

1 name.

2 MR. MALHIOT: That's okay, everybody does.

3 VOIR DIRE

4 HEARING OFFICER: All right. Counsel, do you have any
5 questions you'd like -- oh, Mr. Malhiot I need to get some
6 information about your background.

7 THE WITNESS: Certainly.

8 HEARING OFFICER: What is your educational background?

9 THE WITNESS: I hold a Bachelor of science in criminal
10 justice administration with course works in forensics, anatomy,
11 physiology, criminalistics, basic sciences, including biology,
12 chemistry and physics.

13 I was employed by the Florida Department of Law
14 Enforcement's Alcohol testing program for eight years.

15 HEARING OFFICER: Before we get there --

16 THE WITNESS: Right.

17 HEARING OFFICER: -- when did you get your Bachelor's?

18 THE WITNESS: 2001.

19 HEARING OFFICER: And what's your age, sir?

20 THE WITNESS: I'm 52 years old.

21 HEARING OFFICER: So you got your degree in 2001 and
22 then what happened?

23 THE WITNESS: Well, I was retired from the Air Force,
24 20 years law enforcement, working with the Montana division of
25 forensic science in their alcohol testing program with the old

1 Intoxilyzer 5000. I then moved to Florida and worked with the
2 Florida Department of Law Enforcement's Alcohol Testing Program
3 as a certified breath test technician, inspector, certified by
4 CMI on the instruments.

5 Worked in audit and oversight of breath testing at the
6 State level. Certified on the Intoxilyzer 5000, 8000. Have
7 done software work on Histograms, development of Histograms.
8 Worked on the development of Forensic Breath Testing in the
9 State of Florida, rule writing in the State of Florida.

10 I have reviewed the Colorado Breath Test Operator,
11 Breath Test Instructor. The Georgia Breath Test Operator. CMI
12 Manual all on the Intoxilyzer 9000. Plus numerous other
13 certifications and courses, if you'd like to go into those.

14 HEARING OFFICER: No. But I'd like you to explain to
15 me what software work you did on the histograms.

16 THE WITNESS: Certainly. When Florida was developing
17 the 8000 using histograms, and training, and research and
18 development, and human lung capacity, and human breath sampling
19 variances through the development of histograms, and graphically
20 representing breath alcohol concentrations and expired, and
21 expiratory airflow.

22 HEARING OFFICER: Okay. But how did that relate to
23 your software work?

24 THE WITNESS: Well, our software work was debugging
25 and developing software that would look at breath sampling on

1 the particular -- every two seconds (indiscernible) in through
2 the 9000 does ten times a second. And the software would store
3 that information and then graphically represent it in their next
4 Y plot for both alcohol concentration and breath flow.

5 HEARING OFFICER: What's your knowledge and experience
6 and understanding of the 9000?

7 THE WITNESS: My knowledge and experience is during
8 its development I worked with CMI Incorporation during the
9 development phase, when I was with Florida. And then I reviewed
10 the CMI Manual on the instrument. I have reviewed the Colorado
11 Breath Test Operator, the Colorado Instructor, and the Georgia
12 Breath Test Manual, along with the CMI Breath Test Manual, and a
13 course of instruction on the 9000.

14 I'm familiar with infrared spectroscopy, the science
15 based on the instrument. It's basically the same as the 8000
16 and 5000, just different -- the same basic science, just a
17 little bit different application and different micron level of
18 absorption. But it's basically an infrared instrument that's
19 later generation produced by CMI.

20 HEARING OFFICER: Okay. What exactly were you working
21 with CMI during the development of the 9000?

22 THE WITNESS: Well, the five -- the 8000 was the
23 instrument that was put in (indiscernible) between the five and
24 9000.

25 HEARING OFFICER: Right.

1 THE WITNESS: A lot of the 9000 platforms are based on
2 Intoxilyzer 8000 experience in the field. I worked with CMI in
3 debugging. The engineering division is debugging software,
4 providing input on histogram development. And actually the
5 correlation of histograms, the two subject matters and one
6 histogram where it's reporting breath alcohol and breath flow in
7 the same histogram; those type of things.

