FDLE

Florida Department of
Law Enforcement

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MEMORANDUM

TO: Department Inspectors

FROM: Laura D Barfield, Alcohol Testing Program Manager LDB

DATE: November 17, 2012

SUBJECT: CMI, Inc. Intoxilyzer 8000 Instrumentation Evaluation Report – May 2002 Amended November 2012

Attached you will find the CMI, Inc. Intoxilyzer 8000 Instrumentation Evaluation Report dated February 10, 2005 and AMENDED November 17, 2012. The report was generated using data obtained during evaluations conducted on May 29, 2002, in accordance with applicable rules and forms in effect at that time. The report is being amended November 17, 2012, to document the correct micron value for the filters used in the CMI, Inc. Intoxilyzer 8000.

Based on the Program's review of this evaluation, the CMI, Inc. Intoxilyzer 8000 was:

(1) Incorporated by reference into Chapter 11D-8, Florida Administrative Code through rule promulgation in accordance with Chapter 120, Florida Statutes; and
(2) Approved as an evidentiary breath test instrument for use in Florida effective November 5, 2002.

Software version 8100.10 did not contain all the rule required processes and sequences, such as the department inspection and agency inspection procedures. Therefore, software version 8100.10, although producing accurate and reliable alcohol test results, was not approved for evidentiary use.

If you have any questions, please feel free to contact me.

LDB

Attachments

Florida Department of Law Enforcement
Alcohol Testing Program

CMI, Inc. Intoxilyzer 8000
Instrumentation Evaluation Report

Report Prepared February 10, 2005
AMENDED
November 17, 2012

Evaluation Conducted May 29, 2002
Tampa, Florida

CMI, Inc. Intoxilyzer 8000
Instrumentation Evaluation

Conducted in Accordance with Chapter 11D-8, FAC July 2001 and FDLE/ATP Form 34 Instrument Evaluation Procedures March 2001

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 approval 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 was to assess the CMI, Inc. Intoxilyzer Model 8000 breath test instrumentation, which utilizes infrared light absorption as the method of analysis, 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. The instrumentation is evaluated in its entirety with the software specified herein. This evaluation is 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 Tampa Regional Operations Center 4211-A Lois Avenue Tampa, Florida 33614
Operating Conditions:	Room Temperature: 68.4F to 71.08F

FDLE Personnel Present During the Evaluation

Rafael Madrigal, Assistant General Counsel
John Cooper, Department Inspector
Dwite Hackney, Department Inspector
Matthew Malhiot, Department Inspector
Warren Sanger, Department Inspector
Roger Skipper, Department Inspector
Donald Suereth, Department Inspector

Make, Model and Serial Number of Instrumentation

CMI, Inc. Intoxilyzer 8000, Serial Number 80-000208
CMI, Inc. Intoxilyzer 8000, Serial Number 80-000209 (Not used due to electrical short circuit)

The CMI, Inc. Intoxilyzer Model 8000 is listed on the US Department of Transportation Conforming Products List of Evidential Breath Measurement Devices.

Instrumentation Specifications

- Method of analysis – non-dispersive infrared absorption;

- Model designation – 8000;
- Description of the instrument – An infrared-based instrument designed for both mobile and stationary evidential breath alcohol testing;
- Operating Temperature Range – Recommended: 0C to 40C;
- Software – 8100.10, a proprietary program on a preemptive multitasking operating system.

Instrumentation Analytical Components
Dual wavelength analysis at 3.476 and 9.376 micrometers; Fixed, pulsed infrared light source; Analytical cell; Dual pyroelectric detectors

Instrumentation Options (Do not affect the Intoxilyzer 8000 method of analysis or analytical reliability of the results)
Magnetic card reader; Internal thermal printer; External printer; Full-size keyboard.

Reference Materials, Equipment and Supplies
The instrument manufacturer, CMI, Inc., provided reference materials, equipment and supplies outlined in Appendix A, pursuant to Rule 11D-8.003, Florida Administrative Code.

Additional Equipment
Reference Sample Devices (Simulators)
A total of fifteen (15) reference sample devices (simulators) were used during this evaluation. All simulators were operated within 34 $\pm$ 0.2C and had air leak resistant seals. The make, model and serial number of each simulator is outlined in Appendix B.
Digital Thermometers
A total of six (6) digital thermometers were used during this evaluation. All digital thermometers were operated within manufacturer's specifications. The make, model and serial number of each digital thermometer is outlined in Appendix B.
Other Supplies
All other supplies and equipment used were commercially available and compatible with this type instrumentation (printer tape, mouthpieces, tubing, office supplies, etc.).

