CHEMICAL TEST TRAINING
Student Manual

Fall 2011 - Spring 2012

Office of Attorney General
Crime Laboratory Division
Toxicology Section
2641 East Main Avenue (58501)
P.O. Box 937
Bismarck, ND 58502-0937
Nov 2011

Successful Completion of Course

The primary purpose of this course is to train law enforcement officers to become Intoxilyzer® 8000 operators. Part of the training includes adequate preparation for the administrative hearing and the courtroom process.

Following are class requirements:

1. Attendance at **all classes** is required.

2. Each student must complete **thirty (30) tests on the Intoxilyzer® 8000**.

3. **A score of 75 percent on the quiz is required.** Failure to achieve this score will result in individual training with an instructor.

4. **A score of 75 percent correct on the final exam is required.** Failure to achieve this will require the student to return for additional classroom training and a score of 75 percent correct on a second exam.

5. **You will be required to take five (5) error-free tests on the Intoxilyzer® 8000.** One test will be a calibration check (ACA). The other four tests will be done on unknown solutions. Failure to achieve this will result in review of the *Approved Method to Conduct a Breath Test on the Intoxilyzer®* 8000 and repeating the tests, error-free.

If officers are in need of additional information or have questions, please contact the lead instructor. The Crime Laboratory is willing to accommodate additional training needs.

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INTOXILYZER® 8000 GENERAL INFORMATION

All of the Intoxilyzer® 8000 instruments were purchased from the manufacturer, CMI, Incorporated. These instruments are manufactured as mobile units. Every Intoxilyzer® 8000 is equipped with an internal printer and may accommodate an external printer. (See Figure 1: "*Intoxilyzer® 8000 Instrument and Printer*.")

Figure 1: Intoxilyzer 8000 Instrument and Printer

THEORY OF INFRARED ANALYSIS

The basis of infrared breath analysis is the absorption of infrared energy by alcohol molecules in the breath specimen. Infrared energy is not visible to the human eye. It can be described as "heat energy"; it is what is felt from a common, red, heat lamp.

Molecules absorb light at specific wavelengths depending on their physical size and structure. These wavelengths can serve as a "fingerprint" to identify a chemical, while the amount of infrared energy absorbed can serve to quantify the amount of chemical present. The ethyl alcohol (ethanol) molecule has a unique molecular structure. Ethanol absorbs different amounts of light at each of two known wavelengths (9µ and 3µ). Accordingly, the Intoxilyzer® 8000 breath analysis instrument uses an infrared energy absorption technique to determine the alcohol concentration of a breath sample.
During a breath test, the molecules absorb more infrared energy and the amount of infrared energy reaching the detector decreases. The instrument compares the reference point and the breath test measurement. It calculates alcohol concentration

in the breath sample and displays the result in weight by volume (g/210 L expired breath) in accordance with the Uniform Vehicle Code and the North Dakota Century Code (N.D.C.C.).

INSTRUMENT DESIGN AND FUNCTION

The instrument uses standard AC electrical power as the primary power source. This AC current is converted into regulated DC power by the instrument. The regulated DC voltage is used to power the electronic circuits in the instrument.

The alcohol concentration is quantitated by the "analytical bench" of the Intoxilyzer® 8000. A pulsed source emits infrared energy. A filtering system allows only selected infrared wavelengths to reach the photo detector. This energy then is converted to an electronic signal. The change in the intensity of this signal allows the instrument to evaluate and analyze alcohol concentration of the subject's breath sample. (See Figure 2: "*Diagram of the Intoxilyzer® 8000 Analytical Bench*.")

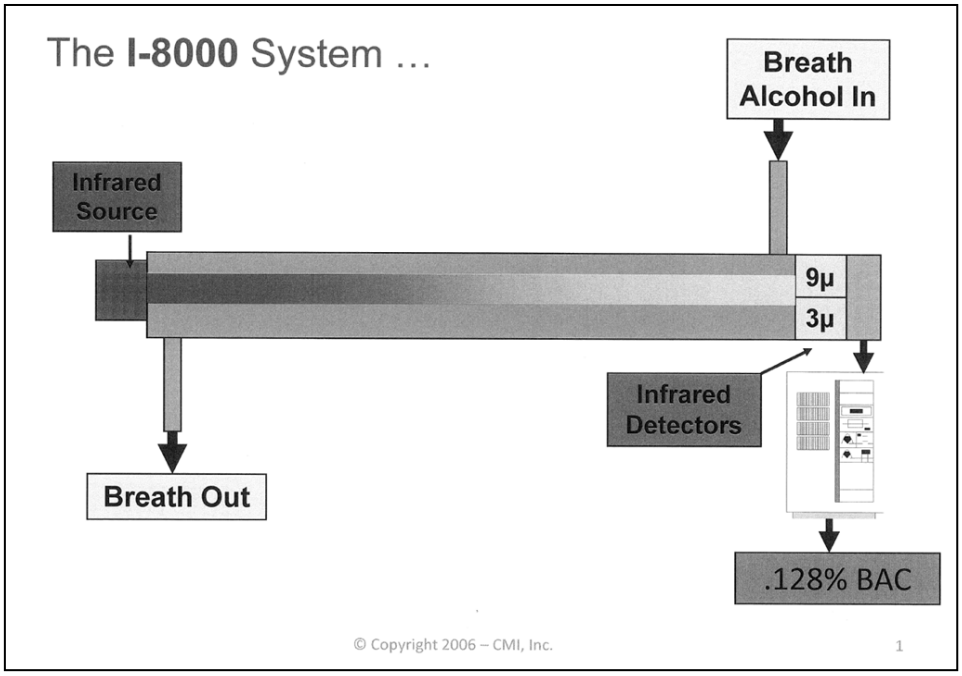


Figure 2: Diagram of the Intoxilyzer 8000 Analytical Bench (reprinted with permission)

The internal programming directs the Intoxilyzer® 8000 through distinct phases during the test. The instrument first checks its systems and runs the analysis with the subject's breath specimen and a gas standard at a known concentration. The steps include several air blanks where the instrument performs a system blank analysis. A scrolling electronic display provides instructions for the operator as the test proceeds.

The Intoxilyzer® 8000 continuously monitors its systems throughout the test. The instrument will invalidate the test if (at any point) an environmental testing condition, an improper instrument operating condition, or an operational mistake is detected. The operator may invalidate or stop the test at any point with the “Start Test” switch.

PARTS, CONTROLS, AND INDICATORS

Operators should be familiar with the parts, controls, and indicators when testifying in court or during administrative hearings and while reporting problems. (See Figures 3, 4, and 5: “*Intoxilyzer® 8000 Front View*,” “*Intoxilyzer® 8000 Top View*,” *and* “*Intoxilyzer® 8000 Back View*.”)

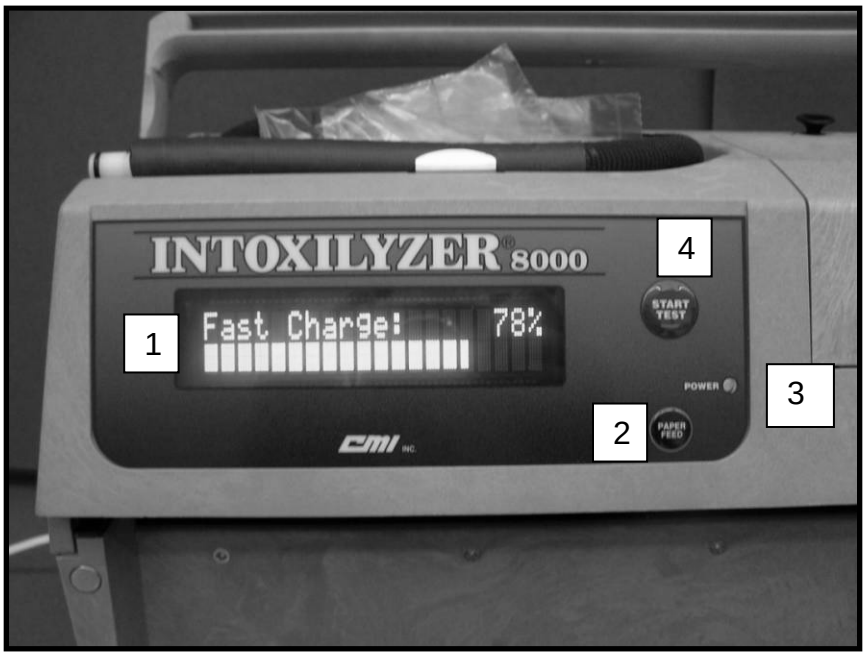


Figure 3: Intoxilyzer 8000 Front View

1. **Display**: A two line digital display indicating the status of the Intoxilyzer® 8000 and giving directions to the operator.
2. **Paper Feed**: Button that advances the paper in the internal printer.
3. **Power Indicator**: A light-emitting diode which indicates if the instrument is plugged into the AC power source or the DC power source.
4. **“Start Test” Switch**: A green, push button switch used to initiate a test sequence. Press the button to turn the instrument on. Press and hold the button to abort a test.

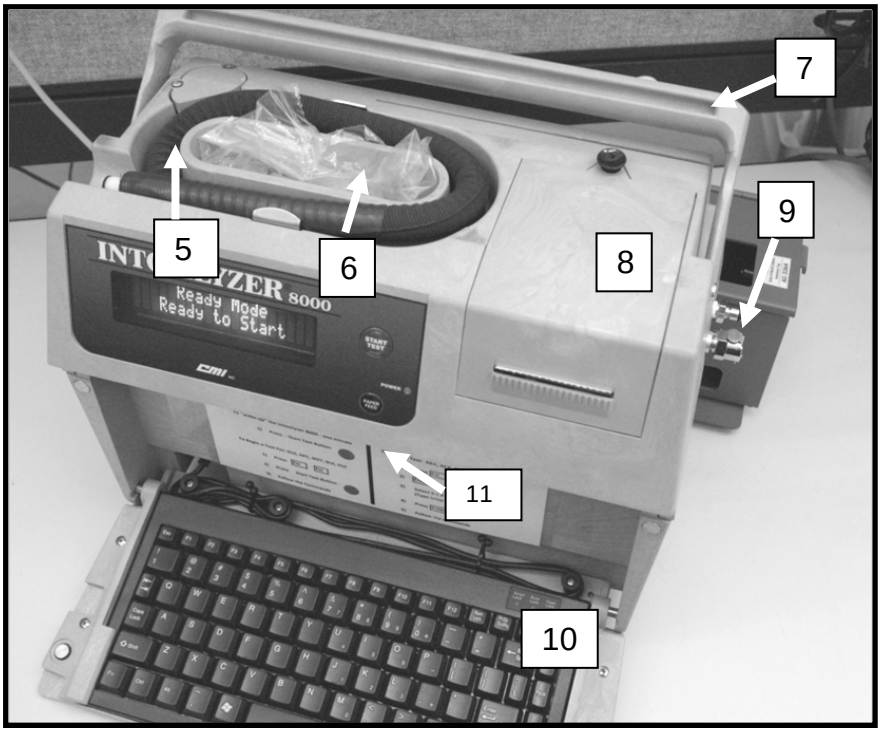


Figure 4: Intoxilyzer 8000 Top View

5. **Breath Hose**: The heated breath hose carries the breath sample from the mouthpiece to the sample chamber. When at a remote site, keeping it coiled in the top of the instrument will help keep it warm.
6. **Mouthpieces**: Mouthpieces are kept warm in the mouthpiece storage area.
7. **Carrying Handle**: Handle for carrying this mobile instrument.
8. **Internal Printer Compartment**: Compartment to replace thermal printer paper. The knob should be pulled out about one-quarter of an inch prior to lifting the cover to the printer.
9. **Ethanol Standard Connection**: A quick disconnect fitting for the tubing from the gas regulator.
10. **Keyboard**: The keyboard (PS/2) is fitted with magnets to hold it to the case of the instrument and protects the camera for the 2D bar code reader. It contains a long cord which allows adjusting position.
11. **2D Card Reader**: Camera equipped to read 2D card bar codes.

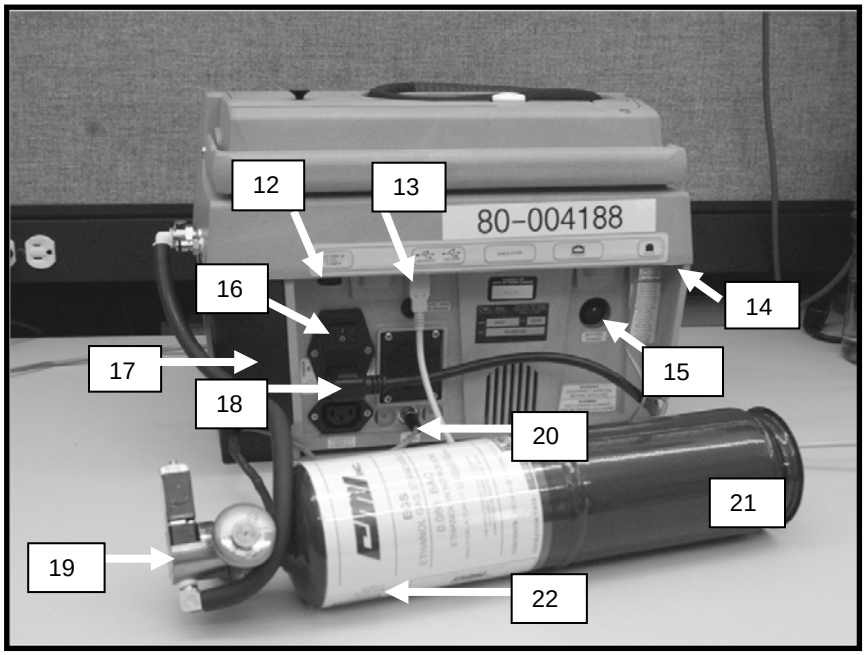


Figure 5: Intoxilyzer 8000 Back View

12. **12 Volt Power Source**: Connection for mobile use.
13. **Printer Connector (USB)**: Printer connector for external printer.
14. **Modem Connector (RJ-11)**: Telephone line connector for the modem.
15. **Battery Power Switch (Rocker Switch)**: For battery power use.
16. **Main Power Swtich (Rocker Switch):** Turns on AC or DC power.
17. **Battery Pack**: Allows about two (2) hours of backup power
18. **Power Cord**: AC power cord.
19. **Gas Regulator**: Gas regulator for the Ethanol Breath Standard (usually in locked compartment).
20. **Regulator Power Cord**: Power cord for the solenoid of the regulator.
21. **Ethanol Breath Standard**: Gas cylinder.
22. **Gas Cylinder Information**: Lot number, cylinder number and bar code.

PRELIMINARY SETUP

Locate the instrument to assure adequate ventilation. The instrument's operational environment should be relatively dust-free.

The instrument's power and battery switch should be left on between tests.

WARNING: In keeping with standard safety practices, the instrument's metal base plate is grounded through the third wire of the power cable. To protect the instrument from electrical surges or lightening strikes, please use the surge protectors provided with each Intoxilyzer® 8000.

SUPPLIES AT EACH LOCATION

Crime Laboratory staff will provide the following supplies at the time of initial installation:

1. Intoxilyzer® 8000;

2. Surge Protector;

3. Mouthpieces;

4. Intoxilyzer® Record Form 120-G (form available for printing on the Office of Attorney General's web site: http://www.ag.nd.gov/CrimeLab/CrimeLab.htm);

5. Certified Ethanol Breath Standard.

Intoxilyzer® 8000 Field Inspectors include scientists from the Crime Laboratory, sergeants of the North Dakota Highway Patrol, and lead operators from police departments and sheriff's offices. Those individuals are trained to install the Intoxilyzer® 8000 and make minor repairs. They are designated on the List of Certified Chemical Test Operators that is filed annually with the County Recorder (or the person in charge of records) in each county.

Operators should contact the following people in case of problems with the Intoxilyzer® 8000:

1. **Field Inspector**: Field Inspector at your location;

2. **Crime Laboratory**: Crime Laboratory staff responsible for breath testing;

3. **NDHP**: NDHP Sergeants for your region.

DISPLAY MESSAGES AND COMMANDS

The Intoxilyzer® 8000 instrument visually communicates to the operator by displaying the messages and commands. Each time the instrument is initially turned on with the power switch and battery switch, the unit must warm-up for 20 minutes. The instrument should be left on at all times. This will prevent the 20-minute delay prior to running a subject test.

OPERATIONAL MODES

1. **Not Ready Mode:** The instrument is not ready for a test. The instrument enters this mode when the power switch and the battery switch are first turned on. The Intoxilyzer® 8000 will take approximately 20 minutes to warm-up. The last 5 minutes of this warm up period will be displayed as a countdown.

2. **Ready Mode:** The Intoxilyzer® 8000 is ready to run a subject test.

3. **Standby Mode**: If the instrument is not used for a period of thirty (30) minutes, it will suspend operation. The instrument turns off the pulsed infrared source but maintains the temperature zones. To return to the Ready Mode, depress the "Start Test" button. It will take about one minute to become ready for testing.

4. **Disabled Mode:** The instrument has been disabled and cannot be used to conduct breath tests. Crime Laboratory staff may disable the instrument if maintenance is necessary.

AUDIBLE TONES

The Intoxilyzer® 8000 sounds three different tones to aid the operator in performing a breath test such as follows:

1. **Short Beep:** This sounds after the completion of each mode (operation). The short beep will also sound every 5 seconds during the 3 minute period that the subject has to deliver an adequate breath sample.

2. **Continuous Tone:** This sounds while a subject blows sufficient pressure into the mouthpiece. It will stop if the subject stops blowing.

3. **High-Low Tone:** This sounds intermittently for 5 seconds in the event of a malfunction, incorrect operational procedure, or unfulfilled test requirement. It will also sound when the 2D barcode of the chemical test operator card or the driver's license is read by the instrument's camera.

KEYBOARD SELECTION

A mode is a series of steps that are directed by the Intoxilyzer® 8000 computer programming. All Intoxilyzer® 8000 operators may operate the North Dakota Custom Mode Sequence (CMS), the print test, the calibration check (ACA), and the single-breath test (ABA). The Intoxilyzer® 8000 uses keyboard entries to select the mode of choice. (See Tables 1 and 2: "*Test Modes*" *and* "*Step Legend*.")

TEST MODES	
Mode:	**Contains These Steps:**
CMS	D, A, B, A, C, A, B, A
P	Print Test Record
ACA	A, C, A, C, A, C, A
ABA	A, B, A

Table 1: Text Modes

STEP LEGEND		
Legend:		**Step:**
A	**A**ir Blank:	The instrument's pump purges the sample chamber and internal and external breath tubes.
B	**B**reath Test:	The instrument analyzes a breath sample for alcohol concentration.
C	**C**alibration Check or Simulator Test:	The instrument analyzes alcohol vapor from an attached ethanol breath standard or attached wet bath simulator.
D	**D**iagnostic Test:	The instrument will check a series of components to ensure it is "Ready to Start."

Table 2: Step Legend

CHANGING THE TIME, DATE, OR LOCATION CODE

Field Inspectors will have access to changing the time, date, and location of the Intoxilyzer® 8000, along with other modes. Crime Laboratory staff can also remotely change these items by use of a computer modem when the instrument is plugged into an analog telephone line.

The time and/or date will change automatically at the end of the year, the beginning and end of daylight savings time, and with a leap year. **The time zones must be set by the Field Inspector or a Crime Laboratory staff member.**

COMPUTER MODEM

When the instrument is connected to an analog telephone line or modem line, the Crime Laboratory staff is able to download data and clear the memory of the instrument as needed. It also enables the staff to upload officer data as officers become certified to operate the instrument.

NUMBER OF TEST RECORDS PRINTED

Custom Mode Sequence (CMS):

The CMS mode allows you to select the number of copies (up to 8) of the test record to be printed. Selecting four (4) copies to be printed will allow you to:

1. Retain one copy for your file;

2. Give one copy to the subject;

3. Give one copy to the prosecutor;

4. Certify and send one copy with the Report and Notice to the Department of Transportation (refer to DOT regulations).

After returning to the Ready Mode, another copy of that subject test may be printed by pressing the “F1” key. This function will only remain active until the next subject test is started and the instrument must be in the Ready Mode.

One Breath Test Mode (ABA):

The ABA allows you to select how many copies (up to 8) of the test record to be printed. Selecting three (3) copies of the subject test record to be printed will allow you to:

1. Retain one copy for your file;

2. Give one copy to the subject;

3. Give one copy to the prosecutor.

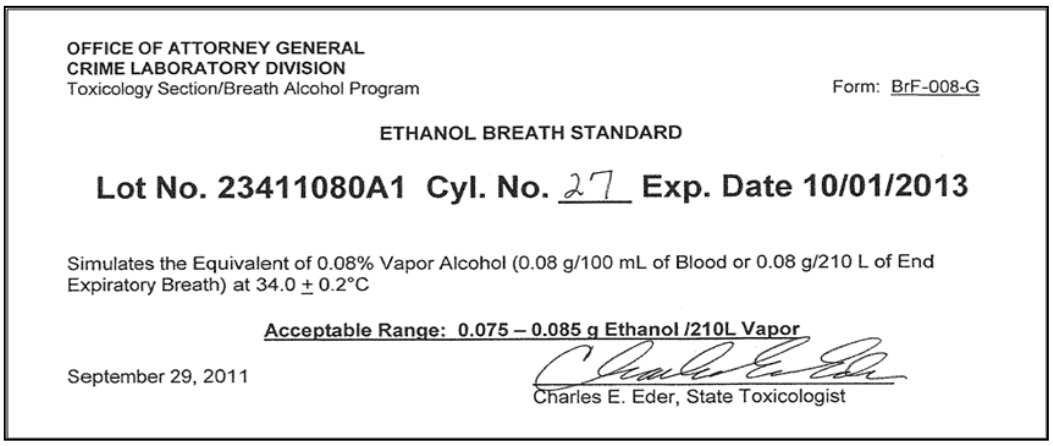
The “F1” key will not reprint the ABA or last test record.

