

**Operating Instructions**  
**Perkin-Elmer Model 603 Atomic Absorption Spectrophotometer (in Pfahler 202A)**  
**Last Revision: 4 September 1995**  
**Williamsen**

Before starting the flame for the time, read chapters 6 and 7 of the Model 603 Atomic Absorption Spectrophotometer manual.

### Start-Up Instructions

<\*Note\* Page numbers given are found in the Model 603 Atomic Absorption Spectrophotometer manual.>

- 1) Turn on the power at the power strip located on the deuterium-lamp power supply, at the spectrometer, and at the gas control unit (on lower shelf).
- 2) Align the hollow-cathode lamp by following the instructions given on pp. 8-11 - 8-13 (Section 8C,5). See the note under Idiosyncrasy regarding the wavelength setting.
- 3) Turn on the power to the exhaust system.
- 4) Adjust the gas flows and ignite the flame. After ensuring that the regulating knob is loosened, open the gas tanks. Follow the instructions given on pp. 8-4 - 8-5. The burner position settings should be approximately 1.5 and 9.5 (not critical).

### Safety Hints

- 1) Wear safety glasses or goggles.
- 2) Before starting the flame, check the acetylene reading at the gas tank. If the tank contains 75 psig or less, STOP!
- 3) Make sure the exhaust fan is started before igniting the flame.
- 4) Let the burner head cool before touching the burner head.
- 5) At the end of the day, close the gas tanks and purge the fuel and oxidant lines by opening the fuel and oxidant valves on the burner control unit until the regulator gauge reads 0.

### Idiosyncrasies

- 1) The wavelength drive is out of calibration. For example, the Na line setting should be set at 295 nm, but the correct reading now is 293.3 nm.
- 2) Watch the sample uptake closely. If you see a sudden change in signal, check to see whether any sample is entering the flame. If not, carefully adjust the knurled nebulizer adjustment. If you do this during an analysis, check the sample uptake rate.

### Good Practice

- 1) Wipe off the sample capillary tube with a KimWipe before transferring the tube to another container.
- 2) Run distilled water for several minutes before shutting down the flame.