

BLOOD TESTING



**EVIDENTIARY AND INDEPENDENT TESTING
FOR ALCOHOL AND DRUGS**

VERMONT FORENSIC LAB



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VFL TOXICOLOGY SECTION



Breath Alcohol

- Calibration/certification
- Maintenance/repair
- Review records
- Train law enforcement
- Provide testimony



Blood Alcohol

- Distribute blood kits
- Receive evidence and inventory samples
- Test for ethanol and other volatiles (acetone, methanol, etc)
- Provide relation back calculations

VFL TOXICOLOGY SECTION



Blood Drug Testing Expansion

- Randox Evidence Investigator immunoassay qualitative screening instrument
- Waters LC-MS/MS quantitative confirmation instrument



WHAT DO WE TEST FOR?

Analysis of the sample for ethanol was performed by gas chromatography, a method approved by the Commissioner of Public Safety for this purpose. The VFL quantitative range for ethanol is 0.010 – 0.400 g/100 mL. All reported results are average values.

Measurement uncertainty is reported at a 99.7% level of confidence for all blood ethanol analyses.

Analysis by immunoassay screening in whole blood for:

Assay	Cutoff* (ng/mL)	Assay	Cutoff* (ng/mL)
Meth /Amphetamines	20	Meprobamate	100
Barbiturates	50	Methadone	10
Benzodiazepines	10	Opiates	10
Buprenorphine	5	Opioids	10
Cannabinoids	10	Phencyclidine	5
Benzoyllecgonine	50	TCA	25
Dextromethorphan	5	Tramadol	5
Fentanyl	1	Zolpidem	10

* Results within 20% of these concentrations are reported as preliminarily positive.

Analysis by high performance liquid chromatography/tandem mass spectrometry in whole blood for:

Analyte	Quantitative Range (ng/mL)
Delta-9-THC	0.5 – 50
11-hydroxy-Delta-9-THC	0.5 – 50
11-nor-9-carboxy-Delta-9-THC	5.0 - 500

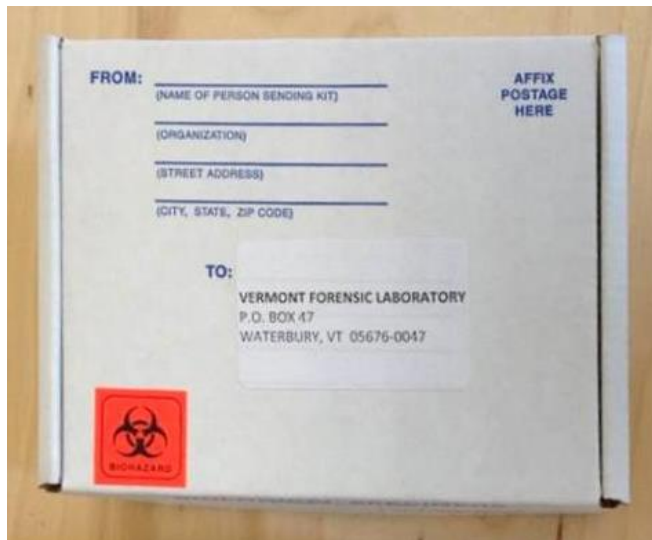
Measurement uncertainty is reported at a 95.45% level of confidence for all quantitative blood drug analyses.

BREATH AND BLOOD TESTING IN VT

Type of Case	2014	2015	2016	2017	2018	2019
Affidavit Requests	517	419	401	370	353	322
Breath Alcohol	2239	2184	1865	1971	1996	1819
Breath Refusals	348	420	378	530	571	437
Blood Alcohol	150	180	148	130	139	108
Blood Drug	167	191	192	202	324	425

BLOOD TEST KITS

Evidentiary:



Independent:



EVIDENTIARY BLOOD TESTS

- If the person is a surviving operator of a motor vehicle involved in a **fatal incident** or collision, or an incident or collision **resulting in serious bodily injury**
- If **breath testing equipment is not reasonably available**
- If the officer has reasonable grounds to believe that the person is **unable to give a sufficient sample of breath** for testing
- If the law enforcement officer has reasonable grounds to believe that the person is **under the influence of a drug other than alcohol**
- Then a law enforcement officer may obtain actual, **voluntary consent** or a **search warrant** before obtaining an **evidentiary blood sample**.

