

# DusTreat\* improves dust suppression efficiency by 76 percent

CASE STUDY | Power

## | Challenge

A power plant in Great China was using water spray to control fugitive dust within the coal conveyor system. While beneficial, water alone was not effective at controlling the dust because, by nature, its surface tension does not react well with coal's hydrophobic tendencies. In simpler terms, water cannot spread quickly on the surface of small coal particles.

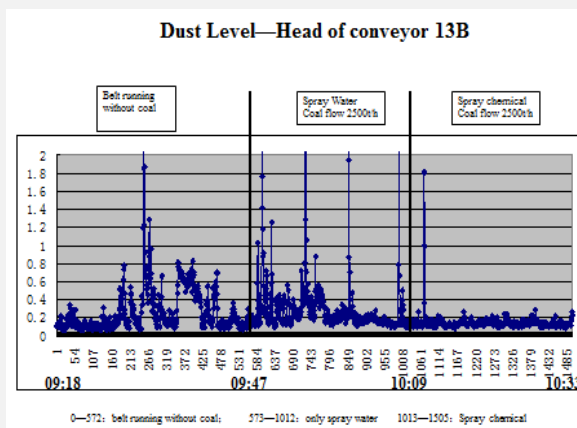
As a result, operators were still experiencing low visibility and discomfort because of dust inhalation. Housekeeping and maintenance of the conveyor system was also constant and labor-intensive.

## | Solution

Veolia Water Technologies & Solutions recommended DusTreat DC9138E - part of Veolia's DusTreat Road Dust Control Treatment Programs - to effectively suppress the plant's fugitive dust.

DusTreat DC9138E is specially formulated to enhance the dust suppression capabilities of water. It increases water's ability to adhere to and spread over dust particles, increasing the bulk density of dust particles. This leads to agglomeration and prevents particles from going airborne. DusTreat DC9138E is particularly effective at reducing respirable dust as well as the required amount of water. Losses in the calorific value of the coal due to moisture addition are minimized with DusTreat.

Figure 1 shows the trend of dust level at the head of the conveyor just before the coal silo.



## | Results

After application of DusTreat DC9138E, the dust level at the head of the conveyor decreased from 0.31 mg/m³ to 0.15 mg/m³. Minus the background dust level of 0.099 mg/m³, dust suppression efficiency improved by 75.83%.

DusTreat also increased visibility, and workers reported better health.

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**WATER TECHNOLOGIES**

# Kinross Gold Corporation Conserves Over 12 Million Gallons of Water with Veolia Dust Control Solution at La Coipa Gold Mine, Copiapo Chile.

CASE STUDY | Mining Industry

## | The Problem

A large gold mine located at Atacama Desert Copiapo Chile needed to control dust on their haul road. This road was heavily traveled, and severe dusting was resulting in limited visibility, which was a safety concern.

The dust was being controlled with a magnesium chloride solution that required roads to be treated by water trucks several times per day, seven days per week.

## | The Solution

In truck-based hauling systems, the mine haul road network is a critical and vital component of the production process. As such, under-performance of a haul road will impact immediately on mine productivity and costs.

Dust generation from mine roads has been recognized as both health a safety issue and mine regularly re-apply a water -spray to the road to allay dust.

DusTreat\*DC9112 was applied onto the road surface without grading the road.

### RESULTS:

DusTreat\*DC9112 improve safety and visibility on the mine's haul roads and decrease the total amount of PM10 respirable dust by 60%. La Coipa Mine conserves over 12 million gallons of water in one of the driest zones of the planet the Atacama Desert.

**Application:** DusTreat\*DC9112 improve safety and visibility on the mine's haul roads and Mine conserves over 12 million gallons of water.

**Location:** Copiapo, Atacama, Chile.

**Commissioned:** 2010

Camino antes de la aplicación (10/02/09)



Camino luego de la aplicación (16/02/09)



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