Calibration Check (ACA):

The ACA test automatically prints one copy of the test record. This copy should be submitted to the Crime Laboratory with Form 105-G when completed. You should make copies of both the Form 105-G and the ACA test record for your agency. The "F1" key will not reprint the last ACA test record. Note: Calibration checks are printed on test records as a "Dry Cal Check." (See Figure 14, "ACA test" and Figure 16: "*Ethanol Breath Standard Cylinder Report Form 105-G*.")

CHANGING THE ETHANOL BREATH STANDARD

The lot number, cylinder number, and the expiration date of the Ethanol Breath Standard (EBS) should be entered each time the cylinder is changed. This information can be found on the cylinder itself as well as the Ethanol Breath Standard Form BrF-008 attached to the cylinder. This procedure is explained under Quality Assurance in this manual. All certified Intoxilyzer® 8000 operators are qualified to change the EBS cylinder. The cylinders are available from the Crime Laboratory. By periodically checking the pressure of the cylinder attached to the Intoxilyzer® 8000, operators can notify the Crime Laboratory of the need for a new cylinder. The cylinders cannot be mailed as they are hazardous materials. Plans must be made for someone to pick up the cylinders. (See Figure 6: *"Ethanol Breath Standard Form BrF-008-G" and the "Intoxilyzer® 8000 Quality Assurance" section of this manual.*)



OFFICE OF ATTORNEY GENERAL
CRIME LABORATORY DIVISION
Toxicology Section/Breath Alcohol Program

Form: BrF-008-G

ETHANOL BREATH STANDARD

Lot No. 23411080A1 Cyl. No. 27 Exp. Date 10/01/2013

Simulates the Equivalent of 0.08% Vapor Alcohol (0.08 g/100 mL of Blood or 0.08 g/210 L of End Expiratory Breath) at 34.0 ± 0.2°C

Acceptable Range: 0.075 – 0.085 g Ethanol /210L Vapor

September 29, 2011

Charles E. Eder, State Toxicologist

Figure 6: Ethanol Breath Standard Form BrF-008G

INTOXILYZER® 8000 PORTABILITY

The Intoxilyzer® 8000 is engineered to be used as a mobile instrument. The instrument may be moved from law enforcement agencies and correctional facilities to be used at a remote location for subject testing. The Intoxilyzer® 8000s must be

installed by a Field Inspector prior to it being used for evidentiary testing. This will ensure that the calibration is maintained.

Operators may also arrange to borrow additional unit(s) from the Crime Laboratory so that operators on routine patrol have access to an instrument. The unit must be re-installed if it is going to be transported from a local agency.

The Intoxilyzer® 8000s are equipped with a battery pack to allow the instrument to be used in a correctional facility or at a roadside sobriety check point. When fully charged, the battery provides power to the unit for approximately two hours. It can also be plugged into a vehicle cigarette lighter for power from a 12 volt battery. The battery pack attached to the Intoxilyzer® 8000 requires both power switches be turned on for normal use while plugged into the 110 volt outlet. The following messages on the display refer to the status of the battery charge. (See Table 3: "*Battery Charge Status*.")

BATTERY CHARGE STATUS	
Display Message:	**Meaning:**
Fast Charge 87% ▮▮▮▮▮▮▮	The instrument was just plugged in and the battery is building a charge.
Discharging 67% ▮▮▮▮▮▮▮	The Intoxilyzer® 8000 is powered solely by the battery. The number indicates what percentage of the battery life remains.
Charge Suspend: 100% ▮▮▮▮▮▮▮	Unit is fully charged.

Table 3: Battery Charge Status

If the battery is allowed to discharge entirely, the internal printer will send out a long printout of question marks. Discard the printout. To charge the battery, plug the Intoxilyzer® 8000 into a 110 volt source and turn on the "power" and "battery" switches. The instrument will then charge the battery as it warms up. (See Figure 7: "*Initialization; Power Button Off; Battery Run Down*.")

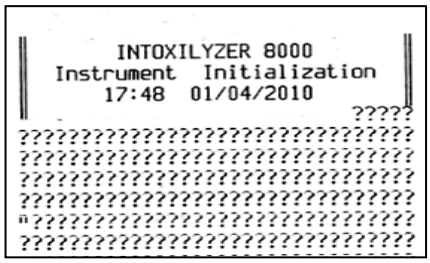


Figure 7: Initialization; Power Button Off; Battery Run Down

PRINTERS

The Intoxilyzer® 8000 is equipped with an internal printer. The printer uses thermal printer paper to record the test records. If an external printer is connected via a USB cable to the rear of the Intoxilyzer® 8000, the instrument will send the data to the external printer instead of the internal printer.

Note: If the USB cable becomes loose, the Intoxilyzer® 8000 will send the data to the internal printer. The operator should reconnect the cable and reboot the instrument by turning both power and battery buttons “off” and then “on.” The Intoxilyzer® 8000 will proceed with a 5-minute countdown until “Ready to Start” appears on the screen.

Replacing the Internal Printer Paper:

1. Lift and remove the paper door by lifting the black knob;

2. Pull the green lever forward until it locks;

3. Lift and remove the used roll of paper from the roll holder;

4. Place a new roll of paper on the holder with the paper spooling from the bottom. Slip the leading edge of the paper underneath the rear of the black rubber roller until the edge slides out the front;

5. Push the green lever up and back until it locks;

6. Feed the paper through the slot in the printer paper door;

7. Replace the printer paper door and press the black knob until it locks.

Out of Paper:
The external printer has a buffer to retain data from the last test. If the printer starts up and no paper appears, the printer will indicate failure with a flashing light. The operator should add paper and then the requested number of copies will be printed. Keep in mind the “F1” key may be depressed to print additional copies of the test only in the CMS mode after it has returned to the “Ready Mode.”

Test Record Jammed
Occasionally a test record may become jammed in the internal printer of the Intoxilyzer® 8000. Open the cover of the printer by pulling out the black knob. Lift the top of the printer cover up. Gently pull the green lever of the printer forward. Adjust the paper roll so the paper is evenly spaced on the roller from side to side. Release the green lever to allow the paper cutter to hold the paper in place.

INTOXILYZER® 8000 DIAGNOSTIC TEST SERIES

Following is a list of checks done by the Intoxilyzer® 8000 as a diagnostic test series. An explanation of each step is provided. “Diagnostic” will appear on the top line of the display. (See Table 4: “*Diagnostic Test Series*.”)

DIAGNOSTIC TEST SERIES	
Display Message:	**Meaning:**
Not Ready Mode MM/DD/YYYY HH:MM	The instrument was just powered on. It will take 20-30 minutes to warm-up.
Ready in 04:59 MM/DD/YYYY HH:MM	The instrument will count down the final five minutes of the warm-up period.
Room Air	The instrument takes a room air sampling.
Voltage/Current	Verifies voltage and current value.
RAM Test	Verifies Random Access Memory availability.
EEPROM Test	Verifies validity of the checksum and EEPROM data (checks computer programming).
RTClock Test	Validates current time and date (real time clock test).
DSP Test	Verifies that the digital signal processor is functioning correctly (digital signal process test).
Analytical Test	Verifies the stability and operation of analytical components.
Int Prnt Test	Checks internal printer.
Modem Test	Verifies internal modem operation.
Temp Reg Test	Verifies prescribed temperature controls for the sample chamber and breath tube (temperature regulation test).

Table 4: Diagnostic Test Series

Following each test, “Pass,” “N/A,” or “Fail” will appear at the end of each line. The Intoxilyzer® 8000 will then enter the “Ready Mode.” Four messages will alternate on the display: “ND Model,” “Ready to Start,” “MM/DD/YYYY,” and the battery status. The Intoxilyzer® 8000 is ready to begin a test.

CRITERIA FOR BREATH SAMPLES

The Intoxilyzer® 8000 is designed and programmed to obtain a breath specimen that is an "end expiratory breath." It evaluates the breath according to four criteria.

Four Criteria for an Adequate Breath Sample:

1. **Flow**: The subject must blow steadily with a flow rate of 0.15 L per second. A continuous tone will sound.

2. **Minimum Volume**: 1.1 L

3. **Level Slope**: The alcohol concentration should not go up or down.

4. **Time**: The subject must continue blowing one second after the volume and slope criteria have been met.

When all four criteria are met in a single breath, it is referred to as an "Adequate Breath Sample."

The subject has a three-minute period to deliver each of two breath samples in the North Dakota Custom Mode Sequence (CMS). The subject may stop and restart blowing into the Intoxilyzer® 8000 during this time; however, the Intoxilyzer® 8000 will judge the breath sample adequate only if all four criteria are met. If any of the four criteria is not met, the instrument will indicate the sample to be deficient or an invalid sample. It may also indicate interferent present in the sample. (See the "*Intoxilyzer® 8000 Troubleshooting*" section of this manual.)

TYPES OF BREATH SAMPLES

1. **Adequate Sample:** All four criteria are met: flow, volume, slope, and time.

2. **Deficient Sample:** At least one of the four criteria is not met. Usually the subject fails to blow hard enough or long enough.

3. **Invalid Sample:** Some residual mouth alcohol was present. The slope detector in the computer sensed a rise then fall of the breath alcohol concentration.

4. **Interferent Detected:** A chemical other than ethyl alcohol was detected by the Intoxilyzer® 8000.

OPERATING PROCEDURES

The mucous lining of the mouth cavity and nasal passages store alcohol for 5-15 minutes after a person consumes an alcoholic beverage. Normal absorption eliminates residual mouth alcohol within 20 minutes. Therefore, ascertain that the subject has not had anything to eat, drink, or smoke for 20 minutes before performing an evidentiary test. If the subject regurgitates or places anything to eat, drink, or smoke in his/her mouth, note the time and delay starting a breath test for at least 20 minutes.

NORTH DAKOTA CUSTOM MODE SEQUENCE

The North Dakota Custom Mode Sequence (CMS) was developed to provide a test sequence which would meet the requirements of the *Approved Method to Conduct Breath Tests With the Intoxilyzer® 8000* and recommendations of the National Safety Council for evidentiary breath testing.

The *Approved Method(s)* containing the Custom Mode Sequence must be used for evidentiary breath analysis in cases dealing with Driving Under the Influence (DUI), Actual Physical Control (APC), Snowmobiling Under the Influence (SUI), Off Highway Vehicle (OHV), Minor Zero Tolerance (MZT), Hunting Under the Influence (HUI), and Boating Under the Influence (BUI).

- **Steps of the Custom Mode Sequence:**

In accordance with the *Approved Method*, a valid breath test in the Custom Mode Sequence (CMS) must contain all of the following steps:

1. D = Diagnostics;
2. A = Air Blank;
3. B = Subject Breath;
4. A = Air Blank;
5. C = Calibration Standard or Ethanol Breath Standard;
6. A = Air Blank;
7. B = Subject Breath;
8. A = Air Blank.

The following messages, instructions, and/or commands will appear in the *North Dakota Custom Mode Sequence* program when the instrument is working properly, no errors occur during the test, and the instrument/operator does not terminate the test. (See Table 5: *"Custom Mode Sequence."*)

CUSTOM MODE SEQUENCE (CMS) — DUI, APC, MZT, BUI, SUI, OHV, AND HUI	
Display Message	**Meaning/Required Action**
Standby Mode	Press “Start Test” button (displays a one minute countdown).
Ready Mode *(Second line alternates between:)* ND Model Ready to Start Date Time Battery Status	Press “ESC,” “ESC,” and then the “Start Test” (green) button.
Please Scan ID or Press Enter Oper No? Oper Last Name? Oper First Name?	Scan chemical test operator card and verify each data item by pressing “Enter” or press “Enter” and manually answer the questions.
20 Minute Wait? Y/N N	Answer if the 20-minute wait was ascertained.
# of Print Copies? 1	Answer the number of copies needed. (Use “1” for class testing and “5” for DUI subjects.)
Please Scan DL or Press Enter Subj Last Name? Subj First Name? Subj Middle Name? Subj Date of Birth? Subj Sex M/F? Subj Weight?	Scan driver’s license and verify each data item by pressing “Enter” or press “Enter” and manually answer the questions. (Type date in this format: MM/DD/YYYY.)
Test Reason DUI ↑↓↵ Driving Under Infl Test Reason HUI ↑↓↵ Hunting Undr Infl Test Reason MIC ↑↓↵ Minor in Consumption Test Reason OHV ↑↓↵ OHV Test Test Reason OTH ↑↓↵ Other	Indicate the reason for the breath test by using “Page Up” or “Page Down” or arrow up or down (↑↓) keys. Press “Enter” to indicate reason.

Test Reason SUI ↑↓↵ Snowmobiling Under Infl Test Reason WRK ↑↓↵ Work Release Test Reason BUI ↑↓↵ Boating Undr Infl	
Citation #? —	Enter the citation number if it is available or “NA” if it is not.
Drivers License #? —	Enter subject’s driver’s license number.
DL State —	Enter the two letter state code.
County —	Enter the two digit number for county of arrest. (See Figure 45: “*County Codes*.”)
Review Data (Y/N)? N	Selecting “Y” allows the operator to correct any typos by stepping through the above data and correcting any incorrect information; when selecting “N,” the instrument proceeds with diagnostic tests.
A set of diagnostic tests is run. If all criteria are met for the above checks, the instrument displays the following:	
Room Air Rslt:0.000	The instrument is purging the sample chamber and external breath tube.
Reference ▮▮▮▮▮▮▮	The instrument determines the baseline.
Please Blow Until Tone Stops	**Attach a clean mouthpiece.** Instruct the subject to blow into the mouthpiece until the tone stops. The operator should then coach the subject to continue to blow for a certain count (suggested 3-4). The subject has three minutes to provide an adequate breath sample containing alcohol. The instrument will display the alcohol concentration value (AC) until the subject has delivered a sufficient breath sample. The instrument will display the zero to the left of the decimal point indicating that the subject has delivered an

Subject Test Rslt:0.###	adequate breath sample. If the subject stops blowing before providing a sufficient sample, the instrument will display “Please Blow Until Tone Stops” and will beep every 5 seconds until the subject delivers another breath sample. If this occurs, instruct the subject to blow into the mouthpiece until the tone stops (no need to change the mouthpiece). In the event that the subject fails to provide an adequate breath sample within three minutes, “Deficient Sample” appears on the display accompanied by a high-low tone sounding intermittently every five seconds. On the test record, the instrument indicates the highest obtainable alcohol concentration (AC) value by printing “*Subject Test 0.###*.” The asterisk (*) is a cross-reference to the message printed at the bottom on the test record, “*Deficient Sample - Value Printed Was Highest Obtained.”
Cln Mth Pc (Y/N)? —	Answer if a clean mouthpiece was used and disposed of. The “Y” will stay on the screen for about a minute.
Room Air Rslt:0.000	The instrument is purging the sample chamber and external breath tube.
Reference ▮▮▮▮▮▮▮	The instrument determines the baseline.
Std. Gas Rslt:0.0##	The instrument will sample and analyze the gas standard automatically with the aid of the regulator. The result will be displayed. The current Ethanol Breath Standard is 0.080 alcohol concentration (AC). The acceptable range is 0.075 – 0.085 alcohol concentration (AC).
Room Air Rslt:0.000	The instrument is purging the sample chamber and external breath tube.
Reference ▮▮▮▮▮▮▮	The instrument determines the baseline.
Please Blow Until	**Attach a clean mouthpiece.** Instruct the

Tone Stops Subject Test Rslt0.###	subject to blow into the mouthpiece until the tone stops. The operator should then coach the subject to continue to blow for a certain count (suggested 3-4). The subject has three minutes to provide an adequate breath sample containing alcohol. **Remove and discard the mouthpiece.**
Cln Mth Pc (Y/N)? –	Answer if a clean mouthpiece was used and disposed of. This "Y" will not appear on the screen long.
Room Air Rslt:0.000	The instrument is purging the sample chamber and internal and external breath tube.
Difference OK	The instrument will calculate the difference between the first and second subject breath samples if they are both found to be adequate and "Difference OK" will appear on the display.
Difference Too Great	If the difference between the two adequate breath samples is greater than 0.020 alcohol concentration (AC), the display will show "Difference Too Great."
Ready Mode	The instrument will return to the "Ready Mode" and print the test record automatically.

Table 5: Custom Mode Sequence

If the Intoxilyzer® 8000 is not used for a set period of time, the unit will return to the "Standby Mode."

Following is a copy of a valid test record run in the North Dakota Custom Mode Sequence. (See "*Intoxilyzer® Test Record Form 106-I8000*," following.)

Location Code

Standard

Difference

RFI Detect

Subject Info

Standard Setup

Checklist Questions

Operator Remarks

Serial Number

Reported AC and Time

Chemical Test Operator (CTO) Number

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 8164.13.00 06/09
08/26/2012 14:11

Test	AC	Time
01 Diagnostic	OK	14:12
02 Room Air	0.000	14:12
03 Subject Test 1	0.116	14:13
04 Room Air	0.000	14:15
05 Std. Gas	0.080	14:16
06 Room Air	0.000	14:17
07 Subject Test 2	0.114	14:18
08 Room Air	0.000	14:19
09 Reported AC	0.114	14:18

Difference OK
No RFI Detected

Sub Name = DISCOVER, THE SPIRIT
Sub DOB = 02/01/1992
Sub Sex = Female Weight = 150
Test = DUI Cit = NA
Dr. Lic. = ND/DIS921456
Lot No = 15410080A1
Cyl No = 25
Expiration Date = 07/01/2012
County = 08 Oper No. = 777777

20 minute waiting period ascertained? Y
Clean Mouthpiece used and disposed? Y
Clean Mouthpiece used and disposed? Y

I followed the Approved Method and the instructions displayed by the Intoxilyzer in conducting this test.

Deb Kashur
Operator Signature
DEB KASHUR

Remarks:

Form 106-I8000

Figure 8: Intoxilyzer 8000 Test Record Form 106-I8000

INTOXILYZER® 8000 TROUBLESHOOTING

INTOXILYZER® 8000 DIAGNOSTIC CHECKS

When one turns on the Intoxilyzer® 8000 breath analysis instrument, “Standby Mode” appears on the display. Upon exiting the “Standby Mode,” the instrument performs a set of diagnostic checks on its components and operational standards.

If the unit locates an exception while performing the diagnostic checks, the display gives an exception and a high-low tone sounds. For example, if radio frequency interference is detected, the high-low tone will sound, the test will be halted, and “RFI Detect” is displayed and printed. A test cannot be started until the instrument completes the diagnostic checks without finding an exception.

Exceptions:

The following are exceptions that may appear on the display. The exceptions are accompanied by a high-low tone. (See Table 6: “*Exceptions*.”)

EXCEPTIONS	
Exception:	**Suggested Action:**
Intox 8000 Test Record is Not Legible	Reprint a copy of the test record by pressing “F1.” This may only be done until the next subject test is started.
Invalid Sample	Residual mouth alcohol was detected in the subject’s breath sample. The display will read “Invalid Sample, accompanied by a high-low tone. The instrument aborts the mode sequence and prints “Invalid Sample X.XXX” followed by “*Invalid Test – Mouth Alcohol.” **Since normal body processes absorb residual mouth alcohol in 20 minutes, observe the subject for at least 20 minutes before beginning another analysis.** During the observation time, the subject may not smoke, eat, or drink. Furthermore, if the subject regurgitates, have the subject rinse out his/her mouth, note the time, and delay beginning a breath analysis for 20 minutes.
RFI Detect	High level radio frequency interference is present and may give a false room air, breath, or standard analysis. The instrument halts the test, “RFI Detect” appears on the

	display, “Invalid Test Inhibited – RFI” prints on the test record, and the instrument prepares itself to start another test. If “RFI Detect” occurs often, call Crime Laboratory staff to troubleshoot the problem.
Deficient Sample	The subject did not supply an adequate breath sample within three minutes. The instrument displays “*Subject Test 0.###*” and completes the mode sequence. The instrument indicates the highest obtained alcohol concentration (AC) value by printing asterisks (*) before and after “*Subject Test 0.###*” on the test record. The asterisks (*) cross-reference the message printed below the test record, “*Deficient Sample - Value Printed Was Highest Obtained.”
Interferent Detect	Interferent constitutes an invalid test. The subject’s breath sample contains a substance, such as acetone or an alcohol other than ethanol, that absorbs some of the same infrared wavelengths that ethanol absorbs. The instrument will display an apparent alcohol concentration, followed by “Interferent Detect.” It will also sound a high-low tone and abort the test. The instrument will print “*Subject Test INT*” on the test record. The asterisks (*) cross-reference the message printed below on the test record, “*Invalid Test Interferent Detected.” **The operator should then seek medical assistance for the subject according to his/her agency policy and choose a blood or urine sample for evidence.**
Ambient Fail	The room air is contaminated with chemicals that would interfere with the alcohol analysis (i.e. alcohol, smoke, cleaning supplies, or paint fumes). The display will read “Ambient Fail” and a high-low tone will sound. The instrument will run one more room air blank and abort the test. The test record will include data collected until the time of the ambient fail. That line will read “Room Air AMB*” followed by “Invalid Test Check Ambient Conditions.” The operator may clear the environment and repeat the breath test without delay or choose a different test as evidence.
Purge Fail	This exception occurs when the instrument is unable to clear the sample chamber after an “Ambient Fail” has

	occurred. The instrument will abort the test and print out "Room Air PUR*" followed by "*Purge Fail" on the test record. Starting and aborting a test may allow the instrument to clear the path with the extra room air samples. In the meantime, a blood or urine test may be required.
No Test Record is Printed	According to the *Approved Method*, this is considered an invalid test. You may request a new test from the subject.
Calibration Check Out of Tolerance	The analysis of the Ethanol Breath Standard is not within the acceptable range. "Std.Gas 0.###*" followed by "*Cal Check Out of Tolerance" will be printed on the test record. The test will be aborted and a high-low tone will be sounded. Check to see if the standard gas is plugged into the valve and if the regulator wires are plugged into the back of the instrument. Repeat the test or get an alternative sample.
Tank Pressure Below Minimum	The gas cylinder pressure for the standard is below the minimum necessary to conduct a test. Call Crime Laboratory staff.

