

1 STATE OF ILLINOIS)
) SS:
2 COUNTY OF DU PAGE)

3 IN THE CIRCUIT COURT OF DU PAGE COUNTY
4 FOR THE EIGHTEENTH JUDICIAL CIRCUIT OF ILLINOIS

5 FOR THE PEOPLE OF THE)
6 STATE OF ILLINOIS,) ORIGINAL
7 Plaintiff,)
8 vs.) No. 04 DT 2848
9 KELLY CRAWFORD,)
10 Defendant.)

11 PARTIAL REPORT OF PROCEEDINGS had and testimony taken
12 at the hearing of the above-entitled cause, before the
13 Honorable KENNETH TORLUEMKE, recorded on the DuPage County
14 Computer Based Digital Recording System, DuPage County,
15 Illinois, transcribed by Dalia Ambriz, Certified Shorthand
16 Reporter, commencing on Wednesday, the 12th day of
17 October, A.D. 2005.

18 PRESENT:

19 MR. JOSEPH E. BIRKETT, State's Attorney of
20 DuPage County, by
21 MR. BROOKS LOCKE, Assistant State's Attorney,
22 appeared on behalf of the People of the
23 State of Illinois.
24 MR. DONALD J. RAMSELL,
appeared on behalf of Defendants.

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LICENSE NO. 084-004530

1 ALSO PRESENT:

2 MS. DEBORAH SIMPSON, Illinois State Police,
3 appeared as a Non-Party.

4 MR. KHANG TRINH, Assistant Attorney General,
5 appeared as a Non-Party, Illinois State Police.

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1 * * * * * * *
2 THE COURT: Are you ready to call your witness?

3 MS. SIMPSON: At this time, your Honor, the Illinois
4 State Police calls John Evans.

5 THE CLERK: Would you raise your right hand, please?

6 (The oath was thereupon duly
7 administered to the witness by the
8 Clerk.)

9 THE COURT: Good afternoon.

10 THE WITNESS: Good afternoon.

11 THE COURT: You may proceed then, Ms. Simpson.

12 MS. SIMPSON: Thank you.

13 JOHN EVANS,
14 called as a witness by Illinois State Police herein,
15 having been first duly sworn, was examined and testified
16 as follows:

17 DIRECT EXAMINATION

18 By: MS. SIMPSON

19 Q. Would you state your name for the record,
20 please and spell your name for the record.

21 A. John Evans. J-O-H-N. E-V-A-N-S.

22 Q. What is your occupation?

23 A. I'm the technical director with Intoximeters
24 Incorporated in St. Louis, Missouri.

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1 Q. And how long have you been so employed?

2 A. I've been with Intoximeters for eight years.

3 Q. What do your responsibilities include?

4 A. They include management of the technical
5 services department. Type approval, projects, technical
6 liaison with our engineering subsidiary company, sister
7 company called Architect. And general technical issues
8 within the company on its instrumentation existing and
9 development instrumentation.

10 Q. Are you familiar with the various instruments
11 that your company produces?

12 A. Yes, I am.

13 Q. And what education did you have or do you have
14 to support your background with what you're doing with
15 breath testing devices?

16 A. I have a Bachelor's Degree in Electronics from
17 a university in Wales where I'm from. I have had,
18 subsequently, since 1982, been working in breath alcohol
19 instrumentation in various roles ranging from engineering
20 management.

21 I attended the Boogenstein School in 1996 for expert
22 witnesses. I've fulfilled roles as expert witnesses in
23 Britain. And I'm a member of the North American, the NIST
24 Group, which is working on the I-O-M-L, which is an

1 international requirement for evidential breath alcohol
2 analyzers, and I continue to work within this role.

3 Q. For the record what is NIST?

4 A. NIST is the National Institute of Science and
5 Technology. It sets the standards -- it's the national
6 standards, it sets the standards for all American U.S.
7 industries. And it's where most references are kept where
8 scientists and engineers would refer, for instance, the
9 standard meter or cubic foot. You would go to references
10 from NIST.

11 Q. And that's N-I-S-T?

12 A. N-I-S-T capitalized.

13 Q. Did you prepare a curriculum vitae with your
14 experience?

15 A. Yes, I did.

16 MS. SIMPSON: Your Honor, I'd mark this Exhibit 1.
17 May I approach the witness?

18 THE COURT: Yes, ma'am, you may.

19 MS. SIMPSON: A copy of this has already been
20 tendered to Mr. Ramsell.

21 THE COURT: Thank you.

22 BY MS. SIMPSON:

23 Q. Do you recognize State's Exhibit No. 1?

24 A. Yes.

1 Q. What do you recognize that to be?

2 A. It's my resume or CV. It's my professional
3 experience.

4 Q. And is it current?

5 A. It's current.

6 MS. SIMPSON: Do you have any objections?

7 MR. RAMSELL: I'll stipulate the witness would
8 testify identical to what's on this piece of paper.

9 THE COURT: Well, we're assuming we'll do that again.
10 We agree that he's an expert in the Intox EC/IR? I mean,
11 that's really what he's here to talk about I hope, right?

12 MS. SIMPSON: Well, I'm going to go through some
13 other questioning. I just wanted to get the background,
14 like we did with Ms. McMurray.

15 MR. RAMSELL: I'll stipulate to the admission of the
16 exhibit what he has testified to.

17 THE COURT: All right. Subject to cross then. All
18 right. The exhibit will be admitted. Is this my copy or
19 for the Court?

20 MS. SIMPSON: That's the Court's copy, Judge.

21 THE COURT: Court's copy.

22 MS. SIMPSON: Your copy I mean.

23 THE COURT: Thank you. Go ahead Ms. Simpson.

24 MS. SIMPSON: Thank you.

1 BY MS. SIMPSON:

2 Q. You've indicated that one of your
3 responsibilities is to work with agencies that are
4 interested in purchasing your instrumentation; is that
5 correct?

6 A. Correct.

7 Q. With respect to that job or that segment of
8 your job, what do you do specifically?

9 A. Well, before the state will buy our
10 instrumentation, typically they'll go through an approval
11 process whereby they'll ask the different manufacturers to
12 submit their instrumentation soon to be prepared for their
13 breath test sequence, breath test procedures. And then
14 over a period typically of months, sometimes up to a year
15 or even longer, they will want to test the instrument for
16 accuracy precision, specificity to a whole range of
17 different requirements that they would have defined. I
18 would act as a liaison. I will act as defining the
19 software requirements for the system.

20 My department will typically test the instrument
21 prior to being submitted for the approval. And if there
22 are any further technical support required, I will
23 typically meet with the forensic scientist, with the
24 police officers responsible, and walk them through that.

1 I do that both here in the states and I do
2 internationally, as well.

3 Q. As far as your experience with the instruments,
4 do you know how to fix them if something is wrong with
5 them?

6 A. I'm familiar with most if not all the repairs
7 required with most instruments that I'm involved in. I
8 manage the maintenance schools that Intoximeters prepares
9 and delivers to our customers, and they range the whole
10 range of our products from small handheld screen devices
11 through to the evidential devices, like the EC/IR I; an
12 indeed mandate. I start off my election to people from
13 LAPD and from the U.S. Marines on the EC/IR I. The end of
14 November, I'm training police on the EC/IR II. This is
15 typical.

16 Q. And as far as the training, what does that
17 training involve?

18 A. Typically training will start with the theory
19 of the design of the instrumentation, the sense, the
20 technology used, the structure of the device, the
21 principal of design, the features. Then the
22 functionality; how the keyboard operates and what
23 functions the keyboard institute and carry out. After
24 establishing the basic design principles, understanding of

1 technology, we then go onto operation of the device so
2 that people understand fully, it's operation. Then onto
3 calibration of the individual sensors within the
4 instrument. And then we go into calibration procedures
5 because instrumentation sensors require calibration or
6 calibration check-in. And then the final part, after
7 building all the blocks of understanding and familiarity,
8 would go into repair requirements and then calibration to
9 return the instruments back to operational use.

10 Q. And are you the individual that trains on all
11 of these areas, or do you bring in other people from your
12 department?

13 A. The department I'm responsible receives
14 internally it's called a tech room, but it's a technical
15 services department. And I have a manager and seven
16 technicians in that department. And depending upon the
17 instrumentation and what we're delivering, my manager will
18 take on some parts, the presentation, and some of my
19 technicians would come. But I would typically overview
20 and manage and define the agenda and typically would sit
21 in, not all of it, but most of it.

22 Q. And you personally are familiar with all the
23 aspects that are involved; is that correct?

24 A. Yes.

1 Q. When a state or a business indicates that they
2 are interested in possibly purchasing one of your
3 instruments, they want to check it out first, what, if
4 anything, does your department do in that respect?

5 A. Well, when they indicate that they want to
6 evaluate our product, we will typically sit down and we
7 will get a letter or a document from the state which lays
8 out its requirements. It will define a series of
9 requirements: Hardware requirements, operational
10 requirements, and a test sequence. And also define it
11 sometimes a test methodology; that is, they may undertake
12 that they want to test the instrument with 20 consecutive
13 ethanol vapor standards at a .0, .100, and then a .200,
14 and there will be looking for accuracy repeatability and
15 standard deviation of those. Other states will not
16 require that because they'll accept the Federal DOT
17 approval device because the EC/IR and most all our
18 instruments are what we call DOT approved. They're only
19 conforming products list. They may just simply say we
20 accept that; now what we want to do is we want to learn
21 features of the operation. For instance, we would want a
22 single-test sequence with one accuracy check. We may want
23 a two-test sequence with no accuracy check, and maybe a
24 weekly accuracy check. So we will structure the software

1 and the hardware to comply to that requirement and then
2 submit it for initial evaluation and typically you'll go
3 through several iterations; meeting, modifying, adjusting
4 your software and maybe hardware to meet the final
5 requirements of that state.

6 And then at the end of that process and, again,
7 they're the manufacturers would be going through exactly
8 the same experience. And then at the end of it all, the
9 forensic scientists will produce reports of whether it's
10 accurate enough, precision, repeatability, specificity,
11 and then the police will say they'll have their preference
12 on it. So it will go like that. And at the end of it,
13 the authorities responsible will make the final decision.
14 Either I've done my job well, and the salesman done the
15 job well, or somebody else's done better. The final
16 decision is in the hands of those authorities, of course.

17 Q. When instruments are sent out on the basis of,
18 you know, we're interested in your particular instrument
19 but we're also checking out others, how much information
20 do you give the agency with respect to technical manuals,
21 supervisory manuals, information on the instrument itself?

22 A. We typically will give them what they request,
23 and it varies widely. In an initial evaluation, most
24 authorities are simply for a description of the product

1 and that description typically can be found on our
2 website, and in our sales sheet, and an operating manual.
3 Depending on the technical requirements may require
4 schematics; they may require further technical
5 information, definitions of the infrared spectra that we
6 use on the IR side. More information say on the fuel
7 cell, more definitions on meth alcohol detection, test
8 methodology. But typically the whole technical
9 information is normally transferred when the state has
10 decided to purchase our product, and the next step,
11 typically, is that they undergo maintenance school within
12 Irtoximeters in which we go through all those stages of
13 the theory and the operation and the features.

14 And in that, as part of that training school, we
15 typically give them a three-ring binder, which has got
16 many levels of information in there typically always an
17 operator manual. Sometimes the supervisory manual. The
18 schematics would typically in there. And often will be
19 calibration procedures and basic repair procedures of the
20 more typical repairs that they might meet in the field.

21 Q. Prior to someone attending the maintenance
22 school, is there any information that they receive so that
23 they have a working knowledge of what they're getting into
24 before they show up?

1 A. Yes, typically. As I said, I will quite often,
2 as part of the early part of the evaluation, I will give a
3 presentation in front of the forensic scientist and the
4 police officers concerned of the technology. And it's not
5 dissimilar to what I would use as part of the overview or
6 the product, the beginning of the maintenance school. It
7 would give you an overview explaining the fuel cell and
8 even explaining how we use the infrared. I then, again,
9 I'm talking specifically on EC/IR I here. If I was
10 talking about something like an Alco-Sensor IV, a handheld
11 screen device, I would talk purely about the fuel cell,
12 the integration method technology in there, the specific
13 design that we utilize of the fuel cell, and its
14 application, it's sampling system.

15 But it would be an overview. Then, if specific
16 questions were raised, I'd either forward technical
17 documents to complete their understanding, or they might
18 even come and visit us, and I would take them through our
19 manufacturing process, into our tech room, and sit down
20 and do further presentations and discussions of the
21 factory.

22 Q. How many different breath test instruments are
23 you familiar with?

24 A. I'll list them, if I miss one or two.

1 I'm familiar with EC/IR I, the EC/IR II, which is
2 the next production of EC/IR I. The Alco Monitor CC, a
3 desktop evidential device, primarily used in the DOT
4 omnibus industrial sector. The Alco-Sensor IV, handheld
5 screen instrument, that has several different versions,
6 several of which are evidential, typically used in Canada
7 and California. There's the Alco-Sensor III series of
8 instruments, and there are several different production
9 formats. And the FST, which is one of the latest handheld
10 instruments.

11 Q. And are each of these models currently in
12 production or use somewhere today?

13 A. All are in use, not all are in production.
14 EC/IR I has just, literally, finished its final production
15 run earlier this year. So the EC/IR II is now, at least,
16 successor to that instrument.

17 Q. The instrument, the EC/IR I, was that tested
18 and approved by the Department of Transportation?

19 A. Yes, it's on the conforming products list, yes.

20 Q. Can you explain to us what the EC/IR is?

21 A. It's a desktop evidential instrument. The EC
22 stands for electric chemical. The IR stands for infrared,
23 which is a two unelectrical sensors in the system.

24 The electrical chemical device or the fuel cell

1 device, is the primary sensor in the system. That is the
2 sensor that generates the result used and displayed and
3 printed out and used in evidence. The infrared device is
4 used to monitor the profile of the alcohol as it comes
5 from the subject into the instrument to identify if
6 there's a presence of meth alcohol, which may cause a
7 wrong reading. There are other sensors in the device when
8 there's a flow censoring device, and there's also a
9 biometric pressure sensoring device.

10 The flow sensor is used to monitor the flow rate at
11 which the subject blows into the instrument to ensure that
12 we have a steady, continuance, acceptable sample. And
13 that sensor, with the signal from the infrared sensor, the
14 two sensors that decide that there's an acceptable sample
15 provided by the subject, when that determination is being
16 made, the fuel cell activates and takes a sample all that
17 dynamic breath sample going through the instrument.

18 The instrument has a display, a printer, a keyboard,
19 and depending on what version hardware-wise, it may or may
20 not have an integral dry gas standard tank.

