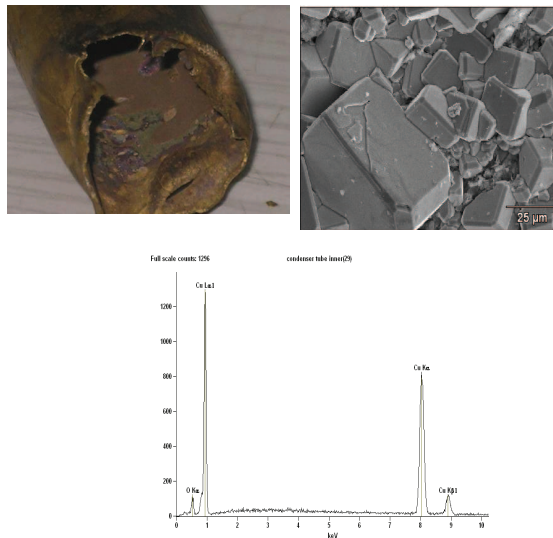


CASE Studies:

1. Boiler Condenser tube dezincification from thermal power plant

Failure analysis of a condenser leaky tube has been carried out using visual as well as extensive microscopy techniques. The study clearly indicated that the tube failed as a result of dezincification problem. It appears that the two corroding mechanisms that were postulated for explaining **dezincification** were valid in the present case, i.e.(1) selective dissolution of Zn atoms alone takes place from the parent brass in the presence of an electrolyte leaving a porous copper residue and (2) both Cu and Zn atoms dissolve simultaneously in the electrolyte with subsequent redeposition of Cu (EDAX pattern).



2. Corrosion fatigue of turbine blade failure from thermal power plant

Failed turbine blade from the 3rd stage LP rotor from thermal power plant: The failed tube was found to be poorly preserved after failure as evidenced by the rusting of the fracture and outer surfaces. Several **corrosion pits** were observed on the surfaces in both the turbine blades. The failure was found to be