Evaluation

The evaluation included the analysis of alcohol reference solutions at 0.020, 0.050, 0.080, 0.150, 0.200, 0.300, and 0.400 g/210L. Alcohol reference solutions prepared by Alcohol Countermeasure System, Inc. or the Florida Department of Law Enforcement were used. All solutions were analyzed in accordance with Rule 11D-8.0035(2)(a), FAC. The results of the alcohol reference solution analyses are outlined in Appendix C.

The instrumentation was also evaluated for its ability to detect acetone interference, mouth alcohol and an alcohol free sample. The deionized water, obtained from the Tallahassee Regional Operations Center Crime Laboratory and was analyzed by gas chromatography prior to this evaluation, was used for the alcohol-free sample test. Acetone stock solution, Lot Number 2002-A, and alcohol stock solution, Lot Number 2002-D, prepared by the Florida Department of Law Enforcement was used for the acetone interference test and the mouth alcohol test, respectively.

Alcohol Free Test, Acetone Interference Test and Mouth Alcohol Test

The Intoxilyzer 8000 instrumentation was subjected to fifty (50) repetitions of an alcohol free test, fifty (50) repetitions of an acetone interference test and a repetition of a mouth alcohol test. The results are outlined in Appendix D.

Alcohol Reference Solution Analyses at 0.020, 0.050, 0.080, 0.150, 0.200, 0.300 and 0.400 g/210L

The Intoxilyzer 8000 instrumentation was subjected to fifty (50) repetitions of alcohol reference solution analyses at the following concentrations: 0.020, 0.050, 0.080, 0.150, 0.200, 0.300, 0.400 g/210L. The results are outlined in Appendix D.

Dry Gas Standard Analysis

The Intoxilyzer 8000 instrumentation was subjected to ten (10) repetitions of dry gas standard analyses each of the following concentrations: 0.05 g/210L, 0.08 g/210L and 0.20 g/210L. The results are outlined in Appendix E.

Mobile Unit Analysis

This evaluation also included the analysis of a dry gas standard in State Vehicle 1837 using a 12VDC connection. The use of the Intoxilyzer 8000 instrumentation in a vehicle did not affect the method of analysis or the analytical reliability of the results. The results are outlined in Appendix E.

Analytical Results

All results met the requirements of FDLE/ATP Form 34 Instrument Evaluation Procedures for accuracy, and all instrumentation performed within the manufacturer's specification for precision of 0.003. All results for the acetone interferent test were 0.000 g/210L and acetone was detected by the correct instrument response prescribed by the manufacturer to denote the interferent. Mouth alcohol was correctly determined by the instrumentation.

Conclusion

The results of this evaluation establish that the CMI, Inc. Intoxilyzer 8000 instrumentation produces accurate and reliable breath alcohol test results. Based on the Program's review of this evaluation, the CMI, Inc. Intoxilyzer 8000 was:

(1) Incorporated by reference into Chapter 11D-8, Florida Administrative Code through rule promulgation in accordance with Chapter 120, Florida Statutes; and
(2) Approved as an evidentiary breath test instrument for use in Florida effective November 5, 2002.

Software version 8100.10 did not contain all the rule required processes and sequences, such as the department inspection and agency inspection procedures. Therefore, software version 8100.10, although producing accurate and reliable alcohol test results, was not approved at this time.

APPENDIX A

Manufacturer Provided Reference Materials, Equipment and Supplies

1. Letter from the US Department of Transportation dated November 26, 2001.
2. US Department of Transportation Conforming Products List of Evidential Breath Measurement Devices, Federal Register, Vol. 67, No. 192, Thursday, October 3, 2002, pages 62091 to 62094.
3. *Intoxilyzer 8000 Instrument Specification* (10/23/00 Version 1.1, CMI Company Confidential I-8000 Instrument Specification Summary).
4. *CMI, Inc. Intoxilyzer 8000 "Operational Guide" Intoxilyzer 8000 Breath Alcohol Testing Instrument* (Rev. 3/02); Note: There was no published instrument maintenance manual at the time of this evaluation.
5. Two (2) instruments (Serial Numbers 80-000208 and 80-000209) and an original certificate of calibration for each instrument.
6. Miscellaneous accessories and materials necessary to use the instrument for breath testing.
7. Miscellaneous Intoxilyzer 8000 Schematics and Diagrams.

