

INTOXILYZER® 8000 CALIBRATION ADJUSTMENT

Intoxilyzer® 8000 Serial Number: 80-006501

Location: TOXL

- A. Flow Sensor Calibration and Verification Check (Level 3,M,C,F)
1. Replaced o-rings if damaged ^{ADJUST} ^{VERIFY}
 2. Flow Meter Serial Number: 40655 & 55260
 3. Air Supplied to Intoxilyzer® 8000 at:
 - a. 5 L/min 15 L/min 30 L/min
 4. Flow Rate Calibration Printout Attached
 - a. Correlation \geq 0.99000
 5. Flow Sensor Calibration Verification (Level 3,D,F)
 - a. 10 L/min: 0. 167 L/S X 60 Sec/min = 10.02 L/min
 - b. 20 L/min: 0. 335 L/S X 60 Sec/min = 20.10 L/min
 - c. Flow Rates within \pm 1 L/min of Expected Value
- B. Gas Tank Sensor Check (Level 3,D,G)
1. Display: 932 psi Regulator: 950 psi
 2. Display and Regulator within 50 psi
 3. Completed tare of tank sensor if needed (Level 3,M,C,G)
- C. Optical Bench Calibration and Verification Check (Level 3,M,C,O)
1. Autocalibration Printout Attached
 - a. Max Power Res Value \geq 10
 - b. Auto Range Res Value \geq 4
 2. Simulator Solutions for Optical Bench Calibration Adjustment
 - a. Set # Solutions to Run at 5

Soln.	g/210 L	Lot No.	Exp. Date	Simulator SN
1	0.000 (Actual)	NA - MilliQ H ₂ O	NA - MilliQ H ₂ O	MP3066
2	0.040 (0.040)	201808D	8.22.20	MP 3067
3	0.080 (0.082)	201707E	7.25.19	MP 3068
4	0.150 (0.151)	201811E	11.26.20	MP 3069
5	0.300 (0.301)	201803H	3.22.20	MP3070

3. 0.100 AC Calibration Gas for H₂O Adjustment
 - a. Lot No. 13518100A3 Cyl No. 6 Exp. Date: 8/5/20
4. Atmospheric Pressure
 - a. 951 mbar Displayed by Intoxilyzer® 8000
 - b. 952 mbar Adjusted to using barometer
 - c. 951 mbar on Auto Calibration Report printout
5. Screen displayed "Calibration Success"

- 6. Calibration Adjustment Printout Attached
 - a. Solution 1 Avg % Abs ≤ 0.2500
 - b. Solution 2-5 REL STD DEV ≤ 3.000
 - c. Residual (g/210 L) Values for Solutions 1-5 ≤ 0.0020 for 3 μm and 9 μm channels
 - d. Dry Gas H₂O Adjustment Sum for 3 μm and 9 μm channels within ± 10

	Average		H ₂ O Adjust		
3 μm	<u>4368</u>	+	<u>393</u>	=	<u>4761</u>
9 μm	<u>393</u>	+	<u>321</u>	=	<u>4761</u>

- 7. Optical Bench Calibration Verification (Level 1, S and C)
 - a. Wet Calibration Check
 - i. Low AC Known Value ≤ 0.03 AC: 0.015 AC
Sim. SN: DR5113 Lot No.: 201805C Exp. Date: 5.30.20
 - ii. High AC Known Value ≥ 0.25 AC: 0.300 AC
Sim. SN: DR7089 Lot No.: 17350 Exp. Date: 10.11.19
 - b. Dry Calibration Check: Known Value 0.08 AC
Lot No. 34418080A2 Cyl No. 45 Exp. Date: 2.5.21
Test 1 0.080 AC Test 4 0.080 AC Test 7 0.080 AC
Test 2 0.080 AC Test 5 0.080 AC Test 8 0.080 AC
Test 3 0.080 AC Test 6 0.080 AC Test 9 0.080 AC
Average 0.080 AC
 - c. Wet Calibration Check and Dry Calibration Check AC results are within ± 0.005 or $\pm 5\%$ (whichever is greater) of stated value.

D. Remarks/Maintenance: ADJUSTED DUE TO 0.080 AC STD
RETURNING VALUES OF 0.084 AC.
NOTE: STILL WITHIN +/- 0.005 TOLERANCE.

Instrument is acceptable to be used in the field.

Charles E. Ed
Breath Analyst Signature

6/14/19
Date

NA
Reviewed by

NA
Date

Intoxilyzer Test Record and Checklist
NDOAG Crime Lab. Div., Bismarck, ND 58501

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-006501
Location = TOXL 8164.14.00 09/16
06/13/2019 11:49

Flow Rate Calibration*****

1: Rate (Liters/min) = 5
 SQRT(Diff)) = 8.059
2: Rate (Liters/min) = 15
 SQRT(Diff)) = 13.074
3: Rate (Liters/min) = 30
 SQRT(Diff)) = 22.867


