

IN THE STATE COURT OF HENRY COUNTY
STATE OF GEORGIA

STATE OF GEORGIA)
)
 vs.)
)
COURTNEY M. COTTOM,)
)
 Defendant)
)
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)
_____)

Case No.: 14SR2237

IN OPEN COURT BEFORE HONORABLE BEN W. STUDDARD, III
JUDGE, STATE COURT OF HENRY COUNTY

Transcript of **TESTIMONY OF MATTHEW MALHIOT (from JURY TRIAL)**
held in the State Court of Henry County
before Judge Ben W. Studdard, III
on October 23, 2014

COPY

NANCY R. SEABOLT
Official Court Reporter
State Court of Henry County
476 Seabolt Road, Locust Grove, GA 30248
770-288-7361

1 APPEARANCES OF COUNSEL:

2 For the State: MR. JEFFERSON UPCHURCH
3 Assistant Solicitor
4 State Court of Henry County

5 For the Defendant: MR. KEVIN R. RISHER
6 Attorney at Law
7 1800 Peachtree Street NW
8 Suite 300
9 Atlanta, GA 30309
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I N D E X

Witnesses

FOR THE STATE:

Matthew Malhiot

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1 **** P R O C E E D I N G S ****

2 (WHEREUPON, during the trial of the case,
3 the following transpired:)

4 (WHEREUPON, MATTHEW MALHIOT, first having
5 been duly sworn, testified as follows:)

6 **DIRECT EXAMINATION BY**

7 **MR. FISHER:**

8 Q. Good morning. Can you please state your name
9 for us?

10 A Matthew E. Malhiot, and it's spelled M-a-l-h-i-
11 o-t and it's pronounced Malhiot M-y-i-t.

12 THE COURT: Nobody ever gets that right.

13 WITNESS: They do not, Your Honor.

14 **MR. FISHER:**

15 Q. Could you please tell us what you do?

16 A. I am the proprietor of Forensic Alcohol
17 Consulting and Training which is a limited liability
18 corporation based in Canton, Georgia.

19 Q. And do you provide testimony and services for
20 both attorneys and government agencies?

21 A. I do. I provide expert consulting services,
22 expert training services, expert witness services for
23 legal practitioners both in criminal and civil matters in
24 any area that alcohol may be affected.

25 Q. In what jurisdictions have you been retained to

1 testify?

2 A. Montana, Florida, Kansas, Washington DC,
3 federal, military, Colorado. Many major jurisdictions.

4 Q. And you currently have a business?

5 A. Yes, the Forensic Alcohol Consulting and
6 Training. I'm the proprietor of that business.

7 Q. Where is that located?

8 A. In Canton, Georgia.

9 Q. Can you briefly tell us what you did before you
10 started that business?

11 A. Certainly. I was a department inspector with
12 the Florida Department of Law Enforcement's alcohol
13 testing program. That was Florida's equivalent of the GBI
14 implied consent program. Each state has a state agency
15 that has oversight over breath testing for DUI and blood
16 testing and crime labs. And I worked in Florida for that
17 program from 2002 through 2010, responsible for oversight
18 of breath alcohol testing and blood analysts in the state
19 of Florida for eight years.

20 Q. How is that equivalent to the GBI? What is the
21 GBI?

22 A. Well, GBI is the Georgia Bureau of
23 Investigation. And, obviously, Florida could not use that
24 acronym because it would have been the FBI, that one's
25 been taken already. So they had the Florida Department of

1 Law Enforcement. And the GBI's implied consent program is
2 the state oversight agency for Georgia's breath testing
3 program.

4 Q. Were you ever employed by law enforcement
5 entities in other states?

6 A. Yes, I was a police officer in the United States
7 Air Force for 20 years, retired. And I was a reserve
8 deputy with the Cascade County Sheriff's Office in Montana
9 for seven years prior to taking employment with the
10 Florida Department of Law Enforcement.

11 Q. What did you do -- what was your -- in the Air
12 Force what were your responsibilities?

13 A. As a police officer I had normal patrol duties.
14 I was also a supervisor, a DUI task force officer. I was
15 also a member of the Montana governor's task force on DUI
16 and underage drinking providing technical guidance to
17 committees in that area. Also a supervisor in training.
18 I was a training supervisor teaching law enforcement
19 operations in different areas. I was also the chief of
20 the technical services division at the Air Force base
21 where I was stationed, responsible for the breath test
22 machines, calibration, operation, maintenance of those
23 machines, and continued those duties when I was with the
24 sheriff's office in Montana.

25 Q. What did you do in your position in the state of

1 Florida?

2 A. State of Florida I was a department inspector.
3 Department inspector was responsible for a region. I was
4 responsible for a hundred law enforcement agencies' breath
5 testing programs. I would inspect the instruments, audit
6 the breath test records, ensure quality assurance in
7 compliance with the rules, provide expert testimony for
8 the state and defense, provide training, wrote the rules
9 for breath testing, wrote curricula for law enforcement
10 officers. And at the time Florida also used the
11 Intoxilyzer 5000 and Montana also used the Intoxilyzer
12 5000 when I was working in those states.

13 Q. Which breath testing machines did you inspect?

14 A. In Florida we inspected the Intoxilyzer 5000,
15 repair, maintenance, calibration and upkeep of those
16 instruments. And in 2006 Florida changed to the
17 Intoxilyzer 8000 and I continued my duties with that
18 instrument also.

19 Q. Did you work with the manufacturer of the breath
20 test machines?

21 A. Yes. First when I was in Montana I went to CMI
22 Incorporated. CMI is the manufacturer of the intoxilyzer
23 brand instruments. And I took their course on operation,
24 maintenance, calibration and instructor. So I'm certified
25 by the manufacturer to repair, maintain, operate and teach

1 others on the Intoxilyzer 5000. When Florida moved over
2 to the Intoxilyzer 8000, I also completed training on that
3 instrument, three specific courses on that instrument, and
4 instructor certified and worked with the engineering
5 division in development of debugging and software for the
6 Intoxilyzer 8000.

