

■ Jungle duty for dual completion ESP

A swampy jungle location in Sumatra without road links and serviced only by helicopter, led Centrilift to recommend a dual completion Electrical Submersible Pumping System for the economical operation of two wells for Kondur Petroleum SA (formerly Lasmo). The goal is to extend operational life with reduced workovers and higher efficiency, particularly as oil production becomes more demanding due to increased water cuts.

The dual completion involved Centrilift, a leading supplier of integrated Electrical Submersible Pumping (ESP) services, in installing two ESPs, one below the other, in each well.

After installation, the first ESP was powered. At the point of failure of this ESP, the second one will take over. There is, therefore, a saving of one complete workover per well with consequent major benefits including reduced downtime and less costs for additional transportation of equipment.

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■ Rollerflow solves waste pumping problem

Waste oils and greases containing solids such as iron filings and other detritus are being successfully pumped at the Tremorfa works of Cardiff Bar and Section Mills by the installation of a Rollerflow diaphragm pump supplied by SIHI Pumps, UK.

Powered by a 2.2 kW motor at 50 rpm, the pump is used for transferring the waste from drums into an effluent tank, from where it is collected on a regular basis by a waste disposal contractor.

The drums are emptied at

intervals as and when required, which means that the pump stands idle much of the time with effluent retained in it. Yet the rubber diaphragm has never been replaced and the pump has continued to operate perfectly since it was first installed over three years ago.

Rollerflow pumps are based on a unique design whereby the flexible diaphragm is clamped between the curved surfaces of an upper and lower casing, the space between the diaphragm and the lower casing forming the pumping chamber.

Four rollers, carried by a rotor assembly, run along the top of the diaphragm, changing its configuration so that it is pressed against the lower casing at various points in turn. This creates a displacement action which is gentle, non-agitating and positive.

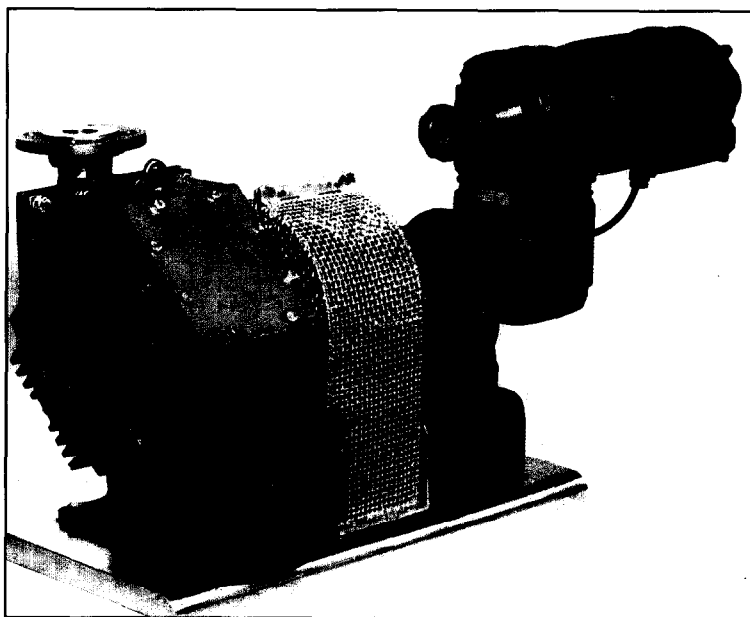
During the operating of the pump there is virtually no stretching of the diaphragm and this contributes to its long, trouble-free service life, even with the most recalcitrant, gritty or stringy solids in suspension.

Contact: SIHI Pumps (UK) Limited, Bridgewater Road, Broadheath, Altrincham, Cheshire WA14 1NB, UK. Tel: +44 161 928 6371; Fax: +44 161 928 3022.

■ Emergency pumps for drought prevention

Ingersoll-Dresser Pump Company (IDP) has supplied Birse Construction with an order worth over £230 000 for state-of-the-art Worthington Simpson LNN water pumps to be used on a drought prevention contract for Yorkshire Water. This is one of a number earmarked as part of drought prevention measures in the North Yorkshire area which includes the cities of Leeds, Bradford and Halifax. Yorkshire Water has set aside a total of £100m to cover this work and has awarded Birse Construction the contracts for two phases of the project which together are worth £18m.

Birse Construction is working on eight separate locations constructing new pumping stations or refurbishing existing sites. The LNN pumps manufactured at the IDP plant at Newark in Nottinghamshire, have been installed in the Lobwood pumping station to provide a temporary increase in its water output from 120 000 m³/day to 180 000 m³/day. Yorkshire Water has been granted permission by the National Rivers



SIHI Pumps' Rollerflow can handle waste oils which contain iron filings.

Authority to extract more water via the Lobwood pumping station from the River Wharfe to supply the Chelker reservoir. This can only be done during the high spring flows between the end of January and May each year.

IDP was able to respond to a tight schedule and deliver the pumps ahead of time, much faster than normally quoted for a product of this type. Within this timescale, one of the most difficult aspects was the sourcing of large 500 kW electric motors and starting gear to power the 300LNN750 pumps from IDP. IDP was able to find a reliable electric motor supplier in Europe.

