

# Preliminary Economic Assessments and Feasibility Studies



Tetra Tech's mining and minerals team offers a solid understanding of the reporting requirements for today's mining financial industry.

## Early-stage Project Development

Tetra Tech provides mineral industry consulting for the early-stage scoping, preliminary economic assessment, pre-feasibility, and feasibility stages for new projects, mine expansion, and the reopening of brownfield mines. Our staff understands the mining financial industry's reporting requirements.

Our services meet the standards of public disclosure required by the Canadian Securities Administration and Toronto Stock Exchange's National Instrument (NI) 43-101 regulations, the Australasian Stock Exchange's Joint Ore Reserves Committee (JORC) Code, the London Stock Exchange's Alternative Investment Market (AIM) Rules, the South African Mineral Resource Committee (SAMREC) Code for the Reporting of Mineral Resources and Mineral Reserves, and other reporting standards.

## Order of Magnitude, Scoping, and Preliminary Economic Assessments

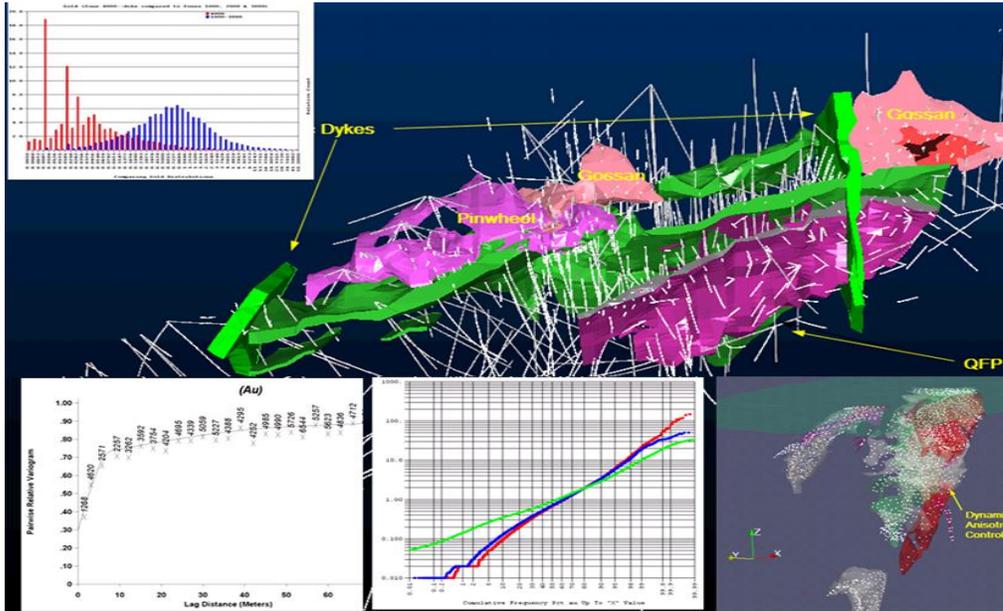
Tetra Tech performs technical and economic studies, including resource evaluation, mine engineering and production forecasting, process requirements, capital and operating cost estimates, and projected cash flows for the initial development of the mine opportunity. Our expertise encompasses making conceptual evaluations of production alternatives and identifying tradeoff studies that are beneficial in further defining the opportunity and in identifying areas where additional study is needed to move the project forward.

## Pre-feasibility and Feasibility Studies

Tetra Tech has significant experience in pre-feasibility-level and feasibility-level resource modeling, mine planning, and costing for open-cut and underground mine design, processing, infrastructure, leaching, tailings management, and mine water management. Each project has unique circumstances that require attention to detail, and we have proven we can successfully complete projects in a practical, efficient, and safe manner.

With our wealth of in-house talent, we provide consulting services for all aspects of a project at the feasibility level. Our work encompasses ores processed by flotation, gravity and magnetic separation, and leaching, including heap leach operation and the incumbent water management issues. We believe using an integrated team that encompasses all elements of a study benefits the cost and schedule of the project. Our design teams work hand in hand to create a unique synergy that leads to a comprehensive, smooth-flowing study report.

**Tetra Tech** is a leading provider of consulting, engineering, program management, construction management, and technical services. The Company supports government and commercial clients by providing innovative solutions to complex problems focused on water, environment, energy, infrastructure, and resource management. With 13,000 employees worldwide, Tetra Tech's capabilities span the entire project life cycle.



Tetra Tech's expertise in mine planning, design, process optimization, geotechnical engineering, tailings and heap leach facilities, water management, and closure provides insight on current operational successes to support the development process. Our team knows what works at the mines and can provide guidance to new mining operators to achieve similar successes.

### Feasibility Study Specialties

- Mine design and production plan
- Process plant evaluation and definition—design criteria, flow diagrams, mass balance
- Tailings management facility—sizing, siting
- Tradeoff studies—conceptual evaluation of production alternatives
- Facility general arrangements
- Equipment data sheets
- Infrastructure—on-site and off-site
- Water management—site drainage, conveyance, storage
- Water supply—potable, process, fire
- Civil engineering—site layout, access roads, transport
- Structural engineering—pit slope stability, dewatering and excavation, backfill materials
- Piping and instrumentation diagrams (P&ID)
- Logistics plan
- Power studies
- Fieldwork activities—geotechnical, hydrogeological, and rexpit evaluation
- Feasibility-level capital and operating cost estimates
- Project schedule
- Environmental permit review
- Closure plan development and review
- Financial model

### Debt and Equity Financing Support

In addition to our technical capabilities, we have working relationships with financial institutions and support our clients in their capital-raising efforts.

**100+**

Feasibility studies performed in the past 5 years

### All Commodity Types

Precious metals, base metals, ferrous and nonferrous metals, industrial minerals, coal and energy minerals, rare earth elements, gemstones

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