7 Q. Did you conduct any sort of quality control
8 analysis on these machines?

9 A. Yes, that was my primary duty was quality
10 assurance and quality control for forensic breath testing.
11 We would do calibrations, calibration checks, repair,
12 maintenance. And then we would do a documentation audit.
13 We would audit all breath tests done on the instruments to
14 ensure quality assurance in breath testing.

15 Q. Did you train anyone on these instruments such
16 as law enforcement officers or attorneys?

17 A. Yes. When I was with Montana, I taught law
18 enforcement. When I was in Florida, I taught law
19 enforcement, prosecutors, judges, defense attorneys. And
20 in my private practice I continue to teach attorneys on
21 breath testing.

22 Q. On any particular type of machines do you teach?

23 A. Intoxilyzer 5000, Intoxilyzer 8000, Intoxilyzer
24 9000 and also the PBTs or handheld breath test
25 instruments.

1 Q. How long are those courses typically that you
2 train?

3 A. Depends on what course. An instructor course in
4 Florida was 40 hours or a week long course. And the
5 shortest course I teach is an orientation in breath
6 testing, it's a four hour course.

7 Q. Are there refresher courses?

8 A. Yes, there are.

9 Q. Did you do any sort of -- conduct any sort of
10 research on the Intoxilyzer 5000?

11 A. I did many research studies on the Intoxilyzer
12 5000. Quality assurance in breath testing, interfering
13 substances in breath testing, airbag studies. Part of my
14 duties was to conduct research and development in breath
15 testing and did many different research studies and
16 evaluations of breath test instruments.

17 Q. How about the portable alcosensor?

18 A. Yes, alcosensors, we did a lot of testing as far
19 as interfering substances and the reliability of the
20 alcosensor. And that's a brand name. They're all
21 handheld or PBTs. Alcosensor is a particular brand name.
22 But the response -- it's a technology known as fuel cell
23 technology. And we would do research on fuel cell
24 response to interfering substances and those types of
25 researches.

1 Q. I know that the handheld device is portable, but
2 how about the mobile use of these machines?

3 A. Intoxilyzers?

4 Q. Yes.

5 A. We did some research in that area. Florida
6 didn't necessarily use them mobile. They weren't designed
7 as a mobile instrument. They're designed as a desktop
8 instrument and there's a lot of adaptations and other
9 things that affect the breath test machine, and that's why
10 it's designed as a desktop model. For instance, ambient
11 air conditions, the temperature range that the machine is
12 maintained in affects it. So Florida didn't do as much
13 mobile testing until they moved to the 8000.

14 Q. Did you do research on mobile testing for cars,
15 in terms of it being used in a car or a truck?

16 A. Florida did not approve the 5000 for use in a
17 truck or a car. It had to be a mobile home or a trailer
18 with an ambient air conditioning and temperature
19 controlled environment.

20 Q. Were you involved in the forensic analysis of
21 these breath test instruments?

22 A. Well, forensic analysis is what the machine
23 does. It does a forensic analysis of breath. So, yes, I
24 was involved extensively in that.

25 Q. Were you involved with establishing the

1 standards?

2 A. Yes, I wrote the standards, assisted in writing
3 -- part of the team that wrote the standards in Florida
4 and Montana for breath testing.

5 Q. Did you receive any sort of training for
6 forensic breath testing?

7 A. Yes. In Montana I was certified as a breath
8 test operator, a breath test senior operator and a breath
9 test technician. One who conducts breath testing, one who
10 checks the machine and one who repairs and calibrates. In
11 Florida I was certified as a breath test operator, a
12 breath test agency inspector and a department inspector.
13 I was also certified by the Florida Standards and Training
14 Commission as a law enforcement instructor. I completed
15 training from the manufacturer and the two different
16 states. I've also attended courses specifically in
17 forensic breath testing and forensic alcohol analysis.

18 When I was with Florida I was sent to Indiana
19 University and they have a course known as the Borkenstein
20 course. And Dr. Borkenstein --

21 MR. UPCHURCH: Your Honor, I would have to
22 object. I don't think this is responsive to the
23 question at this point. He's more giving a narrative
24 to the question that was asked.

25 THE COURT: Seems like we're far away from the

1 question. Ask him another question.

2 MR. FISHER: I asked how he established his --
3 have you established standards and have you received
4 any sort of training. And he's talking about his
5 training from Indiana University.

6 THE COURT: If you want to ask him another
7 question and let him go there, that's okay.

8 MR. FISHER:

9 Q. Have you received any training at Indiana
10 University?

11 A. I have.

12 Q. What did that training entail?

13 A. I completed training at what's known as the
14 Borkenstein course. And that course is specifically
15 designed for drug and alcohol and highway traffic safety
16 research and litigation. And that course had a very heavy
17 emphasis in alcohol toxicology, pharmacology,
18 instrumentation, alcohol analysis and response and also
19 alcohol measurement instruments. I also attended a course
20 in Lafayette, Louisiana from the Southern Association of
21 Forensic Scientists. And that course was specifically
22 alcohol or ethanol measurement and its interpretation, how
23 alcohol measurements are done with different types of
24 bodily substances, blood, urine, breath, those types of
25 analyses. Returned to Indiana University and completed a

1 course on state-level administration of a program for
2 quality assurance and quality control, specifically how to
3 write rules, how to establish a quality assurance program
4 in breath testing and blood testing.

5 I also completed coursework from the National
6 Institute of Justice on measurement uncertainty in
7 forensic testing and forensic analysis. And that's a
8 couple of the courses I have completed.

