Case Study

Continuous Improvement Project Leads to Big Savings in Sludge Disposal Costs

Situation

- An OEM facility was experiencing high incineration and freight costs for paint sludge disposal

Background

- Galaxy replaced another chemical supplier at an OEM facility. Once the start-up conversion was completed, Galaxy implemented a continuous improvement program.
- Galaxy discovered that the facility was experiencing high disposal costs due to low solids sludge

Solution

- Galaxy audited the system and found problems with the sludge dewatering equipment, sludge consolidator and lab testing procedure
- Galaxy found that the lab procedure was giving erroneous readings due to large sample size and short drying time. The OEM purchased an ASTM approved total solids analyzer.
- Phase one: The plant was not running the blowers on the vacuum assist filter because they found no benefit to the sludge solids. Galaxy found that the original filter installation did not properly set the hydraulic seal on the filter which prevented the filter from pulling a vacuum. The seal was extended below the pit water surface. The vacuum blowers were started and then were able to generate a vacuum. Note: This equipment company is no longer in business.
- Phase two: The consolidator had a rotary strainer that was plugged and no longer working to help dewater the sludge prior to the filter. Since the consolidator discharged the sludge by increasing the water level in the consolidator, this caused a deluge of water to hit the filter and overflow the filter. The sludge discharge from the consolidator was replaced with a mechanical scraper.

Results

- Since this process was completed in phases, the plant went from generating very little sludge to dry sludge over a period of six months
- Phase one: The sludge solids removal increased dramatically. Sludge cake is now able to build to **25.4%** using a gravity drain.
- Phase two: Repairing the blowers and installing scraper gave them a **57.7%** sludge cake

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