

# Gravity Tales

## Roche Mining (MT) commissions pilot plant in Kenya

Several Roche Mining (MT) staff were given the challenging task of commissioning a pilot plant in Kenya in the latter part of 2003. They were also to complete a predetermined testwork programme of behalf of the client, Tiomin (Canada).



Originally scheduled for five weeks, operational difficulties extended the duration of the programme to ten weeks for Tony Fallows (Senior Metallurgical Technician), who was joined for the first six weeks by Richard Fagan (Senior Metallurgist) and the last four weeks by Mark Palmer (Senior Development Metallurgist).

Their base was located one hour south of Mombasa, including a river crossing by ferry (along with 50 other vehicles and some 3000 Africans). The pilot plant was a 45 minute 4WD trip from the accommodation, where they have several encounters with wild baboons, monkeys and the occasional elephant.

Assisted by 30 local men, they worked long days to solve electrical and mechanical difficulties. With 19 pumps and motors on site, and not one electrician in the whole of Kenya who knew how to operate them, they certainly had a few setbacks to overcome, including the early arrival of the monsoon season.

With persistence, and the tenacity of the local men, the testwork programme was finally successfully completed, a great achievement considering the extreme remoteness of the location.

Tony Fallows said, "It was one of the toughest things I have ever done both mentally and physically, but definitely the most rewarding. From a work and life perspective it was an invaluable experience".

## Kelsey Jigs Bound for Florida USA

Two KCJ1802 Mk2 Kelsey Centrifugal Jigs, fully assembled and tested at the Roche Mining (MT) Carrara facility are bound for a Florida client, and these Jigs are due to arrive in mid-December. Roche Mining (MT) is to assist with installation and commissioning set to commence in January – February 2004.

The jigs are another sale of the larger 1800 series jig into the zircon recovery and cleaning application. This larger unit offers clients more throughput for the footprint and capital cost than the traditionally used 1300 series. The machines



also mark Roche's push to develop service exchange facility in the USA, which will be available from February 2004.

## Carrara High Tension Roll (HTR) Production Unit

The first Carrara High Tension Roll (HTR) Production Unit was shown to clients at Roche's facility on 18 November 2003. Those present heard how the Carrara HTR Electrostatic Separator incorporates innovative manufacturing techniques, the latest operational and metallurgical process improvements, together with flexibility through various options to suit individual customer needs.



Tom Lawson, Operations Manager, presented a slide show and demonstrated the many unique features including the ability to remove the separation roller from the machine as a complete unit for servicing.

Some of the machine features include:

- Roll in cassettes that roll out for easy maintenance and cleaning
- Stronger glass composite and glass combination electrodes
- Online conductor, non conductor, middlings retreat options
- Reticulated HT cable system
- Individual VSD controlled roll driers or belt driven alternative
- Repeatable, reliable consistent brush tensioning system using integral cam system

## Relocatable Kelsey Jig Plant now available

Roche Mining (MT) has recently developed a new product concept for Kelsey Jig technology. This is a fully relocatable Kelsey Jig plant which comprises two 20 foot long shipping container sized modules containing a J1800 Kelsey Jig, a screening plant and all necessary sumps, pumps and control equipment to produce concentrate from low grade ore. The Kelsey Jig Relocatable Plant represents an affordable option for installing Kelsey Jig centrifugal separation technology into existing or new plants where space, environmental or capital constraints prohibit erection of permanent plant structures. This system provides a solution that is easily installed and relocated to other mines or locations whenever the need arises.

Roche Mining (MT) has also developed a KCJ200-MTU mobile laboratory test facility. This facility is compact, easily transportable and contains all equipment necessary to carry out feasibility testing using Kelsey Jig technology. The client only needs to provide a clean water source, electricity to run the machinery and the feed material to be tested.