9 Q. In your experience do you ever repair these
10 machines?

11 A. I did.

12 Q. So you understand the guts of how it works?

13 A. Yes.

14 Q. How about calibrating them?

15 A. I have calibrated many intoxilyzers.

16 Q. You had mentioned CMI; did you train there?

17 A. I did. I specifically completed four specific
18 courses, one on the Intoxilyzer 5000 and three on the
19 Intoxilyzer 8000.

20 Q. And were you taught -- you were taught to be an
21 instructor on how the machine works?

22 A. Correct. Both by the manufacturer and the
23 states in which I worked.

24 Q. What sort of certifications do you hold?

25 A. Well, presently the certification requirements

1 for the states is you have to be employed by a law
2 enforcement agency, so those certifications are expired.
3 But I do hold the certification from the manufacturer on
4 the Intoxilyzer 5000 and 8000 for repair, operation,
5 maintenance and calibration and instructor.

6 Q. In your experience have you studied how the
7 breath test measures alcohol that comes from the lungs?

8 A. Yes, as part of my specific training. When I
9 was with the Florida Department of Law Enforcement, the
10 first nine months was a training program. In Montana,
11 breath test operator training. So extensive training on
12 forensic breath analysis, how it works, why it works.
13 Also during my undergraduate work I took anatomy,
14 physiology, criminalistics, forensics and infrared
15 spectroscopy -- that's the science that's used in breath
16 testing -- as part of that undergraduate work and
17 continued training.

18 Q. Can you explain briefly how this works, I mean
19 when a person inhales and then exhales in terms of the
20 alcohol in the lungs?

21 A. Certainly. When a person inhales and exhales
22 what happens is, alcohol is what's known as a volatile
23 organic compound. The ethanol molecule is very volatile
24 meaning it passes the membranes in the lungs from the
25 blood to the breath. So when a person breathes in and

1 breathes out and they have alcohol in their blood, some of
2 those alcohol molecules will pass from the blood into the
3 breath and be expired as they exhale. And during a breath
4 alcohol test, the machine will measure that alcohol in
5 that breath and calculate it into an alcohol result.

6 Q. In terms of the -- let's go back to the
7 portability of the machine and the limitations. Did you
8 study those limitations on how those machines are
9 portable?

10 A. Yes, and established guidelines in Florida for
11 the use of the Intoxilyzer 5000 in a portable setting.

12 Q. Have you testified previously as an expert on
13 the Intoxilyzer 5000?

14 A. Yes, in many different jurisdictions.

15 Q. How about the 8000?

16 A. Yes.

17 Q. Have you testified as an expert with regards to
18 the Intoxilyzer 5000, the regular model and the EN model?

19 A. Yes, there are four or five different models.
20 What's known as the 64, 66 series and then the 68 and EN
21 series. And I have testified and worked on all of those
22 instruments.

23 Q. What does EN mean?

24 A. It's just an enhanced version of the 5000, it's
25 the latest version that was manufactured before they

1 discontinued that instrument.

2 Q. Have you ever testified in Henry County?

3 A. I have.

4 Q. Can you give a definition of infrared
5 spectroscopy?

6 A. Infrared spectroscopy is, by definition is
7 infrared light absorption. More of an explanation than a
8 definition. The definition is infrared light is absorbed
9 by compounds as the light passes through those compounds.
10 An explanation is specific --

11 MR. UPCHURCH: Judge, I'm going to have to
12 object here. He didn't ask him to explain. He asked
13 him to define that term. He is going beyond what
14 he's asking.

15 MR. FISHER: Your Honor, I think he's explaining
16 what the definition is.

17 THE COURT: Overruled. Go ahead.

18 WITNESS:

19 A. An explanation as to infrared spectroscopy or
20 infrared light absorption is in breath testing as a person
21 blows into the instrument, at one end there is a sample
22 chamber. And the sample chamber is very much -- about the
23 size of a role of paper towels. If you take all the paper
24 towels off and you're left with that cardboard tube,
25 that's about the size of the sample chamber on the 5000.

1 One end is a light, the projector light, very much like we
2 see up here projecting onto this screen. And on the other
3 end is a light detector, very much like if you go to a
4 photo studio and have a portrait and they hold a light
5 meter up to measure the light. And there's filters that
6 filter out all of the other light waves except for
7 specific frequency light that alcohol reacts with. And as
8 a person blows into this machine, the breath passes into
9 the sample chamber, the light shines down and alcohol
10 would absorb some of that light. So less light gets to
11 the detector. Then that is sent to the internal computer,
12 it calculates it into breath alcohol and produces a
13 result.

14 A good analogy is if you're driving to work in the
15 morning at six o'clock in the morning and it's dark out
16 and your headlights shine for five blocks, and the next
17 day you drive to work, same route same time, but it's
18 foggy out. So your lights only shine two blocks. Well,
19 what's happening is the moisture in the air in the fog is
20 absorbing that light energy. So less light is traveling.
21 And that's how infrared light absorption works.

22 MR. FISHER:

23 Q. Is it the same concept used in the Intoxilyzer
24 5000 EN model?

25 A. Yes, that's an explanation of that specific

1 model.

2 Q. And you had talked earlier about the portable
3 alcosensor device. You're trained in how to use it?

4 A Yes, use it, calibrate it, repair it.

5 Q. Are you certified to use it?

6 A. There is no certification. Most law enforcement
7 agencies, when their law enforcement officers -- they have
8 training, but there is no formal certification.

9 Q. Are you familiar with its limitations?

10 A. Very familiar.

11 Q. How many times did you use the device?

12 A. There's probably 20 different models and I
13 probably used them in evidential use and training use
14 thousands of times.

15 MR. FISHER: Your Honor, at this time I would
16 like to tender Mr. Malhiot as an expert on mobile
17 breath testing, the Intoxilyzer 5000, the portable
18 alcosensor and infrared spectroscopy.

