



CASE STUDY:

AGGREGATE TAILINGS

Eliminating tailings with advanced separation



Project Description

In the summer of 2022, Apex undertook a centrifuge project to process thick slurry waste that had accumulated at the bottom of a deep cone thickening tank at a major aggregate processing plant. The accumulated fine particle sludge was causing increased torque on the raking mechanism and was being pumped off to tailings ponds every few hours.

Apex successfully used centrifugation to mechanically separate recyclable water from solids and continues to apply this approach and expertise to solve environmental challenges for aggregate processing customers.

Eliminating Tailings Ponds at an Aggregate Plant

The Challenge

An aggregate wash plant was experiencing costly shutdowns because a significant quantity of fine particle sludge was accumulating in the bottom of their deep cone thickener tank. This thick sludge increased torque on their raking mechanism to the point where they were required to shut down the washing process multiple times per day to pump the thick sludge from the thickener into tailings ponds. The tailings themselves also posed a significant problem due to their size, volume, and long-term remediation expense.

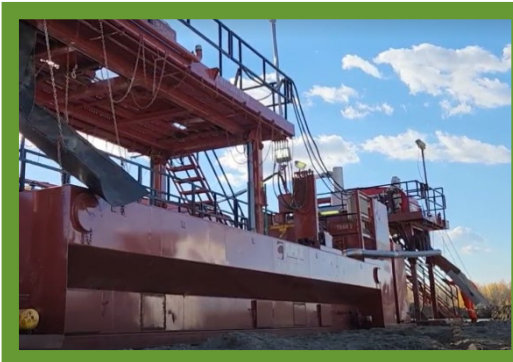
When the customer approached Apex for a solution, they had run out of storage capacity in their tailings ponds and were days away from being inoperable. As a provider of scalable, engineered environmental solutions, Apex was able to mobilize within 24 hours of receiving the call and implement a full-scale sludge processing system that returned recycled water to the wash plant and produced dry solids for spreading on site.

SPEAK WITH AN EXPERT TO FIND OUT MORE:

1.877.347.1628 | apexsiterentals.com



INNOVATION | ENVIRONMENT | SAFETY | SERVICE



The Solution

Within hours of receiving the call, Apex had equipment loaded and, on the road, headed to the clients work site. Apex technicians were onsite the following morning and had the system set-up and processing sludge from the bottom of the deep cone thickener tank by mid-afternoon.

The set-up consisted of a Lynx 40 centrifuge mounted on a hydraulic stand above a specialized all-in-one clarifier tank that included mix tanks, a polymer feed system, pumps, sludge guns and suction controls. Apex also supplied a generator so get the system up and running as line power was not available.

The Results

After Apex arrived onsite, the aggregate plant was able to operate continuously. The rake torque in the deep cone thickener remained below 40% and no sludge was pumped into the tailing's ponds. An Apex crew consisting of two operators processed sludge 24 hours per day eliminating any downtime at the wash plant.

The Apex equipment provided a fully closed-loop system eliminating all fluid discharge to the environment. All water was recycled back to the wash plant for reuse, and the removed solids were dry, stackable, and able to be stored on site as solid fill.

SPEAK WITH AN EXPERT TO FIND OUT MORE:
1.877.347.1628 | apexsiterentals.com



INNOVATION | ENVIRONMENT | SAFETY | SERVICE