

INTOXILYZER® 8000 CALIBRATION ADJUSTMENT

Intoxilyzer® 8000 Serial Number: 80-004193 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: 55260 & 40655
  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. 164 L/S X 60 Sec/min = 9.84 L/min
    - b. 20 L/min: 0. 320 L/S X 60 Sec/min = 19.2 L/min
    - c.  Flow Rates within  $\pm 1$  L/min of Expected Value
- B. Gas Tank Sensor Check (Level 3,D,G)
1. Display: 445 psi Regulator: 450 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  $\geq 4$  (SEE REMARKS)
  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	MP3066
2	0.040 (0.040)	201808D	8.22.20	MP3067
3	0.080 (0.082)	201707E	7.25.19	MP3068
4	0.150 (0.151)	201811E	11.26.20	MP3069
5	0.300 (0.301)	201803H	3.22.20	MP3070

3. 0.100 AC Calibration Gas for H<sub>2</sub>O Adjustment
  - a. Lot No. 13518100A3 Cyl No. 6 Exp. Date: 8.5.20
4. Atmospheric Pressure
  - a. 936 mbar Displayed by Intoxilyzer® 8000
  - b. 955 mbar Adjusted to using barometer
  - c. 954 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>4497</u>	+	<u>264</u>	= <u>4761</u>
9 $\mu\text{m}$	<u>4536</u>	+	<u>225</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: 0.015 AC  
Sim. SN: DR5113 Lot No.: 201805C Exp. Date: 5.30.20
    - ii. High AC Known Value  $\geq 0.25$  AC: 0.250 AC  
Sim. SN: DR7351 Lot No.: 201803G Exp. Date: 3.22.20
  - b. Dry Calibration Check: Known Value 0.08 AC  
Lot No. 34418080A2 Cyl No. 40 Exp. Date: 2.5.21  
Test 1 0.079 AC Test 4 0.080 AC Test 7 0.079 AC  
Test 2 0.079 AC Test 5 0.079 AC Test 8 0.079 AC  
Test 3 0.079 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: ADJUSTED DUE TO STANDARDS RUNNING 3 to 4% LOW (BELOW VALUE). STANDARDS WERE STILL WITHIN  $\pm 5\%$  TOLERANCE OR  $\pm 0.005$  AC TOLERANCE.

AUTO RANGE = 3, BELOW 4, INSTRUMENT WILL BECOME CLASSROOM ONLY UNTIL ANALYTICAL BENCH CAN BE UPDATED WITH SOURCE OR DETECTOR.

Instrument is acceptable to be used in the field.

Charles E. Ed  
Breath Analyst Signature

6.18.2019  
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 80-004193  
Location = TOXL                    8164.14.00 09/16  
06/18/2019                            15:14

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

1: Rate (Liters/min) = 5

    SQRT(Diff)) = 7.934

2: Rate (Liters/min) = 15

    SQRT(Diff)) = 13.562

3: Rate (Liters/min) = 30

    SQRT(Diff)) = 23.516

Dependent Data Scale Factor = 100000 L/min

Independent Data Scale Factor = 256

Rounded Slope = 622

Rounded Intercept = -723749

Correlation = 0.99904



FLOW SENSOR CALIBRATION

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TOXL  
Intoxilyzer - Alcohol Analyzer  
Model: 8000                    SN 80-004193  
06/18/2019                    15:24:40

Auto Calibration  
Max Power Res Value = 17  
Auto Range Res Value = 3

TOXL  
 Intoxilyzer - Alcohol Analyzer  
 Model 8000 SN 80-004193  
 06/18/2019 15:24:40

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)
Sample #1     0.0530      (0.0200)          0.1030      (0.0110)
Sample #2     0.0360      (0.0590)          0.0840      (0.0250)
Sample #3     0.0820      (0.0690)          0.1240      (0.0060)
Sample #4     0.0330      (0.1020)          0.1050      (0.0200)
Avg % Abs     0.0503      (0.0767)          0.1043      (0.0170)
STD DEV       0.0275      (0.0225)          0.0200      (0.0098)
REL STD DEV   54.566      (29.350)          19.177      (57.934)
  
