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ALSO PRESENT:
JAMES BLANCO
LAWRENCE STEWART
PETER COOPER, Videographer

THE VIDEOGRAPHER: Good morning. We are now on the record.

Please note that the microphones are sensitive and may pick up whispering and private conversations. Please turn off all cell phones or place them away from the microphones as they can interfere with deposition audio. Recording will continue until all parties agree to go off the record.

My name is Pete Cooper, representing Veritext New York. The date today is July 26 , 2012, and the time is approximately 10:14 a.m.

This deposition is being held at Gibson, Dunn \& Crutcher, LLP, located at 200 Park Avenue in New York, New York. The caption of this case is Paul D. Ceglia versus Mark Elliot Zuckerberg, et al. This case is filed in the United States District Court for the Western District of New York, Case Number 1:10-cv-00569. The name of the witness is Gerald LaPorte.

At this time the attorneys present in the room will identify themselves and the parties they represent.

MR. SOUTHWELL: Alexander Southwell from Gibson, Dunn representing the defendants. With me is Amanda Aycock and Matthew Benjamin, also Gibson, Dunn, representing the defendants.

MR. BOLAND: Dean Boland representing Paul Ceglia, the plaintiff, and along with me are two of the plaintiff's experts, Larry Stewart and James Blanco.

THE VIDEOGRAPHER: Thank you.
Our court reporter, Laurie Collins, representing the Veritext, will swear in the witness and we can proceed.

GERALD M. LI a P ORTE,
called as a witness, having been duly sworn by the notary public, was examined and testified as follows:

EXAMINATION BY
MR. BOLAND :
Q. Good morning, Mr. LaPorte.
A. Good morning.
Q. You and I have seen each other a couple times before in these depositions; true?
A. That's correct.

## LaPorte

Q. And you sat in on -- well, which depositions did you sit in on, just to clarify that?
A. I sat in on Mr. Stewart's and Mr. Blanco's. Not the entirety of Mr . Blanco's; I stepped out I'm not sure how far through, maybe three-quarters of the way through.
Q. And did you hear questions that defendants' counsel was asking Mr. Stewart and Mr. Blanco during the deposition?
A. Yes, yes.
Q. What role, if any, did you have in drafting those questions, any of those questions, that he asked those two witnesses?
A. I had very little in the context of the background information of those questions. If they were technical, I had some input. But I didn't necessarily draft the questions. The Gibson, Dunn attorneys drafted the questions. I looked them over. I concentrated more on the -more on the technical questions and whether they were accurate or not.
Q. Did you review the questions before the deposition for Mr. Stewart, the questions they
were going to ask him?
A. I -- I received a copy of them, a hard copy, $I$ believe, but $I$-- to be perfectly frank, there were pages -- numerous pages of questions, so $I$ didn't want to waste time going over sort of the early background information.
Q. Would that be the same answer for the questions that were posed to Mr. Blanco: same review?
A. In fact, no, I never saw any questions that were posed to Mr. Blanco.
Q. Do you know why that is?
A. No. It was -- I think I was focusing in on the more technical aspects of Mr. Stewart's examination.
Q. You attached a $C V$ to your report in this case.
A. Yes, I did.
Q. Is that $C V$ current as of today? Are there any additions or additional training or classes or do you have a new job, anything like that to add?
A. If $I$ may, I'm just going to look at this CV.

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There are two activities, at least, in my professional experience that are not listed on here. I did do some teaching at George Washington University for I believe it was two semesters. That's not on this CV.
Q. And when was that teaching?
A. That would have been approximately 2007 and 2008. No, I'm sorry, probably later 2007, 2008, maybe up to early 2009.
Q. So that's several years ago?
A. Yes.
Q. And why is that not on your current résumé that you attached to your report?
A. I don't know why that's not on here. There are -- my office has copies of my CV that I use, so I'm not sure if this was the CV -- that this was an updated CV. It seemed to be fairly updated. It just doesn't have that.

There's another -- there's a position that I held which would have been from September of 1998 all the way up until January of 1999. My family and $I$ moved from Texas to Virginia because my wife took a position with the Federal Bureau of Investigation. And $I$ worked at a place called

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Government Scientific Source in the interim. I was waiting for my background check with the Anne Arundel County Police Department in Millersville, Maryland.

So that's it for my professional experience.

As far as my presentations -- this goes all the way up until February of 2012 , where I did a presentation on the artificial aging of documents at the American Academy of Forensic Sciences annual meeting. I'm just trying to recall if I've done anything in the interim. I don't believe so.

The professional publications, those all appear to be up-to-date.

And court testimony, $I$ recently gave a testimony in Alaska. I don't know the exact date of that.
Q. Was that a deposition or in a courtroom?
A. It was court, court testimony.
Q. Was it during a hearing or trial?
A. During trial.
Q. Criminal or civil?

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A. Civil.
Q. Has the trial concluded?
A. The trial has concluded. I haven't seen any of the -- I don't know the exact outcome of the trial. I haven't seen any of the rulings or anything like that.
Q. What was the expert area that you were asked to testify about in that trial in Alaska?
A. I testified about the analysis of an ink using the phenoxyethanol testing.
Q. Did you produce a report before testifying in that Alaska case?
A. Yes, I did.
Q. And which side, plaintiff or defense, were you hired to work for in that case?
A. I don't recall if it was plaintiff or defense.
Q. Did you run essentially the same phenoxyethanol -- and just as an administrative thing, you don't mind if we abbreviate it, for the court reporter's benefit, as $P E$ for the rest of the case?
A. I think -- I fully concur with you. I think we should spell it out for her, and then

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we'll use "PE testing" afterword.
Q. Why don't you do the spelling bee for her on how to spell phenoxyethanol, and we'll just call it PE from now on.
A. So phenoxyethanol, $\mathrm{P}-\mathrm{H}-\mathrm{E}-\mathrm{N}-\mathrm{O}-\mathrm{X}-\mathrm{Y}-\mathrm{E}-\mathrm{T}-\mathrm{H}-\mathrm{A}-\mathrm{N}-\mathrm{O}-\mathrm{L}$, and we'll call that PE from this point on.
Q. Is the actual -- just one more -- it's actually 2-phenoxyethanol is the compound; right?
A. Yes, that's the compound.
Q. We'll just refer to it as PE. Very well.

So did you do essentially the same -use the same method in that Alaska case as you used here in this case?
A. I did.
Q. And do you recall what your results were analyzing the ink in that case?
A. I do. When we -- hopefully it's not too premature to discuss this, but when we talk about the threshold levels, the threshold level that I achieved in that case was close to 30 percent of loss of $P E$ versus -- when comparing the unheated sample with the heated sample.

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Q. And that 30 percent loss resulted in what conclusion about the age of that ink, if you recall?
A. The document was purported to have been created in 2008. I'm not sure exactly what month. And the conclusion was that -- I'm not sure if I -- what degree of the conclusion that $I$ used, but that it was -- it was not a definitive conclusion, but that it was not created in 2008.
Q. Was your conclusion in that Alaska case any narrower than that or just simply not 2008? Did you give it a time frame, if you recall?
A. Yes. It was created in the past two years.
Q. So it was a 30 percent --
A. I'm sorry, just to make sure we have it correct. Whatever my -- whatever the qualifying was that -- when $I$ say it wasn't -- it wasn't -it was done in the past two years, whatever my qualifier was, if it was probable or highly probable.
Q. You don't recall that qualifier?
A. I do not. I do not. I might have to go -- I might have to look at the case.

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Q. And that was a 30 percent extraction you got between the heated and unheated sample; right?
A. Correct.
Q. And that gave you within two years of when you tested it is what your usual conclusions are; right?
A. Yes, that's correct.
Q. There's cases where you have testified before that you also provided as a list connected to your report in this case; right?
A. Yes.
Q. And are there any -- well, we know -let me ask you: Did you read any pleadings that the plaintiffs filed attempting to have your report removed from this case and you excluded as a witness?
A. I recently read the judge's ruling on that, which denied that motion.
Q. Okay.
A. And $I$ saw the attached pleading as well.
Q. You read our motion?
A. Yes. I don't know -- yes, I did.

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Q. And the two cases that were -- you recall there were two cases that were focused on in that motion that were absent from your list of cases. Do you recall what those two cases were?
A. No, I do not.
Q. Do you recall providing a report in a case where one of the parties' names was $R-A-G-O$ ? I don't know how you pronounce it.
A. Rago?
Q. Do you recall that case?
A. Yes.
Q. And that was not listed in your list of cases; correct?
A. Incorrect. That's on my cases. Oh, I never testified in that case, so that's why it wasn't on my list.
Q. And then there was a case involving last name Padilla, $P-A-D-I-L-L-A$ - -
A. Yes.
Q. -- that was in our motion.
A. Correct.
Q. And was that on your list of cases?
A. That's on my list. It's Hassoun is the actual case citation. And just -- it should be on

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here. I just want to make sure. Oh, I guess number 20 on my CV, USA versus José Padilla, et al.
Q. And that was on your $C V$ at the time that you filed it with your report?
A. Correct.
Q. Now, you have testified in the past about the validity of ink age testing generally; true?
A. No. What do you mean by "ink age testing"? There's various types of ink age testing.
Q. There are two broad categories of ink age testing: dynamic and static. Is that accurate or not?
A. Those are two general categories that we talk about, yes.
Q. And the static category does not involve -- is not where $P E$ testing falls, in the static category. Am I right?
A. That's correct. Static requires a database of standards to compare with or identifying manufacturer's ink tag and identifying that as to a particular year that that ink may

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have been produced.
Q. As an example so that we're clear on this, if you in the static realm, static testing realm, tested an ink sample, determined that the formulation was first marketed commercially in 2010 and the individual was claiming that the document on which this ink was written was written in 2001, static testing would tell you that they're not telling the truth. Fair enough? I mean, that's a basic analysis.
A. Well, it's not that simple. So if you have a library of standards that you're comparing with, it would be impossible to have every single ink that's ever been manufactured in the world.

So depending on how extensive that database is, that would certainly -- that may be evidence to support the fact that the document may not have been created in 2010. But there's certainly always the possibility that there's another ink formulation out there that you don't have in your database.

So you can't just draw a conclusion that someone used an ink that was not -- that was not commercially available.

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Now, if you do find an ink tag, an ink tag would be more concrete, if you will. So those tags were introduced in certain years. So if you identify an ink tag that was introduced into an ink in 2003 and go back to your example and it's -- you know, it's signed in two thousand and -- I'm sorry, signed in two thousand -- or prior to 2003 , then that would be what $I$ would consider more concrete proof.
Q. What's your fee arrangement with the defendants in this case?
A. I get an hourly rate of $\$ 475$ per hour and an extra $\$ 50$ her hour for deposition and court time.
Q. And what's the total you've been paid so far for your work on this case?
A. I send all of my hours into the office. I generally don't keep track of that. But as of the end of June -- I believe it was June 30 th or so -- I had submitted -- I think I had logged a total of close to 275 hours over the past year. So whatever that works out to.
Q. And when you reference your office, you're meaning your office where you do your

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private work out of; right?
A. Well, we have an office in Michigan, so we have an office manager. And then our firm -obviously $I$ have two partners, Mr. Riley and Mr. Welch. And then we have a number of examiners that work for us as well: We have an examiner here in New York, we have an examiner down in Mississippi, we have an examiner in Minnesota, and we have another examiner that does latent fingerprint examinations from Michigan. And then we're -- we have partnership-type relationships with an examiner in Chicago and another examiner in Arizona.
Q. You also have a job with the federal government; right?
A. Yes, I do.
Q. Is that a full-time position?
A. Yes, it is.
Q. And have you been provided authorization by whoever your supervisor is there to also have this private practice, essentially, that you're working?
A. It goes far beyond my supervisor. It's authorized by our office of general counsel, and

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they authorize -- I have been authorized to do -engage in civil work, not -- it can't be criminal related. So I've been authorized to engage in civil work.

I have been at the Department of Justice since March of 2009. I had that agreement in place with the Secret Service before I came to the Department of Justice, and I had that agreement in place prior to me actually starting at the Department of Justice.
Q. When you were at your previous government job?
A. When $I$ was at my previous government job with the Secret Service, I was authorized to engage in civil work as well. So before I left the Secret Service to move to the Department of Justice, I did receive authorization, before accepting the position, to engage in civil work.
Q. And do you recall how much you earned in your private practice, just outside of your government job, in 2011?
A. That's a personal question, so with all due respect, $I$ 'm not going to answer that question. If I'm ordered by the court to provide

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that, $I$ would be more than happy to.
MR. SOUTHWELL: I would object to
asking for details about that.
Q. Other than the PE test -- well, let's talk about what are all the names of the tests that you performed on the document in this case. We know about the PE test. What other tests did you perform?

MR. SOUTHWELL: Object to the form.
Q. If any. What other tests, if any, outside of the $P E$ test, did you perform on the document?
A. I performed numerous tests. If I can --
Q. Just list them. You don't have to describe what they are; just list them.
A. I'm just going to use my report to guide me so we have them in order. But all of this has been outlined in the report.

Initially $I$ would do a -- I performed a visual or physical examination of the documents. That physical examination typically includes examining the document with the appropriate light source, with a magnifying device, making

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measurements, those sorts of things.
Then the optical examination would be the examination using the video spectral comparator, or the VSC, which we'll call from this point on.

I also did an impression or indentation examination using an electrostatic detection device, or an EDD. In this particular case, I used a trademark EDD referred to as the electrostatic detection apparatus, or ESDA.

I then did a series of chemical examinations that would include thin-layer chromatography, gas chromatography/mass spectrometry, and then also, to a certain extent, observing the solubility of the inks and toners prior to conducting the TLC analysis.

And then of course $I$ have numerous images that $I$ reviewed, but $I$ don't know if $I$ would necessarily constitute looking at the images or using the images for review as testing.
Q. Why did you review images?
A. To go back over things. In most cases, certainly the visual observation is the key part of it, so what we were seeing visually. But the

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images are there for reviewing, for confirming, those types of things.
Q. Whose images did you review?
A. In this case certainly my -- I took numerous images, hundreds. I also had images from John Paul Osborn, images from Valery Aginsky, and images from Peter Tytell. I reviewed images from Mr. Argentieri. I believe another file of images that $I$ received, the last name of the attorney was Edelson.

That may not be the comprehensive list. There may be some others that I'm not including.
Q. And your report doesn't -- does your report have -- other than images you captured, your report doesn't have attached to it those other images from other persons that you just mentioned; true?
A. That's correct. I have literally hundreds of images.
Q. And the images that you captured, there are some in your report -- there's a few images that are placed in your report, was my recollection, but not hundreds.
A. I would qualify it more than a few.

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Q. Okay. But not hundreds?
A. Not hundreds.
Q. Okay.

Did you perform any tests that the results of which are not reflected in your report?
A. I'm in the process of reviewing some materials that $I$ don't believe I'm ready to discuss conclusions about, but I've -- there's a number of things that $I$ 've come across recently.

I never -- I never read the reports of the other experts prior to issuing my report, and I didn't -- I've never comprehensively read all of the -- any of the reports by the other experts -and when $I$ say "the other experts," I'm referring to defendants' experts. I never read those as well.

I recently, in Mr. Stewart's deposition, found some material, had the opportunity to review that. But I don't believe I'm in a position to offer a conclusion about that. I still need to confirm some -- confirm the analysis or the testing part.
Q. Other than the materials you mentioned coming out of Mr. Stewart's deposition, what other

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materials have you been reviewing since issuing your report?
A. I've been reviewing images, the images that we talked about earlier, from Edelson, Argentieri, some of the old images from -- that were provided by Osborn and Aginsky as well.
Q. So those are images that you reviewed before you issued your report as well; true?
A. Yes, but $I$ wasn't reviewing them for the aspects that I'm reviewing them now for.
Q. What are the aspects that you're reviewing them now for?
A. I believe there are multiple documents that have been produced in this case, multiple "work for hire" documents.
Q. How many?
A. I'm not sure.
Q. And when you say multiple "work for hire" documents have been produced in this case, produced by whom, do you mean?
A. By plaintiffs.
Q. "Produced" has kind of got a legal term of art. Do you mean that plaintiffs have handed them over in discovery or that Mr. Ceglia has

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forged multiple documents?
A. I don't -- I don't determine whether somebody forges a document or not. That's up to the court to do that. My job is to provide a scientific analysis, objective evidence, and then you determine or the court determines whether that's been forged or not.

But $I$ believe there were multiple -- I believe there's at least at this point evidence to suggest that there were multiple documents that have been produced as "work for hire" documents.
Q. Why can't you say in your report, if you think a document's been forged, that it's been forged? Is there a scientific rule that prevents you from doing that?
A. That's not a scientific -- "forgery" is a -- is more of a legal term. That -- that actually requires intent.

So if my -- if I'm talking to my wife over the phone and she writes a check and signs my name to it and I tell her, yeah, go ahead and just sign my name to it or she signs a document in my name, that's not necessarily forgery. I've given her permission to do that. Has she signed my

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name? Yes. That's not my signature, but that's not forgery.

So we don't -- it's not -- typically in a scientific analysis, at least the way $I$ approach the examination, is -- which $I$ think $I$ have done very clearly in this report -- is I've outlined my observations, my results, derived conclusions from that.
Q. Is it your position that if an expert such as you does declare forgery in their report that's inappropriate?
A. No, that's just not what $I$ do. I mean, other experts can do what they want. Also too, I'm not -- I mean, that's just the way $I$ do my examinations and $I$ issue my reports. I can't speak for what other experts do and say in their reports.
Q. I'm not asking you to speak for them. I'm saying do other paper experts adhere to this not mentioning forgery in their report rule that you do.

MR. SOUTHWELL: Objection to the form.
A. I don't know what other experts do. I mean, they can do what they choose to do. I don't

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necessarily -- from my perspective, $I$ don't think it's wrong that they do that; it's just not the way $I$ would do that.
Q. Have you read other ink and paper experts' reports in your career?
A. Yes, I have.
Q. Have you ever seen another expert, not you, conclude in a report that the document they reviewed was a forgery?

MR. SOUTHWELL: Objection to the form.
When you're referring to other expert --
Q. Any other expert in the world, any report of an expert you have read in your field that said -- have you ever read a report where any other expert has concluded that a document they reviewed was a forgery?

MR. SOUTHWELL: Objection to the form.
A. I'm a chemist, so typically the reports that $I$ read are chemistry related. So when we talked earlier about -- about using the static approach to ink dating, when we talked about the manufacturer, so if you find a pen that was manufactured in 2010 but the document is dated 2003, that would be evidence to support that the

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document wasn't created on its purported date. It doesn't -- it doesn't -- there's no conclusion to lead to forgery.

When we talk about the ink-dating tags, and that's more conclusive. Once again, the document was not created on that -- you can conclude the document was not created on that purported date. But I don't know the circumstances behind why -- why that happened.
Q. I understand your answer, but this is my question: You've read other experts' reports in your career who are in your field.
A. Yes.
Q. In reading those reports, any of them in the entirety of your time in this field, have you ever seen another expert in your field in a report conclude that a document they reviewed was a forgery?
A. I can't say specifically, but I'm sure that there are -- I don't want to use the term "many," but there are some experts that would probably use that term, "forgery."

A lot of time the term "forgery" is used more for simplicity to convey to the court

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and jury, because they understand that word more. So that may be the intent of using that word.
Q. But overall intent matters in determining forgery, as you've indicated?
A. Yeah, that's a legal -- that's a legal decision to be made.
Q. And when you talked before about evidence supporting a belief that there are multiple "work for hire" documents, specifically are you saying multiple two-page documents or just page 1 or page 2 was made multiple times?
A. I'm not in a position to make that statement yet.
Q. You don't know yet?
A. Correct.
Q. And what's the evidence you're referring to that leads you to think there were multiple versions of the "work for hire" document that were produced?
A. So I need to -- I think you're asking the right question, and $I$ understand --
Q. I appreciate your confidence. But if you could just answer the question.
A. Right, and that's what I'm trying to

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do. There's no need to be rude.
Q. Exactly.
A. What I'm -- I come at this from a scientific perspective. So until I have concrete evidence to rely on, then I'm not going to render a conclusion. So it wouldn't be appropriate at this time for me to tell you what $I$ think, because that's not what I'm here -- I'm here to tell you what $I$ know, not what $I$ think.
Q. Well, actually you're here to answer questions. My question is what documents led you to say, as you said earlier, that you believe there is two multiple "work for hire" documents that have been produced in this case. What is the evidence that you're reviewing now that's giving you that -- that's supporting that testimony?
A. I've answered that question.
Q. You have not. What's the list of items?
A. Absolutely I've answered that question. If you want to go back to the record, you can see how I answered the question.
Q. Well --
A. Go back to when he first asked me, and

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you'll find out how $I$ answered the question.
Q. What is the list of items you're reviewing that support your testimony earlier that there is evidence of multiple "work for hire" documents? List the items?
A. Images.
Q. Fair enough. Anything else?
A. At this time it's been images.
Q. And as you just testified, you haven't yet reached a conclusion on that. Fair enough?
A. Absolutely. Thank you for reiterating that.
Q. So you're not prepared to answer any questions about a conclusion related to that issue?
A. I'm not prepared to answer questions about a conclusion that $I$ have not reached. That would be speculative.
Q. Did you read Mr. Lesnevich's expert report in this case?
A. I have seen portions of it, yes.
Q. What portions?
A. I've seen the portions about the -- the different writing that's -- or the different

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writing that's occurring in the interlineation on various images.
Q. And what's your opinion about Mr. Lesnevich's analysis of those different writings in the interlineation?

MR. SOUTHWELL: Objection.
A. I concur with what Mr. Lesnevich is saying. I'm not a handwriting expert, but there's certainly -- I think there's a lot of common sense when you look at the documents and what he's making a conclusion about.
Q. Do you concur with Mr. Lesnevich's conclusion that there are two documents, at least two pages 1 s , of the "work for hire," that have existed in this case and that he was evaluating in his report?
A. I would say $I$ have nothing to dis -- I have absolutely nothing to disagree with what Mr. Lesnevich is saying about that. And $I$ was not made aware of that until long after my report was filed. And certainly his findings and my findings corroborate each other.

So I feel very -- I'm starting to feel more confident about my findings.

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Q. You weren't confident initially?
A. I said it was highly probable that the interlineation was created within the past two years. I'm more -- I'm almost definitive now, based on Mr. Lesnevich's findings.

MR. BOLAND: Mark this LaPorte 1, please.
(LaPorte Exhibit 1, report of LaPorte, with redactions, marked for identification.)
Q. Mr. LaPorte, you have just been handed an exhibit marked LaPorte 1. Can you identify that for the record, please?
A. Yes, sir.
(Pause.)
A. This appears to be the report that I submitted, but there's a number of redacted versions -- or redacted portions in here. So I don't know what's supposed to be here and what is not.
Q. Very well.

Do you know who did the redactions on your report?
A. I certainly didn't, but $I$ can assume that it was redacted for a reason by the

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attorneys.
Q. And other than those redactions, does that appear to be your complete report?
A. Actually I have a copy of my report here. I just want to look at the last page.

Yes, it looks like -- it looks to be my report.
Q. Okay. Looking at LaPorte 1, you cite various other papers, published papers, in your report.
A. Yes.
Q. True?

And many of them, if not all of them, $I$ think are included in footnotes; true?
A. I believe all of them are provided as footnotes, yes.
Q. And why did you cite those papers generally?
A. Generally speaking to support the statements that $I$ was making.
Q. So is it fair to say you consider those papers and reports reliable resources in your field?
A. I wouldn't consider -- I wouldn't just

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generally consider an entire paper to be reliable, generally speaking. Sometimes there may be inaccuracies in the paper. But generally speaking when I'm citing something, I'm citing to a specific principle and that's what I'm -- and that's what I'm using to support that principle.
Q. So some of these reports could have unreliable information in them that you cited? MR. SOUTHWELL: Objection.
Q. Is that what you're testifying to? I don't understand your response.
A. No, that's not what I'm testifying to.
Q. Okay.
A. What I'm saying is I can't verify everything that that particular author puts in -puts in that paper. I've published a number of times, so $I$ know that there's a lot of work that goes into every statement that you make in a paper.

And so $I$ can't -- all I'm saying is generally speaking $I$ can't say that the entire paper is a hundred percent correct, I think. I don't know if "reliable" is the proper word to use, or "unreliable." It's the correctness or

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trueness of the paper.
Q. Did you read all the sources you cited in your report?
A. I have. I've read them at one time or another, yes.
Q. And when you read them that one time or another, did you disagree with any portions of those reports?
A. I mean, you're asking about literally maybe a dozen reports or so.
Q. I am.
A. Yeah, I can't recall each specific thing about a paper that $I$ agree or disagree with.
Q. So it's possible you disagree with some of the information and some of the sources you cited, or is that not possible?
A. No, I'm not saying it's possible or impossible, that $I$ agree or disagree with what it's saying. Generally speaking the paper has an objective, and certainly we look at the end result, the conclusion, the results and the conclusion on did it suffice that objective, did it start off with a hypothesis, does it support that hypothesis or not support that hypothesis,

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and everything in between.
All I'm saying is $I$ can't verify every single thing in between.
Q. How about the conclusions in those sources you cited, do you recall disagreeing with any of those when you read those items?
A. You would have to be more specific. I mean, if you can send -- if you can cite -- read a conclusion, then $I$ 'll tell you if there's something $I$ agree with or disagree in that conclusion. But that's -- that's too broad of a question to answer.
Q. Is it possible you listed a source in a report to the court that has a conclusion you disagree with? Is that possible?
A. I'm not sure of that. I mean -- well, if you could, I mean, let me know what the conclusion is, and then I'll be happy to answer that.
Q. Is it possible that some of the sources cited in your report contain conclusions that you disagree with?

MR. SOUTHWELL: Objection.
Q. Is that possible?

## LaPorte

A. I believe I've answered that.
Q. So it's possible, then. Can you identify --

MR. SOUTHWELL: Objection.
Q. -- identify which of the footnotes in your report have conclusions you disagree with, if you could?
A. Let's go through each one, then. Okay. I'd be more than happy to start off.
Q. If you can just look at Footnote Number 1 --
A. Okay.
Q. -- and answer the question does that source, which you claim to have read, contain a conclusion you disagree.
A. Okay. I'm going to read them into the record. Number 1 footnote is $I$ have permission to operate as an independent consult in consecutively matters and have done so since 2008. My findings and conclusions in this matter do not represent the views of the United States government.

That's correct.
Number 2, the forensic document community relies on ASTM E 1658-08: standard

## LaPorte

terminology for expressing conclusions of forensic document examiners. Highly probable, in quotations, is used to describe evidence that is very persuasive and the examiner is virtually certain, but there's some factor that precludes the examiner from reaching an absolute certainty degree of confidence. That's true.
Q. If you could just list the footnote before you read it so for the record we know which number you're talking about. That would help.
A. Okay. Number 3, E 1422-05: standard guide for test methods for forensic writing ink comparison, ASTM international. For annual book of ASTM standards volume information, refer to the standards documents summary page on the ASTM Web site. For referenced ASTM international standards, visit the ASTM Web site www.astm.org or contact ASTM customer service at service@astm.org.

And I'm just going to refer to what $I$ footnoted. And I footnoted determining the type and color of a writing ink is commonly reported following a physical examination and is further described in American Society for Testing of

## LaPorte

Materials international E 1422-05: standard guide for test method for writing ink comparison. That's correct.
Q. You would agree none of those are sources -- I'm sorry, none of those are articles or papers that you're citing to in your report that you just read?
A. No, those are just footnotes.
Q. Number 4 would be the first, it looks like, of an actual article, would you agree, that you cite in your report?
A. Yes.
Q. What my question is do you have any conclusions -- are there any conclusions in the article cited in Footnote 4 that you disagree with.
A. So Footnote Number 4 -- I can't find what Footnote 4 refers to.

Footnote Number 4 is not cited or it doesn't have a reference that $I$ can see.
Q. What do you mean by a reference you don't see?
A. Well, it doesn't have any -- it doesn't follow a sentence, unless I'm missing.

## LaPorte

Q. You are missing. It's in paragraph --second-to-last full paragraph on that page off in the right-hand side if you look off to the right.
A. Oh, I'm sorry, I see it now. Yes.
Q. I'm asking if that source that you cite contains a conclusion that you disagree with. Do you understand the question?
A. Yeah, there's numerous conclusions. We'd have to go through the conclusions in the paper.
Q. That's fine. As you sit here today, do you know of a conclusions in that cited paper that you disagree with?

MR. SOUTHWELL: Objection, calls for
speculation.
Q. I'm asking you if you know.
A. I don't -- I think that's an impossible question to ask without reviewing the conclusions of the paper.
Q. I'm just asking you, as you sit here today, if you know of a conclusion in that paper that you disagree with.
A. I can't say one way or the other.
Q. Very well.
A. That wouldn't be an accurate -- I couldn't provide an accurate answer to the court.
Q. And then $I$ would ask the same question generally to the other footnotes in your report which cite to articles or papers or peer-reviewed publications. As to those would your answer be the same regarding your ability to tell me if there are conclusions in those cited sources that you disagree with?
A. I would have to --

MR. SOUTHWELL: I object to the form.
Can you just be more specific, what is it that you're asking him with respect to all of these citations?
Q. I'm only talking about footnotes, Mr. LaPorte, that are to sources, whether they be peer-reviewed publications, articles, presentations, things like that. And as to those footnotes that are in your report, I'm assuming that your answer would be the same as you just gave, that you can't answer whether there are conclusions contained in those sources that you disagree with?
A. I never said -- no, I think you're -- I

## LaPorte

believe you're taking that -- you're misrepresenting what $I$ said. What $I$ said was that I would need to read those conclusions to make that determination.

Many of these papers have many conclusions, not a single conclusion. The purpose of the footnote was to support the statement that I was making, which would be that particular sentence. I think -- I think generally speaking we're all educated here and we know that's how we use footnotes.

I mean, I didn't say -- my sentence didn't say every conclusion in this report is correct or incorrect and then cite a footnote. That would be -- that would be different.
Q. But you read all these sources before citing them here; right?
A. Yes. I think there's -- I think we have -- I don't know if there's maybe a fundamental misunderstanding, but in science not every single thing that everybody writes is a hundred percent accurate or correct. Generally speaking we look at the comprehensive literature, so there's multiple -- there's multiple authors.

## LaPorte

For example, in the third paragraph on page 7 of my report, $I$ say, $P E$ continues to evaporate in the 24 months after the ink has been placed on the document. And I have -- I've cited 5, 6, 7, 8, 9, 10, and 11. So that's seven different sources.