21 The display and keyboard are used by the operator
22 for the displays used to prompt the operator to enter in
23 data in the subject test, operator's name, subject's name.
24 It's an equivalent keyboard, standard PC keyboard

1 everybody is familiar with. So the display typically will
2 ask in question, expect a response, and go through the
3 sequence. When the actual subject test sequence is
4 started, it's automated. There's no more keyboard entry
5 required other than if the operator wants to abort the
6 test, he can press the Escape key to abort the test. Or
7 at the point where the instrument requests a breath
8 sample, the option of pressing R to indicate refusal by
9 the subject is there for the operator.

10 But during the subject-test sequence, the display
11 will give messages to indicate to the operator, primarily,
12 what stage the instrument is at in its test cycle. You'll
13 see purge, then you'll blank, and then you'll see a
14 additional reading for an ambient blank sample reading
15 zero. And then you'll see messages then when the
16 instrument is ready to accept a sample, and the typical
17 message, couple of messages please blow.

18 Q. Starting -- the first message you indicated was
19 purge. Where is that in the program sequence, and what is
20 the significance of it?

21 A. If I talk about the Illinois sequence, okay,
22 maybe this will help.

23 The beginning of the test cycle, after the data's
24 been entered, the instrument will purge itself, it will

1 draw ambient air through the breath tube.

2 Q. Where does it draw the air from?

3 A. It draws from the ambient room atmosphere air
4 around the instrument.

5 Q. So that would include if the person who's
6 taking the test is sitting close to it, it will include
7 air around him or her?

8 A. It could. It could. In small enclosed rooms
9 with poor ventilation, we have experienced issues where
10 people with very high breath alcohol have been left in
11 there for several, tens of minutes, and while this
12 preparation is going on, and more than one person in there
13 with breath alcohol, you get an ambient air build-up of
14 ethanol. And the threshold for accepting an ambient purge
15 is very low. So that any contamination would, typically,
16 could cause the system to say there's alcohol present.

17 Now the sequence is such that it will then purge
18 again and try again. It'll try a total of three times.
19 If at the end of the three-purge blank cycles, it has not
20 seen an acceptable ambient sample of zero, it will abort
21 the test and terminate the test with a print out ambient
22 air fail is typical. They vary but typically ambient
23 fail.

24 Q. So if the instrument indicates ambient air

1 fail, does that necessarily indicate that there's a
2 problem with the instrument itself?

3 A. No, it typically would indicate that there is
4 contamination in the air. They could, in some
5 circumstances, for instance, if a previous subject had
6 vomited and it got into the breath hose, the liquid could
7 retain alcohol and that could be drawn in by the air into
8 the system. But it's basically the instrument doing what
9 it's designed to do to ensure that there is absolutely no
10 alcohol sample left in the system prior to first the air
11 blank because that's the first purge cycle is the air
12 blank, if that's successful, it will purge itself again.
13 And then it'll come up and request the subject sample in
14 the base of Illinois.

15 Q. And do you know if the software provides that
16 if there's more than one test for the ambient air -- you
17 indicated it can do up to three times?

18 A. Up to three trials.

19 Q. Does it show each one of those tests or does it
20 just print it?

21 A. It shows just prints ambient fail. No, we
22 don't. We could but we don't. It was never requested.
23 It was never specified by the customers.

24 Q. How did you make a determination as to what to

1 include in the software for the State of Illinois?

2 A. We had a written requirement, and we also knew
3 from previous instrumentation, that if it had been used in
4 Illinois, what their basic breath test sequence is.

5 Q. Could you explain what the requirements are in
6 the State of Illinois, please.

7 A. Basically, it's basic data entry of the
8 subject's name, operator's name. I believe there's date
9 of birth and some other data. And then the instrument
10 goes into a purge blank cycle, air blank, to determine
11 there's ambient, zero ambient alcohol in the system. Then
12 a single breath test sample then prints out.

13 Q. For the air blank to start, is there a key or a
14 sequence that a code that the operator must type in?

15 A. The operator must enter all the data. And then
16 at the end of the data entry, he's asked whether he wants
17 to press the Enter key to continue the test that is going
18 to the automated part of the test, which is where the air
19 is purged through the system, or whether he wants to go
20 back and verify the data he has entered. Maybe the
21 subject has given a false name, or has changed their mind,
22 and maybe he suspects the date, or he wants just to check
23 it. So he can verify the data entered and then act the
24 prompt on the display. He'll either hit the Spacebar to

1 continue the automatic part of the sample system, the
2 sampling system, or he'll hit the Enter bar, as I said, to
3 verify. Once he's hit the Spacebar, as I said earlier,
4 there's only two key strokes can terminate from the
5 operator that can terminate the sampling. One is hitting
6 the Escape button to abort the test, and it will print out
7 operation to abort. Or the other one is called pressing
8 the R button when it displays -- when the instrument is
9 requesting the subject to blow into it. And that
10 indicates there has been a refusal by the subject. That's
11 the operator's means of entering and there's been a
12 refusal.

13 Q. So that the instrument asks for the sample or
14 for the letter R to say he's refusing?

15 A. Simply that, yes.

16 Q. Other than that, is there anything that the
17 operator has to do in order to get that instrument to
18 work?

19 A. No, no. We train people to advise -- to
20 instruct the subject to blow steadily into the instrument,
21 take a deep breath and blow steadily into the instrument.
22 Don't stop their breath at any time until the operator
23 tells them to stop blowing and that's the only either
24 operator participation.

1 Q. Is there anything in the instrument that puts a
2 limitation on the number of times a subject can attempt to
3 blow in before it's considered refusal?

4 A. The sequence in Illinois allows the subject to
5 attempt to blow into the instrument three times. If they
6 don't have it -- supply acceptable sample of breath, the
7 third time the instrument will abort the test and print
8 out a message indicating that there's insufficient sample.
9 They also have a three-minute window in which to blow into
10 the instrument time from the first appearance of the
11 message please blow to the instrument going into a no
12 sample provided message.

13 Q. Would that be no sample provided for three
14 tries or no sample provided for the first try, and he's
15 got three minutes to blow again?

16 A. No, these three minutes to supply samples, any
17 successful samples in total.

18 MS. SIMPSON: Your Honor, may I approach the witness?

19 THE COURT: Yes, ma'am, you may.

20 MS. SIMPSON: This is what I've marked as Illinois
21 State Police Exhibit No. 2, giving a copy of it to
22 counsel.

23 BY MS. SIMPSON:

24 Q. Do you recognize Illinois State Police Exhibit

1 No. 2?

2 A. Yes, I do.

3 Q. What do you recognize that to be?

4 A. It's a sales literature leaflet from
5 Intoxicators for the Intox EC/IR. Sometimes the
6 Intoximeter EC/IR is called the Intox EC/IR.

7 Q. And is that the instrument that's currently in
8 use in the State of Illinois?

9 A. This is one version of that. This actually is
10 not a tank-top instrument. You notice that at the top of
11 the instrument does not have the door into which it enters
12 the gas tank. So this is an EC/IR, but it's not exactly
13 the same version used in Illinois.

14 Q. The hose that you're talking about, that the
15 individual blows into --

16 A. Yes.

17 Q. -- is that depicted in this photograph?

18 A. Yes, it's the black plastic tube to the left of
19 the instrument where they steel pivot and then an
20 electrical connector to blow it.

21 Q. Is there -- is that hose itself changed each
22 time somebody takes a test --

23 A. No.

24 Q. -- or is there only a portion of it?

1 A. No. If you look in this photograph, you'll see
2 is there's a clear plastic mouth piece at the end of the
3 breath hose. Every test should be carried out using a
4 brand new mouthpiece, which is disposable.

5 Q. With respect to the hose itself, how does the
6 air sample that's in there from a person blowing, how does
7 that get cleared out?

8 A. That's part of the purge blank cycles. It's
9 function is the purge is drawing air down that tube then
10 through the sampling system, an integral sampling system,
11 then out through the base of the instrument.

12 Q. And that way it goes through the instrument
13 itself?

14 A. It goes through the whole analytical system.
15 And this purge what we call a purge, there's a small fan
16 in the system towards the end of the system which is
17 electronically switched down at the correct times of the
18 sequence; it is microprocessed controlled. And that fan
19 operates to draw air through the system. And then after
20 it's finished that purge cycle, depending on where it is,
21 it will draw a sample into the fuel cell to determine
22 there's no contaminating sample left within the sampling
23 system.

24 Q. So it clears out after the test is completed,

1 as well?

2 A. Yes. Yes.

3 Q. After an individual starts to blow into the
4 instrument, where does the air go for the testing? What
5 sequence of events occurs after the air has gone through
6 the holes?

7 A. When a subject blows through the instrument,
8 first they blow through the mouthpiece. The mouthpiece is
9 an unreturned valve in it so this is to prevent the
10 subject trying to suck back to draw ambient air through
11 the back of the instrument into it.

12 They blow down through the mouthpiece down the
13 breath holes, typically this one is about 12 inches long,
14 and then it goes in through the metal connector, you see
15 it's the left of the photograph there. Immediately inside
16 there, is the infrared sample chamber and attached
17 directly to the sample chamber is the fuel cell sampling
18 system. And then at the end of the infrared system,
19 there's a manifold. Basically, it's a plastic conduit in
20 which the purge fan is mounted so the air comes through
21 mouthpiece, down the breath tube, in through the IR
22 sampling system, out the manifold, to the bottom of the
23 instrument, out to ambient air. Once the subject has
24 blown through there, the infrared sensor is measuring the

1 amount of alcohol in the system. He's looking at the
2 profile of the system.

3 Q. How does the infrared system measure the amount
4 of alcohol?

5 A. Well, alcohol and the infrared sensor we have
6 in there, alcohol or ethanol absorbs infrared light at a
7 certain wave length, and we use a wave length of 3.4 or 5
8 microns. What happens is that alcohol -- imagine the tube
9 with a source, infrared source at one end and a infrared
10 detector at the other end, and it only allows light at
11 this 3.45 to fall on the detector. So the subject blows
12 through it, the alcohol will absorb the energy from the
13 infrared so the sensor will see an increase or a decrease
14 in the amount of energy falling on it. We monitor that
15 energy falling on it to determine if a person is blowing
16 alcohol in and the profile of that. There is a very
17 characteristic profile when the subject blows into an
18 infrared system.

19 Q. With respect to the EC/IR, what specific
20 training is received by the operators?

21 A. The operators receive training, in the case of
22 Illinois, from the Illinois State Police. I cannot speak
23 to that training of the operators, I am not familiar with
24 that.

1 Q. Does your department train the people who train
2 the Illinois State Police officers?

3 A. We train the breath alcohol technicians.

4 Q. And when you train the breath alcohol
5 technicians, what areas or what responsibilities are they
6 able to carry out once they've completed their training?

7 A. They're able to carry out all the maintenance
8 that we teach them, including calibration, replacement of
9 faulty parts, certification. And the rules by which they
10 work are all cross-defined by the State of Illinois. They
11 include such things as, I believe, the 62 days in which to
12 certify the instrument, and they do basic fault finding,
13 and other maintenance requirements on the instrumentation.

14 Q. What is the difference between certification
15 and calibration?

16 A. Certification is typically verification of the
17 accuracy of the device; that is, you're testing the device
18 to see that it is accurate to when you use an independent
19 standard.

20 Calibration is where you're adjusting actual sensors
21 of that device so that they her accurate. So verification
22 sometimes certification, verification accuracy checks, are
23 typically words or phrases used for much the same process.

24 In the case of Illinois, my understanding is when

1 they call certification is when they take two ethanol
2 vapor standards and that can either be wet standard from a
3 wet simulator or a dry gas standard from a dry gas tank.
4 They take two of us, run them through the system, and they
5 must come back within a tolerance of plus or minus ten
6 percent.

7 They also run an air blank through the system and
8 that can either be blown by the breath alcohol technician
9 himself, or my understanding is they will also accept
10 ambient air being purged through the system, and if it
11 comes up with a zero, that's acceptable, as well.

12 Q. What do you mean by a wet simulator or
13 simulation?

14 A. There are two primary methods of introducing
15 standards, known ethanol standards into breath alcohol
16 instrumentation. One is called the wet simulator and
17 typically what it is it's a mixture of water with ethanol,
18 heated to a temperature of 34 degrees centigrade. The
19 proportion of ethanol in the water is such that at 34
20 degrees, and this is in accordance with Henry's law, the
21 vapor immediately above the surface of the solution is in
22 equilibrium with the proportion of ethanol in the water.
23 What it means is that when you blow air through that
24 system, the air that comes through the water, then through

1 the vapor and it's delivered into the instrument, is
2 equivalent to a known alcohol standard. And this is one
3 of the longest established methods of both calibrating and
4 checking calibration of instrumentation.

5 Q. That's been used with other breath testing
6 models?

7 A. It's almost the universal system. Now in the
8 latter days, in the last 10, 15 years, drawing gas
9 standards that is a mixture typically of ethanol and
10 nitrogen is being used increasingly to replace simulators.

11 Water-based simulators have some inherent issues;
12 they're temperature sensitive. There's one -- there's six
13 percent per degree centigrade variation in the ethanol
14 standard issued. That is, if you have a 100 solution and
15 it's at 34 degrees, it will give you 100. If it's at 35
16 degrees, it will give you a 106, six percent higher
17 reading. So temperature control is critical.

18 And flow rates are critical. Simulators are
19 designed typically for a maximum flow rate of seven, eight
20 liters per minute. I've talked to several simulator
21 manufacturers about this. And if you blow through the
22 system too fast, you can overwhelm the heater capacity,
23 you can actually cool down the system.

24 There's also depletion. Every time air is blown

1 through the system, ethanol is removed from that water so
2 that, in fact, you have pristine solution, unused solution
3 nominally at 100, and I use the term 100 as an example,
4 okay. After one sample, you would have reduced that. So
5 it would rereading typically a .995 maybe, not a 100.

6 And according to calculations I've seen by several
7 different sources, after about ten samples of say about
8 one-and-a-half liters and one-and-a-half liters is fairly
9 typical representation from the breath of a human blowing
10 through a simulator, you will see a reduction of that
11 simulator value of around two percent, 2.4 percent.

12 So those issues, coupled with condensation because
13 it's a hundred percent humidified at 34 degrees, if the
14 tube from the simulator to the instrument is too long, and
15 I have seen this in some cases when people should no
16 better by the way, what happens is the ambient air is
17 typically 20, forgive me for talking degree centigrade,
18 okay, it's typically the way that our manufacturers taught
19 them. Ambient temperature 20 degrees with 34-degree
20 centigrade vapor going through it, a tube say 6-to-12
21 inches, what will happen water will condense out of the
22 vapor. The water will then absorb and readmit ethanol.
23 So there are several issues that water-based simulators
24 are excellent simulators when used by people understand

1 them thoroughly and maintain them to their proper
2 operating procedures.

