

INTOXILYZER® 8000 CALIBRATION ADJUSTMENT

Intoxilyzer® 8000 Serial Number: 80-006681 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: 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. 167 L/S X 60 Sec/min = 10.02 L/min
 - b. 20 L/min: 0. 320 L/S X 60 Sec/min = 19.2 L/min
 - c. Flow Rates within ± 1 L/min of Expected Value

- B. Gas Tank Sensor Check (Level 3,D,G)
1. Display: 353 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	NA - MilliQ H ₂ O	NA - MilliQ H ₂ O	MP3002
2	0.040	201706B	6 Jun 19	MP3057
3	0.080	201707E	25 Jul 19	MP3058
4	0.150	201705D	24 May 19	MP3059
5	0.300	201803H	22 Mar 20	MP3061

3. 0.100 AC Calibration Gas for H₂O Adjustment
 - a. Lot No. 13518100A3 Cyl No. 6 Exp. Date: 5 Aug 20
4. Atmospheric Pressure
 - a. 951 mbar Displayed by Intoxilyzer® 8000
 - b. 953 mbar Adjusted to using barometer
 - c. 953 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	$\frac{4509.3335 + 252}{2} = 4761.3335$	
9 μm	$\frac{4325.6665 + 430}{2} = 4761.6665$	

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: DR5188 Lot No.: 18020 Exp. Date: 9 Jan 20
 - High AC Known Value ≥ 0.25 AC: 0.250 AC
 Sim. SN: DR3374 Lot No.: 2018036 Exp. Date: 22 Mar 20
 - Dry Calibration Check: Known Value 0.08 AC
 Lot No. 34917080A3 Cyl No. 28 Exp. Date: 5 Feb 20
 Test 1 0.079 AC Test 4 0.079 AC Test 7 0.079 AC
 Residual _____ AC
 Test 2 0.079 AC Test 5 0.079 AC Test 8 0.079 AC
 Residual _____ AC
 Test 3 0.079 AC Test 6 0.079 AC Test 9 0.080 AC
 Average 0.079 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: Calibration adjustment of flow sensor and optical bench completed after opening instrument for repair/maintenance.

Instrument is acceptable to be used in the field.

Robata Mugu-mino
 Breath Analyst Signature

31 Jan 19
 Date

Charles E. Ede
 Reviewed by

31 JAN. 2019
 Date

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

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-006681
Location = TOXL 8164.14.00 09/16
01/31/2019 13:28

Flow Rate Calibration*****

1: Rate (Liters/min) = 5
 SQRT(Diff)) = 6.633
2: Rate (Liters/min) = 15
 SQRT(Diff)) = 12.328
3: Rate (Liters/min) = 30
 SQRT(Diff)) = 22.492

Dependent Data Scale Factor = 100000 L/min

Independent Data Scale Factor = 256

Rounded Slope = 611

Rounded Intercept = -495195

Correlation = 0.99893

TOXL
Intoxilyzer - Alcohol Analyzer
Model 8000 SN 80-006681
01/31/2019 13:33:45

Auto Calibration
Max Power Res Value = 51
Auto Range Res Value = 29

TOXL
 Intoxilyzer - Alcohol Analyzer
 Model 8000 SN 80-006681
 01/31/2019 13:33:45

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	0.0880	(0.0150)	0.2680	(0.0020)
Sample #2	0.0710	(0.1040)	0.2320	(0.0380)
Sample #3	0.0970	(0.1340)	0.2540	(0.0390)
Sample #4	0.0830	(0.1640)	0.2570	(0.0600)
Avg % Abs	0.0837	(0.1340)	0.2477	(0.0457)
STD DEV	0.0130	(0.0300)	0.0137	(0.0124)
REL STD DEV	15.553	(22.388)	5.512	(27.204)

