



# AST Case Study

## FACULTATIVE LAGOON POLISHING

### Project: Pilot RCPG System for Facultative Lagoon Polishing

#### PROBLEM:

Recently, rural and decentralized wastewater treatment systems discharge standards have been tightened to the point that the traditional treatment methods are being found to be inadequate. These systems, such as facultative lagoons, are being required to meet strict BOD and ammonia standards. This push for cleaner discharges is pushing these municipalities to either implement tertiary polishing systems or upgrade to expensive mechanical plants, which many small communities cannot afford.

#### SOLUTION:

AST provided a trailer mounted pilot scale test unit to pull a side stream off of the current waste stream. This pilot system included one 10 ft<sup>3</sup> Recirculating PolyGeysers® (RCPG) unit, a 1 hp regenerative blower, and a linear air pump. The RCPG 10 is run completely pneumatically. It contains a 10ft<sup>3</sup> packed bed of Enhanced Nitrification (EN) media that provides solids capturing and biological filtration. The unit ran for 6 months while data was collected for BOD and ammonia influent and effluent concentrations.



10 ft<sup>3</sup> Recirculating PolyGeysers unit, 1 hp regenerative blower, and linear air pump.

- SYSTEM BENEFITS:**
- High efficiency
  - Low O&M
  - Automated Non-Mechanical Backwash
  - Simultaneous Mechanical & Biological Filtration

- APPLICATIONS:**
- Municipal & Industrial Wastewater
  - High Strength Waste
  - Pristine polishing

### RESULTS:

AST's RCPG lines of filters are very efficient at mechanically and biologically filtering a wide variety of waste streams. The Pelahatchie waste stream was an excellent test of the unit's ability to consistently produce the stringent effluent quality waters that are becoming more common across the rural United States. The filter continued to produce dischargeable quality effluents throughout the 6 month test period.



Influent & effluent samples.

### STATS ON THE UNIT PROVIDED:

Parameter	Influent Quality	Effluent Quality
Flow (GPM)	5 - 10	
BOD (mg/L)	11	2.4
Ammonia (mg/L)	5	0.6

### FUTURE PROJECTS/PARTNERSHIP:

Currently plans are moving forward to implement the full scale design for this system.

If you have questions about AST's filtration systems or you would like to learn how we can help with your filtration needs, please call us at **1 (504) 837-5575**. We would be happy to help you size a system of your own.

