildly pertinent.
Q. Okay. Could you clarify what is mildly pertinent.
A. In the days of his father's mother and two sisters -- well, let me think about this for a moment.

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In the days of his mother's father and two sisters, psychiatric problems could be identified sometimes in people that were eccentric and who maybe thought independently. They might be more likely to have some type of anxiety that could result from that. So that's how it's mildly relevant.
Q. Okay. But you couldn't find information to corroborate that conclusion?
MR. LOVEJOY: Which conclusion?
BY MR. ROMERO:
Q. That this could have been eccentricity, people who are nonconformists, people who are just misunderstood.
A. It's not exactly confirmation. But the supporting sort of ideas -- again this is not that -- these are not critical ideas for my opinion. But Mr. Firstenberg's IQ is very high. Even to this day, it's very high.
And he -- his achievement in college was very high, majoring in mathematics and classics. I think he was really very bright. And being that bright chances are he had genetic ancestors that were also very bright. Being very bright is also eccentric.
Q. Okay. Kind of like an Einstein, unusual habits, unusual ways of expression?

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A. That's right. I mean that too. But also just being that far out on the extreme of intelligence places you in an unusual category.
Q. Okay. But from what Mr. Firstenberg told you and in the review of your records, you don't know if these people were highly intelligent, also eccentric, or whether there was a psychiatric concern?
A. I don't know.
Q. So you're just guessing at what it could be?
A. I would say it's in the realm of guessing. I don't know.
Q. Okay. That's fine. Did you inquire about Mr. Firstenberg's political activism with respect to the issue of EMS?
A. I don't think I inquired about that.
Q. Okay. For the opinions you have rendered in this case, would you attach any significance to his political activism in spreading awareness of EMS/EMI?
A. To me it seems like his activism on this part is a way for him to have integrity with himself; because he experiences these symptoms, he knows other people do. And he would like to help people who are suffering from this and also prevent other -- prevent the general population from incurring more illnesses.
Q. Okay. Now, that assumes he has a valid

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illness?
A. He certainly has an illness, yes.
Q. Okay. But what I'm saying is if he has a valid illness, then his activism in spreading awareness naturally flows from that?
A. Yes.
Q. What about the instance in the other, that he has to -- where he conducts these political activities to justify in his mind that he has an illness?
MR. LOVEJOY: I didn't understand the question. Are you asking him whether he agrees with that?
BY MR. ROMERO:
Q. Is that a possible concern, that he conducts these political activities, spreading awareness of EMS, to justify in his mind that he has an illness?
A. My experience with Mr. Firstenberg is that he would much prefer not to have this illness and to return to a normal way of life. So I don't feel that his political activism is a justification of an unreal illness.
Q. Okay. You didn't consider that possibility in formulating your opinions?
A. I probably considered it and dismissed it.
Q. And why did you dismiss it?

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A. Because the data doesn't support that.
Q. Okay. Did you inquire about Mr. Firstenberg's relationship with Raphaela Monribot? And Ms. Monribot was the neighbor, was the woman who cooked meals for him. Did you inquire about that?
A. Yes.
Q. And did you attach any significance of this relationship which I think was that of friendship and then soured in formulating your opinion?
A. Please repeat the question.
Q. Did you attach any significance to their relationship with formulating your opinions?
A. No. I considered it. But ultimately it was not relevant for my opinion.
Q. Okay. You didn't consider the possibility that, because their relationship went south as a result of the case, that he had a motivation to -- a motivation that somehow justified his illness in this case? I could repeat that.
Since their relationship soured, did you consider the possibility that Mr. Firstenberg's condition was due in part out of spite or animus against Raphaela Monribot?
A. Well, their relationship went bad when Arthur -- when Mr. Firstenberg developed an illness as

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a result of her bringing in the radiation emitters. So that preceded -- that preceded -- that was the precedent for everything else.
Q. Okay. In terms of Mr. Firstenberg's suit against Ms. Monribot, you didn't consider the possibility that his views towards her, whether ill will or spite or revenge, whatever, played any role in his continued symptoms?
A. I suppose I considered those possibilities. I did move them around in my mind, this one and the one that we've discussed prior. But his -- basically his illness, his total illness preceded his relationship with Ms. Monribot.
And now that she doesn't have the equipment in that house, he's feeling better in that house. So if he was trying to do something out of spite or revenge, then I would suppose you would think he would still be sick, he would be complaining of more symptoms and, you know, worse illness. But that's not what he's saying.
Q. Okay. So to the best of your knowledge, his decision to file suit was not based on ill will or spite or a sense of revenge to get back at Ms. Monribot?
A. Right.

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Q. And that's because he has a valid illness and he is just coping with that illness?
A. Well, that's part of it. He's also never -- I don't think he's ever said anything negative to me about Ms. Monribot. He never, you know, said she's this, she's that, I hate her, or anything like that. We've had a quite a bit of discussions. And he could have -- he could have expressed some personal animosity towards her. And he never did to me.
Q. Okay. Going back to the political activism, and I just use that word, you know, loosely because, you know, he spreads awareness, he has a website, he organizes protests, he goes to hearings, he meets with people. And when I say political activism, I mean all these activities.
Did you ever consider the possibility that his illness was a self-fulfilling prophecy to justify his political activism?
A. Yes.
Q. And what was your conclusion?
A. I rejected that as a valid conclusion.
Q. Okay. So it was not in your mind a self-fulfilling prophecy?
A. Correct.
Q. And what was the reasoning behind rejecting

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that notion?
A. He doesn't fit the psychological picture of someone who would seek out the expression of illness as a justification.
Q. Okay. And why is that?
A. In my evaluations of him, he appears to be -- to have a fairly normal psychological makeup. And that when he is not around the radiation and when he's not around chemicals that disturb him, which he's been able to manage his life so that he can tolerate chemically most normal environments, he doesn't seem to have a problem with that anymore.
So he can manage that and not feel ill. But with the EMFs, that's a more pervasive problem that he -- that's getting near the limits of what he can manage. So he bought -- I found a safe house where he could live. And he was living in it comfortably and there wasn't any problems.
Q. Okay. Let's go to Singer Exhibit 5, the first page, and paragraph No. 5. And I'll just read aloud what it says. "Symptoms of neurotoxicity often include dysfunctions of memory, concentration" --
A. Let's see. Are you on page 5?
Q. Actually Exhibit 5, page 1.
A. I'm sorry. This is the affidavit. Okay.

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Got it.
Q. "Symptoms of neurotoxicity often include dysfunctions of memory, concentration, learning, emotion, personality, and sleep." That's correct, right?
A. Yes.
Q. These are narrow toxic symptoms?
A. Yes.
Q. Okay. Are these symptoms listed in paragraph 5, are they the same kind of symptoms typically found like in anxiety?
A. Anxiety can impact these symptoms.
Q. What about porphyria, what is porphyria, do you know what that is?
A. Porphyria?
Q. Yes. Porphyria.
A. Yeah. That is a condition related to the liver and the either excess production or secretion of porphyrins.
Q. And are symptoms of porphyria, do they include dysfunctions of memory, concentration, learning, emotion, personality, and sleep?
A. I think that there are different types of porphyria and there's differing causes of porphyria. For example, porphyria can be caused by neurotoxic

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substances. So it can cause these symptoms.
Q. Okay. What about multiple chemical sensitivity? You testified that you have treated patients with this condition. Do they exhibit the same symptoms as listed in No. 5 of your affidavit?
A. Some do.
Q. Okay. What about somatization, do symptoms include dysfunctions of memory, concentration, learning, emotion, personality, and sleep?
MR. LOVEJOY: You're asking if those are symptoms of somatization?
MR. ROMERO: Yes. Did I mispronounce it?
MR. LOVEJOY: No. It's not the pronunciation I'm wondering about.
THE WITNESS: Somatization is a diagnosis that seems to be relied upon when sometimes a true diagnosis is missed. It's kind of a loose term.
BY MR. ROMERO:
Q. Okay. But it is a psychological disorder, right?
A. It can be, yes.
Q. Okay. And in those cases where somatization, psychological disorder, for those suffering from that, do they have dysfunctions of memory, concentration, learning, emotion, personality, and sleep?

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A. If a doctor is diagnosing somatization, then they have in mind the symptoms that are resulting from the somatization. And in their mind any symptom can result from it.
Q. And would those symptoms include dysfunctions of memory, concentration, learning, emotion, personality, and sleep?
A. Any symptom or any illness or any disease could be considered by someone making that diagnosis of somatization.
Q. So that would necessarily include the symptoms you mentioned in paragraph 5 of your affidavit?
A. Yes.
Q. What is anticipatory anxiety?
A. That's anxiety experiencing in anticipation of a future event.
Q. Okay. So to use the expression the sword hanging over your head, you're anxious because, well, there's a sword over my head and it could fall on me any time. Is that a good description of anticipatory anxiety?
A. That is a description.
Q. A metaphor, how about that. Now, does symptoms of anticipatory anxiety, would they include

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functions of memory, concentration, learning, emotion, personality, and sleep?
A. It depends on various factors. But you're asking me could it?
Q. Yes. Could it?
A. Yes, there are certain conditions it could.
Q. Mr. Firstenberg, was he involved in a motor vehicle accident?
A. Yes.
Q. And did he obtain a head injury?
A. I haven't seen the records. But according to his history, he said that he had -- he may have lost or he did lose consciousness for an indeterminant period of time, less than 15 minutes. He doesn't know how long. And he said that he had no symptoms of a brain injury after that.
Q. Okay. Did he seek medical treatment for this head injury?
A. I think he was taken to a hospital. And I think that was it.
Q. Okay. Does the history that you reviewed indicate that he refused an x-ray or refused to have x-rays taken of him?
A. I don't recall.
Q. Okay. How did you find out about this motor

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vehicle accident, this loss of consciousness?
A. I asked Mr. Firstenberg.
Q. And you reviewed no record of this motor vehicle accident?
A. Correct.
Q. You don't know whether Mr. Firstenberg saw a neurologist?
A. I was going to double-check to make sure.
Q. Okay.
A. I don't recall seeing any medical record of that accident. And I'm not aware that he saw a neurologist outside of who he may have seen at the hospital where he went for his initial treatment.
Q. Okay. Let me hand you another exhibit. Hold on. Actually you already have it. It's the May 2011 report, page 42.
MR. LOVEJOY: Exhibit 4.
BY MR. ROMERO:
Q. Yes.
A. Okay.
Q. I think it's the fourth paragraph down. It starts off "In a car accident." And I'll read the rest of it. "Hit head, was unconscious with amnesia for 15 to 30 minutes before accident, stated that this didn't affect his memory and concentration." So the

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only information you have of this is what Mr. Firstenberg told you; is that correct?
A. Yes.
Q. And you reviewed no medical records relating to any hospital visits associated with this motor vehicle accident?
A. Yes.
Q. Okay. And he said nothing else about this?
A. Nothing -- I'm not recalling anything except what I previously stated was he thought he may have been unconscious for a maximum of 15 minutes.
Q. Okay. Did you find this event significant in your report?
A. No.
Q. You didn't feel the need for further investigation?
A. No.
Q. If a person is unconscious for a half hour, did you consider that to be a significant injury?
MR. LOVEJOY: Okay. Go ahead. It's an expert question.
THE WITNESS: That's not what Arthur had stated to me.
BY MR. ROMERO:
Q. Okay.

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A. He stated the maximum was 15 minutes.
Q. Okay. Let me put it this way, if someone is unconscious for 15 minutes, would you consider that a significant injury?
A. He had amnesia for that time period. So I'm not really sure if he was unconscious. He doesn't remember. So he hit his head and it reduced his memory for the time period of 15 to 30 minutes. And he says that his memory and concentration was not affected by that. And it would have been nice for me to get some of those records, but I didn't get them.
Q. Okay. But you would consider that a serious injury, if someone is hit in the head and can't remember a thing for 15 minutes?
A. Well, he couldn't remember what had happened in the prior 15 minutes, while in the immediate moment he would remember. So when he was --
Q. But wouldn't you agree with me that this would be -- this is a serious head injury if he has any memory loss?
A. It could be.
Q. It would bear further investigation, wouldn't it?
A. Like I've said it would be nice to get those records. But, on the other hand, he didn't -- he

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didn't have any follow-up treatment after that. So it seemed to me that the long-term effects were minimal from that.
Q. But Mr. Firstenberg is not a medical doctor; is that correct?
A. He's not a medical doctor. He had I think almost three years of medical school. And he's highly intelligent. And he's very aware of his internal states in terms of symptoms and illnesses. So I would think that he -- I would think that if he had a residual effect, he would have sought out some assistance for that.
Q. Okay. Mr. Firstenberg, while intelligent, while having some medical school experience, he's not a neurologist?
A. He's not a neurologist.
Q. And most people without an M.D. or a medical specialty, they can't treat themselves; is that correct?
A. It depends on the circumstance.
Q. But it seems to me that he made a unilateral decision not to seek treatment for this head injury?
A. That again I don't know. I don't know if his doctors -- I don't know if at the hospital they said you need to see someone after this or not.

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Q. And he didn't tell you one way or the other?
A. Right.
Q. And because you lacked this information, you don't have any opinion on whether this should, you know, should be investigated further, whether it would impact any of the opinions you made in this case?
A. I would like to get the medical records, if I could, to review it.
Q. Okay. To confirm?
A. To review.
Q. Okay. Now, given this description of the head injury, going back to your affidavit, paragraph 5, would symptoms of this type of head injury, would they include dysfunctions of memory, concentration, learning, emotion, personality, sleep?
A. A head injury can cause this.
Q. Okay. How many times have you met Arthur Firstenberg?
A. Oh. I don't know, but it was quite a number of times.
Q. Okay. And when I say how many times have you met, I mean in a sense of you interviewing him to ascertain his condition? Not just social stuff, not litigation stuff, but stuff you needed to do your diagnosis. How many visits did -- how many doctor

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visits were there?
A. I think it was about four visits.
Q. And were those visits, did they include interviews?
A. Yes.
Q. Okay.
A. Interviews or observations.
Q. Okay. And how long were these interviews usually? I know you guys charge by the hour. Was it just an hour? How long were each of these visits?
A. Well, without going into my notes, my general recollection of what happened is that Mr. Firstenberg came out and had an initial diagnostic interview. And that could be maybe two hours.
And then we probably scheduled an appointment for him to come back for the testing. He came back for the testing. And that usually involves some additional interviewing and then some testing.
And then the testing was interrupted. So he had to come back one or two more days after that. And each time there would be some interviewing and observations and then testing.
Q. Okay. And for these interviews, these visits, you took notes, right?
A. Well, for most of them I did.

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Q. Okay. Let me grab an exhibit. These were produced in discovery from Mr. Lovejoy. And we'll mark this as Exhibit 7.
(Singer Exhibit No. 7 marked.)
BY MR. ROMERO:
Q. And I'll hand it to you. I'll just ask, are these your notes, your interview notes?
A. I think these are all my notes in the case.
Q. Okay. I'll just represent that I think Mr. Lovejoy submitted these to us earlier in the year. But it's your testimony these are all of the notes you took in this case for Arthur Firstenberg?
A. It also includes some notes by my neuropsychology associate. And I don't think I have other notes in the computer because I might have taken notes and put them in the computer after Arthur -- after Mr. Firstenberg left. But these are my handwritten notes.
Q. Okay. And to the best of your knowledge, these are all your handwritten notes?
A. Yes.
Q. Who is your associate, what is her name?
A. Kymberly Johnson.
Q. Okay. And what does Ms. Johnson do for you?
A. She performs neuropsychological testing under

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my supervision.
Q. And what was her role in this case?
A. She performed some testing on Mr. Firstenberg.
Q. Do you recall which kind of testing she did?
A. Yes, neuropsychological testing.
Q. And if you could identify the tests she had.
A. For that I would have to look at the raw test data and parse out.
Q. Okay. I have that too. And we'll go ahead and mark this Singer Exhibit 8.
A. I think this needs to be in some type of sealed condition.
MR. ROMERO: Yes. We have it marked confidential. And we have entered an order to that effect. So these are confidential documents. And we will observe the restrictions in the confidentiality order for this. But you are free to discuss this and review these materials for this deposition.
And if you could look at these to see what tests Ms. Johnson did. And this is going to be Singer 8.
(Singer Exhibit No. 8 marked.)
BY MR. ROMERO:
Q. And I know it's a lot of documents. So just

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take what time you need.
A. Okay.
Q. Okay. What tests did your associate perform with respect to Mr. Firstenberg?
A. She performed all of these except for three of these tests.
Q. And which tests were these?
A. The Beck Anxiety Inventory, the Beck Depression Inventory, and the Structured Clinical Interview for the DSM.
Q. She did all the other testing?
A. Yes.
Q. That appears in Exhibit 8?
A. Yes.
Q. What other tasks did your associate do in relation to this case?
A. She took some behavioral observations, which are the notes that are attached to my notes.
Q. Okay. Did she do anything else in this case?
A. No.
Q. Okay. And you can refer to your notes for this set of questions. When you interviewed Mr. Firstenberg, what were his reported complaints? It might be easier if you refer to the exhibit.
MR. LOVEJOY: Exhibit 7, the notes.

