



# Portable Wastewater Analysis

## Use of a portable analyser to assess site performance

APPLICATION NOTE

### APPLICATIONS

Filter Effluent  
Final Effluent  
Borehole Water  
Settled Sewage

### STANDARD CHEMISTRIES

Ammonia  
Orthophosphate  
Nitrate  
Nitrite  
Iron  
Aluminium

### BENEFITS

High frequency data set  
Not reliant on off site laboratory tests  
Live data available on site  
Measurements made 24 hours/day and  
7 days per week  
Portable flexible packaging

### PRODUCTS AVAILABLE

MicroMac 1000  
WIZ Probe

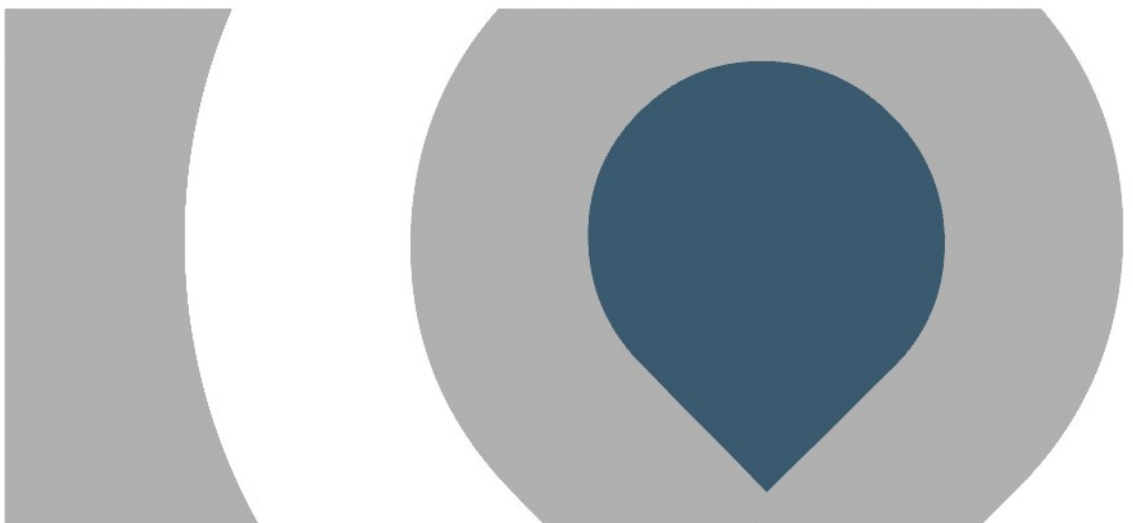


If a problem is suspected at a sewage treatment works that requires the analysis of the process liquor for nutrients or metals (Iron or Aluminium) then there are typically two options available:

1. Install an automatic sampler to take time interval samples, which are then analysed by the laboratory or on site using a test kit after the event.
2. Install a monitor that can analyse immediately for the required substance.

Historically the first option was the only feasible one, due to the installation costs of a permanent monitor. However, Partech are now able to offer a system that can be deployed simply without the need for permanent fixings. It can measure up to 4 parameters at regular intervals throughout the day and night, the length of autonomous operation depending on the frequency of analysis. This gives the operator or support chemist, up to date information without having to wait for the laboratory results or on site spot test results.

The portable analyser provides the site with up to date results as they occur and can be installed in minutes. The analyser is in a plastic enclosure which is weather proof and can be stood on the side of a channel, chamber or on the grid above a chamber, whichever is the closest or most convenient to the sample point.



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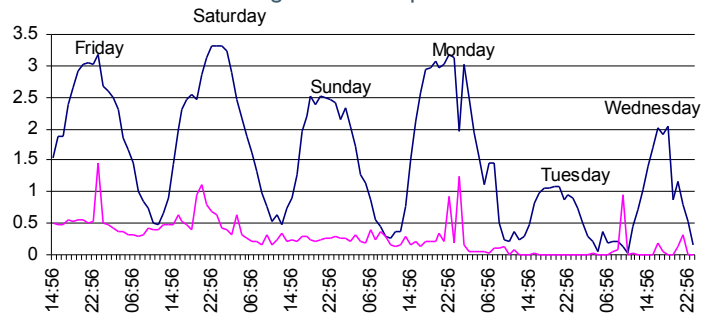
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### APPLICATION NOTE

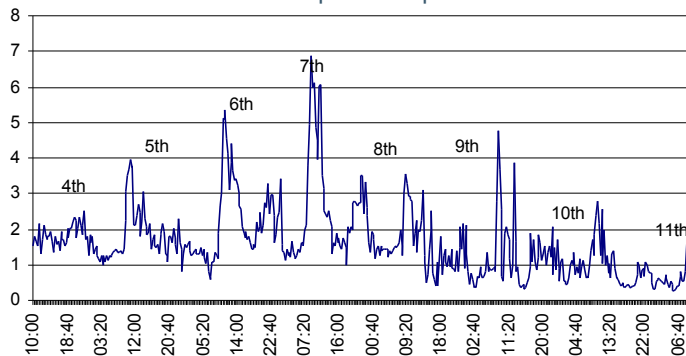
Once it is installed the system can be set up to run 1, 2, 3 or 4 chemistries sequentially e.g. Ammonia, Phosphate, Nitrate and Nitrite every 30 minutes as the total analysis time for these four determinands is 24 minutes. Commonly the system is used for 1 or 2 chemistries and therefore can run a cycle every 15 minutes if it is appropriate, the most common being Ammonia and Phosphate although Total Iron has been run occasionally.

Typically the system is utilised when a particular part of the works is suspect, such as a filter bed showing inconsistent and intermittent Ammonia removal and where sampling for 24 hours has not shown the full trend. By installing the analyser on the filter bed outlet the ammonia can be analysed every 20 minutes for 8 days and examination of the data helps diagnose the problem.

The analyser can also be deployed on the final effluent if it is suspected that the treatment works is getting close to its discharge consent and a plot of data over a period of time can indicate the diurnal patterns and whether the problem is linked to incoming flow, known process failures etc.



Result Set showing a diurnal pattern for Ammonia with Phosphate spike that allowed site management to track operational problems



Result Set showing two large Phosphate peaks which were subsequently traced to a Trade Effluent discharge

Partech are offering this package for hire in a package that includes the analyser, sample pump, delivery and setup, reagents and data reporting. This package can be tailored to suit the particular needs of a site. Alternatively the MicroMac 1000 Portable analyser can be purchased along with its sister product, the MicroMac C which is designed for permanent installation.

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