



mining



**ENGE**CORPS



ENGEORPS is a consulting engineering company ready to respond to all the challenges of the country's growth and the globalization of the economy. Interested in maintaining itself well placed in a globalized scenario, ENGEORPS joins operational and technical excellences, world class and competitive costs.

Founded in March 1990, its multidisciplinary staff, with over 200 professionals, have been working together for over four decades, both in the domestic and in the international markets. Over this period, knowledge and experience have been gathered in projects of different complexities, in the various sectors of consulting engineering in which it operates, always standing out for quality and innovative solutions, which confirms its position as one of the leaders in quality and excellence within the Brazilian market. Similar policy is practiced by the TYPASA Group and that justifies its inclusion in that group in August 2009.

ENGEORPS holds back five offices in Brazil: Central Office: Alphaville/ Barueri - SP; Belo Horizonte (MG), Brasilia (DF), Rio de Janeiro (RJ) and Sao Paulo (SP) and two overseas offices: the Dominican Republic and Peru.

## main activities

- Water Resources & Environment
- Water Infrastructure
- Environmental Sanitation
- Mining: Studies and projects of tailing dams, systems for intake of wastes and recovery and reutilization of water, systems for disposal of waste rocks, industrial plants and material processing plants, recovery and rehabilitation of waste rocks and systems for reutilization of materials.
- Energy
- Transportation
- Management & Supervision

## mining

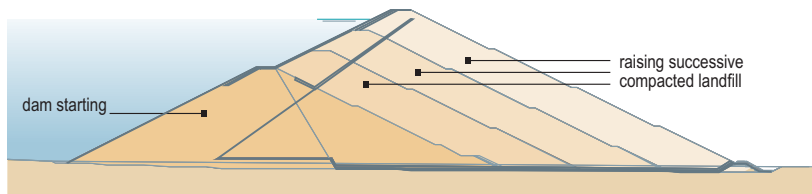
The Mining sector encompasses the processes and activities of exploration and industrial processing of natural materials for their use in various sectors of the economy, constituting a fundamental activity for growth and development of the country. Significant environmental impacts associated with this activity are demanding continuous technological advances and engineering interventions at the various stages of exploration and processing, trying to eliminate and / or significantly reduce the harmful effects and risks of accidents in this sector.

In this context, ENGEORPS acts in the development and preparation of studies and projects involving tailings dams, waste disposal, tailings piles, manufacturing and processing plants, among others, throughout its 20 years, highlighting the works listed below.

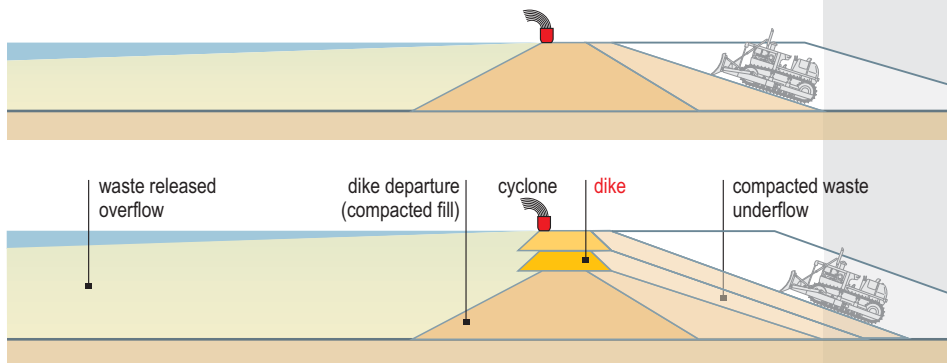
# mining | main PROJECTS

- Basic and final project for the Itabiruçu tailing dam located at the Conceição mine, Itabira, MG. *Vale*
- Conceptual and final projects for Potreiro I, II and III tailing Dams, at Fábrica mine, Ouro Preto, MG. *Vale*
- Conceptual project for the hoppers embankments containment structures, of Vale-Carajás, PA. *Svedala*
- Conceptual, basic and final projects for the tailing dam of the Brucutu mine, situated in the municipality of São Gonçalo do Rio Abaixo, MG. *Vale*
- Basic and final projects for the Forquilha IV and V tailing Dams, at Fábrica mine – Ouro Preto, MG. *Vale*
- Technical assistance to the Itabiruçu tailing Dam heightening works between elevations 821,00 to 833,00, at the Conceição mine, Itabira, MG. *Vale*

## tailing dams



Raising Downstream - Compressed Landfill



Raising the Center Line to Reject (underflow)



