



Bulk Tank Polymer Hauler Uses Economical Separator — Wins State, Local Ecological Awards



It's no secret that California has the toughest environmental regulations in the nation. So when Trimac Transportation Company of Hayward, Calif., announced it had been awarded a Certificate of Merit from the California Water Environment Association and the Hayward Environmental Achievement Award for "Industrial Wastewater Control," it was a major accomplishment.

Trimac is a highly respected bulk tank hauler dedicated exclusively to delivering liquid polymers for Rohm & Haas, an international latex producer. After each delivery

Following deliveries of latex, 20 to 25 of these bulk liquid carriers per day are flushed to remove all traces of the viscous liquid polymer, placing high demands on Trimac's waste treatment system.

of the viscous liquid polymer, the stainless steel tank cars have to be thoroughly cleaned to remove any solid material that may have adhered to the tank walls. This is no easy task, and production facilities have to handle 20 to 25 of these mammoth trailers per day.

The process requires high pressure washing of the tank interiors to make sure that the thin film residue on the inner shell of the tank and all other traces of the hardened latex are removed. City water is used for this purpose — approximately 160,000 gallons per month. The waste stream, containing multi-shaped pieces of the solidified polymer, drains into a holding tank from which it is pumped to a 48-in. stainless steel Vibroscreen® single deck, circular screen separator by Kason Corp. of Milburn, N.J. Prior to installation of the separator, this stream had been pumped directly into the municipal sewer system. Since city and state regulations demand constant monitoring of the effluent, and payment to the municipality is based on a complicated formula that measures the percentage of solids as well as the volume of water, Trimac's sewage charges were extremely high. In addition, the environmentalists were concerned about the solids particle count which averaged 8,000 parts per million gallons — approximately eight percent.

Plant manager Terry Gillit was determined to cut his sewage costs and satisfy the environmental needs at the same time. After a series of meetings with Ron Tremayne of Burlingame Engineers, the regional Kason Corporation representative, they decided to install a vibratory screen separator sized to continuously handle the flow of solids-laden waste being pumped by a diaphragm pump at flows to 158 gallons per minute.

The Kason separator utilizes multi-plane inertial vibration motion in conjunction with carefully selected screens of various mesh sizes to achieve precise liquid/solids and solids/solids separations. Various screen sizes were tested for this application. The original stainless steel screen was specified in 32 mesh tensile bolting cloth. Its 610 micron aperture proved unsatisfactory, because it permitted too great a percentage of

solids to pass into the sewer system. They then experimented with a 72 mesh TBC screen. The solids content was cut, but not enough to satisfy Gillit. Finally, they switched to a 105 mesh screen, with an aperture of 165 microns. This proved to be the answer, reducing the solids content by 50 percent and providing a significant saving in sewage costs.

The Kason screen separator is designed so that all material contact components are constructed of type 304 stainless steel. All wetted gaskets are furnished in white neoprene.

To reduce the impact of the incoming feed on the screen, the unit was equipped with a special splash cover and a velocity breaker. This modification greatly extends screen life without interfering with the rapid discharge of the oversize particles. A rubber buffered plough mounted in the spout area of the top frame encourages oversize material to discharge without clogging. For mobility, the rugged Kason separator is mounted on a modified base with four heavy duty lockable casters.

As Terry Gillit proudly points to the state and city awards for meritorious service in behalf of the environment, and the economic benefits to Trimac, he is quick to say that he has no intention of resting on his laurels. He and Ron Tremayne are reviewing the possibility of further reducing the solids content by additional screening as well as cutting water usage by recirculating the water used for cleaning



This stainless steel, 48-inch single deck, circular screen separator handles 158 gallons per minute of solids-laden waste.

and screening prior to sending it into the sewer system. For these to be economically feasible, a balance must be found between anticipated savings in water usage and the higher cost of maintenance should the high pressure spray nozzles become clogged. One thing is certain. Trimac is determined to improve production efficiency while simultaneously cutting costs and serving the ecological needs of the community.

For further information, phone Kason Corporation at 973-467-8140 or write in 1110 on this issue's Reader Service Card.