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BY MR. ROMERO:
Q. Yes.
A. Okay. Please repeat the question.
Q. According to your notes, what were Mr. Firstenberg's reported complaints?
A. He developed a heart arrhythmia within a few days of Ms. Monribot moving in next door to him. He described his major symptoms as chest sickness, also feeling low back pain, pain in hips, inability to sleep. He started feeling suicidal on waking from nap during day.
Feel exhausted symptoms when in house with nausea. He said that when exposed to electromagnetic radiation, he also can -- his breath can be affected as well as his nervous system and his heart. He reports chemical sensitivity.
Q. Okay.
A. He said that he has some forgetfulness, that he's worse when he's exposed, and that his memory and concentration are affected when he's exposed. He said now, with Raphaela in her house and when he returns, he virtually immediately feels intense discomfort in chest, shaky, irritable, and angry.
I don't know if you want me to report symptoms from my observation of him during the

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environmental testing.
Q. How about just for the intake interview for now.
A. Okay. I think that's pretty much the intake interview. He may have other -- expressed other symptoms during the testing.
Q. Okay.
A. I could check also, there might be some more.
Q. Okay.
A. I think that's it.
Q. Okay. Let me take a few of these symptoms. And I'm excluding the arrhythmia, the muscular pain ones. And what we have left is inability to sleep, exhaustion, nausea, breathing affected, forgetfulness, memory, concentration when exposed?
A. (Witness nods head.)
Q. Okay. Are those symptoms typically found in people with anxiety?
A. He also reports when he's exposed a difficulty in coping with the situation and anxiety when he's exposed and I guess maybe panicky type of feelings.
Q. Okay. So these symptoms I just explained to you, are those symptoms typical of someone with anxiety?

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A. Say that again.
Q. Okay. Let me just read off the symptoms. And you might want to write these down. Inability to sleep, exhaustion, nausea, breathing affected, forgetfulness, memory, concentration when affected.
A. Under some circumstances anxiety can cause these symptoms.
Q. With these symptoms that I have just listed and you've written down, would those symptoms be -- would those match up with the symptoms found in porphyria?
A. I believe under some porphyria conditions, yes.
Q. Okay. What about multiple chemical sensitivity, does someone having multiple chemical sensitivity have the same kind of symptoms as those in that list?
A. Someone with multiple chemical sensitivity could have these problems.
Q. Okay. What about someone suffering from anticipatory anxiety, would they have these same symptoms as well?
A. Well, anticipatory anxiety, that's usually like a time limited event. You anticipate something is going to happen shortly in the future.

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Q. Okay.
A. So after that time period elapses, then you wouldn't see these symptoms.
Q. So anticipatory anxiety is more short term?
A. (Witness nods head.)
Q. And it's not like a chronic condition like, say, anxiety or multiple chemical sensitivity would be?
A. Chronic anxiety would be chronic.
Q. Okay. And these symptoms that we've spelled out, they just are ever present in the individual?
A. I don't understand the question.
Q. Okay. You know, someone with anxiety or multiple chemical sensitivity, they're usually exhausted, they're usually forgetful, they usually have memory or concentration problems, it's not just a quick one thing and then they're better?
MR. LOVEJOY: Are you asking as to both phenomena?
BY MR. ROMERO:
Q. Well, let's break it out with anxiety and then with multiple chemical sensitivity.
A. Anxiety can wax and wane.
Q. Okay. But it's not as temporary as anticipatory anxiety would be?

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A. Yes.
Q. Okay. And the same would hold true for multiple chemical sensitivity, it's not that fleeting, it's something that stays with you?
A. It's not that fleeting.
Q. Okay. Now, let's talk about the heart-related complaints, the muscle-related complaints. And I believe there's one notation that Mr. Firstenberg experienced shoulder pain. Do you recall that?
A. No.
Q. But you do record instances regarding his heart, the heart arrhythmia, chest sickness, lower back pain. Now, how does symptoms of neurotoxicity involve these complaints?
A. We would have to kind of break it out for each one.
Q. Okay. Let's just start with the lower back pain.
MR. LOVEJOY: What's the question?
BY MR. ROMERO:
Q. Is lower back pain a symptom of neurotoxicity?
A. It's not a notable symptom of neurotoxicity. It's possible neurotoxicity can cause that, but it's

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not a typical symptom.
Q. Okay. And the typical symptoms are those that you listed in paragraph 5, page 1, in Singer Exhibit 5?
A. Those are some of the typical symptoms.
Q. Okay. Heart arrhythmia, chest sickness, are those typical neurotoxic symptoms?
A. No.
Q. Now, there was another instance, I can't remember where in the patient history it's listed. And I believe Mr. Firstenberg was in New York City. And there was an instance where his esophagus, his larynx closed up on him. Is that a typical symptom of neurotoxicity?
A. No.
Q. Okay. Starting with the heart arrhythmia, what is the neurotoxicological explanation for that symptom?
A. Electromagnetic radiation.
Q. Okay. How does electromagnetic radiation create a heart arrhythmia?
A. Electromagnetic radiation can cause heart rate changes, which is an arrhythmia.
Q. Okay. And you're referring to the separate report which is marked as Singer Exhibit 6?

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A. Yes.
Q. And what page are you referring to?
A. Pages 28, 29, and 30.
Q. Now, what's the neurotoxicological explanation for lower back pain, how does EMS cause lower back pain?
A. I'm not certain.
Q. What's the neurotoxicological explanation of the closing of the esophagus, the larynx, how does EMS close somebody's throat?
A. What I can say is that EMS can disrupt the control of the parasympathetic and sympathetic nervous system that could conceivably lead to a dysfunction of the larynx or throat muscles.
Q. Is there a study that you have reviewed that makes that conclusion?
A. Specifically with regard to throat muscles, no.
Q. Okay. I ask that because this seems like an extreme symptom. I mean you wake up, you're asleep, your throat is clogged. Do you find that to be a neurotoxic symptom, would it fit within that?
A. It's not a typical neurotoxic symptom. But if the muscle regulation had been impaired, then it could cause that.

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Q. Okay. Are you aware of any instance where a test subject, a patient, a sufferer of EMI/EMS had a similar incident where you had the closing of the esophagus or closing of the larynx due to the presence of EMS?

A. Are you reading from a page in my report?

Q. No, no.

A. That incident is not really clear in my mind. So I've been answering it in general.

Q. Yes. It's something I saw in the history. Where exactly -- I know it's there. I made a notation of it because it seemed like to me a very significant or dramatic episode. It's there. And I'll just represent to you it is, I just can't point with specificity.

And I think I have best described it as much as I could that he was asleep, he was in his New York City apartment. I believe they had switched over to cell phones or cell towers being activated. And he woke up, he couldn't breathe, and he says his larynx/esophagus was closed up.

And I'm just asking you, have you ever encountered in your review of the literature, in your experience as a neurotoxicologist or a neuropsychologist, that EMS can actually do this to a person?

A. I don't recall.

Q. Okay. Let's take a ten-minute break. We're making good time.

(Recess.)

MR. ROMERO: Let's go back on the record.

BY MR. ROMERO:

Q. Dr. Singer, what tests have been developed for the diagnosis of EMI or EMS?

A. I think that basically, to diagnose these conditions, the doctor runs a battery of tests to rule out other conditions or to test for specific symptoms such as Dr. Elliott tested for the symptoms of his heart pain. And it's important to take a history and look -- determine the relationship between the symptoms and exposure and to carry out basically the diagnosis that I did and Dr. Elliott did.

Q. Okay. In your review -- I may have asked you this question. But in your review of the scientific studies on this topic, have there been any accepted tests to rule in EMI or EMS?

MR. LOVEJOY: I guess you should define what you mean by generally accepted tests. I mean there's a lot of reports. There's the Marino article could be responsive. I don't know what your question is seeking.

BY MR. ROMERO:

Q. Let me put it this way, in looking at the scientific studies, did you see a consensus among the article authors on how you can test for EMI or EMS?

A. I didn't see the consensus other than that the -- it would be important to look at the symptoms that are common with EMI and EMS based on the scientific literature and to evaluate those symptoms.

Q. But in the literature that you reviewed, you didn't see the same type of test reappearing?

A. There were neurobehavioral tests reappearing, tests of neurobehavioral function.

Q. Did you utilize these neurobehavioral tests with respect to Mr. Firstenberg?

A. Yes.

Q. And what articles did you see these neurobehavioral tests in?

A. The articles would include Abdel Rassoul, et al.

Q. And are you looking at Exhibit 6?

A. Yes.

Q. What page?

A. Page 9. And neurobehavioral tests were used in the TNO study and other studies.

Q. And what page did you see that in Exhibit 6?

A. Pages 19, 20, and possibly other pages.

Q. And what do these neurobehavioral tests look like?

A. In the Abdel Rassoul study, they used tests including tests from the Wechsler Intelligence Scale, which is a test that I administered.

Q. Okay. And the other study you referenced, what neurobehavioral tests were used there?

A. I don't know specifically without looking at the study itself.

Q. Okay. Now, were these neurobehavioral tests designed with diagnosing EMI/EMS in mind or were they designed for diagnosing other maladies?

A. They were designed to assess neurobehavioral function that could be affected by EMF or other causes.

Q. Okay. So it's still a general test?

A. Well, there are specific tests. But they're not -- by themselves they're not diagnostic of a particular cause. They have to be seen within a context.

Q. Okay. And these tests are like surveys, you fill them out?

A. No. They're actual tests of the subject's

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performance.
Q. Okay. So they test dexterity, test balance, stuff like that?
A. It can be those things.
Q. And these neurobehavioral tests can be used for diagnosing conditions other than EMI/EMS?
A. Yes.
Q. In your review of the literature, have these authors, these people who work in this field, have they designed a test that is uniquely tailored for diagnosing EMS/EMI?
A. The study that we are referring to as the Marino study specifically designed tests for this.
Q. And were those tests found in the Marino study, were they utilized in this case, were they utilized to test Mr. Firstenberg?
A. Not his exact protocol, no.
Q. Okay. Did Mr. Firstenberg or his counsel make any suggestions to you on how he was to be tested?
A. With regard to the testing that I administered and the test results as reported in my report of May of last year, Exhibit 5 -- is that correct?
Q. Exhibit 4.

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A. Exhibit 4. No, there was no instruction or consultation. However, we did discuss how to conduct a provocation type of testing.
Q. Okay. And did Mr. Firstenberg or Mr. Lovejoy make any suggestions on this provocation testing?
A. Yes.
Q. And what were their suggestions?
A. Their suggestions were to find a source of stimulation that could be easily administered to Mr. Firstenberg that he could react to without him being harmed by it and which would have a short latency of onset of symptoms and a short latency for the offset of symptoms.
Q. And the other suggestions these two individuals made with regard to testing?
A. I think that was basically it. But this is also in response to the court's direction for the necessity of this testing.
Q. Did you make recommendations about testing that Mr. Firstenberg or Mr. Lovejoy found objectionable?
A. You know, I'm not sure how to answer that except I think I may have suggested certain types of stimulation that maybe wouldn't work. I think that's the answer to your question.

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Q. Okay. We know the battery of the psychological tests that you and your assistant gave to Mr. Firstenberg as Exhibit 8. And you talked about provocation tests. I think you may have answered this, but let's put it directly to a question.
What was the purpose of this provocation test, what were you trying to look for?
A. The purpose was the court requested it.
Q. Okay. And this is the provocation test that has yet to occur, right?
A. I have begun working on it. But it has -- the test itself that would -- that we would like to submit to the court has not been administered.
Q. Okay. But you have tested Mr. Firstenberg on a provocational basis on other occasions, right?
A. Yes.
Q. Can you tell me about those tests, what was the first one?
A. Okay. We're going to separate out the accidental provocation versus the intentional provocation, which is what I think you're referring to.
Q. Yeah. Well, how about we talk about both but chronologically, which came first, which came next, and we'll just go from there.

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A. Well, the first were accidental provocations, accidental and unplanned.
Q. Okay. What were the circumstances as to this first accidental provocation test?
A. The first of the accidental provocation, I wouldn't call it exactly a test because it was more of an observation is described in my report beginning on page 6.
Q. This is Exhibit 4?
A. Yes. Where Mr. Firstenberg was being tested by Kymberly Johnson. And the test was going along fine until at some point when Mr. Firstenberg reported his heart rate was elevated, that he couldn't concentrate, he couldn't continue.
And then they found a device that was apparently transmitting wireless signals in the house. They turned it off. And then an hour later he felt normal, fairly normal. So that was the first instance of an occasion of an accidental provocation.
Q. Now, let's stop there. You did not intend to conduct a provocation test on Mr. Firstenberg in this instance?
A. Correct.
Q. And it just happened that you made the observations you made when they occurred, it was

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happenstance?
A. Yes.
Q. And for this first accidental provocation test, you weren't trying to conduct a double-blind test?
A. We weren't trying to, but it was double-blind.
Q. Okay. Now, to have a double-blind test, wouldn't you need to intend to have a double-blind test?
A. It was double-blind in the sense that neither the experimenter nor the examiner nor the subject knew that the stimulation was present. To call it a test is -- I'm not sure if that's stretching the word. Because it wasn't designed that way, it just happened that way.
Q. Okay. But you're attributing features of a double-blind test to this accidental observation?
A. Yes.
Q. Okay. But it's your testimony that you didn't plan it that way. Mr. Firstenberg was there for other reasons. And these observations occurred in the manner they did?
A. Correct.
Q. But it's your testimony that you were not

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conducting a double-blind test?
A. Yeah. I think that's accurate. It was not a double-blind test. But it was a double-blind observation.
Q. A double-blind result?
A. It was a double-blind situation.
Q. Okay. Tell us about the next provocation test study. Was that intentional or was that accidental?
A. Accidental.
Q. Okay. And tell us about that.
A. I had -- Ms. Johnson was conducting the testing of Mr. Firstenberg. And I had removed all sources of electromagnetic radiation that I could. I instructed everybody around the premises to not use their cell phones.
And fortunately or unfortunately we had a recalcitrant teenager who was testing the limits I guess. And he was off the premises using his cell phone. And I guess that was all right, but then he kept using it coming back to the premises.
And the testing had been going on for over an hour. I would have to read this more carefully. It looks like an hour and 40 minutes.
Q. And you're still on page 6 of your May 2011

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report?
A. Yeah. I moved to page 7.
Q. Okay. You're on page 7 now.
A. Yeah. And at some point during the testing, after the testing was going well, Mr. Firstenberg started to fail certain items, get agitated, and said, "I can't concentrate any longer."
And we made inquiries around to see if a cell phone was being used. And we found that was happening. And then I checked the cell phone for the time of the transmission of signals.
And it appeared that when he was getting closer to the premises and making more texts and then at one point he sent a longer text, it was at least four times as long as the prior text and he was closest to the premises, that seemed to be the time when Mr. Firstenberg was getting agitated.
Q. Okay. You said this was an unintentional provocation test?
A. Unintentional provocation observation.
Q. Observation. Not a test?
A. Yeah. I don't think we could call it a test, because a test I think implies premeditation and planning.
Q. Okay. And the reason why Mr. Firstenberg was

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there, he was there to fill out the tests that comprise Exhibit 8?
A. He was there being tested with the tests comprising Exhibit 8.
Q. And the fact that you made a concerted effort to turn off any electronic device in the area in your office, that was meant as an accommodation to him so he could fill out these tests that comprise Exhibit 8?
A. To fill out tests and to be tested, yes.
Q. Okay. And when you say to be tested, it's just the diagnostic tests, the paper tests that are found in Exhibit 8?
A. The paper is a record of the tests.
Q. Right. But you turned off everything that could emit a signal so that he could fill out and participate in the testing that comprised Exhibit 8?
A. Yes.
Q. The purpose of turning off all the electrical devices was not to conduct a provocation test?
A. Correct.
Q. Okay. And tell me about the next provocation test.
A. The next provocation was when I was an observer at Mr. Firstenberg's house when engineer Sal LaDuca was testing his home for radiation from the

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neighbor's home.
Q. And this is page 8 on Singer Exhibit 4?
A. Yes.
Q. Okay. And did you premeditate a provocation test this time around or was it still accidental?
A. The first episodes on this day were accidental and the final one was planned.
Q. Okay. Let's --
A. Accidental may be too strong a word in that we knew that the units were going to be turned on. And I was watching to see what would happen.
Q. Okay. So those weren't double-blind tests?
A. Were not.
Q. Okay. Because you knew things were being turned on and Mr. Firstenberg knew they were being turned on?
A. Yes.
Q. Okay. Now, for the LaDuca electrical inspection, which of those tests fit that criteria, where you guys knew it was being turned on? Can you just explain which of these go into that category. And then we'll talk about the intentional double-blind test that happened in the end.
A. At 11:40 a.m. -- let me go back. At 11:34 a.m. I observed Mr. Firstenberg's eyes were red

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and watery. I asked him how he was feeling. "He stated that he was in discomfort, including pain in the lateral groin area. At 11:40 a.m. Mr. Firstenberg reported that he thought someone was using an iPhone with broadband 900 range from the direction of his neighbor's house."

