

INTOXILYZER® 8000 CALIBRATION ADJUSTMENT

Intoxilyzer® 8000 Serial Number: 80-004188

Location: TOXL

- A. Flow Sensor Calibration and Verification Check (Level 3,M,C,F)
1. Replaced o-rings if damaged
 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. 196 L/S X 60 Sec/min = 9.36 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: 592 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	NA – MilliQ H ₂ O	NA – MilliQ H ₂ O	DR 7111
2	0.040	2018080	8.22.20	DR 7347
3	0.080 / 0.081	201807C	7.25.20	DR 5114
4	0.150 / 0.151	201811E	11.26.20	DR 5131
5	0.200 / 0.298	19010	1.3.21	DR 7346

3. 0.100 AC Calibration Gas for H₂O Adjustment
 - a. Lot No. 13518100 A3 Cyl No. 006 Exp. Date: 8/5/20
4. Atmospheric Pressure
 - a. 967 mbar Displayed by Intoxilyzer® 8000
 - b. 964 947 mbar Adjusted to using barometer
 - c. 963 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 μ m and 9 μ m channels
- d. Dry Gas H2O Adjustment Sum for 3 μ m and 9 μ m channels within \pm 10

	Average		H ₂ O Adjust	=	
3 μ m	<u>4336</u>	+	<u>425</u>	=	<u>4761</u>
9 μ m	<u>4299</u>	+	<u>462</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: 0.010 AC
 Sim. SN: MP5320 Lot No.: 201805B Exp. Date: 09.30.20
- ii. High AC Known Value \geq 0.25 AC: 0.300 AC
 Sim. SN: MP5317 Lot No.: 201902D Exp. Date: 2.20.21

b. Dry Calibration Check: Known Value 0.08 AC

Lot No. 05620080A1 Cyl No. 048 Exp. Date: 4.9.22

Test 1 0.080 AC Test 4 0.080 AC Test 7 0.079 AC
 Test 2 0.079 AC Test 5 0.080 AC Test 8 0.080 AC
 Test 3 0.079 AC Test 6 0.079 AC Test 9 0.078 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 ADJUSTMENT USED AS TRAINING FOR KALI HIEB. CEE 5/6/2020

Instrument is acceptable to be used in the field.

Kali L. Hieb / Charles E. Eh
 Breath Analyst Signature

06 May 20 / 05/06/2020
 Date

Charles E. Eh
 Reviewed by

05/06/2020
 Date

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

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-004188
Location = TOXL 8164.14.00 09/16
04/30/2020 16:04

Flow Rate Calibration*****

- 1: Rate (Liters/min) = 5
 SQRT(Diff) = 7.414
- 2: Rate (Liters/min) = 15
 SQRT(Diff) = 12.164
- 3: Rate (Liters/min) = 30
 SQRT(Diff) = 22.270

Dependent Data Scale Factor = 100000 L/min

Independent Data Scale Factor = 256

Rounded Slope = 645

Rounded Intercept = -637424

Correlation = 0.99593

Kelli L. Hieb

Charles E. Ed

TOXL
 Intoxilyzer - Alcohol Analyzer
 Model 8000 SN 80-004188
 05/06/2020 11:08:41

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Auto Calibration

	<<<<<	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	0.0970	(0.0030)		0.1970	(0.0090)	
Sample #2	0.0910	(0.0570)		0.2250	(0.0110)	
Sample #3	0.1120	(0.0870)		0.2460	(0.0130)	
Sample #4	0.0880	(0.1110)		0.2110	(0.0490)	
Avg % Abs	0.0970	(0.0850)		0.2273	(0.0243)	
STD DEV	0.0131	(0.0271)		0.0176	(0.0214)	
REL STD DEV	13.481	(31.830)		7.749	(87.885)	

Solution = 0.040 g/210L or 0.1905 mg/l, Samples = 4, Discarded = 1						
Sample	% Abs	(% Abs Ref)		% Abs	(% Abs Ref)	
Sample #1	0.7380	(0.0200)		1.5540	(-0.0040)	
Sample #2	0.7680	(0.0300)		1.5490	(0.0120)	
Sample #3	0.7350	(0.0470)		1.5690	(0.0070)	
Sample #4	0.7620	(0.0360)		1.5690	(0.0120)	
Avg % Abs	0.7550	(0.0377)		1.5623	(0.0103)	
STD DEV	0.0176	(0.0086)		0.0115	(0.0029)	
REL STD DEV	2.328	(22.889)		0.739	(27.936)	

