

INTOXILYZER® 8000 CALIBRATION ADJUSTMENT

Intoxilyzer® 8000 Serial Number: 80-005361 Location: TOXL

- A. Flow Sensor Calibration and Verification Check (Level 3,M,C,F)
1.  Replaced o-rings if damaged <sup>ADJUST</sup> <sup>VERIFY</sup>
  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 ≥ 0.99000
  5.  Flow Sensor Calibration Verification (Level 3,D,F)
    - a. 10 L/min: 0. 1.67 L/S X 60 Sec/min = 10.02 L/min
    - b. 20 L/min: 0. 3.20 L/S X 60 Sec/min = 19.20 L/min
    - c.  Flow Rates within ± 1 L/min of Expected Value

- B. Gas Tank Sensor Check (Level 3,D,G)
1. Display: 347 psi Regulator: 350 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 ≥ 10
    - b.  Auto Range Res Value ≥ 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	DR7351
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. 13518100A3 Cyl No. 4 Exp. Date: 8.5.20
4. Atmospheric Pressure
  - a. 975 mbar Displayed by Intoxilyzer® 8000
  - b. 957 mbar Adjusted to using barometer
  - c. 957 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  $\mu\text{m}$  and 9  $\mu\text{m}$  channels
  - d.  Dry Gas H<sub>2</sub>O Adjustment Sum for 3  $\mu\text{m}$  and 9  $\mu\text{m}$  channels within  $\pm 10$

	Average		H <sub>2</sub> O Adjust		
3 $\mu\text{m}$	<u>4426</u>	+	<u>335</u>	=	<u>4761</u>
9 $\mu\text{m}$	<u>4356</u>	+	<u>405</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: MP3061 Lot No.: 201810D Exp. Date: 10.24.20
    - ii. High AC Known Value  $\geq 0.25$  AC: 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. 24119080A1 Cyl No. 9 Exp. Date: 11.5.21  
Test 1 0.082 AC    Test 4 0.082 AC    Test 7 0.081 AC  
Test 2 0.081 AC    Test 5 0.083 AC    Test 8 0.081 AC  
Test 3 0.081 AC    Test 6 0.082 AC    Test 9 0.082 AC  
Average 0.082 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: CAL. ADJ. DUE TO ATMOSPHERIC  
SENSOR READING 975 mbar WHEN ACTUAL ATMOSPHERIC  
PRESSURE IS 957 mbar.

Instrument is acceptable to be used in the field.

Charles E. Ed  
Breath Analyst Signature

5.15.20  
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 80-005361  
Location = TOXL                    8164.14.00 09/16  
05/15/2020                            09:06

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

1: Rate (Liters/min) = 5

   SQRT(Diff)) = 6.480

2: Rate (Liters/min) = 15

   SQRT(Diff)) = 11.660

3: Rate (Liters/min) = 30

   SQRT(Diff)) = 21.699

Dependent Data Scale Factor = 100000 L/min

Independent Data Scale Factor = 256

Rounded Slope = 634

Rounded Intercept = -488053

Correlation = 0.99773



TOXL  
 Intoxilyzer - Alcohol Analyzer  
 Model 8000 SN 80-005361  
 05/15/2020 09:15:22

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	0.0840	(0.0070)		0.1730	(0.0090)								
Sample #2	0.1000	(0.0580)		0.1870	(0.0100)								
Sample #3	0.0840	(0.1210)		0.1840	(0.0500)								
Sample #4	0.0530	(0.1490)		0.1810	(0.0460)								
Avg % Abs	0.0790	(0.1093)		0.1840	(0.0353)								
STD DEV	0.0239	(0.0466)		0.0030	(0.0220)								
REL STD DEV	30.248	(42.630)		1.630	(62.350)								
-----													
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	0.7880	(-0.0180)		1.5290	(-0.0230)								
Sample #2	0.7620	(0.0380)		1.5110	(0.0110)								
Sample #3	0.7820	(0.0260)		1.5630	(-0.0200)								
Sample #4	0.7690	(0.0390)		1.5540	(-0.0090)								
Avg % Abs	0.7710	(0.0343)		1.5427	(-0.0060)								
STD DEV	0.0101	(0.0072)		0.0278	(0.0157)								
REL STD DEV	1.316	(21.070)		1.801	(261.937)								
-----													
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	1.4460	(-0.0330)		2.8750	(0.0010)								
Sample #2	1.3930	(-0.0040)		2.8580	(0.0180)								
Sample #3	1.4040	(0.0070)		2.8490	(0.0190)								
Sample #4	1.4130	(0.0060)		2.8600	(0.0210)								
Avg % Abs	1.4033	(0.0030)		2.8557	(0.0193)								
STD DEV	0.0100	(0.0061)		0.0059	(0.0015)								
REL STD DEV	0.714	(202.759)		0.205	(7.901)								
-----													
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	2.5620	(-0.0320)		5.1260	(-0.0230)								
Sample #2	2.5660	(-0.0150)		5.1280	(-0.0100)								
Sample #3	2.5580	(-0.0070)		5.1100	(0.0000)								
Sample #4	2.5880	(-0.0020)		5.1030	(-0.0010)								
Avg % Abs	2.5707	(-0.0080)		5.1137	(-0.0037)								
STD DEV	0.0155	(0.0066)		0.0129	(0.0055)								
REL STD DEV	0.604	(81.968)		0.252	(150.206)								
-----													
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	4.9740	(0.0140)		9.7090	(0.0220)								
Sample #2	4.9960	(0.0320)		9.7050	(0.0520)								
Sample #3	4.9720	(0.0340)		9.6680	(0.0420)								
Sample #4	4.9270	(0.0480)		9.6180	(0.0500)								
Avg % Abs	4.9650	(0.0380)		9.6637	(0.0480)								
STD DEV	0.0350	(0.0087)		0.0437	(0.0053)								
REL STD DEV	0.706	(22.942)		0.452	(11.024)								
-----													

