STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

HOA VUONG, on behalf of himself and other Palm Beach County DUI Defendants,

Petitioner(s),

vs. Case No: 12-3898RX

DEPARTMENT OF LAW ENFORCEMENT,

Respondent.
_____/

FINAL HEARING
VOLUME II

DATE TAKEN: March 7th, 2013

TIME: 9:00-5:00 P.M. EST

PLACE: The DeSoto Building
1230 Apalachee Parkway
Tallahassee, Florida

BEFORE: W.F. QUATTLEBAUM
Administrative Law Judge

This cause came on to be heard at the time and place aforesaid, when and where the following proceedings were reported by:

TRACY LEFEBVRE, Court Reporter
For the Record Reporting, Inc.
1500 Mahan Drive -- Suite 140
Tallahassee, Florida 32308

APPEARANCES OF COUNSEL:

On behalf of Petitioner(s):

BRIAN P. GABRIEL, ESQUIRE
Gabriel and Gabriel, LLC
Suite 206
4601 Military Trail
Jupiter, FL 33458
Phone: 561.622.5575
E-mail: Briang@gabriellawteam.com

On behalf of Respondent:

ANN MARIE JOHNSON, ESQUIRE
Florida Department of Law Enforcement
2331 Phillips Road
Tallahassee, Florida 32308
Phone: 850.617.1276
E-Mail: Annmariejohnson@fdle.state.fl.us

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(Continued from Volume I following lunch recess.)

MATTHEW MALHIOT

CROSS-EXAMINATION

BY MS. JOHNSON:

Q. Good afternoon, Mr. Malhiot.

A. Good afternoon, Counselor.

Q. When did you begin your employment with FDLE as a department inspector?

A. January 2002.

Q. And when did you leave?

A. August of 2010 -- August, September, I'm not sure. It was like the 28th of August or the 5th of September.

Q. And what were the circumstances regarding your departure from your FDLE?

A. I resigned under good terms. My daughter graduated college. I had some personal changes in my life, and I was vested in the retirement system. The governor was cutting our pay, so it was time for me to leave.

Q. And you stated previously you started your consulting firm immediately after leaving FDLE?

A. I did.

Q. How many employees are employed at your

consulting firm?

A. Myself, plus one.

Q. What type of consulting do you do?

A. Consulting on any issue involving alcohol: Criminal, civil, arbitration, anything where alcohol and alcohol measurement may be a part of the litigation. I also do training of attorneys.

Q. What part of your consulting is for the defense?

A. Approximately 80 percent is criminal defense.

Q. Okay. Turning your attention back to August of 2004 when you were at CMI.

A. Yes, ma'am.

Q. The purpose of the testing done at CMI was to develop software, correct?

A. It was debugging of software and development of very specific tasks the instrument was to do under the Florida requirements, but yes.

Q. So you were not conducting approval evaluations, correct?

A. That's correct.

Q. That had been done in April and May of 2002?

A. Well, there was numerous evaluations. The evaluations in April and May of 2002 were to approve the instrument, so yes.

Q. The Intoxilyzer 8000 make and model was approved by rule promulgation in November of 2002; is that correct?

A. By publication in the rule, yes.

Q. And per rule, the Intoxilyzer 8000 could not be approved for evidentiary use until the software was evaluated, correct?

A. The software version to be used had to be approved, yes.

Q. Okay. So you were there to develop software. There was no software that could be evaluated at that time in August of 2004, correct?

A. There was no specific Florida software. There was software in the instruments that were evaluated there and during the approval evaluations.

Q. You're familiar with 11D-8.003?

A. Yes.

Q. And the 2002 rule promulgation process is what approved the Intoxilyzer using software evaluated by the department, correct?

A. Yes.

Q. So the Intoxilyzer 8000 wasn't approved for evidentiary use until March of 2006; isn't that correct?

A. I don't remember the exact date of Version

26, evaluation of that software, but it went into evidential use in March 26th, 2006, correct.

Q. Now, you previously stated that you were doing troubleshooting on the instrument to figure out why you were getting low simulator results, correct?

A. Correct.

Q. You said you changed the quick connects?

A. The connectors. Quick connect is a type of connector, so we changed numerous connectors for the simulators, yes.

Q. And how many instruments were you troubleshooting?

A. I believe there was one or two. I'm not sure.

Q. You said you changed hoses as well as part of your troubleshooting?

A. Yes, we did.

Q. Okay. Did that all happen simultaneously, or did you change the connections, then run more testing, then change hoses and do more testing, or did you do all of them simultaneously?

A. The latter. We would change one thing, test, change another thing, test. The only way to narrow down to a specific cause was to test each individual component separately, so it was separate steps.

Q. Okay. And you didn't assess that there was a need to drill a hole in the exhaust valve, correct?

A. I did not make that assessment.

Q. That opinion came from CMI's engineers, correct?

A. That is correct.

Q. And you said the instrument was disassembled and reassembled after the hole was drilled; is that correct?

A. That is correct.

Q. Okay. So it could have been the reassembly that solved the problem with the air leaks; is that correct?

A. Could it have been the reassembly? That makes an assumption that the original assembly was incorrect, so I don't know because if that was the cause, then there would be another causation for the hole, so I don't think so.

Q. Didn't you think that you should test more than one or two instruments before deciding that a hole should be drilled?

A. I didn't decide the hole should be drilled; the engineers did.

Q. Okay. Was it ever discussed that you should bring in more instruments and test more than the one

or two that you had in the room at the time?

A. No, because they were all exact duplicates of each other.

Q. You consult in cases in states other than Florida, correct?

A. I do.

Q. Are there other states that use the 8000?

A. Yes.

Q. Do some of the other states use an 8000 without a hole?

A. Not to my knowledge.

Q. So every state that uses the Intoxilyzer 8000 has an Intoxilyzer 8000 with a hole in it?

A. That is my understanding, yes.

Q. You were notified about the hole in the valve in person since you were there, correct?

A. Correct, I was there.

Q. Do you know what the purpose is behind the written notice requirement?

A. So it could be evaluated for its effect on the analytical reliability of the instrument prior to its implementation within the state.

Q. Would it be correct to say that it was also so that FDLE would be on notice of modifications that were made when FDLE had no other means to learn of

such modifications?

A. Yes. Yes.

Q. And that written notice requirement was part of the 2002 rule before the Intoxilyzer was approved for evidentiary use in 2006, correct?

A. Well, I disagree that it was approved in 2006. The final software version and it went into evidential use in 2006, but, yes, the hole was drilled prior to 2006.

Q. And you previously said the rule was amended in 2004 removing the written notice requirement?

A. It was.

Q. But the 8000 couldn't be approved as an evidentiary instrument until the instrument software could be evaluated, correct?

A. That's correct.

Q. Does the hole in the exhaust block purge valve alter the 8000's method of analysis?

A. It does not.

Q. So the method is still infrared light absorption, correct?

A. It is.

Q. And you previously stated the hole in the purge valve, that only comes into play during simulator testing, correct?

A. Correct.

Q. That doesn't -- the hole in the purge valve has no involvement during a subject breath test; is that correct?

A. That's correct. That valve is a different air flow as we discussed with the four different air flows.

Q. You also previously stated that there were numerous modifications made to the Intoxilyzer 8000, correct?

A. There was between 2002 and 2006 when it went into service.

Q. Okay. But you said the majority of those modifications were insignificant?

A. Yes.

Q. And that some of them were so insignificant you don't even remember them?

A. Yes.

Q. You worked for FDLE for six years after the hole was drilled; is that accurate?

A. Approximately, yes.

Q. In the two years between 2004 when the hole was drilled and 2006 when the instrument was approved for evidentiary use in Florida, did you bring it to Mr. Skipper's attention that you had concerns either

about the hole or concerns that no notice was provided?

A. No.

Q. Did you approach Ms. Barfield, who was your supervisor at the time, about concerns that you had about either the hole was drilled or that there was no notice provided, no written notice?

A. We had discussions about re-approval of the instrument prior to -- or an approval evaluation. There was numerous discussions back and forth after modifications all the way up until we left and discussions to reapprove the instrument versus do an evaluation for the changes. So there was numerous discussions with numerous changes on the instrument and the need for a -- or lack of need for an approval evaluation prior.

Q. Do you know if -- does FDLE have legislative authority to reapprove an instrument?

A. Well, that's an interpretation of the rule. To approve an instrument, yes. Is the actual language of reapprove? No, that's not the statutory language.

Q. So the legislative authority granted to FDLE is only to approve or disapprove an instrument; isn't that correct?

A. Yes. That's my understanding.

Q. From 2006 when the instruments were approved for evidentiary use and 2010 when you left FDLE, did you bring it to Mr. Skipper's attention that you had concerns about the hole?

A. No.

Q. What about Ms. Barfield; did you bring any of your concerns to her attention?

A. We discussed numerous times numerous changes on the instrument, but, specifically, the hole, no.

Q. And between 2006 and 2010, you testified numerous times in criminal courts across the State of Florida involving the Intoxilyzer 8000, correct?

A. I did.

Q. Both for the state and the defense?

A. Majority for the state, but, yes, a few times I was called by the defense.

Q. Did you ever bring up the hole in the valve to the state attorneys in any of the jurisdictions that you were testifying in?

A. I did not.

Q. What about did you bring it up to any defense attorneys?

A. Not until testimony in Sarasota County when I was specifically asked about it.

Q. And that was in 2012?

A. It may have been, yes. Late 2011, early 2012.

Q. And from 2006 to 2010 when you ended your employment with FDLE, you consistently testified that the Intoxilyzer 8000 is an accurate and reliable instrument, did you not?

A. There were cases that I testified to that, yes.

Q. When you were doing the approval evaluations in April and May of 2002, the instrument was still not approved pursuant to rule promulgation, correct?

A. Correct.

Q. So you weren't performing what's considered Form 34 evaluations?

A. No. We were considering -- conducting Form 34 evaluations in April and May.

Q. Okay. So even though it was not an approved instrument?

A. Well, that's how it becomes approved is complete Form 34 and then any additional testing that may be required. That's step one. And then after it completes that process, then it is added to the rule as an approved instrument through the rule promulgation process.

Q. And you stated on direct that the

modification by the drilling of the hole only became a modification when it was done to all instruments, correct?

A. Well, yes and no. Once it was determined by engineering, and I would imagine, the issuance of their change notice, did it become an official change to all the instruments. The single -- or two instruments we had on the bench in engineering were more research instruments and development instruments than they were property of Florida or sold to Florida or used in Florida.

Q. You stated before that the other modifications that were done on the instrument were insignificant because they didn't alter the portions of the analytical bench or instrumentation, correct?

A. Correct.

Q. Are you saying that the hole in the exhaust block changed the analytical method of analysis?

A. It does not change the method of analysis.

Q. You were involved, you said, in the rule promulgation process in 2002, correct?

A. For the November rule?

Q. Yes.

A. Yes.

Q. Okay. What's your understanding of FDLE's

authority as vested in it by the legislature?

A. As far as vested in what? The rule?

Q. The authority that is vested in FDLE by the legislature, what's your understanding of that authority?

A. To write rule. There's a laundry list in the statute of what FDLE's authority and responsibilities are: To develop rule, approve instruments, can enter into contracts. There's an entire laundry list of authority FDLE's been given by the legislature.

Q. Isn't it true that FDLE's authority in writing rules is only with the -- to write rules for the operation and maintenance?

A. And approval and entering contracts, numerous different statutory -- or statutory authorities or delegation of authority.

Q. Is it your understanding that the purpose of writing a rule is to regulate entities that the agency has authority over?

A. To write rules to regulate the agencies that they have authority over?

Q. Correct.

A. I'm trying to understand the question.

Q. Correct.

A. Yes. The purpose of rule is twofold: One,

to ultimately ensure the reliability of the instrumentation; two, to establish rules and guidelines; and, three, to put public on notice of what's going on, what is breath testing about.

Q. But would you agree that the purpose of writing rules is not to regulate the agency itself?

A. Self-regulate?

Q. Correct.

A. It could be.

Q. Aren't internal agencies' policies and procedures not having an application outside the agency statutorily exempt from the definition of a rule?

A. You're asking me a legal question. I couldn't give you a legal interpretation if they're exempt or not.

Q. Would you agree that calibration procedures have no applicability outside of FDLE staff?

A. I would disagree. I'm sure you guys are going to court and -- about instruments you have calibrated. The procedures -- no personnel outside of FDLE perform those procedures, but affects every breath test instrument that is calibrated.

Q. Okay. So it's my understanding of what you just said that no one outside of FDLE ATP staff

members would ever perform a calibration, correct?

A. Other than the manufacturer and authorized repair facilities, that is correct.

Q. Okay. So they would have no applicability outside of FDLE staff, correct?

A. They would not have the procedures done outside of FDLE staff, that is correct.

Q. So it would be any policies or procedures about performing any type of calibration, not just flow calibration, those policies and procedures would only be applicable to FDLE staff, correct?

A. They are the only ones who would perform those procedures, that is correct.

Q. Okay. So that would be an internal FDLE policy?

A. That's the way it's written today is an internal FDLE policy.

Q. Okay. Talking about the 2002 version of the rule in response to -- I mean, in regards to the written notification, was there any -- were you involved in the 2004 rule promulgation?

A. Yes.

Q. Okay. Was there anything in the 2004 language that was included to compensate for the removal of the written notice requirement?

A. I'm not aware of anything right off the top of my head.

Q. Isn't it true that the language was added about the department inspections validating the approval, accuracy, and reliability of evidential breath test instruments?

A. Yes, that was added, but I don't know if that was added to compensate for the lack of written notice from the manufacturer on changes. I think it was added for many reasons. That may have been one of them.

Q. What involvement did you have with the 2002 rule promulgation process?

A. Part of the staff and members that would meet and discuss rules, review drafts, give input as to our feelings and beliefs and recommendations.

Q. Isn't it your understanding that during the promulgation -- the rule promulgation process, that there's an -- that the proposed rule is published in the Florida Administrative Law Weekly?

A. No. I know it's published for comment from the public. The exact publication or method in which it's presented to the public, I'm not sure. But I have no reason to --

Q. But it is your understanding that the

public is put on notice --

(The court reporter requests the parties speak one at a time.)

MS. JOHNSON: Sorry.

THE WITNESS: Yes, the public is put on notice of the proposed rule before it is official and goes in effect.

BY MS. JOHNSON:

Q. And the public is given an opportunity to be heard if they so chose, correct?

A. That is my understanding.

MS. JOHNSON: One second, Judge.

THE COURT: Uh-huh.

(Sotto voce discussion.)

BY MS. JOHNSON:

Q. The flow calibrations that you discussed being done by repair facilities, does FDLE rely on any calibrations made by a repair facility or CMI?

A. What do you mean by "rely"?

Q. When an instrument is sent to either CMI or Enforcement Electronics, the repair facility, what's the procedure when it leaves that facility?

A. As of today or when in time?

Q. As of 2006.

A. It would come back to the agency, directly to

the agency, and a department inspection would be done before it is placed into service and an agency inspection would be done before it was placed into service.

Q. So any time an instrument is returned from a repair facility or from CMI, a department inspection has to be done per rule requirement, correct?

A. That is correct.

Q. Before it's placed back into evidentiary use?

A. That is correct.

Q. Okay. When you're performing your department inspections, do you rely on any of the data provided by CMI or their repair facility when you're doing your department inspection?

A. Within the department inspection, you're validating an operation calibration accuracy, so you're not relying on their calibration certificate. As far as the discussion of the flow sensor, you're not -- you're relying on their flow sensor calibration because it's not part of the department inspection.

Q. Would you look at -- strike that. Would you not perform or check the calibrations on an instrument that was returned from a CMI repair facility because of the fact that CMI or the repair facility has said that the instrument was calibrated?

