

Arizona Department of Public Safety

Intoxilyzer 8000

QAS Recertification

This course is intended to provide review information for Quality Assurance Specialists in the state of Arizona who have previously been issued a permit to perform Quality Assurance Procedures on the Intoxilyzer 8000. If you successfully complete this recertification course, your QAS permit will be renewed for an additional 5 years.

Complete the following steps:

- 1) Read the Quality Assurance Specialist Recertification Course handout.
- 2) Perform a full unofficial SQAP, including both a G2 and G4.
Note: When prompted by the Intoxilyzer if "PM performed?" respond with "N". This will not reset the timer and this SQAP will not count as an official quality assurance procedure.
- 3) Take the written exam. You may answer the questions directly on this exam. You may reference the course handout material if necessary.
- 4) Fill out Exhibit C.
- 5) Fill out the blank envelope with the address you would like your new permit card sent.
- 6) Return the following items to the DPS Forensic Alcohol Unit at the address below:
 - a. All printouts of your SQAP including the G2 and G4 forms
 - b. Your completed exam
 - c. Filled out Exhibit C
 - d. Self addressed envelope

If there any questions, feel free to call 602-223-2394 and ask to speak to someone in Forensic Alcohol.

Thank you,

DPS Forensic Alcohol Unit
2102 West Encanto Blvd.
Mail Drop 1150
Phoenix, AZ. 85009

INTOXILYZER 8000

Quality Assurance Specialist Recertification Course

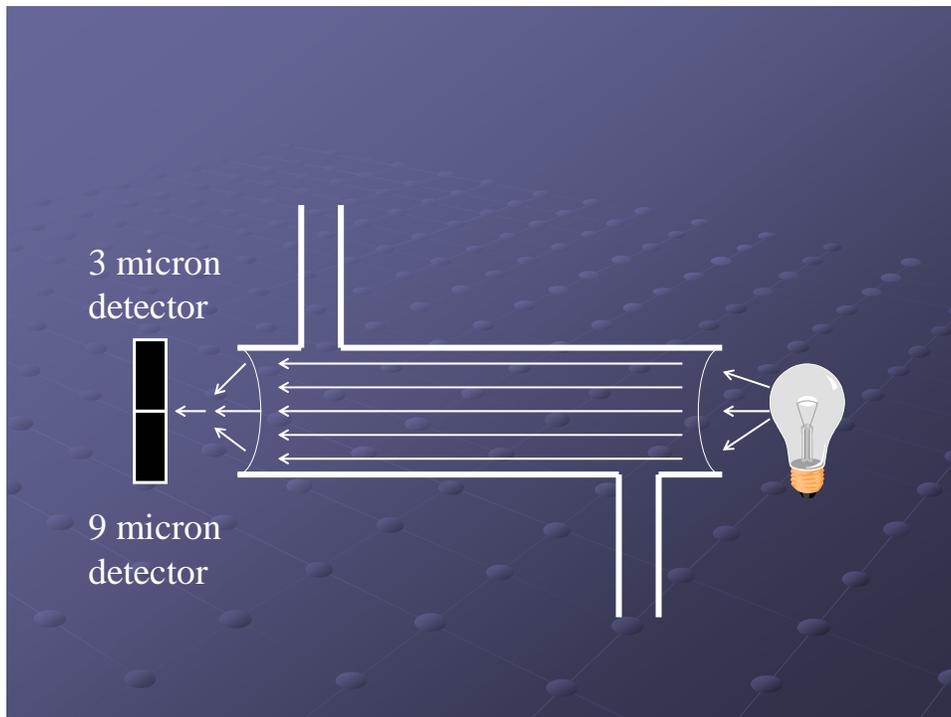
FOR TRAINING USE ONLY

The information provided herein is for training purposes only. Agency policies, state law, and federal law shall take precedence if a conflict occurs with the information presented in this course.

Infrared Analysis

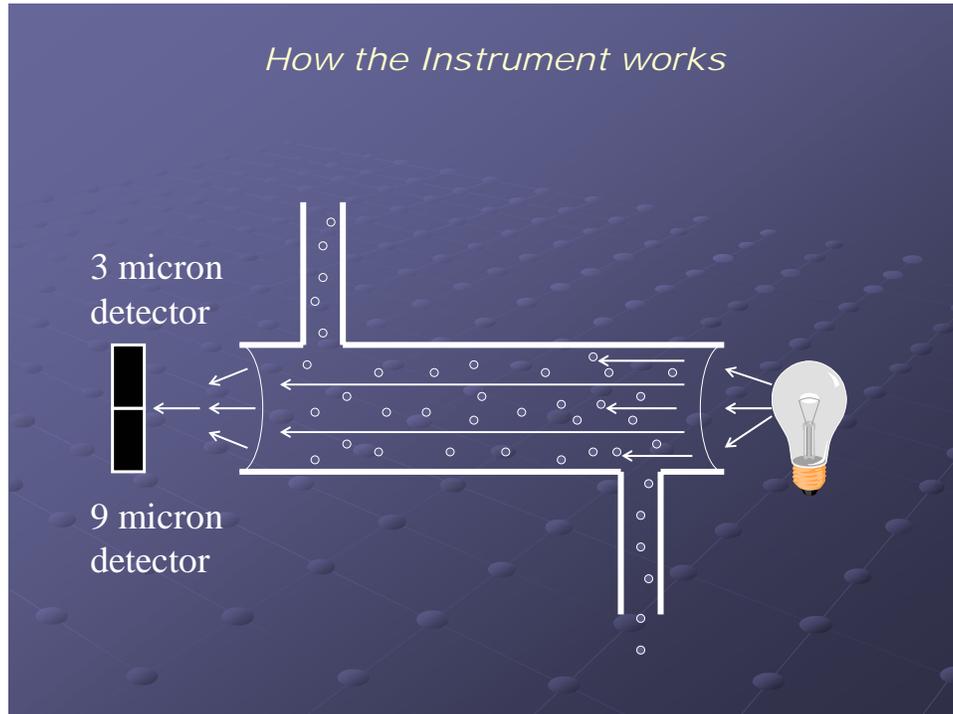
- The basis of infrared breath analysis is the absorption of infrared energy by alcohol molecules in the breath specimen

Sample chamber with air only



With air only, all of the infrared energy from the light source reaches the 2 detectors on the far end of the chamber. This energy generates an electrical signal at the detectors and this signal is the baseline for the instrument.

