1	STATE OF NORTH CAROLINA COUNTY OF WAKE
2	IN THE GENERAL COURT OF JUSTICE
3	SUPERIOR COURT DIVISION 03 CRS 59694
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5	STATE OF NORTH CAROLINA
6	
7	Plaintiff,
8	vs. TRANSCRIPT
9	
10	TAMES A DOMED
11	JAMES ARONER
12	D. 6 1
13	Defendant
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16	The above-captioned case coming on for trial at the October 17,18, 2005, Criminal Session of the
17	Superior Court of Wake County, Raleigh, North Carolina, before the Honorable Carl Fox, Judge
18	presiding, and a jury, the following proceedings were had, to wit:
19	APPEARANCES
20	For the State:
21	Katherine Edmiston Assistant District Attorney
22	For the Defendant:
23	John K. Fanney Attorney at Law
24	Melvyn G. Levin
25	Official Court Reporter

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Where do you work?

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1		jury.
2		THE COURT: All right.
3		(The exhibits were published to the jury.)
4		THE COURT: All right. Any further evidence
5		from the State?
6		MRS. EDMISTON: Yes, Your Honor. State would
7		call Paul Glover.
8		I'd ask that Miss Todd be excused.
9		MR. FANNEY: I don't have any further need of
10		Miss Todd' this afternoon.
11		THE COURT: She's excused without objection.
12		(Witness excused)
13		THE CLERK: Do you solemnly swear that the
14		testimony you are about to give will be the truth,
15		whole truth, and nothing but the truth?
16		THE WITNESS: I do.
17		THE CLERK: Be seated.
18		DIRECT EXAMINATION
19		MRS. EDMISTON:
20	Q.	State your full name for the Court and jury,
21		please.
22	Α.	My name is Paul Glover.

I work for the Forensic Test for Alcohol Branch,

which is a part of the Department of Health and

- 1 Human services for the State of North Carolina.
- 2 Q. What is your position with the Department of Health
- 3 and Human Services?
- 4 A. I'm a training specialist and research scientist.
- 5 Q. Could you describe briefly the subject matter that
- 6 you specialize in?
- 7 A. I deal with issues that relate to breath testing;
- 8 for alcohol blood testing; for alcohol blood
- 9 testing for drugs and urine testing for drugs;
- issues relating to the tests that are done;
- instrument testing that's involved; the methodology
- analysis for analyzing blood and breath; the
- training of the instructors that we have, train
- 14 those individuals who become analysts; just review
- scientific issues that relate to those areas.
- 16 Q. And what academic degrees do you have and from
- where?
- 18 A. I have a BS in biology I got from Florida State
- University in 1974; masters in biology I got from
- 20 Florida State University in 1978.
- 21 O. Do you have any specialized degrees in or above and
- 22 beyond that?
- 23 A. Yes. I'm certified as a chemical analyst on the
- 24 Intoxilyzer 5000. I'm certified to do preventive
- maintenance on the Intoxilyzer 5000. Certified to

do maintenance on the Alcosensor.

I attended a course of instruction at Indiana

University dealing with alcohol in humans, how

alcohol gets in humans, where it goes once it get

in them, effects that it has on them, various

methods how it is eliminated from the body, various

methods that are employed to test for the alcohol

concentrations in humans.

I also attended a course of instruction at

Indiana University that deals with the effects of

drugs on human psychomotor performance.

12 Q. What jobs have you held since you graduated from fsu?

14 A. I was a research scientist at Oak Ridge National
15 laboratory in Oak Ridge, Tennessee; research
16 scientist at the National Institute of
17 Environmental Health Sciences, Research Triangle
18 Park, research scientist at Burroughs-Welcome
19 Pharmaceuticals.

I was at Oak Ridge four years. I was at NIEHS

for five years, and Burroughs-Welcome for 7 years.

Q. Have you had any other positions outside of the scientific field?

24 A. Yes. I've been a reserve police officer for the
25 City of Durham since 1996 for about a year. I was

- a full time officer in 1997. And then I was employed by the State.
- Went back to reserve status. That's been.
- 4 I've been a reserve police officer at the
- 5 University of North Carolina Chapel Hill since
- 6 1992.
- 7 Q. Other than what you have briefly told the jury
- about some of your duties do you have any other
- 9 duties as a research scientist?
- 10 A. Yes. If an issue comes up that's in a case I'll
- 11 review the peer reviewed scientific literature
- that's been published in that area if something has
- 13 been published.
- If nothing has been, been published there's an
- 15 experiment that I can do that might shed light on
- 16 whatever the issue is. I have a laboratory in
- 17 Raleigh, I'll conduct a study if I'm able to.
- 18 Q. With respect to the Intoxilyzer 5000 specifically,
- what are some of the things that you have done with
- that instrument in your position?
- 21 A. Well, we have had issues come up about a particular
- brand of toothpaste would cause a false alcohol
- reading in an individual, so I got volunteers to
- brush their teeth with toothpaste, tested them.
- We have had issues with individuals who say

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put rubbing alcohol on their arms for some reason
and then wanted to say that's where the ethyl
alcohol in this test came from. So, we put rubbing
alcohol on your arm, wrap it up, wait awhile,
administer a breath test.

There have been individuals who have claimed that they've been exposed to things like jet fuel and other organic compounds.

And with those we didn't test humans, but what we did do was get types of, particular types of gasses, gas concentrations that have been reported to be on people's breath, which would be very, very minute amounts, and then run those gasses through the Intoxilyzer to see if it will respond.

- 15 Q. Have you taught any particular classes?
- 16 A. Yes. I teach a class every fall to the new prosecutors at the Institute of Government.

I teach a class which is, that deals with the

Intoxilyzer 5000 breath testing for alcohol, blood

testing for alcohol. Just a kind of a general

hour-and-a-half session covering that.

The evening session where we had controlled drinking exercises, let the individuals consume alcohol and test them.

I have taught alcohol toxicology at the

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1	National Ad	vocacy	Center	in C	olumbia,	Sou	th
2	Carolina.	I have	taught	the	Intoxilyz	er	and
3	alcohol to	new Dis	trict C	ourt	judges.		

And then we have had a series of classes we 4 5 have taught through the Conference of District 6 Attorneys.

These were renewal classes where we go to different areas in the state, have a one-day classes on DWI that involved the prosecutors from that region and officers. These classes had 60 to 80 participants in it.

And then we've done various other controlled 12 drinking exercises. Again, we dose individuals 13 with normal amount of alcohol, then test them. 14

- 15 How long have you been in your current position? Q.
- I started my 9 years in September. 16 Α.
- And have you published any articles in the course 17 Q. of your work? 18
- I, I published a part of the proceedings, two 19 different special studies that I did. One of them 20 dealt with interfering substances, and that's where 21 I got the interaction of gases, tested them on the
- Intoxilyzer. 23
- This was written up and submitted to the 24 International Consulting of Alcohol Drugs and 25

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Traffic Safety. This was accepted for presentation at the 2000 meeting, and was published as part of their proceedings.

We looked at effects of heat on blood samples that contained alcohol. We dosed individuals with alcohol, put them in a patrol car for up to 7, 8 days with a temperature recording device in there, recorded them every if five minutes.

And then we pulled sample tubes out of a car after 30 days, analyze those to see if there's an effect of the heat on the contents of the tubes.

This was also written up and submitted to the same organization and accepted for presentation in Montreal. It was presented later at a couple of other meetings, international meetings,

- 16 International Association for Chemical Testing.
- 17 Q. And are you a member of any professional organizations?
- 19 A. I'm a member of the International Association for

Chemical Testing where I'm on the executive board.

- 21 I'm a member of the National Council on Alcohol
- 22 Drugs and Traffic Safety.
- 23 Q. Have you testified as an expert in DWI trials
- 24 before?
- 25 A. Yes. I have.

- 1 Q. About how many times?
- 2 A. About a, 160 times now.
- 3 Q. And have you assisted in other cases that you
- 4 haven't testified in?
- 5 A. I have assisted in probably 400 other cases
- 6 probably 150 where I may have attended a trial but
- 7 didn't end up testifying. Others were... one way
- 8 or the other cases were resolved. I didn't end up
- 9 having to go testify.
- 10 MRS. EDMISTON: Your Honor, I would tender
- Mr. Glover as an expert witness in field of breath
- alcohol testing on the Intoxilyzer 5000.
- 13 THE COURT: Any objection?
- MR. FANNEY: No, not as to that
- 15 qualification.
- THE COURT: All right. He's, he's received,
- 17 qualified to give opinion testimony in that area.
- 18 MRS. EDMISTON:
- 19 Q. Could you tell the jury in a little more detail
- what the Intoxilyzer 5000 is?
- 21 A. Yes. If I could have the picture of it, it would
- help me.
- MRS. EDMISTON: May I approach, Your Honor?
- 24 State's exhibit number 3.
- THE COURT: Retrieve it.

1	THE WITNESS: This is the Intoxilyzer 5000.
2	This is a, about a $3/4$ -size picture, so it is
3	actually somewhat larger. This one happens to be
4	one that's in my laboratory in Raleigh, in North
5	Carolina.
6	The only instrument that's approved for
7	evidence, for breath testing is the Intoxilyzer
8	5000.
9	And so, they have different serial numbers but
10	appearance is the same on them. They have unique
11	serial numbers.
12	This instrument measures alcohol concentration
13	on a person's breath by the observance of infrared
14	light by the ethyl alcohol molecule. That's the
15	simple version of what it does.
16	There is a, a hose that lays down and it can
17	pivot. That's the breath tube at the mouthpiece.
18	It's put on to where the subject would blow in.
19	When the subject blows in his breath goes down
20	the tube, goes into a, chambers in the back. Then
21	it exits out the back of the instrument.
22	We don't actually capture a sample and
23	analyze. Their breath is constantly analyzed the

whole time that they're blowing.

There's a light source on this end of the

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chambers. There is a light detector on this end of the chamber on the, actually end of chambers or lens. Lenses would spread light out concentrated in it.

In this end the lens is oriented so it spreads light out to insure that light is not touching the chambers in the back. And the other end of it where the lens is turned the other direction so it focuses the light back down.

Now, what we're wanting to look for is a specific waive length of infrared light to see if the waive length, amount of it makes it through this chamber decreases, because ethyl alcohol will absorb this specific waive length of infrared light that we're looking at.

So, and the absorption on the concentration of alcohol in the sample are directed. Proportional:

More alcohol, the more light is absorbed.

You can think about it like your headlights in the fog. The more fog it is the shorter distance your headlights are going to shine.

And so, the subject blows through here. The breath is being analyzed.