3 Those limitations have led to the more acceptance
4 now what we call a dry gas standards. The dry gas
5 standards are pretty immune to the temperature, ambient
6 temperature. They do not suffer from depletion. A
7 typical cylinder, which we have in the EC/IR instrument is
8 what we call it the 105 liter cylinder, will give about
9 300 gas samples. There is no depletion so over this full
10 300 samples, there's no depletion.

11 It also has a shelf life, an operational life of two
12 years whereas most waters standards even on the shelf,
13 typically have no more than one year shelf life. So there
14 are many advantages there.

15 There are other issues in dry gas. Dry gas is
16 pressure sensitive. That is the ambient pressure, as that
17 varies, the actual value of the ethanol gas released,
18 according to the gas laws varies, which is why I have to
19 say not only we but all manufacturers of evidential
20 devices which use dry gas, use environmental pressure
21 sensor internally which senses the atmospheric pressure.

22 Q. As far as the dry gas is concerned, you
23 indicated that it has a shelf life of two years?

24 A. Um-hmm.

1 Q. What do you mean by that?

2 A. Well, basically, the manufacturers of the gas
3 have tested the stability of batches of this gas over a
4 period of two years and they have documented proof, which
5 they're willing to show that supports their assertion that
6 the gas is good for two years. Having said that, we, at
7 Intoximeters every now and then, we'll have expired gases,
8 which is really used for leak testing, for instance. And
9 as I say on day one of your three, it's still reading the
10 same value. I couldn't speak to what it would be like in
11 five years time but typically. So it's there because
12 that's what the dry gas manufactures, and there are two
13 quality suppliers in North America. And that's the time
14 scale that they have indicated to us and to our customers.

15 Q. The instruments that the State of Illinois
16 uses, you indicated that they have this gas canister?

17 A. Um-hmm.

18 Q. Actually, in there there's a wafer to be built
19 into the system?

20 A. They have a mechanism, they have a regulator,
21 and a delivery gas solenoid built into the instrument, so
22 they can insert that dry gas cylinder in there. The
23 cylinder -- the instrument can operate with or without
24 that cylinder in there, by the way.

1 Q. What effect does the cylinder not being in the
2 instrument have, if any?

3 A. It has none on the breath test sequence because
4 in Illinois, an accuracy check or a sample of this dry gas
5 is not required for the Illinois breath test procedure.

6 Q. The Illinois breath test procedure requires an
7 air blank; is that correct?

8 A. An air blank, yes.

9 Q. And is that the situation that you described
10 earlier where it takes the ambient room temperature?

11 A. That's correct. Yes.

12 Q. That's what they use for the air blank?

13 A. That's right. Yes.

14 Q. Once the air blank has been taken and moving
15 onto the subject test, does the officer that's
16 administering the test have to do anything else to move
17 the instrument from taking the air blank to collecting a
18 subject sample?

19 A. Other than the person's spacebar at the end of
20 the data entry, no. And if he's being properly trained
21 and is observant in his procedures, he should then present
22 the breath tube with a clean mouth piece to the subject
23 when it requires the subject to blow into it.

24 Q. Do you know what types of problems with the

1 instrument would be considered breakdowns?

2 MR. RAMSELL: Objection; vague. By whom. It would
3 be considered by whom to be breakdowns. The judge, the
4 manufacture, Nancy Esom.

5 THE COURT: Ms. Simpson.

6 BY MS. SIMPSON:

7 Q. Let's start with the agency that makes the
8 instruments. What type of errors or things that are
9 displayed would the manufacture consider an actual
10 breakdown of the instrument?

11 MR. RAMSELL: I'm going to object; vague, unless
12 there's a definition for breakdown.

13 THE COURT: Well, no, it wouldn't be vague from his
14 standpoint. From the manufacturer's standpoint, it would
15 hardly be vague since he's the technical director. He's
16 trying to figure out how it's going to assist me with the
17 department's interpretation because it's not --

18 MS. SIMPSON: Well, Judge, we've been hearing about
19 Wisconsin.

20 THE COURT: Hold on. Hold on. I'm just saying to
21 help the witness, as well, because the witness is trying
22 to communicate to me as well is what he interprets a
23 malfunction or a breakdown, is he doing that in
24 conjunction with some knowledge of how that same

1 definition is being interpreted by the user. So they are
2 either in sync with their interpretation, you know, which
3 is helpful for me. I mean, I don't mind getting into it.
4 I need to get into it but Mr. Evans when he defines things
5 for me, which I believe is essential that he does, is he
6 doing that by his own company's definition or is that
7 after a review with the Secretary of State or the State
8 Police's same definitions? Do you understand me so far,
9 Mr. Evans.

10 THE WITNESS: I think I do, yes.

11 THE COURT: Can you help me out before we start
12 getting into those definitions?

13 THE WITNESS: Maybe I could tell the Court of
14 messages and errors that I know the instrument will detect
15 and flag through the display and will prevent a breath
16 test by the starting, hoping to be completed.

17 THE COURT: Well, I'd like to hear that first. Then
18 you can follow up, Ms. Simpson --

19 MS. SIMPSON: That's fine, Judge.

20 THE COURT: -- as we go along. Why don't you start
21 with that then, please.

22 MS. SIMPSON: And, I think, that's kind of what I was
23 asking, in a rather, I guess, inartful way.

24 THE COURT: Okay.

1 MS. SIMPSON: Is what things -- what breakdowns that
2 would cause the instrument to not be working.

3 THE COURT: So he's about to answer in a way you want
4 to elicit that from the witness anyway.

5 MS. SIMPSON: Right.

6 THE COURT: So why don't you do that for me then,
7 Mr. Evans. Thank you.

8 THE WITNESS: Okay. One of the more ones that are
9 very obvious is sometimes are to start the whole breath
10 test sequence, you have to press the Enter key. There are
11 four critical temperatures, heaters on the system, which
12 are temperature controlled. If any of those temperatures
13 are outside the limits set in the firm ware, the
14 instrument will come up with regulating temperature and
15 will prevent the operator from going any further. An
16 example of such a regulating temperature occurring would
17 be, for instance, in the breath hose, the black hose
18 there, that hose is heated to around 40 degrees
19 centigrade. It had in it a temperature sensor. That
20 temperature sensor is being monitored by the
21 microprocessor of the instrument. It's heated, by the
22 way, to drive off any condensation from the subject to
23 prevent a buildup of condensate -- water inside the system
24 which could absorb and all then release alcohol into the

1 system. If that heater is malfunctioned and the
2 temperature sensor has sensed it, it will come up
3 regulating temperature and not allow the test to progress
4 until the halt, and that is a fault condition, has been
5 corrected and rectified.

6 Q. Is this a fault that would need to be corrected
7 by repair work by either the officer administering the
8 test, the technician that can certify it for accuracy or
9 the manufacturer?

10 A. Certainly the manufacture can resolve it,
11 obviously. And I would say that the breath alcohol
12 technicians have been trained to recognize and be able to
13 identify which of the heaters are at fault. The simplest
14 one to rectify would be the breath tube because the breath
15 tube is a modular removable item. And, typically, a
16 breath technician -- a breath alcohol technician would go
17 and replace that and then check out the system.

18 I can't speak to whether that's done but that's my
19 understanding. Certainly a breath technician would know
20 to do it because there is a method of going in through
21 with all function keys and identifying which heater is out
22 of tolerance. That would not be known to an operator.

23 Q. If one of the heaters is outside of the scope
24 of tolerance, is that something that the instrument can

1 repair on its own --

2 A. No.

3 Q. -- or over time could be cleared up?

4 A. No, no. Typically and the most typical one is
5 where, again, I go to the breath tube, either the heater
6 elements or the temperature sensor element wires have been
7 broken by too much flexion by a subject typically. No,
8 we'd all like our TV's to fix themselves, wouldn't we, but
9 I'm afraid it's much the same.

10 And also internally there's one heater on the
11 infrared system sometimes we know will give issues, and we
12 typically when they come into our department, technical
13 support department, we will renew the heater what we call
14 heat sync to basically bring it back up to spec.

15 Q. Besides regulating temperature, are there any
16 other?

17 A. Another type of area you will see on there is
18 either sample solenoid error or set solenoid error. The
19 instruments, the fuel cell sampling system have two
20 solenoids as part of the operating system. The sampling
21 solenoid is just that. It's activated when a sample is
22 drawn into the fuel cell.

23 The other one is called a set solenoid and that
24 basically resets the sampling system after sample has been

1 taken and analyzed. If either of those solenoids fails to
2 operate at the correct time, there is an auto electronic
3 sensor, which is a position sensor, which will look for a
4 transition that in the sampling system's orientation.
5 That does not occur at the right time, depending if it's
6 the set solenoid or the sample solenoid part of the
7 sequence, it will display the related message indicating
8 to the operator that there's a problem.

9 Q. What do you mean by position sensor?

10 A. You know the sensor you have on your garage
11 door, which detects if there's a person there, so that it
12 stops the door coming down, well, basically, it's
13 miniature version of that. It's looking for the sample
14 system is a string-loaded plunger, which springs up when
15 the sample solenoid operates and where the arm comes up,
16 there's a little detector very much operating in virtually
17 the identical principles as your garage door sensor. And
18 it's looking for that to go from that being -- and the
19 sensors there and says, okay, there's nothing there so it
20 changes it's state, it's logic state. And then when the
21 set solenoid comes in, knocks it down, it says, oh, it's
22 back where it should be. It's fairly simple logic, and,
23 again, it's not rocket science. It's basic good solid
24 basic designing principles, I hope.

1 Q. If the sample solenoid or the set solenoid is
2 malfunctioning, is that something that the instrument can
3 fix on its own?

4 A. They can be intermittent. What happens is the
5 instrument can and does try several times with a set
6 solenoid and the set solenoid to set the system. And in
7 the case of designing the EC/IR I, the set solenoid may
8 fail to operate, but if you start another sample, it
9 immediately looks there and it kicks that set solenoid
10 several times again and sometimes that can go back into
11 position.

12 There's a -- on the solenoid there's a -- or an arm
13 in the solenoid down which moves, that's the traveling
14 path. The retainer, what we call a retainer, on some of
15 the older design instruments, had a rubberized compound
16 which outcasts and caused a stickiness on it and sometimes
17 that will cause that solenoid to stick. Invariably, it
18 would require replacement of a set solenoid retainer, but
19 I have seen an instrument do that very intermittently at
20 the beginning of the problem. But the set solenoid does
21 not operate correctly, the test cannot continue.

22 Q. Why not?

23 A. Because the system is not prepared to take the
24 sample so it's in a state of unreadiness to take the

1 sample and the microprocessors monitor that and will flag
2 it accordingly.

3 Q. If the set solenoid is not functioning then, it
4 won't accept the breath sample and it'll take itself out
5 of the --

6 A. Oh yes, it'll avoid the test sequence, yes.

7 MR. RAMSELL: Judge, I don't mean to interrupt but at
8 some point in the next few minutes is it possible to get a
9 break, a human break.

10 THE COURT: A human break?

11 MR. RAMSELL: I need to take some medication.

12 THE COURT: Sure. We'll do it right now. We'll do
13 it right now. We can take a break.

14 MR. RAMSELL: Whenever she wants to wrap up this line
15 of questioning.

16 MS. SIMPSON: That's fine, Judge.

17 THE COURT: I don't know if she's going to wrap up
18 any of this line of questioning.

19 MR. RAMSELL: The solenoid topic.

20 THE COURT: Before you take the break though, let me
21 ask you this. As you're going along, Mr. Evans, I'm
22 assuming now the malfunctions and such that you're so far
23 talking about, these types of malfunctions are not going
24 to allow a test.

1 THE WITNESS: Correct.

2 THE COURT: Correct. I mean, regardless of the
3 operator's attempts to override the machine, so far the
4 functions you're talking about if those occur in the
5 machine, will not allow a sample --

6 THE WITNESS: Correct.

7 THE COURT: -- to be obtained.

8 THE WITNESS: Absolutely.

9 THE COURT: And a printout, correct?

10 THE WITNESS: Correct.

11 THE COURT: How many of them are there all together,
12 without going through them, and then we're going to go
13 back. Can you guess, I mean, or is that too general?

14 THE WITNESS: About six or seven, less than ten I
15 would say.

16 THE COURT: So not that many.

17 THE WITNESS: Not too many.

18 THE COURT: Okay. Take a break.

19 MR. RAMSELL: Ten minutes?

20 THE COURT: Ten minutes, I guess.

21 You don't need to sit in the box.

22 (Whereupon a recess was taken, after
23 which the following proceedings were
24 had herein:)

1 THE COURT: All right. Back on the record. Hearing
2 is in progress, following the break. Then, Ms. Simpson,
3 are you ready to renew questioning of the witness,
4 Mr. Evans.

5 MS. SIMPSON: Yes, your Honor.

6 THE COURT: All right. You may proceed.

7 BY MS. SIMPSON:

8 DIRECT EXAMINATION (Cont'd)

9 By: MS. SIMPSON

10 Q. Okay. I believe we were talking about problems
11 with the sample solenoid and the set solenoid. The
12 problems that you've described are they something that
13 would take the instrument out of service until repair work
14 was done on it?

15 A. Correct. They would not allow the subject test
16 to be completed.

17 Q. And the replacement of those solenoid
18 components is that something that the technicians can do
19 or does that have to be done by the manufacturer?

20 A. The technician is being trained and capable of
21 doing that.

22 Q. Are those parts that are kept on a regular
23 basis, or is that something they'd have to order and bring
24 it in?

1 A. They hold some level of parts. Sometimes we'll
2 get an order to replace it and that will be the
3 responsibility of Springfield, David Hannabrie, and others
4 to hold that inventory.

5 Q. You've indicated there's approximately seven or
6 eight different. So far we've covered regulating
7 temperature and the set solenoid. What other problems are
8 there?

9 A. Set and sample solenoid basically one of the
10 same type of issues. Where the solenoid fails to move the
11 sampling system into correct position.

12 Another problem that might happen is a standard
13 connect error. This would happen with the internal gas
14 tank solenoid. There's a gas solenoid which delivers the
15 ethanol gas from the internal dry gas tank to the sampling
16 system. That doesn't operate correctly; it sticks. The
17 instrument flow sensor will detect that there's no flow in
18 the system, and you'll get a standard connect error.