Dependent Data Scale Factor = 100000 L/min

Independent Data Scale Factor = 256

Rounded Slope = 651

Rounded Intercept = -777821

Correlation = 0.99761


FLOW SENSOR CAL

TOXL
Intoxilyzer - Alcohol Analyzer
Model 8000 SN 80-006501
06/13/2019 11:54:16

Auto Calibration
Max Power Res Value = 94
Auto Range Res Value = 72

TOXL
 Intoxilyzer - Alcohol Analyzer
 Model 8000 SN 80-006501
 06/13/2019 11:54:16

Auto Calibration

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<<<< 3um >>>>			<<<< 9um >>>>		
Sample	% Abs	(% Abs Ref)	Sample	% Abs	(% Abs Ref)
Solution = 0.000 g/210L or 0.0000 mg/l, Samples = 4, Discarded = 1					
Sample #1	0.1000	(-0.0210)	Sample #1	0.0810	(-0.0100)
Sample #2	0.0880	(-0.0010)	Sample #2	0.1100	(-0.0110)
Sample #3	0.0660	(0.0210)	Sample #3	0.0950	(-0.0060)
Sample #4	0.0750	(0.0240)	Sample #4	0.0990	(-0.0150)
Avg % Abs	0.0763	(0.0147)	Avg % Abs	0.1013	(-0.0107)
STD DEV	0.0111	(0.0137)	STD DEV	0.0078	(0.0045)
REL STD DEV	14.490	(93.071)	REL STD DEV	7.665	(42.274)

Solution = 0.040 g/210L or 0.1905 mg/l, Samples = 4, Discarded = 1					
Sample #1	0.8060	(-0.0120)	Sample #1	1.4900	(-0.0150)
Sample #2	0.7980	(0.0100)	Sample #2	1.4840	(-0.0090)
Sample #3	0.7650	(0.0270)	Sample #3	1.4430	(0.0040)
Sample #4	0.7850	(0.0070)	Sample #4	1.4790	(-0.0040)
Avg % Abs	0.7827	(0.0147)	Avg % Abs	1.4687	(-0.0030)
STD DEV	0.0166	(0.0108)	STD DEV	0.0224	(0.0066)
REL STD DEV	2.124	(73.539)	REL STD DEV	1.523	(218.581)

Solution = 0.082 g/210L or 0.3905 mg/l, Samples = 4, Discarded = 1					
Sample #1	1.4880	(-0.0140)	Sample #1	2.8330	(-0.0090)
Sample #2	1.5060	(-0.0160)	Sample #2	2.8140	(0.0210)
Sample #3	1.4920	(0.0060)	Sample #3	2.8020	(0.0250)
Sample #4	1.4780	(0.0120)	Sample #4	2.8090	(0.0260)
Avg % Abs	1.4920	(0.0007)	Avg % Abs	2.8083	(0.0240)
STD DEV	0.0140	(0.0147)	STD DEV	0.0060	(0.0026)
REL STD DEV	0.938	(2211.336)	REL STD DEV	0.215	(11.024)

Solution = 0.151 g/210L or 0.7190 mg/l, Samples = 4, Discarded = 1					
Sample #1	2.7120	(-0.0250)	Sample #1	5.0560	(-0.0080)
Sample #2	2.6890	(-0.0020)	Sample #2	5.0210	(0.0270)
Sample #3	2.7010	(-0.0010)	Sample #3	5.0410	(0.0200)
Sample #4	2.6880	(0.0070)	Sample #4	5.0180	(0.0460)
Avg % Abs	2.6927	(0.0013)	Avg % Abs	5.0267	(0.0310)
STD DEV	0.0072	(0.0049)	STD DEV	0.0125	(0.0135)
REL STD DEV	0.269	(369.966)	REL STD DEV	0.249	(43.399)

Solution = 0.301 g/210L or 1.4333 mg/l, Samples = 4, Discarded = 1					
Sample #1	5.1650	(-0.0310)	Sample #1	9.4820	(-0.0140)
Sample #2	5.1960	(-0.0030)	Sample #2	9.5300	(0.0330)
Sample #3	5.1800	(0.0200)	Sample #3	9.5290	(0.0390)
Sample #4	5.1870	(0.0130)	Sample #4	9.5250	(0.0430)
Avg % Abs	5.1877	(0.0100)	Avg % Abs	9.5280	(0.0383)
STD DEV	0.0080	(0.0118)	STD DEV	0.0026	(0.0050)
REL STD DEV	0.155	(117.898)	REL STD DEV	0.028	(13.130)

TOXL
 Intoxilyzer - Alcohol Analyzer
 Model 8000 SN 80-006501
 06/13/2019 11:54:16

Auto Calibration

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<<<<< 3um >>>>>

<<<<< 9um >>>>>

 Zero Order Coef -205.31
 First Order Coef 2702.52
 Second Order Coef 19.17

 -149.06
 1397.49
 12.84

Act (g/210L)	Fit (g/210L)	Residual (g/210L)
0.000	0.000	-0.0000
0.040	0.040	-0.0004
0.082	0.081	0.0007
0.151	0.151	-0.0004
0.301	0.301	0.0001

Act (g/210L)	Fit (g/210L)	Residual (g/210L)
0.000	-0.000	0.0002
0.040	0.041	-0.0006
0.082	0.081	0.0006
0.151	0.151	-0.0002
0.301	0.301	0.0000

