

# **Standard Operating Procedure**

## **Breath Alcohol Testing**

**Idaho Department of Law Enforcement**

**Bureau of Forensic Services**

**A.D. Jones, Bureau Chief**

**Rick Groff, Deputy Bureau Chief**

**August, 1994**

**(Rev. 9/96)**



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## Breath Alcohol Standard Operating Procedure

### List of Revisions

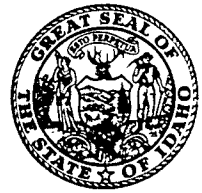
SOP Section	Date of Revision
I.B.1	September 1, 1994
II.B.3	October 1, 1994
II.C.1	March 28, 1995
II.A & C (delete reference to ALS)	June 1, 1995
II.A.3 (0.02/0.20 solutions)	June 1, 1995
II.C.3.e.(2)	June 1, 1995
III.B.1 (valid breath tests)	October 23, 1995
II.A (Alco-Sensor calibration checks)	May 1, 1996
II.C (Intoxilyzer 5000 Calibration Checks) (Effective June, 1996)	May 1, 1996
II.A.2 (0.003 agreement)	June 1, 1996
II.A.2 (Operators may run calibration checks)	July 1, 1996
II.A.2.b (Re-run a solution within 24 hours)	September 6, 1996
II.A.3.a (All three solutions run within a 24 hour period)	September 6, 1996
II.C.I (All three solutions run within a 24 hour period)	September 6, 1996

**Note: A cumulative, updated list will accompany any further SOP revisions.**



RICHARD L. CADE  
Director

STATE OF IDAHO  
DEPARTMENT OF LAW ENFORCEMENT  
BUREAU OF FORENSIC SERVICES



CECIL D. ANDRUS  
Governor

September 28, 1994

MEMO TO: Breath Testing Specialists and Law Enforcement Agencies  
FROM: Rick Groff, Deputy Bureau Chief *Rick Groff*  
SUBJECT: Standard Operating Procedure, Alcohol Testing

For many years, all the policies and guidelines that set the policy for the Bureau of Forensic Services in regards to alcohol testing in breath, urine and blood have been available only in a series of memorandums. From time to time, these policies have been updated by issuing new or revised policy memos.

Dave Laycock, alcohol program manager, with the help of other people involved in the alcohol program, has consolidated all the memos governing alcohol testing into one standard operating procedures manual (SOP).

Enclosed is the copy of the SOP that went into effect August 1, 1994. Please call your alcohol specialist in the lab that serves you regarding any questions you may have regarding this SOP.

RDG:dkf



**IDAHO DEPARTMENT OF LAW ENFORCEMENT**  
**Bureau of Forensic Services**  
**Pocatello**

**MEMORANDUM**

November 14, 1994

**TO:** Intoxilyzer 5000 Breath Testing Specialists/Prosecuting Attorneys  
**FROM:** Rick Groff, Deputy Bureau Chief *Rick Groff*  
**SUBJECT:** Bureau of Forensic Services Policy: "Deficient Sample" Readings on the Intoxilyzer 5000

In some instances a subject will begin blowing but will be unwilling or unable to complete a breath test using the Intoxilyzer 5000. In this event the instrument will quantitate the breath chamber contents based on the sample that was delivered and report the results as a BrAC, but flag the reading as a "Deficient Sample - value printed was highest obtained".

A deficient sample reading may be a valid indication of the presence of alcohol when evaluated in terms of the circumstances of the testing procedure and the events leading up to the Intoxilyzer test. It is possible that the instrument would be unable to detect mouth alcohol and interferents in a breath sample that is flagged as deficient, but the deficient sample designation does not automatically invalidate a test.

## Glossary

**Breath Testing Specialist (BTS):** An operator who has completed an advanced training class taught by a Criminalist of the Bureau of Forensic Services. BTS certification is valid for 26 calendar months and expires on the last day of the 26th month. (I.D)

**Bureau of Forensic Services (BFS):** A bureau within the Police Services Division of the Idaho Department of Law Enforcement. The BFS is dedicated to providing forensic science services to the criminal justice system of Idaho. (I)

**Calibration Check:** A check of the accuracy of the breath testing instrument utilizing a simulator and ethanol solution(s) provided and standardized by the BFS. Calibration checks must be reported to three decimal places. (II)

**Certificate of Approval:** A certificate stating that an individual breath alcohol testing instrument has been evaluated by the BFS and found to be suitable for forensic alcohol testing. The certificate bears the signature of the Bureau Chief, and the effective date of the instrument approval. (I.A)

