

Lap report

Literature, Russian Literature



Determination of contaminants in water, waste water and sea water using powder pillows method.

In the effort to determine various contaminants in water, innovations are constantly being developed to provide accurate, precise and quick measurements. Methods that provide portability and allow for in-situ measurements have become desirable. These methods provide flexibility, accessibility and give up to date information on current and prevailing environmental status of the sample site. Methods utilizing powder pillows are no exemptions in this diverse fields of qualitative and quantitative analysis. The purpose of this experiment was to demonstrate the application of powder pillows in determining the concentration of nitrate (MR), Nitrite (LR), phosphorous reactive and nitrogen ammonia in water.

Procedure

The procedures for the determination are as per method 8171, 8507, 8048 and 8155 respectively. A sample holder was filled with 25ml of the sample. The UV/VIS was tuned to the wavelength for detection of the respective contaminant to be determined. A blank was run and used to zero the UV/vis spectrophotometer. Another sample holder was also filled with the sample to be studied and run at a similar wavelength as the blank. The reading of concentration in mg/L were taken and recorded for each of the samples.

Results

Table 1 Results Table

ROM

SECUNDRY

FINAL

Nitrate

0. 2

1. 9

1. 4

Nitrite

0. 01

0. 007

0. 006

Phosphorous reactive

1. 89x 3ppm

2. 21x3ppm

2. 07x 3ppm

Nitrogen ammonia

0. 09

0. 01

0. 03

Discussion

When we compare, the concentrations of the four contaminants, the concentration of phosphorous reactive are very high compared to nitrate, nitrogen ammonia, and nitrite respectively. For the three samples the values of these respective contaminants are the same signifying their source could be similar according to the water characteristics table 2. From the values, it can be deduced that the samples can be considered to be from grey water.

Table 2 Characteristics of wastewater