

# RUSSIAN CAPABILITIES

## GEOCHEMICAL AND METALLURGICAL SERVICES

SGS Minerals Services' facility in Chita, Russia offers geochemical and metallurgical services on-site and acts as a gateway to other SGS services from our world-class testing facilities throughout the world. This new facility will be operated under accreditation by GOST to the ISO/IEC 17025 standard and will produce data that will allow clients to meet the requirements of the State Mineral Reserves Committee, Central Geology Exploration Research Institute, National Instrument 43-101 and JORC. It features the following:

### GEOCHEMICAL SERVICES

- High volume sample preparation system featuring:
  - Capacity to dry over 2000 samples per day at 105°C.
  - Two-three stage crushing lines with capacity to process 1200 5 kg samples per day to 75% passing 1 mm prior to final splitting.
  - Six-ring mill pulverizers with capacity to pulverize 1700, 500 gram samples to 55 % passing 75 micron.
  - Soil screening line with capacity to screen 1400 samples/day.
- High volume fire assay facility employing oil-fired furnaces with the latest in SGS multipour technology. This facility can process 2800 samples per day, this translates into approximately 1 million fire assay determinations each year.
- An ICP-OES unit capable of processing up to a maximum of 1200 samples per day for all of SGS' standard ICP-OES based Fire Assay Pt Group element, aqua regia, strong acid, and peroxide/borate fusion multi-element packages.
- Two flame AAS units capable of analyzing up to a maximum of 2600 samples per day for Au, Ag and base metals. Hydride and cold vapor generation attachments are also available to allow the ultratrace determination of As, Se, Sb, Bi and Hg.
- A carbon/sulfur analysis unit capable of analyzing up to 600 samples per day for all carbon and sulfur species.
- SGS' analytical methodology for the determination of cyanide species as used at the Lakefield, Canada site.
- Complete wet analytical laboratory equipped for the classical analysis of high grade precious and base metals as well as smelter impurity elements.



SGS' proprietary version of CCLAS EL will form the data handling network in the laboratory and with SGS' secure web data portal QMINE™, provide secure data links to our clients globally.

## METALLURGICAL SERVICES

The metallurgical laboratory at the Chita facility is capable of a wide range of bench scale testing in support of flowsheet development and geometallurgy projects. It will feature the following:

- Sample crushing and sizing lab.
- Grinding testing lab including:
  - Traditional Bond methodologies
  - Minnovex SPI testing
  - JK Drop Weight testing
- Gravity separation lab featuring:
  - Traditional gravity concentration
  - Knelson and Falcon centrifugal concentrator testing
- Flotation lab featuring:
  - Unit process testing
  - Lock cycle testing
- Cyanide lab featuring:
  - Standard cyanide amenability testing
  - Cyanide bottle rolls
  - Heap leach simulation testing
- Pressure oxidation lab including Parr autoclaves for refractory gold ores
- BioOxidation lab for refractory gold ores
- Grinding and process simulation capabilities including:
  - FLEET and CEET modeling
  - JK Simmet software



The Chita facility can also access the additional expertise of our geochemical and metallurgical professionals located throughout the world. SGS can perform additional testing at other facilities as necessary.

Our extensive experience in serving the international mining and exploration industries ensures that the new SGS laboratory in Chita will be a successful and stable testing facility serving the needs of the Russian industry.

## CONTACTS

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