



Florida Department of Law Enforcement

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MEMORANDUM

TO: Alcohol Testing Program Department Inspectors

FROM: Laura D. Barfield, Alcohol Testing Program Manager **LDB**

DATE: January 11, 2006

SUBJECT: CMI, Inc. Intoxilyzer 8000 Instrumentation Evaluation – December 2005

Attached you will find the CMI, Inc. Intoxilyzer 8000 Instrumentation Evaluation Report prepared January 11, 2006. The report was generated using data obtained during the evaluation conducted on December 12, 2005, in accordance with applicable rules and forms in effect at that time.

Based on the Department's review of this evaluation the CMI, Inc. Intoxilyzer 8000, using software version 8100.25, remains approved for evidentiary use in Florida. If you have any questions, please feel free to contact me.

LDB

Attachments

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Florida Department of Law Enforcement Alcohol Testing Program

CMI, Inc. Intoxilyzer 8000 Instrumentation Evaluation Report

**Conducted in Accordance with Chapter 11D-8, FAC December 2004 and corresponding FDLE/ATP Form 34
Instrument Evaluation Procedures**

**December 12, 2005
Jacksonville, Florida**

Introduction

In order to be considered valid under Florida law, the analysis of a person's breath must have been administered substantially in accordance with methods and procedures approved by the Florida Department of Law Enforcement (FDLE), using instrumentation approved by FDLE. The FDLE Alcohol Testing Program has been granted specific and exclusive statutory authority to ensure the accuracy and reliability of breath alcohol test results and to approve breath test instrumentation and methods of breath analysis. The process for evaluation of breath test instrumentation for evidentiary use in Florida is prescribed by Chapter 11D-8, Florida Administrative Code.

Purpose

The purpose of this evaluation is to assess the CMI, Inc. Intoxilyzer Model 8000 breath test instrumentation using infrared light absorption as the method of analysis, and to evaluate software version 8100.25 for evidentiary use in the State of Florida. The evaluation process ensures that the methodology utilized by the breath test instrumentation provides accurate and scientifically reliable analytical results. Evaluations are not intended to approve individual parts or components of the breath test instrumentation.

Testing Location and Operating Conditions

Testing Location: Florida Department of Law Enforcement
Jacksonville Regional Operations Center
921 North Davis Street, Building E
Jacksonville, Florida 32209

Operating Conditions: Indoors, 74 to 77° F

FDLE Personnel Present During the Evaluation

Laura D. Barfield, Program Manager	George L. Venturi, Department Inspector
Rafael E. Madrigal, Assistant General Counsel	Roger G. Skipper, Department Inspector
Matthew E. Malhiot, Department Inspector	Donald P. Suereth, Department Inspector
Dwite N. Hackney, Department Inspector	Stephen N. Neff, Department Inspector

Instrumentation Used

The following Intoxilyzer 8000 breath test instruments were provided on loan by the manufacturer, CMI, Inc.

- CMI, Inc. Intoxilyzer 8000, Serial Number 80-001173
- CMI, Inc. Intoxilyzer 8000, Serial Number 80-001175
- CMI, Inc. Intoxilyzer 8000, Serial Number 80-001181

Instrumentation Description

- Make and Model Designation: CMI, Inc. Intoxilyzer 8000, listed on the US Department of Transportation Conforming Products List of Evidential Breath Measurement Devices.
- Method of Analysis: Non-dispersive infrared light absorption.
- Software Version: 8100.25
- Description of Instrumentation: An infrared-based instrument designed for both mobile and stationary evidential breath alcohol testing.
- Specification for Precision: Average Standard deviation of 0.003 g/210L or better.
- Response Prescribed to Denote an Interferent: Display INTERFERENT DETECT and a high/low tone will sound.
- Response Prescribed to Denote Mouth Alcohol: Display SLOPE NOT MET and a high/low tone will sound.

Equipment and Supplies

Reference Sample Devices (Simulators)

All simulators were operated within $34 \pm 0.2^{\circ}\text{C}$ and had air leak resistant seals. The make, model and serial number of each simulator is outlined in Appendix A.

Digital Thermometers

The make, model and serial number of each digital thermometer is outlined in Appendix A.

External Printers

The make, model and serial number of each external printer is outlined in Appendix A.

