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Coal Milling Plant

The tower was consists of:

- 2 crushing units
- 2 pulverized coal injection units.
- 1 nitrogen drying unit with booster
- 1 handling raw coal unit.

These units supplied the pulverized coal to the 2 blast furnaces of the site.

(Blast furnaces 4 and 5)

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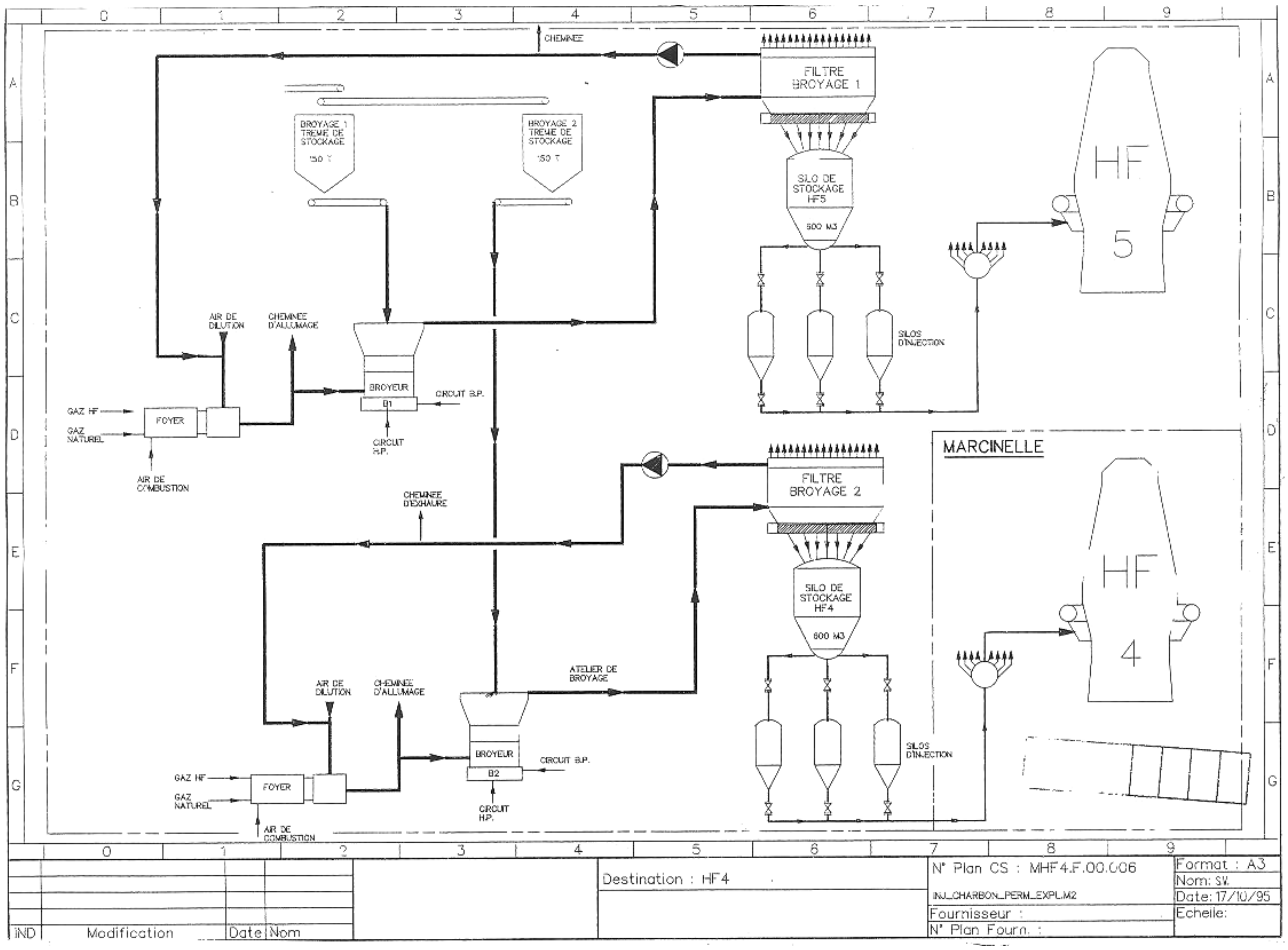
Process.



