



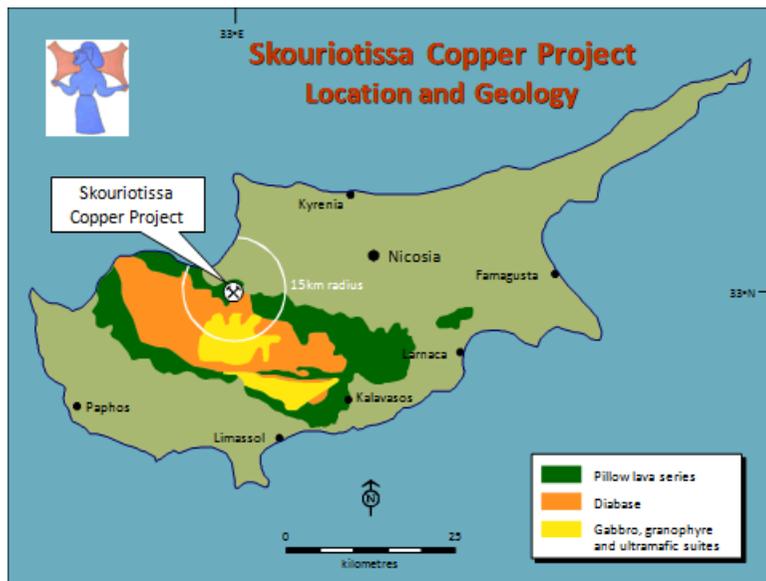
HELLENIC COPPER MINES LTD



History of the Company

Hellenic Copper Mines (HCM) was formed in 1994 by Hellenic Mining Co Ltd a Cypriot company and Oxiana NL an Australia company, later renamed to Oz Minerals. Since 2010, the majority shareholder of HCM is Iacovou Brothers (Overseas) Ltd.

The mission of HCM was to revive the country's mining industry by exploiting the remaining low grade copper reserves of Cyprus, starting from the ancient mines of the Skouriotisa area which are located in the North-West of Cyprus.



Skouriotissa area in Cyprus

Mining activity in that area goes back to 2,600BC a period during which Cyprus became very famous in the area of Mediterranean for its copper reserves and its copper trading with nearby countries. This activity continued up to the 4th century BC, and it later declined. It was revived in 1916 by the Cyprus Mines Corporation (CMC), when American Gunther rediscovered the mine deposits of Skouriotissa and the nearby areas and continued until the Turkish invasion in 1974. At that time CMC's production facilities fell within the Turkish occupied part of Cyprus and mining was discontinued until 1994, when HCM obtained a government mining permit to re-start mining operations in the area. Following 2 years of plant construction and preparation of the mine infrastructure, mine operations and production started in June 1996.

General Information

HCM was the first mining company in Europe to introduce in 1996 the modern cost-efficient and environmentally friendly technology of hydrometallurgy which would allow it to exploit the low grade copper reserves of the Skouriotissa mines.

