

# Waste Water Stations

## Personnel Safety & H<sub>2</sub>S filter management

**THE PROBLEM** : as a result of the confinement of the waste water stations, toxic components such as H<sub>2</sub>S increased. Safety of employees on such working sites has therefore become of major problem. To combat this hazardous pollution, air filtering systems have been installed. For the station managers, personal safety coupled with the need of **constant air quality control** and **filter change** has been a worrisome task.

### THE SOLUTION brought by CHROMATOTEC

With the **air MEDOR system**

- The building in which there is the central point of distribution of the waste waters into the 5 digestors is very closely followed by the technicians on site.. The micro-biological activity, thereby the fermentation of the organic material, results in a production of toxic sulphur compounds (H<sub>2</sub>S). It is therefore of the utmost importance to **screen** this zone of activity in the building for safety reasons. The **air MEDOR**, placed in this hostile and difficult environment, answered to this need by a giving a constant measure every **3 minutes** of the mercaptans (H<sub>2</sub>S, methyl-SH, DMS+DMDS) on this site.
- Coupled with a stream selector the air MEDOR gives the necessary data to **anticipate** the time at which to change each of the 5 H<sub>2</sub>S filters (one at every digestor).

**RESULTS** : **increased efficiency** and **time gain** for the laboratory assistants,

- **increased safety** for the technical personnel,
- **better management** of the filter changes with **cost savings**.



The air MEDOR is a continuous gas chromatograph dedicated to the sulphur compound analysis. The model complies with the norms ISO 6326/2 and DIN 51855/7, for H<sub>2</sub>S/MeSH/DMS/DMDS..... A unique electro-chemical detector allows the specific detection of sulphur species.

# Waste Water Stations

## Deodorisation

**THE PROBLEM** : at the entrance of the waste water plants, where the waste water arrives, strongly smelling and polluted air is captured and neutralised by a chemical cleaning process called "Stripping".

The correct amount of chemical products needed to neutralise the polluted air has to be calculated.

### The solution brought by CHROMATOTEC

with the **air MEDOR system**

- At the arrival of the wastewater at the stripping area of the plant, the polluted air is captured and thereafter passed in a circuit that neutralises it. These odours are caused by bacteriological fermentation. Successive chemical cleanings in the deodorisation towers neutralise these odours.
- The bad odours are in large part due to the transformation of sulfides into  $H_2S$  by the bacteria in the fermentation process.
- Placed at the outlet of the stripping process, the airMEDOR measures the  $H_2S$  concentrations and pilots the adjunction of calcium nitrate. Process that allows to the bacteria to have a oxygen reserve and therefore to stop sulfate transformation into sulfides and then in  $H_2S$ .

### Results :

- Automatic regulation of odour neutralisation.
- Time needed to technically pilot the process greatly diminished.
- Cost savings with much less calcium nitrate used.



**The main qualities of the unique air MEDOR system are :**

- **Robust** (utilisation in industrial environments)
- **Sensibility as of 1 ppb** for methyl mercaptan.
- The **rapidity** of the measures (less than 3 minutes for safety needs in a site exposed to  $H_2S$ )
- A very **stable** linearity
- **Easy handling**
- **On line monitoring.**

Ease of utilisation (manually in a laboratory with a syringe).

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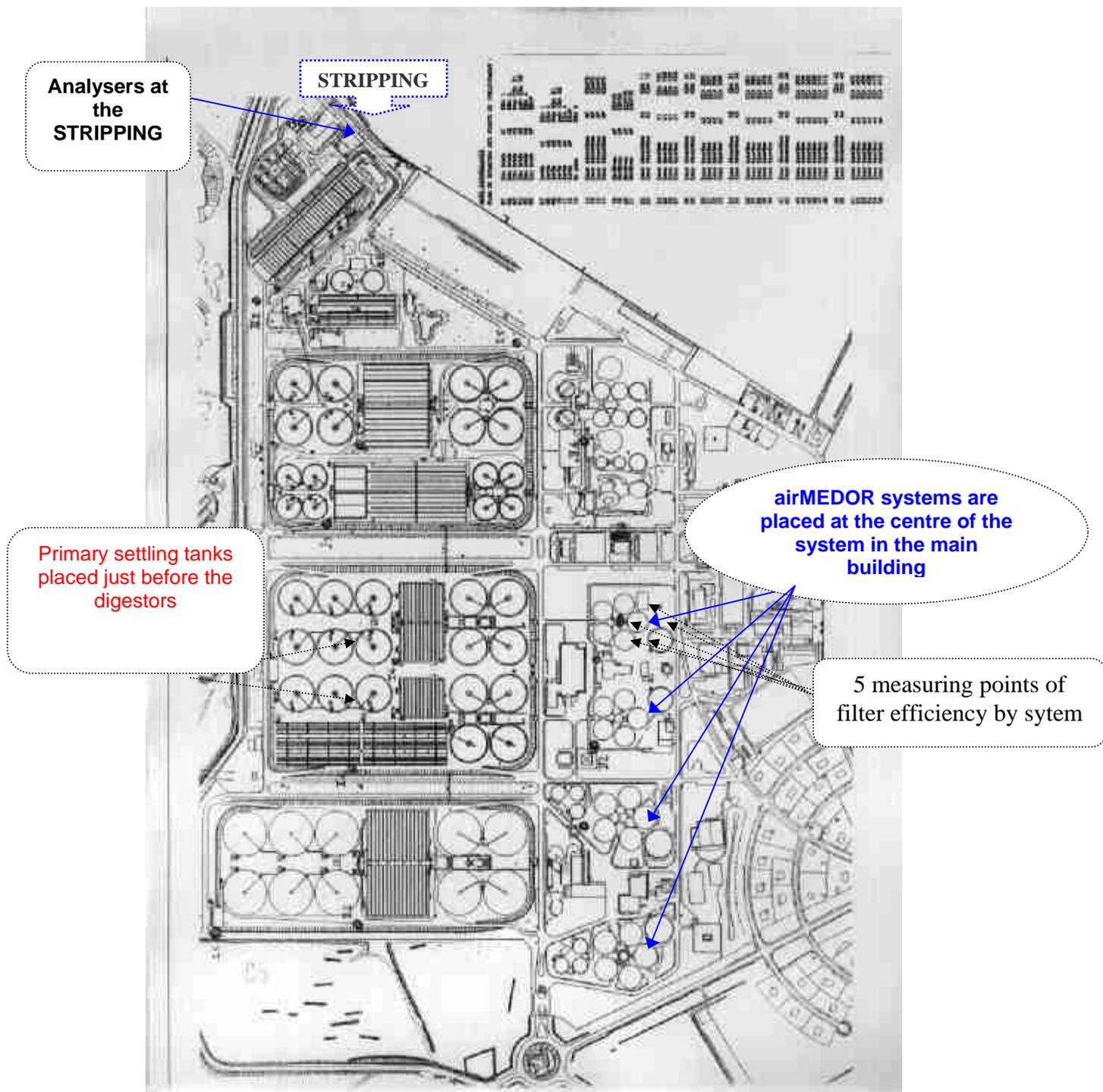
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Reference : CS-001E- Waste Wa

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### Map of Waste Water Site



HOUSTON - BORDEAUX

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