Crushing Equipment.

The equipment consists of:

a) 2 crushers (Manufacturer : CMI).
Roller mills with a capacity of 30T/hour. (Hardgrove)

Crushing : 80% < 85 microns.

It's provided with a static and adjustable classifier with blades.

b) 2 smoke generators. (Manufacturer : Schop)
Generator fed by blast furnace gas, enriched by natural gas and mixed with the combustion air.

Power of 4,6 Gcal/hour.

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c) 2 filters (Manufacturer : Intensiv).
The filter allows the separation between the inert gas and the coal.

It's consists of 650 filter hoses (3,30 m length).

d) 2 feeders.
It allows to feed the crusher with raw coal.

Its capacity is from 15 to 30T/hour.

e) 2 storage silos of raw coal. (Manufacturer : Paul Wurth).
The storage silo has a capacity of 200m ³ or 160T of raw coal.

A capacitive probe and a level transmitter allow to verify its filling.

Silos are equipped with a weighing device.

Injection Equipment.

The injection plan consists of :

a) A storage silo of pulverized coal.(Manufacturer : Paul Wurth)
This silo has a capacity of 600m³ or 300T of pulverized coal.

Weight, T°, CO, CO2 are permanently verified.

It supplies the injection silos by screeners.

b) 3 vibrating screens. (Manufacturer : Somestra)
Their capacity is 40T/hour.

They allow, during the tank emptying, to bring back the undesired materials for the injection.

c) 3 injection silos. (Manufacturer : Paul Wurth)
Each Injection equipment has 3 silos.

The silos of BF4 have a higher capacity.

Their volumes are 26 m³ and the effective pressure is 17 Bars.

For BF5 silos, their capacities are 15 m³ and the effective pressure is 14 Bars.

All these silos are equipped with weighing devices.

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d) Pipes for transport towards the blast furnace.
Several pipes for transport towards the blast furnaces are installed:

For the BF4 : DN50 ; DN80 et DN110.

For the BF5 : DN65.

e) N2 tanks. (Manufacturer : Paul Wurth)
Tanks allow to maintain the N2 pressure of 20 Bars.

The capacities of the 4 tanks : 4 m^3 ; 10m^3 ; 20m^3 et 90m^3.

f) One unit to load pulverized coal by truck. (Manufacturer : Paul Wurth)
This equipment allows to load some pulverized coal from a storage silo of 300 To towards truks.

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Booster Equipment.

The plan consists of :

a) 3 Nitrogen boosters (Manufacturer : Atlas Copco)
They allow to compress N2 from 6 to 20 Bars.

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b) 3 Nitrogen dryers. (Manufacture: Delair)
Dryers by adsorption.

c) Cooling circuit.
Consisting in cooling pumps and Alpha Laval equipment.