This light detector on the end is looking at the light coming though it looking to see if

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there's a decrease in the intensity. 1 There's a wheel that has three different light 2 3 filters on it, so it's like three different waive lengths of light. 4 That's to insure that we, we're looking at two 5 waive lengths of light with respect to ethyl alcohol. 7 And the third waive length is a baseline, so 8 it's a reference point for the others in case 9 you're running a different voltage, couple of volts 10 different in the system. That, that other waive 11 length is a baseline. 12 This wheel turns about 2200 times a minute, so 13 every second. That is, subject is blowing through 14 here. Their breath gets analyzed about 35 times. 15 So, in the course of a second, 7 seconds 16 exhalation, they're blowing through. Their breath 17 gets analyzed about 175 times as the exhalation. 18 As the earlier witness had stated, as the test 19 record ticket goes in it records on the entry. 20 When they, when she starts the test and enters 21 22

When they, when she starts the test and enters all the information it will ask if she's ready to run a test. If she says "yes," it starts the automatic procedure.

Then the first thing it's going to do is to

draw an air blank. It is putting air through here,
making sure there is nothing in there. But it also
analyzes that sample when it's going through to see
if there's anything in the room that might
interfere with the test.

Some of our test sites are almost as big as this room. Some of them not much bigger than a broom closet.

The subject sits there in there for an observation period breathing in there constantly. They can get enough alcohol in the air. The instrument will see that alcohol when it does that, initial air blank.

So, we want to check, make sure there's no alcohol in the room. That's what that first air blank is going to do.

We then get a calculation verification. This is the alcoholic breath simulator picture of ethyl alcohol in water maintained at a certain temperature.

The instrument will pump air through this hose. Goes down. It comes out. Goes in the instrument. Then it circulates back around that to provide a known standard for the instrument to be able to analyze.

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It does not calibrate the instrument. 1 2 simply gives it a known standard, sort of like if 3 you wanted to check your bathroom scales to see if 4 they were working right. You put a five-pound bag of potatoes on there that said "five pounds." You would know that the 6 scales are working properly. 7 We give it a known sample of alcohol to 8 analyze. If it doesn't, if that concentration is 9 not reported correctly, then the instrument will 10 disable itself and the operator can't use it. 11 My staff that has to go and do maintenance on 12 the instrument to find out what the problem is. 13 You would then do another air blank. 14 We then do the subject test. When it prompts 15 a subject to blow they have to below long enough 16 and hard enough to get deep lung air. 17 We try to get them to be about 7 seconds with 18 sufficient pressure. And there's a tone that's 19 emitted from the keyboard as they're blowing. 20 like it's hard enough the tone is constantly 21 emitted. 22

If they stop blowing then they have to start

two-and-a-half-minute window during which they can

all over again. Then they have a

- 1 blow.
- Once they have blown long enough and hard
- 3 enough a ring will come up indicating they have
- 4 complied with other air blank subject tests,
- 5 another air blank.
- 6 Q. So, as between the two tests that are given and a,
- 7 and one testing situation how many times is that
- 8 breath analyzer in the interim working on the
- 9 machine?
- 10 A. About each, each time a subject blows it's analyzed
- 11 about 175 times.
- 12 Q. Multiply that by two, you get total time each test
- is analyzed.
- 14 A. Yes.
- 15 Q. Who makes the simulator solution?
- 16 A. Simulator solution is prepared by the State Health
- 17 lab. They make it for us in 10 milliliter vials.
- It's got a aluminum top that's on it so it
- can't be tampered with if it's crumpled.
- They have to change the solution after 125
- times, that's it, when used up or every four
- 22 months, whichever happens first.
- They mix it up in biometric glasswear to 500
- 24 milliliters. They dump out what's in here, clean
- the jar, put in the fresh solution.

- Some of our test sites are very remote, like

 Okracoke Island. They may even do a dozen tests in

 four minutes time, so the solution would only be

 changed every month.
- Wake County, where we do about 500 tests a
 year, the solution that has to be changed about
 every couple weeks because we're approaching that
 test limit.
- 9 Q. How do you get access to the inside of the machine
 10 where the infrared light is doing its thing?
- 11 A. My field staff can. And we have certified factory,

 12 certified trained electronics technicians do any

 13 repairs; have done, done instruments.
- There is a access panel on the side. They
 take a special key to be able to open it. They're
 hex heads. You take a real small Allen wrench to
 actually disassemble it.
- Power the test button. There are no other

 buttons that you can actually manipulate without

 actually opening the instrument up.
- Q. How long has it been used in North Carolina to measure breath alcohol?
- 23 A. Since about 1991 it's been used in North Carolina.
- 24 Q. Intoxilyzer 5000?
- 25 A. Yes.

- 1 Q. Could you tell the jury generally what happens in a person's body when they drink alcohol?
- A. Well, when they initially consume it they typically drink it. Some people have done it IV, other methods.
- But essentially drinking goes down the
 esophagus into their stomach. In the bottom of the
 stomach as a valve that will emit contents of the
 stomach into the small intestine.
- Alcohol is a very, very small molecule. It is absorbed through the first 12 inches of the small intestine very, very quickly. People have compared it to pouring water. It goes through almost instantly.
- There's some alcohol that's absorbed by the lining of the stomach, but the majority of it is going to be absorbed through the small intestine.

 Goes into the blood, is carried throughout the body.
- Alcohol has a very high affinity for water,
 any water-containing tissues. We're looking at
 brains, blood, muscle, organs, major organs. Many
 of those water-containing tissues where typically
 it's going to go.
- It gets instructed to go throughout the body

- into the water-containing tissue. It does not go
- 2 into the fat very well at all.
- 3 Q. So, how does the alcohol get from your blood into
- 4 your breath as you breathe?
- 5 A. Just in breathing . As you breathe out, breathe in
- 6 oxygen, breathe out CO2, you breathe out a certain
- 7 amount of alcohol.
- When you're normally breathing it is not
- 9 coming from the stomach. It is not coming from
- 10 residual mouth alcohol from the mouth from
- drinking. The alcohol is actually coming from in
- the lungs.
- 13 Q. After a person stops drinking what happens in their
- body to that alcohol?
- 15 A. Well, once they stop their concentration will start
- to go down. When you drink it starts being
- 17 circulated.
- There is a enzyme in the liver called alcohol
- dehydrogenase. The enzyme breaks down about 90 per
- cent of alcohol that you drink, so when you drink
- it goes. And they start being circulated.
- Some blood is going to go through the liver
- 23 shortly thereafter.
- Some of that alcohol will never reach the
- other parts of your body. Going to be broken down,

- right, but the bulk of it is going to be distributed.
- The whole time your blood is circulating, the
- 4 enzyme is going to be breaking down the alcohol.
- 5 It breaks down about 95 per cent of alcohol, brings
- 6 the other 5 percent. You lose three breaths as
- 7 well as urine.
- 8 If you think about filling in the breath tube
- 9 with a drain opener, if you turn water on fast
- 10 enough the level will start to rise in the
- 11 bathtub. Water is going down the drain the whole
- 12 time.
- That's what happens when you're drinking. If
- 14 you are drinking at a rate faster than you're body
- can eliminate alcohol it's still breaking some down
- but concentration is going up, just like a, water
- in a tub.
- When you stop drinking, then the concentration
- is going to start falling as the liver is able to
- 20 break down the alcohol.
- 21 Q. And the Intoxilyzer 5000 tests a person's breath;
- 22 correct?
- 23 A. Correct.
- 24 Q. What exactly does there Intoxilyzer 5000 look for
- in someone's breath?

- 1 A. Looking for the ethyl alcohol.
- 2 Q. Does the fact that alcohol can get into your actual
- mouth affect how the Intoxilyzer measures the
- 4 amount of alcohol in the breath?
- 5 A. No. What we're looking at... You know, again,
- alcohol is going to be in all the water-containing
- 7 tissues. It's going to be in your saliva. To a
- 8 certain extent going to be a wet area, if you will,
- 9 if you're concerned with your trachea, your lungs,
- 10 all of that.
- But ultimately what we're looking at, we're
- looking at this air that you blow out, a
- concentration of alcohol in your breath, and that
- is air that you exhale. That's your breath.
- That's the concentration of alcohol that we're
- looking at.
- THE COURT: We're going do stop here, members
- of the jury.
- 19 You can step down.
- 20 Members of the jury, please regard the
- 21 admonition during the recess: Do not discuss the
- case. Don't form an opinion. Keep an open mind.
- You have yet to hear all the evidence and my
- 24 instructions.
- So, well, be back in the jury room at 9:30 in

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1	the morning. We'll be under way shortly
2	thereafter. Thank you. Have a nice evening.
3	Everyone else remain seated.
4	(The jury is excused.)
5	(The following proceedings were held in open
6	court outside of the presence of the jury.)
7	THE COURT: All right. All right. The
8	jurors are out of the room. Is there anything we
9	need to take up before we recess?
10	MRS. EDMISTON: No, sir.
11	MR. FANNEY: No, Your Honor.
12	THE COURT: We'll start back with this
13	witness first thing in the morning. All right.
14	We'll take a recess until 9:30 tomorrow morning.
15	THE BAILIFF: This Honorable Court is in
16	recess until 9:30 tomorrow morning.
17	(The court stands at recess.)
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and further, that I am not a relative or employee of any attorney or counsel employed by the parties 17 thereto, and am not financially or otherwise interested in the outcome of the action.

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Melvyn G. Levin 23 Official Court Reporter 24

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STATE OF NORTH CAROLINA

IN THE GENERAL COURT OF JUSTICE SUPERIOR COURT DIVISION

COUNTY OF WAKE

FILE NO: 03-CRS-59694

STATE OF NORTH CAROLINA,

PLAINTIFF,

VS.

T-R-A-N-S-C-R-I-P-T

JAMES ROGER ARONER,

DEFENDANT.

Transcript of proceedings taken in Wake County Superior Court, Raleigh, North Carolina, on October 19th, 2005, before the Honorable Carl Fox, Judge presiding.

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THE COURT: Good morning. Apparently we have a note from the -- one of the jurors. "Can we take notes?" Here's -- Let me say what I normally tell them and you can decide what your thoughts are.

What I normally tell them is I think -- I believe the instruction on that from the pattern jury instruction is that they're free to take notes if they wish to take notes but will provide them with the utensils to do that.

However, in my experience no one can take notes as fast as testimony is given in the courtroom, except the court reporter, so unless they're a stenographer they can't do it — they will lose — inevitably pick up parts and lose parts, focus on some things and totally miss other things, and none of their notes will be the same.

The court reporter does this for a living and she's using -- they're using a mask or a stenograph that types several of the letters at the same time, and that's the only way to keep up.

So they're free to do it, but my admonition is that they shouldn't expect their notes to be accurate and they shouldn't expect them to agree.

And a lot of times they just avoid doing it once I say that to them.

7 8

What do you say, Madam Prosecutor?

MS. EDMISTON: I'm not opposed to the instruction, Your Honor. I think that's fine.

THE COURT: Mr. Fanney?

MR. FANNEY: I just would express for the record my only concern is that we're halfway through a trial and there weren't any notes taken prior to today.

THE COURT: That's a good question -- That's a good point.