Solution = 0.040 g/210L or 0.1905 mg/l, Samples = 4, Discarded = 1				
Sample	% Abs	(% Abs Ref)	% Abs	(% Abs Ref)
Sample #1	0.8090	(-0.0180)	1.6330	(-0.0160)
Sample #2	0.7920	(0.0310)	1.6260	(0.0060)
Sample #3	0.8010	(0.0300)	1.6520	(-0.0070)
Sample #4	0.7890	(0.0500)	1.6400	(0.0020)
Avg % Abs	0.7940	(0.0370)	1.6393	(0.0003)
STD DEV	0.0062	(0.0113)	0.0130	(0.0067)
REL STD DEV	0.787	(30.458)	0.794	(1997.498)

Solution = 0.080 g/210L or 0.3810 mg/l, Samples = 4, Discarded = 1				
Sample	% Abs	(% Abs Ref)	% Abs	(% Abs Ref)
Sample #1	1.5160	(-0.0210)	2.9820	(-0.0030)
Sample #2	1.4620	(-0.0150)	2.9970	(-0.0180)
Sample #3	1.4940	(-0.0550)	3.0160	(-0.0430)
Sample #4	1.4940	(-0.0630)	3.0140	(-0.0410)
Avg % Abs	1.4833	(-0.0443)	3.0090	(-0.0340)
STD DEV	0.0185	(0.0257)	0.0104	(0.0139)
REL STD DEV	1.246	(58.007)	0.347	(40.860)

Solution = 0.150 g/210L or 0.7143 mg/l, Samples = 4, Discarded = 1				
Sample	% Abs	(% Abs Ref)	% Abs	(% Abs Ref)
Sample #1	2.6730	(0.0040)	5.2610	(0.0040)
Sample #2	2.6970	(-0.0140)	5.2880	(0.0080)
Sample #3	2.7120	(-0.0210)	5.3130	(-0.0010)
Sample #4	2.7380	(-0.0340)	5.3360	(-0.0170)
Avg % Abs	2.7157	(-0.0230)	5.3123	(-0.0033)
STD DEV	0.0207	(0.0101)	0.0240	(0.0127)
REL STD DEV	0.764	(44.126)	0.452	(379.868)

Solution = 0.300 g/210L or 1.4286 mg/l, Samples = 4, Discarded = 1				
Sample	% Abs	(% Abs Ref)	% Abs	(% Abs Ref)
Sample #1	5.2360	(-0.0150)	9.8850	(-0.0180)
Sample #2	5.2500	(0.0050)	9.9300	(-0.0010)
Sample #3	5.2560	(0.0260)	9.9600	(0.0000)
Sample #4	5.2410	(0.0520)	9.9560	(0.0120)
Avg % Abs	5.2490	(0.0277)	9.9487	(0.0037)
STD DEV	0.0075	(0.0235)	0.0163	(0.0072)
REL STD DEV	0.144	(85.100)	0.164	(197.296)

TOXL
 Intoxilyzer - Alcohol Analyzer
 Model 8000 SN 80-006681
 01/31/2019 13:33:45

Auto Calibration

pg 2 of 2

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Zero Order Coef	-218.43			-327.68	
First Order Coef	2669.65			1335.30	
Second Order Coef	17.71			13.42	
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Act	Fit	Residual	Act	Fit	Residual
(g/210L)	(g/210L)	(g/210L)	(g/210L)	(g/210L)	(g/210L)
0.000	0.000	-0.0001	0.000	0.000	-0.0001
0.040	0.040	-0.0002	0.040	0.040	0.0002
0.080	0.079	0.0006	0.080	0.080	-0.0000
0.150	0.150	-0.0004	0.150	0.150	-0.0000
0.300	0.300	0.0001	0.300	0.300	0.0000
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<<<<< 3um >>>>>		<<<<< 9um >>>>>	
-----		-----	
Solution = 0.100 g/210L or 0.4762 mg/l, Samples = 4, Discarded = 1			
Sample			
Sample #1	4479.00		4333.00
Sample #2	4496.00		4330.00
Sample #3	4531.00		4322.00
Sample #4	4501.00		4325.00
Avg	4509.3335		4325.6665
STD DEV	18.9297		4.0415
REL STD DEV	0.420		0.093
H2O adjust (mg/l*10k)	252		436