A. I'm trying to understand. It sounded like a double negative question, but I'll try and understand.

Q. I apologize. Let me rephrase it. Would you not perform any of the steps in your department inspection because of information that you relied upon from CMI or the repair facility?

A. No. You would complete a department inspection irrelevant of it returning from a repair facility or not.

Q. Okay. With regard to performing flow calibrations, that's not part of a department inspection, is it?

A. It is not.

Q. It's not part of an agency inspection?

A. It is not.

Q. Or a -- and you stated before that a breath test operator or an agency inspector would never perform calibrations; is that correct?

A. That is correct.

MS. JOHNSON: I don't think I have any more questions at this time, Judge.

THE COURT: Redirect?

REDIRECT EXAMINATION

BY MR. GABRIEL:

Q. Sir, if there was an FDLE policy -- excuse

me, an FDLE rule, if there was, regarding calibration of flow sensors, wouldn't it by its very nature have to encompass agency operators down at the local level?

A. If there was a --

Q. If there was a rule, wouldn't it by nature have to rely upon an agency person saying -- calling up the department inspector and saying, "I've got a problem with flow here." "You better check this out." And then it would be sent to FDLE to be calibrated?

A. Well, depending on the language of the rule, it would, yes.

Q. Would my example, my hypothetical I'm giving you, would that be a reasonable one, that the department would be notified by the people in the field that there's a problem and then if a need for calibration of the instrument is needed?

A. Or investigation of the problem, yes.

Q. And the act of calibration should always be left up to the department?

A. Department or repair facility, yes.

Q. The repair facility is not an employee of FDLE?

A. They are not.

Q. They're just a contracted vendor, so to say, that they get work for -- from?

A. I don't even know if they're contracted -- under contract. They may be under contract with local agencies, but they are the only authorized repair facilities to work on the instruments.

Q. There has been a lot of questions about dates of approval of the Intoxilyzer, correct?

A. Correct.

MR. GABRIEL: You were just asked -- Judge, may I approach?

THE COURT: Yes.

MR. GABRIEL: And by chance -- can I, by chance, peruse through the exhibits and grab a couple?

THE COURT: Help yourself. They're in no particular order now so --

BY MR. GABRIEL:

Q. Let me show you what has been marked into evidence as DD -- Petitioner's Exhibit No. 13. That is the approval study of the Intoxilyzer, correct?

A. The May 2002 evaluation with the purpose of approving it as an evidential instrument, yes.

Q. And the conclusion of the department is what?

A. "Based on the program's review of this evaluation, the CMI Intoxilyzer 8000 was approved for use in Florida." And it goes on.

Q. That makes it an approved instrument, correct?

A. This allows it to be added to the rule. Once it's published in the rule, it is official.

Q. I'm going to show you what's been marked as DD -- Petitioner's Exhibit No. 14, the 2002 rules and refer you to 11D-8.003.

Do the rules classify the Intoxilyzer 8000 instrument as an approved instrument for evidentiary breath testing in the State of Florida?

A. Yes, it does.

Q. The date of that, sir, is what?

A. November 2002.

Q. Every study that we went through from FDLE that was a Form 34 evaluation from as far back as 2004, the approval in 2005, and the ones that continue through 2007, do each and every -- excuse me, up to 2006, in each and every one, isn't it a fair statement that they always classify the 8000 as an approved instrument for evidentiary breath testing in the State of Florida?

A. Yes, they do.

Q. And that's prior to this 2006 date when it's put in use?

A. Correct.

Q. If I took the Intoxilyzer 8000 instrument that was used in May 2002 when the approval study occurred, it had software in it, correct?

A. It did.

Q. And that software had been evaluated by the Florida Department of Law Enforcement, had a Form 34 evaluation done, right?

A. It did have a Form 34 evaluation done.

Q. Pursuant to the rules, if the department wished, they could take that instrument, and they could use it for evidentiary breath testing?

A. If they changed the rules or changed the forms, yes.

Q. Because it may not do the proper sequencing of breath samples, then control tests and stuff of that nature?

A. And print forms that print the result on an affidavit versus a print slip, but yes.

Q. But as far as the instrument itself, it was approved?

A. Yes.

Q. And so was the software?

A. That's the software that was in there during the evaluation, yes.

Q. The department asked you regarding

legislative authority and your understanding of it?

A. Yes.

Q. And you talked about a long laundry list of things that the Florida Department of Law Enforcement has the power under Florida Statute to do?

A. Power and responsibility.

Q. You're pretty familiar with it, aren't you?

A. Yes.

Q. Do you know of anywhere in that long laundry list of statutory authority that's given to FDLE, does it ever, ever give the Florida Department of Law Enforcement the authority to do evaluations?

A. I don't think the term "evaluations" is in there.

Q. You agree with me that the term in Florida Statute 316.1932 is to approve or to disapprove?

A. Correct.

Q. But FDLE's scheme right now is set up doing evaluations with the purpose of approval?

MS. JOHNSON: Objection to the term "scheme."

BY MR. GABRIEL:

Q. Modus operandi? I mean, their method, their methodology, how the rule reads now is that it's set up to do an evaluation, and one purpose of an evaluation is for approval?

A. Correct.

Q. One purpose of an evaluation is because we're trying to investigate something and find out if there's a problem or not?

A. Correct.

Q. Another reason may be to see how something worked that was brought to their attention, the department's attention?

A. Well, they can do a research study or an evaluation, but, yes, those are the tools that they use to investigate and evaluate.

Q. But the rule as it exists today does not state anywhere that there is an evaluation to check on a modification of a previously-approved instrument?

A. Correct.

Q. That was removed right after this hole was drilled, right?

A. Yes.

Q. You were questioned about whether or not the hole affects the method of analysis?

A. Correct.

Q. You stated it did not?

A. It did not.

Q. Would it affect analytical reliability, which was in the rules in 2002 which were in effect when the

hole was drilled?

A. Well, it affected analytical reliability when the simulator changed the values right then and there. Over the long term and the long scheme and the final instrument software and everything, I don't know. But at the time, we were doing analytical analysis, and it was affected by two one-hundredths of a gram during those analytical analyses.

Q. And that's a significant effect?

A. Well, significant is very subjective. It was more than 20 percent.

Q. Well, let me -- if that had been a procedure being conducted under FDLE rules for a monthly inspection or a yearly inspection, it would have flunked it?

A. It would have failed the evaluation because the results were outside the acceptable tolerance of the target value.

Q. And the only way that it became into acceptable range was after the hole was drilled?

A. That is correct.

Q. It did not occur when you changed connectors?

A. No.

Q. You were questioned about why was it that you never -- or you never testified while you were still

an FDLE employee about the fact of a hole?

A. Yes.

Q. Would it be a fair statement that except for you, Roger Skipper, and Ms. Barfield and CMI employees, nobody else in the world knew about this hole?

A. I think all the department inspectors knew about the hole because between 2004 and 2006, all the instruments were sent back to CMI for these updates, the hole. And CMI engineering staff came to Florida and modified the instruments that were in the state.

Q. All right. Let me ask you a question this way: Would it be a fair statement that besides for the respondent, FDLE and its employees, that the public, the attorneys, doing this every day, never were able to find out this until you stated it the first time in 2011 in Sarasota County?

A. That's, to my knowledge, correct.

MR. GABRIEL: That's all the questions I have, Judge.

THE COURT: Is there going to be another -- I'm sorry.

MS. JOHNSON: I just have a couple of questions to follow up.

THE COURT: Is there going to be another

witness who -- or it may be this witness -- who will testify about how the breathalyzers actually work? Or if I have questions about that, is this the guy I should ask those questions?

MR. GABRIEL: We have either -- Judge, we have this expert that you could ask that of and we have another one. That will be fine.

MS. JOHNSON: The department will be calling Ms. Barfield, who is the program director.

THE COURT: Okay. You testified that the part that the hole was drilled in isn't involved in the actual breath testing that's used as evidence?

THE WITNESS: That is correct. It is part of the valve that has the air flow after the sample is analyzed. It is part of the air flow when the calibration is checked.

As a person blows into this instrument to have their breath test taken, that portion of the instrument doesn't affect it. When you hook the simulator up to check the calibration or to calibrate the instrument, the flow does go through that valve.

THE COURT: Okay.

MR. GABRIEL: Can I ask some questions and

maybe shed some light on that?

THE COURT: Sure.

BY MR. GABRIEL:

Q. Would it be a fair statement that the analyzation -- the individual blows into the Intoxilyzer, correct, when they're doing the breath test?

A. Correct.

Q. And that air sample goes into what we call the "analytical chamber"?

A. Sample chamber, analytical chamber.

Q. And at that chamber, at one end, you have an infrared light source?

A. Correct.

Q. The other end you have filters?

A. Correct.

Q. And it's doing an analysis of infrared light and absorption levels and is able to therefore calculate a breath alcohol level?

A. That's the Reader's Digest version, yes.

Q. That's what we call, in essence, the method of analysis, that infrared?

A. Correct.

Q. And that's where really the determination of the value of breath or alcohol in that breath is made?

A. Breath simulator dry gas, that's how it analyzes the alcohol in the sample that's provided.

Q. You testified before that in the world of science, there were two different major components of a breath test being samplization and analyzation?

A. Correct.

Q. When we're talking about the analytical chamber, that could be the analytical -- analyzation section, so to say?

A. That is correct.

Q. What we've been contesting here is more on the samplization?

A. Correct.

MR. GABRIEL: I don't know if that answers anything more, Judge, or not -- or it confuses you even more.

THE COURT: It's probably some of both. Well, you had other questions. Go ahead.

RECROSS-EXAMINATION

BY MS. JOHNSON:

Q. What effect does the hole in the exhaust valve have on a subject's breath test?

A. On a subject's breath test, it has no effect whatsoever because the sample of a subject does not go through that valve. That valve is in a different

position during samplization from a subject.

Q. Going back to the 2004 rule promulgation process, when did you become involved in that rule promulgation process?

A. If the rule was published in 2004, probably as the start of drafting of it -- it's a very long process. Maybe 18 months prior to that publication date.

Q. Okay. So the rule promulgation process removing that written notice requirement, that process was well in progress before you even went to CMI in Kentucky, correct?

A. I don't know if that particular paragraph, but the process of revised -- rule revision was well in progress before we went to Kentucky, yes.

Q. Okay. Isn't it true that the proposed rule would have had to have been published in the spring of 2004 in order for it to be published -- for the promulgation process to finish as of November of 2004?

A. I don't know the exact timeline, but I have no reason to doubt that timeline.

Q. Okay. So it wasn't that the -- that written notice requirement was removed after you went to CMI in August of 2004, correct?

A. Well, it was -- it wasn't removed as a result

of going to CMI in 2004.

Q. Okay. You testified as to R-value; what exactly is the R-value?

A. It's an electronic digitally-retained number in the instrument's software to represent the resting value or resistance value of that circuit.

Q. Okay. So is that what R stands for?

A. It's either resting or resistance of that circuit.

MS. JOHNSON: I have no further questions, Judge.

THE COURT: Thank you. You're done.

THE WITNESS: Thank you, Your Honor.

(The witness is excused.)

THE COURT: Next witness?

MR. GABRIEL: Thomas Workman.

(The witness is called.)

THE WITNESS: Good afternoon.

THE COURT: You can have a seat.

THE WITNESS: Do I need to be sworn first?

THE COURT: Yeah, but you can have a seat and be comfortable, sort of an informal formal hearing.

THE WITNESS: Okay.

(WITNESS SWORN.)

WHEREUPON,

THOMAS WORKMAN

was called as a witness, and after having been first duly sworn to tell the truth, was questioned and testified as follows:

DIRECT EXAMINATION

BY MR. GABRIEL:

Q. State your name for the record, sir.

A. Thomas E. Workman, Jr., W-O-R-K-M-A-N.

Q. How are you employed, sir?

A. I operate a computer forensic business. I am an adjunct professor of evidence at University of Massachusetts Law School and I'm a licensed attorney.

MR. GABRIEL: Judge, at this time, I'd like to introduce Exhibit No. 87, his CV. I believe it was stipulated.

MS. JOHNSON: Correct.

THE COURT: Thank you. It's admitted.

(Petitioners' Exhibit No. 87 was admitted into the record.)

BY MR. GABRIEL:

Q. Explain to the Court a bit about your background, please, sir.

A. Before going to law school, I worked in the technology fields of electrical -- I have electrical

engineering degrees, and I worked at Hewlett Packard, Digital Equipment, Thinking Machines, Xerox Corporation, a number of computing companies and companies that build electronic devices for use in everything from medical hospitals to commercial computers and line printers and data processing equipment.

Q. How long did you do that for?

A. Approximately 23 years.

Q. I assume you started in those companies and built your way up, so to say?

A. Fair to say.

Q. Tell us briefly how you started and where you built up to.

A. Well, I started at Texas Instruments. I had a secret security clearance. I worked on military systems, as well as commercial systems. I was there three years, and when I left, I was a manager. That is, I had supervisors of programmers reporting to me, and I was responsible for putting together various design systems for both commercial and for the military.

Q. How does an electrical engineer go from there to law to then breath testing to the 8000; how does that all happen?

A. Well, through my career, I've always worked in areas of technology, mostly with computers and with medical systems and systems that deal with the public that have a computer in them. And the Intoxilyzer has a computer in it that basically controls what it does.

When I worked at Hewlett Packard, I managed two particular groups that are relevant to, I think, what I'm going to talk about today. One is I was a quality manager for Hewlett Packard. I was responsible for the computer group, about half of the business in HP. And as a quality manager, you look at problems that systems have, and you try to figure out how to make designs in the future that don't have problems that previous systems have. So you're sort of responsible for the long-term goodness of the product line.

Q. You're not only talking about product line, you're not talking about software issues, you're talking about hardware?

A. I'm talking about hardware/software systems because the customer doesn't really care whether it's a hardware problem or a software problem. The system doesn't do what it's supposed to do, that's a problem. And the company owns it. We don't say it's the user's fault that the system doesn't work -- or we try not to

do that.

I know some people might -- when you call online support, you may seem to think that you're getting that when you call for help. But that's not an acceptable excuse.

Q. You also held the title of materials manager?

A. I did. And the materials manager in an organization is responsible for the quality of the parts that are purchased. That person is responsible for the procurement department, for the planning, for the incoming inspection of parts that come in, and ultimately is responsible for any failure of parts that may occur.

So, for example, the -- I'll talk a little later about the hole-drilling episode and how that would relate to what the materials manager in a manufacturing organization would typically have to say about that modification.

In Hewlett Packard or in any commercial endeavor of any substance, that's an unacceptable method of making a change. You -- and I'll talk more about that later. But you go back to the manufacturer of the part and you say, I need a part that has a hole in it, or I need a part with a different specification.

Maybe a hole is a wrong way to do it. Maybe there's a better way to do it. People that manufacture the part know how to do it. But that's kind of what a materials manager did, and I managed 250 people across basically three countries. I had organizations in Japan, in Germany, as well as the United Kingdom and in the United States.

Q. How did you get involved in the science of breath testing?

A. Well, I guess in my mid-life crisis, if you will, I looked around at the things I had done in my career and the people that I had managed that I enjoyed working with, and the people that I enjoyed were the people who were attorneys. So someone said, well, if you enjoyed working with attorneys, why don't you go to law school and be one. So I said, well, I think I will do that.

And that's what I did. I went and took the LSAT. I took the -- without taking any prep course because I didn't know any better. And I applied to a couple of law schools, got in, was admitted, graduated when I was in my -- let's see, I graduated 16 years ago and I'm 64 now, so I graduated when I was 48, started a practice and I started working with attorneys.

Because of my technical background, which was not usual with most attorneys, I got a lot of questions from people about technical areas. And breath test machines was one of those areas.