So what that means is in all seven of those sources you would find that everybody is going to say that after 24 -- that $P E$ continues to evaporate 24 months after the ink is placed on the document. That's a generally accepted fact.
Q. Let's talk about that sentence and those cites.
A. Okay.
Q. Is it at least your position that as to those sources you're citing there -- 5-- Footnote 5 through 11 -- that those sources support the claim that you've made in the sentence just previous to those footnotes?
A. Yes, I would say that those citations in some way support that sentence.
Q. Would you say that those cited sources and those footnotes are reliable sources for the statement made in the preceding sentence where

## LaPorte

they're footnoted?
A. Well, if you ask about reliable, I certainly -- these are -- what I've cited here are individuals that have published in peer-reviewed journals number -- numerous times. I know all of them personally. I've interacted with all of them personally.

I serve on a committee with Jürgen Bügler from Germany. That's the International Collaboration for Ink Dating Group. I serve on a committee with him. I know Dr. Aginsky. I know -- I serve on a committee with Luc Brazeau. I serve on a committee with Marc Gaudreau. I know all of these people personally.

But what I'm using this footnote for is to provide support for that statement.
Q. And these people you just mentioned that you both cite to and you know personally, do they conduct $P E$ testing on inks?
A. Yes.
Q. Is there only one method of PE testing for ink dating?
A. What do you mean by "method"? What's your definition of a method?

## LaPorte

Q. If you were given a sample of ink to test with your PE test method --
A. Yes.
Q. -- your method, and all of these other individuals were given an identical sample from the same pen, same paper, based on your knowing them personally and citing their papers, do -would they perform the $P E$ test using the same method that you use?

MR. SOUTHWELL: Objection.
A. Generally speaking, yes. I mean, they're going to use GC/MS. Everybody uses GC/MS. We measure the amount of phenoxyethanol. Generally speaking that's the method.

If we talk about a TLC method, people may have steps in between that are different, but it's still the same method.
Q. And isn't it the case, though, that these different experts get all kinds of different results --

MR. SOUTHWELL: Objection.
Q. -- using the PE testing method?

MR. SOUTHWELL: Objection to the form.
A. No, that's not true. I mean,

## LaPorte

there's -- there are different views about how to draw conclusions. Some experts believe that you can draw a conclusion an ink was done in between three and six months, eight and twelve months. They use finer gradations. I use what $I$ consider the most conservative approach. I stay with 24 months. That allows me for better accuracy.

When we talk about accuracy, think of it as a target, and I'm trying to shoot for the middle of the target. What I'm doing is I'm taking a ring out of the target, if you will, and making my target much bigger. So that provides more accuracy for me.

So they -- there is some varying -- and this is very common in science: It's common in astrophysics, it's common in chemistry, it's common in biology. And it's common obviously in the legal world as well. But people do have different views.

But generally speaking $I$ would say all of -- all of the citations that $I$ have put down here, generally speaking we all believe very strongly in the method, believe it's a very reliable method, believe it's very accurate, it's

## LaPorte

precise.
MR. BOLAND: Can you mark this LaPorte 2, please.
(LaPorte Exhibit 2, paper titled "The Identification of 2-Phenoxyethanol in Ballpoint Inks Using Gas Chromatography/Mass Spectrometry - Relevance to Ink Dating" by LaPorte, marked for identification.)
Q. Mr. LaPorte, you've just been handed what's been marked LaPorte 2. Can you identify that exhibit for the record?
A. Yes. This is a paper that I published titled "The Identification of 2-Phenoxyethanol in Ballpoint Inks Using Gas Chromatography/Mass Spectrometry - Relevance to Ink Dating." This was a paper that was published in the Journal of Forensic Sciences in January of 2004.
Q. Could you go to page 2, and do you see a section there where you quote Gaudreau and Brazeau's report where they say -- it's in the left-hand column, the paragraph starts with the words "more recently." Do you see that?
A. Yes.
Q. And you quote their report that $P E$ in

## LaPorte

ink evaporates at a high rate during the first six to eight months following its application on paper.
A. Correct.
Q. Did I read that correctly?
A. Correct.
Q. And on page 2, just above that, the paragraph just above that, you quote Valery Aginsky, one of his reports, actually, starting with the words "significant aging takes place over a period of about three months."

Do you see that?
A. Yes.
Q. If you could go to page 8 of the report.
A. Page 8.
Q. I think it's numbered.

MR. SOUTHWELL: Mine only has five pages.

MR. BOLAND: That's my mistake. Hold on a second.
Q. Okay. So you cite those two sources?
A. Yes.
Q. And then on page 8 of actually LaPorte

## LaPorte

1, which is your report. If you go to page 8 of your report. That was my mistake.
A. Okay.
Q. And when $I$ use the numbers, just as a convention, Mr. LaPorte, I'm talking about the number up in the right-hand corner, page 8 of 67. That will be how I always refer to it, because sometimes there are different page numbers of reports.
A. I'm sorry, I'm looking at my other report. Okay, 8 of 67. Yes.
Q. You see you have a quote actually right after that string of footnotes: After 24 months, PE no longer evaporates at a significant or measurable rate.
A. Correct.

MR. BOLAND: Can you mark this report 3, please.
(LaPorte Exhibit 3, expert report of LaPorte from Aequitas v. Anderson case, marked for identification.)
Q. Can you identify what's just been handed to you, Mr. LaPorte, as LaPorte 3?
A. Yes. I just want to make a note of

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this.
Q. Can you just identify it first for the record, please?
A. This is LaPorte 3. This is a report that $I$ issued in a case that is ongoing in this matter. This case hasn't been adjudicated. I don't know why you have this report. This is an ongoing matter.

Did you pull this from the court records?
Q. I ask the questions, Mr. LaPorte, not you. If you can identify the report.
A. This is highly inappropriate.
Q. If you could just answer the question.
A. I refuse to answer questions about an ongoing case. I can't believe that you have that report.

MR. BOLAND: Do you want to confer with your witness or we can call the court and ask him to continue answering questions?

MR. SOUTHWELL: Well, why don't -- can
you explain how -- is this publicly filed?
MR. BOLAND: I'm not here to explain
anything; I'm here to ask him to identify a

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document.
THE WITNESS: This is highly confidential.

MR. SOUTHWELL: How do you know you haven't violated some confidentiality order by getting it?

MR. BOLAND: How do you know -- we're not going to have a debate -- we're not going to have a debate on the record with the witness this.

MR. SOUTHWELL: I don't think anything about it. If you want to explain you got it off the public record --

MR. BOLAND: I don't have to explain anything if -- I'm asking the witness to identify a document. If he's going to refuse to answer questions, then we need to take a break and let's call the court and ask the court to order the witness to continue answering questions. It's a deposition. Q. Are you refusing to identify the document?

MR. SOUTHWELL: Mr. Boland, hold it.
You need to make a record of exactly what this

## LaPorte

is and your basis for it. How are you going to convince the judge that you -- that it's an appropriate area of inquiry if there's no basis to know whether this is appropriately before this witness or appropriately disseminated? What was -- what court is this in?

MR. BOLAND: Let's throw the assumption back the other way. The assumption that I'm involved in disseminating inappropriately reports is offensive. That's not what's happening. That's not what's happening --

MR. SOUTHWELL: That's what happened with the Blanco report.

MR. BOLAND: -- and it doesn't exist here. The witness claiming that doesn't make it so. It is not inappropriate. It's a report he issued in a case. That's it. I'm asking him to identify the document, and I'm going to ask him about his conclusions regarding that report.

If he's going to refuse to answer, let's take a break and contact the court, because the witness needs to answer my

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question, period.
MR. SOUTHWELL: Why don't we contact the lawyers and make sure it's an appropriate area of inquiry. I don't know whether -MR. BOLAND: I'm in the middle -MR. SOUTHWELL: I don't know whether he is bound by some confidentiality order. I don't know anything about this. MR. BOLAND: That's the witness's job, not for you to coach him.
Q. Are you bound by a confidentiality order regarding this case?
A. I don't know where you got this report, but this is an ongoing case, so $I$ can't discuss my conclusions.
Q. My question is have you signed a confidentiality order in this case from which this report comes.
A. I am bound by confidentiality with any client that $I$ engage with, unless $I$ know where this report came from, I'm not going to answer questions.

MR. SOUTHWELL: Why don't we take a break. Let me speak to Mr. LaPorte, and let

## LaPorte

me see if we can clarify this. Okay?
THE VIDEOGRAPHER: The time is approximately 11:15 a.m. This is the end of media 1. We're off the record.
(Recess taken from 11:15 to 12:07.) THE VIDEOGRAPHER: The time is approximately 12:07 p.m. This is the beginning of Media Number 2. We are on the record.

MR. SOUTHWELL: So just so that the record is clear, before the break Mr . Boland had asked Mr. LaPorte about LaPorte 3, which is an April 17th, 2012, report in a case Aequitas Solutions versus Larry Anderson. And Mr. LaPorte was hesitant to testify about that case.

Over the break Mr. Boland and I have conferred, and I was able to speak with the lawyers handling the case to inquire about whether there were any restrictions related to confidentiality or the status of case.

They inform me that -- and obviously
Mr. LaPorte is involved in many different cases, many of which do have protective

## LaPorte

orders.
And so they informed me that there in fact is a protective order in the case that was applied for. It was not granted and actually doesn't relate to this. So there is no court record covering this that would prevent Mr. LaPorte from testifying.

They also confirmed that in their agreement with Mr. LaPorte there's no confidentiality provision that would prevent him from testifying.

So I think now, having -- Mr. LaPorte I believe is now satisfied that he may and he's not bound by some court or contractual obligation not to speak of it, and so he's happy to answer questions about it.

You know, I do think there's some potential relevancy issues with this. It depends, of course, on what exactly you ask.

MR. BOLAND: Very well.
Q. Mr. LaPorte, in the break before we last were on the record, I had asked you questions about LaPorte Number 3; correct?
A. Yes, sir.

## LaPorte

Q. And isn't it the case that when we did break you took a copy of that LaPorte Number 3 with you?
A. I did.
Q. Did you review that report on the break?
A. I did not.
Q. And did you discuss the contents of that report with defense counsel?
A. I did not.
Q. Other than discussions related to confidentiality, did you have any other discussions with defense counsel related to that report?
A. No, just -- the only thing that we discussed was just my concern that $I$ wasn't sure how I was -- what $I$ was bound to and whether I could talk about this report or not.
Q. Could you go to page 7 of LaPorte 3, please.
A. Yes.
Q. You see the chart at the top of page 7?
A. Yes.
Q. What does this chart show?

## LaPorte

A. This chart is just a demonstrative representative of how phenoxyethanol decreases over time.
Q. Could you explain the numbers going up the left-hand side of the chart?

MR. SOUTHWELL: I'm just going to
object to the fact that you have provided him with a 19-page report that he has not reviewed and you're now proceeding to ask him specific questions about it. So $I$ want to make sure the witness has adequate time to review them.

Obviously if your questions are like this, he can answer as he answers. But $I$ just want to note for the record that he's not had the opportunity to review this.
Q. Could you describe in that illustration what the numbers are going up the left side of the chart?
A. Just before $I$ answer that question, can I -- is there a way to verify that this was the same report that was filed with the court?
Q. I'm the one asking the questions, Mr. LaPorte. If you could just describe the numbers going up the left side of the chart on

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page 7 of the report.
MR. SOUTHWELL: I'm sorry, Mr. Boland, I don't mean to interrupt, but that triggered something in my mind which $I$ forgot also to put on the record, was that the lawyers in the case did confirm that Mr . LaPorte's report had been filed as an attachment to various sanctions motions.

Mr. LaPorte did ask me on the break whether we knew whether this was in fact the report that was filed, and I said I don't know.

So, you know, I don't know whether you know that answer but...

MR. BOLAND: I'm just asking the question on this illustration.
Q. Well, leaf through the report, if you want, and tell me if there's any pages of this report which appear to be -- which indicate to you that it is not a report that you produced.
A. Okay. I appreciate that.
(Pause.)
A. Okay. To the best of my recollection, this looks to be the same report that I submitted

## LaPorte

in this case.
Q. And the first page has the logo of your firm, Riley Welch \& LaPorte, on it?
A. Yes, and page 19 has my signature.
Q. Very well. And every page up to 19 and beyond even has the logo of your firm in the upper left-hand corner?
A. Yes.
Q. Could you turn to page 7, please.
A. Yes, sir.
Q. And is it correct that you describe this chart at page 7 as illustration only; true?
A. Yeah, I think it's footnoted on page 6, number 4, where it says, The graphical representation is intended to depict the theoretical rate of evaporation of $P E$ from an ink because not all inks exhibit the same drying rates.
Q. Can you explain the numbers going up the left side?
A. Those are just arbitrary units to depict the concentration of phenoxyethanol.
Q. So the top number where the -- the topmost point of the red line on the illustration

LaPorte
is at a number that's arbitrarily just a hundred thousand; right?
A. Correct.

MR. SOUTHWELL: Just to be clear, what red line are you referring to?

MR. BOLAND: Mine's red in my document.
It's a black line. I apologize. It's red -MR. SOUTHWELL: Meaning the line -MR. BOLAND: The only line on the chart.

MR. SOUTHWELL: The line of the example data.

MR. BOLAND: That's correct.
A. We're not talking about the axis;
right? There's the $Y$ axis, the $X$ axis, and the curve.
Q. The curve. The curve appears to start at 100,000 ?
A. Correct.
Q. Which is an arbitrary number to just establish units on the left side?
A. Yes.
Q. The next line down is 80,000 ?
A. Correct.

## LaPorte

Q. If we use 100,000 as 100 percent of the PE , that would be sort of at the beginning the ink was put on there, and ten minutes later you tested it. That's the maximum amount of ink you could extract from the sample? Is that how I can read this illustration or no?
A. No, that's all -- I have to emphasize these are arbitrary units. The purpose -- I used arbitrary units to get the shape of the curve to show that -- the idea is to show that there's a fast rate of evaporation over the first few months, and then it begins to level off at a certain period.
Q. So the illustration shows that PE evaporates at a high rate during the first few months, as you said, and then after 24 months PE no longer evaporates at a measurable rate. Would that be a fair statement, of the illustration?
A. Yeah, that would be a fair statement.
Q. Now, are you familiar -- in Footnote 9 of your report, which is LaPorte 1 , your report in this case -- I know you have multiple documents. I'll give you a chance to find it.
A. I'll go back to that. Footnote 9.

## LaPorte

Q. To get you there, it's on page 8 of your report in this case, which is LaPorte 1.
A. I'm there.
Q. And you see that article that you have cited there, Brazeau and Gaudreau? Do you see that one?
A. Yes.

MR. BOLAND: Can you mark this as the next exhibit number. I think it's 4.
(LaPorte Exhibit 4, article titled "Ballpoint Pen Inks: The Quantitative Analysis of Ink Solvents on Paper By Solid Phase Microextraction" by Brazeau and Gaudreau, marked for identification.)
Q. You have just been handed LaPorte 4. Can you identify that for the record, sir?
A. Yes. This is titled "Ballpoint Pen Inks: The Quantitative Analysis of Ink Solvents on Paper By Solid Phase Microextraction." The authors are Brazeau -- Luc Brazeau and Marc Gaudreau.
Q. And could you go to what's numbered on the document as page 214. There's a Figure 10 at the bottom of that page. Do you see that?

## LaPorte

A. Yes.
Q. And this report has -- this figure has a curve in it, similar to the illustration we previously talked about, not identical?
A. Correct.
Q. And that curve shows on this figure that $P E$ evaporates at a high rate during the first few months, and then it no longer evaporates at a measurable rate after about 24 months.

MR. SOUTHWELL: Objection.
Q. Is that fair to say?
A. But this is for the solid phase microextraction technique. So this is a completely different technique than using the liquid extraction.
Q. Very well. But it still shows that -or does it not show that PE evaporates at a very rapid rate early on and then after about 24 months there's no real measurable evaporation?
A. Generally speaking, yes, that's -that's what happens to phenoxyethanol.
Q. And what's your opinion of the two authors of this report as far as their -- in the field that you're in, are these respected

## LaPorte

authors -- respected scientists in the field that you're in?
A. I -- I respect them, yes.
Q. And you cited them in your report?
A. Yes.
Q. And this chart is based on actual data as opposed to an illustration, if you know?
A. Let me confirm. I'm just looking for the reference to Figure 10. Yeah, so I see the reference to Figure 10 is on page 215. And this does refer to the solid-phase microextraction technique. So this is a different technique than the liquid extractions.

It's very critical to understand that because they're measuring the phenoxyethanol directly from the paper. It's a nondestructive way of measuring phenoxyethanol.
Q. And how does it differ from your technique that you use?
A. It's the extraction part that differs. So in this case what they're doing is -- solidphase microextraction, or SPME, $S-P-M-E$, is like a needle-like syringe-type apparatus. And what you do is you -- it has a filament on the end. So

## LaPorte

when you press that out, the filament comes out of the SPME and it absorbs the solvents that are in the air. We call that head space, head space analysis.

So basically what they devised was a glass vial that goes over top of the document directly. They then heat it to evaporate the phenoxyethanol off, put the SPME in there. Then they measure the amount of -- they measure the amount of phenoxyethanol that's been elicited from the ink. Then you inject that SPME into a gas chromatograph/mass spectrometry, GC/MS, and the test takes place that way.
Q. Is your method more or less accurate than that method?
A. You can't compare the accuracies of the method. This method would be useful for very fresh inks that are -- that are -- that are still evaporating from the paper.
Q. Now, this method that you just described measures PE?
A. Once again, it measures the PE, if you will, in the air when it's trapped off of the document.

## LaPorte

Q. And these two authors, Gaudreau and Brazeau, they're Canadian people; right?
A. They're from the Canada Border Services Agency.
Q. Do they use your method, either one of those experts, if you know?
A. We -- when $I$ was at Secret Service, we actually had worked in concert with the Canada Border Services Agency, but we -- we sort of adopted, if you will -- and we worked with Germany in addition -- but sort of adopted the general idea of using the method of phenoxyethanol.
Q. But do you know if the Canadians use your method?
A. When you say "my method," I mean...
Q. Did they use any other method other than the one you just described, SPME? Did they use any others?
A. Other than the SPME method?
Q. Yes.
A. Yes, they do. They use a liquid extraction method as well.
Q. Is that your method, liquid extraction?
A. That would be -- yes, I use a liquid

## LaPorte

extraction, yes.
Q. I don't mean to say it's known as your method, but the liquid extraction method.
A. That sounds better, yes.
Q. Do you think the results are scientifically reliable that are obtained by the SPME method that you just described that the Canadian -- two Canadian authors talk about in this paper?

MR. SOUTHWELL: Object to the form.
Q. Is it a reliable method that's described in that article?
A. I can't speak to the reliability of the method because I don't use it. So other than that I don't -- I don't know if it's reliable or not.
Q. Have there been peer-reviewed articles regarding this method that you've read?
A. There was an article kind of using almost a similar type approach by Andrasko -- he's a Swedish author -- kind of similar to this but still -- it still varies.

Once again, $I$-- I don't use the method, so $I$ can't say whether it's a valid method or not.

## LaPorte

Q. But you don't have any basis, sitting here today, to say it isn't reliable; you just don't know. Fair to say?
A. I just don't know. That would be correct.

MR. BOLAND: Can you mark this, please.
A. When we talk about validity, I guess, just to make it clear for the record, I mean, when you say "valid," we're assuming that you get accurate and precise results, to make it clear. So $I$ don't know if they've reproduced this a number of times, how many -- how many times they did it. Apparently they -- I don't know how many inks they've worked with and so forth.

So $I$ can't really evaluate that part of it.
Q. Have you ever attempted, not in casework, necessarily, just experimentally, to conduct this method, see what results you get?
A. Not on inks. We did use it -- when I was at Secret Service, we used it for a case that involved a dog, a detection dog, making a hit on some counterfeit currency. So we did utilize the technique -- the SPME technique to determine if

## LaPorte

you could tell the difference between counterfeit currency and genuine currency, in charge -- in charge amounts. The question that was posed to us was what is the dog -- what is the dog specifically sniffing.

MR. BOLAND: If you can mark this as the next exhibit, please.
(LaPorte Exhibit 5, paper titled "Some New Ideas for Dating Ballpoint Inks, a Feasibility Study" by Aginsky, marked for identification.)
(Discussion off the record.)
Q. Before we get to that, $I$ have one more question on this point from your report. Could you go to page 9 of LaPorte 1 , which is your report in this case.
A. Okay, page 9. Yes.
Q. Can you tell me, in the middle of that first paragraph that starts with the sentence "based on extensive research by forensic laboratories." Do you see that sentence? It's in the middle of the paragraph.
A. Middle of the paragraph. Wait. We're talking about page 9 ?

## LaPorte

Q. Page 9 of your report.
A. Yeah, I'm there.
Q. You're on page 10.
A. Oh, I'm sorry, I'm looking at --

MR. SOUTHWELL: Mr. Boland refers to page 9 of 67.
Q. Yeah, I'm using the numbers in the upper right-hand corner.
A. I'm sorry.
Q. Sure. Top paragraph.

MR. SOUTHWELL: His page numbers are
also in the top right-hand corner.
MR. BOLAND: Oh, my mistake.
A. Based on --
Q. Extensive research. Do you see that sentence?

MR. SOUTHWELL: Top paragraph.
Q. Top paragraph, starts on the right-hand side about the middle of the paragraph.

MR. SOUTHWELL: Where the footnotes are.
A. Okay. Yes, okay.
Q. So when you list Canada in that sentence and -- you're referring to the SPME test

## LaPorte

that they do or the $P E$ method that you typically use?
A. No, I'm taking -- I'm talking about -the SPME -- when we talk about that SPME method, there are some fundamental principles that were derived from that paper. The fact is they were detecting phenoxyethanol. So that's one of the principles. They did research in that area, and it including dating research.
Q. When you cite to Canada here, are you citing to a particular $P E$ method or just generally to $P E$ testing of any method by people in Canada? MR. SOUTHWELL: Object to the form.
A. I'm saying based on research. There's been research in the area of phenoxyethanol that has been done by the Canadians.
Q. In Footnote 8 on the previous page, there's a reference to another article by Gaudreau and Brazeau, the Canadians, called "Ink Dating Using a Solvent Loss Ratio Method." Do you see that footnote?
A. Yes.
Q. Is your method considered a solvent loss ratio method or no?

## LaPorte

MR. SOUTHWELL: Object to the form.
Q. The method you use, is that considered a solvent loss ratio method? Is that a term of art?
A. That would be, yeah, the general idea, yes.
Q. Is it fair to say that the Canadians did a presentation at the sixtieth annual conference in 2002 about the method that you use?
A. No, they did a presentation about the method they use.
Q. So solvent loss ratio method is not a way to describe the method you use? Is that what you're saying?
A. No, I'm just saying their presentation was about their method, like that -- what they did in their research.
Q. I understand that. I'm saying is that another way of describing the method you use. Can I call the method you use also the solvent loss ratio method or no?

MR. SOUTHWELL: Object to the form, the method -- what --

MR. BOLAND: He uses.

## LaPorte

MR. SOUTHWELL: -- part of the method?
A. We keep talking about the method. So method involves different aspects.
Q. The ink-dating method you use, would it be appropriate to describe it as a solvent loss ratio method or not?
A. Generally speaking the underlying principle is to measure how much phenoxyethanol is lost when the samples are heated with, once again, the underlying principle that fresh samples contain a lot of phenoxyethanol, for lack of a better descriptive word. But they have a sufficient amount of phenoxyethanol and that when you heat them you'll drive off a lot more phenoxyethanol. If they're older, it has less phenoxyethanol, so you'll drive off less phenoxyethanol.

But generally speaking the methods are similar.
Q. Do you know the method that's used in the citations you make on page 9 of your report to Russia, footnotes 13 and 14 ? What method do they use? How would you describe the method that's being referred to there?

## LaPorte

A. I'm sorry, what-foot number is that?
Q. Footnotes 13 and 14, which appear right after the word "Russia" in that paragraph?
A. Yes, that's when Dr. Aginsky was in Russia and he was doing research for the Russians. And I do know that -- well, I'm almost certain that the Russians still utilize the phenoxyethanol technique.
Q. But which one of the techniques? The one that you typically use or the one where, like you described, the Canadians putting some kind of a --
A. SPME ?
Q. SPME method, yeah.

MR. SOUTHWELL: Objection to form.
A. We'll call it the liquid extraction approach.
Q. That's the method you use?

MR. SOUTHWELL: Objection.
A. Yeah.

MR. SOUTHWELL: It's not the method;
it's the approach. I'm not sure if you're
trying to mush it together intentionally.
There's an extraction approach that are

## LaPorte

different. That's what I'm talking about. MR. BOLAND: I'm just asking which one he uses, if there was --

MR. SOUTHWELL: If you use "extraction approach" perhaps it's clearer than "method." "Method" perhaps encompasses more.
Q. Back to the more recent exhibit $I$ just gave you -- I think it's LaPorte 5 --
A. Yes.
Q. Are you familiar -- could you describe what that is for the record?
A. This is a study or paper that was published by Dr. Valery Aginsky, and it's titled "Some New Ideas for Dating Ballpoint Inks, a Feasibility Study." And this was published in 1993.
Q. And it's Footnote 13 of your report in this case?
A. Correct.
Q. Could you look on the chart that's on page, as the numbers go, 1138. It's Figure 4 of that document. I have to get to it as well.
A. Yes.
Q. Would you agree with me that that chart

## LaPorte

shows that $P E$ evaporates at a high rate during the first few months and then after 24 months PE no longer evaporates at a measurable rate?

MR. SOUTHWELL: Object to the form.
A. Generally speaking, yeah.
Q. Do you have respect for Dr. Aginsky's competence as a scientist in the area of ink dating?
A. He's published a number of papers, so I have no reason to doubt the -- some of the underlying principles that he discusses. He -other than that, I mean, there's -- we may have some differences, but generally speaking about the underlying theory, $I$ think that we're in agreement.
Q. And does this Figure 4 appear to be illustrative or based on actual results and data?
A. Well, it's under -- he has aging curve obtained for a Soyuz, S-O-Y-U-Z, blue violet ballpoint ink using the reagent photometric technique.
Q. What is that technique? Can you describe that?
A. I believe he just measured the response

## LaPorte

using spectroscopy of some sort to measure what was happening with the ink.

This is an early paper done in 1993.
Q. And the curve on here is roughly similar to the curves on the other charts we've gone over so far?
A. I mean, he has his going out to six years here, so $I$ don't know -- and then -- this appears to be a different measurement technique that he's using.
Q. The shape of the curve, though, generally the same?
A. Generally speaking.
Q. Are these charts that I've shown you by Brazeau, Gaudreau, and Aginsky accurate in your opinion?

MR. SOUTHWELL: Objection.
A. These are -- I don't know -- they're general curves of representative samples of inks.
Q. You cited all these reports I've gone over in your report.
A. Yes.
Q. Do you have any reason to believe those charts and figures are not accurate?

## LaPorte

A. In terms of the data and what they represent?
Q. Yes.
A. I mean, no, $I$ have no -- I have no reason to believe that -- if you're indicating that somebody falsified the quantitative values and changed the curve, I have no reason to believe that.
Q. And before you joined what is now Riley Welch \& LaPorte --
A. Yes.
Q. It's true it used to be Riley Welch \& Aginsky?
A. Correct.
Q. Do you still have any professional relationship with Mr. Aginsky in this field that you work in?
A. Mr. -- I'm sorry, Dr. Aginsky and I worked together for an ASTM -- I'm sorry, the scientific working group for document examiners where we develop standards. So Dr. Aginsky and I worked together on that group.

He -- we've been retained together in cases. We've been retained on opposing sides in

## LaPorte

cases. I would say that we have a very professional relationship.
Q. Can you look at page 9 of your report, LaPorte 1 , again, and that same sentence that $I$ was talking about before that starts in the middle of the top paragraph: based on extensive research. Do you see that?
A. Yes.
Q. And at the end of the sentence or near the end it reads, $A$ significant decrease in the level of PE by more than 25 percent after the questioned sample is heated indicates the ink is less than two years old.
A. Correct.
Q. Correct?

And after two years, as you've already testified, $P E$ is basically -- changes in PE or the amount of $P E$ just can't really be extracted because it's dried off after two years?
A. I mean, we're speaking theoretically. Generally speaking, maybe there is an ink that if it's two years and two months that it continues to age. But generally speaking that's what most of -- that's what the literature supports.

## LaPorte

Q. Have you found an ink that is -- still has PE evaporating after 24 months, in your work?
A. I have not. I have conducted a number of tests on known samples of ink, and $I$ have never had a situation where an ink was known to be more than two years old and it exhibited a loss of phenoxyethanol that was greater than 25 percent. MR. BOLAND: Can you mark this as LaPorte 6.
(LaPorte Exhibit 6, article titled "Minimum Requirements for Application of Ink-Dating Methods Based on Solvent Analysis in Casework", marked for identification.)
Q. Mr. LaPorte, you've just been handed what's been marked LaPorte 6. Can you identify that for the record, please?
A. Yes. This is an article that was published in Forensic Science International. Its title is "Minimum Requirements for Application of Ink-Dating Methods Based on Solvent Analysis in Casework."
Q. What year was that published?
A. This was published in 2011.
Q. Have you seen this article before?

## LaPorte

A. Yes, I have.
Q. Have you read it?
A. Yes, I have.
Q. Can you look on page 57, as the pages are numbered, in that article -- or that paper, I should say. And you see in the upper left-hand corner Figure 6?
A. Yes.
Q. And isn't it the case that this is actually a chart based on data from Mr. Aginsky as the description of Figure 6 shows?

MR. SOUTHWELL: Objection to form.
A. That's the reference they point to, Dr. Aginsky, so I assume that's Dr. Aginsky.
Q. And isn't it the case that this figure shows that $P E$ evaporates at a high rate during the first few months of drying and that after 24 months it no longer evaporates at a measurable rate?
A. There is no -- there's not a 24-month -- this graph, though, is representing making -- using different values to determine whether an ink was done in the past zero to three months, six to twelve, or some sort of gradation,

## LaPorte

if you will, narrowing the range.
Q. The shape of the curve on this figure, generally speaking the same as all the other charts that you and I have talked about this morning or this afternoon?
A. Generally speaking, the curve that we're talking. It's kind of an exponential decay.
Q. And this figure is based on actual data, not just illustrative; true?
A. I don't know. I'd have to go back to the Aginsky paper that they reference.
Q. Do you see the table below?
A. Table 6?
Q. Table 5.
A. Table 5, yes.
Q. Does that appear to be some reference to Aginsky in the literature; true?

