Development of treatment process for copper ore bearing impurities

**Objective**
To investigate feasibility of impurities (arsenic and antimony) separation from copper ore by roasting or high pressure leaching, mineral processing technique.

**Treatment flow of As / Sb by roasting**
- **Roasting**
  - As: Reduce environment loading
  - Sb: New minor metal resource
- **New resource for copper smelting**
- **Removal of environmental pollutant**
- **Recovery of minor metal**

**Treatment flow of As by high pressure leaching**
- **As bearing Cu ore**
- **HPL**
- **Cu leachate**
- **Residue**
  - (As residue >95%)
  - (Cu leaching <60%)

**Results**
- Volatilization ratio
- Grade in residue
- XRD patterns

**Atmospheric condition**
- As and Sb were selectively separated by controlling the roasting temperature. Copper content of the final residue (clean copper concentrate) was increased to more than 34%.