AR EUROPE

R&D CENTER

RESEARCH AND DEVELOPMENT CENTER with Chemical Laboratory

✓TESTING ✓SAMPLE PREPARATION ✓ANALYSIS

SERVICES

- Comprehensive assessment and content analysis of the tested material
- Simulation of the technological procedures required for processing composite materials and waste fractions containing residues of valuable contents (e.g., base and precious metals) in order to maximize their recovery
- Expert recommendations and proposals for technological procedures for processing the assessed material to increase the concentration of precious metals from the order of ppm units to a marketable product
- Determination of the recovery rates achieved in the tested process
- Preparation of a detailed final test report including analysis protocols
- Quality monitoring of input and output materials as specified by the customer

Testing

Modular testing line utilizing assorted dosing and conveying systems, crushers, mills, ferrite and high-intensity NdFe magnetic separators, vibrating sorters with replaceable screens, etc.

Different types of crushers

Different types of mills

Laboratory wet gravity separation table

Sample Preparation

Sampling utilizing assorted automatic and manual sampling tools, size reduction, sample preparation and homogenization (crushing, milling, splitting, mixing, quartering, melting), grain size analysis.

Assortment of sampling tools

Laboratory cutting mill

Ultra-centrifugal mill

Rotary sample splitter

Laboratory sieving unit

Induction furnace

Analytical Laboratory

Proven state-of-the-art methods for analyzing precious metals (Ag, Au, Pt, Pd) and base metals (Al, Cu, Cr, Mn, Ni, Pb, Sn, Zn, Fe, etc.). Analysis in various matrices (solids, liquids). Trace analysis of elements with a low detection limit.

Preparation of the dissolved sample for analysis

Inductively coupled plasma optical emission spectrometer (ICP-OES)

Flame atomic absorption spectrometer (FAAS)

Portable energy dispersive X-ray fluorescence spectrometer (ED-XRF) for preliminary elemental analysis

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OUR PROFESSIONAL SERVICES ARE USED BY / EXAMPLES OF TESTED MATERIALS:

- **manufacturers of technological equipment and machines:** development, testing, and designs of new technological processes
- **incineration plants and waste processors:** analyzes of residual concentrations of precious and base metals in waste materials and simulation of recovery procedures
- **treatment operators of electrical waste and advanced fractions from e-waste (e.g., PCBs):** in-process control, composition of output fractions, process optimization
- **production and processing plants:** analyzes of the composition of dust from dedusting systems and evaluation of the potential to obtain residual contents of the base and precious metals contained therein
- **metal scrap yards:** analyzes for the final inspection of traded material and for sorting metal materials by composition
- **metallurgical plants, foundries, and steelworks:** receipt and final inspection – analysis of material composition; furnace linings – analysis of metal content and procedure for its recovery
- **companies handling automotive and Pd-C catalytic convertes:** analyses of Pd, Pt, Rh
- **take-back schemes for electrical waste collection:** composition analyzes for setting the index prices for the purchase of input and output fractions
- **solid alternative fuel producers:** heavy metal content in the digestate
- **lubricants and oils manufacturers:** elemental contents of the additives and contamination, metal content from abrasion
- **soil remediation companies:** analyzes of heavy metals and other contaminants
- **manufacturing companies:** analyzes of sludges and sediments, emissions, wastewater, soils, and rocks
- **laboratories:** inter-laboratory comparison purposes
- **technical universities, research organizations:** cooperation in research and development

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