Standards, Solutions, and Distilled Water

All alcohol reference solutions were analyzed by the Florida Department of Law Enforcement in accordance with Rule 11D-8.0035(2)(a), FAC. The dry gas standard was prepared and certified by Scott Specialty Gases, Inc. The results of the alcohol reference solution analyses and the certified concentration of the dry gas standard are outlined in Appendix B. Acetone Stock Solution, Lot Number 2005-C or 2005-D, and Mouth Alcohol Solution, Lot Number 2004-A or 2005-B, prepared and analyzed by the Florida Department of Law Enforcement were used for the acetone interference tests and the mouth alcohol tests, respectively. Deionized water obtained from the FDLE Tallahassee Regional Operations Center Laboratory was analyzed by gas chromatography prior to the evaluation.

Other Supplies

All other supplies and equipment used were commercially available and compatible with this type of instrumentation (printer tape, mouthpieces, tubing, office supplies, etc.).

Procedures

0.00 g/210L Test, Acetone Interference Test and Mouth Alcohol Test

All Intoxilyzer 8000 instrumentation was subjected to twenty-five (25) repetitions of a 0.00 g/210L test, twenty-five (25) repetitions of an acetone interference test, and twenty-five repetitions of a mouth alcohol test. The results are outlined in Appendix C-1, Appendix C-2, and Appendix C-3.

Alcohol Reference Solution Analyses

All Intoxilyzer 8000 instrumentation was subjected to twenty-five (25) repetitions of alcohol reference solution analyses at each of the following concentrations: 0.05, 0.08, 0.20 g/210L. The results are outlined in Appendix C-1, Appendix C-2, and Appendix C-3.

Dry Gas Standard Analyses

All Intoxilyzer 8000 instrumentation was subjected to twenty-five (25) repetitions of dry gas standard analyses at the following concentration: 0.08 g/210L. The results are outlined in Appendix C-1, Appendix C-2, and Appendix C-3.

Analytical Results

All results met the requirements of FDLE/ATP Form 34 Instrument Evaluation Procedures for accuracy, precision, and correct instrument responses as prescribed by the manufacturer.

Conclusion

The results of this evaluation establish that the CMI, Inc. Intoxilyzer 8000 instrument produces accurate and reliable breath alcohol test results using software version 8100.25. Based on the results of this evaluation, the CMI, Inc. Intoxilyzer 8000 remains approved for use as an evidentiary breath test instrument in the State of Florida.

APPENDIX A

External Equipment

Reference Sample Devices (Simulators)

Make	Model	Serial Number
Guth	10-4D	SD1012
Guth	10-4D	SD1013
Guth	10-4D	SD1014
Guth	10-4D	SD1017
Guth	34C	G2404
Guth	10-4D	SD1010
Guth	10-4D	SD1020
Guth	34C	G11621
Guth	34C	G2407
Guth	34C	G8152
Guth	10-4D	SD1018
Guth	10-4D	SD1022
Guth	10-4D	SD1011
Guth	34C	G2838

Digital Thermometers

Make	Model	Serial Number
Ertco-Eutechnics	4400	300948
Ertco-Eutechnics	4400	300918
Ertco-Eutechnics	4400	300504

External Printers

Make	Model	Serial Number
HP	1200	CNBJK47835
Samsung	ML1750	BAAX303958M

APPENDIX B

Alcohol Reference Solution

	0.050 g/210L (g/100mL)	0.080 g/210L (g/100mL)	0.200 g/210L (g/100mL)
Source	Alcohol Countermeasure Systems, Inc.	Alcohol Countermeasure Systems, Inc.	Alcohol Countermeasure Systems, Inc.
Lot Number	200504C	200504D	200205C
Manufacture Date	4/21/2005	4/21/2005	5/5/2005
Expiration Date	4/21/2007	4/21/2007	5/5/2007
Target Concentration (g/100mL)	0.0605	0.0968	0.2420
Acceptable Range (g/100mL)	0.0586 to 0.0623	0.0938 to 0.0997	0.2347 to 0.2492
1	0.0598	0.0964	0.2468
2	0.0597	0.0967	0.2479
3	0.0601	0.0961	0.2485
4	0.0601	0.0963	0.2468
5	0.0598	0.0964	0.2474
6	0.0596	0.0971	0.2471
7	0.0604	0.0965	0.2482
8	0.0602	0.0969	0.2472
9	0.0599	0.0965	0.2480
10	0.0599	0.0967	0.2482
11	0.0598	0.0965	0.2472
12	0.0602	0.0963	0.2476
13	0.0602	0.0963	0.2483
14	0.0602	0.0972	0.2478
15	0.0602	0.0967	0.2479
16	0.0595	0.0971	0.2477
17	0.0602	0.0967	0.2489
18	0.0594	0.0967	0.2472
19	0.0593	0.0970	0.2476
20	0.0598	0.0970	0.2465
Mean	0.0599	0.0967	0.2476
Std Dev	0.0003	0.0003	0.0006
Minimum	0.0593	0.0961	0.2465
Maximum	0.0604	0.0972	0.2489

