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Hydrothermal Processing Bench-Scale Technology Evaluation Project

This project was conducted in order to determine if hydrothermal processing (HTP) technology has potential for treating wastewater solids. In particular, it looked at the Genifuel HTP technology which converts organic material into biocrude oil, natural gas, or both.

In recent years, there has been a concerted effort to develop processes that convert organic biomass to usable fuels. Most of the processes are biological or thermochemical in nature. This study sought to determine whether HTP technology has potential for treating wastewater solids.

After performing several proof-of-concept bench-scale tests documented in this report, the research team believes that the technology has potential for treating wastewater solids. Accordingly, further evaluation of the Genifuel hydrothermal processing system at a larger scale is recommended.

This recommendation is made both to address certain issues that arose in the bench-scale testing and also to obtain further data on economics, energy consumption, and long-term operating behavior in a system more representative of what could be installed at an operating utility.

This research quantified the amount of biocrude oil and methane gas produced from sludge feeds by HTP, conducted a mass balance closure for the process, and assessed areas of future work based on test observations and results. The project included collaboration and participation from 10 utilities, U.S. EPA, DOE, and subject matter experts.

Source: WERF (Water Environment and Reuse Foundation)

Read more: <https://www.werf.org/i/a/ka/Search/ResearchProfile.aspx?ReportId=LIFT6T14>