

## Sediment Remediation

AquaBlok® provides a low permeability, thin capping management tool for the containment and treatment of contamination in sediments.

In December of 2005 the U.S. EPA published its “Contaminated Sediment Remediation Guidance for Hazardous Waste Sites.” In this document, all three major approaches to management of contaminated sediment (monitored natural recovery, in-situ capping, and dredging) considered the use of capping in combined management strategies. AquaBlok is called out in this document as a cap material that may “enhance the chemical isolation capacity or otherwise decrease the thickness of caps, compared to sand caps.”

In January of 2008 the U.S. EPA released the final report for a three year evaluation of AquaBlok in a Superfund Innovative Technology Evaluation Report (SITE). The report evaluated AquaBlok to conventional sand capping and concluded that AquaBlok Provides Material Properties Superior to Traditional Sand Capping Approach in Physical Stability and Reduced Permeability or Seepage Through the Capping Material.

AquaBlok effectively performs the primary functions of a sediment cap:

- Physical isolation of sediment-borne contaminants from receptors to provide a “new” benthic habitat
- Chemical isolation and reduction of sediment-borne contaminants and their upwards migration
- Stabilization of contaminated sediments, preventing re-suspension and transport to other sites
- In-Situ treatment of contamination with an “active” cap

**U.S. EPA SITE**  
Evaluation Report:  
Demonstration of the AquaBlok®  
Sediment Capping Technology  
Please visit [www.aquablokinfo.com](http://www.aquablokinfo.com) to  
download the complete report.

## Lake & Pond Management

**BARACLEAR®**

BARACLEAR® is effective for nutrient management, phosphorus reduction, and water clarification in ponds, lakes, and other waterways.

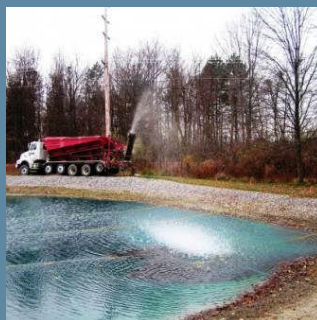


This composite particle uses an aluminum sulfate (or “alum”) coating buffered with a calcium carbonate (limestone) core to bind and inactivate phosphorous. By removing this critical nutrient link from the aquatic food web, the product can dramatically curb algal growth without compromising a waterway’s broader ecology. BARACLEAR reliably delivers a mechanism for ongoing phosphorus management. The unique material also causes suspended particles to settle - further enhancing the clarity of the water.

- Limestone core serves as pH buffer and anchor - reliably delivering alum to the bottom (where P is actively recycled)
- NOT a herbicide, algacide, copper treatment or biological media - apply alone or in conjunction with other products
- Used to spot-treat or to broadcast basin-wide to target the primary and cyclical nutrient source from the bottom, up
- Simplifies handling (no need to slurry) - available in 50 lb. pails for hand or mechanical broadcasting

**PONDSEAL™**

PONDSEAL™ is formulated for leak prevention and repair in ponds, lakes, and other waterways both during and after initial construction.



As a direct derivative of the parent technology, PONDSEAL offers tremendous versatility when combating areas prone to unwanted water loss. The stone core coupled with a premium sodium bentonite coating provides structural stability and consistently low permeability over a wide range of application scenarios. Blanketed over porous soils as a continuous liner, poured around pipes and control structures as a durable anti-seep, or dropped into a vertical cut-off wall as a simple backfill to reinforce compromised dams or earthen berms, it’s no wonder PONDSEAL is being referred to as “nature’s duct tape.”

- Composite offers targeted delivery and improved handling - dramatically minimizes dusting, drift, and product waste
- Appropriate before inundation and even through standing water - often eliminating the need to drain a basin
- Reduces labor in that there is no need for compaction in lifts or layers, nor any need to be mixed into parent soil
- Place by hand or using a wide range of standard construction equipment (available in 50-lb bags or by the ton)

## Well Sealant & Grout

A new family of innovative bentonite well sealant materials have been introduced that benefits from AquaBlok’s patented delivery system. HoleBlok and HoleBlok+™ are a bentonite coated composite particle, which provides a high solids seal in a manner that performs as well or better than traditional bentonite pellets.

HoleBlok is a pure Wyoming bentonite based annular sealant and hole plugging product that has high density, high mass, and a delayed hydration compared with standard bentonite well sealant materials. It is a pourable grout that can also be delivered by tremie pipe. HoleBlok performs as well or better than coated pellets at a lower price.