Table 6: Exceptions

CORRECTIVE ACTION FOR ANY EXCEPTION

If after an exception the Intoxilyzer® 8000 does not perform an automatic reset, the operator may "Reboot" the instrument and printer. The instrument will perform a set of diagnostic tests. It completes a five minute countdown before "Ready Mode" appears on the display and the instrument is operational. If an exception message re-appears, the operator should shut down the instrument and obtain a blood or urine sample. The lead operator or Field Inspector for the instrument should be informed of the problem. (See the "*Intoxilyzer® 8000 Troubleshooting; Reboot Intoxilyzer® 8000 and Printer*" section of this manual.)

TEST RECORD REPORTING EXCEPTIONS

All printed test records must be preserved and submitted as evidence. The lower half of the test records, which reports exception messages, should be completed and signed, prior to submitting with the valid tests. **Do not destroy these records as they are considered evidence.** On the following pages are examples of test records showing locations where information and exception messages can be found.

Test Record Quick Guide

A chart is provided to each law enforcement agency to display near the Intoxilyzer® 8000. This chart gives every operator a quick guide how to read the Test Record Form 106-I8000 and whether a test is valid or not. Also stated is what action should be done if the breath test is not valid.

Check Standard Result

Check Difference or Other Exceptions

Check Information Typed/Scanned In

Check Label BrF-008-G

Three (3) Questions Missing

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 8164.13.00 06/09
08/26/2012 14:33

Test	AC	Time
01 Diagnostic	OK	14:33
02 Room Air	0.000	14:34
03 Subject Test 1	0.021*	14:34
04 Room Air	0.000	14:37
05 Std. Gas	0.080	14:38
06 Room Air	0.000	14:39
07 Subject Test 2	0.117*	14:41
08 Room Air	0.000	14:41

*Difference Too Great

Sub Name = DISCOVER, THE SPIRIT
Sub DOB = 02/01/1992
Sub Sex = Female Weight = 150
Test = DUI Cit = NA
Dr. Lic. = ND/DIS921456
Lot No = 15410080A1
Cyl No = 25
Expiration Date = 07/01/2012
County = 08 Oper No. = 777777

I followed the Approved Method and the instructions displayed by the Intoxilyzer in conducting this test.

Deb Kashur

Operator Signature
DEB KASHUR

Remarks:

Form 106-I8000

Figure 9: Test Records; Areas Showing Exceptions

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 8164.13.00 06/09
08/26/2012 14:58

Test	AC	Time
01 Diagnostic	OK	14:58
02 Room Air	0.000	14:59
03 Subject Test 1	0.020	14:59
04 Room Air	0.000	15:02
05 Std. Gas	0.079	15:03
06 Room Air	0.000	15:04
07 *Subject Test	0.000*	15:07
08 Room Air	0.000	15:15
09 Reported AC	0.020	14:59

No RFI Detected

*Deficient Sample - Value Printed was
Highest Obtained

Sub Name = DISCOVER, THE SPIRIT
Sub DOB = 02/01/1992
Sub Sex = Female Weight = 150
Test = DUI Cit = NA
Dr. Lic. = ND/DIS921456
Lot No = 15410080A1
Cyl No = 25
Expiration Date = 07/01/2012
County = 08 Oper No. = 777777

20 minute waiting period ascertained? Y
Clean Mouthpiece used and disposed? Y
Clean Mouthpiece used and disposed? Y

I followed the Approved Method and the
instructions displayed by the Intoxilyzer
in conducting this test.

Deb Kashur

Operator Signature
DEB KASHUR

Remarks:
The subject refused to blow the 2nd time.

Form 106-I8000

Deficient Sample for Subject Test 2

Figure 10: Test Records; Deficient Sample for ST2

Figure 11: Test Records: RFI, Refusal & Interferent

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

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-004188
Location = TOXL 8164.13.00 06/09
08/29/2012 13:47

Test	AC	Time
01 Diagnostic	OK	13:48
02 Room Air	0.000	13:49
03 Subject Test 1	0.115	13:49
04 Room Air	RFI*	13:50
05 Room Air	0.000	13:50

*Invalid Test
Inhibited - RFI

Sub Name = DISCOVER, THE SPIRIT
Sub DOB = 02/01/1992
Sub Sex = Female Weight = 150
Test = DUI Cit = NA
Dr. Lic. = ND/DIS921456
Lot No = 15410080A1
Cyl No = 25
Expiration Date = 07/01/2012
County = 08 Oper No. = 777777

I followed the Approved Method and the instructions displayed by the Intoxilyzer in conducting this test.

Deb Kashur
Operator Signature
DEB KASHUR

Remarks:
RFI

Form 106-I8000

RFI Detected

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

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-004188
Location = TOXL 8164.13.00 06/09
08/29/2012 13:51

Test	AC	Time
01 Room Air	0.000	13:52
02 *Subject Test	REF*	13:52
03 Room Air	0.000	13:52

*Subject Test Refused

Sub Name = DISCOVER, THE SPIRIT
Sub DOB = 02/01/1992
Sub Sex = Female Weight = 150
Test = DUI Cit = NA
Dr. Lic. = ND/DIS921456
Lot No = 15410080A1
Cyl No = 25
Expiration Date = 07/01/2012
County = 08 Oper No. = 777777

Deb Kashur
Operator Signature
DEB KASHUR

Remarks:
ABA mode
Hot Key "R"
Form 106-I8000

Operator Pressed the Refusal Key

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

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-004188
Location = TOXL 8164.13.00 06/09
08/29/2012 11:18

Test	AC	Time
01 Diagnostic	OK	11:19
02 Room Air	0.000	11:19
03 *Subject Test	INT*	11:19
04 Room Air	0.000	11:20

*Invalid Test
Interferent Detected

Sub Name = DISCOVER, THE SPIRIT
Sub DOB = 02/01/1992
Sub Sex = Female Weight = 150
Test = DUI Cit = NA
Dr. Lic. = ND/DIS921456
Lot No = 15410080A1
Cyl No = 25
Expiration Date = 07/01/2012
County = 08 Oper No. = 777777

I followed the Approved Method and the instructions displayed by the Intoxilyzer in conducting this test.

Deb Kashur
Operator Signature
DEB KASHUR

Remarks:
Interferent

Form 106-I8000
Took subj. to get medical attn.

Interferent Present in Breath Sample

Figure 12: Test Records; Standard Below Tolerance, Chemical Detected, & Mouth Alcohol

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

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-004188
Location = TOXL 8164.13.00 06/09
08/29/2012 13:46

Test	AC	Time
01 Diagnostic	OK	13:47
02 Room Air	0.000	13:47
03 Subject Test 1	0.022	13:48
04 Room Air	0.000	13:50
05 Std. Gas	0.000*	13:51
06 Room Air	0.000	13:52

*Cal Check Out of Tolerance

Sub Name = DISCOVER, THE SPIRIT
Sub DOB = 02/01/1992
Sub Sex = Female Weight = 150
Test = DUI Cit = NA
Dr. Lic. = ND/DIS921456
Lot No = 15410080A1
Cyl No = 25
Expiration Date = 07/01/2012
County = 08 Oper No. = 777777

I followed the Approved Method and the instructions displayed by the Intoxilyzer in conducting this test.

Deb Kashur
Operator Signature
DEB KASHUR

Remarks:
The calibration inlet hose was disconnected.

Form 106-I8000

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

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-004188
Location = TOXL 8164.13.00 06/09
08/29/2012 13:55

Test	AC	Time
01 Room Air	AMB*	13:56
02 Room Air	0.000	13:56

*Invalid Test
Check Ambient Conditions

Sub Name = DISCOVER, THE SPIRIT
Sub DOB = 02/01/1992
Sub Sex = Female Weight = 150
Test = DUI Cit = NA
Dr. Lic. = ND/DIS921456
Lot No = 15410080A1
Cyl No = 25
Expiration Date = 07/01/2012
County = 08 Oper No. = 777777

Deb Kashur
Operator Signature
DEB KASHUR

Remarks:
ambient fail

Form 106-I8000

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

CMI, Inc. Intoxilyzer Alcohol Analyzer
North Dakota Model 8000 SN 80-004188
Location = TOXL 8164.13.00 06/09
08/29/2012 13:58

Test	AC	Time
01 Room Air	0.000	13:59
02 Invalid Sample	X.XXX	13:59
03 Room Air	PUR*	14:00

*Purge Fail
**Invalid Test - Mouth Alcohol

Sub Name = DISCOVER, THE SPIRIT
Sub DOB = 02/01/1992
Sub Sex = Female Weight = 150
Test = DUI Cit = NA
Dr. Lic. = ND/DIS921456
Lot No = 15410080A1
Cyl No = 25
Expiration Date = 07/01/2012
County = 08 Oper No. = 777777

Deb Kashur
Operator Signature
DEB KASHUR

Remarks:
mouth alcohol with a purge fail

Form 106-I8000

Ethanol Breath Standard Below Tolerance (Tank Was Unplugged at Disconnect)

Chemical Detected in Room Air

Mouth Alcohol Detected

REBOOT INTOXILYZER® 8000 AND PRINTER

To reboot the Intoxilyzer® 8000, perform the following:

1. Turn off both the main power and battery switches on the Intoxilyzer® 8000;

2. Unplug the power cord for the printer;

3. Unplug the printer cable from the back of the Intoxilyzer® 8000;

4. Wait about 20 seconds for capacitors to discharge;

5. Plug in the cords and cable;

6. Turn on the Intoxilyzer® 8000 main power switch and battery switch;

Note: It will only take a five minute countdown period for the Intoxilyzer® 8000 to go to the “Ready Mode” because the instrument was already warm.

CONSISTENCY IN BREATH SAMPLES

The operator should obtain consistent breath sampling. You should coach the subject to do this: “Blow until told to stop.” If the subject is blowing with constant flow, the continuous tone will sound. The operator should watch the display until the ZERO to the left of the decimal point appears. At this point, the flow, volume, slope, and time requirements have been met. The tone of the Intoxilyzer® 8000 will then stop. The operator should coach the subject to continue to blow for a certain count (suggested 3-4). This will ensure the instrument will lock in the alcohol concentration and the officer is sampling the breath consistently.

DETECTION OF RESIDUAL MOUTH ALCOHOL

It is important to determine if the breath sample testing positive is due to any alcohol in the mouth cavity that has not been absorbed into the bloodstream (residual mouth alcohol). This may be due to the last drink of alcohol or from a burp or belch.

While the Intoxilyzer® 8000 has a slope detector to detect residual mouth alcohol, the *Approved Method to Conduct Breath Tests With the Intoxilyzer® 8000* further checks for residual mouth alcohol by requiring the operator to do the following:

1. Ascertain a 20 minute wait or deprivation period;

2. Take two breath samples at least four minutes apart (automatically timed by the instrument);

3. Requires alcohol concentrations from the two adequate breath samples to agree

within 0.02 g/210 L (or 20 digits) of expired breath;

4. The Intoxilyzer® 8000 has a slope detector, which indicates invalid samples (Invalid Sample X.XXX).

If either the first or second subject sample indicates “Invalid Sample X.XXX,” the entire test shall be considered invalid due to residual mouth alcohol. The operator should stop the test and wait another 20-minute deprivation period prior to initiating the next test. If all four criteria are met, residual mouth alcohol did not interfere with the subject’s test.

Note: The operator may request that the subject rinse his/her mouth with water prior to the 20 minute wait.

WHEN NOT TO USE THE INTOXILYZER® 8000

1. When the power is fluctuating; a high or low voltage may stop the test or may damage the instrument.

2. When actively experiencing thunder/lightning storms; lightning may strike the building and cause damage to the instrument.

3. When the subject continues to belch or appears ill; the subject may spit stomach contents into the instrument.

4. When an exception code(s) appear after rebooting the instrument.

5. When a subject has lung problems, such as COPD or asthma.

INTOXILYZER® 8000 MODES

The Intoxilyzer® 8000 may be used for tests other than DUI. For example, the single breath test (ABA) can be used for MIC, Parole/Probation, Work Release, or a parent request.

MODE OPTIONS

All operators can access "Menu Level One." This is done by pressing, "Esc, Esc," followed by "Enter" only once. The menu will appear on the display as, "1 BCPSQ." The operator should key the letter of the option followed by the "Enter" key. (See Table 7: "*Mode Options*.")

MODE OPTIONS	
Option:	**Performs:**
B	ABA Test
C	ACA Test
P	Print Test
S	Setup Standard
Q	Allows the operator to quit this level and return to "Ready to Start"

Table 7: Mode Options

Note: There are no *Approved Methods* for these mode options.

MODE OPTION B (ABA Test) — ONE BREATH	
Display Message:	**Meaning/Required Action:**
Standby Mode (1 min. countdown)	Press the "Start Test" button.
Ready Mode *(2nd line Alternating)* ND Model Ready to Start Date Time Battery Status	Press "ESC," "ESC," followed by "Enter."
1| BCPSQ Breath Test	Select "B" and press "Enter."
Please Scan ID	Scan the chemical test operator card and

or Press Enter Oper No? Oper Last Name? Oper First Name?	verify each data item by pressing “Enter” or press “Enter” and manually answer the questions.
# of Print Copies?	Answer the number of copies needed. (Use “1” for class testing and “4” for MIC subjects.)
Please Scan DL or Press Enter Subj Last Name? Subj First Name? Subj Middle Name? Subj Date of Birth? Subj Sex M/F? Subj Weight?	Scan the driver’s license and verify each data item by pressing “Enter” or press “Enter” and manually answer the questions. (Type date in this format: MM/DD/YYYY.)
Test Reason DUI ↑↓↵ Driving Under Infl Test Reason HUI ↑↓↵ Hunting Undr Infl Test Reason MIC↑↓↵ Minor in Consumption	Press the “Page Down” or arrow down (↓) key until “MIC” appears. Press “Enter” to indicate an MIC test.
Citation #? —	Enter the citation number if it is available or press “Enter” if not available.
Drivers License #? —	Press “Enter” to verify the subject’s driver’s license number or enter the number.
DL State —	Enter the two letter state code.
County —	Enter the two digit number for county of arrest. (See Figure 45: “*County Codes*.”)
Review Data (Y/N)? N	Selecting “Y” allows the operator to correct any typos by stepping through the above data and correcting any incorrect information; if selecting “N,” the instrument continues with a room air sample.
No diagnostic tests will be performed during this test in “B” mode.	
Room Air Rslt:0.000	The instrument is purging the sample chamber and external breath tube.
Reference ▮▮▮▮▮▮▮	The instrument determines the baseline.

Please Blow Until Tone Stops	**Attach a clean mouthpiece**. Instruct the subject to blow into the mouthpiece until the tone stops. The operator should then coach the subject to continue to blow for a certain count (suggested 3-4). The subject has three minutes to provide an adequate breath sample containing alcohol. The instrument will display the alcohol concentration value until the subject has delivered a sufficient breath sample. The instrument will display the zero to the left of the decimal point indicating the subject has delivered an adequate breath sample. If the subject stops blowing before providing a sufficient sample, the instrument will display "Please Blow Until Tone Stops" and will beep every 5 seconds until the subject delivers another breath sample. If this occurs, instruct the subject to blow into the mouthpiece until the tone stops (no need to change the mouthpiece). In the event that the subject fails to provide an adequate breath sample within three minutes, "Deficient" appears on the display accompanied by a high-low tone sounding intermittently for five seconds. The instrument indicates the highest obtainable alcohol concentration (AC) value by printing "*SUBJECT TEST 0.###*" on the test record. The asterisk (*) is a cross-reference to the message printed at the bottom on the test record, "*Deficient Sample - Value Printed WAS Highest Obtained." **Remove and discard the mouthpiece.**
Room Air Rslt:0.000	The instrument is purging the sample chamber and external breath tube.
1| BCPSQ Breath Test	The instrument is ready to start a new test. Select one of the options or press "Q" to quit this mode and return to the "Ready Mode."

Table 8: Mode Option B

MODE OPTION C (ACA Test)	
Display Message:	**Meaning/Required Action:**
1| BCPSQ Configure Standard	The instrument is ready to start a test. Select "C" and press "Enter" to start.
Please Scan ID or Press Enter Oper No? Oper Last Name? Oper First Name?	Scan the chemical test operator card and verify each data item by pressing "Enter" or press "Enter" and manually answer the questions.
County –	Enter the two digit number for county of test. **(See Figure 45: "*County Codes*.")**
Room Air Rslt:0.000	The instrument is purging the sample chamber and external breath tube.
Std. Gas Rslt:0.###	The instrument will sample and analyze the gas standard with the aid of the regulator and pump. The result will be displayed. The current Ethanol Breath Standard is 0.080 alcohol concentration (AC). The acceptable range is 0.075 – 0.085 alcohol concentration (AC).
Room Air Rslt:0.000	The instrument is purging the sample chamber and external breath tube.
Std. Gas Rslt:0.###	The instrument will sample and analyze the gas standard automatically with the aid of the regulator and pump. The result will be displayed. The current Ethanol Breath Standard is 0.080 alcohol concentration (AC). The acceptable range is 0.075 – 0.085 alcohol concentration (AC).
Room Air Rslt:0.000	The instrument is purging the sample chamber and breath tube.
Std. Gas Rslt:0.###	The instrument will sample and analyze the gas standard automatically with the aid of the regulator and pump. The result will be displayed. The current Ethanol Breath Standard is 0.080 alcohol concentration (AC). The acceptable range is 0.075 – 0.085 alcohol concentration (AC).
Room Air Rslt:0.000	The instrument is purging the sample chamber and external breath tube.

Table 9: Mode Option C

MODE OPTION P (Print Test)	
Display Message:	**Meaning/Required Action:**
1| BCPSQ Print Test	Select “P” and press “Enter.”
Please Scan ID or Press Enter Oper No? Oper Last Name? Oper First Name?	Scan the chemical test operator card and verify each data item by pressing “Enter” or press “Enter” and manually answer the questions.
The test record will print and the instrument will return to “Ready Mode.”	

Table 10: Mode Option P

MODE OPTION S (Standard Configuration) — Changing the Gas Cylinder	
Display Message:	**Meaning/Required Action:**
1| BCPSQ Configure Standard	Select “S” and press “Enter.”
Select Std (D/W/I)? D	Select “D” for Dry Gas Standard.
Please Scan Cylinder or Press Enter (camera flashes red)	Scan the 2D bar code on the top of the label on the cylinder. **By pressing “Enter,” the operator may step through and change the information.**
Standard Value? 0.080	Press “Enter” to verify alcohol concentration.
Standard Lot #? ######	Press “Enter” to verify lot number.
Standard Cyl #?	Enter the two digit number as it appears on the label of the gas cylinder.
Standard Expiration? MM/DD/YYYY	Press “Enter” to verify the date on the cylinder.
Please Wait Saving…	The instrument will save the data to print on all subject tests.
1| BCPSQ Configure Standard	Select “Q” and press “Enter” to return to “Ready Mode.”

Table 11: Mode Option S

MODE OPTION Q — Quit This Level
Pressing the “Q” key on your keyboard allows the operator to quit this level and return to “Ready to Start.”

Table 12: Mode Option Q

Note: If the Intoxilyzer® 8000 is not used for a set period of time, the unit will return to the “Standby Mode.” However, if the officer leaves the Intoxilyzer® without completing a test sequence, the instrument will not go into “Standby Mode” until that test is aborted.

Following are examples of test records indicating ABA and ACA tests.

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 8164.13.00 06/09
08/29/2012 14:25

Test	AC	Time
01 Room Air	0.000	14:27
02 Subject Test 1	0.038	14:27
03 Room Air	0.000	14:28
04 Reported AC	0.038	14:27

No RFI Detected

Sub Name = DISCOVER, THE SPIRIT
Sub DOB = 02/01/1992
Sub Sex = Female Weight = 150
Test = DUI Cit = NA
Dr. Lic. = ND/DIS921456
Lot No = 15410080A1
Cyl No = 25
Expiration Date = 07/01/2012
County = 08 Oper No. = 777777

Deb Kashur
Operator Signature
DEB KASHUR

Remarks:
Minor in Consumption

Form 106-I8000

Figure 13: ABA Test for MIC/MIP

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 8164.13.00 06/09
08/29/2012 14:34

DRY CAL CHECK

Test	AC	Time
01 Room Air	0.000	14:34
02 Std. Gas	0.078	14:35
03 Room Air	0.000	14:35
04 Std. Gas	0.079	14:36
05 Room Air	0.000	14:36
06 Std. Gas	0.079	14:36
07 Room Air	0.000	14:37

Lot No = 15410080A1
Cyl No = 25
Exp Date = 07/01/2012
County = 08 Oper No. = 777777

Deb Kashur

Operator Signature
DEB KASHUR

Remarks:

ACA

Form 106-I8000

Figure 14: ACA Test

The Approved Method is written to assure the operators, who are non-scientists, administer an analytical test without the need for supervision by a scientist. (See "***Approved Method***", below and on following pages.")

State of North Dakota)
)ss
County of Burleigh)

I, Charles E. Eder, do hereby certify that I am a duly-appointed State Toxicologist for the State of North Dakota and an official custodian of the records and files of the office thereof, that I have carefully compared the

APPROVED METHOD TO CONDUCT BREATH TESTS WITH THE INTOXILYZER 8000 (SEPTEMBER 29, 2011)

hereto attached with the respective original as the same appears of record on file in the Office of Attorney General, Crime Laboratory Division, in the County of Burleigh, North Dakota, and find the same to be a true and correct copy thereof and of the whole thereof. In witness whereof I have set my hand at the city of Bismarck, in said county this:

29th day of SEPTEMBER, 2011

Charles E. Eder, State Toxicologist

State of North Dakota)
)ss
County of Burleigh)

On this 29 day of September, 2011, before me personally appeared Charles E. Eder, known to me to be the State Toxicologist for the State of North Dakota, and acknowledged to me that he has executed the same.