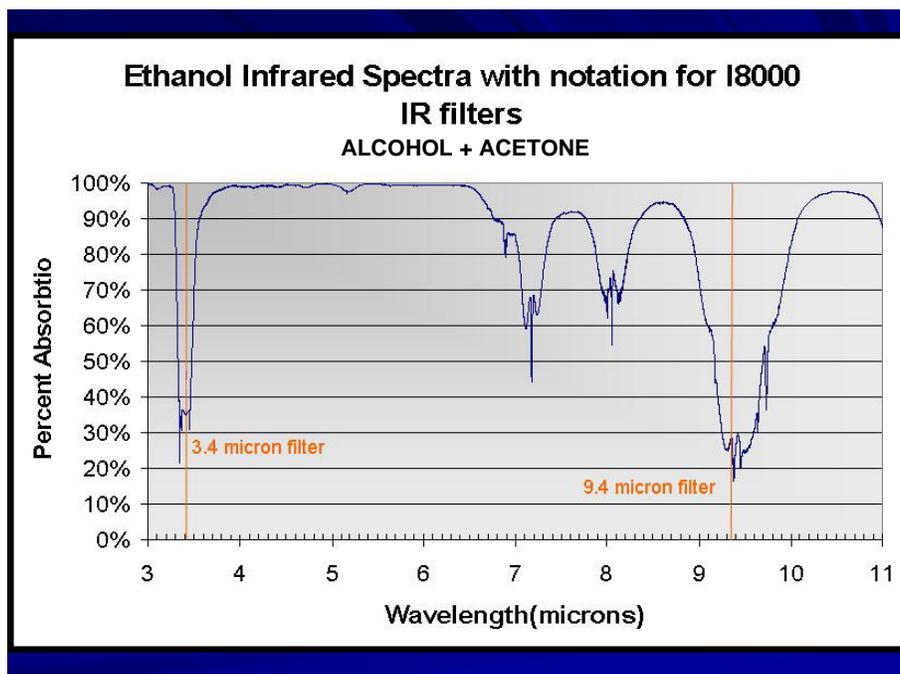
Sample chamber with alcohol and air



When alcohol is introduced into the chamber, some of the infrared energy from the light source is absorbed by the alcohol molecules. As a result, the amount of infrared energy reaching the 2 detectors is reduced and the electrical signal is likewise reduced. This smaller value is subtracted from the baseline value to determine the breath alcohol concentration.

Vitals for the Intoxilyzer 8000

- Measures infrared light at 3 and 9 micron wavelengths
- Interferent detection is accomplished by using the separation of these two readings



- Uses dry gas to perform calibration checks
- Has no moving parts under normal conditions (cooling fan comes on under high temperatures)
- Powered by either 110VAC, 220VAC or 12VDC (range from 10-16VDC for mobile use)
- Range of 0.000 to 0.600 grams per 210 liters

Dry Gas Calibration Standard

- Dry gas values remain very constant
- Can be used over a wide range of temperatures
- Pressure dependant – Intoxilyzer 8000 has internal barometric pressure sensor to adjust for elevation differences

Instrument Start Up

- Plug in instrument and turn on. LED should glow red.
- Hit Start Test button, LED should glow green.
- Instrument now in “Not Ready Mode.”
- From Not Ready to Ready Mode : Up to Temperature + 5 minutes.

Standby Mode

- If instrument is not used for 30 minutes, it will go into Standby Mode.
- It takes 1 minute for instrument to come out of Standby Mode.

AZ Testing Sequence

- ADA_RCA_RBAWA_RBA(WA_RBA) R_RCAD
- A=Air Blank – about 20 seconds
- D=Diagnostics
- R=Reference check (before Cal check and Breath test)
- C=Control Test (Calibration Check)
- W=Wait period
- B= Breath Test
- (WA_RBA): if third test is required.

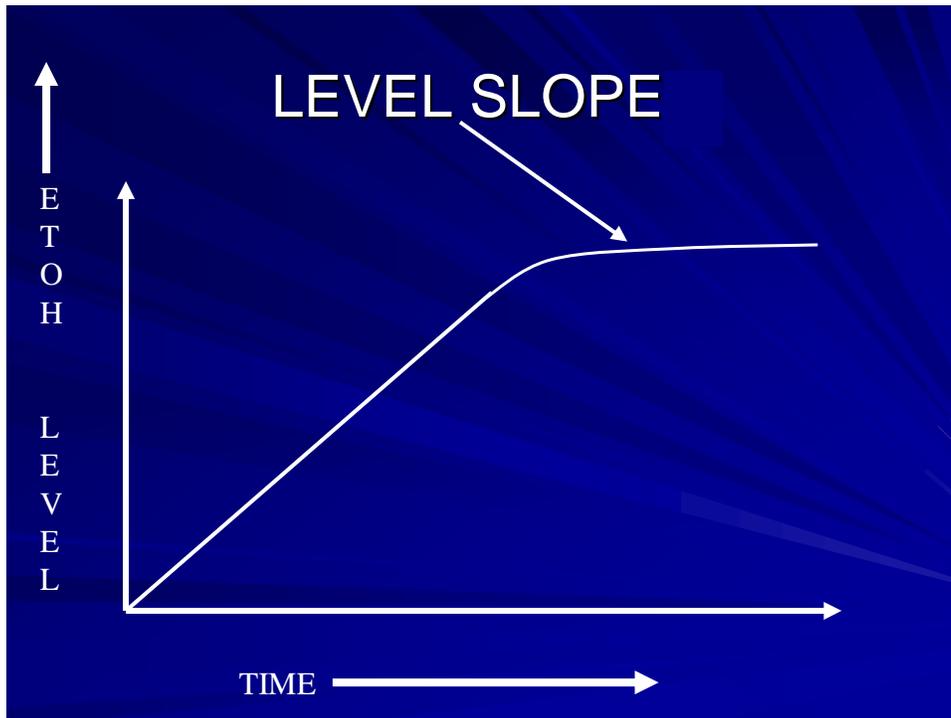
Additional Messages (Diagnostics During Warmup)

- Not Ready Mode
- Ready in
- Air Blank
- Volt/Current Test
- RAM Test
- EEPROM Test
- RTC Test
- DSP Test
- Analytical Test
- Int Print Test
- Modem Test
- Temp Reg Test

If any of these diagnostics fail, attempt a second test. If exception repeats – leave instrument ON and place OUT OF SERVICE sign on it.

