

## CASE STUDY

# Vertical Bed Scrubber (VBS)

Chisholm Creek WWTP  
Dual Train Vertical Bed System

Chisholm Creek Water Treatment Plant (Chisholm Creek) in Oklahoma City, Oklahoma needed an odor solution for their extremely elevated levels of  $H_2S$  and other sulfur compounds released during sewage processing. The city was interested in an effective, low-cost solution for complete odor removal.

Wanting to stay away from high maintenance units, like chemical or wet scrubbers, PureAir recommended using a Dual Train VBS-720 system and Sulphasorb FeXL™ and Sulphasorb XL™ adsorbent media. The VBS-720 is a limited maintenance system designed to manage a high volume of airflow with a considerable saturation of  $H_2S$ .

PureAir recommended using Sulphasorb FeXL™ blended adsorbent media because it can remove 45% of its weight in  $H_2S$ , making it an all-around more effective choice than carbon. It is a 50/50 blend of Sulphasorb XL™ and Sulphasorb Fe™.



Sulphasorb FeXL™ is used as a roughing filter along with other adsorbent media for cost-effective and complete odor removal.

PureAir custom manufactured and engineered a Dual Train system with two VBS-720 scrubbers. The system was designed to capture the malodorous air through the bottom of the first unit as it passes through a media bed of Sulphasorb FeXL™, then it moves through a header and into the blower of the bottom of the second unit where it encounters another media bed filled with Sulphasorb XL™.

- VBS-720 FRP roughing air scrubber has a 3' media bed filled with 560 cubic feet of Sulphasorb FeXL™
- VBS-720 polishing air scrubber vessel filled with 420 cubic feet of Sulphasorb XL™

Due to the especially large odor volume, our custom engineered units and superior performing media saved the plant considerable maintenance and costs. A standard competitor unit would require frequent media changeouts, leaving the plant with a costly system without the same 99.99% removal efficiency.

The unit was successful in removing escaping odors from the air leaving workers and the surrounding area happy and smell free.