

Geotechnics





Tetra Tech leads the geotechnical solutions market by having a broad network of consultants, including overseas units, gathering many different expertise.

We provide customized and effective solutions for our customers while always remaining focused on the work objective, appropriate legislation and engineering best practices. We operate in several markets, in all stages of the project, from the conception to the monitoring and decommissioning of geotechnical structures.

Over the past few decades, Tetra Tech has excelled in the assertiveness and innovation of its solutions, as well as in objectivity and professionalism with its customers. With relevant participation in the Mining Industry, the Geotechnics area grows along with the challenges that are inherent to it, reflected in our units name – Intelligence and Technology in Geotechnics.

Services and Products

- Feasibility, conceptual, basic and executive projects
- Tailings storage facilities (TSF) from dewatered processes
- Mathematical modeling
- Dam Break Assessments
- Studies for legal compliance
- Trade off solutions associated to mineral exploration activities
- Surface drainage plans

Serviços e Produtos

- As Built and As Is projects of geotechnical structures
- Instrumentation and Monitoring (I&M) programs
- Stability assessment of geotechnical structures
- Risk assessment of geotechnical structures and consequences valuation
- Decommissioning of mining dams, among other structures
- Emergency Action Plan (EPA)
- Microseismic monitoring and geophysical surveys

Tailings Disposal Solutions

Dams, Dikes and Dry Stacks

Design of feasibility, conceptual, basic and executive level project of dams, dikes and dry stacks.

As Built and As Is Projects of Geotechnical Structures

Geotechnical investigation for the execution of As Is or As Built Projects, with emphasis on Dams, Dikes and Dry Stacks.



Tetra Tech takes its ground in the market based on science and technology, distinguishing itself by leading the innovation vanguard.

Reinforcement of Geotechnical Structures

Reinforcement projects for geotechnical structures that are not in compliance with legal requirements and/or safety criteria.

Tailings Disposal Technologies

Alternatives to tailings storage facilities: filtration, dry stacking, dams, exhausted pits and underground mines.

Dewatered Tailings

Tailings storage facilities projects with limitation regarding potential water flow in the form of dry stacking and tailings filtration processes.

Tailings Reusage

Use of tailings as materials for civil construction and mineral purposes.

Instrumentation and Monitoring (I&M)

Tetra Tech leads the instrumentation and monitoring market for geotechnical structures in Brazil, having been a precursor in automated monitoring and microseismic monitoring in the country.





Dam Break Studies

Hydrological-hydraulic studies to simulate dam break and mapping potentially floodable areas in the downstream region.

Classification of Dams according to the Safety Policies

According to the appropriate legislation, we develop dam classification studies for classification into the National Dam Safety Policy from Brazil. In consequence, Tetra Tech is capable of providing compliance assessment for its clients regarding legal requests.

Emergency Action Plan

Preparation, by a multidisciplinary team, of emergency action plan (EPA) for various structures, including mining dams.

Decommissioning of Mining Dams

Projects with several solutions for decommissioning of mining dams, according to the characteristics of the structure, current legislation and clients objectives.

Surface Drainage System

Projects designed to capture and direct to an appropriate site to disembody the rainwater, in different areas associated with mining activities, taking into account the proper environmental controls regarding sediments generation.



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Tetra Tech's innovative, sustainable solutions help our clients address their water, environment, infrastructure, resource management, energy, and international development challenges. We are proud to be home to leading technical experts in every sector and to use that expertise throughout the project life cycle. Our commitment to safety is ingrained in our culture and at the forefront of every project. [tetrattech.com](https://www.tetrattech.com)