

# Gravity Tales

## New Addition to "Reading"

*Mineral Technologies announces a new addition to their renowned "Readings" magnetic separation equipment line.*

In our constant endeavour to offer clients a one stop solution to their mineral processing needs, **Mineral Technologies** has recently added both low and medium intensity magnetic separation equipment (LIMS and MIMS) into their 'Reading' line of products.

Ideal for removing magnetically susceptible minerals in applications like coal, mineral sands, iron ore, taconite and other industrial minerals, our new line of LIMS and MIMS will complement our already renowned line of "Reading" Wet High Intensity Magnetic Separators, Induced Roll Magnetic Separators, Rare earth Drums and Rare Earth Rolls.



The new line of LIMS and MIMS are manufactured from high quality strontium ferrite permanent magnets arranged with alternating poles in a solid drum shell. The specific arrangement of magnets with alternating poles and field amplifying cross magnets produces a high performance range of drum magnet, providing maximum field gradients and maximum separation results.

The new, highly functional and low maintenance line of LIMS and MIMS from **Mineral Technologies** is available with drum diameters of either 0.915 metres (36") or 1.220 metres (48") and working length of up to three metres (120"). Machines are manufactured either in concurrent or counter-rotation design.

Testwork in our laboratory will quickly determine the effectiveness of our product in your mineral separation application.

## Cyclone Jokwe hits Kenmare Resources Moma, Mozambique

Cyclone Jokwe crossed the Mozambican channel from Madagascar late on Friday 7 March, with the resulting 200kmph strong winds and heavy rain arriving at camp around midday, Saturday. The cyclone was initially rated as Category One, however upon reaching the Kenmare site was upgraded to Category Three.

At 6pm, the camp was hastily evacuated to the ilmenite product storage shed for a sleepless night by many. **Mineral Technologies** had two process specialists, Bruce Selvey & Roniel Chand onsite for commissioning assistance caught up in this frightening experience. Food, fresh water, and service were in short supply for the last few days before our staff were evacuated.

Of the 50 residential buildings on-site, only four were left completely intact; while both the kitchen and wet mess were also severely damaged. The WCP suffered widespread damage from the dredges through to the concentrator, pontoons and walkways. The MSP was lucky to only incur minor water damage to some machines and the workshop.



*Roniel Chand the day after Cyclone Jokwe*

Cyclone Jokwe struck as the country was recovering from Cyclone Flavio the previous month and severe flooding in December last year. Roniel was overheard suggesting that "the date for commissioning should be better planned to fall outside of the cyclone season."

## Kelsey Pilot Plant Commissioned in Canada

*Mineral Technologies* has been working closely with COREM (a consortium focused on applied research for the treatment and processing of mineral substances) over the last few years on a number of projects involving Kelsey Jig (KCJ) enhanced gravity concentrating technology. In 2004 COREM purchased a J200 KCJ laboratory unit to carry out testing at their headquarters in Québec, Canada. One such project was for the Niobec Mine – a Niobium producing mine located 15 kilometres northwest of Chicoutimi in the province of Québec and a wholly owned by IAMGold Corporation.

Niobec plans to improve the plant recovery of pyrochlore (the primary niobium ore) by re-treating flotation plant tailings. After an extensive J200 laboratory scale KCJ test work program at COREM, the potential for the KCJ to increase plant recovery was established and the client decided in August 2007 to move to large scale testing. The ideal solution for short-term on-site bulk testing is rental of *Mineral Technologies*' KCJ containerized Pilot Plant fitted with a J1300 KCJ unit.

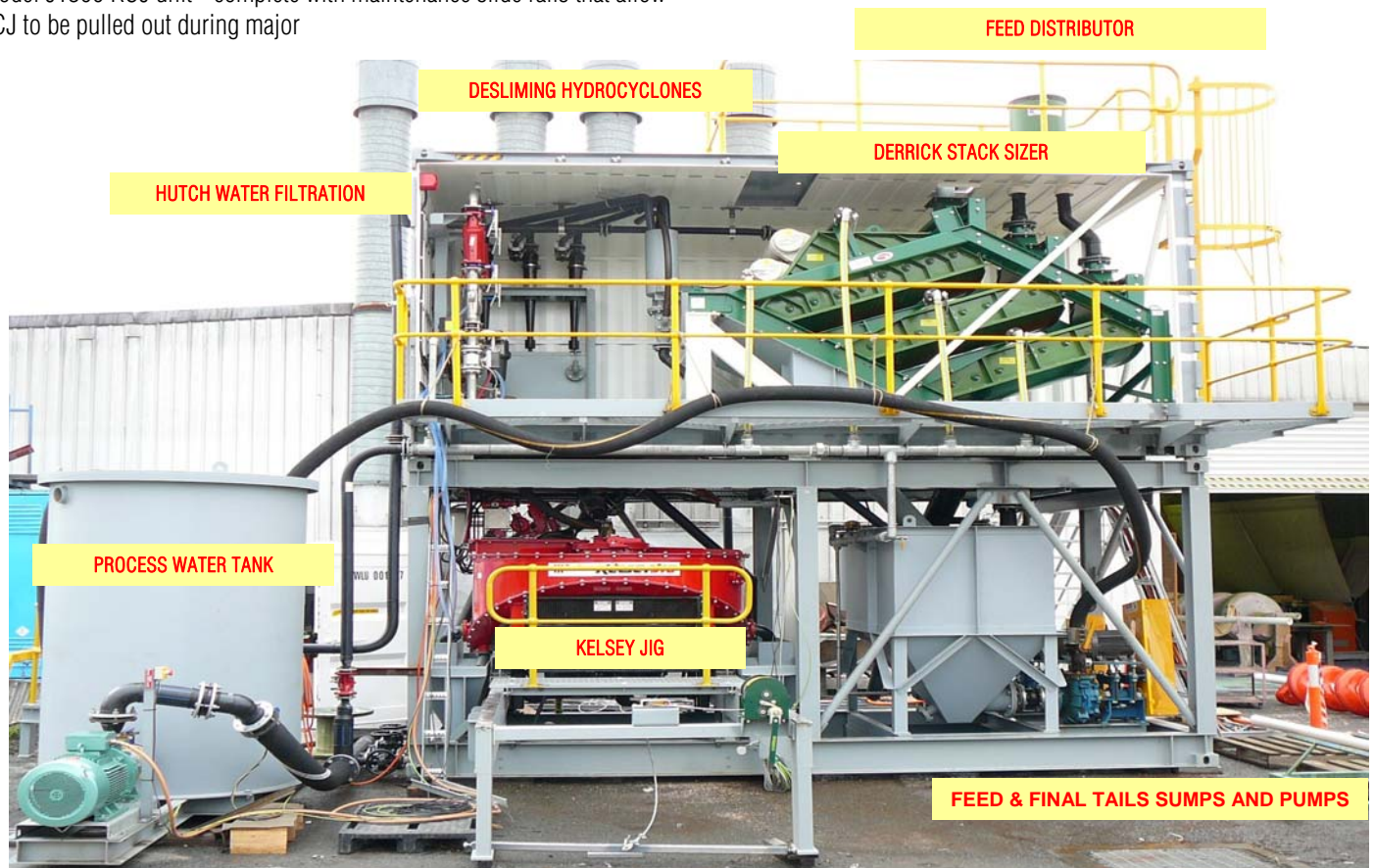
This plant is compact and designed for use in remote locations for trials, test work or production – without the need for elaborate civil works and structures. It is water tested at *Mineral Technologies*' workshop and can be assembled and operational within a week.