19 THE COURT: Let me make sure I got all that.
20 Mobile breath testing, Intox 5000, portable breath
21 test and infrared spectroscopy.

22 MR. FISHER: Right.

23 THE COURT: Any objection to that, Mr. Upchurch,
24 or any part of that?

25 MR. UPCHURCH: One moment to write that down.

1 No, Judge, he has met the legal requirement.

2 THE COURT: Ladies and gentlemen, Mr. Malhiot is
3 going to be allowed to offer to you expert opinions
4 on those subjects for your consideration. As I
5 instructed you yesterday, opinion evidence from any
6 witness, expert or otherwise, is subject to your
7 weighing the credibility of it. You're never bound
8 by the testimony of any witness. Listen carefully
9 and decide how much weight and credit you want to
10 give the testimony of the witness.

11 Go ahead Mr. Fisher.

12 MR. FISHER: Your Honor, may I approach?

13 THE COURT: Yes, sir.

14 MR. FISHER:

15 Q. I have shown opposing counsel what is the DWI
16 Detection and Standardized Field Sobriety Testing manual.
17 Do you recognize this?

18 A. Yes, I do.

19 Q. Is it the same manual that you trained on?

20 A. I trained on and I also instructed on, taught at
21 numerous law enforcement academies that particular manual
22 and the previous and the newer updated one.

23 Q. Is it an accurate depiction of the manual?

24 A. Well, the cover sheet is. If I may --

25 Q. (handing)

1 A. It appears to be a complete manual.

2 Q. Is this the same manual that an officer would
3 have trained on if that officer was an officer in 2008?

4 A. Yes, that manual is --

5 MR. UPCHURCH: I object to that. It calls for
6 speculation. He's not going to know that an officer
7 in Georgia was trained on that particular manual. I
8 think this goes beyond the scope of what he was just
9 tendered as an expert in.

10 MR. FISHER: I can go into further detail, Your
11 Honor.

12 THE COURT: If you can lay a foundation for
13 that.

14 MR. FISHER:

15 Q. Based on this manual -- can you tell me when
16 this manual was published?

17 A. 2006, August of 2006 is when it was published.

18 Q. Was there any sort of revision after 2006?

19 A. 2013, published the next revision.

20 Q. So from 2006 to 2013 what you're saying, there
21 was no update?

22 A. Correct.

23 Q. Is this a national manual?

24 A. Yes, it's published by the National Highway
25 Traffic Safety Administration and all states have adopted

1 that curricula as the standardized field sobriety
2 curricula.

3 Q. All states meaning all state agencies?

4 A. All state agencies, US military, anything under
5 the jurisdiction of the National Highway Traffic Safety
6 Administration, yes.

7 Q. Is Henry County Police Department under one of
8 those?

9 A. Yes, they are.

10 Q. Is this the same manual that an officer would've
11 trained on if they went in for employment in 2008?

12 A. If they had completed the standardized field
13 sobriety training that's not part of the basic law
14 enforcement academy, but they have completed the
15 standardized field sobriety training, that is the manual
16 that's used.

17 Q That they would use, okay.

18 MR. UPCHURCH: Your Honor, again I have to
19 object. This officer -- this witness can't say
20 whether the officers involved in this case have been
21 trained by that manual or not. I don't think this
22 witness has any knowledge if Henry County trained a
23 particular officer in a certain way.

24 MR. FISHER: Your Honor, I asked the officer, I
25 subpoenaed him to bring that manual. He did not

1 bring that manual. If I would have had an
2 opportunity to go over that with him yesterday. Mr.
3 Malhiot is an expert, he's been tendered as an
4 expert. He has testified that this is national
5 federally mandated guidelines for standardized field
6 sobriety testing. And he has already acknowledged
7 that Henry County is under that jurisdiction, which
8 it is, then they would have trained on this manual.

9 THE COURT: It seems to me a foundation has been
10 laid for that testimony. I'll allow it. Go ahead.

11 MR. FISHER: Thank you, Your Honor.

12 MR. FISHER:

13 Q. Are you familiar with radio frequency
14 interference?

15 A. As it applies to PBTs and the intoxilyzer and
16 other law enforcement equipment, yes.

17 Q. Can you briefly tell us what the limitations are
18 on the portable alcosensor with radio frequency
19 interference?

20 A. The portable alcosensor is a handheld breath
21 testing screening device. It's battery operated and it
22 has electronic components. And anything that has
23 electronic components is subject to radio frequency
24 interference. A good example of that is if you have your
25 cell phone sitting next to the car stereo speaker, at home

1 near the television, and you hear static over the speakers
2 of the TV two seconds before your phone rings, that's RFI.
3 It's radio frequencies interfering with different
4 electronic functions. The alcosensor brand instrument
5 does not have electronic safeguards or shielding to
6 prevent radio frequencies from penetrating and affecting
7 that machine.

8 Q. Can you describe what RFI is, what would trigger
9 it?

10 A. Well, any radio transmitter, your cell phone,
11 police radios, police radar, any transmitter, body mics
12 from police video systems, anything that transmits radio
13 frequencies can cause a radio frequency interferent.

14 Q. If there is RFI near the portable alcosensor,
15 how could that be affected? How can the portable
16 alcosensor be affected by RFI?

17 A. Well, what happens in RFI is that the radio
18 frequencies penetrate the plastic case and affect the
19 electrical signals that are traveling within the circuit
20 boards, so it can give you very erratic numbers.

21 Q. Could it be a false positive?

22 A. It could, just as it could be a false negative.
23 It's very sporadic. It's not plus/minus.

24 Q. Is there a waiting period that an officer is
25 supposed to wait prior to administering the portable

1 alcosensor?

2 A. Yes. The alcosensor's manufacturer and the
3 National Highway Traffic Safety Administration in that
4 curricula, when they're used as a screening device, there
5 is a 15 minute pre-test observation deprivation period.

