

## CASE STUDY

# Sugar Processing - Wash Water (Mud Underflow)

CEN DREDGE TECHNOLOGIES

## Project Story

Allied collaborated with a international sugar producer to address a critical challenge: efficiently managing mud underflow from clarifiers without the need for lagoon ponds. The producer sought an innovative solution to eliminate the environmental and operational costs associated with traditional waste management practices using dredges. By integrating a high-performance centrifuge system, Allied introduced a sustainable approach to separate and dewater the underflow, transforming the process into a more efficient and environmentally friendly operation. This groundbreaking solution marked a significant advancement in waste management within the sugar industry, aligning with the producer's commitment to operational excellence and environmental stewardship

## Approach

Using the DX200 demonstration package, Allied established a full-scale pilot in collaboration with the client's operations team at their facility. From the clarifier underflow, we slipstreamed the slurry originally bound for the lagoon into the centrifuge, where we conducted tests at varying speeds, feed rates, and polymer dosages to optimize performance.

## Results

Using and Allied Centrifuge package, we proved that a larger machine can be installed to manage the underflow and eliminate the need for a lagoon settling ponds. By eliminating ponds, the client will no longer require heavy machinery and contractors to dewater the solids and the existing water treatment plant can recycle the centrate from the centrifuge.

## At A Glance

### Challenges

- Large costs to dewater lagoon ponds using excavators and dump trucks
- Fuel consumption for contractor machines

### Benefits

- Eliminate settling ponds by separating solids from the underflow stream
- Recycle water using existing infrastructure
- Eliminate the need for contractors and heavy machinery



## Solution for coal fines

Moving into a commercial project, Allied would recommend the use of the G Series Centrifuge. With Bowl diameters up to 40", these machines have the experience of running harsh and aggressive processes like drilling, tunneling and sand.



Allied Centrifuge Technologies G7 (22") as shown

Allied Industrial Dynamics is a processing solutions company. Helping businesses tackle unique slurry processing applications. Providing high quality manufactured separation equipment and rotating equipment.

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Unit	Hydraulic Feed Capacity	Phase	Empty Decanter Weight	Beach Angle	Total Installed Power	Bowl Diameter
<b>GX3</b>	1-10 M3/h (3-44 gpm)	2	900 kg (19841 lbs)	6°	15hp	254 mm (10")
<b>GX4</b>	60 M3/h (264 gpm)	2	3373 kg (7437 lbs)	6°	75hp	356 mm (14")
<b>GX6</b>	120 M3/h (528 gpm)	2	4536 kg (10000 lbs)	7°	120hp	457 mm (18")
<b>G7</b>	156 M3/h (686 gpm)	2	7552 kg (16650 lbs)	6°	180hp	559 mm (22")
<b>GX8</b>	180 M3/h (793 gpm)	2	8460 kg (18650 lbs)	7°	200hp	660 mm (26")
<b>GX9</b>	240 M3/h (1056 gpm)	2	10886 kg (24000 lbs)	7°	260hp	762 mm (30")
<b>GX10</b>	545 M3/h (2400 gpm)	2	18143 kg (40000 lbs)	7°	400hp	1016 mm (40")