Criteria for a Valid Breath Sample

- Blow steady enough – minimum sustained flow rate of 0.15 L/sec
- Blow long enough – minimum of 1 second
- Blow enough quantity – minimum volume of 1.1 L
- Blow until a level slope is reached (alcohol concentration levels off)

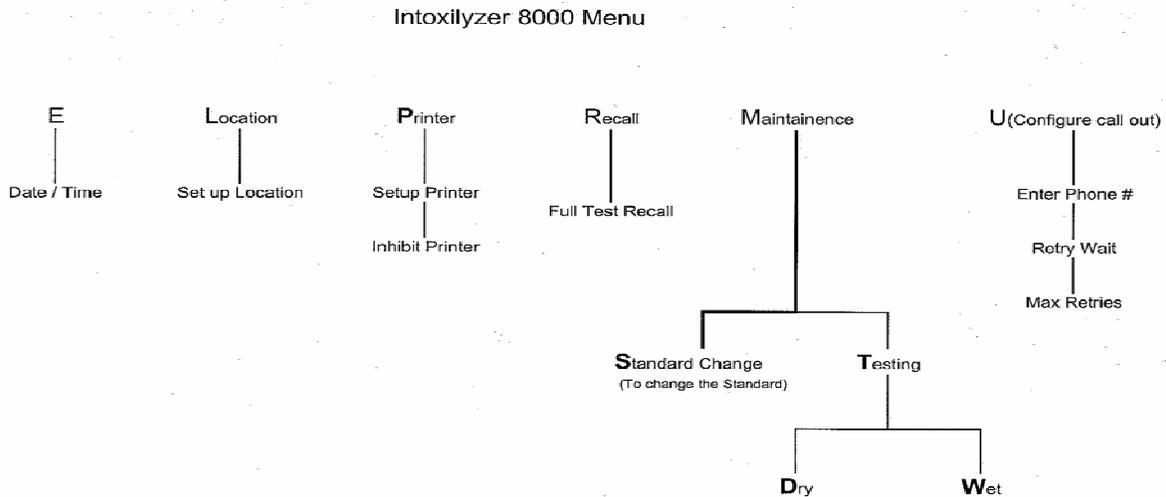


Displayed Exception Messages

- Calibration check out of tolerance
 - calibration check too high or too low, dry ethanol range is $\pm 10\%$ or ± 0.010 whichever is greater
- Sequence aborted
 - start test button pressed at wrong time
- Improper sample
 - subject blew at wrong time
- Inhibited RFI
 - radio frequency interference
- Invalid sample
 - possibly mouth alcohol present – instrument detected a reduction in the alcohol concentration as the subject was blowing into instrument
- Ambient fail
 - volatile substances detected during air blank – readings during air blank unable to fall below 0.019g/210L
- Purge fail
 - Readings during air blank after an analytical measurement do not fall below 0.012g/210L
- Range exceeded
 - alcohol concentration exceeds testing limits of the instrument, limit is 0.600g/210L
- Deficient sample
 - subject failed to deliver a valid breath sample within three minutes (flow rate 0.15L/sec, time of 1 second, volume of 1.1L, level slope) this warning will not cancel the test sequence if it occurs on the first breath test
- Interferent detected
 - instrument detects a disproportionately large peak at 3 microns as compared to 9 microns, indicating presence of substance other than ethanol in the breath

Intoxilyzer 8000 Menu

- Hit 'Esc' twice
- Swipe QAS card when prompted
- Display shows "ELPRMU"



'E' Menu

- Set Date/Time Menu
- Hit Enter
- Displays date – type in new date, if needed, using format shown – hit Enter
- Displays time – type in new time, if needed, using format shown – hit Enter
- Please Wait, Saving... then back to main menu

'L' Menu

- Set Location Menu
- Hit Enter
- Displays location – type in new location, if needed – hit Enter
- Please Wait, Saving... then back to main menu

‘P’ Menu

- Setup Printer Menu
- Hit Enter
- Inhibit Printer? – ‘Y’ disables printer, ‘N’ enables printer – hit Enter
- Print Copy Count – number can be set from 0-3 – hit Enter
- Please Wait, Saving... then back to main menu

Setting Number of Print Copies

- Default for the Intoxilyzer 8000 from the factory is 1 copy
- To change number of copies:
 - Hit ‘Esc’ twice
 - Swipe QAS Card
 - Select ‘P’ (Set Printer) from Menu and hit ‘Enter’
 - Leave “Inhibit Printer Y/N?” as ‘N’ and hit ‘Enter’
 - For “Print Copy Count:”, type desired number (1-3) and hit ‘Enter’

‘R’ Menu – Full Test Recall Menu

- The Intoxilyzer 8000 allows the QAS to reprint any subject test record still in memory
 - To reprint a test –
 - Hit ‘Esc’ button twice and swipe QAS card
 - Select ‘R’ for ‘Full Test Recall’
 - Press ‘PgUp’ or ‘PgDn’ to find date of desired record and the press ‘Enter’
 - Display will show number of records for that date – press ‘Enter’ to get to individual record display
 - Use ‘PgUp’ and ‘PgDn’ buttons to scroll through the records (stored chronologically)
 - Use left and right arrows, if needed, to toggle between first and last names of subject records
 - When correct record is located, press ‘Enter’ to reprint it

‘M’ Menu

- Maintenance Menu
- Hit Enter
- 2 sub-menus available
 - S- Standard Change
 - T - Control Testing

‘S’ Submenu

- Standard Change Menu
- Addressed later in the manual

‘T’ Submenu

- Control Testing Menu
- Hit Enter
- 2 sub-menus available

D – Dry Control Test – allows dry gas calibration check – addressed later in the manual

W – Wet Control Test – allow wet bath calibration

‘U’ Submenu

- Configure Call Out
 - Some agencies in Arizona have chosen to have the electronic records from their Intoxilyzer downloaded into the COBRA database system at the DPS Crime Lab. For the instruments participating in COBRA that are not attached to a dedicated phone line, the QAS will now be able to attach the Intoxilyzer 8000 to any analog phone line, like a fax machine line, and upload the test data to COBRA. For your convenience, the system will be available 24 hours a day.
- Performing a COBRA data upload will be addressed later in the manual

Standard Calibration Check Procedure

- Performed every 31 days, using Exhibit G-2
- Consists of a check of a known standard
- Follows approved checklist, G-2
- Instrument can be in Ready or Standby Mode to perform 31 day check.

