

CASE STUDY

BREEZE™ VOC Removal System Effective in Gasoline Station Remediation

PROBLEM

In the 1940's and 1950's, underground storage tanks were installed to hold fuel at gasoline stations. It was not realized that these tanks could and would leak in the future. Decades later, the United States Environmental Protection Agency recognized these tanks were rusting and leaking BTEX compounds; contaminating soil and groundwater in the surrounding areas.

BTEX (Benzene, Toluene, Ethyl benzene, and Xylene) are VOC's (Volatile Organic Compounds) found in petroleum derivatives, such as gasoline. They are highly toxic and harmful to human health; causing cancer, damage to the liver, kidneys and central nervous system.

In present day, underground storage tanks are still widely used. Gasoline stations must decide how they will remediate the contaminated groundwater to comply with the EPA requirements.



The BREEZE™ VOC Removal System is operating at gasoline station remediation applications nationwide.



SOLUTION

The AEROMIX BREEZE™ VOC Removal System has proven very effective in gasoline station remediation applications. [Seneca Environmental Services Inc.](#), headquartered in Des Moines, Iowa, U.S.A. use BREEZE™ systems to extract groundwater at new gasoline station construction sites throughout the United States. AEROMIX BREEZE™ units are now operating in several gas stations throughout the U.S.; from Huntsville, Alabama to Sioux City, Iowa.

In these applications, BTEX amounts detected in the groundwater average about 10,000 ppb (parts per billion), but can vary. Each project site has one BREEZE™ tank with blower. Flow rates range anywhere from 15 to 25 GPM (gallons per minute).

Testing software has shown the BREEZE successfully strips 99% of the BTEX compounds from the groundwater, and achieves the effluent level requirements.

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BREEZE® VOC Removal System Eliminates CO₂ from Well Water

THE BREEZE™

The BREEZE VOC Removal System uses air to volatilize compounds in water. This compact, low profile device can handle contaminated water flows up to 50 GPM on a continuous basis. The BREEZE works well in a stand-alone mode or in series with other treatment technologies in applications like this one. Multiple units can be placed in series or parallel to handle most any flow rate and achieve superior performance. The system is constructed entirely of high strength polypropylene and stainless steel. Gaskets are constructed of chemically-resistant EPDM. The entire tank is welded and molded without the use of adhesives. Unlike other air strippers, the BREEZE uses AEROMIX fine bubble or coarse diffusers that resist fouling caused by iron, calcium, and biological activity. Each tank is portable and equipped with handles for easy transportation. Units are available in 7 sizes with 3 to 9 aeration chambers.



"The AEROMIX unit was easy to clean, especially with high iron content." – End User

The BREEZE™ removes many contaminants.

Common VOC's include:

PCE
TCE
MTBE
BTEX

Common dissolved gases include:

Ammonia
Radon
H₂S
CO₂
Methane

AEROMIX Systems, Incorporated has been designing and manufacturing rugged and reliable aerators, mixers, and packaged wastewater treatment systems since 1987. We carry a complete line of water and wastewater treatment equipment for the municipal, industrial, and freshwater markets.

Please contact us for more information on our water and wastewater equipment.

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