**Changeover Class:** A training class for currently certified personnel during which they are taught theory, operation, and proper testing procedure for a new make or model of instrument being adopted by their agency. Breath Testing Specialists attend BTS training which qualifies them to perform BTS duties related to the instrument. (I.E)

**Complete Calibration Check:** Analyzing, within a 24 hour period, all the simulator solutions sent for a given calendar month via the established procedures for the instrument. (II.C.1; II.A)

**Operator Certification:** The condition of having satisfied the training requirements for administering breath alcohol tests as established by the BFS. Operator certification is valid for 26 calendar months and expires on the last day of the 26th month. (I.C)

**Operator:** An individual certified by the BFS as qualified by training to administer breath alcohol tests. (I.C)

**Operator Class:** A BFS-approved training class for prospective or uncertified breath test operators. (I.C)

**Recertification Class:** A training class for currently certified personnel completion of which results in uninterrupted continuation of their Operator or BTS status for an additional 26 months. (I.C.1)

**Simplified Calibration Check:** Checking the calibration of the Intoxilyzer 5000 by analyzing solution 1B via the simulator port only (II.C), or the Alco-Sensor using solution 1A only (II.A).

**Sodium Fluoride:** A preservative added by the manufacturer to blood collection tubes to prevent the growth of microorganisms in the blood sample. (III.C)

**Waiting Period:** Mandatory 15 minute period prior to administering a breath alcohol test. (III.A)

September, 1996

## I: Operator and Instrument Certification

To ensure that minimum standards are met, individual breath testing instruments, operators, and breath testing specialists (BTS) must be approved by the Idaho Department of Law Enforcement, Bureau of Forensic Services (BFS).

- A. Each breath testing instrument** is individually certified by the BFS. The individual instrument approval does not carry an expiration date, but may be subject to reevaluation and/or suspension under circumstances including but not limited to frequent failure of calibration checks, electrical or mechanical damage, an unusual frequency of repairs, or when considered advisable by the BFS.
1. If an instrument's certificate of approval is suspended, the instrument may be recertified after re-evaluation by the BFS.
- B. Each approved breath testing instrument** is approved or disapproved for evidentiary testing based on the results of calibration checks performed as described in Section II. Instruments are approved only for periods bracketed by satisfactory calibration checks.
1. If a calibration check produces results outside the acceptable range of values, the instrument will be disapproved for the period between that check and the nearest prior satisfactory check. [Revised, 9/94]
    - a. Calibration checks may be run more frequently than the minimum outlined in Section II. More frequent checks reduce the risk of excluding large numbers of subject tests due to instrument disapproval.
    - b. Certain instrument malfunctions may prevent the running of a calibration check prior to removing the instrument from service. In this event the instrument may be subject to BFS disapproval from that date back to the nearest prior satisfactory check.
- C. Operators** become certified by completing a training class taught by a BFS certified Breath Testing Specialist (BTS). Certification is for 26 calendar months and expires the last day of the 26th month unless renewed. It is the responsibility of the individual operator to maintain current certification; the BFS will not notify operators that their certification is about to expire.

1. Recertification for another 26 month period is achieved by completing a BFS approved recertification class prior to the end of the 26th month.
  - a. If the individual fails to satisfactorily complete the class (including the written and practical tests), he/she must retake the operator class in order to become certified.
    - (1) Current Operator certification is voided, and the individual is not certified to run evidentiary breath tests on the instrument in question until the operator class is completed.
    - (2) Persons who must leave the class unexpectedly may retake another recertification class prior to expiration of their current certification.
2. When certification expires, an operator must retrain by attending the operator class.
3. There are no grace periods or provisions for extension of operator certification.

**D. Breath Testing Specialists (BTS)** are BFS-certified individuals qualified to perform calibration checks, instrument maintenance, and provide both basic and recertification training for instrument operators

1. To obtain **initial** BTS certification, an individual must be currently certified as an operator of that particular instrument. BTS certification is then obtained by completing an approved BFS training class.
  - a. Certification is valid for 26 calendar months.
  - b. If BTS certification is allowed to expire, the individual reverts to certified operator status for 12 calendar months for that instrument. He/she may no longer perform any BTS duties relating to that particular instrument.
    - (1) Operator certification will expire at the end of 12 calendar months but may be continued by completing a recertification class as described in Section I.C.1.
  - c. BTS certification is renewable by attending an approved BFS training class. The only exception is described in Section I.E.1.



d. The Bureau of Forensic Services may revoke BTS certification for cause.

- (1) Examples include falsification of records, failure to perform required calibration checks, and failure to meet standards in conducting operator training.

