



# Yard Spray System Delivers Dust Control Success

## PROBLEM SUMMARY

A petroleum coke calciner plant in the Southern United States faced significant challenges due to the windblown dust generated from its large outdoor storage yard. The frequent high winds in the area carried the black coke dust into surrounding fields and nearby residential areas, causing environmental concerns and potential health risks.

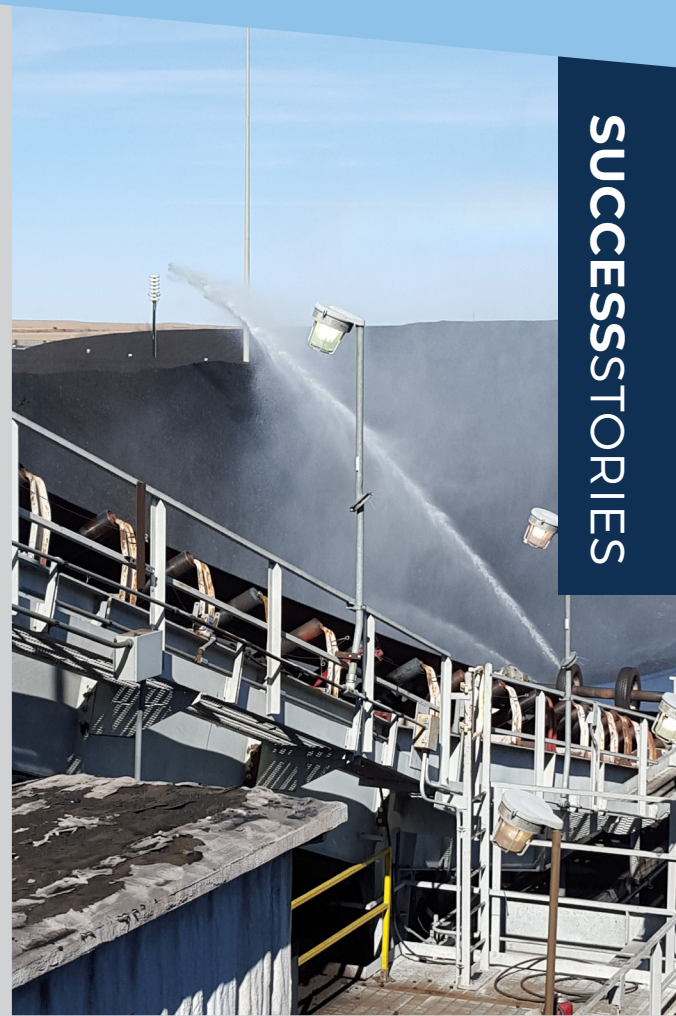
In a previous attempt to address this problem, the plant had installed a perimeter yard spray system to control the dust from the piles and roads. However, the performance of this system was insufficient, further magnifying the issue. The plant engineer could only describe the system's effectiveness as "not very good."

## BENETECH SOLUTION

In 2022, Benetech, visited the plant to assess the situation and identify potential solutions. During the visit, the team observed the inefficiencies of the existing yard spray system and conducted a quick test using Benetech's BT-205W surfactant. When the plant's coke dust was mixed with plain water, the dust floated on top as expected, demonstrating the poor performance of the current system. However, after adding just two drops of BT-205W, the dust immediately sank to the bottom of the container, showcasing the product's ability to improve the system's performance. Impressed by these results, the plant opted to introduce BT-205W into their existing yard spray system via a metering pump.

Benetech products included, but were not limited to:

- **BT-205W** — A highly effective, environmentally friendly dust suppression chemical agent that increases water's ability to wet dust particles and suppress material emissions, allowing you to control dust with less mess and moisture. It reduces water usage and minimizes equipment and installation costs by requiring fewer applications, while delivering superior dust control and improving safety and environmental compliance.



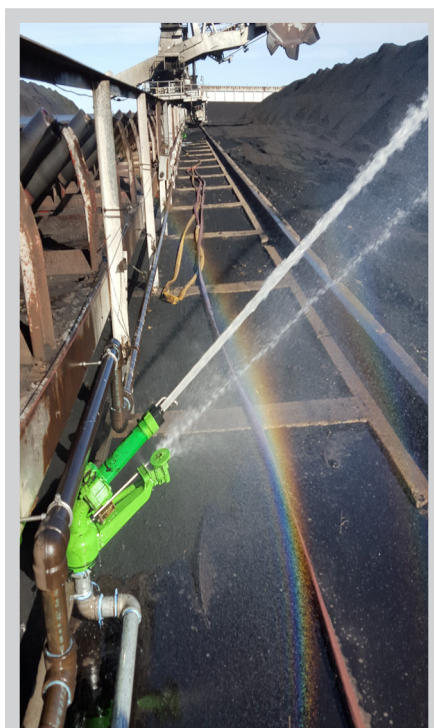
## IT PAYS TO IMPLEMENT BENETECH SOLUTIONS

- 200% increase in product usage within just three weeks and 900% overall, reflecting immediate impact and customer satisfaction
- Reduction in fugitive dust contributed to cleaner air and a safer environment at the plant and in surrounding communities, demonstrating sustainability and environmental responsibility
- Plant personnel experienced greater job satisfaction, easing frustrations caused by fugitive dust hazards
- Utilized environmentally friendly and health-conscious solutions

## SUCCESSFUL RESULTS

Benetech initially supplied the plant with one tote of BT-205W, which was quickly followed by an additional two totes within three weeks, as the plant personnel witnessed immediate and visible improvements. Building on this success, they also provided the plant with four yard sprays and three heated tote blankets to ensure the chemical was protected from freezing temperatures.

The enhanced dust control significantly reduced the amount of dust escaping from the yard, leading to a cleaner environment both at the plant and in surrounding areas. The plant personnel were extremely satisfied with the product's performance, and the surrounding area saw a notable decrease in airborne dust particles. This success has led to a regular schedule of chemical deliveries.



UNTREATED



TREATED



This demonstration shows how the BT-205W surfactant is able to alter the surface tension of water, effectively overcoming the hydrophobic properties of petroleum coke dust and causing it to submerge in treated water, unlike in plain water where the dust remains suspended on the surface.



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