

Perasan eliminates collection system odors near a retirement community in Deming, New Mexico

OVERVIEW

A retirement community located near Deming New Mexico was suffering from septic odors emanating from open vents that equalize pressure in a gravity sewer collection system. The retirement community was built between the city of Deming and the waste water treatment plant located 4 miles to the east. Ever since construction, objectionable odors plagued the community during the summer and fall months. Engineering changes to mitigate the odors had been proposed but were considered too costly to implement.

CAUSE OF ODORS

Lab and field testing done near Deming, both at the retirement community and at the water treatment plant head works indicated conclusively that the objectionable odors were caused by hydrogen sulfide (H₂S). The H₂S formed as a result of partial digestion of organic material by sulfate reducing bacteria in the collection system.

SOLUTION

In order to scavenge existing sulfides and prevent any further production of sulfides, Perasan A™, a 5.6% stabilized peracetic acid manufactured by Enviro-Tech, Modesto CA, was added to the collection system approximately two miles upstream of the retirement community. The Perasan A was added at 15 ppm (as product) via an electric diaphragm pump resulting in a peracetic acid (PAA) residual of 0.5 ppm in the collection system water.

RESULTS

Since the Perasan A program was implemented on June 16, 2003, not a single odor complaint has been filed with the City of Deming. This is the first time in the City of Deming's history that odor complaints have not been filed at least monthly during the summer months. The City has now concluded three consecutive years without an odor complaint. Other benefits of the Perasan A program include:

- Reduction in corrosion in the treated collection system pipes.
- Decreased sulfide and odor at the waste water treatment plant (WWTP) head works.
- Improved operation at the WWTP including better dissolved oxygen and sludge settling.
- The City of Deming was able to avoid large capital expenditures that would otherwise have been needed to reduce odor.
- The elimination of odor has created a better business environment leading to increased development and tax revenue for the City of Deming.

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