

Case Study: Increase in Flow for Small Plant Leading to EPA Fines

INTRODUCTION:

A small town in Arizona, directly on the Mexican border is held to zero deviation tolerance levels with their effluent standards because their effluent flows directly across the border. The stringent EPA regulations and monitoring were leading to fines as this small town began to grow.

INVESTIGATION:

The small package plant was initially designed for a 750,000 GPD (gallons per day) flow rate with an influent loading of 250 BOD.

As population, industrial and commercial sectors all grew, the average daily flow had increased to 1,000,000 GPD with the BOD levels fluctuating between 390 and 450 BOD.

With zero tolerance on effluent standards allowed, the plant began to fail and the EPA was beginning to level fines.

IMPLEMENTATION:

Working with United's Wastewater Specialists, a combination of enzyme and bacterial treatments were put into place to help control the grease load, organic buildup and the BOD load. In combination, these products were all introduced to help augment the existing biological treatment already in place.

Products used included:

- **United 984 LIBERATOR Bacterial Treatment** – Installed near the end of each wastewater collection line and in any heavy grease areas to provide natural bacterial action.
- **United 756 LIFT-ZYME Wastewater Treatment for Sanitary Collection Systems** – Used to provide enzyme activation in cleaning troublesome line.
- **United 893 KONVERT-A-ZYME Wastewater Control and Degassing Agent and United 896 OXY BLUE Odor Eliminator** – Used to control H₂S gas.

RESULTS:

By following best management practices to the greatest extent practicable, the plants BOD levels were reduced to an average of 195 BOD and the improvement was sufficient to alter the fines to a consent decree, eliminating fines if this was maintained, while working toward a long term resolution.

CONCLUSION:

While the treatment program put in place could not do anything about the higher water volumes, the BOD levels and effluent were maintained at required levels for two years. This allowed the community the time they needed to go through bidding and grant processes to build a new plant that could handle the additional load and allow for future growth as well. The new plant is now in operation.