Subscribed to and sworn before me on this:

29 day of September, 2011

Stacie L. Fleck-Merkel
Notary Public, State of North Dakota
My Commission Expires August 16, 2017

STACIE L. FLECK-MERKEL
Notary Public
State of North Dakota
My Commission Expires Aug. 16, 2017

Notary seal/stamp

Figure 15: Approved Method

OFFICE OF ATTORNEY GENERAL
Crime Laboratory Division
2641 East Main Avenue (58501)
P.O. Box 937
Bismarck, ND 58502-0937

Tel. (701) 328-6159
(800) 296 2054
Fax (701) 328-6185

September 29, 2011

APPROVED METHOD TO CONDUCT BREATH TESTS WITH THE INTOXILYZER® 8000

The Approved Method to Conduct Breath Tests with the Intoxilyzer® 8000 constitutes following the procedure outlined in this document and the instructions displayed by the Intoxilyzer® 8000. All operators will scan the information requested and answer the questions when prompted. Periodically, the Intoxilyzer® 8000 will ask if the operator wishes to review the inputted information. The operator may review and correct the data as needed. The Test Record and Checklist will be printed as Form 106-I8000 at the completion of the subject test. Upon review, if any of the data printed is incorrect, the operator may amend the test record by crossing out the incorrect inputted data and printing the correction on the test record.

Instrument Preparation:

To turn the instrument on, depress the "Power" and "Battery" switches. If the Intoxilyzer® 8000 utilizes the power saver feature, the operator should depress the "Start Test" (green) button. At this stage, the instrument will display "Standby Mode Date Time" and/or "Standby Mode Push Button to Start." The instrument should be allowed sufficient time to warm-up and complete a series of diagnostic checks. When these internal diagnostic checks have been completed, the instrument will display "Ready Mode Ready to Start" as one of the alternating displays. The Intoxilyzer® 8000 is now ready for a test. If the instrument is already displaying "Ready Mode Ready to Start," the operator may begin the test sequence at this stage.

Testing Procedure:

To initiate a test, press the "Esc" key twice. The display will read "Enter Password:." Depress the "Start Test" switch. The instrument will display "Please scan ID or press enter." The operator may swipe his Chemical Test Operator Certificate under the camera. He should then review the inputted information. If his card is not available, he should press "Enter." The operator should then enter his operator number and name when prompted.

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Figure 15: Approved Method

Before proceeding, the operator must ascertain that the subject has had nothing to eat, drink, or smoke within twenty minutes prior to the collection of the breath sample by answering the question "20 Minute Wait?." The operator should then answer "Y" or "N." Then, "# of Print Copies?" will appear on the display. The operator should then enter the number of copies needed. The display will read "Please scan DL or press enter." The operator should swipe the subject's driver's license under the card reader. If the camera reads the card, the operator can then review the data and enter the data requested. If the camera cannot read the license or if the license is not available, the operator should press "Enter." The operator should enter the data requested. At the completion of the entry, the operator may review the data and make any necessary corrections.

The Intoxilyzer® 8000 will perform a series of diagnostic checks. Only when the internal diagnostic checks are completed, will it proceed to test a sample of room air. During this test, the display will read "Room Air Rslt:###"," the time, and the date. Upon completion of the room air test, the display will read "Please Blow Until Tone Stops." At this point, the operator should place a clean mouthpiece in the end of the breath tube and instruct the subject to blow into the mouthpiece.* If the instrument accepts the breath as an adequate sample, the subject test result will be displayed. The operator should remove the mouthpiece from the breath tube and dispose of it. Then the instrument will ask the operator if a clean mouthpiece was used and disposed of by displaying "Cln Mth Pc (Y/N)?" The operator should answer the question whether a clean mouthpiece was used and disposed of.

After the sample chamber has been cleared and the room air test result has been completed and displayed by the instrument, the Intoxilyzer® 8000 will automatically pump an ethanol gas standard into the sample chamber. It will then analyze and display the alcohol concentration of the gas standard. Room air will once again be pumped through the sample chamber until it is cleared of the ethanol gas standard and a room air test displayed.

When the display scrolls the instruction "Please Blow Into Mouthpiece Until Tone Stops," the operator should place another clean mouthpiece in the breath tube and instruct the subject to blow into the mouthpiece.[1] If the instrument accepts the breath as an adequate sample, the subject test result will be displayed. The operator should remove the mouthpiece from the breath tube and dispose of it. Then the instrument will ask if a clean mouthpiece was used and disposed of by displaying "Cln Mth Pc (Y/N)?." The operator should answer the question whether a clean mouthpiece was used and disposed of. Room air will once again be pumped through the chamber to clear it and the room air test results displayed. If two breath samples are determined to be

*As the subject blows into the mouthpiece with sufficient pressure, the instrument sounds a continuous tone and displays "Subject Test" and the alcohol concentration. If the subject's breath does not contain alcohol, the tone will stop after a few seconds. However, if the instrument detects alcohol in the breath, the tone will continue until the zero to the left of the decimal point on the display appears which indicates the collection of an adequate sample. The subject may be asked to stop blowing. However, if the instrument does not accept the breath as an adequate sample, a display of "Please Blow Until Tone Stops" will reappear along with an intermittent beeping sound. If this happens, the subject may be asked for an additional breath sample(s).

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Figure 15: Approved Method

adequate, the display will then read "Difference OK" or "Difference Too Great." The printer then prints the Form 106-I8000 and feeds it out of the instrument or printer. Remove the Form 106-I8000 and observe it for legibility. When the test record is printed at the end of the test, if upon review any of this inputted information is incorrect, the operator may amend the test record by crossing out the incorrect inputted information and then writing the correction on the test record. Sign all printed copies. The operator may print more copies if necessary by depressing the "F1" key. The Intoxilyzer® 8000 will only allow reprints of a test until the next subject test is started.

The test record will identify the instrument as a "North Dakota Model 8000" along with the serial number. The instrument type is indicated on the "List of Approved Chemical Testing Devices."

The North Dakota Intoxilyzer® 8000 test sequence shall include these tests in the following order: Diagnostic, room air, subject test, room air, standard gas, room air, subject test, and room air.

AC (alcohol concentration) is expressed as grams of alcohol per two hundred ten liters of end expiratory breath whether or not such a designation is printed on the Form 106-I8000.

If radio frequency interference is not detected during any part of the test sequence, the instrument will print "No RFI Detected" on the Form 106-I8000.

Interpretation of Test:

If the Intoxilyzer® 8000 fails to print a test record, the test will be considered invalid.

The results of adequate breath samples will be printed as "Subject Test 1" or "Subject Test 2." Only the tests so designated shall be considered valid and are referred to hereafter as "Subject Tests." The lower of the two subject tests will be reported as the alcohol concentration.

If any breath sample is determined by the Intoxilyzer® 8000 to be deficient, the instrument will print "*Subject Test" followed by the highest alcohol concentration obtained during the test and will also identify that the sample was deficient.

If both breath samples rendered by the subject are not adequate samples, in any one test sequence, that entire test shall be considered invalid. The operator may repeat the Intoxilyzer® 8000 test without delay or obtain an alternative test.

If one of the two breath samples rendered by the subject sequence is not adequate, in any one test, or the subject does not provide one of the two samples, the single test obtained shall constitute a valid test and the three digits of that test will be reported as the alcohol concentration.

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Figure 15: Approved Method

If the numerical difference between "Subject Test 1" and "Subject Test 2" is greater than 0.020, "Difference Too Great" will be printed on the test record and the entire test shall be considered invalid. The operator should wait 20 minutes and repeat the Intoxilyzer® 8000 test.

If an incorrect date or time is printed, the operator shall write the correct date or time on the Form 106-I8000. This alone will not cause the test to be invalid.

If "Interferent" is noted on the display or test record for either breath sample, the test will be considered invalid. "Interferent" indicates another chemical was detected by the Intoxilyzer® 8000 in the breath sample of the subject. The operator should obtain an alternative test for evidentiary purposes.

If "Invalid Sample" is noted on the display or test record, the test will be considered invalid. "Invalid Sample" indicates that residual mouth alcohol was detected by the Intoxilyzer® 8000. The instrument will abort the test. The operator may administer another Intoxilyzer® 8000 test after waiting another 20 minutes and ascertaining that the subject does not eat, drink, or smoke anything.

If "Ambient Failed" appears on the display, the Intoxilyzer® 8000 will abort the test. "Check Ambient Conditions" will be printed on the test record and the entire test shall be considered invalid. This indicates that the Intoxilyzer® 8000 detected a chemical during the room air test. The operator should clear the chemical from the room air and then may repeat the Intoxilyzer® 8000 test without delay.

This approved method is valid for use with the Intoxilyzer® Test Record and Checklist (Form 106-I8000) for Intoxilyzer® 8000 tests administered beginning September 29, 2011.

When the test is conducted according to this method, it is considered as fairly administered and the result obtained is scientifically accepted as accurate.

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Figure 15: Approved Method

INTOXILYZER® 8000 QUALITY ASSURANCE

Quality assurance starts with the chemical test operator. *The Approved Method to Conduct Breath Tests With the Intoxilyzer® 8000* must be followed with scrupulous compliance. The purpose of the *Approved Method* is to enable officers to perform an alcohol analysis of the breath without the direct supervision of the State Toxicologist.

The Quality Assurance (QA) included on each Driving Under the Influence (DUI), Actual Physical Control (APC), Minor Zero Tolerance (MZT), Boating Under the Influence (BUI), Snowmobiling Under the Influence (SUI), Hunting Under the Influence (HUI), or Off Highway Vehicle (OHV) subject test is as follows:

1. A “Diagnostic Test” for limited functions on the Intoxilyzer® 8000 is performed.

2. It allows for two adequate subject samples about 5 minutes apart with agreement in alcohol concentrations. Note: if the test has only one deficient subject breath, it may still be used as a valid test.

3. A calibration check is done.

4. “Room Air” testing is done before and after each alcohol concentration (AC) test.

Copies of all test records should be given to the prosecutor and the subject. An additional certified copy should be made and sent, along with the Report and Notice, to the ND Department of Transportation.

ETHANOL BREATH STANDARD

The Ethanol Breath Standard serves as a control to check if the Intoxilyzer® 8000 is analyzing the breath samples accurately. This standard is analyzed between the first and second breath sample of each subject test in the Custom Mode Sequence.

The Ethanol Breath Standard is also analyzed:

1. Each time a gas cylinder is replaced (performed by any certified chemical test operator).

2. Each time an Intoxilyzer® 8000 is exchanged (performed only by a field inspector).

To analyze the Ethanol Breath Standard, the **Ethanol Breath Standard Cylinder Report, Form 105-G** and a copy of the **calibration check test record (ACA), Form 106-I8000** (See Figure 16: "ACA Test") must be filled out and submitted to the Crime Laboratory upon completion. At the same time, a new **Intoxilyzer® Record, Form 120-G** should be changed and the top portion of this form filled out and placed by the instrument for use.

Forms are available on the Office of Attorney General, Crime Laboratory Division web page: http://www.ag.nd.gov/CrimeLab/CrimeLab.htm

http://www.ag.nd.gov/CrimeLab/BreathAlcoholProgram/OperForms/OperForms.htm

(See "*Ethanol Breath Standard Cylinder Report Form 105-G*", and "*Intoxilyzer® Record Form 120-G*", following.)

ETHANOL BREATH STANDARD CYLINDER REPORT
OFFICE OF ATTORNEY GENERAL
CRIME LABORATORY DIVISION
Toxicology Section/Breath Alcohol Program
SFN 59282 (5-2011)

Chemical Test Operator Name (Print)		
Location	Intoxilyzer® Serial Number	
Gas Lot Number	Gas Cylinder Number	Gas Expiration Date

Check When Done:

- ☐ 1. Scan/Enter Gas Cylinder Information (Level 1, Function S).
- ☐ 2. Perform an ACA Test (Level 1, Function C).

  Write in the ACA Test Results (Reported to 3 Digits, Ex. 0.081).

  A. 0.__ __ __AC
  B. 0.__ __ __AC
  C. 0.__ __ __AC

- ☐ 3. Complete the Top Portion of the Intoxilyzer® Record (SFN50496, Form 120-G) and Place it by the Intoxilyzer® for Use.
- ☐ 4. File Previous Intoxilyzer® Record (SFN50496, Form 120-G) at the Intoxilyzer® Location at the Agency.
- ☐ 5. Send the Following to the Crime Laboratory:

  A. Ethanol Breath Standard Cylinder Report (SFN59282, Form 105-G).
  B. ACA Test Record.

Chemical Test Operator Signature	Date
Reviewed By (Crime Laboratory Use Only)	Date

Form 105-G

Figure 16: Ethanol Breath Standard Cylinder Report

INTOXILYZER® RECORD
OFFICE OF ATTORNEY GENERAL
CRIME LABORATORY DIVISION
SFN 50496 (5-2011)

Intoxilyzer® Serial Number		Location
Gas Lot Number	Gas Cylinder Number	Gas Expiration Date

Test Date	Chemical Test Operator Number	Operator's Name (PRINT Last Name, First, MI)

FORM 120-G

AGENCY RETAIN AT INTOXILYZER® LOCATION

Figure 17: Intoxilyzer 8000 Record Form 120-G

EXCHANGING INTOXILYZER® 8000 UNITS

Occasionally an Intoxilyzer® 8000 instrument must be exchanged for another unit. The following steps will help ensure necessary cords, paperwork, and equipment remain at your agency:

1. Turn off the main power and battery power switches;

2. Disconnect the USB cable to the printer from the instrument. Keep this cable and the printer at your agency;

3. Unplug the black power cord from the surge protector and tuck it in between the gas cylinder compartment and the instrument;

4. Remove the gas cylinder and the form "Ethanol Breath Standard Form BrF-008-G" from the locked cylinder compartment and store it in a safe place at your agency until needed; (See "*Ethanol Breath Standard Form BrF-008-G*.")

5. Lock the cylinder compartment for shipment.

The Intoxilyzer® 8000 is now ready for transport.

In exchange, you will receive a different Intoxilyzer® 8000 with a power cord attached. A Field Inspector will need to run an "install" prior to using the new instrument for subject tests. (See Table 13 and Figure 18: "*Intoxilyzer® 8000 Transports*" and "*Intoxilyzer® 8000 Ready for Transport*.")

INTOXILYZER® 8000 TRANSPORTS	
Transport to Crime Laboratory:	Keep at Your Location:
Intoxilyzer® 8000	Printer
Power Cord	Printer Cable
	Gas Cylinder
	Form BrF-008-G for the Gas Cylinder
	Cylinder Compartment Key

Table 13: Intoxilyzer 8000 Transports

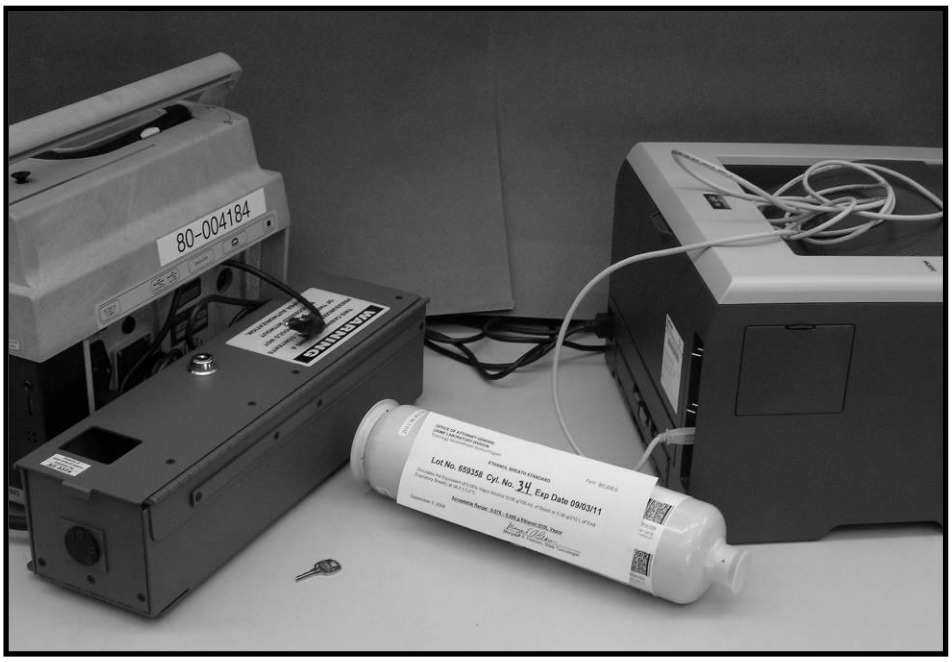


Figure 18: Intoxilyzer 8000 Ready for Transport

FIELD INSPECTORS

The Intoxilyzer® 8000 instruments were purchased as mobile units to be used at sobriety checkpoints. Field Inspectors receive special training to allow them to install the instrument at a checkpoint or other location. **Checks on the calibration must be completed each time the Intoxilyzer® 8000 is moved**. **This is done even when the Intoxilyzer® 8000 is moved within an office.** The Field Inspector may do minor repairs. Following those repairs, tests are performed to check the calibration of the Intoxilyzer® 8000. Installation and repair checkout forms are completed. This paperwork is then forwarded to the Crime Laboratory.

TOXICOLOGY SECTION STAFF

The toxicology staff, in charge of breath testing, has completed factory training for the repair and maintenance of the Intoxilyzer® 8000. They are trained to install, repair, and inspect the instruments for certification by the State Toxicologist.

Formal inspections (performed each year) may be done in the field where the Intoxilyzer® 8000 is being used or at the Crime Laboratory. Tests include checks on the calibration of the instrument at various alcohol concentrations, a check on the RFI detector, and a check for interfering substances. An *Intoxilyzer® 8000 Inspection Form* is completed and filed.

An Intoxilyzer® 8000 inspection is completed each time major repairs are performed. Calibration of the instruments may be done in conjunction with repair and

maintenance or inspections done at the Crime Laboratory. All original installation, repair, and inspection forms are maintained at the Crime Laboratory for court purposes.

All corresponding paperwork is filed at the Crime Laboratory. A list of Intoxilyzer® 8000 serial numbers, along with the date and location of the last inspection, is filed annually with the County Recorder (or the person in charge of records) in each county.

These documents are also found on the Office of Attorney General, Crime Laboratory Division, web site:

http://www.ag.nd.gov/CrimeLab/CrimeLab.htm

PHARMACOLOGY OF ALCOHOL

Pharmacology is the study of how drugs affect people. In order to understand how alcohol affects the drinking driver, we first need to understand how it is absorbed, distributed throughout, and eliminated by the human body. We will then look at how alcohol affects individuals.

It was believed for many years that alcohol was a normal constituent of the human body. Specific analysis has demonstrated that, if present, the concentration in blood never exceeds 0.003 percent and usually is less than 0.001 percent Blood Alcohol Concentration (BAC), which is far below a detectable value. It is produced in the Gastrointestinal (GI) Tract by microbes acting on sugars.

ALCOHOL

Alcohol is the chemical name of a group of compounds having one or more hydroxyl (-OH) groups in the molecule. Alcohols are organic compounds that are classified as *Hydrophilic*, meaning they are infinitely soluble in water. This property allows easy absorption and distribution throughout the body.

Ethyl Alcohol:

Pure ethyl alcohol (ethanol) is a clear, colorless liquid having a characteristic odor. It is metabolized (primarily in the liver) to acetaldehyde, then to acetic acid, and then on to carbon dioxide and water. Ethanol is relatively safe when consumed in moderate quantities.

Note: In this manual, just as in the law, we will often refer to ethanol as “alcohol.” If we are discussing a different alcohol, we will specify which one.

Methanol:

Methanol (made from the fermentation of wood) is methyl alcohol. It is commonly sold as gasoline antifreeze and a component of windshield washer solution. It also is a clear, colorless liquid and cannot normally be differentiated from ethyl alcohol. If consumed, it is often fatal since it is metabolized to formaldehyde which is extremely toxic.

Isopropanol:

Isopropanol, another common alcohol, is a colorless liquid with a very distinct odor. It is sold as rubbing alcohol or in “iso-”gasoline antifreeze. The danger in drinking isopropanol is the toxicity of the metabolite acetone.

Ethylene Glycol:

Ethylene glycol, the primary ingredient of many antifreeze solutions, is mentioned here only as an example of another chemical type of alcohol. It does not usually present a problem to traffic law enforcement. The sweet taste is enticing to youngsters (and animals) and it is often fatal.

COMMON ALCOHOLS

The following table compares commonly found alcohols and their relative toxicity. (See Table 14: “*Common Alcohols*.”)

COMMON ALCOHOLS			
NAME	**USES**	**TOXICITY (APPROX)**	**METABOLITES**
ETHANOL Ethyl Alcohol Grain Alcohol	Beverage Solvent Medicinal Vehicle Fuel	400-500 mL	Acetaldehyde Acetic Acid
METHANOL Methyl Alcohol Wood Alcohol	Denaturant Solvent Paint Remover Fuel	75 mL	Formic Acid Formaldehyde
ISOPROPANOL Isopropyl Alcohol Rubbing Alcohol	Denaturant Antiseptic	250 mL	Acetone
ETHYLENE GLYCOL Antifreeze	Coolant Solvent	100 mL	Oxalic Acid

Table 14: Common Alcohols

ALCOHOLIC BEVERAGES

An alcoholic beverage is a drink containing ethanol. Alcoholic beverages are divided into three general categories (beers, wines, and spirits) and two classes (non-distilled/fermented and distilled). In the United States, a standard drink is any drink that contains 0.6 ounces (13.7 grams or 1.2 tablespoons) of pure alcohol.[1]

Generally, this amount of pure alcohol is found in:

1. **12 ounces** of beer or wine cooler;
2. **8 ounces** of malt liquor;
3. **5 ounces** of wine;
4. **1.5 ounces** of 80-proof distilled spirits or liquor (i.e. gin, rum, vodka, or whiskey).

- **Which means …**

A 24 ounce tap beer contains the equivalent of **TWO** standard measures of alcohol; and …

an average restaurant serving of wine (10 ounce glass) is equivalent to **TWO** servings of alcohol; and

a single cocktail or mixed drink may contain **TWO, THREE, OR MORE** servings of alcohol.

[1] Centers for Disease Control & Prevention

Distilled Beverages:

Distillation is a method of separating mixtures (for example: water may be distilled to remove impurities). Distillation of a fermented mixture produces a beverage with higher alcohol content (i.e. liquor). Common distilled liquors include gin, whiskey, rum, and vodka. If wine is distilled, the resulting product is brandy.

