

# CASE STUDY



## DUST SUPPRESSION DUSTGRIP™ TURBO AND DUSTGRIP™ 007

### CHALLENGES

Dust suppression is a continuous and costly activity for mining operations, it:

- » Limits operational efficiency
- » Impairs visibility increasing the risk of accidents
- » Has detrimental effects on worker health and safety from air pollution and flammability
- » Negatively effects the environment through erosion, soil loss, and excess water consumption

High dust levels were causing the following issues at Patriot Coal – Speed Mining's operation:

- » Scum in the mine water system
- » Clogged hosing system
- » Dust readings on the wall, continuous miners, and belt head that reached levels of 1.65 mg/m<sup>3</sup>

### THE SOLUTION

Quaker wanted to show the mine, that by adding DUSTGRIP™ dust suppressants to their operations Patriot Coal – Speed Mining could:

- » Eliminate the problems with their water and hosing systems
- » Reduce the dust levels on the wall continuous miners and belt heads

Patriot Coal – Speed Mining is currently using DUSTGRIP™ TURBO on 4 continuous miner super sections and the longwall section.

- » The respirable coal dust level has been reduced from 1.65 mg/m<sup>3</sup> to .95 mg/m<sup>3</sup>
- » The water lines going to the continuous miner have stayed clean and the water sprays on the continuous miner have to be cleaned out and changed less often
- » They have also started using DUSTGRIP™ 007 on their roadways and have reduced the amount of respirable dust generated

### THE PRODUCT

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

DUSTGRIP™ 007 provides durable control and suppression of dust caused by wind, vehicle and heavy equipment traffic. This product is safe and easy to use, with no special equipment required. Its unique properties effectively control and suppress fugitive dust emissions in areas such as haul/ unpaved roads, ore and mineral stockpiles, construction sites, quarries and other areas where dust may be a problem.

### 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). Quaker DUSTGRIP™ dust suppressants offer effective means of managing resources and environmental concerns as well as the following solutions:

- » Effective dust control – improvements to health and safety by increasing visibility and improving air quality
- » Maintains subsoil moisture - unlike water has a cumulative effect thereby, reducing water consumption
- » Reduced costs - labor and equipment
- » Health, Environment and Safety friendly - products are fully biodegradable with no effect on the environment
- » Ability to use with existing spray equipment - do not require post application rinsing of equipment
- » Non – corrosive - will not corrode rail cars, conveyors or other equipment

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