



# THE COAL MINING MUSEUM



## *This is a three-storey museum :*

■ *The ground floor room shelters a very large collection of tools and artefacts, evokes images of the miner's work, displays original photographs and miner's donations.*

■ *The first floor room displays testimonies of the presence of a Polish community in Ronchamp and generally speaking evokes the miners' everyday life in the nineteenth and twentieth century.*

■ *The second floor room is devoted to temporary exhibitions and to some of Ronchamp's collieries archives.*

## THE COAL MINING MUSEUM

**1976 :** Inauguration of the Marcel Maulini coal mine museum

**1992 :** Integration into the Franche Comté techniques and cultures museum network



Coal mining started in Ronchamp in the middle of the eighteenth century. For two centuries the exploitation of coal mines shaped the landscape and punctuated life in Ronchamp and it's surrounding area.

It became a durable industry by the end of the nineteenth century, employing 1 500 people who produced 200 000 tons of coal a year.

As early as 1906, technical difficulties and a decline in profitability affected the future exploitation of the collieries.

In 1958 the collieries and the power plant stopped forever. That's when doctor Marcel Maulini decided to build a coal mining museum to retain the memory and recall Ronchamp's 200 years of coal mining.

The coal mining museum officially opened on September 26th 1976 and became a property of the municipality in 1991.

*Sainte-Marie mineshaft head frame*

## COAL, AN ANCIENT STORY



Coal formation began in the middle of the primary era ( 300 million years B.C) and Ronchamp's coal formed over during 20 million years.

Vegetal fragments accumulated at the bottom of a lake basin and were sealed by an airtight layer of silt. Then, the vegetal mush began a slow process of fermentation. The organic sediments lose hydrogen, oxygen and nitrogen while increasing their level of carbon. Coal is formed thanks to a rise in both temperature and pressure.



## RONCHAMP COLLIERIES

The first requests for coal exploitation concessions at Ronchamp were made in 1757. Mining started in 1759 but production was weak, working conditions were hard and tools were unsophisticated.

The mines became state property during the French Revolution, and were worked by official institutions; then by various private companies. It is at the beginning of the nineteenth century that the production reaches a satisfactory output, the first mineshaft is brought into service in 1810.

Thereafter, extraction became more difficult because the coal was more and more scattered and its quality decreased. Moreover the Ronchamp basin faces a strong competition in Alsace from collieries in the North and Massif Central area.

The coal was mainly marketed to area industries in Mulhouse, Belfort and Haute-Saône and from 1862 onwards a portion of the coal was transformed into coke. In 1946, the Collieries were nationalised. Despite improvements in transportation the crisis continued and coal exploitation ceased definitively in 1958.

## MINING ACTIVITIES

### Casing

Casing consisted of supporting the dug galleries side and top walls to prevent them from collapsing. It was done with wooden frameworks (oak and fir tree) which could vary in size, number and longevity according to ambient moisture and the nature of the surrounding rock. The miner built the casing with axes and saws ("tire-bout"). In case of durable galleries or of particularly friable rocks, the casing was replaced by a brick and stone wall.

### Extracting



Extracting consisted of detaching blocks of coal from the layer. Until the end of the nineteenth century, coal extracting was done with peaks and picks (peak with two points). At the beginning of the twentieth century, this extracting was done with a compressed-air power pick equipped with a point (opposite).

### Mining

Mining, which was done by hand to start with, became industrialised in the middle of the nineteenth century. From then on gallery mining was carried out by shaft. The first shaft, puit Saint Louis, was dug in 1811 about thirty others were dug thereafter.

Working in great depth shafts required installations more important than those found north of the coal basin.

Started in 1894, the boring of shaft Arthur de Buyer will reach a depth of 1008 meters, the deepest shaft of France at that time. Opened in 1904, this well is equipped to get out 1000 tons of coal a day.



*Arthur de Buyer shaft (head frames)*

### Sorting



A woman's work most of the time, coal sorting consisted of quickly identifying, on a moving conveyor belt, schist which was to be rejected and eliminated. Coal was then separated and washed according to its size.

