

Mining Expertise

Supporting you through all stages of mine development



Concept

Feasibility
StudiesDetailed Design
and Construction

Operations



Closure

Knight Piésold's mining expertise has been applied to hundreds of surface and underground mining projects worldwide, under a wide range of climatic and seismic conditions.

From the driest desert on earth to the frozen arctic tundra, our integrated engineering and environmental team provides a comprehensive range of services through all stages of mine development, from evaluation and permitting to design, construction, and closure.

By providing quality and environmentally sound engineering and science, our professionals work seamlessly together with the client team to successfully move their projects forward.

We work together to identify and reduce risk throughout the project life cycle, while finding solutions that respect environmental, social, and economic responsibilities.



Tailings and Mine
Waste Management



Water
Management



Rock Mechanics



Geotechnical
Engineering



Heap Leach Pad
Design



Geochemistry



Pipelines and
Pump Stations



Environmental
and Permitting



Closure and
Reclamation



Renewable
Energy Integration



Tailings and Mine Waste Management

From siting, design, permitting, construction support, operational monitoring, and closure of tailings and waste rock storage facilities, we tailor the design of every facility to provide economical solutions appropriate to the site conditions, while providing long-term security and environmental protection.

Water Management

Our site-specific water management plans combine a thorough understanding of the hydrometeorology, surface water hydrology, groundwater, waste characterization, and the various aspects of the overall mine development, including heap leach pads and tailings and waste rock management systems.

Rock Mechanics

We offer a range of rock mechanics services for open pit and underground mining at all stages of development. We routinely design and manage site investigation programs, develop pit slope designs, conduct stability assessments and operational monitoring for active open pit slopes, evaluate stabilization/support systems for underground mines, and conduct micro-seismic monitoring of underground mines.

Geotechnical Engineering

Our specialists lead our clients through the full spectrum of geotechnical services for mining projects from site investigations through to construction monitoring and QA/QC. Our geotechnical field and office services can be provided as stand-alone services or integrated into an all-encompassing, engineered approach.

Heap Leach Pad Design

Our experience in designing heap leach pads encompasses all locations and sizes and includes some of the largest heap leaching operations in the world. Expertise is provided for a variety of liner and solution collection systems, loading, and solution management strategies, including for high fines content ores and wet and cold regions applications.

Geochemistry

Our geochemists assist in the development of mining projects throughout the world by performing geochemical evaluations, predicting discharge water quality, and modelling reclamation impacts. Key areas include baseline and site characterization, mine waste characterization, ML/ARD management plans, mine water management, and geochemical modelling.

Pipelines and Pump stations

Our experience in mine slurry and water pipelines and pump stations ranges from design, specification, and construction supervision, including test monitoring, followed by operational assistance and performance monitoring. We tailor the designs to the range of flows, pressures, and material conditions anticipated over the project life.

Environmental and Permitting Support

Our environmental and social expertise is integrated with our mining project development services to support timely acquisition of all required permits. Services include baseline studies, ESG standards, human health and ecological risk assessment, public consultation programs, field monitoring programs, traditional knowledge studies, ESIA's, cumulative effects assessment, environmental management plans, project permitting, and due diligence.

Closure and Reclamation

From costing, planning, and design to implementation and monitoring, we offer a comprehensive suite of closure and reclamation design services. Working closely with our clients, we integrate progressive mine closure planning as an ongoing and adaptable component of the mine life cycle. This ensures that liabilities are minimized upon closure, and the project area is prepared for reclamation or redevelopment activities that will meet land use objectives.

Renewable Energy Integration

A comprehensive energy strategy is paramount to achieving cost-effective mining operations. Our approach in incorporating renewable energy schemes into existing and planned mining projects can improve the mine's bottom line through renewable energy resource evaluation and integration.