

In the next issue

BWC News will reach double figures with the next issue!

We'll present some more case studies and give you a summary of water and wastewater projects around the world.

Never ones to stand still for too long, we'll also be changing the format of the newsletter as well.

BWC Business Issue 10

Blackwell Water Consultancy Ltd News

• New client, new sector

In April this year we were pleased to find out that we'd won a tender to carry out a detailed water and wastewater study for a global chemical manufacturer. The study will cover all aspects of water use at the site and will recommend measures to reduce water consumption. That part will start later in October 2011. We've just completed a Best Available Technology study for the same client which has identified the best methods of treating the site's effluent to reduce trade effluent costs and ensure consent compliance.

We'll also be supervising lab and pilot trials, we'll be preparing tender documentation and we'll be supervising installation, commissioning and hand-over. A real cradle-to-grave project!

• In with the new, back with the old

We've recently started working again with our oldest client. In the past we've carried out a number of effluent treatment studies for them and now they've asked us to supervise another set of trials. If the trials are successful (and initial results suggest strongly they will be) then the next stage will be to place an order with the supplier and move on to installation. We're very pleased our client has once again asked us to work with them on this and it confirms the excellent relationship we have maintained.

Another of our existing clients contacted us recently and asked if we could review the performance of an ultra-violet disinfection plant that they operate. Again, it's very pleasing to work again with a previous client and this is a short but particularly interesting piece of work. More about it in the next issue!

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A mini-boom for BWC!

We're pleased to tell you that over the last few months we've won work with new clients and seen two existing clients ask us to do more work for them. As well as the work we've already secured there are other exciting developments on the horizon. Hopefully we'll be able to tell you more about those in the next issue.

Who we are

Blackwell Water Consultancy Ltd is based in north-east England but operates throughout the UK. We give advice to businesses in all parts of the UK economy about water supply and effluent treatment. Our sister service, BWC Analysis, offers consultancy about mathematical modelling and data analysis.

Our website has more information about what we do.

Time to reflect.....

It's almost two and a half years since Blackwell Water Consultancy was formed and in that time we've worked hard to build a portfolio of clients and projects both big and small. Setting up a new business can be daunting but with plenty of planning, common sense and a willingness to learn it can be done and businesses can be successful. We're proud of what we've achieved so far but also mindful that we need to work hard to maintain success.

In this issue we thought we'd share some case studies about some of the work we've done since April 2009. What we'd also like to do, however, is share our experience of setting up a new business. There are lots of sources of information available about starting up a limited company; we've found the sources that were useful for us and we'd like to tell (briefly!) you what they are and where you can find them.

Our top tips for starting up

1. We have to say that, as dull as it sounds, a firm and achievable business plan is essential. Doing this helped us to really understand what we were offering and how far we thought we could sell those services in the first year of trading.

2. Don't reinvent the wheel. Many people have done this and there are some excellent publications and organisation that can help. We'd recommend The Contractor's Handbook (contractorshandbook.co.uk) as an invaluable guide and membership of the Professional Contractors Group (www.pcg.org.uk). The latter has excellent resources about the financial aspects of starting up. Also Setting Up & Running a Limited Company by Robert Browning is also worth a read.

3. Accounts can be fun! No really, they can, especially when someone else does them for you. Getting to grips with the financial stuff, particularly when you don't have that background, is difficult. Our advice though, is that even if you employ an external accountant, try to make sure you organise your financial records as diligently as you can. It helps you understand your cash flow, it helps your accountant and should save you money because your accountant should have less to do at year end (we're still working on that one).

4. Do your homework. Really, this should be number one. Before you approach new sales prospects, find out as much as you can about them. There's nothing more embarrassing than trying to sell a service to a client who has a good and obvious reason for not wanting it. Your business plan should focus your energy on the real, tangible sales prospects.

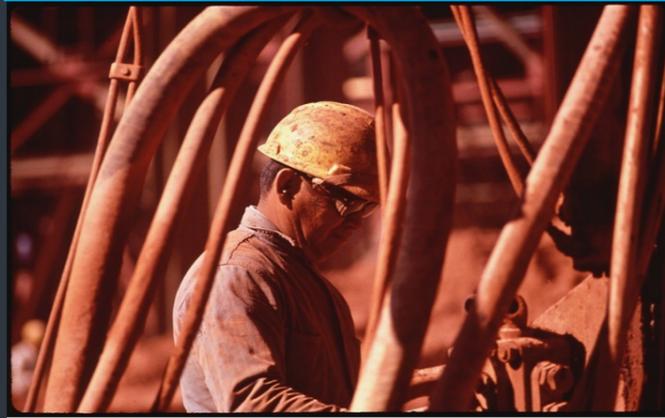
The non-bio option

Sometimes biological treatment just isn't appropriate for industrial effluent.

This project has shown that some effluents are difficult, if not impossible, to treat biologically. In this case there were two things that contributed to that; the client's site is a batch manufacturing process and they make a wide range of different chemicals, with batches changing frequently. Secondly, the composition and volume of effluent changes with each batch, so much so that mixing to achieve an homogenous effluent was tricky.