6 Q. And if that 15 minute period is not followed,
7 what can happen?

8 A. Well, it's designed to prevent mouth alcohol,
9 alcohol in the oral cavity from contaminating the results.
10 Specifically on the portable screening devices, it can
11 artificially raise the results.

12 Q. When you say contaminants, is that -- could that
13 be -- could you be more specific about contaminants?

14 A. Well, as I explained earlier, breath testing is
15 trying to measure the alcohol that's coming out of the
16 blood into the lungs and blown into the machine. With the
17 alcosensor if a person has alcohol in their mouth from
18 recently consumed alcohol, or regurgitated alcohol where
19 alcohol came from the stomach and not the lungs, that
20 would give you an artificially higher result. So that's
21 why the 15 minute wait for the screening device is in
22 place, so that if there's any alcohol in the mouth it will
23 dissipate and evaporate and it won't affect that screening
24 device.

25 Q. Could the alcosensor be affected by mouthwash?

1 A. If it contained alcohol, yes.

2 MR. UPCHURCH: I object there. It's a
3 hypothetical that is assuming facts not in evidence
4 or in the record in this case.

5 THE COURT: Do you want to speak to that?

6 MR. FISHER: It's a hypothetical. I'm asking
7 based on his training and knowledge is it possible
8 that the portable alcosensor could be affected by
9 contaminants such as mouthwash.

10 THE COURT: It's supposed to be adjusted to the
11 facts of the case. Haven't heard any evidence about
12 mouthwash here yet. Sustain the objection.

13 MR. FISHER:

14 Q. Can you go back and speak to your opinion as to
15 the Intoxilyzer 5000 being an acceptable unit for mobility
16 in a bus or a truck or a command bus or a Tahoe or a boat?

17 A. Well, it was designed and developed as a desktop
18 model. So, being that said, it requires 110 volt plug
19 into the wall. When you plug it into a generator or a
20 converter and start converting electrical signals, it
21 affects the instrument's stability. It has diagnostic
22 tests that tests its own stability and voltage stability.
23 But in the portable environment, unless it's plugged into
24 a wall, it's changing voltages from DC to AC and back.
25 And the diagnostics are there to catch that and make sure

1 it's stable. That's one of the downfalls.

2 The other thing is that when you are in a desktop
3 building environment, you have pretty stable temperatures.
4 Mobile breath testing and breath testing in general is
5 also based on temperature -- breath temperature, body
6 temperature. And the instrument, the 5000, has a
7 temperature range of 68 to 86. The intoxilyzer should be
8 used in temperature environments between those ranges. So
9 when you go into a mobile environment, one of the things
10 you should do is make sure you're maintaining that
11 temperature for the operation of the instrument.

12 Q. Have you familiarized yourself with the
13 Intoxilyzer 5000 and the Georgia State Patrol, their
14 studies -- not the Georgia State Patrol studies, but the
15 studies regarding the Intox 5000?

16 A. Well, there's probably thousands of studies.
17 Specifically in reference to what?

18 Q. The reliability.

19 A. By whom?

20 Q. By GBI.

21 A. The GBI has done a few studies as far as mobile
22 use. They did a specific study with the Nighthawk unit of
23 the Georgia State Patrol and its use in a Tahoe. That
24 study was specifically concerned about using it in the
25 Tahoe --

1 MR. UPCHURCH: I would object as far as
2 relevancy here. He's asking about a study done on a
3 Tahoe. There's no evidence in this case that the
4 Intox 5000 was used in a Tahoe in this case. So it
5 seems like what he's about to say is totally
6 irrelevant to the facts of the case.

7 MR. FISHER: Your Honor, he's speaking to the
8 mobility of the unit, whether it's in a Tahoe,
9 whether it's in a bus or a truck. It still goes to
10 the reliability of the machine being a mobile unit.

11 THE COURT: The witness can state an opinion as
12 to the reliability of the instruments since he's been
13 tendered as an expert in that area without any
14 objection to it. However he can't sit here and be a
15 conduit for hearsay coming from some study that is
16 not in evidence. So he can't go testify to the
17 substance of some study that he -- if it's
18 established that he has a basis for an opinion and he
19 wants to express an opinion about the reliability of
20 the test that was done in this particular case, he
21 can do that.

22 MR. FISHER: Thank you, Your Honor.

23 MR. FISHER:

24 Q. The Intoxilyzer 5000 EN serial number 68-011836
25 I believe is the one that's in the back of the Henry

1 County Police Department's command bus. And as far as you
2 know has that been approved by the GBI?

3 A. As a mobile unit?

4 Q. Yes.

5 A. It has.

6 Q. In your opinion do you think that unit is
7 reliable?

8 A. It can be if it's used properly, calibrated
9 properly, maintained properly and used in the proper
10 procedures and environment, it can be a reliable
11 instrument.

12 Q. I have shown the state the Intoxilyzer 5000
13 Georgia operator and refresher training manual from the
14 GBI Division of Forensic Sciences. Do you recognize what
15 that is?

16 A. I do.

17 Q. What is it?

18 A. Just as you stated, it's the Georgia Bureau of
19 Investigation's Intoxilyzer 5000 refresher manual, 2012
20 revision.

21 Q. Is that an accurate depiction of what it is?

22 A. It is. I have the manual, I've read the manual,
23 I've discussed the manual with Mr. Tilson. I'm very
24 familiar with the manual and probably every feature in
25 that manual I have personally completed and done myself.

1 Q. Is this the manual that you used to become a
2 certified operator?

3 A. Not the manual I used, no. It's the manual
4 Georgia officers use to become certified.

5 Q. All Georgia officers?

6 A. If they're breath test operators, yes.

7 Q. How do you know all officers?

8 A. Because there's only one manual and GBI is the
9 only agency in the state that certifies breath test
10 operators. It's not a local certification.

