

*AECL's strength in related disciplines is an advantage to our customers. Here a zirconium fragment is examined in AECL's metallurgy laboratory.*



AECL staff have established a track record for thoroughness and commitment to technical excellence, for valid diagnosis of failure or malfunction, and for meeting tight deadlines. Experts in related disciplines, including failure analysis, materials evaluation and materials R&D, are readily available, when required. AECL's Chalk River infrastructure is especially supportive of work involving radioactive materials. Health physicists and surveyors, regulatory documentation and approvals specialists, internal and external dosimetry, and protective services/security personnel are available on site.

### **An Unbiased Opinion**

AECL provides customers with an unbiased third-party opinion, and all results are fully documented and confidential.

### **Multidisciplinary Techniques**

AECL offers clients the benefit of a multidisciplinary service, including:

- Fourier transform infrared (FTIR) and laser Raman spectroscopy
- gamma and Mössbauer transmission spectroscopy
- electrochemical testing for corrosion susceptibility
- quantitative hydrogen and deuterium analysis, by either hot vacuum extraction mass spectrometry (HVMS) or differential scanning calorimetry (DSC)
- X-ray and neutron diffraction
- fuel burnup and transuranic isotopic analysis
- anaerobic chambers for sample preparation in inert environments



*AECL's Secondary Ion Mass Spectrometer (SIMS).*



*Specimen undergoing X-Ray Photoelectron Spectroscopy (XPS).*