

# SUCCESSFUL VERIFICATION TEST FOR ARSENIC REMOVAL

## BACKGROUND

The town of Hopewell, New Jersey, drilled a new well for drinking water in 1994 and subsequently started up the well at the end of 1996. By October of 2000, the town had shut down the well due to concern about the amount of arsenic, approximately 40 parts per billion (ppb), that had been measured in the drinking water supply from the well. Engineers in Hopewell were looking for an efficient and economic way to reduce the arsenic levels to very low concentrations in order to bring the well back on line.

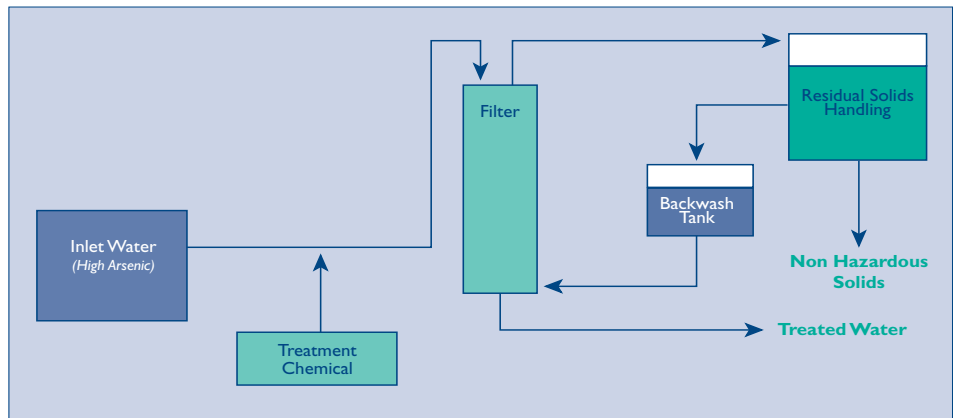
## TYPICAL ANALYSES

Total Arsenic .....38.3ppb  
 Arsenic (V) .....34.4ppb  
 Arsenic(III) .....3.9ppb  
 pH ..... 7.3  
 Dissolved Oxygen .....<0.5ppm

## HYDROGLOBE'S SOLUTION

The Hopewell municipal engineer sent samples of the well water to HydroGlobe's laboratories. After running batch and continuous tests, HydroGlobe™ engineers determined that the patent-pending FerriMet™ system was capable of significantly reducing the arsenic levels. With the addition of HydroGlobe's treatment chemicals, the pilot data showed 92% removal of arsenic.

## HOPEWELL FERRIMET™ SYSTEM CONFIGURATION



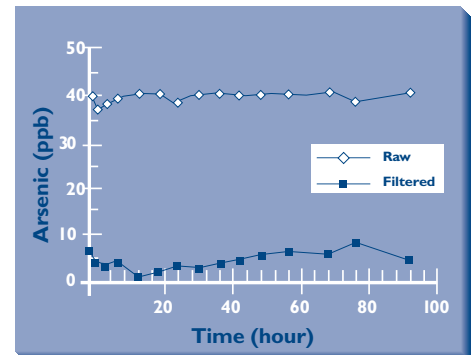
## VERIFICATION

The next step, verification testing by the New Jersey Corporation for Advanced Technologies, was successfully completed. The technology will be certified in New Jersey and in the additional participating states with reciprocity agreements. All testing took place at this well in Hopewell, in conjunction with and for final approval by New Jersey Department of Environmental Protection. Solids generated during the certification run were determined to be nonhazardous by three orders of magnitude by the TCLP test.

## RESULTS

Based on this certification test data, operating costs of the full-scale system, about 135 gpm, are estimated to be very low. The system will be fully automated, so operating costs include only treatment chemicals (in total, below \$0.02 per 1000 gallons) and solids disposal costs (below \$0.005 per 1000 gallons). Capital and maintenance costs are estimated to be less than \$0.10 per 1000 gallons, substantially below competitive technologies for this volume of water. Hopewell engineers are impressed with the results and are proceeding with a full-scale design.

## ACTUAL ARSENIC REMOVAL RESULTS



NJCAT/NJDEP Certification Test



Certification Unit