EXHIBIT G-2
THIS REPORT PREPARED PURSUANT TO DUTY IMPOSED BY A.A.C. R13-10-104 (A)
ARIZONA DEPARTMENT OF PUBLIC SAFETY
STANDARD QUALITY ASSURANCE PROCEDURES
INTOXILYZER MODEL 8000
STANDARD CALIBRATION CHECK PROCEDURE

QA SPECIALIST _____ AGENCY _____

DATE _____ TIME _____

INTOXILYZER SERIAL # _____ LOCATION _____

- () 1. Ensure that gas tank is attached to instrument and contains a standard alcohol concentration solution _____ AC.
OR
Pour a standard alcohol concentration solution _____ AC, into a clean dry simulator and assemble the simulator. Ensure that a tight seal has been made. Turn on the simulator and allow temperature to reach $34^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$
- () 2. Intoxilyzer 8000 display reads "PUSH BUTTON TO START"
- () 3. Go to the "Control Testing Menu". Select "D" for dry control test or "W" for wet control test. After selection is made press ENTER.
- () 4. Air blank completed.
- () 5. Calibration check completed. Test results 0. _____ AC.
- () 6. Air blank completed.
- () 7. Remove printed record. Attach the record to the completed checklist.

SIGNATURE _____

DPS Form Exh G-2 (Rev 05-01)

Check of Known Gas Standard

- When using dry gas standard
- Ensure tank is attached to instrument and is labeled with the value for the known alcohol standard
- Cal. Check Range is $\pm 10\%$ or ± 0.010 whichever range is greater
- Check tank pressure on regulator– if pressure is approaching 50 psi, replace tank (instrument shuts down at 25 psi until tank is replaced)

To Change Gas Standard:

- Hit 'ESC' twice and swipe QAS card
- Select 'M' for Maintenance menu
- Select 'S' for Standard Change
- Enter through Badge info and Agency
- For "Select Std (D/W)", pick 'D'
- For "Standard Value:", enter the value given on the side of the gas tank
- For "Standard Lot#:", enter lot number given on side of the gas tank
- For "Standard Expiration:", enter expiration date given on side of gas tank
- For "Update Std Info?", enter 'Y'
- At 50 psi, the instrument will give a warning that tank pressure is low.
- QAS SHOULD change tank at this point.
- At 25 psi, testing is no longer permitted and instrument will display "Tank pressure below minimum"
- Empty and expired tanks should be hand delivered to DPS. Contents under pressure, so take necessary precautions.

Calibration vs. Calibration Check

- Every 31 days and 90 days, the QAS will CHECK the calibration of the instrument
- Certified Operators will also CHECK the calibration every time they perform a subject test
- Only a factory trained technician can calibrate the instrument

Performing a Standard Calibration Check Procedure

- Follow approved checklist and check off each step as it is completed
- Ensure tank or simulator is attached and ready for use
- Make sure instrument is on
- Hit 'ESC' twice on the keyboard
- Swipe your QAS card
- Go to the "M - Maintenance" menu and hit 'Enter'
- Go to the "T - Control Testing" menu and hit 'Enter'
- Select "D" for dry gas or "W" for wet bath and hit 'Enter'
- Enter through Badge info and Agency
- For "Edit info Y/N?", enter 'Y' to review info or 'N' to continue
- Calibration check will be performed
- Enter value of calibration check on checklist
- If calibration check passes, the instrument will ask if "PM performed?"
- "Y" will update the 31 day timer - "Preventative Maintenance Performed – Timer Reset"
- "N" will not update the 31 day timer (use this option if you are not performing an official Standard Calibration Check Procedure) - "Preventative Maintenance NOT Performed – Timer NOT Reset"
- Attach printout to calibration check checklist and sign checklist
- Hit 'ESC' until the display reads "Ready Mode"

Standard Quality Assurance Procedure (SQAP)

- Performed every 90 days
- Use approved checklists (Exhibit G-2 and Exhibit G-4)
- Consists of:
 - Visual Inspection
 - Time and Date Check
 - Alcohol-free subject test
 - Error recognition
 - Push Start Test button at wrong time
 - Blow at wrong time
 - RFI
 - Proper sample recognition checks
 - Deficient sample
 - Mouth alcohol
 - Calibration check

EXHIBIT G-4
THIS REPORT PREPARED PURSUANT TO DUTY IMPOSED BY A.A.C. R13-10-104 (A)

ARIZONA DEPARTMENT OF PUBLIC SAFETY
STANDARD QUALITY ASSURANCE PROCEDURES
INTOXILYZER MODEL 8000

STANDARD QUALITY ASSURANCE PROCEDURE

QA SPECIALIST _____ AGENCY _____

DATE _____ TIME _____

INTOXILYZER SERIAL # _____ LOCATION _____

() 1. Display Reads "PUSH BUTTON TO START"

DIAGNOSTIC TESTS

- () 1. Clock time check.
- () 2. Date check.

OPERATIONAL TESTS

- () 1. Alcohol-free subject test result 0. _____ AC.
- () 2. Error recognition logic system functioning.
Not a Successfully Completed Test Sequence printed
- () 3. Proper sample recognition system.
Not a Successfully Completed Test Sequence printed
Deficient sample printed.
- () 4. Standard Calibration Check standard 0. _____ AC. Result 0. _____ AC.