At 11:44 a.m. he arose from his chair, left the premises, went outside. He was "agitated, nervous, and jumpy." We sent the engineer, Mr. LaDuca, to the neighbor's house. "And the engineer confirmed that microwave wireless transmission was occurring from equipment in use at the neighbor's house."
Q. And this was an unintentional test?
A. This was unintentional in that we -- if my memory serves me well on this, we were understanding that there was no equipment operating at her house at that time, that it was not supposed to be operating. But he had this reaction. And then we discovered that it was operating.
Q. But for this instance where you and Mr. Firstenberg thought nothing was on and it turns out something was on, that that wasn't premeditated, that was another happenstance?
A. Correct.

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Q. Okay. Go on. What was the next provocation?
A. So then the power to the house was turned off and the equipment was turned off. And then he started to feel better. But that was not blinded at all because we both knew that the equipment was turned off.
Q. Okay.
A. The next instance was a deliberate turning on of the microcell tower, iPhone charger, and modem at around three p.m. And at three p.m. I asked Mr. Firstenberg -- or he reported he wasn't feeling well. And he kept saying he wasn't feeling well.

He went to lay down on his bed. By 3:17 he's agitated. And by 3:18 he leaves and he goes to the neighbor's house. And I was not observing him at that point.

At 3:35 he's back on the premises and he's saying -- or 3:30 he's back on the premises. At 3:35 he's agitated, exiting the premises, looking anxious. And then he leaves the premises. And at 3:50 he returns to the house.

And the iPhone was not on, the microcell tower was. He states he feels really bad. At 3:51 the microcell tower was disconnected. At 3:52 the iPhone was not connected to the charger. And

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Mr. Firstenberg states that he feels better.
Q. Okay. Now, with these series of incidences, we're still talking about the same one test, right?
A. The same day.
Q. Okay. Now, whose idea was it to have this provocation test? I'm taking it you're saying that this provocation was different in that it was not accidental?
A. Yes.
Q. Okay. So how did this come about, did you and Mr. LaDuca say, okay, turn stuff on, don't tell us, I mean how did that transpire?
A. I didn't have any role in how Mr. LaDuca was conducting his studies. I didn't give him no direction on how to do it. We generally knew what he was going to do. And he followed the protocol that he was following.
Q. Now, he was conducting tests for his own expert opinion; is that correct?
A. Yes.
Q. Okay. And for these series of tests that you've just mentioned, that was for his work?
A. Well, yes, except for my observations was for my work.
Q. Okay. But you didn't discuss with Mr. LaDuca

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and say, okay, this would be a good time to do a provocation challenge so, from this time forward, you turn stuff on and off. Don't tell us about it and don't -- you know, don't tell us what you're going to do when you do it. And after some passage of time, we'll tell you to stop doing that. Did you have that conversation with Mr. LaDuca?

A. No.

Q. And the testing that he did in this time period, that was not for an intentional provocation challenge?

MR. LOVEJOY: Are you talking about like the three o'clock to four o'clock testing on page 9?

BY MR. ROMERO:

Q. Yes.

A. Yes.

Q. So in Mr. LaDuca's mind, he had no idea he was doing a provocation test for you?

A. I didn't intend to put that in his mind.

Q. Okay. Do you know if Mr. Firstenberg requested that he do an intentional provocation challenge for your benefit?

A. I don't know.

Q. Okay. So no double-blind study was undertaken by you, Mr. LaDuca, and Mr. Firstenberg for

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this time period, from three to four?

A. Yes.

Q. Okay. Were there any other provocation tests after that?

A. Yes.

Q. And was this intentional or accidental?

A. Intentional.

Q. Okay. Now, what were the circumstances leading up to this test, did you have a discussion with Mr. LaDuca as to, okay, now it's our turn, I need to do my work for my expert opinion, can you turn stuff on and off without telling me, without Mr. Firstenberg seeing, and then we'll get back to you, did you have any of those type of conversations?

A. I don't think so. I think I just told him -- I ascertained with him everything was off and asked him to desist in turning anything on.

Q. And you didn't tell him why?

A. I don't recall.

Q. Okay. Go ahead and explain to me this final test. What was turned on, what was Mr. Firstenberg's reaction to them?

A. At "4:06 p.m. I requested that the neighbor's cell phone transmission equipment be shut off, including the modem, iPhone, charger, and the

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microcell tower; and that they all be turned on at random once" --

Q. And you're reading on page 10 on Singer Exhibit 4?

A. Yes. -- "before 4:40 p.m." And so we did that. And then at "4:07 p.m. Mr. Firstenberg reported feeling some unspecified symptoms." At 4:09 he's saying he doesn't feel well. "He reports heart sensations, a catch in his throat, a symptom like light-headedness but not. Mr. Firstenberg expresses to me that he is unsure if he's actually reacting to microwave radiation or to his anxiety about potential radiation."

At 4:12 he's getting agitated. "He said he felt like he was suffering from anxiety also." At 4:13 he leaves the house. He's feeling bad. At 4:16 to 4:20 he's still out of the house. At 4:25 I walk outside the house to check on him.

He was outside the front door. "He stated that he had had a headache for the last five minutes, and that the headache was cumulative from the day. 'Headaches are not an early symptom, but I got one now'." So it seemed like he's stating that he had a headache at 4:20.

Q. Okay.

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A. At 4:29 he states he has "a really bad headache." And he leaves the premises to walk out on the streets. And I go with him. At 4:30 he states to me -- Mr. Firstenberg states to me "that the neighbor's microcell tower had been on for at least ten minutes." He said that his headache was relieved ten minutes from 4:30. So that's 4:20, which is when he identified he had a headache.

Q. Okay.

A. "He stated that his headache was relieved when he reached the end of the street," which was 75 yards away from the neighbor's house. At 4:38 he states, "his headache was diminished." I check his pulse. I observed an irregular rhythm.

At 4:41 I checked his pulse again. It seemed normal. At 4:45 we were then informed that at 4:20 p.m. the microcell tower, modem, and iPhone charger had been plugged in; and telephone calls were made on the iPhone while it was connected to the iPhone charger. So that's pretty much what happened.

Q. Okay. Now, let's go back to 4:09 p.m. Mr. Firstenberg expresses to you, Dr. Singer, "that he is unsure if he is actually reacting to microwave radiation or to his anxiety about the radiation." Is this anticipatory anxiety?

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A. Yes.
Q. Okay. So you told Mr. LaDuca to turn everything off, turn stuff off -- turn stuff on on a random basis. And we're just going to watch Mr. Firstenberg.
A. I'm sorry. Could you repeat that again.
Q. Let me just say it again.
You told Mr. LaDuca to turn off everything, the devices, and then to turn them on randomly, at which point you would observe Mr. Firstenberg. And you wouldn't know when -- you didn't know yourself when these things were turned on, right?
A. I didn't instruct him to do that.
Q. Okay. What did you instruct Mr. LaDuca to do?
A. To make sure everything was turned off.
Q. Okay. And you didn't tell him to turn anything on?
A. Correct.
Q. Who told him to turn stuff on?
A. Are you talking about over the whole day, the course of the day?
Q. No. I'm talking about the last test.
A. On the last test, I instructed Mr. Lindsay to go over and to turn the equipment on as I had

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described.
Q. Okay. So it's Mr. Lovejoy --
A. Mr. Lovejoy. Excuse me.
Q. Yeah. Mr. Lovejoy is the one turning everything off and then turning stuff on randomly?
A. No.
Q. It's Mr. LaDuca?
A. No.
Q. Okay. Tell me again.
A. Mr. LaDuca turned everything off.
Q. He turned everything off.
A. Okay. I instructed Mr. Lovejoy to turn on certain pieces of equipment one time during that time period. So it would be random within that -- between four o'clock and 4:40, whatever the time frame was. Yeah, between 4:06 and 4:40. I said turn everything on at once one time.
Q. And he didn't tell you -- and you told him not to tell you when that was going to happen?
A. Right.
Q. Okay. Did Mr. Firstenberg -- was he aware of this arrangement?
A. Yes.
Q. Okay. So he knew that everything in the other house would be turned off, but at some point it would be turned on?

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A. Yes.
Q. Okay. Now, this note at 4:09, "he is unsure if he is actually reacting to microwave radiation or to his anxiety about the radiation," you said that?
A. Yes.
Q. Okay. And when were the things turned on according to your information?
A. At 4:20 p.m.
Q. Okay. So at 4:09 he says he's reacting, he's not sure to what, and nothing is on?
A. Correct. But he also was unsure about the cause of his reactions.
Q. Okay. But at 4:09 Mr. Lovejoy hadn't turned anything on?
A. Correct.
Q. But he is telling you he's feeling something, he doesn't know if it's true or false?
A. Yes.
Q. Okay. And when there is a -- then things are turned on at 4:20. And Mr. Firstenberg is reacting. He says he had his headache at 4:25. At 4:29 he has a really bad headache, and he leaves the premises.
A. At 4:25 he -- yeah. At 4:29 he leaves the premises.

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Q. Okay. Was this due to the anxiety about the radiation or was he reacting to microwave radiation?
A. It could be due to either. However, when he stated to me, when Mr. Firstenberg stated to me that he -- that the neighbor's microcell tower had been on for at least ten minutes, he said that at 4:30, that to me pointed to he was sensing that the microcell tower was turned on at 4:20.
Q. Okay. Now, let me interrupt you again. At 4:09 he says I'm feeling -- "I don't feel well at all." He tells you he's unsure if he's reacting to microwave radiation or to his anxiety about the radiation. At 4:12 he says, "bad, bad here, very bad. He said he felt like he was suffering from anxiety also."
So this is 4:12. Nothing is turned on. At 4:20 is when everything is turned on. And at 4:13 he says he felt bad. And then from 4:16 to 4:20 he's out of the house.
A. When I went out of the house, he's at the front door.
Q. Okay. But he left the house?
A. He left the house. He's right out -- standing right outside the front door. It's not a huge house.

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Q. Okay. I know. But he tells you twice he's not sure if this is about his anxiety. He leaves the house, then everything turns on; is that a fair statement?
A. At 4:29 is when he essentially leaves the premises.
Q. And he walks around the block?
A. Yeah.
Q. Okay. And that's nine minutes after the turning on of all things?
A. Yes.
Q. Okay. But earlier in that hour, he tells you -- and he says he's not feeling well. But he's also telling you he's not sure if it's just anxiety about, you know, being bombarded here. He tells you that?
A. Yes.
Q. Okay. So how is it that you can conclude that this intentional provocation test worked?
A. Because Mr. Firstenberg correctly identified it seems to the minute when the units were turned on.
Q. Okay. But he's also saying the same thing before the units were turned on.
A. Right. And before the units were turned on, he had symptoms that were I would say more vague and

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which weren't as bad as the symptoms he had at 4:29, when then he really had symptoms. He was sure he had symptoms. And he had to leave to get relief.
But prior to that time, he was -- you know, he was feeling bad. He did go to the front door. But after that, at 4:29, he was just really bad. He knew -- he was -- at that point I felt he was sure that he was symptomatic.
Q. Okay. What is the time difference from the time he gave you this false positive to the time he gave you a positive reading?
MR. LOVEJOY: Object to the form of that question. Go ahead.
THE WITNESS: At 4:07 he reports unspecified symptoms.
BY MR. ROMERO
Q. Okay.
A. He's had -- I don't know what he said. But he started to not -- something was happening. And it was not that clear. At 4:09 he looks like he has anxiety. And at 4:20 was when the stimulation was actually turned on. At 4:29 is when it seemed like he was sure about it and he left.
Q. Okay. What was the difference between what he complained about before 4:20 versus what he

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complained about at 4:29?
A. At 4:29 the difference was he said he had a really bad headache. And he didn't actually look like it was so much anxiety that he was experiencing as he had been previously. He just said, you know, I have a really bad headache and I have to go. And so it seemed different.
Q. Okay. At the entry at 4:25 p.m., the second sentence, "He stated that he had had a headache for the last five minutes, and that the headache was cumulative from the day. 'Headaches are not early symptoms, but I've got one now'." And you're still saying that this headache is attributable to the 4:20 blast?
A. I believe so.
Q. Even though he told you that this headache was a cumulative effect to the exposures he received throughout the day?
A. It's possible that he had developed some headache during the day. I don't think -- I don't think he complained of that at all during the day.
Q. Okay. But he did complain or he did state to you at 4:25 that he had a headache for the last five minutes and that the headache was cumulative from the day. It doesn't say for this entry that I got a

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headache because I just got zapped?
A. Yes.
Q. He doesn't say that?
A. That's correct.
Q. Okay.
A. Because apparently he didn't know that. But at 4:30 he seemed to be more -- at that point he was more definitive. After he was -- at 4:30, when he was away from the premises, he reflected on his headache. And he said that's what happened. I got a headache from her microcell tower being turned on.
Q. Okay. So he got the headache, he attributed it to be cumulative, then changed his opinion of that?
A. Yes, because ultimately he said his headache was relieved when he was away from the premises.
Q. Okay.
A. So if it was cumulative and there was no extra stimulation, then he would have had a worse headache. But if it was -- if, in fact, it was not so much cumulative as due to the stimulation, then his headache would be relieved when he was away from the premises. And that's what happened.
Q. Okay. But that's kind of a post hoc observation?
A. In a sense it is in that these observations

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were made. It wasn't exactly post hoc in that he -- he told me about his headache for ten minutes. I mean it wasn't post hoc. He didn't know when the stimulation actually occurred. So the experiment was still taking place when Mr. Firstenberg had identified when the microcell tower had been turned on.

Q. So let me see if I can summarize this accurately. You didn't conduct any intentional provocation tests until the very last of that day?

A. (Witness nods head.)

Q. The last test was a double-blind test?

A. (Witness nods head.)

Q. And in three instances or the first two instances, he says it might be due to anxiety. Then he says it might be due to the cumulative effect. And then finally he says, you know what, I think this is the real thing. Is that what happened?

A. Yeah, more or less.

Q. Okay. And you're discounting the first three observations, two of which being anticipatory anxiety, one being a cumulative effect, and you're just focusing on the last reported complaint to say that the double-blind test was successful?

A. I would say that I was able to observe the anticipatory anxiety. And that gave me insights into

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the situation that Mr. Firstenberg can have anticipatory anxiety and then he is anxious. But he may not be sure whether he's -- what he's experiencing, what it's from. And he might attribute it to microwave radiation, and microwave radiation may not be there.

Q. This was the last provocation test for that day?

A. Yes.

Q. Have you conducted any provocation tests on Mr. Firstenberg since this LaDuca inspection?

A. Yes.

Q. Okay. Tell me about those. Are they listed in your report?

A. No.

Q. Okay. Are they listed in your separate report that's in Singer Exhibit 6?

A. No.

Q. Okay. Have you given information on these provocation tests to Mr. Lovejoy to give to me or the other attorneys in this case?

A. No.

Q. Okay. How many provocation tests are we talking about here?

A. What we did was I had --

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Q. My first question is how many?

A. I would have to look at some notes to try and figure that out.

Q. And were these notes part of Exhibit 7?

A. No.

Q. Okay.

A. They were not entirely -- they weren't conclusive. And the tests, the actual test has not taken place. They were designed to help determine what stimulation would be appropriate for the test.

Q. Okay. And this is in relation to the court ordered provocation test. So these were kind of like test trials?

A. Kind of like that. We were trying to determine what stimulation would be acceptable to Mr. Firstenberg and yet something that he can detect.

