



# ENVITECH NEWS LETTER

## EDITION 8

### Jan2008

#### **A Message from the Editor**

Welcome to the 8<sup>th</sup> edition of our Newsletter. Most of you will probably have noticed that we are now sending more frequent short mailers to notify you of specific developments. Consequently the full News Letter will go out only once a year via our regular monthly mailers with a link to our website.

Significant changes have occurred over the last 12 months, both in staff, available products and application development. Our Envitech Seminars for 2007 were concentrated in the South and South West regions. Hopefully 2008 will see a return to the Midlands and North. It is also hoped to provide a series of shorter lunchtime seminars at or near client's premises, with a mobile display of relevant instrumentation. So if you are interested in taking advantage of this resource do please get in touch, to discuss possible topic focus and schedule.

We welcome two new members of staff, Andrew Johnson and Andy Hudson, sales consultants for North and South areas respectively. We wish them every success, and all of you a prosperous New Year.

**Mike Pearce**

#### **NEW PRODUCTS**

#### **"Insitelg – MPA 48 multi channel DO / Solids/ pH / ORP monitor"**

The InsitelG Model MPA48 multi-channel analyzer is a unique system combining advanced electronics with solid-state optical sensors and is the latest improvement from InsitelG. The analyzer



will accept 4 to 8 inputs from any combination of DO, SS, pH, and ORP, sensors, and automatically configure for the correct operation.

This makes the cost per measuring point one of the lowest available.

The DO sensor does not need membranes; fill solutions, nor routine calibrations and maintenance. The SS sensor is based on near infrared technology, which eliminates inaccuracies caused by changes in the process color. The pH and ORP electrodes are both flat glass, with double reference junctions, and temperature compensated. Both probes feature quick disconnect cartridge design for easy maintenance and fast changes.

#### **"AmNiSys + Optical D.O."**

***This device now offers a complete package for aeration control in one unit, ideal for the smaller works.***



- ❖ NH4 for DO set point control
- ❖ NO3 for Anoxic period control &
- ❖ DO for blower control

It may also be used in conjunction with the Stipsan & MPA-48 and PBS1 Ammonia probe to give a fully integrated and crosschecked monitoring and control package for large ASP plants.

Endress+Hauser  
People for Process Automation

InsitelG

bbe  
moldaenke

TriOS  
TriOS Optical Sensors

eureka

Achilles  
serving the procurement professional

## New Samplers from Envitech



**Envitech are** now offering a new very competitively priced multibottle range of water and wastewater samplers. The Liquiport is a well-established product range in Europe and is available in portable or fixed site formats with a variety of bottle configurations. Sample delivery is by means of a peristaltic pump ensuring maximum reliability and even rate of sampling. The rugged housing is in polyethylene ensuring long life and durability, whilst programming is quick and easy via the touch keypad with menu-guided set-up. Routine maintenance requires no special tools and is easy to perform. Fixed site units are Mcertified. Atex units are also available.

### **Advanced features include:**

- ❖ Two way remote comms via the RS232 port
- ❖ Multi Parameter measurement using sonde inputs
- ❖ Flow proportional or time composite operation
- ❖ Zone 1 Atex certification (optional)

## Surcis Respirometer



Envitech have now added the Surcis BM-T bench respirometer to their range of available respirometric measuring techniques. This instrument compliments the abilities of those already on our books bringing extra and different capabilities.

Features include:

- ❖ **Standard and advanced calculation options**
- ❖ **Easy to use**
- ❖ **Small footprint**
- ❖ **Easily transportable**
- ❖ **Very low maintenance**
- ❖ **Does not require gas cylinders**
- ❖ **Open system allowing tests of additions**
- ❖ **Continuous air supply therefore never oxygen limiting**

Wastewater treatment applications include:

