

Abandoned Mine Drainage (AMD)

Since 2004, Allegheny Ozone “(AO)” has expanded the use of its innovative technology to problem areas such as the treatment of Abandoned Mine Drainage (AMD). Using new methods of treatment, AO can provide AMD cleanup without the use of chemicals and without creating harmful or toxic byproducts. AO has been able to drop metals from AMD on a cost saving basis and at the same time protect our fragile environment from further chemicals.



The use of ozone in the mine drainage industry is simply another way of ‘chemically’ oxidizing the dissolved metals into particles of metal. But that is where the similarities end. Using the most advanced ozone technology available, ozone has consistently proven to be the most cost-effective method of oxidizing manganese into manganese dioxide, which will quickly fall to the bottom of your pit or recovered for resale. Ferrous iron will be oxidized into ferric iron. Since there are no ‘chemicals’ added, the metals will oxidize into high purity products. Sludge removal costs should drop dramatically due to 100% of residue will be metals. Any excess ozone will quickly convert into oxygen, thereby raising the dissolved oxygen levels in the effluent, which will be great for the fish and other living organisms.



AO’s process works particularly well with all Ph water although ozone will not affect the Ph to any degree. We are able to size our equipment to handle any water flow and work on a very small footprint when compared to more traditional treatment systems. Our equipment would be sized for each particular site and run automatically 24/7 thus reducing labor and other expenses.

At Allegheny Ozone, we are focused on the consultation, design, installation and training necessary to create effective and safe systems for wastewater treatment. Call us to schedule a free, on-site evaluation so we can determine if we can help your company make the switch from chemicals to ozone.

Recycling AMD Waters For Resale

Recycling AMD water for the oil & Gas Industry

One option you would have is the ability to turn some streams of AMD into sellable water to natural gas companies for fracking make-up water. Once ozone is applied to AMD, the water is normally one step away from being marketable.

If you have AMD that is over 6.0 pH and is treated with ozone to remove metals, the only component of the AMD that needs to be removed to be sellable is the sulfates. Ozone will have killed any and all bacteria, viruses, fungus, algae; oxidized the iron and manganese needed to meet effluent requirements, and prepare the water to run through a reverse osmosis process efficiently to remove the sulfates.



Salvaging the Manganese for resale



Many people in Pennsylvania have studied the possibility of salvaging the manganese from AMD and selling the product to various industries; including the steel and battery industry. One of the drawbacks from most techniques is that the manganese dioxide that is produced or captured is of low purity. By using ozone to oxidize the metal produces a very high quality and high purity product that would garner a higher price than other methods. Manganese dioxide is a strategic metal for the U.S.

government and currently has no domestic producers.