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case studies



Remediation Revolution

Arvia Technology recently completed an award-winning trial of their groundbreaking water-treatment process, in partnership with groundwater remediation specialists Geo2.Remediation.

REPLACING GAC - Adsorption using Granular Activated Carbon (GAC) has long been recognised as the remediation market's standard method of removing organic pollutants from contaminated groundwater. But GAC suffers from a number of well recognised drawbacks, as Geo2's Mark Swindells explains: "We reluctantly accept GAC as a treatment method, but know that it's expensive and dirty and has a large carbon footprint. "GAC is an expensive element of the remediation process. It's costly to source, and must be replaced when spent. Spent GAC must be disposed of or regenerated at specialist facilities, which has its own ever-increasing cost implications.

"We were searching for a viable alternative to GAC which was proving difficult, until we discovered Arvia Technology. Arvia offer a groundbreaking water treatment method that is chemical and waste free, so we were understandably eager to see how, or indeed if, their technology worked, so selected a trial site at a contaminated, disused petrol station."

REWRITING THE WATER TREATMENT RULE BOOK

So how does the Arvia process differ from traditional water-treatment methods?

Arvia's CEO Martin Keighley said: "The Arvia process

is an adsorption based method, but as opposed to GAC, it uses a patented material called Nyex. Nyex is electrochemically regenerated on site as part of the treatment process, so never needs to be replaced.

"This process all occurs within a single easily transportable unit, and is proven to achieve the complete destruction of organic pollutants. The result is a system that requires minimum maintenance and produces zero solid waste for disposal." Geo2's Mark Swindells said: "The joint trial project was very successful; all hydrocarbon contamination was removed from the groundwater, and the running costs were impressively low, approximately three pence per cubic metre of water treated.

"We believe that this process has the potential to revolutionise the wastewater and effluent treatment market, by providing sustainable and reliable treatment for organic contaminants."

Arvia's Martin Keighley said: "We were very pleased with the results of what proved to be an award-winning trial, and working in partnership with Geo2 has helped us demonstrate the massive potential value of the Arvia process to the groundwater remediation market.

"Offering a clean, low-carbon, low-cost alternative to GAC should prove attractive to the market, particularly with the current focus on finding more sustainable remediation solutions driven by the SuRF-UK Sustainable Remediation Forum and the US EPA's Green Remediation initiatives."