Q. And you've been involved in dealing with the science behind the Intoxilyzer instruments, both the 5000 series instruments and the 8000?

A. Correct.

Q. And multiple versions of the Intoxilyzer 5000 and the Intoxilyzer 8000?

A. That's correct.

Q. You've testified in other states?

A. I have.

Q. Approximately how many?

A. About 20 now, I think. Last week, I was in Alaska.

Q. And they're dealing, again, with the Intoxilyzer issues?

A. Well, different states use different machines. So on the Intoxilyzer, I've testified in Ohio, in Arizona, in Florida, in California, in -- I've testified over 600 times, so I don't recall all of the specific details.

Q. I understand. And you testified regarding --

A. Those were regarding the 8000.

Q. You testified regarding other manufacturers' breath testing instruments in other states?

A. I have, about half the states in the U.S. now and also in Canada.

Q. Considering your background, how was it that you became knowledgeable about different, quote, unquote, issues with volume in the Intoxilyzer 8000?

A. I actually was contacted by an attorney in Sarasota, two attorneys, and it was pointed out to me that they had observed some, what they felt were strange issues with volumes that were reported on the 8000 from the website, the FDLE website.

They knew that I had collected all of the data on the FDLE website, and I have analyzed it and produced reports in the past that look at ways of studying the data and being able to determine whether that's a one-off type situation or whether it's common.

And I was able to do an analysis for the machines that were in Sarasota for a trial and presented that. And I believe that was the first time that -- the press covered it and wrote articles about it. And it was during that hearing, that, I think, for the first time, the public began to be aware of some of the major issues where the machine was

reporting volumes that were impossible to be correct. They were wrong.

Q. Instead of a 1.1 liters, they were reporting 14's and 15's, I think?

A. We had some 15-liter samples. We had a huge number -- and by huge, I mean a number that was more than you could statistically explain as aberrations. There was something wrong with the machines.

Q. From there, I assume you were contacted by other counsels regarding their counties and their machines?

A. Correct.

Q. And you've testified in more than, I think, in just Sarasota about the issue of volume?

A. That's correct, I have.

Q. And were you able to accumulate the information and data from the Florida Department of Law Enforcement?

A. I was.

Q. What type of data did you accumulate?

A. Well, I was able, through a public records request from FDLE, to collect the subject test information that relates to tests. And I also have collected the inspection data, and I have collected compilations of the R-values that have been measured

that have been discussed here today across different machines, some of the spreadsheets, as well as the raw handwritten sheets that reflect the collection of that data.

Q. Now, you had --

MS. JOHNSON: I'm sorry. I'm going to object to this line of questioning. This witness hasn't demonstrated any familiarity with FDLE rules, and the validity of the rule is at issue here. This isn't a motion to suppress or a motion in limine. We're here to determine the validity of the rule.

I don't understand how this witness has any relevance to that issue.

MR. GABRIEL: I disagree with the objection. I can ask him questions, if the Court wishes, on it, which is right where I'm going.

THE COURT: Okay.

BY MR. GABRIEL:

Q. You're familiar with FDLE rules?

A. Yes.

Q. You've studied them?

A. Yes.

Q. You're an attorney. Did you use your attorney thinking cap and study them?

A. I see things through that prism. I can't

help it. That's what I do.

Q. Have you testified before in the State of Florida regarding FDLE rules and volume issues --

A. I have.

Q. -- and the interplay between the two?

A. I have.

Q. Approximately how many times?

A. I want to say between five and ten. I don't have a specific memory of docket numbers.

Q. I understand. You're familiar with FDLE rules and the different versions they have?

A. Yes.

Q. Do you know if in the -- let me ask you this way: Is it correct in the FDLE rules as they exist today that there are no rules formally adopted under the APA dealing with calibration of the instrument?

A. I have looked at the rules, and I have been unable to find anything that deals with calibration of any of the predicate scientific parameters that are measured and make up the breath test result.

Q. You have examined Rule 11D-8.003?

A. I've examined 11D-8. I can't say it's .003, but I've examined all of 11D-8.

Q. You examined FDLE forms that are incorporated by reference into 11D?

A. I have.

Q. And, again, in the forms, there's no rule requirement regarding calibration?

A. That's correct, not that I can find.

Q. Let's talk about the need for those rules. Do you have an opinion regarding the need for rules dealing with calibration of --

MR. JOHNSON: Object -- sorry.

MR. GABRIEL: Go ahead.

MS. JOHNSON: I would object to him offering his opinion. He's not been tendered as an expert under --

MR. GABRIEL: Judge, I'll tender him as an expert at this time regarding science of -- regarding the science of the breath testing device. I will tender him as an expert regarding -- in electrical engineering. I will tender him as an expert in the theory and operation of the Intoxilyzer 8000. I would like to tender him as an expert in -- as a quality manager and tender him as an expert in materials managing, all of which he's testified to.

MS. JOHNSON: And I would object to him rendering an opinion on FDLE rules when he is not an expert on FDLE rules.

THE COURT: You have an objection to the tender of his expertise? I understand the objection to the rules testimony. Do you have an objection to his --

MS. JOHNSON: Not as to those areas.

THE COURT: Okay. He's accepted as an expert in those areas.

BY MR. GABRIEL:

Q. Sir, do you agree -- with your expertise, do you agree that volume is a key component for a breath sample?

A. I do.

Q. Do you agree that volume is a key component, therefore, for a valid and reliable and accurate breath test?

A. I do.

Q. Do you agree, scientifically speaking, that in order to ensure a valid, accurate and reliable breath sample and, therefore, breath test, that there should be rules requiring the proper calibration of those components that regulate a key component, that being volume?

MS. JOHNSON: Objection as to his opinions on whether or not there needs to be rules.

THE COURT: I think the question really is

whether he believes that that's a requirement to obtain a valid test result.

MR. GABRIEL: Yes.

THE COURT: And whether it's in the rules or not, his opinion of whether it's in the rules or not --

MR. GABRIEL: Well, we know it's not --

THE COURT: Well, it doesn't matter. His opinion of whether it should be in the rules or not, it doesn't matter. At this point, it's my determination as to whether the rules are invalid because they don't contain something that you all are suggesting that they should.

MR. GABRIEL: Right. But his -- as an expert, he should be allowed to say it is my scientific opinion based on XYZ that it should be included and, therefore, give a basis for the rule challenge.

MS. JOHNSON: I disagree. I think that's the ultimate determination of the Court.

MR. GABRIEL: Well, it is the ultimate -- I'm not disputing that. It is the ultimate decision of the Court, but to have experts come in and testify in their expertise and back that up of why they think it needs to be in the rules is the

basis of a rule challenge.

THE COURT: Well, no, I think it's his expertise as to why it should be happening at all, whether it's in the rule or not. It's my determination if it's not in the rule as to whether the rule's invalid because it's not in there.

MR. GABRIEL: I understand.

THE COURT: His expertise -- his testimony regarding his opinion on that case in that instance is not really relevant.

MR. GABRIEL: I'll rephrase the question.

THE COURT: Thank you.

BY MR. GABRIEL:

Q. Do you believe that in order to have a reliable and accurate breath sample and, therefore, a breath test, that the issue of calibration of the key components of that sample and test is scientifically needed?

A. It's not only needed, it's required. It's a scientific predicate.

Q. How is that?

A. If you don't -- first of all, when an Intoxilyzer 8000 is built, it is a -- it's a dumb machine. It doesn't have any idea of what a

particular sample would look like until it is calibrated. It's only after it's calibrated that it can measure things like volume, like flow of air, and like the alcohol level that's in a human breath. Prior to calibration, it cannot do any of those things.

If the machine is subsequently calibrated again after it's initially calibrated, it will totally reset what it's beliefs are about the world, and in the future, it will report results based upon that, I'll call it a recalibration, although a recalibration should be exactly the same thing as a -- as the first calibration. There should be no difference between them. But a recalibration means that it had been previously calibrated and is being calibrated again.

When it's calibrated again, it's very much like your bathroom scale that you stand on. If you turn the knob on the scale and change what the particular numbers will show up on the scale, you have recalibrated the scale, and the next person that stands on that scale will weigh differently than if you had not turned the knob on the scale. And that is, in essence, a calibration of a weighing device. And the same thing is true on the 8000.

Now, the other reason that it's essential is

that if the machine is not reporting any of the predicate measured issues, which are volume, flow, alcohol level and time, if it can't do those things, then the entire device is called into question, and you don't know whether you have a scientifically valid measuring device or not. And that comes from the many years at HP and the many instruments, both medical as well as electrical measuring instruments. They all require recalibration.

Q. Wouldn't the performance of a, quote/unquote, monthly inspection or department inspection show that it was working fine?

A. No.

Q. Explain to the Court why that is not.

A. First of all, those only exercise a limited amount of functionality of the device. They don't exercise everything in the device, and they also don't exercise the full range of the device in the way that the agency and department inspections are done in Florida.

They don't go all the way up to the top level of alcohol that could, for example, be detected by the machine. I don't think they detect above .30, that the inspections only go up to a .30 level of alcohol. So above that, you really are not exercising the

machine.

It's like testing the speedometer in your car up to 45, but yet the speedometer goes to 90. You don't know whether the top end of the speedometer works or not. When you would calibrate the speedometer, you would calibrate it all the way up to the top of that range -- or you should if you're doing it scientifically correctly. And the inspections don't do that. So there's that issue.

There's also the issue of all of the different error messages that the machine can produce. Those are not perturbed or they're not created as part of the inspection, so you don't know whether the error detection mechanisms in the machine are still working now or not. You have no idea whether those things or working or not.

And when you calibrate the machine, you calibrate it with different levels of alcohol, and you tell it what the machine should respond if it sees those levels again given that it's properly calibrated.

Q. Now, are you talking that during a normal department inspection or agency inspection on a monthly and yearly basis --

A. Well, an inspection is a certification of the

calibration. It's not a calibration. When you do an inspection, you do not tell the machine to forget the past and reset itself to perform in a new way. That's what a calibration does. A calibration says, forget all of what you've seen in the past and from here forward, this is how you're to look at this particular measurement aspect.

So if the machine was working incorrectly, as it was measuring volume, if you recalibrate the way the machine reads volume, it will work correctly in the future given that the components are working correctly. And that's a big caveat here because we have some evidence that that's not the case.

Q. So calibration is completely different than the inspection mechanism that the Florida Department of Law Enforcement has set up in its rules required on a monthly and yearly basis?

A. That's correct. They may look similar to someone who casually glances at what's going on, but they're totally different. The calibration resets the machine and tells it in the future "this is what you're to interpret these signals to mean."

A certification or an inspection is like taking a 50-pound block and putting it on a scale and saying, did the scale read 50 pounds plus or minus 2

pounds. That's a certification -- or that's an inspection of the scale.

A calibration would be to bring in a special block that weighs exactly 50 pounds that's a standard, put that on the scale and then turn the knob so that it now reads exactly 50. That's a calibration of a scale. So checking the scale and calibrating it are two separate functions. They both use the standard, but they perform totally different tasks.

MR. GABRIEL: May I approach the witness?

THE COURT: Yes.

MR. GABRIEL: Let me show you what's been marked as Petitioner's Exhibit No. 95. And I would like to move it into evidence. I think there was no objection, case law.

MS. JOHNSON: No objection.

THE COURT: It's admitted.

(Petitioners' Exhibit No. 95 was admitted into the record.)

BY MR. GABRIEL:

Q. Take a second and read the highlighted portions to yourself.

A. (Witness complies.)

Q. Mr. Workman, is it your opinion, based upon your expertise in science dealing with the breath

testing device, the 8000 we're here on today, that in order to ensure scientifically reliable results, there needs to be the proper testing, inspection and calibration of an evidentiary breath testing device?

A. Well, this is the Bender predicate that I've studied before, and it specifically says in Part 2 that the machine itself has been calibrated, tested and inspected. So I take the construction to mean that all three of those are required and that none of them may be omitted and still have the device meet the predicate.

Q. Being an attorney, you know what case law is; you know what precedential value is; you've studied that before?

A. I do.

Q. And in your study and experience, have you ever seen any type of case law from the State of Florida that would change the opinion of the Florida Supreme Court requiring all three of those?

A. Well, I've Shepardized Bender, not in the past week, but probably within the past six months, and I understand it to be still good law.

Q. And do you believe it's still good science that science requires those three individual components?

A. I'm not sure I consider it to be totally -- you know, the total picture, but those are certainly based upon sound science.

Q. Do you think there should be more --

A. I do.

Q. -- in your scientific opinion?

A. I do.

Q. Do you believe that anything is more important than those three, if you use those as the three starting blocks, the three pillars?

A. They're certainly the three that I would start with, yes.

Q. Okay. In regard to the calibration and flow, have you been notified regarding issues with the Intoxilyzer 8000 instrument and problems reporting the flow?

A. I have personally researched those and found issues, and I've also seen the Brady notices that were sent in Sarasota to individuals who had been charged, basically telling them that new exculpatory information had been discovered, and they would be allowed to vacate their pleas, their guilty pleas, and relitigate the criminal matters with the courts there.

Q. What about, do you know when I say "R-value" what I'm referring to?

A. I do.

Q. Tell the Court a little bit about that.

A. The R-value is the resting value or the measurement of the pressure transducer at rest. And when I say at rest, I mean when no air is being blown through the device. So those devices when they're manufactured have a reading that they will report when nothing is happening.

So, essentially, it's the -- it's your scale and when there's no weight on the scale, it should read zero. When we say zero, if it's an electronic scale, there may be a voltage that flows out of the scale that we could measure and perhaps 2 volts mean zero. So we have to know what the electrical characteristics are of that pressure transducer when no air is being blown and there's no pressure on that part.

Q. In your review of FDLE records regarding volume problems and "R" issues, were those -- did those two somehow come together?

A. I did begin to see a correlation between R-values that were low -- and by low, I mean there were times when I thought below a hundred and then there were other documents that I saw that mentioned below 60 as being levels that were of concern.

So as the part begins to electrically -- electronically drift and as it wears out, the R-value may drift. And basically that is a sympton or a suggested electronic value that suggests that there's a problem with the part.

It's very much like when your mechanic looks at your car and maybe reads things from the computer to say, you don't have a problem with this yet, but I think this problem is coming, in that the R-value is a predictor of problems that are either occurring now or will be occurring shortly with respect to measuring pressure and, therefore, volume.

Q. Does it make sense in the scientific community dealing with breath testing and this Intoxilyzer to ignore that indicator, the R-value, and to not check it?

A. Technologically, it would be irresponsible, I would say, to ignore it.

Q. Do you know who Enforcement Electronics is?

A. I do.

MR. GABRIEL: May I approach?

THE COURT: Yes.

BY MR. GABRIEL:

Q. Let me show you what has been marked as Exhibit No. 84 in evidence.

A. I've seen this before.

Q. Is it a fair statement that with the manufacturer, they're setting standards different than what you've heard of have been set by the Florida Department of Law Enforcement regarding R-values and when it's an indicator?

A. The entire style and the contents of these folks' standards are different from --

Q. "These folks" being Enforcement Electronics?

A. Enforcement Electronics. They do things totally differently from the way FDLE does things, both in terms of the order in which things are done, in terms of when they calibrate, they use different concentrations of solutions to do their calibration. It's an apples to pineapples kind of comparison.

Q. Do you believe, scientifically speaking, that in order to have a reliable sample, therefore, a reliable breath test, that uniformity of inspection procedures is a requirement?

A. If it's different, you have to understand how you have not compromised the reliability of the result. And I see nothing to suggest that that study has been done to show that both of these are equally as good. And from a scientific standpoint, you find the best way to do it and then you adopt that as a

standard. You don't have three or four different standards.