11 Q. Do you know when this manual became published?

12 A. It's a 2012 revision. It's on the cover of the
13 manual.

14 Q. How about prior to that? What is the last
15 revision before that?

16 A. Probably 2010.

17 Q. And before that?

18 A. I think 2008. I'm not 100 percent sure.

19 Q. 2008. Has it changed much?

20 A. There has been slight variations, but the
21 substantive functionality of the manual has not changed
22 drastically.

23 Q. Is this the same manual an officer would have
24 used to train to become an operator in 2008?

25 A. Not the 2012, but substantively how to run a

1 breath test is the same.

2 Q. Can you define what measurement uncertainty
3 means?

4 A. Certainly. Measurement uncertainty is defined
5 as the variation or variability of a measurement, whether
6 it's a bathroom scale, a breath test machine, a drug scale
7 at a crime lab or any measurement device including the
8 clock on the wall. They all are subject to measurement
9 uncertainty.

10 Q. Is that the same thing as like a margin of
11 error?

12 A. That's a common term. But measurement
13 uncertainty is the scientific term.

14 Q. Whether it was 2012, 2010, 2008, has the
15 measurement uncertainty changed?

16 A. It has not.

17 Q. How about instrument accuracy?

18 A. Instrument accuracy is defined as the
19 instrument's ability to measure a known standard. That's
20 the definition.

21 Q. Is there a target value for the Intoxilyzer
22 5000?

23 A. Under accuracy standard there is, yes.

24 Q. What is that target value?

25 A. What they do is a quarterly inspection and the

1 target value at that quarterly inspection is .080 grams
2 per 210 liters of breath.

3 Q. How about measurement uncertainty? How has that
4 been defined?

5 A. Measurement uncertainty is defined as if you
6 have two samples of breath, you average the two and get
7 the mean or the average of the two samples. So,
8 measurement uncertainty in Georgia is defined as seven
9 percent of the mean of two samples at the 99 confidence
10 level, meaning 99 percent of the population will fit
11 within seven percent of the mean of the two samples. So
12 plus or minus seven percent of the mean.

13 MR. FISHER: May I approach, Your Honor?

14 THE COURT: Yes, sir.

15 MR. FISHER:

16 Q. This is what is labeled State's Exhibit #3. Can
17 you please tell me what that is?

18 A. This is an Intoxilyzer 5000 printout from the
19 intoxilyzer machine itself. It's a copy. It comes in a
20 three-part carbonated copy, self-carbonating. And this is
21 one of the copies.

22 Q. Who is the subject on this case?

23 A. Courtney M. Cottom, C-o-t-t-o-m.

24 Q. Who is the breath test operator?

25 A. Kelly L. H-o-r-n-e.

1 Q. What was the date of this intox slip?

2 A. Violation date was May 24, 2014. Breath test
3 date is also the same date.

4 Q. What were the results of the breath test on that
5 date?

6 A. Subject sample one was a .082 and subject sample
7 two was a .082. So, they're both the same.

8 Q. So how does that relate to measurement
9 uncertainty?

10 A. Well, it makes the math easy because I don't
11 have to figure out the average. They're both the same.
12 So the average is a .082. And then you would say
13 measurement uncertainty is seven percent of the .082. So
14 if you do the math, and actually the GBI says in the
15 manual approximately seven percent. It's more accurate at
16 6.5 percent. So, if you do the math at 6.5 percent of an
17 082 is a .004. So, measurement uncertainty is .004. See
18 you can express the result in the breath test -- I'm
19 sorry, .005. If you go down to the five percent
20 confidence level, it's 004. But anyway, it's .005. So
21 you express the breath test result as .082 plus or minus
22 .005.

23 Q. What does that mean exactly for this particular
24 test? How do the numbers come out?

25 A. Well, her actual -- assuming the breath test and

1 everything is 100 percent right and everything was
2 followed and all the procedures and everything's good,
3 what it means is that her breath alcohol at the time of
4 the test was between .077 and .087.

5 Q. Could be anywhere between there?

6 A. Yes.

7 Q. It's not determined which way?

8 A. Correct.

9 Q. Have you familiarized yourself with the
10 inspections that were performed on the Intox 5000? .

11 A. I did.

12 MR. FISHER: May I approach, Your Honor.

13 THE COURT: Yes, sir.

14 MR. FISHER:

15 Q. This is what has been labeled as State's Exhibit
16 #4 and #5. Can you please tell me what these are?

17 A. These are certificates of inspection that are
18 published by the GBI's implied consent program. The area
19 supervisor in Georgia who is responsible for the breath
20 test machine will once a quarter, once per calendar
21 quarter, come out and do a physical inspection. There is
22 probably a 10 step process they do to inspect the
23 functionality, calibration, operation of the machine. And
24 if it passes those 10 functionality checks, they will
25 issue a certificate of inspection for that machine.

1 Q. Do these certificates match up with the actual
2 instrument number on this test slip?

3 A. Yes. The serial numbers match these
4 certificates, the inspection certificates for the breath
5 test machine used in this case.

6 Q. How often is this machine, the Intox 5000, how
7 often is it maintained?

8 A. Georgia requires once per calendar quarter. So
9 January, February, March, somewhere in those three month
10 period it has to be inspected. Once per calendar quarter.

11 Q. When was it inspected in this quarter?

12 A. March 5th, 2014.

13 Q. And when was it inspected again?

14 A. June 20, 2014.

15 Q. And have you had a chance to review the language
16 that's in this certificate?

17 A. I have.

18 Q. Based on the language that you see, is that an
19 accurate statement?

20 A. Well, it's accurate in that the functionality
21 that they check is accurate. But the certificate says all
22 of the electronic and operating components. Not all of
23 them are part of the inspection process.