Dry Gas Standard

Manufacturer	Lot Number	Expiration Date	Certified Concentration
Scott Specialty Gases, Inc.	5252021	September 14, 2007	0.080 g/210L
Scott Specialty Gases, Inc.	5202011	July 26, 2007	0.080 g/210L

APPENDIX C-1

Analytical Results

Intoxilyzer 8000 S.N. 80-001173

	0.00 g/210L Test (g/210L)	0.05 g/210L Test (g/210L)	0.08 g/210L Test (g/210L)	0.20 g/210L Test (g/210L)	0.08 g/210L (g/210L) Dry Gas Std Test	Acetone Interference Test * = Interferent Detect	Mouth ¹ Alcohol Test * = Slope Not Met
1	0.000	0.049	0.081	0.209	0.078	INT*	SNM*
2	0.000	0.050	0.080	0.206	0.078	INT*	SNM*
3	0.000	0.050	0.080	0.206	0.078	INT*	SNM*
4	0.000	0.050	0.080	0.205	0.079	INT*	SNM*
5	0.000	0.050	0.081	0.205	0.079	INT*	SNM*
6	0.000	0.050	0.080	0.204	0.078	INT*	SNM*
7	0.000	0.051	0.081	0.204	0.079	INT*	SNM*
8	0.000	0.051	0.080	0.204	0.078	INT*	SNM*
9	0.000	0.050	0.080	0.203	0.080	INT*	AMB*/PUR**
10	0.000	0.051	0.080	0.203	0.079	INT*	SNM*
11	0.000	0.050	0.080	0.204	0.079	INT*	SNM*
12	0.000	0.050	0.080	0.203	0.079	INT*	SNM*
13	0.000	0.051	0.080	0.204	0.079	INT*	SNM*
14	0.000	0.051	0.080	0.202	0.079	INT*	SNM*
15	0.000	0.051	0.080	0.203	0.079	INT*	SNM*
16	0.000	0.051	0.080	0.203	0.079	INT*	SNM*
17	0.000	0.051	0.081	0.202	0.080	INT*	SNM*
18	0.000	0.051	0.080	0.203	0.079	INT*	SNM*
19	0.000	0.051	0.080	0.202	0.080	INT*	SNM*
20	0.000	0.051	0.080	0.202	0.079	INT*	SNM*
21	0.000	0.050	0.081	0.201	0.079	INT*	SNM*
22	0.000	0.051	0.080	0.201	0.080	INT*	SNM*
23	0.000	0.051	0.081	0.201	0.079	INT*	SNM*
24	0.000	0.051	0.081	0.201	0.079	INT*	SNM*
25	0.000	0.050	0.080	0.201	0.080	INT*	SNM*
Mean		0.051	0.080	0.203	0.079		
Std Dev		0.0006	0.0005	0.0019	0.0006		
Maximum		0.051	0.081	0.209	0.080		
Minimum		0.049	0.080	0.201	0.078		

Average Standard Deviation: 0.0008

Note: ¹ The result for repetition No. 9 is AMBIENT FAIL, PURGE FAIL. This is due to alcohol residue in the sample chamber from the prior sample.