Instrument is operating properly and accurately. YES _____ NO _____

COMMENTS

SIGNATURE _____

Time/Date Check

- Ensure date and time on instrument are correct on display – check off on checklist
- If either is incorrect:
 - Press ‘ESC’ twice
 - Swipe QAS card
 - Select ‘E’ (Set Time/Date) from menu options
 - Type any necessary change for date and hit ‘Enter’
 - Type any necessary changes for time and hit ‘Enter’
 - For “DST auto-adjust (Y/N)?”, enter ‘N’

Alcohol-Free Subject Test

- Push start test button
- For “Evidentiary Test?” select ‘Y’
- Swipe QAS card
- Review information to ensure that it is correct, then select ‘Y’ for “Is Info Correct?” or ‘N’ to reswipe
- For “AZ Mag License Y/N?”, select ‘N’
- For “Subj first name?”, enter ‘TEST’
- For “Subj last name?”, enter ‘SQAP’
- For “Subj mid I?”, hit enter
- Enter any valid date for “Date of Birth?”
- Enter any valid sex for “Sex M/F?”
- Enter a valid weight for “Subject Weight?”
- For “Edit Info Y/N?”, select ‘Y’ to check info or ‘N’ to continue
- For “15 Minute Deprivation?”, enter ‘Y’ and ‘Enter’
- When instrument prompts “Please Blow”, blow until leading zero is displayed
- Check off on checklist and enter AC value

Error Recognition

Sequence Aborted

- Push Start Test Button at Wrong Time
 - After completion of the alcohol-free subject test, instrument will perform an air blank and then go into a wait period
 - During this wait period, press the start test button
 - Display will read “Sequence Aborted”

- Attach printout to SQAP checklist (contains both alcohol-free test AND start test button error on single printout)

Error Recognition

Improper Sample

- Blow at Wrong Time
 - Press start test button and follow same directions as in alcohol-free subject test to input data
 - When first air blank begins, blow into breath tube
 - Display will read “Improper Sample”
 - Attach printout to SQAP checklist

Error Recognition

RFI Detect

- Press start test button and follow same directions as in alcohol-free subject test to input data
- When first air blank begins, key a radio near the faceplate of the instrument
- Display will read “RFI Detect”
- Attach printout to SQAP checklist
- Check off “Error Recognition” step on SQAP checklist

Proper Sample Recognition

Deficient Sample

- Press start test button and follow same directions as in alcohol-free subject test to input data
- Place a small quantity of alcohol in mouth and blow into instrument for approximately one second
- Wait until instrument times out
- Display will read “Deficient Sample”
- Not always terminal

Safeguards for Mouth Alcohol

- 15 minute deprivation period.
- Instrument software, slope detector.
- 0.020 agreement between consecutive duplicate tests.

Proper Sample Recognition

Invalid Sample (Mouth Alcohol)

- After the deficient sample test, the instrument will perform air blanks and then direct you to “Please Blow” again
- Place a small quantity of alcohol in mouth and blow into instrument until the values peak and begin falling again
- Blow until error tones sound
- Display will read “Invalid Sample” for mouth alcohol
- Attach printout to SQAP checklist (contains both deficient sample AND mouth alcohol on a single printout)
- Check off “Proper sample recognition” step on SQAP checklist

Standard Calibration Check

- Perform a standard calibration check procedure after completion of the SQAP checklist
- Follow the same format as detailed previously using calibration checklist
- Attach printout to calibration check checklist
- Check off “Calibration standard” step on SQAP checklist and enter calibration check value on checklist

Finishing the SQAP

- Check off “Yes” or “No” for “Instrument is operating properly and accurately”
- “Yes” if all steps were successfully completed
- “No” if all steps could NOT be successfully completed
- Add any comments in the space provided, if needed
- Sign the SQAP checklist and ensure all printouts are attached to it

Record Storage

- QAS is the custodian of the records
- DPS does not store QAS records
- Do not expose thermal paper to excessive heat, sunlight
- Make copies of thermal paper printouts for storage

Instrument Lock Outs

- “Contact QAS Replace Dry Gas”
 - Tank pressure is below minimum.
 - Turn **off** Intox. 8000 for 1 minute then turn back on. After the 5 min. countdown, you will be able to complete your preventative maintenance.
 - Replace tank and update tank information
 - Perform a Standard Calibration Check Procedure
- “Contact QAS Std Change Required”
 - Gas tank is expired.
 - Turn **off** Intox. 8000 for 1 minute then turn back on. After the 5 min. countdown, you will be able to complete your preventative maintenance.
 - Replace tank and update tank information
 - Perform a Standard Calibration Check Procedure
- “Contact QAS 31 Day Prev Maint”
 - Standard Calibration Check Procedure has not been performed within 31 days or the 31 day timer has not been reset
 - Turn **off** Intox. 8000 for 1 minute then turn back on. After the 5 min. countdown, you will be able to complete your preventative maintenance.
 - Perform a Standard Calibration Check Procedure
 - Must answer “Y” to “PM Performed?” question in order to unlock the instrument and reset the 31 day timer
- “Contact QAS Cal Check Tolerance”
 - During a subject test, one of the two calibration checks is less than 0.090g/210L or greater than 0.110g/210L.
 - Turn **off** Intox. 8000 for 1 minute then turn back on. After the 5 min. countdown, you will be able to complete your preventative maintenance.

- Inspect tubing from the dry gas standard to ensure it is properly attached to the instrument
- Perform a Standard Calibration Check Procedure
- Must answer “Y” to “PM Performed?” question in order to unlock the instrument and reset the 31 day timer.
- If you are unable to perform a successful Standard Calibration Check Procedure, contact the Forensic Alcohol Unit for assistance.

Hooking Up a Modem Line – Direct to Wall

- Plug one end of modem line into phone jack in wall
- Plug other end of modem line into port in back of Intoxilyzer labeled ‘MODEM LINE’

Taking an Instrument Out of Service

- Perform an SQAP, if possible
 - Gathers more information that may help in repair of the instrument
 - Results in more complete record keeping
- Call the Alcohol Unit of the DPS Crime Lab to inform that instrument is coming in for repair
 - Lets lab know to look for instrument
 - Lets lab know instrument is no longer available for download
- Fill out service request form COMPLETELY and ACCURATELY
 - The more information the lab receives, the easier it is to diagnose and fix the problem, resulting in less down time in the field
 - Results in more complete record keeping

Send instrument in for service

Filling Out a Service Request Form

- Make sure to fill out all identification information requested, including instrument serial number
- Fill out information on instrument’s last error, copies of printouts and download status of instrument
- Check boxes for each part being sent to lab
- Fill out problem description section with all relevant details – this often helps in the diagnosis of the problem

Troubleshooting Downloads

- Make sure instrument is turned on
 - Instrument can be downloaded while in standby mode, but not when the power is off
- Reset instrument
 - Turn instrument off and then back on again to reset internal modem.
 - After turning instrument back on, watch for the Modem Test in the starting diagnostic check to make sure that it passes
- Make sure phone jack is active
- Plug in an analog telephone to phone jack used for downloading the Intoxilyzer and listen for dial tone
- Replace phone line
- Replace the phone line used to connect the Intoxilyzer to the phone jack in case the problem is the phone line itself
- Make sure DPS Crime Lab is dialing the correct number
- Usually happens when phone lines are switched in a station and the crime lab is not informed.