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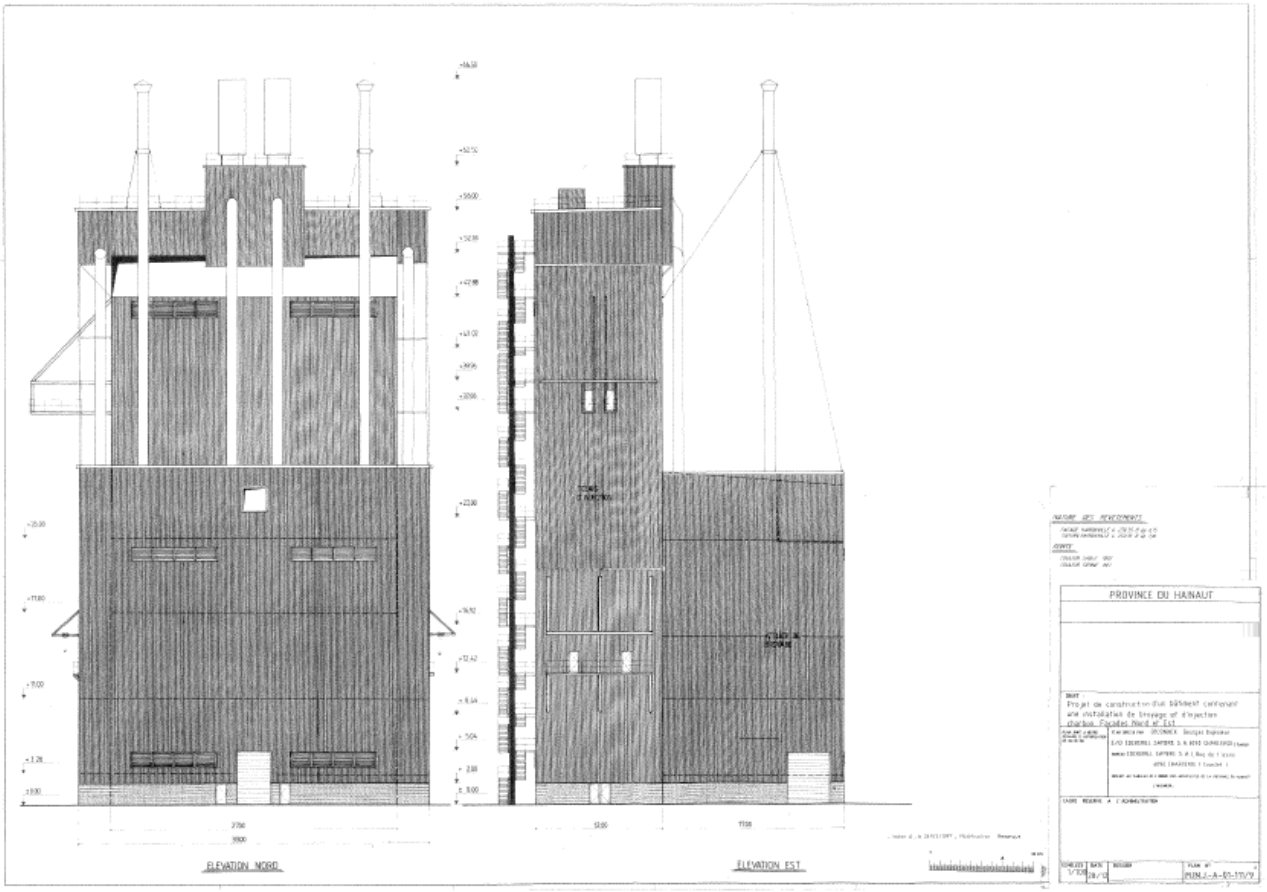

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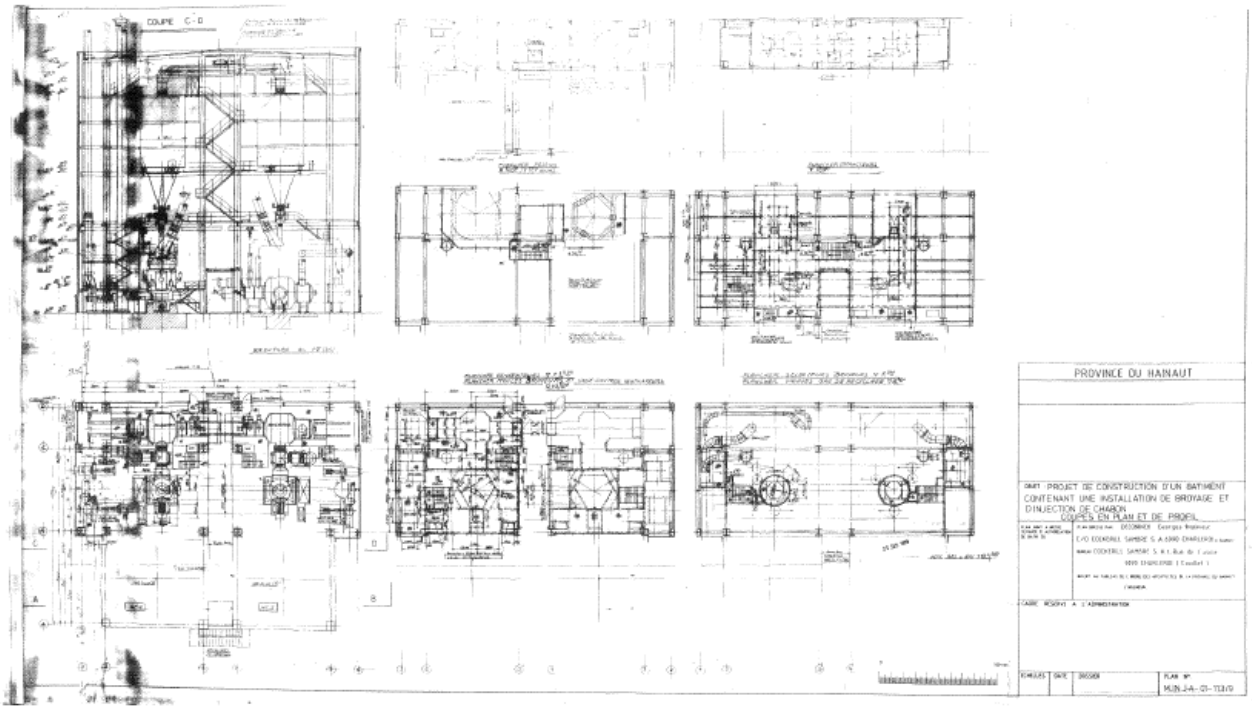

