

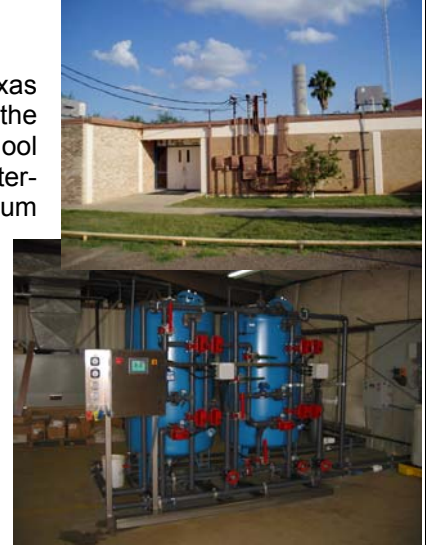
Project Profile



Webb Consolidated Independent School Bruni, Texas Arsenic Treatment System

Background

Webb Consolidated Independent School District (Webb CISD) located in Bruni, Texas applied to the U.S. Environmental Protection Agency (USEPA) to participate in the arsenic treatment demonstration program for Round 2 and was selected. The school has a water-supply well which pumps water to a 12,000 gallon storage tank. Water-quality analyses revealed that arsenic concentrations exceeded the new maximum contaminant level (MCL). AdEdge Technologies Inc. (AdEdge) contacted the school system and presented a proposal for arsenic treatment using granular ferric oxide (GFO) technology. AdEdge was subsequently selected and awarded the project (i.e., one of nine USEPA demonstration sites awarded to AdEdge). AdEdge worked with Southwest Engineers Inc. (SEI), the school and water system's engineer, in preparing permitting submittals and obtaining Texas Commission on Environmental Quality (TCEQ) regulatory approvals for construction and installation of the system and associated appurtenances. It was the first arsenic treatment system permitted in Texas using this technology.



Treatment System

The AdEdge arsenic treatment system consists a skid-mounted adsorption package unit (APU) sized to accommodate a maximum design flow rate of 40 gpm. The model APU-40CSLL utilizes a twin vessel carbon steel vessel configuration for arsenic removal in series (lead/lag). The system is equipped with automated control valves and harness, central control panel with programmable logic controller (PLC) and a color user interface screen. System features also include differential pressure switches, control panel and local gauges, flow sensors & totalizers, and a central hydraulic panel with sample ports for a complete functioning packaged unit. Groundwater is pumped from the well through the treatment system. The 42-inch diameter APU vessels each contain approximately 22 cubic feet of Bayoxide E33® adsorption media. In addition to the adsorption system other components include pH adjustment using CO2 gas, and chlorination.

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|---------------------|------------------|--------------|
| Total As ** | 0.055 | mg/L As |
| pH | 8.200 | |
| TDS | 1,060 | mg/L |
| Hardness ** | 24 | mg/L @ CaCO3 |
| Silica ** | 42.0 | mg/L SiO2 |
| Phosphate ** | < 0.02 | mg/L P04 |
| Sulfate | 112.0 | mg/L SO4 |
| Iron ** | <0.025 | mg/L Fe |
| Manganese ** | 0.01 | mg/L Mn |

Performance

Bayoxide E33® adsorption media has been in commercial use since 1999 serving nearly two million customers and has been deployed in over 60 public water installations in the U.S., Canada, and Mexico since 2002. AdEdge's packaged solutions utilizing GFO media include small community water systems, schools, mobile home parks, and extensive use in over 1,500 private residential applications. The 40-gpm Webb CISD system was installed in early December, 2005 and began full scale operations treating approximately 12,000 gallons per day. Effluent samples taken at the time of startup and subsequently, have indicated a high efficiency arsenic removal to non-detectable concentrations.

For More Information Contact

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