MR. FANNEY: And certainly we're dealing with a two-pronged crime. Now we're faced with the prospect of the jury taking notes on only one piece of the puzzle, and I while I would love them to have done it for the whole trial, I have a concern with that.

THE COURT: Uh-huh (affirmative). Well, hmm.

But I think -- Isn't the law that they're free to

do that, or is it entirely at my discretion whether

or not they do that?

MR. FANNEY: Oh, you're probably correct in that regard, but I do want to express that reservation for the record.

THE COURT: How about if I express that reservation to them as well?

MR. FANNEY: I'll be glad for you to do that. I don't know how much it'll help, but that's fine. I appreciate that effort. So just for the record, we'd object to it, but if you would give them that cautionary instruction.

THE COURT: That I will do. I'm just not a fan of it. I mean, I have a computer up here. It would be all I could do just focusing totally on take-down of what they're saying. Anything else before we bring them in?

MS. EDMISTON: Your Honor, I have some brief cleanup matters to deal with.

THE COURT: Okay.

(OTHER COURT MATTERS DEALT WITH)

(JURY ENTERS AT 9:47 A.M.)

THE COURT: Good morning. I received a note that indicated can you take notes. Well, yes, you can, and the Court would provide you, through the clerk, with notepads and pens if you wish to do that, but here's my admonition to you, and I'll let you think about it and decide whether or not you want to do that.

You're already probably a good third if not halfway through the evidence in this case and no one has taken any notes, so that you're not going

you would just raise your hand if you would like a pad and a pen I'll be happy to have the clerk provide one for you.

All right. If you change your mind just bring it to my attention, just let me know how many you need and we'll be glad to provide it, because that is not a problem. Okay.

MS. EDMISTON: Your Honor, I'd re-call Paul Glover to the stand.

THE COURT: All right. You're still under oath.

(Whereupon, PAUL L. GLOVER, having previously been sworn, testified as follows on DIRECT EXAMINATION by MS. EDMISTON:)

Q Mr. Glover, I believe we left off yesterday afternoon talking about alcohol on a person's breath.

A Yes.

Q And I'll ask you, if -- the fact that some alcohol may be in a person's mouth, does that mess up the Intoxilyzer breath test?

A No. If you're referring to raw alcohol that would be in a person's mouth, no, it will not.

Q And can you explain that a little further to the jury?

A Yes. If I can draw a picture I think I can explain it better.

then it would end up flagging it as an invalid sample. Studies have been done where individuals who are alcohol-free were given an ounce of brandy, hold it in their mouth for two minutes and then spit it out.

Fifteen minutes later when they're breath-tested you see no alcohol in their system because it dissipates; that alcohol -- that residual alcohol that's in their mouth dissipates in that -- actually in about ten minutes' time.

So that's why we have our 15-minute observation or deprivation period, to insure that if they had consumed something a few minutes before they were tested -- well, a few minutes before their deprivation period that anything that would be in their mouth would be gone.

- Q And you hard Ms. Dodd testify to some degree about the invalid sample?
 - A Correct.
- Q And is that your understanding what she was referring to?
 - A Yes, it was.
- Q And do you know how much time elapsed in this case from the actual vehicle stop to when the breath test was performed?
 - A Approximately an hour and twenty-five minutes.
 - Q And is that significant to you at all?
 - A Yes, it is. Because as I understood from the

anything from the point that he was stopped, so we actually have an hour and twenty-six minutes, hour and twenty-five minutes, something like that from the time of the vehicle stop until he was tested.

Q Now, are you aware of any other ways that alcohol could come back up into someone's mouth other than them actually consuming it?

A If they were to regurgitate, throw up some, if they had raw alcohol left in their stomach you might get some, however, it dissipates very quickly.

In fact, if someone were to do that you would get an invalid sample response where you would see -- again, it's just like if you squish some in and then you were to blow, you would get the kind of profile where it goes up and then right back down.

If you were to regurgitate some and have it in your mouth and then blow you would get the same sort of pattern.

Q And can you tell this jury about any general safeguards with the Intoxilyzer 5000 that insure it's working properly on a given test?

A Yes. We have a number of safeguards. We have pretest safeguards; that's before the analyst can even do anything. If they come in and the instrument is not on, you turn it on -- it will tell them that it's not ready.

It has to get to a proper temperature. Once it gets to that temperature it will then go through a series of tests — it will check to see if the printer is responding, it will check the program.

It has a program in there. It's written on a programmable, erasable chip. It checks to see that that program is intact. If that program were to not be intact, then it would not come out of its diagnostic mode and we wouldn't be able to run a test.

It's going to check to see that the filter wheel is turning, because the filter wheel has to be turning to be able to do that test. It's going to go through all of these steps before the analyst can use the instrument.

Once we're at the point where we're going to test an individual, it's going to do a number of other things where there are a number of other safeguards.

As I said yesterday, it's going to sample the room air. If it were to see volatile alcohol or other volatiles in the air when it does that first air blank, then it's going to indicate that there are ambient conditions and it will reject the test record ticket and the analyst needs to ventilate the room before he's going to able to set it up again and run the test.

It does the calibration verification, has to show the instrument is properly calibrated; if it were to not pass

that then the instrument would be disabled and the analyst couldn't run the test.

Again, there's a safeguard for mouth alcohol. The instrument has a particular window when the subject can blow, and it will say, "Please blow," and if the subject blows before that it will stop the test, reject the ticket, and the analyst has to go through all the steps again.

It will look for interfering substances. There's one substance that can be found on human breath that can absorb one of the wavelengths of infrared light that we're looking at, and that's acetone. People who are diabetic and go into ketoacidosis will have acetone on their breath.

The instrument always looks for acetone. If it sees some it will subtract it from the result, the alcohol result. If there's a significant amount of acetone it will subtract it, but it will also indicate on the test record ticket that there was an interferent present and it will subtract it.

The reason for that is to let the analyst who's running the test know that this person may be having a medical situation, that they need to pay attention, because if they're in ketoacidosis, being a diabetic they won't get better unless they're treated.

The breath tube on the side of the instrument has an antenna in it. The antenna is designed to pick up radio waves that would come from an officer's radio, so if he were

right next to the instrument that would key his microphone so his radio is sending out waves. The instrument can detect that. It will stop the test, reject the ticket, start all over again.

If there is a high concentration of alcohol it will indicate "Range Exceeded" -- and that level is about a .65, which would be a fatal dose for most people. Nonetheless, that's in there to let them know that you've gone almost beyond the limits of the instrument as far as being able to analyze the alcohol there.

Q And you heard Ms. Dodd testify that she got two sequential breath samples from the defendant?

A Right. That's one of what we call our procedural safeguards in that we take -- you test a person's breath twice. And those results have to be within .02 of each other, and you use the lower of the two if there was a difference in them.

MS. EDMISTON: Your Honor, may I approach
Madam Clerk to get State's Exhibit Number 4?
THE COURT: Yes.

- Q Mr. Glover, I'm showing you State's Exhibit Number 4. Do you recognize that?
 - A Yes, I do.
 - Q What is that?
 - A It's the test record ticket that was generated when

the defendant was tested.

Q And can you look at that ticket and determine whether any of the safeguards that you've just testified to were activated in that particular test?

A I can do that, and there's no indication that there were any problems when this test was conducted. There's -The last line that's printed on here is "Reported AC," or reported alcohol concentration.

If any of those safeguards had happened you would not get a reported alcohol concentration printed on here, other than if an interferent was subtracted from it you would still get a reported alcohol concentration.

But all of the others you would not get a ticket with any of this information on it.

MS. EDMISTON: May I approach the witness with this?

THE COURT: Yes.

- Q Now, yesterday you testified when we were going through what you do and your experience that you've done some experiments on human beings --
 - A Correct.
 - Q -- with respect to blowing in the Intoxilyzer.
- A Correct.
 - Q And generally what do you do when you're doing those types of experiments?

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A We look at the -- basically the weight of the individual and calculate a dose of alcohol to give them -- to get them to a .08. That's the target that we are aiming for when we dose them.

So we will give them alcohol, they will drink it over about an hour, and then we'll do breath tests on them after that.

- Q And do you make observations of those people who you've giving controlled doses of alcohol to?
 - A Yes, we do.
- Q And have you seen field sobriety tests be performed on people who you're dosing with alcohol and having blow into the Intoxilyzer 5000?
 - A Yes.
- Q And you were here yesterday and heard the testimony of Officer Driver, correct?
 - A Yes, I did.
- Q And after listening to that testimony can you also give an opinion as to whether that result is consistent with what you heard in court yesterday?
 - MR. FANNEY: Just a moment. Objection to this line of questioning. It has to be heard out of the presence of the jury.
 - THE COURT: All right. Members of the jury, let me ask you to step back to your jury room for

just a few minutes.
(JURY EXITS AT 10:03 A.M.)

THE COURT: All right. Let the record show all jurors are out of the courtroom. Madam Court Reporter, can you tell me what -- do you have any way of telling me what that question was, or do you have that question?

My recollection was does he have an opinion as to whether or not that result is consistent with --

MR. FANNEY: The -- I think the question is --

MS. EDMISTON: The observations of the --

MR. FANNEY: Well, I'll let her rephrase it -I'll let her tell you.

MS. EDMISTON: Whether Mr. Glover in hearing the testimony yesterday from Officer Driver can say whether those observations that he heard in court are consistent with the result on the test ticket based on Mr. Glover's experience as an expert.

THE COURT: How can he do that?

MS. EDMISTON: He has participated in controlled drinking experiments where he's observed people and the physical manifestations of what impairment would be after giving them a given dose of alcohol and then that person blows in the Intoxilyzer 5000, so Mr. Glover's uniquely situated

to say "I've dosed people, I've observed them, they've blown on the Intoxilyzer 5000 and blown a certain reading, and based on my experience in viewing those types of experiments and hearing the testimony yesterday I can say that what Officer Driver testified yesterday to his physical -- " the defendant's physical manifestations are consistent with what Mr. Glover has observed as an expert in the field of breath testing.

THE COURT: Well, let me ask you this. Was there any testimony about how much the defendant had to drink? I mean, I know -- Was there testimony about what the defendant had to drink?

MS. EDMISTON: The last testimony was he had had two Crown Royals that were heavy. There's also testimony that he had nothing to drink, one beer, two beers, two Crown Royals that were heavy. That's the testimony that's before the jury as to what the defendant consumed.

THE COURT: So there's no evidence of exactly how much alcohol he drank.

MS. EDMISTON: Yes, sir.

THE COURT: Okay. And when was the last time he -- Is there evidence about when he last had a drink?

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MR. FANNEY: There is. 1:15 p.m., according to statements the night of the arrest.

THE COURT: What about -- I'm just -- Okay.

MR. FANNEY: Here's the problem I have with that question. Number one, she has tendered him as an expert in breath alcohol testing and the Intoxilyzer 5000.

She is now asking a question asking him to render basically a back-door opinion on whether or not his performance of the field sobriety test is consistent with him blowing an eleven.

