

INTOXILYZER® 8000 CALIBRATION ADJUSTMENT

Intoxilyzer® 8000 Serial Number: 80-004186 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 ≥ 0.99000
 5. Flow Sensor Calibration Verification (Level 3,D,F)
 - a. 10 L/min: 0. 179 L/S X 60 Sec/min = 10.74 L/min
 - b. 20 L/min: 0. 335 L/S X 60 Sec/min = 20.1 L/min
 - c. Flow Rates within ± 1 L/min of Expected Value

- B. Gas Tank Sensor Check (Level 3,D,G)
1. Display: 635 psi Regulator: 625 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 <u>(ACTUAL)</u> | NA - MilliQ H ₂ O | NA - MilliQ H ₂ O | DR7111 |
| 2 | 0.040 <u>(0.040)</u> | 201808D | 8.22.20 | DR7347 |
| 3 | 0.080 <u>(0.081)</u> | 201807C | 7.25.20 | DR5114 |
| 4 | 0.150 <u>(0.151)</u> | 201811E | 11.26.20 | DR5131 |
| 5 | 0.300 <u>(0.298)</u> | 19010 | 1.3.21 | DR7346 |

3. 0.100 AC Calibration Gas for H₂O Adjustment
 - a. Lot No. 13510100A3 Cyl No. 6 Exp. Date: 8.5.20
4. Atmospheric Pressure
 - a. 941 mbar Displayed by Intoxilyzer® 8000
 - b. 962 mbar Adjusted to using barometer
 - c. 961 mbar on Auto Calibration Report printout
5. Screen displayed "Calibration Success"

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

| | | | |
|-----------------|-------------------------|---|--------------------------|
| Average | H ₂ O Adjust | | |
| 3 μm | <u>4331</u> | + | <u>430</u> = <u>4761</u> |
| 9 μm | <u>4234</u> | + | <u>527</u> = <u>4761</u> |

7. Optical Bench Calibration Verification (Level 1, S and C)
- Wet Calibration Check
 - Low AC Known Value ≤ 0.03 AC: 0.020 AC
 Sim. SN: MP3061 Lot No.: 201810D Exp. Date: 10.24.20
 - High AC Known Value ≥ 0.25 AC: 0.250 AC
 Sim. SN: MP3067 Lot No.: 201911B Exp. Date: 11.5.21
 - Dry Calibration Check: Known Value 0.08 AC
 Lot No. 13518080A6 Cyl No. 33 Exp. Date: 8.5.20
 Test 1 0.080 AC Test 4 0.079 AC Test 7 0.079 AC
 Test 2 0.080 AC Test 5 0.080 AC Test 8 0.080 AC
 Test 3 0.079 AC Test 6 0.079 AC Test 9 0.079 AC
 Average 0.079 AC
 - 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: CAL. ADJ. DUE TO ATMOSPHERIC MONITOR READING 941 mbar WHEN ATMOSPHERIC PRESSURE IS 962 mbar. FLOW SENSOR READING 0.000 FOR FLOWS BELOW 10 L/min. ISSUE WITH FLOW SENSOR. INSTRUMENT WILL BE CLASSROOM ONLY UNTIL FIXED.

Instrument is acceptable to be used in the field.

Charles E. Ed
 Breath Analyst Signature

4.17.20
 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 80-004186
Location = TOXL 8164.14.00 09/16
04/16/2020 16:25

Flow Rate Calibration*****

1: Rate (Liters/min) = 5
 SQRT(Diff)) = 0.000
2: Rate (Liters/min) = 15
 SQRT(Diff)) = 8.246
3: Rate (Liters/min) = 30
 SQRT(Diff)) = 19.363

← ISSUE AT LOW FLOWS

Dependent Data Scale Factor = 100000 L/min
Independent Data Scale Factor = 256
Rounded Slope = 506
Rounded Intercept = 475432
Correlation = 0.99956



TOXL
 Intoxilyzer - Alcohol Analyzer
 Model 8000 SN 80-004186
 04/16/2020 16:30:57

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 0.1250      (0.0170)      0.2650      (-0.0050)
  Sample #2 0.1370      (0.0680)      0.2380      (0.0400)
  Sample #3 0.1360      (0.0850)      0.2680      (0.0500)
  Sample #4 0.1010      (0.1040)      0.1980      (0.0720)
  Avg % Abs 0.1247      (0.0857)      0.2347      (0.0540)
  STD DEV   0.0205      (0.0180)      0.0351      (0.0164)
  REL STD DEV 16.445      (21.022)      14.965      (30.316)
  
```

