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, recreation 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 Consult- ing 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 locked 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 Tomnawr 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-