**E. Adoption of a new instrument** by an agency will require updating any BTS and Operators in that agency.

1. A currently certified BTS may become a certified BTS for a new instrument by completing an instrumentation class.

a. The new instrument must utilize the same type of technology (fuel cell or infrared) as the instrument for which the BTS holds current certification.

- (1) If the principle of operation is different, the BTS must complete an operator changeover class as described in I.E.2, followed by a BTS instrumentation class for the new instrument.

b. BTS certification will be for 26 months upon completion of the class.

2. A currently certified Operator may certify on a new instrument by completing a BFS approved instrument changeover class.

a. The operator shall be certified for 26 calendar months after completion of the class.

b. Individuals not currently certified as Operators must complete a basic operator class as described in Section I.C.



## II: Calibration Checks of Breath Testing Instruments

Calibration checks aid the Breath Testing Specialist (BTS) and the Bureau of Forensic Services (BFS) in determining if a breath testing instrument is functioning correctly. Calibration checks are performed using ethanol-water, wet-bath simulator solutions prepared and analyzed by the BFS. The BFS analyses establish the target value and acceptable range of the solutions used for the checks. The acceptable range is  $\pm 10\%$  of the solution target value, or  $\pm 0.01$  grams alcohol/210 liters of simulator vapor, whichever is greater.

### A. Alco-Sensor Calibration Checks.

1. Alco-Sensor instruments must be checked every calendar month in order to be continuously approved for evidentiary use. [Rev. 5/96]
  - a. The official date of the calibration check is the date recorded on the tape by the printer, or in the absence of the printer, the date recorded on the calibration log at the time of the calibration check.
2. The Alco-Sensor calibration check is run using a solution or solutions provided by the Bureau of Forensic Services and following the calibration procedure outlined in the Alco-Sensor manual. Calibration checks may be run by a certified Alco-Sensor operator, as well as a BTS. [Rev 7/96]
  - a. The **simulator temperature** must be between **33.5°C** and **34.5°C** in order for the calibration results to be valid.
    - (1) The simulator temperature must be recorded on the calibration log.
  - b. Upon completion of the first calibration check for a calendar month, the person performing the check should contact the regional BFS laboratory with their results and obtain the target value and acceptable range of the solutions in use.
    - (1) If results are unsatisfactory, the calibration check should be repeated for that solution(s). If the results of the repeated check are satisfactory, the BFS may approve the instrument for evidentiary use. [Rev. 5/96]
      - (a) If only one solution gives initially unsatisfactory results, it is only necessary to repeat the calibration check with that solution, provided it is re-run within 24 hours.[Revised, 9/96]
      - (b) If results are still unsatisfactory, contact the appropriate BFS laboratory.



- (2) If two consecutive instrument readings from the same simulator solution differ by more than 0.003 at the 0.10 level, the operator should check for problems with the simulator or individual technique. [Revised, 6/96]
- (a) The  $\pm 0.003$  agreement is not a requirement for instrument approval, but should serve as a guideline.
3. The instrument must give calibration check results falling within the acceptable range for **all** solutions sent each calendar month. Unsatisfactory readings for any solution will result in disapproval of the instrument. [Revised, 5/96]
- a. The first check each month must be made using all three solutions; this is a **complete calibration check. All three solutions must be run within a 24 hour period.** [Revised, 9/96]
- b. An agency may run additional calibration checks at their discretion. A **simplified** calibration check may be completed by testing the instrument with solution 1A only.
- (1) Simplified checks are valid for certification purposes **only** if a complete three-solution check was run earlier in the same calendar month.
- c. An instrument may be certified for a period bracketed by a complete calibration check and a simplified calibration check within the **same calendar month.**
4. On a monthly basis the user agency must submit a copy of the calibration log, and printer tapes if available, to the regional BFS laboratory. The information received will be used in preparing a certificate approving or disapproving the instrument for evidentiary use in Idaho. [Rev 5/96]
- a. Legible copies or duplicates of tapes and logs are acceptable; it is not necessary to send the originals.
5. Calibration check solutions should only be used during the month assigned unless otherwise directed by the BFS.



## B. Relocating, repairing, recalibrating, and loaning Alco-Sensors.

1. If an Alco-Sensor is repaired or recalibrated by Intoximeters Inc., the Bureau of Forensic Services, or any authorized service agency, it must be subjected to a complete calibration check by the user agency before being returned to evidentiary use. [Rev 5/96]
2. Simply moving an instrument from one physical location to another does not require an additional calibration check so long as it is being used by the same agency.
3. If an Alco-Sensor is transferred, loaned, or sold to another agency, the receiving agency is responsible for ensuring that calibration check requirements as described in I.B and II.A are met prior to using the instrument for evidentiary testing. [Revised, 10/94]
  - a. This includes Alco-Sensors loaned to an agency by the Bureau of Forensic Services.