<<<<< 3um >>>>>

<<<<< 9um >>>>>

 Solution = 0.100 g/210L or 0.4762 mg/l, Samples = 4, Discarded = 1
 Sample

Sample #1	4396.00	4474.00
Sample #2	4368.00	4450.00
Sample #3	4388.00	4431.00
Sample #4	4350.00	4440.00
Avg	4368.6665	4440.3335
STD DEV	19.0088	9.5044
REL STD DEV	0.435	0.214
H2O adjust (mg/l*10k)	393	321

Atmospheric Pressure = 951

*****CALIBRATION SUCCESSFUL*****



Intoxilyzer Test Record and Checklist
NDOAG Crime Lab. Div., Bismarck, ND 58501

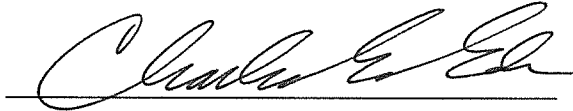
CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-006501
Location = TOXL 8164.14.00 09/16
06/14/2019 12:15

WET CAL CHECK

Test	AC	Time
01 Room Air	0.000	12:15
02 Std. Sol.	0.014	12:16
03 Room Air	0.000	12:17
04 Std. Sol.	0.014	12:17
05 Room Air	0.000	12:18
06 Std. Sol.	0.014	12:19
07 Room Air	0.000	12:19

08 Sim Temp = 34.0°C

Simul Ser No = DR5113
Std Sol No = 201805C
County = 08 Oper No. = 666666



Operator Signature
CHARLES EDER

Remarks:

Low AC
0.015 AC

Form 106-I8000

Intoxilyzer Test Record and Checklist
NDOAG Crime Lab. Div., Bismarck, ND 58501

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-006501
Location = TOXL 8164.14.00 09/16
06/14/2019 12:21

WET CAL CHECK

Test	AC	Time
01 Room Air	0.000	12:22
02 Std. Sol.	0.296	12:22
03 Room Air	0.000	12:23
04 Std. Sol.	0.297	12:24
05 Room Air	0.000	12:24
06 Std. Sol.	0.296	12:25
07 Room Air	0.000	12:26

08 Sim Temp = 34.0°C

Simul Ser No = DR7089
Std Sol No = 17350
County = 08 Oper No. = 666666



Operator Signature
CHARLES EDER

Remarks:

HIGH AC
0.300 AC

Form 106-I8000

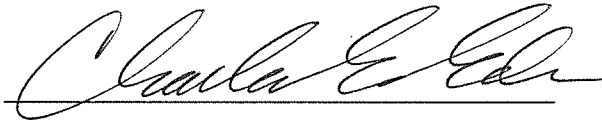
Intoxilyzer Test Record and Checklist
NDOAG Crime Lab. Div., Bismarck, ND 58501

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-006501
Location = TOXL 8164.14.00 09/16
06/14/2019 12:32

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	12:33
02 Std. Gas	0.080	12:33
03 Room Air	0.000	12:34
04 Std. Gas	0.080	12:34
05 Room Air	0.000	12:34
06 Std. Gas	0.080	12:35
07 Room Air	0.000	12:35

Lot No = 34418080A2
Cyl No = 45
Exp Date = 02/05/2021
County = 08 Oper No. = 666666



Operator Signature
CHARLES EDER

Remarks: CALIBRATION CHECK
0.080AC

Form 106-I8000

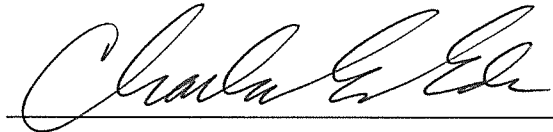
Intoxilyzer Test Record and Checklist
NDOAG Crime Lab. Div., Bismarck, ND 58501

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-006501
Location = TOXL 8164.14.00 09/16
06/14/2019 12:37

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	12:38
02 Std. Gas	0.080	12:38
03 Room Air	0.000	12:39
04 Std. Gas	0.080	12:39
05 Room Air	0.000	12:40
06 Std. Gas	0.080	12:40
07 Room Air	0.000	12:41

Lot No = 34418080A2
Cyl No = 45
Exp Date = 02/05/2021
County = 08 Oper No. = 666666



Operator Signature
CHARLES EDER

Remarks: CALIBRATION CHECK
0.080 AC

Form 106-I8000

Intoxilyzer Test Record and Checklist
NDOAG Crime Lab. Div., Bismarck, ND 58501

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-006501
Location = TOXL 8164.14.00 09/16
06/14/2019 12:41

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	12:42
02 Std. Gas	0.080	12:42
03 Room Air	0.000	12:43
04 Std. Gas	0.080	12:43
05 Room Air	0.000	12:44
06 Std. Gas	0.080	12:44
07 Room Air	0.000	12:45

Lot No = 34418080A2
Cyl No = 45
Exp Date = 02/05/2021
County = 08 Oper No. = 666666



Operator Signature
CHARLES EDER

Remarks: CALIBRATION CHECK
0.080 AC

Form 106-I8000