INTEGRATED WATER SERVICES

Clean Water. Clear Choice.

CASE STUDY

Bringing Clean Drinking Water to San Luis, Arizona

Project Type: Municipality, Potable Water

Location: San Luis, Arizona

HIGHLIGHTS

Delivered high capacity treatment process of up to 2,200 gallons per minute (GPM) to city's water supply.

Installed complete filtration manganese removal system utilizing groundwater production wells.

Provided a fully automated operation process simplifying overall operation.

MANGANESE CONTAMINATION SOLUTION FOR SOUTHERN ARIZONA COMMUNITY

The Southern Arizona community of San Luis was dealing with a critical potable water issue: high levels of naturally occurring manganese. This contamination exceeded EPA mandates and caused aesthetic problems, such as staining fixtures and clothing (enhanced by household bleach).

CHALLENGES FACED

- **High Manganese Concentration:** The raw water from the groundwater production wells contained naturally occurring manganese at a concentration of approximately 0.35 mg/l. This level significantly exceeded the EPA's mandated Maximum Contaminant Levels (MCLs).
- **Aesthetic and Practical Issues:** The manganese in the water was causing staining of fixtures and clothing. This problem was exacerbated by the oxidation that occurs when bleaching agents are used in household laundry.
- **Comprehensive Project Scope:** The work required was extensive and multifaceted.

SOLUTIONS IMPLEMENTED

- **Advanced Pureflow Filtration System:** IWS installed a Pureflow Filtration system , which uses coagulation filtration with a permanent catalytic adsorptive media made of highly efficient pyrolucite ore.
- **Chemical-Free, Regenerating Media:** The filtration media was designed to be backwashed without needing regeneration or chemicals, ensuring a simpler and potentially more cost-effective long-term operation.
- **Comprehensive Infrastructure Upgrade:** Installed the core Pureflow Filtration system and replaced well pumps, constructed a 40' by 60' enclosure building and pad, installed a 60,000-gallon reclaim tank, a sludge mixing system, sludge sewer disposal, and all associated mechanical piping, electrical, and controls.

OUTCOME AND IMPACT

- **Achieved Clean Drinking Water:** The system successfully treats influent manganese down to non-detect levels of 0.02 mg/l or less, providing clean drinking water to the community.
- **High Volume of Treated Water:** The two filters within the system can produce a total of 3.2 million gallons of manganese-free water every day.
- **Community Milestone:** The successful completion and commissioning of the project, including the required testing, start-up, and training , was celebrated with a ribbon-cutting ceremony.

The potable water treatment system constructed by IWS successfully resolved the persistent manganese contamination issue in San Luis, Arizona. By deploying an advanced, fully automated filtration system utilizing a permanent catalytic media, the community now benefits from up to 2,200 GPM of water with manganese reduced to non-detect levels. This project not only eliminated health concerns and water staining but also delivered a sustainable, high-capacity, chemical-free water purification solution, marking a major success for the Arizona border town.

DOWNLOAD

info@integratedwaterservices.com
(833) 758-3338
integratedwaterservices.com
115 Wild Basin Road S., Suite 107, Austin, TX 78746