24 Q. What components are not part of that inspection
25 process?

1 A. Well, for example, the flow sensor is not
2 inspected that measures breath volume, is not part of the
3 inspection process.

4 MR. UPCHURCH: Your Honor, I would have to
5 object here. Unless he can personally testify to
6 what inspection process was done by the person who
7 calibrated on those certificates, I think he's just
8 speculating.

9 MR. FISHER: Your Honor, I think he knows. He's
10 been tendered as an expert in this field. He himself
11 has worked on these machines, he's worked on the EN
12 model. He has repaired them, he has calibrated them,
13 he has maintained them. He understands how the
14 maintenance works. He understands how the inspection
15 works.

16 THE COURT: If he's testifying that he's
17 personally familiar with the Georgia regimen for
18 inspecting the devices, then I think he is qualified
19 to testify about how that is standardly done and can
20 then comment on whether he thinks that's adequate or
21 not.

22 MR. FISHER: Thank you, Your Honor.

23 MR. FISHER:

24 Q. In your opinion -- let me go back. You had
25 stated not all of the components are inspected?

1 A. Correct.

2 Q. Okay. Can you please go back to the statement,
3 the words that are on that certificate and the reliability
4 of that certificate?

5 THE COURT: Let me just make sure. You're
6 familiar with the Georgia procedure for how they do
7 these.

8 WITNESS: Yes, Your Honor, I'm very intimately
9 familiar with the procedure, the checklists, and have
10 personally done all of those functions myself.

11 THE COURT: Go ahead.

12 MR. FISHER:

13 Q. Is this considered single point calibration?

14 A. It's considered single point calibration check.
15 Georgia does not calibrate their Intoxilyzer 5000. They
16 do a quarterly inspection check to validate the
17 calibration, what's known as a single point calibration
18 check.

19 Q. Is that sufficient to establish accuracy?

20 A. It is not. When you do a calibration check, you
21 should check three points along the calibration curve
22 meaning you should check at a low concentration, average
23 concentration and a high concentration to make sure the
24 instrument is responding during its entire range of
25 detection. Georgia, on this model instrument, only checks

1 .08.

2 Q. How about precision testing; can you explain
3 what that is?

4 A. Precision testing -- when you're talking about
5 breath testing, you have accuracy and precision. Accuracy
6 is how near the target are you. If you throw a dart at
7 the bull's eye and you hit the bull's eye, that's
8 accurate. But can you throw 10 darts and hit the bull's
9 eye 10 times? That's precision. So when you do accuracy
10 testing in breath testing, you should do accuracy and
11 precision. And precision testing is repeatability.
12 Georgia only does two tests and you need at least a
13 minimum of three. Florida, for example, does eight -- I
14 mean 10. Many states do a lot more. But you need enough
15 to be able to do a mathematical calculation of what's
16 known as a standard deviation. And a standard deviation
17 is not calculated on the Georgia Intoxilyzer 5000.

18 Q. So would you say then it doesn't really
19 establish reliability?

20 A. It doesn't establish precision.

21 Q. What about external control testing? Is that
22 something that is recommended?

23 A. Yes, in 2008 the National Safety Council
24 published recommendations for forensic breath testing and
25 external control testing was part of that recommendation.

1 The Intoxilyzer 5000 in Georgia does not do that.

2 Q. But it's capable of doing it?

3 A. Yes, other states that use it do external
4 testing.

5 Q. What other states do?

6 A. Virginia, Texas until they switched. A lot of
7 states are switching away from that instrument.

8 Q. Would that type of testing make the machine a
9 little more reliable?

10 A. It adds to quality assurance of breath testing.

11 Q. In your opinion, is this machine perfect?

12 A. No, no machine made by man is perfect.

13 Q. And do you -- I think you already answered this
14 question, but who's the manufacturer of this machine?

15 A. CMI Incorporated out of Owensborough, Kentucky.

16 Q. Would it surprise you that the company had a
17 tech support page?

18 A. They have a whole tech support division up
19 there. I'm very familiar with them.

20 MR. FISHER: No further questions, Your Honor.

21 THE COURT: Thank you. Cross?

22 **CROSS EXAMINATION BY**

23 **MR. UPCHURCH:**

24 Q. Mr. Malhiot, I just have a few follow-up
25 questions.

1 A. Certainly.

2 Q. Now, you have never worked as a police officer
3 in Georgia; is that correct?

4 A. Not in the state of Georgia, no, sir.

5 Q. When you were with the Air Force, were you
6 making DUI arrests like on base?

7 A. Yes.

8 Q. You were POST certified at the time?

9 A. Yes.

10 Q. Did you do field sobriety evaluations?

11 A. I did.

12 Q. And the Intox 5000 was the breath test machine
13 you were using on the Air Force base; is that correct?

14 A. Correct.

15 Q. You didn't work in any capacity as a scientist
16 there at the Air Force base, correct?

17 A The chief of the technical services division,
18 but not a scientist, no.

19 Q. And your -- as far as educational degrees, you
20 have a bachelor's degree in criminal justice
21 administration, correct?

22 A. A bachelor of science in criminal justice,
23 correct.

24 Q. You don't have a degree in chemistry?

25 A. I do not.

1 Q. Not a degree in biology?

2 A. I do not.

3 Q. Not a degree in computer science?

4 A. In what science?

5 Q. Computer science.

6 A. No.

7 Q. And a lot of what deals with the Intox 5000

8 machine is based on computer source code; is that correct?

9 A. Computer source code is how the instrument --

10 internal features take voltages from the light and convert

11 it into a number, so yes.

12 Q. So, during your work or coursework when you were

13 obtaining your degree in administration of criminal

14 justice, how much actual lab science work did you do?

15 A. I think there were two classes that were

16 specific lab.