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Solution = 0.040 g/210L or 0.1905 mg/l, Samples = 4, Discarded = 1
  Sample      % Abs      (% Abs Ref)      % Abs      (% Abs Ref)
Sample #1     0.7900      (-0.0240)         1.5440      (-0.0230)
Sample #2     0.7740      (0.0080)          1.5450      (-0.0080)
Sample #3     0.7820      (0.0000)          1.5480      (-0.0350)
Sample #4     0.7510      (0.0150)          1.5130      (-0.0080)
Avg % Abs     0.7690      (0.0077)          1.5353      (-0.0170)
STD DEV       0.0161      (0.0075)          0.0194      (0.0156)
REL STD DEV   2.093      (97.899)          1.264      (91.697)
  
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Solution = 0.082 g/210L or 0.3905 mg/l, Samples = 4, Discarded = 1
  Sample      % Abs      (% Abs Ref)      % Abs      (% Abs Ref)
Sample #1     1.4820      (0.0020)          2.9560      (0.0220)
Sample #2     1.5090      (-0.0010)         2.9750      (0.0160)
Sample #3     1.4680      (0.0160)          2.9280      (0.0350)
Sample #4     1.5060      (0.0100)          2.9460      (0.0240)
Avg % Abs     1.4943      (0.0083)          2.9497      (0.0250)
STD DEV       0.0229      (0.0086)          0.0237      (0.0095)
REL STD DEV   1.529      (103.460)         0.804      (38.158)
  
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-----
Solution = 0.151 g/210L or 0.7190 mg/l, Samples = 4, Discarded = 1
  Sample      % Abs      (% Abs Ref)      % Abs      (% Abs Ref)
Sample #1     2.6530      (-0.0140)         5.2280      (-0.0130)
Sample #2     2.6900      (0.0070)          5.2630      (0.0120)
Sample #3     2.6570      (0.0010)          5.2160      (0.0220)
Sample #4     2.6690      (0.0070)          5.2370      (0.0070)
Avg % Abs     2.6720      (0.0050)          5.2387      (0.0137)
STD DEV       0.0167      (0.0035)          0.0235      (0.0076)
REL STD DEV   0.625      (69.282)          0.449      (55.885)
  
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-----
Solution = 0.301 g/210L or 1.4333 mg/l, Samples = 4, Discarded = 1
  Sample      % Abs      (% Abs Ref)      % Abs      (% Abs Ref)
Sample #1     5.1120      (0.0120)          9.8850      (-0.0020)
Sample #2     5.1780      (0.0020)          9.9910      (-0.0030)
Sample #3     5.1640      (0.0080)          9.9720      (0.0100)
Sample #4     5.1550      (0.0090)          9.9560      (0.0180)
Avg % Abs     5.1657      (0.0063)          9.9730      (0.0083)
STD DEV       0.0116      (0.0038)          0.0175      (0.0106)
REL STD DEV   0.224      (59.778)          0.176      (127.185)
  
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TOXL  
 Intoxilyzer - Alcohol Analyzer  
 Model 8000 SN 80-004193  
 06/18/2019 15:24:40