BIRCHFIELD V. NORTH DAKOTA

- **Birchfield v. North Dakota, 136 S. Ct. 2160 (2016)**
- **Drawing blood ruled significantly more invasive than breath**

In response:

- **2017 Vermont bill H. 503 (Act 62)**
- **Refusal rules no longer apply to evidentiary blood test**
- **Consent or warrant necessary**

EVIDENTIARY BLOOD TESTS

Evidentiary blood test kit:

FROM: _____
(NAME OF PERSON SENDING KIT)

(ORGANIZATION)

(STREET ADDRESS)

(CITY, STATE, ZIP CODE)

AFFIX POSTAGE HERE

TO:
VERMONT FORENSIC LABORATORY
P.O. BOX 47
WATERBURY, VT 05676-0047

BIOHAZARD

BIOLOGICAL SPECIMENS
— HANDLE WITH CARE —

EVIDENTIARY KIT,
LAW ENFORCEMENT
USE ONLY

EVIDENTIARY BLOOD TESTS

Kit Expiration Date

Record Kit # (lot #)



EVIDENTIARY BLOOD KIT

Kit Contents

- Mailer box
- Plastic specimen bag
- Foam holder
- Vacutainer and needle
- Iodine prep pad
- 3 - blood test tubes
- 3 - tube seals
- 2 - foam seals
- 2 - evidence seals
- Request form
- Instruction form
- FDA Insert



**VERMONT FORENSIC LABORATORY**

PO BOX 47
 WATERBURY, VERMONT 05676-0047
 TEL: 802-244-8788
 FAX: 802-241-5557
<http://vfl.vermont.gov>

LAB USE ONLY

VFL #: _____

Received By: _____ Date: _____ Time: _____

Cert Mail # _____
 Hand Carried Evidence Locker _____
 Other _____

Opened to remove submission form only and repackaged
 Initials: _____ Date: _____

REQUEST FOR ANALYSIS FOR ALCOHOL/DRUGS IN BLOOD

Subject Name: (Last, First)	DOB: <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Non-binary	Case Number:
Collection Date:	Collection Time:	Collection Facility:
Collected By: (print name)	Collector Signature:	Witness Signature:
Investigating Officer: (print name)	Agency:	
Phone:	Email:	

Incident Location:

Town:	County:
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DRE Exam Performed: No Yes Refusal

DRE Name:	DRE Agency:
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Requested Tests:

- Alcohol Drugs
 Inhalants Other: _____

Blood samples will be tested for the following analytes when "Drugs" is selected:

Barbiturates	Fentanyl	Opioids
Benzodiazepines	Meprobamate	Phencyclidine
Buprenorphine	Meth / Amphetamines	Tramadol
Cannabinoids	Metadone	Tricyclic Antidepressants
Cocaine / Metabolite	Opiates	Zolpidem
Dextromethorphan		

If a substance other than those detailed above is suspected, please list in "Other" (ex. Bath Salts, Gabapentin, etc.)

By submission of this form and the associated evidence, the submitting agency acknowledges that the Vermont Forensic Laboratory retains the right to limit or expand the scope of analysis on all submissions and agrees to the receipt of a simplified report containing the information necessary for interpreting the results. Additional information about test methodologies and sampling plans, and disposition of evidence is maintained in the laboratory case record and available upon request. The Vermont Forensic Laboratory reserves the right to refuse evidence that is improperly packaged, inappropriate for examination and/or may cause an unacceptable hazard to laboratory staff.

TOXICOLOGY TESTING FOR DUID

When drug impairment is suspected, use **VT-Alerts** to request a DRE; if a request is not made, the agency is responsible for testing expenses. Even if a DRE is not available to respond, any costs associated with testing will be covered by a grant from the Governor's Highway Safety Program administered by VFL.

EVIDENTIARY BLOOD KIT

1. **Break kit integrity seal and open box**
2. **Fill out all forms and seals.**
3. **Have phlebotomist fill all 3 tubes as full as possible.**
(If tubes provided in kit fail to fill, hospital supplied grey topped tubes may be used)
4. **Once tubes are filled, seal tubes with evidence labels.**
5. **Place tubes in styrofoam kit.**
6. **Seal styrofoam kit with white labels.**
7. **Place styrofoam kit in specimen bag and seal bag.**
8. **Place bag/foam in cardboard box.**
9. **Place completed form in cardboard box.**
10. **Seal box with RED evidence tape.**
11. **Mail kit CERTIFIED to VFL or hand deliver it.**
 - a) If not mailing immediately, refrigerate (NOT with food).
 - b) Do not wrap the kit in paper or put it in any secondary packaging; The kit is acceptable to mail as is.

THINGS TO REMEMBER:

- **Seals for tubes, kit and box**
- **Complete and legible request form for analysis**
- **Mail (certified) or hand deliver to VFL**

**DO NOT USE INDEPENDENT KITS FOR EVIDENTIARY
PURPOSES**

**DO NOT GIVE SUSPECTS EVIDENTIARY KITS FOR
INDEPENDENT USE**

INDEPENDENT BLOOD TESTS

23 VSA 1203a.

“ A person *tested* has the right at the person’s own expense to have someone of the person’s own choosing administer a chemical test”

“If after reasonable efforts the person is unable to arrange transportation necessary to obtain the blood test upon completion of processing, the law enforcement officer shall provide or arrange transportation”

INDEPENDENT BLOOD KIT

- Mailer box
- Cardboard tube holder
- Specimen Bag
- Test Tube
- Evidence Seals
- Sampling request form
- Analysis request form
- Instruction sheet
- FDA Insert