17 Q. Did you ever take any organic chemistry courses?

18 A. I did not.

19 Q. Did you ever take instrumental analysis?

20 A. I did not.

21 Q. Qualitative chemistry?

22 A. I did not.

23 Q. Quantitative chemistry?

24 A. No, sir.

25 Q. Pharmacology?

1 A. No, sir, not in my undergraduate work.

2 MR. FISHER: Your Honor, I would object. I
3 don't know what the relevance is of the science,
4 pharmacology. He was not admitted as an expert in
5 pharmacology.

6 MR. UPCHURCH: Judge, it goes to his background.
7 He's on cross examination. He has mentioned a lot of
8 fancy words like molecules and science and I have a
9 thorough and sifting chance here to go through the
10 background of exactly what he knew or didn't know.

11 THE COURT: It seems to me it would be
12 reasonably related to his testimony. Overrule the
13 objection. Go ahead.

14 MR. UPCHURCH:

15 Q. No degree in toxicology, correct?

16 A. No, sir.

17 Q. You mentioned when you were working in Florida
18 that you were working for the equivalent of the GBI
19 implied consent division, correct?

20 A. That is correct.

21 Q. But you had a supervisor there in Florida,
22 right?

23 A. I did.

24 Q. And you would agree that mouth alcohol
25 dissipates very quickly, correct?

1 A. Yes, as I mentioned in direct, approximately 15
2 minutes.

3 Q. If there was evidence in the case that a person
4 had stopped consuming alcohol about eight hours before a
5 breath test, there would be no reason for that person to
6 have alcohol in their mouth, correct?

7 A. Correct.

8 Q. Based on your training and experience, someone
9 -- let's say that the defendant's eyes in this case who
10 had two average size beers out of a bottle and then waited
11 about eight hours later and took a breath test, there's no
12 reason that person would be at a .082, correct?

13 A. Well, in your hypothetical if those are the only
14 alcohol consumed and the only variables, that is correct.

15 Q. And I believe you were shown State's Exhibit #3
16 earlier that was tendered in. Can you again tell the jury
17 what that document is?

18 A. This is the breath test report slip from the
19 intoxilyzer.

20 Q. And there are no error messages associated with
21 the breath test, correct?

22 A. There are no error messages on this print card,
23 that is correct, counsel.

24 Q. And you used the Intox 5000 in Montana; correct?

25 A. I did.

1 Q. And you used or worked with the Intox 5000 in
2 Florida also, correct?

3 A. I did.

4 Q. Did you ever testify in court in those cases
5 that you made in Florida or Montana?

6 A. Yes.

7 Q. And you never testified in any of those cases
8 that a document like the one you have got there, State's
9 Exhibit #3 where there is no error message shown on there,
10 that there was any problem with the test; is that correct?
11 You have never testified to that?

12 A. That's correct.

13 Q. And you're not testifying to this jury that
14 there is any problem with that particular breath test in
15 this case?

16 A. No, I testified to measurement uncertainty and I
17 made the assumption that everything was done properly and
18 it was operated properly and the environment was proper
19 because I had no evidence to show that it was different.

20 Q. Have you ever talked -- did you talk to the
21 arresting officer in this case about this case?

22 A. I did not.

23 Q. Have you spoken to the defendant?

24 A. I have not.

25 Q. Have you ever met the defendant?

1 A. Just this morning.

2 Q. Did you ever watch a video in this case?

3 A. I have not.

4 Q. You didn't use stand-alone external controls
5 when you were using the Intox 5000 in Florida, did you?

6 A. No. The recommendations came out in 2008 from
7 the National Safety Council and Florida started using
8 external controls in 2006. So two years prior to the
9 recommendation.

10 Q. Did you ever testify in court about the Intox
11 5000 results on any cases in Florida?

12 A. Yes.

13 Q. During that time when you weren't using those
14 external controls, you never testified that the results of
15 that test on the Intox 5000 were unreliable, did you?

16 A. Well, that wouldn't make much sense. But no, I
17 have not.

18 Q. Just to be clear for the jury, you said it
19 wouldn't make much sense. You testified earlier, if I'm
20 not mistaken, that Georgia doesn't use these external
21 controls, correct?

22 A. Correct, that's one of the quality assurance
23 measures.

24 Q. But you have also used the Intox 5000 yourself
25 in Florida when y'all didn't use the external controls

1 either, right?

2 A. That is correct.

3 Q. And yet you never came to court and testified
4 that there was a problem with any of those -- or problems
5 with the breath test results because there were no
6 external controls used, correct?

7 A. That's correct.

8 Q. And you have never testified in a criminal case
9 for anyone other than the defense here in Georgia; is that
10 correct?

11 A. In Georgia that is correct.

12 MR. UPCHURCH: Could I have just a moment,
13 Judge?

14 THE COURT: Yes, sir.

15 (WHEREUPON, there was a brief delay,
16 after which the following
17 transpired:)

18 MR. UPCHURCH: I believe that's all the
19 questions I have on cross. Thank you.

20 THE COURT: Redirect?

21 MR. FISHER: Yes, Your Honor

22 **REDIRECT EXAMINATION BY**

23 **MR. FISHER:**

24 Q. In terms of the external control testing, if
25 there was external control testing done, would that make

1 the machine more reliable and accurate in your opinion?

2 A. It doesn't make the machine more reliable or
3 accurate. It just validates the testing that's done at
4 that specific time. That's its purpose.

5 Q. Makes it more valid?

6 A. Yes, it shows the instrument calibration and
7 functionality working at the time of the breath test.

8 Q. And in this case Georgia does not do that?

9 A. It does not.

10 MR. FISHER: No more questions, Your Honor.

11 THE COURT: Cross of that?

12 MR. UPCHURCH: No, sir.

13 THE COURT: Mr. Malhiot, thank you very much
14 sir. You can step down.

15 (WHEREUPON, the trial of the case
16 continued.)

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