I say that because I've actually promulgated standards in industry with the I triple E (IEEE), which is the Institute of Electrical and Electronic Engineers.

Q. Tell us about that.

A. And I was on their computer standards committee for a time which was responsible for figuring out what standards would need to be generated. So, for example, the USB standard that's for a small thumb drive, that standard -- the standard for USB makes that device possible. If you allowed all the companies to individually go make their own USB port, none of them would work together today.

So the IEEE promulgated a standard USB, which makes all of them interchangeable and exchangeable. And I served on that committee, and I actually co-led one of the organizations to measure the reliability of software.

And as part of that, I co-chaired national standards committees with the National Bureau Standards, which is not called NIST, National Institute of Science & Technology, in systems reliability. And I actually was invited by the

Congress to testify before a Blue Ribbon panel when we were investigating Star Wars to see whether we had the reliability of our systems to be able to put things up into satellites and be able to do that job. So there was a time when that was an area where I worked quite significantly with the government.

If you -- standards, the idea of standards are to take practices that work to distill out the ones that are best practices and then to document those so everybody learns and uses the same standards. We do that in the courts in terms of how the courts operate.

We don't -- every court doesn't operate differently, hopefully. Maybe they -- sometimes we think they do, but there's a basic structure to the way things work, and there are basic rules about how we interact with one another in court. And there are timelines, and we all agree that we meet in the same courtroom and that type of thing.

So those things have been standardized. And in the field of science and technology, you basically distill out what are the best practices. You document those, and everybody does it the same way.

Q. Now, do you keep that knowledge of distilling out the best practices and getting everyone to do it,

is it -- in the scientific community, is it normal to just keep that internal and not make that a requirement?

A. The general idea when you develop a standard is you publish it for public comment. And you do that because you don't necessarily have all of the expertise in-house. And you also don't know all of the people who are affected by the standard. You may think you know all the people that are affected until you publish it for comment. And then you find out that there are other organizations you didn't think about when you wrote the standard, and they have some ideas and suggestions about how you ought to change what you've done.

It helps you in the long term to develop a better mechanism for distilling and making these standards, but it also is a safety check to make sure that you haven't forgotten some organization or some research that's been done that you don't know about that someone else can point to your -- point out to you to help you improve the ultimate product.

Rarely are things totally internal. Even though the particular process may be performed by internal employees of FDLE, for example, it does not mean that it's not a proper topic for standardization,

and it does not mean that you should not have rules to govern how that's done.

Q. Are you familiar with the Administrative Procedures Act?

A. I am.

Q. Have you practiced in it in any way before?

A. I have -- I haven't litigated in Florida. I'm not licensed to practice here, but I have litigated matters of an administrative nature in other states, in Massachusetts.

Q. Considering your familiarity in other states and in Florida, would you agree that a purpose of the APA procedures is to -- deals with notification?

MS. JOHNSON: Objection. He just stated he's not familiar with Florida and APA.

THE COURT: Sustained.

BY MR. GABRIEL:

Q. Sir, I would like to switch a little bit and talk to you about the aspect of a hole being drilled into the Intoxilyzer.

A. Okay.

Q. You've learned about that, correct?

A. I have.

Q. You've seen photographs of that?

A. I have.

Q. You've talked to people who were there?
A. Correct.
Q. You've heard testimony from government experts and from defense experts previously?
A. I have.
Q. You've been involved yourself and testified, I think, about it before?
A. I believe I have.
Q. You've testified in other states regarding it?
A. I have.
Q. Or has that not yet arisen?
A. It has. It actually arose two weeks ago in Ohio where I testified from a transcript of Laura Barfield that she had been told by CMI that both Florida and Ohio have devices which have the hole drilled in them, and they were quite surprised to hear that.
Q. Going back to your background in quality management and a materials manager, explain to the Court the process that under those sciences should be taking place when you have a device, it's being tested, and it's failing.
A. Well, the first thing that you must do is you must understand the cause of the failure. And that

requires, perhaps, experiments. But you don't start out with fixes to the problem until you understand what the problem is. And when I say the problem, I don't mean that the alcohol level is reading incorrectly. I mean what is the root cause of that problem.

If it's -- if the hypothesis is that there are leaks in the system, you need to find out where those leaks are. And there are tools to do that kind of thing. People who fix air conditioners in cars, if you watch them, they have different solutions and just simply soap and water on the various connections to see if bubbles form. And that will occur if you have positive pressure and you have a leak and there's a leak in some of the plumbing.

And I call the method of transporting the breath through the machine, the plumbing of the machine. Once you determine what the problem is, you can then begin to look at various solutions to the problem. As you look at solutions to the problem, you may be able to modify a part if you have engineering control of how that part is manufactured.

If you don't have engineering control, it's a very dangerous and not -- it would not be allowed in the manufacturing organizations where I've worked to

go in and, say, drill a hole in a particular part.

Q. What significance would you attach to the fact that the manufacturer of the 8000 made a decision to drill a hole in the valve of all of their Intoxilyzer 8000s utilized in the State of Florida?

A. Well, I'm assuming that they did it for all of the machines, and I would say it is a -- it's an absolutely dangerous -- dangerous procedure for a couple of reasons. First of all, where is the hole drilled in the part, and is it drilled in precisely the same place in all the parts? Where is the specification for drilling the hole?

I don't see that in any of the Florida cases or any of the -- I see pictures, but I don't see a specification that says, you go, you know, .256 inches down from the top and exactly this far in, and you put the hole centered here, plus or minus some quantity. There's none of that. It's as though somebody took a hand drill and just started drilling holes in the part.

The second thing that we don't know is whether the part that you're drilling the hole in is identical from unit to unit. And, historically, as a materials manger, we saw our manufacturing line shut down numerous times because the manufacturer of that

part would change the way it's manufactured.

And their goal was to keep the part the same from a form, fit, and function standpoint. And that was important. Form, fit, and function means it's the same physical size and the specifications from outside the part are identical, so whatever the part's designed to do, it will continue to do that: The holes that are drilled for mounting it are in the same place, and it's not made out of metal versus plastic so that one is conducting electricity and the other's not.

But that's form, fit and function. What goes on inside the part is basically none of the customer's business because you're only concerned about the form, fit and function. So by drilling a hole in this part, you don't know what's inside the part is the same from the parts that you drilled the hole in, and you don't know what the effect would be of having that hole there.

What quality managers and material managers deal with all too often is a concept called "unintended consequences." And unintended consequences basically say that while the modification that you made did not intend to create a problem in a different area, in fact, it does create a problem in a

different area. And the only way to find those is to thoroughly test or to re-certify the machine once you've made a change that could have unintended consequences.

If we didn't believe in those kinds of tests, the FDA would simply test a drug by giving it to one person and saying, well, you got well, so we're not going to really worry about the side effects that may occur from this; we're just going to approve the drug. And that's not the way business is done in matters that are important and where unintended consequences can and have historically occurred.

This, to me, is incredibly technologically, I would almost say, irresponsible to implement it this way. The proper way to do this is to go back to the manufacturer of the part and say, we believe we have a problem with the use of this part; we need a part that does something differently than what you're delivering to us now.

The manufacturer might have said, oh, we've already got a part that does that. It's a different part number, even costs the same amount of money. You just need to order this other part instead of that one, and it will do what you're looking for. That could be the case.

MR. GABRIEL: May I approach?

THE COURT: Yes.

MR. GABRIEL: I'm going to show him Exhibit No. 85. Do you have any objection to that?

MS. JOHNSON: No, I do not.

MR. GABRIEL: I'd like to move that into evidence, Judge.

THE COURT: Eighty-five is admitted.

(Petitioners' Exhibit No. 85 was admitted into the record.)

BY MR. GABRIEL:

Q. Take a look at Exhibit No. 85, which is an Intoxilyzer 8000 parts list. The page I'm referring you to and the part number is part number -- according to the change order of 401453.40 (phonetic). What is that reflecting?

A. 340145?

Q. Yes, sir.

A. Actually, I know this document is called a parts list, but, technically, it's a document called a bill of materials.

Q. Okay.

A. Which is what a materials manager actually manages. The difference is the bill of materials contains not only the part number, the description,

but also requires the quantity that are required to build the device.

Q. Okay. Is that reflected in that list there?

A. And those are all reflected here, so I would say this is -- a parts list would not have the quantity required in it, but would just list all the parts.

This lists the quantity that's required so that the procurement organization can go out and buy the right number of things to build one of these, or when it's built, they know how many parts have been taken off the shelf and what we have to replenish our raw material stock with.

Q. Turning back to your engineering background, do you know what cracking pressure of a valve is?

A. The cracking pressure for a check valve is the amount of pressure required to cause that valve to open and permit a flow through the valve.

Q. Does that Exhibit 95 -- I believe it is in front of you -- denote the cracking pressure of that valve?

A. It does not. Although that's not particularly unusual. There would be a specification that would be associated with this particular part that would go into more detail.

Q. What does the 3 denote in front of checking valve or after the checking valve?

A. I'm not sure of the -- normally, that would say 3 inches, but I'm not certain what --

Q. If it said 3 inches, what would that denote?

A. That would denote a physical size of the check valve, so it would infer that there are different sizes available, physical sizes, and that this particular part has to be of both physical dimensions in order to fit into the box.

If you had a 2-inch check valve, it would be smaller, and it would not fit physically into the device and a 4-inch check valve might be too large and wouldn't fit at all because of the space constraints.

Q. You're familiar with the operations of an Intoxilyzer 8000?

A. I am.

Q. You teach a course, I believe, on it?

A. I do.

Q. Where at?

A. I teach a course that's a CLE, a continuing legal education course that's accredited, and we teach to toxicologists and pharmacologists, as well as to attorneys.

Q. And in what state?

A. It's in Louisiana.

Q. With the Intoxilyzer 8000 and this exhaust valve, do you see -- from an issue of your background and engineering, do you see an issue in the way that this solution was done of drilling a hole into this valve?

A. The drilling of the hole at the factory may have been a good step to diagnosing the problem, but using that as a method of a solution, to me, is -- it's irresponsible without doing a full test of the device because you have changed the way that the machine analytically analyzes samples.

Q. Let me ask you a question: From your background and the science that we've talked about, would it make sense to the -- for the test, to determine whether or not it's a good solution, would the test be to run some simulators and see if the results are good?

A. That would be at a minimum what you would have to do, but it's not just the simulators. That valve is in play for all four of the different things that go on in that device. And I guess I disagree with my colleague, Mr. Malhiot in that it has nothing to do with breath test because it may have something to do with the breath test.

Q. Explain how that is.

A. Well, if the check valve is normally closed and it would be closed tight, it would be as though nothing flows through it, and you drill a hole in it, you've destroyed the basic function of that device. It now does something different than what a check valve would normally do. And where it is in the circuit of the plumbing may or may not have an effect on a human breath sample.

Q. Is the fact that in a circuit of circulating air the fact that you drill a hole in a valve that's supposed to shut off air or let air go, obviously that's closed, you drill a hole in it, does that fact, in and of itself, indicate that there is another problem somewhere else besides that valve?

A. Well, in a closed system, there would have to be two other problems in order for the system to not give correct results. There would have to be, one, leakage in the plumbing before the cylinder where the measurement takes place; and there would have to be a second leak after that cylinder.

Because if there was only one leak in the system, then the pump would not force air in or out because it would basically -- the leak wouldn't do anything. You have to have two leaks in order for air

to go in one place and out another.

And the place where the air would come in, typically, is in the simulator, the wet bath simulator itself. The wet bath simulator, Judge, is a glass jar, a half a liter in size, about the size of a large peanut butter jar, and then on top of it is screwed on top a metal cap, if you like, that has some tubes that go down into it.

When you're drawing air in from that simulator, if the seal of that -- of the top that fits on top of here -- there's a rubber seal that goes around the top that mates with the glass -- if that seal is leaking, you'll draw air into the simulator, and you'll dilute the concentration of the gas that you're bringing in that's laden with ethanol. And if that happens, you'll end up getting a machine that will be out of -- that won't read correctly when you're trying to --

Q. You're diluting it so it will read low?

A. It will read low. And, in fact, that is the symptom that I think we saw that they were trying to fix. Now, by drilling a hole in this check valve, what they're doing is they're allowing the machine to draw air in from a different place in the circuit after the cylinder, which is not going to dilute the

solution, and they're drilling a hole that's large enough that the air that will be drawn into the circuit will be from the place of least resistance and that's with the larger hole. I understand that's what's going on with this hole-drilling mechanism is that there are other leaks.

Now, the proper solution, from a technological standpoint, is fix the leaks. I mean, you don't drill a hole in the top of your hot water heater because your house has leaky faucets. I mean, that's just a -- it might be useful to diagnose the problem, but to use that as a solution to the problem, to move where the leaks are taking place -- and by the way, there's got to be two leaks because if there's only one, then you won't be drawing air in or let air escape.

Q. Well, according to the manufacturer, the manufacturer notes -- it's been moved into evidence in their engineering change notes. Have you seen those?

A. I have.

Q. They note that there is another leak. They note that the hole is being drilled to compensate for leaks in the recirculation path.

A. But the key word there is "leaks" plural because it's not one leak. There's multiple leaks and

they're drilling a hole now to create a path of least resistance to allow that leak to be the one that's activated. And it's leaking in a place that they believe is not harmful to the result for a wet bath test. But therein is the problem: They haven't really studied will that cause a harm to a human subject breath or other things that the machine does.

Q. So, for instance, if you're in a boat and you take a 12-gauge shotgun and shoot a hole in the bottom of the boat, and you take a .45 and you shoot a hole in the boat, and you take a .22 and you shoot a hole in the boat. You've got three holes in your boat, right?

A. Right.

Q. Your boat's sinking, right?

A. Well --

Q. You may be able to fix the .45 hole and the .22 hole, but your boat is still sinking, right?

A. Well, suppose the boat was -- had a big motor on the back so that the boat is tilting up a bit, and the water accumulates to a level where one of those holes is actually above the water, you could say, well, I shot that hole to let the water drain out.

But you're right, the solution is fix the big holes that are letting the water in. Don't shoot more

holes in the bottom of your boat to let the water flow out because -- that might be useful to diagnose the fact that you've got holes in the bottom of your boat, but that's not going to fix the problem.

Q. But you can take a -- one remedy you can take is to take something and plug the .45 hole and the .22 hole, right? You can plug two of the three holes?

A. Correct.

Q. You still have a sinking boat, though, don't you?

A. You would. But the difference with the Intoxilyzer is you have a closed system that should be sealed so that you -- so that any one hole or one leak should not cause either material to go out or material to come in.

Q. Kind of like a hull that should not leak water when you're in the water?

A. Well, yeah, but large boats have hulls that are sealed so that they're -- so that if you put one hole in it, it's not supposed to sink the boat by virtue of the fact that -- the Titanic was one of those, so probably a bad example.

But if you look at the recirculating system of an Intoxilyzer 8000 --

Q. Right.

A. -- the pump, which is forcing air to go in one direction, if all of that plumbing is airtight and there are no leaks, then that air will simply go around and around that recirculating circuit.

If I put one hole someplace or one leak someplace in that system, because I have everything else sealed, when I get to that point where there's a hole, there's no pressure for the stuff to go out because I've got material coming in and material coming out of that section of pipe, and the amount coming out has to be equal to the amount going in.

The pump is drawing air in from one side and pushing it out the other, okay. So one hole should not create a leak because it's a closed system, and it should be sealed so that you don't lose anything. But if you have two leaks, then you've got a problem.

Q. But how is it that the creating of another leak fixes a leak?

A. Because the place where that hole was drilled was past the cylinder so that what's going to be drawn in is air before it goes to the simulator. So because it's air before it goes to the simulator, the air that goes through the stimulator will then be laden with ethanol at the prescribed amount.