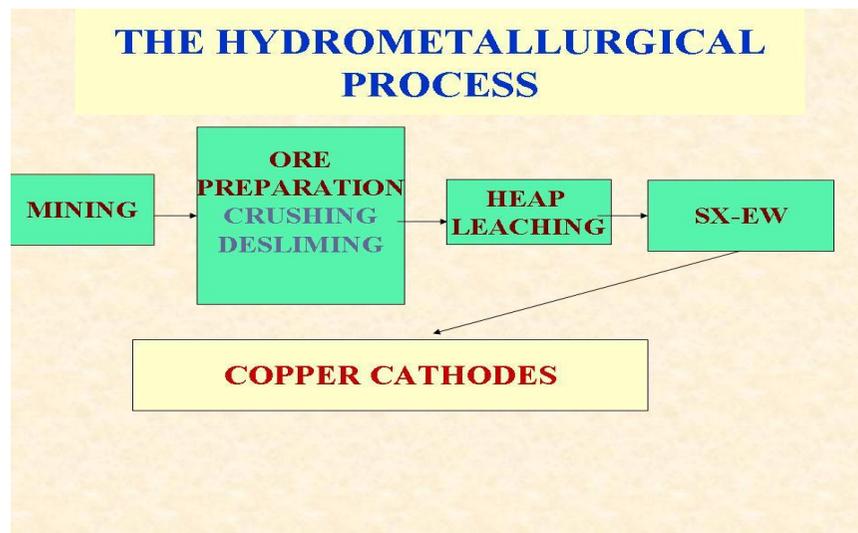
HCM exports 100% of its production to European destinations and since its formation it has produced and exported more than 60,000 tons of copper metal. Our copper is classified among the top copper metal producers worldwide in terms of its purity (99.999% cu). HCM as an export oriented company has a significant contribution to the island's economic growth in terms of incoming currency, employment and taxes. Moreover, it operates in a rural remote zone and it offers employment to the local people of Solea district, thus contributing to the rehabilitation of such remote areas. Overall, HCM employs 80 people while at the same time, it indirectly offers part time work to many others for a number of outsourcing services provided to the company.

Due to the advanced technology applied in the processing and production of copper, 25% of the employees are university graduates. The continuing training and development of our employees in order to cope with the on-going challenges of the mining industry is of a primary importance to our company.

The Hydrometallurgical Production Process

HCM, introduced the process of hydrometallurgy (Leaching–Solvent Extraction-Electrowinning) to produce pure copper cathodes, thus multiplying the added value of the mineral resources being mined.

The nominal production capacity of the plant is 8,000 tons of copper cathodes per year. In order to achieve this result, all production and support departments must satisfy individual targets in a coordinated manner. Each department is equipped with all necessary machinery and personnel. Since the beginning of the operation in June 1996, the procedures and the equipment have undergone many modifications and technological upgrades, which have improved the performance of each department to a great extent, while at the same time bringing significant reductions to the operational costs.



Mining

The two main mines being exploited by HCM since 1996 is the Phoenix and Phoukasa mines. The mining works in terms of excavation, loading and transport of ore is the largest in Cyprus. The annual volume of ore movements is around 4 million tons which are transported within a distance of 2km-3km on a daily basis. This mining work has been outsourced to a specialized mining contractor since 1996.

The contractor's mechanical equipment includes machinery of cutting-edge technology, optimum condition and large capacity, therefore achieving economies of scale. The contractor employs a total of 40 workers from the region.



Mining works by the contractor in the Phoenix mine

HCM with its own personnel is responsible for conducting the blastings. The quantity of explosive materials used on a daily basis is 1,000-1,500 kg.

The mine's staff is consisted of experienced technicians and engineers, the later also being responsible for the designing of mines with the assistance of a specialized 3D mining software.

Crushing-Desliming-Leaching

The raw material for the production of copper cathodes is the copper bearing ore, which is extracted from the Phoenix mine. This ore contains 0,1 % to 0.5% copper. Depending on the copper content the ore is separated into two products, a high grade ore and a low-grade ore.



