



Lacks Enterprise, Inc.

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Project Title: Water Ruction Study on a Rinse Bath

Mr. Robert Zdrodowski was assigned to Lacks Enterprise, Inc., located in Grand Rapids, Michigan. The company is primarily an electroplater that applies chrome and other metal finishes to plastic and metal parts.

Robert analyzed 6 series of rinse tanks (18 tanks in all) on one of Lacks' electroplating lines for metals, chloride, and peroxides to reduce the usage of rinse water. Graphs of each concentration versus time were plotted, looking for certain trends each week to determine if it was necessary to dump each rinse tank every week. The study suggested that the water in the rinse bath can be pumped to the previous rinse tank, rather than discarding the used rinse water. As a result, only 33 percent of the rinse tanks will be emptied each week. This could potentially save 667,000 gallons of water per year (Figure 6). The test data also suggested that a 100 percent rise in concentrations of copper and nickel in the final rinse tanks had no negative effects on the quality of finished products. This prompted the idea that the company should slowly decrease the influent in tanks 18B and 39B to optimize the discharge of rinse water where quality is not affected.

