KGI Kalluri Group, Inc.
Consulting Engineers & Project Managers

Industrial

High Silica Wastewater Treatment

AstraZeneca | Coppell, Texas

Project Description | The manufacturing facility generates high silica and low silica wastewaters. The low silica wastewater is disposed of to Publicly Owned Treatment Works (POTW) sewer system. To prevent plugging of sewers with silica gel, AstraZeneca hauls the high silica wastewater off-site at $1.00 per gallon without any on-site silica treatment.

Services Provided | AstraZeneca hired KGI to evaluate high silica wastewater treatment alternatives, perform laboratory scale and pilot scale studies, and design a full-scale high silica wastewater treatment plant.

A treatment technology screening was performed, and the following technologies were considered for further evaluation: Treatment by Dilution, Chemical Precipitation, Neutralization with Adequate Mixing at Ambient and Elevated Temperatures, Thermal Evaporation/Crystallization, and Neutralization and Precipitation of Silica. Based on "Phase 1 – Conceptual Study" and laboratory scale studies, "Neutralization at Ambient Temperature followed by Vacuum Filtration". KGI will be performing pilot scale studies, preliminary design, assistance in procurement of major equipment, detailed design and assistance in commissioning and start-up.

Date Completed:

Ongoing

Construction Cost:

$4 - 5 Million

Client or Owner's Rep:

Mr. Brad Sheffield, PE
Project Manager

Highlights:

- ✓ **Process Selection, Innovation and Cost Savings**
- ✓ **Laboratory, Pilot Scale Studies**
- ✓ **Conceptual, Front End Engineering & Design**

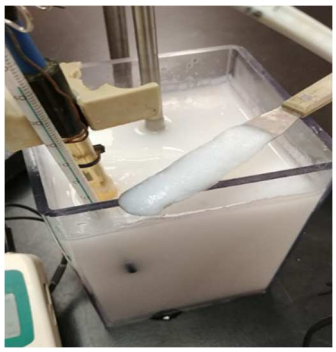

Photo: *Laboratory Scale Studies*