## C. Intoxilyzer 5000 Calibration Checks.

1. Intoxilyzer 5000 instruments in evidentiary use must have a complete calibration check at least once each calendar month. A **complete** calibration check consists of running solutions 1B, 2B, and 3B via the simulator port, and solution 3B via the breath hose, within a 24 hour period. [Revised 9/96]
  - a. All calibration checks should be recorded in the instrument log, including simplified calibration checks if run.
  - b. In the event of **printer failure** the BTS should turn switch 13 on (up) and attempt to run a calibration check before taking the instrument out of service.
    - (1) Results will be displayed but not printed and should be recorded in the instrument log.
    - (2) Results of the calibration check and subject tests may be recovered through use of the modem.

2. An Intoxilyzer 5000 calibration check consists of using a wet-bath simulator to analyze solutions supplied by the BFS.
- a. One calibration check during each calendar month must be run using solutions 1B, 2B, and 3B. When returning an instrument to service after repair, the initial, **complete**, calibration check **must** include all three solutions.
    - (1) Agencies may conduct calibration checks during the same calendar month using solution 1B and analyzing it through the simulator port. This is a **simplified calibration check**.
      - (a) The Intoxilyzer may be approved or disapproved for evidentiary use as described in Section I.B.
      - (b) If simplified calibration checks are run, results must be submitted to the BFS on a monthly basis in addition to the results of complete calibration checks.
  - b. The **simulator temperature** must be between **33.5°C** and **34.5°C** in order for the calibration check results to be valid.
    - (1) Record the simulator temperature on the test card printed by the Intoxilyzer 5000.
  - c. After running the calibration check the BTS should contact the appropriate BFS laboratory with the results in order to obtain target values and acceptable ranges. Retain the solutions for possible use later in the month.
    - (1) A calibration check should be attempted prior to taking the instrument out of service due to a malfunction. In some cases the malfunction will prevent the performance of a calibration check.
    - (2) The BFS laboratory may ask that a calibration check be repeated using one or more of the monthly solutions. [5/96]
    - (3) If one of the solutions appears to read incorrectly during a routine calibration check, that solution may be re-run without the necessity of repeating the other solutions.



(4) The two readings from a single solution should agree within  $\pm 0.003$ . If they differ by more than this the BTS should check for possible problems with the simulator, connections to the instrument, or individual technique.

(a) The  $\pm 0.003$  difference is a guideline, but not a requirement for instrument approval.

### 3. Intoxilyzer 5000 Calibration Check Procedure.

a. Proper connection of the simulator is described in the Operator's Manual under the heading "Calibration". The "vapor out" port of the simulator should be connected to the "vapor from simulator" port on the right side (not rear) of the Intoxilyzer. **If the simulator is incorrectly connected, the 5000 may be flooded and put out of service.**

(1) The use of vapor recirculation is recommended, especially if solution 1B is to be used for weekly simplified calibration checks.

b. To utilize vapor recirculation connect the "simulator return" port on the right rear of the 5000 to the simulator breath inlet. The Operator's Manual describes the proper connection of the simulator.

c. Set mode switches 1,2,3,4,5 and 11 on (up). Switch 4 puts the instrument in the three digit mode required for calibration checks. Switch 7 controls the internal standards and should be turned off (down) only during simulator calibration checks.

d. Use <Escape> <Escape> <C> on the keyboard to begin the sequence. The instrument will run the solution twice and print a card. Repeat for the second simulator solution.

e. Solution 3B should also be run via the breath hose, using <Escape> <Escape> <B>. This should be done each time a **complete** calibration check is run using solutions 1B, 2B, and 3B. [Rev.5/96]

(1) The average of the two breath hose tests for solution 3B should be within  $\pm 5\%$  of the average of the two test results obtained via the simulator port.

(a) If the difference between the two averages exceeds 5%, contact the appropriate BFS laboratory.

(2) The instrument may be approved or disapproved for evidentiary testing based on the results obtained by running solutions via the simulator port as described in II.C.3.a.[Revised, 6/95]

f. Reset mode switches 1,2,3,7, and 11 on (up). This will return the instrument to the breath testing mode.

g. **Enter calibration check results** in the instrument log. A copy of the instrument log along with one of the copies from each test card should be sent to the appropriate BFS laboratory. This information will be used in preparing certificates of approval/disapproval for the individual Intoxilyzers.