*Group of sorters (1936)*

### The forging mill

At Ronchamp Collieries there were forging mill workshops for the making and maintenance of metallic tools.

## STRIKES

Ronchamp Collieries faced many strikes related to wage increases, lack of hygiene and poor working conditions.

In the nineteenth century, a working class was born in Ronchamp to face almighty employers. The two main claims were the reduction of the working day from 12 to 8 hours and the type and amount of remuneration.

Miners went on strike after the firedamp explosions of 1824, 1857, 1886. Created in 1886, the Ronchamp-Champagne miners-workmen trade-union disappeared in 1887; a trade union was reconstituted in 1906.

In 1910, the longest strike (64 days) took place without satisfaction of the claims. In 1948, the Collieries faced another long strike (52 days), just like everywhere else in French carboniferous basins.

The conflicts of the nineteenth century shaped the mentality of the Ronchamp workman who put negotiation and compromise first. The management tried to keep things calm.



### Life of a galibot

Child miners were known as "galibot" and they were employed as carters, gallery horse drivers, and lamp carriers. In 1874 the employment of children under the age of 14 was prohibited. In spite of an 1892 law limiting a child's working day to ten hours the working conditions remained painful and difficult.

## MINER, A DIFFICULT AND DANGEROUS JOB

### The miner's tools

For coal exploitation the worker needed tools suitable for his various tasks : extracting, loading, carrying, hoisting or pulling.

There are two successive periods of exploitation : in the eighteenth and nineteenth centuries extraction by hand with peak and shovel ; in the twentieth century industrial extraction with compressed air power pick and drill.



Compressed air power pick

### The silicoses



Protective mask

Dusts emitted from mining were noxious and if inhaled caused lung diseases. Masks such as the one used at Arthur Buyer shaft in 1911 are one of the means to fight these dusts.

In spite of the protective masks, silicosis, a disease due to the inhalation of silica dust, was the primary cause of death for miners. These dusts stick to the lungs and kill cells.

The patient suffers from respiratory insufficiency, he experiences a feeling of smothering among other signs, and ends up suffering a cardiac fatigue.

In 1946 it was acknowledged as a professional disease and induced rights for a pension for infected miners.

### Doctor Marcel Maulini

Marcel Maulini, the son of a stone cutter who died of silicosis was the Collieries doctor from 1946 to their closing down ; he led numerous studies on this disease and its treatments.



### Catastrophes

Ronchamp's mine experienced many catastrophes due mainly to water.

Water leaked into at the bottom of the mine through various breaks in the ground. All the various solutions applied to the puddling problem in the mines is called "the pumping out". This accumulation could be fought against with different techniques : emptying galleries with buckets, use of arm pumps or animal propelled pumps as well as more complex systems of pumping.

### The Etançon well catastrophe

This catastrophe demonstrates how dangerous water was for the miners. On Saturday December 16th 1950 around 17h20 an unexpected rush of water swept into the Etançon working area and quickly flooded the galleries. This water surge blocked four miners. Their bodies were pulled up on December 22nd.

### The firedamp

Darkness, heat, falling rocks and noises account for difficult working conditions and are the cause of many accidents. The firedamp is the main cause of accident.

The firedamp is a gas (methane), produced during the formation of coal and its surroundings. During coal extraction the gas leaks out and dilutes in the atmosphere of the mine. When mixed with air in a proportion of 6 % to 16%, it becomes explosive in the presence of a flame.

To avoid "firedamp explosions", the air inside the mine must be ventilated and the flame of the lamps must be insulated from the ambient air.



Firedamp explosion  
(Gravure de J. Gauchard)

## THE MINE LAMP : THE ARTIFICIAL SUN

### From tool to symbol

The mine lamp is much more than a utility object, for it is a strong symbol not commonly seen.

A miner's essential partner, the mine lamp provides him with artificial light and guarantees his safety by locating the presence of the firedamp.

This lamp, which is one with the man, is also used for identification purposes since its number is personal.



