

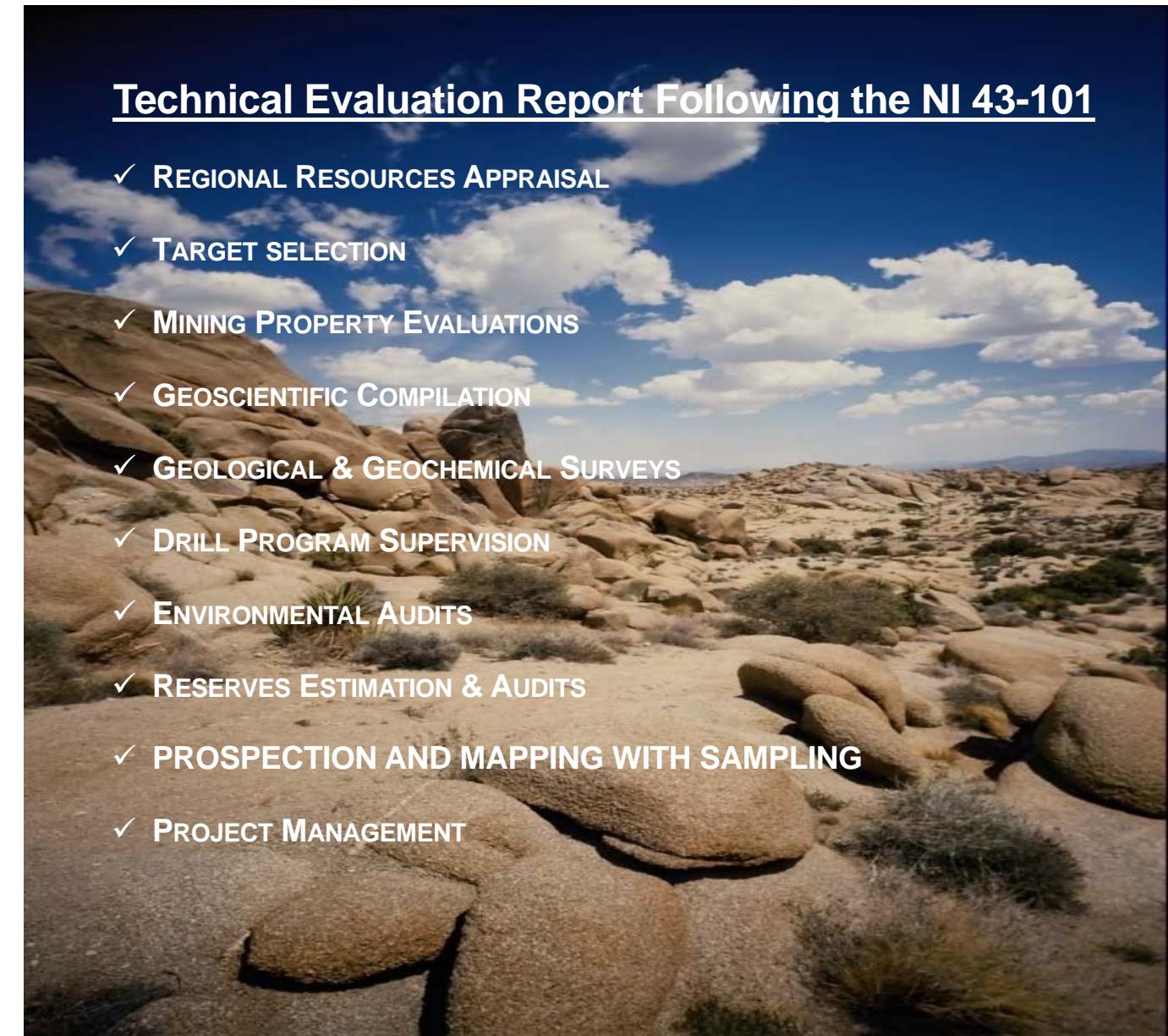
# GEOLOGICA

## GROUPE-CONSEIL INC.

AT YOUR SERVICE SINCE 1985

### Technical Evaluation Report Following the NI 43-101

- ✓ REGIONAL RESOURCES APPRAISAL
- ✓ TARGET SELECTION
- ✓ MINING PROPERTY EVALUATIONS
- ✓ GEOSCIENTIFIC COMPILATION
- ✓ GEOLOGICAL & GEOCHEMICAL SURVEYS
- ✓ DRILL PROGRAM SUPERVISION
- ✓ ENVIRONMENTAL AUDITS
- ✓ RESERVES ESTIMATION & AUDITS
- ✓ PROSPECTION AND MAPPING WITH SAMPLING
- ✓ PROJECT MANAGEMENT



**CONSULTANTS IN GEOLOGY AND MINING DEVELOPMENT**

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# A TEAM OF GEOLOGISTS AND ENGINEERS

## EXPERTS IN EARTH SCIENCES

**GEOLOGICA** provides a complete range of consulting services in the area of earth sciences: technical studies, field work, project management, geoscientific compilation, mining property valuation, resource calculations, audits, etc.