Q. And were these test trials done under double-blind testing conditions?

A. No.

Q. Okay. Were any of these tests -- did they indicate to you a positive finding?

A. To me they were suggestive but not conclusive.

Q. Okay. For these tests, these trial tests let's call them, did you note the presence of

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anticipatory anxiety?

A. Sometimes.

Q. Okay. Let me pose a hypothetical for you. Say there's three people in this room, you, Mr. Firstenberg, and let's just pick on Mr. Lovejoy here. Mr. Lovejoy brings his cell phone, forgets to turn it off.

And he's here for a meeting with you guys and he remembers. He's like, oh, and he turns it off. Okay. So you see that it's on, Mr. Firstenberg sees that it's on. He has a reaction, he has some kind of symptoms he reports.

Now, because he sees the cell phone, in your mind can that be due to anticipatory anxiety?

A. I was a little confused by your scenario, because initially everyone was blinded to whether the cell phone was on.

Q. Right.

A. Okay. And so now the question is?

Q. The question is no one knows it was on, now everybody knows it's on.

A. Everybody knows it's off.

Q. It's now -- well, now turned off.

A. Okay.

Q. But implicit in that is it was on.

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Mr. Firstenberg experiences a reaction maybe immediately, maybe ten minutes, maybe a half hour down the road. But he gets a reaction, he experiences symptoms. And he tells you that. He sees that it's on. He sees it being turned off. Can you in that instance rule out anticipatory anxiety?

A. Yes.

Q. How so?

A. Because anticipatory anxiety is an anxiety for a future event. And what you described was an event after the stimulus was turned off. So it wouldn't be anticipatory. He's not anticipating that the stimulation was going to come.

Q. Okay. But he sees that there is a device that he knows hurts him. And he feels pain and he tells you about the pain. That isn't anticipatory anxiety?

A. Not in this instance.

Q. In what instance would it be considered anticipatory anxiety in your opinion?

A. If Mr. Firstenberg didn't know -- he knows that the cell phone is going to be present. And he doesn't -- and that it could be on.

Q. Okay.

A. And then he --

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Q. Let's change the hypothetical. I'm in a room with you and Mr. Firstenberg. In arranging this meeting, he asks me to turn off my cell phone. And I say, you know, I can't, I have to -- I'm expecting an important call.

And I tell him that the day before. And it's like I'm sorry, you know, I need to take this call. And it's out of town, out of state, whatever. I need to take the call. So he knows I have a live phone.

We all talk. He starts experiencing symptoms and complains about them to you and to me. Is that anticipatory anxiety?

A. Not necessarily.

Q. Okay. Can you have a situation where he knows there's a device and he feels symptoms. Can it be that he has a bona fide symptom that you cannot differentiate or separate out from anticipatory anxiety?

A. Yes. That's possible.

Q. Okay. And you don't know which is which in that scenario? He knows there's a device on, he's known it for quite sometime. He experiences symptoms. You have no way of knowing whether this is a bona fide symptom or whether this is symptoms brought on by anticipatory anxiety?

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A. I wouldn't know. But if there were maybe additional facts, maybe I would know. But in those bald facts I wouldn't know.

Q. You wouldn't know. Okay. Thank you. There's been testimony in this case about a test in which an RF emitting device, an air purifier was used. Were you involved in any testing involving an air purifier?

A. No.

Q. Do you have any knowledge about such a test?

A. No.

Q. During the testing, and you can throw in the accidental testing, was there any way you can tell Mr. Firstenberg was exposed to safe versus unsafe levels of electromagnetic radiation?

MR. LOVEJOY: What's the testing now, what's the span of time?

BY MR. ROMERO:

Q. In your accidental testing, your intentional testing during the LaDuca inspection, did you know what was considered safe versus unsafe levels of electromagnetic radiation?

A. It seemed unsafe for Mr. Firstenberg.

Q. Okay. Do you know what was the difference between, you know, something that was safe and then at

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some point it becomes unsafe?

A. No. It seemed to be an all-or-nothing phenomenon.

Q. And in ascertaining what was safe versus unsafe levels, did you have to primarily rely on Mr. Firstenberg's self-reported symptoms to you?

A. No.

Q. You didn't have to primarily rely on what he told you what his symptoms were?

A. Right.

Q. And why is that?

A. Because I was observing him and I observed reactions.

Q. Okay. And that was in addition to what he told you? He told you he had a headache, he told you it was bad in here?

A. It could be sometimes it was observation first, sometimes it was his reporting symptoms first, sometimes it was simultaneous.

Q. For the most part, was it simultaneous?

A. You know, I don't know without actually going through each incident.

Q. Okay. Was there an incident or did you make the observation during any of these tests including the accidental ones that you thought he was reacting,

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but he didn't tell you?
A. On page 8 of my report, when I'm observing Mr. Firstenberg in his home, when engineer Sal LaDuca was testing, at 11:34 a.m., I saw his eyes were red and watery. And I thought he was not feeling well. So I asked him. So that was one instance where I made an observation.
Q. You made an observation. But then he followed up with a self-reported symptom?
A. Yes.
Q. Okay. Were there any observations that you made that you didn't corroborate with Mr. Firstenberg telling you what he was experiencing?
A. I don't think so. I think I made observations and then I would inquire.
Q. Okay. And then he would tell you?
A. Tell me, yes.
Q. Okay. And it's fair to say that in any observation you made, you asked -- you corroborated what it was with him?
A. I would make the observation. I would write it down. And then I would inquire at some -- either at that time or some later point in time.
Q. Okay. Have you accompanied Mr. Firstenberg in public, you know, outside his home, outside your

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office, have you met with him in public?
A. What do you mean met in public?
Q. Have you seen him around Santa Fe, I mean like on the Plaza area? He likes to go to the Supreme Court library a lot. Have you seen him there?
A. I've seen him outside of my office, yes.
Q. Okay. And did you make any observations about his symptoms, did he get watery eyes, did you ask him about that?
A. No. If I saw him outside of my office, I didn't make any inquiries.
Q. You weren't testing him?
A. Right.
Q. Okay. Now, I may have asked this in relation to the neurobehavioral tests. But in terms of the accidental provocation tests and the provocation tests you used at the end of the electrical inspection date, are those testing methodologies recognized in a peer-reviewed scientific journal, what you did?
A. What I did was just part of my training on how to conduct experiments in neuropsychology and how to make observations in psychology and neuropsychology. It's just what a scientist does when they're observing.
Q. Okay. And it was mostly observing because a

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lot of these instances were just observations and not intentional test taking?
A. Yes.
Q. Okay. But for the last provocation, that was an intentional test. And that test, the methodology of that test, is that in a peer-reviewed journal? I know you say it's in your practice. But is it contained in a peer-reviewed journal somewhere?
A. That specific scenario is not. But the general concept of how to conduct a test like that I believe I can find in a peer-reviewed journal somewhere.
Q. It's something in the psychologist's tool chest?
A. Right.
Q. To be used if the occasion demands it?
A. Yes.
Q. Okay. But in terms of the scientific studies you have reviewed, they didn't say you've got to do a provocation challenge along the lines of what you did at the end of the day, you didn't see anything like that?
A. No.
Q. Okay. I know you've had other patients who have reported EMS complaints. Have you utilized these

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testing methodologies on them?
A. No.
Q. Okay. In preparing for your opinions, did you consult any medical or psychological textbooks or treatises for your examination? We talked about journals. But we're talking about the big textbooks.
A. Not specifically for this evaluation.
Q. Okay. Now, let's go into your opinions. Just briefly --
A. Can I take a break.
MR. ROMERO: Let's take a ten-minute break.
(Recess.)
MR. ROMERO: Let's go back on the record.
BY MR. ROMERO:
Q. Dr. Singer, let's talk about the opinions that you have made in this case. Can you briefly tell me all the opinions that you have made to date.
A. My opinions include that I believe that Mr. Firstenberg suffers emotional and mental distress with exposure to some types of EMF radiation. And that multiple chemical sensitivity is probably minimized in his symptomatology at this time because he has that under control.
I believe he has declines in memory and executive function that occur from past exposures and

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situations. And, of course, in my opinion his overall IQ is still very high now and he still has many intact cognitive functions.

That he does not have a personality disorder or a mood disorder. That he gave good effort on testing. And that malingering was not detected. That his personality was within normal limits.

That he suffers from electromagnetic frequency sensitivity, which when activated causes physical and psychological distress. And that he probably was affected in that way from radiation from his neighbor's home.

Q. Okay. And these opinions are contained on pages 16 and 17 of the May 2011 report?

A. Yes.

Q. And that's Exhibit 4?

A. Yes.

Q. Okay. Do you intend to offer these opinions as a neurotoxicologist, neuropsychologist, or as a psychologist?

A. As a neuropsychologist and neurotoxicologist.

Q. Okay. Can you briefly explain how electromagnetic radiation can cause neurological damage. What happens? Someone is bombarded. What happens to the human body?

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A. Well, I can say that all the details are not known about this, that there has been some research done on this. And from the research that I've seen, what I believe is going on is that the radiation is altering the blood-brain barrier, which is designed to keep exogenous chemicals from entering the brain.

And when this barrier is modified or damaged or injured, that it permits these exogenous chemicals to enter into the brain and disrupt brain function.

Q. Okay. So in a nutshell you're saying that exposure to EMFs compromises the integrity, the structure of the blood-brain barrier and prevents it from doing what it's designed to do, causing these symptoms?

A. I believe that's one of the mechanisms.

Q. Okay. This theory, let's just call it a theory, would you agree with me that this blood-brain barrier theory is controversial in the scientific community?

A. I would say that there's not a lot of debate about this topic altogether, especially in the American scientific community. So to term it controversial would be maybe a stretch in that it's not even hardly discussed.

Q. Okay.

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A. So having said that --

Q. Do people disagree?

MR. LOVEJOY: Were you finished? You said having said that.

THE WITNESS: Yeah. Having said that -- thank you -- when I look at the research studies on the blood-brain barrier and EMFs, certainly not all the data is in. But they -- I'm not sure that I've seen a negative study on that.

BY MR. ROMERO:

Q. Okay.

A. So I'd have to check on that. But to my recollection I'm not seeing a negative study about that.

Q. Okay. But you can't state with any certainty that there are no studies postulating the opposite conclusion?

A. Right. Well, no. I'm sorry.

MR. LOVEJOY: Please define what you mean by an opposite conclusion.

THE WITNESS: Yeah. That's where I got thrown off.

BY MR. ROMERO:

Q. Okay. You haven't ruled out or in your research you haven't researched every blood-brain

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barrier study that's out there; is that correct?

A. I don't know.

Q. Okay. And the possibility exists because you haven't completed the research that there may be some studies out there that refute the validity of this blood-brain barrier theory?

A. I think that what I would agree with is there may be studies that are -- that don't support that theory.

Q. Okay. This blood-brain barrier theory, is this a generally accepted scientific medical principle?

A. Well, the blood-brain barrier is a generally accepted scientific and medical principle.

Q. Okay. But the compromise effect from EMFs, is that something that's generally recognized in the scientific and medical community?

A. In the general medical and scientific community, maybe 99 percent of this population would know nothing about this topic.

Q. Okay.

A. So it's not generally accepted because they know nothing about it.

Q. But it's safe to say it is not generally accepted for whatever reason?

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A. It certainly is not generally accepted among most scientists and medical doctors in that they have no understanding or no knowledge of this field.

Q. Okay. Going back to safe and unsafe levels of electromagnetic radiation exposure, you know what a baseline is, do you, Dr. Singer?

A. It probably varies in its definition depending on its application, but I know generally what the term means.

Q. Okay. But at some point, if we're talking about exposure levels, there is a little bit is good, things in moderation good; but at some point you get too much of a good thing and it becomes bad. You'll accept that premise, right?

A. I guess generally speaking I can accept it.

Q. Common sense-wise?

A. I'm not sure that a little bit is always good. But a little bit can be tolerated. And a little bit of -- and then as something that is bad, a lot of it is bad.

Q. I like your use of the term tolerate better. There is levels that it can be tolerated and levels that cannot be tolerated. And this is certainly the case with Mr. Firstenberg. Is there some kind of baseline level that separates safe levels of exposure

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versus unsafe levels of exposure for the general population at large, do we have that?

A. The safe levels of exposure are the levels that have existed when humanity evolved. And those are safe levels.

Q. Okay. But at some point they become unsafe?

A. The natural -- the natural sources of microwave radiation I believe is fairly constant. But introduction of man-made microwave radiation, at some point that level becomes unsafe.

Q. Okay. And from a general population standpoint, you have no opinion or fact or observation that says when levels that are safe start becoming unsafe, there's no bright line separating the two?

A. I think it's unsafe when the radiation is causing symptoms.

Q. Okay. My question to you is --

A. And it may be unsafe at levels lower than that too.

Q. Okay. My question to you is is there a bright line measurement that differentiates safe levels from unsafe levels from a general population standpoint? Does such a bright line exist?

A. I can look at studies that have been done on populations with microwave exposure, where they

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measure the levels of exposure coming from the cell tower, the radio tower, and they find symptoms. And I can tell you what those levels that they found are. And I would say that that's not a safe level because people are symptomatic.

Q. Okay. But that's specific to cell towers, right?

MR. LOVEJOY: Do you understand the question?

THE WITNESS: No.

BY MR. ROMERO:

Q. You said that radiation emitting from cell towers at some point emits enough radiation where people start complaining. And to you you've deemed that to be unsafe?

A. You used the term complaining, which I agree. But they may not be complaining. But you can examine them and elicit symptoms from them. And then they may not know it's from the cell tower transmission.

But what I'm saying is that in research that's been done and they go out and they evaluate a population and they can determine the power density being emitted or being received at a certain distance and they can determine the level of symptoms or the level of dysfunction as in the case -- in the study that was done in Egypt, where they did

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neuropsychological testing.

And what I'm saying is the levels that produce either symptoms or, when elicited, they find symptoms or neurobehavioral deficits, those levels are unsafe. And levels earlier than that also may be unsafe or less than that may be unsafe.

Q. Okay. But in this example of cell towers, there is no bright line measuring stick that says this is safe, anything beyond that is unsafe?

MR. LOVEJOY: Now I object, because I'm not sure what you mean by bright line measuring stick. He's told you a process. And what's a measuring stick?

BY MR. ROMERO:

Q. I'm just wondering when does safe become unsafe and how is that determined, how is that measured? Or is there a measurement?

A. Whether a level is considered safe or not depends upon the judgment of the observer. For example, I would say it's not safe if people are having symptoms. But someone else may say, oh, no, they're fine, they're just minor symptoms.

Q. Okay. So is it fair to say that whether electromagnetic radiation exposure is at a safe level or at an unsafe level really depends on the

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individual?
A. The individual that's being exposed and the individual making the judgment.
Q. Right. And that's yes on both counts?
A. Yes.
Q. Okay. And whether electromagnetic radiation exposure is safe or unsafe is really something that's determined on a case-by-case basis?
A. Well, you know, generally I would say the answer is yes. However, if the regulator that's regulating these emissions, if they determine that people are being hurt, then they typically will assert a permissible level. And that will be below that which can hurt anybody. Typically it's a factor of 100.
Q. Okay. Is it your opinion that Mr. Firstenberg has suffered neurological damage due to the usage of electronic devices coming from defendant Monribot's home?
A. My opinion is that the neurological or neuropsychological impact is most likely temporary. But it could be -- it could be cumulative and it could lead to a permanent deterioration.
Q. Okay.
A. But if he experiences the symptoms and he

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leaves the premises, probably it's not -- well, I think it's probably not causing a permanent damage. But then again I don't know. There's not enough research on that to specify.
Q. Okay. This talk of neurological damage or neurological impact, is that really a medical question to you?
A. It can be addressed medically or it can be addressed toxicologically or neuropsychologically.
Q. You testified earlier that you were not a medical doctor and not rendering medical opinions. But you qualified that statement. Can you tell us again what you meant by that?
A. It's qualified in that the opinions of neuropsychologists and neurotoxicologists can overlap the opinions of a medical doctor.
Q. Okay. So when discussing neurological damage or neurological impact, this is one such instance of overlap?
A. I usually refer to the impact as neuropsychological or nervous system impact.
Q. Okay. That's not something that's within the sole purview of a neurologist?
A. Correct.
Q. Okay. Now, the legal standard for experts

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when proving the issue of causation is to prove things to a reasonable medical probability. Now, I know you're not a medical doctor. And I guess in this case causation has to be proved by a reasonable degree of certainty or a reasonable psychological probability.
Now, is it your opinion to a reasonable psychological probability or to a reasonable degree of probability that Mr. Firstenberg has suffered neurological damage or impact caused by electromagnetic radiation coming from Ms. Monribot's home?
A. There were too many words in that question for me to answer.
Q. Okay. Let's break it down.
Is it your opinion to a reasonable degree of probability that Mr. Firstenberg has incurred neurological damage or suffered from a neurological impact caused by Ms. Monribot's electromagnetic radiation devices?
A. So I'd like to break down your question further. In my opinion I did not use the term neurological.
Q. Okay. What was the term you used?
A. Neuropsychological or nervous system function or neurotoxicological.

