

ABSTRACT

Dual Digestion is an alternative treatment process by means of which sewage sludges can be pasteurised and stabilised. The application of the technology is finding increasing favour in both the USA and in Europe as a method designed to improve on the performance of conventional anaerobic digestion, and also to produce a final product which is environmentally more acceptable. Research on the process to assess its suitability for application to the South African environment was initiated by the Water Research Commission and undertaken by a number of organisations. Johannesburg City Council carried out pilot-scale research on the aerobic phase of the two stage process. Milnerton Municipality used a full-scale system to evaluate both the aerobic and anaerobic phases of the process, utilising pure oxygen. Cape Town City Council also carried out full scale research on both phases of the process, but utilised air for their system.

The experience gained with the Dual Digestion Systems which have been in operation overseas, together with the data and practical experience obtained with the process through research in South Africa, are used to evaluate the technology for implementation locally. Aspects which are covered are the technology itself, the design and practical considerations for the establishment and operation of the system, the quality of the final product that can be expected, and finally the economic implications.

This report forms the final volume of a three-part document stemming from the full-scale research at Milnerton and is aimed at providing an overall view of the Dual Digestion System to decision-makers so as to assist them in assessing the suitability of the process for their specific applications.