He's not been qualified as an expert on field sobriety testing. I don't know if he's ever even taken a field sobriety test in the course. I don't know what studies have been conducted to show a correlation between that.

The State used that evidence to bolster its opinion of appreciable impairment. The percentage given yesterday by the officer said that was a percentage that he was appreciably impaired, not that he was at a certain blood or breath alcohol concentration, and now the State wants this man to come in and testify "You can believe this machine because I heard the way he testified and I heard about his field test results, and based on what

I've done in my controlled studies or controlled drinking programs that's entirely consistent."

Well, what that means then is that he is being asked to render an opinion on the actual field test --

MS. EDMISTON: Your Honor, the State --

MR. FANNEY: -- and whether or not the officer conducted them properly, interpreted them properly, and whether or not the statistical data on which all that is based is accurate.

He's not qualified to do that. Now, if he qualifies as some sort of physiologist where he can talk about lay observations about the effects of alcohol on the person, what you would expect at certain readings, I think he can that if she can show that he's qualified to do that, but what I don't think he can do is come in and say, "Because I did these controlled drinking programs," with not being qualified as an expert in these fields, that she cannot correlate the results of the field test with the results of an Intoxilyzer. The evidence isn't there.

THE COURT: Okay.

MS. EDMISTON: The question wasn't directed in any way specific to field sobriety tests. I think

that Mr. Glover can testify irrespective of those that he heard the officer describe the slurred speech, the red, glassy eyes, the odor of alcohol.

It's not unique to the field sobriety test, it's just generally whether the testimony of Officer Driver and Mr. Glover's experience is consistent with that reading.

And Mr. Fanney will have the opportunity to cross-examine Mr. Glover about that opinion.

THE COURT: So your question is are the things that he -- the officer observed of this defendant when he stopped him consistent with his observations of a person who has that blood alcohol level? Is that what you're asking?

MS. EDMISTON: If the testimony of the officer is consistent in Mr. Glover's experience in doing these controlled drinking exercises with the reading on the Intoxilyzer sheet.

THE COURT: Now, you know, I'm just trying to figure out, have I heard any evidence about his conducting controlled drinking testing where people were given performance tests and he observed performance tests and observed those performance tests relative to blood alcohol levels?

MS. EDMISTON: Your Honor, he just testified

that he did these controlled drinking exercises, observed the subjects generally, gave them a breath test afterwards.

He didn't testify about field sobriety tests or administering them, just that he observed them, and I think that as an expert he's uniquely situated to say, "I've observed people who have consumed a known quantity of a substance and blown on the Intoxilyzer, and the observations of Officer Driver are consistent with the result in this case and that's because I've done these types of controlled drinking experiments," and Mr. Fanney can cross-examine him on how he bases his opinion on that.

MR. FANNEY: The problem with that broad question is which observations are we talking about?

THE COURT: Uh-huh (affirmative).

MR. FANNEY: And there's still some issue of statistical correlations to that. I mean, she just asked the broader question, "Well, based on what you heard in court yesterday, is that consistent with the reading we got?" "Oh, yes."

Well, what does the jury do with that? If she wants to tailor her questions to go "Well, you got

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an eight and you did these controlled drinking experiments and you observed these people," I'd like to know what observations that he has that he correlates with the readings.

THE COURT: I think that I tend to agree with Mr. Fanney. I think you can ask him if he has observed people who have blown eleven or twelve and what observations he made relative to sobriety testing of those folks, but I don't know that I can say that he can say that based upon an officer's observations of this defendant which -- that he didn't himself observe, whether that's consistent with his blood alcohol reading of .11.

I mean, I think he can testify generally what would you expect to see and they can make the decision as to whether or not it's consistent with this.

But he didn't actually observe these observations, and the question is -- which I tend to agree, which observations he's saying are consistent with.

I think if he -- If you were to ask him a question about what he's seen as far as sobriety testing, results of sobriety testing in his work with regard to persons in that alcohol range, then

he can give that, and the question would be how does that compare with what the defendant did on this occasion and then it's for the jury to decide how it links up. Okay.

So the objection is sustained as to the form of that question, and you can decide whether or not you want to rephrase it.

MR. FANNEY: Well, Judge, if we're going to allow that inquiry to be done in front of the jury, I'd like to voir dire him while they're out about whether or not he's qualified or has any experience with field sobriety testing. I don't know that he doesn't.

THE COURT: All right. Go ahead.

VOIR DIRE EXAMINATION BY MR. FANNEY:

Q Mr. Glover, good morning. I'm John Fanney and I want to ask you a few questions. Tell me, please, about these experiments you've conducted, your controlled drinking experiments.

A We take individuals, we get their weights, and then we dose them with a measured amount of alcohol.

Q Okay. Is it always a constant measure of alcohol or do you have different subjects at different varying levels?

A We have had people at different levels. Typically

we aim for a .08. We have times when individuals are higher than a .08 and times when people are lower than a .08.

- Q And are you personally there at these experiments?
- A Yes.
- Q At all of them?
- A Not all of them. They're done all over the state.

 I've personally been there for several hundred individuals.
 - Q Okay. And who else attends these?
 - A Excuse me?
- Q Who else attends these controlled drinking exercises?
- A Well, my field staff conduct them every week in the operator school, Intoxilyzer operator school. When we do the ones I've been doing, I usually have a couple people from our staff that are present.
- Q Anyone else? I mean, is it just your staff members that do this?
- A Well, Bob Farb of the Institute of Government is there for certain ones of them -- I mean, whatever the makeup of the class happens to be. Not everyone is drinking in those, so there are other people, so there are officers and prosecutors present.
- Q I guess my question would then be, who is present that participates in the administration of the study? Just your staff, correct?

knowledge have been conducted with -- by -- Well, let me back up. How many of your controlled drinking experiments of which you have personal knowledge and involve field sobriety testing have been conducted by folks -- officers, staff members or what have you -- who are not certified in standardized field sobriety testing?

A You mean how many times someone who has not been through SFST training has done the SFST's?

Q Uh-huh (affirmative).

A I couldn't tell you. I'm certain that there's some who do it who have not been to the schools.

Q Okay. And how did you come to acquire that knowledge? Is it because those were just the ones you went to?

A No. It's because when we have a group of forty people there, there are some people who have not been to the schools. They may observe HGM, and so someone will do the HGM examination.

You can watch -- You don't have to be trained to be able to observe it; you can demonstrate it very easily in an individual. But the other thing that you observe of the people who are consuming at these things are general impairing effects.

Q Okay.

A Which you don't have to be trained to observe.

Q Okay, all right. Are you trained in the administration of field sobriety tests?

A No, I'm not. Not from a formal class, only from the police department, which was not at all a full SFST school.

Q Okay. So you would not, then, be able to tell us about any statistical background or studies on these tests?

A I know that studies have been done on the -- I'll say the accuracy or reliability of the tests.

Q You, though, having not been trained, would not be able to observe the proper administration of those tests.

A I could certainly observe the proper administration of the tests. I haven't been to the school.

Q Okay.

A I can watch somebody who has been trained to administer the tests.

Q All right. But you would agree, though, since you've not been to the school and someone else has been to that school, that your knowledge about whether or not those people are administering those tests correctly and interpreting them correctly -- your knowledge is wholly dependent on them doing it the right way and interpreting it the right way, correct?

A Yes. But I can still observe someone not being able to maintain their balance, I can still observe them

stepping off the line, or doing their nine steps out stopping and not returning, and those are some of the things that you can observe and you don't have to be trained to know -- that the person did not complete the test by coming back, or if you see a person raising their arms you know that that's not correct.

Q Okay. Well, you certainly know that it's not correct, but you're assuming, however, that the test itself is sufficient enough to interpret that the cause of that activity is alcohol impairment, right?

A Yes. But I've also observed people doing the test who were not impaired who were not having the problems that we observed.

- Q And if you -- Okay. And those -- Are you talking about your test subjects now, people who had been dosed who did the test just fine?
 - A Or people who do the test before they get dosed.
 - Q Well, that's what I'm referring to.
 - A Yes.
- Q Okay. And by the same token, you've probably observed folks who have been dosed that did just fine on those tests.
- A I wouldn't say they did just fine. There are some people who do better on some areas than others.
 - Q Okay. So you agree, then, that the interpretation

of those tests isn't always a fair measurement of someone's impairment, because some do better, some do worse.

A That's correct, some do better and some do worse. It still is an indication of their impairment.

Q Okay. But if it's merely just an indicator of impairment, how, then, can it be some indicator of what someone's BAC level is?

A It's not an indication of a specific alcohol concentration. We see impairment in individuals when they are in the ranges that we're looking at. I've seen impairment -- I've seen people with .03's who could not walk ten feet without falling down.

So I'm not looking for a specific number; we see a range of behaviors within a range of alcohol concentrations.

That s been published for a long time. Everyone doesn't behave exactly the same way.

Q Okay. Now, you heard Officer Driver yesterday testify about a figure he believed to be some probability of accuracy.

- A Yes.
- Q Remember that testimony?
- A (Witness nods affirmatively)
- Q And I think he used a figure of about 70 percent.
- A Something like that.
- Q Okay. That's a little better than two-thirds?

A Yes.

Q If he is correct in his statement that there is a 70 percent probability that someone's appreciably impaired, do you agree that, just based on what you heard yesterday, there's still a one-third chance that what he observed was caused by factors other than impairment?

A I don't know that it's a prob-- or -- I don't think that's a correct statement, what you just said.

Q Can you tell me why?

A Because it's not solely on the -- The whole thing is not solely on the SFST's, it's everything -- it's the driving -- There's information in his notes that I reviewed that's consistent with what has been testified to -- we have an admission of drinking, we have an odor of alcohol, we have an individual who is having problems driving, we have an individual who's having problems with slurred speech. It's all of those things.

Q Okay. Well, maybe you misunderstood my question. That question was relating solely to the field sobriety test results.

A Correct.

Q Okay. Not on everything that you heard yesterday, when he issued that -- when he said there's about a 70 percent probability I think that the test -- because of the way he performed those tests that he was appreciably

impaired. Remember that testimony?

- A I remember him giving a value of 70 percent.
- Q Okay. So my question to you is, since that's only about two-thirds, based on what he said yesterday do you agree that there's a third or more about 30 percent or some other probability that the results he saw about those tests were caused by something other than impairment?
- A Again, I don't think that's a correct statement, the way you're -- the way it's being used.
- Q Okay. But you do agree that his -- that figure wasn't based on everything he saw, it was just merely based on how he looked at those tests yesterday.
- A His recollection of what those specific field sobriety tests indicated.
- Q And that's, again, something of which you have no personal experience or training.
- A I have experience in conducting field sobriety tests. I have not been through the NHTSA course.
- Q Okay. And have you been through any course, or is it just some kind of pick-it-up-as-you-go?
- A Well, we got some basic instruction at the police department, and I have watched people do it enough times that I have a good appreciation for what's to be done and how it's to be done.
 - Q And again, your assumption that you do them

correctly relies on -- Well, it relies on the hope that whatever you picked up along the way is exactly the way these standardized tests are supposed to be done and the way they're supposed to be interpreted, correct?