- ❖ **Toxicity Detection** - Nitrifying or Carbonaceous suppression
- ❖ **Sludge "Health" determination** - Endogenous respiration rates
- ❖ **Waste Treatability** - Permissible loadings and required RT's
- ❖ **Optimal SRT determination** - Fast calculation of the optimal sludge retention time (sludge age) and its relationship with F/M.
- ❖ **Nitrification Capacity - Rn** (Nitrification Capacity) and **AUR** (Specific Nitrification Rate)
- ❖ **Aeration requirements - Energy optimization**
- ❖ **Bio kinetic parameters** - Biomass kinetic constants determination **Parameter determination for Modelling software:** bCOD, rbCOD, sbCOD, AUR,
- ❖ **Many Others**

## Eureka's multiparameter Sonde



**Envitech Ltd** is launching an exciting new product range into their hand held and logging water quality instrumentation suite.

The **Manta™** analyzer and **Amphibian™** display from **Eureka** are the product of over 100 man yrs of instrumentation and field experience.

Parameters available are: **temperature, dissolved oxygen including optical DO option, conductivity, pH, turbidity, and Chlorophyll.**

The Manta features USB computer communication and unbreakable cables. The Amphibian's easy-to-use software and off-the-shelf PDA provide data storage and display both inexpensively and reliably. The EasyData software allows graphical and tabular data viewing, manipulation, annotation and export into other software such as Microsoft excel.

EasyData not only communicates with Eureka's Manta, but also with many YSI and Hydrolab sondes.

To complete the package Eureka's Eagle Eye remote data telemetry system utilizes either cellular or satellite communication to transmit water quality data automatically to the customer at set intervals.

***We are confident that this will be a significant asset to all environmental workers, and potable water suppliers.***

## Digimed's Solids sensors



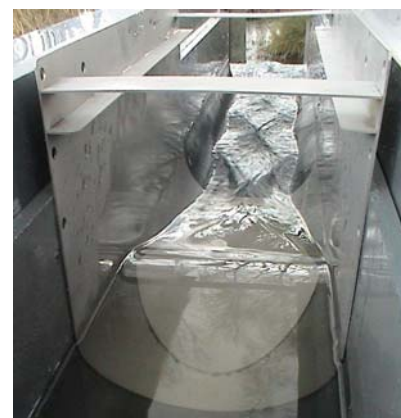
A new range of solids/turbidity instruments covering ultra low to thick sludge concentration ranges are now available from Envitech.

Measuring techniques include Nephelometry and reflectance whilst physical configuration includes both flow cells and insertion probes, complete with auto cleaner.

The transmitter/controller provides visual display, menu driven programming, analogue and digital outputs and PID control capability.

Profibus and Ex rated versions are available as options.

## High Quality BS3680 SS flumes and FMCert non-standard structures



We have now extended our range of available open channel flumes and weirs to include Stainless steel structures, which meet the Mcerts requirements.

Conventional BS3680 flumes or where appropriate non standard structures to fit in round bottom channels may be supplied, the latter coming with an FMcerts certification.

We can also supply the secondary head-measuring device as well, if so desired.

## Merlin handheld controller for Trios optical sensors



**Merlin** is designed for portable measurement control and data display of TriOS oil and algal sensors. A state-of-the-art OLED-graphic display offers excellent readability even in high ambient light conditions. The low-power design enables the user to carry out field-work with a connected microFlu sensor for more than 2 hours with the 2 built in 9V rechargeable batteries. An additional battery pack, extends battery life to more than 8 hours. Data can be stored in the solid-state memory of **MERLIN** and transferred to a PC via USB connection.

## Dedicated Optical Nitrate monitor

The Trios Props Hyperspectral UV/Vis absorption spectrophotometer has now been made available in a simplified but dedicated format

for the measurement of a single parameter, either Nitrate or COD. In addition a new Tribox display and control unit is available to go with it. This has significantly reduced the cost of



purchase for those clients just requiring a single parameter, whilst still retaining the full accuracy of measurement.

## “Three in One” for BBE fluoroprobe



The well-established BBE Fluoroprobe for measuring algal concentrations and their distribution between classes is now available in three interchangeable formats depending on the application for which it is required.