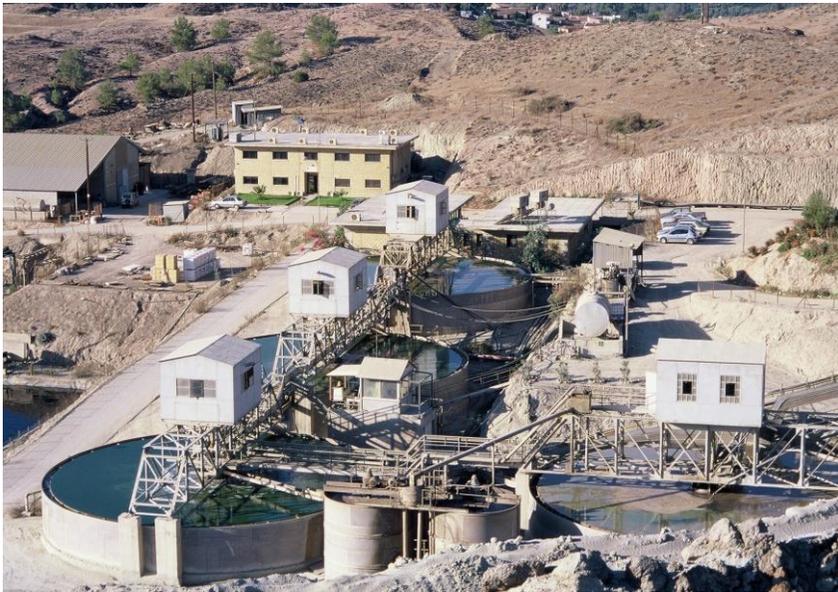
The Phoenix mine

The high – grade ore is delivered from the mine to the plant where it undergoes a number of treatments. At first, the ore is crushed and screened at the Crushing Plant and it is separated to two fractions, course and fine.

The fines are treated separately so that the very fine material is removed. This material is treated at the Treatment Plant where the contained copper is collected before it is deposited at the tailings pond.



Crushing Plant



Treatment Plant

The remaining deslimed part of the fine material is mixed with the solid and is stacked at the heaps area. At the heaps a leaching process takes place, where a mild acidic solution is applied on the heaps surface. As this solvent of copper percolates through the mass of the heaps, it dissolves the copper out of the ores, putting it into a liquid stage.



Heap Leaching areas with PLS and ILS ponds



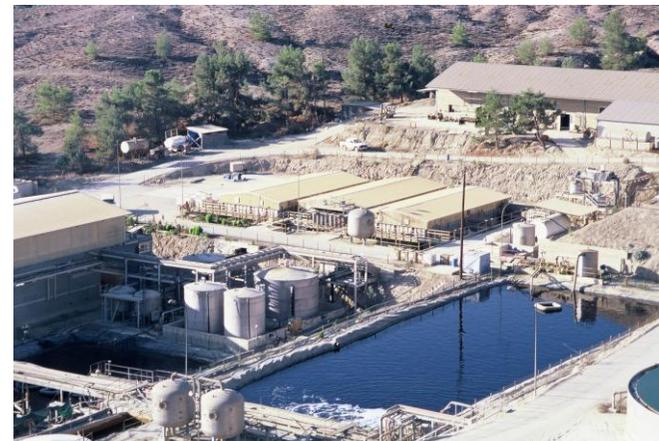
Liquid Copper transferred from Heap Leaching to PLS- ILS ponds

The low grade ore is deposited on separate dumps without any pre-treatment apart from its extraction from the mine and delivery to the dumps. These dumps are sprayed/soaked continuously with a mild acidic solution. The solution dissolves the copper particles contained in the ore and it transforms it from solid form to a liquid form.

SX-EW plant (Solvent Extraction-Electrowinning plant)

The hydrometallurgical process at HCM is based on the modern technology of producing copper cathodes, the Solvent Extraction – Electrowinning Process.

The production unit is called Solvent Extraction because, in contrast to the traditional technology of Smelting, where the ore once concentrated is melted and then electrorefined, the hydrometallurgical process is simpler, cheaper and environmentally friendly in mainly because copper is leached out from the ore. That is, its formation changes from a stable solid state to a liquid form. The liquid is subsequently cleaned, enriched and finally copper is collected via the Electrowinning process. This solution containing the copper, which is produced from the above process is put through a number of various circuits and treatments and finally fed to the Solvent Extraction Plant.



Solvent Extraction – Electrowinning process

At this plant, after using special organic chemicals the solution is cleaned from other substances, while at the same time the copper contained therein is enriched. The enriched solution called “electrolyte”, is transferred to the Tankhouse where via electrolysis techniques the copper in the solution is deposited on stainless steel plates and takes the shape of cathodes.



Electrowinning plant- tank house

The cathodes, which are the final product of the plant, are plates of 1.1 m x 1.0 m x 6 mm thick with copper purity of 99.999 % copper. The purity of the HCM cathodes is by far higher than the

very strict London Metal Exchange (LME) specifications for “grade A” copper cathodes.