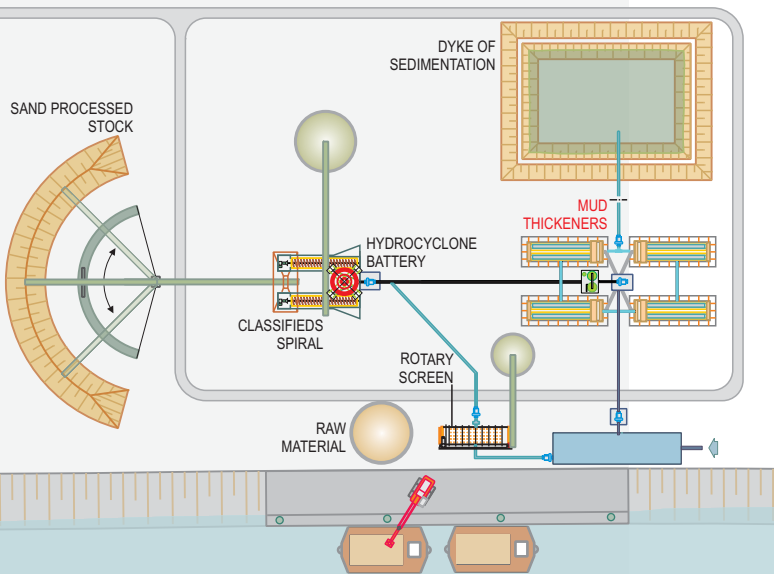
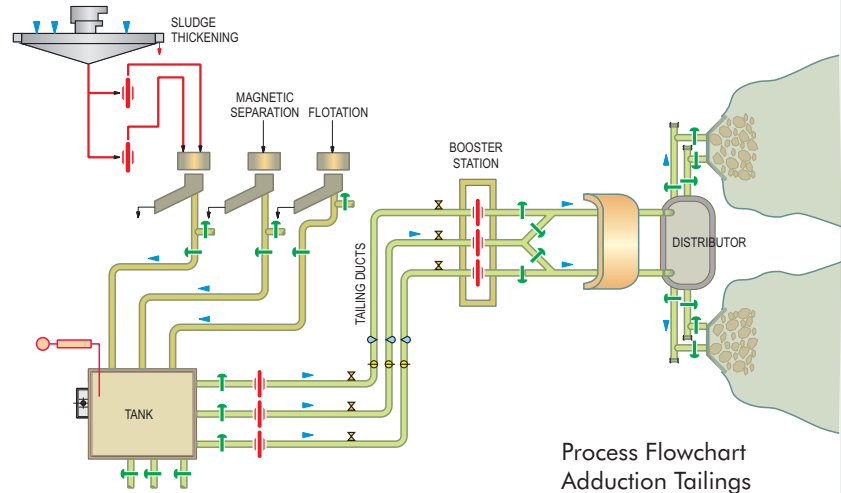


# sterile piles

- Final project for stabilization and rehabilitation of the Itabirú sterile pile, in Itabira, MG. Vale

# processes & industrial plants

Center for sorting and recycling of dredged materials



- Conceptual, basic and final projects for the waste adduction system for the Brucutu mine, situated in the municipality of São Gonçalo do Rio Abaixo, MG. Vale

- Study on environmental management and development of a sustainability analysis in the region of APA Tietê and Implementation of the Recycling Center of Dredged Materials, in São Paulo, SP. DAEE



# a Global consulting group



## transportation

industrial parks  
shopping centres  
office buildings & business parks  
land development  
residential complex & sports complex  
universities & educational centres  
hospitals & health care centres

## environment & water quality

river basin management  
inventory & analysis of irrigated land  
irrigation networks  
water supply & sewage networks  
water treatment & purification  
desalination plants  
dams & reservoirs | hydroelectric power plants

## renewable energy

TYPSA Engineers, Consultants and Architects is a consulting engineering firm based in Spain with more than 40 years of experience successfully executing major infrastructure projects in Europe, the Americas, Africa and the Middle East to improve and sustain enhanced living conditions around the world.

Founded in 1966, TYPSA is now one of the largest Spanish consultancy companies in its field, and a national leader in the exporting of consultancy services in civil engineering, according to the *Engineering News Record* (ENR).

transport planning  
infrastructure management  
roads & motorways  
railways & tramays | metro systems  
airports & ports

## architecture, building engineering & urban planning

environmental engineering  
forestry engineering  
solid & industrial waste treatment  
water quality monitoring (labs)

## water management & hydraulic engineering

wind farms | thermo-solar & photovoltaic |  
farms hydroelectricity | biomass



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