



- CONSTRUCTION
- GOLD & MINERAL PROCESSING
- PROCESS PLANT
- SAMPLING SYSTEMS
- WATER SOLUTIONS

IN THIS ISSUE....



World's largest Gravity Circuit takes shape



Roy Hill samples the future with Consep



Maximising value from your operation

Barangaroo South - A New Generation of Consep Hoist

Sydney's largest construction site, Barangaroo, currently boasts a total of eight Consep Hoists. At its peak, the project committed to 14 Consep Hoists, including 12 on the main towers, and 2 on stage one of the residential buildings. Hoists that have finished at Barangaroo have now moved onto other developments, including Brookfield - Multiplex's Four Points Hotel, John Holland's 1 Parramatta Square and Lend Lease's ICC Hotel in Darling Harbour.

In early 2011, Lend Lease identified Consep as a potential partner in the construction of three commercial towers, the main structures of Sydney's Barangaroo South development.

Consep worked closely with Lend Lease over the following 12 months to incorporate additional features into the existing Consep Hoist design to meet the specific requirements of the Barangaroo T1, T2 and T3 commercial towers. Specific requirements included:

- True day zero access to the freshly poured slab
- Significantly reduced vertical applied loads on slab edge
- Increased payload
- Extended travel to service five floors, including plant floors

- Crane landing platform capabilities
- Variable hoist car width
- Maximised availability
- Fully enclosed hoist car to a height of 3.6m
- Full height landing gates
- Leading edge protection
- No edge gaps - conformance to Lend Lease Global Minimum Requirements
- Full PLC monitoring of the Hoist to allow continuous data logging of hoist operation
- On Hoist and Remote (Wi-Fi) Diagnostic capabilities

Consep rose to the challenge and proceeded to develop a new generation of Consep Hoist to meet these demanding requirements.



World's largest Gravity Circuit takes shape

Over the past two years, Consep has been progressively delivering a package of technology to Phonesack Group's Nampan Gold Mine in Laos. When fully operational, the 3,500tph mine will be the world's largest gravity only gold plant.

Phonesack Group's Nampan Project represents a new generation of mineral processing plants. The project is Lao owned, using Lao engineering & Lao staff, and using an environmentally responsible process flowsheet with no cyanide being discharged into the environment.

The project also incorporates improved facilities for the local town of Lak Sao, and other improvements for the community such as a large market garden to supply food for the project. Importantly the project provides employment opportunities for a remote rural area of Laos.

The Phonesack Group's Nampan Project is significantly larger than most gold projects. In fact, at 3,500tph it is planned to be more than double the size of Kalgoorlie's famed KCGM Superpit.

Consep first supplied Phonesack Group with a CS4000 Consep Acacia package for their Vangkor Project in 2009. The package included our detoxification system to ensure that the tailings were safe for discharge, as well as Consep's own electrowinning technology.

The Vangkor Plant was later expanded to include a second CS4000 complete package, two QS48 Knelson Concentrators and a range of sampling stations for the project.

In late 2013 Consep visited Phonesack's operations to discuss the new Nampan Project. The Nampan project consists of six separate plants, side by side, with a total combined throughput of 3,500tph. The six plants have near identical flow sheets.

Consep has supplied a wide range of technology for the Nampan Project.

In terms of gravity concentrators, Consep has supplied 32 QS48 Knelson Concentrators and 8 XD70 Knelson Concentrators. The XD70 is the world's largest gravity concentrator, with a maximum throughput of 1,000tph.

Consep has supplied 6 complete 15t per cycle CS10000 Consep Acacia packages for the project, including detoxification systems and a complete electrowinning package. The gravity concentrate generated from each of the six mill circuits reports to its own dedicated CS10000 system.



Consep also provided customised sampling systems throughout each of the six plants to ensure that the project can achieve ISO Standard metallurgical accounting. This is critical to ensure that the sites processing staff have the tools to maximise the plants metallurgical recovery, and also allow tailings monitoring to facilitate protection of the local environment.

Consep continues to work with the Phonesack team on site, where we are providing a range of services for installation and commissioning.