After troubleshooting is complete...

Contact the Alcohol Unit at DPS Crime Lab to confirm that download problem is fixed

If problem is not fixed after these steps, the crime lab will either make an on-site visit or request the instrument be taken out of service to come in for repair.

COBRA Data Upload

- Select option “U” in the QAS menu and input the requested data (once you set it up the first time, you will not need to perform this step again)
- Enter phone number, without dashes, given to you by the DPS Forensic Alcohol Unit (include special dialing numbers like “1” for long distance, “9” to receive an outside line, etc.)
- Enter maximum number of retries (we recommend 3)
- Enter number of minutes to wait between retries (we recommend 5)
- Attach an analog phone line to the modem line port on the backside of the Intoxilyzer
- Ensure instrument is turned on
- Press “Ctrl” + “U” on the keyboard
- Wait until upload is completed and disconnect phone line

Court Testimony

You are not considered to be an expert unless you are qualified as such by the individual court.

The three answers needed to answer QAS questions:

- “Yes.”
- “No.”
- “You’d have to ask a criminalist.”

In court, your QAS testimony should center around the following:

- Performance of monthly calibration checks
- Performance of quarterly assurance procedures
- Record keeping associated with these checks and procedures (G-2’s and G-4’s) – duties as custodian of the records
- Other procedures associated with your work as a QAS

In general, the following areas are covered by the criminalist:

- Alcohol in the body and its effects
- Calculations
- Inner workings of the instrument
- Scientific research and papers
- Downloading instruments and the COBRA database

General Troubleshooting

Problem	Solution
Red light on front of instrument, display is blank	Press ‘Start Test’ button to activate instrument
No printout after test	<ul style="list-style-type: none"> • Check for paper jam – make sure paper is feeding through slot • Replace paper if empty • Reprint test
Gas tank runs out quickly	<ul style="list-style-type: none"> • Check for leaks in hoses and regulator
“Contact QAS Replace Dry Gas”	<ul style="list-style-type: none"> • Tank pressure below minimum • Replace tank and update tank info • Perform Standard Calibration Check Procedure
“Contact QAS Std Change Required”	<ul style="list-style-type: none"> • Tank expired • Replace tank and update tank info • Perform Standard Calibration Check Procedure
“Contact QAS 31 Day Prev Maint”	<ul style="list-style-type: none"> • Standard Calibration Check Procedure hasn’t been performed within 31 days or 31 day timer wasn’t reset • Perform Standard Calibration Check Procedure
“Contact QAS Cal Check Tolerance”	<ul style="list-style-type: none"> • Calibration check during subject test failed • Inspect instrument • Perform Standard Calibration Check Procedure • If your calibration check fails, contact Crime Lab for assistance.
External printer doesn’t print	<ul style="list-style-type: none"> • Check connection between instrument and printer • Make sure printer has paper

Inhibited RFI displayed	<ul style="list-style-type: none"> • Remove source of radio interference
Keyboard doesn't work	<ul style="list-style-type: none"> • Check connection between keyboard and instrument
Calibration check out of tolerance	<ul style="list-style-type: none"> • If using dry gas, check connections between tank and instrument and check regulator for pressure
Instrument doesn't work when connected to 12V power source	<ul style="list-style-type: none"> • Check connections between power source and instrument • Make sure power source works
Drivers' license swipe doesn't work	<ul style="list-style-type: none"> • Make sure license is Arizona card with magnetic stripe • Reswipe card to see if error repeats • Enter information using keyboard
Instrument does not turn on at all – no light on front of instrument	<ul style="list-style-type: none"> • Make sure 'On/Off' switch is turned on • Check connections between instrument and power source
“Contact QAS” lock out message like-missing 31 day cal. check, cal. check out of tolerance, exp. tank or empty tank	<ul style="list-style-type: none"> • Turn off Intox. 8000 for 1 minute then turn back on, this resets the light source • After the 5 min. countdown, you will be able to complete your preventative maintenance

Operator/QAS card doesn't work	<ul style="list-style-type: none"> • Reswipe card to see if error repeats • If possible, swipe a different card to see if same error occurs <ul style="list-style-type: none"> ○ If yes, problem is with card reader – contact DPS crime lab for further information ○ If no, problem is with card – contact DPS crime lab for replacement card
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Glossary

Absorption	The process by which a drug enters the bloodstream
Accuracy	Closeness to the true value
Acetone	Produced by some uncontrolled diabetics. A volatile substance with a sweet smell. Used in nail polish removers.
Alcohol	Class of chemical compounds all containing a hydroxyl (OH) group.
Alcohol Concentration (AC)	= g/100 ml (blood) or g/210L (breath) (BAC = Blood Alcohol Concentration BrAC = Breath Alcohol Concentration)
Alveoli; Alveolar	Air sacs in lungs where carbon dioxide and oxygen exchange takes place; air (breath) which is in equilibrium with blood
Central Nervous System	The portion of the vertebrate nervous system consisting of the brain and spinal cord.
Congeners	Ingredients in packaged beer and liquor, other than alcohol and water, that cause distinct smell, flavor, and color.
Department of Public Safety (DPS)	The agency which regulates breath testing in Arizona as of Sept 18, 2003 (Department of Public Safety Crime Lab / Quality Management Section).
Depressant	A drug which slows down the central nervous system.

Deprivation Period	A 15-minute period immediately prior to a quantitative duplicate breath test during which the subject has not ingested any alcoholic beverages or other fluids, vomited, eaten, smoked or placed any foreign object in the mouth.
Diffusion (passive diffusion)	A physical process of mixing
Distribution	The manner in which drugs are moved throughout the body tissues and compartments
Divided Attention	The ability to divide one's attention between different tasks, or the different components of a complex task, such as driving.
Duplicate Tests	Two consecutive breath tests, immediately following a deprivation period, which agree within a .020 alcohol concentration.
Elimination	Process which rids the body of a drug
Ethyl Alcohol; Ethanol	The alcohol legal for human consumption.
Equilibrium	A state of balance.
Fermentation	A natural process which produces ethyl alcohol from certain plant materials containing carbohydrates.
Henry's Law	The concentration of a volatile substance in the air above a liquid is proportional to the concentration of the volatile substance in the liquid. The concentration of alcohol in the breath is proportional to the concentration of alcohol in the blood. The basis of all breath testing

Horizontal Gaze Nystagmus (HGN)

An involuntary jerking of the eyeball (as the eye follows an object horizontally across the field of vision).

