

Reducing Sludge using BIO ENERGIZER®

CASE STUDY

Location: New Mexico Small Municipal Wastewater Treatment Facility

Problem

A small town in New Mexico (pop. 1,300) had a municipal wastewater system with a flow rate of 50,000 gallons per day. The system included a series of three lagoons that tapered to a depth of 13 feet. Pond 1 had an average sludge depth of 1.9 feet, Pond 2 averaged 3.5 feet, and Pond 3 averaged 2.7 feet. The system was in need of reducing the sludge in its lagoon wastewater system to meet state requirements. Dredging costs were more than the town could afford, and an alternative method for dealing with sludge accumulation issues was needed.

Solution

A 6-month test (later extended to 300 days) was developed in which BIO ENERGIZER® was administered to make nutrients more available to wastewater microorganisms, thereby stimulating natural sludge reduction. The test initially involved treating Pond 1 at a dosage of 7 ppm; however, during the treatment period the system operator determined that it would be very beneficial to treat both Pond 1 and Pond 2, as the lagoon system had historically utilized Pond 2 more than Pond 1. The dosing amount was split between the two ponds, so that 2 ppm was administered to Pond 1 and 3 ppm was administered to Pond 2. After 6 Months 1 ppm was administered to Pond 3 to facilitate greater sludge reduction. Sludge-judging occurred monthly and sludge levels were tracked at 9 collection points across 3 cross-sections to follow the reduction of sludge in each system.

Resolution

At 10 months the average sludge depths of the ponds were found to have continually reduced: Pond 1 from an average depth of 1.9 feet to 1.6 feet, a 12% reduction; Pond 2 from an average depth of 3.5 feet to 2.3 feet, a 36% reduction; and Pond 3 from an average depth of 2.7 feet to 2.1 feet, a 24% reduction. The cumulative effect was demonstrated when the focus of treatment changed from Pond 1 to Pond 2 and Pond 3. Based on the progressive reduction of 300 days, it is estimated that there will be a continuation of sludge reduction with continued use of the product. By reducing the accumulated solids in its lagoons, the town is regaining lost capacity to better handle the incoming flow and meet its permit requirements without dredging.

Product Information

Probiotic Solutions® BIO ENERGIZER® is a formulation of nutrients, organic acids, natural biological stimulants, and energy systems that balance the natural microbial ecosystem to increase bio-oxidation capacity in lagoon systems. BIO ENERGIZER® is a broad-spectrum bio-activator containing over 30 essential microbial growth-promoting ingredients. By design, BIO ENERGIZER® is a balanced formulation of vitamins, trace nutrients, enzymes, organic acids, and biostimulants that stimulate the existing microbial community to greater metabolic capacity and efficiency. BIO ENERGIZER® is not a bacterium nor an inoculum.

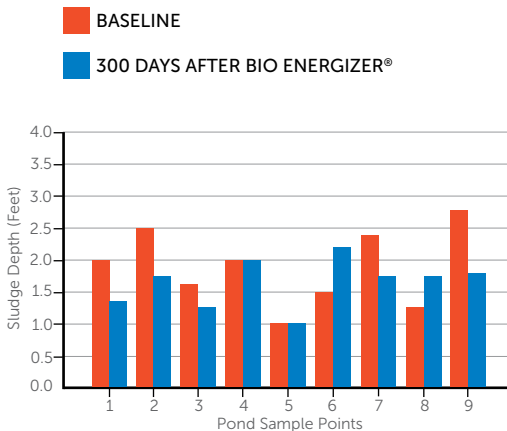


Figure 1. **Pond 1** Sludge Depth (in feet) at Baseline (red) and 300 Days (blue), 9 Sample Points

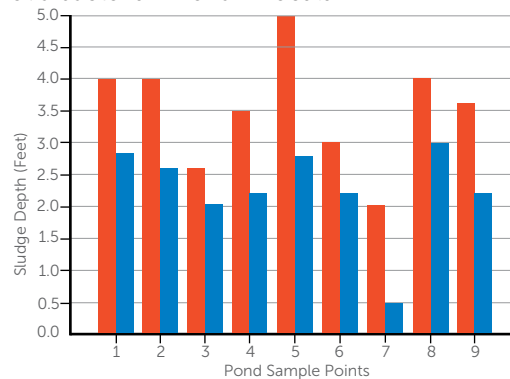


Figure 2. **Pond 2** Sludge Depth (in feet) at Baseline (red) and 300 Days (blue), 9 Sample Points

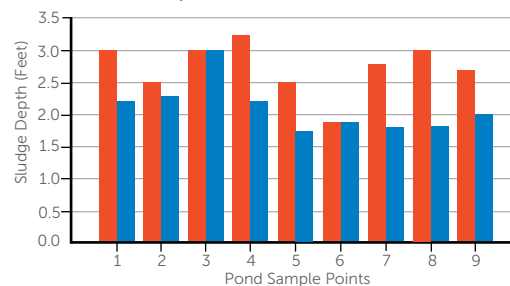


Figure 3. **Pond 3** Sludge Depth (in feet) at Baseline (red) and 300 Days (blue), 9 Sample Points

Probiotic Solutions® Product Information

For many years wastewater operators have continued to use BIO ENERGIZER® to cut sludge hauling costs.

Operators Using BIO ENERGIZER® Report:

- 1) Increases in BOD removal efficiency.** BIO ENERGIZER® improves treatment plant BOD removal efficiency to increase plant treatment capacity and more easily meet effluent requirements.
- 2) The elimination of expensive dredging costs.** BIO ENERGIZER® converts sludge into gases and water, reducing sludge accumulations. No draining, drying, excavating, or inconvenient down time.
- 3) The reduction of odors and aeration costs.** BIO ENERGIZER® enhances aerobic and facultative biological ecosystems to reduce the production of objectionable and offensive odors and enhances dissolved oxygen levels, which decreases the need for aeration.

BIO ENERGIZER® enhances endogenous respiration for faster and more complete oxidation of sludge into carbon dioxide and water.



Our Probiotic Solutions® Products

are Highly Efficient and Effective Due to Our Unique Delivery System

Call Toll Free Today for Your Free Quote and System Evaluation.

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