**D. Relocating, repairing, recalibrating, and loaning Intoxilyzers.**

1. If an Intoxilyzer is repaired or recalibrated by CMI, Inc., the Bureau of Forensic Services, or any authorized service agency, it shall be subjected to a calibration check by the user agency before being returned to evidentiary use.

a. After on-site cleaning/repair of the printer, a calibration check of the instrument is at the discretion of the BTS.

2. If an Intoxilyzer is loaned by one agency to another, the borrowing agency is responsible for ensuring that the instrument meets the requirements for calibration described in I.B and II.C.



### III: Testing Procedure

Proper testing procedure by certified operators is necessary in order to provide accurate results that will be admissible in court. Instruments used in Idaho measure alcohol in the breath, not the blood, and report results as grams of alcohol in 210 liters of breath.

**A. Prior to evidential breath alcohol testing, the subject must be monitored for fifteen (15) minutes.** During this time the subject may not smoke, drink, or chew gum, candy, or any tobacco product; any foreign object, including food, must be removed from the mouth prior to the start of the 15 minute period.

1. The monitor should be a certified breath test operator as described in Section I.C.
  - a. The breath test must be administered by an operator currently certified in the use of the specific model of instrument used.
2. False teeth, partial plates, or bridges installed or prescribed by a dentist or physician are not considered foreign objects by the Bureau of Forensic Services.
  - a. If in doubt, the operator may elect a blood test in place of the breath alcohol test.
3. During the waiting period, the monitor must be alert for any event that might influence the accuracy of the breath test.
  - a. If, during the 15 minute waiting period, the subject vomits or is otherwise suspected of regurgitating material from the stomach, the 15 minute waiting period must begin again.
  - b. The operator must be aware of the possible presence of mouth alcohol as indicated by the testing instrument.
  - c. If mouth alcohol is suspected or indicated, the operator must begin another 15 minute waiting period before repeating the testing sequence.

**B. A complete breath alcohol test consists of two (2) samples taken during the testing sequence and separated by an air blank.** The agreement of the results of two separate samples strongly refutes the possibility of an instrument malfunction, radio frequency interference, mouth alcohol, or other possible sources of error.

1. If the subject fails or refuses to provide a second or third sample as requested by the operator, the single test result may be considered **valid**. [Added 10/95]
  - a. Refer to III.B.3.c, below.
2. Section 18-8002, Idaho Code, defines "evidentiary testing" as "a procedure or test or series of procedures or tests."
  - a. The operator may repeat the testing sequence as required by circumstances.
  - b. Use a **new mouthpiece** for each series of tests.
3. A **third breath sample** is required if the first two results differ by more than 0.02.
  - a. Unless mouth alcohol is indicated or suspected, it is **not** necessary to repeat the 15 minute waiting period.
  - b. The operator should log **all** test results and retain **all** print-outs for possible use in court.
    - (1) If there is no printout, the log page becomes the legal record of the test results.
  - c. If a subject fails or refuses to provide a second or third sample as requested by the operator, the results obtained are still considered valid by the BFS, **provided** the failure to supply the requested samples was the fault of the subject and not the operator.
    - (1) The operator should note the circumstances in his report.
    - (2) If the second or third samples are lacking due to instrument failure, the operator should attempt to utilize another instrument or have blood drawn.
      - (a) The operator should log all test results, including refusals, and retain all print-outs.
      - (b) If there is no printout, the log page becomes the legal record of the test results.
        - (i) Intoxilyzer 5000 test results may be recovered via the modem.



**C. Blood Samples for Alcohol Determination.** If a blood alcohol test is to be taken, use a kit that provides 10 milligrams of sodium fluoride per cubic centimeter of blood as required by IDAPA 11.03.

1. The Becton Dickinson #4994, the Terumo T-100 AK (Venject), and the Peavey 5786 all meet this requirement. The Becton Dickinson 4990 does **not** meet the requirement for concentration of sodium fluoride.

a. Other kits may be used if they provide the required amount of sodium fluoride and utilize a non-alcoholic swab.

2. The blood should be drawn only by authorized medical personnel as defined in section 18-8003 of the Idaho Code.

**D. Urine Samples for Alcohol Determination** must be collected in urine collection kits supplied by BFS, or other suitable kits providing a tight seal and adequate volume.

1. Urine alcohol results may be of questionable value.

2. Be certain the cap on the container is tight before forwarding the sample to the laboratory.