Meeting the immediate and long-term needs of mining clients requires in-depth knowledge of the industry and hands-on experience in all phases of a project cycle. Successful mines must balance costs while increasing productivity, ensuring environmental and safety standard to meet investor expectations in a socially acceptable manner.

In understanding all aspects of the business, as well as the technical issues, WSP’s comprehensive and highly-skilled mining engineering team provides safe and economically optimal solutions.

Extracting the true value of mined materials efficiently and effectively takes hard work and expert knowledge. Our clients reap the benefits of our specialists’ in-depth experience and expertise in the areas of geology, geomechanics, mining development, mineral processing, mining infrastructure, applied technologies, and mining environments.

WSP's mining experts develop creative, comprehensive and sustainable engineering solutions for a future where society can thrive. Equipped with an intimate understanding of local intricacies, world-class talent and proactive leadership, we plan, design, manage, and engineer long-lasting and impactful solutions to uniquely complex problems.

We deliver designing, engineering, management, geological, and environmental services and world-class mining solutions for resource extraction to support mining clients wherever they operate in the world.

Our team’s success comes from working with our clients by listening attentively to their project requirements and responding to them by providing innovative solutions.

**DECADES OF DIVERSE MINING EXPERIENCE**

Our experience encompasses all major commodities with clients including Agnico Eagle, Goldcorp, Iamgold, Lithium Amérique du Nord inc., Glencore, Osisko Gold Royalties, ArcelorMittal, Rio Tinto – IOC. Our projects have taken us across Canada and to international locations including Cuba, Finland, Australia, Chile, Hungary, Peru, Mexico, and South Africa.
WSP Canada Inc. was contracted to complete a pre-feasibility level study which included data gaps analysis of geotechnical inputs, site investigation, geotechnical logging, and stability assessment for the open pit design of the B4-7 Project, northeast of Thunder Bay. The purpose of the investigation was to provide pre-feasibility pit design parameters of subsurface profiles derived from the characterization of the rock mass and the geological discontinuities within the proposed final pit walls.
Gestion Iamgold-Québec mandated WSP to design various underground and surface infrastructures for the Westwood Project. WSP innovated to reduce the headframe and shaft sinking project schedule. A protective canopy was designed to guard the sinking installations in order to conduct both work and construction of headframe simultaneously.

WSP was retained to design a new slip form concrete headframe and shaft infrastructure for a new service shaft for the PCS Rocanville expansion project. The permanent concrete headframe was constructed prior to shaft sinking to accommodate sinking operations. As the ground was frozen to accommodate sinking, the concrete headframe was constructed on a bridge-type foundation to span the frozen ground. WSP also developed an innovative plan to install service shaft steel below station level prior to the completion of the shaft sinking effort. The design approach was innovative, utilizing modular construction to repositioning a 20-storey tower, 1.2 km underground.

The project included the updating of Twin Lakes’ mineral resources, in Northeast Manitoba. WSP was responsible for reviewing the geological interpretation produced by Yamana Gold, and providing proposals for improvement. WSP also completed a statistical and geostatistical review of gold and tungsten for four properties. Standard kriging was used for block model estimation. Pit optimization was used to restrict the resources identified to several cut-off grades to illustrate the actual probability of cost-effective operation.
## Services

### GEOLOGY
- Property assessment
- 3D Block modelling and geostatistics
- Resource estimation
- Due diligence and acquisition review

### GEOTECHNICAL AND ROCK MECHANICS ENGINEERING
- Pit slope stability
- Underground rock mechanics
- Geotechnical design and studies
- Tailings storage facility
- Tailings and rock debris management
- Seismic hazard evaluation

### MINE ENGINEERING
- Reserve estimation
- Open pit mine design, planning, scheduling & detailed design
- Underground mine design, planning, scheduling & detailed design
- Ventilation
- Backfill
- Engineering service
- Procurement

### MINERAL PROCESSING ENGINEERING
- Metallurgical process design
- Flow sheets and mass balances
- Process analysis and optimization
- Plant Start-Up and commissioning

### INFRASTRUCTURE
- Ore handling
- Mine services
- Hoisting
- Shafts and head frames
- Tailings management
- Construction management

### POWER
- Power plants
- Sub-stations
- Alternative energy
- Automation and control

### ENVIRONMENT
- Environmental and social impact assessment
- Environmental and social management plan
- Resettlement action plan
- Management of stakeholder participation
- Rehabilitation and closure plans
- Wastewater treatment

### HEALTH, SAFETY & RISK
- Training
- Integrated risk assessment and audits
- Health & safety management systems
- Occupational health & hygiene

### EPCM
- Construction supervision
- Work package planning and reporting
- Equipment selection and specification
- Commissioning management
For tailored approaches sensitive to local culture, politics and issues

50+

Years of sector experience
We build up intricate and holistic knowledge that feeds into all aspects of our work.
WSP™ is one of the world's leading professional services consulting firms. We are dedicated to our local communities and propelled by international brainpower. We are technical experts and strategic advisors including engineers, technicians, scientists, project managers, planners, surveyors and environmental specialists, as well as other design and program management professionals. We design and deliver lasting solutions in the Buildings, Transportation, Infrastructure, Oil & Gas, Environment, Geomatics, Mining, Power and Industrial sectors as well as project delivery and strategic consulting services. With over 7,500 talented people across Canada and 36,000 globally, we engineer projects that will help societies grow for generations to come.