**KELSEY JIG**

## J200 Kelsey Jig in Japan

Roche MT have been working with Sumicon Certech Co on the application of the Kelsey Jig to their soil remediation project in Japan since July 2002. Various testwork and material characterisation work has been completed at



Terry Jones and Sumicon Certech personnel

Carrara, and the client then purchased a J200 KCJ for continued testwork at their pilot plant facility in Japan. As part of the supply contract, Terry

Jones recently travelled to Japan to check equipment installation and conduct training for Sumicon Certech Co personnel.

Terry commented, "This is a very interesting application of the KCJ, because it aims to achieve a clean tailings product, rather than a clean concentrate product, by removing very fine lead from the soil". Preliminary tests at Carrara and on-site have indicated the potential for the KCJ in this application and relevant modifications to the client's overall flowsheet were also recommended while on-site.

Sumicon Certech are also part of the larger Sumitomo Metal Mining, who have numerous mining interests worldwide, including gold. Roche MT will encourage SMM to utilise the KCJ for all relevant applications within their organisation.

## SCREENS ON THE SKELETON COAST

Roche Mining (MT) has designed, manufactured and installed a pair of trommel screens for the Namdeb Diamond Corporation in Namibia during 2002/03. These are purpose built concentric, dual barrel 4m OD by 15m long giants cutting sublimely at 32mm and 2mm. They treat typically 2000-2500tph of sand and gravel with 95% passing 2mm.

In third quarter 2003, Roche Mining (MT) personnel worked with Namdeb Projects

and Operations personnel and utilised Cosira Projects of Johannesburg to erect the trommels. 12.5 tonne crane limit, 6 pieces per barrel, hydraulic drive through polyurethane trunnions and exposure to the South Atlantic coast were some of the obstacles overcome.

*(For more photos, please visit our website [www.mdmintec.com.au](http://www.mdmintec.com.au))*



Manufactured trommel on test in factory.



Old trommels being removed on site.



Crane loading barge with first part.



Roche and Cosira team commissioning.

Mineral Technologies

**EXPOSIBRAM – Brazil**

The Exposibram exhibition and congress was conducted over three and a half days starting on Tuesday 23<sup>rd</sup> September 2003 with the opening cocktail evening.



Thanks to Mucio Lima (K&K), the Roche Mining (MT) name flew high over the Expo with great comments coming from all of our clients and prospective clients.

“We are confident we met our primary goal with the exhibition, which was to cement the Roche MT K&KTM partnership identity and to promote our products, services and assembly facility in Brazil”, said Bill Weldon.

Mucio Lima and Gustavo Miranda of K&KTM provided the translation service doing a great job over 3 long days extending to midnight each day.

**Iluka Douglas Mineral Sands Project**

Roche Mining have been awarded a contract on a Definitive Feasibility Study for Iluka Resources Limited to construct a Mineral Sands mine, a Mining Unit Plant and a Wet Concentration Plant at a green field site 70km south-west of Horsham, a heavy mineral separation plant 6km south-west of Hamilton, and product loading facilities at the Port of Portland, all in Victoria. The project concept includes:

- The Douglas Mining Operation will use mobile earthmoving equipment to load ore into a mining unit plant. The plant will process the ore, screen out rock and oversize material and prepare the ore for slurry pump transfer to a Wet Concentrator Plant.
- The Wet Concentrator Plant will be of a modular design to facilitate future relocation and uses gravity and magnetic separation processes to concentrate the valuable heavy minerals contained in the ore. By products will be returned to the mining void. The heavy mineral concentrate will be transported by road to Hamilton.
- The Mineral Separation Plant is a permanent facility and uses wet gravity, dry magnetic and electrostatic processes to separate the zircon and rutile minerals. By products will be returned to the mine at Douglas. The zircon and rutile will be initially transported to the Port at Portland for shipment to world markets.

**WHIMS COMMISSIONING – RUSSIA**



Owen Lickiss travelled to Russia in September to commission an 8-pole Reading WHIMS (wet high intensity magnetic separator) for a Russian client. Sale of the machine came through our Russian agent, Cetco, after successful testwork in Roche MT’s metallurgical services facility at Carrara.

