



COMMONWEALTH of VIRGINIA

DEPARTMENT OF FORENSIC SCIENCE

CENTRAL LABORATORY
A Nationally Accredited Laboratory

June 15, 2007

700 NORTH 5TH ST.
RICHMOND, VIRGINIA 23219
(804) 786-4707

Robert F. Keefer, Esq., PLC
The Thomas Harrison House
30 W. Bruce Street
Harrisonburg, Virginia 22801-3601

**Certified Mail
Return Receipt**

RE: Document Request Concerning Most Recent Judicial Orientation

Dear Mr. Keefer:

I am writing in response to your requests for information dated May 29, 2007 and received in this office May 30, 2007. Enclosed please find:

"Any and all documents; including, but not limited to notes, lecture notes, hand outs, publications, lecture materials concerning or related to the most recent judicial orientation given by," me.

Please note that effective, July 1, 2005, the Division of Forensic Science of the Department of Criminal Justice Services became the Department of Forensic Science. Any reference herein to this agency prior to July 1, 2005 shall be construed to mean the Division of Forensic Science and, on or after July 1, 2005, such reference shall be construed to mean the Department of Forensic Science.

The search and production fees for the enclosed material are as follows:

7 pages at \$0.10/page	\$0.70
Search and production time	\$10.76
Postage	\$4.65
TOTAL:	\$16.11

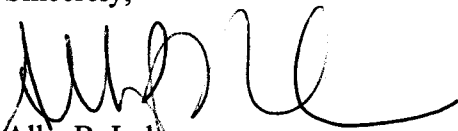
Please remit a check in the above amount, made payable to the Treasurer of Virginia, to Donna Carter, Fiscal Director, Department of Forensic Science, 700 North Fifth Street, Richmond, Virginia, 23219. If you have any questions, please contact me at (804) 786-6971.

I, the undersigned, do hereby certify that: (1) I am a custodian of the records for the Breath Alcohol Section of the Virginia Department of Forensic Science; (2) the attached records of the Department

Fax Numbers: Administration (804) 786-6857 * Breath Alcohol and Training (804) 786-6139 * Evidence Receiving (804) 786-6924 * Drugs, Trace Evidence, Toxicology & Firearms (804) 786-6305 * Forensic Biology & Questioned Documents (804) 786-9985 * Latent Prints (804) 786-6190 Maintenance (804) 786-9986 * Training (804) 786-6985

relating to the subject's breath test are true and exact copies of the original records of this office; and
(3) I have custody of the referenced records.

Sincerely,

A handwritten signature in black ink, appearing to read 'Alka B. Lohmann', with a long horizontal flourish extending to the right.

Alka B. Lohmann
Breath Alcohol Section Chief
Department of Forensic Science

ABL/cmo

cc: Michelle Gowdy, Department Counsel

Breath Alcohol Testing

D.S. Carr
Sergeant
Virginia State Police

Alka B. Lohmann
Breath Alcohol Section Chief
Department of Forensic Science

March 24, 2007

Pre-Search Orientation for New Judges

Operational Procedures

- Operators use an Operational Checklist with every test.
- Using it ensures compliance with the State Code and Regulations.
- It helps the operator to keep track of data entry and test sequence.

Fill out the top of the Operational Checklist

Observation Requirements

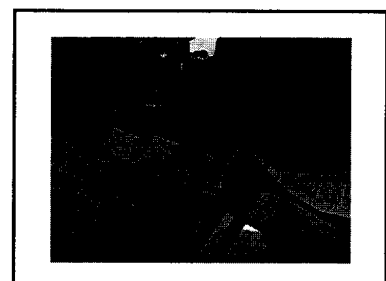
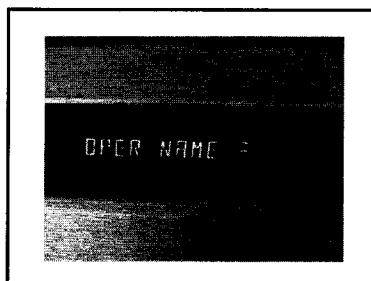
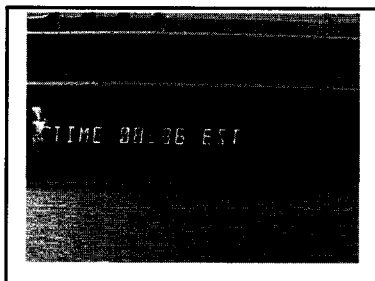
- 20 Minute minimum
- Nothing by mouth
- Cannot belch, burp or regurgitate
- Not necessary to restart for cough