Infrared

A wavelength (type) of light just beyond the visible red region.

Intoxilyzer 8000

An approved breath testing instrument.

Mouth Alcohol

Residual alcohol in the mouth.

Pharmacology

The medical science of drugs, including their composition, uses and effects.

Precision

Reproducibility or repeatability.

Retrograde

An estimate of alcohol concentration at a time earlier than the alcohol concentration test.

Tolerance

A reduction in the degree of drug effects due to repeated exposure to the drug. (Tolerance to alcohol is limited)

Duplicate Breath Testing Background

1979 Arizona case law (Baca) requires the state to provide a defendant with their own breath sample, by which they may refute the state's evidence. Problems associated with the resulting silica gel method of breath alcohol preservation are widely known and well documented.

1993 The Arizona Supreme Court denied review of the test case (Moss) regarding the constitutionality of ARS 28-1388 B and C. Therefore, the Arizona Appellate Court decision, upholding ARS 28-1388 B and C as constitutional, is now law.

ARS 28-1388.B

If a law enforcement officer administers a duplicate breath test and the person tested is given a reasonable opportunity to arrange for an additional test pursuant to subsection C of this section, a sample of the person's breath does not have to be collected or preserved.

ARS 28-1388.C

The person tested shall be given a reasonable opportunity to arrange for any physician, registered nurse or other qualified person of his own choosing to administer a test or tests in addition to any administered at the direction of a law enforcement officer. The failure or inability to obtain an additional test by a person shall not preclude the admission of evidence relating to the test or tests taken at the direction of a law enforcement officer.

DUPLICATE BREATH TEST ADVISORY

AFTER COMPLETING THE TESTS OF YOUR BREATH, YOU WILL BE GIVEN A REASONABLE OPPORTUNITY TO ARRANGE FOR ANY PHYSICIAN, REGISTERED NURSE OR OTHER QUALIFIED PERSON OF YOUR OWN CHOOSING TO OBTAIN AN INDEPENDENT TEST OR TESTS IN ADDITION TO ANY ADMINISTERED BY A LAW ENFORCEMENT OFFICER.

ACKNOWLEDGMENT

I UNDERSTAND THAT I HAVE THE RIGHT TO A REASONABLE OPPORTUNITY TO ARRANGE FOR AN INDEPENDENT TEST OF MY BLOOD, BREATH OR OTHER BODILY SUBSTANCE.

SUBJECT (please sign)

DATE/TIME

OFFICER (please sign) BADGE #

DATE/TIME

DEPRIVATION PERIOD

DEPRIVATION PERIOD MEANS A 15-MINUTE PERIOD IMMEDIATELY PRIOR TO A QUANTITATIVE DUPLICATE BREATH TEST DURING WHICH PERIOD THE SUBJECT HAS NOT INGESTED ANY ALCOHOLIC BEVERAGES OR OTHER FLUIDS, VOMITED, EATEN, SMOKED OR PLACED ANY FOREIGN OBJECT IN THE MOUTH.

DPS REGULATIONS

CHAPTER 13, ARTICLE 1, SECTION R13-10-101.8

DUPLICATE TESTING PROCEDURES

DUPLICATE QUANTITATIVE BREATH TESTS SHALL BE ADMINISTERED AT INTERVALS OF NOT LESS THAN 5 MINUTES NOR MORE THAN 10 MINUTES. THE RESULTS OF BOTH TESTS SHALL BE WITHIN .020 ALCOHOL CONCENTRATION OF EACH OTHER. IF THE SECOND TEST IS NOT WITHIN .020 ALCOHOL CONCENTRATION OF THE FIRST TEST, ADDITIONAL TESTS SHALL BE ADMINISTERED UNTIL THE RESULTS OF TWO CONSECUTIVE TESTS ARE WITHIN .020 ALCOHOL CONCENTRATION.

DPS REGULATIONS

CHAPTER 13, ARTICLE 1, SECTION R13-10-104.C

EXHIBIT G-2
THIS REPORT PREPARED PURSUANT TO DUTY IMPOSED BY A.A.C. R13-10-104 (A)

ARIZONA DEPARTMENT OF PUBLIC SAFETY
STANDARD QUALITY ASSURANCE PROCEDURES
INTOXILYZER MODEL 8000

STANDARD CALIBRATION CHECK PROCEDURE

QA SPECIALIST _____ AGENCY _____

DATE _____ TIME _____

INTOXILYZER SERIAL # _____ LOCATION _____

- () 1. Ensure that gas tank is attached to instrument and contains a standard alcohol concentration solution _____AC.
OR
Pour a standard alcohol concentration solution _____AC, into a clean dry simulator and assemble the simulator. Ensure that a tight seal has been made. Turn on the simulator and allow temperature to reach $34^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$
- () 2. Intoxilyzer 8000 display reads "PUSH BUTTON TO START"
- () 3. Go to the "Control Testing Menu". Select "D" for dry control test or "W" for wet control test. After selection is made press ENTER.
- () 4. Air blank completed.
- () 5. Calibration check completed. Test results 0. _____AC.
- () 6. Air blank completed.
- () 7. Remove printed record. Attach the record to the completed checklist.

SIGNATURE _____

EXHIBIT G-4
THIS REPORT PREPARED PURSUANT TO DUTY IMPOSED BY A.A.C. R13-10-104 (A)

ARIZONA DEPARTMENT OF PUBLIC SAFETY

STANDARD QUALITY ASSURANCE PROCEDURES
INTOXILYZER MODEL 8000

STANDARD QUALITY ASSURANCE PROCEDURE

QA SPECIALIST _____ AGENCY _____

DATE _____ TIME _____

INTOXILYZER SERIAL # _____ LOCATION _____

() 1. Display Reads "PUSH BUTTON TO START"

DIAGNOSTIC TESTS

() 1. Clock time check.

() 2. Date check.

OPERATIONAL TESTS

() 1. Alcohol-free subject test result 0. _____ AC.

() 2. Error recognition logic system functioning.

