METHOD STATEMENT

Determinand:
Total coliforms and *Escherichia coli*.

Matrix:
Sample Type: Waters

Principle of Method:
A known volume of water sample is filtered through a membrane filter with 0.45 µm pores upon which bacteria are entrapped. The filter is then placed on a selective growth medium m-Lactose Glucuronide Agar which contains lactose, phenol red as an indicator of acidity and the chromogenic substrate 5-bromo-4-chloro-3-indolyl-b-D-glucuronide (BCIG) to indicate the production of b-glucuronidase.
Plates are incubated at 30℃ for 4 hours and at 37° C for a further 14 hours after which colonies characteristic of coliforms and Escherichia coli are counted and picked off for confirmation where necessary. Presumptive total coliforms appear as yellow, green or blue colonies. Presumptive Escherichia coli appear as green colonies. Confirmed total coliforms produce b-galactosidase and are oxidase-negative. Confirmed Escherichia coli produce b-galactosidase, are oxidase negative and produce indole from nutrient agar supplemented with 1% tryptone within 24 hours at 44℃.

Interferences:
Chlorine and chloramines. Neutralise by adding sodium thiosulphate which at a concentration of 18mgl^{-1} should counteract up to 5mgl^{-1} of free and combined residual chlorine.

Performance of Method:
Limit of Detection,

Estimated every 5 years.
Limit of detection = the number of organisms known to be added in the inocula at the end point dilution.

Uncertainty of measurement:

Recalculated every 6 months

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