

WILSON WATER PURIFICATION CORP.,
April 17, 1968.

Representative JOHN A. BLATNIK,
House Public Works Committee, House of Representatives, Washington, D.C.

HONORABLE SIR: We talked with Mr. Tobin with regard to filing a brief descriptive of the Wilson Anti-Septic Sewage Disposal System for watercraft. It was our idea to make sure that your committee understood there is competition in the field who have solved the problem of safe sewage disposal on the rivers and Great Lakes.

We therefore, respectively submit that our product is known as the Wilson Anti-Septic Sewage Disposal System. It cannot be classified as a macerator-chlorinator type, its design is a sort of hybrid or a cross between the holding tank and macerator-chlorinator. In this case the holding tank is a sterilizing tank, i.e. an "on board" disposal system. This apparatus, we believe is a complete answer to all of the troubles with macerator-chlorinators that were mentioned in the report handed down in Document #48, and to substantiate this we are submitting certain technical data and test reports, etc and will include drawings and descriptive matter.

We worked on this project for about four years, and since our conception of what a sewage treatment plant for watercraft should be, involved complete sterilization we soon found that it could not be done by maceration and chlorination only. Our final designs include Maceration, Filtration and Chlorination with rapid re-circulation.

Chlorine is the basic factor in the sterilization of sewage and it is a well known fact that chlorine cannot penetrate solids, therefore, maceration and re-maceration is used to break down the solids. The sewage then passes through a filter which stops any floating or unmacerated organic matter as well as inorganic particles, such as cigarette butts, fruit pits, fibrous matter, etc., with the result that the water comes through practically clear, and when in this condition chlorination can really do effective work.

This is no doubt the reason why with our installation at Hartford, Illinois, we get practically a sterilized effluent. The two reports of Scientific Associates, Inc. of St. Louis, copies of which are enclosed, September 22, 1967 and March 20, 1968, are very consistent and show that coliform, bacteria and suspended solids are almost nil, or far below any standard specifications as published to date by the U.S. Engineers, etc that remaining biological matter is negligible.

The only item left with any degree of uncertainty is the question of BOD and leading authorities (Olin-Mathieson) have published claims "that with 0.2 ppm chlorine after 10 minutes contact will reduce BOD of effluents by about $\frac{1}{3}$ ". If the dosage at 4. to 6. ppm are used (our recommendations) the BOD would be reduced to an estimated 85%. However, BOD does not seem to be too much of a factor since any BOD remaining would be absorbed in the receiving waters.

The remaining undissolved solids and inorganic matter is all in sterile condition and may be removed about every two months by bilge pump. Both ends of the holding tanks have 2" drains and there are large openings on top. The filter is underneath a 20" manhole.

Wilson holding tanks are made in six standard sizes for tug boats and up to the largest lake ships. Capacities are based on approximately 75 to 90 G.P.D. per crew man. This includes all waste water from water closets, urinals, showers, galley sinks, laundry, etc.

When used on short run day time excursion boats we figure 4 gallons consumption per person per trip.

Peak load retention time, when all toilets are flushed within a few minutes, is never less than 30 minutes. When no toilets are being flushed and the macerator is running on the delayed timer the holding periods may run as long as 4 hours.

We are naturally interested in having Congress establish a standards committee which so far as watercraft is concerned will have to do with particle sizes and minimum (ppm) chlorine dosage.

Respectfully yours,

F. E. WILSON,
(Authorized Signature).