APPENDIX B

External Equipment

Reference Sample Devices (Simulators)

Make	Model	Serial Number
Guth	10-4D	SD1011
Guth	10-4D	SD1016
Guth	10-4D	SD1010
Guth	10-4D	SD1026
Guth	10-4D	SD1009
Guth	10-4D	SD1013
Guth	10-4D	SD1012
Guth	10-4D	SD1014
Guth	10-4D	SD1017
Guth	10-4D	SD1019
Guth	34C	G2407
Guth	34C	G2406
Guth	34C	G2880
Guth	34C	G2878
Guth	210021	DR1279

Digital Thermometers

Make	Model	Serial Number
Ertco-Euthechnics	4400	300505
Ertco-Euthechnics	4400	300948
Ertco-Euthechnics	4400	300502
Ertco-Euthechnics	4400	300504
Ertco-Euthechnics	4400	300949
Ertco-Euthechnics	4400	300918

APPENDIX C

Solutions

Alcohol Reference Solution

	0.020 g/210L (g/100mL)	0.050 g/210L (g/100mL)	0.080 g/210L (g/100mL)	0.150 g/210L (g/100mL)	0.200 g/210L (g/100mL)	0.300 g/210L (g/100mL)	0.400 g/210L (g/100mL)
Source	ACS	ACS	ACS	FDLE	ACS	FDLE	ACS
Lot Number	200201D	200203B	200203C	0.15 g/210L Std	200203D	0.30 g/210L Std	200107B
Manufacture Date	1/23/2002	3/26/2002	3/26/2002	4/26/2002	3/26/2002	4/26/2002	7/12/2001
Expiration Date	1/23/2004	3/26/2004	3/26/2004	4/26/2004	3/26/2004	4/26/2004	7/12/2003
Target Concentration (g/100mL)	0.0242	0.0605	0.0968	0.1815	0.2420	0.3630	0.4840
Acceptable Range (g/100mL)	0.0230 to 0.0254	0.0586 to 0.0623	0.0938 to 0.0997	0.1761 to 0.1869	0.2347 to 0.2492	0.3521 to 0.3738	0.4695 to 0.4985
1	0.0236	0.0614	0.0988	0.1834	0.2448	0.3662	0.4935
2	0.0236	0.0610	0.0988	0.1839	0.2462	0.3667	0.4935
3	0.0235	0.0613	0.0990	0.1831	0.2454	0.3652	0.4938
4	0.0237	0.0614	0.0990	0.1833	0.2458	0.3658	0.4958
5	0.0235	0.0614	0.0990	0.1833	0.2448	0.3676	0.4946
6	0.0234	0.0612	0.0990	0.1848	0.2452	0.3666	0.4961
7	0.0235	0.0610	0.0988	0.1843	0.2459	0.3667	0.4954
8	0.0235	0.0609	0.0990	0.1848	0.2466	0.3668	0.4955
9	0.0235	0.0611	0.0979	0.1847	0.2458	0.3664	0.4936
10	0.0238	0.0616	0.0995	0.1839	0.2458	0.3654	0.4954
11	0.0233	0.0613	0.0988	0.1830	0.2457	0.3667	0.4949
12	0.0236	0.0612	0.0993	0.1843	0.2460	0.3665	0.4951
13	0.0235	0.0610	0.0992	0.1834	0.2457	0.3660	0.4958
14	0.0236	0.0609	0.0992	0.1836	0.2465	0.3671	0.4966
15	0.0233	0.0609	0.0988	0.1840	0.2456	0.3663	0.4966
16	0.0234	0.0614	0.0988	0.1843	0.2462	0.3668	0.4966
17	0.0236	0.0611	0.0986	0.1839	0.2459	0.3663	0.4963
18	0.0237	0.0611	0.0994	0.1847	0.2462	0.3678	0.4970
19	0.0236	0.0612	0.0983	0.1841	0.2454	0.3666	0.4946
20	0.0239	0.0611	0.0990	0.1853	0.2459	0.3678	0.4973
Mean	0.0236	0.0612	0.0989	0.1840	0.2458	0.3666	0.4954
Std Dev	0.0002	0.0002	0.0004	0.0006	0.0005	0.0007	0.0012
Minimum	0.0233	0.0609	0.0979	0.1830	0.2448	0.3652	0.4935
Maximum	0.0239	0.0616	0.0995	0.1853	0.2466	0.3678	0.4973

