

Keeping Sludge AD Working

To check sludge AD Southern Gas uses portable biogas analysers specially developed for AD biogas and based on proven methane and associated gas analysis equipment from Geotech.

Southern Water has an important routine; every single day it checks the health of its sewage sludge anaerobic digesters on eighteen sites across Hampshire, IoW, Sussex and Kent. There, each day Southern Water treats and recycles 1,400 million litres of wastewater from nearly two million



households at 373 treatment works from its 21,500-kilometre sewer network. With that huge responsibility this utility company, like any other, needs to ensure the security of its sewage sludge digesters working at their optimum. Central to achieving that is Southern Water's 'Best Practice for the Operation of Sludge Digesters'. It produced this document to ensure industry best practice operating routines are carried out at each site. They include daily analysis of pH/alkalinity, volatile fatty acids (VFAs) and biogas composition.

For biogas analysis Southern Water uses fourteen Geotech Biogas Check portable biogas analysers. They measure methane (CH₄), hydrogen sulphide (H₂S), oxygen (O₂) and carbon dioxide (CO₂) – as the balance gas. Southern Water checks each digester is healthy, producing over sixty percent CH₄, the minimum for its CHP engines to run and generate electricity. The CHPs have a 1000ppm maximum for H₂S. Above that, H₂S may damage CHP engines.

Southern Water selected the simple-to-operate Biogas Check as their field instrument for anaerobic digester biogas gas analysis for which it was designed. ATEX certified for use in potentially explosive atmospheres, the field-proven technology enables consistent collection of data for improved analysis and accurate reporting. User-configurable operation measures concentrations of CH₄, CO₂, O₂ and H₂S. An optional temperature probe measures gas temperatures. All readings are stored including, in-field calibration results. On-board rechargeable batteries last ten hours.

The components used by Geotech in its gas analysers are tried, tested and proven use in demanding conditions on biogas and landfill sites around the world daily. One key Geotech design standard was that, 'Anyone can pick up a Biogas Check and use it without opening the manual'. They can and they do, globally. Biogas Check user languages include English, Spanish, French, Italian and German with metric or imperial readout on its crystal-clear screen. In any language, anywhere in the world, keeping sludge AD working is the same objective for all operators. More: www.geotech.co.uk Tel: +44 (0)1926 338111