



JEROOY GOLD PROJECT 2004/05

TALAS REGION KYRGYZSTAN



BACKGROUND

Norox Gold Mining Company (part of the Oxus Gold group) held an interest in the Jerooy project in Kyrgyzstan. The project envisaged a combined open pit and underground mine with milling and CIP ore processing.

The operation is situated in a remote high altitude (3500m) mountainous area where winter temperatures drop to -35°C with extensive snowfalls which meant MAED had to erect an insulated building to encompass most of the ore processing facility to cater to year-round production.

SCOPE OF WORK

MAED were contracted to provide both plant and infrastructure. This included the power supply and reticulation including emergency standby generators (1MW each), all personnel accommodation and messing, warehousing, security infrastructure, change houses, mining fleet and light vehicle workshops, plant workshops, assay laboratory including sample prep and storage areas, main offices and two medical stations.

Further infrastructure included ancillary services such as fuel storage and fuelling facilities, refuse and waste disposal sites, sewerage systems and treatment plants, medical and fire emergency services and explosives magazine among others.

MAED arranged the supply of nearly 100 vehicles that included: personnel carriers, fire tenders, ambulances, fuel trucks, mobile cranes, flatbed trucks, forklifts, tractor, goods trucks, utility vehicles and earth moving gear.

The mill and CIP plant is based around pump cell technology and has the following statistics:

Plant capacity (nominal)	130tph
Crushing facility	250tph
Maximum crushing plant feed size	650mm
Primary and Secondary Mill Size (SAG and Ball)	4.5m diameter x 6m long
Capacity	2.5MW
Final leach feed product size	95% passing 0.074mm



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A vibrating grizzly feeder and primary jaw crusher feeds material on to a stockpile above a concrete tunnel. Two variable speed apron feeders draw ore from the stockpile to feed the milling circuit. Milling is operated in a closed circuit. The leach feed density is 45% solids obtained via classifying cyclones feeding four mechanically agitated leach tanks 12m in diameter and 13m high. Slurry flow is by gravity from tank to tank.

The elution cycle begins at the acid wash column ahead of the elution column. The elution follows the AARL process at a set pressure and temperature utilising a thermic oil heater with various heat exchangers.

A carbon regeneration kiln is installed to allow for the re-use of carbon in the CIP section as required.

Electrowinning cells with stainless steel cathodes are installed with the barren solution being returned to the pump-cell feed launder.

The loaded cathodes are washed and the resulting gold sludge is filtered and dried. This dry filter cake is mixed with flux and smelted in the single pot diesel furnace to produce gold doré.

PHASE 2

MAED were also contracted to manage this phase which included in-pit crushing, an aerial ropeway, SAG mill, and complete railhead with a contract value of US\$14.5 Million. This was cancelled prior to final completion following a dispute between the client and the Kyrgyzstan authorities regarding the mining license.

Throughput: 1,000,000 ton per annum, 52 weeks per year.
Completion: 14 months following contract award
Total Cost: Phase 1: US\$38 Million (in 2004)
Phase 2: US\$14.5 Million (in 2005)

Pump cell technology is used for the CIP application where the pump-cells are set at the same elevation and arranged to operate in a carousel mode. This approach gave the client significant cost and operational benefits. There are 6 cells (70m³ each).

A slurry detoxification plant was installed where the remaining cyanide is reduced to below prescribed maximum allowable limits prior to the slurry being thickened and pumped to the TMF.

MAED executed the project on an engineering, procurement and construction management (EPCM) basis.