

INTOXILYZER® 8000 CALIBRATION ADJUSTMENT

Intoxilyzer® 8000 Serial Number: 80-006689 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. 171 L/S X 60 Sec/min = 10.26 L/min
    - b. 20 L/min: 0. 324 L/S X 60 Sec/min = 19.44 L/min
    - c.  Flow Rates within  $\pm 1$  L/min of Expected Value
- B. Gas Tank Sensor Check (Level 3,D,G)
1. Display: 990 psi Regulator: 1000 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 <sub>2</sub> O	NA - MilliQ H <sub>2</sub> O	DR7111
2	0.040 (0.040)	201808D	8.22.20	DR7347
3	0.080 (0.081)	201807C	7.25.20	DR5114
4	0.150 (0.151)	201811E	11.26.20	DR5131
5	0.300 (0.298)	19010	1.3.21	DR7346

3. 0.100 AC Calibration Gas for H<sub>2</sub>O Adjustment
  - a. Lot No. 135184100A3 Cyl No. 4 Exp. Date: 8.5.20
4. Atmospheric Pressure<sup>1000</sup>
  - a. 964 mbar Displayed by Intoxilyzer® 8000
  - b. 964 mbar Adjusted to using barometer
  - c. 964 mbar on Auto Calibration Report printout
5.  Screen displayed "Calibration Success"

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

	Average		H2O Adjust		
3 $\mu$ m	<u>4468</u>	+	<u>293</u>	=	<u>4761</u>
9 $\mu$ m	<u>4433</u>	+	<u>328</u>	=	<u>4761</u>

- 7.  Optical Bench Calibration Verification (Level 1, S and C)
  - a. Wet Calibration Check
    - i. Low AC Known Value  $\leq$  0.03 AC: 0.020 AC  
Sim. SN: MP3064 Lot No.: 20070 Exp. Date: 2.13.22
    - ii. High AC Known Value  $\geq$  0.25 AC: ~~0.250~~ 0.250 AC  
Sim. SN: MP3067 Lot No.: 201911B Exp. Date: 11.5.21
  - b. Dry Calibration Check: Known Value 0.08 AC  
Lot No. 2419080A | Cyl No. 9 Exp. Date: 11.5.21  
Test 1 0.079 AC    Test 4 0.079 AC    Test 7 0.079 AC  
Test 2 0.080 AC    Test 5 0.079 AC    Test 8 0.080 AC  
Test 3 0.080 AC    Test 6 0.079 AC    Test 9 0.079 AC  
Average 0.079 AC
  - c.  Wet Calibration Check and Dry Calibration Check AC results are within  $\pm$  0.005 or  $\pm$  5% (whichever is greater) of stated value.

D. Remarks/Maintenance: CALIBRATION ADJUST DUE TO 0.080 AC GAS STANDARD RETURNING VALUES OF 0.084 AC. STILL WITHIN  $\pm$  0.005 AC TOLERANCE.

Instrument is acceptable to be used in the field.

Charles E. Ehr  
Breath Analyst Signature

5.29.20  
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 80-006689  
Location = TOXL                    8164.14.00 09/16  
05/29/2020                            12:11

Flow Rate Calibration\*\*\*\*\*

1: Rate (Liters/min) = 5  
   SQRT(Diff)) = 7.070  
2: Rate (Liters/min) = 15  
   SQRT(Diff)) = 11.832  
3: Rate (Liters/min) = 30  
   SQRT(Diff)) = 21.977

Dependent Data Scale Factor = 100000 L/min

Independent Data Scale Factor = 256

Rounded Slope = 643

Rounded Intercept = -576193

Correlation = 0.99590



TOXL  
 Intoxilyzer - Alcohol Analyzer  
 Model 8000 SN 80-006689  
 05/29/2020 12:14:16

