

INTOXILYZER® 8000 CALIBRATION ADJUSTMENT

Intoxilyzer® 8000 Serial Number: 80-006509 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 ≥ 0.99000
 5. Flow Sensor Calibration Verification (Level 3,D,F)
 - a. 10 L/min: 0. 183 L/S X 60 Sec/min = 10.98 L/min
 - b. 20 L/min: 0. 335 L/S X 60 Sec/min = 20.10 L/min
 - c. Flow Rates within ± 1 L/min of Expected Value
- B. Gas Tank Sensor Check (Level 3,D,G)
1. Display: 453 psi Regulator: 475 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 ₂ O	NA - MilliQ H ₂ O	MP 3066
2	0.040 (0.040)	201808D	8.22.20	MP 3067
3	0.080 (0.080)	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	MP 3070

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. 956 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 ≤ 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>4177</u>	+	<u>584</u>	=	<u>4761</u>
9 μm	<u>4473</u>	+	<u>288</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. 34418080AR Cyl No. 45 Exp. Date: 2.5.21

Test 1	<u>0.078</u> AC	Test 4	<u>0.080</u> AC	Test 7	<u>0.079</u> AC
Test 2	<u>0.080</u> AC	Test 5	<u>0.079</u> AC	Test 8	<u>0.079</u> AC
Test 3	<u>0.078</u> AC	Test 6	<u>0.079</u> AC	Test 9	<u>0.080</u> AC
Average	<u>0.079</u> 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: ADJUSTMENT DUE TO INSTRUMENT
RETURNING 0.084 & 0.085 AC RESULTS FOR 0.080 AC.
STILL WITHIN +/- 0.005 TOLERANCE.

Instrument is acceptable to be used in the field.

Charles E. Ed
Breath Analyst Signature

6.11.19
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 80-006509
Location = TOXL 8164.14.00 09/16
06/11/2019 14:37

Flow Rate Calibration*****

1: Rate (Liters/min) = 5
 SQRT(Diff)) = 0.000
2: Rate (Liters/min) = 15
 SQRT(Diff)) = 10.535
3: Rate (Liters/min) = 30
 SQRT(Diff)) = 21.977
Dependent Data Scale Factor = 100000 L/min
Independent Data Scale Factor = 256
Rounded Slope = 445
Rounded Intercept = 431160
Correlation = 0.99585

FLOW SENSOR CALIBRATION
Charles E. Eda
6.11.19

TOXL
Intoxilyzer - Alcohol Analyzer
Model 8000 SN 80-006509
06/11/2019 15:50:29

Auto Calibration
Max Power Res Value = 85
Auto Range Res Value = 63

TOXL
 Intoxilyzer - Alcohol Analyzer
 Model 8000 SN 80-006509
 06/11/2019 15:50:29

Auto Calibration

<<<<< 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	0.0780	(0.0020)	Sample #1	0.0850	(0.0000)
Sample #2	0.0720	(0.0320)	Sample #2	0.0760	(0.0010)
Sample #3	0.1180	(0.0390)	Sample #3	0.1100	(-0.0100)
Sample #4	0.1030	(0.0490)	Sample #4	0.1010	(-0.0080)
Avg % Abs	0.0977	(0.0400)	Avg % Abs	0.0957	(-0.0057)
STD DEV	0.0235	(0.0085)	STD DEV	0.0176	(0.0059)
REL STD DEV	24.020	(21.360)	REL STD DEV	18.414	(103.402)
Solution = 0.040 g/210L or 0.1905 mg/l, Samples = 4, Discarded = 1					
Sample #1	0.7950	(-0.0180)	Sample #1	1.4120	(-0.0070)
Sample #2	0.7690	(0.0080)	Sample #2	1.4400	(-0.0040)
Sample #3	0.7980	(0.0110)	Sample #3	1.4740	(-0.0180)
Sample #4	0.7750	(0.0100)	Sample #4	1.4680	(-0.0090)
Avg % Abs	0.7807	(0.0097)	Avg % Abs	1.4607	(-0.0103)
STD DEV	0.0153	(0.0015)	STD DEV	0.0181	(0.0071)
REL STD DEV	1.961	(15.802)	REL STD DEV	1.242	(68.657)
Solution = 0.082 g/210L or 0.3905 mg/l, Samples = 4, Discarded = 1					
Sample #1	1.4590	(-0.0040)	Sample #1	2.7810	(-0.0020)
Sample #2	1.4730	(0.0030)	Sample #2	2.8220	(0.0040)
Sample #3	1.4960	(0.0070)	Sample #3	2.8480	(0.0010)
Sample #4	1.5120	(-0.0060)	Sample #4	2.8340	(0.0000)
Avg % Abs	1.4937	(0.0013)	Avg % Abs	2.8347	(0.0017)
STD DEV	0.0196	(0.0067)	STD DEV	0.0130	(0.0021)
REL STD DEV	1.313	(499.375)	REL STD DEV	0.459	(124.900)
Solution = 0.151 g/210L or 0.7190 mg/l, Samples = 4, Discarded = 1					
Sample #1	2.6120	(-0.0030)	Sample #1	5.0040	(0.0150)
Sample #2	2.6090	(0.0290)	Sample #2	5.0200	(0.0350)
Sample #3	2.6570	(0.0030)	Sample #3	5.0610	(0.0280)
Sample #4	2.6380	(0.0220)	Sample #4	5.0560	(0.0210)
Avg % Abs	2.6347	(0.0180)	Avg % Abs	5.0457	(0.0280)
STD DEV	0.0242	(0.0135)	STD DEV	0.0224	(0.0070)
REL STD DEV	0.917	(74.742)	REL STD DEV	0.443	(25.000)
Solution = 0.301 g/210L or 1.4333 mg/l, Samples = 4, Discarded = 1					
Sample #1	5.0200	(0.0130)	Sample #1	9.5010	(0.0050)
Sample #2	5.0400	(0.0410)	Sample #2	9.6060	(0.0240)
Sample #3	5.0840	(0.0290)	Sample #3	9.6310	(0.0280)
Sample #4	5.0580	(0.0550)	Sample #4	9.6170	(0.0350)
Avg % Abs	5.0607	(0.0417)	Avg % Abs	9.6180	(0.0290)
STD DEV	0.0221	(0.0130)	STD DEV	0.0125	(0.0056)
REL STD DEV	0.437	(31.231)	REL STD DEV	0.130	(19.199)