Again, I can observe a person having problems doing the test. If someone were to tell them to take ten steps instead of nine, or eight steps instead of nine, and a person cannot maintain their balance, the fact that the test was not dictated to them properly does not invalidate the fact that they can't keep their balance.

- But you can talk about folks not being able to keep their balance, if they indeed lost their balance, irrespective of those tests, can't you? If you heard testimony that someone stumbled out of the car you could say they lost their balance, correct?
 - Certainly. And you don't have to be trained to --
- (Interposing) You don't have to be trained to do that?
 - Α Excuse me?
 - I'm sorry. We're talking at the same time. Q
- You don't have to be trained on how to observe someone except from life's experiences when you see an impaired person enough times.

MR. FANNEY: Okay. I think that's all the questions I have. Thank you, Mr. Glover.

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THE COURT: Can I ask you a couple questions, Mr. Glover?

VOIR DIRE EXAMINATION BY THE COURT:

- Q Is there a difference in what you expect to see someone do, based on your experience, from a .08 versus .12?
 - A No, sir.
 - Q All right. What about from a .12 to .18?
- A Yes, sir. We would -- An individual's experience with alcohol will influence that to a certain extent. In other words, if someone is a chronic abuser we will see their inability to perform certain tests at lower levels.

It's, I'll say, out of the norm, okay? But once you start to get up into the higher concentrations you would see more and more egregious problems.

Q So -- I refer to the term as "tolerance." The higher tolerance a person has, in other words, a person drinks more often than another person, the person who drinks more often has a higher baseline of operation and can do these tests to some extent better at a little bit higher level than a person who drinks less.

A They can do certain ones better. Cognitive skills remained impaired, but there's a certain learning that people do who are, again, I'll say chronic abusers or heavier drinkers, or they adapt — they are better able to walk, they may be better able to talk, but cognitive skills still remain

 impaired.

Q Can you actually testify that they -- I mean, say for instance a finger-to-nose test, that they may miss their nose more often than a person -- at .18 than they would at .12?

A I would expect that, because once you're getting up into the .18 you're getting in -- you're halfway to a lethal dose for a lot of people. That's a serious amount of alcohol.

Q What about from a .12 to .08?

A You're not going to see a vast difference in individuals in that range.

THE COURT: Questions you'd like to ask him, Ms. Edmiston?

MS. EDMISTON: No, Your Honor.

THE COURT: All right.

MR. FANNEY: I don't have any further questions, I just want to be heard one more time before you make a decision.

THE COURT: All right. Go ahead.

MR. FANNEY: Judge, again, if he wants to testify about lay observations in terms of, you know -- well, if he thinks that driving is indeed something that's a factor he might be able to testify to that; if he thinks the way he talked is

a factor he can certainly testify about that; if he thinks something in the way he walked or followed directions or complied -- or did anything other than those two field sobriety tests, I think he can talk about all those things, but now that he's answered the question -- I mean, this is one of those cases that falls in that range where he says, "Well, we really can't tell a difference if it's an .08 or if it's a .12 or if it's below an .08 based on how he does on these tests, and I'm not really qualified to tell you that because I've never attended the school, I've never been properly trained -- I'm hoping that the training that I got was proper."

I think that is giving the State -- it is allowing them to corroborate each of their theories when the predicate evidence isn't there.

Again, we go back -- She's going to ask the question "Is what he observed and talked about yesterday, is it consistent with the reading that we got in this case?" and he can say "Well, as to some things that I know about in my personal experience in terms of things that we might readily observe in those folks, yes, but when it comes down to those tests, no, because I don't know how to

interpret the tests, I've never been properly trained in the tests, and I've already told the Court that there's really no difference."

THE COURT: Well, I think you can ask him,

Madam D.A., about the individual tests he gave and

what -- you know, with regard to the Intoxilyzer,

but I don't think you can ask him generally

speaking whether the overall results are consistent

with a blood alcohol level.

I think you can ask him and see if he has an opinion, lay or not, because, you know, I don't know that he -- you know, I don't -- I mean, I don't know that I think this is something that is within an area of expertise; I think it's a very subjective thing whether or not a person does well on a performance test, and as he stated, he doesn't know -- we don't know how much he drinks, how often he drinks, what his baseline is, and whether or not he does better on this performance test than other people similarly-situated or does worse. I think that if you want to ask him --

MS. EDMISTON: (Interposing) Your Honor, to be clear, can I ask Mr. Glover when he's doing the controlled drinking experiments and dosing people and then having them blow into the Intoxilyzer 5000

-- which is the breath test that he's been accepted as an expert in -- what physical observations of those people that he makes, be it sweating, alcohol odor, glassy eyes, slurred speech, and his observations of how they perform field sobriety tests -- whether they sway, whether they stumble?

These are observations that you don't have to be an expert in administering the tests to see, any -- you know, anyone can look at someone doing the test and see a stumble or a sway. Can I ask him about those observations that he makes?

MR. FANNEY: I'd say she got it right up until the last bit, because lay opinion is common, everyday experience, not something that's been designed somewhere over studies, and there's been no evidence in this case why those tests were designed, the statistical reliability of them, how they're to be properly interpreted and administered.

It was never offered by the State for that reason, never, and now she wants to use it for that reason. If he wants to talk about lay observations — The officer said yesterday "Standing like this is obviously not a normal thing, this is not what people do every day, and we know from the evidence

in the case that he wasn't able to do this." And so maybe he stumbled or he lost his balance. Walking a tightrope line without using your arms to balance is not a normal reaction, and now she's asking him to say, "Oh, yeah, we see those things in the people we dosed."

That's not what the evidence that's been used here already is for. And he can talk about whatever lay observations he sees.

I mean, if you want to get down to lay observations versus expert opinion, we can look at State versus Strackfoose [phonetic], which just came out of the Court of Appeals, where we talked about this issue, and basically it came out that, you know, you can talk about -- if you asked him to do something and he fell over you can talk about it, because everybody knows if you fall over you're drunk, but not whether or not you fail to walk heel to toe and because you couldn't walk heel to toe that you're impaired, or because you used your arms to balance as a normal reaction you're impaired.

If somebody asked you to stand up and you fall down, which I think is the language of the case, obviously you can talk about that, but when you start talking about how they do on the test and

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what did the officer see, I think that creates a problem. So lay observations, sure -- how did he walk, how did he talk, how did he drive?

What about the answers that he gave to the questions on the back of the form? What about his demeanor, his attitude, the way he was dressed?

THE COURT: Let me say where I am on this,
Madam D.A. I think in order for him to testify
about observations, the odor of alcohol and how he
did on the tests, he would have to be able to give
some testimony that he observed those people prior
in a sober condition attempting to do those tests,
a person in a sober condition attempting to do the
tests and observing that person after consuming
alcohol and what that person did at that point —
not whether that person passed or failed but how
that person was able to perform the test after
consuming alcohol at this level that we're talking
about here.

Because I think without any observations prior to he doesn't have any baseline to say whether or not that person could've done the test at some point.

MS. EDMISTON: And, Your Honor, I understand that I can't ask Mr. Glover, based on your ruling,

to compare to this defendant.

THE COURT: Right.

MS. EDMISTON: I'm just talking about his observations of people that he's encountered in his controlled drinking studies and what he's observed of them and not in comparison to this particular defendant.

Here's the problem, that he has testified that he has seen people who could do these things with blood alcohol levels as low as .03, and so if you're observing at a .03 then the question really is whether — if someone can't do it at a .03 whether having a .12 makes anything they did consistent with .12 as opposed to .03, or as opposed to .06, and that's really sort of up in the air at this point.

MS. EDMISTON: Yes, sir.

THE COURT: Do you see where I'm going?

MS. EDMISTON: Yes, sir.

THE COURT: I think that's what Mr. Fanney's point may be, is that there's not -- is what's the baseline, is what is the baseline he's actually using to form an opinion and is it something that requires -- that an expert is able to do any more

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so than a layperson.

MS. EDMISTON: Yes, sir.

MR. FANNEY: I understand your ruling, but I just have one question. I mean, for him.

THE COURT: Okay.

FURTHER VOIR DIRE EXAMINATION BY MR. FANNEY:

- Q Do you have that experience?
- A What experience?
- Q When you did these controlled drinking experiments did you start with a baseline? Did you administer field sobriety tests before anybody drank and then did them again?
- A We have done that. We always do that. We do observe the individuals. Obviously they start out with no alcohol in them -- we confirm that before they get dosed -- and then we observe them. We progress the levels of impairment.
- Q You said observe the -- My question was how many of those controlled drinking experiments involved the test being done before anybody had anything to drink.
 - A SFST's being done?
 - Q Yes.
- A I couldn't tell you. Half of them probably. I don't keep a running log of what's going on in all of them. But I always observe a person -- the people progress from being unimpaired to becoming impaired.

Q And you mean just in terms of the regular -- or the physiological aspects of impairment.

A Yes.

MR. FANNEY: Okay. Thank you. Judge -- I'm sorry.

THE COURT: I think -- I don't think you can ask him whether or not -- this blanket -- the whole -- everything this officer observed is consistent with the blood alcohol level --

MS. EDMISTON: I understand that, Your Honor.

THE COURT: I think you can ask him -- If you want to ask him about specific tests, I'll rule on them depending on whether or not there's an objection to it, but I don't know that his -- I mean, honestly I don't know that his opinion is as valid as the officer's opinion in this case who actually observed the situation and observed the person in the car.

MR. FANNEY: And I appreciate that, Judge. I can tell you now there are going to be some objections to that, so I would like to, if I can, get a ruling on whether or not it's going to be allowed --

THE COURT: Why don't you go ahead and ask whatever questions you think you might want to ask

with regard to that and let me see what they are.

VOIR DIRE EXAMINATION BY MS. EDMISTON:

- Q In your controlled drinking studies do you start with sober individuals who have not consumed any alcohol?
 - A Yes, we do.
- Q And have you made observations of those subjects in their sober condition?
 - A Yes.
- Q And throughout the controlled drinking exercise do you give the subjects increasing amounts of alcohol?
- A They're dosed over about an hour window; typically it's three doses.
- Q And at the end of this exercise do you have them blow into the Intoxilyzer 5000?
 - A Yes, we do.
- Q And what observations have you made of your subjects in the time that you are giving them this alcohol over that time period?
- A I observe a progression of cognitive impairment, in other words, your thinking skills becoming impaired, their ability to -- we observe slurred speech, we observe difficulty in basically walking a certain amount of -- staggering or swaying, we see initially euphoria where people tend to get happy and as the concentration starts going up the euphoria tends to go down, and just inability to follow

directions, inability to perform divided attention tasks.