MR. SOUTHWELL: Objection. Just generic -- you're not trying to say...
A. Yeah, I mean, those are references. I would have to see that Aginsky paper to see if that's actual data or theoretical data.
Q. Do you have any reason to believe that the data in Figure 6 is not accurate to Aginsky's

## LaPorte

paper?
A. I don't -- I don't use those -- I don't use those time intervals to determine if an ink was done in the past three months or six months. I use -- as I mentioned earlier, I use what I consider that conservative approach and say less than 24 months. I don't try and -- I don't try and make my conclusions any more narrower than that. Other authors do and other scientists do that.
Q. If you can go back to your report in this case, LaPorte Exhibit 1, on page 16.
A. Page 16?
Q. Yes. And we're using (indicating).
A. I'm sorry.
Q. The second full paragraph from the bottom, do you see where you wrote that $I$ ran the PE test twice on samples from the interlineation on page 1 of the "work for hire" document? Do you see that sentence?
A. Yes.
Q. So you found an average loss of 64 percent -- correct?
A. Correct.

## LaPorte

Q. -- of PE from ink in the interlineation?
A. Correct.
Q. And that when we talk about an average loss, that means between the unheated and the heated sample?
A. Correct.
Q. Is the average. Okay.
A. So just to -- say that again, just to make sure we've got that.
Q. When you're comparing the amount of loss of $P E, y o u$ do that by leaving one sample of ink unheated and heating the other sample?
A. I'm sorry, compare the -- can I make it simpler?
Q. Go right ahead. Sure.
A. Compare the amount of phenoxyethanol that's present in the unheated sample with the amount of phenoxyethanol that's present after the sample has been heated, look at the difference, and then come up with a percentage.
Q. Fair enough.

The cutoff of 25 percent, you then indicate in the next sentence that this 64 percent
average is more than 2.5 times higher than the 25 percent cutoff level?
A. Correct.
Q. So a loss of 64 percent would be considered a high rate, or high amount of evaporation?
A. Yes.
Q. You previously testified that PE evaporates at a high rate for the first few months and becomes immeasurable after 24 months?
A. Just to clarify, $I$ don't know if $I$ ever said it was immeasurable. It's still measurable; it's just -- when you're comparing after 24 months when the amount of -- barring the time thing, so let's -- I think we should not get caught up in the 24 months.

An ink could be six months old and still have a low level of phenoxyethanol. The key is when the phenoxyethanol level becomes too low in the unheated sample, then trying to measure the difference after it's heated can create any kind of -- any kind of -- there's always -- part of any procedure, there's inherent changes that can take place. It's kind of what we call measurement

## LaPorte

uncertainty.
So when you get down into the very low levels, if $I$ was measuring or comparing the amount of phenoxyethanol that was present versus lost, any small deviation would cause a big change, because we're dealing with such small numbers.

So the idea is that when that level becomes too low, regardless of whether it's 24 months, 6 months, or 3 months, just some inks will age out in 3 months.
Q. When you say "age out," you mean -what do you mean?
A. At that point $I$ guess it becomes impractical to measure with current technology. That may change in the future, but as of now. And others may do that. I'm only going to talk today -- I'm only talking about what my comfort level is with phenoxyethanol based on my experience. So others may work at lower levels. Personally $I$ don't prefer to work with that lower levels.
Q. The 64 percent average loss that you mention here in your report, would you say that that evaporation amount is consistent with ink

## LaPorte

that is -- that is two years old or fresh ink?
A. I would say that's consistent with ink that's less than two years old.
Q. Would you say that that evaporation rate is consistent with ink that is only a few months old?
A. I would say it's consistent with an ink that's less than two years old.

The actual number, the percentage loss, you can't take that number and apply it to a certain age of an ink. It doesn't -- it doesn't work that way.
Q. Well, how does it work?
A. You set a threshold level. And when it surpasses that, you say it's less than -- I would conclude that -- qualified conclusion that it's less than 24 months.
Q. And on page 8 of your report, which is LaPorte 1 , the last full paragraph, you say that after 24 months PE no longer evaporates at a significant or measurable rate.
A. Right, generally speaking.
Q. Right. And 64 percent is definitely measurable, wouldn't you say?

## LaPorte

A. Well, it's not that 64 percent is measurable, it's the difference in the values that create the 64 percent that's measurable.
Q. Would you agree with Dr. Aginsky when he says in his report that we just went over that significant aging of ink takes place over a period of about three months and then after this period until the age of 15 years the extent of extraction from the ink stays level at about 20 percent?

MR. SOUTHWELL: Objection. Can we just specify which Aginsky you're referring to?
A. Can you point that out too, what article?
Q. Sure.

MR. SOUTHWELL: I think you gave us two
Aginskys.
MR. BOLAND: It's the Aginsky, "Some
New Ideas for Dating Ballpoint Ink," I believe.
A. What's the exhibit number?

MR. SOUTHWELL: I think it's 5.
Q. It's page 1145 as the pages are numbered on that document in the upper right-hand corner.

LaPorte
A. This is the 1993 paper we're talking about?
Q. Yes, Aginsky "Dating Ballpoint Ink," is a sort of abbreviation.
A. I'm sorry, the page number?
Q. $\quad 1145$.
A. $\quad 1145$.
Q. And I'll find the exact quote there for you. Hold on. It's the first paragraph, the second sentence.
A. Yes, okay, I see it.
Q. Do you agree with that statement by Dr. Aginsky in that report?
A. I believe that this statement can be refined much better. I mean, this is a statement that was made almost 20 years ago. Certainly we've learned a lot since. But generally speaking we would all agree that an ink does age very quickly in the first bit of time that it's entered on the paper.

So I wouldn't -- I wouldn't agree wholeheartedly with exactly what the statement is saying.
Q. How would you modify it?

## LaPorte

A. Also too, he's speaking to this particular -- he looked at a particular blue ballpoint ink, and he is making a conclusion about that particular ink. So that's not a general statement.
Q. So as to different inks, you get different results, is what you're saying?
A. I think we've -- I think we've cleared that theory up is that generally speaking inks will age over the 2-year period, that 24-month period. Some will age faster; some will age out in three months.

But his sentence says, Figure 6 represents the aging curve obtained for Soyuz blue violet ballpoint inks for the same formula. The curve shows significant aging taking place over a period of about three months.

He's speaking about that specific pen and that specific ink.
Q. How many ink formulations are known right now, would you say?
A. I couldn't answer that.
Q. Is it in the hundreds or more like the thousands, if you can narrow it there?

## LaPorte

A. We're talking about inks that have been manufactured since -- ballpoint inks since the 1940s? I can't answer that. It would be a guess. Your guess would be probably just as good as mine.
Q. Does the Secret Service have a library of inks?
A. Yes, it does.
Q. And you worked for them before?
A. I did.
Q. When you worked for them, were you told how many inks were in their library?
A. I knew how many inks were in that library, yes.
Q. What year would you have found that out?
A. 2009. I left in March of 2009.
Q. And how many inks were you told were in their library then?

MR. SOUTHWELL: Objection.
A. I knew -- I oversaw the library back then, and there was in the area of 10,000 inks. But that was not 10,000 different formulae.
Q. How many different formulations do you think that was in their library?

## LaPorte

A. I don't know. We -- it would have been impractical to even guess at the number of formulations that those 10,000 inks represented, but it would be safe to say that the 10,000 inks represented -- it was far fewer formulations than 10,000, far less.
Q. In some inks the PE dries quickly; in some inks it dries more slowly. Would that be consistent with your knowledge of the area?
A. Absolutely. We characterize those as slow-aging inks and fast-aging inks.
Q. Is there a library somewhere which would tell you the answer to this hypothetical: If I gave you a known ink formulation and I told you what it was and you're trusting me that that's what it is and that formulation is in a library -is there a library somewhere that you could go to to say, okay, I know this formulation, I now can go to a library which will tell me if this is a fast-aging ink or a slow-aging? Is there such a library like that?
A. First of all, that question -- it's not really practical. In order to be able to use -first of all, this is a dynamic ink-aging method,

## LaPorte

so it doesn't require a library of standards. There's -- there's been numerous published articles that talk about the dynamic aging characteristics or sort of the -- the underlying fundamentals of dynamic aging of inks. Cantu wrote an article $I$ believe back in 1995 that sort of begun the use of that terminology, "dynamic" and "static."

So you don't need a library at all when you're doing dynamic ink-aging techniques. That would be for static aging techniques.

Now to kind of answer your question, it would be nearly impractical -- if you gave me an unknown -- if $I$ had an unknown ink for me to specifically identify that exactly formulation, even with the biggest library in the world, because all I'm doing with -- with that library all I'm measuring is the dyes or I'm assessing the dyes that are present.

So I don't have all the information about which resins are present, which volatiles are present, and which other trace chemicals. So I can never identify with certainty the exact same formulation that $I$ was proposed with in a

## LaPorte

 questioned document.Q. Do some ink formulations not have $P E$ in them?
A. Yes, there are some of those as well. Hold on. When we talk about inks, $I$ think we should make it clear for the record we're talking about ballpoint inks. So there are nonballpoint inks, and there are ballpoint inks.

There's not a lot of research in the area of nonballpoint inks. When $I$ discuss nonballpoint inks, that would just gel inks, roller balls, felt tips, those types of inks. Those are water-based inks. Then there's ballpoint inks. So we're talking about ballpoint inks.

I know the paper that I published in 2004 we examined 633 inks. We determined phenoxyethanol was present over 85 percent or around 85 percent of blue and black ballpoint inks.
Q. Getting back to your report, you had stated that the average loss of 64 percent of the PE from the ink in the interlineation. We talked about that before. Do you recall those questions?

## LaPorte

A. Yes.
Q. Now, help me with the math here. If 64 percent is -- is it fair to say extracted as well as lost? Are those synonymous in this context?
A. No, no.
Q. Tell me what extracted means when you say how much was extracted.
A. Extracted means you've actually taken that out, you've removed it -- typically we talk about extraction when we use a liquid like a solvent.

A good example would be if you have an ink stain on your shirt and you put some solvent on there to -- and it gets all -- it starts staining your shirt. So what you've done is you've extracted the ink out there. You've turned it into a liquid.

When we talk about extraction, we're removing the components -- we're really -- I guess from a lay perspective, we're taking the solid ink and we're putting that into a liquid and we're extracting all of the material.
Q. So your phrase $I$ think you use in your report is 64 percent of the phenoxyethanol from

## LaPorte

the ink -- it's an average loss of 64 percent of the PE?
A. Correct.
Q. And so if 64 percent is lost, then -I'm doing math in my head here -- 36 percent of the original amount would be remaining in the sample?
A. No, no.
Q. Why is that not the case? If you have 100 percent to start with and you lose 64 percent, why wouldn't you have 36 percent left?
A. Actually that's an intuitive question you're asking. So when we heat the ink, we're not actually taking all of the phenoxyethanol out. So the general theory is that you have a temperature. 70 degrees is what $I$ would consider the ideal temperature. It's published in the literature in a number of places.

But the idea is that you're heating the ink at sort of a moderate temperature, 70 degrees Celsius. You're not -- if I heated it at 150 degrees Celsius, I'll potentially drive off even more phenoxyethanol. So you set the temp -- you use that temperature, that 70 degrees Celsius.

## LaPorte

So we haven't -- we haven't exactly taken all of the phenoxyethanol out of the ink.
Q. Is there any correlation between the 64 percent loss and what $P E$ remains in the sample?
A. No, no.
Q. Could it potentially be -- well, there's no percentage, really, that applies to the remaining $P E$ that's left in the sample?
A. In theory you can't lose more than 100 percent. I know what you're thinking, well, that leaves 36. But you shouldn't be able to drive off -- well, $I$ guess in -- I've never seen a situation where $I$ 've driven off actually more than maybe -- maybe 70 percent is the most that I've ever seen.
Q. What I'm trying to figure out is how you get -- if you get a percentage of 64 percent, how would there be less than 36 percent remaining in the sample? Where did the -- where did the rest of the less than 100 percent of $P E$ go?
A. Yeah, no, no, you're right, $I$ guess. Because we're driving off a percentage. So if I drove off more, then $I$ would exceed 100. I

## LaPorte

shouldn't exceed 100 percent. In theory I shouldn't exceed.

It's measurement. It's chemical measurement. I could go 102 or something because there's a little bit of uncertainty in there. But certainly 100 percent is -- I've never seen that.
Q. You would agree with me, when you say 64 percent loss, that there would be 36 percent, roughly, left of PE in the sample, or you do not agree with that?
A. No, I mean, $I$ guess it's a -- it's an abstract concept because generally we're talking about how much phenoxyethanol is driven off. Once again, I've never seen that much phenoxyethanol driven off, but in theory you shouldn't be able to drive off more than 100 percent.

So if I start off with $X$ amount, my -the amount that $I$ end up with shouldn't be more than that.
Q. So if you drove off 64 percent, there should be 36 percent left in the sample, that equals 100?
A. I don't know if $I$ would say there's thirty -- there could be 32 left or, you know,

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## LaPorte

yeah.
MR. BOLAND: All right. Well, it's 1 o'clock. Why don't we take a break for lunch. MR. SOUTHWELL: All right. How long do you want?

MR. BOLAND: I think 45 minutes is good. So like 1:50.

THE VIDEOGRAPHER: The time is 1:03 p.m. This is the end of Media Number 2.
(Time noted: 1:03 p.m.)
A FTERNOON S E S S S I ON
(Time noted: 2:02 p.m.)
THE VIDEOGRAPHER: The time is
approximately 2:02 p.m. This is the beginning of Media Number 3. We are on the record.
 resumed as a witness, having been previously sworn by the notary public, was examined and testified further as follows:

EXAMINATION CONTINUED BY
MR. BOLAND :
Q. Mr. LaPorte, when we left we were
talking -- we had finished up a topic -- not finished up. I had asked you some questions about the 64 percent loss --
A. Yes.
Q. -- figure that's in your report.

I'm trying to understand the math of how you arrive at a 64 percent loss but it's not a certainty that 36 percent is still left in the sample.

Can you explain -- do you start with an assumption of a hundred percent PE is in the ink you're going to test, whatever that amount is, the

## LaPorte

percentage? Is that how you start?
A. Generally speaking, yeah, your assumption is there's 100 percent. I guess what I'm trying -- maybe I'm being too specific. So if -- what $I$ 'm saying is if we measure the rate of -- we measure a rate of, say, 62 percent of loss -- we're using 64 percent as an average in this case.
Q. Yeah. I don't want to mislead anyone on the record. You're right, it's an average you used of the two samples, or you came up.
A. So I'm going to use an absolute number.

So let's say -- we'll use 64 as an absolute number. There amy -- there's a possibility that it's 61, that it's 65, 66. So there could be some -- some deviation.

I think maybe that's where maybe I'm confusing the record too by that. So generally speaking, yes, about 100 percent.
Q. All right. So I understand I think what you're saying is the 64 percent -- let's use the exact numbers, like you said.
A. Okay.
Q. I think one of them -- I'll find it in

## LaPorte

your report. In your report you actually give us the actual numbers and then the average, is my recollection. Do you recall that?
A. That's correct.
Q. I don't remember what page it was on. All right. So it looks like we're on -- is where you give us the actual numbers and average, page 16 of your report, which is LaPorte 1 , the second full paragraph from the bottom.

Do you see where I'm at?
A. Yes.
Q. So the actual numbers of the two samples are 66 percent and 62 .
A. Correct.
Q. So is it your testimony, then, that because of the precision of that measurement the 66 could actually be a couple percentage points higher or lower in reality? Is that what you're saying?
A. In reality -- I mean, I don't want to use the word -- first of all, if you were to measure precision, obviously we have very good precision because $I$ have done two different measurements and achieved a 62 percent and 66

## LaPorte

percent. So that's good precision.
But yeah, when you're talking about that, the actual value, we'll say, the 66 percent could have been 63 percent or -- it depends on where -- you know, that's why you do multiple -- I did multiple samples from the inks as well too. So I'm sort of -- I'm averaging as well. I shouldn't say I'm averaging, but it's being averaged.
Q. Well, based on the average of 64 percent loss, would it be fair to say that it's an average of about 36 percent of the $P E$ remains in the sample, not precisely but around about that amount?
A. Approximately, sure.
Q. And that puts it, as you point out in the next sentence, the average loss is more than 2.5 times the 25 percent cutoff level.

And what is -- that 25 percent cutoff level, what does that mean?
A. You set the threshold at 25 percent. Very -- I would -- I would equate this to like a blood alcohol test. So when -- if you were stopped for driving under the influence and . 08 is

## LaPorte

the state limit and you register a . 24 , you're almost three -- you're three times the legal limit, we'll say.

So that threshold is set -- the 25 percent threshold is set because I've -- in my experience $I$ 've never seen an ink that was greater than two years old that had more than 25 percent loss of phenoxyethanol.

In fact, $I$ would say probably the highest difference that I've ever seen was maybe in the like 17 -- low teen percentages for an ink that was greater than two years old.
Q. So the cutoff level means that if you have a percentage loss above 25 percent, the ink is at least two years old or younger -- or newer, I guess is the word?
A. Yes.
Q. And then if the amount loss is less than 25 percent, you would say, based on the science, that ink is probably more than two years old?
A. No, no.
Q. Okay.
A. It would be -- $I$ would just say that it

## LaPorte

is inclusive, because there are inks that could be less than two years old where you would get less percentage of phenoxyethanol -- less than 25 percent phenoxyethanol.

So you get to an inclusive, if you will.
Q. And you mentioned that there are slow-drying inks when it comes to $P E$, and fast drying; true?
A. Slow aging, fast aging.
Q. Okay, slow aging. I'll use your word, slow aging. When you are saying "slow aging," how slow is slow aging?
A. Generally slow aging is everything up to the 24 months. When we say slow aging, that would constitute that category of inks that would age until they're 24 months.
Q. When you say they'll age until they're 24 months, does that mean they will continue to lose some measurable amount of PE until they're 24 months?
A. Yeah, it's -- once again, just to make sure we're clear, even if $I$ analyzed an ink that was four years old, $I$ could still find a

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measurable amount of phenoxyethanol. There's no dispute about that. It's the fact of doing the -looking at the percentage lost in those inks when you -- once you get to a really low percentage, then doing that sort of quantitative analysis can become less reliable when you're dealing with very low levels.
Q. That sounds like a qualification, and I want to clarify it if that's the case.

On page 8 of your report, the last paragraph -- I'll wait for you to get there.
A. Okay.
Q. In the second-to-last sentence, you make a declaratory sentence there that ends with a period that says, After 24 months $P E$ no longer evaporates at a significant or measurable rate.
A. Measurable.
Q. Right.
A. That's what I'm talking about is measuring the difference.
Q. But it sounded like what you had just said -- and correct me if I'm wrong -- is that you still can measure it after 24 months.
A. No, you can still detect it.

## LaPorte

Q. What's the difference between measure and detect?
A. Okay, so when we're talking about -there's -- let me give a hypothetical. If I have -- if $I$ have an ink that's three years old, in theory $I$ could determine the quantity of phenoxyethanol present. I could measure that phenoxyethanol.

But now if $I$ want to take it to the next step and look at the percentage lost, that's where it becomes immeasurable, looking at those -calculating that difference of $P E$ that's lost.

So I guess -- the primary measurement that's taking place is the difference between the heated and the unheated.
Q. The various charts we went over -actually, the chart in your report, which you talked about, which is an illustration -- do you remember the discussion with that?
A. Was that Exhibit --
Q. LaPorte Exhibit 1, your actual report.
A. Oh, my actual report, I'm sorry.
Q. Right. You had a chart in there that I asked you about early on, and you identified it as

## LaPorte

an illustration.
A.

MR. SOUTHWELL: What page are you referring to?
A. I'm sorry, that was not in Exhibit 1; that was in the other report that $I$ issued.
Q. Oh, yes, you're right. Let's go look at that other exhibit. I don't know what the number is. It's the report from April 17th, 2012, this year, and it's on page 7 of 19.
A. That's LaPorte 3.
Q. Okay.

I'm just using this for example purposes. That curve is there, and based on the numbers on the left-hand column there, would you agree that at 24 months is where the curve ends and it would be approximately 10,000 as an amount of PE?
A. No, I don't want to misrepresent the numbers. The numbers are arbitrary. So the reason -- I mean, those numbers --
Q. Well, they go down by 20,000 from the top to the bottom; right?
A. Yeah, for simplicity, when -- I use an

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Excel spreadsheet, so putting the numbers like that kind of creates that shape. So that's the reason. Those numbers don't mean anything.

They're completely arbitrary. Obviously the numbers in the time of months indicate a span of time.
Q. Those aren't arbitrary; right?
A. No. I mean, obviously they're -- I guess -- well, the whole -- the whole figure is arbitrary, for all practical purposes, but...
Q. On the various charts that we went through that showed that at about 24 months there's no measurable rate of $P E$ left --
A. I'm sorry, PE lost, I guess to be clear, not $P E$ left. Or to measure the PE that's lost.
Q. By heating?
A. By heating, yes.
Q. Okay.

Once you heated that sample in this
case, that sample was effectively equivalent to a sample that was 24 months old -- right? -- or no?
A. No, no, it doesn't work like that.
Q. The heating that you did was to

## LaPorte

artificially age the sample or no?
A. No.
Q. What was it for?
A. It's -- setting -- using that temperature, that's an established temperature, I'll say, to -- it's not meant to mimic the aging process. The purpose of it is to -- when you use that heat, that temperature, then to measure the amount that's lost, it doesn't mean that that's -if $I$ heated at 70 degrees that that would be similar to an ink that ages over two years. That's not -- that's not the intent of applying the temperature.
Q. And the other folks that we've talked about tonight -- today -- the Canadians: Gaudreau and Brazeau -- did they use 70 degrees Celsius, as you do?
A. Yes, I believe they're using 70 degrees Celsius. Bügler published an article later on I believe in 2008 looking at different temperatures. Seventy degrees Celsius was -- it's what we would agree -- I say "we," but the ink-dating community. I mentioned earlier that I'm part of this group, International Collaboration for Ink Dating, Ink

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ID. But we have agreed that 70 degrees is a good representative temperature to use.

I mean, some people could use 150 degrees, but then you're going to drive off a lot more phenoxyethanol using that temperature. Seventy is an optimal -- seems to be an optimal temperature for phenoxyethanol, based on its chemical properties, based on its boiling points, those type of things.
Q. Speaking of that, what is the freezing point of PE?
A. The freezing point? I would have to reference it to be certain, but it might be in the low like 11 degrees $C$.
Q. Help me out with Fahrenheit on that, would you? What's Fahrenheit 11 degrees Celsius?
A. Now you're really trying to trick me.
Q. No.
A. $\quad 11$ degrees $C$ would be approximately -20 degrees $C$ is 70 degrees $F$.
Q. Just an approximate number.
A. So 11 is -- I'm not -- I'm not -- I don't want to convert but...
Q. We'll figure out the conversion on a

## LaPorte

break.
Does $P E$ evaporate at the same rate regardless of the temperature it's sitting at -if it's in a freezer or if it's in a hot desert, $I$ would assume it doesn't evaporate at the same rate; is that accurate?
A. I would concur with your assumption, that if you put it in a freezer versus room temperature, then it will evaporate at a different rate.
Q. And is it fair from common sense to say that if it's in a freezer it's going to evaporate more slowly? Or maybe that's not true.
A. I mean, the literature -- actually, there's no -- there's no literature -- or no research that actually shows that that's true, in fact true. But we theorize that colder temperatures would slow the -- a freezing temperature -- putting it in a freezer would slow it down, slow the process.
Q. Is there any research that you know of that has tested the rate of evaporation of PE at different ambient temperatures?
A. There's a lot of research looking at

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different -- different storage conditions. I don't believe that $I$ can recall anything specifically that looks at a series of inks over a series of years at different temperatures.

It's a -- it's a difficult experiment to do because you have to truly let the inks go for two years. So if you set it up today, you couldn't do the testing for another two years.
Q. No one in the field has done that kind of test yet?
A. I'm not aware of that test.
Q. The Celsius conversion --
A. Yes.
Q. -- does it sound ballpark that 11 degrees would be about 51 degrees Fahrenheit?
A. But when you say the freezing temperature of phenoxyethanol, that doesn't mean it freezes a -- as a solvent like as a solvent in the ink matrix. So when ink goes down on paper, there's phenoxyethanol that's encapsulated in that ink. So it's not like it's a true liquid form.

I don't know the exact freezing temperature of phenoxyethanol.
Q. So 11 degrees that you mentioned before

## LaPorte

might not -- might not be it, actually?
A. I would say we should look that up to be certain of that number.
Q. And where could we look something like that up?
A. I guess in Wikipedia.
Q. Oh, it might be online? It might be common enough to be online?
A. Yeah.
Q. I thought it maybe it was in a journal article or something.
A. Typically we talk about boiling point, not freezing temperature.
Q. The 64 percent loss that we were just talking about before, I'm just trying -- I'm going to try to do some simple math here and see if you agree with me.

If 64 percent was a firm number, that's how much was lost in the process that you used, and about 36 percent is remaining, you would agree with me that -- and I'm just using math here -that the original amount of ink is about 2.7 times more than what's now remaining? The original amount you had, you took away about two-thirds, 64

## LaPorte

percent. You have about 36 --
MR. SOUTHWELL: I object to the form. There's no frame of reference for the timing of when this happened. Are you talking about when the ink is first put on the page?

MR. BOLAND: Let me clarify the question.
Q. When you took out your samples from -you took ink samples from this document; right?
A. Yes.
Q. And you heated one and then measured and determined that -- I'm sorry, you heated two different samples and then averaged -- the average of that is about a 64 percent loss of PE after you heated it.
A. Yes.
Q. And comparing the amount lost versus what was in the unheated sample -- so comparing those two things --

MR. SOUTHWELL: As of the date that the sample was taken?

MR. BOLAND: When he's doing his testing. He has now heated one sample and 64 percent is lost.

## LaPorte

Q. You're sitting in your lab, and you now have a sample with 64 percent gone and another unheated sample. Comparing those two, the unheated sample would have about 2.7 times the amount of $P E$ than the heated sampled because you drove off 64 percent? It's just math.

MR. SOUTHWELL: I don't think it's just math. Objection.
Q. $\quad 100$ percent divided by 36 percent, it's 2.7 times.

MR. SOUTHWELL: 100 percent of what?
MR. BOLAND: I'm asking him.
A. No, I am completely lost by the question. I'm not following it at all. You're almost making the assumption that only phenoxyethanol is there. There's all kinds of other components in the ink too.
Q. No, I'm just talking about the amount of PE. You've lost 64 percent of the PE. The unheated sample would have more $P E$ in it once you're done with that heating process; true? The unheated sample.
A. Would have more, yes.
Q. Right. And it would have approximately

## LaPorte

two times as much $P E$ in it -- a little bit more than two times the amount of PE in it than the one you just heated, because you lost 64 percent?
A. So you're taking 50 percent -- I think it would be a lot easier to stick with the 64 percent rather than trying to convert that to a fraction or ratio.
Q. All right. I understand that. I'm just saying that there's more in the unheated than the heated sample when you're done.
A. Yes.
Q. That's obviously part of the process that you're doing.
A. I wouldn't be here today if there wasn't.
Q. Now, isn't it true that in all these charts that we went through there's -- for lack of a better word, there's a dry point on that curve where the PE essentially has stopped evaporating for purposes of measuring it any further?

MR. SOUTHWELL: Objection to the form.
A. I think we're getting caught up on the curve. So the curve is strictly meant for a general aging process of the inks. So there are

## LaPorte

some inks that will age faster and that curve will come down a lot faster and go straight at six months or four months.

So I think we're getting caught up on this curve. But this is just meant to be a generic description of what happens with inks in general, not all inks but inks in general.
Q. Well, generally speaking, aren't all the curves that we looked at today, by the time they get to two years, they're pretty flat, they are flat?

MR. SOUTHWELL: Objection to form.
Q. Is that the case or not?
A. I would agree -- yeah, the theory is that at 24 months that inks slow down on the aging process.
Q. And am I understanding your previous answer before that to say different inks would generate different curves?
A. But all of them would end up kind of at the same point as this one in the 24 months.
Q. I understand --
A. There's stuff in between that's going to vary.

## LaPorte

Q. Yes, that's what I'm saying. I'm not disputing the 24 months for the point. But different inks would have a different-shaped curve. It could be a more gradual sort of decrease to 24 or it could be more extreme at the beginning?
A. That's a fair comment, yes.
Q. You even mentioned some of them would be down to almost flat in three months, some would be down to almost flat in six months?
A. Yes.
Q. And others it might take all of 24 months before they totally flatten out?
A. It could, yes.
Q. And just to clarify a question $I$ asked earlier this morning, there is no place you can go or any expert can go with a known ink formulation and have the information about what the $P E$ curve would look like for that ink formulation? No one keeps that data somewhere?
A. Well, you would -- you can have -certainly you could run -- you could run known inks. I mean, I have -- I actually have a number of standards at home or in my lab that -- where I

## LaPorte

can -- where I've tracked them through the years. So $I$ know that particular ink formulation from that particular pen, $I$ know how that ages. I have that -- that's my knowledge.

But now to -- what $I$ said before was if I had a questioned ink, an unknown ink from a questioned document, $I$ would never -- I can't imagine a circumstance where I'd be able to say that the ink on that questioned document is the exact same formulation as the ink that $I$ have at home.

I mean, it might be the same. It might be a Bic. It may even be the same formulation. But we don't know if it's from the same batch, and there may be batch-to-batch variations where there was more solvent added or resin added. I mean, there's variations from batch to batch.
Q. Sort of the recipe they use to make the ink --
A. Yes.
Q. -- so to speak.
A. Yes.
Q. A laymen's term.

How many inks do you have that you have

## LaPorte

run through this test so that you know the curve, the $P E$ drying curve, is what $I$ 'm going to call it, if that's acceptable? The PE drying curve, how many of those do you have, would you estimate?
A. I have close to 20 inks that I've been working with over the years that $I$ continue to monitor that $I$ do regular analysis on.
Q. Is this there any published research on linking ink formulations to these PE drying curves?
A. Not that $I$ know of. When we're talking about linking ink formulations, $I$ think this actually may have come up in Mr. Stewart's deposition when we talk about match. So when we -- when we say that two things match, it doesn't mean that they're identical; it means we couldn't differentiate them based on the series of tests that we did.

That's like a completely implausible theory to think that you could match an ink formulation just simply based on doing -- looking at a curve and then finding another pen or...

MR. BOLAND: Mark this as Exhibit LaPorte 7.

## LaPorte

(LaPorte Exhibit 7, charts, marked for identification.)

MR. SOUTHWELL: This is what, I'm sorry, 7?

MR. BOLAND: Yes.
Q. Mr. LaPorte, I just -- You were just handed Exhibit -- LaPorte Exhibit 7, and it should be I think a three-page document with three of the charts we've talked about already today.