APPENDIX C-2

Analytical Results

Intoxilyzer 8000 S.N. 80-001175

	0.00 g/210L Test (g/210L)	0.05 g/210L Test (g/210L)	0.08 g/210L Test (g/210L)	0.20 g/210L Test (g/210L)	0.08 g/210L (g/210L) Dry Gas Std Test	Acetone Interference Test * = Interferent Detect	Mouth Alcohol Test * = Slope Not Met
1	0.000	0.051	0.078	0.198	0.078	INT*	SNM*
2	0.000	0.051	0.079	0.198	0.079	INT*	SNM*
3	0.000	0.051	0.079	0.199	0.079	INT*	SNM*
4	0.000	0.051	0.079	0.199	0.079	INT*	SNM*
5	0.000	0.051	0.079	0.199	0.079	INT*	SNM*
6	0.000	0.050	0.080	0.199	0.079	INT*	SNM*
7	0.000	0.051	0.079	0.199	0.079	INT*	SNM*
8	0.000	0.051	0.079	0.199	0.079	INT*	SNM*
9	0.000	0.051	0.080	0.200	0.079	INT*	SNM*
10	0.000	0.051	0.079	0.199	0.079	INT*	SNM*
11	0.000	0.051	0.080	0.199	0.079	INT*	SNM*
12	0.000	0.051	0.079	0.199	0.079	INT*	SNM*
13	0.000	0.050	0.079	0.199	0.080	INT*	SNM*
14	0.000	0.050	0.079	0.199	0.079	INT*	SNM*
15	0.000	0.051	0.080	0.199	0.080	INT*	SNM*
16	0.000	0.050	0.080	0.199	0.080	INT*	SNM*
17	0.000	0.050	0.080	0.200	0.080	INT*	SNM*
18	0.000	0.051	0.080	0.199	0.079	INT*	SNM*
19	0.000	0.051	0.080	0.199	0.079	INT*	SNM*
20	0.000	0.050	0.080	0.199	0.079	INT*	SNM*
21	0.000	0.050	0.080	0.200	0.079	INT*	SNM*
22	0.000	0.050	0.080	0.199	0.080	INT*	SNM*
23	0.000	0.051	0.080	0.199	0.079	INT*	SNM*
24	0.000	0.051	0.080	0.200	0.079	INT*	SNM*
25	0.000	0.051	0.079	0.200	0.079	INT*	SNM*
Mean		0.051	0.079	0.199	0.079		
Std Dev		0.0005	0.0006	0.0005	0.0005		
Maximum		0.051	0.080	0.200	0.080		
Minimum		0.050	0.078	0.198	0.078		

Average Standard Deviation: 0.0005

APPENDIX C-3
Analytical Results
Intoxilyzer 8000 S.N. 80-001181

	0.00 g/210L Test (g/210L)	0.05 g/210L Test (g/210L)	0.08 g/210L Test (g/210L)	0.20 g/210L Test (g/210L)	0.08 g/210L (g/210L) Dry Gas Std Test	Acetone Interference Test * = Interferent Detect	Mouth Alcohol Test * = Slope Not Met
1	0.000	0.049	0.080	0.202	0.080	INT*	SNM*
2	0.000	0.050	0.079	0.204	0.079	INT*	SNM*
3	0.000	0.050	0.080	0.204	0.080	INT*	SNM*
4	0.000	0.050	0.079	0.203	0.079	INT*	SNM*
5	0.000	0.050	0.080	0.203	0.080	INT*	SNM*
6	0.000	0.050	0.080	0.203	0.080	INT*	SNM*
7	0.000	0.050	0.080	0.203	0.079	INT*	SNM*
8	0.000	0.050	0.080	0.203	0.079	INT*	SNM*
9	0.000	0.050	0.080	0.203	0.080	INT*	SNM*
10	0.000	0.049	0.080	0.203	0.079	INT*	SNM*
11	0.000	0.049	0.080	0.204	0.080	INT*	SNM*
12	0.000	0.050	0.080	0.204	0.080	INT*	SNM*
13	0.000	0.050	0.080	0.203	0.080	INT*	SNM*
14	0.000	0.049	0.080	0.203	0.079	INT*	SNM*
15	0.000	0.049	0.079	0.203	0.080	INT*	SNM*
16	0.000	0.049	0.080	0.203	0.080	INT*	SNM*
17	0.000	0.050	0.080	0.203	0.080	INT*	SNM*
18	0.000	0.050	0.080	0.203	0.079	INT*	SNM*
19	0.000	0.050	0.080	0.204	0.080	INT*	SNM*
20	0.000	0.049	0.079	0.204	0.080	INT*	SNM*
21	0.000	0.050	0.080	0.204	0.081	INT*	SNM*
22	0.000	0.050	0.079	0.203	0.080	INT*	SNM*
23	0.000	0.049	0.079	0.203	0.080	INT*	SNM*
24	0.000	0.050	0.080	0.203	0.080	INT*	SNM*
25	0.000	0.050	0.080	0.203	0.080	INT*	SNM*
Mean		0.050	0.080	0.203	0.080		
Std Dev		0.0005	0.0004	0.0005	0.0005		
Maximum		0.050	0.080	0.204	0.081		
Minimum		0.049	0.079	0.202	0.079		

Average Standard Deviation: 0.0005