

## TESTING AND CALIBRATION LABORATORY ACCREDITATION PROGRAM (LAP) Scope of Accreditation

*La présente portée d'accréditation existe également en français et est publiée séparément.*

**Legal Name of Accredited Laboratory:** **RCMP Forensic Science & Identification Services**

**Location Name or Operating as (if applicable):** National Forensic Laboratory Services – Ottawa

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**To ensure compliance with the *Official Languages Act*, the Standards Council of Canada (SCC) translated proprietary content from English to French when it was not available in French. In case of discrepancies between the English and French versions, the original version prevails.**

<b>SCC File Number:</b>	15539
<b>Accreditation Standard(s):</b>	ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories
<b>Fields of Testing:</b>	Biological Chemical/Physical Forensic
<b>Program Specialty Area:</b>	Forensic: Counterfeits Firearms / Toolmarks Biology / DNA Chemistry / Trace Evidence Toxicology
<b>Initial Accreditation:</b>	2002-02-26
<b>Most Recent Accreditation:</b>	2025-03-28
<b>Accreditation Valid to:</b>	2030-02-26

### **SCC Group Accreditation:**

This laboratory is a part of a Group Accreditation with the following facilities in accordance with SCC's policy on Group Accreditation documented in the Accreditation Services Accreditation Program Overview.

- RCMP Forensic Science & Identification Services - NATIONAL FORENSIC LABORATORY SERVICES - EDMONTON, 15405;
- RCMP Forensic Science & Identification Services - NATIONAL FORENSIC LABORATORY SERVICES - SURREY 15489; and
- RCMP Forensic Science & Identification Services - NATIONAL DNA DATA BANK, 15654.

## **FORENSICS**

### **Counterfeits**

#### Description of Activities

The National Anti-Counterfeiting Bureau (NACB) is the unit within this accredited laboratory that carries out the following examinations /analyses:

- Examinations of documents, which generally fall under the definition of Security Documents. These are documents of value such as bank notes and other negotiable instruments, travel and identification documents, payment cards and other types of printed matter. Examination types are categorized as follows:
  - Examination of currency and negotiable instruments to determine authenticity and alterations;
  - Examinations of documents (including passports, immigration documents, visas, identification cards) to determine authenticity and alterations, erasures and obliterations on documents;
  - Examination of payment cards to determine authenticity and alterations, and
  - Examination of Canadian circulation coins to determine authenticity.

#### Techniques for which laboratory is accredited:

- a. Digital imaging capture techniques
- b. Macroscopic and microscopic comparisons
- c. Measurement of physical properties of coins
- d. Special lighting techniques

### **Firearms / Toolmarks**

#### Description of Activities

The Firearms and Toolmark Identification Section carries out the following examinations:

- Legal classification and mechanical assessment of firearms, firearms components, ammunition, and prohibited devices
- Comparison of firearm toolmarks on fired ammunition components
- Probable type and make assessment of fired ammunition components (bullets and cartridge cases)
- Muzzle to target distance or range determination, and bullet impact damage assessment
- Comparison of non-firearm toolmarks
- Restoration of serial numbers
- Physical match and comparison
- Unsolved case database searches using an Integrated Ballistics Identification System (IBIS), and participation in the Canadian Integrated Ballistic Identification Network (CIBIN)

#### Techniques for which laboratory is accredited:

- a. Physical Measurements;

- b. Macroscopic and microscopic examination and comparison of toolmarks (firearm and non-firearm)
- c. Chemical spot tests
- d. Chemical etching and Magnetic particle inspection
- e. Image acquisition of fired ammunition components and virtual evaluation of database search results

## **Forensic Biology / DNA**

### Description of Activities

The Biology Services Section carries out the following examinations/analyses:

- Examination of forensic evidentiary material for the presence of biological material.
- Testing of body fluids using biochemical, immunological and/or microscopic procedures as both confirmatory and presumptive tests for the following: semen (confirmatory & presumptive), blood (confirmatory & presumptive), and saliva (presumptive).
- Autosomal STR and Y-STR DNA analysis of biological material recovered from evidentiary material, which included the extraction, purification and quantification of human and male DNA, the amplification of DNA and the resolution of DNA typing profiles using capillary electrophoresis.
- Interpretation of Autosomal STR DNA typing results to establish associations between individuals and crime scene samples.