Non-Distilled (Fermented) Beverages:

Non-distilled alcoholic beverages are prepared simply by fermentation. Fermentation in food processing typically refers to the conversion of sugar to alcohol using yeast. The maximum alcohol concentration obtained by the fermentation process is about 14% by volume. The yeast is inhibited or killed by higher concentrations of alcohol.

> **Wine** is created by the fermentation of grapes, although other fruits can be used. If the wine contains more than 14% alcohol, it has been fortified by adding alcohol to it (usually brandy). Common fortified wines include Port, Sherry and Vermouth.
>
> **Beer** is a non-distilled alcoholic beverage made from the starch in grain. The starch is converted to sugar by enzymes in malt. The sugars are then fermented with yeast to make alcohol.

Alcohol Percent:

Percent is the ratio of parts per 100. The percentage mark (%) denotes this ratio. The average percent alcohol in beer is 4% by volume (v/v). This indicates four mL of alcohol in 100 mL of water.

Alcohol Proof:

Alcohol proof is a measure of how much alcohol (i.e., ethanol) is contained in an alcoholic beverage. It is defined as twice the percentage of alcohol by volume. This means that liquor that is “86 proof” is 43% alcohol by volume.

Alcohol Concentration:

Alcohol concentration of various biological specimens is defined in the N.D.C.C as a mixed ratio of weight per unit volume. (See Table 15: “*Units of Alcohol Concentration*.”)

UNITS OF ALCOHOL CONCENTRATION	
Specimen:	**Ratio of Weight Per Unit Volume:**
Blood	= g alcohol per 100 mL blood (or, more commonly, %)
Breath	= g alcohol per 210 L expired breath
Urine	= g alcohol per 67 mL urine

Table 15: Units of Alcohol Concentration

Nationwide, Alcohol Concentration (AC) is defined as the weight of alcohol per volume of sample. Therefore, the North Dakota Century Code (N.D.C.C.) conforms to that standard.

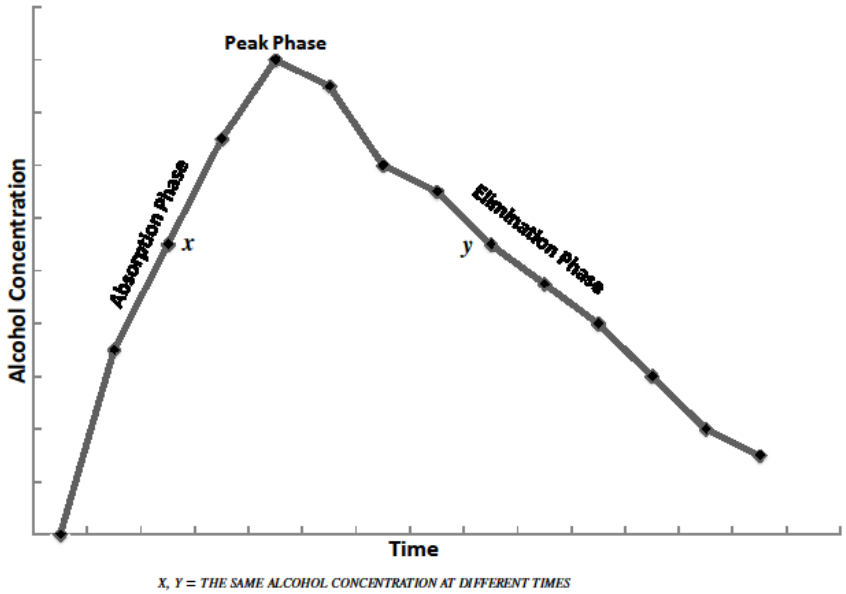
DISPOSITION & FATE OF ALCOHOL IN THE BODY

Alcohol is a drug. In order for a drug to be effective, it must be absorbed into the body, it must arrive at the target organ, and it must be of sufficient quantity to achieve the desired effect. The body then reacts by eliminating this foreign substance. The three phases of alcohol in the body are: **absorption**, **distribution** (peak alcohol concentration), and **elimination**.

ABSORPTION OF ALCOHOL

The **absorption** phase occurs as long as alcohol is entering the blood stream faster than the body is eliminating it; the blood alcohol concentration is on the increase. The **peak** occurs when the body is absorbing and eliminating it at the same rate, therefore, causing the blood alcohol concentration to remain level. The **elimination** phase occurs when the body is eliminating the alcohol faster than it is absorbing it; therefore, the blood alcohol concentration is decreasing. (See Figure 19: "*Generalized Ethanol Concentration Curve*.")

Figure 19: Generalized Ethanol Concentration Curve



Alcohol can enter the body through oral ingestion, inhalation, injection, absorption, and enema. However, the most popular means is oral ingestion (drinking).

Alcohol in the mouth is absorbed through the lining and into the blood vessels surrounding the mouth. A mouth rinsed with an alcoholic beverage will be alcohol free in 15 minutes or less (most of it is absorbed in 3 to 5 minutes.) This is important

when determining a BAC. The high concentration of an ingested beverage (e.g. beer which is four percent alcohol) may cause a false high reading on a breath alcohol concentration ranging between 0 and 0.5 percent. In North Dakota, a 20-minute deprivation period is required. Alcohol also is absorbed directly from the stomach into the blood.

Rate of Absorption:

No two people process (absorb) alcohol at the same rate. The rate of absorption of alcohol is affected by several factors including whether there is food in the stomach, what type of food, the concentration of the drink, the type of drink mix, the subject's gender, weight and body composition, and general health.

Men tend to handle alcohol better than women because they are generally larger and carry less body fat. Any food in the stomach generally slows the rate of absorption; drinking on an empty stomach increases the rate of absorption. Alcohol mixed with water or fruit juice is absorbed more slowly than alcohol mixed with carbonated beverages. Persons suffering from malnutrition generally have a poor absorption rate. Certain drugs are capable of influencing the rate of absorption.

Individuals involved in long-term drinking (3 to 4 hours), usually reach peak alcohol concentrations 30 to 90 minutes after consuming the last drink.

DISTRIBUTION OF ALCOHOL IN THE BODY

Alcohol is soluble in water in all proportions. It is only slightly soluble in other body tissues. Therefore, alcohol is distributed throughout the body in proportion to the water content of that fluid or tissue. The tissues having the highest concentration of water have the most alcohol when distribution is complete. Distribution is accomplished within 1 to 2 hours after consumption.

Alcohol is carried throughout the body in the blood. The alcohol leaves the stomach and small intestines and travels through the portal vein to the liver. The blood transports it to the right side of the heart. The blood containing alcohol then is transported to the lungs where oxygen enters the blood and some water, carbon dioxide, and alcohol leaves the lungs through the bronchi and oral cavity as expired breath.

It is the alcohol concentration of the breath leaving the lungs that is measured to determine driving impairment.

From the lungs, the blood containing alcohol returns to the left side of the heart. The heart then pumps the blood through the carotid artery to the brain. (Note: The

depressant effect on the brain and central nervous system causes the majority of the impairment. This impairment is proportional to the blood alcohol concentration around the brain.)

The blood continues to circulate to other body organs and returns to the liver. The cycle repeats itself until the alcohol is eliminated from the body. The distribution time of the alcohol, from absorption until the blood alcohol reaches the brain, is approximately 3-4 minutes.

ELIMINATION OF ALCOHOL

Alcohol is eliminated through expiration, excretion, and metabolism.

Expiration:

Alcohol leaves the blood in the lungs and becomes part of the expired breath. It is exhaled with water and carbon dioxide. The technology of the Intoxilyzer® 8000 enables the operator to detect low amounts of alcohol in the breath and quantify it accurately.

The North Dakota Century Code (N.D.C.C.) refers to the breath sample as “end expiratory breath.” This simply means the last breath blown into the instrument.

Excretion:

Alcohol is excreted through salivation, perspiration, and urination. Because sweat contains traces of alcohol, it can often be detected by the human nose hours after consumption. A larger amount of absorbed alcohol is excreted in the urine.

Urine can be obtained as an evidentiary sample in North Dakota. It is necessary to have the subject void the bladder of old urine and then provide a second specimen at least 20 minutes after emptying the bladder. The second specimen is collected and analyzed for alcohol concentration.

Excretion and exhalation combined account for between 5 and 10 percent of the alcohol that is given off as unchanged alcohol molecules.

Metabolism:

The most significant loss of alcohol (approximately 90 percent) by the body is by metabolism. Metabolism (often referred to as burn-off rate) is one way the body rids itself of foreign substances. The majority of the alcohol is metabolized in the liver which excretes enzymes that break down the alcohol and neutralize it.

The approximate rate of the metabolism can be determined by calculating the alcohol concentration over time in the elimination phase. The generally accepted elimination factor is 0.015 g alcohol per 100 mL blood per hour.

- **Example: A man was tested and found to have a blood alcohol of 0.18 alcohol concentration (AC).**

1. **What will his AC be in 2 hours?** Calculations: 0.015 AC per hour x 2 hours = 0.03 AC lower in 2 hours. Thus, 0.18 – 0.03 = **0.15 AC 2 hours later**.

2. **How long will it take this man to return to 0.000 AC?** Calculations: 0.18 AC / 0.015 AC per hour = **12 hours**.

EFFECTS OF ALCOHOL

Alcohol is considered to be a drug and is usually classified as an irregularly descending, general, central nervous system depressant. "Irregularly descending," means the front part of the brain is more sensitive to the effects of alcohol. As the alcohol concentration increases, the front part of the brain becomes more impaired. The progression of the impairment moves toward the back and base of the brain as the alcohol concentration in the blood increases. By depressing the action of the nerves in the brain and the rest of the body, mental and physical performance is decreased.

Judgment is the first skill to be impaired by alcohol, followed by impairment of visual perception, visual acuity, and reaction time functions. The stages of alcohol impairment are listed below. No one will exhibit all of the signs of impairment listed for a particular alcohol concentration. The ranges of impairment overlap and are to be used as a guide to symptoms and signs to observe and/or include in a report. (See Tables 16 and 17: "*Stages of Impairment*" and "*Performance of Driving-Related Tasks*.")

Mellanby Effect:

The Mellanby effect is the phenomenon whereby the drinker's perception of the effects of alcohol change between the absorption and the elimination phases of alcohol consumption.

During the **absorption** phase, the body recalls its condition before consuming alcohol—the drinker tends to underestimate the level of impairment and over-estimate his abilities. This phenomenon makes the driver in the range of 0.08 to 0.12 particularly dangerous because he/she is willing to take risks.

During the **elimination** phase, the body tends to recall its condition during the highest point of alcohol impairment, causing the drinker to over-estimate the level of intoxication.

STAGES OF IMPAIRMENT		
Ethyl Alcohol Level (Percent by Weight/Blood)	Stage of Alcoholic Influence	Clinical Signs/Symptoms
0.01-0.05	Sobriety	No apparent influence; Behavior nearly normal by ordinary observation; Slight changes detectable by special tests.
0.03-0.12	Euphoria	Mild euphoria, sociability, and talkativeness; Diminution of attention, judgment, and control; Increased self-confidence, decreased inhibitions; Loss of efficiency in finer performance tests.
0.09-0.25	Excitement	Emotional instability, decreased inhibitions, and loss of critical judgment; Impairment of memory and comprehension; Decreased sensatory response, increased reaction time; Some muscular incoordination.
0.18-0.30	Confusion	Disorientation, mental confusion and dizziness; Exaggerated emotional states (fear, anger, grief, etc.); Disturbance of sensation (diplopia, etc.) and of perception of color, form, motion, and dimensions; Decreased pain sense; Impaired balance, muscular incoordination, staggering gait, slurred speech.
0.27-0.40	Stupor, Apathy	General inertia, approaching paralysis; Markedly decreased response to stimuli; Marked muscular incoordination; inability to stand or walk; Vomiting; incontinence of urine and feces; Impaired consciousness; sleep or stupor
0.35-0.50	Coma	Complete unconsciousness; coma; anesthesia; Depressed or abolished reflexes; Subnormal temperature; Incontinence of urine and feces; Embarrassment of circulation and respiration; possible death.
0.45+	Death	Death from respiratory paralysis

Kurt M. Dubowski, Ph.D, FAIC. Director, Dept. of Clinical Chemistry & Toxicology, University of Oklahoma

Table 16: Stages of Impairment

PERFORMANCE OF DRIVING-RELATED TASKS	
BAC Range	Impairment
Low Doses BAC <0.05 g/dl)	Impaired visual perception, acuity, and complex reaction time: • Impaired dynamic visual acuity (the ability to see detail in an object in motion); • Impaired control over eye movements and the ability to merge two images into one; • Increase duration of eye fixations and therefore reduced eye movements; • Impaired divided attention (the ability to discriminate among stimuli and respond appropriately as quickly as possible); • Impaired divided attention (the ability to attend to more than one thing at a time); • Impaired complex reaction time (the ability to discriminate among stimuli and respond appropriately as quickly as possible).

Moderate Doses
BAC 0.05-0.08 g/dl)
	Impaired vigilance, judgment, reaction time, and psychomotor performance:
	• Impaired concentrated attention (the ability to pay close attention to one thing)
	  o Impaired vigilance (the ability to attend to or to detect an event over a long period of time)
	  o Impaired vergence (the ability to change focus rapidly, following, or tracking a moving object)
	• Impaired saccadic movement (rapid eye movement which allows perception of objects in peripheral vision)
	• Impaired dark adaptation
	• Impaired information processing (some reports indicate impairment at 0.02 g/dl)
	• Impaired judgment
	  o Decision making
	  o Risk-taking
	  o Emergency response
	• Impaired reaction time
	• Impaired psychomotor performance (the ability to make highly-controlled muscular movement of a number of limbs simultaneously)
	• Impaired compensatory tracking (tracking to maintain an index at a predetermined position). This type of tracking is involved in maintaining a vehicle in its proper lane of travel.
	• Impaired critical tracking (tracking of moving object and compensating to maintain relative position). This type of tracking would be involved in compensating for unexpected movements of other vehicles being tracked.
	• Increased numbers of errors:
	  o Steering
	  o Gear changing
	  o Braking response time
	  o Tracking
	  o Vehicle positioning
	  o Lane changing
	  o Speed maintenance
	  o Acceleration
	• Horizontal Gaze Nystagmus

BAC 0.08 g/dl	North Dakota – Legal Drinking The National Safety Council's Committee on Alcohol and Drugs takes the position that a concentration of 80 milligrams of ethanol per 100 milliliters of whole blood (0.08% w/v) in any driver of a motor vehicle is indicative of impairment in his driving performance.
Higher Doses BAC > 0.12 g/dl	Problem Intoxication. When a BAC of 0.12 g/dl is rapidly attained, the vomit center in the brain is stimulated, but some inhibition of gag reflex that protects the airway from the aspiration of emesis also occurs. • Unsteady gait and sedation in non-tolerant individuals. • At 0.20 g/dl is attained, the vomit center is inhibited and more toxic doses may be achieved without the protection afforded by emesis. • Above 0.20 g/dl, pronounced loss of muscular control and instinctive behavior. • Above 0.35 g/dl; coma, seizures, and cardio-respiratory failure.

"The Effect of Alcohol on Sensory Functions" by Robert B. Forney, Jr.; Ph.D.; DABFT, Medical College of Ohio; Department of Pathology; Toledo, Ohio. (Presented at the International Association for Chemical Testing Annual Meeting; Missoula, MT, 1997).

Table 17: Performance of Driving-Related Tasks

CARE OF THE INEBRIATED DETAINEE

Each agency should have a policy as to how to handle the inebriated offender. Often the offender is detained at a high alcohol concentration (0.25 AC or greater). The policy should include proper medical protocol and required surveillance.

Metabolism of alcohol may be stimulated by fructose; however, this is limited by its toxicity. Cold showers, exercise, and caffeine are of little value to detoxify an intoxicated person. Metabolism over time is the only way to sober up the drinking subject.

WEATHER EXPOSURE

Occasionally, individuals will remove outerwear in the frigid weather because they feel flushed. The flushing occurs when the blood vessels dilate. This causes the body to give off heat near the temperature sensors in the skin. Because individuals are feeling warm, they shed their clothing and inadvertently suffer from exposure to the cold.

VOMIT CONTROL CENTER

The human body has a vomit control center (VCC) in the stomach to rid the body of irritating or toxic substances. At alcohol concentrations greater than 0.12 AC, the VCC is depressed and will not react. As a result, alcohol in the GI Tract continues to be absorbed, often to lethal levels. When an individual consumes a great deal of alcohol in a short period of time, the alcohol concentration can rise rapidly, bypass the VCC trigger, and override the detoxification function of vomiting.

BLACKOUTS

The way the brain functions is still largely unknown. One phenomenon that occurs in the alcoholic is blackouts. It is regarded as one of the first signs of alcoholism. No one is able to explain why blackouts occur. It is a time when an intoxicated person appears to be fully functional; however, he has no memory of the events. A more peculiar aspect is that when the person is brought to the same state of intoxication, he may remember the prior events once experienced in a blackout. Blackouts have been reported from minutes to months in length.

BLOOD, URINE, & POSTMORTEM KITS

Following are kits pictured with their respective box labeling. Note that the kit label identifies whether the kit is to be used for collecting blood, urine, or postmortem samples and indicates the expiration of the kit, if applicable. (See Figure 20: "*Blood, Urine, and Postmortem Kits*.")

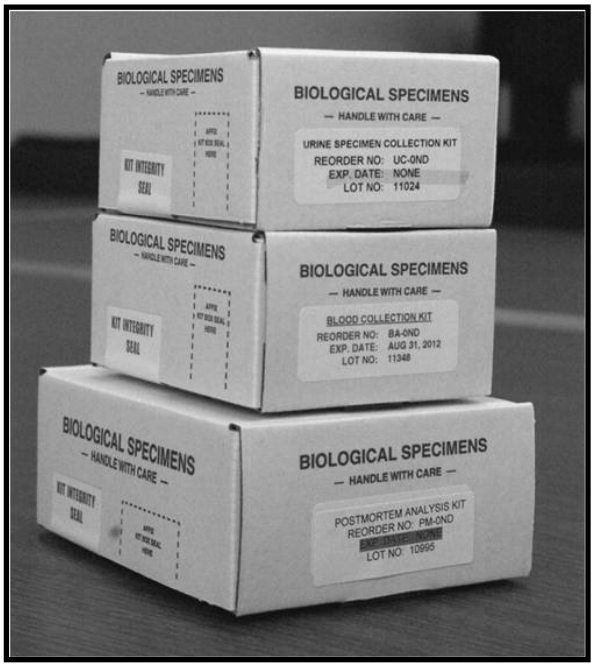


Figure 20: Blood, Urine & Postmortem Kits

BLOOD SPECIMENS

Since the majority of these samples are collected with the intent of using the results of the analysis in court proceedings, it is important that the specimens are collected and handled in accordance with the rules of evidence.

The specimen container has been prepared and sealed by a vendor. It is shipped to agencies directly from the Office of Attorney General, Crime Laboratory Division. To maintain integrity of the kit, the container must remain sealed. The kit integrity seal should be broken in the presence of the qualified blood drawer, the subject, and the law enforcement officer involved. Notation as to the condition of the seal prior to opening the kit box should be made, by the specimen collector and the arresting officer, on the **Submission for Blood Form 104** enclosed in the kit**.** (See "*Submission for Blood Form 104*.")

The mailing box contains the following items: blood collection tube, tube and needle holder, safety needle, bubble-pack blood tube protector, liquid absorbing sheet,

blood tube specimen security seals, Ziploc bag, prep pad, kit box shipping seal, FDA insert, and Submission for Blood Form 104. Note: **Should any item be missing or damaged,** refer to the "*Memo to Emergency Room Supervisors and Personnel*" (following page).

The current kits are tagged with a lot number indicating the contents**.** The vacutainer tube contains two chemicals that act as an anti-coagulant and preservative to prevent the generation of alcohol after the blood sample is drawn. **These chemicals are highly toxic.** The vacutainer tubes are to remain stoppered to prevent skin contact with the chemicals. In case of contact, wash the affected area immediately and seek medical attention.

Note: for a complete drug screen, both BLOOD and URINE should be submitted.

Collection of Blood Samples:

The materials contained in the blood alcohol kit allow the medically-qualified individual to collect blood samples for the purpose of quantifying the alcohol concentration. (See "*List of Approved Designations of Individuals Medically Qualified to Draw Blood*", following.)

Note: Care must be taken to avoid contact with any possible blood-borne pathogens. Consult the blood collector for information.

- **The officer should open the kit in the presence of the subject and note in the lower portion of the Submission for Blood (104) form that the Kit Integrity Seal was intact before use.**

Upon opening the kit, the blood specimen collector should disinfect the skin of the subject with the disinfectant pad provided, or a suitable alternative[2], and withdraw the blood sample with the aid of the needle, guide or holder, and the vacutainer. If necessary, a sterile needle and syringe can be used to withdraw the blood and introduce it to the vacutainer tube. The rubber stopper of the vacutainer should not be removed from the tube.

- **The officer should retain custody of the blood sample from this time on.**

[2] Solution containing less than 0.02% alcohol.

The officer should complete the Specimen Security Seal (please write legibly and do not use a gel pen). **Make sure the subject's name is on the Specimen Security Seal.** (See Figure 21, "Specimen Security Seal.")

Affix the completed Specimen Security Seal to the vacutainer tube. (See Figure 21A, Affixed Specimen Security Seal.) Place the blood tube and the absorbent pad in the plastic bag. This prevents any exposure to blood in case of tube breakage. **Complete the Submission for Blood (104) Form.**

The top portion of the completed **Submission for Blood Form 104 should be placed outside the plastic bag, inside the kit**. Seal the kit box with the shipping seal provided.