Solution = 0.081 g/210L or 0.3857 mg/l, Samples = 4, Discarded = 1						
Sample	% Abs	(% Abs Ref)		% Abs	(% Abs Ref)	
Sample #1	1.4230	(-0.0170)		2.8720	(0.0020)	
Sample #2	1.4290	(0.0010)		2.8670	(0.0200)	
Sample #3	1.4180	(0.0040)		2.8570	(0.0280)	
Sample #4	1.4300	(0.0160)		2.9110	(0.0140)	
Avg % Abs	1.4257	(0.0070)		2.8783	(0.0207)	
STD DEV	0.0067	(0.0079)		0.0287	(0.0070)	
REL STD DEV	0.467	(113.389)		0.998	(33.986)	

Solution = 0.151 g/210L or 0.7190 mg/l, Samples = 4, Discarded = 1						
Sample	% Abs	(% Abs Ref)		% Abs	(% Abs Ref)	
Sample #1	2.5250	(0.0040)		5.0730	(-0.0060)	
Sample #2	2.5120	(0.0300)		5.1220	(-0.0120)	
Sample #3	2.5510	(0.0130)		5.1370	(-0.0030)	
Sample #4	2.5570	(0.0230)		5.1360	(-0.0020)	
Avg % Abs	2.5400	(0.0220)		5.1317	(-0.0057)	
STD DEV	0.0244	(0.0085)		0.0084	(0.0055)	
REL STD DEV	0.962	(38.836)		0.163	(97.192)	

Solution = 0.298 g/210L or 1.4190 mg/l, Samples = 4, Discarded = 1						
Sample	% Abs	(% Abs Ref)		% Abs	(% Abs Ref)	
Sample #1	4.9190	(-0.0180)		9.6570	(-0.0120)	
Sample #2	4.9250	(-0.0050)		9.7040	(0.0010)	
Sample #3	4.9250	(0.0140)		9.7400	(0.0000)	
Sample #4	4.9320	(0.0010)		9.7250	(0.0150)	
Avg % Abs	4.9273	(0.0033)		9.7230	(0.0053)	
STD DEV	0.0040	(0.0097)		0.0181	(0.0084)	
REL STD DEV	0.082	(291.376)		0.186	(157.247)	

TOXL
 Intoxilyzer - Alcohol Analyzer
 Model 8000 SN 80-004188
 05/06/2020 11:08:41

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Auto Calibration

<<<<< 3um >>>>>			<<<<< 9um >>>>>		
Zero Order Coef	-300.92			-334.49	
First Order Coef	2934.53			1435.38	
Second Order Coef	1.51			6.02	
Act (g/210L)	Fit (g/210L)	Residual (g/210L)	Act (g/210L)	Fit (g/210L)	Residual (g/210L)
0.000	-0.000	0.0003	0.000	-0.000	0.0002
0.040	0.040	-0.0002	0.040	0.040	-0.0004
0.081	0.082	-0.0006	0.081	0.081	0.0002
0.151	0.150	0.0006	0.151	0.151	0.0000
0.298	0.298	-0.0001	0.298	0.298	-0.0000

<<<<< 3um >>>>>		<<<<< 9um >>>>>	
Solution = 0.100 g/210L or 0.4762 mg/l, Samples = 4, Discarded = 1			
Sample #1	4288.00	4294.00	
Sample #2	4383.00	4315.00	
Sample #3	4297.00	4288.00	
Sample #4	4330.00	4294.00	
Avg	4336.6665	4299.0000	
STD DEV	43.3859	14.1774	
REL STD DEV	1.000	0.330	
H2O adjust (mg/l*10k)	425	462	

Atmospheric Pressure = 963

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

Kelli L. Hib
Charles E. Ehr

TOXL
 Intoxilyzer - Alcohol Analyzer
 Model 8000 SN 80-004188
 05/06/2020 11:08:41

Auto Calibration
 Max Power Res Value = 35
 Auto Range Res Value = 19

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

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-004188
Location = TOXL 8164.14.00 09/16
05/06/2020 13:27

