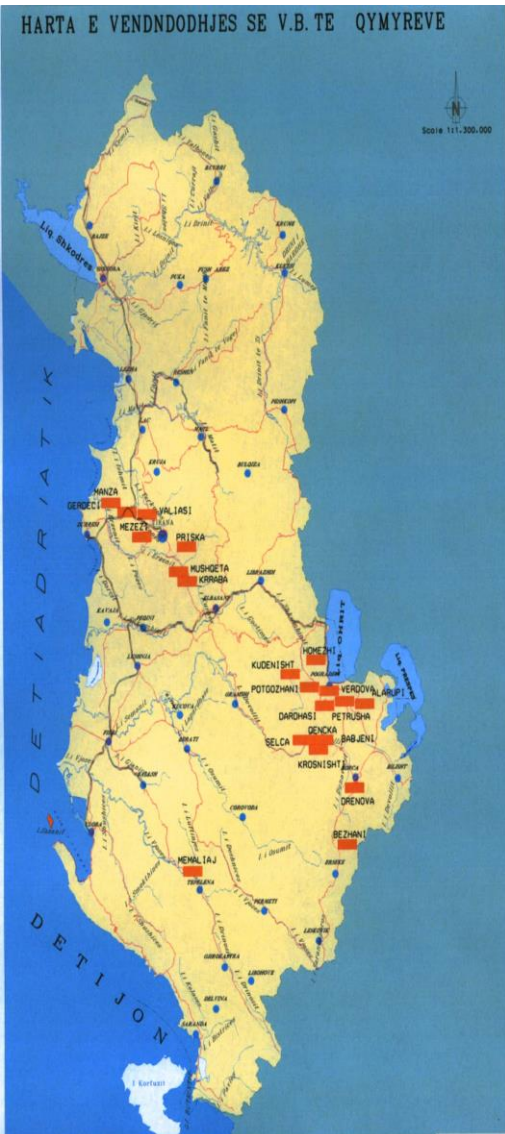


Mushqeta & Krraba Coal Mine

Case Study and Closure

COAL DEPOSITS IN ALBANIA



The history of coal production in Albania includes mines and beneficiation plants. This industry is mainly located in the central, southeastern and southern part of Albania.

In our country, the coal reserves according to the closure projects are about 130 million tons of usable reserves and they are located in the following 3 main sources:

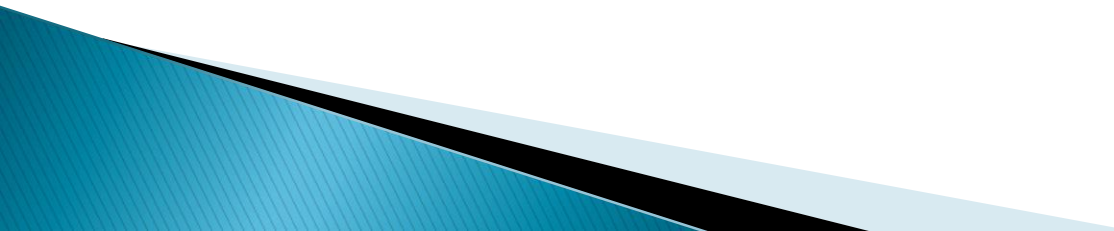
About 86% of the reserves are located in the Tirana area.

About 10% of the reserves are located in the Korça-Pogradeci area.

About 4.4% of the reserves are located in the area of Memaliaj.

Our coals are generally of the lignite type with an analytical calorific value of 2000–5400 kcal/kg (average 3200–3300). Some of the coal can be enriched after mining, producing concentrates with a calorific value up to 4500–5500 kcal/kg.