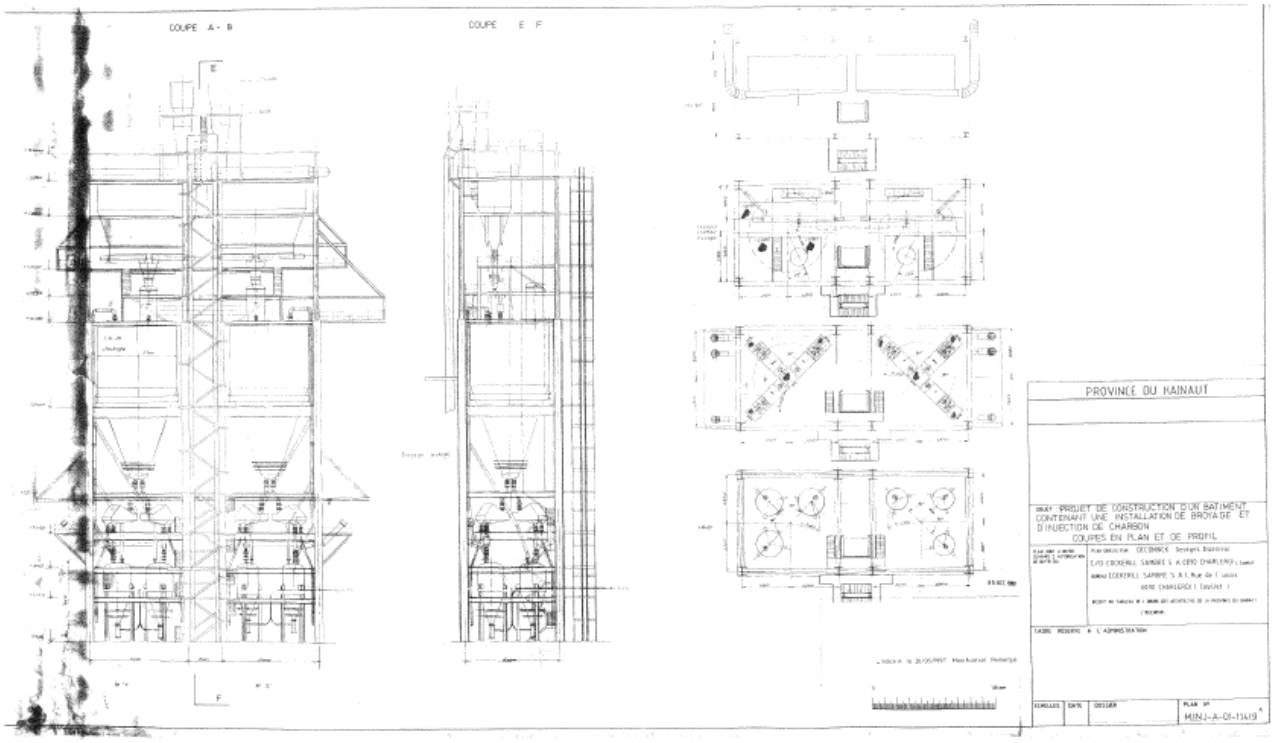

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