TOXL
 Intoxilyzer - Alcohol Analyzer
 Model 8000 SN 80-006509
 06/11/2019 15:50:29

Auto Calibration

pg 2 of 2

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<<<<<      3um      >>>>>
-----
Zero Order Coef   -272.66
First Order Coef  2768.65
Second Order Coef 23.26
-----
  Act      Fit      Residual
(g/210L)  (g/210L)  (g/210L)
0.000     -0.000     0.0000
0.040     0.040     0.0000
0.082     0.082    -0.0002
0.151     0.151     0.0002
0.301     0.301    -0.0000
-----
  
```

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<<<<<      9um      >>>>>
-----
Zero Order Coef   -141.45
First Order Coef  1393.68
Second Order Coef 11.58
-----
  Act      Fit      Residual
(g/210L)  (g/210L)  (g/210L)
0.000     -0.000     0.0002
0.040     0.040    -0.0003
0.082     0.082     0.0001
0.151     0.151     0.0001
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          4269.00          4437.00
Sample #2          4174.00          4465.00
Sample #3          4185.00          4476.00
Sample #4          4174.00          4478.00
Avg                4177.6665          4473.0000
STD DEV            6.3509           7.0000
REL STD DEV        0.152           0.156
H2O adjust (mg/l*10k) 584           288
  
```

Atmospheric Pressure = 957

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

Charles E. Ed
 6.11.2019

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

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-006509
Location = TOXL 8164.14.00 09/16
06/11/2019 16:29

WET CAL CHECK

Test	AC	Time
01 Room Air	0.000	16:29
02 Std. Sol.	0.014	16:30
03 Room Air	0.000	16:30
04 Std. Sol.	0.015	16:31
05 Room Air	0.000	16:32
06 Std. Sol.	0.014	16:32
07 Room Air	0.000	16:33

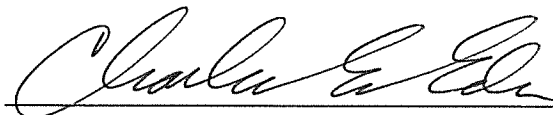
08 Sim Temp = 34.0°C

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 80-006509
Location = TOXL 8164.14.00 09/16
06/11/2019 16:33

WET CAL CHECK

Test	AC	Time
01 Room Air	0.000	16:34
02 Std. Sol.	0.300	16:35
03 Room Air	0.000	16:35
04 Std. Sol.	0.299	16:36
05 Room Air	0.000	16:37
06 Std. Sol.	0.299	16:37
07 Room Air	0.000	16:38

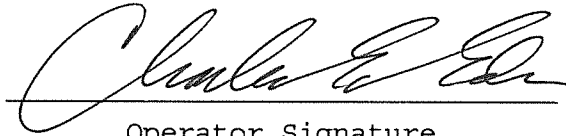
08 Sim Temp = 34.0°C

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 80-006509
Location = TOXL 8164.14.00 09/16
06/11/2019 16:39

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	16:39
02 Std. Gas	0.078	16:40
03 Room Air	0.000	16:40
04 Std. Gas	0.080	16:40
05 Room Air	0.000	16:41
06 Std. Gas	0.078	16:41
07 Room Air	0.000	16:42

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

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

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-006509
Location = TOXL 8164.14.00 09/16
06/11/2019 16:42

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	16:43
02 Std. Gas	0.080	16:43
03 Room Air	0.000	16:44
04 Std. Gas	0.079	16:44
05 Room Air	0.000	16:44
06 Std. Gas	0.079	16:45
07 Room Air	0.000	16:45

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

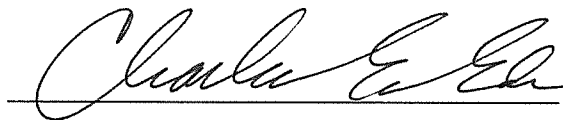
Intoxilyzer Test Record and Checklist
NDOAG Crime Lab. Div., Bismarck, ND 58501

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-006509
Location = TOXL 8164.14.00 09/16
06/11/2019 16:46

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	16:46
02 Std. Gas	0.079	16:46
03 Room Air	0.000	16:47
04 Std. Gas	0.079	16:47
05 Room Air	0.000	16:48
06 Std. Gas	0.080	16:48
07 Room Air	0.000	16:49

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