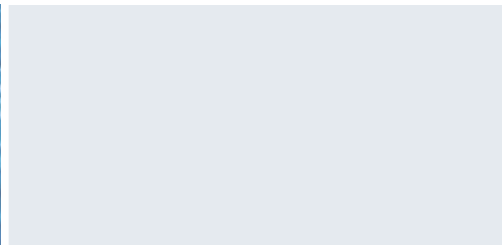
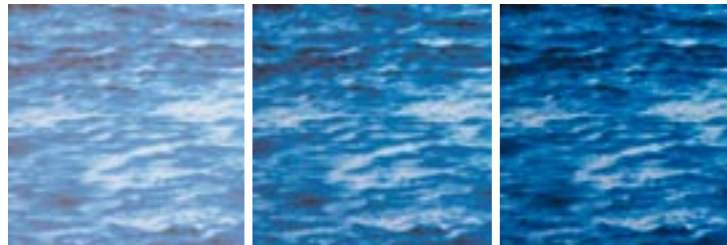


# SEVERN TRENT arsenic removal solutions



# The simple SOLUTION. By design.

Arsenic is a complex problem, but there's a simple solution for removing it. The **SORB 33™** System from Severn Trent Services is economical, simple to operate and requires virtually no labor. And **SORB 33** delivers consistent, guaranteed performance.

In this simple pump-and-treat adsorption system, the contaminated water passes through a robust granular ferric oxide media, **Bayoxide® E33**, developed exclusively for Severn Trent by **Bayer AG**. As the water passes through the media at the wellhead, the arsenic is adsorbed and removed to a level below the drinking water standard of 10 micrograms per liter (µg/l).

The dry, crystalline media was designed with a high capacity for arsenic, providing long operating cycles and low operating costs. The exhausted media is non-hazardous and can be sent to a landfill, passing TCLP requirements.

To keep your costs even lower, the **SORB 33** system requires no cleaning, no regeneration and no complex, labor-intensive steps.

Severn Trent engineers the **SORB 33** systems in any size, accommodating any flow rate, so the largest municipalities or the smallest village wellhead can benefit from this simple, cost-effective approach to a difficult problem.

**SORB 33** isn't just the simple solution. It's the proven solution. **SORB 33** has been proven effective in full-scale commercial applications since 1999. For more than a decade, Severn Trent has been actively involved in developing arsenic removal solutions to address this global concern.

## a DECADE of development

1994

Severn Trent Arsenic Removal Research Begins

1996

Severn Trent Arsenic Removal Pilot Work Started

Severn Trent Arsenic Media Development Initiated

1997

Severn Trent Arsenic Removal Full Scale Implementation Design Initiated  
*Partnership with Bayer AG*

Commercial Product Available (Bayoxide® E33)

1999

Burton Joyce, Nottinghamshire, North Midlands, UK  
*5.3 MGD SORB 33 installation*

2000

First U.S. SORB 33 Pilot, New Mexico

2001

Chaddesley Corbett, Worcestershire, Midlands, UK  
*1.9 MGD SORB 33 installation*

SORB 33 APU Standard System Design Complete  
*Small Water Systems*

2002

Arizona SWS 10 GPM Installed

Alaska Airlines SWS Installed

2003

Hilton, Shropshire, Midlands, UK  
*6.0 MGD SORB 33 installation*

46.4 MGD Installed & Operational



The **DIFFERENCE** is simple.

- *Consistent, high quality Bayoxide® E33 media*
- *Manufacturing capacity to meet market demand*
- *A decade of global arsenic removal experience*
- *Proven in full-scale operations since 1999*
- *Cost effective treatment option*
- *Guaranteed performance*
- *Simple operation and maintenance*

## SORB 33 features

- *Removes both As (III) and As (V)*
- *Robust dry media with high capacity for arsenic*
- *Bayoxide® E33 media life up to 2 years under continuous use*
- *Very low residual effluents: < 0.1% of water treated*
- *No re-pumping*
- *No chemicals for regeneration*
- *Low maintenance – no moving parts*
- *Small footprint*
- *NSF Standard 61 Approved Media*

## SORB 33 benefits

- *Low capital costs*
- *Low operating costs*
- *Readily available media in any quantity*
- *Easy disposal of spent media – no hazardous waste generated*
- *Low extractables*
- *Low shipping cost and long shelf life of dry media*
- *Unattended operation – no manpower required*



# The SIMPLE solution is also the COST-EFFECTIVE solution.

Lower costs are engineered into every aspect of Severn Trent's *SORB 33™ System*.

The *Bayoxide® E33* media is crystalline, so it's robust, ships dry, is easy to handle and has a longer shelf life than competitive iron-based media. The media was designed for long use. Depending on your water quality, the media can last up to two years. After use, the media isn't hazardous waste as measured by TCLP, so there's no costly disposal. The *SORB 33* system uses no chemicals and never needs cleaning. It wastes less than 0.1% of your water, compared to up to 25% for other technologies.

For most applications, the *SORB 33* arsenic adsorption system is the simplest and most cost effective solution on the market—compared to reverse osmosis, ion exchange, activated alumina, coagulation microfiltration and others.





# RELIABILITY you can trust from companies you know.

The *SORB 33™* arsenic removal system is the result of a powerful partnership between one of the most trusted names in water and wastewater treatment and the global leader in technical oxide production.

Severn Trent Services provides innovative water and wastewater treatment solutions for municipal, industrial and commercial use. They offer extensive operating, pipeline and environmental service solutions; including managing more than 600 treatment facilities in the U.S. alone.

When Severn Trent set out to develop the *SORB 33* system in 1995, they knew that consistent performance depended on high quality media. Just as important, Severn Trent wanted to partner with a manufacturer with the capacity to meet future worldwide demand. So they turned to the world's largest technical oxide producer, [Bayer AG](#).

[Bayer AG](#) developed the [Bayoxide® E33](#) media in cooperation with Severn Trent. [Bayer AG](#) has the capacity to produce 300,000 tons per year of iron oxides, so your community is assured that this highly effective, low-maintenance dry media will be available no matter what future markets demand.

You can depend on Severn Trent as your exclusive supplier of adsorptive media or as your partner in building and maintaining a customized arsenic removal solution for your operation. Either way, Severn Trent is the simple solution—and the simple decision.



For arsenic removal assistance, call 800 364 3931



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