

CASE STUDY



DUST SUPPRESSION DUSTGRIP™ TURBO

CHALLENGES

A major underground mining company had established a dust volume standard of 1.75 mg/m³. However, when the mine's dust levels were tested, the results showed a reading of 2.0 mg/m³ with 30% quartz.

As a result the mine was:

- » Shut down
- » Asked to make improvements to their dust control plan

During this time, the mine also had a new dust standard established at .4 mg/m³, when the mine re-opened and tested again, the readings came back in violation of the standard at 1.02 mg/m³ and 2.2 mg/m³.

Quaker wanted to show that by adding DUSTGRIP™ TURBO dust suppressant the dust volume standard could be achieved.

THE SOLUTION

To improve the dust control plan:

- » Scrubber was added at the crusher
- » DUSTGRIP™ TURBO was added to their operation at a treat rate of .08%. During this process, Quaker developed an effective and accurate automated injection system for DUSTGRIP™ TURBO. Product is currently introduced to the main water system at the mouth of the longwall section

With both of these changes made, new tests were conducted and readings were taken:

- » Test results showed dramatically improved results with a reading of .28 mg/m³
- » 90% reduction in dust. As a result, the dust standard was raised up to 2.0 mg/m³

THE PRODUCT

DUSTGRIP™ TURBO is a water-based, dust suppression concentrate designed for multiple applications including mine haul roads, stockpiles and longwall mining. DUSTGRIP™ TURBO is a proprietary blend of wetting agents designed to accelerate water penetration in areas where dust is a hazard. DUSTGRIP™ TURBO, when used according to instructions, reduces the total water volume consumed for dust suppression purposes. Repeated applications have a cumulative effect, maintaining subsoil moisture content for long periods, depending on soil types, traffic and weather conditions. DUSTGRIP™ TURBO dust suppressant has been formulated to lower water surface tension, allowing it to penetrate and effectively knock down dust particles.

A recommended dilution rate of 0.1% means a 5-gallon pail of DUSTGRIP™ TURBO dust suppressant is added to 5,000 gallons of water. Higher dilution rates can be applied depending on site conditions.

THE EXPERTISE

Quaker Chemical has developed an innovative and effective dust suppression system. Dust is not only a health risk for workers, but its suppression is a continuous and costly activity for companies. Quaker's dust suppression product line is an effective means for the mining industry to manage resources (water) and lessen health risks and environmental concerns (dust).