19 Q. No flow in the system meaning no air coming in
20 or sampling?

21 A. No ethanol gas flowing from ethanol nitrogen
22 gas flowing from the gas tank. That error, because it's
23 part of the standard accuracy check sequence, would not
24 affect a subject sample. Because it's only used, that gas

1 solenoid is only used when gas is drawn into the system.
2 And that is not part of the subject test sequence, it's
3 part of the accuracy check or certification test that's
4 used in the dry gas.

5 Q. With respect to that particular error, would
6 the operator then be unable to certify the instrument as
7 working?

8 A. That could stop a certification test in which
9 case they would not be able to operate it.

10 Q. If the standard connect error is detected by
11 the instrument, will it still print out a test result?

12 A. No. You'll get a statement saying, I believe,
13 it's standard connect error.

14 Q. What other errors are there that you're aware
15 of?

16 A. You can get ambient failure, ambient error, and
17 that's that sequence we were talking about earlier, where
18 after the purge cycle, when the instrument what happens
19 actually is the air is purged through the sampling system
20 and then the fuel cell takes a sample into the cell sensor
21 to detect if it's any residual alcohol left in the system.
22 If there is any alcohol in the system, it will reject that
23 sample. Typically what you'll hear is the sample solenoid
24 operating. Then you'll hear it resetting, that's a set

1 solenoid, and you'll start purging again. It'll go through
2 three of those sequences trying to establish that there's
3 zero ethanol contamination in that sampling systems. If
4 after the third, if all three attempts fail, the
5 instrument will then take itself out of service and will
6 not allow that test sequence, whichever test sequence it
7 is, by the way, whether it's a subject test or an accuracy
8 check to continue.

9 Q. And so that is another test that there would
10 not be a result or a test sample from an individual?

11 A. You would see an ambient failure message on the
12 system that we know subject sample result. There, in
13 fact, would be no actual zero, zero, zero for the blank
14 result there either.

15 Q. What, if anything, would have to be done to the
16 instrument in order to correct an ambient failure or
17 ambient error?

18 A. Typically a technician, depending on the
19 source, okay, if the source is simply that the ambient air
20 has got ethanol contamination, typically that would be
21 from my subject sitting in a small poorly vented room
22 breathing his alcohol out into the air. If it's as simple
23 as that, just opening the door will rectify it, and I've
24 seen and spoken to officers who have had that. Again, not

1 just with the EC/IR, with other instrumentation.

2 Q. And when you say opening the door, you're
3 referring to the door in the room?

4 A. In the room, yes.

5 Q. As opposed to a door on the instrument?

6 A. Yeah. Just basically improving the
7 ventilation. Letting fresh air into the room where it's
8 chronic, and we've had several cases of that in my
9 experience. We've advise them to put vent axia fans in
10 the walls so you force clean air into the system all the
11 time and in order to change their procedures.

12 Once we advise people never to let the subject hold
13 the breath tube in the mouthpiece until the instrument is
14 calling for the sample to be delivered, we do know of
15 cases of potty trained, not necessarily in Illinois, but
16 just people allowing the subjects to pick it up, the
17 mouthpiece up, and to present the hose and just like that,
18 holding it to their lips, waiting to be told. It's bad
19 practice. It's bad operating procedure. And those are
20 the two -- those are the more obvious courses. There is,
21 however, contamination of the system can occur.

22 Q. And what part of the system could be
23 contaminated?

24 A. Typically, it would be the breath hose. There

1 will be some liquid, typically vomit trapped in there.
2 And then another option would be is that there is, in
3 fact, an error with the system. There is, in fact, a
4 problem with the sensor or with the application circuitry
5 associated with it and that's how it manifests itself.

6 Q. And in each of the two that you've just
7 described, contamination of the system or an error of the
8 system, are those also errors that will prevent --

9 A. Yes.

10 Q. -- or preclude a subject from being tested?

11 A. Until you get a successful air blank, you
12 cannot carry on until the rest of the test. So, no, you
13 cannot continue the test.

14 Q. Are those particular problems things that can
15 only be fixed by working on the instrument itself by the
16 lab or?

17 A. Well, typically, breath alcohol technician
18 would go there and look and question the operators and
19 find out potential sources of contamination. And if he's
20 satisfied that it's not poor ventilation or poor
21 procedure, he would go in and then inspect the system and
22 check it out to ensure there's no contamination. And
23 quite often will call in and talk to one of the
24 technicians or even myself or walk through what they've

1 done. And will say, okay, try this, try that. And if all
2 else fails, we'll say, well, sorry, you'll have to return
3 it to us and then we'll sit down and we'll analyze it on
4 the bench in the tech room.

5 Q. What is the purpose for having the blank check
6 done on the system before someone's breath is tested?

7 A. Well, it's a very common requirement. I think
8 it's almost universal for all breath test sequences. That
9 what you want to do is establish that there is no
10 contamination of that system from any previous ethanol
11 sample be it from a standard simulator or from a subject
12 that could possibly influence the result of the subject
13 sample that is being submitted by the subject.

14 Q. Are there any batteries that are used by these
15 instruments in order to work?

16 A. There is battery-backed memory on the system.
17 The instruments are designed to be switched on 24/7.
18 However, there are times when they're switched off and
19 that battery-backed memory is there to retain essential
20 calibration data and to back up the test of memory data.

21 Q. Now, you've testified with respect to your
22 knowledge of how the system -- the instruments work, are
23 you also familiar with the software that is involved in
24 this?

1 A. I'm familiar with its operation and with its
2 definition. I'm not qualified to write software. I'm not
3 a software engineer.

4 Q. When you say you know about -- you don't write
5 it but you do know what is involved in this software as
6 far as the State of Illinois is concerned?

7 A. That's right. I mean, for instance, when
8 you're developing a system, you have to define the
9 sequence, you have to define the data entry, such things
10 as the length of the fields. Should it be an alpha-only
11 field; a numeric-only field.

12 Q. What do you mean by alpha only?

13 A. Alpha, just letters.

14 Q. And numeric?

15 A. Numeric just literally digits. You know, if
16 it's a licensed number and it's only a number, you might
17 define so that don't accidentally put somebody's name in
18 there.

19 Then you would define the sequence of the subject
20 task. I would write, typically write out a step-by-step
21 operation of the instrument and then, for instance, some
22 people may ask for we want to run an accuracy check once a
23 week. I would define that. I would find out what day of
24 the week, what time of the day. I would define that and

1 then the software engineer would take this list of
2 requirements specification and would implement them into
3 the machine code of the instrument. Then what we would do
4 he would test it, and then what we do is when he is
5 satisfied that he's tested it, in fact, he typically would
6 have a test engineer working with him, when they're ready,
7 they would then send it to Intoximeters, we would install
8 it on one of our instruments, we have numerous instruments
9 in house, and we would go through our checklist as well
10 which would be a combination of going through the
11 specification. And then we would also go through
12 additional what we call characterization, where we go
13 through every function, every feature, and step through it
14 and do what if's. If I press yes, what's the next
15 display. If I press No, what's the next display. If I
16 emulate mouth alcohol, what does the printout say, what
17 does the display say. So you build up a whole
18 documentation on tests' confidence in the instrumentation.

19 Q. Is the software that is in the -- do you know
20 what type of software is in the Illinois State Police
21 instruments?

22 A. The version is 335 -- 3.35.31.

23 Q. And what, with respect to that, what
24 information does the State of Illinois require for their

1 testing records?

2 A. The data entry sequence?

3 Q. Yes.

4 A. Forgive me I might miss something here. It
5 will be the operator's name, subject's name. Typically
6 subject's date of birth. There could be a citation
7 number. And they could be an operator's ID. Those are
8 typical of the sort of entries that are required. But I
9 have to say I can't remember the exact sequence.

10 Q. And that's mainly you didn't write it for one
11 thing; is that correct?

12 A. That's correct yes.

13 Q. Do you know whether the Illinois State software
14 has the ability to -- there's limits of how much
15 information could be taken in; is that correct?

16 A. That's right. There's a limit of the test
17 memory of the instrument.

18 Q. And is that based on the number of tests or is
19 it based on the number of characters or do you know?

20 A. It's a combination. If you have a test, a data
21 entry in every field, it's filled up to its 19 or 20
22 character capacity, it will naturally take more space
23 where the operator's name is Joe Dunn and the subject's
24 name is Gill Todd. And so that way, if there's more data,

1 more information entered, it will limit, it will reduce
2 the total number of tasks that are held in memory.
3 Therefore, we say, when we talk about instruments, it can
4 save up to is pretty much the phrase we'll say. It'll
5 save up to 300 or 400 tests of memory. But in some states
6 where they might define -- in some states there are almost
7 12 data entries they want. They want the violation code,
8 they want the location where it happened, they want the
9 ethnicity, they want the male-female entry. So you have
10 up to 12 -- because you got that much more data, you have
11 correspondingly or proportionately less tests in memory
12 capable.

13 Q. As far as the State of Illinois is concerned,
14 do you know approximately how many tests?

15 A. Up to 400, approximately 400.

16 Q. Now, with respect to those 400 tests, is there
17 an indication ever given by the instrument that you're
18 coming close to the memory or how do you figure out?

19 A. The instrument will give you Memory 4 message.

20 Q. And is that when it's full or does it give it
21 to you ahead of time so you can make arrangements?

22 A. I can't remember. I can't remember.

23 Q. Do you know whether the Illinois software
24 that's in the instruments, has the capability of erasing

1 or writing over the oldest test and then putting --

2 A. Version 31 does not have that.

3 Q. So there's no ability by the Illinois machines
4 to just kick out the oldest test and keep on going; is
5 that correct?

6 A. We would call that first in, first out or FIFO,
7 which is a typical term used for that. No, we don't have
8 that on Version 31.

9 Q. With respect to the message that the memory is
10 full, what happens with the instrument?

11 A. When the memory is full, the tests are blocked,
12 it has to be cleared before it can go on, returned back to
13 service. And we train the breath technicians how to do
14 that.

15 Q. And that can be either downloaded or it can be
16 just erased?

17 A. It can be erased and or downloaded. Downloaded
18 first and then erased afterwards.

19 Q. The instruments that the State of Illinois
20 owns, do you know whether or not they're in the condition
21 they are in when they were purchased? If they're able to
22 be put on a system where they can be downloaded over the
23 telephone?

24 A. They have internal modems and the State of

1 Illinois purchased licenses for IntoxNet, which is the
2 Intoximeter PC-based firmware which allows them to
3 communicate, via phone lines, into the memory into the
4 modem. They have not, I understand, implemented that in
5 many police departments. There is, of course, a cost and
6 an organization --

7 MR. RAMSELL: I'm going to object. He's not a
8 witness capable of testifying why unnamed police
9 departments chose to do or not do something.

10 MS. SIMPSON: Judge, he's not saying --

11 THE COURT: He didn't say why they did.

12 MS. SIMPSON: -- if they chose, he's saying what --

13 THE COURT: He didn't say why. Overruled. Finish
14 your answer, Mr. Evans.

15 THE WITNESS: What I was going to answer say is that
16 you obviously then need to have a telephone line laid into
17 the instrument and that is, we don't supply that. That
18 has to be supplied by the police departments and paid for
19 by the police departments. And the one thing we do tell
20 them is, well, of course, is that it must be a dedicated
21 line.

22 Some people have tried sharing the lines with a fax
23 or some other function, and we found that conflicts with
24 the functioning of the IntoxNet. So we supply IntoxNet to

1 the Illinois State Police. They put it onto their PC's,
2 we supply the modem inside the instrument, but then the
3 means of communication, the medium of communication is an
4 additional cost and feature that has to be provided.

5 Q. What do you mean by a dedicated line?

6 A. Well, it must not go through a switchboard or
7 like that where you're using codes. It has to be a
8 dial-in direct line.

9 Q. Earlier, you were talking about the
10 temperature, there being four critical temperatures?

11 A. Um-hmm.

12 Q. What do you mean by that?

13 A. Well, the -- I described briefly the one which
14 is a breath hose and that's heated to drive off
15 condensation. Another temperature or another heater is on
16 the infrared system.

17 Q. And what does it do?

18 A. That's heated to keep a constant temperature.
19 The infrared system -- infrared sensors have a temperature
20 coefficient; that is, the temperature varies, the output
21 of that system will vary. So we heat it and maintain it
22 at 44 degrees centigrade, to maintain it at a constant
23 temperature.

24 The fuel cell has a temperature coefficient, as

1 well. So we heat that and maintain that at a constant
2 temperature, as well.

3 Q. And how is that done?

4 A. It's done through electronic heaters. They are
5 small heaters through which you pass currents and part of
6 the heater assembly there's a small temperature sensor,
7 which is in contact with the component you're heating. So
8 what you do you're heating and monitoring the temperature
9 of that component. So what happens is if your temperature
10 sensor, it's below temperature, the microprocessor sees a
11 signal and says, I will now switch on that heater. It
12 will switch on the heater until it reaches temperature,
13 and then the temperature sensor will send it back. Not
14 dissimilar through what you see in your air conditioning
15 nor your heating system in your house where you set your
16 temperature, and the heating will come on until it reaches
17 that temperature to switch off and then when it drops
18 below it, it will come back on again. Not dissimilar from
19 that. So that's the breath tube, infrared red --

20 Q. Fuel cell.

21 A. -- fuel cell. And if the instrument is
22 equipped, there's also an internal simulator line. It's a
23 line that goes from the back of the instrument to the
24 sample system, which takes the water, the water vapor

1 simulator vapor, from the outlet to the simulator, and
2 deliver it to the sampling system. And for the same
3 reason, we want to avoid condensation with the subject's
4 breath sample, we want to avoid condensation so we have
5 this as heated and monitored. If you are using what we
6 call a dry-only system; that is, you're not using water
7 simulators, that will not necessarily be in the system.

8 Q. Do you know whether that is in the systems in
9 the State of Illinois?

10 A. Illinois has got what we call wet dry. So they
11 can use either a wet bath simulator through the back or a
12 dry gas cylinder, integral dry gas cylinder so, yes, it's
13 in there.

14 Q. What would cause the temperatures to be off in
15 any one of those areas?

16 A. Well, in the case of the breath tube, as I
17 explained earlier, the heating element could be broken
18 because it's being flexed, all the temperature sensor
19 element, the wires to it, the very, very fine wires can be
20 broken. That's one system.

21 In the case of the infrared heater, it could be that
22 where the heater is a small assembly, typically by
23 one-inch square assembly, which is screwed onto the
24 assembly, the infrared assembly, that is what we call heat

1 sync compound. It is a compound, white compound, which
2 conducts the heat from the heater onto the component
3 you're heating. Sometimes that compound can dry out,
4 loose it's -- it becomes chalky and does not conduct heat.
5 So what happens is the heat is switched on, but the heat
6 isn't getting into the infrared sensor. That's another
7 system error and that's one of the more common errors.