MR. SOUTHWELL: Well, not including the color.
Q. And you'd agree with me that --

MR. SOUTHWELL: Or the box with the
language.
Q. There's two colors -- colored bars at the bottom of each of these charts which were not in the charts as they were originally published; true? Those were inserted?
A. Hold on. I'm just --
Q. That's at least one thing that was inserted. And then --
A. So this is from the SPME article? Can I just go back to the SPME article?
Q. Sure.

## LaPorte

A. Just to...

Okay. I have the SPME article.
Q. So the chart's the same. It's larger in size than what appears in the article, as far as I magnified the chart; right?
A. Yes.
Q. And then the yellow and red bars that appear on the chart on page 1 of that exhibit are not in the original article; true?
A. Uh-huh.
Q. There's a box right smack in the middle of the chart that is not in the original article?
A. Yes.
Q. This box, like a text box.

MR. SOUTHWELL: There's also a red
circle and red dots not in the original.
Q. There's a red circle and red dots also. Thank you.

Look at this chart and you see the bottom red bar that goes across --
A. Right.
Q. -- it meets up with -- it intersects the curve at right about a little over 700 days. Do you see that?

## LaPorte

A. Yes.
Q. And 700 days -- a little over 700 days, roughly -- a little more than two years, actually, a touch more than two years, or, no --
A. Touch less.
Q. A touch less than two years.
A. $\quad 730$ would be two years.
Q. Right.

And two years is typically when most of these charts have ended or the curves have flattened out. Do you see the yellow bar on top of that?
A. Yes.
Q. You'd agree with me that the yellow bar looks just about twice as big as the red bar?

MR. SOUTHWELL: Objection.
A. Let's --
Q. Whether you can agree on that.
A. You're saying in the thickness?
Q. The thickness of the yellow bar is about twice as thick as the red bar?
A. Okay. I agree with that.
Q. Assume -- in our case the loss of $P E$ in your testing was 64 percent.

## LaPorte

A. Right.
Q. And so it leaves remaining roundabout 36 percent --

MR. SOUTHWELL: Objection, that's
not --
Q. You testified that it could be a little less than 36 percent or a little more than 36 percent.
A. Okay.
Q. You can see from this chart that the curve intersects that yellow bar at approximately -- a little under 100 days?
A. Yes.
Q. And so that would be the point, would it not, where if you heated that sample that was a little under 100 days old you would drive off approximately two-thirds of the PE?

MR. SOUTHWELL: Objection to form.
A. No. I mean -- I guess we should make it very clear that we're comparing two different -- two different completely -- two completely different technologies. So these are SPME measurements. So I don't know how --
Q. $\quad$. $P$ is not the method you typically

## LaPorte

use; right?
MR. SOUTHWELL: Objection.
A. Not the extraction.
Q. The extraction you typically use.

Okay?
MR. SOUTHWELL: Let's let the witness answer, please.
Q. You --

MR. SOUTHWELL: Objection. He didn't finish.
Q. Go ahead. Finish.
A. This is -- $I$ can't even compare this because it's a different extraction method. I explained SPME early on. So it's completely different.
Q. Let's go to page 2 of that exhibit. And the same four items, you would agree with me, have been added to this chart from the Weyermann article: two different colored bars, a red circle, a red dotted line, and a text box; true?

MR. SOUTHWELL: Which exhibit? Got it?
MS. AYCOCK: (Handing.)
A. So what exhibit is Weyermann?

MR. SOUTHWELL: It's LaPorte 6.

## LaPorte

A. LaPorte 6?

MR. SOUTHWELL: Is that right,
Mr. Boland?
MR. BOLAND: Yes.
Q. Do you see where again this top bar that's sort of yellow-orange in color and the bottom bar on yours which is more red, the top bar is roughly two-thirds as big as the bottom bar?
A. Yes.
Q. And the bottom bar intersects the curve when the curve flattens out near what is nine or ten months on this chart.
A. Okay.
Q. And that the curve intersects the yellow bar just a little over three months time frame. You see the red dotted line drop down from there.
A. I mean --
Q. Do you see where that intersects?
A. Yes. But we still -- we have never established that this -- whether this curve is a theoretical curve or not.
Q. Well, let's assume that it's based on actual data, and let me ask you some questions.

## LaPorte

And we'll note for the record it's a hypothetical.
A. But $I$ can't -- $I$ can't compare real data with hypothetical data. That's impossible to do.
Q. Do you see the description of the figure at the bottom that these are threshold values proposed by Aginsky?
A. Yes, I do see that.
Q. Do you have any reason to dispute that these are actual values proposed by Aginsky for his measurement of ink?
A. Once again, $I$ don't know if they are actual values.
Q. I understand. I'm just saying do you have any evidence of disputing them being real values, threshold values. That's all.

MR. SOUTHWELL: Objection, asked and
answered.
A. Yeah, but what he was using for his threshold values -- this is a 1996 publication I'm looking at. If $I$ recall this correctly -- if $I$ recall this paper correctly, these are theoretical values.
Q. Let's go with that, then, the

## LaPorte

theoretical values represent the curve that you see in this chart; right?
A. Right.
Q. And that these theoretical values, that drying time curve, intersects that yellow bar at just a touch over three months. Fair to say?
A. I agree that that's where it touches.
Q. And if you had a sample that was three -- a little over three months old and it was this particular ink -- let's just use that hypothetical -- and then you went ahead and heated it, that's where you would drive off 64 percent of the $P E$, right at that point?

MR. SOUTHWELL: Objection.
A. I'm sorry, we're comparing apples with oranges here.
Q. Let's look at page --
A. I don't even know how to respond other than $I$ can't respond.
Q. Let's look at page 3, then. Do you have any reason to dispute that the data on this chart, which we talked about before, is actual data provided by Aginsky?
A. This is the 1993 publication? Let me

## LaPorte

go back to that.
Q. I believe it was.
A. Okay.
Q. And would you agree with me the chart in the publication, which was cited in your report, and this chart in this exhibit differ in the same basic ways as the previous charts: There are two different colored bars, a text box, a red circle, and a dotted red line added to the chart? Fair to say?
A. Yeah. We should make it clear this is an aging curve for that Soyuz blue violet ballpoint ink?
Q. Yes.
A. So unless the ink in this case was the Soyuz blue violet ballpoint ink, once again we're comparing apples and oranges.
Q. Was the ink in this case Soyuz blue violet ballpoint ink?
A. I don't know if it was.
Q. If it was, hypothetically -- you know about hypothetical questions as an expert; right?
A. Yes, I understand.
Q. Let's go with the hypothetical that the

## LaPorte

ink in this case, which you don't know what it was, but let's assume it was this ballpoint ink --
A. From Russia? This was a Russian ink.
Q. Let's assume that it was this ink, for your hypothetical -- for the hypothetical I'm asking you. You'd agree that this curve intersects that yellow bar at a little over two months; true?
A. I believe your question was kind of two -- I guess it wasn't two-part, but you said -I will agree that the red line intersects the bar at just above two months.
Q. Okay.
A. I don't agree with -- I don't even know how I can take your hypothetical. That's -- I mean, $I$ understand we work in the world of hypotheticals sometimes, but then there's also the fact that this is totally not realistic in any way whatsoever.
Q. This 24 -month period -- you tested the ink in this case in August of 2011?
A. Yes.
Q. And your report indicates that the ink is -- correct me if I'm not saying this -- is it

## LaPorte

up to 24 months old from the time you tested it or somewhere within 24 months old but not 24 months?
A. It's highly probable that it was done in August of 2009 all the way up until July 13th, 2011. I guess that was the last time that we saw that document.
Q. Okay. So let's --
A. In theory.
Q. Let's correct that. You're right, you took your samples out of the ink of this document in July of 2011?
A. July 16th -- oh, no, I'm sorry, the phenoxyethanol testing was done in August. There were two different -- there were two different sets of plug removals that took place.
Q. That's right. One in July?
A. I removed July $16 t h$, and then $I$ returned to Buffalo on August -- I'm not exactly sure of the date, but later August of 2012 [sic].
Q. How many plugs did you take in July?
A. Whatever was -- whatever -- there was a certain amount that we were allowed to take.
Q. How many did you take?
A. I took -- whatever our side was

## LaPorte

allotted -- I'm just going to use this as an example. If we were allowed to take ten, I would have taken five, and the other expert, Dr. Lyter, would have taken the other five.
Q. But do you know what that exact number is that you took?
A. I have it in my notes, yes, but I don't -- $I$ can't give you the exact number right now.
Q. And would you have been the one who physically did take the plugs or would you have relied on someone else to take the plugs and just give you five?
A. No, I physically took them. Dr. Lyter removed his plugs separately.
Q. And where did you take, in July, the plugs from on the document that you took in July? Where on the document?
A. So what plugs are we referring to?
Q. The plugs you took in July, where on the document physically would you have taken those plugs from?
A. I don't know how $I$ can answer that question without having the document. When you

## LaPorte

say where on the document --
Q. Yeah, page 1, page 2, top, bottom, left, right.
A. $\quad 0 h, I$ took it from page 1 and page 2.
Q. Where on the page?
A. Generically speaking, the
interlineation --
Q. The ink of the interlineation?
A. The ink of the interlineation.
Q. Very well.
A. The ink of the PC initials on page 1, the ink of the MZ initials on page 1. So those were three -- three separate collections -- the signature of Mr. Ceglia on page 2, and the signature of Mr . Zuckerberg on page 2. Then I took paper blanks from page 1 and page 2. I also took samples from the specifications document, but I don't know if we're discussing that.
Q. Where on the document did you take the paper blanks from page 1?
A. I took them from the bottom of the document, and then $I$ would have taken one from the interlineation area like where the writing is in the area. And then $I$ took -- I'm sorry, I took --

## LaPorte

I know I took -- there were the areas that we're calling the -- that I'll refer to as the white -the white rectangular areas that had UV fluorescence. I took two from each white area.
Q. And on page 2 where did you take your -- the paper plugs?
A. Paper plugs?
Q. And I'm talking just in July now.
A. Yes, just in July. I took -- I know I took two from each of the white rectangular areas. So I took four -- there would be four from the top, same as page 1. I believe $I$ took some the bottom as well. And then $I$ would have taken some from the written areas, like a blank from -- in the written area.
Q. Did you test those samples for PE?
A. Yes. I didn't test them all, but I tested the one that's from the written area. I tested that for PE.
Q. On which page? Written area of which page?
A. Both the interlineation and the signatures on page 2.
Q. And are those -- results of those tests

## LaPorte

from the July plugs what appear in your report?
A. I have it in my notes, but -- I can tell you I didn't -- I mean, the actual results? When we talk about the results, there's a lot of -- a lot of data that goes with the results. It's in my report that $I$ tested the paper blanks and so forth and $I$ did get differences. All of that's clearly in my report.
Q. What I'm asking is the ink plugs you took from the interlineations in July on page 1 , did you test those using the method you use for PE testing.
A. Yes, they would have been run. So when I do the PE test, $I$ run a paper blank, yes.
Q. And are those the samples that resulted in the 62 percent and 66 percent loss that's reported in your report, the ones from July?
A. I may have used the ones from July in August, like for the $P E$-- running the paper blank for the PE.

So I'll always run a paper -- I guess to make it clear, I'll run the paper blank of the sample that comes from the written area when $I$ do the PE testing.

## LaPorte

Q. Why is that?
A. To ensure that there's not any PE or other contaminants in the paper blank that's in the written area.
Q. Let me focus my question, because $I$ don't think $I$ was clear enough on the earlier question.

You took both paper blanks and ink plugs in July --
A. Yes.
Q. -- from the document. And you took ink plugs, amongst other places, from the interlineations on page 1 in July?
A. Yes.
Q. And so my question is the 66 and 62 percent loss figures that are in your report, did those come from PE testing of the ink plugs from the interlineations on page 1 that you took in July.

MR. SOUTHWELL: Objection to the form.
A. I'm sorry, you lost me at the end there so...
Q. The 66 percent and 62 percent figures that are in your report --

## LaPorte

A. Yes.
Q. -- those are percentage loss of PE from ink samples?
A. Correct.
Q. And they're specifically from the interlineations?
A. Correct.
Q. Those samples that you used to generate those two figures --
A. Yes.
Q. -- what month did you grab those plugs?
A. $\quad$ Oh, that was in August.
Q. Okay. What were the results -- let me back up.

You took -- you also took plugs in July, as we just established, from the interlineations, the ink part, in July; correct?
A. Yes.
Q. Did you run a PE test on those ink plugs?
A. To be clear, no, I didn't run a test specifically for $P E$ on the samples that were removed in July. I ran -- I performed a GC/MS analysis and discovered that there was a high

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level of PE. So that -- that was -- so that has -- that needs to be differentiated from the PE test.

Once again, $I$ think $I$ explained that in my report. I run the initial program in scan mode. So I'm not necessarily looking specifically for $P E$ at the time; I'm looking for all the different components.

The purpose of that was to compare the different inks from the interlineation, the initials on page 1 , and the signatures on page 2. So that was the purpose of that GC/MS analysis.

Then $I$ discovered the $P E$, and then $I$ went back to Buffalo to remove additional samples.
Q. Is GC/MS testing destructive or nondestructive?
A. Yes, it's -- you have -- when you take the -- when you remove the ink and you put it in a solvent and then you don't have any sample left. So yes, you've destroyed your sample.
Q. Do you know the percent -- so you wouldn't know a percentage loss of PE from the samples you took in July because you didn't do that -- you didn't determine that on the July

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samples?
A. Correct, correct.
Q. Do you have the test results from all the testing that you did of the July samples in your notes at your office, perhaps?
A. I have all of my testing results from beginning to finish -- beginning to end.
Q. Have you provided those to defendants' counsel?
A. I provided some of them. I'm not sure if $I$ provided everything, but I've provided -- I'm not exactly sure what $I$ provided, but I did provide some of my notes. It could have been all of them, but I'm not sure. In electronic form.
Q. Could you have run a full sort of $P E$ test on the July plugs? Was that --

MR. SOUTHWELL: Objection to form. Can
you clarify what you mean by "PE test"?
Q. The same test you ran resulting in the report here.
A. No.
Q. Why is that?
A. Because the samples have to be -there's -- I follow a specific protocol the way I

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remove the samples and where $I$ remove them from. When $I$ went to Buffalo to remove the samples in July, I -- there was -- there was a dispute at the time about how many samples we were going to remove. So that was one thing that was happening. Also, the document was so damaged, $I$ wasn't expecting to do the PE testing at that time.

So compounded with the dispute and the fact that the ink was completely degraded, I didn't think that $I$ would be able to get a positive -- or $I$ didn't think that I'd be able to do the $P E$ testing by getting a sufficient amount of plugs.
Q. In July?
A. In July.
Q. And the document, when you saw it in August, looked the same as far as the damage and the faded ink; right?
A. Yes, compared to when $I$ saw it on July 16th, yes.
Q. And speaking of that damage to the document, have you ever compared -- are you aware that Mr. Tytell took a scan or an image of the document, the Facebook -- the contract we're

## LaPorte

talking about, the morning that the experts first were given the document to test?
A. Yes, I am.
Q. Are you aware that Mr. Lesnevich, as part of his analysis of the document, took scans or images of the document the morning of the second day of testing?
A. I know that Mr. Lesnevich took scans. I don't know when he took them.
Q. Have you ever seen those scans of Tytell and Lesnevich side by side?
A. I've seen -- I've definitely seen the Tytell images. I believe that $I$ have seen -I'm -- the Lesnevich and Tytell images. I don't know if $I$ 've seen them side by side. If you want to provide them to me now, $I$ can -- just as a reminder.
Q. No, I'm just asking if you've ever seen them side by side.
A. I believe that $I$ have.
Q. And what was your reaction to that? Did they look different to you or the same?
A. They used different scanners. The ink was degraded the same way in both of them. That

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was -- that was certainly obvious. I believe there was different coloration or the way the -the way the scanner works.

But different scanners -- I mean, on my scanner, $I$ have a Canon wide scanner and there's a D screening and $D$ mask. And wherever that's set -- those settings are there to allow more light to come through the document or to reflect. That's obviously going to create differences from scanner to scanner and setting to setting within that scanner.
Q. So the differences in potentials scanners would cause you to conclude you can't really compare those two images?

MR. SOUTHWELL: Objection.
A. I would never do a comparison of two images from different scanners. That -- that -that's not a -- I mean, to say -- to conclude that there were actual differences in the -- in strictly the coloring? You could use the scanner to look at text or to look at other features that are much more clearer. But to make evaluations of the actual color of the paper based from a scan, that -- I wouldn't do that.

## LaPorte

Q. Can you say, sitting here, whether any of the scans you did not take that you've reviewed -- Tytell, Lesnevich, or whatever -- are unaltered?
A. What do you mean by "altered"? What does that mean, like --
Q. Changed in any way, just from however the scanner, the image, was captured, put through Photoshop or cropped or contrast. Do you have any way of knowing by looking at the other experts' scans whether they have altered them?
A. I haven't looked at their images in that much detail to know that, but $I$ can't -- I can't say one way or the other if that happened or didn't happen.
Q. The results of or the notes, I guess, I think you called it, from your testing of the July plugs or evaluation of the July plugs, do you have any of that with you today?
A. I do not.
Q. Did you bring any of your notes or anything with you to the deposition?
A. I did not.
Q. Why didn't you bring any of that stuff

## LaPorte

with you?
A. I was instructed by the Gibson, Dunn attorneys that there was an ongoing dispute and to leave my notes back at my hotel.
Q. This GC/MS machine that you've mentioned a couple times before, does it have different settings on it kind of like a scanner?
A. I've never heard somebody compare a GC/MS to a scanner, but it has settings, yes.
Q. What are those? Can you list them?
A. All of the settings?
Q. Well, how many are there? Let me ask you that question. Maybe none of them is too big.
A. When you say "settings," you mean like temperature, pressure?
Q. Anything you're able to change on that device before you use it.
A. You mean the motion of like turning knobs and that's -- that's not how -- GC/MS operates by software.
Q. Okay. Using the software, then. What are some of the settings that you can change? You mentioned, for example, heating the sample at 70 degrees Celsius. Does the GC/MS do that?

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A. No, that's separate from the GC/MS. So the GC/MS, there are temperature settings that you can adjust, pressure. There's various temperature settings, if you will, in different -- well, not various but in different areas of the GC/MS. So we have what's called the inlet. That could be a temperature. And then the temperature that you set your column at or your oven. That would be a different place where you could set the temperatures.

You have pressure -- those are primarily -- I guess we're talking about certain types of variables. Those would be the main variables.
Q. And how many others would you think there would be, just a rough figure? I'm not going to challenge you later and say, you know, there's 35 and you guessed 30 .
A. No, I know what you're asking. But there are like -- I guess I'm trying to think of the major parameters, and those temperature, pressure, those would be the major parameters.
Q. These other experts in your field that we've talked about, Aginsky, for example, does he

## LaPorte

use GC/MS?
A. Yes.
Q. Do Gaudreau and Brazeau, the Canadians, use GC/MS?
A. They do.
Q. And I don't remember the names, so forgive me, but the Russians that you referenced in your report, do they use GC/MS?
A. Aginsky was the Russian --
Q. Ah.
A. -- back in 1993. So yes, he used GC/MS .
Q. And then the Germans you mentioned there, is that Bügler?
A. Bügler.
Q. Does he use GC/MS as well?
A. They use GC/MS.
Q. And do they set these parameters the same as you when they're running their GC/MS machines?
A. I would say generally speaking we are -- we are using kind of similar parameters. I think maybe what we need to preface with or understand is that those parameters are set to

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achieve a -- what we call good chromatography.
So $I$ don't know if we have any peaks to look at or anything like that, but when you do -when you do gas chromatography, you get a graphical representation. So those parameters that you set are -- what you're aiming for is to get a good peak, if you will, nice peak, a good peak shape. So --
Q. Are there any published -- go ahead.
A. I was going to say, generally speaking we used -- I would say we typically used similar parameters.
Q. Are there any blind studies where these parameters have been tested to determine whether they affect the results from the GC/MS machine?
A. Well, now -- now we're actually -we're getting into sort of basic chromatography theory. That's -- this goes well beyond dating of inks or even analyzing inks. This is basic chromatography theory.

Yes, for example, $I$ used to be a drug chemist before $I$ went to the Secret Service. And I worked at the Anne Arundel County Police Department at Millersville, Maryland, and I worked

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at the Virginia division of forensic science.
We did GC/MS analysis in both places. There were maybe some different parameters from one GC/MS to the other, but generally speaking we would achieve the same results.
Q. Well, are there any blind studies testing whether these different settings on the GC/MS can affect results of PE testing?
A. If you're a trained chemist, you can determine whether those settings are sufficient or not. When $I$ originally starting doing GC/MS on inks back in 2002, we had -- we tried different types of settings. We looked for -- because those settings can control the time at when the phenoxyethanol is eluted from the column. So we would -- we would test sort of different parameters -- adjusting the pressures, adjusting the temperatures -- and so forth to achieve nice peak shape.

Also the other objective we struggle for -- not struggle for but we -- we shoot for in chemistry is if two compounds come out of the GC column around the same time, we want good resolution. So that's another critical part of

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GC/MS is achieving good resolution.
Q. Are there any blind studies that have been published regarding how GC/MS settings can affect the outcome of the results of using that machine for $P E$ testing?
A. I don't know -- I think more --

MR. SOUTHWELL: Asked and answered.
A. More important than blind studies are studies on known samples.
Q. My question is important to me. Are there any known blind studies? That's just "yes" or "no" what I'm looking for. I have tried it three times now, and you have given me paragraphs.

MR. SOUTHWELL: He answered the
question.
A. I'm sorry, I'm --

MR. BOLAND: If you read the
transcript, he hasn't. He didn't say yes or no, are there blind studies. That's my only question.

MR. SOUTHWELL: Versus what?
Q. Are there any blind studies done as to whether the settings on the GC/MS machine, if they're changed, can affect the outcome of PE test
results?
A. There are probably numerous, numerous studies that precede my birth that were done on GC/MS to look at those types of factors. Those are just -- those are very, very well-understood theories in practice.
Q. Is it true that you, you personally, first suggested the validity of $P E$ testing, for lack of a better term, what you did in this case, in an article in about 2004 sometime? Is that fair to say?
A. I'm sorry, repeat that. Am I the first?
Q. No, that's when you first did it. You're not the first person to have done it, but that's the first time you published something on suggesting the PE testing method, in 2004 , or is it earlier?
A. We began the work in 2002. It takes a long time to publish a paper.
Q. When did you publish it? 2004?
A. I think it came out -- it was in print in 2004. We were working -- I arrived at the Secret Service in April of 2001, and I believe

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that we began investigating this at least by late 2001, early 2002.
Q. Maybe this GC/MS I'm asking the wrong question. Is it the case that it doesn't matter how you set -- how you make the settings on the GC/MS machine, it will not affect the outcome of your PE testing results like you did in this case? Is that true?
A. $\quad 0 h$, no, no, $I$ never said that.
Q. Could it affect, depending on how someone chooses to set $G C / M S$, the eventual results they will get for PE testing? I don't know the answer. I'm asking you.
A. If you look at -- actually if you look at my figure that was in my report --
Q. What figure is that? Let's go to that.
A. Here we go. Figure L.
Q. What page is that on so $I$ can get to it?
A. That's on page 61 of 67.

MR. SOUTHWELL: Just so it's clear, I
think this is Exhibit $L$ to Mr. LaPorte's report.
Q. To your report?

## LaPorte

A. Yes. So the peak in the rectangular area is the peak for phenoxyethanol. That is what I would call a very, very good chromatography. So that's the peak that $I$ 'm interested in look at.

The peak at 4.82 -- I'm sorry, it would be 4.81 on the right figure and 4.82 in the left figure. This is cropped out, so you don't see the exact peak height of it. But it's -- that's what I call -- that's what's referred to as an internal standard. So I'm comparing that peak with the phenoxyethanol peak to quantitate how much is there.

But that peak and that separation that we get between those peaks, that would be -that's ideal. Any chemist would look at that and say this is good chromatography, so he must have pretty good settings, must have the right settings.
Q. Well, my question -- I'm not so much with this question asking whether you had the right settings; I'm asking if you -- if a person changes the settings on $a$ GC/MS machine does -could that affect the resulting -- could that affect the results of a PE test like you did in

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this case.
A. Well, you can -- you can change one setting -- if you -- I'm sorry, if you change one setting, you could counterbalance that setting by changing the other.

For example, if $I$ use a different temperature, maybe increase the pressure a little more, that may be different. I may not actually -- I may make changes, but I may not create differences.
Q. Okay. I understand that.

If you used -- if you had two of the same samples of ink taken from the same piece of paper and let's hypothetically say you know it to be -- you watched the person to put the ink on the paper and you waited six months and went back to it -- and you did the identical what I'm calling a PE test like you did in this case on both those pieces of paper and ink.

But as you went through the process you changed a bunch of settings on the GC/MS machine between these two testing runs, not trying to compensate one for the other, you just made the pressure super high on the machine in one and made

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it super low on the other, would you get different results -- would you report back different results regarding $P E$ because of those settings?
A. That would affect the testing result, yea. If you change a whole bunch of settings, yeah.
Q. I'm saying if you do it purposely to try to make the $P E$ results to come out wildly different, you could do it, it could be done?
A. In terms -- I mean -- the only thing you could potentially do is just make this a lot worse, like not -- where you wouldn't even be able to do -- you wouldn't even be able to interpret the data.

But to answer your question, if you make a bunch of changes, that could result in another change.
Q. Do you feel it's important that a person who's doing this $P E$ testing properly set the GC/MS machine when they're doing it?
A. If there's a person that's doing PE testing, they should understand gas chromatography/mass spectrometry, absolutely.
Q. And they should set the machine

## LaPorte

correctly?
A. When you say set the machine correctly, you should have enough background knowledge to know that the machine is operating properly and -those are important quality control questions.

The reason that $I$ provided the graphic in the report is so that if you have another chemist they'd be able to look at that and say GC/MS is not an issue here, he has very good peak shape. Any chemist with any kind of adequate training would be able to look at that in a second and say that's fine.
Q. And in the other articles we've looked at today, some of which were cited in your -- all of which were cited in your report, they don't necessarily all have GC/MS charts like the one we're looking at here on page 61 of your report?
A. I believe that some of the articles have those GC/MS charts, but I don't know for certain if all of them did or did not.
Q. All right. If we could look at -- I don't know the exhibit number. I think it was 3 or 4. It's the report of yours from another case, April 17th, 2012, it was dated.

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A. Yes. I think that was 3, LaPorte 3.
Q. LaPorte 3 .

And just as a layman -- I'm kind of summarizing this. If you don't think it's accurate, let me know. This report was done to determine if stock certificates had been backdated? Is that a fair summary?
A. I'm -- I feel very uncomfortable discussing the results -- or the -- other than what's written in the report. I mean, you can -I can read the request to you.
Q. That's fine. If you don't think that's a fair characterization, then you can say so. I'm just trying to get a summary so we're all on the same page.

There are stock certificates that you analyzed in this report?
A. No, there was more than that. There's a whole list of the questioned documents. I believe there were 25 that were listed. But there was a record that went along with the stocks as well, like a log, a log sheet.
Q. Like a ledger of some kind?
A. A ledger, yeah.

## LaPorte

Q. If you could look on page 13 of that document. And in the second full paragraph that starts with -- the paragraph starts with the words "after running the GC/MS." Do you see that paragraph?
A. Yes.

MR. SOUTHWELL: I'm going to object to any specific questioning about this. The witness said he hasn't reviewed this. If you want to let him review it and let him know what you're going to ask and he review it, you know, that's fine.

MR. BOLAND: There's no need to coach
him. I'm asking him questions. If he's unable to answer them, he can not answer them.

MR. SOUTHWELL: I think it's fair,
given what the testimony was earlier with respect to his familiarity with the report. MR. BOLAND: Very well.
Q. In this paragraph do you see the sentence near the end of the paragraph that starts "In this case, testing on the 2003 and 2010 entries resulted in average loss of 71 percent PE."

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MR. SOUTHWELL: I'm sorry, what paragraph are you?

MR. BOLAND: The second full paragraph on the page.

MR. SOUTHWELL: Oh, I see.
Q. You see that sentence, Mr. LaPorte?
A. Yes.
Q. And this is your report from this case; right? You already said that.
A. Yes, to the best of my knowledge, this looks to be the report.
Q. And 71 percent of $P E$, as you say in the sentence, far exceeds the 25 percent threshold; right?
A. Yes.
Q. You describe in the next sentence how you obtained that loss of PE. You indicate that it was evaporated from the ink samples after having been heated; correct?
A. Yes.
Q. That's roughly -- that's not roughly; that's exactly the same process you applied in this case, in our case?
A. Yes, the same -- it was the same method

## LaPorte

that I used, yes.
Q. Same method, right.

In the very next paragraph, you talk about an additional -- the very first sentence, an additional PE analysis you did April 12th of 2012 on the same sample. Do you see that?
A. Yes. This was at a later date --
Q. Right.
A. -- than the original $P E$ testing.
Q. Right. You did an original PE test on the sample. Then it looks like you went -- what's the date here? It looks like you went about two months later and did another test; is that right?
A. That $I$ don't recall. I don't have my notes to know what date $I$ conducted those tests on.
Q. Let's look at the bottom of page 12, the previous page. You see that paragraph at the bottom. It starts with: I was able to perform GC/MS testing.
A. Yes.
Q. And then you indicate you did that on some of the questioned documents on April 1st, 2012; right?

## LaPorte

A. Okay.
Q. You talk about using ink $A$ ?
A. Yes. There were multiple formulations of inks that were identified.
Q. Okay. And then on page 18 of this report, if you can go there, at the top of the page your conclusion was that it's highly probable that the entire ledger of entries from entry 1 through the entries that correspond to certificate 17 were written contemporaneously on or after January 23rd, 2012.
A. Yes.
Q. Do you see that?
A. Yes.
Q. So you tested it in April of 2012, did your PE test; correct?
A. Yes.
Q. Got a 71 percent loss; correct?
A. Yes.
Q. And then your conclusion was -- and you can correct me if my math is off. Your conclusion that we just read at the top of 18 was that the ink was written, at the most, 59 days earlier?

MR. SOUTHWELL: Objection.

## LaPorte

A. That was -- this is where I'm starting to get uncomfortable, because that involves a lot of interpretation of the data. So I concluded that there were multiple entries on this particular ledger. One of them was dated 2001, I believe, and then there was another one that was dated 2010, and then there was a following one that was dated 2012, of January.

So the entry in 2001 had a similar
level of phenoxyethanol or similar loss of phenoxyethanol as the entry in 2010 and 2012.

