

Technical Webinar Series

USE OF CUTTING-EDGE MOLECULAR MICROBIAL TECHNOLOGIES TO DRIVE A SUCCESSFUL, NOVEL, ANAEROBIC ENHANCED BIOREMEDIATION OF LEGACY CONTAMINANTS

Wednesday, June 8, 2022
12:30 pm EDT

Presentation Description

Background/Objectives

A comprehensive biogeochemical assessment was performed at a historical refinery impacted with benzene, a compound that is generating a resurgence in concern after having become a primary regulatory driver in many areas across the United States. The objective was to conduct a first-of-its-kind enhanced in-situ bioremediation (EISB) event to target benzene under anaerobic conditions.

Approach/Activities

The initial biogeochemical assessment merged an evaluation of traditional geochemical parameters with a unique consortium of innovative molecular biological tools (MBTs). Information gleaned from these studies was used to develop one of the first known EISB studies to target the in-situ enhancement of a specific benzene-biodegrading microbial population at a location such as this.

Results/Lessons Learned

To date, historical benzene concentrations within the treatment area have decreased up to 99%. This project demonstrates that the strategic combination of traditional site monitoring methods and cutting edge MBTs can provide critical information about indigenous biodegradation activities, maximizing the potential for successful EISB of targeted and recalcitrant contaminants. This presentation will outline this process, as well as results of the unique, cutting-edge bioaugmentation pilot-study that reduced legacy contaminants at the site by up to 99%.

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About the Presenter



ELEANOR M. JENNINGS, PHD

Eleanor is a Principal Environmental Microbiologist and Biogeochemist, as well as a Subject Matter Expert in the area of merging molecular and stable isotope technologies with traditional techniques to resolve complex environmental site investigations and remediation. She is also a Parsons Fellow.