TOXL  
 Intoxilyzer - Alcohol Analyzer  
 Model 8000 SN 80-005361  
 05/15/2020 09:15:22

Auto Calibration

<<<<< 3um >>>>>			<<<<< 9um >>>>>		
-----			-----		
Zero Order Coef	-253.83			-273.23	
First Order Coef	2886.61			1417.32	
Second Order Coef	4.58			8.22	
-----			-----		
Act	Fit	Residual	Act	Fit	Residual
(g/210L)	(g/210L)	(g/210L)	(g/210L)	(g/210L)	(g/210L)
0.000	-0.001	0.0005	0.000	-0.000	0.0003
0.040	0.041	-0.0015	0.040	0.041	-0.0006
0.081	0.080	0.0011	0.081	0.081	0.0003
0.151	0.151	-0.0001	0.151	0.151	0.0000
0.298	0.298	-0.0000	0.298	0.298	-0.0000
-----			-----		

<<<<< 3um >>>>>		<<<<< 9um >>>>>	
-----		-----	
Solution = 0.100 g/210L or 0.4762 mg/l, Samples = 4, Discarded = 1			
Sample			
Sample #1	4439.00		4352.00
Sample #2	4381.00		4344.00
Sample #3	4421.00		4362.00
Sample #4	4476.00		4362.00
Avg	4426.0000		4356.0000
STD DEV	47.6970		10.3923
REL STD DEV	1.078		0.239
H2O adjust (mg/l*10k)	335		405

Atmospheric Pressure = 957

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



TOXL  
 Intoxilyzer - Alcohol Analyzer  
 Model 8000 SN 80-005361  
 05/15/2020 09:15:22

Auto Calibration  
 Max Power Res Value = 28  
 Auto Range Res Value = 10

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

CMI, Inc. Intoxilyzer      Alcohol Analyzer  
North Dakota Model 8000      SN 80-005361  
Location = TOXL      8164.14.00 09/16  
05/15/2020      10:36

WET CAL CHECK

Test	AC	Time
01 Room Air	0.000	10:36
02 Std. Sol.	0.019	10:37
03 Room Air	0.000	10:38
04 Std. Sol.	0.019	10:39
05 Room Air	0.000	10:39
06 Std. Sol.	0.019	10:40
07 Room Air	0.000	10:40

08 Sim Temp = 34.0°C

Simul Ser No = MP3061  
Std Sol No = 201810D  
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 80-005361  
Location = TOXL      8164.14.00 09/16  
05/15/2020      10:49

WET CAL CHECK

Test	AC	Time
01 Room Air	0.000	10:50
02 Std. Sol.	0.251	10:51
03 Room Air	0.000	10:51
04 Std. Sol.	0.252	10:52
05 Room Air	0.000	10:53
06 Std. Sol.	0.252	10:53
07 Room Air	0.000	10:54

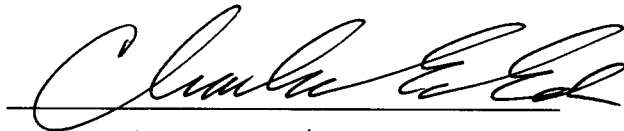
08 Sim Temp = 34.0°C

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 80-005361  
Location = TOXL      8164.14.00 09/16  
05/15/2020      10:59

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	11:00
02 Std. Gas	0.082	11:00
03 Room Air	0.000	11:00
04 Std. Gas	0.081	11:01
05 Room Air	0.000	11:01
06 Std. Gas	0.081	11:02
07 Room Air	0.000	11:02

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 80-005361  
Location = TOXL      8164.14.00 09/16  
05/15/2020      11:03

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	11:03
02 Std. Gas	0.082	11:04
03 Room Air	0.000	11:04
04 Std. Gas	0.083	11:05
05 Room Air	0.000	11:05
06 Std. Gas	0.082	11:05
07 Room Air	0.000	11:06

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 80-005361  
Location = TOXL      8164.14.00 09/16  
05/15/2020      11:06

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	11:07
02 Std. Gas	0.081	11:07
03 Room Air	0.000	11:08
04 Std. Gas	0.081	11:08
05 Room Air	0.000	11:09
06 Std. Gas	0.082	11:09
07 Room Air	0.000	11:10

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