

Case Study

Belt Filter Press - Lagoon Dewatering

Application:

- Meat Processing Facility Waste Water Treatment Lagoon
- Lagoons had not been Fully Cleaned in >20 Years
- Estimated 35,000,000 Gallons of Anaerobic Waste Activated Sludge

Objective:

To develop a reliable, cost-effective dewatering solution for anaerobic waste-activated sludge generated by a meat processing facility. The sludge, consisting of 4–6% solids, was being hydraulically dredged from lagoons and land-applied annually. However, tight land application windows, especially during inclement weather, made it difficult to remove enough sludge to keep pace with yearly production. Contract dewatering services were deemed too expensive, and most equipment suppliers lacked both hands-on operational knowledge and confidence in their equipment's ability to handle the site-specific conditions. Additionally, the customer required stainless steel construction for durability and resistance to high/low pH materials—something many suppliers could not offer. This case study explores how Bright Technologies addressed all of these challenges with a tailored, full-process dewatering solution.

Solution:

- Two 2.2 Meter Skid Mounted Belt Press custom designed for onsite lagoon work and set up on open trailers for transportation and onsite operation.
- Sebright analyzed the site and suggested a plan for proper equipment usage, placement and coordination that maximized efficiency.
- Sebright trained the owner's operators and offered valuable process assistance.

Results:

The implemented dewatering solution delivered outstanding results, processing sludge at a combined rate of 500 gallons per minute (250 GPM per unit). The system consistently produced cake solids between 19–22%, typically exceeding 20%. Average production rates surpassed 5 tons of dry solids per hour per unit—over 5,000 pounds each.

By enabling sludge removal during the "off season" for land application, the facility gained flexibility and efficiency in their operations. The three- to four-year plan to clear the lagoons is now on track, with significant cost savings realized compared to contract dewatering services. Sebright Products' equipment and hands-on support not only met but exceeded all expectations, providing a robust, high-performance solution tailored to the customer's unique needs.

Conclusion:

Sebright Products' custom dewatering system successfully addressed the complex needs of the meat processing facility, delivering 500 GPM throughput and over 5 tons of dry solids per hour. By enabling off-season sludge removal, the plant avoided weather-related delays and land application constraints. High cake solids (>20%) improved handling, while stainless steel construction ensured long-term durability. With hands-on support and training, the customer gained confidence in the process, eliminated costly contract dewatering, and kept the sludge removal plan on track—proving the value of a tailored, high-performance solution.



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