

## Case Study: MineREADY™ Dust Reduction Agent Helps Mine Reduce Costs by 40% per Ton and Overall Water Usage by 20%

### BACKGROUND

Air quality in underground mining is monitored to ensure the safety of the mine and its workers. MSHA set the current standard at 2.0 milligrams per cubic meter (mg/m<sup>3</sup>) of fugitive dust and mining companies are responsible for monitoring their levels and meeting these guidelines. Control of underground dust is necessary to help prevent health and safety issues along with avoiding costly fines levied by governing bodies.

### CHALLENGE

**Western United States—Seam 84"** A mining company using a continuous miner cutting 8,000 tons per shift wanted to reduce the amount of fugitive dust down to the MSHA required 2.0 mg/m<sup>3</sup>. They were using a well-known surfactant in an effort to meet this requirement but were not able to get below 2.2 to 2.4 mg/m<sup>3</sup>. Water spray at face was approximately 104 gallons per minute.

### SOLUTION

Zinkan's MineREADY™, a proprietary formula, was recommended for this application. MineREADY™ is a particle charged chemistry that is based on food-grade polymeric materials. MineREADY™ is applied where mines use long wall shearers and continuous miners with or without air scrubbers to control fugitive dust. This product can be distributed from a bulk storage tank or totes using a metering pump and the correct spray nozzles to help conserve the use of excess water.

### RESULTS

MineREADY™ was substituted in place of the other surfactants they were using. Water sprays were modified to include different nozzles on both head and tail spray arms. Water flow was cut to 84 gallons per minute and fugitive dust was lowered to 1.5 mg/m<sup>3</sup>. Costs were reduced by 40% per ton of coal to less than \$0.04 per ton, while water usage was cut by 20%.



**Continuous Miner Treated with DCG**

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