

## METHOD STATEMENT

### **Determinand:**

Determination of Suspended Solids.

### **Matrix:**

Sample Types: Raw, Potable, Surface and Ground waters.

### **Principle of Method:**

This method uses any suitable vacuum pump and filtration system.

Suspended solids are defined as those solids that are retained by a glass fibre filter paper. The weight of the recovered matter is determined gravimetrically after drying at a temperature of  $105 \pm 5$  °C.

### **Interferences:**

If oil or grease is present in the sample then it will remain on the filter paper after washing with deionised water and cause falsely high results. Oil or grease should not be found in potable water but if contamination has occurred and oil or grease can be visually seen or smelt in a sample then a solvent wash will be required.

If the sample has a high dissolved solids content it may also cause falsely high results as the dissolved solids may have only been partially removed from the filter paper when a 50 ml wash is used. The sample may require a greater volume of deionised water to be used as a wash to fully remove all dissolved solids from the filter paper.

### **Performance of the Method:**

#### ***Range of Application:***

There is no upper range of application; only the LOD applies to this method. If a sample has a result greater than 100 mg/l a visual check should be made on the sample to determine whether the result is due to suspended solids or due to any of the interferences listed.

The reporting limit is 1.4 mg/l.

#### ***Limit of Detection***

1.35 mg/l for 250 ml of sample

If a smaller volume is used the LOD should be adjusted accordingly.

#### ***Recoveries of Compounds, Bias and Uncertainty of measurement:***

Sample type	Mean sample result (mg/l)	Mean sample spike result (mg/l)	Conc. of spike (mg/l)	Spike recovery (%)	Bias (%)	% Uncertainty
Soft- Langsett	0.02	77.7	80	97.1	-	6.6
Medium- Hooper	0.35	77.9	80	96.9	-	7.1
Hard- Haisthorpe	0.02	78.2	80	97.7	-	10.1
Surface-Derwent / Elvington	7.18	82.1	80	93.7	-	13.8
20 mg/l Std	18.95		-		-5.25	14.4
80 mg/l Std	78.1		-		-2.36	10.9

### **References:**

Suspended, Settleable and Total Dissolved Solids in Waters and Effluents 1980, Methods for the examination of Waters and Associated Materials. (HMSO) ISBN 011751957X

