

## **Geo-Resources and Geo-Environment Lab Equipment List**

1. Mineral Processing
  - 1.1. Comminution
    - 1.1.1. Crushers
      - 1.1.1.1. Jaws
      - 1.1.1.2. Rolls
    - 1.1.2. Mills
      - 1.1.2.1. Ball
      - 1.1.2.2. Blade
      - 1.1.2.3. Hammer
      - 1.1.2.4. Rods or balls
      - 1.1.2.5. Disc
      - 1.1.2.6. Ring
  - 1.2. Hydrogravitic separators
    - 1.2.1. Humphrey spiral
    - 1.2.2. Wilfley shaking table
    - 1.2.3. Mozley multi-gravity separator
    - 1.2.4. Jigs
    - 1.2.5. Super panner
  - 1.3. Magnetic separators
    - 1.3.1. Low magnetic field
    - 1.3.2. High magnetic field
  - 1.4. Flotation systems
    - 1.4.1. Flotation column
    - 1.4.2. Pilot scale flotation cells
    - 1.4.3. Bench flotation cells
  - 1.5. Dense medium separator
  - 1.6. Hydrometallurgy
    - 1.6.1. High pressure and temperature reactor
2. Characterization
  - 2.1. Particle size
    - 2.1.1. Sieving systems
    - 2.1.2. Cyclosizer
    - 2.1.3. Stokes multi-spigot hydrosizer
    - 2.1.4. Spiral classifier
    - 2.1.5. Hydro cyclone
    - 2.1.6. Laser diffraction
  - 2.2. Analytical
    - 2.2.1. Chromatography
      - 2.2.1.1. Gas chromatograph for packed columns with FID and TCD
      - 2.2.1.2. Gas chromatograph for capillary columns with FID and ECD

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- 2.2.2. Atomic absorption spectroscopy
- 2.2.3. UV-Vis spectroscopy
- 2.2.4. Total organic carbon
- 2.2.5. X-Ray fluorescence
- 2.2.6. Gamma radiation
  - 2.2.6.1. High-sensitivity NaI (TI) scintillator
  - 2.2.6.2. High purity germanium based radionuclide identifier
  - 2.2.6.3. Geiger counter dosimeter
- 2.2.7. Semi-automatic steam distillation Kjeldahl unit
- 2.3. Geophysics
  - 2.3.1. Ground penetrating radar
  - 2.3.2. 24 channels seismograph
  - 2.3.3. 12 channels Seismograph
  - 2.3.4. Nuclear precision magnetometer
  - 2.3.5. Analogical resistivitymeter
  - 2.3.6. Digital resistivitymeter with acquisition system
  - 2.3.7. Borehole seismic sources
  - 2.3.8. Very low frequency
- 3. Geo-environment
  - 3.1. Portable hydrocarbon analyzer
  - 3.2. Biological autoclave
  - 3.3. Portable oxygen sensor
  - 3.4. Soil respirometer
  - 3.5. Oxygen and carbon dioxide analyzer
  - 3.6. Bio treatment columns
    - 3.6.1. Stainless steel
    - 3.6.2. Plexiglas
  - 3.7. Solid BOD devices
  - 3.8. Liquid BOD devices
  - 3.9. UVC/T-AR, DNA/RNA UV-cleaner box
- 4. Other
  - 4.1. Rock dust vacuum
  - 4.2. Meteorological stations
  - 4.3. High temperature furnace