The 8-pole machine is not used

in as many applications as the larger 16-pole version, which operates in most mineral sands plants around the world, and is the first 8-pole WHIMS built under the Roche MT banner. Commissioning ran smoothly, even though the language barrier did create some initial misunderstandings. Once operational the machine was put through a metallurgical performance test and exceeded the results of testwork and the expectations of the customer.

The level of customer satisfaction with both the quality of the machine and its performance may lead to further sales of WHIMS in the future. The high level of workmanship and thorough pre-delivery testing attributed to this successful outcome.

**ROCHE MT UNDERTAKES 60 TON BULK TESTWORK**



Metallurgical Services are currently engaged in the bulk processing of a 60 ton mineral sand sample for flowsheet verification on behalf of Gunson Resources.

The sample originates from a new deposit inland from Shark Bay in Western Australia and will be subjected to a four stage spiral separation circuit to produce a high grade gravity concentrate, wet high intensity magnetic separation to produce magnetic and non magnetic streams for mineral processing into Ilmenite, Rutile, Leucoxene and Zircon.



The mineral processing will incorporate rare earth magnets and Roche MT’s new Carrara electrostatic separator.

Roche MT’s engineering department will then use this data to conduct a preliminary engineering study.

## ROCHE MT ROCKS AT BOARDROOM BLITZ

The boys from the Roche MT corporate band entry to the 2003 Boardroom Blitz, "Trash Screen" took away two of the coveted trophies at the charity extravaganza in July. The boys were joined on the night by a large group of vocal supporters from



Roche Mining in Brisbane and Roche MT. Songs performed included "Working in a Coal Mine", "Fat Bottomed Girls" and a real crowd pleaser "Ballroom Blitz". Shown at left receiving their "Best Overall Performance" and "Best Rock Moves" awards are (left to right) Dale Henderson, Bill Ferguson, Kees Payens, Mark Palmer, Graeme Cooke and Tom Lawson.



## 2003 Service Awards

Congratulations to the following MT staff on their service awards this year:



- Pauline Fawdry (pictured), Receptionist – 30 years
- Russell Trueman, Mechanical Supervisor – 20 years
- Rick Brazier, Laboratory Manager – 15 years
- Tony Fallows, Snr Metallurgical Technician – 15 years
- Shane Hayes, Fibreglass Process Worker / Leading Hand – 15 years

## Congratulations...



Raquel Baker (Engineering Secretary) and Leigh Tyson (left) were married in Noosa in September. Raquel and Leigh honeymooned at Sunshine Beach and Hervey Bay where they enjoyed whale watching and plenty of sunshine.

Pieter van Rensburg (Design Engineer) and Linda were married in October.

## Company Travels...

We have certainly been busy in the air over the last few months, with employees travelling to Russia, South Africa, Namibia, Ukraine, India, Kenya and Japan, as well as Tasmania, Western Australia, Northern Territory, New South Wales and Victoria.

(Pictured: Owen Lickiss got this great shot near the Kremlin in Russia.)



## SOCIAL CLUB RACE DAY

November 11 saw the last Carrara social club function of the year, held at the Gold Coast Turf Club.

It was a great day with perfect weather and plenty of excitement. Prizes were awarded for best dressed, best hat and best tie. The day was rounded off with a large contingent heading to a local tavern to watch one of the Rugby World Cup semi finals.

This was the second successful year at the races, and everybody agreed it was a fantastic way for the social club to round off 2003!



## Christmas 2003

The pre-Christmas rush is on again at MT, with last minute orders keeping our production facilities in Carrara and South Africa busy.



Our factories close on 19 December 2003 and reopen on 12 January 2004. Our offices will have a skeleton staff from 22 December 2003 through to 5 January 2004.

We would like to take this opportunity to wish all our customers and staff a very Merry Christmas and all the very best for the New Year. Stay safe and enjoy your well-deserved holidays!