Miners check, whose numbers are also reproduced on their lamp

Lamp with enclosed fire



Flashlight

### Lamps evolution

There are several types of lamps : simple candlesticks, tallow candles, or oil lamps, made of iron or bronze, round shaped with generally a simple flat tank.

Protective lamps are progressively designed to avoid the danger of a lamp with a naked flame, directly in contact with the air. Luminosity is also improved, allowing better working conditions and enhancing productivity.

From 1920 onwards, flame lamps are gradually replaced by accumulation or battery flashlights.

## POLISH IMMIGRATION

### *The part played by immigration*

During the nineteenth century, Ronchamp collieries requires foreign nationals to compensate for a lack of French workers and thus maintain activity. In the 1920's, immigration becomes massive. The majority of immigrants were Polish followed by Italians and North Africans.

In addition to their contribution to the collieries activity, the Polish community is an important demographic factor with Polish workers and their families maintaining local businesses and keeping schools full. Thus they contribute to the dynamism of the area.

### *The integration of the polish community*



*The Polish abbot Storko with polish children*

To face the needs of Polish workers and to facilitate their integration, accommodations are built as early as 1923, and school children are taught by monitors and chaplains.

The Polish community is also organised with religious, cultural and sporting associations, including two of particular importance :

- The Polish society Sainte-Barbe created in 1923 which celebrates the day of the miners' patron saint every year on December 4th ;
- The sokol, a sports association created in 1946, at the root of Polish life in France.



*Polish demonstration in traditional costume*

These organisations favour cultural and human relationships between the French and Polish populations. They also allow a faster and easier integration of the Poles in the Ronchamp community.

The twinning of the town of Ronchamp in 2004 with the Polish city of Sulkowice is a proof of this will to maintain exchanges between these two communities.

## TO KNOW MORE

Visiting around the museum : marked by signposts mining circuits "the coal of Ronchamp"



### *Circuit "Art and history" (1h)*

This trail enables the visitor to discover the main sites of Ronchamp patrimony, from sacred art to the most visible traces of the mining inheritance.



### *Circuit "Mines and forest" ( 1h30)*

This trail traces the origin of coal and its use together with extraction techniques at the beginning of the twentieth century.



### *Circuit "the Etançon and the working class cities" ( 1h30)*

This trail evokes the northern part of the coal basin of Ronchamp which was exploited as early as the eighteenth century.

Information : mine museum : Tel./fax 00 33 / (0)3 84 20 70 50  
Ronchamp tourists office : Tel./fax 00 33 / (0)3 84 63 50 82

## Some works and films

### *Publications*

#### ■ *La lampe de mine, histoire d'un soleil artificiel (The mine lamp, the story of an artificial sun)*

by Michel Vernus, Philippe Markarian  
Collection "Paroles d'objets" / 2004 / 73 p. / 13 €

#### ■ *Les lampes de Ronchamp (Ronchamp's lamps)*

by Jean-Paul Goux - Collection "Suite de sites"  
Editions de l'Imprimeur / 2001 / 48 p. / 7,50 €

#### ■ *Les Polonais dans les Houillères de Ronchamp 1919-1939*

*(Poles in Ronchamp's collieries)* by Jean-Philippe Thiriet  
Collection "Regard sur un passé" / 2001 / 80 p. / 13 €

### *Films*

■ *Les lampes du mineur (The miner's lamps)*, by Valéry Gaillard  
DVD "Des outils et des hommes" (four films) / 2006 / 104 mn / 15€

■ *La forêt houillère de Ronchamp (Ronchamp's coal forest)*, in collaboration with the Centre Régional de Documentation Pédagogique de Franche-Comté / VHS / 2002 / Videogramme 6mn / 6 €

You can find these works at the museum reception, or in the **Franche Comte museum of cultures and techniques**  
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[secretariat@musees-des-techniques.org](mailto:secretariat@musees-des-techniques.org)

Our Internet site :  
[www.musees-des-techniques.org](http://www.musees-des-techniques.org)

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