



Midsouth Printing Company

Sulfate Reducing Bacteria

The System: One open cell comfort-cooling tower manufactured by Marley located on the ground approximately 100 yards from an Interstate Highway. Trees surround the cooling tower. The tower is operated on city make-up water at 3.5 cycles of concentration. Water treatment was performed by a local competitor using only one biocide.

The Problem: Upon visual examination, rust spots were evident. The cooling tower distribution pans were heavily scaled. After the physical inspection, it was reported to the customer that sulfate-reducing bacteria (SRB) were the possible cause of the excess corrosion. Follow-up testing was performed using the HACH SRB BART test with positive results showing in less than two days.

The Solution: The tower was completely drained. All mud and debris were flushed from the tower basin. The SRB nodules were wire brushed and vacuumed. The tower was filled with water and UKP-10 was added at the rate of 20 lbs per 1000 gallons of water. This solution was circulated for 24 hours. The system was retested using the Hach BART test with growth showing after 8 days. The system was put on a program of AA-6070T and AA-4015. One month later, the SRB nodules were back. The system was put through a complete clean out for the second time. Two months later, the SRB nodules were back. The system was taken off line and the nodules were scraped and wire brushed. Leaks in the basin were now beginning to appear. The leaks were plugged with washers and gaskets. The system was put back on line and shocked with AA-315. After one year of operation on HS-4230, the scale in the distribution pans began to break loose. Holes were found in the pans. Scraping and wire brushing removed all scale. The holes were plugged with washers and the system was shocked with AA-315. The system is now being treated with bromine and AA-315. No new nodules have appeared.

The Benefits: After a very difficult battle, the system is now free and clear of SRBs. The tower water chemistry is under control. The tower system is free of scale and corrosion.