The original submersible probe for profiling algal distributions in water bodies is still the core product, however it is now possible by means of a cuvette adaptor to utilise the instrument as a laboratory analytical tool for discrete sample analysis.

In addition a novel fibre optic adaptor converts the fluoroprobe into the Benthofluor for quantifying Benthic algal deposits on rocks, pebbles and shorelines.

It is truly a multi application tool!



## Yorkshire Water award Framework to Envitech Ltd

*Selected for: Technical competence, Levels of service, optimisation of design and many other abilities.*

Envitech's Technical Director, Jim Pickering and Angela Spence, Yorkshire Water's Senior Buyer sign the Framework Agreement for the design, supply, installation, training & commissioning of Instrumentation for the Environmental Business unit.



Instruments selected include:

- StipScan multiparameter in-situ monitor
- Stip Ammonia Buoy &
- Amnysis NH3/NO3 monitor for sewage and effluent

## Flying High & Sailing along at Envitech's Seminars on Instrumentation & energy saving

Envitech's 2007 seminars gave both presenters and delegates an excellent day at some of the most adventurous venues chosen to date!

Above delegates pose for a photograph during a coffee break alongside the HMS Gannett at Chatham Historic Dockyard. The seminar itself was held in the

Commanders Cabin aboard the old battleship.

The second venue was equally absorbing, being in the Fleet Air Arm Museum at Yeovilton. Delegates were able to sample the sites, sounds and vibrations of life on a flight deck, during



the lunch break!

The technical content of the presentations was particularly relevant to today's challenges in wastewater, giving insights into new instrumentation and its uses for automation and control for energy saving in activated sludge plants.

Envitech would like to extend its sincere thanks to all those who participated, and in particular the guest speakers: Rosey Wilson (Severn Trent), Andreas Kumm (Stip Germany), and Emilio Serrano (Surcis, Spain)

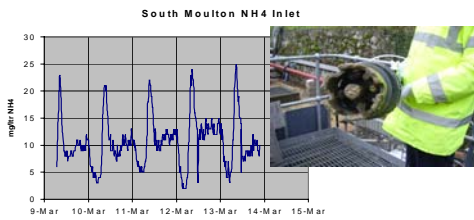
Keep an eye on our website for future events.

## South West Water goes for simplicity and reliability

Process investigations at South Moulton Sewage Works Devon, required continuous monitoring of inlet sewage for NH3-N.



Experiences with other in-situ devices had proved troublesome, so Envitech offered a trial AmNiSys unit to test at this location. Considering the difficult nature of crude sewage, performance exceeded all expectations, with the air clean system keeping the unit reasonably clean, and the analytical comparisons being acceptable (9.0 mg/l vs 9.2 mg/l on the AmNiSys) even after 2 months unattended operation



Due to the success of this installation, ease of use, lack of maintenance or reagent requirement, further units have been purchased for use on works outfalls.

## River abstraction protection with AmNiSys

Following the success on wastewater applications, SWW have trialled the Amnisys on a river abstraction application at Pynes on the River Culne.



The river is very flashy and runs through rich agricultural land used for dairy farming. This can allow ammonium compounds to get into the supply of the treatment works. Low-level ammonium has historically been monitored using a colorimetric

batch system. However a more cost effective, continuous analysis instrument has been sought in order to reduce costs and manpower requirement and to avoid missing fast transient spikes.

An Amnisys was sited in the inlet analysis tank at the river intake, and a two-point calibration procedure, using the river water and a "1 mg/l spiked sample" was performed.

The results have been excellent with measurements well below 0.1mg/ltr, verified by independent analysis.

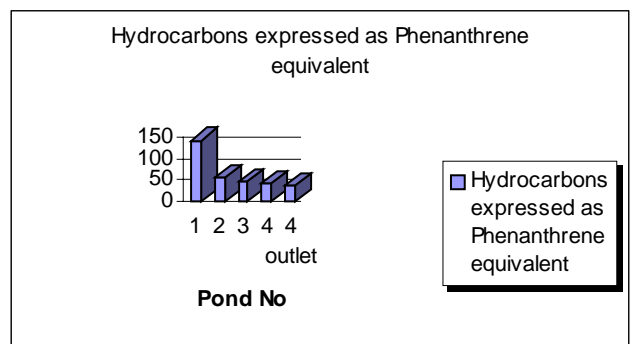
Two units are now installed, one at Pynes the other at Trenear in Cornwall.

