



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

Microanalysis Quality Assurance Manual ICP/MS Quality Assurance Policy

Quality Assurance for the Hewlett-Packard 7500 Inductively Coupled Plasma-Mass Spectrometer

1. Procedure

- 1.1. Tune the instrument each day it will be used in case analysis. The instrument will be tuned to maximize sensitivity, obtain best precision, and minimize oxides and doubly charged ion interferences. Run Pulse-to-Analog (P/A) factor and Electron Multiplier (EM) voltage calibration each week the instrument is in use. Use the appropriate P/A Working Solution for the analysis to be performed. Maintain the tune and P/A report in the maintenance records.
- 1.2. The following components of the 7500 ICP-MS main bench may be checked and cleaned or replaced based on tune and calibration curve performance: sample cone, skimmer cone, peripump tubing, detector, torch, air filter, and nebulizer. Follow manufacturer recommended procedures for maintaining or replacing parts. Record maintenance in maintenance records.
- 1.3. The water chiller requires the following maintenance:
 - 1.3.1. Replace the in-line water filter as needed.
 - 1.3.2. Check the coolant level and air filter roll no more than once a month when the instrument is in use.
 - 1.3.3. Record maintenance in maintenance records.