

FOR IMMEDIATE RELEASE

### Mines Urged To Dredge Ponds Before Rains Arrive In Earnest

With the rainy season approaching in most of South Africa's mining regions, monitoring the capacity of process water return ponds becomes increasingly critical – to monitor whether silt build-up is jeopardising the dams' functioning.

"Managing the water balance on mines is becoming more demanding as mines work to become more self-sufficient, and to draw less water from municipal sources," says Lee Vine, managing director at dredging and dewatering specialist, Integrated Pump Rental. "Process water ponds therefore need to be carefully monitored and regularly dredged to prevent too much sediment from accumulating."

More sediment means less water storage capacity, which can affect the efficient running of the process plant as well as create a potential environmental hazard if heavy rainfall leads to tailings over-topping the pond. Exacerbating the risk of insufficient water storage capacity is the widely held opinion that rainfall is becoming increasingly variable as a result of climate change factors.

"In many areas, this means that summer rains will include a higher number of heavy downpours within relatively short periods of time. And this will place an increased load on these ponds to contain more water than usual," says Vine. "It is therefore vital that they are operating optimally, and do not have their capacity constrained by excess silt."

He highlighted the environmental risk of tailings spilling out of ponds, and perhaps even out the boundaries of the mining lease area – an eventuality that mines work hard to avoid due to the stringent legal requirements.

"The regular desilting of return water ponds and dams is becoming more and more important, as we begin to appreciate the proper value of water on our planet, and especially in relatively dry countries like South Africa," he says. "Not only must mines ensure there is enough capacity to receive and retain excess water during the rainy season, but there is also the need to store as much as possible for the dry season."

He argues that purchasing treated municipal water to 'top up' their requirements is becoming less of an option for mines due to the rising cost of water and the growing competition for water among stakeholders like communities, industry and agriculture.

Applying a regular dredging programme need not be onerous, he adds, and can readily avoid a situation where silt or slimes threatens the water retention and water holding capacity of ponds and dams. Integrated Pump Rental has locally designed, engineered and manufactured the SlurrySucker dredge unit for precisely this purpose, and offers the technology on a rental or turnkey contract basis for mine pond maintenance.

"There are even conditions under which a mine may find it worthwhile to procure their own SlurrySucker, for permanent and ongoing use on desilting operations," says Vine. "The equipment can be moved easily by road trailer and commissioned within a day. The operation of the equipment can be conducted by just one person, and we provide all the necessary training, support and maintenance required."

Using the high quality Grindex brand of slurry pumps and a purpose-engineered dredge head, the units are capable of extracting high tonnages; 240 m<sup>3</sup> per hour of slurry/water mixture in the case of the smaller SlurrySucker Mini (30 to 40 dry tons per hour) and double this using the SlurrySucker Maxi, which will remove 70 to 80 dry tons per hour.

Vine suggests that in many operations the retreatment of sediment may even pose an economic opportunity that would more than cover the costs of the dredging.

"We are able to assist the mine in designing arrangements that would allow the pond sediment, which is usually enriched to some extent with the ore being mined, to be pumped back to the process plant for retreatment," he says.

The SlurrySucker's design ensures that there is no danger to the high density polyethylene (HDPE) lining of the ponds, as the agitation of the sediment is conducted using only water jets. Recent modifications

to the original model even allow for the system to suck up large solid objects, such as gloves, boots, plastic packets and hessian bags, without blocking up and slowing down operations.

“The benefits of being proactive about maintaining return water ponds cannot be overstated, but we realise that mines have many competing priorities to manage and this aspect of their operations is sometimes overlooked,” concludes Vine. “For this reason, we even offer a service where our technical team will schedule regular visits to the relevant water storage or treatment facilities to check what needs to be done, and when. We will then conduct the dredging as and when necessary, significantly reducing the operational and environmental risk to the customer.”

MINES PIC 01 : Process water ponds therefore need to be carefully monitored and regularly dredged to prevent too much sediment from accumulating.

MINES PIC 02 : The regular desilting of return water ponds and dams is becoming more and more important.

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