

## Installations of ENTEX Products

### Seneca Landfill, PA

Seneca Landfill, located outside of Pittsburgh, Pennsylvania, treats all of its wastewater onsite, and discharges directly to Connoquenessing Creek. Entex's BioPortz technology was chosen to upgrade Seneca Landfill's existing wastewater treatment system. Three biotowers in series, each filled with BioPortz Moving Media, were able to successfully treat wastewater with an average ammonia concentration of 1500 mg/L and spikes as high as 5000 mg/L to meet effluent limits of 4.7 mg/L.

Landfill leachate is challenging to treat because it is characterized by extremely high ammonia and BOD spikes. Flow rates can also vary significantly from day to day. Furthermore, Seneca Landfill began to pump natural gas (methane) from wells located throughout the landfill. The natural gas condensate and gas well dewatering water combine to form an additional high-strength waste stream. Also, natural gas condensate sometimes contains toxic loads of metals and other compounds that can destroy the microbiology in conventional activated sludge systems. Attached growth systems, including Entex's BioPortz system, have an inherent advantage when dealing with varying flow rates and toxic loads.



#### Media Installed

A total of 5,040 ft<sup>3</sup> of BioPortz media, with 902,160 ft<sup>2</sup> of protected surface area, was installed across the three biotowers. Construction of the system was completed in winter of 2011.

#### Results

Seneca Landfill is able to successfully meet their permit of 4.7 mg/L by periodically recycling their effluent to the head of the plant on the highest loading days. Further upgrades are planned in order to continue to further increase treatment capacity.