

GES Biotek Advances Headworks Odor Control

with Media Upgrade at Delta Diablo Water Pollution Control Plant



Enhanced Cell-Max™ Plus media, screen, and grating are securely loaded onto a flatbed and shipped off to the west coast.

GES Biotek is proud to announce the successful upgrade of the **Headworks Bio-Scrubber®** system at the **Delta Diablo Wastewater Treatment Plant** in Antioch, California. The project consisted of replacing the existing **Crater-Max®** media with **GES Biotek Enhanced Cell-Max™ Plus (ECMP)** engineered inorganic bio-oxidation lightweight media and installing a newly engineered **fiberglass support grating** and an integrated **TenDrain® underdrain screen system**.

This upgrade represented a **significant advancement** in both media technology and mechanical system design, positioning the facility for decades of continued high-performance odor control.

About the Bio-Scrubber®

The **Delta Diablo Headworks Bio-Scrubber®** is a vertical vessel with an 11-foot internal diameter, a 13.5-foot-deep media bed, and a design airflow rate of 5,200 CFM. The Bio-Scrubber® treats high-strength headworks foul air containing hydrogen sulfide (H₂S), ammonia (NH₃), and mixed volatile organic compounds (VOCs).

Originally commissioned in 2007, the existing Bio-Scrubber® system utilized legacy **Crater-Max®** lava rock media to achieve **high-efficiency H₂S removal** at the facility's headworks. Historical performance data demonstrated **removal efficiencies exceeding 99.7%**, confirming the effectiveness of biological treatment under challenging operating conditions.

Key Improvements

Enhanced Cell-Max™ Plus Media

A next-generation engineered inorganic substrate designed to:

- Support both **autotrophic** (H₂S) and **heterotrophic** (VOC) biological activity
- Provide **exceptionally high surface area** for microbial colonization
- Maintain **structural integrity** under low pH (acidic) conditions
- Deliver **long-term performance** without degradation or compaction

Advanced FRP Support Grating System

- High-strength, FRP **corrosion-resistant** structural platform
- Designed to **handle saturated media loads** while maintaining airflow distribution
- **Eliminates risks** associated with traditional rock support layers

Integrated Underdrain Screen System

- **Prevents media migration** into drainage and recirculation systems
- **Enhances hydraulic performance** and protects downstream equipment
- **Improves long-term system reliability** and maintainability

Performance + Sustainability = Lifecycle Value

The transition from legacy **Crater-Max™** media to **ECMP** represents a major step forward in operational efficiency and sustainability:

- **Significant weight reduction** vs. traditional aggregate media
- **Lower pressure drop**, reducing fan energy consumption
- **Elimination of media degradation**, extending service life
- **Improved biological stability** under variable loading conditions
- **Reduced maintenance** and downtime

This upgrade aligns with **GES Biotek's** commitment to delivering **high-performance, environmentally responsible solutions** using engineered materials derived from 100% recycled glass.

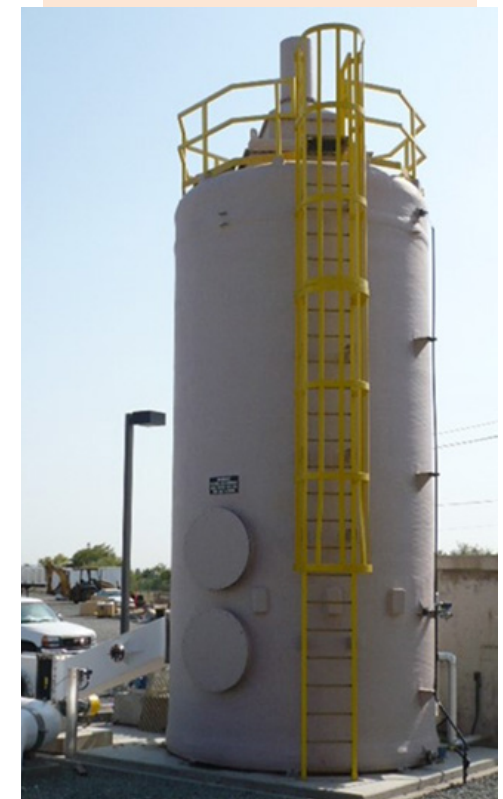
A Proven System, Now Future Ready

The **Delta Diablo Headworks** system has been a strong performer for many years. With the integration of **ECMP** media, upgraded grating, and modern drainage controls, this facility is now equipped with a next-generation biological platform designed for long-term reliability, efficiency, and adaptability to future loading conditions.

GES Biotek, LLC is a leading provider of engineered biological treatment solutions for odor control and environmental applications. Specializing in **advanced inorganic media and system optimization**, **GES Biotek** supports municipal and industrial clients worldwide with innovative, sustainable technologies.



Enhanced Cell-Max™ Plus



Delta Diablo Wastewater Treatment Plant in Antioch, California

GES BIOTEK, LLC — Engineered Solutions for Advanced Biological Odor Control