

# VENTILATION

## **How the Mine is ventilated.**

In every underground Mine fresh air must be introduced to dilute and flush out fumes generated by diesel vehicles and shotfiring. This is particularly important at Winsford, as the Mine uses the largest wheeled loading shovel underground in the United Kingdom, which runs on diesel.

Ventilation requirements can vary due to the rate of rock salt production and diesel vehicle movement, but there are always minimum requirements needed for general day-to-day operations.

No 4 Shaft serves as the main downcast shaft. Here the two fans are located at the shaft bottom underground and these operate in parallel. The larger fan is fitted with a baffle-type silencer to reduce the noise level in the shaft bottom area.

On average, the fans deliver between them 135 cubic metres of fresh air per second.

## **Maintaining a constant temperature of 14°C.**

Air drawn into the Mine is initially circulated through specially constructed air conditioning tunnels, known as the de-watering tunnels. This enables any excess moisture contained within the air to condense in a controlled manner, thus minimising its effect on the Mine. The rock temperature stabilises the Mine air temperature to a constant 14°C. Once the air has left the de-watering tunnels it is directed to the faceline, from where it begins a nine-hour journey around the perimeters of the Mine workings.

Due to the vast expanse of void space at Winsford (23 million cubic metres) the airflow needs to be channelled. This is achieved through the combined use of auxiliary and booster fans positioned around the Mine; heavy duty PVC and Hessian brattices hung between pillars and automatic roller shutter doors.

Overall, the salt beds at Winsford provide a very safe natural environment and we do not have to contend with methane and gas issues which can occur in collieries or other mines. However we still monitor constantly and frequently take air samples to comply with statutory requirements.