Figure 21: Specimen Security Seal

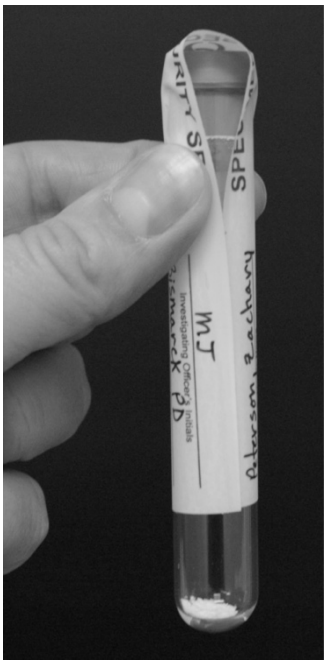


Figure 21A: Affixed Specimen Security Seal

Submission Paperwork (Blood):

Except for signatures, all information on this form should be neatly printed. The **Submission for Blood Form 104** is split by a perforated line and should be handled as follows:

1. The officer completes all information available on the top portion (Section One). Indicate whether the sample is being done for alcohol and/or drug analysis. The officer may request a specific drug or a drug screen of commonly abused drugs. NOTE: some drugs might be found only in urine; therefore, both blood and urine should be obtained when requesting drug screens, in which case, the two specimen kits should be taped together and submitted. The county of arrest should be noted. The "Remarks" section is to note any additional information the officer feels is important.

2. The left side middle section of the form (Section Two) is complete by the blood collector. The blood collector **must** provide the initials of professional licensure by his/her name or signature.

3. Do not complete any information on the right side middle section of the form (Section Three) – this is completed by the Crime Laboratory.

4. The bottom portion of the form (Section Four) is to be completed by the officer and retained with the officer's records concerning this case.

3. Tear the Submission For Blood (104) form at perforation. Fold the top portion of the form and place it in the kit, but outside the plastic bag containing the blood tube and absorbent pad.

4. The officer should complete the Kit Box Shipping Seal and affix it to the box. (See "Kit Box Shipping Seal (Blood)."")

- **The officer should complete the above steps immediately following the blood draw, in the presence of both the blood collector and the subject.**

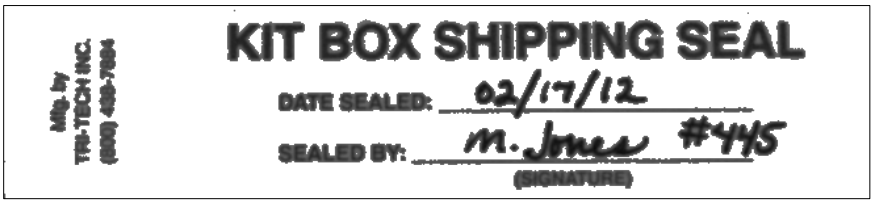


Figure 22: Kit Box Shipping Seal (Blood)

Custody of Blood Specimen:

The officer must maintain custody of the blood specimen until it can be mailed or hand-delivered. A locked refrigerator or storage cabinet will suffice. The specimen may be hand-delivered or mailed to the Crime Laboratory. For security reasons, the Crime Laboratory will not accept postal items with insufficient postage.

Avoid placing the kit box in an outdoor mail box during extreme weather conditions. During hot summer days, the sample may pop the vacutainer stopper; during cold winter days, the sample may freeze and break the vacutainer tube.

SUBMISSION FOR BLOOD (104)
Office of Attorney General, Crime Laboratory Division
2641 East Main Avenue, P.O. Box 937
Bismarck, ND 58502-0937 • (701) 328-6159
SFN 50491 (3/09)

Kit Lot No . 10967 Kit Exp. Date 08/31/2011
Vacutainer Lot No. 929000 Exp. Date 08/31/2011
Disinfectant Lot No. 9E008TBD Exp. Date 04/30/2012 2010

As of Aug 01, 2011, the Laboratory no longer accepts personal request samples

Please Print All Information

Subject (Last, First, Initial) Peterson, Zachary L.	Birth Date 09/01/70 (Month/Day/Year)	Height 5'11" / Weight 295	Sex: x Male ☐ Female
Check One: x Arrested for DUI/APC ☐ Personal Request ☐ Other (Specify)	Driver's License Number PET999999		State ND
Specimen: x Blood ☐ Other	**Analysis Requested:** x Alcohol ☐ Drug Screen (List Meds/Suspected Drugs)		
Specimen Submitted By (Officer's Name) (Officer Name) #445	Submitting Agency (Law Enforcement or Other Agency) (Your Agency)		
Submitting Agency Address (Your Agency Address)	City (Your City)	State ND	Zip Code (Your Zip)
Remarks Left Antecubital		County of Arrest Burleigh	

SECTION ONE

To Be Completed By Blood Specimen Collector

Check Each Item Performed:
x Used an Intact Kit
x Observed Powder in Vacutainer Tube
x Used Disinfectant Provided in Kit
x Used Needle, Guide, and Tube Provided in Kit
x Drew Blood Into Tube and Inverted Several Times
☐ Alternate Item(s) Used

Time Specimen Obtained: 10:24 x A.M. ☐ P.M	Date Specimen Obtained: 01/31/12 (Month/Day/Year)

Remarks

I certify that I withdrew the blood specimen from the above subject and the information given in this section is true and correct.

Rose Nylan, RN
Specimen Collector's Signature

Rose Nylan, RN
Please Print Specimen Collector's Name and Title

(Medical Center, City)
Facility Where Sampler Was Drawn

SECTION TWO

For Laboratory Use – Do Not Write in This Space

Laboratory Case Number

Specimen Received From: ☐ Postal Delivery ☐ Other

Time Specimen Received: ☐ A.M. ☐ P.M	Date Specimen Received: (Month/Day/Year)

Received:
☐ In a Sealed Container
☐ In a Labeled Blood Tube

By

Remarks

SECTION THREE

Arresting Officer: Tear Along the Perforation and Retain Bottom Portion for Your Records.

To Be Completed By Specimen Submitter

Subject (Please Print Name-Last, First, Initial) Peterson, Zachary L.	Time Specimen Obtained: 10:24 x A.M. ☐ P.M	Date Specimen Obtained: 01/31/12 (Month/Day/Year)
Specimen Sealed By (Please Print Name-Last, First, Initial) (Officer Name) #445	Time Specimen Sealed: 10:26 x A.M. ☐ P.M	Date Specimen Sealed: 01/31/12 (Month/Day/Year)

Check Each Step Performed **SAMPLE DISPOSAL WILL OCCUR 12 MONTHS AFTER ANALYSIS REPORTING DATE**
x Used an Intact Kit.
x Affixed Completed Specimen Label/Seal Over the Top and Down the Sides of the Blood Tube.
x Placed the Blood Tube Inside the Blood Tube Protector and Then Placed it in the Plastic Bag Provided. **(Do Not Remove Liquid Absorbing Sheet.)**
x Placed the Plastic Bag and Completed Top Portion of This Form in the Kit Box and Closed It.
x Affixed Tamper-Evident Kit Box Shipping Seal on Kit Box.

I Certify That All Information Given In This Section Is True and Correct.

Signed
(Officer Name) #445

If Sending By Mail, Affix Postage.

BAOND SUB.14 3/09

SECTION FOUR

Figure 23: Submission for Blood (104)

A memo prepared for the Emergency Room Supervisors and Personnel indicates which items in a kit may be replaced by items from other kits or emergency room supplies. The memo has been sent to the medical staff and should be available for your reference; however, you will wish to keep a copy handy for quick reference.

OFFICE OF ATTORNEY GENERAL
Crime Laboratory Division
2641 East Main Avenue (58501)
P.O. Box 937
Bismarck, ND 58502-0937

Tel. (701) 328-6159
(800) 296-2054
Fax (701) 328-6185

MEMO TO: Emergency Room Supervisors & Personnel
FROM: Charles E. Eder, State Toxicologist
DATE: September 29, 2011
REGARDING: Blood Alcohol Collection Kits

Since the inception of this office in 1961, the State Toxicology Laboratory has been supplying the blood collection kits used for alcohol testing. The present blood collection kits contain most of the components needed for withdrawing blood. On occasion, you may need to use a substitute for an item in the kit. If a substitute component is used, that information should be documented on the Submission for Blood (104) found inside the kit boxes. Listed below are the kit components and their acceptable alternatives:

KIT COMPONENTS	ACCEPTABLE ALTERNATIVES
1) Submission for Blood (104)	From another kit of the same Kit Lot No.
2) Vacutainer or blood tube	From another kit of the same Kit Lot No.
3) Needle	From your supplies (any sterile needle and/or syringe)
4) Disinfectant*	From another kit of the same Kit Lot No. or germicidal soap, water, or hydrogen peroxide
5) Guide (vacutainer or blood tube holder)	From your supplies
6) Specimen label	From your supplies or another kit
7) Absorbent pad	From your supplies or another kit
8) Plastic bag	From your supplies or another kit
9) Return address label or shipping seal	From your supplies or another kit

These kits are assembled and sealed by an approved supplier and distributed by the Office of Attorney General, Crime Laboratory Division. An expiration date is marked on the kits. Do not use the kit after this date. Using the kit after its expiration date will not affect the alcohol test, but it could result in insufficient blood being collected. Please note that either the specimen collector and/or specimen submitter should verify that the kit was intact before use and make checks appropriately on the Submission for Blood (104).

A blood sample obtained according to the instructions listed on the form and utilizing a blood collection kit supplied by the Lab will be considered properly obtained.

This memorandum supersedes the memoranda of July 2, 1992, March 29, 1993, May 2, 1994, September 27, 1999, September 1, 2000, June 15, 2003, January 2, 2004 and December 10, 2010.

*Disinfectant products containing 0.02 percent or less ethyl alcohol will be considered non-alcoholic for this purpose.

Figure 24: Memo to Emergency Room Supervisors

The following list includes the professional designations which are medically qualified to draw blood for legal purposes. Each profession requires a national board certification.

STATE OF NORTH DAKOTA
OFFICE OF ATTORNEY GENERAL
STATE CAPITOL
600 E BOULEVARD AVE DEPT 125
BISMARCK, ND 58505-0040
(701) 328-2210 FAX (701) 328-2226
www.ag.nd.gov

Wayne Stenehjem
ATTORNEY GENERAL

September 29, 2011

LIST OF APPROVED DESIGNATIONS OF INDIVIDUALS MEDICALLY QUALIFIED TO DRAW BLOOD

The following professional designations are medically qualified to draw blood for the purpose of determining the alcohol, drug, or a combination thereof, content of blood pursuant to N.D.C.C. Sections 20.1-13.1-03, 20.1-15-03, 39-20-02, 39-24.1-03 and Ch. 39-06.2:

CLS	Clinical Laboratory Scientist
CLT	Clinical Laboratory Technician
MD*	Medical Doctor
MLS	Medical Laboratory Scientist
MLT	Medical Laboratory Technician
MT	Medical Technician
NP	Nurse Practitioner
OD	Osteopathic Physician and Surgeon
PA	Physician Assistant
PAC	Certified Physician Assistant
RN	Registered Nurse

* And other designations covered in N.D.C.C. Section 43-17-01

This list is current and shall be considered as such until a new list is issued.

Figure 25: List of Approved Designations of Individuals Medically Qualified to Draw Blood

URINE SPECIMENS

Since the majority of these samples are collected with the intent of using the results of the analysis in court proceedings, it is important that the specimens are collected and handled in accordance with the rules of evidence.

The specimen container has been prepared and sealed by a vendor. It is shipped to agencies directly from the Office of Attorney General, Crime Laboratory Division. To maintain integrity of the kit, the container must remain sealed. The kit integrity seal should be broken in the presence of the subject and the law enforcement officer involved. Notation as to the condition of the seal prior to opening should be made by the specimen collector on the bottom of the **Submission for Urine Form 104-U** enclosed in the kit. (See "*Submission for Urine Form 104-U*.")

The mailing box contains the following items: a closed plastic specimen container containing a white powder, a seal for the container, a Submission for Urine Form 104-U, a plastic bag containing an absorbent pad, and a return mailing label. The kits are tagged with a lot number.

Note: for a complete drug screen, both **BLOOD** and **URINE** should be submitted.

Note: The white solid in the container is sodium fluoride. This chemical is highly toxic and due care should be exercised. If the chemical is ingested, medical attention should be obtained. Specimen handlers should wear plastic gloves to prevent exposure to this chemical and biohazards.

Collection of Urine Samples:

The officer should open the kit in the presence of the subject and note in the lower portion of the Submission for Urines (104-U) form that the Kit Integrity Seal was intact before being used.

The officer should remove the entire seal under the lid of the plastic bottle. **The subject should be observed during the urine specimen collection whenever possible.** The urine specimen need not be collected in a medical facility. After the subject has urinated into the plastic bottle, replace the lid securely to avoid loss of urine or leaking during transport.

- **The officer should retain custody of the urine sample from this time on.**

The officer should complete the Specimen Security Seal (please write legibly and do not use a gel pen). The label should be filled out with the subject's name, the time and the date the specimen was collected, and the initials of the officer or the medical assistant sealing the container.

Place the specimen security seal over the top of the lid with the two ends pressed down on either side of the container. (See *Specimen Security Seal and Kit Box Shipping Seal (Urine).)* Place the container in the plastic bag with the absorbent pad to prevent leakage of the specimen during shipment.

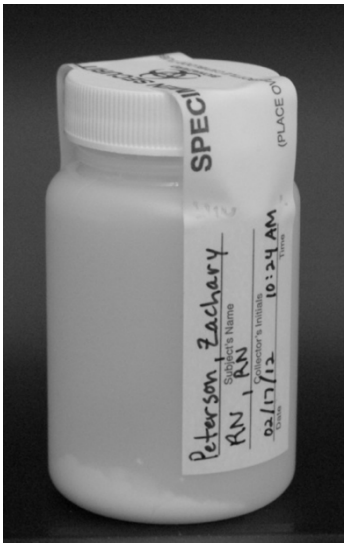


Figure 26: Specimen Security Seal & Kit Box Shipping Seal

Submission Paperwork (Urine):

Except for signatures, all information on this form should be neatly printed. The Submission for Urine Form 104-U is split by a perforated line and should be handled as follows:

1. The officer completes all available information on the top portion (Section One), indicating whether the sample is being done for alcohol and/or drug analysis. The officer may request a specific drug or a drug screen of commonly abused drugs. It should be understood that some drugs might be found only in blood; in that case, a separate specimen of blood should be submitted and both specimen kits

taped together and submitted. Note the county of arrest. Use the “Remarks” section to note any addition information of importance.

2. The middle portion (Section Two) is completed by the Crime Laboratory.

3. The bottom portion (Section Three) is completed by the officer and retained with his/her records concerning this case.

4. Tear the Submission For Urines (104-U) at perforation. Return the top portion in the mailing box along with the urine sample, making sure to fold and wrap the form around the plastic bag containing the urine container and absorbent pad before placing it in the mailing box.

5. The officer completes the Kit Box Shipping Seal and affixes it to the box.

Custody of Urine Specimen:

The officer must maintain custody of the urine specimen until it can be mailed or hand-delivered. A locked refrigerator or storage cabinet will suffice. The sealed kit may be delivered or mailed to the Crime Laboratory.

SUBMISSION FOR URINES (104-U)
OFFICE OF ATTORNEY GENERAL, CRIME LABORATORY DIVISION
2641 East Main Avenue, P.O. Box 937
Bismarck, ND 58502-0937 • (701) 328-6159
SFN 50159 (01-10)

Kit Lot No.: 11024
Kit Exp. Date: NONE

As of Aug 01, 2011, the Laboratory no longer accepts personal request samples

PLEASE PRINT ALL INFORMATION

Subject (Last, First, Initial) Olson, Marie K.	Birth Date 09/04/67 (Month/Day/Year)	Height 5'5" Weight 156	Sex: □ Male x Female
Check One: x Arrested for DUI/APC □ Personal Request □ Other (Specify) _____	Driver's License Number OLS999999		State ND
Specimen: x Urine □ Other (Specify) _____	Analysis Requested: □ Alcohol x Drug Screen □ THC Only	Suspected Drugs: Stimulants	
Time Specimen Obtained 11:45 □ A.M. x P.M.	Date Specimen Obtained 01/28/12 (Month/Day/Year)	County of Arrest Burleigh	
Specimen Submitted By (Name) (Officer Name) #221		Submitting Agency (Your Agency)	
Submitting Agency Address (Your Agency Address)	City (Your City)	State ND	Zip Code (Your Zip)
Remarks Observed Subject			

SECTION ONE

FOR LABORATORY USE – DO NOT WRITE IN THIS SPACE

Laboratory Case Number:	Received: □ In a Sealed Container □ In a Labeled Urine Container	
Specimen Received From: □ P.O. Box Delivery □ Other (Specify) _____	Specimen Received By (Name):	
Time Specimen Received: □ A.M. □ P.M.	Date Specimen Received: (Month/Day/Year)	Remarks

SECTION TWO

Arresting Officer: Tear Along the Perforation and Retain Bottom Portion for Your Records.

TO BE COMPLETED BY SPECIMEN SUBMITTER

Subject (Last, First, Initial) Olson, Marie K.	Time Specimen Obtained: 11:45 □ A.M. x P.M.	Date Specimen Obtained: 01/28/12 (Month/Day/Year)
Specimen Sealed By (Last, First, Initial) (Officer Name) #221	Time Specimen Sealed: 11:50 □ A.M. x P.M.	Date Specimen Sealed: 01/28/12 (Month/Day/Year)

CHECK EACH STEP PERFORMED

NOTE: If submitting for **Drug Analysis Only** (not alcohol), begin with STEP 3.

STEP 1 x Instruct the subject to void. **SAMPLE DISPOSAL WILL OCCUR 12 MONTHS AFTER ANALYSIS REPORTING DATE**
STEP 2 x Establish a minimum 20 minute waiting period.
STEP 3 x Open an intact kit.
STEP 4 x Observed white powder in the specimen container.
STEP 5 x Collect the sample directly into the specimen container. Do not discard powder. Transferring of sample from one receptacle to another is not recommended.
STEP 6 x Instruct the subject to fill the specimen container to about ¾ full. Take necessary precautions to avoid contamination.
STEP 7 x Fill in the label and place it over the top and down the sides of the specimen container.
STEP 8 x Insert the specimen container into the Ziploc bag provided and seal the bag.
STEP 9 x Insert the completed top portion of this form into the kit box.
STEP 10 x Place the bag containing the specimen in the kit box.
STEP 11 x Close the kit box and seal it with the completed kit box shipping seal provided.
STEP 12 x Complete the return address on the kit box top.

SECTION THREE

WARNING: SCREW LID ON TIGHTLY

I certify that all information given in this section is true and correct.

Signed (Officer Signature) #221

IF SENDING BY MAIL, AFFIX POSTAGE.

UCOND: SUB.6 1/10

Figure 27: Submission for Urines (104-U)

POSTMORTEM SPECIMENS

The materials contained in the postmortem kit allow the medically-qualified individual to collect samples for the purpose of quantifying the alcohol concentration and performing a drug screen analysis on deceased subjects.

Note: for a complete drug screen, both **BLOOD** and **URINE** should be submitted.

Note: Care must be taken to avoid contact with any possible blood-borne pathogens. Consult the blood collector for information.

Collection of Postmortem Specimens:

The National Highway Traffic Safety Administration (NHTSA) compiles data on all traffic crashes resulting in a fatality to provide an overall measure of highway safety. Section 39-20-13 N.D.C.C. **requires blood, urine, and vitreous humor specimens be drawn by the county coroner from all victims**. The specimens are submitted to the Crime Laboratory for analysis of alcohol, drug, and carbon monoxide content.

The highway safety program relies heavily on support of law enforcement officers throughout the state to assist coroners in collection of samples. Postmortem analysis kits are provided to all county coroners, NDHP troopers, and local law enforcement agencies, upon request. Replacement kits are automatically sent out upon receipt of completed kits.

A sample should be obtained from all victims of a crash. The drivers, passengers, pedestrians, OHV drivers, and bicyclists are studied as primary decision-makers in the accident. Passengers are analyzed to see if the "designated driver" program is working effectively. The officer's investigation is a crucial component of this program. The officer’s report determines what role each victim plays in the accident.

Submission Paperwork (Postmortem):

The law is specific that the results of the analysis are to be used for statistical purposes only. Therefore, if the coroner or investigating officer wishes to receive a copy of the analysis, **both the Toxicology Traffic Fatality Study (blue form) and Coroner Request for Toxicological Analysis (yellow form) must be completed**. This will alert the Crime Laboratory that this is part of an ongoing criminal

investigation. Note: **These forms have been combined into one form entitled, *Coroner and Traffic Fatality Request for Toxicological Analysis* for completion in the newest kits in use**. (See "*Coroner Request for Toxicological Analysis*", "*Toxicology Traffic Fatality Study*," and "*Coroner and Traffic Fatality Request for Toxicological Analysis*", *on the following pages.*)

It is also important to **complete the submission paperwork with the name and address of the person/agency to receive the analysis report and the replacement kit**.

Custody of Postmortem Samples:

Legibly complete the specimen security seal(s) for each sample being submitted. Wrap the seal over the top and down the sides of the sample(s). Place the sealed specimen(s) in the foam holder and then in the Ziploc bag provided. Seal the bag and place it into the kit box. Place the completed submission form(s) in the kit box (**not** in the plastic bag containing the samples). Close the kit box. Include your return address information on the top left side of the kit box. Affix the return address label for the Crime Laboratory on the kit box. Seal the kit box with the Kit Shipping Seal. (See "*Specimen Security Seal and Kit Box Shipping Seal (Postmortem)*", below.)

Figure 28: Kit Seals-Specimen Security Seal & Kit Box Shipping Seal (Postmortem)

Maintain custody of the kit box until it can be mailed or hand-delivered. A locked refrigerator or storage cabinet will suffice. The specimen may be hand-delivered or mailed to the Crime Laboratory. For security reasons, the Crime Laboratory will not accept postal items with insufficient postage.

Avoid placing the kit box in an outdoor mail box during extreme weather conditions. During hot summer days, the sample may pop the vacutainer stopper; during cold winter days, the sample may freeze and break the vacutainer tube.