Auto Calibration

pg 2 of 2

<<<<< 3um >>>>>			<<<<< 9um >>>>>		
-----			-----		
Zero Order Coef	-147.82		Zero Order Coef	-155.25	
First Order Coef	2676.22		First Order Coef	1342.11	
Second Order Coef	24.69		Second Order Coef	11.12	
-----			-----		
Act	Fit	Residual	Act	Fit	Residual
(g/210L)	(g/210L)	(g/210L)	(g/210L)	(g/210L)	(g/210L)
0.000	-0.000	0.0003	0.000	-0.000	0.0003
0.040	0.040	-0.0004	0.040	0.041	-0.0006
0.082	0.082	-0.0000	0.082	0.082	0.0001
0.151	0.151	0.0002	0.151	0.151	0.0002
0.301	0.301	-0.0000	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	4501.00	4497.00	
Sample #2	4490.00	4524.00	
Sample #3	4493.00	4546.00	
Sample #4	4510.00	4539.00	
Avg	4497.6665	4536.3335	
STD DEV	10.7858	11.2398	
REL STD DEV	0.240	0.248	
H2O adjust (mg/l*10k)	264	225	

Atmospheric Pressure = 954

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



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

CMI, Inc. Intoxilyzer      Alcohol Analyzer  
North Dakota Model 8000      SN 80-004193  
Location = TOXL      8164.14.00 09/16  
06/18/2019      16:10

WET CAL CHECK

Test	AC	Time
01 Room Air	0.000	16:10
02 Std. Sol.	0.015	16:11
03 Room Air	0.000	16:12
04 Std. Sol.	0.014	16:12
05 Room Air	0.000	16:13
06 Std. Sol.	0.014	16:14
07 Room Air	0.000	16:14

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 80-004193  
Location = TOXL      8164.14.00 09/16  
06/18/2019      16:21

WET CAL CHECK

Test	AC	Time
01 Room Air	0.000	16:21
02 Std. Sol.	0.246	16:22
03 Room Air	0.000	16:23
04 Std. Sol.	0.246	16:23
05 Room Air	0.000	16:24
06 Std. Sol.	0.247	16:25
07 Room Air	0.000	16:25

08 Sim Temp = 34.0°C

Simul Ser No = DR7351  
Std Sol No = 201803G  
County = 08      Oper No. = 666666



Operator Signature  
CHARLES EDER

Remarks:

*HIGH AC*  
*0.250 AC*

Form 106-I8000

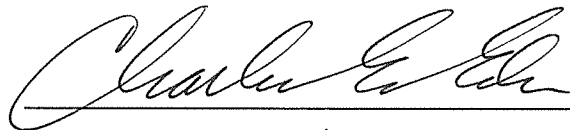
Intoxilyzer Test Record and Checklist  
NDOAG Crime Lab. Div., Bismarck, ND 58501

CMI, Inc. Intoxilyzer      Alcohol Analyzer  
North Dakota Model 8000      SN 80-004193  
Location = TOXL      8164.14.00 09/16  
06/18/2019      16:27

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	16:27
02 Std. Gas	0.079	16:28
03 Room Air	0.000	16:28
04 Std. Gas	0.079	16:29
05 Room Air	0.000	16:29
06 Std. Gas	0.079	16:30
07 Room Air	0.000	16:30

Lot No = 34418080A2  
Cyl No = 40  
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 80-004193  
Location = TOXL      8164.14.00 09/16  
06/18/2019      16:31

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	16:31
02 Std. Gas	0.080	16:32
03 Room Air	0.000	16:32
04 Std. Gas	0.079	16:33
05 Room Air	0.000	16:33
06 Std. Gas	0.079	16:33
07 Room Air	0.000	16:34

Lot No = 34418080A2  
Cyl No = 40  
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 80-004193  
Location = TOXL      8164.14.00 09/16  
06/18/2019      16:35

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	16:36
02 Std. Gas	0.079	16:36
03 Room Air	0.000	16:36
04 Std. Gas	0.079	16:37
05 Room Air	0.000	16:37
06 Std. Gas	0.079	16:38
07 Room Air	0.000	16:38

Lot No = 34418080A2  
Cyl No = 40  
Exp Date = 02/05/2021  
County = 08      Oper No. = 666666



Operator Signature  
CHARLES EDER

Remarks: CALIBRATION CHECK  
0.080 AC

Form 106-I8000