8 The heater that's on the fuel cell is identical and
9 that too can have problems. The heater that's on the --
10 and the control that's on the internal simulator tube, is
11 virtually identical to the ones on the breath tube. But
12 because it's internal, it's seldom, if ever breaks down.

13 Q. If three out of four of them are working, and
14 one isn't, is that enough for the system to take itself
15 out?

16 A. Anyone not working will stop the system
17 operating.

18 Q. Besides the heat, are there any other things or
19 system checks that are conducted by the instrument before
20 it does the breath. You've talked about the ambient
21 temperature -- or the ambient air and the temperatures,
22 what other self-checks does the instrument do?

23 A. Well, the instrument monitors the sense of
24 baselines, as well. So it's looking for the sensors, the

1 infrared and the fuel cell and the flow sensors, it's
2 looking for them to be stable baselines before a subject
3 starts blowing.

4 Q. And if they're not stable baselines, what
5 happens?

6 A. It will give you an error.

7 Q. And will it immediately --

8 A. Stop the test, yeah.

9 Q. Does the instrument keep in its memory anywhere
10 the temperatures with respect to a specific test?

11 A. No.

12 Q. Does it keep in its memory anywhere the
13 temperature of the day?

14 A. No. There's only one of the conditions that
15 can cause what we call a regulate in temperature. And if
16 it's a very, very cold room, the instruments in Illinois
17 expects cooperation between 10-degree centigrade and
18 40-degree centigrade, and we have known heating systems to
19 break down. It's been a very cold day, and they say,
20 well, I can't get a regulate in temperature, and we're
21 told it's very cold in here by the way. We say close the
22 windows and get a heater in there. But that's very rare.

23 Q. And when it's because the room is too cold?

24 A. What happens is typically -- what happens is

1 the breath tube will not reach the correct operating
2 temperature. There will be no fault with the system.
3 It's just that it's being operated outside this design
4 parameters, and it's doing what it's designed to.

5 Q. Which is not conduct a test?

6 A. That's right, yes.

7 Q. What effect, if any, does a person's body's
8 temperature have on whether or not the system will allow
9 it, a sample to be taken?

10 A. We don't monitor the subject's temperature,
11 body temperature or breath temperature.

12 MR. RAMSELL: I'm going to object to nonresponsive.

13 MS. SIMPSON: Judge, that's my objection to make.

14 THE COURT: Overruled.

15 BY MS. SIMPSON:

16 Q. You talked earlier about the Henry?

17 A. Henry's Law.

18 Q. Right. What is that?

19 A. Henry's Law is the law upon which the alcohol
20 and the breath is based. Henry's Law is the law that is
21 used in the simulators while it relates the concentration
22 in the vapor immediately above a liquid. If you have a
23 mixture of a volatile in a liquid, ethanol in water for
24 example or ethanol in blood is the analogy, the

1 concentration of alcohol in the solution will be in the
2 same proportions in the vapor immediately above that
3 solution. It's a temperature dependent law, Henry's Law
4 is temperature dependent, and it's used -- that's the
5 model that is used to say that the breath alcohol
6 represents the blood alcohol because you think of the
7 alveoli as being small containers of liquid with volatiles
8 in it; that is, blood with ethanol in it, and the very
9 thin wall, membrane walls being to all intents and
10 purposes not walls at all, the vapor, the air on the other
11 side of that blood air interbase, has ethanol in the same
12 proportion albeit less dense than the ratio here in
13 America 2,100 to 1. So there's in one gram of blood,
14 there's 2,100 times one CC of blood; there's 2,100 times
15 the concentration of ethanol that is in one CC of the air
16 immediately above that blood air interbase.

17 Q. Is Henry's Law is then the principle on which
18 Intoxilyzers and toximeters and --

19 A. It's a principle by which the air that is here
20 from the subject.

21 Q. When you say here you're pointing to --

22 A. From the deep long other lung air that comes
23 from here into the instrument, that is the representative
24 sample. When it leaves the subject, Henry Law's no longer

1 functions by the way, it's now a gas law. But until it's
2 delivered here, it is, to all intents and purposes, and
3 this argument or this issue is being determined by really
4 some very senior scientists over the last 50, 60 years,
5 starting with Harvard and Sweden some 70 years ago through
6 Dobowski and Boogenstein, more recently, as being the
7 accepted blood breath partition ratio and that's the
8 principle it goes back to that. There are many arguments
9 about it and the tolerances applied but that's the basis
10 on which the law here is based and, therefore, the per say
11 says 210 liters of breath as part of the way the law is
12 written.

13 Q. For the record, when you were saying the air
14 here, you were pointing to your mouth; is that correct?

15 A. Yes.

16 Q. Since there is no visual. What happens if an
17 individual has mouth alcohol when they're going to be
18 tested?

19 A. Well, mouth alcohol is alcohol what we call in
20 the upper respiratory tract. And typically it's there
21 because you've just taken a drink. It might be there
22 because you regurgitated alcohol from your stomach but,
23 again, that's another issue.

24 But what it is it's typically alcohol in your upper

1 respiratory tract, which is higher in value than that
2 which would come from your deep long breath and,
3 therefore, be representative of the alcohol in your blood.

4 To avoid mouth alcohol, would be an issue typically
5 there's an observation period of 20 minutes, 15 minutes
6 I've heard of as well, during which the subject is
7 observed and not allowed to take anything by mouth:
8 smoke, drink eat.

9 Q. What's the significance of not being able to
10 smoke?

11 A. Cigarette smoke itself, when you breath out of
12 it, it's a chemical cocktail when you see some of the
13 analysis of it, it makes you wonder how anybody could ever
14 bring themselves to smoke. Any sensor I know of,
15 infrared, fuel cell, or whatever, could be affected by the
16 chemicals that are in raw, what I call raw cigarette
17 smoke. After about ten minutes, it's virtually
18 nonexistent though I've seen on chronic smokers, even
19 after five, six, and seven minutes, a very, very low
20 reading. So, generally, the law that applies for anything
21 in the mouth, including smoking, should be at least 15
22 minutes but typically it's 20 minutes.

23 Q. When Intoximeters trains individuals on how to
24 use the instrument so that they can be certified to be

1 operators or instructors for other operators, do you talk
2 to them about whether it's advisable to let someone take a
3 couple of puffs on a cigarette and then blow into the
4 instrument in less than 20 minutes?

5 A. We clearly state that nothing, no cigarette
6 smoke and no alcohol should be taken for 20 minutes
7 before. We go even further, in fact, and we actually try
8 and dissuade people from spraying some of those sprays to
9 demonstrate the mouth alcohol test methodology because,
10 basically, people don't really know what they're spraying
11 into their mouth. It could be a very high level of
12 alcohol, Isopropyl, methanol, or some other compound and
13 blown into the instrument, which is not designed to be
14 looking at that. Sort of compounds -- is not recommended
15 to determine damage to some types of sensors.

16 Q. Which types of sensors could be damaged?

17 A. Any and all infrared fuel cell. They're the
18 two universal ones. I suspect there's something called a
19 semi-conductor device, which is used on low cost personal
20 screeners. I think that would be damaged, as well.

21 Q. What about drinking something like water, root
22 beer, lemonade, any of those types of fluids; is there
23 potential problems there?

24 A. No, but we still say there should be nothing by

1 mouth for 20 minutes before you blow into the instrument.
2 Basically, what you're saying the mouth and the upper
3 respiratory tract will be clear of any potential
4 contaminants that may affect that result for whatever
5 reason.

6 Q. If the instrument detects something present in
7 the mouth but it's not able to identify that substance,
8 what, if anything, will it do?

9 A. Well, there are two conditions. One of the
10 conditions is mouth alcohol, which we just talked about.
11 Mouth alcohol will generate a characteristic profile on
12 the breath as detected by an infrared detector, which is
13 why we have the infrared detector on the EC/IR. And that
14 would result in the instrument flag in mouth alcohol and
15 water in a test.

16 In the case of other substances, on the fuel cell
17 sensor, which is the instrument, it's the primary sensor
18 of the instrument, it's not-sensitive to any of the
19 compounds that I'm aware might be on the breath or living,
20 healthy subject who is able conscious enough to blow into
21 an instrument.

22 Q. Is there a difference between the accuracy
23 checks and the self-tests that are done when someone is
24 trying to certify the instrument?

1 A. Well, there's calibration, then there's
2 accuracy checks or certification or verification.

3 Calibration is where you take a known standard and
4 adjust a sensor to read that standard accurately.

5 There's accuracy checks or verification, and this
6 term is used quite alternatively. Accuracy checks or
7 self-tests where you run a standard or verification,
8 certification, all the same, where you run a known
9 standard on -- the instrument is measuring that standard
10 to determine if it's still accurate. So you use the
11 certification tests to determine the instrument is still
12 accurate and not in requirement of recalibration.

13 Q. What could happen to an instrument that would
14 cause it to be recalibrated?

15 A. Sorry, could you repeat that?

16 Q. When an instrument needs to be recalibrated,
17 adjusted to read what it should read, how is it that --
18 what happened to the instrument or is there a way to tell
19 what the problem was that leaves it to be recalibrated?

20 A. Well, all sensors have a certain calibration
21 stability. All sensors we recommend that you check the
22 sensors of our instrument at regular intervals. And the
23 whole idea of an accuracy check is to determine if that
24 drift, whether it be up or down, is within tolerance. If

1 it's within tolerance, you can make the decision to leave
2 it as it is. If it's out of tolerance, indeed, you must
3 recalibrate it. If it's approaching that tolerance, you
4 can make the decision you may want to recalibrate the
5 instrument now so that it does not go outside of tolerance
6 between now and the next time you run an accuracy check on
7 that instrument.

8 Q. If the instrument needs to be adjusted for
9 accuracy, does that invalidate the tests that were run on
10 it prior to it's being adjusted?

11 MR. RAMSELL: Objection to the use of the term
12 invalidate, unless it's defined. Invalidate --

13 THE COURT: I take it into its common context, from
14 his perspective, at least.

15 MR. RAMSELL: Render it invalid?

16 THE COURT: Yeah. Overruled.

17 Do you understand the question, Mr. Evans?

18 THE WITNESS: I understand the question.

19 THE COURT: Answer it.

20 THE WITNESS: I suppose I would actually qualify my
21 answer inasmuch as that as long as the instrument before
22 it was recalibrated was within the tolerance that was
23 required, I would say that all the tests are being carried
24 out on the instrument to that point were acceptable. But

1 that decision is not my decision, it's a decision of the
2 Rules and Regulations of the Illinois State Police and the
3 State of Illinois. If the accuracy --

4 MR. RAMSELL: Judge, I believe the witness sustained
5 my objection.

6 MS. SIMPSON: I disagree, Judge.

7 THE COURT: Answer stands. Go ahead. Finish,
8 Mr. Evans.

9 THE WITNESS: So to answer the question, as I
10 understand it, is that if you recalibrate it while your --
11 after your accuracy check determines it's still within
12 calibration, there is no issues. If the instrument was
13 shown in your accuracy check to be outside of calibration,
14 that is another question; that is not one I can answer.
15 The validity of the test, it would have to go to the
16 authorities who review I would expect.

17 Q. If that were the case, is there something that
18 would be recorded in the instrument's memory to establish
19 that it was out of sync or --

20 A. Out of calibration.

21 Q. -- out of calibration?

22 A. Well, the instrument is programmed for when it
23 runs an accuracy check, to look for an acceptable range or
24 tolerance of acceptable results. So that the gas tanks,

1 and I'll take the gas tanks, they are normally a .082. If
2 a check and the tolerance on it is plus or minus ten
3 percent, if the result comes higher than that ten percent
4 or lower than that ten percent, the instrument will record
5 accuracy check failed and that will be recorded on the
6 printout, it would be in the memory lead test, in the
7 memory of the instrument.

8 Q. If the instrument was out of calibration at a
9 time when a subject's breath alcohol was being determined,
10 would that be recorded in the memory somewhere of the
11 instrument?

12 A. What would be in the memory would be that the
13 accuracy check, prior to that subject test, was out of
14 calibration.

15 Q. When you say accuracy check, you're talking
16 about where the operator came in and ran --

17 A. The certification you have, yeah.

18 Q. It does not do its own in-between tests?

19 A. It can be automated to do that, and we are, in
20 fact, modifying that and aspect of the firm where to
21 introduce that in the future.

22 But, again, my understanding and, again, you need to
23 verify this with the authorities, is that the instrument
24 will check itself at least once a month or within the 62

1 days that are required in Illinois law. When it does
2 that, the instrument will -- the news firm ware will shut
3 it down, and it will not allow another test to be carried
4 out.

5 Q. But that software is not available at this
6 time?

7 A. That's not available now.

8 Q. So when a subject test is taken, then it just
9 records the ambient room before the blank?

10 A. That's correct.

11 Q. And then it'll record the subject test?

12 A. That's right.

13 Q. It will not say or not be able to say that it
14 was outside of the plus or minus --

15 A. It cannot unless it needs an accuracy check to
16 be run at the time of the test to determine that the
17 instrument was accurate or not accurate then.

18 Q. Are you familiar with what information is
19 available in the memory?

20 A. Everything that's on the breath test printout
21 and everything that's in the accuracy check printouts, and
22 everything that's in the calibration printouts are in
23 memory. So, basically, the times of the test, the results
24 of the test, those messages and, in fact, you can by

1 taking a test number go and pull that memory and reprint
2 each one of those printouts.

3 Q. Unless or until it's either downloaded or it's
4 erased?

5 A. Memory's cleared, yes. I'm sorry, there is a
6 condition where the test can be lost. We have something
7 that happens occasionally it's called corrupted database.
8 Basically, the newest way to describe it, is imagine your
9 PC with a lightning strike and everything gets shocked
10 because you've been unlucky enough to be running at the
11 time, something similar to that can happen to the test
12 memory on an EC/IR I. It doesn't happen very often, but
13 it's not untypical to see it happening actually when this
14 time of the year where a storm system is going through the
15 area. The only thing you can do then, though, I'm afraid,
16 is there's no test memory available; you have to clear the
17 tests. You have to clear the memory, basically, wipe the
18 board clean and start all over again.

19 Q. When the memory is cleared, does that also
20 include the information as to the lot number for the gas
21 tank, the serial number for the instrument, the expiration
22 dates that are in there?

