

DUSTAT CASE STUDY: Mt Isa

UNDERGROUND MINE

Start Date: November 2018

Source: Murray Engineering, MT65/TH663i Underground Water Truck.

Problem: Excessive dust on access roads & various areas underground. When dust levels get too high, it causes visuals to decline dramatically creating unsafe working conditions. Makes it hard for operators to safely drive vehicles and equipment and creates further eye irritation and breathing hazards.

Solution: Introduce a dust control agent to better control dust issues than just water.

Summary: The mine site conducted a trial using 3 different branded dust control agents including Hammersley's Dustat and two competitor products. 3x 20L drums were purchased of each product and controlled trials were conducted in carefully selected areas of the mine in marked out plots that were approximately 3m x 3m in size.

Dustat was used at a 2% dilution for these trials as suggested by Hammersley. The result of the trials was that in every area the 3 different products were trialled, Hammersley's Dustat outperformed the competitors and the decision was made to go ahead with Dustat in a full watering program.

Early Stages: A watering program was worked out and initial orders for 1,000L IBCs of the product to be sent to the site. From here the set up for dilution into water trucks was made, with a dosatron added to the 1,000L IBC that connected with the water supply and could be set to the desired dilution to allow correct dilution into the water trucks.

Implementation: The watering program began in early 2019 and was started 2% dilution to create a solid base for the Dustat. From there the dilution was lowered and within weeks the results were quite significant. The control of the dust was immediately noticeable and visibility and air quality was improved.

The dilution was dropped back each week due to the residual effect of the Dustat and the after a month the dilution was set to 0.1% at which it stayed.

When maintenance was carried out on the roads, inspection found that the Dustat having penetrated the surface was still there helping bind the dust and dirt particles together. This meant that the product was not lost during maintenance/grading and the watering program could continue as normal and did not have to be started again.

Over the space of only 3-4 months of the program, watering became less frequent, so less product was used as well as less watering being conducted.

Other key take aways was that the introduction of Dustat did not effect the quality of the roads or make them hazardous or slippery with Dustat also providing stabilisation qualities.