So there were other findings in this report as well too that corroborate that, but the idea is that it would have been created -- as I concluded in here, it was highly probable that it would have been created on that January 23 rd date of 2012 .

It's possible that it was done in April of 2010, but it wouldn't make any sense because all of the entries that followed April were in January.

This is a complex case to explain.
Q. And you did one test on April 1st of 2012 -- we just talked about that from the bottom
of page 12 -- I'm sorry, April 1st, yeah, 2012; right?
A. Yes.
Q. And then you performed a second test on the samples which you called an additional PE analysis --
A. Correct.
Q. -- on April 12th. So that's 11 days later.
A. Right.
Q. And 11 days later, using ink $A$, as the paragraph we're referring to on page 13 says, you found then a 46 percent loss of PE ; correct?
A. Correct.
Q. And 11 days earlier you'd found a 71 percent loss of PE?

MR. SOUTHWELL: Objection to the form.
Is it in fact the same?
MR. BOLAND: I'm just asking him. He
can answer "yes" or "no."
Q. It says in that same paragraph, actually the paragraph above, 71 percent loss of PE on April 1st --

MR. SOUTHWELL: Of what?

## LaPorte

MR. BOLAND: He can answer the question.
Q. Does the report in fact say an average loss of 71 percent of PE? That's your words in the report; true?
A. Correct.
Q. And 11 days later it says in your report you conducted an initial PE analysis April 12 th and there was a 46 percent loss of PE when the levels from the unheated samples were compared with the heated samples; correct?
A. Correct.
Q. So in 11 days $P E$ was evaporating from these samples?
A. Do you know that curve that we've been referring to? If you look on the early part of that curve, the samples decrease significantly in that time. That's what substantiates the January 23rd, 2012, is that this ink is still an aggressively fast-aging process.

And as a matter of fact, which $I$ can let you know, which is on the record, this document was being asked for for several years and was put forth to the court in March of 2012.

## LaPorte

Q. And an average loss of 71 percent, as you say here, of the ink $A$, nearly two weeks prior to your second testing, is a strong indicator that the ink is still in the initial stages of drying; true?
A. Yes. I should also mention that $I$ tested three other ink formulations in this case, and many of them had high levels of phenoxyethanol loss as well too.
Q. When you say something is in initial stages of drying, how many months old would that be, based on your expert opinion, the initial stages of drying is?
A. It's -- you can't define that period of initial, but when we use it for an ink -- if there's an ink that's fast-aging and it ages out within six months, that initial stage might be the first month. But if it's an ink that takes 24 months, the initial stage could be the first 6 months.
Q. Which kind of ink was this in this report?
A. I can't tell you that. I know that - I mean, if $I$ went back and tested it now several

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months later, $I$ might be able to tell you that it's a fast-aging ink but...
Q. What kind of ink do we have in our case? Fast or slow?
A. I can't tell. I have only made one measurement.
Q. So you don't know?
A. No, you can't determine if something is a fast or slow-aging ink unless you do multiple measurements of it over time.
Q. Did you tell the defense attorneys that fact?
A. No.
Q. Would you be able to determine if the ink in our case is fast or slow aging if you took more plugs?
A. At this point it's -- it's been over a year now. So there's a good chance that you might not even get any phenoxyethanol.
Q. Why --
A. You would have to take like regular measurements, not just -- not just two measurements.
Q. Why it being over a year since what?

## LaPorte

What does it mean when you say it's been over a year now?
A. It's been over a year since the other testing was conducted. So at this point in time -- I don't know. That's speculating. But it's been over a year or close to a year.
Q. Yes. What does "over a year" mean? Why is that relevant to you not being able to determine if it's fast- or slow-drying -- aging ink?
A. It could be completely aged out by this point.
Q. How could that happen between last year and this year, that it's completely dry?
A. Because some inks dry like in three weeks; some dry in two years. So what I'm saying is it's hard -- you can't just take two points. You would need multiple points after time to determine whether it's fast or slow aging, at known intervals.

MR. BOLAND: All right. Let's take a
short break if we could.
THE VIDEOGRAPHER: The time is
approximately 3:22 p.m. This is the end of

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Media Number 3. We're off the record.
(Recess taken from 3:22 to 3:45.)
THE VIDEOGRAPHER: The time is
approximately 3:45 p.m. This is the beginning of Media Number 4. We are on the record.
Q. Mr. LaPorte, if you could look at page 13 of the April 17 th, 2012, report. I don't know exactly what exhibit number that is. Is that 6 ?
A. LaPorte 3.
Q. All right 3.

MR. SOUTHWELL: What page?
MR. BOLAND: Page 13, and the second full paragraph.
Q. Isn't it the case that in that case finding an average loss of 71 percent of PE you termed that, in the first sentence, usually high, especially for entries purported to be over eight years old; correct?
A. I'm sorry, where is that?
Q. Second full paragraph, the one that starts with "after running GC/MS."

You confirmed that the levels of PE were unusually high?
A. Yes.

## LaPorte

MR. SOUTHWELL: Objection to the form.
Q. Right?
A. Yes.
Q. And unusually high in this case was an average loss of 71 percent?

MR. SOUTHWELL: Objection.
Q. True?
A. That's compounded with the paragraph above. So when $I$ ran the $G C / M S$ analysis in the full-scan mode first, it was a high level. And then $I$ reran it in the sim mode, and it was still a high level. It was even higher.
Q. Is 71 percent as an average unusually high? Is that what you mean there?

MR. SOUTHWELL: Objection.
A. For losing the phenoxyethanol?
Q. Yes, that's what I meant. The loss of phenoxyethanol, is that unusually high?
A. In all the casework I've ever done, 71 percent is the highest, and the 64 percent I got in this case is the second highest.
Q. In fact, in the report in this case, you refer to the loss percentage as unusually high as well?

## LaPorte

A. Yes.
Q. So still on that document you have in front of you.
A. Yes.
Q. In this case your report determined, based on the 71 percent loss of PE , that the writing you had examined had been produced anywhere within the previous 69 days?

MR. SOUTHWELL: Objection,
mischaracterizes.
A. No, based on the PE test alone, it was produced within the past two years.
Q. Where does it say that in this report?
A. So that's -- it's in the 24-month part of it but --
Q. What page, I'm sorry?
A. But taking -- well, that would be -- I use the 24 months in the description part.
Q. What page would that be?
A. That would be page 7 of 19 , the paragraph under the chart.
Q. Where in that paragraph do you say that the ink in this case is less than two years old?
A. No, I say that when it's more than 25

## LaPorte

percent it's two years -- it's less than two years old.
Q. Okay.
A. I adhere to that same standard. There were --
Q. I see that. And you're indicating that's the same standard you refer to in the report in this case?
A. I say in my conclusion $1(a)$--
Q. What page is that on?
A. That's on page 17 of 19 -- it is highly probable that the inks used to produce entry one at the top of the ledger reading, in quotes, Paul turned over book. It has 20 blank share certificates in book, undecipherable initials, October 2003. And the written notations up to the amount paid thereon column in the ledger that sources to certificate 17 were not placed on the document in October 2003 and January 2010 respectively.

So that -- that conclusion goes to the two-year time frame. It's all of the other evidence, when it's all put together, that $I$ make the conclusion that it was done or at least the

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evidence to suggest that it was done in -sometime after January 23rd, 2012.
Q. In that paragraph that you're referring to, that $1(a)$, you see the sentence where you say, The amount of $P E$ detected in the samples -- and the sentence goes on -- is indicative of a fresh ink?
A. Yes.
Q. Is that based on the average loss of 71 percent?

MR. SOUTHWELL: Objection.
Q. That's the question, is it.
A. Fresh -- for all practical purposes, I think it would be very clear if we define fresh as two years old.
Q. Oh, a fresh ink is two years old?
A. Yeah, it's two years old.
Q. Is an ink that's two months old a fresh ink?
A. It could be. But for definition purposes, fresh is something that's still aging. So it's within that two years.
Q. Ah, okay. Fresh means still aging?
A. Yes.

## LaPorte

Q. Okay. So an ink that -- if you detect a loss, hypothetical, of 30 percent of $P E$, that's a fresh ink, still aging?
A. Yes.
Q. Seventy percent loss of $P E$, it's a fresh ink, still aging?
A. Still aging. You can't use the percentage -- the percentage doesn't correlate to the age either. It doesn't work that way. Because ink formulations are different, so they will age at different rates.
Q. Well, but in this report you do correlate the percentage to an age. If we look back on page 13.
A. No, I don't correlate the percentage to an age. The age is based on -- it's less than two years old because the $P E$ level is greater than 25 percent. That's kind of the simplest way $I$ can put it.

Right in paragraph $1(a)$-- or, I'm sorry, in Section $1(a)$, $I$ have the sentence $I$ think the second-last sentence at the bottom of the paragraph: This far exceeds the baseline value of 25 percent which is used to indicate that

## LaPorte

an ink is younger than two years.
Q. And that's the same standard you talked about in the report in this case?
A. Exact same standard.
Q. And can you look at the top of page 18?
A. Yes.
Q. That first sentence: It is highly probable that the entire ledger of entries from entry one to the entries that correspond to certificate 17 were written contemporaneously on or after January 23rd, 2012.

You see that; right?
A. Right.
Q. So it's your position that those entries which have an average 71 percent loss of PE were written either on January 23rd, 2012, or later; correct?

MR. SOUTHWELL: Objection, asked and answered. You keep asking the same thing. He's already answered it's not just that -MR. BOLAND: You don't have to coach him.
Q. And isn't that the case -MR. SOUTHWELL: I'm not coaching. I'm

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objecting to the questions. It's getting to harassment.
Q. You're not saying two years there; you're saying on or after January 23rd, 2012; correct?
A. If you read in the third sentence in that same paragraph: Given that it is highly probable that these entries and some of the entries in between were not created on the purported dates, it is logical to deduce that they were all created in a contemporaneous time frame.

Given that the last date on that sheet was January 23rd, 2012, if they're all created contemporaneously, in theory they all could have been created contemporaneously in April of 2010. But that wouldn't make sense because the last date is January 2012. And I don't think somebody was creating something in April of 2010 and writing a January 2012 date in there.
Q. Why not? Why can't people write a date in the future on a document today?
A. They could have. That's why the opinion is highly probable. It's not a definitive conclusion with a hundred percent certainty.

## LaPorte

Q. My point is you tested this ink in April, and this conclusion in number 2 indicates that the ink is either 69 days old or younger. Is that not the case? I'm sorry --

MR. SOUTHWELL: Objection.
A. I'm sorry, I'm not getting the context of the question that you're asking.
Q. You make a statement on page 18 of this report at number 2 that the ink you tested was either written 69 days before you tested it or more recent than that, on or after January $23 r d$, 2012. Isn't that the case?

MR. SOUTHWELL: Objection,
mischaracterizes.
A. Based on a consideration of all of the evidence, $I$ concluded that it is highly probable that the entire ledger of entries from entry 1 through the entries that correspond to certificate 17 were written contemporaneously on or after January 23rd, 2012.
Q. And was your PE testing one of the factors that led to that conclusion?
A. Yes.
Q. And you tested the ink twice, and the

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second time you tested it 11 days later, there was a 46 percent loss of PE; correct?
A. Yes.
Q. And even the -- and with a 46 percent loss of PE, does not -- didn't change your conclusion that the ink was written on January 23rd, 2012, or more recent than that; right? That doesn't change anything; that's consistent with your opinion?
A. It's consistent with my opinion, yes.
Q. And the percentage loss of the ink in this case is 64 percent, the average; right?
A. Yes. But you can't -- you can't use that percentage to indicate the exact age of the ink.
Q. Fair enough. But we can use that percentage to indicate that the ink has to be less than 80 days old, because a 46 percent loss in this case was 80 days old or earlier -- or more recent?
A. The only way you can use the PE test, the way that $I$ use it, is to say that if it exceeds the 25 percent threshold with a qualified opinion that it is less than two years old.

## LaPorte

Q. In this case here, in the Facebook case --
A. Yes.
Q. -- when you got a 64 percent average loss of $P E$, why didn't your opinion say it's highly probable this ink is 80 days old or younger? Why didn't you say that?
A. Because that -- that's what I've been explaining all along. I use a conservative approach. The conservative approach, that is less than two years, because how am I going to -- how can you take a number and then say, well, that's 80 days and the next time $I$ have a case, well, that's 90 days?

Inks are different, and they age differently. We've used -- that graph, the graph that we've been talking about and referring to, is kind of an excellent example of you can start at a certain point and you can end at a certain point at 24 months. That's consistent. Everything else in between, though, varies.
Q. Is it possible the ink in this case is less than 80 days old?
A. No, it's -- $I$ would never say that.

## LaPorte

Q. Why is it not possible?
A. Well, it's -- it's less -- I can -- I'm sorry. Correct, it's highly probable that it's less than two years old, so 80 days falls in there.
Q. Could be?
A. It's less than two years old.
Q. It could be ten days?
A. It could be ten months.
Q. Well, I asked about ten days. Could it be ten days old?
A. It could be ten months. We use some logic. There's some common sense we use.
Q. No, sir.
A. You look at when the document was obtained the first time too. So there is some logic that needs to be applied.
Q. So your PE results depend on when the document was obtained?
A. No, my PE results say that it was done two years -- within the past two years. I can't tell you when it was done. I can't tell you the exact age in between that time. That would be inappropriate and unscientific.

## LaPorte

Q. But in this case, this other case, you did tell an exact time. You say right in the report on page 18 .
A. Exact? I said it was done after January 23rd. I don't know how that is exact. And I said it was highly probably.
Q. Highly probable within a 69-day period, and in our case you can't give us a 69-day period, even though the percentage is about six percentage points off?

MR. SOUTHWELL: Objection.
Q. True?
A. You're mischaracterizing what that percentage relates to. I don't know how $I$ can make it more clear. But different inks age at different rates, and they will have different percentages of phenoxyethanol that are lost.
Q. And you don't know what rate the ink in this case ages at, do you?
A. I know that, based on all of the studies that have been done over the past two decades, that the inks typically at 24 months are not going to age any longer.
Q. That's not my question.

## LaPorte

A. You've pointed that out -- you've pointed that out a number of times here.
Q. You don't know how quickly or slowly the ink in this case ages, do you, sir?
A. No.
Q. You have no idea?
A. I don't know that.
Q. Right.
A. I can't tell you that.
Q. So if it ages incredibly slowly --
A. Up to 24 months.
Q. No, sir.
A. Yes. Yes, sir. I don't know --
Q. You said previously some inks age out at six months.
A. Yes.
Q. Is this one of those inks? You have no idea?
A. I don't know that. I said I can't tell you whether it's a fast-aging or slow-aging ink unless we took multiple measurements over multiple time intervals to know that. That would be the only way to determine if it's slow or fast aging. Bügler published a study in 2008 where

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he identified some inks that aged out within five weeks, six weeks. Those are called fast-aging inks.
Q. Could you have a 64 percent loss, like you had the average in this case, happen in month $23 ?$
A. Yes. That's a possibility.
Q. Any published studies that have indicated that that's a finding that can be made?
A. No, but that's what -- I use that -when $I$ explained early on in my deposition about using the target for accuracy, $I$ want to -- my -my ultimate objective is to be accurate. I don't want to be wrong. I don't ever want to be wrong. So I take a more conservative approach.

There are others that will use different time intervals to make conclusions. I don't do that. I use the 24 months.

It was done within the past 24 months. I can't tell you when.
Q. Based on the 24 months, this ink, then, could have been written on this document in August of 2009. You already said that; right?
A. Yes.

## LaPorte

Q. Or in September of 2009.
A. Yes.
Q. Or in any of the months intervening there all the way up to the day before you analyzed it -- I'm sorry, took the plugs?
A. In theory, yes.
Q. In theory.

Also base on your opinion here, had you tested this ink in August of 2009, is it your position you would have had a loss of 64 percent of PE, an average loss, in that month?

MR. SOUTHWELL: Objection to the form.
A. I don't know what that level would have been.
Q. It would have been higher or lower than 64 percent?
A. I would theorize that would have been a lot higher.
Q. And two months after August of 2009, would the percentage loss have gone down or up?
A. It depends if it's a slow-aging ink because now that percentage loss doesn't go down as quickly. So it might be 75 percent, and then three months later it could go 73 percent, 71

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percent, or it could go from 75 to 40.
That's -- that's exactly the point I'm trying to make is we don't know the dynamics of every single ink. That's why you use the first point times zero on the graph and times 24 months. Those are consistent. Nobody has any debate about that. It's what happens in between.
Q. Have you seen a chart anywhere or any published papers that have shown that an ink that's put on paper day one and then gets tested 24 months later but still has the ability of loss of 64 percent of PE? Have you seen that?
A. No, but $I$ do know of some inks that are definitely slow aging where if you test it on day one -- first of all, day one is not really an accurate way to start, because the ink is still -it's like completely wet. It hasn't even really started to polymerized yet. We'll say a couple days -- two days after it's been applied to the paper.

Certainly I've seen levels that start out high and they stay high. And I've seen levels that start out high and go down really fast, even within a couple -- within two to three weeks.

## LaPorte

Q. When you stay start out high and stay high, how long do they stay at like 64 percent? What would your expert opinion be on that?
A. I can't give you an opinion on that. I'm just telling you that there are certainly situations or examples of inks that will -- like we keep talking about slow age.
Q. And if you have a slow-aging ink and it's stored at a temperature where PE doesn't really evaporate, it could stay high for two years?
A. No, there's -- what kind of temperature are we talking about?
Q. Whatever temperature PE freezes at, which you and I couldn't really agree on because we weren't sure. Whatever that temperature is.
A. No, but you're saying like $P E$, when we talk about the liquid solution of when it freezes, is not -- it doesn't work like that.
Q. Well, how does it work?
A. Water freezes at zero degrees. I think we all agree on that. There is water in gas.
Q. I think it freezes at 32. Oh, you mean zero Celsius.

## LaPorte

A. I'm sorry, Celsius, 32 degrees Fahrenheit.
Q. Right, right.
A. Gas has water in it, to a certain extent. Gas doesn't freeze at 32 degrees, and the water in the gas doesn't freeze at 32 degrees, because that's the way it mixes. It doesn't -- it doesn't -- there's not like a -- sort of a one-toone scenario that if something freezes at this point when it's mixed into a solution of other things that it freezes at that exact point. That's not how it works.
Q. How does it work in ink? What's the freezing point of $P E$ when it's in a ballpoint ink?
A. I don't know that.
Q. Any published papers on that?
A. No.
Q. Any chance that the freezing point goes higher for $P E$ when it's involved in an ink?
A. I can't imagine it would, but $I$ don't know.
Q. And there's no studies on how much lower the freezing point of $P E$ goes when mixed with ink as opposed to separated out?

## LaPorte

A. No.
Q. Let me just be a little more detailed on this about the 64 percent loss you've got in our case. And the two years that you've emphasized necessarily means the ink you tested could be less than three months old; true? That's within two years?
A. Yeah, it's less than 24 months.
Q. Any of those months within there, it could be any of those? It could be less than six months old?
A. It could be, yes.
Q. And less than a year old?
A. It could be, yes, and two years old.
Q. And you don't know which one of those it is?
A. No, that's -- I mean, I think my report is very clear on that.
Q. You've testified in a bunch of different cases in the past about PE testing; true? More than once, let's say, you testified about it?
A. About PE testing in general, I mean?
Q. Or the use of PE testing in a

## LaPorte

particular case.
A. Yes, I believe I have.
Q. And you'd agree with me that you've testified before that $P E$ testing really depends on the type of document that the ink is on and its storage conditions?
A. Yes.
Q. And the document that this ink was on in our case that you tested, it was your testimony before was somehow damaged. How would you describe the damage to the document?
A. I'm sorry, are we talking about the damage to this particular document in this case?
Q. Yes.
A. To the "work for hire" contract?
Q. Yes.
A. I would say that it was severely deteriorated.
Q. How does that affect PE testing, the damage to this document?
A. Well, there was -- the damage that was done to this document was done to the dye components within the ink. So ink consists of dye components, vehicles, which include -- dye

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components or colorants, as we'll call them, in a vehicle, and the vehicle to be solvents, resins, and then there's other materials in the ink.

So the damage that was done to this particular document was done to the dye components, not necessarily to the solvents.
Q. And $P E$ is a solvent?
A. PE is a solvent.
Q. So it may not have been affected at all by the damage to the document?
A. It may not have been, that's correct.
Q. Is there any way to know whether it's been affected or not?
A. No.
Q. And what effect did the storage conditions of this document have on your results?
A. Which storage conditions are you referring to?
Q. The storage conditions of the two-page "work for hire" document, what effect did that have on your results?
A. What storage conditions are you referring to, though, like what --
Q. How the two-page "work for hire"

## LaPorte

document was stored, what effect did that have on your results, how did you incorporate that into your results.
A. You say "storage conditions." Which storage conditions, $I$ mean? I don't know the storage conditions.
Q. So do you know what effect the storage conditions could have had on the results of your test, since you don't know what they are?
A. Was it stored in a freezer for eight years?
Q. I'm asking you could you know the effect of the storage conditions on the results of your test if you didn't know the storage conditions. That's my question.
A. As I mention in my report that storage conditions can be considered. You also have the sort of 25 percent threshold, if you will, takes into account variations in storage conditions. So there could be a 20 percent loss or an 18 percent loss. That could still be -- those -- that percentage of loss of PE could still indicate that a document was fresh, if you will, less than two years. But that takes -- that's why I use that 25

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percent threshold, to allow for variations in storage conditions.

Also that's why I express my opinion as a highly probable. I'm virtually certain, but I don't -- I haven't analyzed every single ink in the world and I haven't -- I may not know the storage conditions at the time. So -- I compensate for that or $I$ mitigate that in the entire -- my entire conclusion.
Q. Are you aware of a declaration filed by my client that describes the storage conditions of the document?
A. I -- I recently read it, yes.
Q. And do those storage conditions factor at all into your opinion of your results?
A. I think I'm -- I think I'm -- I mean, when I'm shown that I'm obligated as a scientist to consider those facts. Certainly there may be some doubt about the veracity of the statements. But as a scientist $I$ put all that to the side. I consider the facts.

And given those conditions, $I$ don't think -- in my opinion that has no effect -- no significant effect on causing the phenoxyethanol

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levels to stay as high as they did over a year period.
Q. Why is that? Why did they not have an effect?
A. Based on that declaration, the document was in Buffalo. I know Buffalo experiences springs and summers as well as winters. So there are spring and summer times. So that's really eight iterations of spring and summer, hot temperatures.

Assume the house -- the way the statement was, the house was -- there was no central heating. You can assume there was no central air-conditioning either. It was stored in a box or a chest of some sort. So that -- that's going to create a more confined area. That would actually -- that may actually block, if you will, or shield off some of the cold as well.

But given the fact the document's purported to have been done in 2003, that just -that doesn't make sense at all that the phenoxyethanol levels would still stay that high over that long a period.

MR. BOLAND: Mark this, please, as

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whatever our next number.
(LaPorte Exhibit 8, transcript of testimony of LaPorte from trial of USA $v$. Hassoun, et al., marked for identification.)
Q. Mr. LaPorte, if you could identify LaPorte Exhibit 8 and then describe that. Just identify it for the record, please.
A. Yes, this appears to be a transcript from a trial, the United States of America, plaintiff, versus Adam Amin Hassoun, Kifah Wael Jayyousi, José Padilla, et al.
Q. Can you go to page -- this is your testimony in that case -- correct? -- a transcript of your testimony in that case?

MR. SOUTHWELL: Objection. Do you want him to read the whole thing?

MR. BOLAND: I'm just asking if this is a transcript of his testimony in that case, if it appears to be a transcript of his testimony.
A. It appears to be a transcript of my testimony. I don't know if this is my true testimony, but I'm going to assume that it is. MR. SOUTHWELL: Are you making that

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representation, Mr. Boland?
MR. BOLAND: I'm just asking him a question.

MR. SOUTHWELL: Okay. Do you want him to read the whole thing?

MR. BOLAND: I didn't ask him to read the whole thing, but if you want to keep coaching him, he might come up with that idea.

MR. SOUTHWELL: I'm not coaching him.
MR. BOLAND: You are. You've been coaching him the whole time, and I know why but...

MR. SOUTHWELL: All right. Well, I know why you're making that statement. All right.

MR. BOLAND: It's not a good day for you, and that's why you are upset.

MR. SOUTHWELL: Actually, it's hard to believe you're saying that, but fine. You can say what the record is --

MR. BOLAND: I'm just asking a question about --

MR. SOUTHWELL: Right. You can state what the transcript is. That might be easier

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if you can make a representation so we're not all futz around trying to figure out what this is.

MR. BOLAND: He just indicated what it was, a transcript of his testimony at that trial.
Q. Isn't it the case, sir, that if you look at page 66 at the top -- the page numbers on this document are along the bottom center.
A. Yes.
Q. Your testimony in this particular case regarding testing documents to age ink you stated, It really depends on the type of document that it's on, the storage conditions of that document, the type of ink that has been used, and so forth.

Isn't that your testimony?
A. That's fully consistent with what I've said today and fully consistent with what's in my report as well.
Q. And in our case you don't know the type of ink that we're dealing with; true?
A. No, it's a ballpoint ink. I know that.
Q. You don't know the formulation?
A. I don't need to know the formulation.

## LaPorte

Q. That's not my question.
A. It's a dynamic aging test.
Q. But you don't know the formulation.

And before you did your -- before you turned in your report -- or at the time you turned in your report, you did not know the storage conditions of the document; true?
A. I did not, as was noted in my report too, that storage conditions are a factor.
Q. Did you ask the defendants -- did you ask the attorneys for Gibson, Dunn what the storage conditions of the document might have been before you issued your report?
A. No.
Q. Did you ask anyone what the document's storage conditions were before you issued your report?
A. Anyone? Like who is anyone?
Q. Any of the experts for the defense.
A. No, was I supposed to call up the other experts and ask them? That doesn't make any sense. No, I didn't ask them.
Q. Do you typically issue reports when you don't know things like the storage conditions of a

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document or the ink formulation?
A. I believe that $I$ explained that's why I use the "highly probable" terminology, the 25 percent threshold, and then $I$ put the statement in my report that storage conditions can be a factor.
Q. Let's look at the actual circumstances of this document. Let's start off with the type of ink that has been used.

You don't know who manufactured the ink that you tested from page 1 of the document; correct?
A. Correct.
Q. And you don't know who manufactured the ink you tested from page 2 of the document?
A. Correct.
Q. You don't know how much PE was in the ink that was placed on page 1 on the moment that it was placed on page 1 , the amount of $P E ?$
A. Not unless $I$ was there when Mr. Zuckerberg and Mr. Ceglia or Mr. Ceglia or whoever signed it. I mean, I don't know that.
Q. And you don't know how much PE was on the ink on page 2 when it was first placed on that page?

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A. No.
Q. Now, are there varieties of types of PE itself, just that one component, or if PE is present in an ink it's just a chemical? It's like H20. It's always water; it's always PE. Are there different flavors of PE , to use a layman's term?
A. So when we speak about 2 -- we've been speaking about 2-phenoxyethanol?
Q. Just that one, yes.
A. No, that's 2-phenoxyethanol. There other components that could be present in the 2-phenoxyethanol in very minor -- like very minor quantities that are just naturally in the solvent as a result of the manufacturing process.

But no, 2-PE is 2-PE.
Q. And do you know how much PE is in -wait. How many current ink formulations have PE, if you know?
A. I know, based on the study that we published, $I$ mean, certainly over 85 percent of black and ballpoints. But that went back to -that went back all the way into the sixties or so that we were testing inks.

I would say based on my experience it's

## LaPorte

probably even over 90 percent of modern inks.
Q. How many back in 2003 would have had PE in them? How many formulations?
A. I don't know how many formulations. Like I said, we tested in 2003 and the 2004 study that we published and over 85 -- around 85 percent of black and blues had phenoxyethanol.
Q. Do other products besides ink that are found in a home contain PE?
A. Phenoxyethanol might be a solvent that's used in the manufacturing of it, of other things, yes.
Q. Is it like an ingredient in some products you can find around the house?
A. Generally speaking I don't know if it's considered an ingredient, if you will, like -typically -- I'm getting into an area that I'm not -- I don't know exactly. But when you list ingredients on a bottle of something, it usually gives those main ingredients.

I've never come across something that actually lists -- where $I$ saw 2-phenoxyethanol on the ingredients. It doesn't mean that it's not. But I've never seen anything that lists that.

## LaPorte

Q. And just to be clear, your report that you submitted doesn't have any conclusions which dispute Mr. Ceglia's claim regarding the storage conditions of the document?
A. Say that again?
Q. Your report does not contain any information disputing Mr. Ceglia's claim regarding how the document that you tested was stored?
A. That's not correct.
Q. Okay. How -- what information in your report disputes his claim about the storage conditions?
A. He said he stored it in 2003. It wasn't stored in 2003, because it wasn't created until after 2009 .
Q. And that's because of your -- the 64 percent PE loss calculation, et cetera?
A. Correct, like $I$ said in my conclusion.
Q. So it's impossible that a document created in 2008 under any storage conditions could result in a 64 percent of loss of PE tested in 2011? Is that your testimony?
A. I never said that.
Q. So it is possible?

Depending on how

## LaPorte

it's stored, a document could be signed in 2003 and tested in 2011 and have 64 percent loss of PE?
A. If it was stored in a freezer over that time.
Q. Where else could it be stored that could create that?
A. I can't think of anything other than a freezing temperature over a continuous time.
Q. Now, on the last sentence of page 67 of your testimony in the Padilla case --
A. Yes.
Q. You see the last sentence: The only time -- this is you talking. The only time we would use that test, referring to $P E$, there would have to be certain circumstances around that document. First of all, we would use it to compare.

MR. SOUTHWELL: This is on page 67?
MR. BOLAND: Starts on 66 and goes over
to 67.
Q. Now, you didn't do any comparing in this case between multiple documents; you just had one; correct?
A. That's not true. I compared with the

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signatures on page 2.
Q. Well, that's one document.
A. In a relative sense, I mean, there was a comparison. I mean, that was done.
Q. And so that's an appropriate -- that's what you mean there by having -- using it to compare? That's the same thing you mean here?
A. I think when we've reviewed LaPorte 3, the report for the other case, that would be a perfect example where you have multiple entries purported to have been done over a long period of time.
Q. Do you know how many other reports you've offered related to $P E$ testing where you've indicated you have a highly probable conclusion?