HoleBlok+ is the first annular sealant material to provide pollution prevention together with improved benefits over typical coated bentonite pellets. The bentonite-based grout is amended with a small amount of zero-valent iron (ZVI) treatment material. These two well-established and proven materials, when combined into the composite design, provide the unique ability to help minimize the potential for cross-contamination of surficial ground water zones along annular spaces while minimizing the potential for rebound -- the post-absorption release of contaminants trapped by the bentonite seal in environmental monitoring wells.

**HoleBlok™**  
**HoleBlok+™**



## Geotechnical Applications

AquaBlok sealing and delivery system technology can be successfully applied to a wide range of geotechnical applications. Low hydraulic conductivity, high solids seal, erosion resistance, and ease of handling and placement are some of the the basic properties of the material that make it a good solution to many geotechnical challenges. Examples of some of these applications include:

### Landfill Applications

- Repairs to Certified Landfill Cap
- Pre-Bedding for Methane Gas Pipeline
- Annular Fill for Vertical Wall Penetrations

### Anti-Seep Collar & Sealant

- Seals Pipe for Underground Installations

### Levee Repair

- Dam Barriers in Flood Control Applications

### Water Proofing Material

- Sub-Surface Building Walls



Methane Pipe Bedding/Seal

## Wetland Restoration

SubmerSeed® is a composite-aggregate material made up of a dense aggregate core and viable wetland or aquatic seeds held in place with clay or clay-sized material and organic polymers.

The technology provides an alternative to traditional means of plant propagation in wetland/aquatic settings, especially when faced with the challenges of establishing a favorable vegetative community in or very near inundated conditions. The typical formulation of dry product relies on the nutrients available in the surrounding water.



## AquaBlok Technical Support & Solutions

The team at AquaBlok has the knowledge and experience to assist in development of application methods as unique as your individual project.

The team at AquaBlok has the knowledge and experience to assist in development of application methods as unique as your individual project. A lab facility is maintained with full access to a certified soils laboratory. The company has performed both on-site studies and lab column testing to characterize and test various product and/or treatment material applications for a particular site. Services include:

- Project-specific bench scale/field testing & analysis
- Pilot application technical assistance
- On-site observation and application assistance including OA/QC

## AquaBlok On-Site Installation Support

Typical product installation involves placing dry product through water. In several hours, the material hydrates and expands, ultimately forming a continuous and cohesive, low permeability barrier.

AquaBlok offers convenient packaging for easy unloading and product placement. We offer flexible transportation arrangements to meet your specific project needs. For larger quantities of product onsite manufacturing is available. Some installation methods include:

- Excavator • Conveyor • Stone Slinger • Clamshell Barge • Helicopter

## Packaging & Shipping Options

We offer flexible transportation and product delivery options to meet your project specifications.

AquaBlok can be shipped to a site in convenient and appropriate packaging for ease of handling unloading and application to the target area. From 50 lb. Pails to 20-Ton Bags, we can meet your specifications for project volume and preferred delivery method. In addition, for very large product requirements, it is possible to perform on-site product manufacturing, which eliminates costs for transportation and packaging of the product.

- 50-lb. Pails/Bags • 1.2 Ton Bulk Bags • Loose Bulk • On-Site Production



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## Product Overview

**AquaBlok® is a patented, composite-aggregate technology resembling small stones and is comprised of a dense core, clay or other amendment coating material (the active layer), and polymers.**

The selection of coating material is based on the application that is being targeted. For example, the use of a bentonite coating layer provides a highly impermeable sealant layer that can be used in sediment remediation and a wide range of underwater sealing applications.

Product applications include: filling the annular space around water well casings, repairing dams, repairing levees, construction of emergency flood barriers, construction of cut-off walls, sediment caps, and many more. The superior qualities of AquaBlok have proven to exceed alternative options in results, convenience, and ease of implementation—all of which result in lower project costs.

**The technology has been applied to a range of industries:**

### Contaminated Sediments

- Low Permeability Thin Capping Material
- Hydrocarbon Contamination
- Treatment Amendments for Active Capping
- Improves Performance of Organoclay

### Wetland Restoration

- Seed Delivery System

### Well Sealant & Grouting

- Annular Sealant/Grout Material
- Abandonment
- Geothermal Grout

### Lake & Pond Management

- Phosphorus Inactivation and Water Clarifier
- Sealant for Leak Prevention and Repair

### Geotechnical/Other Applications:

#### Landfill Applications

- Repairs to Certified Landfill Cap
- Pre-Bedding for Methane Gas Pipeline
- Annular Fill for Vertical Wall Penetrations

#### Anti-Seep Collar & Sealant

- Seals Pipe for Underground Installations

#### Levee Repair

- Dam Barriers in Flood Control Applications

#### Water Proofing Material

- Sub-Surface Building Walls

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