

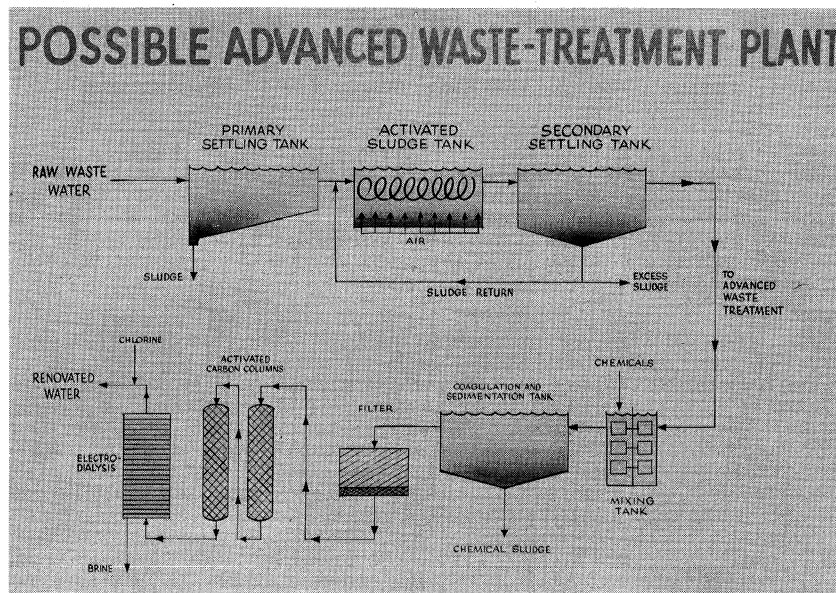


FIGURE 17

NOMINAL WATER AND WASTEWATER COMPOSITIONS

		TAP WATER	RAW SEWAGE	PRIMARY EFFLUENT	SECONDARY EFFLUENT	RENOVATED WATER
SUSPENDED SOLIDS,		LESS THAN				LESS THAN
ppm		0.1	300	200	30	0.1
BOD (BIOCHEMICAL OXYGEN DEMAND),						
ppm		0	300	200	30	0
TOTAL ORGANIC MATTER (TOC),						
ppm		2	100	75	15	1
TOTAL DISSOLVED SOLIDS,						
ppm		400	800	800	750	400
MICROORGANISMS, No. 100 ml						
a) TOTAL COUNT AT 57°C.		500	1×10^9	1×10^7	1×10^6	100
b) COLIFORMS		0	1×10^7	1×10^5	1×10^4	0

FIGURE 18

For removal of suspended and colloidal solids and for precipitation of phosphate nutrients, several coagulating substances can be added to wastewater. Alum, lime, or both can remove solids quite efficiently, and, with proper modification and control of the operation, over 90% of the phosphates can be removed.

Soluble organics including synthetics, petrochemicals, pesticides, etc., may then be removed very effectively by passing the wastewater through a bed of activated carbon granules. As the carbon granules become saturated or "spent," they are passed through a high temperature furnace where the carbon is "reactivated" and the adsorbed contaminants are incinerated to harmless carbon dioxide and water. Adsorption, using granular activated carbon, is perhaps the furthest developed of the advanced waste-treatment processes.