MR. SOUTHWELL: Do you mean the
conclusion is about the $P E$ testing?
Q. Just a PE test report just like you had in this case where you concluded it was highly probable. We talked about the April 17 th one. Other than those two, that one and this one in this case, how many other times have you concluded that it's highly probable that a particular document was written on whatever date you're

## LaPorte

 claiming it was written on?A. Can $I$ just --

MR. SOUTHWELL: Objection.
A. If $I$ can just not use the "highly probable" because some reports may vary where I would say "probable" or indications and "not highly probable."

So are you talking about just conclusions or do you want highly probable conclusions?
Q. Highly probable conclusions. How many other times have you given highly probable conclusions?
A. I can't give you an exact number, but no more than ten.
Q. And when's the first time you issued a report regarding $P E$ testing that was other than an inconclusive result? When is the first one that was not inconclusive?
A. I didn't issue a report, but $I$ had a client where my findings contradicted their position, so no report was ever filed. That was probably about four or five -- four years ago.
Q. So would four years ago would make it

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2008 sometime?
A. That would seem about right, using the highly probable conclusion.
Q. Well, I'm talking about a report where -- have you issued -- not issued. Have you generated reports in the past where your results were inconclusive?

MR. SOUTHWELL: Do you mean a written report?

MR. BOLAND: Yes, a written report, for
a client.
A. Yes, oh, yes.
Q. And so my question is when's the first report you ever issued where the conclusion went from inconclusive to something else --
A. To something other than that?
Q. -- conclusive: probable, highly probable, however you want to phrase it.
A. That would have been at the Secret Service $I$ think right around two thousand and -late 2002, and Mr. Stewart signed off on the report.
Q. Let me be more specific. I think my question was not clear. I'm specifically talking

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about a report that you've issued regarding results of PE testing where -- so that's what I'm talking about for this question.

Have you ever issued a report to anyone -- civil client, the government -- where you conducted $P E$ testing and the result was inconclusive? Have you ever done that?
A. Where it was inconclusive?
Q. Yes, PE testing and you got inconclusive results?
A. Yes, yes.
Q. Now my question is when is the first time, if you can remember, even just the year, that you issued a report regarding $P E$ testing with results that were conclusive -- whether it's probable or highly probable, it doesn't matter -but they were conclusive to some degree?
A. Right around 2002. Mr. Stewart signed off on that report.
Q. So was that a report done for a particular case being handled by the Secret Service?
A. Yes.
Q. Was it a criminal or civil case, if you
remember?
A. It was obviously criminal. We weren't allowed -- we didn't work -- typically work civil cases.
Q. Do you remember the case at all, the name of the case?
A. I certainly do.
Q. What was it?
A. Can't discuss it.
Q. Was it a publicly -- was it a federal case?
A. It was an intelligence case.
Q. Ah, I see, not in the criminal justice system case? That's what I'm asking about. Let me be even clearer now that you have given me that information.
A. Okay.
Q. I'm talking about a case criminal or civil in the American, you know, justice system, not top-secret stuff, where you've issued a report regarding $P E$ testing and your result was inconclusive, something that you might not have filed it but it was involving a similar or criminal cases that you -- that has nothing to do

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with intelligence.
A. Wait, you said inconclusive at the end. You mean --
Q. Inconclusive, we're starting with that. A civil case or a criminal case where you did PE testing and got a result that was inconclusive?
A. Well, there were -- in the early part like in -- $I$ would say 2002 , 2003 , 2004 time frame, we were doing some testing on some cases as sort of supplementary to the case. But we weren't including that data, if you will, in the -- in the reports at the time.

I mean, it was -- we were -- it was kind of experimenting with the procedure, if you will, and trying to fine-tune it.

One of the things that we did work on was like how do you issue conclusions like that, because back then we weren't using this scale of conclusions. Do you say consistent with and -- it was -- we had a difficult time. We couldn't be definitive -- we knew we couldn't be definitive.

So there was always -- we were always kind of working -- it wasn't the data and the results in and of itself that were in question; it

## LaPorte

was how do we report this. That was more of the difficulty.

But $I$ don't remember the exact date. It was early on in those -- in those years we were certainly doing that.
Q. Were you doing reports like that for the Secret Service that were used in casework that were actually --
A. Yeah, we started that later on I think in casework. Obviously the Rago case we started -- we were using PE testing then. And I think there were some other cases. I don't recall.

You're asking me about what happened six or seven years ago. I know there were some other cases that we used it in; but it was inconclusive and it was included as data in the report.
Q. It was inconclusive, you said?
A. Yes.
Q. In Your civil work have you ever issued a report with the results of $P E$ testing that was inconclusive?
A. Yes.

## LaPorte

Q. And when's the first time you issued a report regarding results of $P E$ testing in your civil work where you had a conclusive result? What year do you think that would have been?
A. Once again, I believe that was in 2008 when $I$ identified a very high-level phenoxyethanol. But the client that retained me, that didn't favor their argument; so I never issued a report, and $I$ left the case.
Q. But your results, had you issued a case, would have been conclusive to some degree of probability?
A. Yes.
Q. Highly or whatever.
A. Yes.
Q. And what was causing inconclusive results before 2008 in your PE testing work?
A. Generally speaking low levels of phenoxyethanol.
Q. The samples tested you had low levels?
A. Yes, the samples we tested had a low level of phenoxyethanol or they were -- so once again you couldn't -- you could not accurately quantitate them because they were at such low

## LaPorte

levels. So that -- that would be an inconclusive.
It's not an indication that the document's authentic or that purported age; it's just it's inconclusive.
Q. Over the years has your approach or method or procedure regarding $P E$ testing changed?
A. I've refined, I would say. It's certainly -- $I$ would say the biggest change has been the way $I$-- the way $I$ word my conclusions. So I've adapted to that ASTM conclusionary scale, which I feel comfortable with now.

But at first there was always -- that was the difficulty, like $I$ said earlier, in how do you word these conclusions, do you use "consistent with." Using the scale has helped significantly.
Q. Do you follow the ASTM standards when you issue reports?
A. Do $I$ follow them? They're guidelines, so I try my best to.
Q. And they include any sort of guidelines for the use of statistics in your reports, do they, the ASTM standards?
A. No, they do not. But they don't -they don't say not to use statistics.

## LaPorte

MR. BOLAND: Let's take a short break. I think we're almost done.

THE VIDEOGRAPHER: The time is approximately 4:36 p.m. We're off the record.
(Recess taken from 4:36 to 5:03.)
THE VIDEOGRAPHER: The time is
approximately 5:03 p.m. We're back on the record.
Q. Mr. LaPorte, let's just agree to disagree for a little bit here on when this two-page document was created, and we won't talk about that for a second.

No matter when it was created, you don't know how page 1 of this document was stored before you had access to it to pull your plugs?
A. How it was stored?
Q. How page 1 of the document was stored, just page 1. You don't know the conditions that it was stored?
A. No, I don't have firsthand factual knowledge of how it was stored.
Q. And you don't know how page 2 was stored?
A. I don't have firsthand factual

## LaPorte

knowledge of how page 2 was stored.
Q. You don't know if page 1 was stored differently than page 2?
A. I don't know that.
Q. You don't know if the document was stored in proximity to other sources of PE other than the ink?
A. Well, if that would have happened, I would have detected $P E$ in my paper blank, and $I$ didn't detect $P E$ in my paper blank.
Q. How big was your paper blank? What was the measurements of that?
A. The same size as the ink that I took from 0.5 millimeters, or 1 millimeter. I used two different punches.
Q. So in the area from where you took that blank, that's the area that was essentially being tested for sort of contaminant PE; right?
A. Yes, whenever $I$ do the PE analysis, I use paper blank from the ink area.
Q. And how many -- you took one paper blank from somewhere near the interlineations; right?
A. In July, yes.

## LaPorte

Q. Right. Did you do that in August too?
A. I don't -- I don't recall-- I don't have my notes, so $I$ don't recall if $I$ took paper blanks in August from that area.
Q. The paper blank in July, was it near the ink plug you took in August?
A. It was in the -- right around the general -- in the same vicinity, yes.
Q. What would be the same vicinity?
A. Well, you put your fingers 6 inches apart. The interlineation only runs, you know, a certain -- a certain distance. I'd have to -that I'd have to look in my notes. I don't recall.
Q. Do you have pictures of before and after you took either of these plugs, either July or August?
A. I have after pictures of when $I$ took the samples in July. I don't have after pictures of when $I$ took the samples in August.
Q. Those notes you're referring to, you don't have them with you?
A. I do not, no.
Q. You didn't bring them with you to New

## LaPorte

York?
A. They're -- they're in my hotel.
Q. And you don't know how the document was handled since its discovery by Mr. Ceglia; true?
A. What do you mean by "handled"?
Q. You don't know how it was handled: with gloves, without gloves, near sources of $P E$, not near sources of PE?
A. It was exposed to some intense sunlight or some intense energy source.
Q. At some point; right?
A. At some point.
Q. But you don't know how else it was handled?
A. Before July 14th?
Q. Correct.
A. It was exposed to some intense sunlight or intense energy source.
Q. Other than that how was it handled? I mean, you don't know how it was handled?
A. Other than that, no, $I$ don't know.
Q. Now, in prior testimony you have testified that the evaporation rate of $P E$ really depends on the storage conditions. Do you agree

## LaPorte

with that or no?
A. No, did I say really depends on the storage conditions?
Q. I'm asking you if you recall.
A. I don't recall that. There may have been other things in there.
Q. Are storage conditions of a document irrelevant to the amount of $P E$ ?
A. They don't make the PE increase. Storage conditions don't cause $P E$ to increase.
Q. Well, that's not always true. If the storage conditions include proximity to a source of PE, you've got more PE on the document from that source?
A. You would detect that in the blank or you would have to -- you would have to physically press up two documents with each other. One -you would have to line up the inks exactly so that the inks are touching. You would probably have to exert some pressure.

One ink would have to be fresh from the other document, because it can be -- once it's -once the ink's put down on the paper, after just a couple days, $I$ mean, it doesn't transfer anymore

## LaPorte

that easily.
Q. But a nonink source of $P E$ could come in contact with the paper and deposit $P E$ on the paper.
A. Such as?
Q. Bug spray, sunscreen, shampoo, hairspray?
A. Bug spray?
Q. Anything that has PE. Do you know if any of those products have $P E$ in them?
A. I don't know specifically if they have PE in them.
Q. Let's assume there's 50 household products that have PE , hypothetical. Those could add $P E$ to a document if they came in contact, whether they got sprayed on it, if they got smeared against it.
A. That's an unrealistic hypothetical because I don't believe that many household products contain phenoxyethanol.
Q. How many do?
A. I don't know, but not --
Q. What's your basis for believing that not that many contain PE if you don't know?

## LaPorte

A. Generally I actually look at the ingredients on a lot of household labels. I mean, I do that as a chemist. I've never really -- I have never seen anything that says it has phenoxyethanol.

Certainly I've published and I know that there are some colognes that could have phenoxyethanol. There are those types of things.
Q. Have you ever done a search for household products that have PE in them, online or whatever?
A. I haven't, no.
Q. Let's hypothetically say that sunblock and bug spray all have -- both have PE in them. All right? That's hypothetical. If those come in contact with a document, they're going to add PE to the document; right? If you spray bug spray with PE on it on a document, it's going to add PE -- right? -- as a chemist?
A. You would see that on a paper.

When you're talking about ink lines, though, you're talking about applying phenoxyethanol to these very, very small ink lines. That doesn't seem like a reasonable --

## LaPorte

like a reasonable argument. It's a -- we can't eliminate every single possibility in the world, but that would be a very, very, very minute possibility.
Q. Are you aware that some of the defendants' experts touched the face of this document without gloves on?
A. I did read that early on in one of the declarations.
Q. Did you watch any video of the other experts handling the document and see that?
A. I did not -- I did not watch video.
Q. So hypothetical: Expert has some substance on their fingers that has $P E$ in it, and they put their fingertips down on the face of the document. It could transfer $P E$ to the document; true? As a chemist, that's a reasonable assumption on that hypothetical?
A. That's why we run paper blanks. That's part of the quality control measures. I didn't see any high levels of $P E$ in the Paul Ceglia signature. I didn't see a high level of PE in the Mark Zuckerberg signature. So $I$ only saw it in the interlineation and then the PC initials. I

## LaPorte

didn't see it in anything else. I didn't get it in the paper blanks.
Q. Well, and the paper blanks aren't necessarily within a fingerprint's distance from the ink you plugged, because you don't really know where they're from, sitting here today?
A. Fingerprint, that -- I mean, you would cover the paper. You can cover a lot of paper within the distance of where you're sampling from the ink with a finger. That's a lot of space.
Q. I understand. But you don't know whether the blanks in the ink came from a space that's that big, that confined?
A. So you're proposing this minuscule possibility that somebody would actually touch the ink in the exact same place that $I$ tested for the two different areas but they didn't touch any of the other ink line, they didn't touch any of the paper below, but it just hit that one millimeter of the ink line?
Q. $\quad$ Sir, $I$ 'm just saying you don't know if your paper blank and the ink from the interlineations came -- you don't know the proximity of those two blanks to each other that

## LaPorte

you took?
A. I'm a hundred percent confident that there wasn't any phenoxyethanol contamination. I think that's the best way $I$ can put it.
Q. How did you rule out contamination?
A. Based on the quality control samples, based on the fact it didn't show up in the other blanks, based on the fact that is just a very, very -- that's -- just the probability of doing that is just unrealistic.
Q. Then why do paper blanks from around the ink if the probability is unrealistic? Why are you checking for contamination?
A. So $I$ can answer this question that you're asking me.
Q. So probability is one thing. The possibility you're not ruling out, but the probability in this case you're saying is low?
A. I'm just saying that based on consideration of everything around -- which includes the quality control sample, I didn't find it anywhere else. It would have to hit the exact same spot where $I$ tested, which was actually those holes were 0.5 millimeters. So somebody would

## LaPorte

have to touch that area, that 0.5 millimeter area.
Q. With their finger with some kind of contaminant?
A. Right.
Q. And then you would have extra PE in your test?
A. It doesn't seem realistic so me.
Q. And if your paper blank is not in that same area where their thumb touched it or their fingerprint touched it, your paper blank wouldn't show PE but you would have a bunch of extra PE where you pulled the ink plug. Fair to say?
A. And it only happened in the interlineation but it didn't happen on anything else?
Q. I'm just saying in the interlineation for right now. That's possible?
A. It's improbable.
Q. I agree. But possible?
A. Improbable. I'll stay with improbable.
Q. You don't think it's possible, though?
A. It's improbable.
Q. Part of your report you talked about the formulation of the paper, its thickness, and

## LaPorte

coatings. Do you recall that?
A. Not exactly. I mean, I don't recall exactly saying the formulation of the paper and --
Q. Do you recall measuring the thickness of the paper?
A. I do recall doing that.
Q. And how did you do that?
A. I used a micrometer, and I made eight measurements around the circumference of the paper.
Q. Both pages?
A. Both pages.
Q. And is it your experience that paper from a manufacturer always has uniform thickness all the way around the piece of paper?
A. That's why you take eight measurements around the circumference of the paper.
Q. No, my question is any random piece of paper if $I$ grab one from an office supply store and gave it to you right now and you measured it with a micrometer, would you expect all those measurements to be identical to a thousandth of an inch precision.
A. All my measurements were not identical.

## LaPorte

My chart is included in my report, so you see my exact measurements. There were some differences -- they weren't exactly the same.
Q. My question is two pieces of paper pulled out of the same ream today --
A. Right.
Q. -- from an office supply store, would you, as an expert who measures paper, expect that your micrometer measurements, even if you did around the circumference of both of them, all those -- those two pieces of paper in all those locations would be the same measurement, the micrometer would measure the same all the way around? Is that not the case or is that the case, you would expect?
A. No, and I didn't find that in this case either.
Q. Right. So the difference in thickness of two pieces of paper doesn't make them necessarily pieces of paper that came out of a different ream; they could have come out of the same ream of paper; true?
A. I agree. My conclusion was based on all of the paper testing $I$ did. the differences

## LaPorte

in the UV fluorescence, the differences in the opacity, the differences in the measurement, and the differences in the chemical testing use the GC/MS .

And there were differences which I didn't include in my report. There were differences in the $T L C$ results when $I$ extracted the paper blanks to do TLC.
Q. And this is paper that had been damaged somehow before you did these tests?
A. Yes.
Q. And the micrometer you measured -- your measurements were -- what was the level of precision? Out to a thousandth of an inch?
A. One-ten-thousandth of an inch.
Q. One-ten-thousandth. And what other things in the world have that thickness or that measurement, one-ten-thousandth of an inch? Give me an example of something.
A. Paper.
Q. Besides paper.
A. Hair.
Q. A piece of hair?
A. A piece of hair.

## LaPorte

Q. Would be that wide?
A. No, well, it can be that -- less than that amount. But there's -- I mean, there's certainly a lot of thin things. You say in the world.
Q. Just like some -- you did this handheld, this device?
A. Yeah. It's a micrometer with a -- it's a handheld micrometer, yes.
Q. And based on just the micrometer measurements alone, leaving everything else out in this hypothetical, would you be comfortable saying that these two pieces of paper came from a different ream of paper, based on that alone?
A. I would have made that conclusion with strictly micrometer measurements.
Q. Very well.

Do you know what kind of fibers were used to make this paper?
A. I do not. I have seen Dr. Rantanen's report, but $I$ don't know the fibers.
Q. And do you know what kind of coatings were on the paper?
A. First of all, I guess you would

## LaPorte

clarify. What paper are we talking about?
Q. The two pieces of paper, page 1 and 2, of the document.
A. The "work for hire."
Q. Yes.
A. Do I know?
Q. Was it coated with anything, these two pages?
A. They had an optical -- they had optical brightening agents within them. In the non -well, in the back -- on the back of the document in the white areas that fluoresced, certainly those had detectible optical brightening agents.
Q. Do you know what any -- were there any rag fibers or cotton fibers in the paper, if you know?
A. I don't know. That paper wasn't tested.
Q. Do you know that? That's all I'm asking is if you know, was the rag fiber or cotton fiber, was there any of that in the paper?
A. The paper was never tested, so I don't know.
Q. Did you test it?

## LaPorte

A. For fibers?
Q. Yes.
A. No.
Q. Does the type of paper that ink is placed on affect the evaporation rate of PE?
A. It can.
Q. In what way?
A. Typically glossy paper, like high-gloss paper, the inks evaporate faster because they don't absorb as much into the paper versus what I would call sort of a typical standard copy paper. I have actually done a presentation on this very topic by using different types of paper.

So we did find with the glossy-type papers that phenoxyethanol will evaporate faster.
Q. You mentioned something before, a term that $I$ put a note on, "the ink matrix." What does that refer to?
A. I said the ink matrix?
Q. You did.
A. I don't recall saying the ink matrix but --

MR. BOLAND: Is there a way you can
search for that answer and the word "matrix"?

## LaPorte

(Record read as follows: Question: The Celsius conversion, does it sound ballpark that 11 degrees would be about 51 degrees Fahrenheit? Answer: But when you say the freezing temperature of phenoxyethanol, that doesn't mean it freezes a -- as a solvent like as a solvent in the ink matrix.)
A. Oh, okay, okay.
Q. So you did say something about an ink matrix. If you could just define that term.
A. Ink matrix would be the entire formulation of ink, if you will: the combination of the dyes and/or pigments, the solvents, the resins, and so forth.
Q. Does cold temperatures cause that sort of -- the covering around all that ink matrix to be more brittle?
A. Would cold temperatures? I don't know -- I don't know the answer to that. I don't know.
Q. Is the ink matrix a factor in how you approach PE testing?
A. Well, it's certainly -- I mean, it's -I don't know if I'd say it would affect the

## LaPorte

approach to doing PE testing, but there's sort of -- if you will, there's been a number of papers that have been published in this area that talk about how the entire ink dries over time, the entire ink matrix. So it hardens over time, if you will.
Q. Is there PE that gets trapped in that ink matrix that will not escape during the heating that you do when you do testing?
A. That's why $I$ heat at 70 degrees Celsius. Certainly if you got to a high-enough temperature you would -- you could -- you would evaporate all of the -- all of the phenoxyethanol, yes.
Q. So heating it -- at what temperature would it release all the PE?
A. I am not sure exactly what temperature. I mean, $I$ know there's -- in the literature there's been some attempts at 200 degrees Celsius, which still -- phenoxyethanol still remains even after that temperature.
Q. And the comparison between unheated and heated results, is it the case that those are done to demonstrate how much $P E$ wasn't trapped in the

## LaPorte

ink's matrix that heating drove off?
A. I'm sorry, can you repeat that?
Q. The comparison between the heated and unheated sample is designed to demonstrate how much $P E$ was not trapped in that ink matrix you were driving off.
A. No, you are breaking up the ink matrix. That's all part of it. So you're breaking it up to some extent, but you're not completely dissolving everything.
Q. And if you raise the temperature, you break it up even more effectively, I guess, is a fair word?
A. I wouldn't use the adverb "effectively." You're breaking it up.
Q. And if that matrix is more brittle because of storage conditions, would you get more PE out of that heating process to 70 degrees Celsius or would you get the same amount?
A. The storage conditions -- you would be talking about the storage conditions immediately preceding the testing. So when $I$ say "immediately preceding," if it came out of a freezer and you did the testing then, that may have some effect.

But generally speaking $I$ think we all have to agree that the document was in we'll call it sort of a standard environment, at least for -at least for a few days before $I$ tested it.
Q. Do you know how long it was in that standard environment?
A. No.
Q. Have you done any studies on this, the effect of freezing on that matrix?
A. I have not.
Q. Are there any published papers that you're aware of that talks about that?
A. Not that I'm aware of.
Q. Is it possible that if the document was stored in freezing conditions it could have made that matrix brittle?
A. I don't know. I'd be speculating.
Q. When you took your samples, you actually have to puncture a piece of the paper?
A. Yes.
Q. Does that action -- is it possible that that could have cracked an already delicate matrix and allowed more PE to come out when you eventually ran your test?

## LaPorte

A. No, because the hole is going around the ink. So it's -- it goes right over the top of the ink line and goes on top. So you're going around the ink.
Q. And so the portion of your plug that's in the center of that going around, as you described it, would not have been punctured?
A. Going around but not -- you're not -- I mean, the fact is we do this all the time on known samples. Nobody's ever certainly published anything that that would have some sort of effect on the phenoxyethanol. I've never -- I've never seen anything where that would -- theoretically that doesn't seem to make any sense either.
Q. It doesn't, in your experience, sort of break the ink and start emitting?
A. No, because you're pushing -- you're actually pushing down on it. You're crimping it, to a certain extent.
Q. And your plug is not wider than the ink line in this case? You were able to stay within the ink lines, essentially, when you did your plug?
A. It's slightly wider. It's 0.5

## LaPorte

millimeters, so it's slightly wider than the ink line.
Q. So a little bit of white paper would have popped through with that plug?
A. There might be a tiny, tiny bit.
Q. Now, the UV damage to this document, is there any published studies on how UV damage to a document affects the level of $P E$ that gets reported in tests like yours?
A. How do we know that the document was damaged with UV?
Q. Fair enough. Let's assume the document was damaged with UV, hypothetical. Is there any -- are there any published papers or reports that talk about how that could affect the results of a PE test?
A. There's no published studies, but I don't -- I can't think of how it would cause the PE -- it certainly wouldn't cause the PE to increase in the ink. If anything, it would -maybe it would -- it would kind of cease it at the time that that treatment happened.
Q. Well, in some of the charts we went through, the $P E$ level does actually go up and down

## LaPorte

during its life span, doesn't it? The measurable $P E$ or the percentage $P E$ does go up and down just a little bit over time?
A. What chart are you talking about?
Q. Well, let's take a look at the Brazeau article from 2007. I have to figure out what one that is. And when you get that out, it's Figure 10 on page -- page 214, as the numbers go in the corner. You see that figure at the bottom?
A. Yes.
Q. Would you agree with me that if you actually drew the dot -- the line specifically connecting those dots and not kind of going around them that the data points of PE actually go up and down over time?
A. Once again we need to understand that this was using the SPME -- the SPME device, the SPME extraction method.
Q. Which is not your method -- or not your extraction method?
A. Yes, thank you.
Q. I'll agree with that. But using this extraction method, would you agree with me that if this line, this curve, was drawn to exactly

## LaPorte

connect those dots the $P E$ level appears to go down at one point and back up a little bit and then down again?
A. Yes. That's what we call variation. It's slight variation, but it's variation.
Q. So there's a time when PE, under this method -- which I recognize is not your method -PE gets measured -- the amount of loss gets measured and it's at whatever level and at a later time it gets measured and that level is lower and then a third time it gets measured and that level goes back up a little bit?
A. Well, it's hard to generalize that statement based on --
Q. I'm saying on this chart.
A. This is based on a single ballpoint ink. You can't make a generalization off of a single ballpoint ink. But the chart, yes.
Q. I'm saying for this ink that's depicted in this chart, just this ink.
A. Yes.
Q. Is this the same ink that we have in our case?
A. I don't know.

## LaPorte

Q. Well, hypothetical, if it is the same ink in our case, it would -- and they were using this method, which isn't the method you used, you would get the same results; right? Science is science?
A. If this is the same ink in our case, the document would have been created somewhere around December of 2011.
Q. My point is --
A. But it's not. This is a different ink -- $I$ can't say for sure it's a different ink. It's a completely different method.
Q. Let's not say for sure. You can't say at all it's a different ink?
A. Right, $I$ can't say at all for sure.
Q. Well, let's be clear. You can't say at all? You don't even have a guess what ink this is in this case; right? You don't do that as a scientific measure?
A. I'm guessing that they may have said what ink it was up -- back up in their methods and materials.
Q. Oh, in this chart, yes. I'm saying the ink in our case, there's no idea what ink

## LaPorte

formulation we have in this case?
A. On the "work for hire," no. I do in the specifications document.
Q. Have you ever run tests yourself, either for casework or experimentation, using your extraction method and the level of $P E$ over time goes up and down, slightly fluctuates up and down that way?
A. I have not. Generally speaking I do -I'll run samples six months apart, at least in research situations.

In casework situations, very rarely do you get to run multiple samples.
Q. And have you ever had cases in the past where you have examined a document to conduct $P E$ testing that has been damaged by UV -- exposure to UV light?
A. No.
Q. Have you read any other published reports or expert reports that have conducted PE testing on a document damaged by UV?
A. No.
Q. Do you know what was the source of the damage to the document in this case?

## LaPorte

A. Yes. I believe it was either some light or some high-intensity -- say some high-intensity energy source: suntan lamp, those types of things.
Q. Do you have any opinion that it was a chemical sprayed on the document?
A. I don't believe it was a chemical, no.
Q. Do you have any evidence that it was -the document was placed inside of an oven and baked?
A. That wouldn't have caused the degradation on the one side and the no degradation on the other. So that didn't happen.
Q. A sunlamp like you mentioned, that would be a UV light source?
A. There are different -- there are some sunlamps that have like a UVA and UVB, so different forms of UV. I'm not sure -- I'm not sure if they have infrared or not, but $I$ don't know that.
Q. Can you describe how the GC/MS machine works to determine abundance of PE?
A. How the oven works, did you say? I'm sorry, can you repeat --

## LaPorte

Q. The GC/MS.
A. $\quad \mathrm{Oh}$, the $\mathrm{GC} / \mathrm{MS}$ machine.
Q. It determines abundance, somehow, of PE?
A. So abundance means the amount, if you will, the concentration of PE . So in the gas chromatograph, when we referred to that figure earlier in my report with the peak. So the higher -- the greater the area under that peak, the higher the amount of the concentration of the chemical.
Q. So is it true that the way this works is that the GC/MS determines the relative amount of multiple substances found in ink that it's analyzing?
A. No, the GC/MS is used to determine the concentration of the $P E$ in the heated versus the unheated, and then you compare how much is lost. The GC/MS doesn't determine the relative amount.
Q. So if two samples have the same amount of $P E$ but twice as much of some other component, the GC/MS would measure those as the same amount of $P E$-- same abundance?
A. No, it -- just to be clear, the GC/MS

## LaPorte

is only measuring the $P E$-- or the GC. The gas chromatography is for the separation of components. So the component that's being measured is the PE. So that area under that peak or that curve represents the concentration of the PE.
Q. But the machine's not measuring that concentration sort of relative to the abundance of other components in the ink?
A. Not relative to the other components. But when $I$ do the test, $I$ use something called an internal standard, which is a different chemical that's not found in ink, cresol in this case. So I am measuring it relative to the amount of -- I'm using the same amount of cresol in the heated and the unheated sample.

That's sort of standard chemistry. I have something to compare relatively with from sample to sample.
Q. So what was the primary component, then, in your GC/MS tests?
A. It's -- I only -- the G -- when $I$ talk about the sim mode, that's set up specifically to identify $P E$ and then the internal standard cresol.

## LaPorte

Q. Now, in that chart you were talking about where you had the rectangular boxes, there was a higher spike in the GC/MS result, far higher than the PE. What is that component?
A. That's the cresol. That's the internal standard.
Q. And that helps you do what? Determine if your PE measurements are correct?
A. Yes. Well, it's help for a relative measurement so that $I$ know -- obviously $I$ don't know -- when $I$ do the analysis, $I$ don't know how much $P E$ is in the sample -- in the test sample. I don't know that for sure, we'll say. I don't have the ground truth knowledge.

The internal standard is to understand exactly how much of that internal standard is in each. So then $I$ compare the $P E$ with the internal standard for the unheated sample, and then I compare the $P E$ with the internal standard for the heated sample. And then $I$ do the relative comparison.

So then that allows for any deviations that may occur when you do the injection or how much you're extracting and how much solvent you're

## LaPorte

extracting with. If you use 5 microliters, it could be $5.05,4.95$. But that's what the purpose of the internal standard is for, to -- it's -once again, it's another quality control step.
Q. Now, have you ever testified in a case -- have you ever testified at a hearing where the PE testing that you do was challenged under what's known as the Dalbert criteria?
A. In a hearing?
Q. Or at trial, either one. In a courtroom.
A. For Dalbert. No, I'm not aware of a time when $I$ testified and there was a Dalbert challenge.
Q. Now, have you been permitted in civil cases in either a state or federal court in the United States to testify about the results of PE testing similar to the $P E$ testing you did in this case?
A. The Alaska case.
Q. And was there a Dalbert challenge to your testimony in that case?
A. There was not.
Q. Have you testified in criminal cases

## LaPorte

about the results of $P E$ testing in courtrooms in the United States, federal or state, it doesn't matter?
A. I have not testified, no.
Q. So it's true, then, you have never been challenged under the Dalbert criteria and sort of failed to meet that challenge -- right? -- because it's just never happened yet?
A. I've never been -- it's never been challenged.
Q. And so you've never had to testify at a Dalbert hearing on your own behalf about PE testing?
A. No, I have not.
Q. Have there been cases where motions, if you know, have been filed challenging the admissibility of $P E$ testing like you did in this case --
A. Yes.
Q. -- against you?

