



BROCHURE

Leading Arsenic Groundwater Treatment Solutions



PROTECTING COMMUNITIES WITH PROVEN TECHNOLOGY

ATEC Water Systems delivers innovative, scalable solutions for the removal of arsenic in groundwater. With over 500 system installations across North America, we're setting the standard for groundwater treatment performance and reliability.

Why Arsenic Matters

Arsenic is a naturally occurring toxic element found in groundwater aquifers throughout the U.S. and worldwide. Long-term exposure is linked to cancer, cardiovascular disease, and developmental effects. The U.S. EPA regulates arsenic at a maximum contaminant level (MCL) of 10 parts per billion (ppb). Many groundwater systems exceed this threshold, requiring cost-effective treatment solutions to provide safe, compliant drinking water.



Why Water Systems Choose ATEC

- **500+ Installations Across North America** – A trusted name in groundwater treatment.
- **EPA- and State-Regulation Ready** – Confidence in achieving and maintaining compliance.
- **Pilot-Validated Performance** – Real-world results under demanding conditions.
- **Tailored Solutions** – Modular, scalable, and engineered to your specific water chemistry.

Custom Design & Engineering

ATEC systems are modular, scalable, and automation-ready, with designs ranging from 20 GPM to over 100 MGD. Each installation is customized to match local water quality, flow rate, and site conditions. Our goal: maximize treatment performance while minimizing operational complexity and lifecycle costs.



Our Solution: Iron-Assisted Filtration

ATEC's arsenic removal process combines proven chemistry with robust filtration to deliver safe, reliable drinking water:

- **Oxidation** – Naturally occurring iron or ferric chloride is used to oxidize arsenic into a more treatable form.
- **Adsorption/Precipitation** – The oxidized arsenic binds to iron oxide solids, forming a stable complex.
- **Filtration** – Specialized media captures and removes the arsenic-iron precipitate from the water.



Key Advantages

- **>95% Removal Efficiency** – Consistently reduces arsenic to well below the 10 ppb MCL.
- **Cost-Effective** – Low capital and O&M costs compared to alternative technologies.
- **Scalable Design** – System capabilities from 20 GPM to 5,000 GPM.
- **Reliable Operation** – Automated controls and long-life media reduce operator burden.
- **Sustainable** – Environmentally responsible treatment with straightforward backwash residuals management.

Beyond Arsenic: Full-Spectrum Groundwater Treatment

ATEC systems are engineered to address a wide range of groundwater contaminants commonly found alongside or independent of arsenic. Our treatment platforms can be tailored to meet site-specific requirements for both primary and secondary contaminants.

Iron & Manganese – Frequently present in groundwater, these aesthetic contaminants contribute to discoloration, taste, odor, and scaling. ATEC's systems routinely co-treat iron and manganese alongside Cr(VI) using oxidation and filtration processes.

Hexavalent Chromium (Cr(VI)) – A naturally occurring contaminant linked to serious health effects and now regulated at 10 ppb in California. ATEC's DDW-approved Reduction-Coagulation-Filtration (RCF) technology reliably converts Cr(VI) to Cr(III) and filters it out, achieving compliance with high removal efficiency and low lifecycle cost.

Boron – Found in agricultural regions and some groundwater basins, boron can affect crop irrigation suitability and human health at elevated levels. ATEC offers specialized solutions for boron removal, including ion exchange and selective adsorption systems.

Nitrates – A widespread contaminant in agricultural and rural areas, nitrate poses significant health risks, especially for infants. ATEC systems can incorporate ion exchange or biological denitrification modules to bring nitrate levels within compliance.

PFAS (Per- and Polyfluoroalkyl Substances) – Now officially regulated at the federal level, PFAS compounds are a top priority for water systems nationwide. ATEC's approach includes modular PFAS treatment options—such as high-efficiency adsorption media, ion exchange resin or granular activated carbon systems—integrated into full-system designs for long-term effectiveness and regulatory alignment.



CASE STUDY

Success Story: Electric City, WA

Client:	City of Electric City Public Works
Location:	Electric City, Washington
Capacity:	1,000 GPM
Contaminants Treated:	Arsenic, Iron, Manganese
Technology Provider:	ATEC Water Systems (a Cadiz Company)

When the U.S. EPA lowered the arsenic MCL to 10 ppb in 2002, small groundwater systems nationwide faced a compliance deadline of February 2006. Electric City's wells exceeded the new standard, prompting the utility to partner with ATEC on a cost-effective solution.

- **Achieved Full Compliance** – Reduced arsenic to below the 10 ppb MCL.
- **Leveraged Proven Chemistry** – Converted arsenite (As III) to arsenate (As V) for efficient removal.
- **Delivered Reliable Performance** – Bound arsenic to ferric oxide solids for consistent removal.
- **Handled Multi-Contaminants** – Iron and manganese were also oxidized and filtered out.

This project demonstrates how ATEC's sustainable and scalable systems deliver compliance and reliability for small communities.

Partner With ATEC

Whether you're addressing arsenic compliance or modernizing aging infrastructure, ATEC provides the expertise, technology, and support to deliver safe, compliant water—today and into the future.

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Let ATEC design a system that delivers results for your water system.