To do this, **GEOLOGICA** relies on a highly qualified team with substantial experience acquired through the course of their professional activities whether in America, Africa or elsewhere in the world.

**GEOLOGICA** has completed numerous thematic and economic studies to target favourable geological environments for Gold, Base metal, PGE , Diamond and REE projects; over 800 qualification and evaluation reports have been produced for mining companies, stock markets, securities commissions and government institutions.

Finally, because of its dynamic management, simple structure and efficient organization, **GEOLOGICA** can respond to the needs of its customers with speed and competence and this at competitive prices.

**GEOLOGICA**'s headquarters are located in Val d'Or (819) 825-8643, north western Quebec, Canada.

**SOUND  
KNOWLEDGE  
OF EARTH  
SCIENCES**

**GÉOLOGICA**'s team includes 5 to 10 persons depending on the level of activity: professionals with a strong academic background in geology and engineering; technicians and support personnel who keep abreast of all technological development related to earth sciences, exploration and mining.

**PRACTICAL  
EXPERIENCE  
IN THE FIELD**

**GÉOLOGICA**'s head office is in Val d'Or, north-western Quebec, since 1985. Very active in mining exploration and development in Canada and around the world, **GÉOLOGICA** has completed an impressive number of exploration programs covering all phases of exploration: data compilation, geological and geophysical surveys, trenching, sampling, diamond drilling, reserve calculation, feasibility studies, mining development and environmental audits.

**EFFICIENT  
PROJECT  
MANAGEMENT**

**GÉOLOGICA** has earned its excellent reputation as one of the very best geological consulting groups by its project management capacity. This is due to **GÉOLOGICA**'s extended expertise in preparing detailed budgets, recruiting the best field teams, supervising field work and logistics with a strict management of budgets and schedules.

**COMMUNICATION  
SKILLS**

**GÉOLOGICA** has developed a simple yet effective format for technical reports. Having written and translated hundreds of studies, property evaluations and work reports, **GÉOLOGICA** has mastered the art of communicating geoscientific data, complete with charts and maps, to convey the most important information to the most important people.

## OUR ORGANIZATION

### **Internal Organization**

**GÉOLOGICA**'s simple and efficient organization allows the group to act swiftly and freely, to go and complete its mandate respecting deadlines and always according to the highest quality standards.

### **Full-Time Staff**

**GÉOLOGICA** is staffed with a group of outstanding geologists and engineers who contribute their practical and varied expertise in all aspects of earth sciences, mining exploration and development. Whether in the field or at the company's headquarters, **GÉOLOGICA**'s personnel work with the most advanced equipment and software, always striving to achieve excellence.

### **Geological Personnel Services**

**GÉOLOGICA** acts as a temporary personnel agency, recruiting and managing professional and technical personnel who work with the clients' regular staff on short-term geological and engineering projects.

### **External Support**

A group of specialized firms and consulting experts also act jointly with **GÉOLOGICA** to complete special mandates where multidisciplinary expertise is required.

## OUR EXPERTISE: Canadian and International

We are established in Val d'Or, the "Valley of Gold", in north-western Quebec, Canada. In this extremely productive mining region, **GÉOLOGICA** has conducted more than two hundred exploration programs for gold and base metals and numerous mining development mandates. **GÉOLOGICA** is the consulting geological firm to contact for exploration campaigns in north-western Quebec and north-eastern Ontario. **GÉOLOGICA** has completed several geoscientific compilations in strategic mining camps such as Val d'Or, Rouyn-Noranda, Chibougamau, Matagami, Voisey Bay and Timmins. **GÉOLOGICA**'s expertise extends to other regions as well: Quebec North Shore, Labrador, Ungava Bay, James Bay, etc.

Just a few examples of the work carried out by **GÉOLOGICA**:

Exploration Campaigns - For several years, **GÉOLOGICA** conducted field exploration programs for PLACER DOME including reconnaissance mapping, geology and drilling in the Abitibi Greenstone Belt. **GÉOLOGICA** also provided geological personnel services for PLACER DOME's mine exploration programs.

Large Scale Compilation of the Timmins and Val d'Or areas (see list of available compilations in appendix).

Evaluation Reports of properties for CAMBIOR, INCO GOLD, SOQUEM, etc.