How many times has that happened, if you know?
A. This case would be one, I believe. I mean, $I$ believe there's been a challenge. There

## LaPorte

was the Rago case. And there's an ongoing case right now in Utah -- no, I'm sorry -- yeah, in Utah.
Q. And the motion's been filed, but no hearing yet?
A. The motion's been filed, but no hearing, correct.
Q. Is there a hearing scheduled?
A. I believe so, but I'm not sure when.
Q. Other than your 2004 publication about PE testing, have you published anything else, peer-reviewed, about the type of $P E$ testing you did in this case?
A. I've -- I mean, I wrote a chapter in the Forensic Chemistry Handbook where we talked about PE testing.
Q. And when was that?
A. Two -- it's on my CV. I guess two thousand and -- it was published 2011 , maybe.
Q. Now, since 2004 have you improved your method at all -- not improved -- modified your method of PE testing since 2004?
A. Yeah, I would say so. In terms of the conclusions, that's certainly been modified. The

## LaPorte

temperature, using the 70 degrees $C$ temperature. Yeah, it's been modified.
Q. And have you published any articles on why you made those modifications to your method?
A. I've made those modifications based on other publications.
Q. Do you know of any other expert in your field that uses precisely the approach you use for PE testing?
A. The approach? Yeah, there's a number of people that use the approach.
Q. And every step of how they conduct PE testing is exactly how you do it?
A. Now you're talking about like the step by step?
Q. Yes.
A. I don't know what other -- exactly what other people are doing, but we operate off the same general principles so...
Q. But does any other scientist do it exactly with the way you do it?
A. When you say "exactly," you mean like they use the exact same amount, like the exact same amount of solvent?

## LaPorte

Q. Yes.
A. What's exactly?
Q. Exact solvent, same settings on GC/MS, same temperature, same time of heating the sample, et cetera.
A. I don't know for certain what other people are using. I know that there are some labs around the world that have been adopting the procedure a little more. So $I$ don't know exactly what they've implemented.
Q. So your answer would be what as to my question do you know of anyone who's doing it precisely the way you do it?
A. My answer would be I don't know.
Q. Fair enough.

MR. BOLAND: I have five minutes left on the tape. I don't want to break now, but let's break to switch the tape.

MR. SOUTHWELL: Are we almost done?
MR. BOLAND: I think so. We'll keep rolling.

THE VIDEOGRAPHER: The time is
approximately 5:44 p.m. This is the end of Media Number 4. We're off the record.

LaPorte
(Recess taken from 5:44 to 5:48.)
THE VIDEOGRAPHER: The time is
approximately 5:48 p.m. This is the beginning of Media Number 5. We are on the record.
Q. Has anyone else come into your lab and observed you going through the entire process of a PE test like you did in this case?
A. Yes.
Q. And who's done that?
A. It was a case not too long ago. I don't recall exactly when. Maybe in the past six months.
Q. Who was it that came through?
A. It was -- it was an attorney and -there were two attorneys that watched.
Q. Oh, I'm sorry, I wasn't clear. Another scientist in your field that has been through to sort of review your whole process, someone else who does $P E$ testing as well.
A. Yes, Mr. Speckin came through my lab and watched me do $P E$ testing. In that case it was an inconclusive result.
Q. When was that that he came through?
A. I'm not sure it was -- I can't guess

## LaPorte

the date, but $I$ would say within the past year.
Q. Anyone else?
A. No.
Q. Does Mr. Speckin use your method or your whole set of steps in the testing?
A. He uses something completely different.
Q. Has any other expert in your field ever replicated your exact methodology and then published a report on it?
A. No, practically that doesn't happen -that doesn't happen in laboratories throughout the world. First of all, it takes about two years to publish a report. So people will change their procedures slightly, not -- I'm not aware of too often when somebody publishes their entire procedure step by step.

Even in papers that $I$ have published in the past, $I$ don't have a step-by-step procedure in there. That's not -- typically that's not what's required.
Q. Have you, internal to your own laboratory, if $I$ can call it that, determined what the error rate is of your PE testing?
A. Yes, so there is -- what we call --

## LaPorte

just to understand what error rate is, there can be false positives and false negatives. So a false positive would be if you concluded the ink was more than two years old and in fact it wasn't -- or, I'm sorry, if you concluded the ink was less than two years old and in fact it was not, that it was greater than two years old, that would be a false positive result.

Then there's what we call a false negative. So if, let's say, the ink was less than two years old and you concluded that it was more than two years old, that would be a false negative.

But we don't do -- we don't -- there are no false negatives because we render an inconclusive opinion. So you can never -- never really have a false negative result.

In terms of all of the testing that I've done, I've tested numerous known samples that are greater than two years old. I have never achieved a level greater than 25 percent loss in PE doing that testing.

In casework in situations $I$ would say where if $I$ have achieved, if you will, an

## LaPorte

inconclusive result, $I$ have never been informed that $I$ was wrong about that, or there's never been any details in a case that would show that $I$ was wrong.

Also, I mean, the idea of using the 25 percent threshold does provide in the -- in the highly -- the highly probable conclusion, it allows some leeway, if you will, to be more accurate.
Q. What would be the error rate of PE testing, as you conduct it?
A. Well, $I$ would never say that an error rate is zero percent. I can say that I've never experienced an error. But that doesn't mean there will never, ever been an error.
Q. So what would you say the error rate is?
A. Right now? Once again, I don't want to say it's zero, but $I$ have never -- I have never seen an error. I mean, I have never experienced an error.
Q. Would the rate be zero for right now?
A. Well, there's also -- there's
situations where you don't know the ground truth.

## LaPorte

So it's very difficult to say what the error rate is. I mean, that's based on not knowing the ground -- based on all of the ground truth samples that $I$ have known, that $I$ have run, there have not been any errors. I wouldn't use that to say that it's a zero percent error rate.
Q. Have you done some blind tests to determine what the error rate is of the $P E$ testing that you conduct?
A. Well, using knowns. Blind testing is sufficient if there's subjective evaluation that's involved. Blind testing is fine if you're doing quantitative values where -- doing quantitative assessments where there's a false negative that could be a possible error or a false positive.

But in this case -- like I said, I've always done known samples, which is really no different than blind -- blind testing. I have a ground truth -- I know what the ground truth is.
Q. Have you done testing where someone's just provided you ink written on a piece of paper and said, $I$ 'm not going to tell you how long or how recent this ink was put on there and $I$ want you to tell me through $P E$ testing when this ink

## LaPorte

was put on this piece of paper?
A. Yes, I did that in this case. I do that all the time in casework. That's how casework works.
Q. Have you had any proficiency testing of your $P E$ testing -- PE testing and all the various steps you go through?
A. No. Although the fact is I do all my known tests. So to a certain extent that would qualify as testing, if you will.
Q. Do you know the error rates for some of some of the other experts we talked about today? Dr. Aginsky? Regarding $P E$ testing, I'm saying.
A. No, I don't know.
Q. Speckin?
A. I don't know.
Q. Brazeau?
A. I don't know.
Q. Weyermann?
A. I don't know.
Q. Is there any publication which talks about the error rates of $P E$ testing done by anybody? Not just you but anybody else who does PE testing.

## LaPorte

A. I'm certainly not aware of any situation where somebody reported that they did -that they conducted a PE test on a sample that was known to be greater than two years old and they got a false positive. I'm not aware of any study that has ever said that.
Q. Has any forensics organization or association reviewed your $P E$ testing to somehow validate it or --
A. Forensic organizations don't do that.
Q. So the answer is no?
A. They don't do that.
Q. Is there any ASTM standard for ink age determination using PE text?
A. No. There's a lot of testing we do in forensic document examination and other aspects of chemistry and forensic science where there is not an ASTM standard.
Q. Is there any other standard other than ASTM that's out there governing the conducting of PE testing?
A. No, I believe there's a patent on a procedure involving phenoxyethanol testing, but I'm not -- I'm not exactly sure on what that

## LaPorte

patent -- how that patent -- like the steps in the patent or anything like that.
Q. Is it a granted patent or pending?
A. I don't know. I don't know.
Q. It's not involving you? You didn't file it?
A. No.
Q. Do you know who did?
A. No.
Q. Is it true that some experts with your qualifications or similar qualifications have questioned the validity of $P E$ testing?
A. The validity of the testing?
Q. The reliability, scientific validity?
A. I expressed earlier, a lot of the questions, which $I$ concur with, a lot of the debate has to do with when you're making conclusions about if an ink's been done in the past three months or six months and trying to figure conclusion into a time frame, other than using sort of the broad 24 months. That's really a big -- what $I$ will say a large part of the debate.

Also in expressing conclusions. So

## LaPorte

there are some authors that, once again, and I actually concur with this too, that how do you express a conclusion other than certainty. That's -- that seems to be a debatable area. There are some people that would say with a hundred percent certainty that an ink was placed down in the past two years or six months or so.
Q. Is it true that some experts in your field have written papers detailing the problems with relying on $P E$ testing for ink age determination?
A. Can you be more specific?
Q. Have experts in your field published papers discussing problems that they've found with PE testing for ink age determination?
A. Other than what I've just discussed about how do you draw conclusions using time frames and so forth, those to me would be, I guess we'll say, debatable topics.
Q. Have people written papers on those debatable topics?
A. Yes.
Q. Can you look at the exhibit -- I don't know what the exhibit number is, but the title of

LaPorte
it is Forensic Science International. It's that article, a paper from 2011.

Do you have that in front of you?
A. Yes.
Q. What's the exhibit number in the corner?
A. LaPorte 6.
Q. Can you look on page 59, as the page numbers go there, the middle of the first paragraph.
A. Yes.
Q. Do you see the sentence that starts with: In fact, to the present date, no two laboratories that do ink dating via solvent analysis use the same method.

Do you agree with that?
A. Not exactly. I mean, I don't know -certainly I know Céline Weyermann. She -- I knew her when she was doing her Ph.D. thesis. We communicated with each other. I don't know if she actually knows what every laboratory in the world is doing.
Q. So you don't necessarily agree with that?

## LaPorte

A. No, I don't agree -- I don't agree with it as a factual statement that she would know what every laboratory in the country is doing.
Q. Do you know of two laboratories that do ink dating via solvent analysis using the same method? Can you name two?
A. Yes. I mean, Canada -- Canada Board Services Agency and the Bavarian criminal laboratory in Germany.
Q. Two in the United States?
A. Two in the United States? No. Well, Dr. Aginsky and I use basically the same -- the same method as well too.
Q. But not precisely the same method; right?
A. We use the same method.
Q. He doesn't concur with your opinion about inks can be aged within 24 months or earlier, does he?

MR. SOUTHWELL: Objection.
A. No, that's -- that's not true.
Q. So has he published reports -- is it your testimony he's published reports saying he could determine an ink is 24 months old or

## LaPorte

younger? He's done that?
A. Yes, oh, yes.
Q. Do you know what case he's done that in?
A. He's done that in a number of cases, and he has testified in the United States in those cases.
Q. Can you name a case where he's issued a report like the one you've issued here with this 24 months or less?
A. Well, he uses -- once again he uses intervals. I'm not sure -- but they'll be less than 24 months. Yeah, I believe there have been five or six cases here in the United States where he has testified in.
Q. Do you know the names or case numbers or captions of any of those?
A. You would have to ask him. He's your expert.
Q. So the answer is no, you don't know any of the cases off the top of your head?
A. I have a list of the cases, but $I$ don't know them off the top of my head.
Q. And you see at the bottom of that, the

## LaPorte

next paragraph, which is kind of a long paragraph, the very last sentence of that paragraph starts with: Brunelle and Crawford --
A. Yes.
Q. -- stated that the ink-dating technology, which is based on GC/MS analysis, cannot be used to date inks over six months old. And Bügler, et al., recommended to analyze ink with a maximum age of three to four months. And then the feasibility of such dating techniques on ink older than that must therefore be demonstrated.

Do you agree with that statement?
A. Absolutely not.
Q. Is Bügler a qualified expert in the field of ink --
(Unintelligible discussion interrupted
by the reporter.)
Q. Is Bügler a recognized expert in your field of ink age analysis?
A. Yes, but the statement is what I disagree with. Actually, I'm sorry, let me -- can I first start off with the first part of the statement? First of all, Brunelle and Crawford.

## LaPorte

Brunelle never did any kind of PE testing. He's been retired for over $I$ think a decade now.

I actually wrote an article to review this -- his book when $I$ was at the Secret Service. In fact, Mr. Stewart had actually reviewed that article, and $I$ was granted permission to publish that, to actually talk -- to actually review that statement -- to rebut that statement.

So that's not true.
And Crawford is not an ink chemist. He was a document examiner $I$ think in Texas.

So they're not qualified, in my opinion, to even talk about GC/MS.

The Bügler study, which he's talking about the Bügler study, is his 2005 study. So not the work that he had done in 2008.
Q. You'd agree this is a published document which is disputing -- granted, with the qualifications you just made -- disputing the viability of using GC/MS analysis for ink dating on inks over six months old?

MR. SOUTHWELL: Objection.
Q. These experts are disputing that?
A. First of all, the Bügler statement is

## LaPorte

about -- is not saying that you -- that you perform testing on a document that's purported to be three to four months old. That's not what his statement is. That's not at all what it's stating. It's stating that when --
Q. Doesn't it state, Bügler, et al., recommended to analyze ink with a maximum age of three to four months; right?
A. That's not what a purported age is. There's a purported natural age.
Q. No, I'm not saying purported. I'm just reading it. Did $I$ read it correctly, what it says?
A. Yes.
Q. Do you agree with that statement: a maximum age of three to four months?
A. Yes, I do, I disagree with that statement. And that was in fact -- I think Bügler was saying from making a definitive conclusion.
Q. He doesn't say that in that paragraph?
A. No, it does not. But if you read that article. I know Bügler. I talk to him all the time.
Q. Did you talk to him about this quote

## LaPorte

right here, this reference to him right here?
A. No. I will see him in September, though, and I'll talk to him about it then.
Q. And you cited Bügler in your report; right?
A. Yes.
Q. Can you point to an article that discusses the general acceptance of $P E$ testing as a reliable way to date ink in the scientific community?
A. I would say over the past two and a half decades or two decades -- yeah, two and a half decades there have been a number of papers that have discussed phenoxyethanol, the use of it for ink dating, and so forth. It's been done cumulatively over the past 25 years or so.
Q. I'm talking about the particular way in which you do -- the particular way in which you do PE testing, an article which has talked about that and generally accepted.
A. Using GC/MS, using a liquid extraction? Yes, that's been published over the years. There are a number of articles.
Q. Liquid extraction is not your way of

## LaPorte

extracting; right?
A. It is my way, liquid extraction. So the SPME, right, is different.
Q. How many articles have been written on the liquid extraction method of $P E$ testing in the scientific community saying that's a reliable way to do it?
A. Probably more than a half dozen.
Q. And are those cited in your report?
A. Yeah, they're all cited in my report. And there's more too, in addition. Those -- what I was citing as the general principles that are involved.
Q. Are you aware of cases in which PE testing method generally was challenged and not admitted, not permitted to be in -- the testimony regarding that $P E$ testing was not admitted?
A. Not -- none that I'm aware of in the United States. I mean, I -- none that I'm aware of here in the United States. There could have been. I would assume you would actually find that out much easier than me.
Q. Do you know why you were withdrawn as a witness in a Rago case?

## LaPorte

A. I wasn't withdrawn as a witness. I didn't testify. I've been -- I've been subpoenaed to testify in probably 100-150 different times, and $I$ haven't testified in probably about 100 -close to 100.
Q. You submitted a report in that case?
A. Yes.
Q. After you submitted that report, isn't it the case that the opposition filed a motion challenging $P E$ testing and your -- the admissibility of your testimony in that case?
A. That's true.
Q. Was there ever a Dalbert hearing that was held in that case?
A. There was not.
Q. Did you ever testify in that case?
A. There was not.
Q. Did a trial occur in that case?
A. It did.
Q. And did it come to a verdict?
A. There were -- from what $I$ understand, there were two defendants. One of them was found guilty.
Q. And what happened to the other one?

## LaPorte

A. I don't know. I assume he was found not guilty.
Q. Would it surprise you to know his entire case was dismissed after you were challenged under Dalbert?

MR. SOUTHWELL: Objection.
A. That would surprise me.
Q. Were you prepared to give him -- give expert testimony against both defendants based on what was in your report?
A. I have no idea what defendant -- it was a criminal case. I didn't have very much interaction with the attorney. There were some other results that $I$ had that were not challenged that corroborated the PE testing.

And I believe there was a strategic decision that was made by the United States attorney's office. And for whatever reason -- you can talk to them and ask them why, but $I$ wasn't called to testify.

That is definitely not an unusual circumstance.
Q. I'm sure the U.S. attorney will meet me for lunch and tell me why he strategized that

## LaPorte

case.
A. It's worth a try.

MR. SOUTHWELL: You can ask me. I'll
tell you afterwards.
Q. The federal government, let's talk about them. You work for currently the Department of Justice; right?
A. Yes.
Q. Do they permit you to use the PE test, like you used in this case, in your work for the Department of Justice in cases?

MR. SOUTHWELL: Objection.
A. They -- they permit me to engage in civil work. That's what I'm permitted to do.
Q. Let me be clear. In your role as -- do you testify as an expert anymore in your current job at the Department of Justice?
A. No, I do not.
Q. Do you do any testing -- PE testing in your current role at the Department of Justice?
A. There is not an entity within the Department of Justice that actually does any kind of ink testing, I mean any significant -- ink dating, we'll say.

## LaPorte

And no, the answer to your question is no, $I$ don't work in a laboratory.
Q. Is there a laboratory somewhere underneath the Department of Justice umbrella where ink dating is done?
A. Not ink dating, no.
Q. The Secret Service, you used to work for them.
A. Yes.
Q. Does the Secret Service currently, if you know, allow its agents to go into court and testify about the age of ink based on $P E$ testing like you did in this case?
A. Agents don't do testing. It's a civilian position. But you would have to ask the Secret Service.
Q. Do you know if they allow that?
A. That's -- that's secret -- Secret Service have -- they have policies and procedures, so I'm sure you can inquire with them and find out for sure.
Q. I'm sure I can. I'm asking if you know the answer to that question.
A. I'm not at liberty to say whether they

## LaPorte

do or they don't, because $I$ don't talk about what procedures they do.
Q. Why don't --
A. I assume that they perform ESDA examinations, but $I$ don't know for sure if they do them or not.
Q. When you were with the Secret Service, did you ever testify in a case in court regarding the results of $P E$ testing?
A. No, I obviously conducted the test for the Rago case when $I$ was at the Secret Service.
Q. And Mr. Stewart was not your supervisor at that time of the Rago case, was he?
A. No, he wasn't.
Q. In fact, he left years before that?
A. He was arrested in 2004 -- I think that was in May of 2004 -- and never returned afterwards.
Q. Do you know of any federal agency that allows civilian employees or agents or whomever to testify in court using the PE test?
A. I can't speak for what other federal agencies do. You would have to ask them.
Q. I'm just saying if you know. So if the

## LaPorte

answer is you don't know, that's fine. Do you know?
A. I don't know.
Q. What's the make and model of the micrometer you used we were talking about before?
A. The micrometer? I don't recall the make and model of it.

MR. BOLAND: Can you mark this as the next document.
(LaPorte Exhibit 9, ASTM E 2325-05, marked for identification.)
(Discussion off the record.)
Q. You've just been handed LaPorte 9. Can you identify that for the record, Mr. LaPorte?
A. Yes. This is the ASTM international standard guide for nondestructive examination of paper. The designation is E 2325-05.
Q. That's a standard guide for nondestructive examination of paper; correct?
A. Yes.
Q. Could you read at paragraph 6.31. And the standard recommends, does it not, using a micrometer capable of measuring in increments of .02 millimeters or . 001 inches?

## LaPorte

A. Right.
Q. And . 001 is commonly referred to as one thousandth of an inch?
A. Yes.
Q. But in this case you measured to tenthousandths of an inch?
A. Yes, I did. You can't measure paper to one thousandth of an inch.
Q. So the ASTM standard, what does that mean to you?
A. Oh, I'm just saying that $I$ think what they're saying here is that this is a minimum to use. They're not saying this is the maximum. I mean, so it's not saying to be more -- that you can't be more precise in using ten-thousandths of an inch.
Q. And your measurement in your report for page 1 was . 0042; do you recall?
A. I don't have -- I have the numbers.
Q. It's page 11 of LaPorte 1 , your report in this case. It's on page 11.
A. Okay.
Q. Do you see it on page 11, your measurements?

## LaPorte

A. Yes.
Q. Page 1 you measured it at. 0042 ; correct?
A. Yes. That was -- I'm sorry, that was the average of the eight measurements.
Q. Fair enough. And page 2, . 0043 .
A. Hold on, I'm missing --

MR. SOUTHWELL: Which page?
MR. BOLAND: I think it's on page --
MR. SOUTHWELL: It's your page 12, page
11 of his report. Go by the top.
MR. BOLAND: Ah, yes, yes. You're
right.
Q. So. 0042 for page 1.
A. Yes.
Q. And. . 0043 for page 2.
A. Yes.
Q. And what does that mean, plus or minus .00005 inches? What is that?
A. That's the standard deviation.
Q. What does a standard deviation mean?
A. It's the amount that's -- when you take an average of a group of numbers, how much they deviate from each other, how much they deviate

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from the mean or the average.
Q. If you lop off the last number on each one of these figures --
A. Yes.
Q. -- both of the pages would measure . 0004 ; right? If you only go out to a thousandth of an inch in both your measurements, the pages are identical?
A. That's the average thickness of papers, . 0004 inches. That's why when you're comparing paper you have to go to $10,000 \mathrm{AT} \& \mathrm{~T}$ of an inch.
Q. Is there an ASTM standard on that, going to ten-thousandths of an inch?
A. No, but I'm sure there is a TAPPI standard that would tell you to do that.
Q. Do you know what that standard is?
A. No, I do not.
Q. Is that the standard you applied here?
A. No, I measured ten-thousandths of an inch. I don't need a standard to tell me to be more precise. This is a guideline, minimum guideline.
Q. You compared the inks in this case and stated that based on optical and GC/MS testing

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they were different on the two pages?
A. The ink for the interlineation --
Q. The ink on the two pages.
A. Yes.
Q. Are you aware of Dr. Aginsky's analysis where he compared the ink on page 1 and the ink on page 2 and he found no evidence that the inks were different?
A. Dr. Aginsky did an optical examination. He did not do a chemical analysis.
Q. Are you aware of that, that report? That's all I'm asking.
A. Yes. Well, no, he didn't say -- I'm sorry, do you have his report? Do you have that report, because he didn't say they were the same.
Q. I'm just asking whether you're aware of Dr. Aginsky's report of his optical examination of the inks and the results of it. If you're not aware, you're not aware. That's fine.
A. I'm not aware of the exact wording. But he never said they were the same. I do know that.
Q. What do you recall him saying?
A. I don't know, but he never said they

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were the same. That's one thing that I'm a hundred percent certain of.
Q. Is it your testimony today that it's a -- it's evidence of forgery if two different inks appear on a document like this, two different ink formulations?
A. Just to be clear, can we not use the word "forgery"?
Q. No, that's my question. Is it an indication in your mind of forgery if two different inks are used?
A. Well, it could be an indication of forgery if two different inks were used, but that's not what I'm -- I'm not saying it is or it isn't.
Q. Is it common in everyday signing of contracts or signing of documents that if multiple people are signing they might use different pens?
A. Certainly.
Q. So would you agree with me that two different inks on a piece of paper alone is not an indication that there's anything improper in the way that document was prepared or executed or anything like that?

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A. It depends on -- it certainly depends on the scenario, the situation.
Q. I'm saying that by itself. Two different inks appearing on a document by itself is not an indication of some improper preparation of a document?
A. It could be, though. You're saying there's -- there is an indication -- there could be an indication. I'm just saying that you would have to know the circumstances.
Q. Right. I'm saying by itself, by itself is it enough.

MR. SOUTHWELL: Let him answer the
question, please.
A. For example, if someone was deposed and they said, $I$ used the same ink to sign all those documents, and then it's different ink, that could be an indication that they're lying.

You're asking me to make general conclusions about those types of situations, and that can -- it just depends on the circumstances, the type of document, and the history.
Q. Do you know how many samples you took August 27 th from the interlineations --

## LaPorte

interlineation, how many plugs you took in August?
A. I believe I took eight from the inter --
Q. What's the basis for that belief?
A. For the testing that $I$ did, and I've reviewed the video.
Q. And do you know how many samples, plugs, you took from the initials?
A. Two.
Q. And what's the basis for that?
A. I'm sorry, I'm not sure if it was two or four. I would have to refer back to my notes on that. It was either two or four.
Q. At some point in your report, you mentioned you weren't able to perform $P E$ testing on $I$ believe the letter $P$ because you needed more samples?
A. Correct, because the -- I mean, when we say the $P E$ testing, $I$ 'm talking about determining the percentage of PE that's lost between heated and unheated.
Q. Yes.
A. I did detect a high level of PE in the staff of the $P$ in the $P C$ initials.

## LaPorte

Q. Did you do an ESDA examination of the documents as well?
A. Yes, I did.
Q. And what's that designed to determine when it's done generally in a case?
A. Generally speaking to determine if indented impressions, such as writing, were transferred by writing on the top sheet and then those indentations being transferred to the bottom sheet.
Q. Did you take images of that process while you were doing it?
A. I -- the ESDA -- I took numerous images in August using side lighting, but $I$-- and I have images of the ESDA results.
Q. But you didn't report on that in your report --
A. Yes.
Q. -- the results of your ESDA testing?
A. Yes, I did.
Q. And what were the results?
A. That I couldn't conclude with any certainty that the interlineation on page 1 was the source of the interlineation on page 2. In

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fact, there were some very subtle -- there were a number of subtle differences that was causing me to believe that that interlineation on page 1 wasn't the result of that impression on page 2 , but I couldn't say that conclusively.
Q. Were there indentation -- was there an indentation on page 2?
A. Yes.
Q. Was there only one area of page 2 that had indentations or were there indentations on other areas of page 2?
A. Just in the area of where the interlineation was.
Q. Did portions of that indentation seem to align with the interlineation on page 1 ?
A. I couldn't be -- I couldn't be certain, but there were certain letters that I could not make out.
Q. Do you remember what letters those were?
A. I believe it was the $M$ in -- the $M$ for the MZ initials. I couldn't make that out clearly. The $Z$ was very difficult.
Q. Do you have notes of this evaluation

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that you did?
A. Yes.
Q. Are those at your hotel as well?
A. Yes. And there was no -- I could not overlay. I tried to overlay the interlineation with the indentations, and $I$ couldn't get a perfect overlay either.
Q. Is that the only scenario where you would report a conclusive result, if you can get a perfect overlay?
A. No, not necessarily. There can be slight deviations depending on if the paper is moving. But $I$ didn't -- the differences that $I$ was seeing I didn't think indicated paper movement.
Q. Why is that?
A. Because I think there were -- once again, I think there were subtle differences that could not be explained simply with paper movement.
Q. Did you see indentations on page 2 that reflected different words than what were in the interlineation on page 1?
A. No, but there was a large portion of the beginning of the interlineation that $I$ could

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not make out.
Q. Did you review Mr. Blanco's report with his ESDA results?
A. I did not review his report.
Q. You know, overall -- you've had disputes with Mr. Stewart in the past on an expert basis, would you say, about evidence in cases?
A. We've been on opposing sides, yes.
Q. Have you been on opposing sides with Mr. Blanco ever?
A. I have not.
Q. Is it your opinion that Mr. Stewart is unqualified to offer opinions in the areas that he offered opinions on in this case?
A. Mr. Stewart has made some significant errors in the past three cases that I've been involved with, and I think his -- I think his competence and integrity is definitely in question.
Q. Is he unqualified by training, experience, background, to be an expert in the area in which he offered opinions?
A. In certain areas, yes, I believe so.
Q. What areas is he unqualified in, in

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your opinion?
A. Toner analysis.
Q. What else?
A. That was not something that he was trained on when he was at the Secret Service. He -- based on the testing that he does. He conducted testing incorrectly in the toner analysis, for whatever reason.
Q. In this case, you're talking about?
A. In this case. In the previous case he did too.
Q. Are you trained in toner analysis?
A. Yes, I am.
Q. When did you receive that?
A. I received that at the Secret Service.
Q. When did you get that?
A. Starting in 2001.
Q. Who provided that training?
A. The Secret Service.
Q. It wasn't Mr. Stewart?
A. No, he did not provide me training. He was -- he was certainly an ink chemist when $I$ was there. He was the lab director. And I would say that he was part of the training that $I$ went

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through. I did consult with him about ink testing when $I$ went through my training. I considered him to be a mentor to a certain extent when $I$ went through my training as well.

But there were several other people there that $I$ learned from as well.
Q. Did he ever take training at the Secret Service on toner analysis; do you know?
A. Not that $I$ know of.
Q. Did he ever take training after he left the Secret Service on toner analysis?
A. Not that $I$ know of. I mean, I think it's evident, first of all, he extracted the toners incorrectly. You can tell just by his TLC plate -- toners have pigments in them, and if you look at the origins, there's no -- there's no pigments at the origins. So he obviously extracted those incorrectly.
Q. Has he published any papers on toner analysis; do you know?
A. I don't know.
Q. Have you published any on toner analysis?
A. Yes, I have.

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Q. When was the last one you published and where was that?
A. I believe it was in the Journal of Forensic Science in -- if $I$ can refer to my CV. Number 15 on my CV, which occurs at page 35 of 67. It's LaPorte and Ramotowski, "The Effects of Latent Print Processing on Questioned Documents Produced By Office Machine Systems Utilizing Ink Jet Technology and Toner," Journal of Forensic Science, May of 2003.
Q. That's about fingerprint analysis?
A. No, we did chemical analysis after a document was submitted for fingerprint analysis.

And I discuss it in my -- I think there was a chapter that $I$ wrote, analysis techniques used for the forensic examination of writing and printing inks. I don't know if we discussed that. We did discuss some toner analysis as well too.
Q. Suffice it to say you and Mr. Stewart opposed each other, disputed each other's conclusions and results in a number of cases before this case?
A. No, I mean, there was the Lake Forest matter in Florida. That was one. Of course, as

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you know, the judge in that case ruled his testing not to pass a Frye standard, which $I$ believe we talk about in the community. I think Mr. Stewart is the first person ever in a long time to have a chemical analysis procedure kicked out on a Frye.

