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ARSENIC REMOVAL
Rose Hill Center
Holly, Michigan

Project Description

Rose Hill Center is a small, non-profit health care facility in Holly, Michigan. The groundwater used as its drinking water source contains a significant arsenic concentration (typically 35-40 ppb). The facility had been using activated carbon filters in an attempt to reduce this concentration, but without success. After hearing about ADI's MEDIA G2®, facility management began investigating the possibility of retrofitting their existing treatment plant. Bench-scale testing of MEDIA G2® showed excellent results, and in early 1999, ADI was retained to carry out the retrofit.

The plant, shown above, consists of six, 36-inch (91cm) diameter filters, from which the activated carbon was removed and replaced with MEDIA G2®. Operation is simple: water passes downward through the filters at a rate of 50-60 gpm (11-13 m³/h), providing a 10-15 minute contact time for arsenic to react with, and bind to, the surface of the media particles. To optimize performance, pH of the inlet water is decreased to approximately 6.9 by an acid-dosing metering pump linked to a pH sensor/controller. Maintenance is minimal; the plant is operated by hospital staff, who carry out occasional backwashing (once every few weeks) to prevent compaction of the media, and replenish the acid feed container when necessary. The plant has been in operation since February 1999, monitored by the USEPA, and is providing a treated water with an arsenic concentration of 1- 2 ppb.