Roy Hill samples the future with Consep

Consep was selected as the supplier of a complete sampling solution for the Roy Hill Processing Plant. The package included a wide range of solids and slurry samplers, feeders, crushers, sample collectors, chute work, electrical control systems, as well as a monorail system to transfer samples to the automated lab. A total of 14 sample stations were supplied by Consep.

To achieve Roy Hill's goal of minimising iron ore production costs, the project required innovative solutions to maximise automation. Consep provided a package of fully automated sampling systems including, wherever possible, automated sample delivery systems to the laboratory. This process has ensured that maximum efficiency and safety is achieved in the sampling process. Critically, Consep's sample stations minimise operating costs for the Roy Hill project.

The key technology supplied by Consep was the solids station primary samplers. These devices represent the latest development of extreme duty linear samplers incorporating a belt drive for maximum reliability. The largest duty, the Train Load Out (TLO) sample station, has a maximum throughput of 16,000tph, making it amongst the largest samplers ever installed in the world.

Almost all of Consep's scope of supply is designed and manufactured in our own workshop. This maximised local content for Roy Hill, as well as allowing an express delivery of the equipment, with most of the scope delivered within 20 weeks.

Key to the project was to be able to supply a wide range of sampling technologies and peripheral equipment. Consep has also designed and manufactured a wide range of complementary equipment for the 14 sampling stations in the Process Plant, including:

- Belt drive linear samplers
- Ball Screw linear samplers
- Vezin Samplers
- Belt feeders and sample conveyers
- Sample crushers
- Sample collectors
- Sampler transfer monorail system
- Automation systems
- Custom chute work package

Consep has designed and supplied a range of conforming Allen Bradley ControlLogix automation systems for the sample stations, which were built in-house at Consep.

Consep is proud to be associated with the Roy Hill Project.



Australian ingenuity exported to the world

Consep has a long history of exporting our expertise and equipment to the world and the past year was no exception. Continuing a decade long period of growth, last year Consep exported a record volume of new equipment and services to 27 countries across all continents. International demand has driven our export business to expand 60% over the past three years alone as global clients demand Consep's Australian ingenuity.



Consep has maintained steady growth via a constant pressure to innovate and develop our products and services. Despite the negativity surrounding many industries in the past few years, the world keeps turning. What has changed is the level of profitability of many industries, and this is where Consep's products come to the fore.

Our innovative Consep Hoist, now allowing true day zero access to the freshly poured slab which has never been possible before, has cut formwork cycle times by more than 20%. The Consep Hoist is improving high rise construction safety and profitability, especially in high labour cost countries.

Our mineral processing range of products have also seen many significant innovations, including:

- Ever larger models of our equipment to suit higher capacity operations.
- New innovations in detoxification of Consep Acacia tailings, allowing use in gravity only and alluvial projects.

- New innovations in intensive leaching of copper-gold concentrates, finally allowing copper to be separated from gold.
- New innovations in Knelson Concentrators that massively reduce operating costs.
- Greater automation in sampling to reduce the amount of labour required.
- True turnkey Sampling Stations including samplers, feeders, structures, automated sample collection and handling.

Right across our range of equipment, our focus on innovation has delivered better outcomes for our clients. Several of the above innovations are allowing clients to use our products in applications previously thought not possible.

Our goal is to help our clients in these tough times by providing innovative solutions that allow them to achieve greater performance, greater productivity, lower costs and ultimately greater profitability.



Maximising value from your operation

Recent times in the gold industry has seen operations looking to maximise the value of their operations. The primary focus has been a double edged review of lowering operating costs and optimising recovery. Consep's service team has been helping clients to maximise their existing assets.

Gravity gold recovery is often key to an operation reducing operating costs and maximising recovery. Gravity recovery has a range of benefits, namely:

- By far the lowest production cost of any gold produced on a mine site
- Relatively low capital cost typically with very fast payback periods
- Small investments into existing gravity circuits can often lead to large returns
- In base metal flotation plants, gold recovery and smelter payment improvements can be enormous.

To this end, Consep's service staff have been visiting sites to assist with maintenance inspections and process and automation reviews. These services are typically very low cost for sites, and help the site to make better use of the equipment they already own.