Contact: Ingersoll-Dresser Pump Company, Marketing Services Unit, PO Box 2, Chorley New Road, Horwich, Bolton, Lancs BL6 6JN, UK. Tel: +44 1204 690 690; Fax: +44 1204 690388.

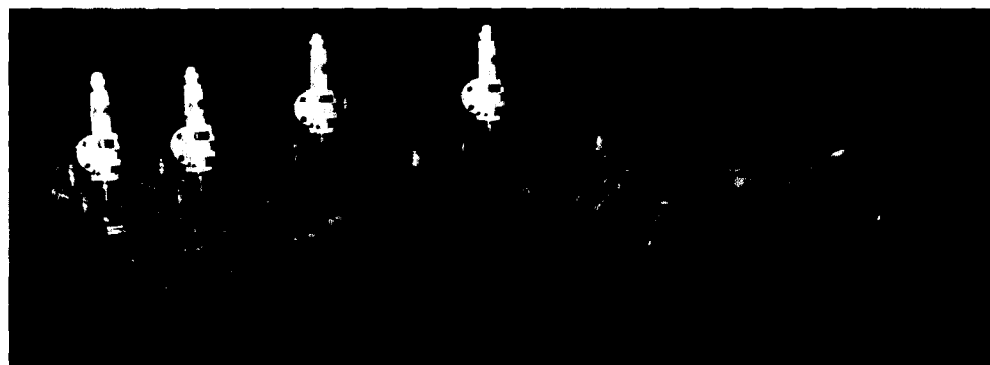
■ Pumps aboard the world's biggest oil barge

As big as two football fields, ELF's Giga-barge at N'Kossa in the Congo has opted for PCM Moineau pumps.

This is the world's biggest floating factory: 20 m long, 46 m wide and a superstructure of pipes, tanks, metal towers and 53 m high torches.

The 50 cm-thick walls of this concrete "giga-barge" are designed to withstand a beating by the rough open seas off the Congo coast. Production is expected to peak at the equivalent of 12 000 barrels per day. This monument to petroleum high technology was designed by the Technip Geoproduction engineering company. All the world's top pumping experts took part in the competition won by PCM Moineau, which was chosen to supply the ELF barge facilities.

For some time, PCM pumping facilities have been used as essential auxiliary equipment in the petroleum industry (hydrocarbons pumping at sea, vertical and horizontal pumps on off-shore platforms, torch



feed systems, oil effluent recovery, etc.). PCM continually earmarks over 5% of sales for substantial research and development investments. This is what helped the company accurately gear its cost proposals to the highly demanding ELF barge specifications.

Off-shore platform and barge extraction investment costs directly depend on the height of the facilities. It is therefore vital to use pumping systems combining very high suction performance with compact vertical dimensions. PCM Moineau progressive cavity pumps offer outstanding suction capability. They are eminently suited to the high viscosity of the products handled while requiring limited load heights.

Out of the 13 pumping units developed by PCM for the N'Kossa barge, two vertical pumps distribute diesel oil from the main tank to the machine tanks. Six horizontal pumps feed the barge torches, a highly sensitive task with temperatures approaching 100°C and requiring total pump reliability. Lastly, five more pumps operate in "sump-caisson" mode to minimize water pollution, one of ELF's ongoing concerns.

Floating barges offer such considerable cost advantages over off-shore drilling platforms that their use is likely to expand widely. Whatever the size of future barges, they are probably going to need the same broad range of high performance pumping facilities as the N'Kossa plant.

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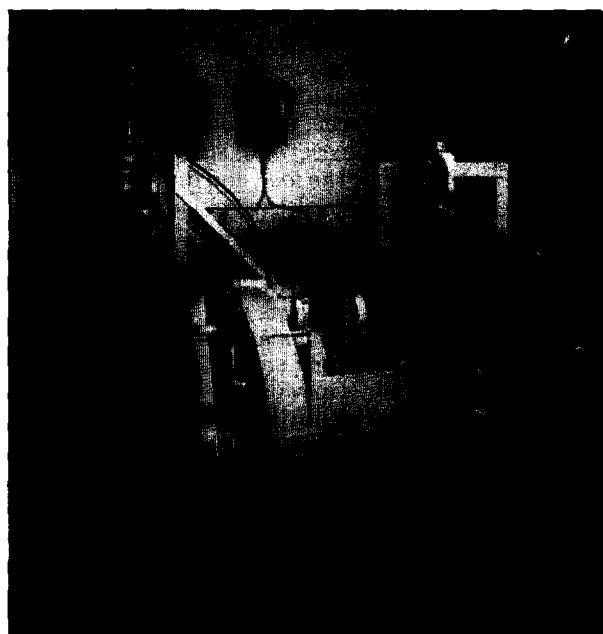
■ Peristaltic pumps in nitrate removal

The ability of two Bredel SP/65 peristaltic pumps to handle highly corrosive media for extended periods with minimal maintenance and downtime is crucial to the successful operation of a nitrate removal plant in Lancaster County, Philadelphia, USA.

The duty involves pumping a strong brine solution, backwash from the regeneration plant, from a holding tank over a distance of approximately 400 m and uphill for 10 m to the nearest gravity manhole.

Lancaster County has been an important centre for agriculture and dairy produce for more than 200 years with the result

PCM Moineau pumps serve on ELF's Giga-barge.



Two Bredel peristaltic pumps handling brine solution.