MS. EDMISTON: That's all, Your Honor.

FURTHER VOIR DIRE EXAMINATION BY MR. FANNEY:

Q What do you mean by "divided attention tasks"?

A Where you're required to do more than one thing at one time. Driving is a divided attention task, following instructions -- or listening to instructions and then following those instructions is a divided attention task.

MR. FANNEY: That's all the questions I have. If that's what it's going to be, then I don't have a problem with that.

THE COURT: All right, all right. Bring the jury back in.

(JURY ENTERS AT 10:43 A.M.)

THE COURT: Before we continue, members of the jury, I want you to remember my admonition about when we have these; if I send you to the jury room, when you come back you're not to give the evidence that you hear after you're sent out any more weight than the evidence that you heard before, just treat it as if you had been sitting here all along and we just continued questioning throughout the morning.

So, all right, with that you may continue.

DIRECT EXAMINATION BY MS. EDMISTON CONTINUED:

Q Mr. Glover, when you do your controlled drinking

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experiments, what condition are your subjects in when you start?

- They are alcohol-free when they start.
- And during the controlled drinking experiment what do you do with your subjects?
- A We calculate the amount of alcohol we're going to give them, they're then given that alcohol, typically in three doses over an hour period.
- And at the end of that hour period what do the subjects ultimately do?
- They will be breath-tested on the Intoxilyzer a number of different times over the course of the evening.
- And do you observe your subjects in their sober condition?
 - Yes.
- And do you observe the subjects over the hour that you're dosing them with alcohol?
 - Α Yes, I do.
- And what observations of the subjects do you make during that hour when they're drinking alcohol?
- We see a change as the alcohol starts to get in the We will see euphoria -- they tend to become happy -system. some people become more talkative, we just see a general progression of -- I'd say almost like a party attitude in some of them. But then we start to see signs of impaired

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cognitive skills, or impaired thinking skills.

And can you provide any specific examples of that?

We will see them unable to follow instructions as far as if we're looking at cognitive skills, an inability to do a divided -- perform divided attention tasks, something where they're required to think about two different things at the same time -- those skills diminish as the alcohol concentration goes up.

Do you make any other observations of their physical body or characteristics?

A We start to see slurring speech, difficulty in walking or swaying -- not staggering necessarily, like Otis on Andy, but just a change in their ability to function.

Now returning back to the Intoxilyzer machine in particular, you indicated yesterday that for each breath that a subject gives, they give that breath for seven seconds, correct?

A A minimum of seven seconds.

And that the machine is analyzing the breath 175 times during that seven seconds. Is that right?

Yes. From the time that they start blowing until the time that -- if we can look at seven seconds, until they stop it's analyzed about a hundred and seventy-- it's about 35 times a second.

0 And at the end of the test there's a two-digit

number that's printed out on the test ticket, correct?

- A Correct.
- Q Can you explain to the jury how that two-digit number is derived from all these tests?

A The instrument is looking at the results, and when it's getting -- when they're getting into this last phase -- when it starts to plateau it doesn't go completely flat but it's going to take an average in this window of the values that it's measuring (indicating).

It can read out to three digits, which would be out to here, as a level of precision, but by statute results are always recorded just to two digits, and so if there was a value here it's simply dropped off, it's not rounded up or rounded down, it's just like covering it up with my finger, it just doesn't exist (indicating).

Q And does that procedure give a reading that goes in favor or against a higher alcohol reading?

A Well, if we have a result where this third digit was a "9" that "9" would be covered up, and so that would reflect a lower number. If you were going to do it normally where you would round up, obviously that would give a higher one, but since this one is dropped off there's no weight given to that value.

Q And you mentioned that diabetes can cause a change in the Intoxilyzer's reading of breath alcohol. Is that

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right?

Well, if a person has acetone on the breath the instrument can detect that, and it will subtract that value out if it's present.

Are you aware of any other chronic illnesses or conditions that a person may have that would prevent the Intoxilyzer from giving an accurate measure of the concentration of alcohol in the breath?

No. Α

And you indicated that some regurgitation or Q vomiting might create mouth alcohol. Is that right?

Well, if you have raw alcohol still in your stomach there's the potential for that, but since the instrument is monitoring the slope of that line as it goes up, if it sees it go up and come back down then it's going to flag that as an invalid sample.

- Have you heard of something called acid reflux?
- A Yes, I have.
- Q Do you know generally what that is?
- Α Yes.

And are you aware of whether or not that condition of acid reflux affects the Intoxilyzer's ability to measure someone's breath alcohol?

There's a study that was conducted on gastroesophageal reflux disease, which is the stomach

contents coming up, where individuals were dosed and they —
these were people who were going to undergo surgery to fix
that, and so they put a device around them that was basically
used to air — to kind of punch them in the stomach and force
some contents up and then breath—test them, and the study
that was conducted indicated that it did not influence their
breath test results.

Q Do you know about when that test was done -- that study was done?

A When the study was done? It was published in 1998. It was conducted by a number of people, including Dr. Wayne Jones.

Q Are you familiar with Dr. Jones, who he is?

A Dr. Jones is probably one of the most foremost people in alcohol testing in the world, has probably between 250 and 300 publications now on alcohol testing in humans.

MS. EDMISTON: That's all for this witness, Your Honor.

THE COURT: All right. Cross-examine.

MR. FANNEY: Yes, Your Honor. Thank you very much.

CROSS-EXAMINATION BY MR. FANNEY:

- Q Mr. Glover, good morning.
- A Good morning.
- Q I'm John Fanney. I want to ask you some questions

based on your testimony here today, and if you don't understand my question, sir, please just let me know and I'll try to rephrase it so that you do.

You've been here in North Carolina working in the breath testing branch for I think you said about nine years.

- A Correct. Started my ninth year in September.
- Q Okay. And in your nine years what were your various duties?

A I was initially hired as research scientist and training specialist -- they did not have one in the branch at that time. That was a grant-funded position, and in that position I was reviewing literature, scientific literature, dealing with breath and blood testing for alcohol and drugs and conducting in-service training for field staff -- I have fourteen field staff who do the training on the Intoxilyzer.

I also was to evaluate the SBI agents who wanted to get a permit to analyze blood. That was my primary function the first two and a half years. I then became the assistant branch head so I had more administrative duties, but I still had all of the other original duties.

- Q Okay. And in that nine years how many Intoxilyzer 5000 machines has the State acquired that you're aware of?
 - A How many have we acquired during that time?
- Q How many have you purchased in the nine years you've been there?

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1	A	Probably a hundred. We have units that are at test
2	sites for	people to use, training units. We have I think
3	about 350,	and we purchased about a hundred during that time.
4	Q	Okay. When was the last time the State purchased
5	an Intoxil	yzer 5000?
6	А	I don't know the date. Sometime in the last couple
7	years.	
8	Q	In the last couple of years, okay. And when you
9	purchase o	one, I'm sure you inspect it when it comes in.
10	A	Yes.
11	Q	And you're familiar with the paperwork that comes
12	with it?	
13	А	Well, to a certain extent.
14	Q	I mean, it comes in a box from the factory, right?
15	A	Yes, it does.
16	Q	Okay. And it comes with paperwork.
17	A	Some papers.
18	Q	I mean, when you buy any device it comes with
19	documents,	correct?
20	A	Correct.
21	Q	So then you're familiar with the warranty that the
22	manufactur	er gives on this machine.
23	A	Yes.

Q Okay. And you're familiar, then, that the

manufacturer of this device does not warrant it for any

particular use.

A I believe that's correct.

Q And in your time as head of the forensic testing branch you've been involved in some other -- well, national organizations, correct?

- A Yes, I have.
- Q What are those organizations again?
- A The International Association for Chemical Testing and the International Council on Alcohol, Drugs & Traffic Safety.
- Q And is that organizations where folks such as yourself go and meet and discuss issues and --
 - A Yes.
 - Q -- talk about things?
 - A Yes.
- Q Okay. And in meeting people from other states, I assume that's what you've done at these seminars.
 - A Correct.
 - Q And you've talked with folks from other states.
 - A That's correct.
 - Q Okay. About their breath testing programs.
 - A A good bit of talk about them, yes.
- Q And of course you're aware from those conversations that -- you know that several states use the Intoxilyzer 5000.

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A Yes. There are about 44 states and 12 foreign countries that use the Intoxilyzer. There are a few states who have gone on to other instruments, but I think now there are probably between 25 and 30 states that are still using the Intoxilyzer 5000.

Q And you're aware from those discussions and the other states that have gone on to other machines that there are other machines out there.

A There are other instruments out there. Just like there are Fords and Chevys, there are other people who manufacturer breath-testing instruments.

Q And you're also aware that a number of states are going to other models of the Intoxilyzer.

A There are a number of different models out there. Sometimes the -- either a foreign country or a state may have a specific requirement on an instrument and so the manufacturer will build it to whatever their requesting.

Q Okay. Well, at one time -- or maybe we still are, but wasn't North Carolina approved to use a device I think called the Intoxilyzer 4011?

A I believe at one time it was 4011, 4011-AS. There are a number of -- Intoximeter 3000, Breathalyzer 900, 900-A.

Q Okay. And there are now several versions of the Intoxilyzer that you know about which have gone beyond the Intoxilyzer 5000 in terms of its title, what it's called.

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A In terms of what?

- Q In terms of what it's called, the model number.
- A Well, there's the Intoxilyzer 8000, there's -- again, time goes by and new models come out.
- Q Okay. Now, you're also aware -- Now, you talked about -- Well, let me back up. You talked about how the machine functions, about how the test sequence works, and, you know, we've come in and we've purged the sample chamber, then we run a calibration, we purge it again and we run a test, we purge it again, we run another test, we purge it and then it gives the result, correct?
 - A Correct.
- Q In your experience as head of the forensic testing branch you're aware of all the rules and regulations relative to the administration of the Intoxilyzer, right?
 - A Well, I'm not the head of the branch.
 - Q Oh, I'm sorry.
- A I haven't gotten that far along. I am familiar with the rules and regulations. I don't have them committed to memory, but I am familiar with them.
- Q All right. Well, you're familiar with the rights that are read to folks when they're charged with --
 - A Yes.
- Q -- implied consent offenses which trigger folks going to your agents and having them take these tests.

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Correct.

Q And you were here yesterday when Agent Dodd testified about the rights that she read.

Α Correct.

And she read -- The last right is that the person Q who is being tested has the right to get additional tests.

That's correct. They do. Α

The Intoxilyzer that we use doesn't preserve a sample of the person's breath, does it?

No, it does not. There's no requirement in our state for sample capture; sample capture is I think done in one or two states at this point.

But you do know from your experience that even though it's not required it's a relatively inexpensive thing to do.

Α It is an inexpensive thing to do. But the studies that were done quite a few years ago by Dr. Dubowski where they captured a sample and then analyzed that sample and had space gas chromatography confirm that the concentration of alcohol in that captured sample was the same as what the Intoxilyzer had reported, so there's not much value in capturing a sample.