Our services include:

- Training - Maintenance, Operations and Metallurgist training.
- Gravity Flowsheet Audits
- Mechanical inspections
- Operation and Automation reviews
- Process performance audits and optimisation
- Sampling & Test work campaigns

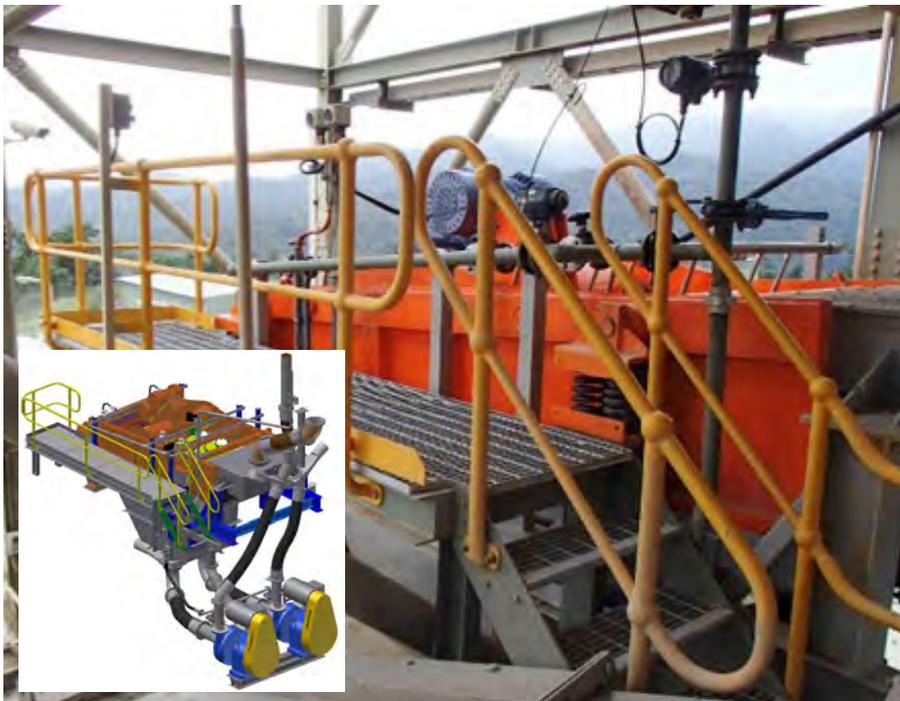
Our services teams are led by Peter Hay (Mechanical) and Andrew King (Process), with a team of Consep staff providing support worldwide.

Together our services team can assist your project to maximise the value from your existing operations and equipment.



Consep helps make upgrades possible

Many of our customers have small scale projects that are challenging to implement due to a lack of on-site resources. A small equipment retrofit project often will not justify the hiring of an engineering company, such that project costs become prohibitive to the project proceeding. Consep's unique skill set as a custom equipment manufacturer, with a wide range of engineering staff, provides us with a unique ability to make difficult upgrade projects feasible.



A simple upgrade might need mechanical and structural engineering, design drafting, process design, automation and electrical design, and that's even before any actual equipment has been ordered.

Consep recognises the challenges many sites face with smaller upgrade projects on tight budgets. Consep can meet this challenge as we have a team of experienced engineers from a wide range of disciplines to help our customers make challenging projects possible.

An example of a recent project is the St Barbara Gold Ridge Project. The project's gravity recovery was being limited by a gravity feed screen that was not large enough to make full use of their 48" Knelson Concentrator.

Consep's staff visited site to review the installation location and develop a solution to meet the clients needs. A modular package was supplied to the project, including customised structure and chute work, which allowed the installation of the largest possible screen into the project.



Consep Pty Limited
ABN 74 053 177 898
sales@consep.com.au
www.consep.com.au

Sydney - Head Office
59 Newton Road
Wetherill Park NSW 2164
Australia
T +61 2 9756 5299
F +61 2 9756 5102

Perth Office
Unit 3
8 Fisher Street
Belmont WA 6104
Australia
T +61 8 9477 6777