

## DUSTAT CASE STUDY: BOWEN BASIN

### OPEN CUT MINE

Start Date: 17<sup>th</sup> July 2020

**Problem:** Excessive dust on haul roads & water shortage. At time of initial consultation dust had been so bad that the mine had to be closed on certain days when levels got too high. Water was also a big problem with at one stage approx. 60 days water left.

**Solution:** Introduce a watering program with Hammersley's Dustat.

**Summary:** We began by collecting the rough data from site and working out an average daily, weekly & monthly water usage. We did this by the amount of water trucks, size of water trucks in litres and how many runs per day. This was worked out to be approx. 4,500,000L of water used on haul roads per day, so almost 32,000,000L per week and 135,000,000L per month. This was from 4x 70,000L water trucks doing 16 runs each per day.

**Early Stages:** Site was given a 5L sample to test the product to see if there would be any reaction with explosives used on site. This testing found that there were no issues.

After going through risk assessments, getting SDS logged in system and getting watering program approved, green light was given for trial to be put in.

Site visits were made and location for holding tank and pumping system all worked out. Holding tank is approx. 26,000L and sits next to the water fill point. Hosing is rigged up from holding tank to the fill point and remote dilution is set up so the driver can press a button when filling his truck with water and add in the dilution of Dustat.

**Implementation:** The program was rolled out on the 17th of July 2020. The initial dilution was 0.25% or a little over 200L per truck. Then dilution was dropped down to less than 0.10% or between 35-70L per truck per run. Due to Dustat being a residual product and remaining in the surface, using very small dilutions allowed a steady build up at a more economical position.

Feedback over the first few weeks after implementation was very good, with haul truck drivers commenting and grader drivers also giving a positive response. After about a month the usage started to level out and some good results were measured. On average the runs per truck had dropped from 16 to 12 each per day, so saving a quarter of water usage. Dustat usage had averaged out at 8x 1,000L pods per week.

During this first couple of months there has been some different weather patterns, so the Dustat has been tested in many alternative situations. From rainy weather where the Dustat has helped to keep the roads firm, to some very hot, dry and windy weather where the Dustat has controlled the dust well. A good example of this was a particular area of the mine that is notorious having uncontrollable dust, especially in the middle of the day in high heat. Usually continuous watering of this area still doesn't properly manage the dust situation, but a decision was made to triple the dosage of Dustat in that area and the affect was immediate with the dust controlled in that area.

Checking in again with site at the 7 week mark, the latest water meeting reported a further 3MEG drop in water from the previous week. This takes the weekly water savings to around 1 third.

