

## BIO ENERGIZER® Reduces Sludge at Small Municipal Facility

### CASE STUDY

Location: Utah Small Municipal Wastewater Treatment Facility

#### Problem

A small town in Utah (pop. 1,800) had a municipal wastewater system with a flow rate of 192,000 gallons per day. The system included a series of four lagoons that tapered to a depth of 6 feet, although at this time only Ponds 1 and 2 were being evaluated for treatment as they were in use. The influent consisted of domestic waste as well as septic. Pond 1 was specifically being addressed due to State mandate. In a 2014 sludge judge performed by the local Rural Water Association, Pond 1 had an average sludge depth of 2.7 feet and Pond 2 averaged 1.9 feet. In 2016 the surfacing sludge prevented a sludge judge from being performed. The system was in need of reducing the sludge in its lagoon wastewater system to meet state requirements quickly in preparation for additional capital changes to the system. Dredging costs were more than the town could afford, and an alternative method for dealing with sludge issues was being sought.

#### Solution

An 8-month treatment plan was developed in which BIO ENERGIZER® was administered to make nutrients more available to wastewater microorganisms, thereby stimulating natural sludge reduction. The treatment started with Pond 1 in March 2016 at a dosage of 7 ppm, with the

intent of aggressively reducing solids due to pressure from the State. A follow-up sludge-judge was performed again by the local Rural Water Association in October with 114 points across Pond 1 as well as 61 points across Pond 2 to follow the reduction of sludge in each system.

#### Resolution

At 8 months Pond 1 sludge was reduced from 2.7 feet to 1.5 feet, or 44.1%. Pond 2 sludge was reduced from 1.5 feet to 1.02 feet, or 45.0%. This translated to a total of 4.5 million gallons of sludge being removed from Pond 1 and 1.8 million gallons of sludge from Pond 2, although Pond 1 was the only one receiving treatment. This is the equivalent of 438 truckloads of sludge being removed.

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.



Figure 1. Pond 1 at Baseline



Figure 2. Pond 1 after 8 months of BIO ENERGIZER®.

## Probiotic Solutions® Product Information

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

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.

For more information, go to [www.probiotic.com](http://www.probiotic.com).

### 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

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