

SGS SERVICES FOR METALLURGY

AN OVERVIEW OF SGS' METALLURGICAL CAPABILITIES

For decades, the minerals sector has looked to SGS Minerals Services for our experience in flowsheet development, bankable feasibility studies and process control. Our demonstrated success in metallurgical testing has provided thousands of companies and mines with effective flowsheets and practical technical solutions to processing problems. From that core of capability, we continue to carve new ground in the processing industry with our innovative approaches to geometallurgy, process modeling, production forecasting and advanced control systems.

METALLURGICAL SERVICES

- Flowsheet development
- Bankable pilot plants
- Independent assessments
- Process mineralogy
- Column flotation and cell hydrodynamics
- Atmospheric, biological and pressure leaching
- Cyanide recovery, destruction and alternatives
- Rheology
- Process modeling using CEET and FLEET
- Power consumption studies
- Applied research and development at bench and pilot scale
- Market sample preparation for downstream review
- Bulk sample preparation

PLANT DESIGN AND ENGINEERING SERVICES

- Procurement and construction monitoring
- Review of construction and commercial agreements
- Design engineering
- Cost estimates for capex and opex
- Plant layout



- Provision of engineering and design
- Procurement and construction supervision

OPERATIONAL SUPPORT

- Integrated on-site laboratory facilities to support grade control, plant operation and environmental programs
- On-site metallurgical and analytical laboratories
- Metallurgical plant management
- Technology transfer
- Plant upgrades & retrofits

GEOMETALLURGY

- Geometallurgy mapping and modeling
- Domain definition
- Metallurgical sample assessment, selection and auditing
- SGS Geometallurgy Framework
- Plant design and optimization
- Ore variability programs
- Process modeling
- Production forecasting

IN-PLANT SERVICES

- Metallurgical commissioning
- Audits and troubleshooting
- Plant Energy optimization programs
- Column and contact cell flotation



- Froth cameras
- Process control
- Water and effluence treatment programs
- Metal accounting and monthly metal balances
- Plant design and efficiency review
- Retrofit engineering

EXPERT SYSTEM CAPABILITY

- Logistics, scheduling
- Database hosting
- Simulations
- Asset management
- Process control
- Advanced systems

MINERALOGY SERVICES

- High Definition Mineralogy
- Process mineralogy
- X-ray diffraction, SEM and QEMSCAN
- Mineral identification, chemistry and quantification
- Trace mineral phase searches



DIAMOND EXPLORATION SERVICES

- Exploration sample processing (density and magnetic separation), caustic fusion
- Indicator mineral selection, chemistry and evaluation
- Bulk sample processing utilizing 1 and 15 tph DMS plants
- Diamond selection, classification and evaluation
- Diamond recovery by grease table and SORTEX™

ENVIRONMENTAL SERVICES

- Comprehensive environmental testing
- Tailings and process water characterization and treatment
- High density sludge technology
- Cyanide recovery and destruction
- Acid rock drainage testing and mitigation
- Water usage and testing, effluent treatment services



CONTACT INFORMATION

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