

# Project Profile



## *Technical Vocational Institute Albuquerque, New Mexico Arsenic Treatment System*

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### Background

Technical Vocational Institute Community College (TVI) is located in Albuquerque, New Mexico and services approximately 400 students. In 2005, AdEdge Technologies Inc. (AdEdge) was selected to assist in the design of a full-scale arsenic treatment project for the small community system. Detected arsenic concentrations were approximately 26 parts per billion (ppb). The pH of the water is approximately 7.0. In addition to arsenic, water-quality data indicated relatively high sulfate concentrations. AdEdge worked closely with Kinetico Quality Water Systems in Albuquerque and the facility water-system operators to provide a suitable treatment train that would achieve the treatment objectives in accordance with U. S. Environmental Protection Agency (USEPA) guidelines for an arsenic treatment.

### Treatment System

The AdEdge arsenic treatment system consists of a modular unit that has three 24-inch diameter composite pressure vessels; the three vessels are configured in parallel flow. The design capacity is 60 gallons per minute (gpm) with an estimated daily usage of 6,000 gallons per day. Each of the vessels contains underbedding and 9 cubic feet of Bayoxide E33 granular ferric oxide (GFO) media. Groundwater is pumped from the water-supply well, chlorinated, pumped through the treatment units, and pressurized into a 500-gallon hydropneumatic tank that feeds the distribution system. Bayoxide E33 media has been in commercial use since 1999. The AdEdge modular design was chosen over other technologies or systems to accommodate installation space and economic requirements. Since 2002, AdEdge has deployed packaged solutions containing GFO media successfully in over 100 public water systems for arsenic removal (community and non-community systems) and in over 1,500 residential applications.



### Performance

The system is installed with automatic valves with digital timers, controls, backwashing features, pressure gauges, and sample ports for a complete modular arsenic treatment system. Total gallon throughput and flow rate for each unit is measured continuously with dedicated flow totalizing meters. The AdEdge adsorption system does not require any chemicals or regeneration, and the process does not generate liquid or solid hazardous waste. The system was installed in January 2006 and has been operating at 6,000 gallons per day with arsenic levels in the treated water below detection.

### For More Information Contact

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