And if you make a hole big enough so that it

will draw air in from that point and not from the tighter point in the simulator itself, then the air coming into the machine will be of the correct concentration for the simulator portion of what's going on, but not for any of the other three functions that are done by the machine.

Q. You've seen the pictures -- they've been moved into evidence -- of the hole in the check valve assembly, correct?

A. Yes.

Q. And you have a copy in front of you? I know that's just a copy, right?

A. I do.

Q. You're familiar with -- are you familiar at all with the specifications of the plate that goes on top of that hole?

A. I've seen that. I haven't -- I'm familiar with the fact that there's a plate over the hole.

Q. Do you know whether or not there is any type of air fixtures or seals that are going to make that exhaust block assembly airtight in and of itself?

A. No. The fact that there's a hole there makes it not airtight, and it's under negative pressure, I believe, to accomplish what has been claimed.

Q. Is it therefore going to be, in essence, at

certain points in time, not all the time, but at certain points in time, leaking alcohol-laden air into the internal parts of the instrument?

A. Well, there's a second -- there are two other leaks before this one came into play. And if there are two other leaks, we have to assume that one of them could be inside the instrument. And if one of them is inside the instrument, then what we have is air laden with alcohol that's being leaked inside the machine that should not be leaked inside the machine.

And that air with alcohol in it -- or with ethanol in it can do mischief with the mechanisms inside the machine. For example, people have talked about the fact that there's a light source that shines through a cylinder. What they haven't said, though, is that there's a gap between the light source and the cylinder. So that alcohol-laden air can occupy that gap, and if it does, it's going to read more because that's -- those are ethanol molecules that are there.

And depending upon that concentration, which we don't know what it is, it's really the concentration of the previous person if there's a leak inside the machine. So we could have a person who was at a .35 alcohol that blew into it and then your client comes along at a .02, well, the alcohol inside

the machine came from the guy with the .30. It's going to be a lot more ethanol than somebody with a .20, (phonetic) and that may be significant enough to affect the breath test.

And until tests are done to show how much ethanol is leaking, what the volume is, where it goes and how that can affect the machine, you've basically violated the test that you did in the first place to show that this machine is a functioning machine.

Q. When you have a machine, a machine of science I'll call it, be it an Intoxilyzer or other instrument, and you start modifying it, are you creating, in essence, a different machine?

A. You are.

Q. By its modification?

A. That is correct.

Q. Does science, the science dealing with breath testing machines, in your opinion, does it dictate the fact that there ought to be procedures for determining whether or not that modification substantially affects the instrument to such a nature that it calls for re-approval?

A. There are, but I would -- I would also say that in this instance we know that it does and I -- triggers that mechanism. And I say it does because

allegedly the implementation of this hole has changed the amount of alcohol measured by the wet bath portion of this machine by at least a .02, which can be 25 percent at the .08 level. So that's a significant modification of the results.

Q. Before the hole was drilled, you did not have compliance with the rules as existed, and after, you have a machine that allegedly works and is now within range?

A. Well, someone may want to suggest that that's the case. What I would suggest from a scientific standpoint is that you cannot modify a device and not understand what the problem was and then say that, "well, look, now it works," without an analysis of what else did it change. We just --

Q. But when you -- why worry what else it changes if it's working, if you're running the normal monthly, yearly department inspections on that machine, you're putting .08 solution through the simulator and getting an .08; you're putting a .10, getting a .10? It's working according to their standards, FDLE?

A. Well, those are called necessary, but not sufficient. The scientists would say those are necessary, but not sufficient to ensure validity,

especially when you've made a change in the machine, and you don't understand what else that change may impact. And, again, you have unintended consequences of that change.

Q. The fact that the rules require monthly and yearly inspections is necessary is what you're saying, scientifically speaking?

MS. JOHNSON: Objection.

THE WITNESS: They're necessary for what the machine --

MS. JOHNSON: Objection to what the rules provide.

THE COURT: You want to rephrase your question?

MR. GABRIEL: Sure.

BY MR. GABRIEL:

Q. Scientifically speaking, in the science of alcohol breath testing devices, how is it determined or how should it be determined, the analytical reliability of an instrument? Forget modification for a minute. The analytical reliability?

A. Well, that needs to be determined upfront in the way the particular machines are, if you like, approved. There's an approval process that needs to be accomplished.

Q. Right.

A. And then there needs to be a maintenance process that basically talks about and what has to happen to each machine to ensure that it doesn't break down and we don't know that it's broken for some time.

Q. Is that, again, in your opinion, why, for instance, the Supreme Court requires three inspections, testing and calibration?

A. I can't -- I can only speak for the science. I can't speak for what the Bender court was thinking.

Q. You're correct.

A. Under the Bender predicate, I think that -- I would suspect they were thinking either about Frye or about Daubert, and those are the pillars of what science would require at a minimum. And I say at a minimum because there are other things that you may also want to be concerned about.

For example, you need to know if you make changes to the machine, what changes are going to trigger a reassessment of the initial assessment that you did. In other words, when do we have to re-exam this machine to see if it's still working the way we thought it should work. You need to define that.

And then you need to define what are the things that you do when you do that certification.

And both of those are not in the rules, and I would suggest that they need to be in the rules. And this is the -- Exhibit No. 1 as to why they need to be in the rules.

Q. What do you mean by that?

A. By that, I mean there are holes drilled in here which change the readings that the machine gave so that it would bring them into what FDLE considered an acceptable range.

So does it affect the measurement system? It absolutely does. By definition, it does because we're getting a different answer now than we used to get. So the machines before the holes give a different answer than the answer after the holes. So, of course, there's a change in the way the measurement is being performed.

Now, it may not change the infrared light spectrum that's being used and the light source and the detector, but it's changing the overall process of the way this machine is functioning. It's not working the same way now as it used to work.

Q. Do you believe in the field of alcohol testing and the science behind it, that there is a need for uniformity of maintenance in calibration issues?

A. Yes. I think that the calibration should be done the same way every time. It should not matter to the person being tested whether the machine was calibrated by FDLE or by the Electronic --

Q. -- Enforcement?

A. -- Enforcement -- or the Enforcement Electronics' calibration standard. It shouldn't make a difference. You should get the same quality test as a citizen regardless of who calibrated it. And today, you can't say that. You don't know that.

If I could add one other thought, and I think it is FDLE that needs to tell Enforcement Electronics what they need to do to calibrate Florida machines and not the other way around. I think FDLE has the responsibility of telling them, "these are FDLE's standards for calibration and you need to follow our standards," not that Enforcement Electronics will do something different, and FDLE will say that that's okay.

Q. Does your opinion, scientifically speaking, change at all if you have knowledge as to the accuracy of certain component parts that are measuring the alcohol volume, i.e., the flow sensor?

A. Sure. I've talked about that before.

Q. You're familiar that the flow sensor,

according to CMI, has an accuracy rate plus or minus 10 percent?

A. That's what they represent, yes.

Q. And is that, in the scientific community, alarming?

A. Well, where you have a breath test that can be rejected on a volume of 1.099 liters, that could be problematic if you're the citizen who happens to blow that number, that volume, and you actually had a volume that was over 1.1. And that's currently the state of the way the machine --

Q. Or it could be the opposite?

A. Or the opposite way, right.

Q. An individual may get a benefit for blowing a point -- 1.009 versus the one that blows over 1.1 would have an allegedly valid sample?

A. When it's not. So it cuts both ways. Ten percent is a big number, and I say that because the tolerances of individual parts are cumulative within a machine. So if there are three parts that each have a 10 percent tolerance, you potentially have a 30-percent error in the machine. So it's not capped at the maximum tolerance of any one of the parts. It's actually a multiplicative of the different parts, so it's worse than adding the three 10-percent factors

together.

THE COURT: Is that a convenient place to take a break?

MR. GABRIEL: Sure.

THE COURT: If this is not it, we can find one.

MR. GABRIEL: No, no, that's fine, Judge. I'm trying to wind up.

THE COURT: Let's take 10 minutes.

(Break taken.)

BY MR. GABRIEL:

Q. Mr. Workman, now recently, have you -- I'm going to approach and show you what's been marked as Exhibit No. 90.

A. Yes.

MR. GABRIEL: Hang on one second.

MS. JOHNSON: I do object to it.

THE COURT: I don't know what it is. What is it?

MR. GABRIEL: It is a copy of an article regarding --

BY MR. GABRIEL:

Q. The title of it again is?

A. The title is, "The Science Behind Breath Testing For Ethanol."

Q. And it's written in the Massachusetts -- I think it's the Massachusetts Law Review?

A. It's published at 7 UMass LRV 110 (phonetic), which is the Law Review, and it's authored by myself. I am the author of the article.

MS. JOHNSON: Are you using it to refresh his recollection or what purpose is this being offered for? I would object --

MR. GABRIEL: The purpose, Judge, is it's an article that deals with the Intoxilyzer 8000 instrument utilized here dealing with the issues of calibration versus inspection, and that's why I would like to use it.

MS. JOHNSON: If the article was written by Mr. Workman, I don't understand why he -- why we would need to introduce the article. His testimony regarding the issue should be sufficient.

MR. GABRIEL: So I don't need to elicit hours of testimony regarding it and I can kind of make it with one question.

THE COURT: The objection that was noted was a hearsay objection, and it's not hearsay because he's here to testify about it. You're welcome to ask him any questions you want to, but it's

admitted.

(Petitioners' Exhibit No. 90 was admitted into the record.)

BY MR. GABRIEL:

Q. How long ago did you write that article, Exhibit No. 90, I believe it is?

A. This was published within the last six months.

Q. Okay. And part of the article dealt with breath testing devices, the Intoxilyzer 8000 used in the case?

A. It does. In fact, it uses the Florida data as part of the information that was studied to present information in the article.

Q. And, again, in this study, it discussed the difference between calibration and inspection of the breath testing device that we've talked about here already?

A. That's correct.

Q. And in your opinion, again, calibration is something completely different?

A. It's not just my opinion, it's basically in science they're two phenomena or two different --

Q. Does the science of breath testing, in your opinion as an expert in that field, require

calibration of key integral parts of the Intoxilyzer 8000 in order to ensure scientifically reliable and accurate breath samples and, therefore, breath tests?

A. Yes.

MR. GABRIEL: That's all the questions I have, Judge.

THE COURT: Thank you.

THE WITNESS: Was this marked into evidence or --

MR. GABRIEL: Yes, 90, I believe.

THE COURT: Yes. It was admitted as Petitioner's 90.

THE WITNESS: I just don't want to walk away with it.

THE COURT: That's all right. I'll make sure I get them all before anybody gets out of here.

THE WITNESS: In fact, Judge, I have two other documents here if I can hand them to you.

THE COURT: Thank you.

MR. GABRIEL: I'm going to place these other ones back right here, Judge.

THE COURT: Okay.

MR. GABRIEL: If you don't want them back, I can --

THE COURT: Okay.

MS. JOHNSON: Judge, I don't have any questions.

THE COURT: Okay. Thank you.

THE WITNESS: Can I be released?

THE COURT: As far as I'm concerned.

(The witness is excused.)

MR. GABRIEL: Judge, can I just take two minutes to speak with him? He's going to probably be getting back on a plane to go to Massachusetts. I know the Court just took a break, but it will only take one moment.

THE COURT: Two minutes.

(Break taken.)

THE COURT: Next witness?

MR. GABRIEL: None further, Judge.

THE COURT: Okay.

MS. JOHNSON: The respondent calls Laura Barfield.

(The witness is called.)

THE COURT: You can go ahead and have a seat.

(WITNESS IS SWORN.)

WHEREUPON,

LAURA BARFIELD

was called as a witness, and after having been first duly sworn to tell the truth, was questioned and

testified as follows:

DIRECT EXAMINATION

BY MS. JOHNSON:

Q. Would you please state your name for the record and spell your last name.

A. My name is Laura Barfield. Last name's spelled B, as in boy, A-R-F-I-E-L-D. First name's spelled L-A-U-R-A.

Q. Ms. Barfield, how are you employed?

A. As the Alcohol Testing Program manager with the Alcohol Testing Program with the Department of Law Enforcement.

Q. How long have you been the program manager of the Alcohol Testing Program?

A. I've been the manager since July of 2001.

Q. Can you tell me about your experience before becoming the Alcohol Testing Program manager?

A. I was originally employed with the Department of Law Enforcement in December of 1994 in the toxicology section of the Tallahassee Regional -- what's now called the Tallahassee Regional Operations Center. At that point in time, I was a forensic technologist, and I assisted the crime laboratory analysts in processing case work, mainly blood and breath -- excuse me, blood and urine samples for the

presence of alcohol and drugs of abuse.

And I would perform the initial drug screen on those biological specimens on nine different drug classes and then give the results to the analysts, and then conduct further sample preparations for them for further analysis of those samples. I prepared laboratory reports based on their findings, opened and inventoried evidence. So it was like an assistant role.

In February of 1994 -- 1996, excuse me, I was promoted to crime laboratory analyst where I began a two-and-a-half-year training program in the area of forensic toxicology. It's a two-phase process. The first phase deals mainly with the analysis of biological specimens for the presence of alcohol. I started that in February of 1996 and finished that in October of 1996.

That training involved learning about the methods of alcohol analysis. You can analyze biological specimens for alcohol using infrared light absorption. That's used in breath testing. An electrochemical technique, which is commonly called the fuel cell, which is used in breath testing. You can use chemical oxidation, which in the past has been used in both blood and breath alcohol analysis. You

can use gas chromatography/mass spectometry. These are different methods of alcohol analysis.

I learned how to analyze biological and beverage specimens for the presence of alcohol, using mainly the technique called gas chromatography. I learned how to interpret those results, report my findings. I learned about the anatomy and physiology of the human body, various systems within the body, including the respiratory system, the effects of alcohol, pharmacokinetics, the absorption, distribution and elimination of alcohol, basically, what does a body do as the alcohol traverses through it; and the pharmacodynamics of alcohol, the outside effects that would be exhibited by someone under the influence of alcohol or has consumed alcohol.

I had to successfully complete various laboratory practicals, written assignments, oral assignments, written examinations, oral examinations, and a formal moot court and was certified as an alcohol toxicologist in October of 1996.

I then continued on with training in the area of analyzing biological specimens for the presence of drugs of abuse, various drugs and drug classes. I learned the methods that are used to analyze biological specimens. Gas chromatography would be an

example, fluorescence, polarization, immunoassay, radioimmunoassay, mass spectometry, thin-layer chromatography, high-performance liquid chromatography. These are all just different methods of analysis that I had to become familiar with.

I learned how to further extract the drugs out of the biological specimens. Although, I was doing that before, I had to demonstrate proficiency in that again. I had to learn how to analyze the specimens using the techniques used in the particular laboratory that we had. The screening technique was fluorescence, polarization, immunoassay and then we confirmed any positive drug class screenings with a technique called gas chromatography/mass spectometry.

I learned how to interpret those results and report my findings. I learned about the pharmacology of drugs of abuse. The -- again, pharmacokinetics, the absorption, distribution, elimination of various drugs and drug classes and how they affect the human body as they traverse through them. And I learned about the pharmacodynamics or the outward effects of what would be seen by a person who was under the influence of those drugs or drug classes.

I, again, had to complete various written exercises, laboratory practicals, oral examinations,

written examinations, a formal oral board and a formal moot court before I could -- before I was certified as a forensic -- in forensic toxicology by the Department of Law Enforcement, which occurred in June of 1998.

I did do case work until -- as a crime laboratory analyst, until March of 2000 when I was promoted to senior crime laboratory analyst with the Alcohol Testing Program. And my job then was to approve alcohol reference solutions for use in evidentiary breath test instruments in Florida using the method gas chromatography. I had to prepare stock solutions, mainly mouth alcohol solution and acetone stock solution that are also used to check the breath test instruments each month.

