

SRK CONSULTING: New contaminated land regulations create work for eco-friendly company

Minewater expertise is now on tap for all

WHEN South African mining company, SRK Consulting, wanted to set up in Great Britain they chose Wales with its mining tradition and opened a Cardiff office in 1988.

Since then the company has witnessed the decline of the Welsh mining industry and has moved into the rehabilitation of old mine workings – the legacy of an industry that goes back to pre-Roman times.

In Wales there is a substantial amount of derelict land, which falls under the present Government's policy of sustainable development, reclamation and development of brownfield sites for industrial, recreational and housing purposes.

One of the main problems SRK has been confronted with is that of water from disused coal mines contaminated with the products of oxidation of iron pyrites.

When mines are abandoned and the pumps turned off, groundwater levels recover and water flows out of the mine into the river system. When it emerges the iron is deposited in the rivers resulting in red ochre which stains rocks, makes the water acidic and kills river life.

One of the ways SRK Consulting deals with this is to treat the water by using a system of reed beds or wetlands.

The contaminated water from the mine is allowed to filter through a series of reed beds. As it does so the iron is stabilised and locks into the soil around the roots of the plants. In this way the water moves through a series of channels and eventually back into the river as clean water.

"It's a simple, environmentally friendly treatment method where circumstances are suitable," said Dr Kevin Privett, principal engineering geologist at SRK's Cardiff office.

"In this way a small area of the valley is reclaimed as flat wetland. The process takes care of itself and requires a minimum amount of maintenance and the area reclaimed can then be turned into a public open space."

SRK Consulting provided design input to a scheme, which was developed by the former West Glamorgan County Council at Tonmawr near Port Talbot.

Dr Privett said, "We have been involved in a number of schemes in the UK looking at the potential environmental impact of mine water in rivers coupled with the potential for educational and recreational improvement result-

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ing from the construction of a new wetland areas. This often incorporates landscaping and the inclusion of the support of the local community.

"The company is honoured to be playing a small part in the recently designated World Heritage Status of Blaenavon industrial landscape."

As a company with its roots in the mining industry SRK Consulting has experience of every kind of mine and mineral found throughout the world and employs a staff of 600 scientists and engineers.

Since establishing a presence in South Wales the company has been involved with mine rehabilitation projects totalling more than £100m.

"Because of our skills in mine



WATER WATCH: Torfaen County Borough Council's principal countryside officer Andrew Osborne, left, inspects minewater at River Arch, Blaenavon, with SRK Consulting civil engineer David Wood *Picture: ANDREW PARKINSON*



Technical help available

SRK (UK), the European arm of SRK Consulting, currently offers services in:

- Mining engineering and planning
- Mining finance
- Exploration and mining geology
- Geotechnics and engineering geology
- Hydrology and water engineering
- Mineral process engineering

- Environmental science and engineering
- Waste management and engineering
- Contaminated land and ground water remediation
- Mine closure planning

For further information regarding the services offered by SRK Consulting, please contact Mrs Catrin Davies, telephone 02920 235566 or log onto our website at <http://www.srk.co.uk>.

closure and dealing with mine processing works and smelters, we have experience

in the chemistry and engineering required for cleaning up contaminated sites in general," Dr Privett said.

"This has provided the impetus for us to move into the field of contaminated land risk management, risk assessment and clean up involving sites that have not been mined. We transfer our mining skills to the development sector."

In South Wales there is a potential market which will increase when the new Contaminated Land Regulations come into force next year. Public opinion on environmental issues has prompted legis-

lation. This in turn will ensure that local authorities and industry combine together to create a better environment.

For Dr Privett and his team the key to achieving this is sustainable development. The National Assembly has already given a lead which local authorities are anxious to follow.

"Our skills can help alleviate South Wales from its mining past and what better place to choose than the cradle of the industrial revolution," he said. "SRK will be increasingly involved in the sustainable development of abandoned mining land throughout Wales while continuing to help planners in the redevelopment of this historical legacy."



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ENVIRONMENTALLY FRIENDLY: A reed bed in operation

Helping Minescan project develop a new understanding of historical interest sites

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SRK Consulting provides a comprehensive range of services to resource industries.

"We can assist mining companies from grass roots exploration through to mine closure," said Dr Kevin Privett, principal engineering geologist at SRK's Cardiff office.

"The company is wholly owned by its employees which means we provide truly independent advice."

At present SRK is involved in the Minescan project. Minescan is a partnership project between the National Museums and Galleries of Wales and the Countryside Council for Wales, reviewing metal mines of Wales.

The project has established the first comprehensive database of these mines, enabling a frame-

work of sites to be selected for conservation to demonstrate the metallogenetic history of Wales.

In addition, in collaboration with SRK it will provide information for the sustainable redevelopment of abandoned mine lands.

Dr Privett said, "We are proud of being technologically advanced while still remaining practical and focused on the requirements of our clients."