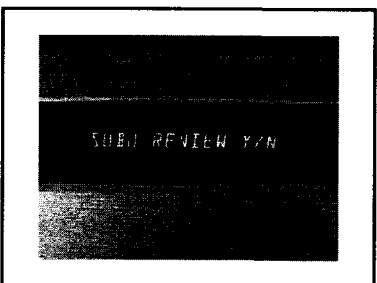
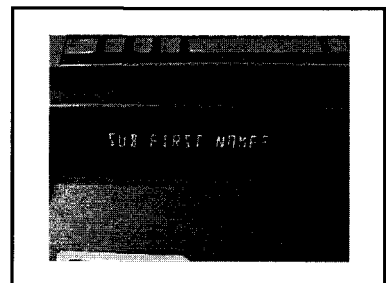
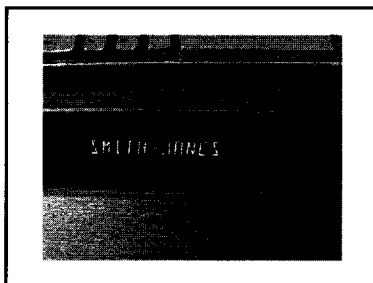
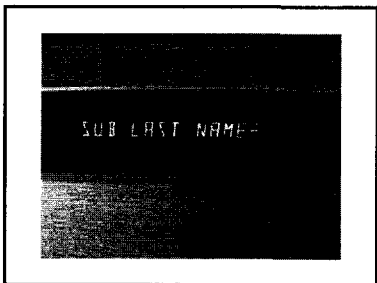
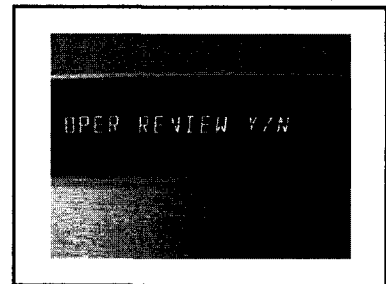
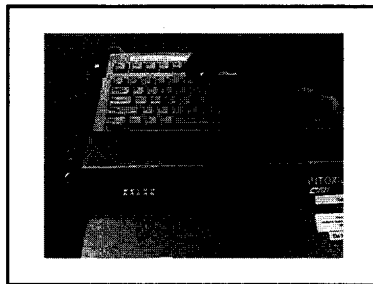
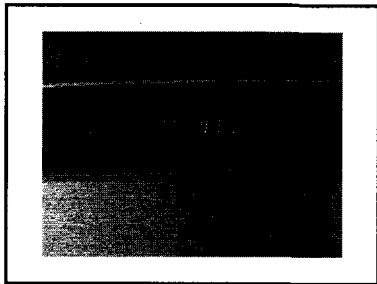
Purpose of Observation Period

Allows mouth alcohol to be absorbed

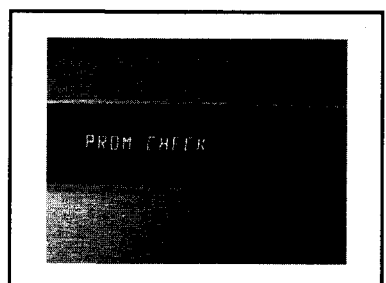
- Subject has the right to a proper test
- Required by DFS
 - listed in the Regulations
 - part of the Operational Checklist

