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Canadian Certified Reference Materials

Certified reference materials are standards used to validate analytical measurement methods or to calibrate analytical instruments used in analytical chemistry. The objective of the Canadian Certified Reference Materials Program (CCRMP) is to produce certified reference materials to improve the reliability of measurements at mineral analysis laboratories both in Canada and around the world.

CCRMP materials are well characterized Canadian ores, rocks, concentrates, tailings, soils, alloys, anodes and radioactive materials that serve as a control to verify the accuracy and precision of the instrumentation or analytical method used. The reference material standards support decision-making related to mineral resource production, commodity valuation and complying with environmental regulations.

Natural Resources Canada provides more than 75 reference materials for purchase on its website. More than 1,500 mining companies and laboratories in 105 countries have purchased more than 70,000 units of CCRMP material since the program began in 1973.

The CCRMP also operates a Proficiency Testing Program for Mineral Analysis Laboratories (PTP-MAL) in cooperation with the Standards Council of Canada (SCC). Mineral analysis laboratories can use the PTP-MAL to assess their performance of analytical methods, independent of internal quality controls. The PTP-MAL is accredited to the ISO/IEC 17043 Conformity assessment standard (from the International Organization for Standardization and the International Electrotechnical Commission) and the SCC's standard: CAN-P-1579 Requirements for the Accreditation of Mineral Analysis Testing Laboratories.

The SCC requires that testing organizations participate in the PTP-MAL to receive SCC accreditation for mineral analysis activities that meet the ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories standard.

About 80 international laboratories participate in the PTP-MAL. They analyze blind samples and produce chemical data for statistical analysis. The laboratories issue a certificate to participants whose results meet stringent statistical and reliability criteria.

For more information visit the Natural Resources Canada website at
nrcan.gc.ca/mining-materials/certified-reference-materials/7827.

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