Okay. But yet if someone were going to exercise that right they couldn't come to the State and say, "Hey, give me the evidence that you have against me so I can go out

1 and get my own test." 2 3 4 Α 5 6 7 8 A Yes. 9 Q 10 Correct. A 11 Q 12 13 A 14 15 16 17 18

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You mean to give that actual breath sample to them?

(Counsel nods affirmatively)

No. But they can certainly go have blood drawn and have their own tests done.

Uh-huh (affirmative). Now, the test that you -- or the study you just referred to with Dr. Dubowski --

-- that's Kurt Dubowski.

Okay. And he's another well-recognized and respected individual in the field of breath testing.

Yes, he is.

Okay. That study, what was the name of that study?

I don't have it committed to memory. It was done I want to say sometime in the late Eighties. And he and I had a discussion about that particular study about six weeks ago at our board meeting, but I don't have the title.

And that study, they just analyzed what was in that little capsule, right?

A person would blow and at some point they would have the sample blown into a glass vial that was sealed up and then they would analyze the contents of that breath that was in the vial.

So that study, then, didn't do any comparison of a

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person -- with alcohol that might be in that person's body, right?

- In their body. You mean with respect to blood?
- Yes. Q
- I don't know that that one did. In North Carolina Α we don't have to compare breath to blood. We have a statute that requires either a breath alcohol concentration or a blood alcohol concentration, and so we don't do any comparison of the two.
- But physiologically speaking, or as far as alcohol affects the body, it's the alcohol in the bloodstream that causes impairment, correct?
- No, it's not. It's the alcohol that's in the brain Α that causes the impairment. To get the best measure of the amount of alcohol, with respect to that the best thing to do would be to get a sample of brain tissue to find out how much alcohol is in that person's brain. That's a procedure that's not realistic.
- Of course. And, of course, alcohol gets to the brain, just like it gets to the lungs and everywhere else, through the bloodstream.
 - Α That's correct.
- So since we're a breath state, I guess is what you're saying.
 - A We're a breath and a blood state. We can test

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somebody's blood by sending it to the SBI, or the breath can be tested at different sites where the Intoxilyzer is.

- But then if there's a breath test we apply a breath standard, if there's a blood test we do a blood standard.
 - That's correct.
- Okay. So that's why it's important for you to get Q a -- I think what you called yesterday a deep lung air sample?
 - A Yes.
 - Q Tell me why that is.
- We want to get a deep lung sample because the air in the mouth and upper airway doesn't have as much alcohol in it and we want to get a concentration -- or a breath sample that's going to have a concentration of alcohol that is consistent I'll say with the alcohol that the person has consumed.
- Q Isn't a deep lung sample what you would also call an alveolar sample?
 - Yes. Α
- And can you tell me where the term "alveolar sample" comes from?
- Well, that's a portion of the lung where exchange of oxygen and CO2 occurs, and that's where alcohol would be coming out of the body.
 - Q Okay. So the closer the breath -- or the sample

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that you get that comes from way down in the lungs, the assumption is that the more true reflection that is of the alcohol that's present in the body?

It's more representative of the alcohol that was consumed by them. When you a dose a person to a certain amount and you want to see how much alcohol is in them, we want the deep lung sample.

- And when you analyze this deep lung sample -- I think you said it analyzes about 175 times per sample --
- Over -- It's about 35 times per second, a sevensecond blow. It's about 175 -- It depends. If a person blows longer, then obviously there are going to be more analyses made.
- And that analysis is when the device is looking for that rise that you were talking about?
- It's not -- Well, it's monitoring the rise but it's looking for when it's going to plateau out, or start to level off. Like I said, it doesn't truly level off, it's got a little bit of slope to the line. But that's when -- where we want to take the sample.
- Q And does the machine record those results, all those 175?
 - A No. No, it does not.
 - Q What does it do with them?
 - It measures, measures, measures. I don't know --Α

It doesn't take all of those. It ends up measuring all that time, and it gets to a particular point and when it sees that the level starts to do that (gesturing) then it looks at a series of the measurements and says, "Okay, I'm satisfied this is the concentration." But the numbers are not stored, just the final result is stored.

Q Just the final result. So what we get out of 175 analyses is one sample every time somebody blows.

A I wouldn't say that it's one sample, because it has to be satisfied that the concentration has started to plateau out, and it uses a range of those to evaluate whether the slope has stopped climbing and has leveled out.

Q Now, that slope, is that what's commonly referred to as a slope detector?

A A slope detector is -- it's not a device. A slope detector is the fact that the instrument is analyzing and it's measuring this slope, so it's a change in concentration over time and this is the slope that it's looking at. It's not a separate device, as a lot of people tend to think it is, it's a way of describing what it's doing.

- Q So it's part of the computer program.
- A Yes.
- Q Okay. And as you -- Just to make sure I understand what you just said, that is part of that 175 analyses, it's looking for the slope.

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Yes.

Their hematocrit?

No, it does not look at their hematocrit.

1	A	It's monitoring the slope.
2	Q	Okay. And when it gets to the point where it
3	thinks it	s satisfied, that "Hey, I've got a deep lung sample
4	and this	is not a mouth alcohol sample," it takes a picture
5	basically	/
6	А	Correct.
7	Q	and says, "This is what I think the
8	concentra	ation is."
9	A	Correct.
10	Q	Okay. Now, that assumes some constants, doesn't
11	it?	
12	A	What constants would you be assuming?
13	Q	Does it not assume a constant in the body
14	temperati	re, in a person's body temperature?
15	A	We see that there is a range of body temperature, a
16	range of	breath temperature, but it's a rather narrow range,
17	and it do	des not factor in what the temperature is.
18	Q	So it does not factor in body temperature.
19	A	No, it does not.
20	Q	And it does not factor in breath temperature.
21	A	No, it does not.
22	Q	How about the composition of a person's blood?

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Okay. Now, you talked a little bit about how the machine detects the mouth alcohol --

Yes.

-- and how it's insured that it can detect mouth

Yes.

Can you -- What studies were you referring to about that? I think you said that there were some studies done.

Patrick Harding with the Wisconsin program did studies some probably ten, twelve years ago where they were letting people swish brandy in their mouth -- and this was with and without dentures, with and without adhesives and other things that are used to make dentures stay in to see if there was any problem with respect to dentures, but also it was able to show that the rate that it's dissipated.

Okay. Is that the only study you're aware of?

It's the only one that I can recall right off the top of my head.

Okay. And I believe you said in that study the slope detection -- or mouth alcohol detection was premised on people who did not have alcohol in their system.

Well, that wasn't so much to look at the slope detection so much as it was to see when the alcohol was going to be gone from their mouth.

Okay. So you're not aware of any studies about

the testing of the slope detection.

A No.

Q Okay. Does the theory behind the Intoxilyzer -- In terms of how the breath comes in, what kind of breath is received, deep lung air --

A Okay.

Q -- does that theory assume that the deep lung air stays the same as it travels out of the lungs? In other words, that the concentration doesn't change, the alcohol concentration doesn't change as it travels out of the lungs?

A I don't know that it considers that. We really don't care what's happening as that breath is coming out. I know that there are some theories out there that have been promulgated through mathematical models that deal with the mucous in the trachea, the mucous in the mouth and exchange of the alcohol from the -- as the air is coming out and if there's exchanging between these different surfaces.

Ultimately what we care about is this breath and the concentration of the alcohol once it gets here; if it starts out one way here and gets modified some way here and it's modified someplace here (indicating), we don't really worry about that, it doesn't matter; it's this air that comes out that we care about.

Q Okay. So if you don't care about any modifications along the way, then you don't care if some other alcohol

that's perhaps present in the mouth gets mixed in with the sample, or the vapors of alcohol. You don't care about that.

A Well, that just becomes part of the whole mix. We know that, as I said yesterday, alcohol goes through the water -- is in the water-containing tissues in the body. That means a person who is drinking alcohol -- And let's say it's an hour and a half after their last sips so there's no residual mouth alcohol. There is going to be some alcohol in their saliva.

There are little kits you can buy at 7-Eleven, touch your tongue, wet it, and it'll give -- supposed to give you an idea of how much alcohol may or may not be in you. The kits aren't very reliable, but clearly there's going to be some alcohol in the saliva. Again, we're looking at the ultimate sample that we get.

Q Okay. So if someone were to regurgitate and for some reason the slope detection program in the computer didn't pick up on that and then that person rendered a sample, what you're saying is that doesn't matter, that the person was just unfortunate enough to regurgitate and give the sample, it's just stuck with what they've got.

A What do you mean by the slope detection didn't detect it?

Q Well, for whatever reasons the slope detector didn't catch the drop-off point, it didn't catch the fact

that it's not reading like mouth alcohol, it's reading like the plateau that you referred to when it assumes you're giving a lung sample, a pure lung sample.

A Well, the slope detector is not a separate device. Like your microwave is here and your refrigerator is here, we don't have a thing here that's called a slope detector and the rest of the Intoxilyzer is over here (indicating).

The slope detector is really -- describes a process. If the instrument is functioning -- If it's gone through its diagnostic test, if it's gone through calibration verification, then the instrument is working properly and it will detect the slope as the concentration is going up.

It's not like a light bulb that could burn out and we would still go ahead and get a test; it's just not that way.

- Q All right. I'm sure you didn't mean to, but I don't think you answered my question.
 - A I answered what I thought you were asking.
- Q Okay. But based on what you said earlier, my question is if it doesn't detect -- or read it as mouth alcohol, if it reads it as some other way, the person who introduced a substance from somewhere other than their lungs and somehow it became interwoven with the breath sample, you're telling the jury that "Tough luck, all we care about is the number that we get after you blow into the machine."
 - A That's not what I'm saying. And you can't just

kind of mythically say, "The slope detector didn't -- wasn't functioning." If the instrument's functioning the instrument is functioning. We breathe through our trachea, we don't breathe through our esophagus -- stomach contents would come up through the esophagus.

- Q And that study you referred to about how acid reflux, gastroesophageal reflux disorder, how all that affects, that was -- how many subjects were in that study?
 - A I'll have to look and see because I don't recall.
 (WITNESS REVIEWS DOCUMENT)
 - A Five males and five females.
 - Q Ten people.
 - A That is correct.
- Q Okay. And there's another study out there on this subject by Gullberg, correct?
 - A By whom?
 - Q Gullberg. G-U-L-L-B-E-R-G.
- A On gastroesophageal reflux? He may have done one, but I don't recall it.
- Q Okay. Based on your knowledge as a research scientist, studying ten people and drawing a conclusion, that's a pretty small sample of the available population, isn't it?
- A It is a small sample. But when you're doing human studies there are lots of ethical considerations that come

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into play, and so people do what they can with the subjects that they're able to find.

There have been no other studies with fewer or more people that have said that gastroesophageal reflux disease does have an effect, so this is the standard at this point, and has been -- like I said, it was published in 1998.