Auto Calibration

pg 1 of 2

<<<<<			3um	>>>>>			<<<<<			9um	>>>>>		
-----													
Solution = 0.000 g/210L or 0.0000 mg/l, Samples = 4, Discarded = 1													
Sample	% Abs	(% Abs Ref)		% Abs	(% Abs Ref)		% Abs	(% Abs Ref)		% Abs	(% Abs Ref)		
Sample #1	0.1090	(-0.0160)		0.1980	(-0.0110)		0.1980	(-0.0110)		0.1980	(-0.0110)		
Sample #2	0.0690	(0.0550)		0.1870	(0.0110)		0.1870	(0.0110)		0.1870	(0.0110)		
Sample #3	0.0820	(0.0660)		0.1770	(0.0130)		0.1770	(0.0130)		0.1770	(0.0130)		
Sample #4	0.0960	(0.0830)		0.2230	(-0.0020)		0.2230	(-0.0020)		0.2230	(-0.0020)		
Avg % Abs	0.0823	(0.0680)		0.1957	(0.0073)		0.1957	(0.0073)		0.1957	(0.0073)		
STD DEV	0.0135	(0.0141)		0.0242	(0.0081)		0.0242	(0.0081)		0.0242	(0.0081)		
REL STD DEV	16.401	(20.745)		12.365	(111.062)		12.365	(111.062)		12.365	(111.062)		
-----													
Solution = 0.040 g/210L or 0.1905 mg/l, Samples = 4, Discarded = 1													
Sample	% Abs	(% Abs Ref)		% Abs	(% Abs Ref)		% Abs	(% Abs Ref)		% Abs	(% Abs Ref)		
Sample #1	0.7890	(-0.0170)		1.5830	(-0.0140)		1.5830	(-0.0140)		1.5830	(-0.0140)		
Sample #2	0.7760	(0.0040)		1.5770	(0.0030)		1.5770	(0.0030)		1.5770	(0.0030)		
Sample #3	0.7410	(0.0230)		1.5570	(0.0150)		1.5570	(0.0150)		1.5570	(0.0150)		
Sample #4	0.7490	(0.0230)		1.5460	(0.0190)		1.5460	(0.0190)		1.5460	(0.0190)		
Avg % Abs	0.7553	(0.0167)		1.5600	(0.0123)		1.5600	(0.0123)		1.5600	(0.0123)		
STD DEV	0.0183	(0.0110)		0.0157	(0.0083)		0.0157	(0.0083)		0.0157	(0.0083)		
REL STD DEV	2.428	(65.818)		1.007	(67.513)		1.007	(67.513)		1.007	(67.513)		
-----													
Solution = 0.081 g/210L or 0.3857 mg/l, Samples = 4, Discarded = 1													
Sample	% Abs	(% Abs Ref)		% Abs	(% Abs Ref)		% Abs	(% Abs Ref)		% Abs	(% Abs Ref)		
Sample #1	1.4290	(0.0140)		2.9110	(0.0200)		2.9110	(0.0200)		2.9110	(0.0200)		
Sample #2	1.4360	(0.0150)		2.9090	(0.0220)		2.9090	(0.0220)		2.9090	(0.0220)		
Sample #3	1.4520	(0.0300)		2.9180	(0.0280)		2.9180	(0.0280)		2.9180	(0.0280)		
Sample #4	1.4530	(0.0290)		2.9190	(0.0270)		2.9190	(0.0270)		2.9190	(0.0270)		
Avg % Abs	1.4470	(0.0247)		2.9153	(0.0257)		2.9153	(0.0257)		2.9153	(0.0257)		
STD DEV	0.0095	(0.0084)		0.0055	(0.0032)		0.0055	(0.0032)		0.0055	(0.0032)		
REL STD DEV	0.659	(33.999)		0.189	(12.524)		0.189	(12.524)		0.189	(12.524)		
-----													
Solution = 0.151 g/210L or 0.7190 mg/l, Samples = 4, Discarded = 1													
Sample	% Abs	(% Abs Ref)		% Abs	(% Abs Ref)		% Abs	(% Abs Ref)		% Abs	(% Abs Ref)		
Sample #1	2.6300	(-0.0220)		5.2300	(0.0000)		5.2300	(0.0000)		5.2300	(0.0000)		
Sample #2	2.5770	(0.0070)		5.2030	(0.0190)		5.2030	(0.0190)		5.2030	(0.0190)		
Sample #3	2.5830	(0.0110)		5.1960	(0.0190)		5.1960	(0.0190)		5.1960	(0.0190)		
Sample #4	2.5610	(0.0150)		5.1790	(0.0280)		5.1790	(0.0280)		5.1790	(0.0280)		
Avg % Abs	2.5737	(0.0110)		5.1927	(0.0220)		5.1927	(0.0220)		5.1927	(0.0220)		
STD DEV	0.0114	(0.0040)		0.0123	(0.0052)		0.0123	(0.0052)		0.0123	(0.0052)		
REL STD DEV	0.442	(36.364)		0.238	(23.619)		0.238	(23.619)		0.238	(23.619)		
-----													
Solution = 0.298 g/210L or 1.4190 mg/l, Samples = 4, Discarded = 1													
Sample	% Abs	(% Abs Ref)		% Abs	(% Abs Ref)		% Abs	(% Abs Ref)		% Abs	(% Abs Ref)		
Sample #1	5.0210	(0.0070)		9.8340	(0.0010)		9.8340	(0.0010)		9.8340	(0.0010)		
Sample #2	5.0160	(0.0120)		9.8350	(0.0080)		9.8350	(0.0080)		9.8350	(0.0080)		
Sample #3	5.0170	(0.0190)		9.8380	(0.0220)		9.8380	(0.0220)		9.8380	(0.0220)		
Sample #4	5.0340	(0.0100)		9.8230	(0.0250)		9.8230	(0.0250)		9.8230	(0.0250)		
Avg % Abs	5.0223	(0.0137)		9.8320	(0.0183)		9.8320	(0.0183)		9.8320	(0.0183)		
STD DEV	0.0101	(0.0047)		0.0079	(0.0091)		0.0079	(0.0091)		0.0079	(0.0091)		
REL STD DEV	0.201	(34.579)		0.081	(49.493)		0.081	(49.493)		0.081	(49.493)		
-----													

