

LANDFILL LEACHATE, ENGLAND

Project Description

GAYTON is a landfill site in Northamptonshire where the leachate is high in iron as well as having a high chemical to biological COD ration. Coupled to this the leachate is quite dilute with a feed COD of only around 1000 mg/l adding to the treatment challenges. The site had an existing SBR waste water treatment plant which struggled to meet discharge consent limits subsequent to the landfill being capped. In June 2007 Rockbourne Environmental up-

graded the treatment plant to a MBR system utilising newterra MicroClear® MC03 modules. Although the plant is of modest size it demonstrates the ability of this core membrane technology to work successfully with highly fouling, challenging effluent streams. The WWTP has a very small footprint and since it was commissioned in the summer of 2007 the treated effluent has not failed to meet discharge consent.

Plant Performance

Actual discharge quality is:

BOD	<10mg/l
ammonical nitrogen	<0.1 mg/l
suspended solids	<1.0 mg/l

This is a testament to the application of “best available technology” as per the UK landfill site PPC regulatory compliance standards.

Performance characteristics

Flow:	48 m ³ /day
Membrane surface area:	140 m ² (1 x MA03-40)
Flux rate:	16 l/m ² h

Waste water feed:

Total daily flow (DWF)	48 m ³ /day
Total COD loading	1000 mg COD/l

Consent limit published by Tender:

Total BOD ₅ loading	< 10 mg BOD ₅ /l
Total N	< 0.1 mg/l
Total P	< 5 mg/l
TSS	< 1 mg/l



newterra GmbH, a subsidiary of newterra Group Ltd, is the technical center of development and excellence of the globally successful MicroClear® flat sheet membrane for MBR (membrane bioreactor) applications. The evolution of the filtration module, by specially developed and optimized production machines, to the ISO 9001 certified manufacturing process of the MicroClear® membranes, is 100% produced at the site in Langgoens, Germany (near Frankfurt).