Mushqeta Coal Mine

- ▶ Mushqeta coal mine is located 20 km southeast of Tirana.
 - ▶ The Coal mine was operative since 1968 till 1995. The mine itself was divided in two operative levels
 - ▶ First level (+530 m – +240 m)
 - ▶ Second level (+240 m – –30 m)
- 

First level (+530 m – +240 m)

- ▶ It is opened with horizontal works, mainly traverbanks. The recommended system of exploitation is the one with full-face lateral lava and climbing strip, in accordance with the technical-mining conditions of the Mushqeta mine. Those systems are widely used above +240, passing to the system with rising bar for layer 1b and rising chimney for layer 2. The sector has completed production activity in 1994.
- ▶ The mining process has continued till 2001 with coal product decreasing.
- ▶ In full capacity, coal production around 80.000 tons.
- ▶ The remain reserves in mine 960,529 tons.
- ▶ The phenomena that can appear from the influence of the use on the surface are similar to those of other mines such as landings, funnels, pits, displacements, etc. Since the terrain is hilly (almost mountainous) and wooded, with strong slopes prepared with galleries near the outcrop of layers 1b and 2, the above phenomena have not been evidenced by the topo-geological personnel. The sector above +240 has a relatively large area of use, with no visible impact on the surface.
- ▶ All main entrances are closed with concrete wall.

Second level (+240 m – -30 m)

- ▶ Characteristic for this level under +240 was achieved by opening steep workings and intermediate horizons at H. +150, +120, +90 and H.+60 to -30. The main opening works from the surface such as Traverbang +240 and +240 B, from where the vertical underground well is opened, cut in three levels H. +150, +60 and -30. While Traverbangu +240 has served as a ventilation system for the exit of impure air, with the installation of a stationary fan at its entrance.
- ▶ According to the data of the mine at the time closure (November 2000), the prepared and ready open reserves are about 5.3 million tons, of which 2.5 million tons in layer 1b and 2.8 million tons in layer No. 2.
- ▶ The areas of influence on the surface from the exploitation works have been precisely determined, especially in the cases of subsidence, appearance of funnels up to the surface. Continuous monitoring of these phenomena is recommended.

Krraba Coal Mine

- ▶ The Krraba coal mine is one of the oldest mines in Albania. The exploitation began during the first world war near the village of Skuterrë (southeast of mine). In 1938, the mine was used by the Italian company (AIPA). After 1948, the mine has been growing in relation to the geological discoveries summarized in the geological reports of 1974.
- ▶ The lower part of the site has continued works until at the -30 m with the opening of the vertical well. It turns out that until 2000 the amount of 1 658 270 tons of coal was realized, with an annual average of 33 160 tons or 2760 tons/month. While in particular years, the highest production quotas of 71 thousand tons were reached (in the years 1989-1990).

Social Impact

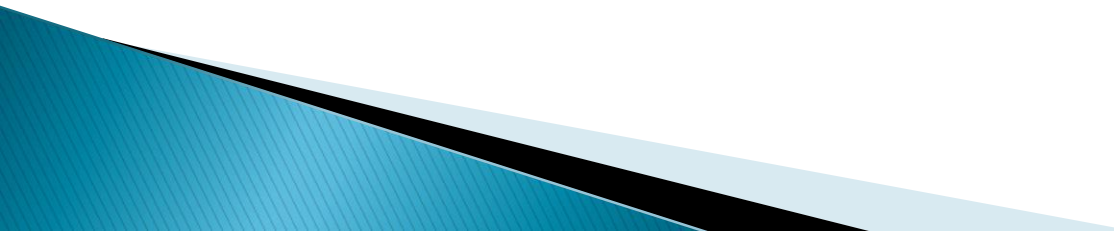
Mushqeta Coal mine

- ❖ 700 workers in max production (1981 – 1990)
- ❖ 80 workers in 2000 when the mine was closed.

Krraba Coal mine

- ❖ 400 workers in max production (1978 – 1991)
 - ❖ 60 workers in 2000 when the mine was closed.
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Social Impact

- ▶ When the mine was closed, most of local community migrate.
 - ▶ Surface infrastructure degrades to destruction. Their remains constitute a real risk of collapse.
 - ▶ Only those buildings that were privatized are still in functional condition.
 - ▶ The local people, miners at the time now are became farmers and workers at the only private business near by.
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Environmental impact

Mushqeta Coal mine

Mostly all buildings were demolished and the terrain was used by locals for farming and agriculture.

The entrances of horizontal works are closed with concrete walls but there are no data for surface phenomena's indicated from underground works.

Environmental impact

- ▶ **Krraba Coal mine**
- ▶ Almost all area from old mine is unuseable.
- ▶ All wastes from mine exploitation are deposit at the riverside.



Environmental impact



The main shaft is closed with concrete structure.
The shaft is flooded as a result of underground water.

The old buildings of mine are abandoned and a permanent danger for people.