8 HEARING OFFICER: To your knowledge how many people
9 were working on the histograms on the 9000 at the same time you
10 were?

11 THE WITNESS: Yes. Brian Faulkner, Chief Engineer of
12 the Engineering Division. Along with Toby Hall, the President
13 of CMI, along with the customer base, Colorado, Georgia, Texas
14 were all providing input and working on the histogram software.

15 HEARING OFFICER: Who was in charge?

16 THE WITNESS: Ultimately Toby Hall who is president of
17 CMI and Brian Faulkner who is the Chief of Engineering for CMI.

18 HEARING OFFICER: Have you ever written or prepared
19 any peer reviewed articles on breath testing?

20 THE WITNESS: I have.

21 HEARING OFFICER: What?

22 THE WITNESS: I have produced to the International
23 Association of Chemical Testing at their peer review annual
24 conference. Quality assurance and breath testing. Interfering
25 substances in the Intoxilyzer 5000. Airbags and infrared light

1 absorption, and they were all published in the (indiscernible)
2 newsletter from that organization and presented to peer review
3 presentations at annual conferences.

4 HEARING OFFICER: And when were those publications?

5 THE WITNESS: Mid-2000. So probably 2006, 2007. The
6 exact dates I don't have off the top of my head.

7 HEARING OFFICER: Okay. Is there anything that you
8 believe to be important to this issue on your CV that I've not
9 asked you?

10 THE WITNESS: Well, it's all important. My attendance
11 at Borkenstein, Indiana University. My attendance at the
12 Association of Forensic Scientists. And a course on Ethanol
13 Measurements and its Interpretation. My attendance at
14 Borkenstein Indiana University's follow on course on
15 administration and quality assurance. I think most of the work
16 on my CV is intertwined in breath testing and forensic breath
17 alcohol, and forensic alcohol toxicology.

18 So I think a lot of it's important on my CV.

19 HEARING OFFICER: And how did you learn about
20 histograms?

21 THE WITNESS: I first started on the Intoxilyzer 5000
22 in my role at Florida Department of Law Enforcement, we
23 developed histograms to graphically display in training
24 environments breath alcohol curves. And to graphically display
25 them to show and explain graphically what we were trying to

1 explain in our word picture, to both courts, lawyers, hearing
2 officers for driver's license hearings in Florida. And then
3 ultimately to apply them to breath alcohol testing in real time
4 like the 9000 is doing.

5 HEARING OFFICER: And who in Colorado did you work
6 with on the 9000?

7 THE WITNESS: I didn't work with anybody in Colorado.
8 Colorado worked with CMI, along with Georgia working CMI.

9 HEARING OFFICER: And you worked alone with CMI?

10 THE WITNESS: I did.

11 HEARING OFFICER: Thank you. I'll allow Mr. Malhiot
12 to testify as an expert on histograms. Counsel, do you have any
13 questions for him?

14 MR. JOHNSON: Yes. Thank you very much.

15 CROSS-EXAMINATION

16 BY MR. JOHNSON:

17 Q Mr. Malhiot, just to -- I kind of want to get a very
18 little bit of some rudimentary terms out here, just to begin
19 with. If you could, could you describe the essential elements
20 that make up a valid breath test?

21 A Well, let's -- before we would define what a breath
22 test is, I would like to explain and make sure we are all on the
23 same page, that there's a difference between a breath test and
24 breath sample. And the case before the Hearing Officer you have
25 two breath samples that equal a breath test. So a breath test

1 is two samples captured by the instrument, accepted by the
2 instrument, and producing results within .02 agreeing of each
3 other.

4 A breath sample is a breath sample delivered to a
5 breath test instrument that has a continuously rising slope and
6 leveling off and plateauing of the slope where the instrument
7 software should accept it with no error messages.

8 Two valid samples equal a valid breath test.

9 Q Okay. Thank you.

10 And you brought up a good point, I got a little ahead
11 of myself. In this particular case, with respect to Mark
12 Hughes, have you been provided with the copy of the police
13 report and the histogram in the Intoxilyzer 9000 printout for
14 review?

