PROJECT:

Removing Dry Tons from Texas Water Treatment Lagoons

CHALLENGES

Remove up to 200,000 dry tons from two water treatment backwash lagoons. Lagoon 1 was no longer in use and dry, with over 10 feet of sludge representing approximately 50,000 dry tons. Lagoon 1 material had to be excavated and loaded into trucks for disposal. Lagoon 2 was still actively being used, but nearly full with approximately 150,000 dry tons of solids that needed to be hydraulically dredged and dewatered before transportation to the landfill.

BACKGROUND

The treatment plant services a major city in Texas and is essential to the population of the city. The Bachman plant treats up to 150 million gallons of surface water each day.

DREDGING & DEWATERING

Project location:	Texas
Quantity of sludge dredged:	200,000 dry tonnes
Project date:	2022

SOLUTION DEVELOPED

For Lagoon 1, APG found that due to saturation, the bottom of the lagoon was not stable enough to support equipment for excavating the solids. After starting the project and discovering the instability of the lagoon floor, APG re-evaluated and, in a short period, developed a plan to excavate the solids from the top surface of the sludge layer, and sourced and mobilized adapted equipment. This plan saved the project's budget, was completed on schedule, and resulted in hauling up to 100 22-ton truckloads of solids to the landfill in a day. APG removed almost 50,000 dry tons of solids in this fashion.

The volumes in Lagoon 2 were so large, that to meet the project milestones, APG used 8 large bowl centrifuges to dewater the solids. The centrifuges achieved over 50% dry cake solids dewatering, and trucks hauling the solids to the landfill were filled in less than 15 minutes, with 60 to 75 trucks loaded each day of processing. The overall project was completed 3 months ahead of schedule and under budget.