```

  -----
  Solution = 0.040 g/210L or 0.1905 mg/l, Samples = 4, Discarded = 1
  Sample   % Abs      (% Abs Ref)      % Abs      (% Abs Ref)
  Sample #1 0.8650      (0.0060)      1.6660      (-0.0060)
  Sample #2 0.8410      (0.0300)      1.6190      (0.0330)
  Sample #3 0.8180      (0.0290)      1.6190      (0.0250)
  Sample #4 0.8270      (0.0280)      1.6230      (0.0290)
  Avg % Abs 0.8287      (0.0290)      1.6203      (0.0290)
  STD DEV   0.0116      (0.0010)      0.0023      (0.0040)
  REL STD DEV 1.399      (3.448)      0.143      (13.793)
  
```

```

  -----
  Solution = 0.081 g/210L or 0.3857 mg/l, Samples = 4, Discarded = 1
  Sample   % Abs      (% Abs Ref)      % Abs      (% Abs Ref)
  Sample #1 1.5250      (0.0120)      2.9960      (-0.0100)
  Sample #2 1.5230      (0.0220)      2.9520      (0.0180)
  Sample #3 1.5220      (0.0310)      2.9500      (0.0390)
  Sample #4 1.5560      (0.0210)      2.9750      (0.0240)
  Avg % Abs 1.5337      (0.0247)      2.9590      (0.0270)
  STD DEV   0.0193      (0.0055)      0.0139      (0.0108)
  REL STD DEV 1.262      (22.328)      0.469      (40.062)
  
```

```

  -----
  Solution = 0.151 g/210L or 0.7190 mg/l, Samples = 4, Discarded = 1
  Sample   % Abs      (% Abs Ref)      % Abs      (% Abs Ref)
  Sample #1 2.7500      (-0.0240)      5.2740      (-0.0060)
  Sample #2 2.7330      (-0.0020)      5.2110      (0.0330)
  Sample #3 2.7190      (0.0010)      5.2150      (0.0400)
  Sample #4 2.7420      (0.0000)      5.2350      (0.0390)
  Avg % Abs 2.7313      (-0.0003)      5.2203      (0.0373)
  STD DEV   0.0116      (0.0015)      0.0129      (0.0038)
  REL STD DEV 0.424      (458.258)      0.246      (10.141)
  
```

