Quality Assurance and Quality Control. Strict quality control and quality assurance procedures were followed during sample analyses. Background contamination determined by the ΣPCB congeners in procedural blank was 0.37 ng/g. Analytical accuracy, precision, and extraction efficiency were evaluated by the analyses of standard reference material (SRM 1589, NIST Aroclor 1260 in Human Serum), one pair of matrix spike samples (aliquots of pooled serum spiked with 0.17 ng/g of each target PCB congener), and two surrogate compounds added to each sample prior to extraction.

The Mean (± SD) percent recoveries of two surrogate compounds (PCB#30 and PCB# 204) added to all samples to monitor extraction efficiency were 95% (± 2) and 88% (± 5), respectively.

The Mean (± SD) percent recoveries of all target PCB congeners in Matrix spike and Matrix spike duplicate samples were 91% (±4.7) and 88% (±4.5) respectively. The relative percent difference between concentrations of all target PCB congeners in two matrix spike samples, expressed as mean RPD (± SD) was 3.8% (±2.3).

The method detection limits (MDL) for targeted individual PCB congeners ranged from 0.002 to 0.036 ng/g serum, with most MDLs < 0.01 ng/g serum.

The laboratory has been successfully participating in International Inter-calibration, AMAP Ring Test for PCBs and OCs in Plasma, sponsored by AMAP (Arctic Monitoring and Assessment Program) and organized by Quebec National Institute of Public Health, Canada.