I was responsible for the permitting process for blood analysts, which I had to obtain blood proficiency samples from a vendor that we had a contract with and then prepare various kits with different alcohol samples in them so that the blood analysts could either obtain or maintain a permit in accordance with Chapter 11D-8.

I provided scientific and technical information or answered questions to my chain of command and testified in court throughout the State of Florida. And then in July of 2001, I was promoted to

Alcohol Testing Program manager.

Q. Can you tell me what your educational background's in?

A. I have a bachelor's of science in biochemistry that I received from Florida State University in August of 1994.

Q. What are your responsibilities as program director of the Alcohol Testing Program?

A. Well, as program manager, I am responsible for supervising the members within the program and ensuring that they perform their duties and responsibilities as I assign.

I still approve alcohol reference solutions for use in Florida. I still prepare the stock solutions that are also used in Florida. I still actually now prepare blood samples, instead of under contract having had them made for me, and prepare the samples and the kits for blood proficiency testing each quarter for blood analysts to either maintain or obtain their blood permit.

I am the records custodian for the Alcohol Testing Program, responsible for approving new breath test instruments in the State of Florida. I'm responsible for keeping up with new methodologies that may be out, new instrumentation that's out,

maintaining scientific and technical knowledge in the field of blood and breath alcohol testing.

I create and revise Chapter 11D-8, which are the rules governing blood and breath alcohol analysis and ensure that they go through their promulgation process properly.

I create and revise the curriculum used to train breath test operators and agency inspectors in the State of Florida and breath test instructors. I permit all breath test operators, agency inspectors, and breath test instructors to perform their respective duties within the State of Florida.

I permit all blood analysts who conduct blood alcohol analyses within the State of Florida. I testify in courts all over the State of Florida in reference to FDLE's interpretation of Chapter 11D-8, the Intoxilyzer 5000, the Intoxilyzer 8000, breath alcohol testing, infrared light absorption, blood alcohol testing, gas chromatography, different methods of alcohol analysis, alcohol reference solutions, medical blood conversions, retrograde extrapolations. That's about what I do now.

Q. What kind of training do you have specifically pertaining to the Intoxilyzer 8000?

A. Oh, I am certified by the manufacturer to

repair, operate, calibrate, and maintain an Intoxilyzer 8000. I have taken that course now four times, so I'm certified four times -- no, I'm certified once, but I've taken the class four times to maintain my knowledge. It's always good to hear things that you've heard before for continuing education.

And I routinely attend conferences or training specifically related to the Intoxilyzer 8000 or the area of breath alcohol testing, quality assurance within breath test results. And my background in biochemistry deals with the methodology, as well as my certification and training in the area of forensic toxicology deals with the underlying methodology that's used in breath test devices, as well as the Intoxilyzer 8000.

MS. JOHNSON: At this time, Judge, I tender the witness as an expert in regards to breath test methods and analysis, the Intoxilyzer 8000, and in FDLE Administrative Rule 11D-8.

MR. GABRIEL: No objection.

THE COURT: Accepted.

BY MS. JOHNSON:

Q. Can you give the Court a brief overview of the Intoxilyzer 8000?

A. Yes. The Intoxilyzer 8000 is an instrument that measures vapor samples and calculates their alcohol concentration. A breath sample can be a vapor sample; a control sample can be a vapor sample, be it a wet bath or a simulator sample or a dry gas standard. These are all different vapor samples. There's also the air that can be a vapor sample that's analyzed by the instrument.

Q. Let me stop you for a second. Can you explain what a wet bath is?

A. Yeah. I don't like to call it wet bath. That's why I kind of paused on that. I don't like calling it that.

Alcohol reference solutions are solutions. They're made up of alcohol and water. What was your question again?

Q. I just asked you if you could explain what a wet bath is.

A. Oh, okay, yeah. That's when you analyze alcohol in water samples. And they're placed into a device called a simulator, which depending on what concentration of alcohol or solution that you put in there, the simulator will heat that solution to a known temperature, and based on that temperature, the alcohol will partition from the solution into the head

space above it creating a vapor, which the instrument then pulls into its sample chamber for analysis.

So you're putting a known answer or a known result or a known concentration into the instrument to check the instrument in totality.

It's checking the calibration of the instrument. You could also use that to actually calibrate the instrument. But when you're using them to check the instruments, you're checking the entire thing from beginning to end, that it's analyzing that sample properly.

Q. Okay. And what was the -- you said there were different ways to introduce a sample into the Intoxilyzer?

A. Well, when you're going to -- it depends on what you're testing. If you're testing a person, they are going to provide their sample through the breath tube, which is heated on the Intoxilyzer 8000 to prevent condensation. And that sample is introduced via the breath tube into the sample chamber where it is analyzed. So that's one route in.

The dry gas standards are a mixture of gas and ethanol at a known concentration so we know the answer to it, and that is introduced through the calibration inlet port when that tubing is connected.

That sample introduces -- is introduced and is analyzed in the sample chamber. So we've got two different introductions of two different types of samples. They're both being analyzed in the same place.

Then you have your simulator or your alcohol reference solutions, your alcohol and water. Those are introduced through the calibration inlet port on the side of the instrument, the same place as the dry gas standard, and those vapor samples are also analyzed in the sample chamber. Then there's the air blank, which the instrument is actually analyzing the room air as it's being sucked through all of these particular entrances into the instrument.

So the air is coming in through the breath tube. It's coming in through the -- not through the calibration inlet port, but then it's exiting the instrument. So it's being drawn in through all the spaces of the instrument. And the result of that must be within a certain specification in order for the instrument to continue. So that's another way the air is introduced as well.

Actually, I think, if I looked at the flow diagram, it may be coming in from the calibration inlet port. I would have to refresh my memory on

that.

MS. JOHNSON: I believe it's Exhibit No. 16.

(Brief pause.)

THE COURT: Makes you wish you left them all in that book, doesn't it?

MR. GABRIEL: Exhibit 16 may not, by chance, be there.

THE COURT: I don't think so. I'm looking a second time but -- no.

BY MS. JOHNSON:

Q. I'm showing you what has been previously admitted as 16, Exhibit 16. Can you tell me what that is?

A. This is the plumbing flow diagrams, and it's got four different diagrams. One is the flow of air when you're running a simulator with the alcohol and water solution; one when you're running the dry gas standard; one when you're running the breath test; and one when you're running an air blank.

Q. Does that assist you in --

A. Yes, it does.

Q. -- in answering the question?

A. During the air blank, it's clearing out or putting air into basically all the paths that are used in the other three mechanisms.

Q. What is required -- what are the requirements for a valid sample?

A. For a valid breath sample during a breath test would be -- they've been defined by the manufacturer. It's a minimum flow -- minimum flow rate of .15 liters per second sustained, .17 liters per second to trigger the tone. So you have to have tone when you're providing your breath sample.

Q. Can you explain to the Court what "triggering the tone" means?

A. It tells the operator that the person or the subject is providing a sample that the instrument is analyzing. Because if you don't provide enough flow, you could blow in the instrument all day long and never get a result out of it because you haven't triggered the tone, and the instrument doesn't know that that breath sample is going through it to be analyzed.

So the tone tells the operator the person is providing sufficient flow and then the other minimum sampling requirements will begin kicking in. So you have to have sufficient flow, and you'll have the tone for the operator to hear that you have sufficient flow.

Then you have to have sufficient flow for at

least one second and that's so -- the instrument will not provide a numerical result, it needs at least at a minimum -- it's actually a little bit over one second, but it needs a minimum of one second to even produce a number.

Then we build on -- they have to provide sufficient flow for at least one second and provide at least 1.1 liters of breath. And that's so that we're getting to the beginning of their deep lung air. That's the only significance behind that.

To get a valid or a good reading out of someone -- the instrument will analyze whatever you put in it, and what we want to make sure is that are we putting a good sample in that the instrument is analyzing. And then -- so these are what these minimums are going to.

And then the fourth requirement would be the sufficient flow for at least the one second, at least 1.1 liters, and then it has to meet slope. And what I mean by that is the alcohol concentration of a breath sample should rapidly rise and then begin leveling off within a preset specification. And if it doesn't do that, then it could be that the person hasn't provided enough breath.

Even if it's bigger than 1.1 liters, they may

not have provided enough breath or that the alcohol concentration has rapidly risen and then dropped off rapidly, which could be indicative of a sample that contains mouth alcohol. Mouth alcohol can falsely elevate a person's alcohol result if it's present.

And so those are the four minimum sampling requirements that have to met to get a valid breath sample.

Q. Are there methods to ensure -- you said that mouth alcohol can inflate results. Are there methods to ensure that mouth alcohol is not present when a subject takes a breath test?

A. Yes. The actual -- there are rule requirements in place. The minimum sampling requirements that I just defined are not in rule. They're not rule requirements.

But there is the definition of an approved breath test in the rule, and it requires a minimum of two samples that are obtained within 15 minutes of each other and must agree in alcohol concentration within .020 of each other. And that is so we ensure that there's no mouth alcohol radiofrequency interference or interfering substances: The mouth alcohol I previously described; radiofrequency interference could be electromagnetic waves that may

be present in sufficient strength to affect a reading from the instrument; and then the interfering substances would be, say, someone who is a diabetic who is in ketoacidosis or in diabetic shock, and they have very high concentrations of acetone on their breath.

The instrument would be able to detect that. If it didn't detect that, the definition in requiring the minimum of two samples that are obtained at least two minutes apart and no more than 10 minutes apart with that 02 agreement between them, that ensures that all of those three things are not affecting the test. So good samples ensure the good test.

Q. Okay. Can you take us through, basically, the steps in a subject breath test?

A. Yes. That would be outlined in FDLE ATP Form 37, which are the operational procedures for the Intoxilyzer 8000. And the operator -- basically, the testing sequence starts with a diagnostic check. And that's where the instrument is checking its internal workings to make sure they're within specification, things such as temperatures, voltages, stability within those voltages, that it has a valid software in it.

It checks its random access memory. It

checks to make sure that there is either an internal printer or an external printer connected that is working properly. It checks the realtime clock to make sure it has a date and time, not necessarily the correct date and time, but a valid date and time, meaning its format.

So it's checking its internal components. It does that first. And then it does an air blank where it is flushing the entire plumbing system within the instrument with room air and setting its zero reference.

Q. Can you explain what you mean by "setting its zero reference"?

A. The instrument before subject -- before control tests or subject breath samples are obtained, it sets its zero reference or what it determines zero to be at that point in time. And it uses that result throughout the entire testing process, the entire sequence. So it's setting up what zero is and then it conducts a control test.

The control test is performed with the dry gas standard, which is a mixture of alcohol or ethanol and nitrogen gas at a known concentration. And that sample is delivered, that vapor sample is delivered into the instrument, and the instrument must produce

the correct result, which is .08 plus or minus .005.

Q. Can you just explain to the Court how that .08 control test is introduced into the instrument?

A. There is a regulator attached to -- that the dry gas standard cylinder-- it's compressed gas. So a cylinder of that compressed gas is attached to a regulator. And from the regulator, there is tubing connected to the calibration inlet port, which is on the side of the instrument. It's the same place that the alcohol and water sample -- the simulator samples are delivered that was previously discussed in other testimony.

And there is no connection to the outlet port, the recirculation port. There's no connection in that. That one's just left alone. So the dry gas is connected to the calibration inlet port which will deliver vapor into the sample chamber.

Q. Okay. And then what happens after the control test?

A. Another air blank flushing out the previous sample and using room air to clean the plumbing within the instrument and then the instrument sets or makes sure that it has zero, a zero reading, a zero alcohol reading. And then the subject will provide their first breath sample into the instrument.

Q. And you say the first breath sample; how many breath samples are required?

A. There's required a minimum of two breath samples. Within one test sequence, the instrument can ask for up to three breath samples. And that's in case there is -- one of, you know, the first two samples, if they're not valid or acceptable or don't meet all of the requirements, it gives the subject an opportunity within that testing sequence to provide another sample and still keep it within the 15-minute requirement from rule. Then we'll start a whole new test if need be but -- so the first breath sample is provided into the instrument and analyzed by the instrument and then the subject has up to three minutes to provide a valid sample.

Q. Okay. After that first breath sample is provided, what happens after that?

A. There's an air blank to flush that breath sample out of the instrument and cleanse the instrument's plumbing with room air and then there is the remainder of what is a two-minute wait.

Q. So there has to be two minutes between the first sample and the second sample?

A. Yes. There will be a minimum of two minutes between samples, yes.

Q. Okay. And then the instrument will prompt the operator to provide a second sample?

A. Well, it will display "wait" and then it does another air blank. So although it's already air-blanked itself, it's going to do another air blank and establish or make sure it has zero and then request a second subject sample. And, again, the person will have up to three minutes to provide that breath sample or a valid breath sample.

Q. And both of those two breath samples have to meet the requirements you've already discussed with minimum flow of 1.1 liters of breath and slope, correct?

A. Correct. If they don't, a message is displayed for the operator, but the instrument will continue on with the testing sequence up to this point.

Q. And then what happens after the second sample?

A. If we have two valid breath samples and the result of both of those agree within plus or minus .020, then the instrument will perform an air blank, again, flushing its internal plumbing with room air. It will make sure it has zero again, conduct another control test using that dry gas standard that's

connected to it, the .08 dry gas standard.

The correct result must be received from that or a message will appear. It will conduct another air blank and another diagnostic check and that test would be complete at that point.

If there is not a .020 agreement between the first sample and the second breath sample or if there's a message associated with either one of those samples, it will request a third breath sample.

First, it will conduct an air blank, establish zero, request the third subject sample, and then it will conduct another air blank, a control test, an air blank and a diagnostic check.

The third scenario would be if there are two breath samples provided, neither of which are valid or have a message associated with them, the instrument will not request the third breath sample because it will have nothing to compare it to. In that instance, even if there's two samples with messages, it will conduct an air blank, a control test, an air blank, a diagnostic, and that test would be done.

The main point of that is diagnostics and control tests bracket subject samples. So not only do we have the quality assurance of the minimum of the two breath samples together and then within .020 of

each other collected within 15 minutes of each other and then the two minutes in between the samples themselves, but we also have the fact that we've established before and after those samples that the instrument's working within its specifications through diagnostic checks, and we've verified the calibration of the instrument at the time of subject testing.

And that would be all of the quality control developed into the -- just the breath test in the State of Florida.

Q. Tell me what other quality control procedures, I guess, are employed for using the Intoxilyzer 8000.

A. Well, at least once each calendar month, the -- there are certain people within the State of Florida that have special training called -- and they're called agency inspectors. They are trained using a curriculum developed by the Alcohol Testing Program, and they are instructed by people trained by the Alcohol Testing Program and certified by the Criminal Justice Standards and Training Commission. And these people conduct this agency inspection. It's sometimes or commonly referred to as the monthly inspection.

And it is a rigorous process where the person

conducts three repetitions or three analyses of a zero -- it's distilled water so that we show that the instrument can determine what zero is and accurately measure zero, zero alcohol, that is. Three repetitions of a .05 alcohol reference solution, which is the alcohol in water; three repetitions of a .08 alcohol reference solution; three repetitions of the .20 alcohol solution; and three repetitions of the .08 dry gas standard.

They conduct a mouth alcohol test. They conduct three repetitions of an acetone interferent test, where we have acetone and water that is delivered using a simulator. Diagnostic checks are before and after all of those steps.

They do an alcohol-free subject test where they actually blow into the instrument with no alcohol on their breath, we hope, because the result has to be zero. And that's pretty much -- the specifications for the alcohol concentrations are .005 or 5 percent, whichever is larger. And if they don't meet those specifications, then they can repeat the test.