WET CAL CHECK

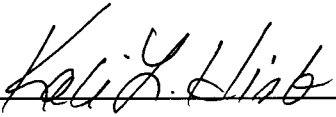
Test	AC	Time
01 Room Air	0.000	13:28
02 Std. Sol.	0.009	13:30
03 Room Air	0.000	13:30
04 Std. Sol.	0.009	13:31
05 Room Air	0.000	13:31
06 Std. Sol.	0.010	13:32
07 Room Air	0.000	13:33

08 Sim Temp = 34.0°C

Simul Ser No = MP5320
Std Sol No = 201805B
County = 08

Oper No. = 123456

wet cal check



Operator Signature
N/A STUDENT

Remarks:

low AC 0.010 AC

Form 106-I8000

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

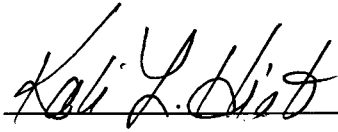
CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-004188
Location = TOXL 8164.14.00 09/16
05/06/2020 13:37

WET CAL CHECK

Test	AC	Time
01 Room Air	0.000	13:37
02 Std. Sol.	0.304	13:38
03 Room Air	0.000	13:39
04 Std. Sol.	0.305	13:40
05 Room Air	0.000	13:40
06 Std. Sol.	0.304	13:41
07 Room Air	0.000	13:41

08 Sim Temp = 34.0°C

Simul Ser No = MP5317
Std Sol No = 201902D
County = 08 Oper No. = 123456



Operator Signature
N/A STUDENT

Remarks: *wet cal check*
 High AC 0.300 AC

Form 106-I8000

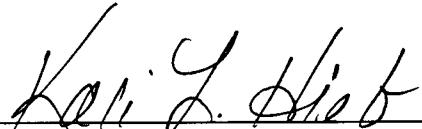
Intoxilyzer Test Record and Checklist
NDOAG Crime Lab. Div., Bismarck, ND 58501

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-004188
Location = TOXL 8164.14.00 09/16
05/06/2020 13:47

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	13:48
02 Std. Gas	0.080	13:48
03 Room Air	0.000	13:49
04 Std. Gas	0.079	13:49
05 Room Air	0.000	13:50
06 Std. Gas	0.079	13:50
07 Room Air	0.000	13:51

Lot No = 05620080A1
Cyl No = 048
Exp Date = 04/05/2022
County = 08 Oper No. = 123456



Operator Signature
N/A STUDENT

Remarks: *Calibration check*
0.080 AC
Form 106-I8000

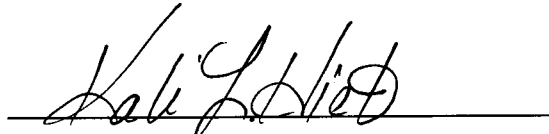
Intoxilyzer Test Record and Checklist
NDOAG Crime Lab. Div., Bismarck, ND 58501

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-004188
Location = TOXL 8164.14.00 09/16
05/06/2020 13:53

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	13:54
02 Std. Gas	0.080	13:54
03 Room Air	0.000	13:55
04 Std. Gas	0.080	13:55
05 Room Air	0.000	13:56
06 Std. Gas	0.079	13:56
07 Room Air	0.000	13:57

Lot No = 05620080A1
Cyl No = 048
Exp Date = 04/05/2022
County = 08 Oper No. = 123456



Operator Signature
N/A STUDENT

Remarks: *Calibration check*
0.080 AC

Form 106-I8000

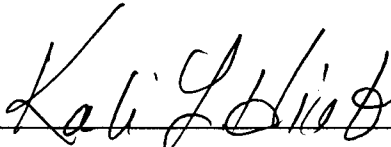
Intoxilyzer Test Record and Checklist
NDOAG Crime Lab. Div., Bismarck, ND 58501

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-004188
Location = TOXL 8164.14.00 09/16
05/06/2020 13:58

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	13:58
02 Std. Gas	0.079	13:59
03 Room Air	0.000	13:59
04 Std. Gas	0.080	14:00
05 Room Air	0.000	14:00
06 Std. Gas	0.078	14:00
07 Room Air	0.000	14:01

Lot No = 05620080A1
Cyl No = 048
Exp Date = 04/05/2022
County = 08 Oper No. = 123456



Operator Signature
N/A STUDENT

Remarks: *Calibration check*
0.080 AC

Form 106-I8000