We found that the BOD to COD ratio of the effluent was very low (less than 0.1 on average) and several of the chemicals in the effluent severely inhibit biological treatment processes. We concluded that biological treatment of this effluent simply wasn't practical. Of course, there are always ways of making biological treatment possible but in this case the effort (and cost) needed was substantial and success was not guaranteed.

Consequently we sought non-biological treatment options. These have several advantages, notably the possibility that treated effluent could be reused. Also, the capital cost and supervision requirements are much lower and that is more attractive to the client.



A cradle to grave story.....

We're currently working with a global chemical company helping to specify effluent treatment plant for them

This case study really is a cradle to grave project or, in the parlance of many companies, a "whole-life project".

In April 2011 we were asked by a global chemical manufacturer to be part of a tendering process for consultancy services related to effluent treatment. The client was facing changes to a trade effluent consent at one site and had started a significant programme of water conservation measures at second plant.

We were pleased to announce in April that we had been asked by the client to provide a full range of services from the initial desk-top feasibility study all the way through to pilot trials and then commissioning of a full-scale effluent treatment plant.

We think it is essential to have as much information as possible before choosing the right effluent treatment process. The client had carefully collected effluent data for many years and this proved invaluable. To fill some gaps in the data, we got a third party to carry out additional sampling.

The full picture

The third party work was crucial. It showed that this particular effluent was only very slowly biodegradable, if at all. The client had experienced many problems with biological treatment and our survey discovered the reasons behind this. The work helped us to refine our Best Available Technology (BAT) study so we could find suitable treatment process.

The winners are...

Confidentiality prevents us from telling you exactly which processes we selected in the BAT report but we can say that they are non-biological. The third party sampling also showed large variations in suspended solids concentrations and we felt we needed to investigate that more to make sure the correct pre-treatment process was selected.

A solid pre-treatment process

We engaged another company to carry out a particle size analysis. This proved extremely useful and helped us to discount certain types of solids

removal process.

Now, armed with a thorough and detailed analysis of the composition of the effluent we were able to specify and cost options for pretreatment and the main treatment processes.

It's good to talk

We contacted equipment suppliers, verified our costs and designs and

"Two pilot rigs are on site and we've started working on the client's second site"

Selected two processes for further investigation. Lab tests confirmed that either process could meet the consent conditions needed and the client

decided to trial both processes at one of their sites.

It's good to talk

And that is where we are now. Two pilot rigs are on site and work is now under way on the second site. As Christmas draws closer and the pilot trials end we'll then move into commercial negotiations, followed by procurement, building, construction, handover and, at long last, the end!



A private affair

The DWI (Drinking Water Inspectorate) estimates that in England alone there are about 32,500 small and single dwelling buildings that are not connected to the water mains (DWI report "Private water supplies in England – July 2011")

In July 2011 a property owner in north east England contacted us to see if we could help to review the state of their private water supply infrastructure.

The property is in a rural location and water is supplied from a spring that

rises on the owner's land about 600m from the point it enters the house.

This was a short but very interesting project and highlights that even in 2011 there are many people in the UK who do not have the security of a mains water supply.

At this property, the spring is captured in a brick chamber and is diverted to a breeze-block tank which acts as storage and as a settlement tank. From there the water passes, by gravity, across fields to the property.

There are also three other untapped

Many properties are not connected to the mains. Here we talk about a recent project that helped a client with a private water supply.

springs nearby.

We gave the owner advice about how the existing tank could be repaired, including specifying grades of watertight mortar for rendering the inside walls. We also discovered that the flow from the spring could support many more people than currently live in the property. We made other recommendations about ensuring livestock and wild animals cannot get near to, or into, the tank and chamber and we provided costs for simple UV disinfection systems as well.

Birds and beasties.....

Mains water is treated and disinfected very thoroughly before it reaches the tap. Private water supplies often don't experience the same level of treatment and so great care needs to be taken to ensure they are safe.

In this case, our client owned land on which sheep graze. He had done the right thing by keeping the sheep away from the supply with good quality fence. However, there's always the risk sheep can get free so we recommended repairing the fence around the storage tank as well. Sheep faeces can contain the cryptosporidium parasite which can cause severe stomach upsets.

This type of tank needs an overflow, but that pipe also needs to be covered with mesh to stop anything crawling through it into the tank. Similarly the tank roof needs to be watertight and fitted with a lockable cover to prevent anything (or anyone) getting into it.

We recommended the quality of the water to be tested regularly in an approved lab and we also specified a small UV disinfection system which the client could fit after the cartridge filters on their supply system. In effect, a water treatment system in miniature!

Q&A – what is the legal situation with private water supplies?

Q: Are there any regulations?

A: Indeed there are. The DWI has an advisory role in supervising private water supplies and this includes working with local authorities to give technical and water quality advice.

The Private Water Regulations (2009) came into force on 1st January 2010 (try <http://dwi.defra.gov.uk/stakeholders/private-water-supplies/index.htm> for more information)

Q: I need technical advice!

A: We'd recommend that you always seek the advice of an expert for private water supply matters. The regulations can be daunting if you're not familiar with that type of document and there are many technical details that need to be borne in mind. The best resource we know of for technical advice about private supplies is the Private Water Supplies Technical Manual <http://www.privatewatersupplies.gov.uk>