

# KSM PROJECT



## Project Components

Every resource development project has key project components that make it unique. The proposed KSM Project's key components include two controlled access roads, three open pits, rock storage facilities, water treatment facilities, diversion tunnels, an ore preparation complex, ore transport tunnels, a processing plant, a tailing management facility, and a transmission line.

### Access Road from Eskay Creek

- Controlled access to limit effects on fish and wildlife.
- 35 km long.
- Bridge over Unuk River.

### Teigen Access Road

- 14 km link to Highway 37.
- Controlled access limits effects on fish and wildlife.

### Transmission Line

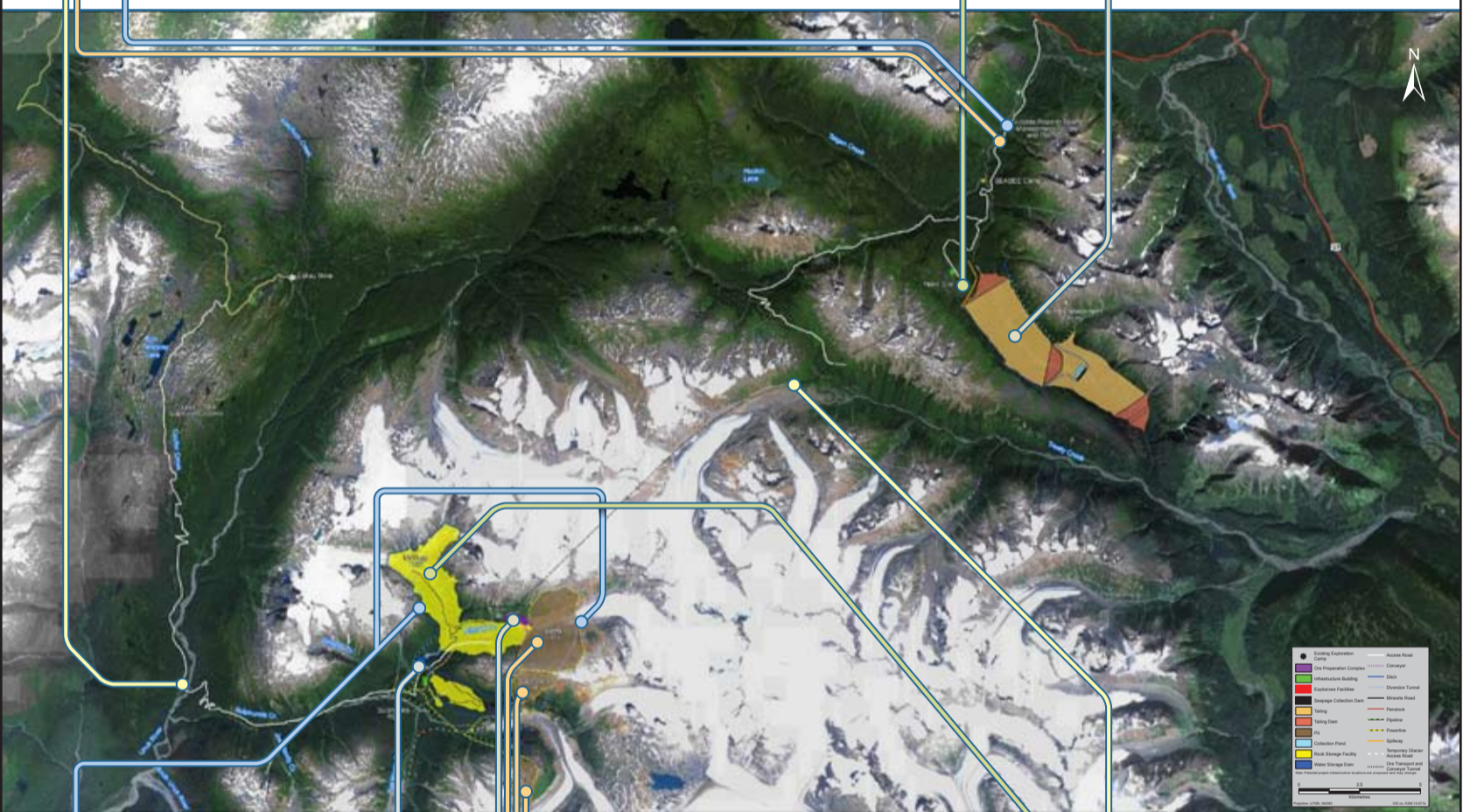
- Parallels Teigen Creek access road.
- Provides link to provincial electricity grid.

