

TECHNOLOGY

Solucorp Stabilises Heavy Metals

The lead-zinc mining, smelting and refining company, Doe Run, has extended for five years its contract to use Solucorp's Molecular Bonding System (MBS®) to treat heavy metal bearing slags produced at the company's Herculaneum smelter in Missouri. The contract extension includes a minimum 25% increase in the slag treated.

The MBS® process was developed by Solucorp to stabilise heavy metals in a variety of media including ash, soils, slag and sludges, at a rate of 20-500 t/h. It uses a proprietary mixture of non-hazardous reagents, together with water, to convert heavy metals from their existing reactive/leachable form (usually oxides) into stable metal sulphides. To maintain the stability of the sulphides, the process incorporates a pH buffer. The treated material can either be returned to the original site or disposed as non-hazardous waste.

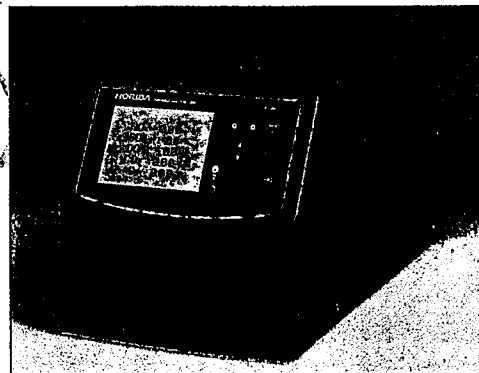
According to Solucorp, the process can treat a variety of heavy metals, in a more cost-effective and environmentally-sound manner than other methodologies. The process has been classified by the US Environmental Protection Agency as an approved Superfund Innovative Technology and, more recently, British Columbia's Ministry of Environment has awarded the Canadian province's first and only heavy metals remediation permit to a clean up project utilising the MBS® process.

Brian Binckes, Solucorp Industries Ltd. Tel: (+1 913) 685 4530.

Pipe Conveyors Cut Dust

Bateman Materials Handling has received two orders for Japan Pipe Conveyors (JPC) to transport coal fines, cement and granulated sludge at two South African

Horiba's new portable gas analyser.



operations. The JPC is a belt conveyor where the loaded belt passes through a series of pipe-forming idlers which roll the edges of the belt upward and around until they overlap. This pipe shape is maintained along the length of the conveyor until it is allowed to open up again at the tipping point to discharge the load.

According to Ludwig du Toit, Bateman holds the licences for the installation of JPCs in southern Africa and has installed over 50 since 1984. He says that the new orders confirm market interest in these environmentally-friendly conveyors which cut pollution in two ways. First, JPCs prevents the generation of dust and spillage along the length of the conveyor and shield the material from the effects of wind and water. Second, because the JPC can be curved horizontally and vertically, the number of transfer points is minimised.

Ludwig du Toit, Bateman Materials Handling, South Africa. Tel: (+27 11) 455 6830. E-mail: <ldutoit@bmhbrandt.co.za>.

Horiba Gas

The world's smallest stack gas analyser has been launched in the UK by Horiba Instruments. The PG-250 is a portable gas analyser that makes it easy to measure accurately emissions from high stacks on boilers, gas turbines, refinery, waste incinerators and electric utilities.

Using the same technology as a permanently-installed analyser, it provides reliable compliance testing for NO_x, SO₂, CO, CO₂ and O₂. The results can be simultaneously displayed on screen or down loaded to a notebook PC. The analyser weighs only 17 kg and is easy to transport.

Horiba Instruments Ltd, Kyoto Close, Summerhouse Road, Moulton Park, Northampton NN3 6FL, UK. Tel: (+44 1604) 671 166. Fax: 671 080.

Bugs Clean Up

Knight Piésold LLC, part of the Knight Piésold Group, has been awarded an Engineering Excellence Award by the American Consulting Engineers Council of Colorado. The award in the Water/Wastewater category was made for the 'West Fork Unit Passive Water Treatment System' at Asarco's West Fork lead mine near Bunker, Missouri. The innovative system uses naturally occurring bacteria to reduce high levels of lead in mine discharge water to levels better than those required by drinking water standards.

Knight Piésold LLC, 1050 Seventeenth Street, Suite 500, Denver, Colorado 80265-0500, US. Tel: (+1 303) 629 8788. Fax: 629 8789.

Barrier Treatment

Golder Associates, working on behalf of Nortel Ltd, has installed a reactive barrier

treatment system in Belfast, Northern Ireland, to contain soil and groundwater contamination. The site was found to be contaminated with up to 390 mg/l trichloroethylene (TCE) from the use of chlorinated solvents during the manufacture of electronic components. A localised plume was found close to the current site boundary and tests showed that a relatively long path length was required to completely reduce the chlorinated solvents. The proximity of the boundary meant that this was not possible.

Instead, Golder devised a reaction vessel concept which extended the reaction path length by diverting the flow vertically through a cylindrical column of iron filings. Groundwater was collected using a V-shaped funnel placed at right angles to the flow path, to a depth of 12 m. The reactor was then situated at the apex of the funnel. The device was installed in early 1996 and data shows a 99.97% reduction in TCE levels. The installation of the system is relatively cheap and the operating costs are minimal - no power is required and there are no effluent treatment costs.

Dale Haigh, Golder Associates, Nottingham, UK. Tel: (+44 115) 945 6544. Fax: 945 6540.

Ground Analyser

Pfeiffer Vacuum has launched a new computer controlled, bench-top mass spectrometer designed to incorporate a very low detection limit. Called the OmniStar, the analyser can obtain information about the movements of gases or liquids through soil, sand and stone at atmospheric pressure. Measurements can be made by injecting a tracer gas, such as sulphurhexafluoride, into the ground and detecting it at a certain distance.

The OmniStar provides simple automated gas analy-