

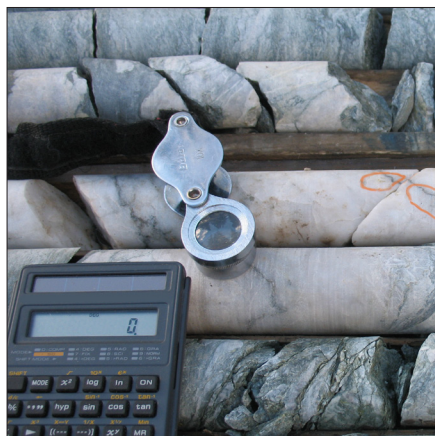
INTEGRATED SGS SERVICES FOR **EXPLORATION AND RESOURCE DEVELOPMENT**

AN OVERVIEW OF SERVICES FOR EXPLORATION AND RESOURCE DEVELOPMENT

SGS provides proven technical solutions during the exploration and resource development stages of your project, regardless of the location. Our global network of offices and laboratories ensures that you have the expertise you need, right where you need it. We offer industry-leading services in the following areas:

PROJECT MANAGEMENT

- Independent project management, drill program and logging supervision
- Project monitoring
- Exploration target ranking, assessment reports
- Data compilation, acquisition, verification and safeguarding
- Reassessment of legacy data, projects or targets
- Due diligence and fairness reports
- NI 43-101 & JORC Technical Report writing, review and audits



GEOLOGY, GROUND SURVEYS AND DRILL PROGRAMS

- Processing, analysis and interpretation of remote sensing, Landsat and geophysical datasets
- Geochemical interpretation, sampling and data handling
- Regional, local and detailed mapping, core logging and sampling
- Exploration mineralogy integrated with geochemical analysis
- Diamond indicator selection
- Caustic fusion
- Diamond selection, classification and evaluation
- Interactive GIS products and services
- Geological interpretations including structural, tectonic and exploration model delineation and 3D ore deposit models
- NI 43-101 & JORC Technical Report writing, review and audits

GEOCHEMISTRY

- Complete range of analytical testing and check analyses from ppb- to percent level for 80+ elements in many media.
- Production and certification of field standards
- Independent and secure database hosting
- MMI™ orientation surveys, sampling, analysis and results
- Organic and inorganic analysis, speciation
- Major, minor, trace, rare earth element and precious metals analyses
- Ultra-trace analysis
- On-site sample and mobile preparation facilities



RESOURCE ASSESSMENT

- Orebody modeling, resource and reserve estimation, classification, modeling and auditing
- Database review, verification and validation
- Geostatistical data handling and grade variability studies
- Identification of fatal metallurgical flaws
- Metallurgical scoping studies
- Conceptual overview of metallurgical flowsheets and recoveries
- Geometallurgical domain definition and sampling guidance

PRE-FEASIBILITY STUDIES

- Analytical database review and assays
- NI 43-101 & JORC Technical Report writing, review and audits
- High Definition Mineralogy
- Ore variability and geometallurgical domain characterization

- Creation of geometallurgical block model populated with grade, metallurgical, environmental and geotechnical data
- Metallurgical sampling assistance and audit, composite creation
- Metallurgical flowsheet development and testing

FEASIBILITY STUDIES

- Bankable pilot plant testing
- Production of market samples
- Design engineering
- Mini bulk plants
- Geometallurgical process and mine planning, simulation and design
- Power consumption studies
- Joint mining & metallurgical optimization, production and mine planning
- Cost estimates for capex and opex
- Mine closure and rehabilitation planning

PLANT DESIGN AND ENGINEERING

- Process and flowsheet development for the recovery and purification of metals
- Joint mining and metallurgical optimization, production and mine planning
- Plant layout
- Operational simulations
- Optimization and sizing of equipment
- Provision of engineering and design
- Procurement and construction supervision
- Plant audit and optimization
- Process plant upgrades and retrofits

COMMISSIONING SUPPORT

- Metallurgical start-up support and training
- On-site project expertise
- Optimization and definition of KPIs for plant operation
- Procurement and construction monitoring
- Site visits and progress reporting
- Review of construction and commercial agreements

ENVIRONMENTAL SERVICES

- Comprehensive environmental analysis capabilities
- Environmental baseline studies, monitoring and auditing
- Industrial hygiene, noise and dust control
- Soil testing
- Impact assessments
- Water usage, testing and treatment services
- Acid rock drainage testing services
- Environmental mineralogy
- Water footprint audits
- Land reclamation and mine closure planning

TECHNICAL DUE DILIGENCE

- Laboratory due diligence reviews
- Plant design, efficiency and operation audits
- Review of business plan and financial models
- Permit and license reviews
- Equator Principles review
- Gap assessments



AUDITING AND CERTIFICATION

- BS 25999: Business Continuity Management
- BS EN 16001:2009 Energy Management
- GRI - Global Reporting Initiative and AA 1000 Assurance Standards
- ISO 9001:2008 Quality Management Systems
- ISO 1400:2004 Environmental Management Systems
- ISO 14064: Greenhouse Gas Accounting And Verification
- OHSAS 18001 Occupational Health & Safety Management Systems
- SA 8000 Social Accountability

CONTACT INFORMATION

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