Copper Cathodes – Final product

Finally, the cathodes are stocked in bundles of approximately 2.5 metric tons each; they are weighted and transported to Limassol port for export to various European destinations but mainly in Italy.

Power Station

HCM operates its own power station with a capacity of 4MW (HFO power generator) and 3 standby diesel generators (3MW) in order to cover the energy needs of the mine's plants. The Power Station offers an alternative source of energy supply to that provided by the National Grid (Electricity Authority of Cyprus).

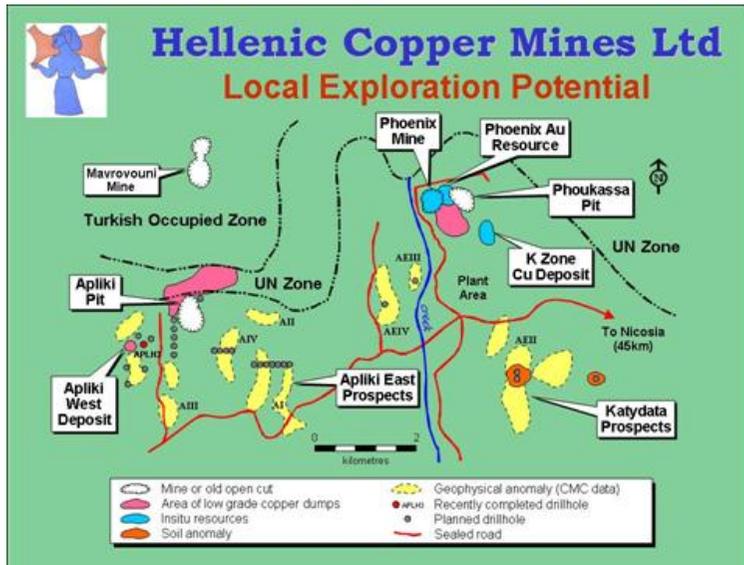


Power Station

Exploration and Development

The principal objectives of HCM is to explore and develop new deposits with the aim to extend its lifespan and to enhance its ability to economically process low-grade ores as well as ores of complex mineralogical composition in respect of processing.

This year, HCM completed the feasibility study for the exploitation and operation of a new mine in Apliki area which is located 10km from Skouriotissa and it will be used for the processing of the area's copper ore reserves. All government permits and licenses have already been granted to the Company.



Research work carried out at HCM's Laboratory

Continuous metallurgical research is also of primary importance to the Company. Since 2012, a research work is being carried out in the field of bioleaching of chalcopyrite in cooperation with Cypriot and foreign Universities. The objective of this research program is to enable the Company to exploit significant deposits of chalcopyrite reserves in addition to the existing copper reserves.

Further works are also under progress for the creation of a new unit for the exploitation of HCM's gold-bearing ores. In this respect, the necessary metallurgical studies have been conducted, while research is being done for selecting the optimum production method.



Solar Park



Laboratory test for gold extraction

Additionally, in order to increase the efficiency of copper leaching, HCM constructed a small pilot solar park, to take advantage of the low cost and environmentally friendly solar energy.

Corporate Social Responsibility

A major objective of HCM is to ensure that we conduct our business in accordance with strict ethical and good governance standards detailed in our business principles. We perform our activities in accordance with our safety, health, environment and community policies to ensure a safe and healthy work environment and to minimise adverse impacts on the natural environment for the benefit of our shareholders, our employees and the communities surrounding our operations.



Revegetation in Skouriotissa mining lease



Tree plantation day at the mine

HCM secures for its operations all the relevant licenses that are required by the European Union Directives and the Regulations of the Local Government Authorities.

For its outstanding work, HCM has won prizes, not only in the area of Safety and Health but also prizes for exports from the Ministry of Trade and Industry and the Federation of Employer's and Manufacturers. It was also awarded the Environmental Award by the Ministry of Agriculture, Natural Resources and Environment, in the field of Technology and Productive Procedure.