If it doesn't meet on a repeat test, it will stop the inspection process, and the inspector has to figure out is it something they're doing procedurally, like they hooked up the wrong simulator, or is it that

their external devices aren't working, like their simulator's not heating properly or has a leak or is not connected properly, or is it the instrument. And they will repeat the inspection. So that's the -- basically, the monthly inspection process.

Q. Okay. Now, you went through the subject breath test about the different sequence with the air blanks and control tests and everything else.

Are all those steps included with each one of the repetitions of the zero alcohol, .05 and .08?

A. Well, yes. In essence, we start the inspection with a diagnostic just like we started the breath test, and we finish this inspection process with a diagnostic. So we're bracketing it with those same internal checks that are conducted during breath tests. The sequence of events cannot be altered. It's programmed into the instrument and follows Form 39, which are the agency inspection procedures for the Intoxilyzer 8000.

And there are air blanks between all of the repetitions of the zero, the .05, the .08, the .20, the acetone interference, and after each of those tests because they're separate and independent tests, it will ask the operator were the results of the analyses acceptable, and it will, you know, continue

on. If they're not acceptable after a repeat, the instrument will automatically not allow them to continue. It will stop the inspection process.

And the rule does require when you do not successfully complete this agency inspection process that you cannot use that instrument for breath testing until such time as it passes an agency inspection. It doesn't mean the instrument needs to go in for repair, but you can't use that instrument for breath testing until it passes its agency inspection.

Q. Theoretically speaking, if it didn't pass an agency inspection, could you just keep doing one after another?

A. Well, there's a rule requirement that once you -- if you fail to successfully complete the agency inspection that you have to remove the instrument from service and that just means don't use it for breath testing, contact your department inspector because FDLE can help you troubleshoot what might be wrong.

Most of the time it's operator error or it's their external device, like their stimulator isn't properly sealed or properly heated or something like that. So we'll walk them through that to help -- to assist them before they repeat an inspection.

And they are required to notify us, and then

they can conduct another inspection. In fact, that's what we tell them, well, fix this, and fix this, and make sure you have this and repeat your inspection. Because if it's going to fail -- if it's not going to pass the steps because the instrument's not working, you will get the same messages. It's not going to let you use it if it's still broken. If it's something that you've done and you correct that issue, then it's going to pass those specifications. So you always repeat your inspection.

Q. Is the agency inspection the only quality control procedure that FDLE employs?

A. No. Other than that and the breath test and the monthly inspection, there is the required department inspection, which is a process in rule on Form -- it's defined in Form 36, which are the department inspection procedures for the Intoxilyzer 8000.

And it is required at least once each calendar year -- well, let me back up one second. The monthly inspection, the agency inspection, not only do you have to do that once each calendar month, but you have to do it when you remove the instrument from evidentiary use, and you have to do it before you place that instrument back into evidentiary use.

So, for example, if you needed to have it repaired and we got it -- you got it back from repair -- or, actually, you'd get it back from FDLE, but then you'd have to do another agency inspection. So they're required a little bit more --

Q. Why would you get it back from FDLE --

(The court reporter requests the parties speak one at a time.)

THE WITNESS: Sorry. Because -- that will be my next explanation. As part of the department inspection after it comes from repair, a department inspection must also be conducted.

So if it's returned from a repair facility, a department inspection in accordance with Form 36 is required and then we send it to the agency. And the agency must also do their agency inspection in accordance with Form 39 before it can be put back into evidentiary use. So that's another quality control step.

BY MS. JOHNSON:

Q. What does the department inspection entail?

A. It is very similar to the agency or monthly inspection process, except for it has more repetitions so that we can establish that the instrument's precise as well as accurate.

We analyze 10 repetitions of the zero, 10 repetitions of a .05, 10 repetitions of a .08, and 10 of a .20, and 10 of a .08 dry gas standard.

All of those results -- well, the zero must be all zero, and all of the alcohol concentration results must be plus or minus .005 or 5 percent, whichever's greater.

We conduct 10 repetitions of an acetone interferent test and all of the results must be interference checked. We conduct a mouth alcohol test, an alcohol-free subject check, a volume -- a minimum volume check, a barometric pressure check. The diagnostic checks are at the beginning and the end of the process.

And I might be leaving out a step or two, but it's a quite intensive process. And so that's basically what has -- oh, air blanks occur between all of those just like in the agency inspection, except for we're doing more repetitions is the main difference and a couple extra checks that I described.

Q. Okay. Referring to different form numbers as to the -- does that give a detailed instruction as to what needs to be done?

A. Yes. The form numbers that I've specified are the actual procedures for the event that we were

talking about. And then the results are reported on another form. Department inspection results are recorded on Form 41, which is the department inspection report for the Intoxilyzer 8000. The agency inspection report is Form 40, and the breath test results are reported on Form 38, which is an affidavit.

Q. And all of these forms are incorporated by reference into 11D-8.017?

A. Yes.

Q. Who wrote these forms?

A. Well, I had a major part in writing these forms with input from the department inspectors and from public comment, if there was any.

Q. That's a good point to bring you back to. When you started, you said in 2001, you started as the program manager of alcohol testing?

A. Yes.

Q. What instrument was being used in 2001 for breath testing?

A. The CMI Intoxilyzer 5000 series.

Q. Was there a decision at some point to go with a different instrument?

A. Yes. The Intoxilyzer 5000 series had been being used for about 20 to 22 years, and it was

becoming obsoleted. And I don't mean that it wasn't working. I mean that it was becoming difficult to obtain the parts necessary to repair them to keep them working. So we needed to do something, and that determination was made at the end of 2001 to begin looking at another instrument.

Q. What did you -- what was the process by which you decided to start looking at other instruments?

A. Well, we first had to secure a funding source because they're quite expensive pieces of equipment that not all agencies can afford. And I say it that way because, you know, your bigger agencies can tend to afford more equipment than the smaller agencies.

So we needed a funding source, not a complete replacement necessarily of what was already out there, but at least to get a good base of evidentiary instruments for use in the state. So we secured a funding source and then began looking at the different technologies or methodologies and instruments that were available at that time from different manufacturers.

Q. How many different instruments did you look at?

A. We looked at five different instruments, and one of them did not meet the specifications at all.

It did not have any portability. It would have been no different than what we were using at the time.

Q. And when you said you started looking at instruments, what did you actually do?

A. Contacted the manufactures. There's four main breath test manufacturers that are available within the United States. And we contacted them to find out what was their newest technology or newest instrument they had available and requested that they send us an instrument for us to informally look at, at that point in time.

Q. Okay. Is that what's been previously referred to as field testing?

A. Yes.

Q. And what did you look at with each one of the instruments as far as the field testing?

A. Well, we wanted to look at portability, ease of use. We looked at operator safety. We looked at its ability to conduct a control test and its ability to gather or can we collect data from it? Did it have a -- like the ability to transfer data to, say, a remote location or a remote computer. I think those were the main things we were looking at.

Q. And at some point during 2001, was the decision made to seek approval for the Intoxilyzer

8000?

A. Well, after we did the field testing, although we have the legislative authority to approve an instrument, we decided to get the input from a committee that was available, basically, the technical advisory committee with the Institute of Police Technology and Management.

It was a group of people who had vast experience in breath testing, knowledge of the instruments, knowledge of the laws. So they were prosecutors, police officers, DHSMV personnel, agency inspectors.

And then I was the chairman of the breath test instrument subcommittee so I presented -- we presented -- basically, we presented the test results to this committee and asked for their recommendation or what would they recommend that the State of Florida go with.

And their recommendation was the Intoxilyzer 8000. It did perform the best analytically and met all of the requirements that we were looking for. And so we accepted that recommendation and then moved to begin the formal process of getting the instrument approved.

Q. And what is that formal process?

A. Well, you have to start -- well, you don't have to start, but it made sense to start with evaluating it in accordance with Form 34. But, mainly, you need to incorporate that make and model of the instrument into 11D-8 so that everyone, your end user will know what the instrument that they can use will be. So we had to go through a rule promulgation process as well.

Q. And you started the rule promulgation process in the spring of 2002, correct?

A. Yes.

Q. What's the first step in the process in doing evaluations for approval?

A. The instrument must be listed on the U.S. Department of Transportation Conforming Products List of evidential breath measurement devices.

Q. And why do you require any instrument that's potentially going to be -- that you're going to seek approval of to be on that Conforming Products List?

A. Well, the Conforming Products List is just a list by manufacturer and model of instruments that they have done some testing on. So that is a good -- as part of a total quality assurance plan, you want to have had -- you want to make sure the instrument's fit for use, but to have someone else that's looked at it

as well in accordance with a certain set of standards is a good thing as well.

And so from a quality assurance perspective, the federal government has this list of instruments that meets their testing standards, and they have shown that the instrument is fit for use. So that's a good start so I don't waste my time, the taxpayer dollar on evaluating an instrument that's not fit for use. So it's a quality assurance step. That's it.

Q. Do the rules require the Intoxilyzer 8000 or whatever instrument you're going to seek approval of to stay on the Conforming Products List from year to year?

A. No. The form specifically states that those procedures are used for the approval of a new instrument in Florida. It's in the first paragraph, not No. 1, but the paragraph in the beginning.

Q. Do you rely on the testing done by the federal government to approve the Intoxilyzer used in the State of Florida?

A. No. That would be an invalid exercise of my delegated legislative authority. I can't delegate my authority to someone else. I'm simply taking that as a quality control step that someone else has looked at it. This happens to be the federal government.

And it appears on their list, and now I'm going to do my own testing. I just don't take their testing on face. I then do my own testing. But there's no point in expending resources and funds to do that testing of our own if it didn't meet the fit for purpose that someone else had determined. So that's the main reason -- but I do not delegate that authority to them.

Q. Once you determined in 2002 that the Intoxilyzer 8000 was on the CPL, what was your next step in the process of getting the Intoxilyzer 8000 approved for use in the State of Florida?

A. Well, we went ahead and did the evaluations. We did one in April, which had to be suspended because it didn't complete the testing process. The instrument physically could not finish the testing process. And then we did conduct it again in May of 2002 where the instrument did meet the requirements of Form 34. And we then were moving to incorporate the make and model into Chapter 11D-8 after that.

Q. Let me just back up for one second. When I say that you required the Intoxilyzer 8000 to be on the Conforming Products List, did you require it to be on a published list? How did you know that the Intoxilyzer 8000 was on the Conforming Products List

at the time you --

A. I asked the -- I asked NHTSA, the National Highway Traffic Safety Administration, which is the bureau or program under the U.S. Department of Transportation that's responsible for this list, if the Intoxilyzer 8000 was on their list. Because at that time, the most current list was last published in 2000, and it wasn't on that list.

So I called them and asked them, "I understand that the CMI Intoxilyzer is on your list." "Is this true?" And they said, yes, that it was put on their list in May of 2001. And I also had documentation from them stating that it had met their specifications and was going to appear on the next published list. So although not published yet, it was on their list. If another state or agency were to call them, they would say the Intoxilyzer 8000 is on their list. So that's what I went with.

Q. Are you aware of how often the list is published?

A. Generally, it's about every two years. It does happen sometimes every year, and I think even over the course of time between then and now, it was like a three-year break. So it's not published on a regular basis.

Q. So every time they add an instrument to the Conforming Products List, they don't go ahead and publish it right then, correct?

A. No. That is correct. You'll see within the publications, they'll sometimes approve many, many at once -- or not approve them, put them on their published list all at one time.

Q. Would you have started the rule promulgation process in 2002 if you hadn't already been notified the Intoxilyzer 8000 was on the Conforming Products List?

A. Of course not.

Q. Now, when did the rule promulgation in 2002, when did that become effective?

A. November 5th of 2002.

Q. And what were the changes in 11D-8 with that with the 2002 rule promulgation?

A. Well, the make and model CMI Intoxilyzer 8000 appeared in 11D-8.003(2). It also states, "using software approved by the department using Form 34." We would use Form 34 to approve that. I don't remember the exact language at this point in time. So it's the CMI Intoxilyzer 8000 make and model appeared in there, but it also has a caveat, using software approved by the department.

Q. What does that mean?

A. We had to -- at that point in time, we had to approve the software before it could be used for evidentiary purposes. And I say at that point in time because the word "approved" became evaluated in the 2004 revision, which is the current revision.

Q. So in November of 2002 when the rule promulgation -- when the rule became effective, you couldn't just get an Intoxilyzer 8000 and start using it, correct?

A. No. That is correct.

Q. Okay. What needed to happen from that point on in order to be able to use the Intoxilyzer 8000?

A. Well, at that point, we had approved make and model so that the public and the user would know that it's going to be the CMI Intoxilyzer 8000. I had not approved software at that point in time.

I didn't have any software that had all of the rule requirements, the breath test sequence completely in it, the agency inspection process in it, the department inspection process. All of that stuff hadn't occurred yet. The ability to upload or remotely connect with the instrument was not in the software to transfer data and stuff like that, which is one of the things that we wanted.

So there was an approved make and model, but there was nothing that I could register, which is another requirement. You can't just use any Intoxilyzer 8000 for breath testing in Florida. We have to register it and inspect it before you can use it. The registration approves the actual instrument. So at this point in time, I didn't have anything I could even register because I didn't have approved software.

Q. In November of 2002 when the rule became effective, did you immediately start to develop Florida-specific software?

A. We -- we were working -- it was being worked on at that point in time. It was being worked on because we had the Florida designation 8100 at the time of evaluation, but we did not have a complete software that I could approve. So I did not approve the software at that point in time.

Q. When did you get a finished or a complete software that was -- that you could approve?

A. Well, at that point, the rule had changed to evaluate, so I didn't have to approve it, but I have to evaluate it. It's just a -- same concept, just it's not approving it; it's just evaluating it. That would have been in January of 2006.

Q. So it took about three-and-a-half years to develop the software?

A. No. In August of 2004 -- or, excuse me, in August of 2002, we lost our funding source, so we were on hold until the end of 2004 when a new funding source was found. And we began a phase in process of purchasing these instruments, and so we began doing more software development diligently at that time.

Q. Can you explain what you mean you "lost the funding source"?

A. The legislature took away our funding source when we were out spending the funds, literally. They said we couldn't use the funding source that we had secured. I don't -- it was this state portion of Byrne Grant funds, and they decided that we didn't have the budget authority for that or something, something like that. I don't know. I don't deal with all that stuff. We lost our money. I understood that.

Q. And where did you find it?

A. Well, we used kind of the same source. It was residual or left over Byrne Grant funds, and Byrne Grant funds are now called JAG funds. But, anyway, at that point in time, they were called Byrne Grant funds.

So agencies had turned the money back in, so it was left over, which was good, but it was the local portion of it. So what we did was what we called a -- or that FDLE called a "pass through." We kind of told them how they're going to spend the money, but it was their money to spend. So it was a like a pass through, but we used the local portion and that worked.

But they had to phase it out because there was only so much residual funding. Anyway, it was a long process. Not all that time was software development either. It was organizing and buying instruments too so --

Q. So you finally came up with a finished version of software that -- from the 2004 rule that you evaluated, correct?

A. Yes. To clarify, there are reports where I evaluated software versions, but they were not complete yet. For example, I did a Form 34 evaluation on a Software Version 24. It did not have all the communication requirements, so it still wasn't done at that point in time. And also that was when they changed from the -- the letter from the FPAA came that's introduced into evidence and they wanted us --

MR. GABRIEL: Which letter?

THE WITNESS: It was that piece of evidence that was introduced with the letter from the Florida Prosecuting Attorneys Association, and it had the attached response from Commissioner Tunnel.

MR. GABRIEL: Well -- yeah, okay.

THE WITNESS: I don't remember which exhibit it was. There was an objection, and I think maybe a piece of it came in.