## Trios Enviroflu helps assess Oil contamination in Fishing Lakes

**Envitech Ltd.** was pleased to assist Aquascience in their survey of a series of fishing lakes in the Midlands, which had been subject to a serious oil discharge incident some time ago.



An assessment of the relative hydrocarbon contamination through the lake system was made using the Merlin hand held logger with the Trios Enviroflu-



HC. This sensor is ideal for measuring low levels of Hydrocarbons.

The results, which complemented a detailed ecological survey, confirmed that significant pollution still existed in the top lake. Sequential containment, biodegradation and volatilisation resulted in much lower levels in subsequent lakes, which were able to sustain more

diverse fauna and a healthy fish population.

## Ultimate Confidence for DO Sensors

Envitech are delighted to be able to announce that the InsitelG fluorescent DO sensors are now covered by a standard

### **FIVE-YEAR GUARANTEE!!**

This together with the Double and new Multi channel unit capability make the InsitelG unit probably the best value for money instrument on the market.

The extended warranty has been made possible due to the exceedingly low failure return rates experienced over the last 5 years, for an installed base of in excess of 4000 units.

## **BBE Algal Monitors used in Joint Danube Survey to study Water Framework Directive requirements**

### **Million-euro boat expedition to test Danube pollution**

The world's biggest river expedition of its kind, costing over one million Euros, has just been completed. Three ships travelled the length (2,375 km) of the Danube River and its main tributaries, from Regensburg (Germany) to Tulcea Romania, testing pollution and water quality. Known as the 'Joint Danube Survey 2 (JDS2)', the expedition has attracted the international cooperation of all Danube countries from Germany to Ukraine. Its main goal is to produce comparable and reliable information on water quality for the entire Danube and many of its main tributaries. Many parameters have been tested, from toxic pesticides and heavy metals to fish and plankton. Pollution is a major problem in the Danube River Basin. Nutrient, organic and hazardous pollution are all factors that could

result in the Danube failing to meet the EU's law -- the Water Framework Directive. The first JDS1 in 2001 had a mix of results. On the positive side, it found high levels of biodiversity and rare species. At the same time, results showed concern over organic and microbiological pollution, heavy metals, oil from ships, pesticides and chemicals.

**The results from the JDS2, when they come out in summer 2008, will improve the ability of Danube country leaders to decide on what measures still need be taken to meet the EU law by 2015. They will also help Danube countries to implement the 'Danube River Protection Convention'.**

BBE's contribution was to develop in conjunction with the University of Brno in the Czech Republic and the Water research Institute in the Netherlands an in situ algal monitor for rapid assessment of Benthic attached algae – The Benthofluor.



The Benthofluor is an adaptation of the well-established Fluoroprobe from BBE, which is an insitu algal monitor capable of indicating total chlorophyll and the % of five different algal classes. It can be used to profile water bodies, used as a lab instrument with a cuvette adaptor, and now an indicator of the attached algae on rocks with the Benthofluor adaptor. A truly multipurpose tool.



## DATES FOR YOUR CALENDAR

Date	Item	Location
22 <sup>nd</sup> / 23 <sup>rd</sup> April	Energy saving Strategies in Water & Wastewater Treatment	Village hotel Leeds
?/0?/08	Envitech Seminars: Instrumentation for cost & quality Control: Energy saving, process control, quality compliance	TBA in Northern England
1-3/7/08	Aqualife	Kiel Germany
5-6/11/08	WWEM	Telford

***Equipment from Envitech will be on display at all the above events.***

For further details of any item in this news letter please contact Envitech Ltd. on 029 2033 7134 or e-mail us at [sales@envitech.co.uk](mailto:sales@envitech.co.uk)