

## SGS MINERALS SERVICES' LAKEFIELD SITE

### AN EVOLUTION OF INNOVATION

#### INTRODUCTION

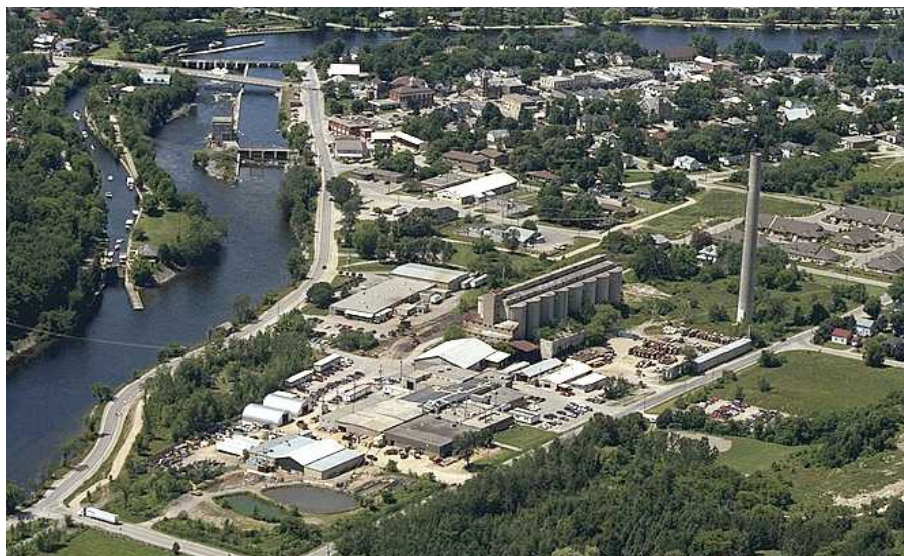
SGS Minerals Services' Lakefield site has been providing metallurgical testing and analytical services to the mining industry since 1941. From its humble beginnings during World War II as a small group of research scientists and engineers, SGS Minerals Services' Lakefield site has grown into the international industry leader in metallurgical testing supported by the highest quality analytical, mineralogical and environmental services. The impressive range of services offered at the Lakefield site is the result of continued demand from the industry and has earned it a reputation as the world's leading provider of bankable metallurgical services.

Now, as a flagship laboratory for SGS, the world's leading inspection, verification, testing and certification company, the Lakefield site continues to provide innovative services to the global mining community and lead the evolution of the industry.

#### CORPORATE HISTORY

Originally the site of an abandoned Canada Cement plant, in 1941, the Lakefield site of SGS Minerals Services was used to process nepheline syenite under the auspices of Nepheline Products Limited, a division of the Ventures group (Ventures was the ancestor of Falconbridge).

By 1944, a research group had already formed at the site whose mission was to "supply design engineers with reliable data for plant design or equipment specification and generate data of sufficient detail and quality as required by consultants for feasibility studies". Then named Lakefield Research, the site could never be classified as a typical research laboratory. The focus on the timely execution of testing and submission



of results, its use of industry accepted processes, and ability to innovate when required set Lakefield Research apart from corporate, university and government labs alike.

From 1950's to the 1990's, Lakefield Research concentrated on diversification adding:

- Extensive pilot plant capabilities for mineral processing and hydrometallurgical testing
- Increased analytical and mineralogical capabilities not only to support metallurgical testing, but to serve the mining industry on a stand-alone basis
- Increased focus on environmental regulation leading to the formation of an environmental analysis group
- The first of many international branches of Lakefield Research, established in Santiago, Chile in 1992

When ownership passed from Falconbridge to Lakefield Research management in 1995, the globalization of Lakefield Research intensified in order to better serve the needs of an increasingly global industry. By 2002, laboratories had been established in Brazil, South Africa, and a partnership had been established with Orestest in Perth, Australia. Lakefield Research grew to over 1000 engineers, geologists, biologists,

chemists, information systems, financial professionals and support staff.

Lakefield Research joined the SGS Group in 2002. The marriage of Lakefield Research's testing, consulting and analytical capabilities with the world leader in inspection, verification, testing and certification services in international trade has provided new growth opportunities for both. The addition of Minnovex Technologies Inc. into the SGS group in 2005 has led to an increased range of advanced technical solutions being offered both in Lakefield and Toronto. SGS Minerals Services continues to look for additional opportunities to provide innovative services where they are needed.

#### TECHNICAL HISTORY

The basis for the sustained growth at the Lakefield site has been its ability to identify the changing needs of the industry and to provide practical, economical solutions. While focus during the 1950's and 1960's was on the flotation of complex metal

sulphides, iron ore, and uranium, the increased cost of production led to the investigation of grinding and crushing properties and processes in the 1970's and 80's. The desire to process refractory gold ores and nickel laterites in the 1990's resulted in the development of several new gold leaching processes and pilot-scale high pressure acid leaching facilities. After 2000, the focus turned to geometallurgy, risk reduction and related due diligence testing.

Recent additions to the array of technical services available include:

- The Advanced Mineralogy Network – at Lakefield laboratory devoted to providing quantitative mineralogical analysis
- QEMSCAN capability for mineralogical analysis of plant products
- Grinding circuit modeling and design optimization using CEET™ and JK

Simmet

- The evaluation of rock hardness using SPI testing
- In-plant services including in-plant commissioning, auditing, training and troubleshooting services
- Installation and evaluation of advanced process control systems through the use of MinnovEX Expert Technology (MET)
- Flotation circuit modeling using FLEET™
- Evaluation of flotation cell dynamics and bubble measurement testing
- Along with other diamond industry support services, the Lakefield lab now treats bulk samples for commercial diamond recovery
- Geometallurgical simulation, modeling and related testing

The expansion of capabilities has meant more value has been added to our core offering of quality metallurgical testing services, analytical and mineralogical

support to the mining industry. SGS Minerals Services' Lakefield site continues to offer the full-range of standard laboratory and pilot scale metallurgical testing, supported by certified analytical procedures and experienced mineralogists.

While the needs of the industry continue to evolve, and the range of services provided have continued to grow, we have never deviated from our commitment to providing the latest technical expertise and highest quality of bankable metallurgical testing to the international mining industry.

## CONTACT INFORMATION

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WHEN YOU NEED TO BE SURE

SGS