Not a Successfully Completed Test Sequence printed

() 3. Proper sample recognition system.

Not a Successfully Completed Test Sequence printed

Deficient sample printed.

() 4. Standard Calibration Check standard 0. _____ AC. Result 0. _____ AC.

Instrument is operating properly and accurately. YES _____ NO _____

COMMENTS

SIGNATURE _____

**ARIZONA DEPARTMENT OF PUBLIC SAFETY
INTOXILYZER 8000 QUALITY ASSURANCE SPECIALIST
RECERTIFICATION EXAM**

1. What criteria must be met for a proper breath sample?
 - a. **Minimum sustained flow rate**
 - b. **Minimum time**
 - c. **Minimum volume and level slope**
 - d. **All of the above**

2. Upon completion of preventative maintenance, the QAS records should be:
 - a. **Sent to the DPS Crime Lab for storage**
 - b. **Thrown away**
 - c. **Retained by the QAS**
 - d. **None of the above**

3. As a Quality Assurance Specialist you will check the calibration of the instrument at least every 31 days.
 - a. **True**
 - b. **False**

4. Calibration checks shall indicate that the device is capable of determining the value of a known alcohol standard with an acceptable accuracy limit of _____ grams per 210 liters of breath or _____, whichever is greater.
 - a. **± 0.01 or $\pm 10\%$**
 - b. **± 0.001 or $\pm 10\%$**
 - c. **± 0.01 or $\pm 5\%$**
 - d. **± 0.001 or $\pm 5\%$**

5. What are the safeguards to prevent mouth alcohol?
 - a. **15 minute deprivation period**
 - b. **Consecutive duplicate tests with 0.020 agreements**
 - c. **Instrument software-slope detector**
 - d. **All the above**
 - e. **a and b only**

6. The measurement range of the Intoxilyzer 8000 is 0.00 to _____ grams per 210 liters.
 - a. **0.400**
 - b. **0.500**
 - c. **0.600**
 - d. **0.700**

7. A reference check ALWAYS occurs before a breath test or calibration check.
 - a. True
 - b. False

8. How is an interferent condition detected?
 - a. Increase in the 9 um channel reading
 - b. A separation of the 3um and 9um channel readings
 - c. Increase in the 3 um channel reading
 - d. Decrease in the 3 um channel reading

9. When performing a 31 day preventative maintenance on the Intoxilyzer 8000, what exhibit should be used?
 - a. G2
 - b. G1
 - c. G4
 - d. G3

10. Do all exception messages terminate/abort a test sequence?
 - a. Yes
 - b. No

11. Both 110 VAC and 12 VDC can power the Intoxilyzer 8000.
 - a. True
 - b. False

12. The lowest gas standard pressure limit at which testing is no longer permitted is:
 - a. 30 psi
 - b. 20 psi
 - c. 25 psi
 - d. 50 psi

13. How long does it take for the instrument to go from Standby Mode to Ready Mode when initializing a test?
 - a. 30 seconds
 - b. 30 minutes
 - c. 5 minutes
 - d. 1 minute

14. Which of the following will give an “invalid sample” exception?
 - a. Not blowing long enough
 - b. Blowing at the wrong time
 - c. Mouth alcohol
 - d. Not blowing with enough pressure

15. How long is the countdown from Not Ready to Ready Mode when the instrument is switched on.
- a. **Up to Temperature + 5 minutes**
 - b. **Standby Mode + 5 minutes**
 - c. **Dry gas pressure + 5 minutes**
 - d. **Line voltage stable + 5 minutes**
16. There is no way to reprint a test on an Intoxilyzer 8000.
- a. **True**
 - b. **False**
17. The dry gas cylinders are under pressure, so precautions need to be taken to ensure safety.
- a. **True**
 - b. **False**
18. If the QAS does not perform the 31 day preventative maintenance, the instrument will _____.
- a. **Still perform subject test**
 - b. **Turn itself off**
 - c. **Display “Contact QAS”**
 - d. **None of the above**
19. Changing the dry gas standard will also require checking/changing the ____ in the Intoxilyzer 8000 menu system?
- a. **Gas target value**
 - b. **Gas lot number**
 - c. **Gas expiration date**
 - d. **All of the above**
20. The Intoxilyzer 8000 has 2 detectors.
- a. **True**
 - b. **False**

By signing below, I affirm that I have completed the requirements of this recertification course. I affirm that I have previously been issued an Arizona Intoxilyzer 8000 QAS permit and I am currently employed by a law enforcement agency or laboratory that has access to an Arizona Intoxilyzer 8000 for my use. I also affirm that I have not made copies of this examination and/or distributed it to any other individual.

Signature

Badge

Date

Print Name

EXHIBIT C
APPLICATION FOR BREATH ALCOHOL QUALITY ASSURANCE SPECIALIST PERMIT

ARIZONA DEPARTMENT OF PUBLIC SAFETY
Scientific Analysis Bureau
2102 W Encanto Blvd
Phoenix, Arizona 85009
(602) 223-2394

DO NOT WRITE
IN THIS AREA
Permit # _____
Date issued _____
Approved by _____

Application for a QAS permit to perform quality assurance procedures on an approved device.

TO BE COMPLETED BY APPLICANT - PLEASE PRINT CLEARLY
(ALL ITEMS MUST BE COMPLETED OR APPLICATION WILL NOT BE ACCEPTED)

IS THIS APPLICATION FOR? INITIAL PERMIT _____ RENEWAL _____

DO YOU HAVE AN OPERATOR PERMIT(S)? YES _____ NO _____

OPERATOR DEVICE(S) / PERMIT NUMBER(S) _____

1. Name: _____
(Full Legal Name) (Last) (First) (Middle) (Maiden)

Name: _____
(As you want it to appear on permit) (Last) (First) (Middle – optional)

2. Employer: _____
(Name)

(Address)

(Phone) (Fax)

3. Email address: _____

4. QAS permit requested for what device(s): _____

I hereby certify that the information submitted in this application is true and correct.

Signature of Applicant Badge # Date

TO BE COMPLETED BY INSTRUCTOR

1. Agency Conducting Training: _____

2. Date and Location of Training: _____
(Date) (Location)

3. Arizona Department of Public Safety course approval number: _____

4. Did applicant successfully complete the course? Pass _____ Fail _____

(Signature of Instructor) (Print Name) (Date)