### Processing Plant

- Located near the end of the ore transport tunnels.
- Copper, gold and molybdenum are separated from the ore using a flotation process.
- Cyanide, used to extract more gold, is recovered and residual cyanide is subjected to two separate destruction methods.
- Copper and molybdenum concentrates and gold are trucked off-site for further processing.
- Ground ore with metals removed, called tailing, is pumped to the tailing management facility.
- 250 person camp located nearby to house employees.

### Tailing Management Facility

- Has capacity for the expected volume of tailing.
- Dams at either end have low permeability cores.
- Initial dams constructed with locally quarried rock, expansions constructed with non-sulphide bearing tailing.
- Sulphide bearing tailing submerged in the centre of the facility to ensure permanent saturation, which prevents oxidation.
- Seepage collection dams downstream of tailing dams.



### Water Treatment Facilities

- Dam on lower Mitchell Creek collects drainage from the Mitchell Pit and rock storage facilities.
- Drainage from other facilities piped to the dam.
- Water piped by gravity to a treatment plant.
- Turbine installed in the pipeline generates electricity.
- 500 person camp located nearby.

### Ore Preparation Complex

- Ore is crushed, ground and mixed with water near the Mitchell Pit so it can be pumped to the processing plant.

### Diversion Tunnels

- Two tunnels (Mitchell and McTagg) divert streams away from the Mitchell Pit and rock storage facilities.
- Keeps fresh water away from surface disturbances, maintaining water quality.
- Water discharging through tunnels is directed through turbines to generate electricity that supplements power from the provincial grid.
- Will remain in operation after mining ceases and will supply power to water treatment facilities.

### Kerr Pit

- Preliminary feasibility study shows proven and probable reserves total 125.1 million tonnes containing 1.1 million ounces of gold, 1.3 billion pounds of copper, and 5.1 million ounces of silver.
- Mining to start at approximately year 6.
- Rock moved by conveyor (uses less energy than trucks) to the Ore Preparation Complex.

### Sulphurets Pit

- Preliminary feasibility study shows proven and probable reserves total 142.2 million tonnes containing 2.8 million ounces of gold, 883 million pounds of copper, 2 million ounces of silver and 31.9 million pounds of molybdenum.
- Mining to start about halfway through the life of the project.
- Will eventually merge with Mitchell Pit.

### Mitchell Pit

- Preliminary feasibility study shows proven and probable reserves total 1.34 billion tonnes containing 26.3 million ounces of gold, 4.8 billion pounds of copper, 126 million ounces of silver and 178 million pounds of molybdenum.
- Mined throughout the life of the project.
- Typical truck and shovel mining operation.
- Extends 600 m below the current valley floor.
- Flooded to valley bottom level at closure.

### Ore Transport Tunnels

- Parallel pair of tunnels.
- Required to access the plant and tailing management facility from mine sites.
- Each tunnel consists of two sections, 16 km and 7 km, with a short section of road in between.
- Parallel tunnels with cross connections provide an escape route in case of emergency, and enable ventilation during construction.
- Tunnels include two slurry pipelines, return water pipeline, diesel pipeline and transmission line.
- Return water pipeline fitted with a turbine to generate electricity.

### Rock Storage Facilities (RSF)

- Stores non-ore rock removed to access ore.
- Ditches and tunnels divert surface run-off away from RSF.
- Drainage from RSF collected and treated.
- Covered with overburden and vegetated at closure.