Coroner and Traffic Fatality Request for Toxicological Analysis
Office of Attorney General, Crime Laboratory Division
2641 East Main Avenue, P.O. Box 937
Bismarck, ND 58502-0937 • (701) 328-6159
SFN 50494 (1/10)

Kit Lot No. 10995

YELLOW FORM

Decedent's Name: __Doe_____Jane_____A._____ □ Male x Female
Last First Middle Initial
Driver's License: ____DOE999999_____ State: __ND_____

Suspected Cause of Death: ___Motor Vehicle Accident_____

Medication/Drugs Suspected: ___None Known_____

Specimen Obtained By: _(County Coroner or Funeral Home Contact and Address)_____

Send Replacement Kit To: __(County Coroner or Funeral Home Contact and Address)_____

	Hour	Month	Day	Year
Date of Birth		11	11	1959
Time and Date of Death	01:12 PM	01	17	2012
Time and Date of Specimen Collection	12:15 PM	01	18	2012
□ Traffic Fatality: Time and Date of Fatality Accident	11:00 AM	01	17	2012

□ Traffic Fatality: x Driver □ Suspected Driver □ Occupant □ Pedestrain □ Other

Send Lab Report To (Please Print): Sample disposal will occur 12 months after analysis reporting date.

Coroner Name: __(County Coroner)_____
Agency: __(Local Clinic)_____
Address: __(Clinic Address)_____
_____

Officer Name: ___(Officer)_____
Agency: ____(Agency Name)_____
Address: __(Agency Address)_____
_____

Specimens Submitted:
Note: Fill Gray-Stoppered Tube First

x Blood (Gray-Stoppered Tube)
x Blood (Green-Stoppered Tube)
x Blood (Red-Stoppered Tube)
x Vitreous (Red-Stoppered Tube)
x Urine (Green-Capped Plastic Container)
□ Other: _____
Venipuncture Site: __Aorta_____

Analysis Required (Check All Required):

x Blood Alcohol
x Vitreous Alcohol
x Blood Carboxyhemoglobin
x Blood Drug Screen
x Urine Drug Screen
□ Other (Please Specify):
_____
_____

Chain of Custody:

From (Name, Agency)	To (Name, Agency)	Date	Time
_(Officer or Coroner Name, Agency)	____(Post Office, Your City)_____	01/18/12	01:00 PM
_____	_____	_____	____
_____	_____	_____	____
_____	_____	_____	____

Specimen Received:

□ In a Sealed Postmortem Kit
□ Via Postal Delivery
□ In a Sealed Biohazard Bag
□ Via Other _____

Case No.: _____

Notes: _____
_____
_____
_____

PMOND: CTFRTA.1 1/10

Figure 29: Coroner Request for Toxicological Analysis

Toxicology Traffic Fatality Study
Office of Attorney General, Crime Laboratory Division
2635 East Main Avenue, P.O. Box 937
Bismarck, ND 58502-0937 • (701) 328-6159
SFN 53219 (3/07)

Kit Lot No. 9814

BLUE FORM

Decedent's Name: **Doe, Jane A.**
Last First M.I.

Address: **(Enter Deceased's City, State, and Zip)**

*Social Security: **(Do Not Complete)**_____ Driver's License: **DOE999999**_____ State: **ND**___

Date of Birth: __**11**_/_**11**_/_**1959** Sex: □ Male **X** Female Occupation: **Chemist**
Month Day Year

*NOTE: In compliance with the Federal Privacy Act of 1974, the disclosure of the individual's social security number on this form is voluntary pursuant to North Dakota Century Code. The individual's social security number is used within our department as an identification number for file control purposes and record keeping.

	Hour	Month	Day	Year
Time and Date of Accident	**11:00 AM**	**1**	**17**	**2010**
Time and Date of Death	**01:12 PM**	**1**	**17**	**2010**
Time and Date of Specimen Collection	**12:15 PM**	**1**	**18**	**2010**

Decedent Was: □ Driver **X** Suspected Driver □ Occupant □ Pedestrian

□ Other:

Venipuncture Site: **Heart Puncture**

For Lab Use Only:

Case No.: _____

Specimen Received:
□ In a Sealed Postmortem Kit
□ Via Postal Delivery
□ In a Sealed Biohazard Bag
□ Via Other _____

at _____ on _____
(Time) (Date)

By: _____

at _____ on _____
(Time) (Date)

Sample Submitting Agency:

Coroner Name: **(County Coroner)**
Agency: **(Local Clinic)**
Address: **(Clinic Address)**

Officer Name: **(Officer Name)**
Agency: **(Agency Name)**
Address: **(Agency Address)**

Send Replacement Postmortem Kit To:

Name: **(Officer or Funeral Home Contact)**
Agency: **(Agency or Funeral Home Name)**
Address: **(Agency or Funeral Home Address)**

Remarks: _____

PMOND: TTFS.9 4/07

Figure 30: Toxicology Traffic Fatality Study (Blue Form)

Coroner and Traffic Fatality Request for Toxicological Analysis
Office of Attorney General, Crime Laboratory Division
2641 East Main Avenue, P.O. Box 937
Bismarck, ND 58502-0937 • (701) 328-6159
SFN 50494 (12/09)

Kit Lot No. 10995

Decedent's Name: __**Doe**_____**Jane**_____**A.**_____ □ Male **X** Female
Last First Middle Initial

Driver's License: ____**DOE9999999**_____ State: ____**ND**____

Suspected Cause of Death: ____**Motor Vehicle Accident**_____

Medication/Drugs Suspected: _____**None Known**_____

Specimen Obtained By: ____(**County Coroner or Funeral Home Contact and Address**)_____

Send Replacement Kit To: _____(**County Coroner, Officer, or Funeral Home and Address**)_____

	Hour	Month	Day	Year
Date of Birth		**11**	**11**	**1959**
Time and Date of Death	**01:12 PM**	**01**	**17**	**2010**
Time and Date of Specimen Collection	**12:15 PM**	**01**	**18**	**2010**
□ Traffic Fatality: Time and Date of Fatality Accident	**11:00 AM**	**01**	**17**	**2010**

□ Traffic Fatality: □ Driver **X** Suspected Driver □ Occupant □ Pedestrain □ Other

Send Lab Report To (Please Print): Sample disposal will occur 12 months after analysis reporting date.

Coroner Name: _____(**County Coroner**)_____
Agency: __(**Local Clinic**)_____
Address: _(**Clinic Address**)_____
_____

Officer Name: ___(**Officer**)_____
Agency: __(**Agency Name**)_____
Address: _(**Agency Address**)_____
_____

Specimens Submitted:
Note: Fill Gray-Stoppered Tube First

X Blood (Gray-Stoppered Tube)
X Blood (Green-Stoppered Tube)
X Blood (Red-Stoppered Tube)
X Vitreous (Red-Stoppered Tube)
X Urine (Green-Capped Plastic Container)
□ Other: _____
Venipuncture Site: ____**Aorta**_____

Analysis Required (Check All Required):

X Blood Alcohol
X Vitreous Alcohol
X Blood Carboxyhemoglobin
X Blood Drug Screen
X Urine Drug Screen
□ Other (Please Specify):
_____
_____

Chain of Custody:

From (Name, Agency)	To (Name, Agency)	Date	Time
(**Officer or Coroner Name, Agency**)	(**Post Office, Your City**)_____	__**01/18/10**_	**01:00 PM**

Specimen Received:

□ In a Sealed Postmortem Kit
□ Via Postal Delivery
□ In a Sealed Biohazard Bag
□ Via Other _____

Case No.: _____

Notes: _____
_____
_____
_____

Figure 31: Coroner and Traffic Fatality Request for Toxicological Analysis (Combined Form)

THE ADMINISTRATIVE HEARING PROCESS

- **The most common reasons a case is dismissed are as follows:**

Reasons for Dismissal Without a Hearing:

1. Problem in the Report and Notice form;
2. Problem in the test record and there was no valid test;
3. Testing for alcohol concentration was attempted, but there is no copy of the test record in the hearing file;
4. The hearing file arrived late and the hearing officer could not schedule a hearing;
5. Essential documents are unavailable.

Problems in the Report and Notice Form:

1. Officer did not date the temporary permit;
2. Officer did not sign the temporary permit;
3. Officer did not sign the statement of probable cause;
4. Testing for alcohol concentration was done, but the test results are not written on the Report and Notice form;
5. Time of driving/physical control/crash is not on the Report and Notice form;
6. Testing for alcohol concentration was not done within two hours after the time of driving/physical control/crash;
7. The officer's statement of probable cause does not show a reasonable suspicion to stop or reason to lawfully detain;
8. The officer's statement of probable cause does not show probable cause to arrest or lawfully detain the driver;
9. The form is otherwise incomplete.

Intoxilyzer® 8000 Test Record Problems:

1. Test record is uncertified;

2. Test record was not signed by the Intoxilyzer® 8000 operator;

3. Test is invalid due to an invalid sample ("INVALID SAMPLE X.XXX");

4. Test is invalid because the difference between the two subject tests is over 0.020;

5. Test is invalid because both subject tests are deficient samples;

6. Test is invalid because "Interferent" was noted on the test record;

7. The first test was invalid due to an invalid sample and the Intoxilyzer® 8000 operator did not wait 20 minutes before starting the second test;

8. The first test was invalid because the difference between the two subject tests was greater than 0.020 and the Intoxilyzer® 8000 operator did not wait 20 minutes before starting the second test;

9. Test record is illegible;

10. Test record is not complete (improper copying; deleted or cut off part of the record).

Problems in Blood Test Records:

1. A portion of the Form 104 completed by the officer and by the person who drew blood is incomplete;

2. The Form 104 does not have any indication that the person who drew blood was legally qualified to draw blood for testing for alcohol concentration;

3. The certification page from the Crime Laboratory is missing.

Reasons for Dismissals When a Hearing is Held:

1. The arresting officer did not appear for the hearing;

2. The evidence shows that a second test was attempted but the hearing file does not have a copy of the second test record;

3. The evidence shows there was an inadequate legal basis for the stop;

4. The evidence shows there was an insufficient basis for the arresting officer's

belief that the petitioner was DUI/APC;

5. The evidence shows there was a problem with some aspect of testing for alcohol concentration;

6. The evidence shows that what happened in a refusal case should not be considered to be a refusal;

7. The evidence shows that the arresting officer was outside his or her jurisdiction;

8. The evidence shows that there wasn't actually an arrest in a case in which the arrest is an issue to be determined;

9. Other.

Request for Subpoena and/or Hearing Notice and the Report and Notice Form:

Use the *Request for Subpoena and/or Hearing Notice* form to request that a subpoena be issued or a hearing notice sent to someone for a North Dakota Department of Transportation hearing.

It is important to properly complete the forms; print or type legibly. If possible, submit the *Request for Subpoena and/or Hearing Notice* with the *Report and Notice* form. (See "*Request for Subpoena and/or Hearing Notice*.")

REQUEST FOR SUBPOENA AND/OR HEARING NOTICE

Please print or type legibly.

CASE IDENTIFICATION:	REQUEST MADE BY:
_____ Name of Driver	_____ Requester's Name
_____ Operator's License #	_____ Mailing Address
_____/_____/_____ Driver's Date of Birth	_____ City/State/Zip
_____/_____/_____ Date of Incident	(_____)_____ Phone (_____)_____ Fax
_____/_____/_____ Date of Report & Notice:	_____ Case No.

I REQUEST THAT A:

- ☐ Subpoena
- ☐ Notice of administrative hearing under N.D.C.C. Ch. 39-20

be sent to the following individual:

_____ Name

_____ Address

_____ City/State/Zip

AGENCY INFORMATION ☐ NDHP ☐ _____ PD ☐ OTHER ☐ _____ SO

☐ Service of the subpoena is requested.

NOTE: Subpoenas will be mailed unless formal service is requested. NDDOT will not pay fees or expenses for witnesses requested by the petitioner.

REASON FOR REQUEST

- ☐ Witness to driving or accident.
- ☐ Other (please explain):

_____ Date

_____ Signature

Figure 32: Request for Subpoena and/or Hearing Notice

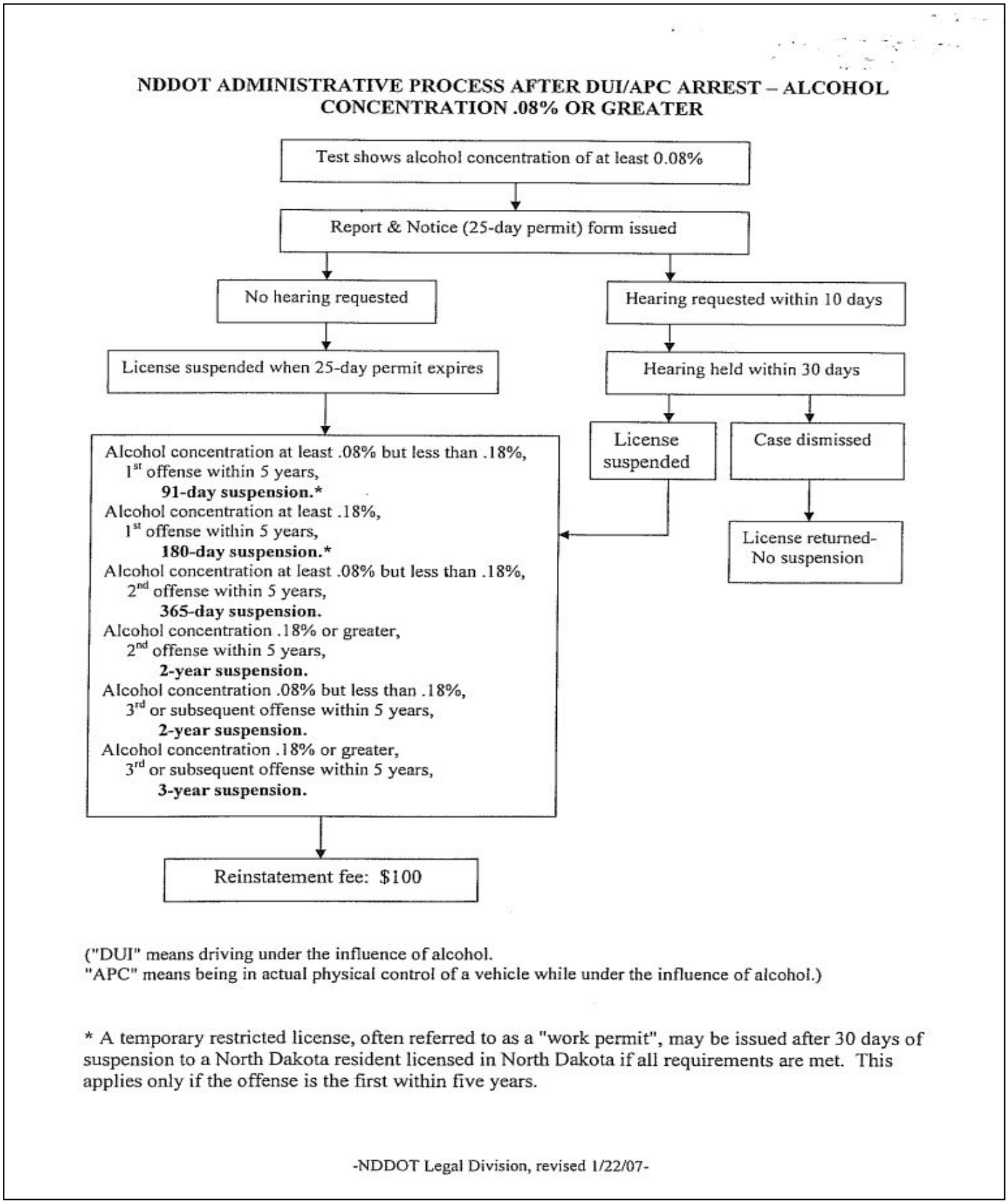
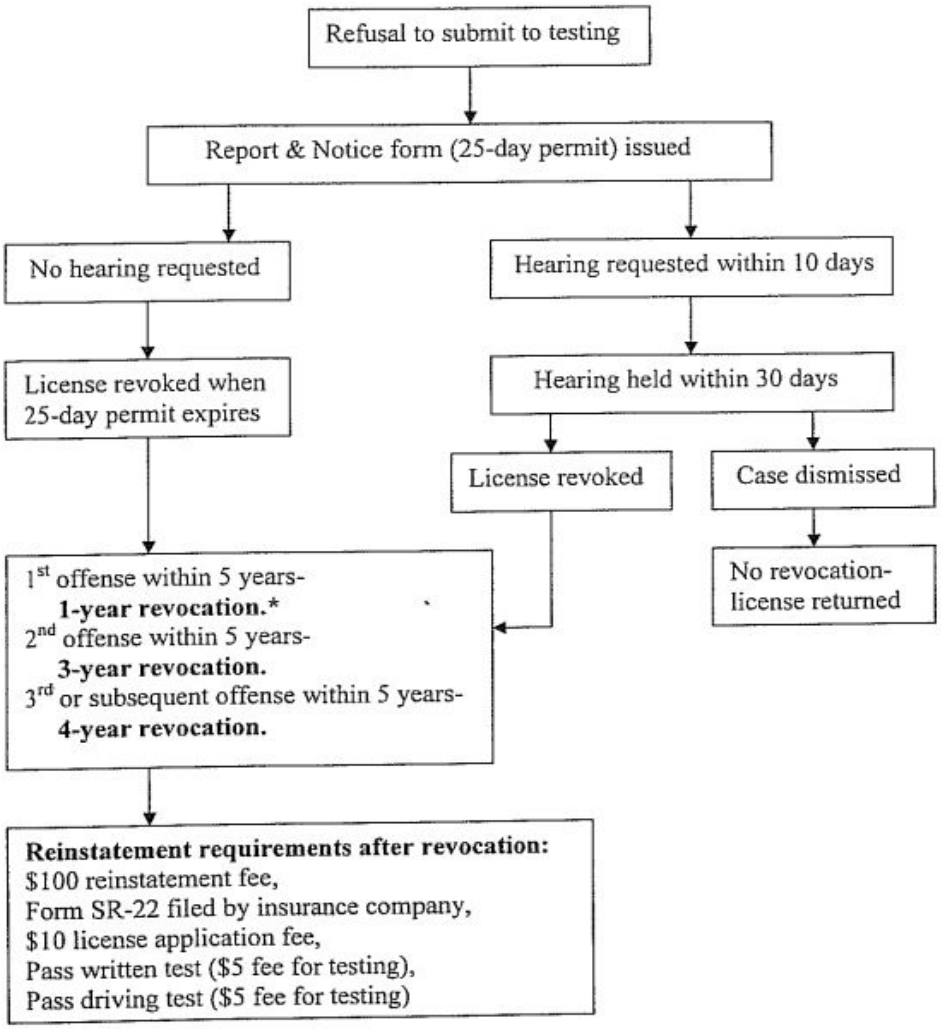


Figure 33: NDDOT Administrative Process After DUI/APC Arrest

NDDOT ADMINISTRATIVE PROCESS AFTER REFUSAL TO SUBMIT TO TESTING FOR ALCOHOL OR DRUGS



* If the record shows no prior DUI/APC conviction, the refusal can be "cured" by pleading guilty to DUI/APC and filing the required affidavit with NDDOT Drivers License and Traffic Safety Division within 25 days. Based on the guilty plea, NDDOT will impose a 91-day or a 180-day suspension instead of the 1-year revocation, and the driver may be eligible for a temporary restricted license or "work permit" (North Dakota resident/licensee only) after 30 days of the suspension has elapsed.

("DUI" means driving under the influence of alcohol.
"APC" means being in actual physical control of a vehicle while under the influence of alcohol.)

NO TEMPORARY RESTRICTED LICENSE OR "WORK PERMIT" WILL BE ISSUED AFTER A REVOCATION FOR REFUSAL.

-NDDOT Legal Division, revised 1/22/07-

Figure 34: NDDOT Administrative Process after Refusal

NORTH DAKOTA CENTURY CODE

North Dakota laws are contained within the State Constitution and the North Dakota Century Code (N.D.C.C.). The N.D.C.C. is maintained by the North Dakota Legislative Council, which updates the Code following each legislative session. (Legislative sessions are held in the odd-numbered years, beginning in January.)

The effective date of legislative changes is generally August 1st of the legislative year. However, if the Bill containing a change has an emergency clause, the change is effective as soon as the Bill is filed with the Secretary of State's office.

The current N.D.C.C. can be downloaded and printed from the Legislative Council's website at: http://www.legis.nd.gov/information/statutes/cent-code.html.

Officers may find it helpful to purchase the ND Criminal & Traffic Law Manual, published by Lexus Nexus. This one-volume manual contains a collection of criminal, traffic, and law enforcement-related statutes in North Dakota and includes a searchable CD-ROM. Order online at: http://bookstore.lexis.com/bookstore/catalog.

Implied Consent/Chemical Test Laws:

Following is a listing of relevant provisions of the North Dakota Century Code (N.D.C.C.). Every effort has been made to ensure the accuracy of the following information; however, if officers have questions, please contact the city attorney or county state's attorney, as appropriate.

N.D.C.C.	DESCRIPTION	
Title 5	ALCOHOLIC BEVERAGES	
	§ 5-01-05.1	Public intoxication – Assistance - Medical care.
	§ 5-01-08	Persons under twenty-one years of age prohibited from manufacturing, purchasing, consuming, or possessing alcoholic beverages or entering licensed
	§ 5-01-09	Delivery to certain persons unlawful.
	§ 5-02-06	Prohibitions as to persons under twenty-one years of age - Penalty - Exceptions.
Ch. 20.1-02	GAME & FISH DEPARTMENT	
	§ 20.1-02-15.1.	Additional powers of director, deputy director, chief game wardens, or district game wardens.

N.D.C.C.	DESCRIPTION	
Ch. 20.1-13.1	INTOXICATION TESTING OF BOAT OPERATORS	
	§ 20.1-13.1-01.	Implied consent to determine alcoholic and drug content of blood
	§ 20.1-13.1-02.	Chemical test of operator in serious bodily injury or fatal accident.
	§ 20.1-13.1-03	Persons qualified to administer chemical test and opportunity for additional test.
	§ 20.1-13.1-04	Consent of person incapable of refusal not withdrawn.
	§ 20.1-13.1-05	Action following chemical test result for a motorboat or vessel operator.
	§ 20.1-13.1-06	Revocation of privilege to operate motorboat or vessel upon refusal to submit to testing.
	§ 20.1-13.1-07	Administrative sanction for operating motorboat or vessel while having certain drug concentrations.
	§ 20.1-13.1-08	Administrative hearing on request.
	§ 20.1-13.1-09	Judicial review
	§ 20.1-13.1-10	Interpretation of chemical tests.
Ch. 20.1-15	INTOXICATION TESTING OF HUNTERS	
	§ 20.1-15-01	Implied consent to determine alcoholic and drug content of blood.
	§ 20.1-15-02	Chemical test of hunter in serious bodily injury or fatal accident.
	§ 20.1-15-03	Persons qualified to administer chemical test and opportunity for additional test.
	§ 20.1-15-04	Consent of person incapable of refusal not withdrawn.
	§ 20.1-15-05	Action following chemical test result for a hunter.
	§ 20.1-15-06	Revocation of privilege to hunt upon refusal to submit to testing.
	§ 20.1-15-07	Administrative sanction for being afield with a gun or other firearm or a bow and arrow while having certain drug concentrations.
	§ 20.1-15-08	Administrative hearing on request.
	§ 20.1-15-09	Judicial review.