Market Value Assessment of gold, lithium and graphite properties in Quebec, Canada.

Rock Mechanics Studies with Golder & Associates on the Donalda, Mobrun and Grevet mining properties of METALL MINING and CAMBIOR.

Environmental Report on the Wrightbar Project for CHARLIM EXPLORATIONS and on the McWatters Gold Mine for PLACER DOME. Implementation of safety measures at old mining sites for NSR Resources.

**GEOLOGICA is being sought for geological mandates all over the world:**

Africa - Evaluation of mineral deposits and mining properties in Mauritania, Niger, Mali, Burkina Faso, Ivory Coast, Ghana, Togo, Benin, Tanzania, Kenya, Mozambique, South Africa, Ethiopia and Eritrea.

Argentina - Mission in the WNW Andes to evaluate properties for potential gold and base metal deposits: the Cerro Castillo Gold deposit, the Baja de Alumbrera Porphyry Copper deposit, the Farallon Negro Epithermal Gold-Manganese deposit.

Panama – Geological mapping, rock sampling and diamond drilling supervision on the Remance Project.

Brazil - Geological reconnaissance and review of properties in Precambrian greenstone belts.

Guyana - Evaluation of an alluvial diamond and gold deposit located on the Mazaruni River in the Roraima Formation, 300 km south of Georgetown.

Morocco - Geoscientific compilation of the Anti-Atlas in Morocco, northwestern Africa ( $180 \text{ km}^2$ ) at the scale of 1:100 000. Detailed report on the Guemassa area (Douar El Ajar VMS deposit).

U.S.A. - Evaluation of gold properties in the Battle Mountain district in Nevada and in the Mariposa district (Mother Lode Belt) in California.

United Arab Emirates - Off-shore and on-shore oil and gaz property evaluations. Geoscientific compilations in order to define potential prospective areas for chromite within the ophiolite belt of Semail.

Also evaluation reports with recommendations and budgets for properties located in Ecuador, French Guyana, Guyana Republic, Mexico, Peru, Solomon Islands and Vietnam.

## OUR SERVICES

### TARGET SELECTION - REGIONAL RESOURCES APPRAISAL

**GÉOLOGICA** will pool its resources and expertise to bring about a new outlook on current and prospective mining districts. Through innovative ideas, our geologists will help select, acquire and promote properties located in sectors of interest. As consultants, **GÉOLOGICA** will also help devise an effective exploration strategy based on present and anticipated market trends.

### MINING PROPERTY EVALUATION

Research, data compilation, field visit, technical and financial evaluation report, market value assessment of mining properties.

### GEOSCIENTIFIC COMPIRATION

The gathering, analysis and interpretation of all available data pertaining to the property or sector of interest in order to define its mineral potential. Compilation maps include topographic, geological (structure and mineralization), geophysical and geochemical data as well as property holders and can cover areas of several km<sup>2</sup>. Sheets are produced in color at the required scales with interpretation and accompanying reports (see appendix).

### FIELD EXPLORATION WORK

Geochemical Surveys - All types of surveys (rock, soil, water, vegetation) supervision, interpretation, statistical analysis, multi-element maps.

Geology and Mapping - Geological, hydrogeological, geotechnical, surface or underground surveys. Mapping carried out on a regional or detailed basis. Geological interpretation is included.

Diamond Drilling - Target selection, drill supervision, core logging, core sampling, maps, drill-hole sections, report, follow-up work (drill-hole geophysics, lithogeochemistry, etc.).

Basal Till Drilling (Reverse Circulation) - Logging, sample collection, heavy mineral separation, geochemistry, interpretation.

## **MINING SITE REHABILITATION**

Project management, security and environment protection systems.

## **GEOCHEMICAL AND GEOTECHNICAL STUDIES**

Applications in geochemical surveys, rock mechanics, grade estimations and ore reserve calculations. Used for selecting optimal sampling and drilling patterns.

## **RESERVE ESTIMATIONS AND AUDITS**

Corroboration of stated reserves for corporate and individual investors as well as junior and major mining companies and joint ventures. The audit serves the needs of the client and also protects the investor.

## **TECHNICAL STUDIES**

Economic and technical analyses of various mining and exploration projects subject to alternative rates of mining, metallurgical recovery and metal prices, following the **NI 43-101 and its appendices**.

## PROJECT MANAGEMENT

Managing a project from its conception to its conclusion; this involves designing, planning, organizing, implementing and supervising the project:

- Setting up project's legal frame.
- Project planning.
- Selection of most qualified professionals for project management.
- Implementation of project's organizational, accounting and data processing systems.
- Management of operations.
- Project marketing.
- Financial analysis and optimal funding choice according to client's capital structure.
- Complete logistical support.