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Q. Okay. So let's substitute those words. Is it your opinion to a reasonable degree of certainty that Mr. Firstenberg has a neurotoxicological impact due to Ms. Monribot's electronic devices?
A. Yes.
Q. Okay. Is it your opinion to a reasonable degree of certainty that Mr. Firstenberg has a neuropsychological impact caused by the devices belonging to Ms. Monribot that emit electromagnetic radiation?
A. Yes.
Q. Okay. Are these your final opinions? I understand that you have your separate report that you've yet to complete. But those are summations of scientific studies.
Are the opinions you stated on pages 16 and 17 on your May 2011 report your final opinions?
MR. LOVEJOY: What's a final opinion? He's not going to have anymore opinions.
BY MR. ROMERO:
Q. He's not going to have anymore opinions, he's not going to change the opinions that appear in your May 2011 report. Is this it?
A. I don't think a scientist could ever say that their opinion is final. They always have to respond

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to data as it comes in.
Q. Okay. Do you intend to revise your opinions that you've made in this case any time in the near future?
A. No.
Q. Okay. In your testing of Mr. Firstenberg, did you rule out all psychological conditions or disorders?
A. Yes.
Q. Okay. Did you consider somatization?
A. Yes.
Q. What is somatization?
A. Somatization is the production of symptoms because of a psychological disorder.
Q. Okay. And how do you test someone for somatization disorder?
A. You can evaluate the person to determine whether they have any psychological disorders. You conduct a history and evaluation of the person to -- again to see whether there are psychological disorders that the person might have at all. You then can consult with the DSM, Diagnostic and Statistical Manual, to see whether the person fits into that category based on the listed criterion. That's all that comes to mind.

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Q. Okay. What diagnostic tests are typically used when testing someone for somatization?
A. The tests are varied. You can administer tests for malingering and distortion, which I did. You can administer the MMPI and look for results there.
You can administer the NEO Personality Inventory which I administered and look for a personality disorder of hypochondriasis, which would be a related condition. But there's no really specific test for somatization.
Q. You mentioned some tests you used on Mr. Firstenberg when testing for somatization. What other tests did you employ on him for somatization?
A. I also used the RUFF Neurobehavioral Inventory. And this indicated he was a valid responder regarding his symptoms. I administered the Miller Forensic Assessment of Symptoms Test. And Mr. Firstenberg passed that test perfectly as nonmalingering.
I gave the Test of Memory Malingering. And again he passed that perfectly, over 150 trials, as nonmalingering. I assessed recognition versus recall. And that was negative for malingering or distortion. Yes. I also administered the SCID, which was negative

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for somatization. I think that was it.
Q. Okay.
A. Including, of course, the history that I took in the interviews.
Q. Okay. Were there any somatization tests that you did not use on Mr. Firstenberg?
A. Again there is no specific test for somatization. So the answer would be no.
Q. Okay. Are there tests out there that could be used to test somatization that you did not use?
A. There are tests out there that assess for responses that might be somatization. But again it's not definitive. So are there tests out there? Like the MMPI is used for that purpose, I think the SCL is. There are probably other tests out there that try to address this.
Q. Okay. And in your opinion Mr. Firstenberg didn't test positive for somatization?
A. Right.
Q. And what's the basis for that conclusion? You said he passed certain tests. You did not test for malingering. I mean can you be more specific?
A. I don't understand the question.
Q. When you say that Mr. Firstenberg did not test positive for somatization, what is the basis for

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that?
A. Other than what I've already discussed?
Q. Yes.
A. I think I've discussed it all. Basically I was unable to identify a psychological conflict that would result in somatization. And according to the -- one of the DSM definitions of somatization disorder, the person getting that diagnostic classification needs to have utilized a lot of medical services.
There's a more specific terminology, but something like that, before the age of 30. Many, many visits to doctors complaining about that. And he didn't have -- he didn't fulfill that criteria.
Q. So him having to go back for multiple surgeries because of his root canals, that doesn't qualify?
A. I thought that was after he was 30. I think. But I'll check on that.
Q. Okay. So a criteria is you have to have numerous hospital visits before you're 30?
A. Yes.
Q. What happens if you have numerous hospital visits after you're 30, that's not considered?
A. You know, I don't have the criteria in front of me. But I believe that that is a major criteria

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within one of their definitions. Apparently there's more than one way to get that diagnosis in a DSM.

Q. Okay. And they're specific in saying there's a cutoff point at age 30?

A. Yes.

Q. Okay.

A. They also are specific in stating that there can't be a medical or toxicological or some scientific reason for the person's symptoms. If it can be explained by a medical condition, then it's not appropriate to get that diagnosis.

Q. Now, in this case there were numerous instances of Mr. Firstenberg visiting healthcare professionals telling him he has porphyria, multiple chemical sensitivity, EMS. Is the fact that these medical professionals told him he had something, does that satisfy the criteria?

A. No.

Q. He has to have a genuine condition?

A. I don't understand the question.

Q. I don't understand your answer. If he has doctors that say he has EMS, does that satisfy the criterion for somatization under the DSM?

A. Which criterion?

MR. LOVEJOY: I object to the form of the

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question. I think you're making an assumption based on one of his previous answers, which is directly contrary to his answer.

BY MR. ROMERO:

Q. Okay. Well, let's backtrack. I know it's late. And tell me if I am repeating you correctly. Part of the criteria for somatization, one thing that's looked at is whether someone has an illness; is that right?

A. I'm going to try to look up the criteria. I might have it here.

Q. Okay. I'm looking at DSM-IV, "Diagnostic criteria for undifferentiated somatoform disorder," 300.81. Is that what you're looking at?

A. No. I was looking for a different category. And I'm not finding it.

Q. Let's use this one, undifferentiated somatoform disorder. Did you test Mr. Firstenberg for undifferentiated somatoform disorder?

A. There is no specific test for that.

Q. Okay. Did you conclude in your opinion that he does not suffer from undifferentiated somatoform disorder?

A. Yes.

Q. Okay. Now, looking at the criteria, sub A

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says, "One or more physical complaints." B, "Either one or two." Subpoint 1, "After appropriate investigation, the symptoms cannot be fully explained by a known general medical condition or by the direct effects of a substance; e.g., drug abuse medication." Is that the language you were looking for?

A. Yeah. There's two different sets of criteria that the DSM gives. And one of them you have in front of you. The other one I don't have. But that criteria is pretty similar I believe in both.

Q. Okay. So let's stick with the word known general medical condition. If Mr. Firstenberg has received opinions from doctors that say you have EMS, is this sub 1 criteria satisfied?

A. That would depend on whether the person making the judgment believes that the illness is a -- whatever those terms were.

Q. Right. A known general medical condition.

A. Right.

Q. And if he finds doctors that subscribe to this belief, that EMS is a known general medical condition, and that's the only physicians he sees, is this criteria satisfied?

A. Yes.

Q. Okay. Now, what if the circumstance is EMS,

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being a controversial theory subject to great debate, where not all medical practitioners agree. And if Mr. Firstenberg only sees those physicians that subscribe to this belief and ignores all others, is this criteria still satisfied in your mind?

A. I believe that it is.

Q. Okay.

A. Of course, there is a second part to that.

Q. Right. In arriving at your opinions, did you contact Dr. Erica Elliott?

A. I did.

Q. Did you contact Dr. Leah Morton?

A. No.

Q. Okay. Just in general what was the substance of your conversations with Dr. Elliott?

A. I believe I had more than one conversation. I'm only recalling the last conversation.

Q. Okay.

A. The substance was I was inquiring about her responses on her affidavit.

Q. Okay.

A. And I also inquired about her opinion about the abnormal enzyme testing.

Q. Okay. And did you discuss with Dr. Elliott this motor vehicle accident where he had this amnesia

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episode?
A. I don't recall discussing that with her.
Q. To the best of your knowledge, do you know if she's even aware that Mr. Firstenberg experienced this accident?
A. I can only presume she got my report and presume that she read it. But other than that I don't know.
Q. She was sent a copy of the May 2011 report?
A. I just presume that she was. But again I don't know.
Q. You didn't send the report to her directly, did you?
A. Right.
Q. Now, are you endorsing Dr. Elliott's medical opinions in this case?
A. I'm not endorsing them. I'm accepting them.
Q. Okay. But she's a medical doctor, right?
A. Yes.
Q. And you're not. Are you deferring to her medical-related opinions?
A. With regard to the practice of medicine, yes.
Q. Okay. You had some contact with Sal LaDuca?
A. Yes.
Q. And this is during the inspection?

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A. Yes.
Q. Did you have any other contact with Mr. LaDuca?
A. I might have had a telephone contact with him. But -- no, I kind of doubt that I did. I'm not recollecting any.
Q. Okay. What about Dan Matson, have you spoken with Dan Matson?
A. Yes.
Q. And what was the substance of those conversations?
A. I inquired about his findings when he inspected the premises. That was the nature of the discussion.
Q. Anything else you would like to add, any other conversations with Mr. Matson?
A. It was just pertaining to his inspection of the premises.
Q. You attended Dr. Staudenmayer's evaluation?
A. (Witness nods head.)
Q. Is that a yes?
A. Yes.
Q. Okay. Do you have any comments or criticisms about this evaluation, is there something you felt he did wrong, something he could have done different?

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A. With regard to -- with regard to the immediacy of the testing situation? I don't really have any comments about it.
Q. You don't take issue with the way he approached the evaluation?
A. Not with regard to his behavior in the immediate circumstances of the evaluation. I'm not recalling any problems. I'd like to take a break.
MR. ROMERO: Okay. Let's do that. Let's take a five-minute break.
(Recess.)
MR. ROMERO: Let's go back on the record.
BY MR. ROMERO:
Q. Dr. Singer, have you evaluated or have you reviewed Dr. Staudenmayer's report?
A. I have reviewed it.
Q. And do you have any comments or criticism based on your review?
A. Yes.
MR. LOVEJOY: I think that's kind of an unfairly large question. Can you break it down a little bit. It's a big report.
BY MR. ROMERO:
Q. What do you find wrong with his report?
MR. LOVEJOY: That's the same thing.

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BY MR. ROMERO:
Q. And you can just start with the beginning and just go down to the end.
MR. LOVEJOY: I object to that question in that form. You can try to deal with it as best you can.
THE WITNESS: Could you repeat the question.
BY MR. ROMERO:
Q. In your review of Dr. Staudenmayer's report, do you have any criticisms?
A. If I'm asked as I am in this moment, yes, I do.
Q. And what are those criticisms?
A. Well, I have specific comments and I have general comments.
Q. Okay.
A. You want them all?
Q. Whatever is easy for you.
A. How much time do we have?
Q. How much do you have to say? I want to know what you know. And I'll just let you talk. And if I have any need for questions, I'll interject. But let's just hear it.
A. Well, I guess my overall criticism is that I'm not sure why he needed to conduct an examination

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at all for a number of different reasons. One, I think his mind was made up before he met Mr. Firstenberg. So the examination itself was just superfluous.

Q. Okay.

A. Two, I believe that Mr. Firstenberg is complaining of you might say medical, neurotoxicological, or neuropsychological problems. And I think that his problems fall within those arenas.

And someone would need training and qualifications and experience in order to assess whether Mr. Firstenberg was suffering from a neurotoxic disorder. So if a person -- if an evaluator does not have knowledge of toxicology or sufficient knowledge, then they would never be able to make that opinion because they don't know about it.

So I think that contributes to that -- it appears that Dr. Staudenmayer's mind was kind of made up before he even had a chance to see Mr. Firstenberg.

Then also in the sort of a general type of trying to figure out how Dr. Staudenmayer does his evaluations, he administered the MMPI and the SCL, SCL-90 or whatever it is. And I'm wondering how he uses these instruments.

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What is he looking for to determine if a person is -- I don't know what his hypothesis is when he's coming in. But that I would like to know. That should be clarified to me or to whoever is evaluating. And how does he use these instruments to either confirm or deny his hypothesis. And that's not clear to me.

In this case Mr. Firstenberg came up basically normal on these tests that Dr. Staudenmayer administered except maybe he was faking good. But so I don't know a priori how he determines.

And it seems to me that Arthur Firstenberg did not meet the criteria of -- that Dr. Staudenmayer would use or that any person would use when using these instruments to determine an abnormality. In other words, the tests were administered and Mr. Firstenberg comes out as pretty normal. So why bother administering the tests.

Then I have questions about the history that Dr. Staudenmayer received or noted in his report. And to me it seemed like there were numerous errors in the history that's being reported. And if Dr. Staudenmayer is relying on this history to make his determination, then I question the validity of an opinion based on data that may be inaccurate.

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Q. What facts did you see in his recitation of facts and events that you thought were inaccurate?

A. Well, one that comes to mind was -- okay. I believe that Dr. Staudenmayer was concerned that -- and again it's not entirely clear to me at this moment because I have not had the chance actually to study this report in depth. So I'm giving you kind of off-the-top-of-my-head remarks.

Q. A cursory once-over?

A. Yeah.

Q. This is what comes to mind?

A. Yes.

Q. Okay.

A. So I believe that Dr. Staudenmayer is focusing on an incident at the Madonna Center, when Mr. Firstenberg reported he had some issues going on there. And I think that Dr. Staudenmayer is relating that to events happening with Mr. Firstenberg and his girlfriend. But the timing was off. I have to consult some further notes.

Q. Okay.

A. Mr. Firstenberg stated that he moved to Mendocino. That his girlfriend, Quin, moved up to Washington state in 1983. And then Mr. Firstenberg stayed in Mendocino another year.

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But Dr. Staudenmayer refers to, quote, he described a distressing event in 1984, when he and his girlfriend were at the Mount Madonna Center. But according to Mr. Firstenberg, that didn't happen. His girlfriend was in Washington state in 1984.

So I think I'll return -- I'll return to that. But going through this report, I would say that Dr. Staudenmayer was concerned about the recycling truck that came down the street, where we were sitting, where we were working. And he was concerned that Mr. Firstenberg did not mention the truck exhaust fumes, which Dr. Staudenmayer states he could smell.

And he uses this to imply or to actually state that Mr. Firstenberg either is lying about symptoms or is highly inconsistent or is basically -- I think the implication is that he's lying about his symptoms.

I was there when the truck exhaust fumes were present. And I can't really say that I smelled them either. I'm sensitive to truck exhaust fumes. But it was -- it was an open street. The wind was blowing, we were out in the open. It was just one truck. So there obviously were some truck exhaust fumes, but it wasn't that noticeable to me.

Q. And you're sitting at a separate table?

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A. I was closer to the exhaust pipe than Mr. Firstenberg and Dr. Staudenmayer.
Q. Okay.
A. I was pretty close, you know, pretty close to it. Like distance from you and me.
Q. Okay.
A. I guess it was there, but I didn't notice any smell. So that's one aspect of that. Second, Mr. Firstenberg does not report a sensitivity to truck fume exhaust. So that he didn't smell -- that he didn't comment on it wasn't necessarily contradictory because he doesn't state that that's what he's sensitive to. So that's one issue. And I think that comes up later also.

On page 4 of Dr. Staudenmayer's report, he states, "The next day, while working as a medical student in the hospital" -- this is Dr. Staudenmayer reporting about Mr. Firstenberg -- "he felt sensations of electric shocks when around machinery in the operating room or the ultrasound in the OB-GYN clinic."

And Mr. Firstenberg actually reports that he did not start surgery or OB-GYN for a year -- until a year later. So it wasn't the next day, but it was a year later. So that seems to be a problem in the

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history.

And then Dr. Staudenmayer states further down, "X-ray machines were the problem." But I believe that Mr. Firstenberg stated and would state that it's not just x-ray machines. Other heavy machinery and other chemicals were problematic for him at that time.

On page 5 Dr. Staudenmayer states, "He moved to Mendocino, California, with his girlfriend where he lived about the next three years until 1984." And Mr. Firstenberg again states that his girlfriend moved to Washington state in 1983, although Mr. Firstenberg stayed for another year.