```

  -----
  Solution = 0.298 g/210L or 1.4190 mg/l, Samples = 4, Discarded = 1
  Sample   % Abs      (% Abs Ref)      % Abs      (% Abs Ref)
  Sample #1 5.2690      (0.0020)      9.9530      (-0.0130)
  Sample #2 5.2750      (0.0040)      9.8810      (0.0280)
  Sample #3 5.2280      (0.0350)      9.8910      (0.0460)
  Sample #4 5.2500      (0.0290)      9.8920      (0.0480)
  Avg % Abs 5.2510      (0.0227)      9.8880      (0.0407)
  STD DEV   0.0235      (0.0164)      0.0061      (0.0110)
  REL STD DEV 0.448      (72.537)      0.062      (27.086)
  
```

TOXL
 Intoxilyzer - Alcohol Analyzer
 Model 8000 SN 80-004186
 04/16/2020 16:30:57

Auto Calibration

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

 Zero Order Coef -355.21
 First Order Coef 2743.42
 Second Order Coef 5.17

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

 Zero Order Coef -355.29
 First Order Coef 1406.61
 Second Order Coef 6.56

| Act (g/210L) | Fit (g/210L) | Residual (g/210L) |
|--------------|--------------|-------------------|
| 0.000 | -0.000 | 0.0003 |
| 0.040 | 0.040 | -0.0004 |
| 0.081 | 0.081 | -0.0002 |
| 0.151 | 0.151 | 0.0003 |
| 0.298 | 0.298 | -0.0001 |

| Act (g/210L) | Fit (g/210L) | Residual (g/210L) |
|--------------|--------------|-------------------|
| 0.000 | -0.001 | 0.0005 |
| 0.040 | 0.041 | -0.0008 |
| 0.081 | 0.081 | -0.0002 |
| 0.151 | 0.150 | 0.0005 |
| 0.298 | 0.298 | -0.0001 |

<<<<< 3um >>>>> <<<<< 9um >>>>>

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

| Sample | 3um | 9um |
|-----------------------|-----------|-----------|
| Sample #1 | 4330.00 | 4279.00 |
| Sample #2 | 4289.00 | 4247.00 |
| Sample #3 | 4321.00 | 4217.00 |
| Sample #4 | 4385.00 | 4239.00 |
| Avg | 4331.6665 | 4234.3335 |
| STD DEV | 48.8808 | 15.5349 |
| REL STD DEV | 1.128 | 0.367 |
| H2O adjust (mg/l*10k) | 430 | 527 |

Atmospheric Pressure = 961

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

TOXL
 Intoxilyzer - Alcohol Analyzer
 Model 8000 SN 80-004186
 04/16/2020 16:30:57

Auto Calibration
 Max Power Res Value = 15
 Auto Range Res Value = 5

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

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-004186
Location = TOXL 8164.14.00 09/16
04/17/2020 09:01

WET CAL CHECK

| Test | AC | Time |
|--------------|-------|-------|
| 01 Room Air | 0.000 | 09:01 |
| 02 Std. Sol. | 0.019 | 09:02 |
| 03 Room Air | 0.000 | 09:02 |
| 04 Std. Sol. | 0.018 | 09:03 |
| 05 Room Air | 0.000 | 09:04 |
| 06 Std. Sol. | 0.019 | 09:04 |
| 07 Room Air | 0.000 | 09:05 |

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 80-004186
Location = TOXL 8164.14.00 09/16
04/17/2020 09:06

WET CAL CHECK

| Test | AC | Time |
|--------------|-------|-------|
| 01 Room Air | 0.000 | 09:06 |
| 02 Std. Sol. | 0.251 | 09:07 |
| 03 Room Air | 0.000 | 09:08 |
| 04 Std. Sol. | 0.250 | 09:08 |
| 05 Room Air | 0.000 | 09:09 |
| 06 Std. Sol. | 0.250 | 09:10 |
| 07 Room Air | 0.000 | 09:10 |

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 80-004186
Location = TOXL 8164.14.00 09/16
04/17/2020 09:12

DRY CAL CHECK

| Test | AC | Time |
|-------------|-------|-------|
| 01 Room Air | 0.000 | 09:13 |
| 02 Std. Gas | 0.080 | 09:13 |
| 03 Room Air | 0.000 | 09:14 |
| 04 Std. Gas | 0.080 | 09:14 |
| 05 Room Air | 0.000 | 09:15 |
| 06 Std. Gas | 0.079 | 09:15 |
| 07 Room Air | 0.000 | 09:16 |

Lot No = 13518080A6
Cyl No = 33
Exp Date = 08/05/2020
County = 08 Oper No. = 666666



Operator Signature
CHARLES EDER

Remarks:

CALIBRATION CHECK
0.080A

Form 106-I8000

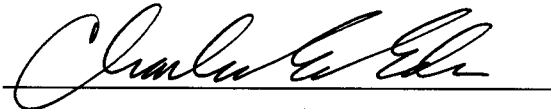
Intoxilyzer Test Record and Checklist
NDOAG Crime Lab. Div., Bismarck, ND 58501

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-004186
Location = TOXL 8164.14.00 09/16
04/17/2020 09:16

DRY CAL CHECK

| Test | AC | Time |
|-------------|-------|-------|
| 01 Room Air | 0.000 | 09:16 |
| 02 Std. Gas | 0.079 | 09:17 |
| 03 Room Air | 0.000 | 09:17 |
| 04 Std. Gas | 0.080 | 09:18 |
| 05 Room Air | 0.000 | 09:18 |
| 06 Std. Gas | 0.079 | 09:18 |
| 07 Room Air | 0.000 | 09:19 |

Lot No = 13518080A6
Cyl No = 33
Exp Date = 08/05/2020
County = 08 Oper No. = 666666



Operator Signature
CHARLES EDER

Remarks: CALIBRATION CHECK
0.080 AC

Form 106-I8000

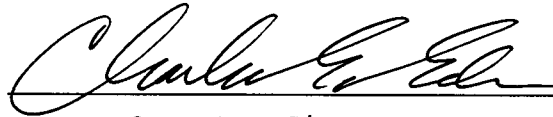
Intoxilyzer Test Record and Checklist
NDOAG Crime Lab. Div., Bismarck, ND 58501

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-004186
Location = TOXL 8164.14.00 09/16
04/17/2020 09:19

DRY CAL CHECK

| Test | AC | Time |
|-------------|-------|-------|
| 01 Room Air | 0.000 | 09:20 |
| 02 Std. Gas | 0.079 | 09:20 |
| 03 Room Air | 0.000 | 09:21 |
| 04 Std. Gas | 0.080 | 09:21 |
| 05 Room Air | 0.000 | 09:21 |
| 06 Std. Gas | 0.079 | 09:22 |
| 07 Room Air | 0.000 | 09:22 |

Lot No = 13518080A6
Cyl No = 33
Exp Date = 08/05/2020
County = 08 Oper No. = 666666



Operator Signature
CHARLES EDER

Remarks: CALIBRATION CHECK
0.080 AC

Form 106-I8000