Note: ACS = Alcohol Countermeasure Systems, Inc.
FDLE = Florida Department of Law Enforcement

APPENDIX D
Analytical Results
80-000208

	Alcohol Free Test (g/210L)	0.020 g/210L (g/210L)	0.050 g/210L (g/210L)	0.080 g/210L (g/210L)	0.150 g/210L (g/210L)	0.200 g/210L (g/210L)	0.300 g/210L (g/210L)	0.400 g/210L (g/210L)	Acetone Interference Test	Mouth Alcohol Test
1	0.000	0.019	0.048	0.081	0.151	0.198	0.288	0.394	INT DET	M A DET
2	0.000	0.020	0.050	0.081	0.151	0.198	0.292	0.394	INT DET	M A DET
3	0.000	0.020	0.049	0.080	0.151	0.198	0.296	0.395	INT DET	M A DET
4	0.000	0.020	0.050	0.080	0.151	0.198	0.298	0.395	INT DET	M A DET
5	0.000	0.019	0.049	0.080	0.151	0.198	0.300	0.396	INT DET	M A DET
6	0.000	0.020	0.050	0.080	0.152	0.197	0.301	0.395	INT DET	M A DET
7	0.000	0.019	0.050	0.080	0.151	0.199	0.300	0.396	INT DET	M A DET
8	0.000	0.019	0.050	0.081	0.151	0.198	0.302	0.396	INT DET	M A DET
9	0.000	0.020	0.050	0.081	0.152	0.199	0.301	0.398	INT DET	M A DET
10	0.000	0.020	0.050	0.081	0.152	0.199	0.302	0.398	INT DET	M A DET
11	0.000	0.019	0.049	0.081	0.153	0.198	0.299	0.398	INT DET	M A DET
12	0.000	0.019	0.050	0.081	0.152	0.199	0.301	0.400	INT DET	M A DET
13	0.000	0.019	0.050	0.081	0.153	0.198	0.302	0.400	INT DET	M A DET
14	0.000	0.019	0.050	0.081	0.152	0.199	0.302	0.400	INT DET	M A DET
15	0.000	0.020	0.051	0.080	0.152	0.199	0.302	0.400	INT DET	M A DET
16	0.000	0.019	0.050	0.081	0.153	0.199	0.302	0.400	INT DET	M A DET
17	0.000	0.020	0.050	0.081	0.153	0.199	0.301	0.399	INT DET	M A DET
18	0.000	0.020	0.050	0.080	0.152	0.199	0.302	0.401	INT DET	M A DET
19	0.000	0.020	0.050	0.080	0.152	0.200	0.302	0.401	INT DET	M A DET
20	0.000	0.019	0.050	0.080	0.152	0.199	0.302	0.400	INT DET	M A DET
21	0.000	0.019	0.050	0.080	0.149	0.197	0.298	0.396	INT DET	M A DET
22	0.000	0.021	0.050	0.080	0.152	0.199	0.303	0.400	INT DET	0.000/0.020*
23	0.000	0.020	0.050	0.081	0.153	0.199	0.302	0.401	INT DET	M A DET
24	0.000	0.020	0.050	0.081	0.152	0.199	0.301	0.401	INT DET	M A DET
25	0.000	0.020	0.051	0.080	0.153	0.200	0.304	0.402	INT DET	M A DET
26	0.000	0.020	0.050	0.080	0.152	0.199	0.302	0.401	INT DET	M A DET
27	0.000	0.020	0.050	0.080	0.151	0.200	0.302	0.401	INT DET	M A DET
28	0.000	0.020	0.050	0.081	0.152	0.199	0.302	0.401	INT DET	M A DET
29	0.000	0.020	0.050	0.081	0.152	0.199	0.301	0.401	INT DET	M A DET
30	0.000	0.020	0.050	0.081	0.151	0.199	0.301	0.402	INT DET	M A DET
31	0.000	0.020	0.050	0.080	0.150	0.197	0.299	0.387	INT DET	M A DET
32	0.000	0.020	0.050	0.080	0.151	0.199	0.302	0.397	INT DET	M A DET
33	0.000	0.021	0.050	0.081	0.152	0.200	0.302	0.401	INT DET	M A DET
34	0.000	0.020	0.050	0.081	0.152	0.200	0.303	0.400	INT DET	M A DET
35	0.000	0.020	0.050	0.081	0.153	0.200	0.304	0.401	INT DET	M A DET
36	0.000	0.019	0.050	0.081	0.152	0.200	0.303	0.401	INT DET	M A DET
37	0.000	0.020	0.051	0.081	0.151	0.200	0.303	0.401	INT DET	M A DET
38	0.000	0.021	0.051	0.081	0.152	0.200	0.302	0.401	INT DET	M A DET