15 A I have.

16 Q And have you reviewed those?

17 A I have.

18 Q Okay. Thank you.

19 So you referred to a continuously rising slope of
20 breath alcohol which levels off or plateaus --

21 HEARING OFFICER: Oh, please don't refer to anything
22 he may have written to you, because I've not received it. So
23 try to ask your questions that don't presume facts that I don't
24 have, or a report that I don't have in front of me.

25 MR. JOHNSON: Oh, I am going. He just testified about

1 a continuously --

2 HEARING OFFICER: Okay.

3 MR. JOHNSON: -- rising slope.

4 HEARING OFFICER: All right. Go ahead.

5 Q (By Mr. Johnson) Okay. Let me -- I guess I'll ask
6 this in a different way, you say a valid sample would have
7 continuously rising slope that plateaus?

8 A Correct.

9 Q Okay. And why is it significant that a valid sample
10 has to be continuously rising and then plateau?

11 A Because the profile of expired breath is that the oral
12 cavity will have a lower alcohol concentration than that of deep
13 blown air, in a normal valid sample-ization process. The
14 instrument software looks at that sample-ization over time on
15 the 9000 ten times per second, that's the rate of the flashing
16 light source, it looks at it.

17 It graphs it out and looks for that continuing rise
18 and leveling off. That is the valid sample profile, because
19 it's looking for the physiology of the human lung blowing in the
20 instrument. Therefore that's why the continuing rise.

21 We assume that it's going to start at zero, zero
22 reference. So it should start at zero. As they blow it rises,
23 where it reaches deep lung air. And provided we have
24 equilibrium between blood and breath, and the ratios, the
25 partition ratio is working properly, it will plateau or level

1 off. And then that end expiratory air will be considered a
2 valid sample.

3 If it has a negative slope, what that will look like
4 is, that it will rise, peak and then start to go back down. The
5 reason that is significant, is the instrument will see that
6 mouth or oral cavity will have a higher alcohol concentration
7 than that of the lungs, and should be flagged as a mouth
8 alcohol. That is what's known as a negative slope and should be
9 flagged as a mouth alcohol condition.

10 HEARING OFFICER: Well, for there to be mouth alcohol,
11 doesn't there have to have been recently consumed alcohol?

12 THE WITNESS: Not necessarily. Mouth alcohol could be
13 acquired from two separate distinct locations. One, yes, you're
14 correct, the consumption of alcohol. The other is from alcohol
15 previously consumed that is still in the digestive track,
16 meaning the stomach and potentially regurgitated burp, belch,
17 back into the oral cavity, or a gastric disease such as GERD or
18 those types of situations where gases can pass backwards up the
19 esophagus. But the two sources are inside the body and outside
20 the body, yes.

21 HEARING OFFICER: Okay. Counsel, do you have any
22 other questions?

23 MR. JOHNSON: Yes.

24 Q (By Mr. Johnson) So, Mr. Malhiot, why is it that the
25 presence of mouth alcohol would invalidate a breath sample?

1 A Well, it could -- the instrument is going to see and
2 measure the alcohol concentration if the slope algorithm is met.
3 And mouth alcohol can exponentially increase an alcohol
4 concentration as compared to a blood/alcohol concentration, and
5 give you an artificially high result.

6 Q Okay. And when you looked at the histograms in Mr.
7 Hughes' case, do you agree with me that we are not seeing an
8 continuously rising slope that plateaus?

9 A I do agree with you.

10 Q Okay.

11 HEARING OFFICER: Why?

12 THE WITNESS: Because if you look at them the both
13 alcohol concentration samples do not start at zero. Meaning
14 both breath tests, or both samples had previous sample attempts
15 without air blanks and zero references between. If you look at
16 the histogram the alcohol concentration comes directly off the X
17 -- the Y axis above the zero reference, meaning there was
18 previous sample attempts, and then immediately goes into a
19 negative slope. Meaning the mouth had a higher alcohol
20 concentration, then deeper in the lung and it rises again.