23 A. That would be an extreme form of data
24 corruption. Typically, it would be test memory.

1 Q. Are you familiar with the information --

2 THE COURT: Before you get to the next question.

3 Do you know if Illinois if that's what they do? Do
4 you know what they download when they erase from the
5 machine? I know you know typically what's not done, but
6 do you know what Illinois does with their downloaded
7 information.

8 THE WITNESS: I don't know for certain.

9 THE COURT: That's fair enough. I just want to know
10 if you do know. Go ahead. Next question.

11 BY MS. SIMPSON:

12 Q. Is there -- are you familiar with the printout
13 that you would get if someone went in and ordered a Shift
14 F5 print?

15 A. Yeah.

16 Q. What would that include?

17 A. Well, the Shift F5 printout is, basically, you
18 can select tests from whatever tests are in memory,
19 according to the test number typically. And I believe in
20 the Illinois you have a range of dates. You can withdraw
21 it. You can select calibration and accuracy checks as a
22 series of printouts and just subject tests.

23 Q. They're all separate, though; is that correct?

24 A. They're all separate, but they are all

1 reproductions of the printouts that would be generated at
2 the time that those tests were carried out.

3 Q. If an individual wanted to know everything that
4 was in the memory of the Intox EC/IR, would he be able to
5 press one key and get a printout of everything, or do you
6 have to keep going back in?

7 A. There is a summary print out in which you get a
8 very truncated printout of the all the tests in memory, so
9 you don't get the full sequence, you don't get all the
10 data that's there. And, typically, what it'll do is it
11 will print out the blank result and the subject result
12 sample result or if there's an accuracy check, the air
13 blank and the accuracy check result.

14 Q. But you have to go in and separately request
15 the accuracy check?

16 A. You have to go in separately to request. And
17 there's a sequence. When you go to Shift F5, you're given
18 multiple choices of what you want to print out.

19 Q. And there isn't one for all of the above; is
20 that correct?

21 A. The only one that comes near it is what I call
22 the summary, which basically sequentially prints out
23 everything that's in the test, but it's typically no more
24 than three or four lines long for a printout that might

1 contain eight or ten lines in its normal original form.

2 Can I correct myself on something I said earlier
3 because I may have made an error, and I can tell you I
4 know the answer. You asked if an accuracy check fails on
5 the instrument, can the instrument then be used to take a
6 breath test.

7 Q. Yes.

8 A. I'd have to check, depending on the firm ware,
9 I can't remember what it is in Illinois. Some firm ware
10 will require a successful accuracy check before you can
11 run a subject test, but I cannot remember that here and
12 now. I would have to check.

13 Q. Okay.

14 THE COURT: That's fine. I appreciate that,
15 Mr. Evans. Thank you.

16 MS. SIMPSON: Your Honor, at this time I would just
17 like to ask, consent of the Court, to supplement the
18 record with whatever he finds for that answer, rather than
19 bringing him back here for Missouri if he can send it in
20 the form of an affidavit or something.

21 THE COURT: Sure. You have no objection to that,
22 Mr. Ramsell.

23 MR. RAMSELL: No.

24 THE WITNESS: I just want to be clear because I don't

1 want to give you the wrong.

2 THE COURT: And we're concerned, as you know,
3 Mr. Evans, about Illinois. So if you can check that for
4 us to see if in Illinois it would allow a subsequent test
5 before requiring the recalibration and recertification to
6 let us know. Counsel will instruct you to just inform the
7 facts back to us. Thank you. Go ahead, Ms. Simpson.

8 MS. SIMPSON: Thank you, your Honor.

9 Judge, at this time, I'd move to have him qualified
10 as an expert as far as the Intox ECRI is concerned.

11 THE WITNESS: EC/IR.

12 MS. SIMPSON: EC/IR. I'll get it right some day.

13 THE COURT: You got the right letters just not the
14 right sequence.

15 THE COURT: Mr. Ramsell.

16 MR. RAMSELL: Expert in what respect? Technical
17 expert, scientific expert, operator, I don't know.
18 Experts in all facets of EC/IR. I can't agree to that.

19 THE COURT: Fair question. Ms. Simpson, in what
20 areas do you wish to qualify the expert.

21 MS. SIMPSON: As far as the programming, the
22 information that can be obtained, and the instrument
23 itself as far as what it can give us and how to interpret
24 the information that comes from it.

1 MR. RAMSELL: Judge, how about this.

2 THE COURT: Well, don't say how about this to me.
3 How about this to Ms. Simpson. And I know you're
4 concerned.

5 MR. RAMSELL: I can't stipulate to broad-base
6 category. I'm certain that the Court -- I would prefer to
7 object when I believe he hasn't yet qualified himself on a
8 particular question.

9 THE COURT: Well, he hasn't given an opinion yet.

10 MR. RAMSELL: Right.

11 THE COURT: I agree with you. I don't know quite
12 what he's qualified --

13 MR. RAMSELL: I don't want to be pigeonholed.

14 THE COURT: I mean, I understand in terms of his
15 general qualification, I don't know what he's being
16 offered for, so what I think we'll do at this time and
17 it's a weight question, I'm certainly going to allow it to
18 testify in terms of his knowledge of the functions of the
19 machine, the operating instructions, the operating
20 manuals, the technical specifications for the machine,
21 which the witness is clearly competent to testify. The
22 recommended operating procedure for the Intox machine in
23 question, which I think also he is technically competent
24 to testify, because he's aware of the Regs, he's aware of

1 the operating instructions. He's certainly, at this
2 point, limited in terms of what point, if he even knows
3 exactly what Illinois does, you know, in terms of how they
4 maintain the data and what parts of their recommendations
5 they follow or not follow. But I think he's certainly
6 qualified to testify about the technical aspects of the
7 machine.

8 He's qualified certainly, I think, also to testify
9 about the types of data that the machine generates, the
10 interpretation of the data, the types of programming that
11 can be done on the machine because he's already testified
12 as to what can be done to the machine. The available
13 programming modems and such available with the particular
14 machine. Until he actually is asked an opinion question,
15 I can't quite rule either, Ms. Simpson, on his expertise.

16 Have you ever testified in a proceeding so far,
17 Mr. Evans.

18 THE WITNESS: I have in Britain.

19 THE COURT: Any in the United States at all?

20 THE WITNESS: I did a judicial hearing in Little
21 Rock.

22 THE COURT: Do you know what it involved? Were you
23 like tendered as an expert?

24 THE WITNESS: Yes, I was tendered.

1 THE COURT: In what area were you tendered as an
2 expert?

3 THE WITNESS: It was in the operation of one of our
4 instrumentation.

5 THE COURT: When you say the operation, the
6 recommended operation?

7 THE WITNESS: The recommended operation, the
8 interpretation of the results.

9 THE COURT: All right. That's fair enough. Subject
10 to any cross, obviously, and subject to what the opinion
11 that is going to be elicited from Mr. Evans, so I'll hold
12 those two. But go ahead, Ms. Simpson.

13 MS. SIMPSON: Your Honor, do you have the exhibits
14 from Ms. McMurray's testimony with you?

15 THE COURT: I don't have any of the exhibits.

16 MS. SIMPSON: Courtesy copies were given to the
17 Court.

18 THE COURT: I have courtesy copies of the following.
19 Let me see what I have. I have Ms. Eason's affidavit --

20 MS. SIMPSON: I'm looking specifically for McMurray
21 No. 4. It's a registered receipt, it's got Copy stamped
22 across the top of it.

23 THE COURT: I have McMurray No. 4. I have it in
24 front.

1 MS. SIMPSON: May I approach the witness?

2 THE COURT: You may.

3 BY MS. SIMPSON:

4 Q. I'm going to give you what's been marked
5 previously as McMurray No. 4. Obviously, you're not going
6 to recognize that as the exhibit, but are you familiar
7 with what that is a photo copy of?

8 A. Yes, it's a printout of a subject standard
9 check on accuracy check on the instrument.

10 Q. On the accuracy check, there is a number that
11 says, Test Record number and then underneath it there's a
12 series of nine or ten numbers. Do you see that?

13 A. Yeah.

14 Q. That indicates -- that tells you the day of the
15 test as well as the number?

16 A. That's correct, yes.

17 Q. Can you explain what the sequence of numbers or
18 how you would tell what date that test was taken on?

19 A. Okay.

20 THE COURT: Well, it says test date, Ms. Simpson.
21 Test date; isn't that what you're looking at?

22 MS. SIMPSON: Well, Judge, I'm going for the --

23 THE WITNESS: Test record number and then underneath
24 it's 050728961, okay?

1 BY MS. SIMPSON:

2 Q. Okay. The numbers before you get to the 961.

3 Those are the dates, right?

4 A. Basically. Yes, that's just a date that the
5 month, day reversed.

6 Q. Do those six numbers, are they in there
7 automatically, or are they in there because the test date
8 of 7/28/05 was typed in by someone?

9 A. No, the test date is determined by the
10 instrument itself and that's automatically put in there by
11 the instrument, those six figures.

12 Q. Is somebody able to go into an instrument and
13 change that date?

14 A. Yes.

15 Q. If they did that --

16 A. Yes.

17 Q. And changed the date to say May 5th instead of
18 July 5th -- excuse me, May 28th instead of July 28th?

19 A. Um-hmm.

20 Q. Would the number above also then be changed?

21 A. No.

22 Q. What would the number above read?

23 A. It would remain the -- it's a sequential
24 sequence. I haven't done this, I hasten to add. But the

1 best of my experience, it would not change. The sequence
2 would remain 05, 07, 28, 962 sequential.

3 Q. This one has 9, 6, 1 on it, correct?

4 A. Yeah, the next one.

5 Q. The 9, 6, 1, that's the actual test number then
6 as far as how many tests?

7 A. The 9, 6, 1 is a test number.

8 Q. So the next test that would come up that would
9 be done on the instrument, would show 9, 6, 2 --

10 A. Correct.

11 Q. Because it will count correctly?

12 A. Correct.

13 Q. Now, on this particular page, there is a blank
14 and a standard. Do you see further down it says, system
15 check passed?

16 A. Um-hmm.

17 Q. And then there's the test information?

18 A. That's right, yeah.

19 Q. It shows that at 12:20 there was a blank,
20 correct?

21 A. Um-hmm.

22 Q. At 12:22?

23 THE COURT: You got to say yes or no.

24 THE WITNESS: Sorry, yes.

1 BY MS. SIMPSON:

2 Q. 12:22 it shows standard .081?

3 A. Correct. Yes.

4 Q. It shows again at 12:22 a blank and three
5 zeros?

6 A. Correct.

7 Q. Do you have to ask the instrument to run that
8 second check or is that something that's done
9 automatically?

10 A. Well, this standard check record is run under
11 what we call the F3 accuracy check sequence. And when you
12 go into that sequence, you're offered one to nine standard
13 samples, okay. And in this case, whoever's run this test,
14 which Tim miller, has selected two. So what's happened
15 here is it's run an air blank, the first standard sample,
16 air blank, second standard sample; two standard samples.
17 And it's printed out the results in the sequence that it
18 was run.

19 Q. So those are two separate -- apparently, it's
20 four separate tests but the air blank and then the
21 standard counts as one; is that correct? The way the
22 software works?

23 A. Yes, yes.

24 Q. Now, a few minutes later the next page and

1 we're talking 12:30, so six minutes later, there is
2 something called a self-test?

3 A. A quick test record or.

4 Q. Oh, quick test record on the top, and it says
5 self-test on comments, I'm sorry.

6 A. Oh, yes.

7 Q. Now, that shows the serial number, the next
8 number to be 9, 6, 3?

9 A. Correct.

10 Q. Does the fact that there are two tests printed
11 on the one before, do you know whether it gives you one
12 printout, but it's two tests so that would actually be
13 test number 961 and 962?

14 A. Well, looking at the times, it looks like there
15 is a sequential test. To the best of my knowledge, it
16 should be 963 if no other test has been run before it. I
17 would have to verify this. To me what could be happening
18 is that if it's taken -- that's not the way it I
19 understood it should operate.

20 Q. So your understanding of how it should operate
21 would be what?

22 A. Well.

23 MR. RAMSELL: Objection he already answered that.

24 MS. SIMPSON: No, he didn't. He said --

1 THE COURT: We don't argue back and forth, Counsels.
2 We argue to me.

3 MS. SIMPSON: And I was, your Honor, I'm sorry.

4 THE COURT: I understand. You're getting frayed, I
5 think, people are getting frayed a little bit. They're
6 getting feisty.

7 I'm the one that needs to know. First of all, you
8 got to verify something, you need to go back.

9 THE WITNESS: Yeah, I need to check for myself.

10 THE COURT: Because you haven't been asked to run
11 these yourself with some kind of --

12 THE WITNESS: And can I actually make another point?

13 THE COURT: Yes, sir, you can tell me another point.

14 THE WITNESS: You asked me the question earlier if
15 you change the test date, that is go in and change that,
16 would that sequence in the record number change?

17 MS. SIMPSON: Yes.

18 THE WITNESS: It will, but the last three digits
19 won't change. So, sequentially, that nine, you cannot
20 change the last three digits. The first six are based off
21 the date that's been entered into the instrument. I made
22 a mistake there I apologize. But the last three cannot be
23 changed because that's a sequential roller, the instrument
24 does.

1 THE COURT: Well, that's how you would find out if
2 somebody went in and put in a false data in because the
3 sequence number.

4 THE WITNESS: That's correct.

5 THE COURT: Right? The sequence number would not
6 change, and it would show another sequence with a date
7 entry that could not have occurred.

8 THE WITNESS: That's correct.

9 THE COURT: I mean, that's the way you would deduce
10 it.

11 THE WITNESS: That's the way it was designed.

12 THE COURT: Right, as a cross check, an inventory
13 check.

14 I guess the next question and you don't know quite
15 know the answer, but I'll ask it because it might jog your
16 memory.

17 Now the difference between the first test here, the
18 standard check test with the serial number 961 and then
19 the next page where it goes to 963, is without you
20 verifying it, is it a guess that shouldn't the events that
21 occurred, meaning the blank standard, blank standard,
22 shouldn't they just be displayed on an event on the
23 machine, such as 962 before you get to 963 or not?

24 THE WITNESS: Not if the sequence incurs. But my

1 experience I typically run multiple tests on the
2 instruments, not necessarily in Illinois. But I quite
3 often I check instruments for their accuracy, and I will
4 typically run nine tests in a row.

5 THE COURT: Right.

6 THE WITNESS: And my experience is being that the
7 test number, the next test number is not nine incremented
8 by nine.

9 THE COURT: Okay.

10 THE WITNESS: What I'm seeing here is something I'm
11 not used to seeing.

12 THE COURT: So what you're seeing here is not
13 typically what you would see?

14 THE WITNESS: No.

15 THE COURT: But what you would see so I'm following
16 you. Like in the event you're describing to me, if we
17 jump from 961, you then did a nine-event test. It should
18 read out to you as 962.