THE COURT: Right. The FDLE letter came in, but the other letter did not come in.

MR. GABRIEL: 2005.

THE WITNESS: That exhibit. So in 2005, that letter came in, and the Florida Prosecuting Attorneys Association wanted us to report the numerical result for samples that didn't meet volume and samples that didn't meet slope. Slope, not level, meaning we didn't get enough deep lung air. And so that required another software revision, so that created Version 25, which I did evaluate too, that incorporated those changes.

But then Version 25 only saved 32 results, 32 breath tests in its long-term memory. It's supposed to save 150. So we had to then -- that was in December of '05. Then we got Version 26

and so that's -- although there are evaluations, those software versions were never used and they weren't ready for use until January of 2006 when we evaluated Version 8100.26, which has commonly been referred to here as Version 26.

BY MS. JOHNSON:

Q. Would it be safe to say that Version 26 was the first one that -- the first software version that encompassed all of the rule requirements?

A. Yes.

Q. Drawing your attention to the written notice requirements of modifications in the 2002 rule, did the written notice requirement of modifications lead to an instrument prior to the instrument being -- did that require that written notification be made by the manufacturer on anything that was -- on any instrument that was previously approved?

A. No. There's a clause in that rule that specifically stated -- I forget. I would have to read it in the rule. But the availability or approval of new instruments, options, software and modifications does not negate the approval or availability of previously-approved instruments, software modifications and options, something like that was in that rule.

MR. GABRIEL: Can you refer to what year that --

THE WITNESS: I'm talking about 2002, and it would be paren -- 11D-8.003(7). And I don't think I cited it verbatim, but it was something to that point -- something to that effect. The wording is to that effect.

BY MS. JOHNSON:

Q. Was the purpose of the written notice to put FDLE on notice of modifications that they otherwise would not have known about?

A. Yes. At that point in time, yes.

Q. Now, the Rules 11D-8 was subsequently amended in 2004 removing that written notice requirement?

A. Yes.

Q. Were you involved in that 2004 rule promulgation?

A. Yes.

Q. Did you primarily write those 2004 rules yourself?

A. With the assistance of a legal advisor for the legal language, yes.

Q. What was reason why that written notice requirement was removed from 11D-8?

A. Well, first of all, I can't require the

manufacturer to provide me that notice.

Q. Why?

A. Well, because I don't have the authority to regulate a third party, and I don't approve individual parts and components within an instrument.

I approve the instrument as an analytical testing system. It's a global testing device. I don't approve each of the little pieces and parts in it. It's either going to work in accordance with my rules and give me an acceptable result as required or it's not going to work.

And so for those two main reasons, I can't -- that particular section of the rule was taken out. Now, the caveat of -- and it's stated in that clause, which became the availability or approval of new instruments that I just previously stated -- in the new rule that's stated and it became Rule 11D-8.003(6).

So just because there's a modification doesn't negate the approval of the instrument. So that was previously in there, and it's still in there today. And so that further describes the intent of our rule is not to approve pieces and parts.

Q. Drawing your attention back to August of 2004, there has been testimony from Mr. Malhiot that

he and Mr. Skipper and all other staff members from the Alcohol Testing Program attended the CMI users group. Did you attend that CMI users group?

A. I did not attend that users group. The testimony was incorrect.

Q. Okay. But Mr. Malhiot and Mr. Skipper did attend that users group meeting?

A. Yes. And I do remember sending all of the inspectors at the time there. I was not there, though, so his recollection and account of that is not correct.

Q. Did Mr. Malhiot and Mr. Skipper stay after the users group meeting?

A. Yes.

Q. What was the purpose of them staying in Owensboro, Kentucky?

A. To assist the manufacturer in development of our software for Florida.

Q. And do you know how long they stayed at CMI's headquarters?

A. An additional week. A Monday -- well, they stayed through the weekend and then Monday through -- and they were at the manufacturer's facility on Monday and stayed and left on Friday.

Q. Were you notified at some point that they

were having issues with low simulator results?

A. Yes. I do remember receiving, if not daily, almost daily contact from Mr. Skipper. Each day I got an update.

Q. And did they notify you that CMI had determined that there were air leaks in the Intoxilyzer 8000?

A. Roger did tell me that that had happened. It wasn't on the first day of testing. This happened on Thursday, almost the next to the last day of testing where they were assisting the manufacturer.

Q. Okay. And you were informed at that time that the hole was being drilled in the exhaust valve?

A. I was informed that that was the resolution -- one of the things they did at that point in time, yes.

Q. What were the other things they did at that point in time?

A. They added SureLock connectors to connect the tubing for the simulator to the instrument to ensure a better seal.

Q. Can you explain what a SureLock connector is?

A. It's kind of like a quick disconnect, but when you put it together, it actually locks. It locks in place, and there is an o-ring in the mechanism

where a better seal and a tight seal, a secure seal is made between the instrument and the tubing for the simulator. And it actually locks in place. In order to disconnect it, you have to push a button in order to disconnect it. So it can't come apart on its own.

Q. What is the exhaust valve or purge valve on the Intoxilyzer 8000?

A. It is a check valve that is located after the sample chamber in the -- if you're looking at the plumbing diagram, it's after the sample chamber, so it's after any sample is analyzed. And it directs the vapor out of the instrument in a certain way depending on what type of sample is being analyzed.

Q. And you were -- I'm sorry, you may have already answered this -- you were told that a hole was drilled in this exhaust valve, correct?

A. Yes, that that's what was done at that point in time.

Q. And you've heard testimony that it was determined that the hole was drilled to compensate for air leaks, correct?

A. Yes. That was my understanding because of low simulator results, not low breath test results.

Q. Okay. Do you agree that the hole was needed to compensate for air leaks?

A. Absolutely not.

Q. Why?

A. Well, based on the information -- not the information -- based on what was done to the instrument, it's my opinion that the connectors are actually what fixed the problem, not the hole. That's based on also the testing of the instrument that I've done myself.

It was the connectors securing that connection so that the air, the vapor going into the instrument wasn't diluted upon entering the instrument. As Mr. Workman said, it had to be on the intake section where it was getting additional air in.

So where the connector connected the tubing from the simulator to go into the instrument, there was a leak there. It wasn't connected properly. It wasn't sealed, so it was drawing extra air in, diluting the sample before it was analyzed, lowering the results on the instrument -- not that the instrument's broken.

It's analyzing what was put in it, but what was put in it, was not what it was purported to be. And then that sample exits out through the -- well, the valve -- the exhaust valve would be down and would be recirculated back to the simulator if we're using a

simulator.

If you're doing a breath test, which they did during that point in time at testing, they ran samples. Not only were they -- they were getting low simulator sample results. They were getting perfectly acceptable breath results when they blew their breath into the simulator that was connected to the breath tube. That's how you would deliver a known sample in through the breath tube.

So we know putting we're putting a .08 in. They've got the correct answer there, which tells you exactly what Mr. Workman had said, that it was being diluted upon entry where the simulator connected to the instrument.

What Mr. Malhiot didn't testify to is they actually did breath tests during this time on their troubleshooting. And the simulator was used to deliver a .08 into the breath tube, so we know what we're putting in there, so we know what the answer should be from the instrument. They were getting the correct answer out when they ran it in breath test mode, so it had to be not the instrument, but just the simulator.

MR. GABRIEL: Judge, I'm going to object to this testimony and move to strike. Ms. Barfield's

testified previously she wasn't present and she had some brief telephone conversations. She seems to be testifying about everything that was happening. I don't know what foundation she has to be able to even give that type of testimony.

THE COURT: I'm not going to strike it, but you're certainly welcome to go into that on cross.

MR. GABRIEL: Thank you, sir.

BY MS. JOHNSON:

Q. Are you aware of other states that use the Intoxilyzer 8000?

A. Yes.

Q. Do all other states use an Intoxilyzer 8000 with this hole drilled in the exhaust valve?

A. No.

Q. So if states -- or if other states are using the Intoxilyzer without the hole and theirs work, then why is the hole needed?

A. The hole isn't needed.

Q. Have you ever asked the manufacturer why Florida has a hole and other states do not?

A. Yes.

MR. GABRIEL: Objection, hearsay, Judge. I'd love to have the manufacturer here.

THE COURT: Well, she's only testified that

she's asked, so that's not actually hearsay. The answer would be hearsay.

MR. GABRIEL: Okay.

MS. JOHNSON: One second, Judge.

(Sotte voce discussion.)

BY MS. JOHNSON:

Q. What's your understanding of why all Florida instruments have a hole in the exhaust valve?

MR. GABRIEL: Objection, speculation. She's not given a basis of where that's coming from. That's all I'd like to know.

THE COURT: It's either based on hearsay, which is not acceptable, or speculative, which is not acceptable. Unless she has some reason that would be admissible to know the answer to the question, I'm going to sustain the objection.

BY MS. JOHNSON:

Q. Have you done evaluations of the Intoxilyzer 8000 with the hole in it?

A. Yes.

Q. And what are the results of the evaluations you conducted?

MR. GABRIEL: Judge, I'm going to object. I don't know that that's ever been anything that's been furnished in discovery. Is that something

that was listed?

MS. JOHNSON: Yes. It's already been admitted as 29 through 34.

MR. GABRIEL: Which are you talking about? Maybe I misunderstood and I apologize. Oh, okay. I'll withdraw the objection and will phrase another one as soon as she gets done with the answer.

THE WITNESS: What was the question?

BY MS. JOHNSON:

Q. Have you performed evaluations on the Intoxilyzer 8000 with the hole in the exhaust valve?

A. Yes.

Q. How many times have you performed evaluations?

A. I've done seven evaluations in accordance with Chapter 11D-8 Florida Administrative Code, Form 34, Instrument Evaluation Procedures.

Q. And as a result of those evaluations, did you find that the Intoxilyzer 8000 with the hole in it was producing accurate and reliable results?

A. The instrument was producing accurate and reliable results as specified on -- the requirements as specified on Form 34. It met the requirements of Form 34 is actually what I'm trying to say, the

requirements of rule.

MS. JOHNSON: One second, Judge.

(Sotte voce discussion.)

BY MS. JOHNSON:

Q. Drawing your attention to the issue with the flow sensor, can you explain the importance of flow in a subject breath sample?

A. Flow will trigger the tone in the instrument to tell the operator the instrument will be analyzing samples presented to it.

Q. And what is the R-value?

A. That is the electrical response or the resting state value for the flow sensor or pressure transducer. It's an electrical response, the resting value of that device, and it's represented as a numerical value.

Q. Does FDLE evaluate the flow sensor or R-value as part of their quality control measures?

A. Yes.

Q. How?

A. We check what the R-value is and record it on our instrument processing sheet.

Q. How is that done?

A. You go into Menu Level 3, which is the department inspector menu level, and scroll to

diagnostic monitors and then scroll to flow sensor. It's a letter designation. And then it will tell you where it is there.

Q. And how often is that done?

A. Any time the instrument comes to our laboratory for quality control check or department inspection.

Q. And how long have the department inspectors been assessing the flow sensor?

A. Since 2011, we were recording it on a spreadsheet formally. Part of that year, I was not tying it to the actual instrument serial number because I was trying to collect some data to further determine its significance and/or importance, if it even had importance as far as breath test results.

We then created an instrument processing sheet in the beginning of 2012 where it's actually recorded. Prior to that, I was having inspectors back in 2007 for about two weeks record it on a spreadsheet or on the field notes.

That was not conducive to what I was wanting. I was not getting the information I wanted in the format that I wanted, and it was also determined that the R-value had nothing to do with of the ability to provide breath samples into the instrument, so I quit

having them do that extra work until we could figure out a different way to assess the instrument.

Q. And how do you assess the instrument with regards to the flow sensor?

A. Well, with the flow sensor, we check the flow sensor with a flow meter and a compressor. We put a known flow rate through the instrument and make sure that it's producing the appropriate flow rate response. And if it's not, then we calibrate the flow sensor in accordance with manufacturer specifications.

Q. And why wasn't that being done before 2011?

A. Well, since before 2007, probably the beginning of 2006, mid 2006, I had been -- I have been working with the manufacturer to find the -- to figure out the best way to check the flow sensor or check the volume measurements.

They advised me in 2007 that I should purchase volumetric syringes, which are these huge contraptions that cost about $300 a piece that I can deliver a known volume into. That did not work because the Intoxilyzer 8000 does not measure volume. It calculates volume based on flow and time of sample delivery. So depending on how you depressed the plunger on this huge syringe, you can affect the volume calculation. That's not the right way to check

it.

So we continued working on a procedure with the manufacturer and not getting much information there for a while, so it took a long time and now have developed a procedure that has quality control developed into it. And the manufacturer has actually come to our laboratory to observe our procedure, and to my knowledge, is implementing our procedure because of its quality soundness.

Q. Prior to the beginning of 2011, were the department inspectors all working out of the Tallahassee lab?

A. Yes.

Q. Were they actually assigned to work in the lab every day?

A. No. They actually would do their inspection -- there was no quality checks like what we've been talking about before. There was no quality check process or procedures. The inspectors would go to the agency and do a department inspection, which we still do now, in the field. So everything was done out in the field, not in a laboratory or a controlled environment.

Q. Would it have been difficult to do flow calibration out in the field?

A. Definitely, because you have to carry a compressor first of all, plus all your simulators, plus all your standards, plus you'd have to carry a compressor, plus the flow meter really isn't designed to be moving around too much, like traveling in cars and stuff. You really want to keep it on a laboratory countertop.

Q. So does that explain when you -- when did you centralize Alcohol Testing Program operations at the Tallahassee lab?

A. Towards the end of 2010 -- no, 2009 -- yeah, towards the end of 2009 is when we started that process, yeah.

Q. So about the time you started performing flow calibrations and keeping records of that, was it at that time because now everyone was centered in the Tallahassee lab?

A. Well, once everyone actually made it to the Tallahassee lab, it was probably the beginning of 2010. We're still -- we were still trying to get the information from the manufacturer on the proper way to check or verify the flow sensor calibration.

We had to develop and validate the procedure that we were going to use, and so that occurred, and we were doing it towards the end of 2010. But we

mainly really started it at the beginning of 2011, fresh with the New Year, and have been documenting it since.

Q. What's the importance of flow sensor calibrations in regard to breath test results?

A. None. Other than the ability to get samples in the instrument, the flow sensor has nothing to do with calculation of breath alcohol test results. What I mean by that is if your flow sensor does not work, you will not get the tone, the instrument will not see that a sample is going through it, and there will not be an alcohol test result produced.

MS. JOHNSON: One second, Judge.

(Sotte voce discussion.)

MS. JOHNSON: Judge, I don't have anything further at this time.

MR. GABRIEL: Judge, could I take a break for a couple of minutes and speak to my expert, and may I also inquire of the Court of the hours it wishes to go?

THE COURT: Well, unless you're getting ready to wrap everything up in 15 minutes, we're going to go ahead and probably conclude it. I assume not?

MR. GABRIEL: No, sir, unfortunately, and I

apologize.

THE COURT: That's all right. We'll go ahead and end this now, and you can -- we'll resume in the morning with your cross. Does that work for everybody?

MR. GABRIEL: Sure.

(The hearing is recessed for the day.)

(Volume II ends.)

REPORTER'S CERTIFICATE

STATE OF FLORIDA
COUNTY OF LEON

I, Tracy A. Lefebvre, Freelance Court Reporter, and notary public for the State of Florida at Large, do hereby certify that I was authorized to and did stenographically report the foregoing proceedings; and that the transcript is a true record of the testimony given by the witnesses and the proceedings as heard.

I further certify that I am not a relative, employee, attorney, or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorney or counsel connected with the action, nor am I financially interested in this action.

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Court Reporter