21 Those are not normal histograms for sample-ization of
22 breath.

23 HEARING OFFICER: Well, let me --

24 THE WITNESS: There were previous samples that are not
25 reported here, and no air blanks between those.

1 HEARING OFFICER: Well, let me ask you something here.
2 Because I'm looking at the two histograms, and I'm seeing where
3 it says, apparently time, a very thick line that goes straight
4 up to a certain point, which looks like a continuing rising
5 level, and then it starts to curve and plateau.

6 But the reason I say that, is because once the line
7 moves to the right the remainder of that timeline is very thin.
8 So that indicates to me that it did start at zero and it did
9 rapidly and continuously rise; why is that wrong?

10 THE WITNESS: Okay. If you look at the line, there's
11 two lines on the histogram. The thick line is alcohol
12 concentration, the thin line is breath flow. If we notice that
13 the alcohol concentration does not start at zero and we get to
14 the one second point and it rises. It immediately at the zero
15 timeline comes off the left side of the graph, meaning there's
16 alcohol in the sample chamber from a previous sample attempt.
17 It's not coming from zero.

18 And it immediately goes into a negative slope. So as
19 the person is blowing into the instrument the alcohol
20 concentration is going down. That's a negative slope conducive
21 with mouth alcohol.

22 HEARING OFFICER: And what effects can breathing
23 patterns have on that?

24 THE WITNESS: Breathing patterns, what you're looking
25 at on that thin line, is the amount of volume per second being

1 blown in the instrument. The instrument has a minimum threshold
2 of .15 liters per second. And the breathing pattern that you're
3 looking at is kind of independent of the alcohol concentration,
4 as long as they're continuously blowing over .15 liters per
5 second, which in both samples they are.

6 HEARING OFFICER: You're saying that there's alcohol
7 from some other source, but when I look at the air blanks
8 they're all triple zeros.

9 THE WITNESS: I'm not saying from another source. I'm
10 saying from the same person, a previous sample attempt. If we
11 look at this histogram we can say that the individual blew into
12 the instrument more than twice.

13 HEARING OFFICER: Okay. Well, can't he do that? I
14 mean, the officer can only control so much how he does it.
15 Aren't we still showing alcohol in there?

16 THE WITNESS: Yes. But notice that it's not starting
17 at zero and it's going into a negative slope. Meaning because
18 of the negative slope it should be flagged as a mouth alcohol, a
19 new 20-minute observation, and a new breath test should be done.

20 HEARING OFFICER: All right. Counsel, do you have any
21 other questions for Mr. Malhiot?

22 MR. JOHNSON: Yes. I want to ask some more questions.

23 Q (By Mr. Johnson) So Mr. Malhiot, when you say that
24 the drug alcohol coming straight off of that Y axis, you're
25 testifying that it should start at zero but doesn't, am I

1 correct?

2 A Correct. You should see, and if you look at other
3 graphs you will see it's starting at zero, rising up, because --
4 remember, the bottom is time. And the total duration of the
5 graph is six seconds. So the zero is blowing coming right off
6 the -- at zero, not .5 seconds or three-quarter -- right at
7 zero, there's alcohol concentration above 75. And then it goes
8 down.

9 A normal graph you will see, it looks like a key
10 slope, going up and leveling off.

11 Q When you mentioned the word "slope." Is there
12 something that is part of the 9000, call it a slope detector?

13 A It's an algorithm of the software, it's not a physical
14 part. But, yes, it looks at sample-ization over time and looks
15 for that negative slope, or positive slope. And in this case we
16 don't have it because they're not starting at zero. It's
17 starting at point -- over .75.

18 Q So in your opinion are you testifying that this is not
19 a valid breath test?

20 A This is not a valid breath test because of the
21 negative slope, and it's not starting at zero.

22 Q Is it possible --

23 HEARING OFFICER: So the fact that the tests are
24 within .02 is irrelevant?

25 THE WITNESS: Yes. Because they're both starting as

1 additional sample-ization, not a single sample.