N.D.C.C.	DESCRIPTION	
Ch. 20.1-15	INTOXICATION TESTING OF HUNTERS (CONTINUED)	
	§ 20.1-15-11	Interpretation of chemical tests.
	§ 20.1-15-12	Proof of refusal admissible in any action or proceeding.
	§ 20.1-15-13	Effect of evidence of chemical test.
	§20.1-15-15	Screening tests.
Title 39	MOTOR VEHICLES	
	§ 39-01-01	Definitions
Ch. 39-06	OPERATORS' LICENSES	
	§ 39-06-32	Authority to suspend licenses.
Ch. 39-06.1	DISPOSITION OF TRAFFIC OFFENSES	
	§ 39-06.1-03	Administrative hearing - Procedures - Appeals - Stay orders.
	§ 39-06.1-10	Entries against driving record - Licensing authority duties - Hearings - Demerit schedule - Suspension.
Ch. 39-06.2	COMMERCIAL DRIVER'S LICENSES	
	§ 39-06.2-10.2	Implied consent requirements for commercial motor vehicle drivers.
	§ 39-06.2-10.3	Action following test result for a resident driver.
	§ 39-06.2-10.4	Action following test result or refusal of testing by nonresident driver.
	§ 39-06.2-10.5	Revocation of privilege to drive commercial motor vehicle upon refusal to submit to testing.
	§ 39-06.2-10.6	Administrative hearing on request.
	§ 39-06.2-10.7	Judicial review.
Ch. 39-08	REGULATIONS GOVERNING OPERATORS	
	§ 39-08-01	Persons under the influence of intoxicating liquor or any other drugs or substances not to operate vehicle - Penalty.
	§ 39-08-01.4	Driving while under the influence of alcohol while being accompanied by a minor - Penalty.
	§ 39-08-04	Accidents involving death or personal injuries - Penalty.
	§ 39-08-18	Open container law – Penalty.

N.D.C.C.	DESCRIPTION	
Ch. 39-20	CHEMICAL TEST FOR INTOXICATION, IMPLIED CONSENT	
	§ 39-20-01	Implied consent to determine alcohol and drug content of blood.
	§ 39-20-01.1	Chemical test of driver in serious bodily injury or fatal crashes.
	§ 39-20-02	Persons qualified to administer test and opportunity for additional test.
	§ 39-20-03	Consent of person incapable of refusal not withdrawn.
	§ 39-20-03.1	Action following test result for a resident operator.
	§ 39-20-03.2	Action following test result or on refusing test by nonresident operator.
	§ 39-20-04	Revocation of privilege to drive motor vehicle upon refusal to submit to testing.
	§ 39-20-04.1	Administrative sanction for driving or being in physical control of a vehicle while having certain alcohol concentration.
	§ 39-20-05	Administrative hearing on request.
	§ 39-20-06	Judicial review.
	§ 39-20-07	Interpretation of chemical tests.
	§ 39-20-08	Proof of refusal admissible in any civil or criminal action or proceeding.
	§ 39-20-09	Effect of evidence of chemical test.
	§ 39-20-13	State Crime Laboratory to examine specimens of fatalities in accidental deaths involving a motor vehicle - Record use.
	§ 39-20-14	Screening tests.
Ch. 39-24	REGULATION AND REGISTRATION OF SNOWMOBILES	
	§ 39-24-09	Rules for operation of snowmobiles.
	§ 39-24-11	Penalties.
Ch. 39-24.1	SNOWMOBILE OPERATOR REGULATION	
	§ 39-24.1-01	Implied consent to determine alcohol and drug content of blood.
	§ 39-24.1-02	Chemical test of operator in serious bodily injury or fatal accident.

	N.D.C.C.	DESCRIPTION
Ch. 39-24.1	SNOWMOBILE OPERATOR REGULATION (CONTINUED)	
	§ 39-24.1-03	Persons qualified to administer chemical test and opportunity for additional test.
	§ 39-24.1-04	Consent of person incapable of refusal not withdrawn.
	§ 39-24.1-05	Action following chemical test result for a snowmobile operator.
	§ 39-24.1-06	Revocation of privilege to operate snowmobile upon refusal to submit to testing.
	§ 39-24.1-07	Criminal penalties for operating snowmobile while having alcohol or drug concentrations.
	§ 39-24.1-08	Interpretation of chemical tests.
	§ 39-24.1-09	Proof of refusal admissible in any action or proceeding.
	§ 39-24.1-10	Effect of evidence of chemical test.

DUI PENALTIES

(N.D.C.C. §§ 12.1-32-01, 39-06.1-10, 39-06.1-11, 39-08-01, 39-20-04, and 39-20-04.1)

First offense	A fine of at least $250; A 91-day license suspension if BAC is between 0.08 and 0.17; A 180-day license suspension if BAC is 0.18 or greater; A mandatory referral to addiction facility for evaluation.
Second offense (within five years)	A fine of at least $500; Five days imprisonment (of which, 48 hours must be served consecutively) or thirty days community service; A license suspension of 365 days, if BAC is between 0.08 and 0.17; A license suspension of two years, if BAC is 0.18 or greater; A mandatory referral to addiction facility for evaluation.
Third offense (within five years)	A fine of at least $1,000; 60-days imprisonment (of which, 48 hours must be served consecutively); A license suspension of two years if BAC is between 0.08 and 0.17; A license suspension of three years if BAC is 0.18 or greater; A mandatory referral to addiction facility for evaluation.
Fourth or subsequent offense (within seven years)	A fine of at least $1,000; 180-days imprisonment (of which, 48 hours must be served consecutively); Driving privileges may be restored only after the offender has completed an addiction treatment program and has not committed any alcohol-related offenses of any kind for at least two consecutive years following treatment.

THE ABOVE PENALTY LEVELS DO NOT PREVENT A COURT FROM IMPOSING THE MAXIMUM SENTENCE ALLOWED BY LAW (N.D.C.C. § 12.1-32-01): First or second offense, 30 days imprisonment and a fine of $1,000, third or subsequent offense, 1 year imprisonment. Sentences are mandatory and cannot be suspended or deferred.

The period of revocation for refusing to take a chemical or onsite screening test is from one to four years. A temporary restricted license (work permit) can only be issued to first time offenders after serving 30 days of the suspension period. No temporary restricted license can be given to those who refuse to take a chemical or onsite screening test. Except as explained below, no temporary restricted license can be given to individuals who are repeat DUI or APC offenders.

Under the state's "24/7 Sobriety Program" an individual who has been arrested for a second or subsequent DUI may be required to participate in twice-daily breath testing during the pendency of the criminal action. Individuals may be eligible to apply for a temporary restricted driver's license for purposes of participating in the testing.

Table 18: DUI Penalties

PRACTICAL TESTS

The following experiments are designed to help understand situations that may arise at various Intoxilyzer® 8000 locations. Read the entire lab test before beginning the test sequence. If you have any questions as to how to conduct the test, ask for clarification. Upon completion of the following tests, you are expected to perform additional tests with known test solutions to complete a minimum of 30 tests. All the tests should be recorded in your lab notebook and reviewed by the lab instructor.

INSTRUCTIONS

Run the practical tests as follows:

1. For these tests, indicate you have “ascertained a 20 minute deprivation period.”
2. Start the appropriate mode.
3. Swipe your chemical test operator card when requested.
4. Swipe the practice driver’s license when requested.
5. Record the information on the Form 120-G while the test is running.
6. Identify what the test record is by writing the test letter under remarks.
7. Be sure to sign every test record as it is evidence.

TYPES OF LAB TESTS

North Dakota Custom Mode Sequence (CMS Mode):

1. Press “Esc,” “Esc” (in one second), followed by the “Start Test” switch.
2. This mode must be followed for the following: DUI, APC, MZT, BUI, and HUI.
3. You may reuse the mouthpieces while training in this class; however, when you conduct tests in the field, please follow the *Approved Method*.

Calibration Check (ACA Mode):

1. Press “Esc,” “Esc” (in one second), then “Enter.” The Menu “1| BCPSQ” will be displayed.

2. Press “C” for a calibration check, then “Enter.”

One Breath Test (ABA Mode):

1. Press “Esc,” “Esc” (in one second), then “Enter.” The Menu “1| BCPSQ” will be displayed.

2. Press “B” for breath, then “Enter.”

Note: This may be used for MIC, public intoxication, parent requests, work release, and general court orders when the “*Approved Method to Conduct Breath Tests*” is not required.

DEFINITIONS

1. **Subject Test (ST).** Sample blown into the Intoxilyzer® 8000 by the operator.

2. **Calibration Check (CS).** Calibration check done with an Ethanol Breath Standard.

3. **Adequate Sample.** Sample blown through the simulator long and hard enough until the zero appears to the left of the decimal on the display screen.

4. **Deficient Sample.** Sample blown through the simulator hard enough to start the tone, but the subject quits blowing before a sufficient sample is delivered.

INTRODUCING A SUBJECT SAMPLE VIA SIMULATOR

The Guth Simulators take the place of a drinking subject. Follow the steps below to introduce a breath alcohol sample into the Intoxilyzer® 8000:

1. Disconnect the hose from the quick disconnect on the simulator;

2. Connect the breath hose of the Intoxilyzer® 8000 to the simulator quick disconnect when the display reads “Please Blow …”;

3. Attach a mouthpiece to the hose on TOP of the simulator;

4. Blow through the mouthpiece to produce an adequate or deficient sample as directed. (See Figure 35, "*Proper Connection for a Simulator Test*.")

Figure 35: Proper Connection for a Simulator Test

Codes for Intoxilyzer® 8000 Tests
Following are the codes you will need for your county and location when entering information into the Intoxilyzer® 8000.

County Codes			
County Code	**County**	**County Code**	**Agency**
01	Adams	44	Slope
02	Barnes	45	Stark
03	Benson	46	Steele
04	Billings	47	Stutsman
05	Bottineau	48	Towner
06	Bowman	49	Traill
07	Burke	50	Walsh
08	Burleigh	51	Ward
09	Cass	52	Wells
10	Cavalier	53	Williams
11	Dickey		
12	Divide		
13	Dunn		
14	Eddy		
15	Emmons		
16	Foster		
17	Golden Valley		
18	Grand Forks	**Other Codes**	**Agency**
19	Grant	60	Native American on Fort Berthold Reservation
20	Griggs	61	Native American on Standing Rock Reservation
21	Hettinger	62	Native American on Spirit Lake Reservation
22	Kidder	63	Native American on Turtle Mountain Reservation
23	LaMoure	64	Military on Minot Air Force Base
24	Logan	65	Military on Grand Forks Air Force Base
25	McHenry		
26	McIntosh		
27	McKenzie		
28	McLean		
29	Mercer		
30	Morton		
31	Mountrail		
32	Nelson		
33	Oliver		
34	Pembina		
35	Pierce		
36	Ramsey		
37	Ransom		
38	Renville		
39	Richland		
40	Rolette		
41	Sargent		
42	Sheridan		
43	Sioux		

Figure 36: County Codes

LOCATION CODES			
Location Codes	Agency	Location Codes	Agency
ASHL	McIntosh County Sherfiff's Office	MAND	Mandan Police Department
BELC	BIA - Belcourt	MNAF	Minot Air Force Base
BOTT	Bottineau County Sheriff's Office	MOHL	Renville County Sheriff's Office
BOWM	Bowman Count Sheriff's Office	MOTT	Hettinger County Sheriff's Office
BSPD	Bismarck Police Department	NAPO	Napolean Police Department
BURK	Burke County Sheriff's Office	NEWT	Three Affiliated Tribes Police Department
CAND	Towner County Sheriff's Office	ROLL	Rolette County Sheriff's Office
CARR	Foster County Sheriff's Office	RUGB	Heart of America Correction and Treatment Center
CARS	Grant County Sheriff's Office	SHER	Sheridan County Sheriff's Office
CASS	Cass County Correctional Center (jail)	STAN	Mountrail County Sheriff's Office
CAVA	Pembina County Sheriff's Office	STAT	Mercer County Sheriff's Office
COOP	Griggs County Sheriff's Office	STEE	Kidder County Sheriff's Office
CROS	Divide County Sheriff's Office	STUT	Stutsman County LE Center
DEVL	Lake Region Correctional Center	TIOG	Tioga Police Department
DKPD	Dickinson Police Department	TOXL	Office of Attorney General, Crime Laboratory Division
FINL	Steele County Sheriff's Office	UNDP	UND Police Department
FTOT	BIA - Fort Totten	VALL	Valley City Police Department
FYPD	BIA - Fort Yates	WAHP	Whapeton Police Department
GFAF	Grand Forks Air Force Base	WARD	Ward County Correctional Center
GFPD	Grand Forks Police Department	WASH	McLean County Sheriff's Office
GFSO	Grand Forks Correctional Center	WATF	McKenzie County Sheriff's Office
GRAF	Walsh County Sheriff's Office	WFPD	West Fargo Police Department
HARV	Harvey Police Department	WILL	Williston Police Department
HETT	Adams County Sheriff's Office	SBCP	Sobriety Checkpoint
HILL	Traill County Sheriff's Office		
JAME	Stutsman County Correctional Center		
LAMO	LaMoure County Sheriff's Office		
LANG	Cavalier County Sheriff's Office		
LINT	Emmons County Sheriff's Office		
LISB	Ransom County Sheriff's Office		

Figure 37: Location Codes

TESTS

- **Calibration Check or ACA Test:**

Mode: ACA (**Check Calibration of Intoxilyzer® 8000**)

Note: This test checks the calibration of the Intoxilyzer® 8000. It must be done every time the gas cylinder is replaced. (Calibration checks are listed on test records as a "Dry Cal Check.")

1. Press "Esc", "Esc", followed by "Enter."
2. When "1| BCPSQ" is displayed, press "C" followed by "Enter."
3. Scan your chemical test operator card and enter the requested information.
4. Run the test sequence.
5. The Form 120-G should be completed during the test.
6. Sign the test record after it is printed.
7. In "Remarks", label this an "ACA Test."

- **Test A:**

Mode: ND Custom Mode Sequence (**Adequate ST 1 and ST 2**)

Note: This allows the operator to understand a good breath sample. The operator should act as the subject. This test demonstrates that a breath with no alcohol gives an alcohol concentration of "0.000."

1. ST 1 – Blow your breath through a mouthpiece to provide an adequate sample.
2. CS – Automatically analyzed by the Intoxilyzer® 8000.
3. ST 2 – Repeat ST 1.
4. In "Remarks", label this as "Test A."

- **Test B:**

Mode: ND Custom Mode Sequence (Adequate ST 1 and ST 2)

Note: This allows the operator to observe and record data from a valid subject test. The operator should act as the subject.

1. ST 1 – Blow through a simulator into the breath tube to provide an adequate sample.
2. CS – Automatically analyzed by Intoxilyzer® 8000.
3. ST 2 – Repeat ST 1.
4. In “Remarks”, label this as “Test B.”

- **Test C:**

Mode: ND Custom Mode Sequence (Deficient Sample for ST 2)

Note: This demonstrates a test when the subject gives up or cannot blow a second sample.

1. ST 1 – Blow an adequate sample into the breath tube.
2. CS – Automatically analyzed by Intoxilyzer® 8000.
3. 3.ST 2 – Blow a deficient sample of test solution into the breath tube. Just blow a sample until the numbers start appearing on the display.
4. In “Remarks”, label this as “Test C.”

- **Test D:**

Mode: ND Custom Mode Sequence (No Second Sample; Subject Refusal)

Note: This simulates a subject refusing a second sample. This is a valid test and the first subject sample will be the recorded alcohol concentration and time. The operator must offer the second sample and allow the time to run out to comply with the *Approved Method*. When testing a DUI subject, use two (2) clean mouthpieces as indicated in the *Approved Method*. The designation for "Deficient Sample" is the asterisk (*) on the test record. Compare the alcohol concentration (AC) results of this test to those of "Test C."

1. ST 1 – Blow an adequate sample into the breath tube.
2. CS – Automatically analyzed by Intoxilyzer® 8000.
3. ST 2 – Do not blow a sample. Wait until the test record is automatically printed.
4. In "Remarks", label this as "Test D."

- **Test E:**

Mode: ND Custom Mode Sequence (Sample Introduced at Wrong Time)

Note: This test demonstrates the test results when the operator coaches the subject to blow too early or the subject starts blowing too early. Notice that "Improper Sample" is displayed. The Intoxilyzer® 8000 clears the sample chamber with another room air prior to aborting and printing the test.

1. ST 1 – Blow an adequate test solution into the breath tube.
2. CS – Automatically analyzed by Intoxilyzer® 8000.
3. ST 2 – Hook up the simulator as soon as "Room Air" "Rslt:0.000" is displayed. Blow through the simulator as soon as "Reference" is displayed and while the boxes are moving across screen.
4. In "Remarks", label this as "Test E."

- **Test F:**

Mode: ND Custom Mode Sequence (Double Refusal)

Note: This simulates a subject refusing the breath sample. This indicates the operator allowed the subject to try twice, for “three minutes” each time. By allowing the time to run out each time, you are following the *Approved Method*. This is considered a valid test because all the steps of the *Approved Method* were followed. No alcohol concentration is recorded. When testing a DUI subject, use two (2) clean mouthpieces as indicated in the *Approved Method*.

1. ST 1 – Do not blow a sample. Wait.
2. CS – Automatically analyzed by Intoxilyzer® 8000.
3. ST 2 – Do not blow a sample. Wait.
4. In “Remarks”, label this as “Test F.”

- **Test G:**

Mode: ND Custom Mode Sequence (Refusal; Stop Test)

Note: This indicates how you, as an operator, can abort the breath test. This is **not** considered a valid test although it may be used as evidence. Indicate the reason for aborting the test in your report. Describe the actions of the subject that led you to this action.

1. ST 1 – Depress the “R” key on the keyboard.
2. “Subject Test Refused” will be displayed.
3. In “Remarks”, label this as “Test G.”

- **Test H:**

Mode: ND Custom Mode Sequence (Diabetic Subject in Ketosis)

Note: This simulates what a diabetic in ketosis may display. **You should get medical attention for this subject.** Physical actions of the subject may be similar to those of an inebriated person. Follow your agency policy manual concerning medical attention. Write "Subject Was Taken for Medical Attention" on the test record and get a blood or urine specimen as evidence for the DUI.

1. **Use the Simulator labeled: Acetone.**
2. ST 1 – Blow sample of acetone solution into the breath tube.
3. "Interferent Detect" will be displayed.
4. Keep the test record copies as evidence.
5. In "Remarks", label this test "Test H."

- **Test I:**

Mode: ND Custom Mode Sequence (Diabetic Subject With 0.10 and in Ketosis)

Note: This simulates what a diabetic with a 0.10 AC in ketosis would display. **You should get medical attention for this subject.** Follow your agency policy manual concerning medical attention. You will not be able to tell if the subject has alcohol in addition to acetone on his breath. Write "Subject Was Taken for Medical Attention" on the test record and get a blood or urine specimen as evidence for the DUI.

1. **Use the Simulator labeled: Ethanol and Acetone or 0.10 AC plus Acetone**.
2. ST 1 – Blow an adequate sample of 0.10 AC EtOH and acetone into the breath tube.
3. "Interferent Detect" will be displayed.
4. Keep the test record copies as evidence.
5. In "Remarks", label this as "Test I."

- **Test J:**

Mode: ND Custom Mode Sequence (Subject With 0.10 Percent Methanol)

Note: This simulates 0.10 percent methanol. **You should get medical attention for this subject.** Physical actions of the subject may be more exaggerated than those of a person having a 0.10 breath ethyl alcohol concentration. Follow your agency policy manual concerning medical attention. Write "Subject Was Taken for Medical Attention" on the test record and get a blood or urine specimen as evidence for the DUI.

1. **Use the Simulator labeled: Methanol.**
2. ST 1 – Blow an adequate sample of 0.10 percent MeOH (methanol).
3. "Interferent Detected" will be displayed.
4. Keep the test record copies as evidence.
5. In "Remarks", label this as "Test J."

- **Test K:**

Mode: ND Custom Mode Sequence (Subject With 0.10 Percent Isopropanol)

Note: This simulates a person with 0.10 percent isopropanol. **You should get medical attention for this subject.** Follow your agency policy manual concerning medical attention. Write "Subject Was Taken for Medical Attention" on the test record and get a blood or urine specimen as evidence for the DUI.

1. **Use the Simulator labeled: Isopropanol.**
2. ST 1 – Blow an adequate sample of 0.10 percent Isopropanol.
3. "Interferent Detected" will be displayed.
4. Keep the test record copies as evidence.
5. In "Remarks", label this as "Test K."

- **Test L:**

Mode: ABA (MIC; Minor in Consumption)

Note: This simulates a test run on a person consuming alcohol under the legal age. An S-D5 test will suffice in most jurisdictions. Check with your local policies to see what is required. There is no Implied Consent with MIC cases; the subject may refuse. No Report and Notice will be filed.

1. ST 1 – Blow an adequate sample into the breath tube.
2. In “Remarks”, label this as “Test L.”

- **Print Test:**

Mode: P (Checks Printer and Setup)

Note: This test checks the printer and setup of the Intoxilyzer® 8000.

1. Press “ESC” “ESC” followed by “Enter.”
2. When “1| BCPSQ” is displayed, press “P” followed by “Enter.”
3. Follow the display instructions. Sign the test record after it is printed.
4. In “Remarks”, label this as “Print Test.”