### Techniques for which laboratory is accredited:

- a. Examination of exhibits for biological material;
- b. Body fluid testing (i.e. semen, blood and saliva) using biochemical, immunological and/or microscopic procedures;
- c. Hair identification and determination of suitability for STR DNA typing;
- d. DNA extraction, purification, quantification, Polymerase Chain Reaction (PCR) amplification using Autosomal STR and Y-STR Amplification Kits, and capillary electrophoresis;
- e. Interpretation of Autosomal STR DNA typing profiles;

## **Forensic Chemistry / Trace Evidence Analysis**

### Description of Activities

The Trace Evidence Services Section carries out the following examination/analyses:

- Examination, analysis, identification, and comparison of trace evidence (generally non-biological) to identify gunshot residues and/or explosives; including post-blast residues and improvised explosive precursor chemicals.
- Recognition, detection and identification of trace evidence (generally non-biological) such that the information can be used to aid in the investigation or reconstruction of events at a crime or accident scene, related to explosions and/or making explosives.
- \*On-site visual examinations, chemical tests (crime scene), Fourier Transform Infrared Spectroscopy, Raman Spectroscopy and Ion Mobility Spectrometry.

### Techniques for which laboratory is accredited:

- a. Sample preparation, extraction and/or separation and general chemical and physical tests such as pH measurement, ignitability tests, and solubility or miscibility tests
- b. Visual examinations and physical measurements
- c. Optical microscopy and scanning electron microscopy with energy dispersive X-ray spectroscopy
- d. Gas chromatography, liquid chromatography and ion chromatography coupled with mass spectrometry
- e. Ion mobility spectrometry
- f. Fourier transform infrared and Raman spectroscopy

## **Forensic Toxicology**

### Description of Activities

The Toxicology Section carries out the following examinations/analyses:

- Body fluid and tissue screen and quantification for volatile substances including ethanol
- Body fluid and tissue screen and quantification for drugs and poisons
- Analysis of drugs, poisons and other toxic materials in or on clothing, food, pharmaceuticals and miscellaneous exhibits
- Verifies the ethanol concentration of alcohol standard used in breath testing

### Techniques for which laboratory is accredited (100 Eglantine Driveway):

- a. Immunoassay
- b. Sample preparation, extraction and general chemical and physical tests
- c. Ultra/High-performance liquid chromatography coupled with tandem mass spectrometry detection
- d. Gas chromatography coupled with flame ionization detection
- e. Gas chromatography coupled with mass spectrometry detection
- f. Ultra/High-performance liquid chromatography coupled with quadrupole time-of-flight mass spectrometry detection

### Techniques for which laboratory is accredited (1200 Vanier Parkway):

- a. Ultra/High-performance liquid chromatography coupled with quadrupole time-of-flight mass spectrometry detection

Number of Forensic Techniques: 27

Most toxicology tests are performed at the Tunney's Pasture location:

Royal Canadian Mounted Police National Forensic Laboratory Services – Ottawa, Tunney's Pasture  
100 Eglantine Driveway,  
Ottawa, Ontario  
K1A 0K9

### **Notes:**

**ISO/IEC 17025:2017:** General Requirements for the Competence of Testing and Calibration Laboratories

**SCC RG-LAB:** SCC Requirements and Guidance for the Accreditation of Testing Laboratories

**SCC RG-FORENSIC:** SCC Requirements and Guidance for the Accreditation for Forensic Testing Laboratories

\* These test methods can be performed on-site as per RG-Lab.



This document forms part of the Certificate of Accreditation issued by the Standards Council of Canada (SCC). The original version is available in the Directory of Accredited Laboratories on the SCC website at [www.scc-ccn.ca](http://www.scc-ccn.ca)

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