19 THE WITNESS: Yes.

20 THE COURT: But it's not going to break it down 962,
21 9-1, 9-2, 9-3, you know. It's just going to give you one
22 event with all the entries you made for that particular
23 test work.

24 THE WITNESS: That's right. What I'd like to run

1 exactly the sequence through an instrument and document it
2 because we do this typically when we're testing it.

3 THE COURT: And I'd like to know that as well,
4 Mr. Evans. So if you make that a second notation on
5 things you'd like to check into yourself.

6 THE WITNESS: Absolutely.

7 THE COURT: To let the Court know if this is the way
8 the machine should be documenting the events that are
9 occurring on it. All right, Ms. Simpson.

10 MS. SIMPSON: Thank you, Judge.

11 THE WITNESS: You were staying about the Quick Test
12 Record, and you asked me about the 963.

13 BY MS. SIMPSON:

14 Q. And you were going, basically, to go back and
15 check and see whether there's two done in a row and then
16 something else whether it prints the two but only gives
17 one number?

18 A. Absolutely.

19 MS. SIMPSON: Your Honor, I'd like to direct the
20 Court's attention now to McMurray No. 5.

21 THE COURT: No. 5.

22 MS. SIMPSON: May I approach the witness.

23 THE COURT: Let me find my No. 5, please.

24 MS. SIMPSON: It says Fombell and Fombell on the top.

1 THE COURT: Right, right, right, an intox printout
2 showing apparent mouth-alcohol testing?

3 MS. SIMPSON: Yes.

4 THE COURT: Right. You may approach.

5 BY MS. SIMPSON:

6 Q. I'm going to give you now what's been marked
7 McMurray No. 5. Would you look at the second, third,
8 fourth, and fifth pages of that?

9 THE COURT: Have you seen this before, Mr. Evans?

10 THE WITNESS: I've been shown a copy of this briefly.

11 THE COURT: Okay.

12 MS. SIMPSON: And for the record, Judge, I faxed it
13 to him because I had questions based --

14 THE COURT: Oh, I'm not questioning the propriety.
15 As I'm following him, if he's had a chance to look at it
16 before, I assume.

17 MS. SIMPSON: I just want to put on the record, I did
18 fax him a copy of it because I had questions based on
19 testimony from last week.

20 THE COURT: Of course. Go ahead.

21 BY MS. SIMPSON:

22 Q. I'd like to direct your attention first to the
23 third page of that exhibit. It says on the top. Let's
24 see, IntoxNet MIS report 4/01/04 to 6/15/05?

1 MR. RAMSELL: Actually, that's the fourth page,
2 Judge, Fombell being page 1.

3 MS. SIMPSON: Sorry, the fax cover letter.

4 THE COURT: I'm on page 4.

5 MS. SIMPSON: Which I was calling page 3, I'm sorry.

6 THE COURT: Direct me to where so I can make sure I'm
7 with the witness where he's looking. I want to make sure
8 that I'm following.

9 MS. SIMPSON: The third line from the bottom, which
10 is 17, March 2005.

11 THE COURT: Accuracy check.

12 MS. SIMPSON: Yes, sir.

13 THE COURT: All right. I'm with you then. Go ahead.

14 BY MS. SIMPSON:

15 Q. First of all, before we even get to that,
16 there's a column on this sheet that's marked target?

17 A. That's correct.

18 Q. The third short one. Do you see that?

19 A. I see it, yes.

20 Q. What is the target? Can you explain or define
21 to the Court what that is that's recorded under that
22 column?

23 A. That's the target value of the standard being
24 used on the instrument. And in this case, if you take --

1 I go from left to right on that one, 17th of March, 2005.

2 I just explained it to you across, okay.

3 THE COURT: Yes, sir.

4 THE WITNESS: So the first one is the date and time,
5 obviously. The next one is the test number, that's a test
6 record number. The next one defines the test type. In
7 this case, it's an accuracy check that is taking a
8 standard sample.

9 The next one, the top one is the time and below it
10 is a result of the blank, that's the purge blank cycle and
11 that, the digits beneath must be all zeros for it to be
12 successful to carry onto the next stage.

13 The next stage is a standard. That is a time in
14 which the gas standard, and I know it's a gas standard
15 because if I go to lot number, it says drive. So I know
16 this confirms to me this is a dry internal gas tank.
17 Anyway, we come here to standard at 1537 that is two
18 minutes after the air blank has been taken. A gas
19 standard has been analyzed. It was found to be .10. And
20 then the target is the value of that gas -- that the
21 device was expecting to see. And that would be the value
22 at sea level of the gas tank and if -- and it's pressure
23 corrected; that is, if it was going to be affected by
24 pressure, it would read maybe a .09, something. If the

1 pressure was low on that day, typically we're at 500 feet
2 above the sea level. So it's very common to see a 100
3 reading on 099, something like that. So then the next one
4 is the three group there.

5 There's the lot number, that's the lot number, which
6 is written or stamped on the side of the gas cylinder.
7 It's dry gas and the expiring date of this particular lot
8 of dry gas is the 21st of June, 2006. Similar temperature
9 basically is not applicable because we are not using a
10 water bath simulator. Then there's a comment or error
11 column. In this case, there were no errors so there was
12 no comments in there.

13 Q. With respect to that particular entry, after I
14 faxed this to you, did you have occasion to check the
15 records at your company to determine whether or not this
16 particular instrument was in being serviced at some point?

17 A. Yes, the instrument being received I think it
18 was around the 11th of March and was, I think, sent out
19 again the 20th or 21st of March. And the records show
20 that after being repaired, the instrument was going
21 through accuracy check. The technician -- typically a
22 technician would receive an instrument. We'd receive some
23 information about what the problems with the instrument.
24 He would identify the pulse on the instrument, repair,

1 replace the components required, and then he would test
2 the instrument to determine that it was working correctly
3 using the standards he had present. And in this case, the
4 gas tank that that technician had was a .10 as opposed to
5 the .02, which is in common use in Illinois. It's the one
6 used in Illinois. So he could correctly gone in, looked
7 at his gas tank said that's a 100, screwed it in --

8 MR. RAMSELL: Okay. Wait, wait. Objection. This
9 witness is testifying as to what somebody might have done,
10 what he did do. He would have done this. I don't know if
11 he's hypothesizing. He's trying to repeat what he was
12 told from somebody else. That's not an expert opinion.
13 He's just telling us something in a very vague fashion as
14 to what somebody else would have tried to do.

15 MS. SIMPSON: Judge, the question was asked if he
16 went and checked the records about this instrument to find
17 out whether it was there and if it was, what occurred.

18 MR. RAMSELL: That I have no problem with.

19 THE COURT: Stop, Mr. Ramsell. Hold on. Wait.

20 MS. SIMPSON: I think the problem might be in his
21 phraseology.

22 THE WITNESS: Okay, sorry.

23 MS. SIMPSON: In the language.

24 MR. RAMSELL: That's where I got a little off there.

1 Well, he said, well, the technician would have been doing
2 this. I don't know what strength that is or where he's
3 coming from.

4 THE COURT: I agree and for the purpose only. Mr.
5 Evans, hold on, you got to wait. When the lawyers are
6 arguing objections, they have to wait until I've ruled on
7 it and before you start answering questions again, okay.

8 THE WITNESS: Sorry.

9 THE COURT: Go ahead, Ms. Simpson.

10 MS. SIMPSON: Thank you, your Honor.

11 BY MS. SIMPSON:

12 Q. The dry gas that's in the instruments that the
13 State of Illinois uses to test, what is the value on those
14 cylinders?

15 A. .082.

16 Q. The value of the gas that is used at
17 Intoximeters when they are testing or calibrating
18 instruments, what is the target value, or what is the
19 value in that?

20 A. In this case, it was a .1. It could have been
21 a .02, but a technician is trained, when he puts a gas
22 tank in there, to enter in that value, otherwise he knows,
23 through his training and experience because the instrument
24 is designed to do so, he puts a .1 in and he has not

1 indicated to the instrument that it's a .1 gas; he will
2 get a wrong result. In this case, a .1 gas was used to
3 check the accuracy of the instrument.

4 Q. Now, as far as the information regarding dry
5 gas or wet, the gas that was used is a dry gas at the
6 manufacturer?

7 A. We have the option. We can use dry gas and
8 quite typically the technician will use a dry gas when he
9 is verifying the effectiveness, the results. He will also
10 blow into the instrument quite typically. But equally
11 after he's completed his testing, then the instrument is
12 independently tested under a QC procedure, which would
13 require both dry gases been used and wet gases, through
14 the breath hose, to simulate a subject blown into the
15 system because in the end, that's what the system is
16 designed to take. We would do that.

17 Q. With respect to the information as far as the
18 cylinder number or the lot number of the gas that's used,
19 do they go in and change that information?

20 A. No, they will not.

21 MR. RAMSELL: Wait, objection. This is on a specific
22 day and this witness has still not laid a foundation
23 whether this is his opinion that this is what happened; we
24 talked to the actual technician, that it really was a .10,

1 and that now we're getting this very loose -- he thinks it
2 was a .10 target value, he thinks the technician probably
3 left the wrong number in there or never changed it. I
4 don't know where this is coming from. There's no
5 specifics.

6 THE COURT: Ms. Simpson.

7 THE WITNESS: May I --

8 THE COURT: Mr. Evans.

9 THE WITNESS: -- go back?

10 THE COURT: No, you got to wait, Mr. Evans. Remember
11 I told you, you got to wait.

12 MS. SIMPSON: I asked him if he went back and checked
13 the records; he's testifying about the records that he
14 checked.

15 MR. RAMSELL: So there's a record that the technician
16 deliberately wrote the wrong lot number in there.

17 THE COURT: We don't know that.

18 MS. SIMPSON: That's not the --

19 THE COURT: Hold on, Ms. Simpson. Hold on.

20 MR. RAMSELL: I'm confused. His verbiage, the
21 witness's verbiage does not transmit to the judge whether
22 his knowledge on everything after he says, I checked the
23 records, is based on a record he read or off of
24 hypothesis.

1 THE COURT: Ms. Simpson.

2 MS. SIMPSON: I disagree, your Honor. He's testified
3 to what information he found.

4 THE COURT: How is this helping me overall any way?
5 As I guess is what I -- let me ask you both that because
6 and I'm going to ask the witness that, too.

7 MS. SIMPSON: I rather not --

8 THE COURT: No, we're going to stop now, Ms. Simpson,
9 now. I'm going to make it a point now, and I want to hear
10 the response from both of you while I have this witness
11 here.

12 MS. SIMPSON: Judge, I have one --

13 THE COURT: Well, Ms. Simpson, you're not going to
14 interrupt me every time I start to talk, Ms. Simpson, are
15 you?

16 MS. SIMPSON: No, I'm not. If I can ask one
17 question.

18 THE COURT: No, then you're going to stop. Because
19 what I want to know is where are we headed now and
20 everybody's spending a lot of time and a lot of effort and
21 bringing witnesses in, which I appreciate. But the issue
22 I'm resolving in the overall picture of all that's going
23 on in this case, which nobody is yet getting me to is the
24 following and that's what I want to hear from Mr. Evans,

1 so his time is well spent with me and not wasted.

2 We're getting into discovery, that's what this is
3 all about. Am I going to turn these materials over to a
4 defense lawyer? Is there a basis, a good-faith basis to
5 get the types of data that this witness is competent to
6 tell me about. He is quite familiar with the data that's
7 stored by these machines. And in his professional and in
8 his ethical opinion, in his ethical opinion is equally
9 valuable to me because he is the salesperson for his
10 product and for the integrity of his product, which is
11 what I'm concerned about is the integrity of the results
12 of this particular machine and our reliance, not his sales
13 reliance but judicial reliance and confidence on the
14 reportability, the accuracy, and the data that is
15 generated by a machine, which is commonly used and
16 judicially relied upon.

17 The question that I have from the witness; I'm going
18 to ask him that question first, and then we'll decide what
19 else we're going to ask him is, in your opinion,
20 Mr. Evans, you are familiar with the data that is stored
21 by this machine, correct? The type of data.

22 THE WITNESS: Correct.

23 THE COURT: So first off on an ethical professional
24 basis, is there ever a basis for you to tell me on your

1 professional and ethical opinion, with your knowledge of
2 the machine and the controversies that you have been
3 apprised of, either in Illinois or in other jurisdiction
4 regarding disclosure of operator errors, not your company,
5 I'm not talking about your company.

6 THE WITNESS: I understand.

7 THE COURT: I'm talking about technician errors,
8 operator errors or misrepresentations by agencies or
9 people in the field, given whatever that knowledge is, in
10 your professional ethical and professional opinion, is
11 there a basis for denying a defense attorney's request for
12 downloaded information on a machine? And if there are
13 concerns that you have, proprietary concerns or concerns
14 for subject test records, is there a recommendation that
15 you can make to this Court and any Court of turning over
16 types of material to defense attorneys who are requesting
17 the information with any proper restrictions? And
18 anything else you think is relevant in terms of a person's
19 request to see downloaded information that has not been
20 stored by the user? And I don't know if you're aware,
21 Illinois has not stored or downloaded any of the
22 information for their Intox machines, are you aware of
23 that?

24 THE WITNESS: I'm aware of it now.

1 THE COURT: So if you're now aware of that and that
2 they don't and they never did, again, in your professional
3 ethical opinion, is there a good-faith basis to deny an
4 attorney's request to see the data, provided there are
5 proper restrictions and controls on the use of that
6 information? And if you need time, take your time before
7 you tell me. Because it's a concern that I have since
8 judicially I'm the person asks to have a confidence level.
9 And I don't care what the lawyers are telling you. I'm
10 telling you as a judge. My confidence has to be of the
11 utmost as you probably are aware of.

12 THE WITNESS: I understand that and thank you.

13 THE COURT: Tell me if you can answer that question.

14 THE WITNESS: Well, the instrument cannot, in my
15 knowledge and experience, generate of itself false data.
16 What is there is already been printed out. Every event
17 that's in memory is an event that is already been printed
18 out.

19 THE COURT: In the machine.

20 THE WITNESS: By the machine. And that, in printing
21 it out, it does no more than confirm what the instrument
22 has produced over the months or the weeks since it was
23 last downloaded. So I don't know see that there's
24 anything -- there is a printout of the memory. It is not

1 going to prove out anything other than the machine has
2 done what it's done, and those printouts are right and
3 correct. So I'm not sure if it's serves any purpose
4 because the instrument is designed primarily to analyze
5 breath alcohol. It's not designed as attached record
6 device. If it was to be designed as attached record
7 device, our design approach would almost certainly been
8 much more different, I suspect, in ensuring the security
9 of it; that is, access to it and battery backup and such.