Then there was a case in Texas that $I$ did not oppose him on. I was hired as a consultant, but $I$ didn't do the analysis.

And there's a case $I$ believe in California last year where Mr. Stewart made a number of errors in that case as well.
Q. These are errors in your opinion or a judge found errors or what are you talking about?
A. They are errors -- you can -- you're more than welcome to review what the judge said, versus what Mr. Stewart's conclusions were. And they were directly contradictory to his conclusions.
Q. Is it your opinion if a judge disagrees on an expert that the expert must have done something wrong?
A. Everything -- there are a number of things that he did that the judge specifically ruled against.

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Q. That's not my question. If a judge disagrees with an expert, has the expert somehow done a bad job? Is that your opinion as a general rule?
A. As a general rule, when the judge rules against everything that he made conclusions about, we -- we actually showed some direct evidence that Mr. Stewart made some errors.

He concluded in that case that a Times New Roman Font -- that he couldn't determine if that Times New Roman Font was available in 2006. If he were to have made that same conclusion in this case, page 1 wouldn't have been authentic based on Mr. Stewart's rule.
Q. Have you ever had a judge -- or have you ever had a case where you testified and your side hasn't won? You win every time?
A. I think there may have been one case that $I$ have testified in where $I$ issued a report and that side didn't win. But I don't really -- I don't consider that me winning or losing or anything like that. There's obviously other factors in the case.

But barring aside the judge's ruling,

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there were some definite errors that were made in that case.

Of course he made an error in this case too, it appears.
Q. Well, we know about your conclusion on that for sure.

Has PE testing you've done always been reliable since you first suggested in 2004, in your opinion?
A. It's evolved over time. Like I said, actually --
Q. Has it always been reliable since 2004?
A. Has it been reliable? You mean has it been proven to be reliable? I mean, that's --
Q. Is it reliable in your opinion? Since 2004 has it been reliable?
A. It would have been reliable in 2004. I don't know if $I$ can say we knew that for sure. We know that for sure now.
Q. When did it become reliable? What year?
A. That's -- it doesn't -- it doesn't work like that. There are some basic concepts. Dr. Aginsky was using it in the mid nineties.

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Q. Precisely the way you do it?
A. Very similar. We use a very similar approach.
Q. And do you think the results he gets are scientifically reliable?
A. Once again, we issue our conclusions in different ways.
Q. Have you ever opposed him in a case?
A. Yes, I have.
Q. And have you opposed him regarding PE testing results?
A. Actually we opposed each other in a case where he did the $P E$ testing, determined that the document was $I$ believe less than a year old, and I actually found other evidence that the document was less than a year old. So his -- even though we opposed each other, we came to the same conclusion on that particular aspect of the case.
Q. So do you think the way he does PE testing, which is similar to yours, is reliable?
A. I can't speak for his testing in general, whether it's reliable or not, but $I$ have not -- I have no reason to question what he -what he does or how he does his work and the

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conclusions that he comes to.
I certainly -- I would say that I disagree with using intervals of dating, specific intervals. Like to say something was done in the past three to six months or the past six to twelve months. Who's to say, if you're saying it's done in the past three to six months, that it wasn't done seven months ago.
Q. Or two months ago?
A. Or two months ago.
Q. What about Gaudreau and Brazeau, is the way they do $P E$ testing reliable?

MR. SOUTHWELL: Objection, asked and answered. This is about the third time we've gone through this.
A. I can't speak for -- there's more to just reliability, like general reliability. You have to do the test -- you have to be trained and do the tests accurately and have quality control measures. All of that is important, just as important too, as reliability.
Q. Do you know if they have any of that, the Canadians?
A. I don't know their specific

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methodology.
Q. And how about Bügler in Germany?
A. I don't know their specific quality control measures that they use in Germany either.

A test can be reliable, and you can still get incorrect results if you're not -- if you're not doing the test correctly.

MR. BOLAND: Let's just take a short break. I think I'm done, five minutes.

MR. SOUTHWELL: You said that the last two times.

THE VIDEOGRAPHER: The time is
approximately 6:36 p.m. We're off the record.
(Recess taken from 6:36 to 6:49.)
THE VIDEOGRAPHER: The time is
approximately 6:49 p.m. We're back on the record.
Q. Mr. LaPorte, I asked you earlier about notes you brought with you that are in your hotel -- you mentioned were in your hotel. Is there anything else you brought with you relative to this case that's sitting in your hotel room?
A. Relative to the case? My notes. That's -- I think -- no, that would be everything

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relative to the case.
Q. Any images?
A. That's on my computer.
Q. Where is your computer?
A. My computer is in the other room.

MR. BOLAND: All right. Well, $I$ don't have any further questions at this point. Alex, if you have some questions.

But I'm not willing to close the deposition, pending seeing Mr . LaPorte's notes that you told him to keep in his hotel, the results of his tests from the July plugs he took, the results of the tests from the August plugs, and native format images of the hundreds of images he indicated he captured of all phases of his analysis.

But other than that, I don't have any further questions.

MR. SOUTHWELL: You know, we had an agreement to mutually share and turn over documents in anticipation of these expert declarations, and you have abrogated that agreement.

I mean, you sandbagged us with the

Rantanen documents. You have not provided us with any of the Stewart documents. You told us that Stewart was going to provide an explanation about the sampling that he did. It was obvious in his deposition that he had other documents that you guys were withholding.

Something is going on that you're not providing those documents. So if you're going to live up to your end of the bargain, then we can have a discussion about that and we can provide the documents that we talked about. But you have not --

MR. BOLAND: We asked for tons of documents from the tech experts. You didn't provide us any.

MR. SOUTHWELL: We responded. We responded. We were the first --

MR. BOLAND: You didn't provide any documents.

MR. SOUTHWELL: All right, now it's going to be a school yard game of you did this first, you did this first.

MR. BOLAND: No.

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MR. SOUTHWELL: You are withholding key documents from Mr. Stewart. Okay.

MR. BOLAND: I disagree with your characterization of key anything.

MR. SOUTHWELL: Inventory of his sampling? How the hell more important could that be? He hasn't provided -- you have not provided us any explanation about this.

MR. BOLAND: You have whatever basis you have.

MR. SOUTHWELL: Yeah, all right.
MR. BOLAND: I have my record.
MR. SOUTHWELL: We're going to put Mr. Stewart back under oath.

MR. BOLAND: I've made my record about what we want from him, and that's all.

MR. SOUTHWELL: Fine. Then we can talk about that.

EXAMINATION BY
MR. SOUTHWELL:
Q. All right. I do have a few questions.

Mr. LaPorte, you were asked some questions, $I$ would say a lot of questions, today about phenoxyethanol, and specifically Mr. Boland

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asked you a series of questions asking you to do various math calculations in terms of taking 64 percent out of 100 percent.

Do you recall those questions?
A. Yes.
Q. Now, the 100 percent that was the basis for those questions, that relates to the amount of PE in the ink at the time of testing; correct?
A. Correct.
Q. That does not relate to the amount of PE present in the ink at the time the pen was put to paper; is that right?
A. Correct.
Q. So there could have been some PE that evaporated over whatever time between when the ink was put to paper and when the testing was done; correct?
A. Yes, that's correct. That was 64 percent of the remaining $P E$.
Q. Right. So that 100 percent is whatever was remaining at the time of the tests?
A. Right, correct.
Q. You were also asked some questions about the casework you did in the Secret Service.

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How frequently in that casework did you have the opportunity to do PE testing related to ink dating?
A. Well, in criminal cases actually you don't get an opportunity to do $P E$ testing as much because a lot of times those cases aren't submitted until sometimes years or two years later.

Also too, about really one-third of all ballpoint inks -- and I'll use general numbers published by Bügler. But about one-third of ballpoint inks are fast aging. One-third of ballpoint inks have low phenoxyethanol to begin with. And then the other third of the inks would be more kind of what $I$ would qualify as mid to medium range type aging -- medium to slow --slow-aging ink.

So automatically that diminishes the opportunity, if you will, to do PE testing.

Furthermore, not all documents contain ballpoint inks. So, you know, there's a number of documents that when you receive them they have nonballpoint inks, so you can't do anything with those.

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So we were -- we didn't -- in criminal cases we didn't get the opportunity to do PE testing as much as possible.
Q. You were also asked some questions about -- I think you termed it the reliability of your -- the methodology that you follow in doing your PE analysis; right?
A. Yes.
Q. Could you explain how the principles underlying your PE tests and your methodology are -- whether they are generally accepted by the scientific community and how?
A. Absolutely. There are a number of principles that are generally accepted and have been generally accepted for several years.

The first is that ballpoint inks -- or when an ink is placed down on a piece of paper that it will go through an aging process. It goes all the way back into the sixties and seventies.

Then there's the idea that there are solvents in writing inks that will evaporate over time. In fact, Mr. Stewart published a study in 1985 showing that when ink -- I think he showed the ink at times zero and the ink 30 days later

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and showed the phenoxyethanol -- well, at the time he didn't know it was phenoxyethanol, but showed there were volatile solvents that decreased in time.

Then there were studies through the nineties that reinforced that concept a little more and then to identify phenoxyethanol.

Then there's really the generally accepted methodology of using GC/MS for chemical analysis. That goes back all the way into the fifties and past that. So that -- the GC/MS is considered probably the most reliable technology in the world for doing chemical analysis. So the technology is reliable. The basic premise, the basic concept is reliable.

Then we know that phenoxyethanol -- and Mr. Boland has shown us today and demonstrated as well -- that everybody has these curves, and these curves show that after about 24 months phenoxyethanol slows down and begins to -- doesn't age as quickly as it does in the first time period. That's obviously -- everybody's in agreement with that concept too.

So there are these -- you know, the

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most important thing to understand is that there are fundamental concepts that are proven throughout the literature and have been done for the past 25 years.
Q. And when you're referring to everyone is in agreement, are you referring to these principles being published in peer-reviewed literature?
A. Yes, that's -- I mean, every time somebody does a publication, they're not expected to outline a step-by-step procedure. The purpose of publication is to experiment and to change things to see what happens and to look into or hypothesize about certain types of things too.

So that's been done, I mean, just -that goes on today. Discussions still take place about phenoxyethanol as well.
Q. And for how long have there been peer-reviewed literature establishing the scientifically -- establishing the reliability of the underlying scientific principles you've just spoken of?
A. I think that goes all the way back to 1985 when Mr. Stewart published that first paper

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in this area, and then it let up and through the years. It's -- there's always -- there's been papers -- probably in the 2000 s is when there were a lot more -- a lot more researchers looking into this.
Q. With respect to the results that you obtained when you do this testing, could another chemist reproduce your results?
A. That's an extremely important question. So reproducibility is obviously -- it's important in evaluating procedure or method. But there's more to reproducibility than just having a cookbook, if you will, of steps and giving it to somebody and them reproducing it.

That -- there's two main aspects of all of this. First of all is you're using a procedure, using these generally accepted principles we've discussed, but also having the proper training. That's critical.

So there are very few examiners actually throughout the world that have this combination of chemistry training and then forensic document examination training. I think there's only five private individuals in the

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country. I would say that -- in the U.S. There may be a few more throughout the world. And then there's even a handful, if you will, of government examiners. It's a very niche, specialized field.
Q. Are the results that you obtained and the methodology that you follow -- the approach you follow, is it reproducible?
A. Yes, yes. If you're trained properly and you have the exact same method -- if $I$ gave my method to somebody and I had the opportunity to train them to do certain things, I have no doubt at all that they would be able to reproduce my results.
Q. How do you control for the possibility of error in your methodology?
A. There's a number of things -- a number of steps that actually took place, and quality control is one of them. One of the things that you have to take into consideration is whether the instrument is operating correctly on the date you're using it.

You need to make sure the GC/MS is working. In this case I performed an auto tune to ensure that the GC/MS was operating correctly, it

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was detecting like it should be detecting and so forth.

I then ran the blank solvents to ensure that there was no contamination in the solvents that $I$ was using. I then ran paper blanks to ensure that there was no contamination in the paper.

I then ran an internal standard. I talked about using the cresol in the past. So I have all of those standards. I ran a known standard. In fact, $I$ actually used a known ink when $I$ ran the standard. It was a fresh ink, a day or two old, when $I$ placed it on paper. Then $I$ used that as a standard that the GC/MS was detecting the phenoxyethanol and so forth.

So those quality control steps are really important. Also that's one of the reasons we use the threshold, the 25 percent threshold, so that does allow for sort of uncertainty, if you will, measurement uncertainty, as we characterized. And then also using the qualified opinion of whether it's probably or highly probably.
Q. Are there other aspects of your

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equipment, such as your oven or things like that, that you take into account in ensuring your internal control processes?
A. Yes. Actually when $I$ do the extraction, $I$ use 5 microliters of solvent. The pipette that $I$ use is a calibrated pipette. I have a laboratory-grade oven that $I$ use, and it has a thermometer that is accurate to 1 degree Celsius. So $I$ ensure that's at 70 degrees Celsius before $I$ put the samples in.

Also, one of the things is when $I$
sample the ink plugs and I'm going to heat them, I make sure that they are face up. I use a ceramic well dish that has 12 wells in it. So I put the ink plugs facing up so that the phenoxyethanol will evaporate off and not -- as opposed to putting them down and the phenoxyethanol just kind of evaporates but comes back onto the paper.

I check -- I always check my oven, probably two or three times, in between that hour to make sure it's still at 70 degrees.

So there's a whole host of steps that I go through.
Q. You mentioned the 25 percent threshold.

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Mr. Boland asked you a series of questions about that. Is that a -- the use of that threshold, is that an element of your methodology or is that sort of an element of the interpretation of your results, if that's a clear question?
A. It's an element of the interpretation of the results, yes.
Q. What are the steps you take into account in taking into account possible unknowns in the interpretation of your results?
A. I'm sorry, can you say that again?
Q. Sorry, it was not a clear question.

When you interpret your results, what steps do you take to account for any unknowns?
A. Once again $I$ use the highly probable opinion. I use the 25 percent threshold. So all of that's built into the interpretation, if you will. That's not -- I don't know if $I$ would call that methodological, but it's more -- it's interpretation.
Q. You were asked some questions about -I think the terminology was disagreement with Dr. Aginsky.

To the extent you have a disagreement

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with him, does that relate to methodology used or interpretation of results?
A. We have never had a disagreement about methodology used.
Q. Can you explain the differing approaches to interpretation that you and he take?
A. Yes. Dr. Aginsky will use the approach that if there's a certain percentage lost of phenoxyethanol, if it's a very high percentage, for example, if it's greater than 50 percent, you know -- I'm using this as an arbitrary-type value because I'm not exactly sure how he -- how he frames it -- but if it was greater than 50 percent, he might say that that ink was less than 12 months old. So he -- he uses those different delineations in drawing conclusions.

We have -- we have a disagreement there. I think which -- but we have -- I have professional respect for Dr. Aginsky.
Q. And your interpretation of results, as Mr. Boland asked you about, rests on this 24 -month period; right? So your results in this case was that there was a 64 percent average loss in the PE from the sample of the interlineation on page 1 of

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the "work for hire" documents. And that led to what conclusion?
A. That led to the conclusion that it was highly probable that the interlineation was put on that document sometime in the past two years from the time $I$ did the testing.
Q. You're not offering an opinion about a specific date that the ink was put on the paper; correct?
A. No.
Q. You were asked some questions about the freezing rate for the solvent PE.
A. Yes.
Q. Right?

And you said you weren't sure what the freezing rate was for that particular solvent. Is the freezing rate of that particular solvent -how does that relate to the possibility of freezing for PE as contained in ink on paper?
A. I -- it's not related. There's -there's other -- other components within that ink formulation that would preclude you from knowing for sure.
Q. And you were also asked some questions

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about this other declaration that Mr. Boland showed you, LaPorte 3 in this case, and in that report you concluded that there was a 71 percent decrease -- average decrease in the amount of $P E$, as set forth on page 17 of that document. And to be clear, that led you to a conclusion that that ink was less than two years old; correct?
A. Yes.
Q. You were asked some questions about a separate conclusion that you had -- well, let me ask you this: On page 13 of that report, if you can refer to LaPorte 3, you were asked a series of questions about your statement that the level of PE was unusually high.
A. I'm sorry, what page?
Q. Page 13 of 19 in the second paragraph. It begins after running the GC/MS analysis.
A. Yes.
Q. The "unusually high" in that sentence refers to the level of PE rather than the average loss finding of $P E ;$ correct?
A. Correct, correct. Those are two different things.
Q. And let's look at page 17 in the first

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paragraph where you have the conclusions. In April 2012, you measured the rates of evaporation of PE in several ink entries; right?
A. Yes.
Q. And the rates of evaporation for those entries were all well above 25 percent; right?
A. Yes.
Q. And based on those results alone, you concluded that the various entries were written within the previous 24 months, specifically that they were not written on the purported dates of creation, which were in 2003 and January 2010; right?
A. Correct.
Q. Now let's look at paragraph 2 which is on the next page, page 18. In that paragraph you conclude it's highly probable that the entire ledger of entries from entry 1 through the entries that correspond to certificate 17 were written contemporaneously on or after January 23, 2012; correct?
A. Correct.
Q. You testified today about the specific bases for that specific conclusion, that it's

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highly probable the entire ledger of entries were written contemporaneously on or after January 23rd, 2012. Do you remember those questions?
A. Yes.
Q. To be clear, the basis of that specific conclusion has to do with the dates and sequence of the entries on the ledger that was at issue in that case; right?
A. Correct.
Q. January 23rd, 2012, is in fact the date of the last entry in that ledger?
A. Correct.
Q. And your specific conclusion in paragraph 2 is based on that fact and the logical deductions that you drew from that fact?
A. Correct.
Q. So to be clear, the January 23rd, 2012, date and your conclusion in paragraph 2 was not based on the results of your PE tests disclosed -discussed in paragraph 1 solely; correct?
A. Correct, not solely.
Q. One other question, I'm sorry. On page -- hold on, please -- going back to page 13 of that exhibit, LaPorte 3. In the third

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paragraph right before the italicized header dating of ink $v$. entries on the ledger, see that line about "since"?
A. Yes.
Q. And that line reads, Since there was an average loss of 71 percent of the ink eight samples for nearly two weeks prior, this is a strong indicator that the ink is still in the initial stages of drying.

Is that indicator -- what does that indicator conclusion mean?
A. That's just -- it's in the indications. It's more of a -- it's not a concrete, definitive conclusion.
Q. Can you draw a general conclusion about whether any ink in the initial stages of drying based on a PE loss in the 70 percent range?
A. No, not solely on a single level measured at a single time.
Q. So what specifically is an indications conclusion?
A. Well, that's not -- that's not an actual conclusion word, if you will. I mean, I'm not using it as -- I would have footnoted the word

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if it was conclusionary. So it was just indications based on that.
Q. You were also asked some questions about Mr. Stewart's role as your supervisor at the Secret Service, and I think you said that you reviewed his report; is that right?
A. Yes.
Q. And are you familiar with paragraphs 330 and 331 of his report -- well, I'll show them to you.
A. Okay.
Q. Are you familiar with those paragraphs?
A. Yes. Would you like me to read them?
Q. Sure.
A. Paragraph 330 says, Afterwards I found out that LaPorte and another of my subordinates had obtained a transcript and then accused me of not testifying truthfully at the earlier trial.

331: The substance of their accusation dealt with whether $I$ (myself) had conducted forensic examinations in the case and whether $I$ had knowledge of information found in a book LaPorte was writing a chapter for.
Q. And these paragraphs of Mr . Stewart's

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report relate to his explanation of how he came to be charged criminally with perjury for having perjured himself while testifying as an ink test at the Martha Stewart trial; correct?
A. That's correct.
Q. And these paragraphs allege that you obtained a transcript and then accused him of not testifying truthfully and alleges the substance of your allegation and implies that you had a hand in his being criminally charged with perjury.

Is that what this substance indicates?
A. That's what it sounds like, yes.
Q. Is that accurate?
A. That -- that is in -- just a blatant lie.

MR. BOLAND: Objection. This is way beyond the scope of what we asked.
A. I had nothing to do with -- I never reviewed any kind of transcripts. I had no idea what Mr. Stewart had testified to in trial. I had no information that Mr . Stewart was being investigated.

The first time that $I$ found out that there was anything going on was after Mr. Stewart

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was arrested and we had a meeting and we were explained that he was arrested. Even at that time we weren't given any details of what was going on. So I had nothing to do with that at all. The only thing $I$ was -- $I$ was called as a fact witness at the trial. That's all I was called for. So I was asked if $I$ was there on the day that the examination took place. I was. They asked me if Mr. Stewart was present or not. He was not when that -- on that particular day.

And then we talked about the -actually it's not a chapter in a book; it was a book that Dr. Cantu and $I$ were writing together. We had a book proposal. So they asked me questions about that.

That's all in the complaint. But that is not a factual statement at all.
Q. And you were asked some questions about the degradation of the "work for hire" document and your opinion about the causes.

Do you also have an opinion about when that degradation likely occurred?
A. I'm sorry, can you repeat that?
Q. Yes, I'm sorry, hold on a second.

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(Pause.)
Q. You were asked some questions about the degradation of the "work for hire" document and your opinion that there was -- well, I may not have it exactly right, but exposed to sunlight or extreme energy source, $I$ think.

What exactly is your opinion about this?
A. That it was exposed to sunlight or some high-intensity energy source over a period of weeks.
Q. And do you have an opinion about when that occurred?
A. That would have occurred somewhere between the time that Dr. Aginsky examined the document and July 14 th when the document was first opened in Buffalo.
Q. You were also asked some questions about a number of articles. If you could pull out LaPorte 2. Direct your attention to the middle of the page. There is a quote from the Gaudreau/ Brazeau -- I'm sorry, on page 2 of LaPorte 2.
A. Okay.
Q. -- that Mr. Boland asked you about. I

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believe Mr. Boland asked you whether the quote was phenoxyethanol in ink evaporates at a high rate during the first six to eight months following its application on paper.

What is the rest of that quote?
A. It says, This process is no longer significant after a period of about two years, end quote.
Q. Sorry, what's the sentence right before that? Why don't you read the whole quote, if you would, please.
A. Okay. I'm sorry. Quotation... phenoxyethanol in ink evaporates at a high rate during the first six to eight months following its application on paper. The rate of evaporation stabilizes over a period of 6 to 18 months. This process is no longer significant after a period of about two years.
Q. You were also asked some questions about LaPorte 5 , which was the Aginsky article. And specifically you were asked questions about this so-called aging curve, Figure 4, at page 1138 of that article.

Do you recall those questions?

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A. Yes.
Q. Could you read the title of the figure aloud?
A. I'm sorry, isn't it Figure 5?
Q. Figure 4 on page 1138.
A. I'm sorry. Sensitivity to a reagent.

And then the caption below says Figure 4. Aging curve obtained for a Soyuz blue violet ballpoint ink using the reagent photometric technique.
Q. And if you could turn to page 1135 where it has the header "ink aged determination using volatile chemicals."

Could you please review these three paragraphs here to yourself?

MR. BOLAND: What page is that?
MR. SOUTHWELL: 1135.
A. Yeah, just so I'm following you.
Q. (Indicating).
A. I don't want to read the wrong three paragraphs.
Q. It's the paragraphs that precede under ink aged determination is involved with chemicals and before it gets to experimental procedure.
(Pause.)

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A. Okay.
Q. Let me ask you this: Does the experiments or procedure and process written about in this article have to do at all with GC/MS or phenoxyethanol testing?
A. It has nothing to do with GC/MS and phenoxyethanol testing.
Q. So the curve chart or the aging curve at Figure 4 on page 1138, does that involve phenoxyethanol at all?
A. No.

MR. SOUTHWELL: Nothing further at this time other than to request review of the transcript.

EXAMINATION CONTINUED BY MR. BOLAND :
Q. Mr. LaPorte, on that question that Mr. Southwell just asked you from that exhibit you were just looking at, that's one of the exhibits that you cite in your report -- right? -- the Aginsky 1993, or is it not?
A. Yes.
Q. But it has nothing to do with PE or GC/MS testing; correct?

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A. That's incorrect.
Q. He just asked you that question, and you said --
A. That chart.
Q. That chart we talked about has nothing to do with that kind of testing; right?
A. No, but you see in the abstract, if I can read it, he talks about different procedures and number 2 is a GC method of determining the extent of extraction of ink volatile components that decrease as ink agents on paper. That's procedure 3.
Q. Is he talking about the precise procedure that you used in this case in this article?
A. Once again, this is -- it's the sort of basis, if you will, or it's a fundamental principle of the procedure.
Q. Is it the precise steps that you use and used in this case for PE testing?
A. Not this 1993 paper, no.
Q. You were asked some questions about Mr. Stewart. Did you testify at the grand jury before his indictment in that case?

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A. I did, yes.
Q. Did you testify at trial?
A. Yes, I did.
Q. And was your testimony on his behalf or on the government's behalf?
A. It was -- I was called as a fact witness by the government. I wouldn't consider it on behalf of anybody. I mean, they were just trying to establish facts, and that's what $I$ was there for.
Q. They were trying to establish facts against him in the case?
A. The -- that's what the prosecution does, yes.
Q. He was ultimately acquitted; right?
A. Yes.
Q. Now, the technique you use that Mr. Southwell was just asking you about involves extraction; right?
A. What technique?
Q. The PE testing technique.
A. Yeah.
Q. There's extraction involved?
A. Yes.

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Q. Do you do it precisely the same as other experts like Speckin and Brazeau and those guys? Do you do the extraction the same?
A. I wouldn't consider Speckin to be a phenoxyethanol expert.
Q. Does he do PE testing?
A. He does PE testing. He does something -- he just looks simply at the level of PE. He doesn't look at how much is driven off the ink.
Q. Does he do extraction as part of that; do you know?
A. I believe he does a liquid extraction, yes.
Q. So he doesn't do it the way you do it?
A. He does a liquid extraction. I'm not sure what he uses for the liquid extraction.
Q. As far as equipment, do you know if you use the same GC/MS type of equipment as, for example, the Canadians use?
A. Yes, very similar. I mean, it's GC/MS.
Q. Same manufacturer? Same model?
A. I believe we both use Agilent GC/MS.
Q. And you don't use any -- okay. Very

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well.
And the column that you talked about, do you guys set that up the same as well?
A. Yes, I use an HP 5 MS column, which is consistent across the board. There are other people that may use a DB 5 column, but that's the same chemical makeup of the column but different manufacturer.
Q. So it's different?
A. Different manufacturer but same chemical makeup.
Q. And a different name -- right? -- HP 5 and DB 5, two different names?
A. They're actually made by -- it's G\&W is the company that $H P$-- or Agilent works with.
Q. And they're all the same size; right?
A. Well, there's different size columns, but, yeah, I think everybody that -- as far as I know, everybody's using a 30 meter column.
Q. And the other measurements of the column are the same for everybody?
A. Typically . 25 millimeter diameter -it's called an ID or interdiameter -- and a 25 micrometer layer of thickness.

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Q. And the injection temperature everyone uses the same or no?
A. Generally speaking I think everybody uses 250 degrees C.
Q. I'm being specific, though. How about Brazeau and Gaudreau, do they use the same?
A. I don't think what their injection core temperature.
Q. Or Speckin when he does it?
A. I'm not sure what his injection core temperature is.
Q. The flow rate, they set it the same, everybody?
A. Generally speaking. I mean, the whole -- once again, the whole idea is to get good chromatography at the end.
Q. And the initial temperature, does everyone use the same initial temperature, not generally, specifically, do they use the same temperature?
A. I don't -- I can't say specifically what everybody is using. But temperature has to do with achieving good chromatography.
Q. And the ramp rate, how about that?

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A. The ramp rate could be the same.
Q. Or it could different?
A. It could be different.
Q. And the final temperature?
A. Final temperature, I'm not sure what everybody else is using, but generally speaking we probably all go either to 270 degrees or 300 degrees Celsius at the end.
Q. And that, by my count, at least $I$ have asked you about eight different facets of this testing. Fair to say?
A. There's -- the whole idea of using GC/MS is to establish or to get a good peak. So if we're using -- if we're getting a good peak, minor deviations in a temperature, if somebody is using a -- starting at 50 degrees Celsius with a temperature ramp or if they're starting at 55 degrees Celsius, that's not a substantive difference.
Q. Is that just your opinion it's not a substantive difference or it's been tested?
A. That's my -- that's my -- that's 20 years of doing GC/MS experience.
Q. There's nothing published that

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indicates that's not a substantive difference, would you say?
A. Absolute -- there's publications that talk about GC/MS in achieving good chromatography.
Q. I'm talking about in the context of $P E$ testing.
A. There's -- but you're dividing PE testing. This is about getting good chromatography. It doesn't matter who I'm analyzing, whether I'm analyzing phenoxyethanol or whether $I$ 'm analyzing cocaine. It doesn't matter. The idea is to achieve good chromatography.

MR. BOLAND: I don't have any further questions.

MR. SOUTHWELL: Nothing further. (Continued on the following page.)

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THE VIDEOGRAPHER: The time is approximately 7:27 p.m. This concludes Media Number 5 as well as today's deposition of Gerald LaPorte. We are off the record.
(Time noted: 7:27 p.m.)

GERALD M. LAPORTE

Subscribed and sworn to before me
this $\qquad$ day of 2012 .

Notary Public
$\square$ Page 324

$$
C E R T I F I C A T E
$$

STATE OF NEW YORK )
: ss.
COUNTY OF NEW YORK )

I, LAURIE A. COLLINS, a Registered Professional Reporter and Notary Public within and for the State of New York, do hereby certify:

That GERALD M. LAPORTE, the witness whose deposition is hereinbefore set forth, was duly sworn by me and that such deposition is a true record of the testimony given by the witness.

I further certify that I am not related to any of the parties to this action by blood or marriage, and that $I$ am in no way interested in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my hand this 30 th day of July, 2012.

by LaPorte
Exhibit 3, expert report of LaPorte
from Aequitas v. Anderson case
Exhibit 4, article titled "Ballpoint
Pen Inks: The Quantitative Analysis of
Ink Solvents on Paper By Solid Phase
Microextraction" by Brazeau and
Gaudreau
Exhibit 5, paper titled "Some New Ideas
for Dating Ballpoint Inks, a
Feasibility Study" by Aginsky
Exhibit 6, article titled "Minimum
Requirements for Application of
Ink-Dating Methods Based on Solvent
Analysis in Casework"
Exhibit 7, charts
Exhibit 8, transcript of testimony of
LaPorte from trial of USA v. Hassoun, et al.

Exhibit 9, ASTM E 2325-05

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GERALD M. LAPORTE

SUBSCRIBED AND SWORN TO BEFORE ME THIS -_-_-_ DAY OF $\qquad$ , 2012 .

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