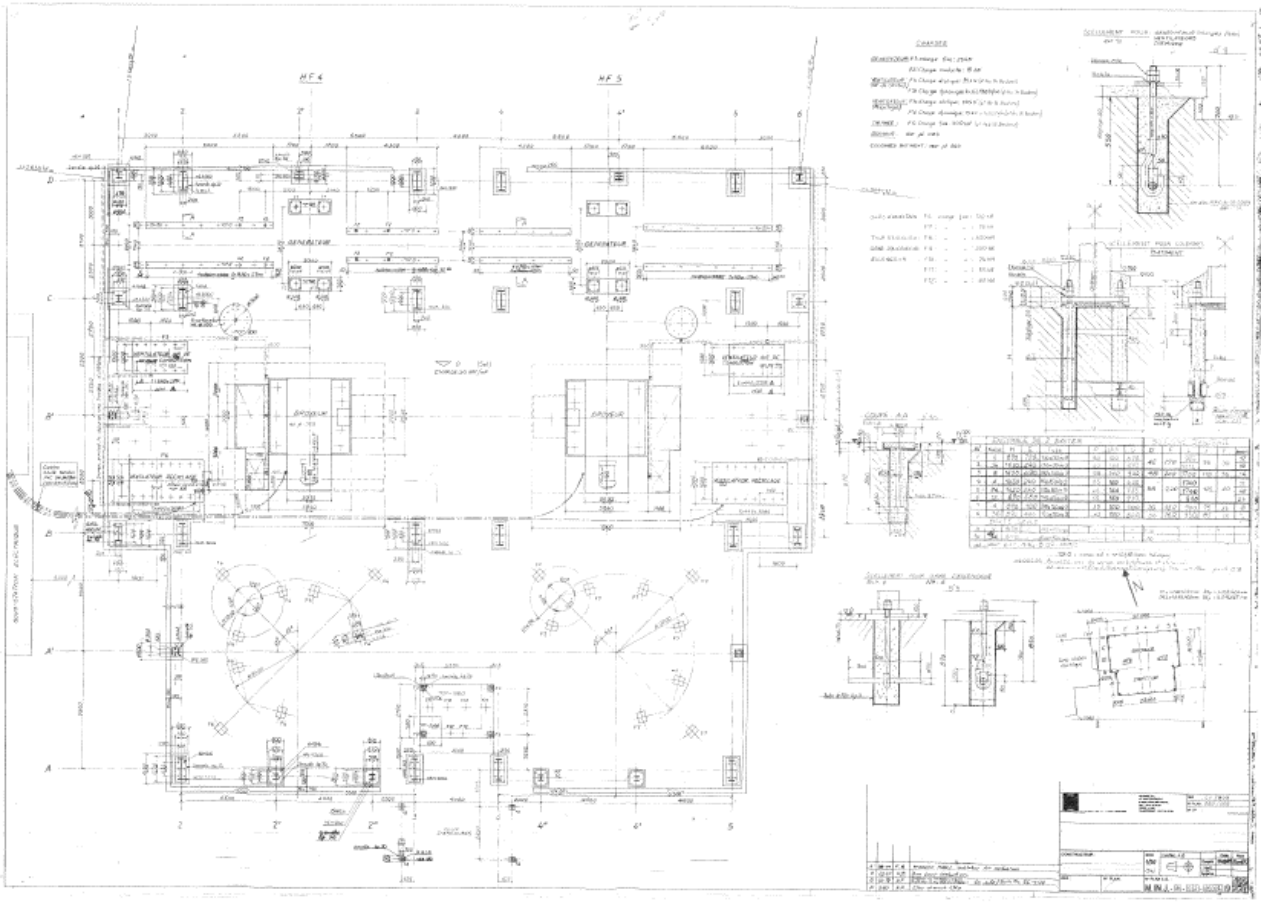

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