Dr. Staudenmayer states, "In 1984 there were two life changes. First, he and his girlfriend had personal problems and they separated." And Mr. Firstenberg states that his girlfriend had already moved out. So that year is inaccurate. The event at Mount Madonna according to Mr. Firstenberg occurred in 1983. And Dr. Staudenmayer identifies it in 1984.

Dr. Staudenmayer identifies a second life change was a work opportunity, which it looks like he is putting into 1984. But the Mount Madonna incident -- okay. Dr. Staudenmayer states, "In 1984 there were two life changes." And one of them he says

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was his girlfriend being there. That didn't happen.

The second was a work opportunity. He had met Elana Rubenfeld. But that didn't happen at the time of the Mount Madonna incident. So there's that discrepancy. And it makes it problematic to make a determination about the Mount Madonna incident since those facts are according to Mr. Firstenberg inaccurate.

That his move to Brooklyn was -- that the incident at Mount Madonna was not due to his moving to Brooklyn or his girlfriend leaving. Dr. Staudenmayer states, "In late 1980 Elana identified that he," Mr. Firstenberg, "had an acute sense of smell." And Mr. Firstenberg states that that actually occurred in 1988.

Dr. Staudenmayer states, "He stated that he was not aware of having hyperosmia at the time." Mr. Firstenberg states that he is not aware of having hyperosmia at any time, but that he reports more often having anosmia.

Dr. Staudenmayer states, "He said he resisted the suggestion of MCS for several years." And Mr. Firstenberg states that it was one year.

Dr. Staudenmayer states, "By 1992 he was convinced of EMF sensitivity and reacted with symptoms of shortness

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of breath and difficulty thinking." Mr. Firstenberg states that his EMF sensitivity began in 1980, not 1982.

Dr. Staudenmayer states, "He found an EMF support group in New York with whom he went walking." Mr. Firstenberg states this group was composed mostly of people with MCS. There was only one other person with electrical hypersensitivity in the group. And that the timeline was wrong. In 1992 he had been with this group for several years.

And I believe why this -- I believe why this is important is I think that Dr. Staudenmayer is believing that he -- Mr. Firstenberg got into EMF hallucinations because of his association with this group. And it doesn't seem like that association is that strong based on the timeline.

On page 6 Dr. Staudenmayer states, "With emotion and raised voice, he said that is how he met Raphaela Monribot who answered his request." Later on Dr. Staudenmayer states that Mr. Firstenberg's "Speech when discussing emotional material was guarded."

Well, I'm not sure if that's a total contradiction. But I didn't find -- I was present. I didn't find that Mr. Firstenberg was especially guarded. And I did find in agreement with

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Dr. Staudenmayer that what would appear to be emotion and certainly with a raised voice he did discuss how he met Raphaela Monribot. I recall that.

Dr. Staudenmayer states that -- and this is a true statement. "He was able to tolerate the fireplace at a friend's house where he stayed. He has a gas stove and forced air gas heat in his house, which he tolerates." But Mr. Firstenberg states that he never stated that he was sensitive to gas stoves and forced air heat and that he does not claim to be sensitive to these.

And from my experience I find that people with multiple chemical sensitivity can vary in their sensitivity to various substances. And people can have chemical sensitivity and not be sensitive to a gas stove and gas heat. That's very common. A gas stove and gas heat is actually a fairly clean combustion product.

But I believe that Dr. Staudenmayer is using this to state that Mr. Firstenberg is contradictory and inconsistent and, therefore, not a valid reporter of his symptoms. So I don't believe that that's fair to make such a statement based on this evidence.

Dr. Staudenmayer stated, "I noted that he did not mention fatigue," when he was talking about his

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symptoms. "He denied having fatigue." And Mr. Firstenberg said he didn't report having fatigue because he doesn't feel that he has fatigue. He states that he has lots of energy when he's not exposed. You want me to continue?

Q. Keep going.

A. Okay.

Q. This is the only chance I get to talk to you before the Daubert hearing. So if you have something to say, let's hear it.

A. Well, I'm only responding to your question in this response.

Q. Okay. That's fine.

A. On page 9 Dr. Staudenmayer states that, "He said that in 1996 he felt dizzy due to chemicals." This was in regard to an incident in 1996, where -- yeah. Where Mr. Firstenberg felt dizzy, was having some reaction, and he at that time assumed that there was an exterminator who had laid down pesticides because he felt dizzy, he felt a reaction.

But when Mr. Firstenberg did further investigations, he found out that, in fact, there had not been an exterminator present, there had not been an application of pesticides; but according to Mr. Firstenberg's investigation, he was actually

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reacting to the base station microwave emissions. So that would then be another inaccuracy.

On page 9 Dr. Staudenmayer states, "I asked him what the latency of symptom onset to EMF exposure." Let me repeat that. "I asked him what the latency of symptom onset was to EMF exposure. He said, 'Occasionally, immediately; depends on the history and state of exposure'."

Then Dr. Staudenmayer states that Mr. Firstenberg states, "He gave the example of someone pulling out an iPhone." But Mr. Firstenberg states that if someone pulls out an iPhone and Mr. Firstenberg is not aware that an iPhone is present and the iPhone is turned on, then he may or may not detect symptoms immediately.

He may have symptoms later. He may eventually feel something but not be able to attribute it to the iPhone if he didn't know that the iPhone was present, but that he would not necessarily detect it immediately.

On page 10 Dr. Staudenmayer refers to a medical record from Dr. Gordon Baker, where he states that Mr. Firstenberg states that he had "reddish urine after EMF exposure." However, Mr. Firstenberg states that no, this would be after a severe chemical

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exposure but not usually after EMF exposure.

Dr. Staudenmayer states that Mr. Firstenberg's "interview style was generally focused, with some digression to belief." And that was -- I was there. That was generally true.

However, it's kind of arguable because the digression to belief was, since this was the subject of the inquiry, occasionally Mr. Firstenberg would give information about his beliefs and about his exposures. So he wasn't guarded. He was very open and forthright with Dr. Staudenmayer. His digression to belief would have been in order to give Dr. Staudenmayer a full opinion.

Dr. Staudenmayer states, "Noteworthy is that in the past seven days he did not experience any of the items that paraphrase or are on his list of symptoms in response to chemical or EMF exposure, including," and here he lists 11 symptoms.

But Mr. Firstenberg says yes, that's true. He doesn't have those symptoms when he is avoiding exposure and when he was in that -- in the house and Ms. Monribot was not present with her equipment. So he did not have those symptoms.

But I think Dr. Staudenmayer is implying that it was noteworthy because Mr. Firstenberg was

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inconsistent and he couldn't keep his you might say lies straight.

But that's not the way it was in terms of Mr. Firstenberg -- it's consistent with Mr. Firstenberg saying no, I didn't have those symptoms, I don't have those symptoms when I'm not exposed. So it's probative in a different direction than Dr. Staudenmayer takes it. It's probative in terms that Mr. Firstenberg is actually consistent and not inconsistent.

Mr. Firstenberg states that he is a normal person when he's not exposed. He doesn't have any symptoms. Again I have to state that my opinions here are limited because I haven't really studied this report in depth. But on page 13 Dr. Staudenmayer presents a list of maybe 20 symptoms of responses on the MMPI-2.

And Dr. Staudenmayer states that Mr. Firstenberg's reports are inconsistencies, which "suggest that he approached the MMPI-2 with a bias to show himself in a good light or to attribute these to his sensitivities." So I'm not sure what the second part of that sentence means. But I disagree that they are inconsistencies because again it depends upon Mr. Firstenberg's exposure.

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When he's not exposed, he does wake up fresh and rested most mornings. That was an answer where he responded true. Dr. Staudenmayer is suggesting or is saying that that's an inconsistency. Mr. Firstenberg is saying no, it's not an inconsistency, it's not one of my symptoms, yet Dr. Staudenmayer is taking that as an inconsistency, that it suggests bias. So I question the validity of Dr. Staudenmayer's interpretation of the data.

Dr. Staudenmayer states, "There was an unexpected response from a former medical student on an MMPI-2 item that suggests hemophobia." That would be fear of blood. Mr. Firstenberg reported the sight of blood -- in response to the question the sight of blood doesn't frighten me or make me sick, he said false.

So on the basis of this one response, I believe that Dr. Staudenmayer is saying that Mr. Firstenberg had hemophobia. And I believe that later on that that diagnosis is used to determine that that was the reason why he dropped out of medical school.

But Mr. Firstenberg states that actually he was good at taking blood. He did take blood. And that he -- although he is uncomfortable with being

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around blood, he still can do it.

And I believe that it's natural for people to -- or even if they're a medical doctor, to be uncomfortable around blood. That's just a natural human response for normal humans. I suppose some humans like to be around blood. But that doesn't make or break being a medical doctor.

On page 19 there's some ambiguity in Dr. Staudenmayer's report of my findings. He states, "A teenager was using a cell phone in the house. After two hours he loses ground and he left the premises." The cell phone was not on for two hours. So there's some ambiguity going on there.

And I have to check my records to see when actually Mr. Firstenberg left the house or the office. Well, he left the premises. So anyway I have to check my records to see about that. But I do know that the cell phone was not on for two hours.

On page 23, "Mr. Firstenberg attributes the onset of his IEI to chemicals, specifically formaldehyde used for preservation of specimens in gross anatomy class in 1978." And Mr. Firstenberg says no, he does not. He does not believe he had chemical sensitivity at that point in time. So he could not attribute it to the formaldehyde use.

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There is some difficulty in terminology where Dr. Staudenmayer states, "He could feel the electricity coming from the machines, indicating that he did not rely on symptoms for appraisal of exposure since he did not experience any immediate symptoms."

And the problem going on here is that Mr. Firstenberg, in his terminology, he said that if he could feel the electricity, then that is a symptom. So it would not be an accurate description of Mr. Firstenberg's history and experience.

Dr. Staudenmayer states, "Another relevant factor that could explain his difficulties in medical school and not pursuing a medical career is hemophobia, which in acute cases can cause vasovagal syncope," which is fainting.

So I object to this in that Mr. Firstenberg has never had vasovagal syncope in medical school or out of medical school. So that does not support that he had hemophobia.

The only diagnosis of hemophobia comes from that one response on the MMPI, which we discussed. And to elevate that to be a relevant factor explaining his difficulties in medical school is just too far of a stretch to be a valid explanation of Mr. Firstenberg's difficulties in medical school and

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not scientifically warranted.

Dr. Staudenmayer states, "Away from the stressors of medical school, he recovers fully and is physically active again until 1984 when he has problems with his girlfriend. The episode he described at the Mount Madonna Center is another example of somatization, consistent with anxiety or panic."

So I'm not sure in that sentence what the first example of somatization is. But if this is a second example, he was not having problems with his girlfriend at that time. So that would not be a stressor.

So then I'm not sure what psychological conflict Dr. Staudenmayer is referring to when he diagnoses this episode as somatization. He states, "Nevertheless, he does not seem to consider that he is reacting to the loss of his girlfriend." And I don't think that was what was going on from the timeline.

Dr. Staudenmayer states, "The origin of his belief in environmental sensitivities appears to be a suggestion by Elana Rubenfeld that he has MCS in late 1980." Mr. Firstenberg states that he did not meet Elana Rubenfeld until 1982. He began training in 1983. He did not work for her until 1985.

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After several years of working for her, she suggested in 1988 more or less that he had MCS. So that would be an inaccurate fact. And to make conclusions from an inaccurate fact would just be inaccurate. Mr. Firstenberg states that he knew he was electrically sensitive since 1980. So that part had nothing to do with Elena Rubenfeld at all at that point.

Dr. Staudenmayer states, "He joins an environmental sensitivities support group and learns about EMF hypersensitivity." Again Mr. Firstenberg gave a history of electromagnetic sensitivity beginning in 1980. And Dr. Staudenmayer actually stated that earlier in his report, when Dr. Staudenmayer states "His EMF sensitivity 'spread' to machinery used in the hospital where he worked."

So there's something wrong with the facts there in that the electrical sensitivity goes far back from an environmental sensitivities support group. And we already discussed that that group had only one other person with electrical sensitivity.

Dr. Staudenmayer states that, "When SSI grants him disability status based on his alleged sensitivities in 1996," I believe that actually he received disability determination in 1997. And that

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was both for multiple chemical sensitivity and electrical sensitivity.

In criticizing Dr. Staudenmayer's diagnosis of electrical sensitivity and I think also MCS, there is -- Dr. Staudenmayer states, "There is no specificity among symptoms and exposure agents." However, in many diseases there are nonspecific symptoms. That does not mean the disease does not exist.

For example, influenza has basically nonspecific symptoms. It doesn't mean that that disease doesn't exist. So nonspecificity by itself is not a valid reason to dismiss EMF and MCS as diseases.

Dr. Staudenmayer states, "Not only does he implicate the devices that relate to wireless signal transmission devices, he also implicates the power line current in Ms. Monribot's house. But the power lines in his house are deemed safe, even though they originate from the same transformer."

So here Dr. Staudenmayer is criticizing Mr. Firstenberg in saying that he is inconsistent and then implying that his inconsistency is either deliberate or part of a psychological problem.

But I don't think that fact is justified, because Mr. Firstenberg states that both power lines

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are safe if they're not contaminated by high frequencies. So here it's a misunderstanding of the nature of the stimulus that causes Mr. Firstenberg's symptoms and developing a data point for further support of his opinion that's invalid.

Dr. Staudenmayer states, "The onset of symptoms has nonspecific latency, although he reports immediate symptoms when he visually identifies an electronic device." Mr. Firstenberg does not actually report that. He reports that he avoids devices when he sees them, but that he's not necessarily symptomatic when he sees an electronic device that could produce symptoms. So again it's improper facts.

Dr. Staudenmayer states, "When exposed to EMF from the same device on different occasions, he may or may not react. He explains this by variation in his baseline state. When he feels strong, he can tolerate exposure; when weak, he reacts."

Dr. Staudenmayer then gives his interpretation of this and states, "This reflects a pseudoscientific clinical ecology principles of adaptation/de-adaptation and Total Body Load. This defies the fundamental principle of toxicological causation, dose-duration-response."

And I disagree with Dr. Staudenmayer's

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statement that this defies the fundamental principle of toxicological causation because -- for a number of reasons. One is that symptoms in a person that are induced by toxic chemicals does, in fact, depend on a state of the person or the host, however you might call that, when they're exposed to the substances or the agents.

And this is, of course, clearly reflected in the toxicological concept of threshold limit value, where half of the animals die with a lethal dose and some of them are alive, in that some of the animals are stronger than other animals and they survive. So this actually is a toxicological principle.

And Dr. Staudenmayer describes what I believe is a true principle as pseudoscientific clinical ecology principles, where, in fact, simply put, when someone is strong, they can tolerate more exposure; and when they're weak, they can react.

That is what Mr. Staudenmayer had stated. So I believe -- excuse me. That is something that Mr. Firstenberg stated. So to use that statement as a reflection of delusions on the part of Mr. Firstenberg is not accurate because it's an invalid interpretation of the data point.

Dr. Staudenmayer continues, for example, "He

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can work" -- let me back up. "He can rationalize the use of these devices when they suit his needs." So here Dr. Staudenmayer is rendering a psychological interpretation for a toxicological fact that he gives -- Dr. Staudenmayer gives an example.

"For example, he can work on a computer in the library all day when he needs to." And Mr. Firstenberg states that, when he's stronger, he can work on a computer in the library. But he also feels that he does get -- he does react to it. But some days he can work for longer periods of time than other days.

But Mr. Firstenberg states that some things he can't tolerate such as cell phones and cordless phones. So those are things he can't tolerate when he needs to, but some things he can tolerate when he needs to.

So to use working on a computer at the library all day -- and I'm not sure whether Mr. Firstenberg can really do that, if he can work all day -- then that is also extrapolating from an inaccurate data point.

On page 25 Dr. Staudenmayer states Mr. Firstenberg failed to mention during his interview a significant event. And that the event -- and that

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his failure to mention this event was "consistent with his bias to deny psychological factors that could not be attributed to environmental exposures."

However, Mr. Firstenberg states that the event was not related to chemical exposures or EMF and that is why he did not mention that event. So Dr. Staudenmayer is saying that it's consistent with a bias to deny psychological factors; and, however, the not mentioning could also be consistent with not being asked the question that would elicit that response.

