METHOD STATEMENT

Determinand:
Sulphate Reducing Bacteria

Matrix:
Water or deposits

Principle of Method:
The SRB test is used to detect the presence of micro-organisms that can generate sulphides.

The culture media routinely used is 1% Modified Postgate B broth contained in glass vials with an air tight rubber seal through which the sample is introduced using a needled syringe. The presence and growth of sulphate reducing bacteria is indicated by the medium turning black due to the production of ferric sulphide, following incubation for up to 21 days.

Alternatively, the sample is pipetted into a capped, glass tube, half filled with Modified API RP-38 selective microbiological culture medium. This is incubated for up to 21 days. Development of a black colouration indicates a positive result.

A 5-day test may be performed upon customer request.
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Sampling and Sample Preparation:
Samples should be taken in sterile bottles containing sodium thiosulphate.
Once taken, microbiological samples should be transferred immediately to dark storage conditions and kept at a temperature between 2 - 8°C for transport to the laboratory. If samples are not analysed immediately on receipt in the laboratory, they should be kept at a temperature between 2 - 8°C, in dark conditions until analysis commences.

Interferences:
Analysis of black deposits, dark coloured water samples or samples of deposits containing sulphide may make interpretation of the test difficult.

Performance of Method:
Sulphate-reducing bacteria are expressed as Detected or Not Detected in 1ml or 1 gram of sample.

References:
The standing committee of analysts. The Microbiology of Drinking Water (2004) – Part 12 – Methods for the isolation and enumeration of micro-organisms associated with taste, odour and related aesthetic problems. Environment Agency.

Beech, I., Bergel, A., Mollica, A., Flemming, H., Scotto, V., Sand, W. Simple methods for the investigation of the role of biofilms in corrosion. Microbially influenced corrosion of industrial materials. 2000.

BS 8552: 2012. Sampling of Water from Building Services Closed Systems. BSI. 2012.