TOXL  
 Intoxilyzer - Alcohol Analyzer  
 Model 8000 SN 80-006689  
 05/29/2020 12:14:16

Auto Calibration

pg 2 of 2

<<<<< 3um >>>>>  
 -----  
 Zero Order Coef -258.70  
 First Order Coef 2877.04  
 Second Order Coef 0.26

<<<<< 9um >>>>>  
 -----  
 -282.77  
 1398.99  
 7.44

-----  

Act (g/210L)	Fit (g/210L)	Residual (g/210L)
0.000	-0.000	0.0005
0.040	0.040	-0.0002
0.081	0.082	-0.0010
0.151	0.150	0.0009
0.298	0.298	-0.0001

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Act (g/210L)	Fit (g/210L)	Residual (g/210L)
0.000	-0.000	0.0002
0.040	0.040	-0.0003
0.081	0.081	-0.0000
0.151	0.151	0.0002
0.298	0.298	-0.0000

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

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

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

Sample	3um	9um
Sample #1	4565.00	4433.00
Sample #2	4444.00	4429.00
Sample #3	4435.00	4427.00
Sample #4	4525.00	4444.00
Avg	4468.0000	4433.3335
STD DEV	49.5681	9.2916
REL STD DEV	1.109	0.210
H2O adjust (mg/l*10k)	293	328

Atmospheric Pressure = 964

\*\*\*\*\*CALIBRATION SUCCESSFUL\*\*\*\*\*



TOXL  
 Intoxilyzer - Alcohol Analyzer  
 Model 8000 SN 80-006689  
 05/29/2020 12:14:16

Auto Calibration  
 Max Power Res Value = 44  
 Auto Range Res Value = 26

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

CMI, Inc. Intoxilyzer      Alcohol Analyzer  
North Dakota Model 8000      SN 80-006689  
Location = TOXL      8164.14.00 09/16  
05/29/2020      12:51

WET CAL CHECK

Test	AC	Time
01 Room Air	0.000	12:51
02 Std. Sol.	0.020	12:52
03 Room Air	0.000	12:53
04 Std. Sol.	0.020	12:53
05 Room Air	0.000	12:54
06 Std. Sol.	0.020	12:55
07 Room Air	0.000	12:55

08 Sim Temp = 34.0°C

Simul Ser No = MP3064

Std Sol No = 20070

County = 08

Oper No. = 666666



Operator Signature

CHARLES EDER

Remarks:

LOW AC  
0.020 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 80-006689  
Location = TOXL      8164.14.00 09/16  
05/29/2020      12:56

WET CAL CHECK

Test	AC	Time
01 Room Air	0.000	12:57
02 Std. Sol.	0.255	12:58
03 Room Air	0.000	12:58
04 Std. Sol.	0.256	12:59
05 Room Air	0.000	12:59
06 Std. Sol.	0.256	13:00
07 Room Air	0.000	13:01

08 Sim Temp = 34.0°C

Simul Ser No = MP3067

Std Sol No = 201911B

County = 08

Oper No. = 666666



Operator Signature

CHARLES EDER

Remarks:

HIGH AC  
0.250 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 80-006689  
Location = TOXL      8164.14.00 09/16  
05/29/2020      13:01

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	13:02
02 Std. Gas	0.079	13:02
03 Room Air	0.000	13:02
04 Std. Gas	0.080	13:03
05 Room Air	0.000	13:03
06 Std. Gas	0.080	13:04
07 Room Air	0.000	13:04

Lot No = 24119080A1  
Cyl No = 9  
Exp Date = 11/05/2021  
County = 08      Oper No. = 666666



Operator Signature  
CHARLES EDER

Remarks: 0.080 AC  
CALIBRATION CHECK

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 80-006689  
Location = TOXL      8164.14.00 09/16  
05/29/2020      13:04

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	13:05
02 Std. Gas	0.079	13:05
03 Room Air	0.000	13:06
04 Std. Gas	0.079	13:06
05 Room Air	0.000	13:07
06 Std. Gas	0.079	13:07
07 Room Air	0.000	13:08

Lot No = 24119080A1  
Cyl No = 9  
Exp Date = 11/05/2021  
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 80-006689  
Location = TOXL      8164.14.00 09/16  
05/29/2020      13:08

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	13:08
02 Std. Gas	0.079	13:09
03 Room Air	0.000	13:09
04 Std. Gas	0.080	13:09
05 Room Air	0.000	13:10
06 Std. Gas	0.079	13:10
07 Room Air	0.000	13:11

Lot No = 24119080A1  
Cyl No = 9  
Exp Date = 11/05/2021  
County = 08      Oper No. = 666666



Operator Signature  
CHARLES EDER

Remarks:

*CALIBRATION CHECK*  
*0.080 AC*

Form 106-I8000