I'm not immediately locating where in Dr. Staudenmayer's report he states this. Oh, I have it. He states, "The accepted methodology to test these hypotheses is the double-blind placebo-controlled protocol." And I disagree with that.

And I state that, when people go to doctors to get assessments, they don't normally undergo a double-blind placebo-controlled protocol, whether it's for a neuropsychological illness or a medical illness. Doctors do not routinely administer such protocol. So I think that that is inaccurate.

I'm not sure what to say. I have maybe -- I have more comments about Dr. Staudenmayer's interpretation of the scientific literature. And I

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have more comments about his conclusions. It could be maybe an hour of comments. I'm just not sure if I'm going to be thorough.

Q. Okay.

A. And it's getting near six o'clock.

Q. Do you want to take a break? Because you told me you just had a cursory review. You spent the last 50 minutes and you're still going. So it's appears to me it's not a cursory review?

MR. LOVEJOY: I think that's completely consistent.

BY MR. ROMERO:

Q. A cursory review is a quick glance. Let's do this, let's take a ten-minute break. We have to finish this. This is the only chance I get to talk to you. And, you know, I was told by Mr. Lovejoy that you only had -- you only really got to review this thing yesterday.

And it sounds like to me you really reviewed it. And I need to know this. I mean Mr. Lovejoy moved this deposition one day over so that I can ask you questions about Dr. Staudenmayer's final report. And that's what we're doing. So, you know, he accommodated us to do that.

And I know it's an inconvenience and I know

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you're tired. But if it takes another hour, I think that has to be true. We have to do this. Now, you know, this is my only chance to talk to you. I have to prepare a Daubert motion based on what you say.

And part of that involves me knowing what you have to say about Mr. Staudenmayer's report. So how about we just take a ten-minute break and then we just proceed until we're finished?

MR. LOVEJOY: Let's go off the record. Can we go off the record?

MR. ROMERO: Sure.

(Discussion off the record.)

MR. ROMERO: Let's go back on the record.

We'll call the Staudenmayer report dated April 26th, 2012, Exhibit No. 9.

(Singer Exhibit No. 9 marked.)

BY MR. ROMER:

Q. You've been referring to some typewritten notes. And if I can ask, did you prepare these typewritten notes?

A. Yes.

Q. Did Mr. Firstenberg assist you in these notes?

A. Yes.

Q. Okay. Let's make that Exhibit 10. And we'll

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have the court reporter make four copies and attach that as an exhibit. And we'll do that during the break. So let's take ten minutes and we can let our loved ones know where we're at.

(Singer Exhibit No. 10 marked.)

(Recess.)

MR. ROMERO: Let's go back on the record.

BY MR. ROMERO:

Q. Dr. Singer, please continue with your comments and criticism of Dr. Staudenmayer's report.

MR. LOVEJOY: Exhibit 9.

THE WITNESS: On page 25 Dr. Staudenmayer states, "Dr. Gordon's conclusions contributed to the iatrogenic component of Mr. Firstenberg's belief," implying that Mr. Firstenberg's illness is exacerbated by his treatment by doctors familiar with this condition.

And I believe that that is inaccurate and a misunderstanding of these doctors' special abilities to manage EMF and MCS cases that actually --

MR. ROMERO: Oh, time out. Did we call Dr. Staudenmayer?

(Discussion off the record.)

BY MR. ROMERO:

Q. Dr. Singer, please continue.

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A. That these doctors who are familiar with the condition actually can help improve people who suffer from this condition through an accurate diagnosis and through treatment recommendations depending upon the case. He also attributes -- --

(Discussion off the record.)

THE WITNESS: He also attributes iatrogenic reinforcement to Dr. Gunnar Heuser and to Dr. William Morton and maybe to other doctors. So I disagree with that.

He criticizes Dr. Morton's advice. I don't know if Dr. Morton said total avoidance of the EMF devices, because that's a relative question. But indeed people that -- many people that do -- who have sensitivity to chemicals or to EMF, if they do reduce their exposures, that seems to be the one factor that tends to improve their condition.

And living in remote areas in the wilderness can help some cases or not help other cases. It depends on other factors. Maybe they're exposed to products in the wilderness. Anyway I won't get into that.

Dr. Staudenmayer interprets the reaction to a pet trainer while staying in a female friend's apartment as another example of somatization. But

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again I'm not sure that it was a pet -- I don't think it was a pet trainer. And just to say that a person who reacts to a toxic substance is somatizing, it's not based on data, there could be other reasons such as chemical sensitivity or toxicity.

I am going to skip over the criticisms of "Naturalistic observations" because I think we covered that in our discussion. I think we've covered that fairly thoroughly.

BY MR. ROMERO:

Q. That's fine.

A. Under "Neuropsychological testing," Dr. Staudenmayer states, "This presupposition is unsubstantiated and disproven by the existing scientific evidence reviewed below." And I disagree with that.

I feel that there is ample evidence to support my statements about the effects of electromagnetic radiation, that it is substantiated, and it is not disproven by the evidence reviewed below.

Dr. Staudenmayer states, "The interpretation of the neuropsychological testing results by Dr. Singer do not conform to accepted practices for the interpretation of neuropsychological testing."

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And I disagree with that. I've been working in neuropsychology since 1978. And I believe that my practices do conform with accepted practices of neuropsychology.

He states, "Neuropsychological testing measures are not a valid diagnostic tool." But, in fact, they are widely used as a valid diagnostic tool all over the world and certainly in the United States and Canada. There's a discussion of confounding variables. But these are taken into account in my interpretation of the results.

He states that my "fundamental presupposition of the ill effects of the EMF is scientifically unsubstantiated." I disagree with that. I think that there's ample evidence to show that there can be ill effects from EMF in the scientific literature.

I am going to skip over Dr. Staudenmayer's description of double-blind placebo-controlled. I'm skipping over that. And I'm going to now --

Q. When you say you're skipping over that, you have no comments or criticisms or you do?

A. I have to study it more to determine if I have comments or criticisms. I don't have any immediately.

Q. You have no opinion on it one way or the

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other right now?

A. Yes.

Q. Is that a yes?

A. Yes, it is a yes. Now, I'm going to turn to Dr. Staudenmayer's literature review, which he uses to substantiate his opinion. And I'm going to start with Regel, 2006, also known as the Zurich study.

And I believe that Dr. Staudenmayer was inaccurate in his description of the study. He states, "The exposures were conducted in an electrically shielded laboratory chamber." However, it clearly states that that was not so in the study because one side of the chamber was open.

Now, getting back to the study itself, "All subjects with sleep disturbances were excluded." So this exclusion criteria would exclude people who are sensitive to EMF. And, therefore, it's not a valid study with regard to people that are sensitive to EMF since they weren't in this study.

The people that -- the subjects that were in the study have self-reported sensitivity but not a doctor diagnosed condition. And some of them may not have been sensitive. They may have thought they were sensitive, they may not have been sensitive. Some might have been confused. So we don't know. That's

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an unknown factor.

This study was promoted as a replication of the TNO study. But it wasn't, because there were factors that were different, such as the lack of a completely shielded room and the exclusion of people with sleep disorders. It was not a true replication, but it was a modification of the original study.

The source of funding for the study introduces bias. The study was supported by the Swiss Research Foundation on Mobile Communications, which is industry connected.

And there have been other studies which I reviewed in one of my other reports showing that, when you look at studies on this topic with regard to positive and negative and you determine their source of funding, that studies that are funded by industry are much more likely or maybe always have negative or null findings compared to studies by private industry.

So that raises a question of bias in that investigators that are industry funded may be tending to have negative findings in order to continue their source of funding.

I believe that that study also eliminated people with neurological illnesses. So that would exclude neurological illnesses from EMF as identified

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in various epidemiological studies. So it is difficult to understand, if they say they were studying sensitive people, that the subjects were not sensitive, then the sensitive subjects were excluded. So there's a contradiction there.

The so-called replication used an original questionnaire on current disposition from the TNO study. But that fails to measure somatic complaints. So those somatic symptoms were not studied. And this reduced their study design to identify effects of EMF on somatic symptoms.

Further in their analysis, they lumped all of the symptoms together or the 23 questions together, whereas they should have analyzed them separately; because when you lump together symptoms that are sensitive with symptoms that are not sensitive, then you come up with a less sensitive metric and less likely to find positive findings.

I am wondering why what we're calling the Zurich study would have a control group with almost three times the numbers of the sensitive group. And I question whether this would bias the analysis in terms of statistics in that the sensitive group would have to be especially sensitive in order to counteract the statistical weight of the larger group.

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There is the question that in the Zurich study they were using notebooks, computers, that had built-in wireless capability. And, if so, were they emitting microwave radiation. And that was not specified and not -- or possibly not controlled in the Zurich study.

I may have other criticisms of that study. But it would require further analysis for me to comment on them. So I'm going to move on to another study that Dr. Staudenmayer has relied upon.

The Mobile Phone Exposure and Spatial Memory Study, again this study excluded people with current medical or psychological illnesses which could include people that have been affected by mobile phone exposure. They're excluded.

A history of brain injury, people with brain injury from mobile phone exposure would be excluded. Sleep disorders, same criticism. So the study was biased against finding -- having findings because a sensitive population was not being studied.

This study did apparently reveal an effect of radiofrequency exposure in that, according to the study, the symptomatic group, quote, improved their performance during radiofrequency exposure.

The question is raised here, well, it's

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possible that -- the question is raised here that, according to the authors, the mobile phone exposure had an effect on brain function. Then the question is is that a positive effect or a negative effect. They said that the effect improved their performance.

However, this may have been a simple task. And just like you can improve performance using small doses of caffeine occasionally in people on simple tasks, with more complex tasks, that improvement falls off. And also with repeated exposure to a substance that has a stimulatory effect, that can be an adverse effect.

For example, if the stimulation causes anxiety, eventually that could be an adverse effect. If something produces manic depression and electromagnetic sensitivity of frequency radiation seems to have phases of effect in that it can in some people under some circumstances have an excitatory effect, then that may well be followed with a depression effect.

So if you just look at, say, the manic phase or this manic depression and you say, well, there's an excitement and there's an improvement, just like a person with manic depression can function well under certain circumstances and maybe get a lot of business

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done but then falls into a depression, ultimately the stimulatory effect is not sustainable and is an adverse effect.

In this study there's a question of whether it applies to people with electrical sensitivity because they would not be able to tolerate the stimulation at all and, therefore, their response to exposure would be different than the response of people that can tolerate that exposure. So these are -- this is a discussion of invalidity of interpretations from that study.

Referring to the study Psychophysiological Tests and Provocation of Subjects With Mobile Phone Related Symptoms, respondents or potential subjects with aspects of health status -- it's not specified -- and medication were excluded. So this also can exclude people with electrical frequency sensitivity, because they may fall into that group of having confounding factors.

I believe they also excluded respondents experiencing symptoms when using electrical equipment other than mobile phones. So if these people are excluded, then you're excluding people that are sensitive to electrical -- electromagnetic radiation. So again this attacks the validity of the results when

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applied to people with electrical sensitivity.

Turning to the study Effects of Short-Term W-CDMA Mobile Phone Base Station Exposure on Women With or Without Mobile Phone-Related Symptoms, this was a small study. They only had 11 subjects; therefore, they would have low statistical power.

And nine of the 11 subjects were cell phone users. So they did not have electrical hypersensitivity symptoms. That's confusing because that's what they were trying to study. Nine of their 11 subjects didn't have what they were trying to study. It's very confusing.

They started out with over 3,000 subjects and then they narrowed it down. That's I guess a summary of my critique of that, in that it's not -- it was not a valid study. They state in their study "MPRS," mobile phone I guess reaction symptoms, "can be considered an extension of EHS, in which case the former includes the latter." Never mind.

I'm going to move on to the next study, Short-Term Exposure to Mobile Phone Base Station Signals Does Not Affect Cognitive Functioning or Physiological Measure in Individuals Who Report Sensitivity to Electromagnetic Fields and Controls.

Some of my criticisms here are that the

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subjects were self-reported. They weren't diagnosed. So it includes a mixed group. All of the data was averaged. But since response to electromagnetic frequency radiation or responses are biphasic, this eliminates or muddies the results.

There was in problem on page 5, where they talk about rejecting data because it was skewed and not transformed. And I need to study that further. But to me I'm suspicious that they rejected data improperly. Again this was funded 50 percent by industry; and, therefore, that raises the question of bias.

Okay. Further criticisms of that study can be found by other researchers that have published their critique of that study in Environmental Health Perspectives. And I wrote out these -- I copied out their critiques that were published in my paper on page 41, 42, 43, 44. So I just will refer you to look at that.

Q. And this is Exhibit 6? This is your separate report.

A. Yes.

Q. Exhibit 6?

A. It's my separate report. Now, addressing Idiopathic Environmental Intolerance Attributed to

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Electromagnetic Fields, lead author Rubin relies on three -- table 2 relies on three out of four of the studies that I previously critiqued. So I think his review is based on faulty data.

The paper Do People With Idiopathic Environmental Intolerances Attributed to Electromagnetic Fields Display Physiological Effects When Exposed to Electromagnetic Fields, another paper of lead author Rubin that Dr. Staudenmayer cites.

And I haven't had a chance to thoroughly review that one either. But most of the studies chosen in table 2 may have industry funding. And I need to -- I need to examine that further before I commit to that.

With regard to Effects of Mobile Phone Electromagnetic Fields: Critical Evaluation of Behavioral and Neurophysiological Studies that Dr. Staudenmayer cites, again my numbers may not be accurate. I would want to double-check them.

But roughly speaking 107 studies were cited. And I need to check this. But I have information that all but nine provocations were done with mobile phones. If that's true, then the studies were done on people without electrical hypersensitivity syndrome.

In spite of this, 47 to 49 of those studies

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actually showed biological effects. So all in all biological effects may have been shown. But that is a cursory review of that.

Now, in contrast to Dr. Staudenmayer on page 32, I believe that scientific evidence from all the studies support the conclusion that psychological and physiological effects can be caused by EMF exposure. There can be unreliability, however, that depends on factors such as we've discussed, such as sensitivity, prior exposures, many factors.

Factors that can lead to false negative studies include "Selection of task type; not repeating study designs that previously revealed effects; not including practice sessions; not taking into account learning effects; selection of the wrong tasks; not taking into account fatigue and motivational loss and the timing of tasks, task order, and test duration; not considering the effect of sample size, using too small, too heterogeneous samples; not considering handedness; unclearly designed inclusion and exclusion criteria; not using within subject, crossover design; irreproducible exposure conditions; insufficient exposure duration; not considering potential carryover effects in a crossover design; not allowing for sufficient time interval or ('washout') between

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conditions."

Q. Dr. Singer, you were referring to Exhibit 6, right? Exhibit 6 the separate study. What pages were you reading from?

A. Page 34, item 16.

Q. Thank you.

(Discussion off the record.)

THE WITNESS: So generally speaking it's difficult to rely on negative studies because negative studies are not as probative as positive studies.

"Studies with a negative results are inconclusive. The scientific method requires a hypothesis to be tested. If the hypothesis is confirmed, then the veracity of the hypothesis is supported. If the hypothesis is not confirmed, then we only know that this study did not confirm the hypothesis.

"Studies with negative results are ambiguous to interpret. The results could mean that confounding or competing independent variables were not controlled. The results could mean that the testing protocol was insensitive to test the hypothesis.

"The results could mean that there were too many errors in the laboratory procedures to support the hypothesis being tested. The results could mean

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that the hypothesis is false, but the study is not designed for that purpose."

Just kind of as a crazy example, you could have many studies to show that the sun revolves around the earth or to show that the earth does not revolve around the sun. But ultimately, over the course of scientific experimentation and observations and positive studies, we came to understand that the earth revolves around the sun.

Okay. Going now to Dr. Staudenmayer's conclusions, under Lack of Evidence. I believe that -- in contrast to Dr. Staudenmayer, I believe that toxic chemicals are actually known to be able to cause environmental intolerance. And that electrical -- exposures to electrical magnetic frequencies can cause illnesses.

And again I disagree with Dr. Staudenmayer's second conclusion. I think there is scientific evidence to support adverse physiological, psychological, or neuropsychological effects from EMF exposure. I believe there is valid scientific evidence in this case that Mr. Firstenberg suffers adverse physiological and neuropsychological effects from EMF exposure.

He's citing that there's a lack of evidence.

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And I believe that there is evidence for the above. There is evidence to show that Mr. Firstenberg suffers an adverse effect from his exposure from the Monribot house.

