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Corrosion of concrete by bacteriogenically induced sulfuric acid attack

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In this study we analysed severe corrosion and concrete damage in an Austrian sewage system, which is urgently due for restoration. The reaction mechanisms leading to the deterioration by bacteriogenically induced sulfuric acid attack of concrete structures are highly complex and often not fully understood. The aim of this study is to contribute to a deeper understanding by introducing a novel approach that comprises a range of mineralogical methods, as well as hydro-geochemical analyses, analyses of gases, hydro-geochemical modelling, microbiology and stable isotope geochemistry. An overview of the field site and analytical results will be presented. Actual causes for concrete deterioration and countermeasures will be discussed.