The containerised J1300 KCJ Package Plant comprises:

- A Model J1300 KCJ unit - complete with maintenance slide rails that allow the KCJ to be pulled out during major

- scheduled maintenance work
- Feed distributor
- Three-deck Derrick Stack Sizer screen, which performs both the feed classification (on the bottom two decks) and
- ragging recovery (on the top deck) duties
- Jig feed sump and pump
- Jig feed dewatering cyclones
- Jig tails sumps and jet pumps combination, used to keep the plant compact
- Final tails sump and pump
- Jig concentrate sumps and jet pumps, used to keep the plant compact
- Water tank
- Hutch water pump
- Process water pump
- MCC and PLC based control system, located in 10' insulated and air-conditioned MCC room
- The plant is split into the following modules:
- Containerised jig, screen and pump module
- Water tank, hutch water and process water pump module
- Containerised MCC module

Key components of the plant are shown below:



Modular Plant Components

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## Kelsey Pilot Plant Commissioned in Canada

The unit was shipped out from Australia to Canada in February 2008 and commissioning is currently underway. A 5 month bulk test program will be carried out to confirm the original testwork performance and help to justify investment in a permanent KCJ installation for the project.

*Mineral Technologies* has had significant interest in the new modular containerised KCJ Pilot Plant from a number of other clients in various locations and in a range of industries. The packaged unit permits quick and easy installation and start-up and the rental option is attractive for large scale confirmatory testwork.



Modular Plant constructed at Niobec

## Supporting locals

Earlier this year *Mineral Technologies* reviewed our support of charities and decided to make smaller donations across a wider group. MT particularly wanted to support local organisations in countries where we have offices. The Domestic Violence Prevention Centre Gold Coast Inc. (DVPC) which was established in 1992, is a not-for-profit community-based specialist domestic violence service. DVPC runs Sinclair House which is un-funded and dependent on donations such as MT's and sponsors.

The organisation provides a range of services and support including crisis intervention, counselling and groups for women and children, court assistance, men's programs, community education and training, community awareness activities as well as having been the driver for the Gold Coast Domestic Violence Integrated Response. Over the past ten years the service has grown and developed and is recognised a leader in Queensland in providing high quality services and supports.

## Every Drop Counts

With water shortages in South East Queensland and mounting legislative pressure on industries to minimise water usage, the team in Met Services took the initiative to implement water saving tactics. Since early last year, the team determinedly made water usage reduction part of its monthly safety and productivity themes and there has been a constant focus on "water usage and reduction." A high level of enthusiasm and ingenuity was shown by everyone throughout the year, resulting in a vast improvement in water management.

A number of the team's mitigation strategies are listed below:

- A separate line with its own pump has been installed from the recycled water pond to replace town water for cleaning duties
- Two seven-cubic-metre (combined volume of 14,000 litres) poly tanks were recently installed to hold excess water and therefore minimise overflow and loss of water to the sewerage system
- Recycled water is being used on the jig testwork, filtered with a 10 micron particle filter to ensure clean water without using town supply
- Town-water taps have been painted red and recycled-water taps painted green as a reminder to think twice about unnecessary use of town water
- Taps and all site urinals have been retrofitted with low flow devices, which have reduced consumption by 50 per cent
- A high pressure, low water consumption cleaner has been purchased for materials that cannot be cleaned with recycled water

The delivery of these changes, coupled with increased awareness, has seen a marked decrease in the use of town water

### Innovative Design – Quality Solution



Gravity Separation Spirals & Tables



Wet & Dry Magnetic Separators



Enhanced Gravity Jigs



Electrostatic Separation



Ultra Fine Grinding