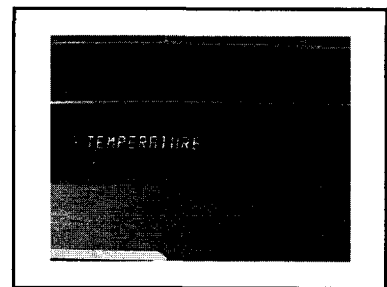
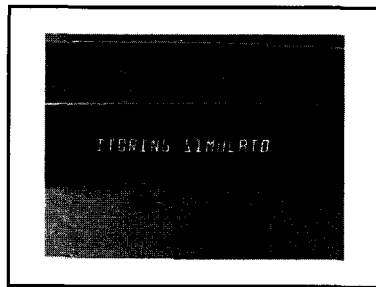
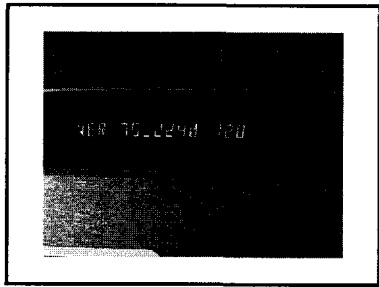
Performing a Test on the Intoxilyzer 5000





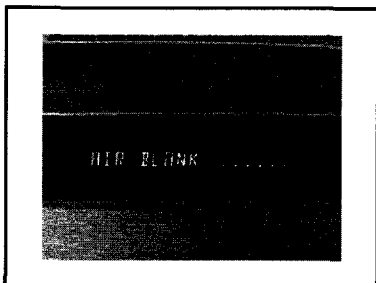
Step 5 - Diagnostic Checks	
	<ul style="list-style-type: none">• RAM, PROM, CIRCUITRY, etc.• If the Instrument fails any check, it will disable.• Before each test, a simulator sample is taken to ensure that the Intoxilyzer is working properly and measuring alcohol accurately.• The simulator temperature must be within the limits of 33.8 - 34.2 °C; will disable if outside limits.





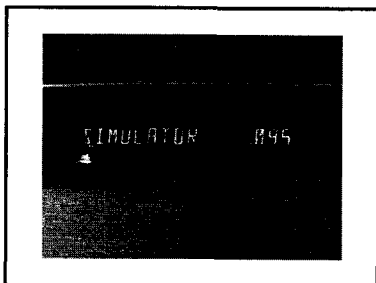
Step 5 (con.) - Air Blank

- Takes a sample of room air, and checks it for the presence of ambients (alcohol, paint fumes, cleaners).
- If detected - AMBIENT DETECTED; cannot run a test.



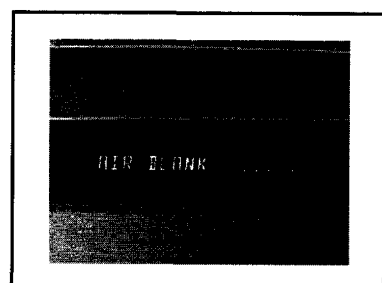
Step 5 (con.) - Simulator Reading

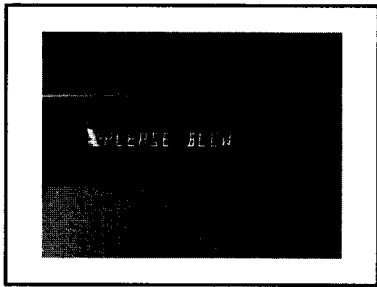
- The simulator solution is an ethyl alcohol standard. Used as a validation test to make certain that the instrument is properly reading a known alcohol standard.
- The simulator solution must be within tolerance (0.090 to 0.105 grams per 210 liters of breath).
- If not within this range, the instrument will abort the test and display OUT OF TOLERANCE.



