

With the exception of ion exchange processes, all of the saline water conversion processes produce a "brine" concentrate, which in the case of mine water would be a concentrated mine water which must still be treated prior to discharge. Schroeder, et al, 1966 (56) have evaluated all of the saline water processes as mine water treatment processes. The conclusions made from the report are: (1) saline water conversion processes theoretically can be applied to mine water treatment to produce potable water, (2) the cost of the treatment of mine water by the saline water processes range from \$0.36/1,000 gal to \$3.05/1,000 gal depending on feed rate, operating factor, and water composition.

Schroeder concluded that "saline water conversion processes...would not have application to acid mine waters except in cases where a municipality needed an additional supply of potable water meeting Public Health standards."

J. Bacteriophage Systems:--Phages are a group of bacteria-specific viruses capable of dissolving (lysing) growing bacteria. Most heterotrophic bacteria are susceptible to bacteriophage. Utilization of such a virus in preventing the formation of acid mine water by bacterial oxidation of pyrite is a concept developed by the MSA Research Corp., 1965.(57) Preliminary results have not been conclusive. Data obtained thus far indicate that bacterial oxidation of pyrite is inhibited by phages; however, incompletely. Work is being continued to attempt to obtain greater virulence in phages.