Dr. Staudenmayer states that "under open, nonblinded conditions, Mr. Firstenberg claims he can identify specific exposures from sensations he experiences." And he doesn't claim that. In fact, he claims that frequently he cannot do that, that effects can be delayed, and that he may not be able to detect from his experience.

And the same is repeated for symptoms. And I have the same answer. I disagree. I believe Mr. Firstenberg has -- is attempting to undergo a double-blind placebo-controlled study or a double-blind study. I'm not totally sure what he means by placebo-controlled. But I will say double-blind.

"In my interview he stated he would not be able to reliably discriminate an EMF signal from the electronic devices in the Monribot house from placebo." I'm just going to defer. I haven't time to analyze that.

Going on to Psychological Factors in Dr. Staudenmayer's conclusions, "Mr. Firstenberg has a

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history of difficulty in coping with stressors," I disagree with that. I think he's coping well with stressors in his life.

He states that, "He reacts to stressors with physical symptoms, consistent with" -- he gives an example, "anxiety disorders." But I believe that his reaction to stressors with physical symptoms is because the stressors are actually causing the physical symptoms.

"He lacks insight into his own motivations, which are primary and secondary gain." This presupposes -- this statement presupposes that Mr. Firstenberg has primary and secondary gain motivations.

And there's no evidence for that. Rather his motivation is not for primary and secondary gain. And that would have to be specified more scientifically in order to document that.

"He denies that psychological factors or stress affect his symptoms." That's not what Mr. Firstenberg states. He states that psychological factors do affect his symptoms. Sometimes he doesn't know whether he has anxiety from his exposure or because he's afraid of getting symptoms.

"On self-report psychological questionnaires

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he denies the same symptoms he reports to self-identified environmental exposures." We reviewed that. And that's a mischaracterization of Mr. Firstenberg's reported symptoms and environmental exposures.

"He projects the cause of his distress onto nonpersonal environmental factors, chemicals, and EMF." I don't believe that this is supported by Dr. Staudenmayer's tests that he administered, the MMPI and the SCL in that they didn't identify a projection of causes of distress.

So I'm wondering on what scientific basis he uses to determine, one, that there is some stress within Mr. Firstenberg capable of being projected; and two, that that stress is projected. I don't see the scientific basis for that statement. It seems speculative to me.

"He develops complex rationalizations for the nonspecificity of his reactions, echoing postulates of the unsubstantiated theory of Clinical Ecology." I'm not sure what he's referring to. Clinical ecology was a term that I think was used in the seventies. I'm not sure how widespread use it was after that.

I don't know who is a clinical ecologist. I don't know what their theories are.

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If he's referring to multiple chemical sensitivity, then actually there are some substantial studies of multiple chemical sensitivity that are widely available in toxicology literature that substantiate --

(Phone interruption.)

(Discussion off the record.)

THE WITNESS: I disagree that he has complex rationalizations because that presupposes a rationalization. And I don't believe that that exists. Rather -- and also he then calls this rationalization complex. And I believe that actually he gives a simple reason for his reactions that are not a rationalization and not complex.

I disagree that "His alleged reactions to chemicals and EMF are cognitively mediated." I believe that they are neuropsychologically and neurotoxicologically mediated.

"He is suggestable." I'd like to see someone try and suggest something to Mr. Firstenberg to find out if he is suggestable. He is the opposite of suggestable. So I don't think that's based on data.

"He seeks out clinical ecology doctors who reinforce his belief." I don't know if any of his doctors identify as being clinical ecology doctors.

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He does go to doctors who are knowledgeable about toxicology and neurotoxicology.

"He is susceptible to the nocebo effect (expectations of sickness and the affective states associated with such expectations cause sickness)." In contrast I think he has the opposite in that Mr. Firstenberg states that when he's not exposed, he, in fact, feels fine and not sick. However, to the extent that he has anticipatory anxiety, yes, I would agree with Dr. Staudenmayer on that.

"He has been exploited by misinformed or misguided doctors." I disagree with that, with the terms -- with misguided, with misinformed, and with exploited in that the doctors he has seen actually are more informed than the average doctor regarding chemical toxicity issues.

Misguided, I don't know what he means by misguided. So I don't know what to say about that. Exploited means that -- exploited usually has a motivational aspect to it that the doctors are -- have some intent. And I don't think his doctors do.

I happen to know many of his doctors. And they're very honorable people. And they are not known to be exploitative at all but that they are guided to help people. So they are not misguided. And they are

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guided to review the scientific literature. So that is not misguided, that is properly guided. And they are guided to become informed so they're not misinformed.

"This iatrogenic influence has instilled and reinforced his belief in IEI." Once again I don't think anyone can suggest anything to Mr. Firstenberg that he doesn't -- that he makes up his own mind about things. And no one is putting ideas in his mind.

And he discovered his illnesses pretty much on his own and then sought out medical attention to further the diagnosis. I believe that it was not -- the influence of these doctors is not iatrogenic in that people with sensitivity, if they continue to get exposed, can, in fact, deteriorate and become much worse physically, mentally, emotionally.

So it's the opposite of an iatrogenic influence. But, in fact, when people with this condition see doctors that are informed and properly guided, then their influence is progenic.

Dr. Staudenmayer says that Mr. Firstenberg isolates himself from the real world. And I think the opposite is true. Mr. Firstenberg is very active in the real world. He carries out public education programs. He tries to influence legislators. He

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carries out litigation. He writes letters to the editor that are cogent, well written, and show that he is actually very well-informed to the real world.

"His belief system of environmental sensitivities represents an overvalued idea closed to alternative psychological explanations." I disagree with that statement. Mr. Firstenberg made it very clear to me when he saw me that he wanted to know if he had a psychological disorder that was causing his belief system of environmental sensitivities.

So, in fact, he is open to psychological explanations. And, in fact, Mr. Firstenberg and I had discussed the anticipatory anxiety explanation for some of his symptoms.

"The most appropriate psychiatric diagnosis in the DSM-IV is undifferentiated somatoform disorder." And I disagree with that. And I think he doesn't qualify for that for many reasons.

One is that no credible, scientifically-based explanation for a psychological explanation for his illness has been put forth; and that according to the category and the criteria that, if the illness can be explained by a medical condition or by exposure to a substance, then the diagnosis does not apply.

And I believe that Mr. Firstenberg's

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condition can be explained by a medical-toxicological-neurotoxicological-neuropsychological condition. And, therefore, that diagnosis does not apply. And I'm finished.

MR. ROMERO: You are finished. I pass the witness, if there are any questions.

EXAMINATION

BY MS. KEITH:

Q. I just had wanted to ask you, Dr. Singer, are you EMS -- do you have EMS?

A. EMS?

Q. Yes. Electromagnetic sensitivity.

A. I don't think so. Well, I might have a little bit of it. But I haven't really noticed it to be a problem.

Q. And what do you mean by you might have a little bit of it?

A. I'm uncomfortable around a lot of electrical equipment. But I'm able to tolerate computers, monitors. I avoid cell phones when possible.

Q. And what do you mean you're uncomfortable?

A. I feel anxiety around -- I'm not sure how to describe it. It's an anxious feeling.

Q. Okay. Are you a member of Mr. Firstenberg's cellular phone task force?

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A. Please repeat the question.

Q. Sure. Are you a member of Arthur Firstenberg's cellular telephone task force?

A. I don't know.

MR. LOVEJOY: You mean an organization with exactly that name?

BY MS. KEITH:

Q. Are you a member of one of Arthur Firstenberg's organizations? I may have the title wrong.

A. I don't know.

Q. Have you given Mr. Firstenberg any money for any of his causes?

A. No.

Q. Has Mr. Firstenberg made any EMI complaints beyond Ms. Monribot's house?

A. I believe he complains in many environments that he's sensitive.

Q. At the very beginning of the deposition, you talked about a couple of patients that you had with EMI. That second person that you identified that you worked with five years ago, was she a patient of yours or someone you did legal work for?

A. I think it was more a patient. I don't recall doing legal work for her.

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MS. KEITH: Those are all my questions. Thank you.

MR. LOVEJOY: I have no questions.

FURTHER EXAMINATION

BY MR. ROMERO:

Q. I have one follow-up to what Ms. Keith asked. You said you have not donated any monies to Mr. Firstenberg's various causes. Have you donated your time in assisting Mr. Firstenberg in his causes?

A. I don't know if this qualifies. But my -- I did give a reduced rate for some of the extended work that I've done on getting up to speed on the topic of electrical sensitivity and hypersensitivity because I do -- it was a vast topic.

And it just didn't seem fair that he should bear the burden of fully educating me on it. So I gave him a reduced -- about a half rate. But then again I put a lot of time into it so it adds up to a lot of money.

Q. But this is in terms of the litigation in this case. I'm talking about his other causes, you know, his awareness campaigns, his website. Do you donate your time with respect to those activities?

A. I have not donated my time to his website. I have not -- I'm not sure if this qualifies. But I

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have -- I attended -- I attended a showing of a film. Actually I'm not sure that he sponsored that. So I take that back.

And I think I answered questions. But I don't think it was his responsibility. I attended at least one hearing at the city council concerning electromagnetic radiation.

Q. Did you speak during this hearing?

A. Yes.

Q. Okay. Anything else?

A. I attended a number of sessions of a group, I'm not sure what the title of it is right now, that Mr. Firstenberg was one of the leaders of the group. I attended the session to educate myself as to the topic of -- as to this topic.

MR. ROMERO: Okay. I have no other questions. Read and sign?

MR. LOVEJOY: Yes. You're going to have to read this.

(At 7:15 p.m. the deposition was concluded.)

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FIRST JUDICIAL DISTRICT COURT
COUNTY OF SANTA FE
STATE OF NEW MEXICO
ARTHUR FIRSTENBURG,
Plaintiff,
vs. Case No. D-0101-CV-2010-00029
RAPHAELA MONRIBOT
and ROBIN LEITH,

Defendant.

CERTIFICATE OF DEPOSITION

I, JAN A. WILLIAMS, New Mexico CCR #14, DO HEREBY CERTIFY that on May 18, 2012, the deposition of RAYMOND SINGER was taken before me at the request of, and sealed original retained by:

For the Defendant Raphaela Monribot:
JOSEPH L. ROMERO, ESQ.
JOSEPH L. ROMERO, TRIAL LAWYER, LLC
9 Alcalde Loop
Santa Fe, New Mexico 87508

I FURTHER CERTIFY that copies of this certificate have been mailed or delivered on _____, with changes, if any, by the witness appended, to the following counsel of record and parties not represented by Counsel:

For the Plaintiff:
LINDSAY A. LOVEJOY, JR., ESQ.
LAW OFFICE OF LINDSAY A. LOVEJOY, JR.
3600 Cerrillos Road, Suite 1001A
Santa Fe, New Mexico 87507

For the Defendant Robin Leith:
ANN L. KEITH, ESQ.
STIFF, KEITH & GARCIA, LLC
400 Gold Avenue, S.W., Suite 1300W
Albuquerque, New Mexico 87102

I FURTHER CERTIFY that examination of this transcript and signature of the witness was requested by the witness and all parties present.

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On _____, a letter was mailed or delivered to LINDSAY A. LOVEJOY, JR., ESQ., regarding obtaining signature of the witness.

I FURTHER CERTIFY that the recoverable cost of the original and one copy of the deposition, including exhibits, to JOSEPH L. ROMERO, ESQ., is $_____.

I FURTHER CERTIFY that I did administer the oath to the witness herein prior to the taking of this deposition; that I did thereafter report in stenographic shorthand the questions and answers set forth herein, and the foregoing is a true and correct transcript of the proceeding had upon the taking of this deposition to the best of my ability.

I FURTHER CERTIFY that I am neither employed by nor related to nor contracted with (unless excepted by the rules) any of the parties or attorneys in this case, and that I have no interest whatsoever in the final disposition of this case in any court.

_____
JAN A. WILLIAMS, RPR
Bean & Associates, Inc.
New Mexico CCR #14
License Expires: 12/31/12

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Date taken: May 18, 2012
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Firstenburg vs. Monribot and Leith
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I, RAYMOND SINGER, do hereby certify that I have read the foregoing pages of my testimony as transcribed and that the same is a true and correct transcript of the testimony given by me in this deposition on May 18, 2012, except for the changes made.

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DATE SIGNED RAYMOND SINGER

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DATE DELIVERED: _____
LINDSAY A. LOVEJOY, JR., ESQ.
LAW OFFICE OF LINDSAY A. LOVEJOY, JR.
3600 Cerrillos Road, Suite 1001A
Santa Fe, New Mexico 87507

RE: Firstenburg vs. Monribot and Leith
DEPOSITION OF: RAYMOND SINGER
DATE TAKEN: May 18, 2012

Dear LINDSAY A. LOVEJOY, JR., ESQ.:

At the time of the above deposition/sworn statement, it was requested that the witness read and sign his/her transcript.

____Enclosed is your copy of the transcript with the original signature page. Please ask the witness to read the transcript, make any corrections on the signature page, and return the original signature page to our Albuquerque office.

____Enclosed is your copy of the transcript. Please read it, note any corrections on the signature page, and return the original signature page to our Albuquerque office. You may keep the transcript for your files.

____The transcript is now ready to review. Please contact our Albuquerque office, 505-843-9494, to make arrangements to have the transcript read and signed. If you live outside the Albuquerque area, please call 1-800-669-9492.

____The transcript is now ready for review. Please remit payment in the amount of $_____ to our Albuquerque office. As soon as payment is received, your transcript will be delivered. If you choose not to pay, please contact our Albuquerque office, 505-843-9494, to make arrangements for signature.

____Trial in this matter is set for _____. If the transcript has not been read and signed before that date, the original will be filed without a signature.

_____Other:_____

_____

_____

The New Mexico Rules of Civil Procedure provide the witness 30 days in most instances from the receipt of this letter to read and sign his/her transcript. If he/she has not read and signed the transcript in that time, we will file the original transcript without the signature page.

Sincerely,

BEAN & ASSOCIATES, INC.

(4246K) JAW

RECEIPT

DATE: May 18, 2012

JOB NUMBER: (4246K) JAW

WITNESS NAME: RAYMOND SINGER

CASE CAPTION: Firstenburg vs. Monribot and Leith

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ATTORNEY: JOSEPH L. ROMERO, ESQ.

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ATTORNEY: LINDSAY A. LOVEJOY, JR., ESQ.

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ATTORNEY: ANN L. KEITH, ESQ.

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ATTORNEY:

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FIRST JUDICIAL DISTRICT COURT
COUNTY OF SANTA FE
STATE OF NEW MEXICO

ARTHUR FIRSTENBURG,

Plaintiff,

vs. Case No. D-0101-CV-2010-00029

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and ROBIN LEITH,

Defendant.

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JOSEPH L. ROMERO, TRIAL LAWYER, LLC
9 Alcalde Loop
Santa Fe, New Mexico 87508

I FURTHER CERTIFY that copies of this certificate have been mailed or delivered on _____, with changes, if any, by the witness appended, to the following counsel of record and parties not represented by Counsel:

For the Plaintiff:
LINDSAY A. LOVEJOY, JR., ESQ.
LAW OFFICE OF LINDSAY A. LOVEJOY, JR.
3600 Cerrillos Road, Suite 1001A
Santa Fe, New Mexico 87507

For the Defendant Robin Leith:
ANN L. KEITH, ESQ.
STIFF, KEITH & GARCIA, LLC
400 Gold Avenue, S.W., Suite 1300W
Albuquerque, New Mexico 87102

I FURTHER CERTIFY that examination of this transcript and signature of the witness was requested by the witness and all parties present.

On May 25, 2012, a letter was mailed or delivered to LINDSAY A. LOVEJOY, JR., ESQ., regarding obtaining signature of the witness.

I FURTHER CERTIFY that the recoverable cost of the original and one copy of the deposition, including exhibits, to JOSEPH L. ROMERO, ESQ., is $_____.

I FURTHER CERTIFY that I did administer the oath to the witness herein prior to the taking of this deposition; that I did thereafter report in stenographic shorthand the questions and answers set forth herein, and the foregoing is a true and correct transcript of the proceeding had upon the taking of this deposition to the best of my ability.

I FURTHER CERTIFY that I am neither employed by nor related to nor contracted with (unless excepted by the rules) any of the parties or attorneys in this case, and that I have no interest whatsoever in the final disposition of this case in any court.

JAN A. WILLIAMS, RPR
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I, RAYMOND SINGER, do hereby certify that I have read the foregoing pages of my testimony as transcribed and that the same is a true and correct transcript of the testimony given by me in this deposition on May 18, 2012, except for the changes made.

_____ _____

DATE SIGNED RAYMOND SINGER

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