Atmospheric Pressure = 953

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

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

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-006681
Location = TOXL 8164.14.00 09/16
01/31/2019 14:23

WET CAL CHECK

Test	AC	Time
01 Room Air	0.000	14:24
02 Std. Sol.	0.022	14:25
03 Room Air	0.000	14:25
04 Std. Sol.	0.021	14:26
05 Room Air	0.000	14:26
06 Std. Sol.	0.021	14:27
07 Room Air	0.000	14:27

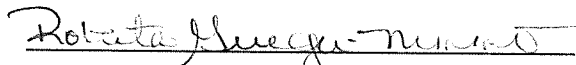
08 Sim Temp = 34.0°C

Simul Ser No = DR5188

Std Sol No = 18020

County = 08

Oper No. = 888888



Operator Signature
ROBERTA GRIEGER-NIMMO

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 80-006681
Location = TOXL 8164.14.00 09/16
01/31/2019 14:29

WET CAL CHECK

Test	AC	Time
01 Room Air	0.000	14:30
02 Std. Sol.	0.252	14:31
03 Room Air	0.000	14:31
04 Std. Sol.	0.252	14:32
05 Room Air	0.000	14:33
06 Std. Sol.	0.252	14:33
07 Room Air	0.000	14:34

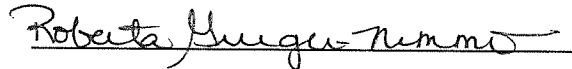
08 Sim Temp = 34.0°C

Simul Ser No = DR3374

Std Sol No = 201803G

County = 08

Oper No. = 888888



Operator Signature
ROBERTA GRIEGER-NIMMO

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 80-006681
Location = TOXL 8164.14.00 09/16
01/31/2019 14:39

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	14:39
02 Std. Gas	0.079	14:40
03 Room Air	0.000	14:40
04 Std. Gas	0.079	14:41
05 Room Air	0.000	14:41
06 Std. Gas	0.079	14:42
07 Room Air	0.000	14:42

Lot No = 34917080A3
Cyl No = 28
Exp Date = 02/05/2020
County = 08 Oper No. = 888888

Roberta Grieger-Nimmo

Operator Signature
ROBERTA GRIEGER-NIMMO

Remarks: Dry Calibration Check
0.080 AC

Form 106-I8000

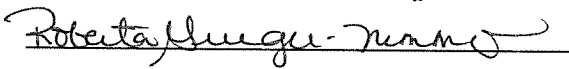
Intoxilyzer Test Record and Checklist
NDOAG Crime Lab. Div., Bismarck, ND 58501

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-006681
Location = TOXL 8164.14.00 09/16
01/31/2019 14:42

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	14:43
02 Std. Gas	0.079	14:43
03 Room Air	0.000	14:44
04 Std. Gas	0.079	14:44
05 Room Air	0.000	14:45
06 Std. Gas	0.079	14:45
07 Room Air	0.000	14:45

Lot No = 34917080A3
Cyl No = 28
Exp Date = 02/05/2020
County = 08 Oper No. = 888888


Operator Signature
ROBERTA GRIEGER-NIMMO

Remarks: Dry Calibration Check
0.080 AC

Form 106-I8000

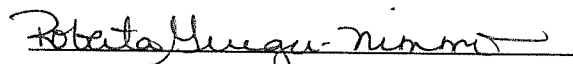
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NDOAG Crime Lab. Div., Bismarck, ND 58501

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-006681
Location = TOXL 8164.14.00 09/16
01/31/2019 14:46

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	14:46
02 Std. Gas	0.079	14:47
03 Room Air	0.000	14:47
04 Std. Gas	0.079	14:47
05 Room Air	0.000	14:48
06 Std. Gas	0.080	14:48
07 Room Air	0.000	14:49

Lot No = 34917080A3
Cyl No = 28
Exp Date = 02/05/2020
County = 08 Oper No. = 888888


Operator Signature
ROBERTA GRIEGER-NIMMO

Remarks: Dry Calibration Check
0.080 AC

Form 106-I8000