Waste Treatment System At Forem

Favir unit uses air flotation to separate oil particles from water. Sludge collected by skimmers will be incinerated. Water goes on to two lagoons where areation takes place.

One of the lagoons used for aeration. In this importan water treatment process, large aerators throw the into the air enabling it to pick up oxygen.

A waste water treatment system which eliminates the disposal problem and at the same time provides badly needed additional water for production processing is in operation at Fieldcrest Mills' Foremost Screen Print plant at Stokesdale.

The system is unique in that it recycles 100% of the waste water, reclaiming for repeated use all but a small amount lost through evaporation and infiltration. The only new water added each day is that used for domestic purposes.

The Foremost plant uses several thousand gallons of water per day in screen printing sheets, towels, bedspreads, etc. Because no public water supply is available, the plant must rely on deep wells on the premises to provide water for processing and for domestic use. Since the plant was established in 1963 seven wells have been dug, but only four of the wells produced water.

Foremost faced the dilemma of a limited supply of water with steadily increasing requirements for water. Another, more long-standing, problem was that of waste disposal. For a period of years, the plant worked on the problem, employing various methods of disposal.

Process changes and growth made waste treatment increasingly difficult. A troublesome part of the problem was the fact that waste water from the screen printing process contains dye pigments in an emulsion with adhesives and thinners. The thinners contain petroleum which is hard to separate and remove in the waste treatment process.

The recently-completed system solved both problems. The new set-up, one of the first of its kind in the nation, combines six accepted methods of water treatment: air flotation and skimming, extended aeration, chemical coagulation, filtration, chlorination and incineration.

An incinerator is on order for disposing of solid matter consisting of dye pigments skimmed from the water. The sludge is to be burned by a gas flame in a process meeting all of the standards of air pollution control.

To begin its journey through the system, domestic and mill waste flows by gravity to a collection tank from which it is pumped at a constant rate through air flotation skimming tanks. Here, the pigmented sludge is separated from the water and will later be disposed of by incineration.

The water flows from the treatment tank to an aerated lagoon where aerating and mixing is done by electrically powered aerators. At this point, a portion of the water is recycled through the collection tank and separator for the purposes of dilution, to balance the system and inoculate other waste.

The remainder of the water a second lagoon where addition tion takes place. The water th to a lift station where it is pu a chemical water treatment pla chemical coagulation removes and turbidity.

From this precipitator, th flows through regular water pl filters to remove any small that did not settle in the ta water is then chlorinated and linity adjusted as it flows to a gallon clean water storage tank.

From this tank, the water is back into the plant for re-use duction processing, the cycle be stantly repeated. While the water has the clarity of city is used only for process purpose water from the deep wells is drinking water.

To make sure that all parts an ment are functioning prope pumps and control points are el monitored and an annunciato alerts the operator whenever ment fails to operate properly off.

The system was designed b crest engineers who had the ad assistance of outside engine

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