- Do you have that article in front of you?
- Yes, I do. Α

MR. FANNEY: May I approach the witness, Your Honor?

THE COURT: Yes, uh-huh.

(COUNSEL REVIEWS DOCUMENT)

- In that study is there any time period or ever a --Well, I guess that's not relevant because we don't compare breath to blood, right?
 - Α That's correct.
- But in that study there were some times where the actual breath sample collected, because of the onset of gastric reflux, was actually higher than what was truly in the blood, right?
 - Α That's correct.
- Now, if it doesn't matter about mouth alcohol or regurgitation -- Well, let me say that again. If it doesn't matter that the person regurgitates, why do we have a 15minute observation period?

A To insure that the person hasn't -- doesn't have anything remaining in their mouth. It may seem more like a -- I'd say a formality, because most of the time when a person is arrested for DWI we've got -- they're deprived of access to anything to drink at the time they are stopped and we can see an hour or more before they're even able to breath test them, so there's been a big deprivation period.

Because there have been in the past issues raised about whether a subject put a penny in their mouth or whether a subject — all kinds of issues that would get raised at trial saying "Well, this may have affected the case," we end up with a very formal observation period where they're not allowed to put anything in their mouth.

- Q Okay. And I believe you said that here in Wake County we run a lot of tests.
 - A About 4,500 a year.
 - Q And how many machines are here?
 - A Excuse me?
 - Q How many machines do we have here in Wake County?
 - A There are four instruments.
 - Q Over at CCBI, over in the Wake County jail?
- 22 A Correct.
 - Q And if there's a lot of tests run -- Well, at 4,500 tests, that's a little over -- maybe on the average a thousand tests per machine?

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Some of them get used more than others. Sometimes people like to go to the first one or the third one. But pretty much a thousand per instrument.

Okay. That's somewhere two to three a day on the Q average?

A It would be.

And I believe that if you experience running a lot of tests it's recommended that you leave the machine on. Is that correct?

Α It depends on the facility as to whether or not they leave them on or if they turn them off. Again, a highvolume site like Wake County on a Friday or Saturday night, they would probably leave them on, but Ocracoke Island, they're not going to leave it on, it might be a week or two weeks before they get another subject.

Do you know what the practice is here in Wake County through your experience in the forensic testing branch?

Well, I've not gone over to monitor what they do. If someone knows that they're going to be doing more tests then they'll leave it running; if there's nobody waiting and nobody coming in they have been instructed in the past to turn them off. Again, it just depends on the demand at that test site at that particular time.

And as I understand it, the diagnostic that the Q

machine runs -- like you said, it runs a diagnostic?

A Yes.

Q And that happens when you turn the machine on, correct?

A It happens when you turn the machine on -- or the instrument on. But it also performs a diagnostic before a test is run, so it's going to check certain parameters when someone is going to -- When you're going to do a test there's a period before the subject can blow where if they blow it will invalidate the test, and during that window, maybe eight seconds before they're instructed to blow, the instrument evaluates the stability of the components in there before the test is done.

MR. FANNEY: Okay. Just one second, Your Honor.

THE COURT: Sure.

MR. FANNEY: All right. Thank you, Mr.

Glover. I don't have any further questions.

THE COURT: Any redirect?

MS. EDMISTON: Briefly, Your Honor.

REDIRECT EXAMINATION BY MS. EDMISTON:

Q Mr. Glover, can you tell the jury why the Intoxilyzer 5000 doesn't factor in body temperature and breath temperature and this hematocrit?

A Well, for a number of reasons. With respect to

hematocrit, that would be -- that's a blood issue -- we just -- it's not something that we would be able to do, and it's not significant.

As far as body temperature or breath temperature, there have been concerns in the past about whether or not that would influence a test.

There is a state where they have monitored breath temperature and made corrections on the results. That process is similar to ours in that they did two tests. They do -- When a person is charged, if there's a difference in the two they're charged with the lower of the two, and they also truncate the third digit like we do.

What they have observed since they've been monitoring and correcting for breath temperature is that -- When they do this final truncation they take the lower of the two tests, if there's a difference. They don't see an effect; in other words, it doesn't ultimately change the final result. This is in testing people that have been charged with DWI. And so it's just not necessary.

- Q Is there anything that you observed on State's Exhibit Number 4, the test ticket, that would indicate to you that any part of the machine was not working properly on July 18th, 2003?
 - A No. Everything was fine.
 - Q Does that include the part of the computer program

 that's the slope detector?

A Well, that's part of what analyzes the -- And again, the slope detector is more of a concept than it is an entity. But we would not have gotten a completed test record ticket if there was a problem.

MS. EDMISTON: That's all, Your Honor.

MR. FANNEY: I just have one or two questions.

THE COURT: Yes.

RECROSS-EXAMINATION BY MR. FANNEY:

Q Your statement was that you would not have gotten a breath sample if the slope detector had not been working properly?

- A We would not have gotten a result.
- Q Okay. Assume that the slope detector would have had to read mouth alcohol, in other words, if it had just failed to read mouth alcohol it would still give you a sample.

A Well, the instrument -- That's not a correct statement. The instrument measures alcohol, and it doesn't look at it as this molecule came from the mouth and this one came from down in the lungs.

It's not going to do anything like that. It's measuring the concentration of alcohol that's being blown into the instrument -- if it sees it go up and level off that satisfies the requirements of the instrument.

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Okay. So it can't distinguish where those molecules come from.

That's correct. But if there was raw alcohol in the mouth then you'd get the spike and it comes back down, because as you're blowing you're blowing out high concentrations of alcohol and then that concentration would start to fall very quickly; you're essentially evaporating it off the inside of your mouth, if it was raw alcohol it would spike like that (demonstrating). That's not a characteristic of air alcohol coming from deep in the lungs.

And that comes from the study that you talked about where you checked the slope detector and they just swished it in their mouth and spit out, correct? And that's supported by this study, right?

The study supports -- That study supports the fact that it dissipates very quickly, in a matter of ten minutes -- we have a 15-minute observation period -- that it dissipates quickly.

The fact that it monitors it and it sees it go up and come back down, we can demonstrate -- And we do routinely demonstrate it by wetting our tongue with alcohol, blow in the instrument, you can set it up to display its reading, and you'll see the reading go up and then back down. That's something that we check all the instruments for on a regular basis.

Where do those checks take place?

They are done at the test site, they're done in the electronics shop before -- If an instrument has a component that fails, it has a motor that burns out, a light bulb that burns out, it's taken to our electronics shop.

It's gone through, whatever was broken is fixed, it's set to factory specifications, and then they go through a whole series of tests on it, which include checking it for -to show that it can detect mouth alcohol, it can detect acetone, that it's linear -- in other words, it responds the same if it's a .04, .08, .16, .24, .32.

We look at it over that whole range of alcohol concentrations. And that's all done in the electronics shop.

All right. And some of these other slope detection tests are done out in the field?

Yes.

And those slope detection tests aren't done by your technicians -- well, they are done by your technicians?

Yes.

Q While they're working for the State.

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So they would not have been consuming alcohol when they did those slope detection tests, would they?

A I would hope not.

MR. FANNEY: That's all the questions I have.

 Thank you, sir.

THE COURT: Any redirect?

MS. EDMISTON: No, sir.

THE COURT: All right, sir. You can stand down. We're going to take our morning recess. Remember not to form any opinions as to the guilt or innocence of the defendant; he is presumed to be innocent until proven guilty beyond a reasonable doubt, and you've not heard all the evidence nor my instructions on the law.

So keep that in mind, and we'll take a recess until twenty minutes till twelve -- or ten minutes till twelve -- I'm sorry -- 12:50 -- 11:50.

[THE TRIAL RECESSED AT 11:32 A.M., AND RECONVENED AT 11:55 A.M. WITH THE DEFENDAT AND HIS ATTORNEY PRESENT IN THE COURTROOM]

(JURY ENTERS AT 11:56 A.M.)

THE COURT: Will there be additional witnesses?

MS. EDMISTON: No, Your Honor. And the State would ask that Mr. Glover be excused.

HE COURT: Mr. Fanney? If there's a doubt then --

R. FANNEY: No. I think I'm fine with that, Judge. I appreciate it.

THE COURT: You sure?

MR. FANNEY: I just wanted to think about it for a second before I told you. I'm fine with him being excused.

THE COURT: All right. And where are you located, Mr. Glover? In Raleigh?

MR. GLOVER: Yes, sir.

THE COURT: So if for some reason Mr. Fanney changes his mind I guess we could -- with some delay we could get you back here?

MR. GLOVER: I'll be here for a while, but if I leave -- I was supposed to be off today and was actually supposed to be in Williamston and --

THE COURT: Oh, I see. ..

MR. GLOVER: -- when I leave I will be --

THE COURT: Oh, you're going to Williamston.
Okay. Now, are you sure you're --

MR. FANNEY: I'm fine with that.

THE COURT: Because that's a drive. That's halfway to -- That's a long way. Okay. Will there be further evidence for the state of North Carolina?

MS. EDMISTON: No, Your Honor. The State rests.

THE COURT: All right. Will there be

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evidence for the defendant?

MR. FANNEY: There will be evidence for the defendant, Judge, and before that there is a matter we need to take up for the record.

THE COURT: All right. Members of the jury, don't hate me, now. I need to send you back for just a minute. I see that look on your faces, but it's just part of the procedure.

(LAUGHTER)

I promise this won't be very long, but, you know, it's not something that I can -- It's something I can anticipate, but it's just part of the procedure. Sorry.

(JURY EXITS AT 11:57 A.M.)

MR. FANNEY: Judge, obviously at this time we would move to dismiss the charge of driving while impaired, both under the appreciable impairment prong and the breath reading prong, and I would just rely on the evidence as presented.

I would renew my motion to exclude the breath test on the basis of voir dire testimony and ask you to revisit that, if for no other reason, not submit the eleven prong of the statute to the jury.

THE COURT: All right. Anything you'd like to say, Ms. Edmiston?

MS. EDMISTON: Your Honor, at this point the evidence seen in a light most favorable to the State does not require dismissal at this point, and I'd ask that you deny his motion to dismiss and deny his motion to suppress the Intoxilyzer.

THE COURT: At this juncture, at the close of the State's evidence, the motion to dismiss as to each prong of the charge of driving while impaired due to an impairing substance is denied, as is the motion to suppress the Intoxilyzer result.

Will there be evidence for the defendant?

MR. FANNEY: There is. There will be, Your Honor.

THE COURT: All right. Are you ready to proceed?

MR. FANNEY: Yes, sir.

THE COURT: All right. Go and bring the jury back.

(JURY ENTERS AT 11:59 A.M.)

THE COURT: Will there be evidence for the defendant?

MR. FANNEY: Yes, Your Honor, there will.

THE COURT: You may proceed.

MR. FANNEY: Thank you, Your Honor. At this time we'd call Dr. Michael Hlastala.