Record Simulator Results

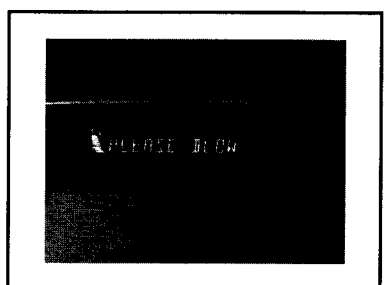
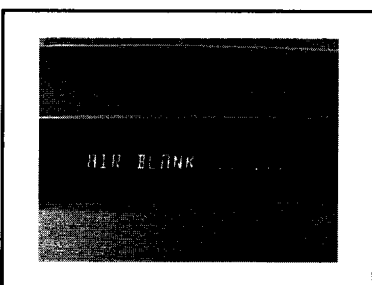
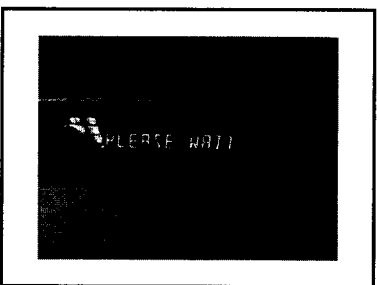
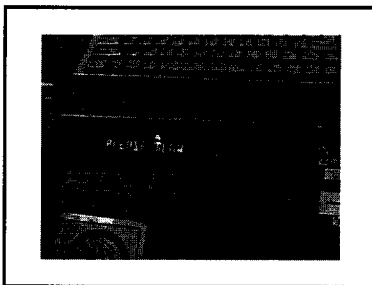
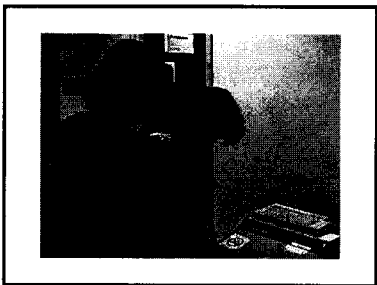
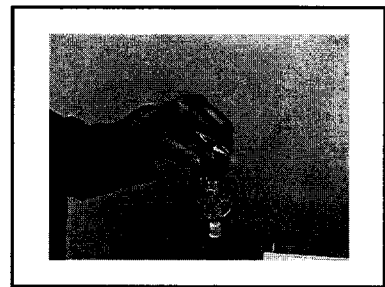
<p>1. OPERATOR: _____</p> <p>2. DATE: _____</p> <p>3. TIME: _____</p> <p>4. INSTRUMENT: _____</p> <p>5. SIMULATOR: _____</p> <p>6. RESULT: _____</p> <p>7. COMMENTS: _____</p>	<p>8. TESTER: _____</p> <p>9. SUPERVISOR: _____</p> <p>10. APPROVAL: _____</p> <p>11. SIGNATURE: _____</p> <p>12. DATE: _____</p> <p>13. TIME: _____</p> <p>14. INSTRUMENT: _____</p> <p>15. SIMULATOR: _____</p> <p>16. RESULT: _____</p> <p>17. COMMENTS: _____</p>
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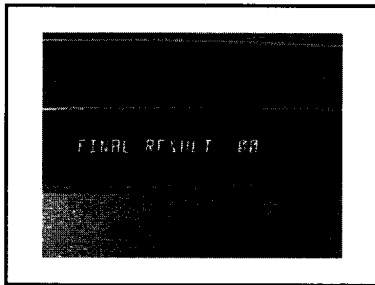




Breath Instructions

- When the instrument prompts "PLEASE BLOW"
 - Ensure that the subject has not burped, belched, regurgitated, etc.
 - If they have, restart the observation period.
 - Instruct them to take a normal breath, then blow steadily into the mouthpiece until the tone stops.





Calculating Results

- The 2 samples must be within 0.02 of each other.
- 0.02 variation does not occur very often
- Usually seen at high BACs
- Difference can be caused by how the subject blew
- The instrument takes the lowest of the 2 or 3 samples.
- The lowest result is then truncated to 2 digits and reported

Example: 1st sample result 0.156
 2nd sample result 0.149
 Reported FINAL RESULT 0.14

Record the Final Result

Certificate of Analysis

Receipt Signature →

Two Samples

- Information from all samples are downloaded and maintained by DFS.
- Both sample results are available upon request.
- 2 (or 3) samples = 1 Test Result

Two Samples

- Can the instrument print the higher reading?
 - NO
- With each diagnostic test, the instrument checks the software responsible for printing the lower reading.
- If there was a problem with the software, the instrument would fail diagnostics.

