The Issue
Argo’s Tocumen Ready Mix Plant in Panama City, Panama was suffering from an issue facing concrete producers in the industry today — how to recover water and produce stackable/manageable waste solids from washout slurry. Washout slurry is generated when mixer trucks return from a delivery and discharge the excess concrete and water left over in the truck’s drum. Typically waste slurry occupies valuable space in a ready mix plant, is expensive to clean and represents an environmental or regulatory liability.

The Solution
Tons Per Hours (TPH) was contacted in 2014 and asked to provide a solution to reduce or eliminate fine waste slurry, and recover the water from mixer truck washout.

TPH provided a membrane filter press with an automatic cloth washing mechanism and feed pump. The system is completely automated utilizing an Allen Bradley® Programmable Logic Controller (PLC) with a touch screen (PanelView®) control. TPH also designed a clarifier/thickener that allowed the customer to utilize existing assets to concentrate and hold cement slurry, thus reducing the number of filter press cycles required.

Results
The TPH system provides crystal clear filtrate water for re-use in the plant, and dry, stackable/manageable, waste solids. This is done with minimal operator involvement. The TPH system significantly out-performs the previous ready mix concrete reclaim system that was previously in use at this plant.

Customer Profile
Argos is a multinational company that produces and markets cement and ready mix concrete through its operations in Colombia, the United States, Central America and the Caribbean.
Quality liquid-solid separation is critical to business operation due to the modern focus on natural resource stewardship and water conservation, environmental restrictions, and water resource management. Tons Per Hour, Inc. (TPH) is your one-stop solution for all industrial liquid-solid separation needs with offices in North and Latin Americas. Tons Per Hour proudly serves these industries:

- Sand and Gravel Operations
- Industrial Minerals
- Municipal Waste Water Treatment
- Ready Mix Concrete
- Fly Ash Dewatering and Impoundment
- Oil, Gas and Coal
- Fracturing Sand & Proppants

Deploying Tons Per Hour solutions yields manageable, dry solid stackable cake and clear reusable water. Twenty five years of industry expertise ensure effective solutions to common problems and customized solutions alike. Slurry impoundments that are full or nearing capacity are effectively rendered obsolete by converting slurry water into clean, reusable process water and dry stackable cake.

Our partner, Jingjin Environmental Protection, is the world’s largest manufacturer of filter presses. With them, we have developed proprietary operations algorithms that yield results unmatched in the industry. Our presses and plates are manufactured to ISO 9001 and ISO 14001 standards, and meet the Occupation Health and Safety Assessment Series specification (OHSAS 18001).

TPH and Jingjin offer the greatest selection of filter press designs of any other company in the world. The range includes presses with capacities from 1 cubic foot and up to 30 cubic yards of solids per cycle. Multiple cycles per hour, determined by feed material specification, are achieved by the quick opening design.

TPH offers stationary and mobile system solutions for most liquid/solids separation needs as well as custom fabrication of tanks, thickeners, clarifiers, feeders, sumps, conveyors and other fabricated steel products. Each piece of TPH equipment is custom engineered and designed, and can be wet-stamped when required.

Quality liquid-solid separation begins with an initial consultation at your plant. After reviewing your existing operation, we will provide a comprehensive assessment, and then design and engineer a system specific to your needs. Working with our customers in tandem, we leverage the full range of products at our disposal: filter presses, belt presses, thickener-clarifiers, flocculent preparation, metering systems, pumps, dewatering screens, and a complete line of liquid-solid separation chemistry options.

TPH can perform each project phase, from permitting to foundation, construction, installation and training. Even though our systems are 100 percent automated, we provide complete training and education to your team to ensure the success of the system. Later, our professional customer support and service team will be made available for continued assistance for the life of the system. Optionally, TPH can provide expert consultation and repair services on existing presses, and can also offer presses for rent or demonstration.

TPH/Jingjin specialize in solid-liquid separation, tailings management and mine slurry systems.