



SCOPE OF ACCREDITATION

**RCMP Forensic Science & Identification Services
NATIONAL FORENSIC LABORATORY SERVICES - OTTAWA
NPS Lab Building, 1200 Vanier Parkway
Ottawa, ON
K1A 0R2**

Accredited Laboratory No. 435

(Conforms with requirements of ISO/IEC 17025:2017, SCC RG-FORENSIC, SCC RG-ON-SITE)

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CLIENTS SERVED:	Police officers, both RCMP and municipal, in Ontario and other Provinces / Territories, as well as members of other Government Enforcement Agencies; and the Courts. Some techniques are available on-site.
FORENSICS DISCIPLINE(S):	Counterfeits, Firearms / Toolmarks, Forensic Biology / DNA, Forensic Chemistry / Trace Evidence, Forensic Toxicology
PROGRAM SPECIALTY AREA:	Forensic
INITIAL ACCREDITATION:	2002-02-26
MOST RECENT ACCREDITATION:	2019-07-10
ACCREDITATION VALID TO:	2022-02-26

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SCC GROUP ACCREDITATION

This laboratory is a party to a SCC Group Accreditation with the following facilities in accordance with the SCC Accreditation Program Overview document section on Group Accreditation:

- RCMP Forensic Science & Identification Services - NATIONAL CENTRE FOR FORENSIC SERVICES - ALBERTA, Accredited Laboratory No. 337
- RCMP Forensic Science & Identification Services - NATIONAL FORENSIC SERVICES - VANCOUVER, Accredited Laboratory No. 395
- RCMP Forensic Science & Identification Services - NATIONAL DNA DATA BANK, Accredited Laboratory No. 531

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, are documents of value such as banknotes and other negotiable instruments, travel and identification documents, payment cards and other types of printed matter.

Examination types may be categorized as follows:

- Examination of currency and other negotiable instruments to determine authenticity
- 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
- Examination of coins to determine authenticity

Techniques for which the 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/analyses:

- Legal classification and mechanical assessment of firearms, firearms components, ammunition, and prohibited devices
- Comparison and identification 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, bullet impact damage assessment, and bullet path analysis
- Comparison and identification 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)
- On-site examinations (crime scene and autopsies)

Techniques for which laboratory is accredited:

- a. Measurements; linear, mass, force, velocity, sound level
- b. Inspection and functional testing of firearms; including shock discharge and trigger pull analysis
- c. Macroscopic and microscopic examination and comparison of toolmarks (firearm and non-firearm)
- d. Chemical spot tests
- e. Chemical and electrolytic etching
- f. Magnetic particle inspection
- g. Image acquisition of fired ammunition components (bullets and cartridge cases) and virtual evaluation (correlation) of database search results
- h. On-site; bullet impact damage assessment, bullet path analysis and chemical tests

Forensic Biology / DNA

Description of Activities:

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

- Examination of evidentiary material for the presence of biological material, possible biological material and non-biological material
- Nuclear STR DNA and Y-STR 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 electrophoreses

- Interpretation of DNA typing results to establish associations between individuals and crime scene samples, as well as paternity/parentage and other relatedness relationships

Techniques for which laboratory is accredited:

- a. Body fluid (with the exclusion of urine) examination and identification using biochemical and/or microscopic procedures;
- b. DNA extraction, purification, quantification, Polymerase Chain Reaction (PCR) amplification using autosomal STR and Y-STR Amplification Kits, and capillary electrophoresis
- c. Interpretation of DNA typing profiles
- d. Hair identification and determination of suitability for nuclear STR DNA typing
- e. Macroscopic and microscopic examination

Forensic Chemistry / Trace Evidence

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)
- 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.
- On-site examinations and chemical tests (crime scene)

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
- e. Ion mobility spectrometry
- f. Fourier transform infrared and Raman spectroscopy
- g. On-site; visual examinations, ignitability tests, solubility tests, optical microscopy, ion mobility spectrometry, Fourier transform infrared spectroscopy



Forensic Toxicology

Description of Activities:

The Toxicology Services 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.

Techniques for which laboratory is accredited:

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

Notes:

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

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

SCC RG-ON-SITE: SCC Requirements and Guidance for the Accreditation of Testing and Calibration Laboratories Performing On-Site Testing and Calibrations

Elias Rafoul, Vice President
Accreditation Services

Published on: 2019-09-16

Number of Forensic Techniques: 31
SCC 1003-15/539