The simulator solution has not exceeded the maximum number of tests or days.

- Maximum number of tests a month is 150.
- Maximum number of days between simulator solution change is 35.
- If exceeded, the instrument will disable itself. The instrument counts the tests and days.
 - Warnings are given prior to **disabling**.

INVALID SAMPLE

- Primary cause – mouth alcohol.
- Also caused by huffing and puffing, irregular blowing
- The Certificate of Analysis will state "INVALID SAMPLE".
- The operator must perform an additional 20 minute observation if they are going to retest.

Summary of Safeguards of the Intoxilyzer 5000

The instrument is within its certification date.

- When certified, the certification and expiration dates are stored into instrument memory.
- The expiration date is six months from the certification date. If past the expiration date, the instrument will **disable** prior to data entry.

Summary of Safeguards of the Intoxilyzer 5000

- At least 2 breath samples are taken
- Simulator is used as a validation test and must be within specified temperature and concentration ranges or test is aborted
- Internal diagnostics are performed
- Air blanks are part of the test protocol
- Invalid Sample (negative slope detector)

Common DUI Defenses

"I was painting my car."
Interfering substances can be detected by the Intoxilyzer

The two most common interferents on the breath, acetone and toluene, are specifically identified.

Solvents from paints, glue, etc. are eliminated rapidly from the body

Toxicity of interferents

Common DUI Defenses

"I have a tongue ring."
Does not interfere; 20 min. observation

"I used ambusol."
Contains 70% ethanol and benzocaine.
Alcohol will be absorbed in 20 min.

Common DUI Defenses

"But, I used my asthma inhaler."

The effects of alcohol-containing inhalers are eliminated with a 20 min observation period

The amount of alcohol will not add to a person's final BAC because the amount delivered is very small

Common DUI Defenses

"My reading was due to my dentures."

Denture use, with and without adhesives, does not add to the breath reading as long as an observation period is performed.

Common DUI Defenses

"I just drank cough syrup."

Cough syrup contains under 20% alcohol

Mouth alcohol from cough syrup will be absorbed within 20 min observation period

Common DUI Defenses

"I have GERD."

Gastroesophageal Reflux Disorder: contents of the stomach are released back up the esophagus and mouth. Could produce alcohol in the mouth.

Highly improbable that alcohol from stomach will increase reading

Intoxilyzer will detect mouth alcohol and give INVALID SAMPLE reading

2 samples

Common DUI Defenses

"I used dip."

Wintergreen in flavored tobacco will not add to a person's reading if they have alcohol present in their breath.

Based upon the chemical structure of wintergreen, it should not interfere. Research proves that it does not.

Common DUI Defenses

"I ate some mints."

Some mints contain sorbitol (a sugar alcohol, tolerated by diabetics).

Based upon the chemical structure of sorbitol, it should not interfere. Research proves that it does not.

Common DUI Defenses

"My airbag deployed/Tyndall effect"
The talcum powder/cornstarch produced a false BAC.

Most manufactures do not use powders of any kind on airbags.

Based upon physical characteristics and chemical structure it should not interfere. Research proves that it does not.

Common DUI Defense

"The instrument is gender-biased."

Alcohol distributes in the body water.

Physiologically, women have less body water than men. Therefore, if a man and woman of equal weight, consume the same amount of alcohol the woman's BAC will be higher.

New DUI Defense

Requesting the "source code"

Originated in Florida where the statute requires disclosure of "...full information of the test taken..." - not successful in all jurisdictions

Manufacturer maintains the source code and will not disclose as it is proprietary

Virginia DFS independently tests and verifies the accuracy and precision of the instruments

Challenging the EPROM change

Website

• www.dfs.virginia.gov

- Operator Manual
- Operational Checklist
- Preventive Maintenance Checklist
- Link to the Regulations
- Approved device list
- Frequently asked questions