10 So if the test records are available, from my
11 perspective, they'll show nothing more than just confirm
12 the printouts which been obtained in the operation life of
13 our instrument. So, to me, there is no reason why the
14 test records cannot be produced at the request, but it
15 will prove is nothing other than so this is what we got
16 enlisted in errors. So somebody has forgotten to note
17 down, for instance, a certification check, they forgot to
18 do that. Well, that happens. People are human. The
19 instrument will have that.

20 The other thing is, though, you need to be aware is
21 if data corruption has taken place, there is no way we, as
22 a company, can reconstruct that information.

23 So there is nothing -- we have no objection. We
24 feel it's for the authorities themselves to decide what

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1 does it prove. If it proves nothing more than the
2 instrument is printed out what it has printed out, which
3 is all that we do, I'm not sure -- I mean, I leave it to
4 the attorneys to argue what weight those memory printouts
5 have.

6 THE COURT: Now, if you knew that certain operators
7 had entered the machine to alter dates, does that change
8 your opinion in any way regarding access to that
9 information so an independent party can verify, without
10 relying on anybody else but from the machine itself, to
11 determine whether or not dates have been changed or
12 whether an operator has overwritten information?

13 THE WITNESS: I'm aware of that. It has happened.
14 And, again, I suppose I would go back to my point. Had we
15 known that the device test memory, not the actual printout
16 results, would become an element in determining the
17 instrument or that a deliberate meddling adjustment would
18 become an issue, we would put other checks and measures to
19 prevent just that happening. Which is why I would advise
20 that it's to me, the instrument will only print out what
21 it has to do it. Then there's the old adage, rubbish in,
22 rubbish out.

23 THE COURT: Right.

24 THE WITNESS: And that in the present system, it is

1 structured in good faith that the people using it, will
2 use it as it was designed to be used.

3 THE COURT: So in your professional opinion is it an
4 additional check that someone other than the proponent of
5 the information be allowed access to view that information
6 to see if there is a likelihood that there's been an
7 attempt to corrupt the data entry into the machine? Do
8 you see any harm in allowing that to be done?

9 THE WITNESS: I see no harm in it, no.

10 THE COURT: All right. Next question.

11 THE WITNESS: Can I just add.

12 THE COURT: Yes, sir.

13 THE WITNESS: We, as a company, want to have faith
14 and confidence in our equipment.

15 THE COURT: Right.

16 THE WITNESS: And as I say, had we written into our
17 spec a means of preventing people from changing dates and
18 time, we would have written it in, but it was never a
19 requirement, it was never a basic design. Could I just
20 maybe just go back to when this discussion started.

21 THE COURT: Yes, sir.

22 THE WITNESS: And Mr. Ramsell objected to something.

23 THE COURT: Yes, sir.

24 THE WITNESS: I was going to add, Mr. Ramsell, a

1 little bit more information which might help you
2 understand why what I see is normal.

3 When you run an accuracy check of the instrument,
4 you press F3 key, that's the function key, the series of
5 function keys on top of the query keyboard, that takes you
6 into the accuracy check sequence. When you hit Enter, you
7 put a pass code in, and then you come to a step where it
8 shows you the expected value, the gas. This technician
9 had put a 100 gas in there, so he adjusted that reading,
10 the expected value to read 100.

11 In the F3 function you do not access the
12 certification or the data on the expiring date and the lot
13 number of the gas tank. That's in a separate tank menu
14 called F10. So what he would have done is gone into F3,
15 adjusted the target value, the value of the gas he's put
16 in there, but he would not have to have gone through the
17 lot number. So he would have left that and would not have
18 changed that. That is just a function of the way the
19 instrument is designed and the way anybody, myself
20 included, would use that. And believe you me, I've done
21 that three on instruments until I'm blue in the face
22 because it's part and parcel work I do when I'm testing
23 instruments. So that is why the lot number expiring date
24 isn't changed when he put a 100 gas tank in there.

1 THE COURT: All right. Next question.

2 BY MS. SIMPSON:

3 Q. After the test immediately above that, which
4 occurred apparently on January the 18th, the target there
5 appears to be .08?

6 A. That's correct.

7 Q. That's the gas that was being used by the
8 Illinois State Police?

9 A. That's right. This name and number here. I'm
10 familiar with Todd Savage, he's one of the breath alcohol
11 technicians.

12 Q. And the .08 is the gas that the State of
13 Illinois has; is that correct?

14 A. That's correct.

15 Q. If you put .10 in as the target?

16 A. Um-hmm.

17 Q. Is that automatically what the instrument is
18 going to give you then as the reading for what the gas
19 should be, or is it going to do it own testing and tell
20 you what it thinks it is?

21 A. The target value put in there is the target,
22 the instrument will compare its results with. In the case
23 of the way the software is structured, the technician
24 would have to go in, when he's put a 100, when he put that

1 in. In the case of the Illinois state officer, he would
2 change that back to 082 because he would put this tank in
3 and he should. I'm making an assumption here, he should
4 ensure that the lot number and the expiring date are
5 correct because that is not the role of the company to do.

6 Q. So the company doesn't change the lot numbers
7 or the expiration dates?

8 A. No. Because we don't physically -- the gas
9 tank that is placed in there is the property of Illinois
10 State police, that officer in this case, Todd Savage,
11 would have inserted that gas tank in there.

12 By the way, we do not ship these instruments with
13 gas tanks inside them, it's compressed gas, it's a
14 hazardous material. So we cannot ship them out with gas
15 tanks in them.

16 Q. You anticipated my next question. The gas tank
17 from Illinois doesn't come with it; is that correct?

18 A. No.

19 Q. So you'd have to use yours and that's why you
20 have the .10 instead of a .08?

21 A. It's a federal offense. I think it's a 25- or
22 \$30,000 fine and or prison if somebody deliberately breaks
23 it.

24 Q. Now, there was an accuracy check and a

1 calibration check done on the 17th of March approximately
2 ten minutes apart?

3 A. That's right.

4 Q. The next day there are accuracy checks again?

5 A. That's correct.

6 Q. If you flip -- well, first of all, you had
7 testified earlier, I think, that there's two sets of
8 testing that goes on at your department?

9 A. Um-hmm.

10 Q. Can you explain quickly what that is or
11 briefly?

12 A. Well, the first is when the engineer, the
13 technician engineer has repaired the fault, he will test
14 the instrument to ensure he's resolved the fault, and he
15 will also test it to make sure it's reading accurately
16 because the instrument, when it leaves him, should be
17 suitable to go to the customer. But in all modern
18 industries now you always have a QC inspection process, as
19 well.

20 Q. And for the record, QC is quality check?

21 A. Quality control.

22 Q. Quality control.

23 A. And what happens in quality control is another
24 person, other than the person repairing the instrument,

1 will follow a checklist. And in that checklist, he will
2 go through a sequence of accuracy checks subject test
3 samples, to verify one, the instrument has been repaired
4 correctly; and two, the instrument meets the factory
5 calibration requirements. And, therefore, suitable to go
6 out. And the idea is that these checks sometimes a
7 technician might miss something. There might be another
8 fault he hasn't picked up on. And, you know, physician
9 heal on itself; you have to let somebody else objectively
10 and to a rigid set of proceedings test it.

11 Q. Now, would that include then the three tests on
12 March 18th that are on page 5?

13 A. Three tests, yeah.

14 Q. They appear to be at 9:30 in the morning and
15 then again at 12:30 in the afternoon?

16 A. Correct.

17 Q. I noticed that the last one on the 18th at
18 12:30 in the afternoon, they move back to a .08 for the
19 target. Do you have -- or is it a part of the quality
20 control to use the whatever, the customer's gases?

21 A. You would typically use what the customer uses.
22 And it's part -- what you do is you're configuring the
23 instrument to go out the door in the form that the
24 customers need to use, and there's a line there placing

1 use 082 tank.

2 Q. Now, if you flip ahead to page 2 -- I'm sorry,
3 page 3. You'll see a series of six items where there's
4 information blacked out?

5 A. Yeah.

6 Q. Immediately under that, there's on March 18th
7 at 9:42 in the morning, there is a subject test?

8 A. Yes.

9 Q. And there's actually several tests that are
10 done on March the 18th between 9:00 o'clock in the morning
11 and approximately 2:30 in the afternoon?

12 A. That's correct.

13 Q. Did you have occasion, when you were checking
14 the records, to make a determination as to whether or not
15 those tests were conducted in the lab?

16 A. Those are part of the quality control procedure
17 tests that we would carry out. And, basically, what we do
18 we use a water-base simulator and we go through several
19 subject tests --

20 THE COURT: What date are you referring to,
21 Mr. Evans.

22 THE WITNESS: I'm sorry?

23 THE COURT: What date are you referring.

24 THE WITNESS: 18th of March, this page here where

1 there's a lot of tests.

2 THE COURT: Right.

3 THE WITNESS: Test No. 308, 307, 305, 309. I'm
4 sorry, this photocopy is maybe.

5 THE COURT: I apologize. Go ahead.

6 THE WITNESS: What's happened is that the quality
7 control technician is following the quality control
8 procedure, which calls for a nominal 100 wet and a nominal
9 350 wet. What we're doing is we're looking at the
10 accuracy of the instrument and at or near the legal limit,
11 and at or near the maximum reading the instrument to
12 determine there's accurate over the whole range.

13 And the other one which is marked mouth alcohol, we
14 test, we exercise mouth alcohol detection in the system to
15 ensure it will detect mouth alcohol. So these are just
16 part of the normal quality control sequence. And the
17 records we hold show an expected value and this result
18 they have to be within five percent. And the results that
19 I saw, noted by the technician at the time, were all
20 within five percent.

21 Q. So those were tests that were done at the lab,
22 as part of your repair and then --

23 A. Quality control procedure. This is part --
24 what we see here is part of the quality control procedure.

1 The repair technician does not have these standards
2 available. You have to physically move the instrument to
3 another part of our department where we hold these
4 solutions and we name these solutions. We know their
5 values and use them as part of our quality control
6 procedure.

7 Q. Based on your knowledge of the quality control
8 procedures and the repair procedures that are conducted in
9 your department, in your opinion do these test results
10 indicate that there was a definite problem with this
11 machine?

12 A. They confirmed the instrument was working
13 correctly.

14 Q. Thank you.

15 MS. SIMPSON: May I have a moment, Judge.

16 THE COURT: Sure.

17 MS. SIMPSON: Judge, may I approach the witness.

18 THE COURT: Sure. You have about five minutes,
19 Ms. Simpson. Thank you.

20 BY MS. SIMPSON:

21 Q. I'm going to hand you what's been marked
22 Illinois State Police Exhibit No. 3. Do you recognize
23 that?

24 A. Yes, I do.

1 Q. What do you recognize Illinois State Police
2 Exhibit No. 3. Do you recognize that?

3 A. Yes, I do.

4 Q. What do you recognize Illinois State Police
5 Exhibit No. 3 to be?

6 A. It's a service repair sheet. It's the record
7 that we send with the instrument back to the customer.
8 The address, the details of the instrument, fuel cell, the
9 serial number. Each of our fuel cells are serial
10 numbered. The software version is noted on there. Then
11 the parts used in the repair and then technical notes
12 underneath. And there are brief description of what parts
13 are replaced why. And finished with the statement that
14 the unit was calibrated to factory specs, and that's the
15 quality control procedure verifies that those factory
16 specs.

17 And in this case, this instrument didn't have a new
18 fuel cell fitted. The characteristics of what we call
19 high gain, which was replaced. And then there's as an
20 updated heater, updated retainer, and I note it in those
21 previous lists you gave me there was a solenoid error
22 recorded there. And, obviously, the technician saw that
23 they had, as I say, the older type of design of set
24 solenoid retainer there. And we have a standard procedure

1 when we see that coming in, we replace it because we know
2 in doing that we remove typically the cause of some of
3 these problems.

4 Q. The fact that the instrument needed to be
5 repaired or have that solenoid changed, would that have
6 affected tests that are done in or around the last couple
7 of weeks say before the repairs were made? Or can you
8 tell that from the records?

9 A. If it failed, you would see set solenoid error,
10 and it means that this test couldn't have been carried out
11 anyway. But as I say, that's one of the defaults that can
12 be intermittent but typically it doesn't get better, which
13 is why we've implemented a program that when we see an
14 instrument returned with the old styled retainer, we call
15 it set solenoid retainer, we replace it with a new star,
16 which is designed not to have this same effect. The
17 effect only happens after years, by the way, so it takes a
18 few years to find out it was an issue and the design
19 replacement.

20 Q. So that was replaced more as a precautionary?

21 A. It's precautionary but equally I think the
22 technician saw it as a problem, but we would have replaced
23 it anyway.

24 THE COURT: Is this one of the machines involved in

1 our case or is this just for illustrative purposes?

2 MS. SIMPSON: That's my next question.

3 BY MS. SIMPSON:

4 Q. This particular instrument -- this record is
5 related to the records that you've just been going over --

6 A. Um-hmm.

7 Q. In McMurray No. 5; is that correct?

8 A. That's right. 3911.

9 THE COURT: What is it for now, Ms. Simpson, again?

10 MS. SIMPSON: It's McMurray Exhibit No. 5.

11 THE COURT: No. 5. This is the machine repair record
12 for that, for McMurray No. 5.

13 THE WITNESS: On the first page it's a poor photo
14 copy but it looks -- yeah, it's 3911. This repair sheets
15 refers to the same instrument as in this MIS report.

16 THE COURT: Got you. Thank you.

17 MS. SIMPSON: Your Honor, at this time I'd move to
18 move Illinois State Police No. 3 admitted.

19 MR. RAMSELL: I have no objection.

20 THE COURT: Repair record. Okay. We have to stop
21 because we need to reschedule and make sure we have it
22 all.

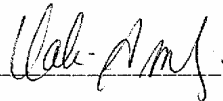
23 (END OF PROCEEDINGS.)

24

1 STATE OF ILLINOIS)
2 COUNTY OF DU PAGE) SS:
3)
4)

5 I, DALIA AMBRIZ, hereby certify that I am a
6 Certified Shorthand Reporter, assigned to transcribe the
7 partial computer based digital recording of proceedings
8 had of the above-entitled cause, Administrative Order No.
9 99-12, and Local Rule 1.01(d). I further certify that the
10 foregoing, consisting of Pages 1 to 113, inclusive, is a
11 true and accurate transcript hereinabove set forth.

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