2 Q (By Mr. Johnson) So it's not like just one started
3 from zero and the other one didn't and they were --

4 A Correct. They're both -- there were both numerous
5 sample attempts that are not here.

6 HEARING OFFICER: Can you cite to any particular book,
7 treaties or study that substantiates what you're saying?

8 THE WITNESS: Yes, ma'am. The Medical Legal Aspects
9 of Alcohol, Fourth Edition, published by lawyers and judges'
10 publishing company.

11 HEARING OFFICER: By James Garri. I've actually got
12 that book in front of me. Actually I have the Fifth Edition in
13 front of me.

14 THE WITNESS: Let's see if we can find the --

15 HEARING OFFICER: The closest thing I can find where
16 I've got a picture of a histogram, is on page 230(b), alcohol in
17 the oral cavity arising from recent alcohol ingestion,
18 regurgitation of stomach contents containing alcohol, or be a
19 eructation of gas containing significant amounts of alcohol can
20 possibly contaminate breath samples and can falsely elevate
21 results.

22 During the course of exhalation breath samples
23 contaminated with residue mouth alcohol are characterized by an
24 initial rapid alcohol concentration rise followed by a rapid
25 decline of the concentration to zero or to baseline breath

1 alcohol content.

2 It is well established that pre-test alcohol
3 deprivation of at least 15 minutes provides sufficient time to
4 dissipate mouth alcohol.

5 THE WITNESS: Correct. And that's what you have, is a
6 rapid rise from a previous sample. And then if you notice on
7 the graph you have a negative slope.

8 HEARING OFFICER: Yes. But we don't have any evidence
9 of the violation of the deprivation period.

10 THE WITNESS: I understand. But the profile of the
11 breath test shows the negative slope. That's why you have this
12 slope detector safeguard, because the deprivation period is not
13 full-proof, and the operator may not detect all the mouth
14 alcohol occurrences that could possibly happen.

15 HEARING OFFICER: All right. Counsel, is there any
16 further questioning.

17 MR. JOHNSON: Yes.

18 Q (By Mr. Johnson) Mr. Malhiot, should it be possible
19 for there to be a negative slope on a valid breath sample or
20 breath test --

21 A There should not a negative slope on a valid sample.

22 Q Under any circumstance?

23 A No. Under any circumstances. Not that I can recall
24 right off the top of my head, no. It should all be a continuous
25 rise with leveling off, not a negative slope.

1 Q And the I9000 slope detector should catch that?

2 A Yes.

3 Q And in this case it appears that it did not?

4 A It did not because; 1) the alcohol concentration is
5 the lower end, it's not a high alcohol concentration; and 2)
6 what's graphed out here is not all the samples. You have a
7 previous sample attempt prior to what's on this graph.

8 Q So if we're talking about the visualization here,
9 correct me if I'm wrong, would you think that there should be
10 some graphical depiction that goes to the left of that one axis.
11 Something happened before --

12 A Yes, on both samples.

13 Q And I believe Hearing Officer McKendree referred to
14 the thick black breath line that goes straight up that Y axis,
15 at the zero point. Should that be possible on the histogram; a
16 vertical line like that?

17 A Well, it's possible because we've seen it. But it's
18 possible because of a previous sample attempt, not this sample.
19 Meaning, when the instrument started analyzing alcohol, it was
20 analyzing what was in the sample chamber from a previous sample
21 attempt.

22 Q And doesn't the test procedure have those air blanks
23 built-in --

24 A Between samples, not attempts. Mr. Hughes blew in an
25 instrument more than twice.

1 Q And the I9000 is not set to do a an air blank between
2 attempts, you're saying?

3 A That is correct.

4 Q Okay.

5 A Thus you have a starting breath sample when he finally
6 got a valid, what thē instrument though to be valid, where it
7 comes directly off the left axis of a histogram and not the
8 zero?

9 Q As it should. All right. And you ascertain these are
10 not valid breath samples, they're not a valid breath test?

11 A That is correct, they are not valid.

12 MR. JOHNSON: All right. For the time being I don't
13 have any further questions. I would, as you indicated, I would
14 reserve the right to rebut, though.

15

16

17

18

19

20

21

22

23

24

25