## TECHNICAL WRITING, TRANSLATION AND DRAFTING

Highly skilled personnel proceed to compile and analyze technical data in order to produce documents in English, French and Spanish complete with charts and maps. **GÉOLOGICA** can meet the needs of its most demanding clients rapidly and efficiently:

- Data processing with the latest financial, administrative, statistical and technical software.
- Writing and reviewing technical and scientific texts.
- Translation (French-English and English-French; French-Spanish and English-Spanish).
- Word processing, photocopying, report binding.
- Drafting (digital and computer-assisted drafting).
- Graphic design and audio-visual presentations for conferences.

## GEOLOGICAL PERSONNEL SERVICES

**GÉOLOGICA** performs recruitment, selection, hiring procedures, training and payroll management for temporary personnel required for your projects.

## OUR CLIENTS

**GÉOLOGICA** has completed a great variety of mandates for both major and junior mining companies. Each one of them has appreciated the quality of our services and we are proud to name but a few:

ACTUS MINERAL	MINES AURIZON
AGNICO EAGLE	MINES CANCOR
ALEXANDRIA MINERAL	MINES D'OR VIRGINIA
ALEXIS MINERALS	MINES DYNACOR
BARRICK GOLD CORPORATION	MNISTÈRE DES RESSOURCES
BEAUFIELD RESOURCES	NATURELLES ET DE LA FAUNE DU QUÉBEC (M.R.N.F.Q.)
CELTIC MINERALS	MONTERO MINING &
CROWFLIGHT MINERALS	EXPLORATIONS
DESTINY MINERALS	MURGOR RESOURCES
ÉMIRAT DE FUJAIRAH(U.A.E.)	NORTHERN STAR MINING CORP.
EVERTON RESOURCES	QIT-RTZ (Quebec Iron and Titanium)
EXPLORATION AZIMUT	QUEST URANIUM CORP.
EXPLORATION DIAMOND FRANK	RESSOURCES AUGYVA
EXPLORATION TYPHON INC.	RESSOURCES CARTIER
FREEWEST RESOURCES	RESSOURCES CONWAY
GLOBEX EXPLORATION	RESSOURCES D'ARIANNE
GOLDEN SHARE MINING	RESSOURCES DIANOR
CORPORATION	RESSOURCES MELKIOR
GOLDER & ASSOCIATES	RESSOURCES MINE BELLETERRE
GRAND CENTURY IRON ORE	RESSOURCES SEARCHGOLD
GROUPE VIOR MAZARIN	RESSOURCES SIRIOS
HARRICANA RIVER MINING CORP.	SOQUEM (Société Québécoise d'Exploration Minière)
HOUSTON LAKE MINING	SUNSET COVE MINING
HYDRO QUÉBEC	TECSULT
INTEGRA GOLD CORP.	TSR RESOURCES
KALAHARI RESOURCES	VALE INCO
KINROSS GOLD	WEMINDJI EXPLORATION
MALAGA INC.	WESDOME GOLD MINES
MATAMEC EXPLORATIONS	

## GEOSCIENTIFIC COMPILATIONS

Compilation maps are produced on separate sheets in color with an interpretation report including recommendations. AutoCAD base on disk, CD/DVD and/or hard copy. GIS format upon request.

<b>AFRICA</b>	<b>CANADA</b>
<ul style="list-style-type: none"> <li>- Topographic features: towns, villages, roads, trails, watercourses;</li> <li>- Geological, structural data;</li> <li>- Showings with values, mines and reserves;</li> <li>- Property holders and mining concessions.</li> </ul>	<ul style="list-style-type: none"> <li>- Topographic features: towns, villages, roads, trails, watercourses;</li> <li>- Geological, structural, geophysical and geochemical data;</li> <li>- Drill holes and overburden;</li> <li>- Showings with values, mines and reserves;</li> <li>- Property holders and mining concessions.</li> </ul>
<b>COUNTRIES</b>	<b>REGIONS</b>
Angola Burkina Faso Ethiopia (Eritrea) Ghana (in preparation) Guinea Ivory Coast Mali Morocco Mauritania Mozambique North Niger (in preparation) Senegal	Bartouille Bousquet Denain-Pershing Deposits of Northwestern Québec Eastern Townships and Gaspesia Eastmain Frotet-Troilus-Lac Rocher Labrador Lebel-Sur-Quévillon Lou Lake (NWT) Lesueur-Gand Geophysics - North of 52 <sup>nd</sup> Parallel Grevet-Desjardins Timmins Urban-Barry Val d'Or Area