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39	0.000	0.020	0.050	0.082	0.152	0.201	0.303	0.401	INT DET	IMP SMP**
40	0.000	0.020	0.050	0.080	0.152	0.200	0.303	0.402	INT DET	M A DET
41	0.000	0.020	0.050	0.080	0.150	0.198	0.298	0.399	INT DET	M A DET
42	0.000	0.020	0.050	0.080	0.151	0.199	0.301	0.398	INT DET	M A DET
43	0.000	0.020	0.050	0.080	0.150	0.199	0.302	0.397	INT DET	M A DET
44	0.000	0.020	0.051	0.081	0.150	0.199	0.303	0.398	INT DET	M A DET
45	0.000	0.021	0.051	0.080	0.150	0.199	0.304	0.396	INT DET	M A DET
46	0.000	0.020	0.050	0.081	0.151	0.199	0.303	0.397	INT DET	M A DET
47	0.000	0.020	0.050	0.081	0.151	0.199	0.302	0.398	INT DET	M A DET
48	0.000	0.020	0.050	0.081	0.151	0.200	0.302	0.397	INT DET	M A DET
49	0.000	0.020	0.050	0.081	0.151	0.199	0.301	0.398	INT DET	M A DET
50	0.000	0.020	0.050	0.081	0.151	0.199	0.299	0.399	INT DET	M A DET
51										M A DET
52										M A DET
Mean		0.020	0.050	0.081	0.152	0.199	0.301	0.399		
Std Dev		0.0005	0.0005	0.0005	0.0009	0.0009	0.0028	0.0028		
Maximum		0.021	0.051	0.082	0.153	0.201	0.304	0.402		
Minimum		0.019	0.048	0.080	0.149	0.197	0.288	0.387		

Average Standard Deviation: 0.0011

Comments: INT DET = Interferent Detected
M A DET = Mouth Alcohol Detect
IMP SMP = Improper Sample
* - Sample Introduce Improperly
** - Sample Introduced at Wrong Time

APPENDIX E

Dry Gas Standard Analytical Results

	0.05 g/210L (g/210L)	0.08 g/210L (g/210L)	0.20 g/210L (g/210L)
Acceptable Range (g/210L)	0.045 to 0.055	0.075 to 0.085	0.190 to 0.210
1	0.049	0.079	0.200
2	0.050	0.079	0.198
3	0.050	0.080	0.199
4	0.049	0.079	0.198
5	0.050	0.079	0.199
6	0.050	0.079	0.199
7	0.050	0.080	0.198
8	0.050	0.079	0.198
9	0.049	0.079	0.199
10	0.050	0.079	0.199
Mean	0.050	0.079	0.199
Std Dev	0.0005	0.0004	0.0007

Average Standard Deviation: 0.0005

Mobile Unit Analysis

Diagnostics	OK
Air Blank (g/210L)	0.000
Control Test (g/210L)	0.079
Air Blank (g/210L)	0.000
Subject Sample #1 (g/210L)	0.000
Air Blank (g/210L)	0.000
Air Blank (g/210L)	0.000
Subject Sample #2 (g/210L)	0.000
Air Blank (g/210L)	0.000
Control Test (g/210L)	0.080
Air Blank (g/210L)	0.000
Diagnostics	OK

Full-Size Keyboard

Air Blank (g/210L)	0.000
Subject Sample #1 (g/210L)	0.000
Air Blank (g/210L)	0.000
Subject Sample #2 (g/210L)	0.000
Air Blank (g/210L)	0.000