# METHOD STATEMENT



# **Determinand:**

Determination of Turbidity

# Matrix:

Sample Type: clean and lightly polluted waters e.g. raw, surface, ground waters.

### **Principle of Method:**

Turbidity is an expression of the property by which suspended or colloidal matter scatters light thereby imparting opacity to the sample.

Light from a tungsten source, scattered by suspended and /or colloidal matter in the sample, is measured at right angles to the incident beam. The intensity of light scattered by the sample is compared with that measured for standard formazin suspensions and expressed as nephelometric turbidity units (NTU).

Standardisation of the instrument is accomplished with a set of secondary turbidity standards, which simulate formazin suspensions and are labelled according to NTU values.

# Sampling and Sample Preparation:

Samples are received in 1L pet bottles. There is no sample preservative used.

Samples are stored at  $3 \pm 2^{\circ}$ C until ready for analysis.

Analysis must not be started until the samples reach a stable room temperature. Samples should not contain air bubbles.

#### Interferences

Air bubbles in the vial will cause interference with scattering of the light. The instrument is sensitive to fingerprints or dirt, so the vials are cleaned and oiled before each reading.

### **Performance of Method:**

### **Range of Application:**

LOD - 4000 NTU	
Normal Reporting Limit:	0.1 NTU

#### Limit of Detection:

0.05 NTU

### **Recoveries of Compounds:**

	Low	High	Final	Trade	Crude
	Standard	Standard	Effluent	Discharge	Sewage
Conc NTU	200	800	0.503	1.67	12.59
% Recovery	91.9	96.9	101.8	100.5	101.0
RSD (NTU)	10.9	26.7	0.29	0.86	3.44

### **Uncertainty of measurement**

± 5.0%

### **References:**

Colour and turbidity of waters 1981. Method for the examination of waters and associated materials. HMSO. ISBN: 0117519553.

WTW Portable Turbidimeter, Turb 430 IR/T manual.