

Publication

Implementation of in situ aerobic cometabolism for groundwater treatment: State of the knowledge and important factors for field operation

In a literature review published in a May 2024 issue of *Science of the Total Environment*, Haley & Aldrich's Min-Ying Jacob Chu, Ph.D., P.E., summarizes advances in aerobic cometabolic bioremediation over the past three decades. The article aims to show lessons learned and points the way toward future research that can advance this effective method of bioremediation.

Aerobic cometabolism treats groundwater contamination to very low concentrations. Several well-designed and well-documented field studies have shown that in situ aerobic cometabolism can treat both legacy and emerging contaminant issues and reach stringent cleanup goals. Along with co-authors from Arizona State University and North Carolina State University, Jacob reviews 14 field studies to provide insights into successfully implementing in situ aerobic cometabolism in the article "Implementation of in situ aerobic cometabolism for groundwater treatment: State of the knowledge and important factors for field operation."

Through their review, the authors draw out takeaways from these field-testing studies that can guide the implementation of groundwater treatments according to sound scientific and engineering principles. They also review the microbiological factors that can influence the rate and effectiveness of aerobic cometabolism.

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The authors also delve into future research topics to advance the application of aerobic cometabolism, including how to design wells for maximum effectiveness and how delivery methods impact outcomes.

Read the full article.